ESTCP

FINAL REPORT

Removal and Destruction of PFAS and Co-occurring Chemicals from Groundwater via Extraction and Treatment with Ion Exchange Media, and On-Site Regeneration, Distillation, and Plasma Destruction

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ESTCP Project ER18-5015

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This Pilot Study Final Report presents the results and conclusions of the ESTCP ER18-5015 pilot study, conducted at former Pease Air Force Base in Portsmouth, New Hampshire. The purpose of the pilot study was to further prove the effectiveness and develop scale-up criteria for integrating a per- and poly- fluoroalkyl substances (PFAS) treatment and destruction technology into existing groundwater treatment systems. To help the Department of Defense manage environmental liabilities associated with PFAS contamination at DoD installations, the pilot study evaluated the effectiveness of four PFAS Treatment and Destruction Train i.e., ion exchange resin, resin regeneration, distillation of spent regenerant, and low energy plasma destruction of concentrated PFAS waste.

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ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AFFF	aqueous film-forming foam
CIC	combustible ion chromatography
CTAB	cetyltrimethylammonium bromide
CUFT	Cubic Feet
DoD	Department of Defense
EBCT	Empty bed contact time
ECT2	Emerging Contaminants Treatment Technology, Inc.
ELAP	Environmental Laboratory Accreditation Program
ESTCP	Environmental Security Technology Certification Program
GAC	granular activated carbon
gpm	gallons per minute
HC1	Sorbix HC1 regenerable ion exchange resin
IPA	isopropyl alcohol
IX	ion exchange
LCA	life cycle cost analysis
mg/L	milligrams per liter
OM&M	Operation Maintenance & Monitoring
Pease	former Pease Air Force Base
PFAA	perfluoroalkyl acid
PFAS	per- and poly- fluoroalkyl substances
PFBA	Perfluorobutanoic acid
PFHxA	perfluoro-n-hexanoic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
Pilot	Pilot Study
Plan	Demonstration Plan
ppb	Parts per billion
ppt	parts per trillion
QA/QC	Quality Assurance/Quality Control
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedure

Study	The Treatability Study
Site 8	The former fire training area at Pease Air Force Base
TOC	total organic carbon
TOP	total oxidizable precursor
TOPA	total oxidizable precursors analysis
TSS	Total Suspended Solids
UCL	Upper Confidence Limit
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

ABSTRACT

This Pilot Study Final Report presents the results and conclusions of the ESTCP ER18-5015 pilot study, conducted at former Pease Air Force Base in Portsmouth, New Hampshire. The purpose of the pilot study was to further prove the effectiveness and develop scale-up criteria for integrating a per- and poly- fluoroalkyl substances (PFAS) treatment and destruction technology into existing groundwater treatment systems. To help the Department of Defense manage environmental liabilities associated with PFAS contamination at DoD installations, the pilot study evaluated the effectiveness of four PFAS Treatment and Destruction Train i.e., ion exchange resin, resin regeneration, distillation of spent regenerant, and low energy plasma destruction of concentrated PFAS waste.

OBJECTIVES

The goal of this project was to further refine and demonstrate the effectiveness of the PFAS Treatment Train and provide guidance on how to integrate the treatment train into existing co-contaminant treatment systems. These objectives were presented in the Site Selection Memo and the Performance Objectives White Paper, ER18-B3-5015 Removal and Destruction of PFAS and Co-contamination from Groundwater both dated February 8, 2019.

PERFORMANCE AND COST ASSESSMENT

Performance assessment included pretreatment success criteria, resin performance, reuse and regeneration of resin, and plasma destruction. The findings from the pilot study have been used to develop a cost model for regenerable IX/distillation/plasma scenario to be used as a comparison to other currently available technologies. Additional details about the performance assessment and the cost assessment are presented in the section and 6 and 7 of the Final Report. In general, this technology appears to have good performance and can be cost competitive with other currently available technologies depending on individual site-specific requirements.

REFERENCES (a complete list is provided in Section 9 of the Final Report)

Amec Foster Wheeler, 2017a, Perfluorinated Compounds Release Response at Multiple BRAC Bases, Site 8 Pilot Test Results Report, Former Pease Air Force Base, Treatability Report Final, March.

Amec Foster Wheeler, 2017b, PFAS Column Study, Treatability Report Final, July 11.

Amec Foster Wheeler, 2019a. Site Selection Memo, ESTCP Project Number: ER18-B3-5015 Removal and Destruction of PFAS and Co contamination from Groundwater Prepared for Air Force Civil Engineering Center, Joint Base San Antonio – Lakeland, Texas, February 8.

Amec Foster Wheeler, 2019b. Performance Objectives Report, ESTCP Project Number: ER18-B3-5015 Removal and Destruction of PFAS and Co contamination from Groundwater Prepared for Air Force Civil Engineering Center, Joint Base San Antonio – Lakeland, Texas, February 8.

- Amec Foster Wheeler, 2019c. Treatability Study Work Plan, ESTCP Project Number: ER18-B3-5015 Removal and Destruction of PFAS and Co contamination from Groundwater Prepared for Air Force Civil Engineering Center, Joint Base San Antonio – Lakeland, Texas, March 7.

  Wood,2020a. Treatability Study Report, ESTCP Project Number: ER18-5015, Former Pease Air Force Base Prepared for Air Force Civil Engineering Center, Joint Base San Antonio – Lakeland, Texas, April 17,

- Wood, 2020b. Demonstration Plan, ER18-5015 removal and destruction of PFAS and co-occurring chemicals from groundwater via extraction and treatment with ion exchange media, and on-site regeneration, distillation, and plasma destruction. September.

EXECUTIVE SUMMARY

INTRODUCTION

This Pilot Study Final Report (Report) for ESTCP project ER18-B3-5015, presents the results and conclusions of the pilot study (Pilot) at former Pease Air Force Base (Pease) in Portsmouth, New Hampshire (NH). The purpose of the pilot study was to further prove the effectiveness and develop scale-up criteria for integrating a per- and poly- fluoroalkyl substances (PFAS) treatment and destruction technology into existing groundwater treatment systems as originally demonstrated during the Treatability Study (Study) (Wood, 2020a), submitted on April 17, 2020.

The pilot demonstration location was located at the former fire training area at Pease (Site 8) and contains a PFAS treatment system already using the ion exchange (IX) resin, regeneration, and distillation technologies at full-scale.

OBJECTIVES

The goal of this project was to further refine and demonstrate the effectiveness of the PFAS Treatment Train and provide guidance on how to integrate the treatment train into existing co-contaminant treatment systems. These objectives were presented in the Site Selection Memo and the Performance Objectives White Paper, ER18-B3-5015 Removal and Destruction of PFAS and Co-contamination from Groundwater both dated February 8, 2019.

Specific technical objectives include:

- Measure the effectiveness of PFAS and co-contaminant treatment during each step of the treatment train (existing co-contaminant treatment, IX, regeneration, distillation, and low-energy plasma destruction steps).
- Prove the technical approach at a field demonstration site.
- Verify waste minimization through resin reuse, regenerant reuse, PFAS concentration, and PFAS destruction.
- Based on field performance, develop guidance for applicability and limitations, anticipated performance, design considerations, and costing for integrating the PFAS Treatment Train into existing co-contaminant treatment systems, including a protocol for design, operation, and maintenance of the integrated system.

TECHNOLOGY DESCRIPTION

The pilot scale PFAS Treatment and Destruction Train consisted of four technologies that complement each other to remove PFAS from treated water with reusable media, reduce the volume of the PFAS-contaminated waste stream, and destroy that waste stream on-site. The pilot system configuration utilized during the testing is depicted in Appendix A - Design Drawings and outlined below.

- IX resin: PFAS removal from groundwater utilizing HC1 resin.

- Regeneration: solvent solution using IPA and sodium chloride was used for removal of PFAS from IX resin to regenerate it for multiple groundwater treatment cycles.
- Distillation: recovery of used IPA solvent to be reused in future regenerations. A distiller separates the IPA for reuse from the water, brine and PFAS which remain in the still bottoms for further treatment.
- Low-energy plasma destruction: PFAS destruction in the still bottoms, closing the loop for on-site removal, treatment, and destruction of PFAS.

A process flow diagram is provided as **Figure 1.**

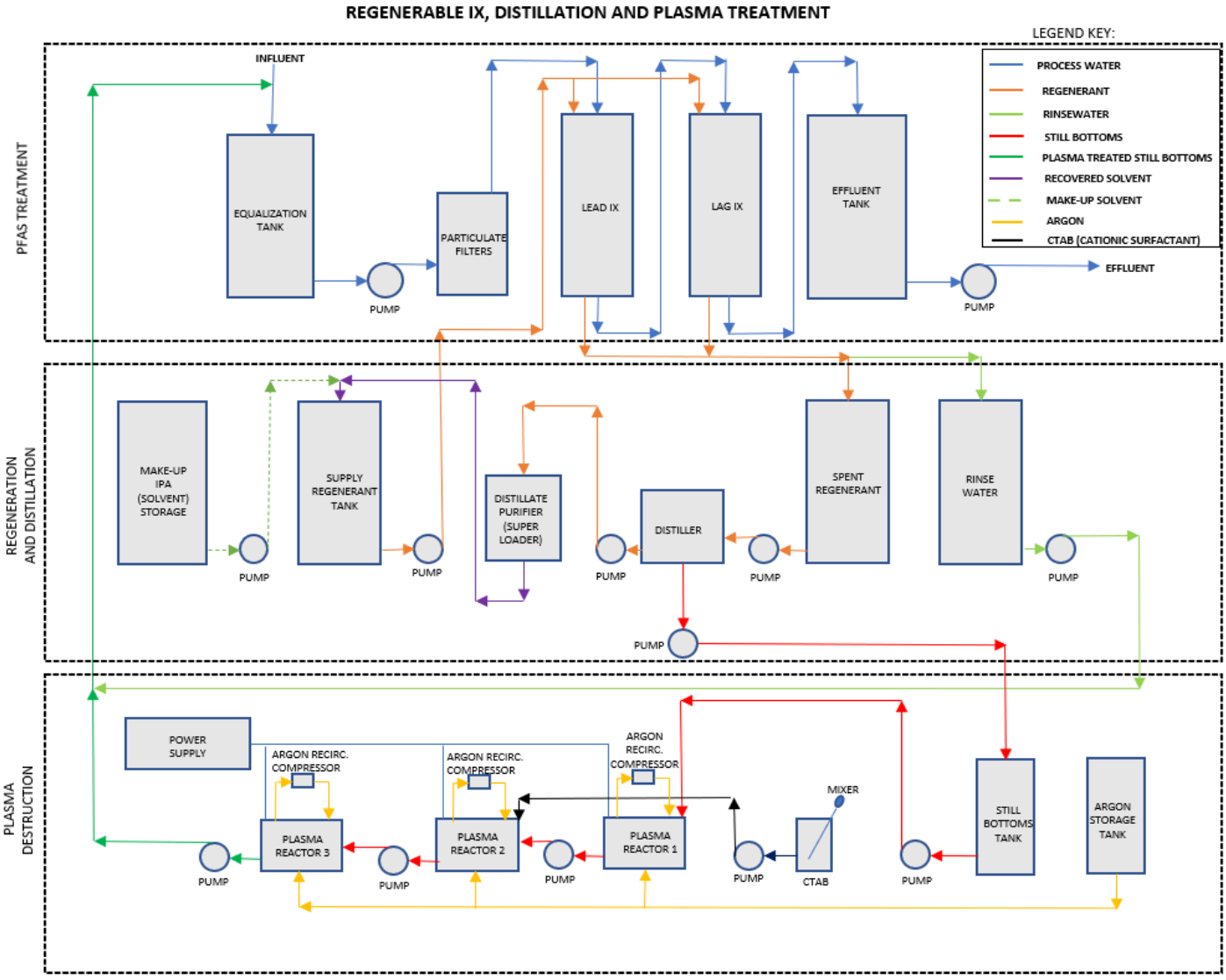


Figure 1. Process Flow Diagram

PERFORMANCE OBJECTIVES

Table 1 lists preliminary quantitative performance objectives of the Pilot Study associated data requirements, success criteria and results for each objective. Each of these objectives are summarized in the following sub-sections as to whether they were met and, if not met, the principal reason for failure. Additional details on results are provided in Section 5 and 6 of the Final Report.

Table 1. Preliminary Performance Objectives, Data Requirements, and Success Criteria

Quantitative Objectives			**Observations and Results**
Demonstrate that the HC1 IX resin is able to consistently treat the incoming groundwater (post-Fe removal) to levels at or below the EPA Lifetime Health Advisory	Co-Contaminants (pre-treatment) • Iron, Manganese, VOCs, Total Suspended Solids (TSS), total organic carbon (TOC) in influent and pre-treatment effluent PFAS* • IX influent, weekly • IX effluent and between lead and lag vessels, weekly	Pre-treatment effluent • Total and dissolved iron and manganese below 0.05 milligrams per liter (mg/L) • TOC below 1 mg/L • TSS below 1 mg/L • VOCs non-detect	• Average dissolved iron was 0.04 mg/L • Average dissolved manganese was 0.26 mg/L • Average TOC was 2.32 mg/L • Baseline sample was estimated at 2.4 mg/L • Average VOCs were below detection limit. • TSS was below lab detection limit all samples. • Where certain IX influent levels after filtration were slightly above the pretreatment goals, there were no adverse effects on resin performance were noted during the study.
		IX effluent perfluorooctanoic acid (PFOA) + perfluorooctane sulfonic acid (PFOS) total concentration is less than 70 parts per trillion (ppt) for 5,000 bed volumes (BV).	The IX resin effluent remained below PFOS and PFOA treatment goals throughout the pilot test.
		Removal efficiency for all non-Target PFAS compounds greater than 95%	The IX resin effluent removed total PFAS compounds by at least 95% throughout the pilot test.
Onsite IX resin regeneration followed by distillation to enable reuse of resin and regenerant	PFAS* • Regeneration solution post- treatment, each regen cycle • Recovered regeneration solution distillate, each regen cycle • IX influent, weekly • IX effluent and between lead and lag vessels, weekly	100% of resin can be reused during 6-month demonstration	The IX resin was never changed out during the pilot test and continued to meet treatment goals over five regenerations and six loading cycles.
		95% of Total PFAS mass recovered from resin	Mass balance calculations were sensitive due to the PFAS concentrations in the spent regenerant being four orders of magnitude higher than influent and effluent concentrations, producing recovery percentages of over 100% for several regenerations. To be more general and useful, treatment volumes from loading cycle to loading cycle were comparable, showing successful regeneration.
		95% of regeneration solvent can be reused	>95% of IPA recovered from spent regenerant after optimization of the distillation process.
		PFAS concentration in recovered distillate below 10 µg/L	The solvent recycler used in distillation cycles 1 and 2 was not configured to allow for distillate recovery below 10 µg/L out of the distillate purifier. The recycler was modified with a new distillation tower and achieved concentrations close to 10 µg/L.

Quantitative Objectives			Observations and Results
		Less than 10% reduction in resin performance for 5 loading/regeneration cycles	The IX resin removal performance in the regenerated vessel as percent breakthrough of total PFAS remained within 10% of loading cycle's bed volumes treated throughout the subsequent cycles, even at more than 2,000 additional BVs treated.
Onsite PFAS destruction by plasma reactor	PFAS* • Still bottoms, each regen cycle • Plasma reactor effluent, every 25 gallons	PFAS below 70 ppt on an individual PFAS- compound basis	All precursors and long-chain PFAAs were removed to BDL, except for 4:2 FTS (1.2 µg/L), PFOS (0.67 µg/L), PFOA (0.13 µg/L) and PFHxS (0.33 µg/L) were remaining after 82 hours of treatment/destruction. After an additional 14 hours of treatment at Clarkson all these compounds were removed to BDL. For short chain PFAS, all measured PFAS were below detection limits at the conclusion of treatment exceeding the performance objective except for (Perfluoro butanoic acid) PFBA at the conclusion of the study at 120 hrs. Based on the reaction kinetics it would have taken additional 100 hrs. for it to reach the treatment goal of 70 ppt.
Cost-effectiveness	Full cost development, capital plus operations and maintenance, associated with PFAS Treatment Train. Cost effectiveness will be evaluated against comparable IX and GAC systems	Life cycle costs associated with integrating the PFAS Treatment Train into existing co-contaminant treatment are less than life cycle costs associated comparable IX and GAC systems	Cost analysis have been prepared and are described in detail in Section 7.
Waste Minimization - Minimize offsite disposal of solids and PFAS	Mass of waste materials (e.g., filters) produced during demonstration	Total mass of solid waste reduced by 50% relative to comparable IX and GAC systems. Mass of total PFAS disposed reduced by 95% relative to comparable IX and GAC systems	Pilot testing demonstrated that IPA could be recovered from the spent regenerant through distillation for re-use and that rinse waters as well as plasma treated still bottoms could be re-processed through the system without adverse effect, thus eliminating the need for off-site PFAS disposal.
Improved understanding of the impact of the PFAS Treatment Train on PFAS (C4-C12), precursors, and geochemistry	• Analyze the full suite of PFAS compounds at each PFAS monitoring station • total organic precursor analysis (TOPA) – IX influent, IX effluent, plasma influent, plasma effluent – for one regen cycle • pH, total dissolved and total suspended solids, total organic carbon – each regen cycle	Success is defined as developing an improved understanding of the PFAS treatment train's overall effectiveness at concentrating and destroying PFAS on a compound-specific and total mass basis and to understand the influence and sensitivity to critical water quality parameters	An improved understanding of treatment train operation was developed by continuous system operation and analytical testing that helped to establish timeline for resin regeneration and modifications to surfactant addition frequency of the Plasma PFAS destruction units. Compound specific PFAS analysis was performed for the still bottoms in the plasma units prior to and after plasma destruction. It was observed that majority of the precursor mass (>99%) was removed in the first high concentrator plasma reactor and long chain PFAS degradation improved to 99.9% in mid concentration Plasma reactor after 36 hrs. of treatment. For short chain PFAS, the pilot test confirmed that the cetyltrimethylammonium bromide (CTAB, cationic surfactant) improves short-chain PFAAs removal but inhibits the degradation of long-chain PFAAs removal. A

Quantitative Objectives			Observations and Results
			third plasma reactor was added in series to minimize the impact of desorption from reactor components and provide further treatment of short chain PFAS in the presence of CTAB. Additionally, based on the pilot test operational experience, mass balance was also developed for a 100-gpm system with an influent total PFAS concentration of 45 ug/L. The mass balance table is presented as Appendix F. Samples for TOPA and combustion ion chromatography (CIC) before and after plasma treatment were not collected during the pilot test. However, in the laboratory work with still bottoms from Pease (Site 8), TOP concentrations ranged between 3800 to 9400 mg/L, approximately 10 times higher than the total PFAAs concentration (Singh et al., 2020). TOP concentrations were on average 200 times higher than the total directly measured precursor concentrations indicating the presence of numerous unidentified precursors. Similarly, total fluorine concentrations were on average 50 times higher than the total directly measured organic fluorine associated with precursors. The TOPA and total fluorine data is attached as Appendix G. For the four identified precursors, 8:2 FTS and FOSA-1 were removed to below detection limits (BDL) of approximately 30 ng/L and removal efficiencies for 6:2 FTS and 4:2 FTS were 99.9 ± .07%, and 90 ± 25%, respectively. These removal efficiencies were comparable to those measured for TOP (99.8 ± 0.1%). The substantial removal of TOP is likely due to the oxidative transformation/degradation of precursors to PFCAs by plasma-generated hydroxyl radicals. Inorganic fluoride concentrations increased by 1 to 3 orders of magnitude post-treatment indicating significant defluorination of PFAS molecules. Previous work has shown that short-chain PFAAs can be generated as byproducts of degradation of long-chain PFAAs and precursors.
Ease of PFAS Treatment Train integration into existing co-contaminant treatment processes	• Design and performance data from a variety of existing or typical treatment systems in place at DoD installations • Input and feedback from experienced engineers and operators at existing co- contaminant treatment sites	The development of users' guidance, standard procedures, and technical specifications for a variety of design approaches to the integration of the PFAS Treatment Train The PFAS treatment train compliments a range of existing in-place treatment systems.	The user's guide, standard approaches, and technical specifications will be prepared at part of task 009, Technology Transfer. The PFAS treatment train can be integrated into existing groundwater treatment systems with co-contaminants, generally after the existing treatment processes. as long as there is appropriate pre-treatment of the PFAS treatment train influent water. The groundwater unit processes at each site may vary and appropriate engineering and design of pre-treatment steps may be required.

Quantitative Objectives			Observations and Results
Evaluation of potential for unanticipated effects of implementation of the PFAS Treatment Train	• Engineer and practitioner feedback from design and implementation of the PFAS Treatment Train • • Documentation and analysis of engineering solutions to unanticipated effects	Publication of lessons learned and recommended engineering solutions in the Cost and Performance Report and Users' Guide for the technology Unanticipated effects/outcomes are identified and catalogued.	Biofouling can be observed in any IX/GAC system, especially during long periods of down time required by maintenance activities, leading to pressure drop. Based on the pilot and full-scale observations the treatment system should be fitted with downflow and up-flow valving to help with vessels backwash operations and help reduce operations and maintenance costs. High concentrations of PFAS were observed to cause foaming reducing treatment efficiency during distillation and plasma destruction. During testing these issues were resolved by modification of the distillation column to prevent foam carryover and applying a 10X dilution of still bottoms prior to plasma destruction. Initial high levels of PFAS in the plasma reactors resulted in desorption during the final stages of plasma destruction reducing destruction efficiency. As a result, a third reactor was added to the train for polishing of the remaining PFAS after two stage plasma treatment. Plasma treatment required the addition of CTAB for treatment of short chain PFAS compounds. CTAB was found to inhibit the destruction of long chain PFAS compounds, as a result, CTAB was found to be most beneficial when added to the second reactor after destruction of long chain compounds in the first reactor.

* PFAS compounds and analytical methods (PFAS, TOPA and CIC) are presented in Appendix B of the Final Report

COST ASSESSMENT

The findings from the pilot study have been used to develop a cost model to compare with other currently available treatment technologies for PFAS treatment. This section provides a cost model for regenerable IX/distillation/plasma scenario to be used as a comparison to other currently available technologies. Capital and O&M costs related to power and materials are estimated based on scale up of pilot data (where appropriate) and vendor information to reflect a system capable of treating 100 gpm. O&M costs associated with materials and labor are based on ECT2 estimates from similar systems and estimates provided by Clarkson. The regenerable IX and plasma destruction Capitol, O&M, present worth and life cycle cost estimate basis and calculations are detailed in Appendix I - LCA, Capitol and O&M Cost Estimate. A present value life cycle cost of the capital and O&M cost is presented in the Figure 2 below. These costs do not include pre-treatment and extraction system installation cost.

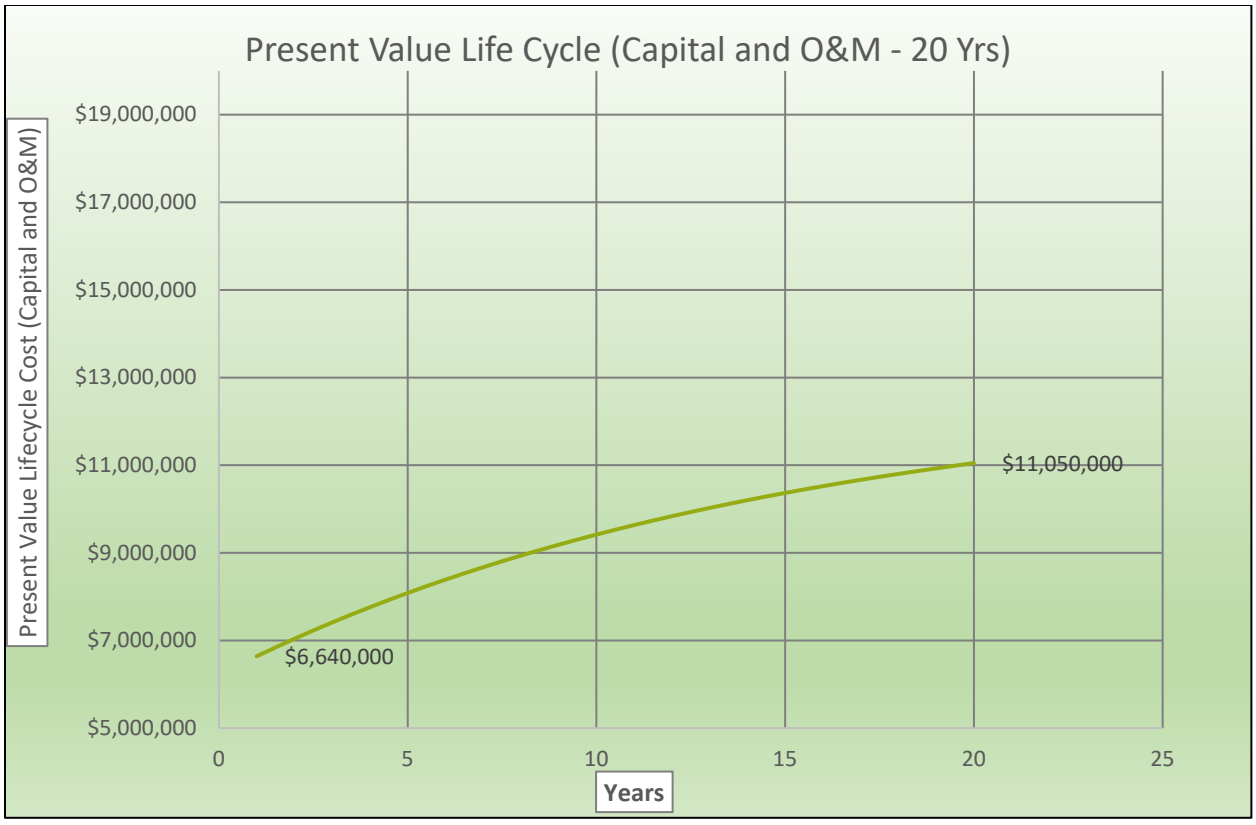


Figure 2. Present Value Life Cycle

IMPLEMENTATION ISSUES

A list of few implementation issues provided below is based on the operational experience during the pilot test and current operations at the full-scale system at Site 8. These issues are presented below to help with additional design considerations:

- Pretreatment for co-contaminants (metals, TOC, TSS, TDS, VOCs etc.): Based on the site-specific co- contaminants, pretreatment requirement can add to increased building size and larger pretreatment vessels footprint. These need to be carefully evaluated prior to design of any full-scale system.
- Downflow versus up-flow operation of the resin beds and the ability to backwash as required. Any full-scale system should be down flow to allow backwashing to remove fouling from the media. Based on the pilot and full-scale observations the treatment system should be fitted with downflow and up-flow valving to reduce operations and maintenance costs.
- Biofouling can be observed in any IX/GAC system, especially during long periods of down time required by maintenance activities, leading to pressure drop. Treatment equipment should include provisions for addressing these issues (backwashing and/or biocide addition) that could possibly negatively affect the resin/GAC performance.

- Consider the use of single pass IX after regenerable IX as a polishing step (based on pilot and full-scale Site 8 operations data). This should be considered if the influent stream has short chain PFAS compounds which require removal to meet regulatory requirements (specially PFAS with less than 6 carbon chain lengths, e.g., PFBA) which have lower demonstrated removal efficiencies using regenerable IX compared to single use. Alternatively, the regeneration cycle length can be reduced to accommodate enhanced removal of short chain PFAS.
- Waste minimization may be reduced if pretreatment before regenerable IX and tertiary treatment after plasma destruction are required. These wastes could potentially include spent filters, sludge as well as spent media (as applicable) requiring disposal as PFAS containing wastes.
- If regeneration and distillation cannot be performed outside (dependent on geographical system location) the equipment building, equipment and appurtenances must be explosion proof.

1.0 INTRODUCTION

Under Environmental Security Technology Certification Program (ESTCP) Proposal Number ER18-B3-5015 (the proposal), this Pilot Study Final Report (Report) presents the results and conclusions of the pilot study (Pilot) at former Pease Air Force Base (Pease) in Portsmouth, New Hampshire (NH). The purpose of the pilot study was to further prove the effectiveness and develop scale-up criteria for integrating a per- and poly- fluoroalkyl substances (PFAS) treatment and destruction technology into existing groundwater treatment systems as originally demonstrated during the Treatability Study (Study) (Wood, 2020a), submitted on April 17, 2020.

The Pilot was based on the approach presented in the Demonstration Plan (Plan) (Wood 2020b), submitted on September 5, 2020. This introduction summarizes key information from the Study conducted by Wood, Emerging Contaminants Treatment Technology, Inc. (ECT2) and Clarkson University. ECT2 provided operation and maintenance support of the Pilot treatment system and Clarkson University provided additional support on PFAS destruction.

The pilot demonstration location was located at the former fire training area at Pease (Site 8) and contains a PFAS treatment system already using the ion exchange (IX) resin, regeneration, and distillation technologies at full-scale.

The purpose of this pilot effort was to further evaluate the performance of an ion exchange (IX) resin using the isopropyl alcohol (IPA) regeneration process (selected based on results of the Study), distillation effectiveness to concentrate PFAS in the IPA, and to further refine the requirements for plasma destruction of distilled wastes.

1.1 BACKGROUND

To help the Department of Defense (DoD) manage environmental liabilities associated with PFAS contamination at DoD installations, the pilot study evaluated the effectiveness of the PFAS Treatment and Destruction Train. This PFAS Treatment and Destruction Train consisted of four complementary technologies to remove PFAS from treated water with reusable media, reduce the size of the PFAS-contaminated waste stream, and destroy that waste stream on-site. These technologies are as follows:

- IX resin: PFAS removal from groundwater.
- Regeneration: solvent solution for removal of PFAS from IX resin; IX resin reused for further PFAS removal.
- Distillation: recovery of used solvent to be reused in future regenerations; solution with concentrated PFAS waste (still bottoms) remains.
- Low-energy plasma destruction: PFAS destruction of the still bottoms, closing the loop for on-site removal, treatment, and destruction of PFAS.

The primary quantitative objectives outlined in the Demonstration Plan (Plan, September 2020) were achieved with the following observations about the technologies:

- The IX resin used i.e., Sorbix HC1 (HC1) in the pilot study was capable of reducing PFOS and PFOA to less than 70 ppt and provide 95% reduction of non- target PFAS compounds for each of the six 5,000 bed volume loading cycles tested.
- The IPA regenerant was effective at removing 95% of the PFAS mass from the resin and 95% or more of the IPA was recoverable through distillation. The distillation column was modified during the Pilot to reduce carryover of PFAS into the distillate due to foaming.
- PFAS compounds were degraded by greater than 99% for all compounds except Perfluorobutanoic acid (PFBA) in the plasma reactor after additional modifications were made to the plasma reactor configuration during the pilot study (addition of a third reactor).

1.2 OBJECTIVE OF THE DEMONSTRATION

The goal of this project was to further refine and demonstrate the effectiveness of the PFAS Treatment Train and provide guidance on how to integrate the treatment train into existing co-contaminant treatment systems. These objectives were presented in the Site Selection Memo and the Performance Objectives White Paper, ER18-B3-5015 Removal and Destruction of PFAS and Co-contamination from Groundwater both dated February 8, 2019.

Specific technical objectives include:

- Measure the effectiveness of PFAS and co-contaminant treatment during each step of the treatment train (existing co-contaminant treatment, IX, regeneration, distillation, and low-energy plasma destruction steps).
- Prove the technical approach at a field demonstration site.
- Verify waste minimization through resin reuse, regenerant reuse, PFAS concentration, and PFAS destruction.
- Based on field performance, develop guidance for applicability and limitations, anticipated performance, design considerations, and costing for integrating the PFAS Treatment Train into existing co-contaminant treatment systems, including a protocol for design, operation, and maintenance of the integrated system.

1.3 REGULATORY DRIVERS

The extent of aqueous film-forming foam (AFFF) use at DoD installations, recent emergence and nature of PFAS contamination, and public concern about health and environmental effects of PFAS present a new and large challenge for DoD's management of its environmental liabilities. PFAS issues for DoD include:

- Large number of sites: DoD has identified over 600 sites potentially contaminated with PFAS from the extensive use of AFFF over several decades.
- Ineffective treatment: many PFAS release/source areas include co-contaminants that may take the form of fuels and solvents applied to the ground for fire training or firefighting, and/or natural groundwater chemistry conditions such as high organic content or dissolved metals that present secondary treatment challenges.

- Limited treatment technologies: because PFAS are an emerging class of contaminants, the number of established, proven treatment technologies to address PFAS contaminated groundwater and water supplies is limited.
- Public pressure and scrutiny: previous investigations have identified impacts to drinking water supplies and ecological receptors. In response, state and federal regulatory agencies are scrambling to understand the health effects of PFAS, publishing guidelines and advisories, and promulgating conservative criteria to protect human health and the environment. In some settings, on and adjacent to DoD installations, public and private drinking water supplies have been found to be impacted by PFAS concentrations above guidelines, forcing emergency shutdowns of water supplies and urgent installation of treatment systems to bring these water supplies back online.

2.0 TECHNOLOGY

The technology, referred to herein as the PFAS Treatment Train, is a four-step process to remove, concentrate, and destroy PFAS:

1) IX resin to remove PFAS from water;
2) IX resin regeneration and reuse;
3) regenerant solution distillation and reuse; and
4) onsite destruction of concentrated PFAS in the distillate residue (still bottoms) by a low-energy electrical discharge plasma process.

Collectively, the process can be integrated into existing groundwater treatment systems. The first three steps of the treatment train have been demonstrated at both pilot scale and a full-scale constructed at Site 8 at the Former Pease AFB in Portsmouth, NH. The first of its kind, full-scale system at Pease is currently in its second year of operation. Technology selection and operational characteristics of the pilot study is based on the results outlined in the Study.

This Report presents the results of pilot testing performed to provide field demonstration of the HC1 resin performance, IPA regenerant effectiveness, distillation efficiency and plasma destruction performance as determined by the Study and outlined in the Plan.

2.1 TECHNOLOGY DESCRIPTION

The pilot scale PFAS Treatment and Destruction Train consisted of four technologies that complement each other to remove PFAS from treated water with reusable media, reduce the volume of the PFAS-contaminated waste stream, and destroy that waste stream on-site. The pilot system configuration utilized during the testing is depicted in Appendix A - Design Drawings and outlined below.

- IX resin: PFAS removal from groundwater utilizing HC1 resin.
- Regeneration: solvent solution using IPA and sodium chloride was used for removal of PFAS from IX resin to regenerate it for multiple groundwater treatment cycles.
- Distillation: recovery of used IPA solvent to be reused in future regenerations. A distiller separates the IPA from the water, brine and PFAS.
- Low-energy plasma destruction: PFAS destruction in the still bottoms, closing the loop for on-site removal, treatment, and destruction of PFAS.

2.2 TECHNOLOGY DEVELOPMENT

IX resin has been used successfully for decades to treat various contaminants. Polymeric resins have also successfully treated VOCs, including chlorinated solvents, 1,4-dioxane, benzene, toluene, ethylbenzene, and xylene (BTEX). A specialized IX resin (SORBIX A3F), which is National Science Foundation (NSF) approved for use on drinking water, has recently been installed and is operating in six full-scale applications. Two additional full-scale systems are currently under construction. These full-scale installations followed the pilot-scale success in treating PFASs at former Pease AFB Site 8, the former fire training area.

IX resins have typically been regenerated using brine, acid, and caustic solutions. Solvents have been used widely to clean fouled resins to remove iron, manganese, organic foulants, etc. The patented solvent-brine regen process described above has been proven through 12 months of pilot testing, and four of the full-scale systems listed above include solvent-brine regeneration systems.

Distillation is a proven technology for separating solvents from water. Each of ECT2's pilot-scale and full-scale regenerable IX applications includes a distillation step to facilitate recovery and reuse of the regenerant solution.

Plasma-based water treatment is a technology that, using only electricity, converts water into a mixture of highly reactive species and aqueous electrons. The enhanced contact plasma reactor developed at Clarkson removes PFAS with removal efficiencies greater than those of leading alternative technologies. The reactor features a high voltage electrode in the gas, just above the liquid surface and a grounded ring electrode submerged just beneath the liquid surface to achieve contact between plasma streamers and the entire reactor volume. Plasma is formed by applying a sufficiently high electrical potential between the high voltage and grounded electrodes via an external plasma-generating network. Argon gas is pumped through submerged diffusers to produce bubbles and form a layer of foam on the liquid surface. This foam concentrates surfactant-like contaminants (e.g., PFAS) and enhances the contact between the liquid and the plasma, exposing the contaminant at the gas-liquid interface to reactive oxidative and reductive species in the plasma.

2.3 ADVANTAGES AND LIMITATIONS OF THE TECHNOLOGY

2.3.1 ION EXCHANGE RESIN

Compared to granular activated carbon (GAC), IX resin (regenerable and single pass) offers superior removal efficiencies for most PFAS compounds, allowing for groundwater treatment systems with smaller material footprints, capital costs, and waste streams. Ion exchange treatment has been applied for PFAS removal from groundwater at numerous sites. The supporting technologies described below, i.e., onsite regeneration, reuse, and PFAS destruction, may offer substantial lifecycle cost savings compared to single use IX applications.

Existing water treatment systems employing GAC may be retrofitted with an ion exchange resin process to remove PFAS. Also, as new and more effective IX resins may be discovered, existing ion exchange systems may be retrofitted with new resin to improve system performance.

Often IX resins will require pretreatment processes to maximize the resin's PFAS removal capacity from degradation by co-contaminants. Depending on the influent water quality this is not necessarily a unique requirement compared to GAC.

2.3.2 ION EXCHANGE RESIN REGENERATION AND REGENERANT DISTILLATION

The solvent-brine regeneration process for ion-exchange resin in PFAS treatment systems allows for reuse of ion exchange resin to reduce operational costs and waste stream volume for a PFAS water treatment system. Compared to single use ion exchange resin, which cannot be regenerated, or GAC, which must be reactivated off-site, regenerable resin may be regenerated in-place and quickly returned to service.

Distillation of the spent regenerant solution reduces the waste stream from the entire regenerant volume down to the water fraction of the solution, typically a 70-80% reduction in waste volume. Distillation is widely used for reclamation of solvents for numerous applications in industry and is a proven technology. Distillation does however come with the added operations and maintenance requirements of managing flammable (e.g., methanol, ethanol, and IPA) and potentially toxic (e.g., methanol) solvents on-site, and explosion-proof electrical requirements for electrical equipment near the regeneration and distillation process units.

2.3.3 PLASMA DESTRUCTION OF PFAS

Plasma destruction technology takes advantage of the waste consolidation achieved during regenerant distillation by destroying PFAS in the concentrated waste stream of PFAS in the still bottoms. The use of plasma destruction has been demonstrated for the treatment of various waste materials, however, the method (low energy) for PFAS being evaluated during this pilot study is currently patented by Clarkson. This destruction of PFAS on-site may significantly reduce off-site disposal requirements, improving one of the costliest operations and maintenance activities for these PFAS treatment systems and offering the best liability protection possible for management of PFAS waste.

Plasma destruction has been demonstrated on the pilot scale level in low flow and semi-batch operations but has not yet been demonstrated in full-scale treatment applications. However, the technology has been identified as a promising method of PFAS destruction.

3.0 PERFORMANCE OBJECTIVES

Table 1 lists preliminary quantitative performance objectives of the Pilot Study associated data requirements, success criteria and results for each objective. Each of these objectives are summarized in the following sub-sections as to whether they were met and, if not met, the principal reason for failure. Details on results are provided in Section 5 and 6.

Table 1. Preliminary Performance Objectives, Data Requirements, and Success Criteria

Quantitative Objectives			Observations and Results
Demonstrate that the HC1 IX resin is able to consistently treat the incoming groundwater (post-Fe removal) to levels at or below the EPA Lifetime Health Advisory	Co-Contaminants (pre-treatment) • Iron, Manganese, VOCs, Total Suspended Solids (TSS), total organic carbon (TOC) in influent and pre-treatment effluent PFAS* • IX influent, weekly • IX effluent and between lead and lag vessels, weekly	• Pre-treatment effluent • Total and dissolved iron and manganese below 0.05 milligrams per liter (mg/L) • TOC below 1 mg/L • TSS below 1 mg/L • VOCs non-detect	• Average dissolved iron was 0.04 mg/L • Average dissolved manganese was 0.26 mg/L • Average TOC was 2.32 mg/L • Baseline sample was estimated at 2.4 mg/L • Average VOCs were below detection limit. • TSS was below lab detection limit all samples. • Where certain IX influent levels after filtration were slightly above the pretreatment goals, there were no adverse effects on resin performance were noted during the study.
		IX effluent perfluorooctanoic acid (PFOA) + perfluorooctane sulfonic acid (PFOS) total concentration is less than 70 parts per trillion (ppt) for 5,000 bed volumes (BV).	The IX resin effluent remained below PFOS and PFOA treatment goals throughout the pilot test.
		Removal efficiency for all non-Target PFAS compounds greater than 95%	The IX resin effluent removed total PFAS compounds by at least 95% throughout the pilot test.
Onsite IX resin regeneration followed by distillation to enable reuse of resin and regenerant	PFAS* • Regeneration solution post- treatment, each regen cycle • Recovered regeneration solution distillate, each regen cycle • IX influent, weekly • IX effluent and between lead and lag vessels, weekly	100% of resin can be reused during 6-month demonstration	The IX resin was never changed out during the pilot test and continued to meet treatment goals over five regenerations and six loading cycles.
		95% of Total PFAS mass recovered from resin	Mass balance calculations were sensitive due to the PFAS concentrations in the spent regenerant being four orders of magnitude higher than influent and effluent concentrations, producing recovery percentages of over 100% for several regenerations. To be more general and useful, treatment volumes from loading cycle to loading cycle were comparable, showing successful regeneration.
		95% of regeneration solvent can be reused	>95% of IPA recovered from spent regenerant after optimization of the distillation process.

Quantitative Objectives			Observations and Results
		PFAS concentration in recovered distillate below 10 µg/L	The solvent recycler used in distillation cycles 1 and 2 was not configured to allow for distillate recovery below 10 µg/L out of the distillate purifier. The recycler was modified with a new distillation tower and achieved concentrations close to 10 µg/L.
		Less than 10% reduction in resin performance for 5 loading/regeneration cycles	The IX resin removal performance in the regenerated vessel as percent breakthrough of total PFAS remained within 10% of loading cycle's bed volumes treated throughout the subsequent cycles, even at more than 2,000 additional BVs treated.
Onsite PFAS destruction by plasma reactor	PFAS* • Still bottoms, each regen cycle • Plasma reactor effluent, every 25 gallons	PFAS below 70 ppt on an individual PFAS-compound basis	All precursors and long-chain PFAAs were removed to BDL, except for 4:2 FTS (1.2 µg/L), PFOS (0.67 µg/L), PFOA (0.13 µg/L) and PFHxS (0.33 µg/L) were remaining after 82 hours of treatment/destruction. After an additional 14 hours of treatment at Clarkson all these compounds were removed to BDL. For short chain PFAS, all measured PFAS were below detection limits at the conclusion of treatment exceeding the performance objective except for (Perfluoro butanoic acid) PFBA at the conclusion of the study at 120 hrs. Based on the reaction kinetics it would have taken additional 100 hrs. for it to reach the treatment goal of 70 ppt.
Cost-effectiveness	Full cost development, capital plus operations and maintenance, associated with PFAS Treatment Train. Cost effectiveness will be evaluated against comparable IX and GAC systems	Life cycle costs associated with integrating the PFAS Treatment Train into existing co-contaminant treatment are less than life cycle costs associated comparable IX and GAC systems	Cost analysis have been prepared and are described in detail in Section 7.
Waste Minimization - Minimize offsite disposal of solids and PFAS	Mass of waste materials (e.g., filters) produced during demonstration	Total mass of solid waste reduced by 50% relative to comparable IX and GAC systems. Mass of total PFAS disposed reduced by 95% relative to comparable IX and GAC systems	Pilot testing demonstrated that IPA could be recovered from the spent regenerant through distillation for re-use and that rinse waters as well as plasma treated still bottoms could be re-processed through the system without adverse effect, thus eliminating the need for off-site PFAS disposal.

* PFAS compounds and analytical methods (PFAS, TOPA and CIC) are presented in Appendix B

Qualitative Objectives			Observations and Results
Improved understanding of the impact of the PFAS Treatment Train on PFAS (C4-C12), precursors, and geochemistry	• Analyze the full suite of PFAS compounds at each PFAS monitoring station • total organic precursor analysis (TOPA) – IX influent, IX effluent, plasma influent, plasma effluent – for one regen cycle • pH, total dissolved and total suspended solids, total organic carbon – each regen cycle	Success is defined as developing an improved understanding of the PFAS treatment train's overall effectiveness at concentrating and destroying PFAS on a compound-specific and total mass basis and to understand the influence and sensitivity to critical water quality parameters	An improved understanding of treatment train operation was developed by continuous system operation and analytical testing that helped to establish timeline for resin regeneration and modifications to surfactant addition frequency of the Plasma PFAS destruction units. Compound specific PFAS analysis was performed for the still bottoms in the plasma units prior to and after plasma destruction. It was observed that majority of the precursor mass (>99%) was removed in the first high concentrator plasma reactor and long chain PFAS degradation improved to 99.9% in mid concentration Plasma reactor after 36 hrs. of treatment. For short chain PFAS, the pilot test confirmed that the cetyltrimethylammonium bromide (CTAB, cationic surfactant) improves short-chain PFAAs removal but inhibits the degradation of long-chain PFAAs removal. A third plasma reactor was added in series to minimize the impact of desorption from reactor components and provide further treatment of short chain PFAS in the presence of CTAB. Additionally, based on the pilot test operational experience, mass balance was also developed for a 100-gpm system with an influent total PFAS concentration of 45 ug/L. The mass balance table is presented as Appendix F. Samples for TOPA and combustion ion chromatography (CIC) before and after plasma treatment were not collected during the pilot test. However, in the laboratory work with still bottoms from Pease (Site 8),
Ease of PFAS Treatment Train integration into existing co-contaminant treatment processes	• Design and performance data from a variety of existing or typical treatment systems in place at DoD installations • Input and feedback from experienced engineers and operators at existing co- contaminant treatment sites	The development of users' guidance, standard procedures, and technical specifications for a variety of design approaches to the integration of the PFAS Treatment Train The PFAS treatment train compliments a range of existing in-place treatment systems.	The user's guide, standard approaches, and technical specifications will be prepared at part of task 009, Technology Transfer. The PFAS treatment train can be integrated into existing groundwater treatment systems with co-contaminants, generally after the existing treatment processes. as long as there is appropriate pre-treatment of the PFAS treatment train influent water. The groundwater unit processes at each site may vary and appropriate engineering and design of pre-treatment steps may be required.
Evaluation of potential for unanticipated effects of implementation of the PFAS Treatment Train	• Engineer and practitioner feedback from design and implementation of the PFAS Treatment Train	Publication of lessons learned and recommended engineering solutions in the Cost and Performance	Biofouling can be observed in any IX/GAC system, especially during long periods of down time required by maintenance activities, leading to pressure drop. Based on the pilot and full-scale observations the

Qualitative Objectives			Observations and Results
	• Documentation and analysis of engineering solutions to unanticipated effects	Report and Users' Guide for the technology Unanticipated effects/outcomes are identified and catalogued.	treatment system should be fitted with downflow and up-flow valving to help with vessels backwash operations and help reduce operations and maintenance costs. High concentrations of PFAS were observed to cause foaming reducing treatment efficiency during distillation and plasma destruction. During testing these issues were resolved by modification of the distillation column to prevent foam carryover and applying a 10X dilution of still bottoms prior to plasma destruction. Initial high levels of PFAS in the plasma reactors resulted in desorption during the final stages of plasma destruction reducing destruction efficiency. As a result, a third reactor was added to the train for polishing of the remaining PFAS after two stage plasma treatment. Plasma treatment required the addition of CTAB for treatment of short chain PFAS compounds. CTAB was found to inhibit the destruction of long chain PFAS compounds, as a result, CTAB was found to be most beneficial when added to the second reactor after destruction of long chain compounds in the first reactor.

3.1 HC1 IX RESIN PERFORMANCE

The first performance objective for the pilot test was to demonstrate that the HC1 IX resin is able to consistently treat the incoming groundwater to levels at or below the EPA Lifetime Health Advisory. Compounds of interest included co-contaminants requiring pretreatment, PFOS and PFOA, and, while lacking specific EPA LHA criteria, the other detected PFAS compounds. Note that this test evaluated performance against the EPA LHA as was originally proposed for this project, although more stringent standards in New Hampshire exist.

During the pilot test, periodic samples were collected for analysis of co-contaminants in system influent and pre-treatment effluent samples, including:

- Iron
- Manganese
- VOCs
- TSS
- TOC

Pretreatment analytical results were compared to applicable site-specific discharge limits. Generally, pretreatment levels were not all achieved, but pretreatment performance did not impact IX resin performance.

Weekly samples were collected for PFAS analysis from the IX influent, lead IX effluent and lag IX effluent.

Weekly samples were collected for PFAS analysis (EPA Method 537M, DoD QSM Method 5.1) from the IX influent, lead IX effluent and lag IX effluent. A full list of compounds and the details of the analytical method are provided in the attached Appendix B - PFAS Compound List and Analytical Method. Analyzed compounds included:

PFAS Compound	Abbreviation
Perfluorooctane sulfonamide	FOSA-1
Perfluorooctane sulfonamide	FOSAA
N-Methylperfluorooctanesulfonamide	N-MeFOSA
N-Ethylperfluorooctanesulfonamide	N-EtFOSA
N-methyl-perfluorooctane-sulfonamido acetic acid	N-MeFOSAA
N-ethyl-perfluorooctane-sulfonamido acetic acid	N-EtFOSAA
4:2 Fluoro telomer sulfonate	4:2 FTS
6:2 Fluoro telomer sulfonate	6:2 FTS
8:2 Fluoro telomer sulfonate	8:2 FTS
10:2 Fluoro telomer sulfonate	10:2 FTS
Perfluorobutanoic acid	PFBA
Perfluoropentanoic acid	PFPeA
Perfluorohexanoic acid	PFHxA
Perfluoroheptanoic acid	PFHpA
Perfluorooctanoic acid	**PFOA**
Perfluorononanoic acid	PFNA
Perfluorodecanoic acid	PFDA
Perfluoroundecanoic acid	PFUnDA
Perfluorododecanoic acid	PFDoDA
Perfluorotridecanoic acid	PFTrDA
Perfluorotetradecanoic acid	PFTeDA
Perfluorohexanoic acid	PFHxDA
Perfluorododecanoic acid	PFODA
Perfluorobutanesulfonate	PFBS
Perfluoropentanesulfonic acid	PFPeS
Perfluorohexanesulfonate	PFHxS
Perfluoroheptanesulfonate	PFHpS
Perfluorooctanesulfonate	**PFOS**
Perfluorononanesulfonate	PFNS
Perfluorodecanesulfonate	PFDS

PFAS analytical results were compared against two success criteria: removal of PFOA and PFOS below 70 ppt for 5,000 BVs of treatment, and removal of non-target PFAS greater than 95%. The lag IX resin vessel sample results were used for comparison against the success criteria, as that is the final system discharge point and represents ultimate compliance with criteria. In this test, the lead IX resin vessel operated as the primary PFAS removal process unit.

PFOA and PFOS analytical results in the lag IX resin vessel effluent remained below 70 ppt for 5,000 BVs or more of treatment per loading cycle throughout the pilot test. The sum of analyzed PFAS compounds also remained at greater than 95% removal efficiency in the lag IX resin vessel effluent for 5,000 BVs or more of treatment per loading cycle through the pilot test.

3.2 RE-USE OF RESIN AND REGENERANT

The second performance objective for the pilot test was to demonstrate the successful reuse of regenerated IX resin over multiple loading cycles and recovery of the regenerant solution using distillation. Success was defined as meeting the following criteria:

- 100% of resin can be reused during 6-month demonstration
- 95% of Total PFAS mass recovered from resin
- 95% of regeneration solvent can be reused
- PFAS concentration in recovered distillate (or condensate) below 10 µg/L
- Less than 10% reduction in resin performance for 5 loading/regeneration cycles

The following PFAS analytical data were collected to support evaluation of the success criteria:

- Regeneration solution collected after each regeneration cycle
- Recovered regeneration solution distillate collected from each distillation cycle
- IX influent collected weekly
- IX lead and lag effluent collected weekly

Samples were also collected for IPA percentage in the distillation process streams to evaluate recovery and reuse of the regeneration solvent.

Generally, the following results were observed in evaluating the success criteria for this objective:

- The original HC1 resin loaded at the start of the pilot test remained in use for the duration of the test and continued to provide PFAS treatment effectively, meeting PFAS removal performance objectives.
- Mass balance calculations were sensitive due to the PFAS concentrations in the spent regenerant being four orders of magnitude higher than influent and effluent concentrations, producing recovery percentages of over 100% for several regenerations. To be more general and useful, treatment volumes from loading cycle to loading cycle were comparable, showing successful regeneration of the IX resin.

- The distillation system recovered over 95% of solvent from the spent regenerant solution for each of the four completed distillation cycles.
- PFAS concentrations in the recovered distillate after treatment in the distillate purifier IX resin vessel initially exceeded 10 µg/L due to the distiller's design. After modifying the distiller with a new distillation column to improve distillate purity, recovered distillate treated by the distillate purifier IX resin vessel slightly exceed 10 µg/L. The majority of PFAS compounds in the treated distillate were compounds that are simply not removed at all by the IX resin in the distillate purifier, i.e., FOSA-1 and N-MeFOSA.
- Both PFOS and PFOA removal and total PFAS removal remained within 10% of the first loading cycle removal efficiency for each of the regenerated loading cycles.

3.3 PLASMA DESTRUCTION

The performance objective for plasma destruction of the still bottoms was that all identified PFAS be below 70 ppt on an individual compound's basis. This objective was evaluated by treating still bottoms in multiple plasma reactors and collecting samples every hour. Treatment primarily occurred on-site (for 82 hours) however limited additional treatment occurred at Clarkson University. All measured PFAS were below detection limits at the conclusion of treatment exceeding the performance objective except for PFBA. At the conclusion of 120 hours of treatment it had a concentration of 10,500 ppt. The change in PFBA concentration from 82 to 120 hours followed first order removal kinetics (time (hrs.) = -0.09 ln [PFBA] +5.87; r2 = 0.99). Assuming this removal rate remained constant, an additional treatment of 100 hours would decrease the PFBA concentration to below the treatment goal of 70 ppt.

3.4 WASTE MINIMIZATION

All wastes generated during the pilot study were documented for the purposes of determining waste minimization. This included waste streams such as spent regenerant, IX rinse water, still bottoms, filters and other solid wastes. Of these, spent regenerant, still bottoms and plasma destruction effluent were considered intermediate waste streams since they would be treated on-site with the plasma destruction effluent being returned to the treatment system influent in a full-scale system eliminating off-site disposal requirements. As part of the LCA comparison presented in Section 7 wastes ultimately requiring off-site disposal anticipated from a full-scale system based on pilot performance scale-up were included.

3.5 PFAS TREATMENT TRAIN INTEGRATION INTO EXISTING GROUNDWATER TREATMENT SYSTEMS

The need for pre-treatment of influent water was understood at the outset of this Pilot study as a requirement to effectively operate the system. Since influent water quality and co-contaminants will vary for each site, an appropriate pre-treatment design, bench testing, and operational optimization may be required. The PFAS treatment train can be integrated into existing groundwater treatment systems with co-contaminants, typically after the existing treatment processes, as long as there is appropriate pre-treatment of the influent water to the PFAS treatment train.

4.0 SITE DESCRIPTION

The former Pease Air Force Base (AFB) in Portsmouth, NH was selected for performance of the pilot study conducted during 2020-2021. The site description, selection criteria and history are detailed in the Site Selection Memo (Memo), ER18-B3-5015 Removal and Destruction of PFAS and Co-contamination from Groundwater submitted February 19, 2019.

The primary attributes of Pease for conducting the project presented in the Memo were:

- an active pump and treat system employing iron pretreatment capable of yielding a 2 gallon per minute (gpm) side stream for pilot-scale demonstration of the PFAS treatment train.
- ample space and infrastructure available at the site for the field demonstration.
- an existing discharge permit with established PFAS discharge criteria.
- exhibits the highest PFAS concentrations (30-50 ppb total PFAS) amongst the candidate sites with active pump and treat systems, has co-contaminant treatment system in place, and suitable geochemistry for IX resin treatment.
- located within close proximity to the Wood Principal Investigator's office and ECT2's headquarters in Portland, Maine (<55 miles) and reasonable proximity to Clarkson University (~315 miles).

4.1 SITE LOCATION AND HISTORY

The pilot study (Pilot) Site is located at former Pease Air Force Base (Pease) in Portsmouth, New Hampshire (NH). The Site 8 at the Pease is depicted in Appendix A – Design Drawings. Pease was previously a full-service AFB and continues to serve as an active Air National Guard base and commercial aviation airport. Wood has been conducting environmental investigation and remediation activities at the site for several years and recently commissioned the first US-based full-scale, regenerable, IX resin treatment system for PFAS treatment at the site.

Wood continues to operate the pump and treat system, which is equipped with an IX regeneration system and a regenerant solution/solvent distillation system.

4.2 SITE GEOLOGY/HYDROGEOLOGY

The Pease site is located on a peninsula within the Piscataqua River drainage basin. Surface water flows radially away from the peninsula into three main bodies of water: Great Bay to the west, Little Bay to the north-northwest, and the Piscataqua River to the east. Great Bay, Little Bay, and the Piscataqua River are tidally influenced by semidiurnal water level variations. Site 8 is located on a topographical high of 117 feet (ft) above mean sea level (amsl) with less than 10 ft of topographical relief across the site. The area surrounding Site 8 consists of upland forest and wetlands. The upland forest is a mixture of white pine, red oak, white oak, black birch and aspen. A bedrock outcrop exists northeast of the former burn areas within a portion of the upland forest. Soils at Site 8 are unconsolidated glacial deposits consisting of unsorted clay, silt, sand, gravel, cobbles, and boulders that typically overlay bedrock. The bedrock is composed of metamorphosed sedimentary, volcanic, and intrusive igneous rocks.

Groundwater is present in bedrock and portions of the overburden at Site 8, and acts as a transport mechanism for contaminant migration. Groundwater flow direction at Site 8 is largely controlled by the north-northeast/south-southwest-trending bedrock trough. Groundwater migrating through shallow bedrock moves toward the bedrock trough and into the unconsolidated glacial deposits that fill it. Extraction wells associated with the Site 8 GWTS create an artificial depression in the groundwater table. Injection of treated groundwater from the existing GWTS into recharge trenches create an artificial mounding effect in the groundwater table along the southern border of Site 8.

5.0 TEST DESIGN

The test design used during this pilot effort was presented in the Demonstration Plan (Plan), submitted on September 5, 2020, based on the findings of the Treatability Study (Study), submitted April 17, 2020, both conducted as part of ESTCP Project Number: ER18-5015. The following sections detail the approach and findings of the Pilot.

5.1 PROCESS SUMMARY

The pilot system utilized 2 gpm of extracted groundwater taken from extraction well 6028 (EW 6028) at the influent header to the Site 8 treatment plant. EW 6028 was chosen due to its low iron/manganese concentration and high total PFAS concentration in relation to other wells at the site. The Pilot System operated as follows:

- The pilot system's pretreatment process units (multimedia, bag and cartridge filtration) reduced remaining co-contaminants (primarily iron and manganese) concentrations to ensure the IX resin's PFAS removal capacity was not affected by fouling or adsorption of co-contaminants.
- Two 1.5 cubic foot HC1 IX resin vessels in series (lead/lag) were used to remove PFAS from the groundwater and send treated groundwater back to the existing treatment plant headworks.
- IX resin in the lead vessel was regenerated using an IPA and brine solution to remove PFAS mass from the IX resin. The regenerated vessel was returned to service in the lead position in order to evaluate PFAS removal capacity of the regenerated resin over successive loading and regeneration cycles.
- Rinse water from regeneration was placed in a storage tank and metered back into the pilot system influent for re-treatment.
- Spent regenerant was distilled to recover IPA then polished through an IX resin (superloader or distillate purifier) for reuse in subsequent regenerations. Fresh IPA was added to the recovered IPA to make up for dilution in the regenerant supply due to water carryover with the distillate.
- The PFAS mass in the still bottoms was treated through plasma destruction. Due to COVID pandemic, most of the plasma treatment efforts were conducted offsite at Clarkson's laboratory with only the last two batches treated on-site.
- 30 gallons of treated still bottoms were supplied by Clarkson and bled into the pilot system influent during the last loading cycle of the pilot test to determine impact on treatment performance.

5.2 BASELINE CHARACTERIZATION OF SITE GROUNDWATER DATA

Baseline characterization for the pilot study consisted of general review of Site 8 analytical data for individual extraction wells as well as the combined influent. It was determined that the combined influent concentration fluctuated depending on which extraction wells were in operation and that a higher PFAS concentration could be obtained by selecting a single well. Selection of a single well also provided a more consistent influent water quality and was not impacted by water quality variability in the Site 8 full-scale pretreatment system.

EW 6028 was selected based on low iron and manganese concentrations and higher total PFAS concentrations than other wells at the site. A baseline sample was collected prior to commencement of the pilot and included analysis of PFAS, VOC, dissolved organic carbon, TOC, TSS, iron and manganese, the results of which are presented in Tables 2, 3 and 4 in Appendix C.

Samples were collected of the pilot system influent on a weekly basis for comparison to the initial baseline samples in order to account for seasonal fluctuations and track system performance. These results are also presented in Tables 2, 3 and 4 in Appendix C.

5.3 SUMMARY OF PREVIOUS LABORATORY AND TREATABILITY STUDY RESULTS

The technologies employed during the pilot test, as outlined in Section 2.1, underwent bench scale evaluation as part of an earlier phase of this project, the results of which are summarized in the Treatability Study (Study) ESTCP Project Number: ER18-5015, submitted April 17, 2020. Specific findings of this study that were used as an initial basis for the pilot effort were:

- Resin Selection: HC1 resin performed similar to the AF3 resin for PFAS removal during the treatability study. However, HC1 resin yielded substantially higher mass recovery (84%) during regeneration compared to A3F (60%), especially for PFOA, PFOS, and PFHxS during testing.
- Regeneration: The IPA-based regenerant led to the most total PFAS recovery for both media types tested during the Treatability Study.
- Distillation: Carryover from the regenerant to the distillate fraction for detected PFAS compounds was less than 0.5 % for IPA distillation trials. Methanol regenerant solution produced higher carryover compared to IPA and ethanol.
- Plasma Destruction: Using two plasma reactors in series, a 10X dilution of the still bottoms to avoid excessive foaming, and with the addition of a surfactant to the second reactor to enhance treatment of highly soluble small-chain PFAS, all the PFAS were degraded below a detection limit of 10 ppt, except PFBA (260 ppt). Note that the Study compared three different alcohols for use in regeneration: ethanol, IPA, and methanol. Each solution was mixed to contain 70% alcohol due to the diminishing solubility of sodium chloride in IPA beyond 70% alcohol. Different mixtures of, in particular, methanol and salt at higher methanol concentrations are more effective regenerants than IPA mixtures. However, for the purposes of this field demonstration, regenerant performance was limited to the results of the study due to the benefits of evaluating a potential alternative regenerant solution that is less used to date than methanol.

5.4 DESIGN AND LAYOUT OF TECHNOLOGY COMPONENTS

The pilot study design was based on the results obtained during the recent Study conducted at the Site 8 plant outlined in Section 5.3. The pilot study system was setup adjacent to the existing Site 8 treatment plant located at 20 Short Street at the former Pease Air Force base in Newington, NH as depicted in Appendix A - Pilot Design Drawings. A process flow diagram for the overall pilot system is depicted in Appendix A - Pilot Process Flow Diagram. The system included one trailer for IX operations, one trailer for plasma destruction operations, and a canopy for performing regeneration and distillation operations as depicted on the site layout drawing in Appendix A. Pictures of the pilot system and components are included in Appendix D - Photo Log.

The IX and plasma trailers provided by the suppliers were prefabricated (plumbing and electrical) and incorporated sub-panels for electrical distribution within the trailers. A temporary power service and distribution panel was installed on the site to supply power to each trailer subpanel. Power for regeneration and distillation operations was supplied from the IX trailer subpanel. Details of the temporary power service and distribution panel as well as electrical drawings for the IX and Plasma trailers are depicted in the design drawings in Appendix A.

Influent water from EW 6028 for the pilot was taken from the existing system Site 8 treatment system influent as noted in Section 5.2. Effluent from the pilot system was returned to the clarified water tank of the Site 8 treatment plant for treatment in accordance with the Pease discharge permit. Lines for transferring water to and from the pilot system were run above grade, protected from traffic with barricades and heat traced for operations in cold weather. Routing of these lines between the Site 8 plant and the pilot system is depicted in the design drawings in Appendix A.

The control system for the pilot system equipment included a "run permissive" signal from the Site 8 control panel in order to pause operation when EW 6028 was not operating. A wiring detail for tie into the existing Site 8 treatment plant control panel is depicted on the electrical drawing included in Appendix A.

The process and instrumentation drawings for the IX trailer supplied by ECT2 is provided in Appendix A. The IX trailer was designed to perform a number of treatment operations that were not utilized during this pilot study. Components of the IX trailer are depicted on Appendix A, which has been marked up to illustrate only the components that were required. Primary equipment for this project includes a system feed tank/pump, sand filtration, cartridge filtration (4 in series), ion exchange (2 vessels), effluent tank and a discharge pump.

The plasma trailer supplied by Clarkson was constructed specifically for this project based on their patented plasma destruction process. A layout of trailer components and a process flow diagram are presented in Appendix A. Due to COVID concerns, a majority of the testing was performed off-site at Clarkson's facility. The trailer was mobilized to the site for treatment of the last two batches of still bottoms produced during the pilot. Figure 1 below provides a schematic of the plasma reactor configuration.

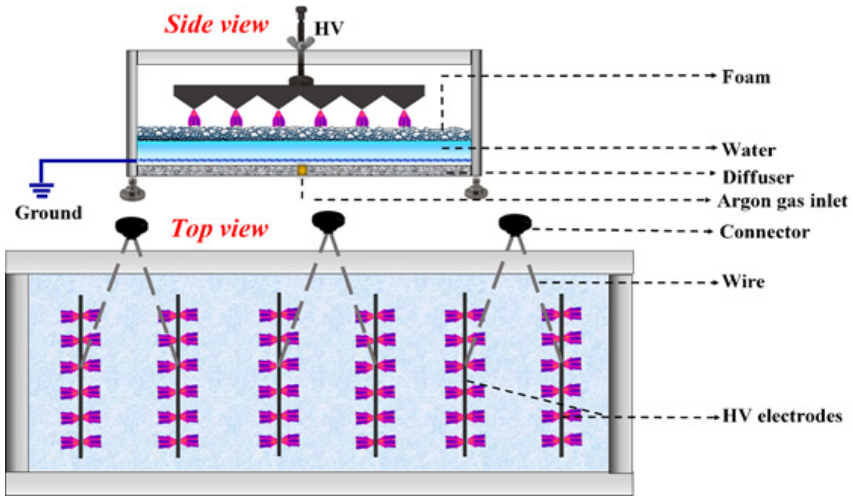


Figure 1. Plasma Reactor Configuration

The high voltage (HV) electrodes were arranged parallel to each other and perpendicular to the long side of reactor. The HV electrodes were suspended above the surface of the water. A coarse iron mesh screen, submerged into the liquid, served as the grounded electrode. Argon gas diffusers were placed on the bottom of the reactor immediately below the grounded electrode. To generate plasma, -40 kV was applied using a custom-built HV electrical circuit to charge six dedicated capacitor banks (4 nano faraday[nF] each) each connected to a pair of HV electrodes. Charged capacitors were simultaneously discharged via three dedicated rotating spark gaps at the discharge frequency of 60 Hz.

5.5 FIELD TESTING

Preparation for field testing and pilot operations began during the third quarter of 2020. On-site forward flow pilot operations began on October 23, 2020 and were completed on July 2, 2021. The schedule for the pilot study and field-testing efforts are Figure 2. Pilot Testing Gantt Chart and are described in the following subsections.

5.5.1 SITE PREPARATION AND MOBILIZATION

Preparation for field activities included local permitting, temporary 3 phase power service installation, and coordination with the local power service provider; mobilization of pilot equipment; and on-site setup of the system.

A Temporary Storage Permit was required by the Town of Newington, NH. The permit required general information regarding location/size of the system, equipment employed, and chemical volumes anticipated. Of primary concern was the volume of IPA and location on-site.

Wood employed a local contractor to install a temporary 3 phase power service that included a main breaker/distribution panel and pad mounted transformer adjacent to an existing 3 phase utility pole on-site. Once installed, the local power service provider was contacted for inspection and hook up of the temporary service. Delays were incurred during temporary service installation and hook up that caused delays in pilot startup

Mobilization of the IX pilot trailer required shipping of the trailer to the site and placement by a rigging company. Additionally, 1-inch diameter overground lines were run between the trailer to the Site 8 plant for influent water and pilot effluent conveyance. A separate hose was run from an outside spigot to the trailer to provide city water for process and safety shower purposes. These lines were heat traced, insulated and protected by barriers from traffic. A set of control signal wires was also run between the Site 8 main control room and the pilot trailer to provide indication of the operational status of EW 6028 used for source water. This control signal provided a go/no-go indication for operation of the pilot system.

5.5.2 FORWARD FLOW IX TREATMENT

System testing and prove out occurred between October 19th and 23rd, 2020 with forward flow IX treatment at 2.3 gpm commencing on October 23, 2020 and lasting until July 2, 2021. Forward flow testing involved six successive IX resin loading cycles and 5 regeneration/distillation cycles.

During the 6 loading cycles a total of approximately 388,330 gallons were processed through the system. At the end of each loading cycle (between 5,000 and 7,300 bed volumes treated) the lead IX vessel was removed from service and regenerated using a 70% IPA and sodium chloride solution, flushed with dechlorinated city water (~150 gallons) and returned to service in the lead position.

This approach of keeping the same vessel in the lead position was used to determine the effect of successive regenerations on resin performance. The lag vessel was regenerated once during the pilot study as a preventative measure approximately halfway through the pilot study.

Spent regenerant was distilled on-site for recovery of the IPA for reuse and separation of the still bottoms for subsequent plasma destruction testing. Rinse water generated during the flush cycle was returned back into the pilot system influent for re-treatment.

5.5.3 PLASMA DESTRUCTION TESTING

Due to COVID precautions a majority of the plasma testing was conducted off-site at Clarkson's facility in Potsdam, NY. Clarkson personnel picked up still bottoms on two occasions the first to collect still bottoms from distillation 1 and the second to pick up still bottoms from distillations 2 and 3. Clarkson mobilized their trailer to allow testing of still bottoms from distillations 4 and 5 on-site between June 11th and 28th of 2021.

Approximately 30 gallons of plasma treated waste (treated still bottoms from distillations 2 and 3) was returned back into the treatment system during the last week of pilot operation for disposal.

5.5.4 DEMOBILIZATION AND WASTE DISPOSAL

Demobilization of the pilot system and waste disposal efforts were completed during October 2021. The Clarkson trailer was removed from site on June 28, 2021, after initial treatment efforts were completed on the last two batches of still bottoms produced during the Pilot. Due to contractor scheduling issues, demobilization of the remaining process equipment (IX trailer, regeneration system, distillation unit and other support services) and waste disposal was delayed.

Demobilization required the removal of all pilot derived wastes, decontamination of equipment, disconnection of the electrical service and mobilization off-site. Wastes generated during demobilization are not characteristic of full-scale system operations since they included materials that were not past their life expectancy (multimedia filter sand, IX resin, reclaimed IPA) or that would have been treated through the system rather than sent for disposal (spent regenerant, still bottoms, rinse water and plasma treated wastes). Wastes generated as a result of demobilization are included in Table 2 below.

Table 2. Demobilization Derived Waste Estimate

Waste Stream	Matrix	Contents	Contaminants	Estimated Volume	Notes
Bag Filters & Poly Fiber Cartridges	Solid	Poly-fiber bags fouled with iron	Source water constituents	6x bags, 4x cartridges	Waste from pretreatment
Pretreatment Media	Solid/Liquid	Gravel, anthracite, sand, water	Source water constituents	130 gallons	Disposal of test media
Ion Exchange Resin Vessels	Solid/Liquid	Ion exchange resin and water	Source water constituents	20 gallons	Disposal of test media
Distillate Purifier	Solid/Liquid	Ion exchange resin and IPA	PFAS, IPA	15 gallons	Disposal of test media
Regenerant Solution	Liquid	60% IPA solution	PFAS, IPA, 0.5% Sodium Chloride	100 gallons	Disposal of recovered regenerant (normally re-used)
Lag Vessel Spent Regenerant	Liquid	60% IPA solution	PFAS, IPA, 1% Sodium Chloride	50 gallons	Disposal of non-distilled regenerant (normally recovered)
Plasma Treated Waste	Liquid	Water/salt solution	Sodium chloride, trace PFAS	70 gallons	Disposal of treated waste (normally bled back into system for treatment).

After decontamination of equipment and containerization of wastes was completed, the temporary electrical service was disconnected by the electrical contractor and the remaining equipment was removed from Site 8 on October 18, 2021.

5.6 SAMPLING METHODS

All analysis was performed by either Clarkson or SGS (both contract labs) for all samples collected during the Pilot. Methods used for each parameter are listed in Table 3 - Analytical Laboratories and Methods below.

Table 3. Analytical Laboratories and Methods

Parameter	Laboratory	Method
PFAS	Clarkson	EPA Method 537M, DoD QSM 5.1 Table B-15
VOC	SGS	MS Volatiles by Method SW846 8260B
IPA	SGS	GC Volatiles by Method SW846 8015C
TOC	Clarkson	TOC analyzer
Iron	Clarkson	HACH FerroVer Method 10249
Manganese	Clarkson	HACH USEPA Method 8034
Sulfide	Clarkson	Ion Chromatography
Chloride	Clarkson	Ion Chromatography
Nitrate	Clarkson	Ion Chromatography
Alkalinity	Clarkson	HACH method 8203
Hardness	Clarkson	HACH Calmagite Colorimetric Method 8030
TSS	Clarkson	Gravimetric method
TDS	Clarkson	Conductivity method

A full listing of PFAS compounds and a description of the analytical methods used in included as Appendix B - PFAS Compound List and Analytical Method.

Samples were collected throughout the duration of pilot study to evaluate the performance as outlined in the Demonstration Plan. A copy of the sampling and analysis plan (SAP) from the Demonstration Plan is included as Appendix E- ESTCP Field Demonstration SAP and are summarized in Table 4 below. Samples for PFAS and wet chemistry (WC) analysis were sent to Clarkson University's Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory. VOC and IPA analysis were conducted by SGS Analytical Services.

Table 4. Sampling Parameter Summary

Location	Analysis	Frequency	Notes
IX Treatment			
System Influent	PFAS, WC, VOC	Weekly	
Pretreatment Effluent	PFAS, WC	Weekly	
Lead IX Effluent	PFAS	Weekly	
Lag IX Effluent	PFAS	Weekly	Hold samples for periodic analysis
Regeneration			
Supply Regenerant	PFAS	Per cycle	Periodic during cycle and composite
Spent Regenerant	PFAS	Per cycle	Periodic during cycle and composite
Regenerant Rinse	PFAS, IPA	Per cycle	Periodic during cycle and composite
Distillation	PFAS	Per cycle	Periodic during cycle and composite
Still Bottoms	PFAS	Per cycle	Periodic during cycle and composite
Plasma Destruction	PFAS	Per still bottom batch	Periodic during destruction process

WC analysis included iron, manganese, chloride, sulfate, nitrate, hardness, alkalinity, TSS, TOC and TDS.

Samples were collected in containers provided by the labs for the specified parameters and chain of custody's (also provided by the lab) prepared for each sampling event. Samples were packed in a cooler with double bagged ice or frozen water bottles and either shipped via UPS to Clarkson's lab or picked up by SGS' currier depending on analysis required.

5.7 SAMPLING RESULTS

This section presents the results of the Pilot Study, and a detailed performance assessment of the results is provided in Section 6. The analytical results are included in Tables 2, 3 and 4 in Appendix C – Analytical Tables, with laboratory reports included in Appendix K. Tables 5 and 6 below summarizes the average results during the pilot study.

Table 5. Influent Pretreatment Summary (Average mg/L)

Parameter	Pre-Filtration (SP-1)	Post-Filtration (SP-2)
Iron	0.21	0.04
Manganese	0.43	0.26
TOC	2.28	2.32

Notes:

1. VOCs were non-detect with the exception of chlorobenzene which was below the level of quantitation (LOQ) of 1.0 ppb but above the detection limit (DL) of 0.2 ppb.
2. TSS results were all below the LOD of 1 mg/l per Clarkson University Laboratory.

3. TOC average excludes several data points that were considered anomalies (higher than expected) most likely due to the presence of recycle of rinse water containing IPA.
4. Although iron and TOC were above the performance objectives no adverse effects due to fouling or resin PFAS capacity were noted during the pilot study.

Table 6. Pilot Study PFAS Summary (Average ppb)

Parameter	Influent (SP1)	Lead Effluent (SP3)	Lag Effluent (SP4)
Total PFAS (n=30)	44.55	2.62	0.84
Total Non-Target	22.71	2.54	0.84
PFOS + PFOA	21.84	0.08	ND
10:2 FTS	ND	ND	ND
4:2 FTS	0.07	0.04	0.02
6:2 FTS	7.91	1.02	0.16
8:2 FTS	0.59	0.01	ND
EtFOSA	ND	ND	ND
EtFOSAA	ND	ND	ND
FOSA-1	0.07	ND	ND
FOSAA	ND	ND	ND
MeFOSA	ND	ND	ND
MeFOSAA	ND	ND	ND
PFBA	0.56	0.36	0.25
PFBS	ND	ND	ND
PFDA	ND	ND	ND
PFDoA	ND	ND	ND
PFDS	ND	ND	ND
PFHpA	0.98	0.05	ND
PFHpS	0.41	ND	ND
PFHxA	2.86	0.36	ND
PFHxDA	ND	ND	ND
PFHxS	6.78	0.01	ND
PFNA	ND	ND	ND
PFNS	ND	ND	ND
PFOA	4.38	0.06	ND
PFODA	ND	ND	ND
PFOS	17.46	0.02	ND
PFPeA	1.98	0.68	0.33
PFPeS	ND	ND	ND
PFTeDA	ND	ND	ND
PFTrDA	ND	ND	ND
PFuDA	ND	ND	ND

5.7.1 Data Validation

A data quality assessment (DQA) was completed on selected laboratory data generated during remediation effectiveness evaluations completed from October 2020 through May 2021. Groundwater, process water, and Regen/Distillation samples were submitted to CAARES Laboratory in Potsdam, New York and SGS Laboratory in Orlando, Florida. Samples included in this DQA were analyzed using the following methods:

- Per- and Polyfluoroalkyl Substances (PFAS) by USEPA Method EPA 537M QSM5.3 B-15
- Volatile Organic Compounds (VOCs) by USEPA Method 8260D

During the DQA, quality control (QC) data reported by the laboratories were reviewed to assess QC elements identified for this project in requirements for SERDP and ESTCP Projects addressing PFAS-Related Issues. Laboratory data were evaluated based on the following elements:

Lab Report Narrative

* Sample Collection and Preservation
* Holding Times

QC Blanks

* LCS

MS/MSD

* Surrogate Recovery

Internal Standard Response

* Reporting Limits
* Calculations

* QC criteria were met for this parameter.

No data quality issues were identified, and results are interpreted to be usable as reported by the laboratories. Additionally, details about the DQA and QC are provided in the DQA Report provided as Appendix H.

5.7.2 Statistical Analysis

As part of the statistical analysis USEPA's ProUCL program was used to do group descriptive statistics which include mean (arithmetic average) calculations of the collected data. The entire data set had 27 batches from 4 sampling locations i.e., SP-1 though SP-4. The grouping was on sample location (SP-1 through SP-4) and Batch number e.g., "SP-2_Batch_13". The detailed results of the statistical analysis are provided in Appendix I. The key conclusions from the statistical analysis are listed below:

- Iron and manganese were above criteria (0.05 mg/L) for Batches 1,2,3, 4,7,9,13,14, and 17 in pretreatment effluent (SP-2), these conservative criteria were used to protect the regenerable IX resin and during the pilot test no negative influence was observed on the resin performance due to continuous minor exceedances of these metals.
- TOC exceeded the criterion (<1 mg/L) for every Batch but did not appear to have negative influence on the resin performance as the exceedances within an order of magnitude of the criterion and the resin was able to handle that TOC load.
- All TSS samples were below detection limits
- Weekly mean values for PFOA and PFOS for SP-3 and/or SP-4 were compared to the treatment goal of 70 ppt. At SP-3 (located between lead and lag regenerable IX vessel) PFOS and PFOA together exceeded the treatment goal 50% of the time, these samples were collected immediately prior to the regeneration of the lead vessel and helped to determine the regeneration frequency. At SP-4 (effluent from lag vessel) no exceedances of PFAS and PFOA was observed.

Additional details about the statistical analysis are provided in Appendix J.

6.0 PERFORMANCE ASSESMENT

This Section presents the results of the pilot Study and details the findings in comparison with the performance objectives summarized in Section 3. Data collected during the performance of the pilot study used to support the performance assessments presented in this section are included as tables in Appendix C – Analytical Tables.

6.1 PRETREATMENT SUCCESS CRITERIA

Pretreatment during the pilot study consisted of bag, multimedia, and cartridge filtration to remove particulate from the water prior to IX treatment. Samples were collected pre- and post-filtration from the system for iron, manganese, TOC, TSS, chloride, sulfate, nitrate, hardness, alkalinity, conductivity and TDS during the pilot study. These results are included in Tables 2, 3 and 4 which are included in Appendix C – Analytical Tables. The objectives of pretreatment were:

- Total and dissolved iron and manganese below 0.05 milligrams per liter (mg/L)
- TOC below 1 mg/L
- TSS below 1 mg/L
- VOCs non-detect

The objectives of pretreatment were achieved with the following exceptions.

- TSS results were all below the level of LOD of 1 mg/l per Clarkson University Laboratory.
- TOC average excludes several data points that were considered anomalies (higher than expected) most likely due to the presence of recycle of rinse water containing IPA.
- Although iron and TOC were above the performance objectives no adverse effects due to fouling or resin PFAS capacity were noted during the pilot study.

6.2 HC1 IX RESIN PERFORMANCE

The first quantitative pilot test objective was to demonstrate that the HC1 IX resin is able to consistently treat the incoming groundwater (post-Fe removal) to levels at or below the EPA Lifetime Health Advisory. The success criteria to evaluate completion of the objective included:

- PFOA and PFOS <70 ppt for 5,000 BVs
- Non-target PFAS removal >95%

These success criteria are discussed further in the following subsections. Supporting data, spreadsheets and calculations are included in Appendix F – ECT2 ESTCP RPS Data Sheets.

6.2.1 PFOA AND PFOS LESS THAN 70 PPT FOR 5,000 BVs

The pilot test ran six loading cycles total between October 20, 2020, and July 13, 2021. Each loading cycle ran at least 5,000 BVs; all of the regenerated loading cycles ran between approximately 6,000 and 7,500 BVs. In total, the system treated almost 400,000 gallons, or approximately 40,000 BVs. Table 7 below summarizes system loading cycle durations and flow throughput:

Table 7. System Loading Cycle Durations and Throughput

Loading Cycle	Start Date	End Date	Total Calendar Days	Treated Volume (gallons)	Bed Volumes
Loading Cycle 1	10/20/2020	11/16/2020	27	50,822	5,226
Loading Cycle 2	11/17/2020	1/14/2021	58	67,278	6,919
Loading Cycle 3	1/15/2021	2/17/2021	33	73,252	7,533
Loading Cycle 4	2/17/2021	3/24/2021	35	70,036	7,202
Loading Cycle 5	3/24/2021	5/5/2021	42	59,215	6,090
Loading Cycle 6	5/8/2021	7/13/2021	66	67,723	6,964
	Totals:		**261**	**388,326**	**39,935**

Generally, one month of run time was required per loading cycle to meet the 5,000 BV treatment target. Loading cycles often ran longer due to system down time at the main treatment plant which the pilot test received feed water from. Loading cycles were run longer than the 5,000 BV target to provide a longer look of breakthrough performance in the resin. Flow throughput per cycle also varied based on staff availability to collect the end of cycle samples and turn off the system for regeneration.

Figure 2 below shows the treatment performance of the lead and lag IX resin vessel effluents vs. the target treatment goal of less than 70 ppt PFOS and PFOA combined.

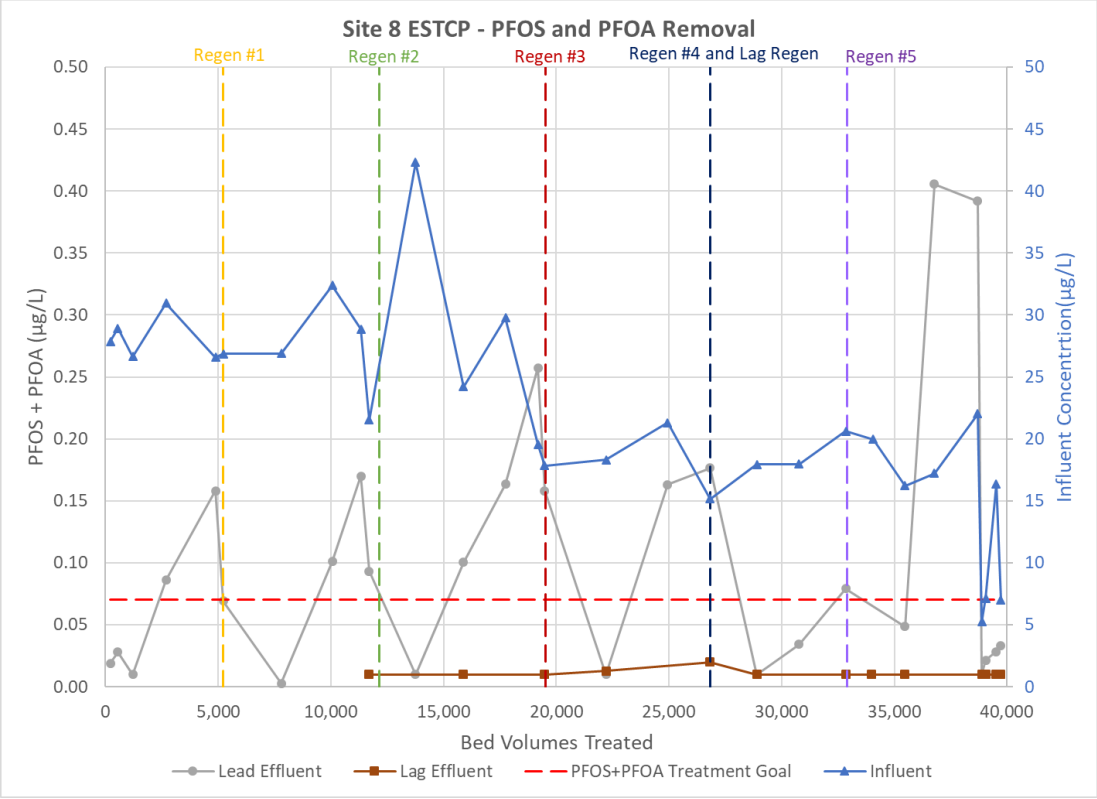


Figure 2. IX Resin PFOS and PFOA Removal

Where the lead vessel experienced break though of the 70 ppt PFOS and PFOA limit at or before the 5000 BV in most cases, the lag IX resin vessel effluent remained below for the duration of the test.

6.2.2 NON-TARGET PFAS REMOVAL >95%

Figure 3 below shows the treatment performance of the lag IX resin vessel effluent vs. the target treatment goal of 95% or greater removal of non-target PFAS compounds.

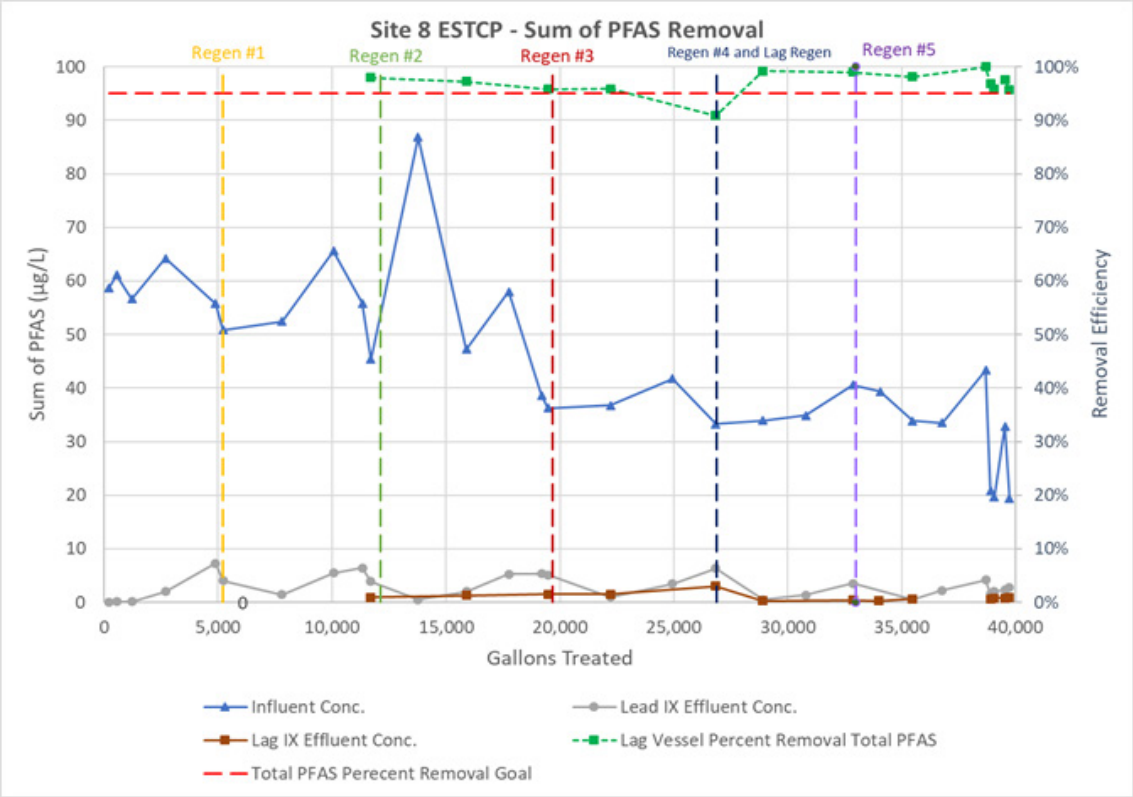


Figure 3. IX Resin Sum of PFAS Removal

The IX resin vessels removed 95% or more of analyzed PFAS compounds until the end of cycle 4. Normally, regenerable IX resin vessels would be rotated after regenerations, i.e., the regenerated vessel moves into the lag position, and the lag vessel becomes the new lead vessel. This rotation of vessels keeps total effluent out of the lag vessel consistent and low. However, this pilot test ran the lead vessel as the ongoing lead vessel to stress the same volume of IX resin with as much regeneration and PFAS loading as schedule allowed, rather than split loading and regenerations between vessels to mimic normal operations at full-scale.

This operational setup produced a slow buildup of PFAS compounds on the lag vessel as PFAS compounds leaked through the lead vessel during each loading cycle. To continue maintaining the target 95% or greater removal of PFAS through the IX resin, the lag vessel was regenerated concurrently with the lead vessel at the end of the fourth loading cycle. This one-time lag vessel regeneration successfully restored the IX resin's PFAS removal capacity for the remainder of the pilot test.

6.3 RE-USE OF RESIN AND REGENERANT

The second quantitative pilot test objective was to demonstrate on-site IX resin regeneration followed by distillation to enable reuse of resin and regenerant. Supporting data, spreadsheets and calculations are included in Appendix F – ECT2 ESTCP RPS Data Sheets. The success criteria to evaluate completion of the objective included:

- 100% of resin can be reused during 6-month demonstration
- 95% of Total PFAS mass recovered from resin
- 95% of regeneration solvent can be reused
- PFAS concentration in recovered distillate below 10 µg/L
- Less than 10% reduction in resin performance for 5 loading/regeneration cycles

These success criteria are discussed further in the following subsections.

6.3.1 100% OF RESIN REUSED DURING 6-MONTH DEMONSTRATION

The original HC1 IX resin loaded at the start of the pilot test remained in use for the duration of the test and continued to provide PFAS treatment effectively, meeting PFAS removal performance objectives

6.3.2 95% OF TOTAL PFAS MASS RECOVERED FROM RESIN

Mass balance calculations were sensitive due to the PFAS concentrations in the spent regenerant being four orders of magnitude higher than influent and effluent concentrations, producing recovery percentages of over 100% for several regenerations. Table 8 below summarized mass removal percentages for the five regenerations performed on the lead vessel:

Table 8. PFAS Mass Recovery from Resin During Regeneration

Regen	Estimated PFAS (Influent) Mass Loaded During Forward Flow (g)	Estimated PFAS Mass (before distillation) Recovered During Regen (g)	Percent Recovery
Regen 1	10.48	16.6	158%
Regen 2	12.71	10.6	84%
Regen 3	15.82	17.0	107%
Regen 4	9.32	16.4	175%
Regen 5	7.69	5.0	65%
Total	56.01	65.57	117%

As mentioned above, these types of mass balances are difficult to close because of the orders of magnitude differences in PFAS concentrations between the influent water the still bottoms, but to infer these results generally, the three most successful regenerations showed recovery above the estimated amount removed, i.e., the regens worked well at removing PFAS mass from the vessel.

The two regenerations that appeared less successful from the data, regen #2 and #5, showed 16% and 35% less mass recovered than estimated removed, i.e., these regenerations didn't work as well. In short, this data shows recovery of 65% to approximately 100% of PFAS mass but quantifying how much is difficult given the nature of the process.

To be more general and useful, treatment volumes from loading cycle to loading cycle were comparable, showing successful and repeatable regeneration of the IX resin. These results are discussed above in the consistent achievement of treatment goals for the project and below in the comparison of removal efficiencies for regenerated loading cycles vs. the baseline virgin loading cycle.

6.3.3 95% OF REGERNERATION SOLVENT REUSED

The estimated amount of regeneration solvent, IPA, recovered, was estimated based on analytical data for IPA percentage on the still bottoms, and calculated theoretical values of starting IPA percentage in the respective batches of spent regenerant. Table 9 below shows the IPA analytical data, field measurement of still bottoms volume and distiller feed volumes for corresponding batches, and calculations of IPA recovery based on those values.

Table 9. Regeneration/Distillation Solvent Recovery

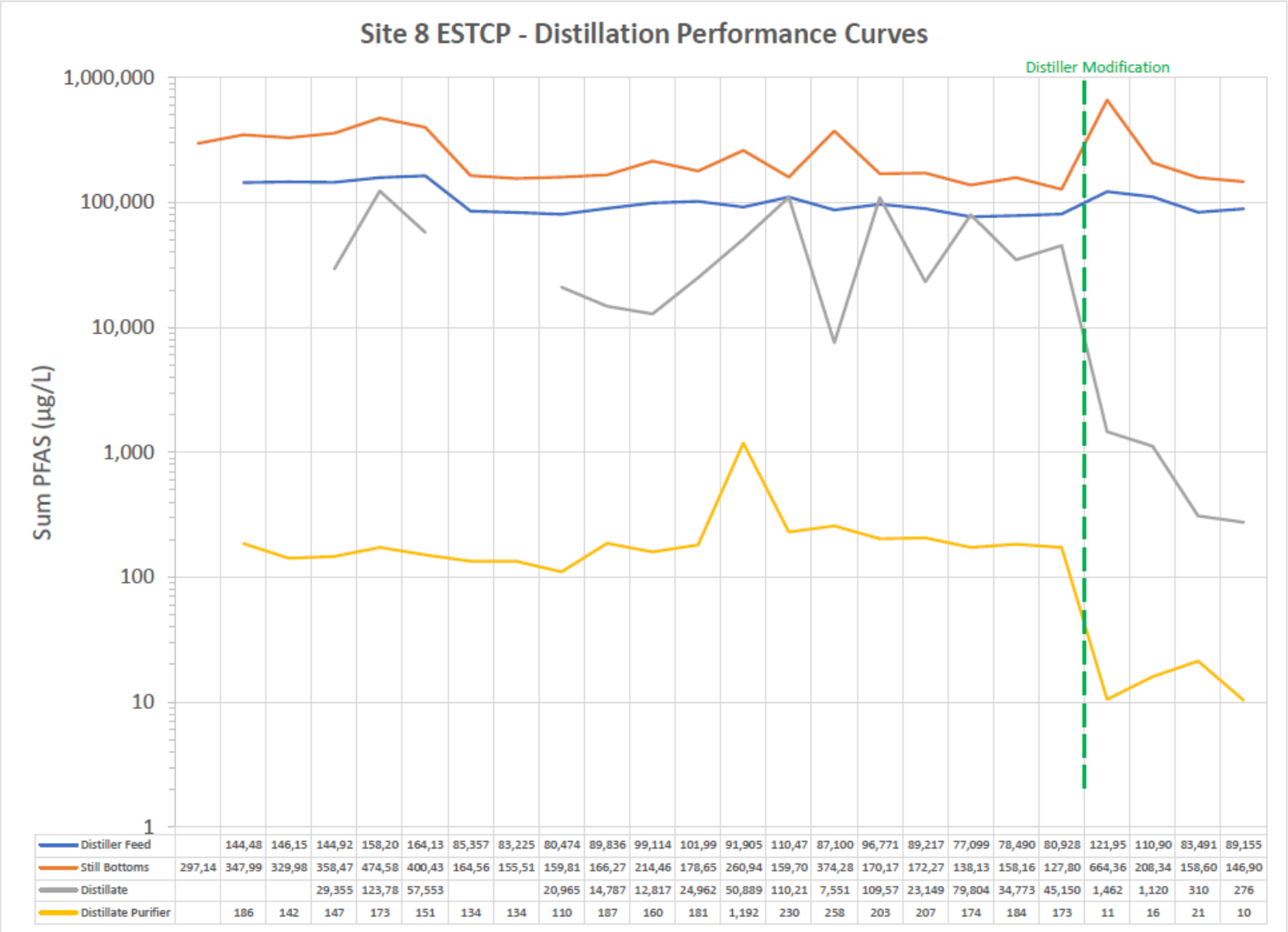
Still Bottoms Batch	IPA Concentration in SB (mg/L) *Analytical Data*	IPA in SB (%) *Calculated*	SB Total Volume (L) *Field Measurement*	IPA Volume in SB (mL) *Calculated*	Distiller Feed Volume (gal) *Field Measurement*	Distiller Feed Volume (L) *Calculated*	Est. IPA % in Distiller Feed *Calculated*	Est. Starting IPA Volume in Distiller Feed (L) *Calculated*	Percent IPA Recovered from Batch *Calculated*
C1B1	8460	0.846%	3.5	29.61	4.6	17.5	64%	11.1	99.7%
C1B2	211	0.0211%	3.7	0.78	4.2	16.0	64%	10.2	100%
C1B3	1130	0.113%	3.7	4.18	4.2	16.0	64%	10.2	100%
C1B4	104	0.0104%	3.25	0.34	4.1	15.6	64%	9.9	100%
C1B5	275	0.0275%	2.5	0.69	4.7	17.6	64%	11.2	100%
C1B6	187	0.0187%	3	0.56	3.9	14.8	64%	9.4	100%
C2B3	154	0.015%	3.75	0.58	4.0	15.1	64%	9.6	100%
C2B4	364	0.036%	4	1.46	4.8	18.2	64%	11.6	100%
C2B5	113	0.011%	4	0.45	4.2	15.7	64%	10.0	100%
C2B6	42.8	0.004%	3.5	0.15	4.4	16.7	64%	10.7	100%
C2B7	68.6	0.007%	4.25	0.29	4.5	17.1	64%	10.9	100%
C2B8	87.3	0.009%	3.75	0.33	4.7	17.9	64%	11.4	100%
C2B9	199	0.020%	4.75	0.95	4.5	16.9	64%	10.7	100%
C2B10	90.3	0.009%	4.75	0.43	5.0	18.9	64%	12.1	100%
C2B11	185	0.019%	4.35	0.80	4.4	16.7	64%	10.6	100%
C2B12	51	0.005%	4.5	0.23	5.0	18.9	64%	12.0	100%
C2B13	245	0.025%	4.5	1.10	4.4	16.6	64%	10.6	100%
C2B14	154	0.015%	2.75	0.42	3.5	13.2	64%	8.4	100%
C3B3	1770	0.177%	4.53	8.01	5.0	18.9	64%	12.0	99.9%
C3B10	16000	1.600%	4.28	68.40	5.0	18.9	64%	12.0	99.4%
C4B3	91900	9.190%	5.55	510.05	5.0	18.9	64%	12.0	95.8%
C4B7	295	0.030%	4.10	1.21	5.0	18.9	64%	12.0	100%

The distillation system recovered over 95% of solvent from the spent regenerant solution for each of the four completed distillation cycles.

6.3.4 PFAS CONCENTRATION IN RECOVERED DISTILLATE BELOW 10 µg/L

PFAS concentrations in the recovered distillate after treatment in the distillate purifier IX resin vessel initially exceeded 10 µg/L due to the distiller's design. As a simple solvent recycler, the unit had a higher potential for water and therefore PFAS carryover. Carryover is made worse by the foaming action of the PFAS in the heated pot, which can easily bubble up to the distillate recovery port inside the unit. The solvent recycler was modified with a distillation column to improve distillate purity.

Figure 4 below shows the total PFAS concentrations observed in the distiller feed, distillate, purified distillate, and still bottoms process streams throughout the pilot test.



Distiller Feed		144,48	146,15	144,92	158,20	164,13	85,357	83,225	80,474	89,836	99,114	101,99	91,905	110,47	87,100	96,771	89,217	77,099	78,490	80,928	121,95	110,90	83,491	89,155
Still Bottoms	297,14	347,99	329,98	358,47	474,58	400,43	164,56	155,51	159,81	166,27	214,46	178,65	260,94	159,70	374,28	170,17	172,27	138,13	158,16	127,80	664,36	208,34	158,60	146,90
Distillate				29,355	123,78	57,553			20,965	14,787	12,817	24,962	50,889	110,21	7,551	109,57	23,149	79,804	34,773	45,150	1,462	1,120	310	276
Distillate Purifier		186	142	147	173	151	134	134	110	187	160	181	1,192	230	258	203	207	174	184	173	11	16	21	10

Figure 4. Distillation Performance Curves

The majority of PFAS compounds in the treated distillate were FOSA-1 and N-MeFOSA, compounds which were simply not removed at all by the IX resin in the distillate purifier. Even so, recovered distillate treated by the distillate purifier IX resin vessel only slightly exceed 10 µg/L after installing the distillation column.

6.3.5 RESIN PERFORMANCE FOR 5 LOADING/REGENERATION CYCLES

Both PFOS and PFOA removal and total PFAS removal remained within 10% of the first loading cycle removal efficiency for each of the regenerated loading cycles. Table 10 below shows removal efficiency for sum of PFAS and PFOS+PFOA for each loading cycle (alternating shades of blue), with the sample closest to 5,000 BVs treated per cycle highlighted in yellow.

Table 10. Resin Removal Efficiency

Bed Volumes Treated	Total PFAS Removal Efficiency	PFOS and PFOA Removal Efficiency
216	99.9%	100.0%
549	99.8%	100.0%
1,217	99.7%	100.0%
2,687	96.9%	99.9%
4,889	86.9%	99.7%
5,226	92.1%	99.9%
2,568	97.3%	100%
4,841	91.7%	99.8%
6,101	88.4%	99.7%
6,472	91.4%	99.8%
1,618	99.4%	100.0%
3,744	95.7%	99.8%
5,605	90.9%	99.7%
7,046	86.2%	99.3%
7,339	85.8%	99.6%
2,734	97.3%	100%
5,457	91.8%	99.6%
7,348	81.0%	99.5%
2,072	98.6%	100.0%
3,946	96.1%	99.9%
6,018	91.2%	99.8%
2,612	98.4%	99.9%
3,926	93.3%	98.8%
5,841	90.3%	99.1%
6,038	92.3%	100.0%
6,209	89.5%	99.9%
6,672	93.0%	99.9%
6,873	85.5%	99.8%

The lead vessel removed between 99.6% and approximately 100% of PFOS+PFOA throughout each cycle up to the approximately 5,000 BV treated mark from the first loading cycle, with the lowest observed value 99.6% from cycle 4. Note that removal efficiencies in cycles 2-5 continued to remove 99.5% or more of PFOS+PFOA up to the end of each loading cycle, with the longest run of 7,339 BVs in cycle 2 still yielding 99.5% removal.

The lead vessel also removed between 90.9% and 92.3% of total PFAS throughout each cycle up to the approximately 5,000 BV treated mark from the first loading cycle, with the lowest observed value of 90.9% from cycle 3. Note that removal efficiencies in cycles 2-5 continued to remove 81% or more of total PFAS up to the end of each loading cycle, with the longest run of 7,339 BVs in cycle 2 still yielding 85.8% removal.

6.4 PLASMA DESTRUCTION

The quantitative pilot test objective of plasma destruction testing was to demonstrate effectiveness at reducing PFAS to below 70 ppt on an individual PFAS compound basis. As stated earlier in this report a majority of the testing was performed off-site due to COVID concerns with only the last two batches of still bottoms being treated on-site during the final weeks of the project. Supporting data, spreadsheets and calculations are included in Appendix G – Clarkson Field Demonstration Data and Site 8 Data. The following sections detail the results of the on-site portion of testing.

6.4.1 INITIAL TESTING AND FINDINGS

Plasma treatment occurred in three batch stages: high concentration reactor (A), low concentration reactor (B), with CTAB (cationic surfactant) addition and polishing reactor (C) to minimize the impact of PFAS desorption from reactor components. Still bottoms were diluted 10X using purified water prior to treatment. Analytical data is included in Appendix C – Plasma Analytical Summary, Treatment with CTAB and Treatment without CTAB.

In the high concentration plasma reactor (Reactor A), PFAS precursors (except 4:2 FTS) and the long-chain PFAAs were removed >99% after 26 hours of treatment (**Figures 5 and 6**). Among the short-chain PFAAs, significant removal of PFHpA (>85%) and PFPeS (>60%) was also achieved after 26 hours, however, removal for other short-chain PFAAs was not appreciable (**Figure 7**).

After 28 hours of treatment the effluent was transferred into the low concentration plasma reactor B, where further plasma treatment in the presence of 0.2 millimolar [mM] CTAB removed significant concentrations of short-chain PFAAs (>99.9%), except PFPeA (~85%) and PFBA (no removal) after 53 hours of treatment (**Figure 5**).

After 53 hours of treatment the effluent was transferred into the polishing plasma reactor C, where further plasma treatment in the presence of 0.2 mM CTAB removed significant concentrations of PFPeA (~99%) and PFBA (~65%) after 82 hours of treatment. All precursors and long-chain PFAAs were removed to BDL, except for 4:2 FTS (1.2 µg/L), PFOS (0.67 µg/L), PFOA (0.13 µg/L) and PFHxS (0.33 µg/L) was remaining after 82 hours of treatment (**Figure 5 and 6**).

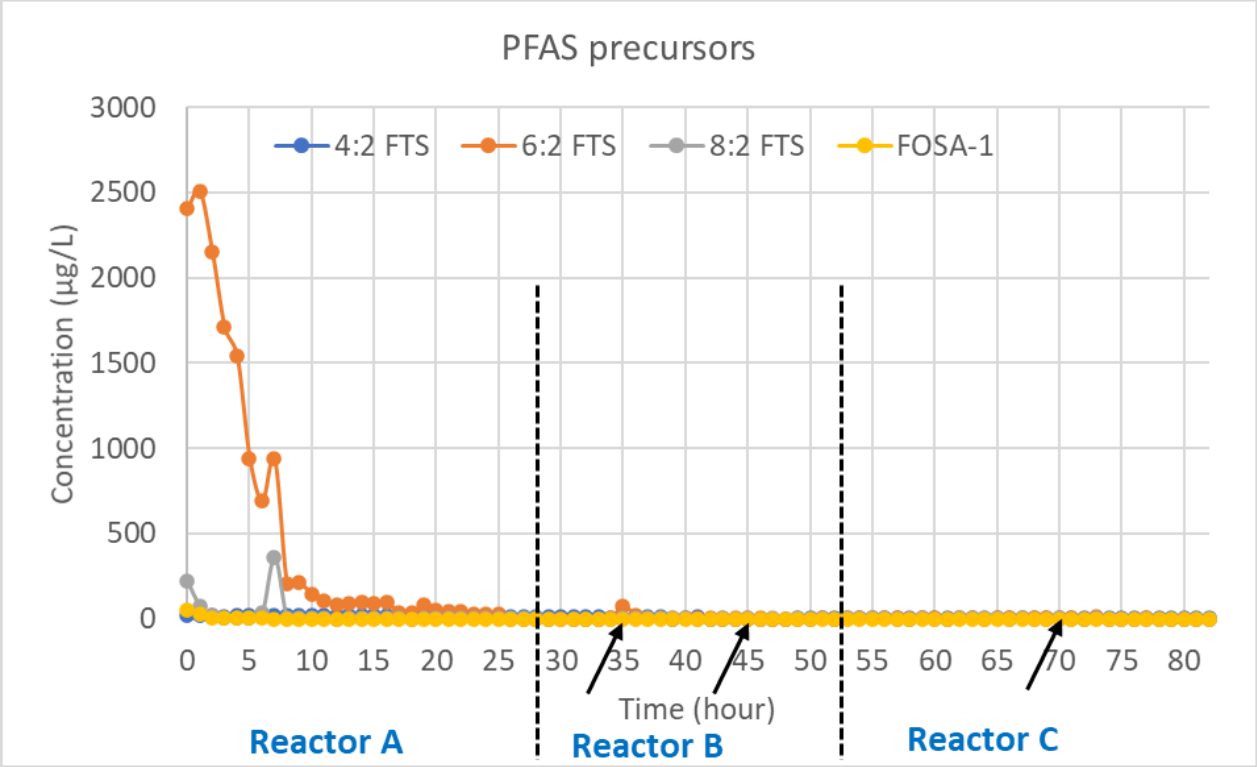


Figure 5. Plasma PFAS Precursor Removal

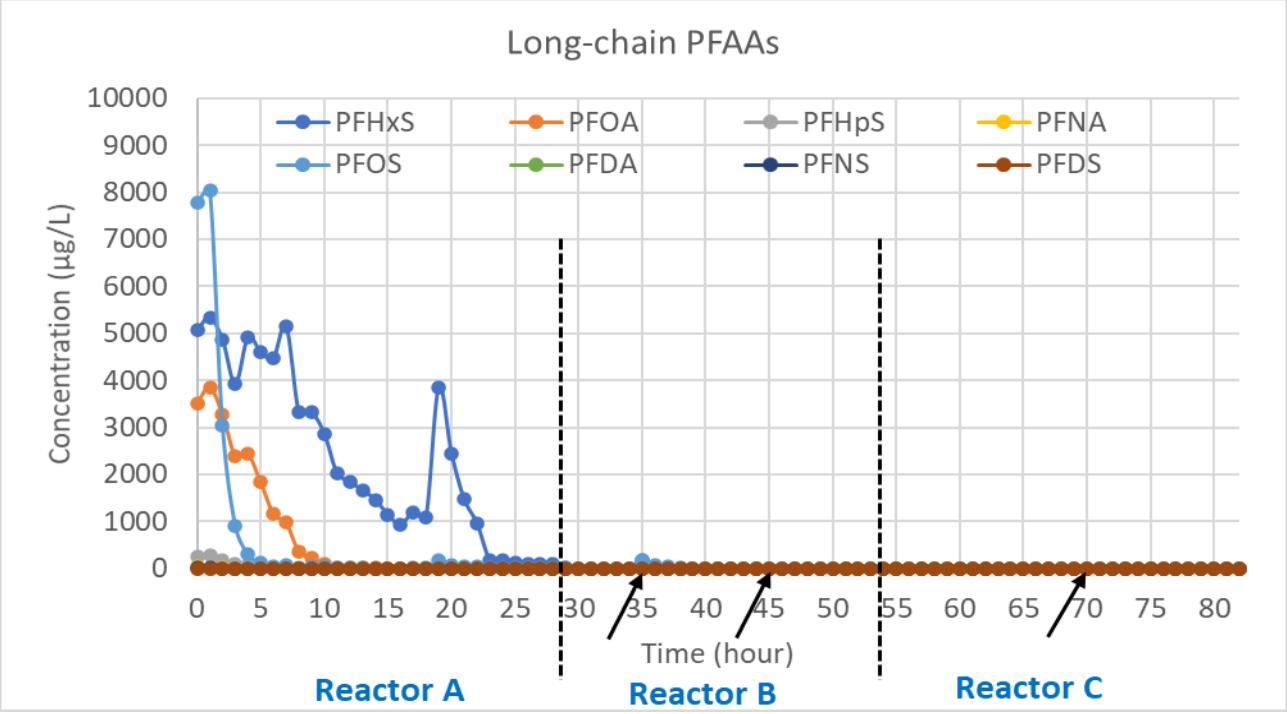


Figure 6. Plasma Long-Chain PFAA Removal

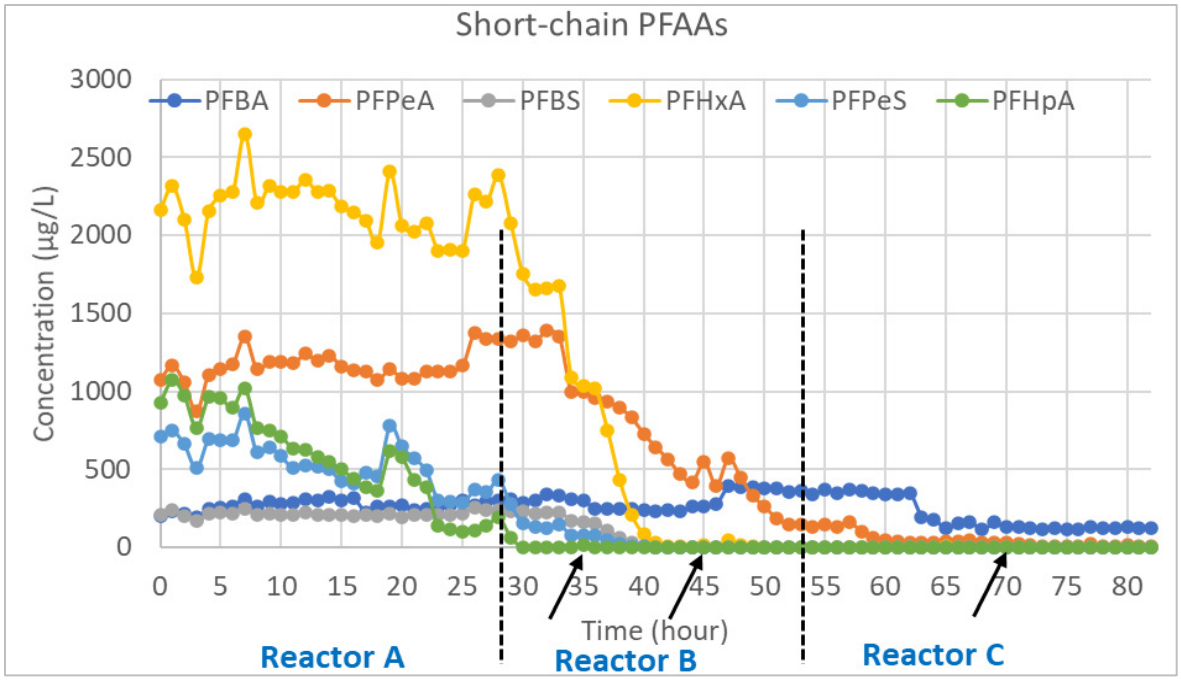


Figure 7. Plasma Short-Chain PFAA Removal

Notes Figures 5-7: Degradation profiles of (6) PFAS precursors, (7) long-chain PFAAs, and (8) short-chain PFAAs in still bottom sample during plasma treatment; dotted black lines show the treated solution was transfer from one reactor to another as indicated by Reactor A, B and C in blue text, and 0.2 mM CTAB concentration was added at 35th, 45th and 70th hours, which are indicated by black arrows.

6.4.2 FINAL TESTING AND OPTIMIZATION

The initial testing confirmed that the CTAB (cationic surfactant) improves short-chain PFAAs removal but inhibits the degradation of long-chain PFAAs removal. At the Pease site CTAB addition started based on preliminary laboratory results of when the long chains were removed since lab results are not available for several days after samples are taken. Once results were available it was determined that CTAB was added too soon and that several long-chain compounds were still present. Therefore, the treated solution was divided in half and placed in clean reactors: for one-half of the solution treatment continued in the presence of 0.2 mM CTAB; the other half of the solution was treated without additional CTAB addition. In this reactor the remaining CTAB was quickly removed by the plasma and long-chain removal continued.

In the presence of CTAB, all the PFAS precursors were removed to below detection limit (BDL) after 100 hours of the treatment (**Figures 8**. All the long-chain PFAAs, except PFOS (removed to 0.5 µg/L) were removed to BDL 110 hours of treatment (**Figure 9**). All the short-chain PFAAs, except PFBA (~96%) were also removed to BDL after 120 hours of treatment (**Figure 10)**. Using the PFBA concentration from 82 to 120 hours PFBA removal was found to follow first order removal kinetics (time (hrs.) = -0.09 ln [PFBA] +5.87; $r^2 = 0.99$). Assuming this removal remained constant, additional treatment of 115 hours would decrease the PFBA concentration to below the treatment goal of 20 ppt.

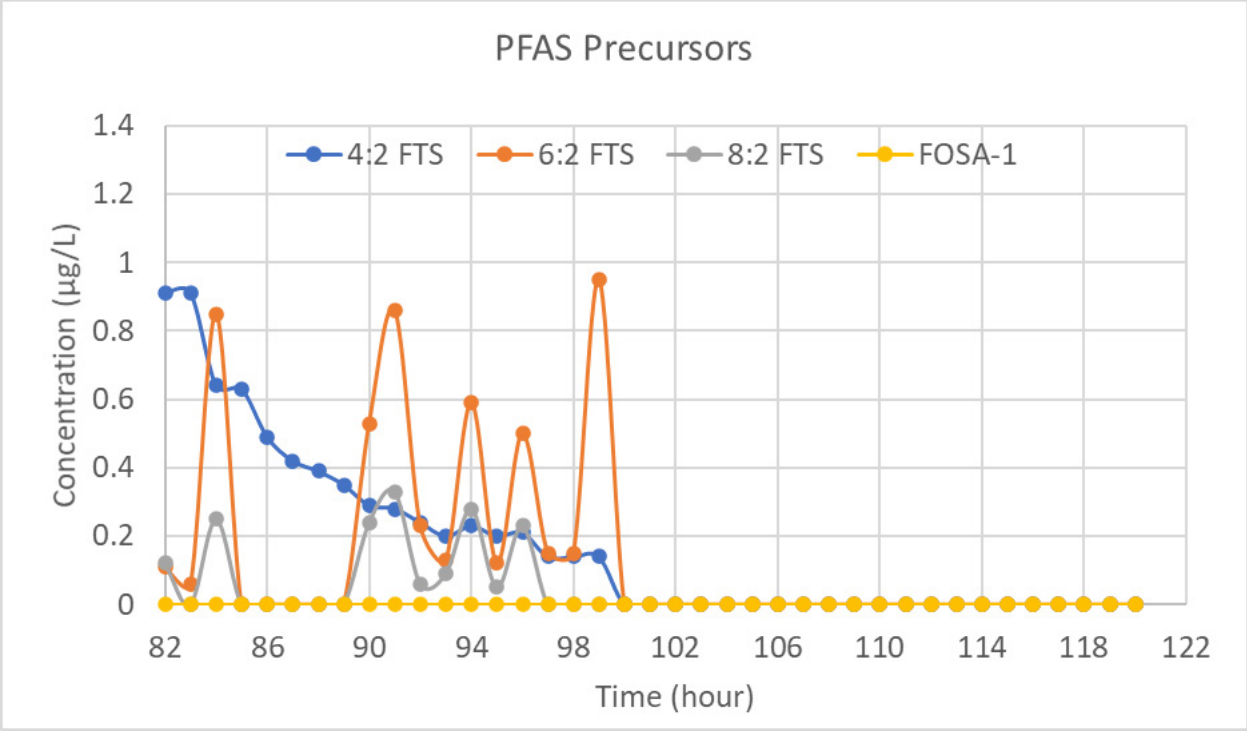


Figure 8. PFAS Precursor Removal with CTAB

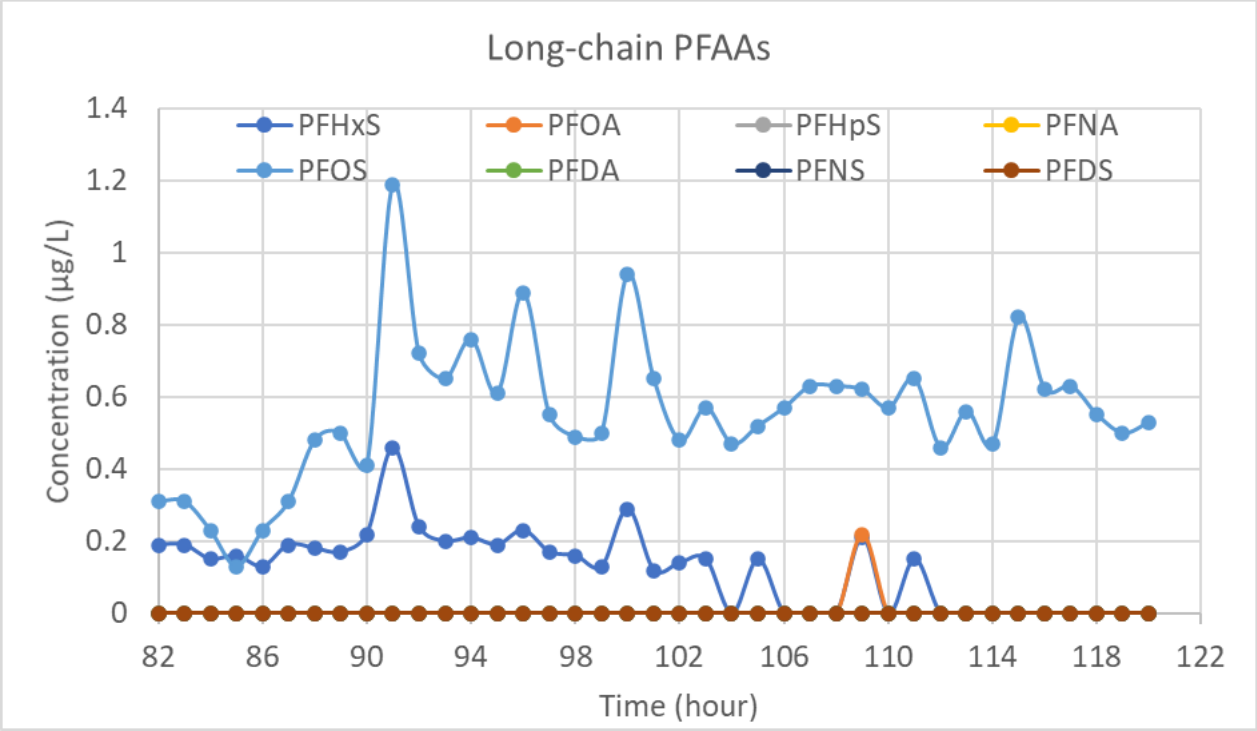


Figure 9. Long-Chain PFAA Removal with CTAB

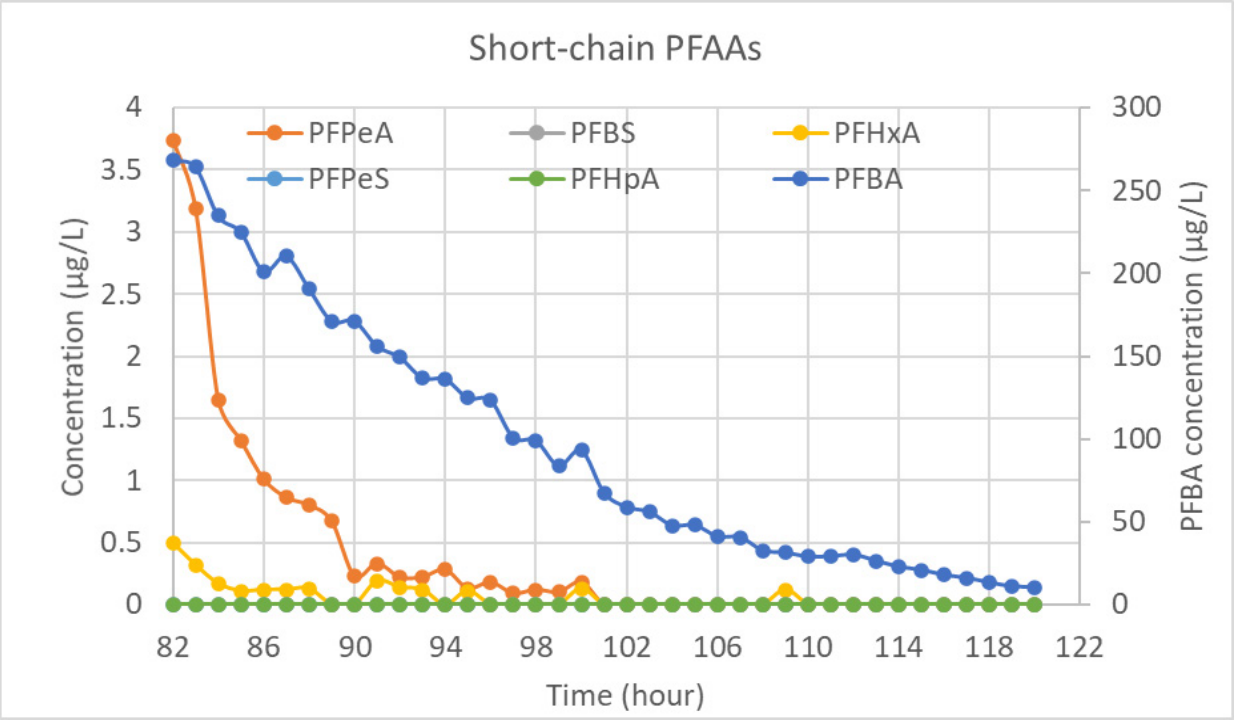


Figure 10. Short-Chain PFAA Removal with CTAB

Notes Figures 8-10: Degradation profiles of (9) PFAS precursors, (10) long-chain PFAAs, and (11) short-chain PFAAs in still bottom sample during plasma treatment in the presence of CTAB; CTAB concentration was increased to 0.2 mM at every 1 hour as foaming decreased.

For plasma treatment without additional CTAB, all the PFAS precursors and long-chain PFAAs were removed to BDL after 83 hours of the treatment (**Figures 11 and 12**). However, the removal of short-chain PFAAs was insignificant without CTAB addition (**Figure 13)**.

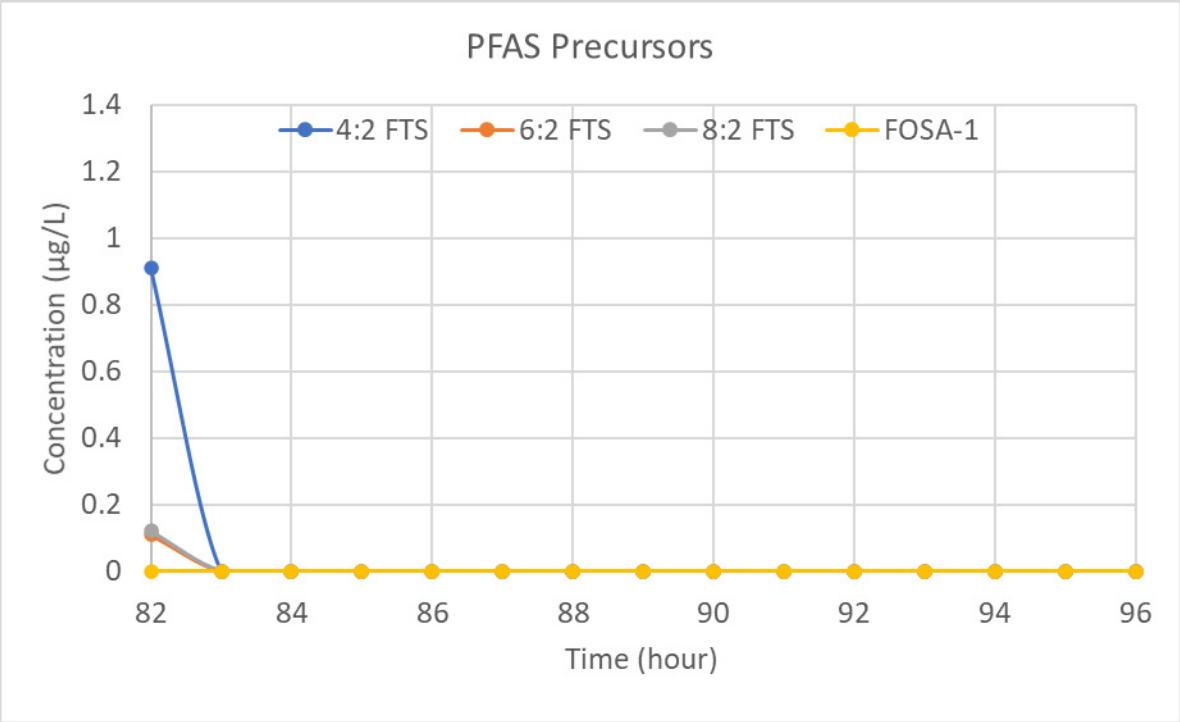


Figure 11. PFAS Precursors Removal without CTAB

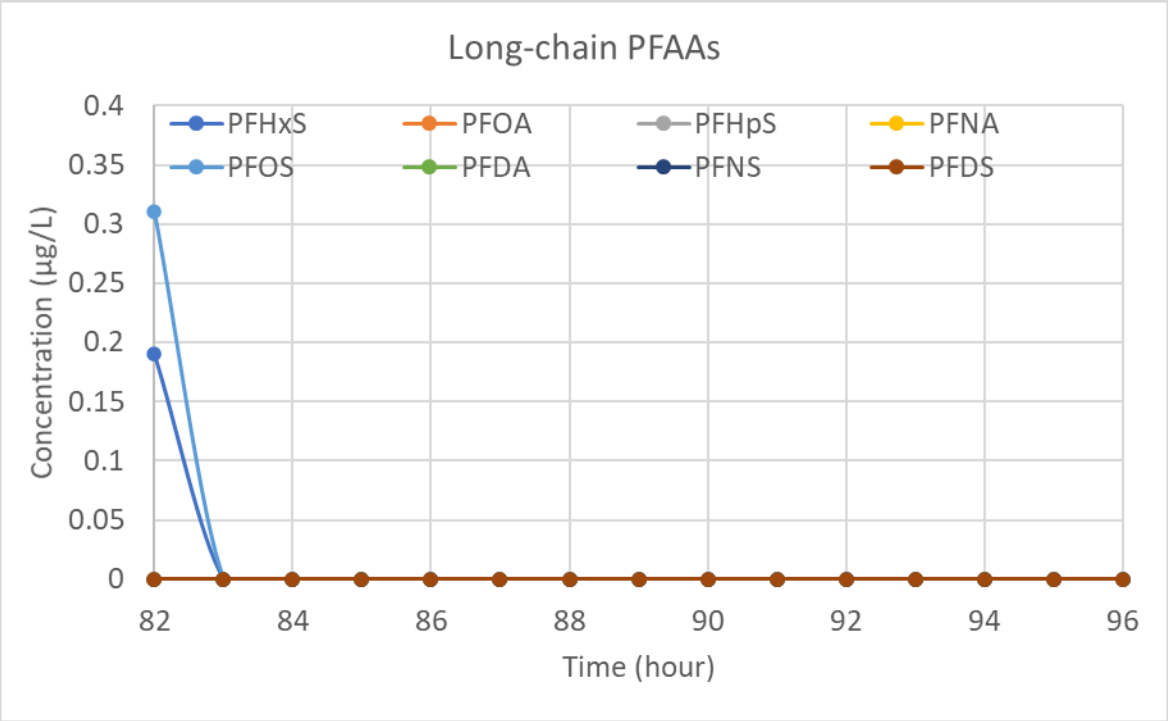


Figure 12. Long Chain PFAA Removal without CTAB

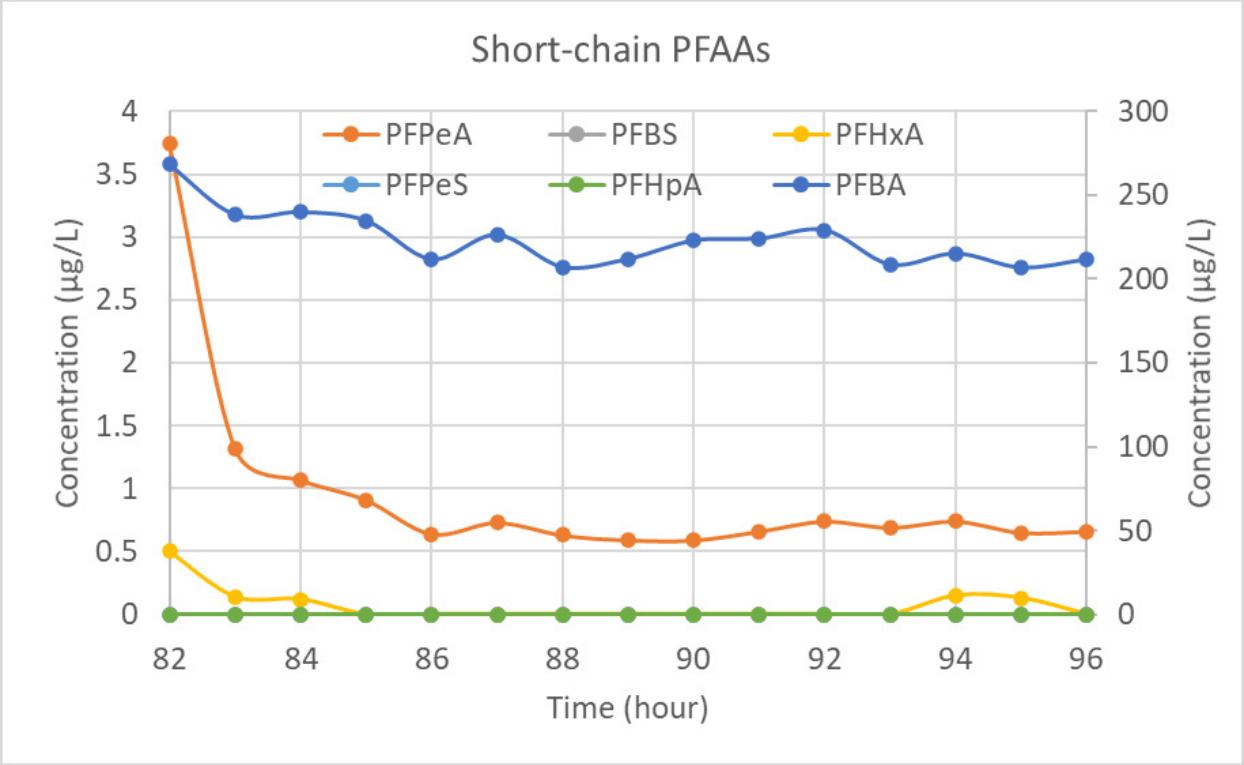


Figure 13. Short-Chain PFAA Removal without CTAB

Notes Figures 11-13: Degradation profiles of (12) PFAS precursors, (13) long-chain PFAAs, and (14) short-chain PFAAs in still bottom sample during plasma treatment without CTAB addition.

7.0 COST ASSESSMENT

The findings from the pilot study have been used to develop a cost model to compare with other currently available treatment technologies for PFAS treatment. This section provides a cost model for regenerable IX/distillation/plasma scenario to be used as a comparison to other currently available technologies.

7.1 COST MODEL

Since each potential site presents its own unique requirements related to location, site conditions (physical and hydrogeologic), regulatory issues, etc. costs presented are for the treatment building and equipment only.

The cost model was prepared using the following basis for estimation:

- System sizing is based on continuous treatment of 100 gallons per minute containing up to 24 ppb of combined PFOS/PFOA and 48 ppb of total PFAS.
- O&M costs associated with treatment based on attainment of 70 ppt combined PFOS and PFOA effluent criteria.
- No groundwater extraction system(s) included.
- No pretreatment for inorganics (iron and manganese, etc.) included other than simple filtration.
- Influent is assumed to be of suitable quality so that backwashing of treatment vessels will not be necessary.
- Analytical and labor costs associated with system monitoring and compliance not included.
- A pre-engineered steel building with explosion-proof considerations taken into account (where IPA is utilized) will be required to house system components and include natural gas heating, office space, a bathroom and an electrical room.
- Federal, State and local permitting not included.
- Federal and State sales taxes not included.
- Required utility hookups (3 phase power, water and sewer) are not included.
- Sitework related to roads, parking lots and other access is not included.
- Hazardous materials/abatement not included in cost estimates.
- Qualified contractors are available within the project area(s).

The cost model developed for estimation of capital costs for regenerable IX with plasma destruction is based on the system configuration utilized during the pilot study and current full-scale operations at Site 8. The treatment system configuration used for cost estimation is depicted in **Figure 14**.

This treatment scenario includes the following:

PFAS Treatment:

- Influent equalization
- Pretreatment through filtration
- PFAS treatment through two 60 CUFT regenerable IX beds in series using HC1 resin
- Effluent equalization
- Associated pumps

Regeneration/Distillation:

- Regenerant make down/supply tank
- Spent regenerant/distiller feed tank
- Rinse water holding tank
- Distillation unit
- Super loader for polishing recovered IPA
- Make-up IPA storage
- Associated pumps

Plasma Destruction:

- Still bottoms holding tank
- Three plasma reactors in series and related power components
- Argon supply (cylinders)
- Argon recirculation compressors
- CTAB make-down tank, mixer and metering pump
- Associated pumps

The building size is estimated to be 5,200 square feet based on equipment and process requirements. The building will also require a fire suppression system and explosion proof considerations in areas of IPA use. The basis for estimates of performance of the system (resin capacity, regeneration/distillation volumes and plasma destruction requirements) are based on the findings of the pilot study. These are presented in Table 11 below:

Table 11. Estimate of System Performance

SYSTEM FLOW RATE	100	GPM
RESIN BED VOLUME	422	GALLONS
EBCT	4.22	MINUTES
SPENT REGENERANT	2174	GALLONS
RINSE WATER	5217	GALLONS
STILL BOTTOMS	435	GALLONS
VOL. PLASMA TREATED WASTE (10X)	4348	GALLONS
RECOVERED IPA	1522	GALLONS
MAKEUP IPA	38	GALLONS
REGEN FREQUENCY	5000	BVS
	2108696	GALLONS
	15	DAYS

Capital and O&M costs related to power and materials are estimated based on scale up of pilot data (where appropriate) and vendor information to reflect a system capable of treating 100 gpm. O&M costs associated with materials and labor are based on ECT2 estimates from similar systems and estimates provided by Clarkson. The regenerable IX and plasma destruction Capitol, O&M, present worth and life cycle cost estimate basis and calculations are detailed in Appendix I - LCA, Capitol and O&M Cost Estimate.

Table 12 summarizes the present worth and life cycle costs developed based on the criteria presented above for a 20-year life cycle. These are presented also in graphical form in Figure 14.

Table 12. Present Worth Analysis

Discount Rate	0.07	from Demonstration Plan 9/2020
Life Cycle Period	20	years (assumed)
		Regenex IX

Equipment Cost	$1,440,000
Building Cost	$3,730,000
Capital Cost	$5,170,000
20% Contingency	$1,034,000
Total Capital Cost	$6,210,000
Present Value of Capital Cost	$6,210,000
Annual O&M Cost	$456,000

Year	Annual O&M Cost	Present Value of O&M Costs	Present Value Life Cycle (20 Yrs.)
1	$456,000	$426,168	$6,640,000
2	$456,000	$398,288	$7,038,288
3	$456,000	$372,232	$7,410,520
4	$456,000	$347,880	$7,758,400
5	$456,000	$325,122	$8,083,522
6	$456,000	$303,852	$8,387,374
7	$456,000	$283,974	$8,671,348
8	$456,000	$265,396	$8,936,744
9	$456,000	$248,034	$9,184,778
10	$456,000	$231,807	$9,416,585
11	$456,000	$216,642	$9,633,227
12	$456,000	$202,469	$9,835,697
13	$456,000	$189,224	$10,024,921
14	$456,000	$176,845	$10,201,765
15	$456,000	$165,275	$10,367,041
16	$456,000	$154,463	$10,521,504
17	$456,000	$144,358	$10,665,861
18	$456,000	$134,914	$10,800,775
19	$456,000	$126,088	$10,926,863
20	$456,000	$117,839	$11,050,000

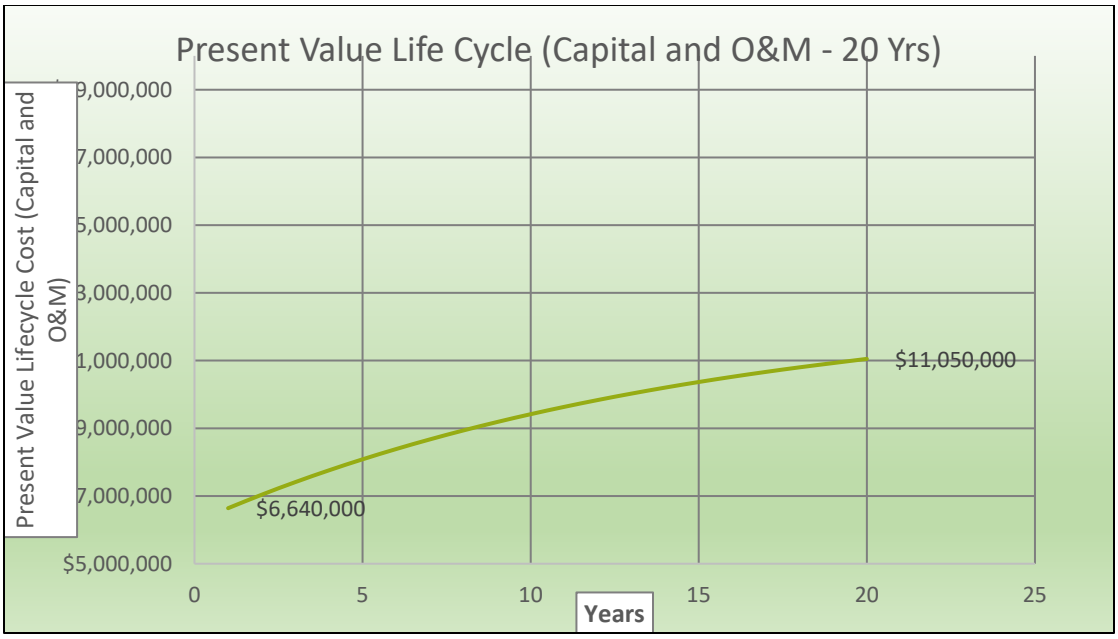


Figure 14. Present Value Life Cycle

7.2 COST DRIVERS

The Table 13 presented below provides qualitative and quantitative values for various parameters and variables for a 100 gpm PFAS treatment system. The data provided in the table is combination of data provided by vendors, extrapolation from the column and pilot test, operational experience, and engineering estimate. The data provided in the Table 13 can help in the decision framework for designing a new treatment system or upgrading an existing treatment system.

Table 13. Comparison of GAC, Single Pass IX Resin and, Regenerable IX Resin

Parameter	GAC	Single Pass IX Resin	Regenerable IX Resin	Source of Information	Selection Consideration
Typical Media Vessel Size	High	Low (~50% lower than GAC size)	Low (~50% lower than GAC size)	Operational experience, based on recommended EBCT	For retrofitting new equipment in an existing building, space constraints favor IX over GAC
Capital Cost (media) for 100 gpm system	$45,000 (6,000 lbs. GAC- estimate provided by Calgon Carbon)	$27,600 (120 CF, based on AIMS Site PFA694 resin cost)	$18,960 (120 CF, cost provided by ECT2)	Vendor provided data	High cost and frequent change out for single pass media likely favors the regenerable IX
Typical Media Cost ($/CF); (using 33.7 lb./CF for F400 GAC)	67-135	230-350	150-250	Based on the vendor data collected during Site 8 column test and pilot test	
Solid Media Offsite Disposal Cost ($/lb.)	Medium (for reactivated coal)	High	Low	Solid waste disposal at RCRA Subtitle C Landfill for Department of Defense PFAS waste	Disposal cost will vary based on the site location.

Table 13. Comparison of GAC, Single Pass IX Resin and, Regenerable IX Resin (Cont.)

Parameter	GAC	Single Pass IX Resin	Regenerable IX Resin	Source of Information	Selection Consideration
Typical Sorption/ IX Capacity (mg of PFAS/g of Media) for a breakthrough of 70 ppt (PFOS+PFOA)	0.72 @ 10 min EBCT (Amec Foster Wheeler, 2017a)	1.62 @ 2 min EBCT (Amec Foster Wheeler, 2017b)	0.303 to 0.87@ 4.5 to 5 min EBCT (Wood, 2020) and 2021 Pilot Test)	Based on the Site 8 Testing, references provided for each media	Regenerable resin should be kept fresh by using site appropriate regeneration frequency. Regenerate shortly after breakthrough
Typical Bed Volume to Reach 70 ppt (for PFOS and PFOA) at 100 gpm at conc of approximately 24 ppb of PFOS and PFOA	Low 3,600 (Amec Foster Wheeler, 2017a)	High 32,000 (Amec Foster Wheeler, 2017b)	Medium 4,400 (Wood, 2020) and 2021 Pilot Test)	Based on the Site 8 Testing, references provided for each media	Bed volume may vary site to site- and site-specific testing may be needed
Typical Flowrate (Q) and PFAS Concentration Suitability	Suitable at Low to High Q and Medium Concentration	Suitable at Medium to High Q and Low Concentration	Suitable at Medium to High Q and High Concentration	Based on two sites (AIMS and Site 8 at Pease) operational experience	Site specific testing may be needed at high Q to evaluate operational parameters
Short Chain PFAS Removal	Low	High	Dependent on regeneration frequency to keep the resin fresh. Resin regeneration provides the capability to have the highest short chain PFAS removal efficiency.	Based on Site 8 pilot and column test	Site specific testing may be needed to meet discharge standards
Electricity Consumption	Medium	Medium	High, when complemented with onsite Plasma destruction of PFAS	Operational experience	Unit cost will vary according to location
Building Cost for a 100-gpm system (includes 4,000 psi slab, HVAC, electrical controls, office space and bathroom)	Medium $2-$3M	Medium $2-$3M	High ~$3-4M (5,200 sf, includes explosion proof building)	Engineering estimate based on an existing treatment system at Site 8	Building cost will vary significantly based on the geography. If regeneration can be performed outside the building in permanently warmer climates, it would provide cost savings as explosion proofing will not be required.

Table 13. Comparison of GAC, Single Pass IX Resin and, Regenerable IX Resin (Cont.)

Parameter	GAC	Single Pass IX Resin	Regenerable IX Resin	Source of Information	Selection Consideration
Annual O&M Cost	Medium (less site visits and operational requirements but higher media use and changeout)	Low (less site visits and operational requirements)	High (more site visits and operational requirements)	Based on two sites (AIMS and Site 8 at Pease) operational experience	As the frequency of regeneration and single pass media change out increase, the likelihood of regenerable IX being lifecycle lower cost increases. This is because the cost to regenerate will typically be lower than the cost for media change out
Remedial Action Objectives (RAOs)		if PFOS and PFOA RAOs are lower than 70 PPT, and/or short chain compounds have ROAs, single pass becomes less cost effective due to early breakthrough and frequent change outs	if PFOS and PFOA RAOs are lower than 70 PPT, and/or short chain compounds have ROAs, regenerable IX may become more cost effective if regeneration is cheaper than media change out	Based on two sites (AIMS and Site 8 at Pease) operational experience	While evaluating site specific RAOs, it should also be considered that regulatory criteria are in flux and trending downward and tending to include more compounds than just PFOA and PFOS. A treatment train designed to meet today's remedial action objectives may be inadequate to meet future ROAs. In particular, as short chain PFAS are added to the ROAs and early breakthrough becomes a consideration, media change outs will increase in frequency, driving costs higher, and likely merit a reconsideration of the treatment train.
Sustainability		Low (needs offsite disposal)	High (can be regenerated onsite, low waste solution when coupled with plasma destruction of PFAS)	Based on two sites (AIMS and Site 8 at Pease) operational experience	Sustainability may become more important than other criteria in future

7.3 COST ANALYSIS

This section compares the regenerable IX treatment train with two single pass, disposable media, specifically GAC and single pass IX, and provides considerations for making informed decisions when evaluating and comparing these media options. We provide the reader with a framework for examining specific variables and conditions under which one technology may be preferred over another. These decisions are complex and site specific; however, we provide a starting point for decision making and some general rules of thumb that might lead the reader to prefer one technology over another.

Importantly, there are market conditions that cannot be predicted, such as the unit cost for treatment media, the likely future determination of certain PFAS as hazardous, uncertainty about disposal and destruction outlets, and the regulatory conditions in the jurisdiction that determine the remedial action objectives. All of these and other market conditions require the considerations in this section to be carefully scrutinized and updated for informed decision making.

7.3.1 REGENERABLE IX RESIN

This study, as well as other applications have demonstrated that that regenerable IX for PFAS treatment is effective and robust, and that it offers specific advantages discussed below; however, regenerable IX may not always be preferred. A generalized representation of when regenerable IX might be preferred is presented here:

- When sustainability has highest priority over other evaluation criteria. Regenerable IX coupled with low energy plasma destruction of PFAS provide a closed loop, low waste solution that has intrinsic sustainability and liability benefits.
- When Influent concentrations are high, and the flowrates are moderate to high. Regenerable IX becomes more cost effective as flow rate and concentration increase. That is because, under typical circumstances, regeneration is less expensive than media change outs.
- When in locations or circumstances where offsite media disposal or reoccurring media purchase is not practical.
- When building footprint, capital costs, and HVAC O&M costs can be reduced by housing equipment in insulated steel cargo shipping containers, i.e., Conex boxes. If the need for explosion proof equipment and building can be reduced (e.g., performing regeneration and distillation outside), it could provide additional cost savings for this alternative.
- When the treatment horizon is expected to be long, several years or more, allowing the lower O&M costs to offset the higher capital cost over time.

Conditions when regenerable IX would likely not be the lowest lifecycle cost solution include:

- Large flowrate rate treatment of low PFAS concertation in influent stream e.g., large scale drinking water treatment.
- Where trained onsite labor is not available throughout the year.

7.3.2 SINGLE PASS IX RESIN

Single pass IX resin for PFAS treatment has been proven and is effective because the loading capacity of single pass IX is high, meaning the number of bed volumes, or volume of water treated between change outs is high relative to regenerable IX. Also, the O&M complexities are lower, resulting in lower operator level of effort.

Although single pass media is generally expensive, the fundamental determiner for cost between regenerable and single pass IX is higher capital cost for regenerable IX and higher O&M cost for single pass (driven by media costs). The question is: will the higher O&M cost for single pass IX overcome the higher capital cost for regenerable IX during the project lifecycle? We suggest the conditions when Single Pass IX resin might be the preferred option are:

- When Influent PFAS concentration are such that media changeout is infrequent. Due to differences in PFAS compounds, concentrations, and background water chemistry (site specific), it is difficult to fully quantify concentration ranges best suited for single pass IX. However, we suggest that single pass IX likely makes sense when total PFAS influent concentrations are in the parts per trillion to single digit parts per billion range and when media change out frequency is measured between several months and years.
- When operating labor is inexperienced or in short supply.

Additional considerations for single pass IX include the addition of a single pass IX vessel following GAC or regenerable IX in the treatment train as a safeguard or failsafe against discharges in exceedance of criteria. Also, although the unit cost for GAC is significantly lower than single pass IX, the life cycle costs of single pass IX resin is generally less than GAC because the frequency of change out for GAC overwhelms the lower media cost.

7.3.3 GAC

At the onset of the PFAS challenge several years ago, GAC was implemented in the majority of circumstances because it was known to be effective at removing PFAS from water, was readily available, and relatively inexpensive, often in prefabricated configurations that could be put in place quickly. GAC remains a very important option for PFAS. GAC is commonly used in pretreatment, to remove organics and other co-contaminants ahead of the PFAS removal media. In such configurations, GAC will also remove some of the PFAS load. As a stand-alone PFAS technology, GAC now has to compete with IX and other adsorbent media. Whether GAC will be the lowest lifecycle cost alternative depends upon media cost, influent concentration, effluent discharge criteria. Conditions when GAC might be the preferred option:

- When flowrates are high and PFAS concentrations are low, e.g., large scale drinking water treatment.
- When effluent discharge criteria do not include short chain PFAS compounds.
- When GAC can be locally sourced, and cost effectively reactivated for reuse in the treatment system (this would generally exclude drinking water applications where reactivated GAC is difficult to get permitted.

- When fast/emergency response is required. Emergency response vendors have skid mounted systems at the ready, although single pass systems are gaining in experience and availability and may soon also fit this criterion.

Conditions when GAC would not be most preferred option:

- When the remedial action objectives include criteria for short chain compounds that are likely to break through GAC.
- When large vessel sizes are not possible due to space constraints. GAC vessels are typically twice the size of IX vessels to provide the required empty bed contact time.

7.3.4 PLASMA DISTRUCTION COST EFFICIENCY

An evaluation of onsite PFAS destruction using Plasma versus offsite disposal of concentrated PFAS waste (still bottoms) was performed. A key assumption of this evaluation is that additional building/equipment trailer will not be required to store concentrated PFAS waste prior to offsite disposal and the waste can be stored in an existing equipment building. Based on the calculations provided below in Table 14, it was observed that onsite PFAS destruction using plasma is more cost efficient than off-site waste disposal.

These calculations are for an influent water stream of 100 gpm flowrate generating 435 gallons of concentrated PFAS waste (still bottoms) every 15 days. The plasma destruction unit will consist of approximately 10-kilowatt (KW) power generating network.

Table 14. Onsite Plasma Destruction versus Offsite Disposal

		Plasma Destruction		Off-site Disposal	Notes
Capital Cost	$	323,520.00	N/A		Excludes building costs - assumes extra space would
First Year O&M Cost	$	101,700.57	$	125,073	Based on drum disposal of 435 gallons every 15 days
COST OF STILL BOTTOMS DISPOSAL (OFF-SITE INCINERATION)					
Basis					
	Vol. still bottoms/distillation			435	Gallons
	Estimated number of drums			8	Per distillation event
	Distillations (Events)/year			24	Based on 15 day cycle
Drum and Disposal Cost per Distillation Event					
	Drum cost		$	100	Each
	Disposal cost		$	395	Per Clean Harbors Inc.
	Total cost per distillation		$	3,915	Drum and disposal only
Fees per Waste Pickup					
	Pick-Up Fee		$	425	Per Clean Harbors Inc.
	Documentation/Approval Fee		$	100	Per Clean Harbors Inc.
	Recovery/Waste Fee		$	700	Per Clean Harbors Inc.
	Total Fees per Pickup:		$	1,225	Per distillation event
Totals	Cost per Event		$	5,140	
	Annual Cost		$	125,073	/Yr. for disposal through incineration
Comparison					
	Cost per Gallon via Incineration:		$	11.82	/Gallon
	Cost per Gallon via Plasma Destruction:		$	9.61	/Gallon

7.4 CONCLUSIONS

While each of the three PFAS treatment technologies discussed in Section 7 has its advantages and disadvantages and while it remains true that site specific conditions will generally determine which treatment alternative is selected, some key takeaways from this project can be made that will help in the decision framework.

- Regenerable IX with onsite destruction will be most attractive in high groundwater concentration PFAS source areas with long treatment horizons.
- Single pass media will be most effective and practical in low to moderate PFAS concentration groundwater plumes or wellhead treatment for water supply.

- Whether Regenerable IX will have lowest life cycle cost depends on the relative O&M costs. O&M costs can vary significantly based on the site conditions and location. If the O&M for regenerable IX is higher than single pass, regenerable IX will be the most expensive option throughout the project life cycle. In these cases, regenerable IX still represents the lowest waste and liability technology and may be preferred for that reason.

In the more typical case for higher concentration groundwater, where O&M costs are lower for regenerable IX, there should be a point in the treatment horizon when the lifecycle cost of regenerable IX becomes lower than single pass. The treatment horizon must be long enough for this benefit to be realized, several years or more. This horizon can be potentially shortened significantly by locating a central regeneration facility between multiple sites with regenerable IX resin treatment systems. Sharing the capital costs of the regeneration system between sites can drive down the collective lifecycle costs of all sites serviced by the central regeneration facility.

8.0 IMPLEMENTATION ISSUES

The list of implementation issues provided below is based on the operational experience during the pilot test and current operations at the full-scale system at Site 8. These issues are presented below to help with additional design considerations:

- Pretreatment for co-contaminants (metals, TOC, TSS, TDS, VOCs etc.): Based on the site-specific co- contaminants, pretreatment requirement can add to increased building size and larger pretreatment vessels footprint. These need to be carefully evaluated prior to design of any full-scale system.
- Downflow versus up-flow operation of the resin beds and the ability to backwash as required. Any full-scale system should be down flow to allow backwashing to remove fouling from the media. Based on the pilot and full-scale observations the treatment system should be fitted with downflow and up-flow valving to reduce operations and maintenance costs.
- Biofouling can be observed in any IX/GAC system, especially during long periods of down time required by maintenance activities, leading to pressure drop. Treatment equipment should include provisions for addressing these issues (backwashing and/or biocide addition) that could possibly negatively affect the resin/GAC performance.
- Consider the use of single pass IX after regenerable IX as a polishing step (based on pilot and full-scale Site 8 operations data). This should be considered if the influent stream has short chain PFAS compounds which require removal to meet regulatory requirements (specially PFAS with less than 6 carbon chain lengths, e.g., PFBA) which have lower demonstrated removal efficiencies using regenerable IX compared to single use. Alternatively, the regeneration cycle length can be reduced to accommodate enhanced removal of short chain PFAS.
- Waste minimization may be reduced if pretreatment before regenerable IX and tertiary treatment after plasma destruction are required. These wastes could potentially include spent filters, sludge as well as spent media (as applicable) requiring disposal as PFAS containing wastes.
- If regeneration and distillation cannot be performed outside (dependent on geographical system location) the equipment building, equipment and appurtenances must be explosion proof.
- Identify discharge requirements for the system effluent to select appropriate regenerant (e.g., methanol may be regulated in the discharge permit, but IPA may not). This would be dependent on the regulatory authority's requirements.
- Spent regenerant after distillation through super loader and/or plasma destruction treatment has a high salt concentration and must be bled back into the system to avoid off-site disposal. The waste stream would be highly diluted depending on full-scale system flow; however, the high salt content may pose discharge concerns depending on discharge location (e.g., sewer, on-site reinjection or surface water).
- The distillation system should be appropriately designed to account for foaming (observed during the pilot study) to minimize PFAS carry over in the distillate.

- Application of plasma for concentrated still bottom destruction has not been deployed at full-scale for large flowrates. Implementation challenges and operational inefficiencies at full-scale may include large equipment footprint, need for adequate retention time for plasma-liquid contact at high flowrate and high PFAS concentration, and energy demands etc. It does appear, based upon its simplicity and single component configuration, that this technology could be a good fit for full-scale application.

9.0 REFERENCES

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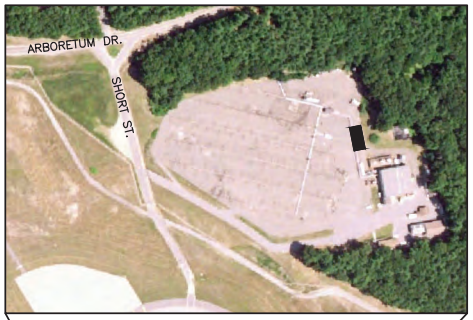
APPENDIX A DESIGN DRAWINGS AND PILOT PROCESS FLOW DIAGRAM

ESTCP PILOT STUDY DESIGN

FORMER PEASE AIR FORCE BASE

PREPARED FOR:
ENVIRONMENTAL SECURITY ENGINEERING CENTER PROGRAM (ESTCP)
PROPOSAL NUMBER ER18-B3-5015



LOCATION MAP
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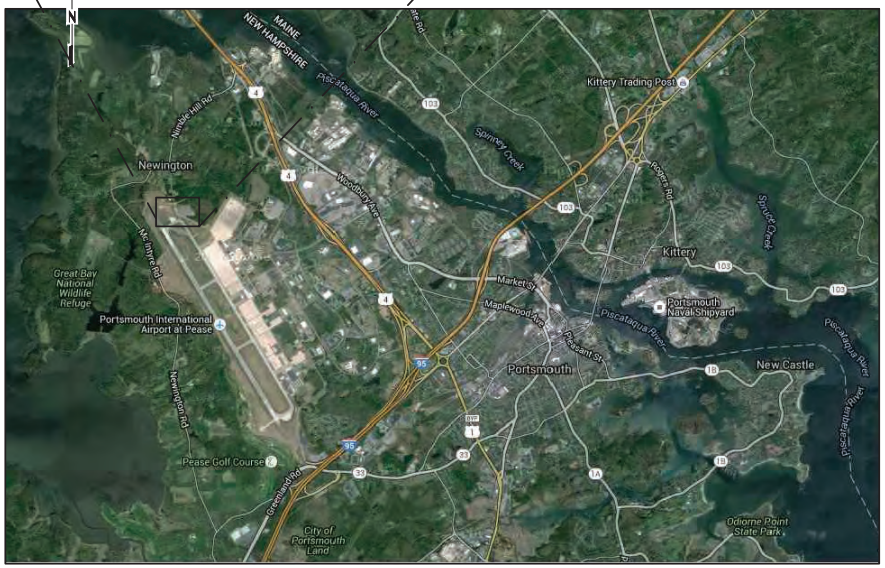

SITE MAP
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SHEET LIST TABLE		
DRAWING NUMBER	SHEET NUMBER	SHEET TITLE
GENERAL		
1	G-001	TITLE SHEET
CIVIL		
2	C-101	PILOT STUDY SYSTEM LOCATION PLAN
PROCESS		
3	D-101	PLASMA GENERAL ARRANGMENT AND PROCESS FLOW DIAGRAM
ELECTRICAL		
4	E-001	POWER ONE-LINE DIAGRAM

NO.	DATE	DR	CHK	APVD	BY	APVD
0	4-21-20					
	DRAFT					
	REVISION					
DSGN	E. THOMPSON	B. TOMIC	NAME	APVD	NAME	

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ESTCP PILOT STUDY DESIGN

DRAWING STATUS
DRAFT

TITLE SHEET

Wood.
Environment & Infrastructure Solutions, Inc.
511 Congress St. Suite 200.
Portland, ME 04101
P. (207) 775-5401 F. (207) 772-4762
www.woodplc.com

VERIFY SCALE
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DATE	2020-04-21
PROJ	7311180270
DWG	G-001
SHEET	1 OF 4

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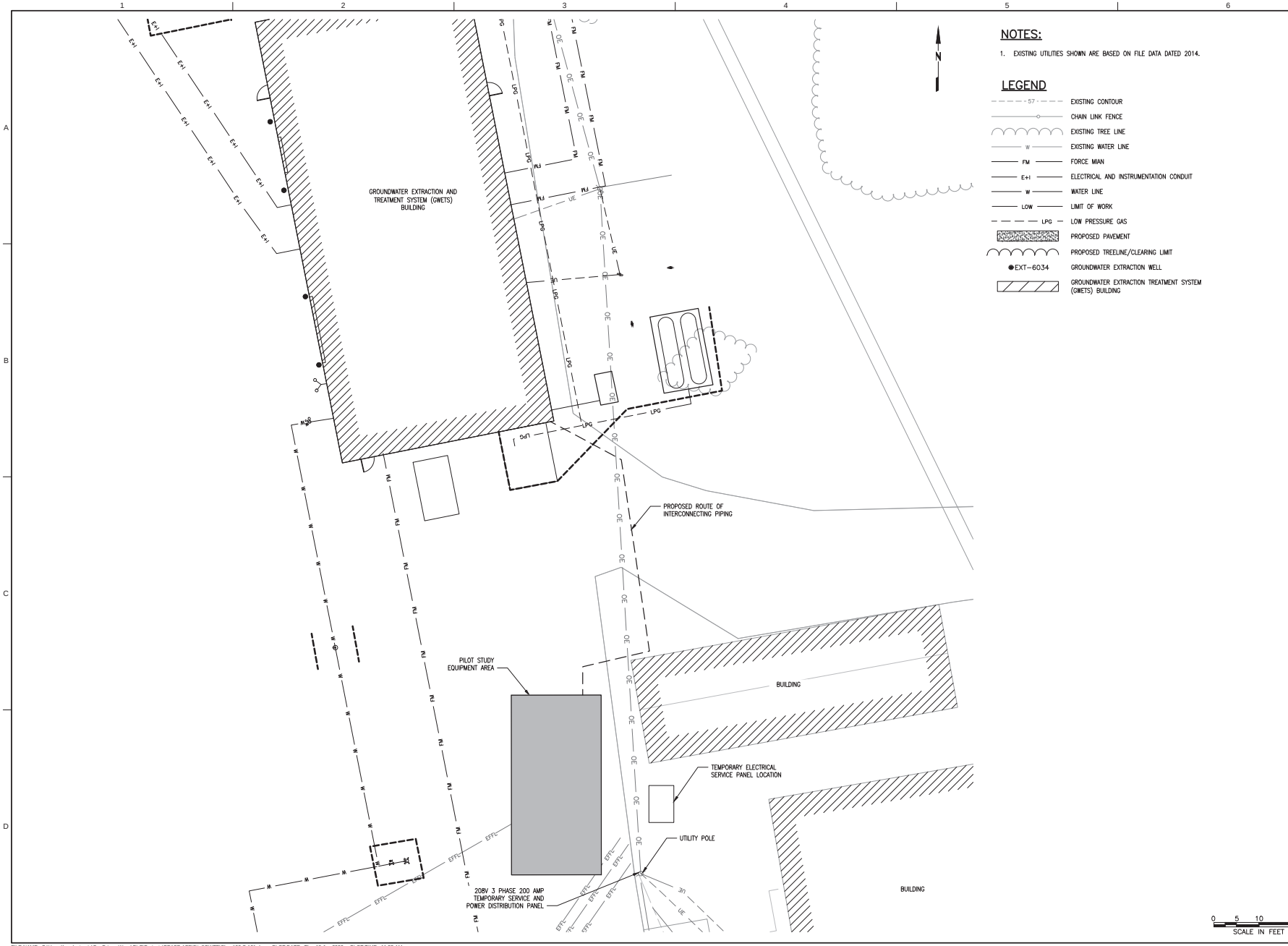

NO.	DATE	DR	CHK	APVD
				BY
				NAME
0	4-21-20			APVD
				NAME
DSGN	E. THOMPSON	B. TOMIC		

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ESTCP PILOT STUDY DESIGN

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PILOT STUDY SYSTEM LOCATION PLAN

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PROJ	7311180270
DWG	C-101
SHEET	2 OF 4

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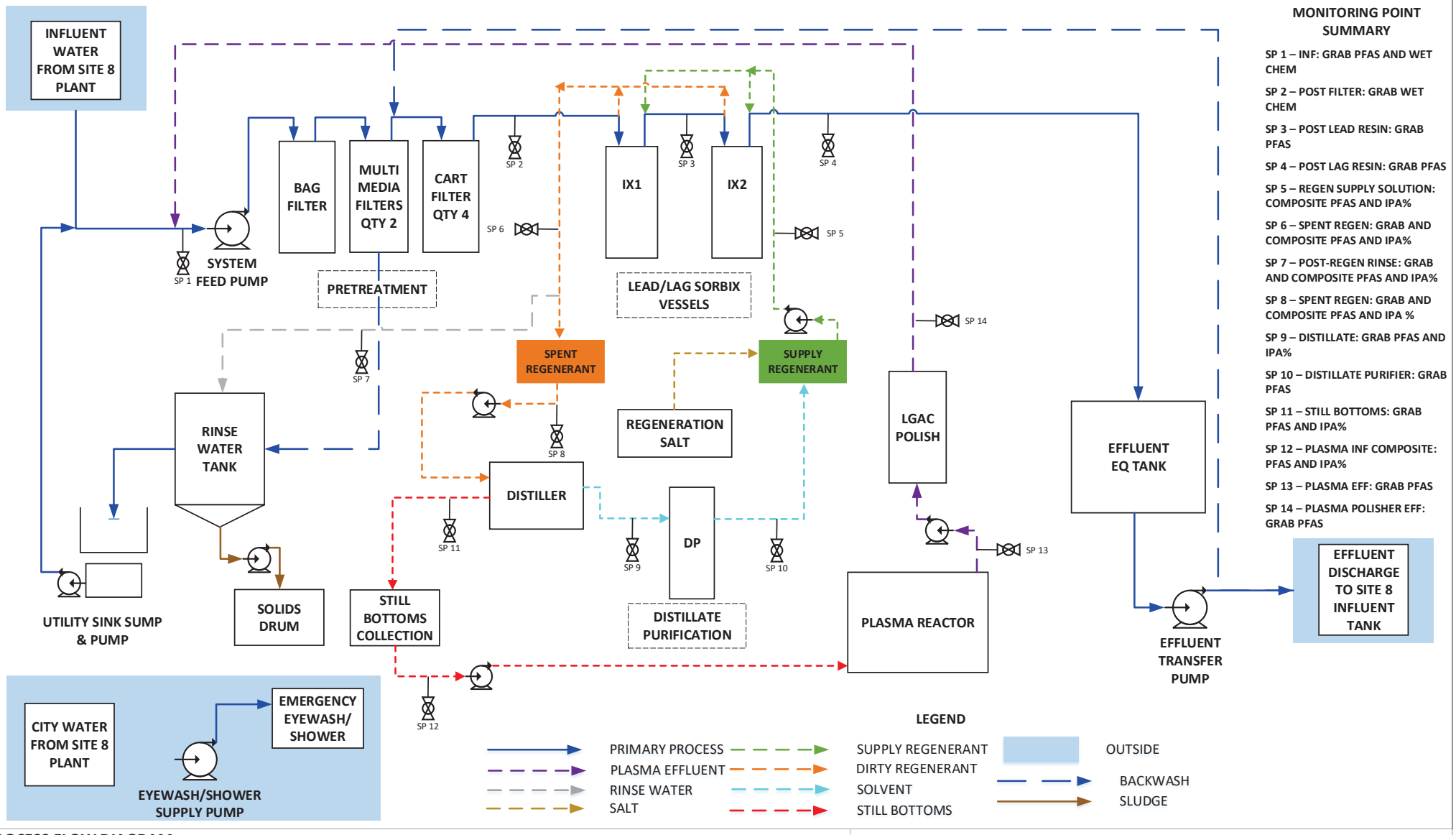


MONITORING POINT SUMMARY

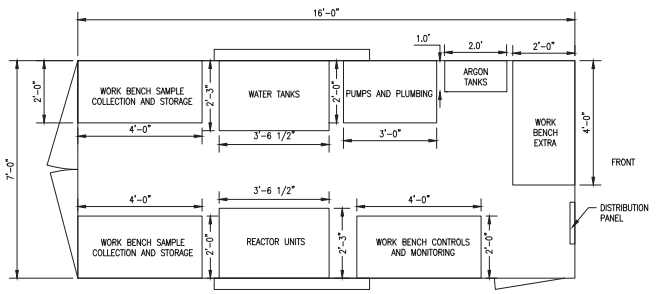
- SP 1 – INF: GRAB PFAS AND WET CHEM
- SP 2 – POST FILTER: GRAB WET CHEM
- SP 3 – POST LEAD RESIN: GRAB PFAS
- SP 4 – POST LAG RESIN: GRAB PFAS
- SP 5 – REGEN SUPPLY SOLUTION: COMPOSITE PFAS AND IPA%
- SP 6 – SPENT REGEN: GRAB AND COMPOSITE PFAS AND IPA%
- SP 7 – POST-REGEN RINSE: GRAB AND COMPOSITE PFAS AND IPA%
- SP 8 – SPENT REGEN: GRAB AND COMPOSITE PFAS AND IPA %
- SP 9 – DISTILLATE: GRAB PFAS AND IPA%
- SP 10 – DISTILLATE PURIFIER: GRAB PFAS
- SP 11 – STILL BOTTOMS: GRAB PFAS AND IPA%
- SP 12 – PLASMA INF COMPOSITE: PFAS AND IPA%
- SP 13 – PLASMA EFF: GRAB PFAS
- SP 14 – PLASMA POLISHER EFF: GRAB PFAS

PROCESS FLOW DIAGRAM
REGENERABLE PFAS SKID
RPS-1 AT SITE 8 - ESTCP

UPDATED 6/12/2020

DWG-C-101-A
Drawing 2A of 4

ECT
75 WASHINGTON AVE, SUITE 1A
PORTLAND, ME 04101



TRAILER – PLASMA DESTRUCTION

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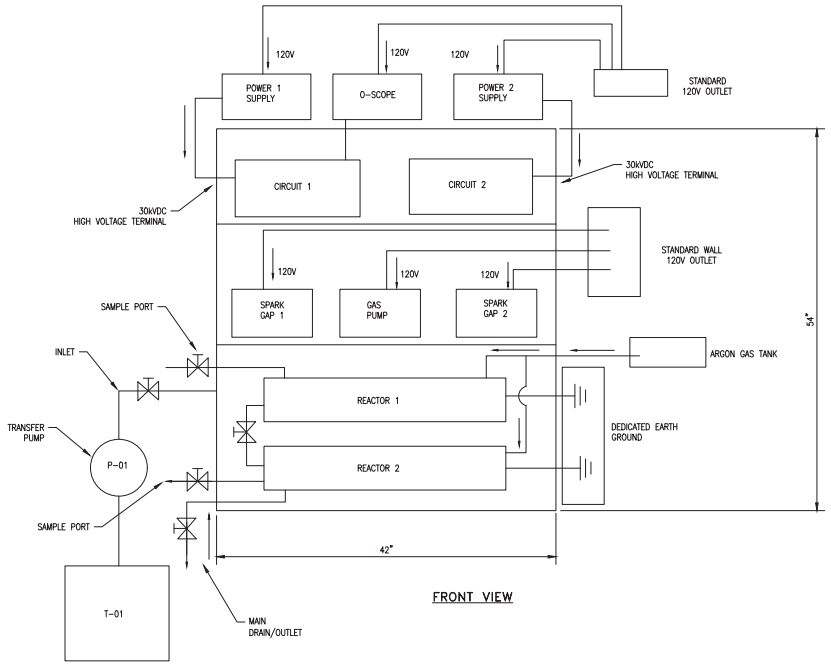

FRONT VIEW

PLASMA PROCESS FLOW DIARGRAM

NTS

NO.	DATE	DSGN	DR	CHK	APVD
0	4-21-20	E. THOMPSON	B. TOMIC		

DRAFT

REVISION	BY	APVD

NAME NAME

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ESTCP PILOT STUDY DESIGN

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PLASMA GENERAL ARRANGEMENT AND PROCESS FLOW DIAGRAM

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DWG	D-101
SHEET	3 OF 4

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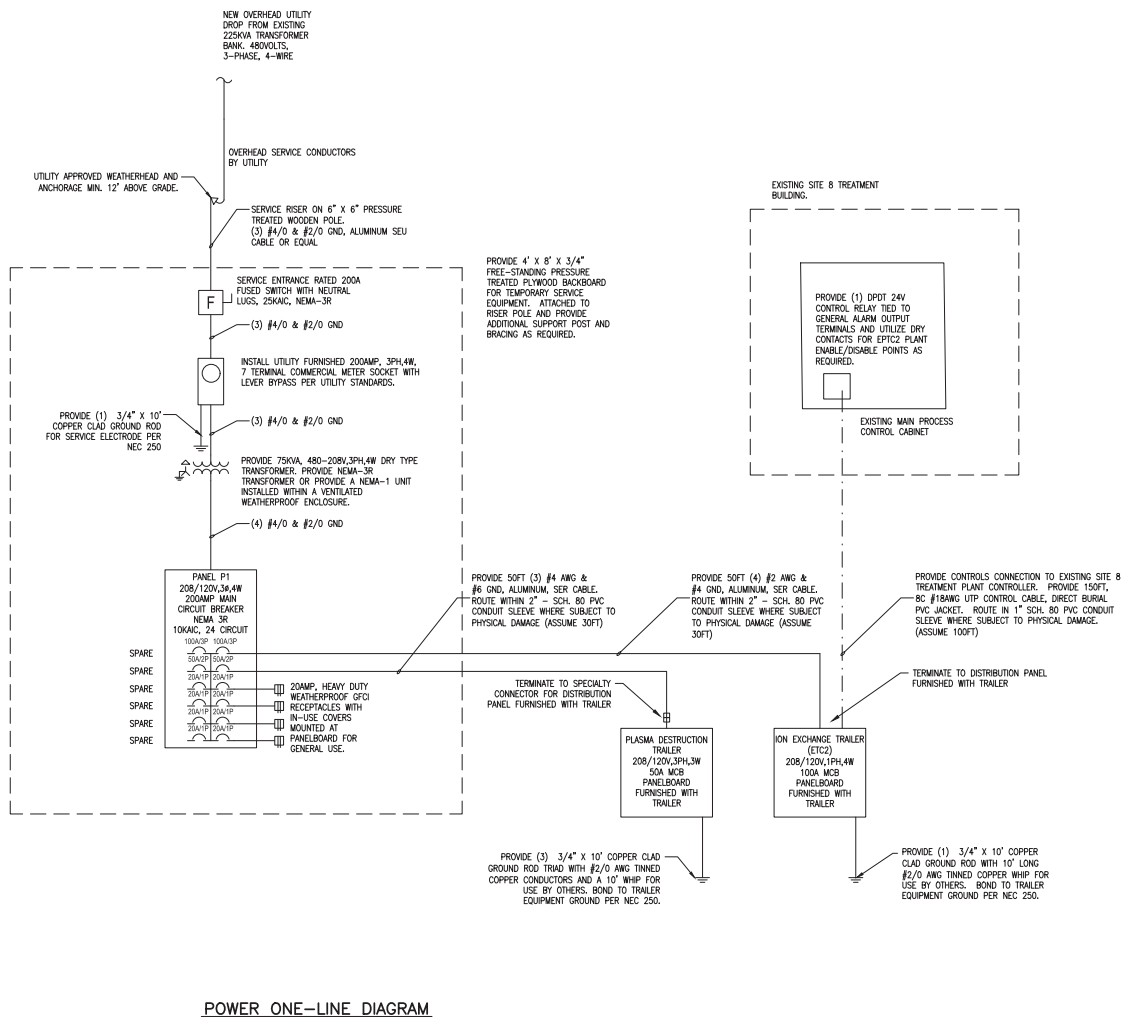

POWER ONE-LINE DIAGRAM
N.T.S.

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA-70, NATIONAL ELECTRICAL CODE (NEC).
2. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITH EVERY FEEDER AND BRANCH CIRCUIT.
3. CONVENIENCE RECEPTACLES SHALL BE COMMERCIAL HEAVY DUTY GRADE GROUNDING TYPE NEMA 5-20R, SIDE WIRED. LEVITON, PASS AND SEYMOUR OR APPROVED EQUAL.

ELECTRICAL SPECIFICATIONS

GENERAL:

THE ENTIRE ELECTRICAL SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE STATE OF NEW HAMPSHIRE BUILDING CODE - LATEST EDITION, AND THE NATIONAL ELECTRIC CODE (NEC 2020)

THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT AND LABOR TO COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE PLANS AND AS SPECIFIED HEREIN. THE INTENT OF THESE SPECIFICATIONS AND CONTRACT DRAWINGS IS TO PROVIDE COMPLETE INSTALLATION OF THE VARIOUS SYSTEMS DESCRIBED HEREIN AND INDICATED ON THE DRAWINGS. ANY LISTING OR INDICATION OF ITEMS FURNISHED OR WORK TO BE PERFORMED SHALL NOT BE COMPLETE IN ITSELF AND SHALL NOT LIMIT THE GENERAL REQUIREMENTS TO FURNISH AND INSTALL WORK, EQUIPMENT, ACCESSORIES, CONTROLS, ETC., TO COMPLETE THE CONTRACT IN A SUBSTANTIAL MANNER. WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

A. SERVICE DISCONNECT SWITCH 200AMP - 480/277VOLT,3 PHASE, 4 WIRE, NEMA-3R, OVERHEAD FEED.
B. METER SOCKET (COLD SEQUENCE) - 480/277VOLT,3 PHASE, 4 WIRE, - COMMERCIAL SERVICE GRADE WITH LEVER BYPASS IN ACCORDANCE WITH UTILITY COMPANY STANDARDS.
C. DRY TYPE TRANSFORMER - 75VA, 480-208/120VOLT,3 PHASE, 4 WIRE, NEMA-3R OR NEMA-1 IN WEATHERPROOF ENCLOSURE
D. PANELBOARD - 208/120VOLT,3 PHASE, 4 WIRE - SQUARE D OR "NQOD" CIRCUIT BREAKER TYPE 10,000 AMPS INTERRUPTING CAPACITY.
E. BRANCH WIRING AND CONDUIT, COMPLETE WITH ALL CONNECTIONS AS INDICATED.
F. PROVISION OF ALL OUTLETS BOXES, WIRING DEVICES, PLATES, CABINETS, CONDUIT FITTINGS, SUPPORT, FUSES AND SUCH OTHER ITEMS REQUIRED AND INCIDENTAL FOR A COMPLETE INSTALLATION.
G. ALL MOBILE TRAILER EQUIPMENT WILL BE PROVIDED BY OTHERS FOR WIRING CONNECTIONS BY THIS ELECTRICAL CONTRACTOR.
H. FURNISH AND INSTALL ELECTRIC POWER SERVICE ENTRANCE SYSTEM COMPLETE IN ACCORDANCE WITH UTILITY POWER COMPANY REQUIREMENTS.

PERMITS AND FEES

A. OBTAIN AND PAY FOR ALL NECESSARY PERMITS REQUIRED BY LAW AND LOCAL INSPECTION AUTHORITIES TO PERFORM THE ELECTRICAL WORK SPECIFIED HEREIN.
B. COORDINATE SERVICE CONNECTION WITH UTILITY COMPANY AND PROVIDE ALL NECESSARY INFORMATION REQUIRED FOR ESTABLISHMENT OF SERVICE.

WIRING AND CONDUIT

A. UNLESS OTHERWISE NOTED WIRING SHALL BE COPPER 2#12 AWG CONDUCTORS AND #12 GND THWN INSULATION UNLESS OTHERWISE NOTED.
B. CONDUIT-MINIMUM SIZE 3/4" I.D.
   1. ABOVE GROUND-RIGID METAL CONDUIT OR NON-METALLIC CONDUIT WHERE NOT SUBJECT TO PHYSICAL DAMAGE.
   2. UNDERGROUND-RIGID NON-METALLIC CONDUIT UNLESS NOTED OTHERWISE

GROUNDING

C. PROVIDE ALL ELECTRICAL GROUNDING TO CONFORM TO ARTICLE 250 OF THE N.E.C.

EXAMINATION OF SITE

A. BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL VISIT THE SITE WITH PLANS AND SPECIFICATION IN HAND AND SHALL BECOME THOROUGHLY FAMILIAR WITH ALL CONDITIONS UNDER WHICH HIS WORK WILL BE PERFORMED.
B. THE SUBMISSION OF A BID SHALL BE TAKEN AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE, AND DIFFICULTIES, IF ANY, NOTED AND REPORTED TO THE ENGINEER. LATTER CLAIMS FOR EXTRA COST OF LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR ANY DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN, SHALL NOT BE RECOGNIZED.

NO.	DATE	DSGN	DR	CHK	APVD	NAME
0	4-21-20	E. THOMPSON	B. TOMIC			
REVISION				BY	APVD	NAME
DRAFT						

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FORMER PEASE AIR FORCE BASE

ESTCP PILOT STUDY DESIGN

DRAWING STATUS
DRAFT

POWER ONE-LINE DIAGRAM

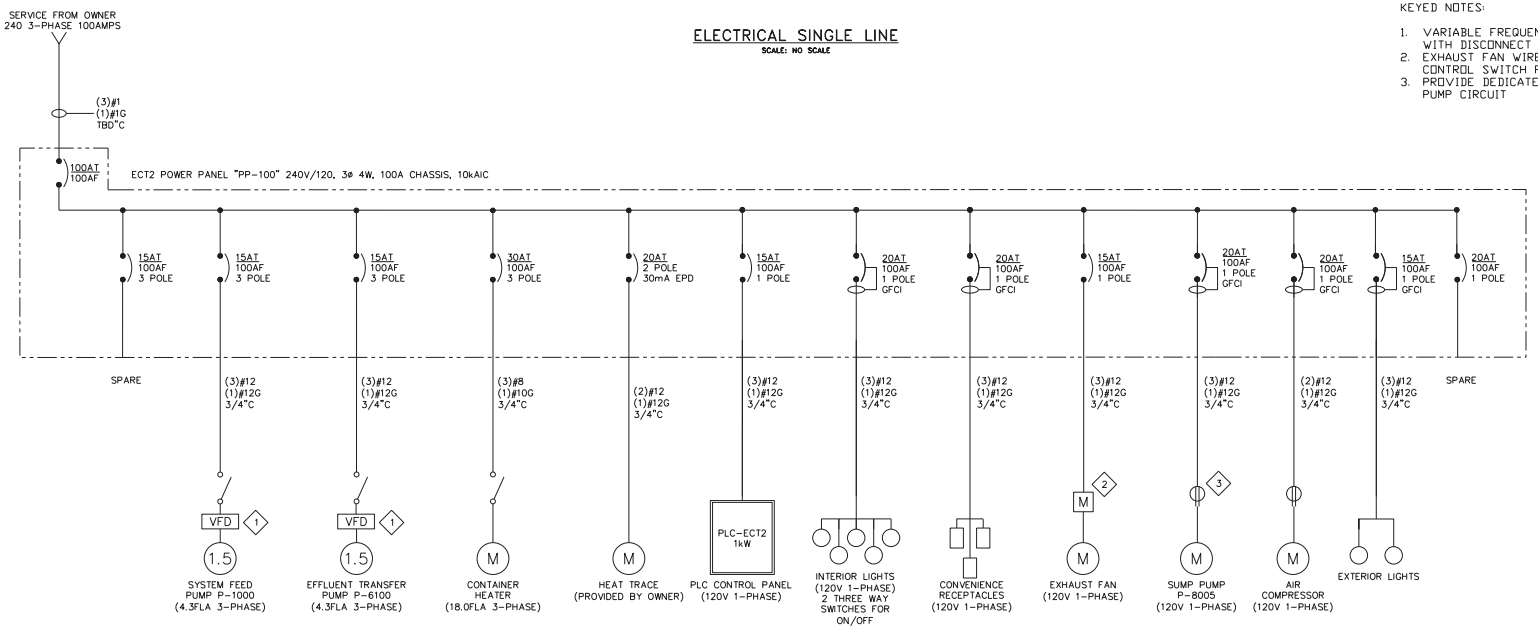
Wood.
Environment & Infrastructure Solutions, Inc.
511 Congress St. Suite 200.
Portland, ME 04101
P. (207) 775-5401 F. (207) 772-4762
www.woodplc.com

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	2020-04-21
PROJ	7311180270
DWG	E-001
SHEET	4 OF 4

ELECTRICAL SINGLE LINE

SCALE: NO SCALE



KEYED NOTES:

1. VARIABLE FREQUENCY DRIVES WALL MOUNT, WITH DISCONNECT SWITCH LOCAL TO VFD.
2. EXHAUST FAN WIRED TO ON/OFF AND SPEED CONTROL SWITCH FOR VENTILATION CONTROL.
3. PROVIDE DEDICATED RECEPTACLE FOR SUMP PUMP CIRCUIT

LOAD CALCULATIONS

SCALE: NO SCALE

DESCRIPTION OF LOAD	OCPD Percentage	OCPD CB Size	Starter Type	LOAD hp	LOAD kVA	VOLTAGE (V)	FULL LOAD (A)	CONNECTED LOAD Factor	CONNECTED LOAD (kVA)	DERATED LOAD Factor	DERATED LOAD (kVA)	COMMENTS
PP-100												
System Feed Pump P-1000	150%	15	VFD	1.50 hp		230V - 3ph.	4.30	1.00	1.7 kVA	1.00	1.7 kVA	230V 3-Phase VFD
Effluent Transfer Pump P-6100	150%	15	VFD	1.50 hp		230V - 3ph.	4.30	1.00	1.7 kVA	1.00	1.7 kVA	230V 3-Phase VFD
Heater	125%	30	FVNR	10.00 hp		230V - 3ph.	18.00	1.00	4.1 kVA	1.00	4.1 kVA	230V 3-Phase Heater
Heat Trace (Owner Provided)	125%	20	EPD	3.00 hp		230 - 1ph.	15.00	1.00	3.5 kVA	1.00	3.5 kVA	230V 1-Phase Heat Trace
PLC Panel	100%	15		1.00 hp		120V - 1ph.	10.00	1.00	1.2 kVA	1.00	1.2 kVA	
Interior Lighting	115%	15		1.00 hp		120V - 1ph.	15.00	1.00	1.8 kVA	1.00	1.8 kVA	
Exterior Lighting	115%	20	GFCI	1.00 hp		120V - 1ph.	15.00	1.00	1.8 kVA	1.00	1.8 kVA	
Receptacles	100%	20	GFCI	1.00 hp		120V - 1ph.	20.00	0.90	2.2 kVA	1.00	2.2 kVA	
Sump Pump P-8005	100%	20	GFCI	1.00 hp		120V - 1ph.	7.00	1.00	0.8 kVA	1.00	0.8 kVA	
Exhaust/Supply Fan	100%	15		1.00 hp		120V - 1ph.	5.00	1.00	0.6 kVA	1.00	0.6 kVA	
Air Compressor	100%	20	GFCI	1.00 hp		120V - 1ph.	8.00	1.00	1.0 kVA	1.00	1.0 kVA	
TOTAL LOAD :		Main OCPD 60							20 kVA		20 kVA	
									51 A		51 A	
TOTAL LOAD + 25 % (kVA) :									25 kVA		25 kVA	
TOTAL LOAD + 25 % (AMPS) :		70.75							64 A		64 A	

POWER PANEL SCHEDULE

SCALE: NO SCALE

DIRECTORY	BRKR	POLE	CKT #	KVA	KVA LOADS A	KVA LOADS B	KVA LOADS C	KVA	CKT #	POLE	BRKR	DIRECTORY
MAIN BREAKER	100	3	1	0.00	0.00			0.00				
			3	0.00		0.00		0.00				
			5	0.00			0.00	0.00				
SYSTEM FEED PUMP P-1000	15	3	7	0.98	5.37			4.39	2			
			9	0.98		5.37		4.39	4	3	30	CONTAINER HEATER
			11	0.98			5.37	4.39	6			
EFFLUENT TRANSFER PUMP P-6100	15	3	13	0.98	2.98			2.00	8			
			15	0.98		0.98		0.00	10	2	20	EPD - HEAT TRACE
			17	0.98			2.98	2.00	12	1		BREAKER SPACE (1-PHASE)
PLC PANEL	15	1	19	1.20	3.00			1.80	14	1	15	GFCI - INTERIOR LIGHTS
RECEPTACLES	20	1	21	2.20		3.00		0.80	16	1	20	GFCI - SUMP PUMP P-8005
EXHAUST FAN	15	1	23	0.60			0.60	0.00	18	1	15	GFCI - EXTERIOR LIGHTS
GFCI - AIR COMPRESSOR	20	1	25	0.00	0.00			0.00	20			
SPARE	20	1	27	0.00		0.00		0.00	22	2	15	SPARE (3-PHASE)
SPARE	20	1	29	0.00			0.00	0.00	24			
				SUBTOTAL	11.35	9.35	8.95	SUBTOTAL				

VOLTAGE:	120/240	TOTAL kVA	29.65	PANEL NAME:	PP100
MAIN BREAKER:	100	TOTAL AMPS	74	LOCATION:	EBELSON ECT2 CONTAINER
BUSES:	100			MOUNTING:	SURFACE
PH & WIRES:	3PH 4W			AIC RATING:	10 kAIC

NOTES: 30 SPACE PANEL, CIRCUITS 12, 26, 28, 30 AVAILABLE

ect2
75 Washington Avenue
Suite 1A
Portland, ME 04101
www.ect2.com

Project No.:	100021-028
Scale:	AS SHOWN
Date:	MARCH 2019
Drawn By:	JGT
Designed By:	JGT
Checked By:	
Approved By:	
Stamp:	

Rev.	Description	By	Date
0	AS FABRICATED	ECT	05/08/19

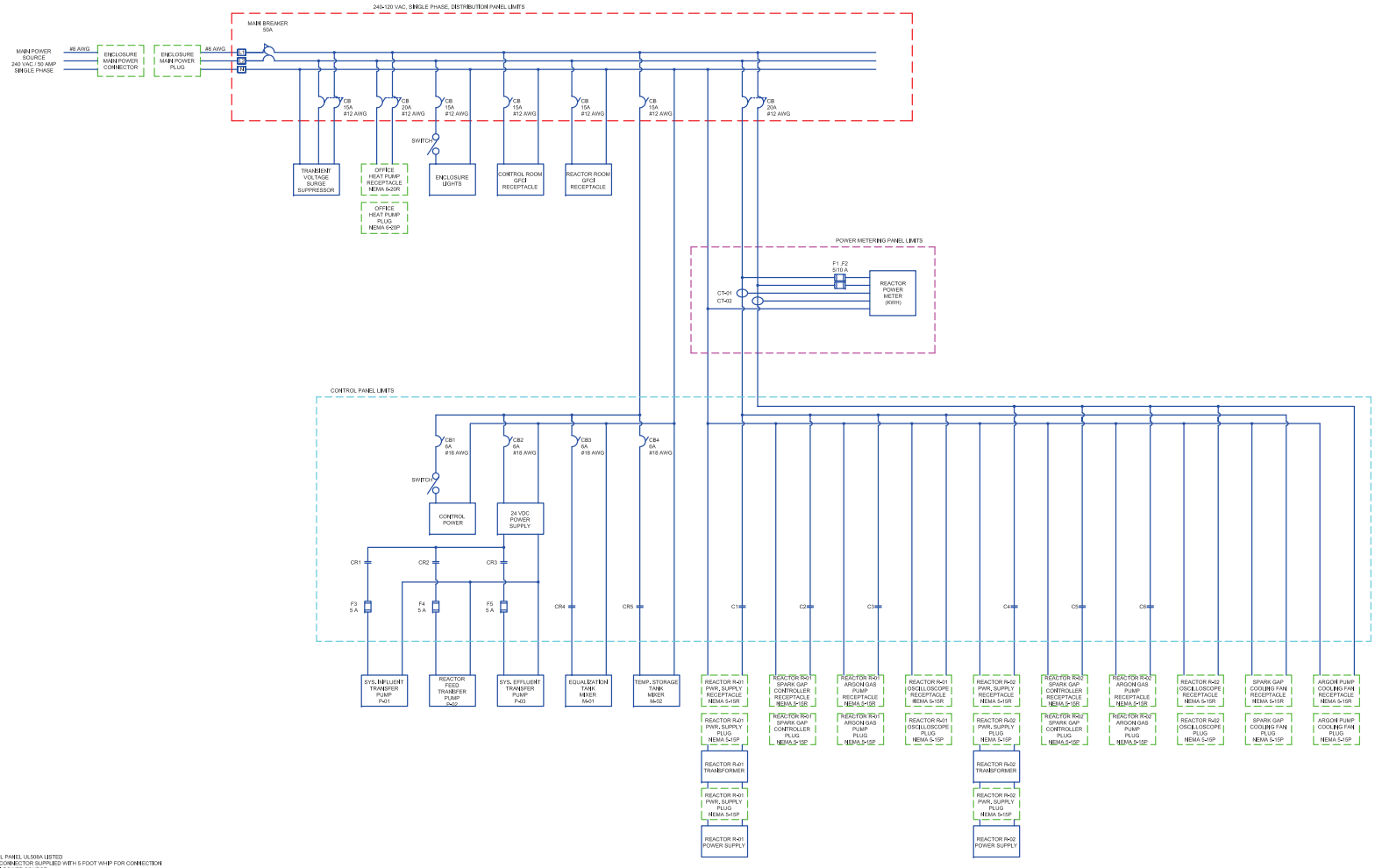
RPS-1 5-GPM PFAS TREATMENT SYSTEM

ELECTRICAL SINGLE LINE

E-100

Sheet: 1 of 1

Saved by: GKM Printed: 3/8/2019 8:06 AM Sheet: E-100
C:\DWG\PROX (ECT2)\ECT PROJECTS INTERNAL\RPS-1 PILOT ASSET 100021-028\CAD\06 ELECTRICAL\100021-28_E_100.DWG



NOTES:
1. CONTROL PANEL UL508A LISTED
2. POWER CONNECTOR SUPPLIED WITH 5 FOOT WHIP FOR CONNECTION TO MAIN POWER SOURCE
3. GROUND CONDUCTORS NOT SHOWN, INSTALL ALL GROUNDS PER NEC ARTICLES 250,122 , LOCAL ELECTRICAL CODES, AND PER THE AUTHORITY HAVING JURISDICTION.
4. ENCLOSURE MUST BE BONDED TO EARTH GROUND.

LEGEND	
ABBREV.	DESCRIPTION
AWG	AMERICAN WIRE GAUGE
CB	CIRCUIT BREAKER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
F	FUSE
KWH	KILOWATT • HOUR
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
	240-120 VAC DISTRIBUTION PANEL LIMITS
	POWER METERING PANEL LIMITS
	CONTROL PANEL LIMITS
	PLUG-IN RECEPTACLE CONNECTION

REV	DESCRIPTION	DATE	APPROVED
A	AS BUILT	02-01-19	EMB

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DRWN BY	RB	DATE 06-08-18
CHK BY	MRK	DATE 02-11-19
APPR BY	—	DATE —

NES
NATIONAL ENVIRONMENTAL SYSTEMS
84 DURHAM STREET | ATTLEBORO, MA 02703
508-226-1160 (Phone) | 508-226-1166 (Fax)
WWW.NES-HQ.COM

TITLE: LINE DIAGRAM

GSI ENVIRONMENTAL INC. / 4710 CLARKSON PILOT PFA SYSTEM TRAILER

JOB NO. 18-136

SCALE	SIZE	DWG NO.	SHEET	REV
NTS	D	E-1	1 OF 1	A

APPENDIX B PFAS COMPOUND LIST AND ANALYTICAL METHOD

PFAS Analytical Details

In this project aqueous samples will be analyzed by Clarkson University's Center for Air and Aquatic Resources Engineering and Science (CAARES) for the following list of PFAS compounds (Table S1).

Table S1. List of Target PFAS Compounds

Name	Abbreviation	CAS Number
Perfluoro-n-butanoic acid	PFBA	375-22-4
Perfluoro-n-pentanoic acid	PFPeA	2706-90-3
Perfluoro-n-hexanoic acid	PFHxA	307-24-4
Perfluoro-n-heptanoic acid	PFHpA	375-85-9
Perfluoro-n-octanoic acid	PFOA	335-67-1
Perfluoro-n-nonaoic acid	PFNA	375-95-1
Perfluoro-n-decanoic acid	PFDA	335-76-2
Perfluoro-n-undecanoic acid	PFUdA	N/A
Perfluoro-n-dodecanoic acid	PFDoA	307-55-1
Perfllluoro-n-tridecanoic acid	PFTrDA	72629-94-8
Perfllluoro-n-tetradecanoic acid	PFTeDA	376-06-7
Perfllluoro-n-hexadecanoic acid	PFHxDA	N/A
Perfllluoro-n-octadecanoic acid	PFODA	N/A
Potassium perfluoro-1-butanesulfonate	PFBS	375-73-5
Sodium perfluoro-1-pentanesulfonate	PFPeS	630402-22-1
Sodium perfluoro-1-hexanesulfonate	PFHxS	355-46-4
Sodium-perfluoro-1-heptanesulfonamide	PFHpS	375-92-8
Sodium perfluoro-1-octanesulfonate	PFOS	1763-23-1
Sodium perfluoro-1-nonanesulfonate	PFNS	98789-57-2
Sodium-perfluoro-1-decanesulfonate	PFDS	335-77-3
Sodium 1H,1H,2H,2H-perfluorohexane sulfonate	4:2 FTS	757124-72-4
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate	6:2FTS	27619-97-2
Sodium 1H,1H,2H,2H-perfluorodecane sulfonate	8:2 FTS	39108-34-4
Sodium 1H,1H,2H,2H-perfluorododecane sulfonate	10:2 FTS	N/A
Perfluoro-1-octanesulfonamide	FOSA-1	754-91-6
Perfluoro-1-octanesulfonamidoacetic acid	FOSAA	2806-24-8
N-methylperfluoro-1-octanesulfonamidoacetic acid	N-MeFOSAA	2355-31-9
N-methylperfluoro-1-octanesulfonamide	N-MeFOSA-M	31506-32-8
N-ethylperfluoro-1-octanesulfonamidoacetic acid	N-EtFOSAA	2991-50-6
N-ethylperfluoro-1-octanesulfonamide	N-EtFOSA-M	4151-50-2

Analytical Methods

Analytical data will be generated by Clarkson University's Center for Air and Aquatic Resources Engineering and Science (CAARES). When quantitative data is generated at least 20% of the quantitative analyses will be at a DoD Environmental Laboratory Accreditation Program (ELAP) accredited laboratory. Currently CAARES is undergoing accreditation review and may serve as this laboratory. In general analysis of the project analytes will follow the "PFAS by LCMSMS Compliant with DoD QSM 5.1 Table B-15" method (see summary below). For high concentration samples direct injection will be used instead of solid phase extraction (SPE). In addition ENVI-Carb™ or equivalent will only be used for sample clean-up when there are known or suspected interferences. In cases where an analysis was performed without clean-up, and interference was found, the sample will be reanalyzed after clean-up.

PFAS Analytical Method Summary. An UPLC-MS-MS (Thermo Scientific, Vanquish-TSQ ALTIS) will be used for the analysis of PFAS and their precursors. Separation will be performed with a Waters Acquity HSS T3 column (2.1 mm x 100 mm, 1.8 µm) and samples will be analyzed by electrospray in negative ion mode. A gradient solvent program with 0.1% formic acid in LCMS grade methanol (solution A) and 0.1% formic acid in LC-MS grade water (solution B) will be used. For quality assurance and control, all samples will be spiked with 2 ng of labeled internal standards. Six point calibration in the range of 10 and 5000 ng/L will be used for quantification using C-13 isotopic dilution or internal standard methods. Quantification will be carried out using TraceFinder software. Calibration standards will be reinjected in the sample sequence to validate the time-dependent response from the instrument.

Total oxidizable precursors (TOP) analysis**.** Total oxidizable precursors will be measured using a method developed by Houtz and Sedlak[1] in which an excess of hydroxyl radicals (•OH) generated using persulfate oxidation converts PFAS precursors to PFAAs. CAARES ability to reproduce this method was recently evaluated using a mixture of common PFAS precursors containing different carbon chain-lengths including 10:2 FTS, 4:2 FTS, 6:2 FTS, 8:2 FTS, EtFOSA, EtFOSAA, FOSA-1, FOSAA, MeFOSA and MeFOSAA. Experiments were performed in duplicate, with an aliquot used as a room temperature control (i.e., it was kept at room temperature after addition of persulfate and NaOH solutions). **Figure S1** shows good conversion of all precursors (96.7 ± 4.3%).

Total Fluorine and Total Organic Fluorine The total fluorine concentration will be measured using combustion ion chromotagraphy (CIC) (Metrohm, Switzerland). This instrument combines ion chromatography (930 Compact IC Flex and 920 Absorber Module with conductivity detector) and an automatic combustion module (Analytik Jena) which enables trace level determination of fluoride at sub ppb (µg F/L) levels. Heating of the sample placed into the sampling boat converts organofluorines into HF which is collected in an absorption solution. The concentration of total F^- is measured using ion chromatography (IC). A Metrosep A Supp 5 150/4.0 column with a Metrosep A Supp 4/5 guard column will be used for the separation of anions. Operational conditions were: combustion temperature 1050°C; argon as carrier gas (100 mL/min); oxygen as combustion gas (300 mL/min); Milli-Q water absorber liquid; 0.32 M/0.10 M sodium carbonate/bicarbonate solution mobile phase (1.0 mL/min); sample volume 1000 µL; sample loop 1000 µL; column temperature 30°C. A five-point calibration curve will be prepared at 0 to 500 µg/L using PFOA (Sigma-Aldrich, USA). All solutions will be prepared in Milli-Q water (0.056 µS/cm). The minimum detection limit (MDL) is approximately 5 µg F/L. The sample boat, elution lines, and combustion module will be frequently cleaned by injecting 2 or 3 Milli-Q water samples after every three samples. Organic fluorine will be calculated by subtracting the concentration of inorganic F from total F.

REFERENCES

1. Houtz, E. F.; Sedlak, D. L. Oxidative Conversion as a Means of Detecting Precursors to Perfluoroalkyl Acids in Urban Runoff. *Environ. Sci. Technol.* **2012**, *46*, 9342-9349

APPENDIX C ANALYTICAL TABLES

PFAS Results

Sample ID	Total PFAS (n=24)	Total PFCA	Total PFSA	Total Precursors	PFOS + PFOA	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS	PFHpA
INF-SP1	58.738	13.88	32.94	11.914	27.85	ND	0.061	11.2	0.613	ND	ND	0.064	ND	ND	ND	0.713	0.319	ND	ND	ND	1.25
Pretreat-SP2	58.737	13.93	33.68	11.123	29.02	ND	0.049	10.4	0.557	ND	ND	0.087	ND	ND	ND	0.664	0.362	ND	ND	ND	1.22
LEAD EFF-SP3	0.077	0.02	0.05	0.006	0.02	ND	ND	0.006	ND	ND	ND	ND	ND	ND	ND	0	0	ND	ND	ND	ND
SP1-GW-20201021	61.098	14.25	33.23	13.614	28.92	ND	0.064	12.8	0.636	ND	ND	0.079	ND	ND	ND	0.718	0.333	ND	ND	ND	1.22
SP2-GW-20201021	54.629	13.39	30.16	11.087	25.35	ND	0.04	10.3	0.635	ND	ND	0.07	ND	ND	ND	0.674	0.329	ND	ND	ND	1.21
SP3-GW-20201021	0.134	0.08	0.05	0	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.068	ND	ND	ND	ND	ND
SP1-GW-20201023	56.659	13.65	31.90	11.111	26.63	ND	0.045	10.6	0.402	ND	ND	0.056	ND	ND	ND	0.68	0.344	ND	ND	ND	1.17
SP2-GW-20201023	56.652	13.66	31.87	11.123	27.66	ND	0.048	10.5	0.505	ND	ND	0.069	ND	ND	ND	0.66	0.314	ND	ND	ND	1.20
SP3-GW-20201023	0.161	0.15	0.00	0.014	0.00	ND	0.002	0.012	ND	ND	ND	ND	ND	ND	ND	0.053	ND	ND	ND	ND	ND
Field Blank (20201021)	0.021	0.02	0.00	0	0.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP1-GW-20201028	64.226	14.00	36.03	14.193	30.97	ND	0.059	13.5	0.61	ND	ND	0.07	ND	ND	ND	0.68	0.36	ND	ND	ND	1.27
SP2-GW-20201028	56.839	12.46	31.20	13.178	27.07	ND	0.051	12.5	0.58	ND	ND	0.065	ND	ND	ND	0.70	0.32	ND	ND	ND	1.11
SP3-GW-20201028	2.021	1.15	0.03	0.841	0.09	ND	0.053	0.79	ND	ND	ND	ND	ND	ND	ND	0.39	ND	ND	ND	ND	ND
SP3-GW-20201028 Duplicate	2.04	1.15	0.03	0.86	0.07	ND	0.035	0.83	ND	ND	ND	ND	ND	ND	ND	0.41	ND	ND	ND	ND	ND
Field Blank (20201028)	0	0.00	0.00	0	0.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab blank	0	0.00	0.00	0	0.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP1-GW-20201104	55.756	12.52	31.37	11.865	26.60	ND	0.062	10.9	0.79	ND	ND	0.066	ND	ND	ND	0.74	0.44	ND	ND	ND	1.08
SP3-GW-20201104	7.295	3.30	0.00	3.998	0.16	ND	0.053	3.95	ND	ND	ND	ND	ND	ND	ND	0.67	ND	ND	ND	ND	0.12
SP3-GW-20201104 Duplicate	6.969	3.25	0.00	3.716	0.15	ND	0.058	3.66	ND	ND	ND	ND	ND	ND	ND	0.62	ND	ND	ND	ND	0.12
Field Blank (20201104)	0.052	0.03	0.02	0	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lab blank	0	0.00	0.00	0	0.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP1-GW_20201117	50.75	10.08	30.44	10.237	26.86	ND	0.052	9.654	0.457	ND	ND	0.074	ND	ND	ND	0.521	0.256	ND	ND	ND	0.929
SP3-GW-20201117	3.866	2.21	0.00	1.658	0.06	ND	0.054	1.604	ND	ND	ND	ND	ND	ND	ND	0.501	ND	ND	ND	ND	0.041
Lab blank	0	0.00	0.00	0	0.00																
REGENERATION 1 - 11/17/2020																					
SP1_GW_20201216	52.323	12.23	31.33	8.764	26.93	ND	0.055	8.1	0.539	ND	ND	0.07	ND	ND	ND	0.628	0.305	ND	ND	ND	1.03
SP3_GW_20201216	1.267	0.82	0.00	0.445	0.00	ND	0.025	0.42	ND	ND	ND	ND	ND	ND	ND	0.333	ND	ND	ND	ND	ND
SP25_GW_20201216 (SP3 Dup)	1.28	0.83	0.00	0.446	0.00	ND	0.026	0.42	ND	ND	ND	ND	ND	ND	ND	0.334	ND	ND	ND	ND	0.029
SP1_GW_20201223	65.407	14.15	36.91	14.351	32.35	ND	0.074	13.4	0.805	ND	ND	0.072	ND	ND	ND	0.673	0.385	ND	ND	ND	1.22
SP25_GW_20201223 (SP1 Dup)	61.242	14.50	35.72	10.997	30.98	ND	0.071	10.3	0.564	ND	ND	0.062	ND	ND	ND	0.671	0.391	0.031	0.018	ND	1.22
SP3_GW_20201223	5.304	2.57	0.03	2.7	0.11	ND	0.06	2.64	ND	ND	ND	ND	ND	ND	ND	0.594	ND	ND	ND	ND	0.08
SP1_GW_20201229	58.325	13.56	33.44	11.327	28.71	ND	0.069	10.3	0.887	ND	ND	0.071	ND	ND	ND	0.64	0.328	ND	ND	ND	1.13
SP1_GW_20201229 (Lab Dup)	55.764	13.39	32.99	9.386	28.91	ND	0.066	8.63	0.603	ND	ND	0.087	ND	ND	ND	0.642	0.337	ND	ND	ND	1.1
SP3_GW_20201229	6.308	3.11	0.05	3.151	0.17	ND	0.062	3.04	0.049	ND	ND	ND	ND	ND	ND	0.627	ND	ND	ND	ND	0.11
SP1-GW-20210111 (re-run)	45.255	11.97	24.93	8.36	21.51	ND	0.082	7.4	0.793	ND	ND	0.085	ND	ND	ND	0.685	0.327	ND	ND	ND	1.33
SP3_GW_20210111	3.708	2.07	0.00	1.642	0.10	ND	0.056	1.55	0.036	ND	ND	ND	ND	ND	ND	0.478	ND	ND	ND	ND	0.07
SP3_GW_20210111 (Lab Dup)	3.729	2.17	0.00	1.56	0.09	ND	0.061	1.48	0.019	ND	ND	ND	ND	ND	ND	0.567	ND	ND	ND	ND	0.057
SP4_GW_20210111 (sent 2/24)	0.748	0.63	0.00	0.118	0.00	ND	0.045	0.073	ND	ND	ND	ND	ND	ND	ND	0.296	ND	ND	ND	ND	ND
Field Blank (20210111)	0.018	0.02	0.00	0	0.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
REGENERATION 2 - 1/14/2021																					
SP1-GW-20210120 (re-run)	86.419	21.92	48.89	15.61	42.36	ND	0.14	14	1.3	ND	ND	0.17	ND	ND	ND	1.05	0	ND	ND	ND	2.24
SP2-GW-20210120 (over diluted)	22.063	0.00	9.00	13.063	9.00	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP3-GW-20210120 (re-run)	0.332	0.29	0.00	0.039	0.00	ND	0.028	ND	ND	ND	ND	0.011	ND	ND	ND	0.18	ND	ND	ND	ND	ND
SP1-GW-20210127 (re-run)	47.123	13.55	25.76	7.815	24.22	ND	0.069	7.1	0.571	ND	ND	0.075	ND	ND	ND	0.639	ND	ND	ND	ND	1.27
SP3-GW-20210127 (re-run)	1.842	1.45	0.00	0.397	0.09	ND	0.053	0.344	ND	ND	ND	ND	ND	ND	ND	0.424	ND	ND	ND	ND	ND
SP4-GW-20210127 (re-run)	1.117	0.77	0.00	0.345	0.00	N/F	0.042	0.303	N/F	N/F	N/F	N/F	ND	N/F	N/F	0.235	N/F	N/F	N/F	N/F	N/F
SP1-GW-20210203	57.908	15.15	32.85	9.91	29.82	ND	0.09	9.09	0.63	ND	ND	0.1	ND	ND	ND	0.743	0	ND	ND	ND	1.48
SP3-GW-20210203	5.131	2.62	0.00	2.51	0.16	ND	0.07	2.4	0.04	ND	ND	ND	ND	ND	ND	0.577	ND	ND	ND	ND	0.151
SP1_GW_20210210 (re-run)	38.583	9.14	22.06	7.384	19.58	ND	0.068	6.68	0.569	ND	ND	0.067	ND	ND	ND	0.432	0.248	ND	ND	ND	0.767
SP3-GW-20210210	5.179	3.34	0.00	1.837	0.25	ND	0.069	1.76	ND	ND	ND	ND	0.008	ND	ND	0.582	ND	ND	ND	ND	0.219
SP1-GW-20210216	36.111	8.06	20.61	7.442	17.86	ND	0.068	6.589	0.712	ND	ND	0.073	ND	ND	ND	0.412	0.268	ND	ND	ND	0.783
SP3-GW-20210216	4.745	2.61	0.00	2.131	0.16	ND	0.068	2.042	0.021	ND	ND	ND	ND	ND	ND	0.46	ND	ND	ND	ND	0.111
SP3-GW-20210216 (Dup)	5.002	2.61	0.01	2.385	0.16	ND	0.067	2.289	0.029	ND	ND	ND	ND	ND	ND	0.47	ND	ND	ND	ND	0.093
SP4_GW_20210216	1.35	0.99	0.00	0.361	0.00	ND	0.049	0.312	ND	ND	ND	ND	ND	ND	ND	0.324	ND	ND	ND	ND	0.01
REGENERATION 3 - 2/17/2021																					
SP1_GW_20210224	36.689	9.33	20.29	7.071	18.35	ND	0.051	6.247	0.708	ND	ND	0.065	ND	ND	ND	0.431	0.276	ND	ND	ND	0.77
SP3_GW_20210224	0.832	0.45	0.00	0.378	0.00	ND	ND	0.378	ND	ND	ND	ND	ND	ND	ND	0.151	ND	ND	ND	ND	0.018
SP4_GW_20210224	1.356	0.91	0.01	0.436	0.01	ND	ND	0.436	ND	ND	ND	ND	ND	ND	ND	0.247	ND	ND	ND	ND	ND
SP1_GW_20210304	41.625	9.27	25.47	6.892	21.33	ND	0.053	6.2	0.566	ND	ND	0.073	ND	ND	ND	0.45	0.168	ND	ND	ND	0.694
SP1_GW_20210304 (lab dup)	43.064	9.29	26.05	7.718	22.69	ND	0.047	7.07	0.536	ND	ND	0.065	ND	ND	ND	0.427	0.154	ND	ND	ND	0.715
SP1-GW-20210304 (SGS Split)	38.8491	9.23	24.23	5.3841	21.68	NA	0.0431	4.89	0.376	NA	0.0036	0.0678	NA	NA	0.0036	0.486	0.213	0.0033	0.0018	0.0034	0.725
SP3_GW_20210304	3.285	1.78	0.03	1.477	0.16	ND	0.051	1.4	0.026	ND	ND	ND	ND	ND	ND	0.368	ND	ND	ND	ND	0.067
SP1-GW-20210319(DoD)	33.106	8.69	17.84	6.569	15.17	ND	0.094	5.91	0.468	ND	0.016	0.081	ND	ND	ND	0.872	0.251	ND	ND	ND	0.844
SP3-GW-20210319(DoD)	6.07	3.62	0.03	2.42	0.16	ND	0.096	2.13	0.086	ND	0.001	ND	ND	ND	0.107	1	0.027	ND	ND	ND	0.139
SP4-GW-20210319(DoD)	2.714	1.86	0.00	0.856	0.00	ND	0.088	0.765	ND	ND	0.003	ND	ND	ND	ND	0.667	ND	ND	ND	ND	ND
REGENERATION 4 3/24/2021																					
SP1_GW_20210406	33.793	6.67	21.55	5.575	17.91	ND	0.047	4.9	0.578	ND	ND	0.05	ND	ND	ND	0.113	0.156	ND	ND	ND	0.7
SP3_GW_20210406	0.291	0.14	0.00	0.15	0.00	ND	ND	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP4_GW_20210406	0.102	0.00	0.00	0.102	0.00	ND	ND	0.102	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP1_GW_20210414(DoD)	34.735	7.81	21.45	5.477	17.95	ND	0.04	4.82	0.572	ND	ND	0.045	ND	ND	ND	0.203	0.18	ND	ND	ND	0.691
SP3_GW_20210414(DoD)	1.187	0.69	0.01	0.492	0.03	ND	0.028	0.464	ND	ND	ND	ND	ND	ND	ND	0.011	0.008	ND	ND	ND	ND
Fieldblank_20210414(DoD)	0.432	0.09	0.26	0.085	0.23	ND	ND	0.085	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND	ND	ND
SP1_GW_20210422(DoD)	40.443	9.28	24.00	7.159	20.62	ND	0.048	6.32	0.708	ND	ND	0.083	ND	ND	ND	0.403	0.23	ND	ND	ND	0.739
SP3_GW_20210422(DoD)	3.407	1.96	0.00	1.446	0.07	ND	0.054	1.37	0.01	ND	ND	0.012	ND	ND	ND	0.362	ND	ND	ND	ND	0.089
SP4_GW_20210422(DoD)	0.256	0.23	0.00	0.031	0.00	ND	0.008	0.012	ND	ND	ND	0.011	ND	ND	ND	0.155	ND	ND	ND	ND	ND
REGENERATION 5 5/05/2021																					

Sample ID	Total PFAS (n=24)	Total PFCA	Total PFSA	Total Precursors	PFOS + PFOA	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS	PFHpA
SP1-GW-20210514 (DoD)	39.244	9.82	17.17	6.122	14.84		0.06	5.44	0.567		ND	0.055			ND	0.352	0.325	ND	ND	ND	0.773
SP2-GW-20210514 (DoD)	0.022	0.00	0.00	0.022	0.00		ND	ND	ND		ND	0.022			ND	ND	ND	ND	ND	ND	ND
SP4-GW-20210514(DoD)	0.152	0.15	0.00	0	0.00		ND	ND	ND		ND	ND			ND	0.074	ND	ND	ND	ND	ND
SP1-GW_20210528 (DoD)	33.832	8.46	14.92	5.865	12.49		0.1	5.27	0.448		ND	0.047			ND	0.378	0.463	ND	ND	ND	0.702
SP3-GW_20210528 (DoD)	0.443	0.36	0.05	0.04	0.05		ND	0.04	ND		ND	ND			ND	0.127	ND	ND	ND	ND	ND
SP4-GW_20210528 (DoD)	0.525	0.53	0.00	0	0.00		ND	ND	ND		ND	ND			ND	0.164	ND	ND	ND	ND	ND
SP1-GW_20210611(DoD)	33.388	7.02	15.25	5.785	12.58		0.097	5.09	0.552		ND	0.046			ND	0.327	0.212	ND	ND	ND	0.656
SP3-GW_20210611(DoD)	2.162	0.80	0.81	0.352	0.24		0.076	0.225	0.051		ND	ND			ND	0.256	0.055	ND	ND	ND	ND
SP1-GW_20210628(DoD)	20.8	7.04	5.79	5.89	4.05		0.04	5.56	0.25		ND	0.04			ND	0.44	0.21	ND	ND	ND	0.76
SP3-GW_20210628(DoD)	1.5	1.16	0.00	0.34	0.00		0.02	0.32	ND		ND	ND			ND	0.37	ND	ND	ND	ND	0.02
SP4-GW_20210628(DoD)	0.55	0.49	0.00	0.02	0.00		0.02	0	ND		ND	ND			ND	0.23	ND	ND	ND	ND	ND
SP1-GW_20210629(DoD)	19.6	6.46	6.75	4.61	5.94		0.04	4.24	0.29		ND	0.04			ND	0.54	0.22	ND	ND	ND	0.57
SP3-GW_20210629(DoD)	1.98	1.52	0.02	0.44	0.02		0.02	0.42	ND		ND	ND			ND	0.42	ND	ND	ND	ND	ND
SP4-GW_20210629(DoD)	0.69	0.67	0.01	0.01	0.00		0.01	0	ND		ND	ND			ND	0.28	0.01	ND	ND	ND	ND
SP1-GW_20210701(DoD)	32.86	8.55	14.82	6.64	14.21		0.06	6.24	0.3		ND	0.04			ND	0.57	0.22	ND	ND	ND	0.73
SP3-GW_20210701(DoD)	2.21	1.73	0.00	0.48	0.02		0.05	0.43	ND		ND	ND			ND	0.46	ND	ND	ND	ND	0.03
SP4-GW_20210701(DoD)	0.7	0.68	0.00	0.02	0.00		0.02	ND	ND		ND	ND			ND	0.3	ND	ND	ND	ND	ND
SP1-GW_20210702(DoD)	19.4	6.92	6.91	4.25	6.17		0.04	4.01	0.17		ND	0.03			ND	0.56	0.2	ND	ND	ND	0.59
SP3-GW_20210702(DoD)	2.73	2.11	0.00	0.62	0.03		0.04	0.58	ND		ND	ND			ND	0.49	ND	ND	ND	ND	0.04
SP4-GW_20210702(DoD)	0.75	0.71	0.00	0.04	0.00		0.02	0.02	ND		ND	ND			ND	0.29	ND	ND	ND	ND	ND

Legend:

ND

SP1

SP2

SP3

SP4

DL for non-DoD samples x2 dilutions (ng/mL)						**0.009**	**0.003**	**0.007**	**0.006**	**0.010**	**0.013**	**0.004**	**0.005**	**0.017**	**0.011**	**0.005**	**0.003**	**0.003**	**0.005**	**0.009**	**0.004**
MDL for DoD samples x4 dilution (ng/mL)							0.024	0.023	0.025		0.036	0.033			0.029	0.029	0.013	0.038	0.038	0.031	0.027

Sample ID	PFHpS	PFHxA	PFHxDA		PFHxS	PFNA	PFNS	PFOA	PFODA		PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
INF-SP1	0.566	4.10	ND		8.94	0.075	ND	5.31	ND		22.5	2.43	0.572	ND	ND	ND
Pretreat-SP2	0.55	4.01	ND		8.78	0.089	ND	5.55	ND		23.5	2.40	0.517	ND	ND	ND
LEAD EFF-SP3	ND	ND	ND		0.03	ND	ND	0.00	ND		0.019	0.021	ND	ND	ND	ND
SP1-GW-20201021	0.552	4.10	ND		8.63	0.097	ND	5.65	ND		23.3	2.46	0.451	ND	ND	ND
SP2-GW-20201021	0.585	3.88	ND		8.62	0.072	ND	5.20	ND		20.1	2.34	0.469	ND	ND	ND
SP3-GW-20201021	ND	ND	ND		0.02	ND	ND	ND	ND		0.028	0.016	ND	ND	ND	ND
SP1-GW-20201023	0.522	3.83	ND		9.41	0.075	ND	5.50	ND		21.1	2.38	0.501	ND	ND	ND
SP2-GW-20201023	0.59	3.82	ND		8.40	0.096	ND	5.57	ND		22.1	2.32	0.485	ND	ND	ND
SP3-GW-20201023	ND	ND	ND		ND	ND	ND	ND	ND		ND	0.057	ND	0.037	ND	ND
Field Blank (20201021)	ND	ND	ND		ND	ND	ND	ND	ND		ND	0.021	ND	ND	ND	ND
SP1-GW-20201028	0.61	3.96	ND		9.12	0.10	ND	5.42	ND		25.5	2.58	0.404	ND	ND	ND
SP2-GW-20201028	0.54	3.29	ND		7.79	0.10	ND	4.99	ND		22.1	2.22	0.462	ND	ND	0.057
SP3-GW-20201028	ND	0.20	ND		0.028	ND	ND	0.086	ND		ND	0.48	ND	ND	ND	ND
SP3-GW-20201028 Duplicate	ND	0.20	ND		0.032	ND	ND	0.068	ND		ND	0.47	ND	ND	ND	ND
Field Blank (20201028)	ND	ND	ND		ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
Lab blank	ND	ND	ND		ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
SP1-GW-20201104	0.56	3.47	ND		8.18	0.12	ND	4.90	ND		21.7	2.22	0.497	ND	ND	ND
SP3-GW-20201104	ND	0.94	ND		ND	ND	ND	0.16	ND		ND	1.41	ND	ND	ND	ND
SP3-GW-20201104 Duplicate	ND	0.98	ND		ND	ND	ND	0.15	ND		ND	1.38	ND	ND	ND	ND
Field Blank (20201104)	ND	0.028	ND		ND	ND	ND	ND	ND		0.024	ND	ND	ND	ND	ND
Lab blank	ND	ND	ND		ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
SP1-GW_20201117	0.462	2.986	ND		5.994	0.078	ND	3.504	ND		23.359	2.058	0.366	ND	ND	ND
SP3-GW-20201117	ND	0.537	ND		ND	ND	ND	0.062	ND		ND	1.067	ND	ND	ND	ND
Lab blank																
REGENERATION 1 - 11/17/2020																
SP1_GW_20201216	0.422	3.47	ND		7.94	0.066	ND	4.73	ND		22.2	2.31	0.458	ND	ND	ND
SP3_GW_20201216	ND	0.131	ND		ND	ND	ND	ND	ND		ND	0.358	ND	ND	ND	ND
SP25_GW_20201216 (SP3 Dup)	ND	0.127	ND		ND	ND	ND	ND	ND		ND	0.344	ND	ND	ND	ND
SP1_GW_20201223	0.536	3.79	ND		9.02	0.086	ND	5.85	ND		26.5	2.53	0.466	ND	ND	ND
SP25_GW_20201223 (SP1 Dup)	0.46	4.05	ND		9.3	0.071	ND	5.88	ND		25.1	2.58	0.473	ND	ND	ND
SP3_GW_20201223	ND	0.66	ND		ND	ND	ND	0.08	ND		0.03	1.16	ND	ND	ND	ND
SP1_GW_20201229	0.452	3.56	ND		9.29	0.082	ND	5.81	ND		22.9	2.34	0.466	ND	ND	ND
SP1_GW_20201229 (Lab Dup)	0.404	3.43	ND		8.63	0.08	ND	5.71	ND		23.2	2.43	0.415	ND	ND	ND
SP3_GW_20201229	ND	0.84	ND		ND	ND	ND	0.12	ND		0.05	1.41	ND	ND	ND	ND
SP1-GW-20210111 (re-run)	0.449	3.025	ND		6.93	ND	ND	4.81	ND		16.7	2.12	0.519	ND	ND	ND
SP3_GW_20210111	ND	0.494	ND		ND	ND	ND	0.095	ND		ND	0.929	ND	ND	ND	ND
SP3_GW_20210111 (Lab Dup)	ND	0.524	ND		ND	ND	ND	0.086	ND		ND	0.935	ND	ND	ND	ND
SP4_GW_20210111 (sent 2/24)	ND	0.045	N/A		ND	ND	ND	ND	ND		ND	0.289	ND	ND	ND	ND
Field Blank (20210111)	ND	ND	ND		ND	ND	ND	ND	ND		ND	0.018	ND	ND	ND	ND
REGENERATION 2 - 1/14/2021																
SP1-GW-20210120 (re-run)	1.08	5.32	ND		14.4	0.116	ND	9.86	ND		32.5	3.33	0.913	ND	ND	ND
SP2-GW-20210120 (over diluted)	ND	ND	ND		ND	ND	ND	ND	ND		9.000	ND	ND	ND	ND	ND
SP3-GW-20210120 (re-run)	ND	ND	ND		ND	ND	ND	ND	ND		ND	0.113	ND	ND	ND	ND
SP1-GW-20210127 (re-run)	0.579	3.011	ND		6.98	0.076	ND	6.52	ND		17.7	2.03	0.503	ND	ND	ND
SP3-GW-20210127 (re-run)	ND	0.348	ND		ND	ND	ND	0.093	ND		ND	0.58	ND	ND	ND	ND
SP4-GW-20210127 (re-run)	N/F	0.103	ND		N/F	N/F	N/F	N/F	ND		ND	0.434	N/F	N/F	N/F	N/F
SP1-GW-20210203	0.64	3.65	ND		8.73	0.077	ND	6.92	ND		22.9	2.28	0.578	ND	ND	ND
SP3-GW-20210203	ND	0.707	ND		ND	ND	ND	0.156	ND		ND	1.03	ND	ND	ND	ND
SP1_GW_20210210 (re-run)	0.348	2.28	ND		5.51	0.06	0.044	3.98	ND		15.6	1.62	0.31	ND	ND	ND
SP3-GW-20210210	ND	0.928	ND		ND	ND	ND	0.25	ND		ND	1.363	ND	ND	ND	ND
SP1-GW-20210216	0.347	2.195	ND		4.823	0.07	ND	2.968	ND		14.887	1.629	0.287	ND	ND	ND
SP3-GW-20210216	ND	0.743	ND		ND	ND	ND	0.157	ND		ND	1.143	ND	ND	ND	ND
SP3-GW-20210216 (Dup)	ND	0.742	ND		ND	ND	ND	0.152	ND		0.006	1.154	ND	ND	ND	ND
SP4_GW_20210216	ND	0.139	ND		ND	ND	ND	ND	ND		ND	0.516	ND	ND	ND	ND
REGENERATION 3 - 2/17/2021																
SP1_GW_20210224	0.339	2.24	ND		5.29	0.051	ND	4.25	ND		14.1	1.59	0.281	ND	ND	ND
SP3_GW_20210224	ND	0.1	ND		ND	ND	ND	ND	ND		ND	0.185	ND	ND	ND	ND
SP4_GW_20210224	ND	0.164	ND		ND	ND	ND	ND	ND		0.01	0.499	ND	ND	ND	ND
SP1_GW_20210304	0.407	2.4	ND		7.37	0.063	ND	4.13	ND		17.2	1.53	0.321	ND	ND	ND
SP1_GW_20210304 (lab dup)	0.403	2.22	ND		6.8	0.051	ND	4.29	ND		18.4	1.59	0.296	ND	ND	ND
SP1-GW-20210304 (SGS Split)	0.316	2.21	NA		5.88	0.0433	0.0388	4.18	NA		17.5	1.58	0.279	0.0018	0.0018	0.0018
SP3_GW_20210304	ND	0.486	ND		0	ND	ND	0.136	ND		0.027	0.724	ND	ND	ND	ND
SP1-GW-20210319(DoD)	0.382	2.35	ND		4.38	0.146	ND	2.67	ND		12.5	1.79	0.331	0.021	ND	ND
SP3-GW-20210319(DoD)	ND	0.842	ND		ND	ND	ND	0.162	ND		ND	1.48	ND	ND	ND	ND
SP4-GW-20210319(DoD)	ND	0.326	ND		ND	ND	ND	ND	ND		ND	0.865	ND	ND	ND	ND
REGENERATION 4 3/24/2021																
SP1_GW_20210406	0.363	1.88	ND		5.35	0.048	ND	2.51	ND		15.4	1.42	0.278	ND	ND	ND
SP3_GW_20210406	ND	ND	ND		ND	ND	ND	ND	ND		ND	0.141	ND	ND	ND	ND
SP4_GW_20210406	ND	ND	ND		ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND
SP1_GW_20210414(DoD)	0.326	2.03	ND		6.05	0.051	ND	3.35	ND		14.6	1.48	0.297	ND	ND	ND
SP3_GW_20210414(DoD)	ND	0.165	ND		ND	ND	ND	0.027	ND		ND	0.484	ND	ND	ND	ND
Fieldblank_20210414(DoD)	ND	0.051	ND		0.057	ND	ND	0.034	ND		0.196	ND	ND	ND	ND	ND
SP1_GW_20210422(DoD)	0.362	2.31	ND		6.6	0.058	ND	4.14	ND		16.48	1.63	0.332	ND	ND	ND
SP3_GW_20210422(DoD)	ND	0.529	ND		ND	ND	ND	0.072	ND		ND	0.909	ND	ND	ND	ND
SP4_GW_20210422(DoD)	ND	ND	ND		ND	ND	ND	ND	ND		ND	0.07	ND	ND	ND	ND
REGENERATION 5 5/05/2021																

Sample ID	PFHpS	PFHxA	PFHxDA	PFHxS Branched	PFHxS Linear	PFNA	PFNS	PFOA	PFODA	PFOS Branched	PFOS Linear	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
SP1-GW-20210514 (DoD)	0.316	2.38		1.06	5.84	0.19	ND	4.44		5.08	10.4	1.68	0.286	ND	ND	ND
SP2-GW-20210514 (DoD)	ND	ND		ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND
SP4-GW-20210514(DoD)	ND	ND		ND	ND	ND	ND	ND		ND	ND	0.078	ND	ND	ND	ND
SP1-GW_20210528 (DoD)	0.19	1.97		0.866	5.01	0.209	ND	3.62		3.72	8.87	1.58	0.389	ND	ND	ND
SP3-GW_20210528 (DoD)	ND	ND		ND	ND	ND	ND	ND		ND	0.046	0.23	ND	ND	ND	ND
SP4-GW_20210528 (DoD)	ND	ND		ND	ND	ND	ND	ND		ND	ND	0.263	ND	ND	ND	0.098
SP1-GW_20210611(DoD)	0.183	1.88		0.733	4.3	0.222	ND	2.38		4.61	10.2	1.55	0.35	ND	ND	ND
SP3-GW_20210611(DoD)	0.043	0.127		0.028	0.308	ND	ND	ND		0.168	0.235	0.419	0.171	ND	ND	ND
SP1-GW_20210628(DoD)	0.14	1.9		0.89	3.27	0.01	ND	2.25		1.19	1.8	1.68	0.37	ND	ND	ND
SP3-GW_20210628(DoD)	ND	0.17		ND	ND	ND	ND	ND		ND	ND	0.6	ND	ND	ND	ND
SP4-GW_20210628(DoD)	ND	ND		0.04	ND	ND	ND	ND		ND	ND	0.26	ND	ND	ND	ND
SP1-GW_20210629(DoD)	0.09	1.81		0.59	2.14	ND	ND	1.9		1.19	4.04	1.64	0.26	ND	ND	ND
SP3-GW_20210629(DoD)	ND	0.26		ND	ND	ND	ND	ND		ND	0.02	0.84	ND	ND	ND	ND
SP4-GW_20210629(DoD)	ND	0.05		ND	ND	ND	ND	ND		ND	ND	0.34	ND	ND	ND	ND
SP1-GW_20210701(DoD)	0.15	2.37		0.68	2.9	0.03	ND	3.03		2.17	11.18	1.82	0.37	ND	ND	ND
SP3-GW_20210701(DoD)	ND	0.3		ND	ND	ND	ND	0.02		ND	ND	0.92	ND	ND	ND	ND
SP4-GW_20210701(DoD)	ND	0.05		ND	ND	ND	ND	ND		ND	ND	0.33	ND	ND	ND	ND
SP1-GW_20210702(DoD)	0.13	1.84		0.52	2.19	0.01	ND	2.1		0.8	4.07	1.76	0.32	0.06	ND	ND
SP3-GW_20210702(DoD)	ND	0.44		ND	ND	ND	ND	0.03		ND	ND	1.11	ND	ND	ND	ND
SP4-GW_20210702(DoD)	ND	0.06		ND	ND	ND	ND	ND		ND	ND	0.36	ND	ND	ND	ND

Legend:

ND

SP1

SP2

SP3

SP4

RL for non-DoD samples x2 dilutions (ng/mL)	**0.007**	**0.004**	**0.004**		**0.004**	**0.003**	**0.008**	**0.003**	**0.005**		**0.007**	**0.002**	**0.003**	**0.007**	**0.004**	**0.016**
MDL for DoD samples x4 dilution (ng/mL)	0.031	0.03	NA		0.033	0.031	0.039	0.034	NA		0.034	0.033	0.028	0.015	0.032	0.035

IC Results

IC results (mg/L)											
		Chloride	Sulfate	Nitrate	TOC	Mn	Fe	Total Alkalinity (as CaCO3)	Total Hardness	Conductivity	TDS
Batch	Sample Name	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	(µS)	(g/L)
1	INF 10-20-20	52.201	18.52	2.176	1.607	0.6	0.59	108	200	434.3	0.2
	INF- SP1 (LAB DUP)						0.59				
	PRETREATOR 10-20-20	52.572	18.767	2.243	2.012	1	0	110	160	444.2	0.21
	LEAD EFF 10-20-20	81.864	1.656	0.332	0.6466	0.8	0.1	88	168	467.5	0.22
	SP1-GW-20201021	52.735	18.638	2.138	2.212	0.6	0.05	105	148	440.1	0.2
	SP2-GW-20201021	52.612	18.677	2.016	2.064	0.8	0.02	118	168	440	0.2
	SP2-GW-20201021 (Lab Dup)					0.6	0.02				
	SP3-GW-20201021	62.375	2.155	0.321	0.9841	1.4	0	128	152	446.9	0.21
	SP1-GW-20201023	53.218	18.82	2.063	2.232	0.7	0.04	106	144	437	0.2
	SP1-GW-20201023 (LAB DUP)	53.014	18.734	2.076	2.184						
	SP2-GW-20201023	53.104	18.849	2.176	1.992	1	0	108	148	438.5	0.2
	SP3-GW-20201023	53.615	19.382	0.421	1.416	1.1	0.01	110	152	442.2	0.21
	Field Blank 10-21-20	0.088	0.093	ND	0.5208	0	0.02	2	0	1.23	ND
	Caares Blank	0.047	0.063	ND	0.1069	0	0	2	0	1.06	ND
2	SP1-GW-20201028	53.039	45.611	2.042	2.187	0.6	0.05	109	144	453.2	0.21
	SP2-GW-20201028	53.26	45.625	2.031	2.011	0.5	0.02	116	24	433.6	0.2
	SP3-GW-20201028	53.253	46.06	2.039	1.542	0.6	0.02	114	156	454.1	0.21
	TRIP BLANK 10-28-20	0.058	0.035	0.208	0.2731	0	0.01	3	152	1.46	ND
	Caares blank	0.016	0.062	ND	0.1069	0	0	2	0	0.84	ND
3	SP1-GW-20201104	52.486	19.195	2.31	2.599	0.5	0.04	112	212	438.3	0.2
	SP2-GW-20201104	52.424	19.147	2.239	2.008	0.4	0.02	110	140	443.8	0.21
	TRIP BLANK	0.005	0.056	0.333	1.133	0	0.01	3		1.89	ND
	TRIP BLANK (LAB DUP)	0.006	0.056	0.333	1.092						
	Caares Blank				0.1899	0	0	2		0.84	ND
4	SP1-GW-20201117	52.71	18.065	2.716	2.57	0.6	0.6	112	148	456.5	0.21
	SP2-GW-20201117	52.937	18.146	2.696	1.217	0.6	0.6	110	144	456.1	0.21
	SP2-GW-20201117 (LAB DUP)	53.014	18.191	2.692	1.189						
	Caares Blank				0.1683	0	0	2		0.84	ND
REGENERATION 1 - 11/17/2020											
7	SP1_GW_20201216	47.549	18.728	2.1	1.57	0.6	0.12	108	112	430.8	0.2
	SP2-GW_20201216	47.655	18.74	2.03	1.38	0.2	0.02	110	148	434.1	0.2
	Caares Blank					0	0			0.84	ND
8	SP1_GW_20201223	44.862	19.407	1.779	2.29	0.6	0.41	110	144	409.6	0.19
	SP2-GW_20201223	44.823	19.473	1.913	1.52	0	0.03	106	168	416	0.19
	SP1_GW_20201229	42.354	19.727	1.359	1.8	0.5	0.26	112	132	409.4	0.19
	SP2-GW_20201229	42.331	19.64	1.674	2.09	0	0.03	110	168	411.2	0.19
9	SP1_GW_20210111	37.242	19.26	1.627	1.951	0.6	0.62	106	148	381.6	0.17
	SP1_GW_20210111 (lab Dup)									379.4	0.17
	SP25_GW_20210111 (SP1 Dup)	36.731	18.792	1.639	2.298	0.7	0.08	100	120	377.5	0.17
	SP2_GW_20210111	37.271	19.281	1.639	3.751	0.2	0.03	106	184	386.2	0.18
	Caares Blank		0.053		0						
	Field Blank 1-11-21	0.039	0.065	0.625	0.4212	0	0.02	4	0	3.15	ND
REGENERATION 2 - 1/14/2021											
10	SP1-GW_20210120	37.856	19.069	1.548	3.95	0.5	0.09	103	124	382.9	0.17
	SP2-GW_20210120	37.713	18.896	1.693	3.88	0	0.02	124	136	381.4	0.17
	Caares Blank	0.044			0.432			3		2.1	ND
11	SP1-GW_20210127	39	18.42	1.76	1.86	0.4	0.16	201	104	387.2	0.18
	SP2-GW_20210127	39.25	18.53	1.84	2.67	0	0.02	107	132	384.8	0.18
12	SP1-GW_20210203	37.65	18.05	1.72	66.12	0.5	0.07	109	204	383.3	0.17
	SP2-GW_20210203	38.02	18.2	1.77	20.46	0	0	107	176	385	0.18
	Caares Blank	0.05			0.03			3		1.51	ND
13	SP1-GW_20210210	39.09	18.03	2.21	5.25	0.5	0.17	102	188	403.5	0.19
	SP2-GW_20210210	39.11	18	1.94	2.72	0.2	0	106	136	402.2	0.18
14	SP1-GW_20210216	39.32	18.29	2.48	3.1	0.5	0.04	104	196	400.1	0.18
	SP2-GW_20210216	39.05	17.9	2.24	3.56	0	0.03	104	112	403.5	0.19
	Caares Blank	0.05						3		0.79	ND
REGENERATION 3 - 2/17/2021											
15	SP1-GW_20210224	26.57	18	2.15	1.74	0.1	0.07	106	124	402.2	0.18
	SP2-GW_20210224 (a)	26.44	17.93	2.11	1.67	0	0.02	110	164	401.2	0.18
	SP2-GW_20210224 (b-Dup)	26.48	17.92	2.11							
16	SP1-GW_20210304	28.61	19.21	4.2	1.81	0.1	0.04	110	136	415.7	0.19
	SP2-GW_20210304	30.27	23.46	16.57	1.78	0	0.01	112	176	417.4	0.19
	Cares Blank				0.1	0	0				
17	SP1_20210319	28.292	18.932	0.901		0.5	0.28	110	136	425.5	0.197
	SP2_20210319	28.725	20.204	1.469		0.2	0	112	148	429.3	0.199
REGENERATION 4 - 3/24/2021											
19	SP1-GW_20210406	27.442	17.49	2.544	1.13	0.3	0.02	104	144	401.2	0.184
	SP2-GW_20210406	27.447	17.481	2.204	1.15	0	0	106	132	404.5	0.186
20	SP1-GW_20210414	0.068	0.383	0.2483	10.68	0.3	0.02	105	136	395.8	0.181
	SP2-GW_20210414	26.595	17.322	1.3631	7.41	0	0	107	136	398.2	0.182
	Field Blank			0.215	12.88	0	0	2	0	0.98	ND
	Cares Blank				0	0	0	2		0.62	-0.026
21	SP1_GW_20210422	33.479	17.984	1.657	53.9	0.2	0.11	102	124	431.8	0.2
	SP2_GW_20210422	27.139	17.748	2.052	47.5	0	0	106	136	402.2	0.185
	Cares Blank			0.257	0			1	0	0.52	ND
REGENERATION 5 - 5/05/2021											
22	SP1-GW_20210514	29.1	18.65	1.51	60.73	0.3	0.03	112	144	407.2	0.19
	SP2-GW_20210514	29.09	18.08	1.54	18.1	0	0	115	148	406.9	0.19
	blank			0.22		0.1	0	1		1	ND
23	SP1-GW_20210528	30.2	17.3	2.2	60.73	0	0.03	115	152	414.1	0.1908
	SP2-GW_20210528	30.3	17.3	2.4	1.9	0	0	112	148	408	0.1876
	Blank		0.02			0	0	3		1.2	-0.0256
24	SP1-GW-20210611	33.79	17.19	2.32	1.18	0.4	0	111	152	444	0.21
	SP2-GW-20210611	33.78	17.12	2.24	1.23	0	0	115	156	431.5	0.2
25	SP1-GW-20210617	34.15	17.05	2.03	1.52	0.2	0.35	116	160	438.9	0.204
	SP2-GW-20210617	33.81	17.15	2.08	1.34	0	0	114	164	436.4	0.203
26	SP1-GW_20210628	35.52	16.80	1.89	2.43	0.4	0.3	114	164	441.6	0.21
	SP2-GW_20210628	35.71	16.61	1.86	1.7	0	0	113	172	446.7	0.21
	SP1-GW/PW-20210629	36.48	17.03	2.12	2.45	0.4	0.01	111	156	451.5	0.21
	SP2-GW/PW-20210629	36.43	17.08	2.16	2.47	0	0	115	160	449.3	0.21
27	SP1-GW-20210701	37.10	17.14	2.24	3.01	0.5	0.37	116	160	450.8	0.21
	SP2-GW-20210701	36.53	16.87	2.20	2.88	0	0	114	164	452.6	0.21
	SP1-GW-20210702	37.35	17.17	2.30	2.99	0.4	0.03	115	156	453.6	0.21
	SP2-GW-20210702	37.37	17.15	2.45	2.62	0	0	113	160	453.8	0.21

Legend:

ND	NON- DETECT	SP1 (Pre-Filtration) Ave:	2.28	0.43	0.21
SP1	SYSTEM INFLUENT	SP2 (Post-Filtration) Ave:	2.32	0.26	0.04
SP2	PRETREATMENT EFFLUENT				
SP3	LEAD IX EFFLUENT				
SP4	LAG IX EFFLUENT				
	Assumed anomaly, not included in average.				

VOC Results

VOC Results

Date	Sample Name	Acetone	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	2-Butanone (MEK)	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Cyclohexane	Dibromochloromethane	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	Dichlorodifluoromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,1-Dichloroethane
		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
8/27/2020	Well 6028 Baseline Sample	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.77	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/20/2020	INF 10-20-20 (SP1)	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.46 J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/20/2020	LEAD EFF 10-20-20 (SP3)	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.20 J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/20/2020	PRETREAT EFF 10-20-20 (SP2)	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.34 J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/21/2020	SP1-GW-20201021	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.44 J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/21/2020	SP2-GW-20201021	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.26 J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/21/2020	SP3-GW-20201021	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.28 J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/23/2020	Lab Blank	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/23/2020	SP1-GW-20201023	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.45 J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/23/2020	SP2-GW-20201023	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/23/2020	SP3-GW-20201023	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/28/2020	SP1-GW-20201028	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.48 J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/28/2020	SP2-GW-20201028	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
10/28/2020	SP3-GW-20201028	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
11/4/2020	SP1-GW-20201104	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.47 J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
11/4/2020	Lab Blank	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
11/17/2020	SP1-GW_20201117	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.22 J	1.0 U [a]	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
REGENERATION 1 - 11/17/2020																					
12/16/2020	SP1_GW_20201216	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.36J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
12/23/2020	SP1_GW_20201223	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.44J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
12/29/2020	SP1_GW_20201229	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.54J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
1/11/2021	SP1_GW_20210111	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.25J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
1/11/2021	Field Blank 20210111	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.50U	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U
REGENERATION 2 - 1/14/2021																					
REGENERATION 3 - 2/17/2021																					
REGENERATION 4 - 3/24/2021																					
REGENERATION 5 - 5/05/2021																					
6/11/2021	SP1-GW_20210611	20 U	0.50 U	0.50 U	0.50 U	0.50 U	3.5 U	1.0 U	0.50 U	0.29J	1.0 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U

Legend:

U	NON-DETECT
J	BELOW DETECTION, ESTIMATED
SP1	SYSTEM INFLUENT
SP2	PRETREATMENT EFFLUENT
SP3	LEAD IX EFFLUENT
SP4	LAG IX EFFLUENT

NOTE: DETERMINATION MADE TO DISCONTINUE VOC SAMPLING DUE TO REPEATED NON-DETECTS 1/11/21.

VOC Results

Date	Sample Name	1,2-Dichloroethane	1,1-Dichloroethylene	cis-1,2-Dichloroethylene	trans-1,2-Dichloroethylene	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Freon 113	2-Hexanone	Isopropylbenzene	Methyl Acetate	Methyl Bromide	Methyl Chloride	Methylcyclohexane	Methylene Chloride	4-Methyl-2-pentanone (MIBK)	Methyl Tert Butyl Ether	Styrene	1,1,2,2-Tetrachloroethane
		ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
8/27/2020	Well 6028 Baseline Sample	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/20/2020	INF 10-20-20 (SP1)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/20/2020	LEAD EFF 10-20-20 (SP3)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/20/2020	PRETREAT EFF 10-20-20 (SP2)	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/21/2020	SP1-GW-20201021	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/21/2020	SP2-GW-20201021	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/21/2020	SP3-GW-20201021	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/23/2020	Lab Blank	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/23/2020	SP1-GW-20201023	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U [a]	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/23/2020	SP2-GW-20201023	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U [a]	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/23/2020	SP3-GW-20201023	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U [a]	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/28/2020	SP1-GW-20201028	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U [a]	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/28/2020	SP2-GW-20201028	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U [a]	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
10/28/2020	SP3-GW-20201028	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
11/4/2020	SP1-GW-20201104	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	4.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
11/4/2020	Lab Blank	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
11/17/2020	SP1-GW_20201117	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	4.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
REGENERATION 1 - 11/17/2020																					
12/16/2020	SP1_GW_20201216	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
12/23/2020	SP1_GW_20201223	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
12/29/2020	SP1_GW_20201229	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
1/11/2021	SP1_GW_20210111	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
1/11/2021	Field Blank 20210111	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U
REGENERATION 2 - 1/14/2021																					
REGENERATION 3 - 2/17/2021																					
REGENERATION 4 - 3/24/2021																					
REGENERATION 5 - 5/05/2021																					
6/11/2021	SP1-GW_20210611	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	0.50 U	10 U	1.0 U	1.0 U	0.50 U	4.0 U	2.0 U	0.50 U	0.50 U	0.50 U

Legend:

U	NON-DETECT
J	BELOW DETECTION, ESTIMATED
SP1	SYSTEM INFLUENT
SP2	PRETREATMENT EFFLUENT
SP3	LEAD IX EFFLUENT
SP4	LAG IX EFFLUENT

NOTE: DETERMINATION MADE TO DISCONTINUE VC

VOC Results												
		Tetrachloroethylene	Toluene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethylene	Trichlorofluoromethane	Vinyl Chloride	m,p-Xylene	o-Xylene
Date	Sample Name	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
8/27/2020	Well 6028 Baseline Sample	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/20/2020	INF 10-20-20 (SP1)	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/20/2020	LEAD EFF 10-20-20 (SP3)	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/20/2020	PRETREAT EFF 10-20-20 (SP2)	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/21/2020	SP1-GW-20201021	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/21/2020	SP2-GW-20201021	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/21/2020	SP3-GW-20201021	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/23/2020	Lab Blank	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/23/2020	SP1-GW-20201023	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/23/2020	SP2-GW-20201023	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/23/2020	SP3-GW-20201023	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/28/2020	SP1-GW-20201028	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/28/2020	SP2-GW-20201028	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
10/28/2020	SP3-GW-20201028	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
11/4/2020	SP1-GW-20201104	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
11/4/2020	Lab Blank	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
11/17/2020	SP1-GW_20201117	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
REGENERATION 1 - 11/17/2020												
12/16/2020	SP1_GW_20201216	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
12/23/2020	SP1_GW_20201223	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
12/29/2020	SP1_GW_20201229	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
1/11/2021	SP1_GW_20210111	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
1/11/2021	Field Blank 20210111	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U
REGENERATION 2 - 1/14/2021												
REGENERATION 3 - 2/17/2021												
REGENERATION 4 - 3/24/2021												
REGENERATION 5 - 5/05/2021												
6/11/2021	SP1-GW_20210611	0.50 U	0.50 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	1.0 U	0.50 U	1.0 U	0.50 U

Legend:

U	NON-DETECT
J	BELOW DETECTION, ESTIMATED
SP1	SYSTEM INFLUENT
SP2	PRETREATMENT EFFLUENT
SP3	LEAD IX EFFLUENT
SP4	LAG IX EFFLUENT

NOTE: DETERMINATION MADE TO DISCONTINUE V(

Regeneration/ Distillation Results

	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
Regeneration 1																														
BWT-Pre_20211123	ND	ND	17.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.6	ND	15.0	ND	ND	29.4	ND	ND	12.4	ND	ND	ND	ND
BWT-RINSE_20211123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP5-SUPPLY_20211123	ND	5.67	373	40.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39.2	28.2	109	ND	220	ND	ND	154	ND	806	56.3	27.7	ND	ND	ND
SP6-RegenBV1_20211123	ND	214	26808	4664	ND	ND	581	ND	ND	ND	1771	1284	45.3	ND	159.6	12987	8105	33339	ND	73390	479	ND	48042	ND	360238	14876	3476	ND	ND	ND
SP6-RegenBV2_20211123	ND	55.5	11145	462	ND	ND	77.5	ND	ND	ND	1239	945	ND	ND	ND	2305	993	9658	ND	21679	59.4	ND	6874	ND	44475	6580	1392	ND	ND	ND
SP6-RegenBV3_20211123	ND	22.2	2480	79.0	ND	ND	17.0	ND	ND	ND	833	769	ND	ND	ND	422	329	2538	ND	9970	ND	ND	787	ND	9151	2815	793	ND	ND	ND
SP6-RegenBV4_20211123	ND	12.7	879	44.2	ND	ND	10.7	ND	ND	ND	373	446	ND	ND	ND	114	134	764	ND	3802	ND	ND	205	ND	2585	987	407	ND	ND	ND
SP6-RegenBV5_20211123	ND	10.9	580	26.4	ND	ND	ND	ND	ND	ND	271	343	ND	ND	ND	57.8	67.4	419	ND	2380	ND	ND	107	ND	1555	616	292	ND	ND	ND
SP7-RWBV1_20211123	ND	ND	15.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	81.9	ND	ND	ND	ND	74.2	12.9	29.1	ND	ND	ND
SP7-RWBV2_20211123	ND	ND	11.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.51	13.5	ND	ND	ND	ND
SP7-RWBV5_20211123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21	ND	ND	ND	ND	ND
SP7-RWBV10_20211123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.29	ND	ND	ND	ND	ND
SP7-RWBV15_20211123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.82	8.7	ND	ND	ND	ND
SP7-RWBV20_20211123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.0	ND	ND	ND	ND	3.86	ND	ND	ND	ND	ND
BWT-Rinse-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.99	11.3	ND	ND	ND	ND
BWT-Pre_20201123	ND	ND	24.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15.3	ND	9.7	ND	ND	36.2	ND	ND	13.6	ND	ND	ND	ND
Distillation 1																														
SP10-C1B2-20201130	ND	ND	85	ND	ND	ND	ND	ND	ND	ND	ND	3.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND
SP10-C1B3-20201201	ND	ND	10	13	ND	ND	17	ND	ND	ND	ND	5.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22	ND	ND	ND	ND
SP10-C1B4-20201201	ND	ND	5.7	14	ND	ND	28	ND	ND	ND	ND	5.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20	ND	ND	ND	ND
SP10-C1B5-20201202	ND	7.2	34	ND	ND	ND	27	ND	ND	ND	ND	6.4	ND	ND	ND	ND	ND	ND	ND	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP10-C1B6-20201202	ND	ND	1.4	ND	ND	ND	65	ND	ND	ND	ND	7.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP11-C1B1_20201130	ND	266	14730	314	ND	ND	303	ND	ND	ND	3949	3010	ND	ND	ND	14023	1668	39603	ND	93781	382	ND	52370	ND	45226	21404	6051	ND	ND	ND
SP11-C1B2-20201201	ND	280	18264	598	ND	ND	563	ND	ND	ND	4284	3388	16	ND	ND	17234	2031	39901	ND	100273	601	ND	62812	ND	69175	22183	6320	ND	ND	15
SP11-C1B3-20201201	ND	267	11366	71	ND	ND	382	ND	ND	ND	4329	3207	10	ND	ND	16574	1837	41869	ND	108884	479	ND	57356	ND	52530	23276	7475	ND	ND	19
SP11-C1B4-20201202	ND	321	12653	358	ND	26	614	ND	ND	ND	5181	3892	14	ND	ND	18972	1477	50276	ND	104743	658	ND	69412	ND	55425	26721	7681	ND	ND	22
SP11-C1B5-20201202	ND	462	17932	517	ND	ND	629	ND	ND	ND	7955	5731	13	ND	ND	31338	2104	73373	ND	98043	593	ND	100269	ND	85251	40369	9942	ND	ND	11
SP11-C1B6-20201202	ND	370	12325	436	ND	ND	710	ND	ND	ND	5916	4258	ND	ND	ND	22302	1846	58157	ND	105840	626	ND	81810	ND	67807	29687	8275	ND	ND	16
SP25-C1B3-20201201	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	7.8	ND	ND	ND	ND	ND	ND	ND	32	ND	ND	12	ND	22	22	ND	ND	ND	ND
SP25-C1B4-20201202	ND	396	18734	574	ND	ND	726	ND	ND	ND	6357	4823	18	ND	ND	24890	2845	58805	ND	111727	706	ND	86392	ND	104680	32867	9787	ND	ND	27
SP25-C1B6-20201202	ND	381	19257	519	ND	ND	707	ND	ND	ND	6305	4773	14	ND	ND	24783	2599	60895	ND	112214	669	ND	89241	ND	96813	32956	8882	ND	ND	30
SP8-C1B2-20201130	ND	69	16216	1465	ND	ND	143	ND	ND	ND	931	751	9.2	ND	ND	3095	1440	9109	ND	21949	151	ND	13701	ND	69444	4703	1231	ND	ND	27
SP8-C1B3-20201130	ND	60	16557	1534	ND	ND	201	ND	ND	ND	960	778	13	ND	ND	3167	1355	9147	ND	23881	143	ND	14061	ND	68218	4899	1101	ND	ND	28
SP8-C1B4-20201201	ND	73	17254	1667	ND	ND	176	ND	ND	ND	917	738	14	ND	ND	2958	1479	9290	ND	22151	141	ND	13060	ND	68952	4809	1168	ND	ND	20
SP8-C1B5-20201201	ND	69	18366	1550	ND	ND	191	ND	ND	ND	994	773	14	ND	ND	3299	1726	9673	ND	25459	168	ND	14969	ND	74502	5073	1295	ND	ND	32
SP8-C1B6-20201202	ND	90	16831	1614	ND	ND	196	ND	ND	ND	1030	894	ND	ND	ND	3457	1690	10510	ND	26334	172	ND	15342	ND	79095	5478	1311	ND	ND	36
SP9-C1B4-20201201	ND	ND	3355	3521	ND	ND	76	ND	ND	ND	ND	8.6	12	ND	ND	39	65	44	ND	178	65	ND	553	ND	21277	32	16	ND	ND	55
SP9-C1B5-20201202	ND	7.5	13198	6599	ND	ND	290	ND	ND	ND	ND	8.9	39	ND	ND	140	437	133	ND	763	272	ND	3306	ND	98354	70	23	ND	ND	88
SP9-C1B6-20201202	ND	7.5	6929	4513	ND	ND	170	ND	ND	ND	ND	13	16	ND	ND	69	182	76	ND	428	131	ND	1161	ND	43688	51	15	ND	ND	48
Regeneration 2																														
SP5-GW_20210114_supply	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	9	15	ND	ND	ND	ND
SP6-GW_20210114_regen1	ND	286	34573	6619	ND	ND	550	ND	ND	ND	1561	794	39	ND	ND	11300	4000	27614	ND	43316	516	ND	43287	ND	151175	11891	2077	ND	ND	ND
SP6-GW_20210114_regen2	ND	45	6150	375	ND	ND	66	ND	ND	ND	587	481	ND	ND	ND	937	1179	3974	ND	14978	42	ND	3181	ND	41234	2682	869	ND	ND	ND
SP6-GW_20210114_regen3	ND	13	1379	55	ND	ND	20	ND	ND	ND	248	362	ND	ND	ND	216	525	1097	ND	8542	16	ND	632	ND	17850	875	558	ND	ND	ND
SP6-GW_20210114_regen4	ND	4	522	38	ND	ND	14	ND	ND	ND	132	275	ND	19	ND	79	271	408	ND	4898	ND	ND	244	ND	7003	365	425	ND	ND	ND
SP6-GW_20210114_regen5	ND	3	257	21	ND	ND	14	ND	ND	ND	79	238	ND	ND	ND	42	154	166	ND	2989	ND	ND	128	ND	3473	162	309	ND	ND	ND
20210114_regencomp	ND	81	14908	1526	ND	ND	139	ND	ND	ND	542	460	ND	ND	ND	2241	1203	6515	ND	14447	115	ND	9375	ND	42147	3046	834	ND	ND	ND
SP7-GW_20210114_rinse1	ND	ND	22	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	47	ND	ND	ND	ND	64	10	ND	ND	ND	ND
SP7-GW_20210114_rinse2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	29	ND	ND	ND	ND	23	12	10	ND	ND	ND
SP7-GW_20210114_rinse5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	12	ND	ND	ND	ND
SP7-GW_20210114_rinse10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND
SP7-GW_20210114_rinse15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	12	ND	ND	ND	ND
SP7-GW_20210114_rinse20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	11	ND	ND	ND	ND

	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
Distillation 2																														
C2B10-comp_20210125	ND	ND	11890	11012	ND	ND	276	ND	ND	ND	ND	ND	48	ND	ND	75	380	79	ND	563	260	ND	1998	ND	82872	37	ND	ND	ND	27
C2B10-DF_20210125	ND	74	15419	1377	ND	ND	130	ND	ND	ND	572	499	ND	ND	ND	1889	971	5832	N/A	16388	117	N/A	8465	ND	41125	2934	916	ND	ND	ND
C2B10-DP_20210126	ND	ND	64	ND	ND	ND	49	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2B10-SB_20210127	ND	276	9320	86	ND	ND	221	ND	ND	ND	2427	1857	ND	ND	ND	8563	1121	23849	ND	51218	237	ND	30810	ND	22907	13232	3986	ND	ND	ND
C2B11-comp_20210126	ND	ND	3150	2473	ND	ND	63	ND	ND	ND	ND	ND	ND	ND	ND	26	72	20	ND	109	66	ND	453	ND	16648	ND	ND	ND	ND	ND
C2B11-DF_20210126	ND	80	14471	1263	ND	ND	121	ND	ND	ND	533	433	ND	ND	ND	1771	959	5354	ND	13801	110	ND	7728	ND	38753	2911	864	ND	ND	ND
C2B11-DP_20210126	ND	ND	20	43	ND	ND	57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	N/A	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND
C2B11-SB_20210126	ND	247	9620	78	ND	ND	327	ND	ND	ND	2341	1808	ND	5	ND	8235	946	23000	ND	50998	251	ND	31889	ND	26749	11908	3814	ND	ND	ND
C2B1-DF-20210119	ND	60	14259	1199	ND	ND	129	ND	ND	ND	441	389	22	ND	ND	1749	953	5089	ND	12266	108	ND	7791	ND	37658	2457	725	ND	ND	ND
C2B1-DP_20210120	ND	ND	ND	ND	ND	ND	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2B1-SB_20210119	ND	227	10620	50	ND	ND	303	ND	ND	ND	1872	1451	ND	ND	ND	7507	1508	20890	ND	46573	293	ND	30102	ND	29192	10741	3172	ND	ND	ND
C2B1-SB_20210120	ND	320	4522	85	ND	ND	129	ND	ND	ND	2916	2342	ND	ND	ND	10814	792	30545	ND	34187	162	ND	33538	ND	14207	16243	4652	ND	ND	ND
C2B2-DF_20210119	ND	63	12136	968	ND	ND	134	ND	ND	ND	461	426	27	ND	ND	1784	871	4980	ND	12232	116	ND	8042	ND	37753	2483	688	ND	ND	ND
C2B2-DP_20210120	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	31	ND	ND	ND	ND	ND
C2B3-comp_20210120	ND	ND	2908	2377	ND	ND	78	ND	ND	ND	ND	ND	9	ND	ND	ND	56	23	ND	99	65	ND	349	ND	14935	ND	ND	ND	ND	ND
C2B3-DF_20210120	ND	51	11996	1006	ND	ND	117	ND	ND	ND	437	384	26	ND	ND	1623	944	4507	ND	11925	96	ND	6979	ND	37332	2324	667	ND	ND	ND
C2B3-DP_20210121	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2B3-SB_20210120	ND	223	10571	80	ND	ND	252	ND	ND	ND	1908	1384	ND	ND	ND	7233	1184	19521	ND	46344	262	ND	30448	ND	27173	9849	3324	ND	ND	ND
C2B4-comp_20210121	ND	ND	1896	1736	ND	ND	56	ND	ND	ND	ND	ND	ND	ND	ND	ND	37	26	N/A	68	44	N/A	266	ND	10584	ND	ND	ND	ND	ND
C2B4-DF_20210120	ND	69	13027	1752	ND	ND	112	ND	ND	ND	497	407	12	ND	ND	1648	964	5146	ND	12359	107	ND	7154	ND	43146	2593	779	ND	ND	ND
C2B4-DP_20210121	ND	ND	19	11	ND	ND	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2B4-SB_20210121	ND	263	10433	51	ND	ND	186	ND	ND	ND	2449	1868	ND	ND	ND	8439	1136	23508	ND	51120	211	ND	29735	ND	20315	12637	3864	ND	ND	ND
C2B5-comp_20210121	ND	ND	1379	1415	ND	ND	74	ND	ND	ND	ND	ND	ND	ND	ND	ND	39	14	ND	53	35	ND	179	ND	9556	ND	ND	ND	ND	ND
C2B5-DF_20210121	ND	71	16537	1419	ND	ND	116	ND	ND	ND	536	445	ND	ND	ND	1807	1128	5440	ND	14084	122	ND	8100	ND	45490	2935	823	ND	ND	ND
C2B5-DP_20210121	ND	ND	ND	ND	ND	ND	66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2B5-SB_20210121	ND	295	12002	135	ND	ND	381	ND	ND	ND	2572	1980	9	ND	ND	9726	1658	26918	N/A	63973	400	N/A	37680	ND	38138	13862	4675	ND	ND	ND
C2B6-comp_20210121	ND	7	3194	2411	ND	ND	87	ND	ND	ND	ND	ND	23	ND	ND	ND	48	26	ND	89	60	ND	430	ND	18515	ND	ND	ND	ND	ND
C2B6-DF_20210121	ND	71	15855	2189	ND	ND	165	ND	ND	ND	535	429	12	ND	ND	1785	1022	5445	ND	13838	123	ND	8433	ND	48348	2860	820	ND	ND	ND
C2B6-DP_20210121	ND	ND	21	12	ND	ND	61	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2B6-SB_20210121	ND	264	10727	39	ND	ND	152	ND	ND	ND	2614	1887	ND	ND	ND	9093	1171	25519	ND	56470	207	ND	31421	ND	21343	13380	4309	ND	ND	ND
C2B7-comp_20210122	ND	ND	5608	4370	ND	ND	129	ND	ND	ND	ND	ND	22	ND	ND	35	117	32	ND	205	109	ND	805	ND	39387	ND	ND	ND	ND	ND
C2B7-DF_20210122	ND	84	15129	1473	ND	ND	120	ND	ND	ND	541	540	9	ND	ND	1581	953	5144	ND	13007	113	ND	7641	ND	42154	2621	726	ND	ND	15
C2B7-DP_20210122	ND	13	900	49	ND	ND	71	ND	ND	ND	ND	63	ND	ND	ND	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2B7-SB_20210122	ND	391	13270	60	ND	ND	408	ND	ND	ND	3688	2461	ND	ND	ND	12974	1771	33395	ND	76805	420	ND	48453	ND	42531	18720	5538	ND	ND	ND
C2B8-comp_20210125	ND	ND	13846	8346	ND	ND	269	ND	ND	ND	ND	11	42	ND	ND	68	354	66	ND	529	268	ND	2323	ND	83984	29	17	ND	ND	ND
C2B8-DF_20210122	ND	69	17085	1917	ND	ND	161	ND	ND	ND	564	493	10	ND	ND	1895	1101	5699	ND	15435	135	ND	8616	ND	53393	3004	832	ND	ND	ND
C2B8-DP_20210125	ND	ND	85	6	ND	ND	53	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2B8-SB_20210125	ND	286	6331	64	ND	ND	110	ND	ND	ND	3032	2161	ND	ND	ND	10441	754	28824	ND	41496	154	ND	33512	ND	13148	15340	3992	ND	ND	ND
C2B9-comp_20210125	ND	7	1654	749	ND	ND	40	ND	ND	ND	ND	33	ND	ND	15	ND	24	ND	ND	41	33	ND	124	ND	4773	ND	ND	ND	ND	ND
C2B9-DF_20210125	ND	72	15297	1122	ND	ND	133	ND	ND	ND	540	436	8	ND	ND	1809	915	5587	ND	13440	107	ND	8374	ND	35634	2834	729	ND	ND	ND
C2B9-DP_20210125	ND	ND	80	32	ND	ND	47	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C2B9-SB_20210125	ND	455	14628	138	ND	ND	591	ND	ND	ND	4072	3300	11	ND	ND	17990	2797	42727	ND	122626	620	ND	66619	ND	67488	21328	8838	ND	ND	ND
SP25-GW-20210114	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	11	ND	ND	ND	ND
Regeneration 3																														
Dup_SP7_Rinse5_20210217	ND	ND	1.51	0.121	ND	ND	ND	ND	ND	ND	0.07	0.14	ND	ND	ND	0.183	0.118	0.497	ND	1.34	ND	ND	1.05	ND	3.17	0.268	0.112	ND	ND	ND
SP5-Regensupply_20210217	ND	ND	8.22	8.64	ND	ND	26.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.42	5.34	ND	ND	ND	ND
SP6_Regencomposite_20210217	ND	74.6	15419	2169	ND	ND	249	ND	ND	ND	597	596	23.8	ND	ND	2914	1572	7182	ND	19455	174	ND	15622	ND	58774	3601	1039	ND	ND	ND
SP6_RegenflushBV1-20210217	ND	315	35446	12103	ND	ND	1201	ND	ND	ND	1625	1305	73.5	ND	ND	18462	10570	32887	ND	79790	970	ND	87236	ND	295955	13686	3971	ND	ND	ND
SP6_RegenflushBV2-20210217	ND	82.5	11788	977	ND	ND	158	ND	ND	ND	1096	1042	ND	ND	ND	2511	2084	8900	ND	30339	86	ND	9810	ND	67372	5806	2005	ND	ND	ND
SP6_RegenflushBV3-20210217	ND	21.5	2273	125	ND	ND	47.5	ND	ND	ND	369	477	ND	ND	ND	308	257	1529	N/A	6029	10.5	ND	1036	ND	5186	1301	512	ND	ND	ND
SP6_RegenflushBV4-20210217	ND	7.78	571	44.1	ND	ND	30.1	ND	ND	ND	153	280	ND	ND	ND	74.9	55.3	384	N/A	2455	ND	ND	251	ND	1639	384	226	ND	ND	ND
SP6_RegenflushBV5-20210217	ND	7.16	213	20.2	ND	ND	33.4	ND	ND	ND	73.3	195	ND	ND	ND	25.9	46.8	121	ND	1199	ND	ND	67.1	ND	780	135	138	ND	ND	ND
SP7_Rinse1_20210217	ND	ND	3.22	0.435	ND	ND	0.05	ND	ND	ND	0.133	0.238	ND	ND	ND	0.291	0.184	0.844	ND	3.01	0.032	ND	1.72	ND	9.14	0.538	0.175	ND	ND	ND
SP7_Rinse10_20210217	ND	ND	0.713	0.071	ND	ND	ND	ND	ND	ND	0.053	ND	ND	ND	ND	0.09	0.07	0.244	ND	0.556	ND	ND	0.479	ND	1.315	0.125	0.042	ND	ND	ND
SP7_Rinse15_20210217	ND	ND	0.388	0.049	ND	ND	ND	ND	ND	ND	0.044	ND	ND	ND	ND	0.048	0.033	0.1	ND	0.233	ND	ND	0.224	ND	0.699	0.057	0.037	ND	ND	ND
SP7_Rinse2_20210217	ND	ND	2.58	0.266	ND	ND	0.043	ND	ND	ND	0.097	0.207	ND	ND	ND	0.277	0.152	0.729	ND	2.37	0.027	ND	1.59	ND	6.41	0.415	0.186	ND	ND	ND
SP7_Rinse20_20210217	ND	ND	0.246	0.031	ND	ND	ND	ND	ND	ND	0.036	ND	ND	ND	ND	0.031	0.026	0.08	ND	0.166	ND	ND	0.182	ND	0.492	0.041	0.022	ND	ND	ND
SP7_Rinse5_20210217	ND	ND	1.48	0.135	ND	ND	ND	ND	ND	ND	0.07	0.146	ND	ND	ND	0.197	0.102	0.511	ND	1.55	ND	ND	1.05	N/A	2.80	0.287	0.113	ND	ND	ND

Regeration 4																														
SP5-Regensupply_20210324	ND	ND	2.061	1.352	ND	ND	2.207	ND	ND	ND	ND	0.039	ND	ND	ND	0.131	0.095	0.303	ND	0.894	0.014	ND	0.634	ND	4.114	0.168	0.065	ND	ND	ND
SP6_RegenflushBV1-20210324	ND	81	13797	1728	ND	ND	277	ND	ND	ND	730	733	23	ND	ND	2402	1533	6985	ND	24123	148	107	13885	ND	73672	3843	1037	ND	ND	ND
SP6_RegenflushBV2-20210324	ND	298	35197	7980	ND	ND	1019	ND	ND	ND	2324	1522	57	ND	ND	11548	10144	30757	ND	95745	713	841	59985	ND	399931	15365	3637	ND	ND	ND
SP6_RegenflushBV3-20210324	ND	58	4854	242	ND	ND	53	ND	ND	ND	1001	1248	ND	ND	ND	871	469	4380	ND	17860	18	ND	2567	ND	11603	3722	1182	ND	ND	ND
SP6_RegenflushBV4-20210324	ND	17	728	43	ND	ND	35	ND	ND	ND	290	566	ND	ND	ND	96	79	510	ND	3864	ND	ND	250	ND	1423	586	411	ND	ND	ND
SP6_Regencomposite_20210324	ND	ND	163	26	ND	ND	29	ND	ND	ND	103	307	ND	ND	ND	27	25	107	ND	1171	ND	ND	80	ND	409	142	189	ND	ND	ND
SP6_RegenflushBV5-20210324	ND	ND	66	14	ND	ND	28	ND	ND	ND	ND	173	ND	ND	ND	20	ND	41	ND	543	ND	ND	47	ND	145	48	91	ND	ND	ND
SP7_Rinse1_20210324	ND	ND	0.142	0.043	ND	ND	0.067	ND	ND	ND	ND	0.058	ND	ND	ND	ND	ND	0.089	ND	0.420	ND	ND	0.141	ND	0.482	0.208	0.065	ND	ND	ND
SP7_Rinse2_20210324	ND	ND	0.13	0.045	ND	ND	ND	ND	ND	ND	ND	0.08	ND	ND	ND	ND	ND	0.068	ND	0.213	ND	ND	0.132	ND	0.229	0.054	0.057	ND	ND	ND
SP7_Rinse5_20210324	ND	ND	0.075	0.031	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.121	ND	ND	0.081	ND	0.094	0.023	ND	ND	ND	ND
SP7_Rinse10_20210324	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.162	ND	ND	0.082	ND	0.000	0.039	ND	ND	ND	ND
SP7_Rinse15_20210324	ND	ND	0.095	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.152	ND	ND	0.079	ND	0.098	0.042	ND	ND	ND	ND
SP7_Rinse20_20210324	ND	ND	0.067	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.065	ND	ND	0.075	ND	0.053	0.034	ND	ND	ND	ND
Dup_SP7_Rinse5_20210324	ND	ND	0.042	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.118	ND	ND	0.075	ND	0.071	0.028	ND	ND	ND	ND
Distillation 3																														
C3B3-Distcomp_20210401	ND	ND	144	112	ND	ND	42	ND	ND	ND	ND	12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	53	ND	1019	ND	ND	ND	ND	ND
C3B3_DistillerFeed_20210331	ND	67	15423	1643	ND	ND	192	ND	ND	ND	589	547	26	ND	ND	2063	1149	5827	ND	20673	128	140	11792	ND	57863	2915	861	ND	ND	ND
C3B3_Still Bottoms_20210401	ND	611	32326	1905	ND	ND	1444	85	ND	ND	6861	5776	52	ND	ND	23541	6154	67949	ND	197294	1295	348	124431	ND	148241	34473	11516	ND	10.227	ND
SP10-C3B6-DP-20210409	ND	0.027	1.27	1.122	0.094	ND	7.029	ND	0.589	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.051	ND	0.2	ND	ND	ND	ND	ND
SP08-C3B10_DF_20210414	ND	46.9	11790	1495	ND	ND	184	ND	ND	ND	520	514	ND	ND	ND	1729	1253	4847	ND	17781	125	ND	9866	ND	57338	2470	880	ND	ND	ND
SP09_C3B10_DC_20210415	ND	ND	64.6	222	ND	ND	11.6	ND	ND	ND	ND	14.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	725	ND	ND	ND	ND	ND
SP11-C3B10_SB_20210415	ND	238	10802	345	ND	ND	455	ND	ND	ND	2588	2264	23.3	10.8	ND	8097	1148	23241	ND	68425	345	ND	41754	ND	32517	11755	4279	ND	ND	ND
SP10-C3B10_DP_20210415	ND	0.011	0.566	0.65	0.314	ND	12.8	ND	1.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.121	ND	ND	ND	ND	ND
Distillation 4	**10:2 FTS**	**4:2 FTS**	**6:2 FTS**	**8:2 FTS**	**EtFOSA**	**EtFOSAA**	**FOSA-1**	**FOSAA**	**MeFOSA**	**MeFOSAA**	**PFBA**	**PFBS**	**PFDA**	**PFDoA**	**PFDS**	**PFHpA**	**PFHpS**	**PFHxA**	**PFHxS Branched**	**PFHxS Linear**	**PFNA**	**PFNS**	**PFOA**	**PFOS Branched**	**PFOS Linear**	**PFPeA**	**PFPeS**	**PFTeDA**	**PFTrDA**	**PFuDA**
SP09-C4B3-DC-20210429		ND	2.22	2.62		ND	3.3		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.35	2.76	2.82	ND	ND	ND	ND	ND
SP10-C4B3-DP-20210429		ND	2.23	2.61		ND	3.3		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.35	2.75	2.82	ND	ND	ND	ND	ND
SP11-C4B3-SB-20210429		1.22	2.23	2.62		ND	3.3		ND		0.68	1.74	2.74	ND	ND	2.1	2.65	1.56	2.39	2.44	2.55	ND	2.35	2.76	2.82	0.94	2.19	ND	ND	ND
Regeration 5																														
SP7-Regen#5-Rinse1_20210505		ND	2.24	2.63		ND	3.3		ND		0.68	1.75	ND	ND	ND	2.11	2.65	1.58	2.39	2.45	ND	ND	2.36	2.76	2.82	0.95	2.2	ND	ND	ND
SP7-Regen#5-Rinse2_20210505		ND	2.24	ND		ND	ND		ND		ND	1.77	ND	ND	ND	2.11	2.65	1.58	2.39	2.45	ND	ND	2.36	2.78	2.82	0.95	2.2	ND	ND	ND
SP7-Regen#5-Rinse5_20210505		ND	2.23	2.63		ND	ND		ND		ND	1.74	ND	ND	ND	2.1	ND	1.57	2.39	2.45	ND	ND	2.36	2.77	2.82	0.95	2.21	ND	ND	ND
SP7-Regen#5-Rinse10_20210505		ND	2.23	ND		ND	3.3		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.45	ND	ND	ND	ND	0.95	ND	ND	ND	ND
SP7-Regen#5-Rinse15_20210505		ND	2.23	ND		ND	MD		ND		ND	1.76	ND	ND	ND	ND	ND	1.58	2.39	2.44	ND	ND	2.36	2.76	2.83	0.95	2.2	ND	ND	ND
SP7-Regen#5-Rinse20_20210505		ND	2.23	ND		ND	ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	2.39	2.45	ND	ND	ND	2.78	2.83	0.95	ND	ND	ND	ND
SP7-Regen#5-Rinse5Dup_20210505		ND	2.24	2.63		ND	3.3		ND		ND	1.77	ND	ND	ND	ND	ND	1.57	2.39	2.45	ND	ND	2.36	2.76	2.83	0.95	ND	ND	ND	ND
SP5-Regen#5-Regensupply_20210505		ND	2.23	2.62		ND	3.3		ND		ND	1.75	ND	ND	ND	2.1	2.65	1.56	2.38	2.44	ND	ND	2.35	2.76	2.82	0.95	2.19	ND	ND	ND
SP6-Regen#5-RegenflushBV1_20210505		1.21	2.23	2.62		ND	3.3		ND		0.68	1.74	2.74	ND	ND	2.1	2.64	1.56	2.39	2.44	2.55	ND	2.35	2.76	2.82	0.94	2.19	ND	ND	ND
SP6-Regen#5-RegenflushBV2_20210505		1.21	2.23	2.61		ND	3.3		ND		0.68	1.74	ND	ND	ND	2.1	2.64	1.55	2.39	2.44	2.55	ND	2.35	2.76	2.82	0.94	2.19	ND	ND	ND
SP6-Regen#5-RegenflushBV3_20210505		1.22	2.23	2.62		ND	3.31		ND		0.68	1.75	ND	ND	ND	2.1	2.64	1.56	2.39	2.44	ND	ND	2.35	2.76	2.82	0.95	2.19	ND	ND	ND
SP6-Regen#5-RegenflushBV4_20210505		1.22	2.23	2.61		ND	3.31		ND		0.68	1.74	ND	ND	ND	2.1	2.65	1.56	2.39	2.44	ND	ND	2.35	2.76	2.82	0.94	2.19	ND	ND	ND
SP6-Regen#5-RegenflushBV5_20210505		1.22	2.23	2.62		ND	3.3		ND		0.68	1.74	ND	ND	ND	2.1	2.65	1.56	2.39	2.44	2.55	ND	2.35	2.76	2.81	0.94	2.19	ND	ND	ND
SP6-Regen#5-Regencomposite_20210505		1.21	2.23	2.61		ND	3.3		ND		0.68	1.74	2.74	ND	ND	2.1	2.64	1.55	2.39	2.44	2.55	ND	2.35	2.75	2.82	0.94	2.19	ND	ND	ND
Distillation 5																														
SP08_C4B7_DF_20210512		1.22	2.23	2.62		ND	3.3		ND		0.68	1.75	2.73	ND	ND	2.1	2.65	1.57	2.39	2.44	2.55	ND	2.35	2.76	2.82	0.94	2.19	ND	ND	ND
SP09_C4B7_DC_20210512		ND	2.24	2.62		ND	3.3		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.77	2.82	ND	ND	ND	ND	ND
SP10_C4B7_DP_20210512		ND	2.23	2.62		ND	3.3		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.78	2.82	ND	ND	ND	ND	ND
SP11_C4B7_SB_20210512		1.22	2.23	2.62		ND	3.3		ND		0.68	1.74	2.74	ND	ND	2.1	2.65	1.57	2.39	2.44	2.55	ND	2.35	2.76	2.82	0.94	2.19	ND	ND	ND

Legend:
Samples are color coded by the MDL they coorespond to

Compound	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
Dx1000	4.3	1.4	3.6	3.0	5.1	6.6	2.1	2.5	8.7	5.5	2.3	1.7	1.4	2.7	4.6	2.1	3.5	2.0	2.2	2.1	1.4	3.8	1.3	2.5	3.7	0.8	1.5	3.6	1.9	8.1
Dx2	0.009	0.003	0.007	0.006	0.010	0.013	0.004	0.005	0.017	0.011	0.005	0.003	0.003	0.005	0.009	0.004	0.007	0.004	0.004	0.004	0.003	0.008	0.003	0.005	0.007	0.002	0.003	0.007	0.004	0.016

Compound for DoD samples (ng/mL)	**4:2 FTS**	**6:2 FTS**	**8:2 FTS**	**EtFOSAA**	**FOSA-1**	**MeFOSAA**	**PFBA**	**PFBS**	**PFDA**	**PFDoA**	**PFDS**	**PFHpA**	**PFHpS**	**PFHxA**	**PFHxS Branched**	**PFHxS Linear**	**PFNA**	**PFNS**	**PFOA**	**PFOS Branched**	**PFOS Linear**	**PFPeA**	**PFPeS**	**PFTeDA**	**PFTrDA**	**PFuDA**
Dx4	0.024	0.023	0.025	0.036	0.033	0.029	0.029	0.013	0.038	0.038	0.031	0.027	0.031	0.03	NA	0.033	0.031	0.039	0.034	NA	0.034	0.033	0.028	0.015	0.032	0.035
Dx1000	6	5.75	6.25	9	8.25	7.25	7.25	3.25	9.5	9.5	7.75	6.75	7.75	7.5	NA	8.25	7.75	9.75	8.5	NA	8.5	8.25	7	3.75	8	8.75

APPENDIX D PHOTO LOG

TEMPORARY POWER SERVICE INSTALLED AT SITE 8

IX PILOT TRAILER BEING DELIVERED TO SITE 8

PILOT TRAILER BEING PLACED ON-SITE

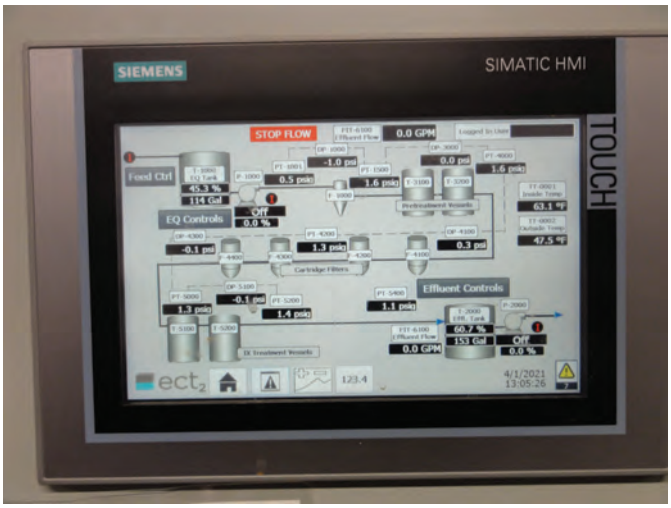
IX PILOT SYSTEM TRAILER AND CONOPY

INTERIOR OF PILOT TRAILER

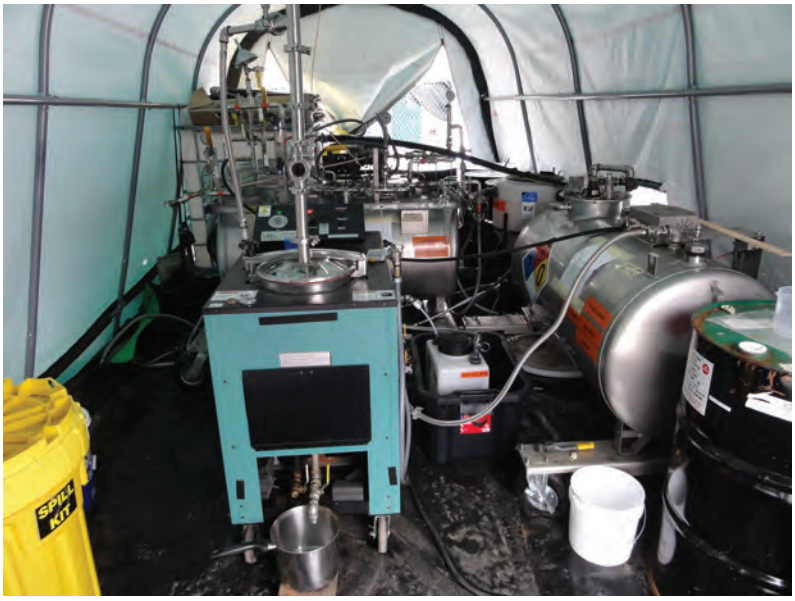
EQUALIZATION TANK AND FEED PUMP

GAG AND MULTIMEDIA FILTERS

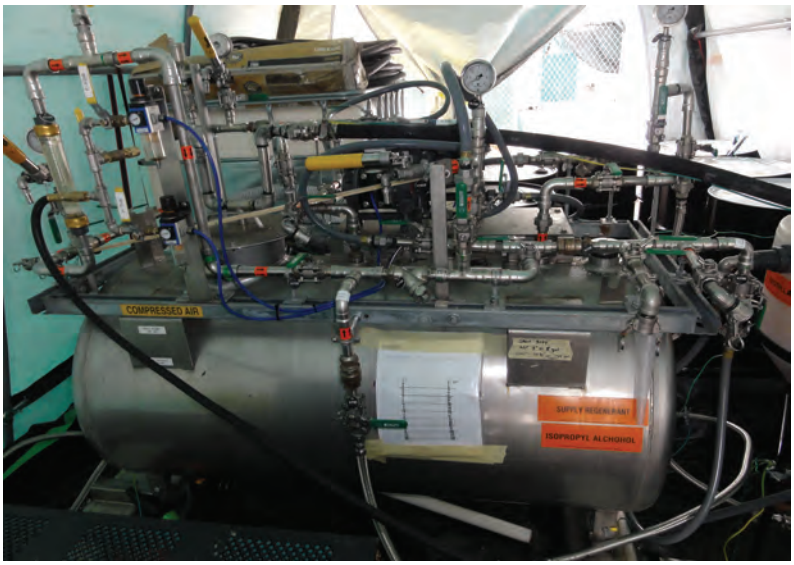
LEAD AND LAG IX VESSELS



PILOT SYSTEM HMI SCREEN



DISTILLATION SYSTEM



REGENERANT SUPPLY TANK

REGENERANT RETURN TANK

PLASMA SYSTEM PILOT TRAILER

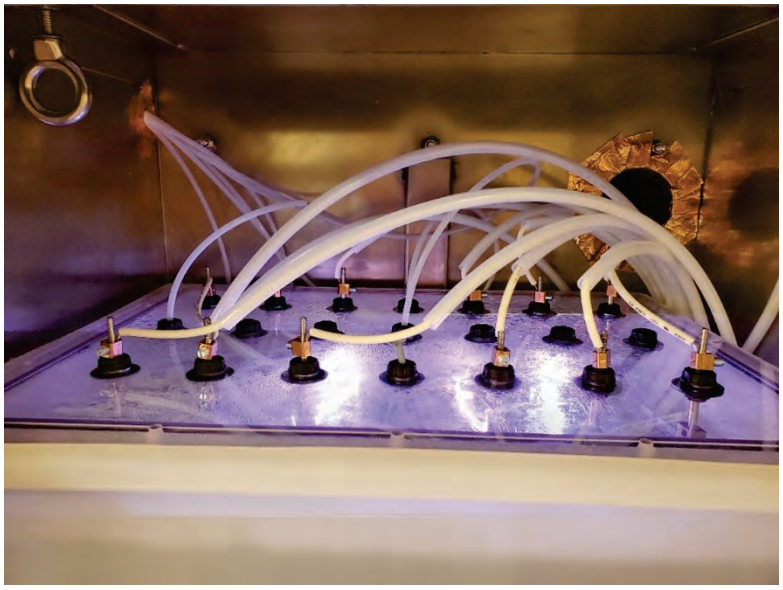
INTERIOR OF PLASMA TRAILER

PLASMA SYSTEM ENCLOSURES

INTERIOR OF PLASMA ENCLOSURES

POWER SUPPLIES IN OPERATION

PLASMA REACTORS



REACTOR WITH PLASMA BEING GENERATED

APPENDIX E ESTCP FIELD DEMONSTRATION DATA SAP

SAMPLING AND ANALYSIS PLAN - FORWARD FLOW

FIELD DEMONSTRATION PLAN

ESTCP ER18-5015

PFAS	Collect and Submit samples for PFAS
WC	Collect and Submit samples for pH, TOC, chloride, sulfate, nitrate, iron, Mn, alkalinity, hardness, TSS, TDS
(PFAS)	Collect and hold samples for PFAS
(WC)	Collect and hold samples for pH, TOC, chloride, sulfate, nitrate, iron, Mn, alkalinity, hardness, TSS, TDS

Start Date/Time		10/5/20 8:00
EBCT	min	4.00
Flow Rate	mL/min	7,571
	gpd	2,880
Column Volume	L	30.28
Total No of Columns	EA	1

Date	Day	Time	Date/Time	Flow Rate		Cumulative Flow			System Influent	Pretreatment Effluent	HC1 LEAD EFF	HC1 LAG EFF
				mL/min	gpd	L	gal	BVs	SP1	SP2	SP3	SP4
7/7/2019	SUN			-								
10/5/2020	MON	18:00	10/5/20 18:00	7,571	2,880	4,543	1,200	150	**PFAS, WC**	**PFAS, WC**	**PFAS, WC**	**(PFAS, WC)**
10/6/2020	TUE	12:00	10/6/20 12:00	7,571	2,880	12,719	3,360	420				
10/7/2020	WED	12:00	10/7/20 12:00	7,571	2,880	23,622	6,241	780	**PFAS, WC**	**PFAS, WC**	**PFAS, WC**	**(PFAS, WC)**
10/8/2020	THU	12:00	10/8/20 12:00	7,571	2,880	34,524	9,121	1,140				
10/9/2020	FRI	12:00	10/9/20 12:00	7,571	2,880	45,426	12,002	1,500	**PFAS, WC**	**PFAS, WC**	**PFAS, WC**	**(PFAS, WC)**
10/10/2020	SAT	12:00	10/10/20 12:00	7,571	2,880	56,328	14,882	1,860				
10/11/2020	SUN	12:00	10/11/20 12:00	7,571	2,880	67,230	17,762	2,220				
10/12/2020	MON	12:00	10/12/20 12:00	7,571	2,880	78,133	20,643	2,580				
10/13/2020	TUE	12:00	10/13/20 12:00	7,571	2,880	89,035	23,523	2,940				
10/14/2020	WED	12:00	10/14/20 12:00	7,571	2,880	99,937	26,403	3,300	**PFAS, WC**	**PFAS, WC**	**PFAS, WC**	**(PFAS, WC)**
10/15/2020	THU	12:00	10/15/20 12:00	7,571	2,880	110,839	29,284	3,660				
10/16/2020	FRI	12:00	10/16/20 12:00	7,571	2,880	121,742	32,164	4,021				
10/17/2020	SAT	12:00	10/17/20 12:00	7,571	2,880	132,644	35,045	4,381				
10/18/2020	SUN	12:00	10/18/20 12:00	7,571	2,880	143,546	37,925	4,741				
10/19/2020	MON	12:00	10/19/20 12:00	7,571	2,880	154,448	40,805	5,101				
10/20/2020	TUE	12:00	10/20/20 12:00	7,571	2,880	165,351	43,686	5,461				
10/21/2020	WED	12:00	10/21/20 12:00	7,571	2,880	176,253	46,566	5,821	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
10/22/2020	THU	12:00	10/22/20 12:00	7,571	2,880	187,155	49,447	6,181				
10/23/2020	FRI	12:00	10/23/20 12:00	7,571	2,880	198,057	52,327	6,541				
10/24/2020	SAT	12:00	10/24/20 12:00	7,571	2,880	208,960	55,207	6,901				
10/25/2020	SUN	12:00	10/25/20 12:00	7,571	2,880	219,862	58,088	7,261				
10/26/2020	MON	12:00	10/26/20 12:00	7,571	2,880	230,764	60,968	7,621				

10/27/2020	TUE	12:00	10/27/20 12:00	7,571	2,880	241,666	63,848	7,981				
10/28/2020	WED	12:00	10/28/20 12:00	7,571	2,880	252,569	66,729	8,341	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
10/29/2020	THU	12:00	10/29/20 12:00	7,571	2,880	263,471	69,609	8,701				
10/30/2020	FRI	12:00	10/30/20 12:00	7,571	2,880	274,373	72,490	9,061				
10/31/2020	SAT	12:00	10/31/20 12:00	7,571	2,880	285,275	75,370	9,421				
11/1/2020	SUN	12:00	11/1/20 12:00	7,571	2,880	296,178	78,250	9,781				
11/2/2020	MON	12:00	11/2/20 12:00	7,571	2,880	307,080	81,131	10,141				
11/3/2020	TUE	12:00	11/3/20 12:00	7,571	2,880	317,982	84,011	10,501				
11/4/2020	WED	12:00	11/4/20 12:00	7,571	2,880	328,884	86,891	10,861	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
11/5/2020	THU	12:00	11/5/20 12:00	7,571	2,880	339,786	89,772	11,221				
11/6/2020	FRI	12:00	11/6/20 12:00	7,571	2,880	350,689	92,652	11,582				
11/7/2020	SAT	12:00	11/7/20 12:00	7,571	2,880	361,591	95,533	11,942				
11/8/2020	SUN	12:00	11/8/20 12:00	7,571	2,880	372,493	98,413	12,302				
11/9/2020	MON	12:00	11/9/20 12:00	7,571	2,880	383,395	101,293	12,662				
11/10/2020	TUE	12:00	11/10/20 12:00	7,571	2,880	394,298	104,174	13,022				
11/11/2020	WED	12:00	11/11/20 12:00	7,571	2,880	405,200	107,054	13,382	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
11/12/2020	THU	12:00	11/12/20 12:00	7,571	2,880	416,102	109,935	13,742				
11/13/2020	FRI	12:00	11/13/20 12:00	7,571	2,880	427,004	112,815	14,102				
11/14/2020	SAT	12:00	11/14/20 12:00	7,571	2,880	437,907	115,695	14,462				
11/15/2020	SUN	12:00	11/15/20 12:00	7,571	2,880	448,809	118,576	14,822				
11/16/2020	MON	12:00	11/16/20 12:00	7,571	2,880	459,711	121,456	15,182				
11/17/2020	TUE	12:00	11/17/20 12:00	7,571	2,880	470,613	124,336	15,542				
11/18/2020	WED	12:00	11/18/20 12:00	7,571	2,880	481,516	127,217	15,902	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
11/19/2020	THU	12:00	11/19/20 12:00	7,571	2,880	492,418	130,097	16,262				
11/20/2020	FRI	12:00	11/20/20 12:00	7,571	2,880	503,320	132,978	16,622				
11/21/2020	SAT	12:00	11/21/20 12:00	7,571	2,880	514,222	135,858	16,982				
11/22/2020	SUN	12:00	11/22/20 12:00	7,571	2,880	525,125	138,738	17,342				
11/23/2020	MON	12:00	11/23/20 12:00	7,571	2,880	536,027	141,619	17,702				
11/24/2020	TUE	12:00	11/24/20 12:00	7,571	2,880	546,929	144,499	18,062				
11/25/2020	WED	12:00	11/25/20 12:00	7,571	2,880	557,831	147,379	18,422	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
11/26/2020	THU	12:00	11/26/20 12:00	7,571	2,880	568,734	150,260	18,782				
11/27/2020	FRI	12:00	11/27/20 12:00	7,571	2,880	579,636	153,140	19,143				
11/28/2020	SAT	12:00	11/28/20 12:00	7,571	2,880	590,538	156,021	19,503				
11/29/2020	SUN	12:00	11/29/20 12:00	7,571	2,880	601,440	158,901	19,863				
11/30/2020	MON	12:00	11/30/20 12:00	7,571	2,880	612,342	161,781	20,223				
12/1/2020	TUE	12:00	12/1/20 12:00	7,571	2,880	623,245	164,662	20,583				
12/2/2020	WED	12:00	12/2/20 12:00	7,571	2,880	634,147	167,542	20,943	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
12/3/2020	THU	12:00	12/3/20 12:00	7,571	2,880	645,049	170,423	21,303				
12/4/2020	FRI	12:00	12/4/20 12:00	7,571	2,880	655,951	173,303	21,663				
12/5/2020	SAT	12:00	12/5/20 12:00	7,571	2,880	666,854	176,183	22,023				
12/6/2020	SUN	12:00	12/6/20 12:00	7,571	2,880	677,756	179,064	22,383				

12/7/2020	MON	12:00	12/7/20 12:00	7,571	2,880	688,658	181,944	22,743				
12/8/2020	TUE	12:00	12/8/20 12:00	7,571	2,880	699,560	184,824	23,103				
12/9/2020	WED	12:00	12/9/20 12:00	7,571	2,880	710,463	187,705	23,463	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
12/10/2020	THU	12:00	12/10/20 12:00	7,571	2,880	721,365	190,585	23,823				
12/11/2020	FRI	12:00	12/11/20 12:00	7,571	2,880	732,267	193,466	24,183				
12/12/2020	SAT	12:00	12/12/20 12:00	7,571	2,880	743,169	196,346	24,543				
12/13/2020	SUN	12:00	12/13/20 12:00	7,571	2,880	754,072	199,226	24,903				
12/14/2020	MON	12:00	12/14/20 12:00	7,571	2,880	764,974	202,107	25,263				
12/15/2020	TUE	12:00	12/15/20 12:00	7,571	2,880	775,876	204,987	25,623				
12/16/2020	WED	12:00	12/16/20 12:00	7,571	2,880	786,778	207,867	25,983	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
12/17/2020	THU	12:00	12/17/20 12:00	7,571	2,880	797,681	210,748	26,343				
12/18/2020	FRI	12:00	12/18/20 12:00	7,571	2,880	808,583	213,628	26,704				
12/19/2020	SAT	12:00	12/19/20 12:00	7,571	2,880	819,485	216,509	27,064				
12/20/2020	SUN	12:00	12/20/20 12:00	7,571	2,880	830,387	219,389	27,424				
12/21/2020	MON	12:00	12/21/20 12:00	7,571	2,880	841,290	222,269	27,784				
12/22/2020	TUE	12:00	12/22/20 12:00	7,571	2,880	852,192	225,150	28,144				
12/23/2020	WED	12:00	12/23/20 12:00	7,571	2,880	863,094	228,030	28,504	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
12/24/2020	THU	12:00	12/24/20 12:00	7,571	2,880	873,996	230,910	28,864				
12/25/2020	FRI	12:00	12/25/20 12:00	7,571	2,880	884,898	233,791	29,224				
12/26/2020	SAT	12:00	12/26/20 12:00	7,571	2,880	895,801	236,671	29,584				
12/27/2020	SUN	12:00	12/27/20 12:00	7,571	2,880	906,703	239,552	29,944				
12/28/2020	MON	12:00	12/28/20 12:00	7,571	2,880	917,605	242,432	30,304				
12/29/2020	TUE	12:00	12/29/20 12:00	7,571	2,880	928,507	245,312	30,664				
12/30/2020	WED	12:00	12/30/20 12:00	7,571	2,880	939,410	248,193	31,024	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
12/31/2020	THU	12:00	12/31/20 12:00	7,571	2,880	950,312	251,073	31,384				
1/1/2021	FRI	12:00	1/1/21 12:00	7,571	2,880	961,214	253,954	31,744				
1/2/2021	SAT	12:00	1/2/21 12:00	7,571	2,880	972,116	256,834	32,104				
1/3/2021	SUN	12:00	1/3/21 12:00	7,571	2,880	983,019	259,714	32,464				
1/4/2021	MON	12:00	1/4/21 12:00	7,571	2,880	993,921	262,595	32,824				
1/5/2021	TUE	12:00	1/5/21 12:00	7,571	2,880	1,004,823	265,475	33,184				
1/6/2021	WED	12:00	1/6/21 12:00	7,571	2,880	1,015,725	268,355	33,544	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
1/7/2021	THU	12:00	1/7/21 12:00	7,571	2,880	1,026,628	271,236	33,904				
1/8/2021	FRI	12:00	1/8/21 12:00	7,571	2,880	1,037,530	274,116	34,265				
1/9/2021	SAT	12:00	1/9/21 12:00	7,571	2,880	1,048,432	276,997	34,625				
1/10/2021	SUN	12:00	1/10/21 12:00	7,571	2,880	1,059,334	279,877	34,985				
1/11/2021	MON	12:00	1/11/21 12:00	7,571	2,880	1,070,237	282,757	35,345				
1/12/2021	TUE	12:00	1/12/21 12:00	7,571	2,880	1,081,139	285,638	35,705				
1/13/2021	WED	12:00	1/13/21 12:00	7,571	2,880	1,092,041	288,518	36,065	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
1/14/2021	THU	12:00	1/14/21 12:00	7,571	2,880	1,102,943	291,398	36,425				
1/15/2021	FRI	12:00	1/15/21 12:00	7,571	2,880	1,113,846	294,279	36,785				

1/16/2021	SAT	12:00	1/16/21 12:00	7,571	2,880	1,124,748	297,159	37,145				
1/17/2021	SUN	12:00	1/17/21 12:00	7,571	2,880	1,135,650	300,040	37,505				
1/18/2021	MON	12:00	1/18/21 12:00	7,571	2,880	1,146,552	302,920	37,865				
1/19/2021	TUE	12:00	1/19/21 12:00	7,571	2,880	1,157,454	305,800	38,225				
1/20/2021	WED	12:00	1/20/21 12:00	7,571	2,880	1,168,357	308,681	38,585	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
1/21/2021	THU	12:00	1/21/21 12:00	7,571	2,880	1,179,259	311,561	38,945				
1/22/2021	FRI	12:00	1/22/21 12:00	7,571	2,880	1,190,161	314,442	39,305				
1/23/2021	SAT	12:00	1/23/21 12:00	7,571	2,880	1,201,063	317,322	39,665				
1/24/2021	SUN	12:00	1/24/21 12:00	7,571	2,880	1,211,966	320,202	40,025				
1/25/2021	MON	12:00	1/25/21 12:00	7,571	2,880	1,222,868	323,083	40,385				
1/26/2021	TUE	12:00	1/26/21 12:00	7,571	2,880	1,233,770	325,963	40,745				
1/27/2021	WED	12:00	1/27/21 12:00	7,571	2,880	1,244,672	328,843	41,105	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
1/28/2021	THU	12:00	1/28/21 12:00	7,571	2,880	1,255,575	331,724	41,465				
1/29/2021	FRI	12:00	1/29/21 12:00	7,571	2,880	1,266,477	334,604	41,826				
1/30/2021	SAT	12:00	1/30/21 12:00	7,571	2,880	1,277,379	337,485	42,186				
1/31/2021	SUN	12:00	1/31/21 12:00	7,571	2,880	1,288,281	340,365	42,546				
2/1/2021	MON	12:00	2/1/21 12:00	7,571	2,880	1,299,184	343,245	42,906				
2/2/2021	TUE	12:00	2/2/21 12:00	7,571	2,880	1,310,086	346,126	43,266				
2/3/2021	WED	12:00	2/3/21 12:00	7,571	2,880	1,320,988	349,006	43,626	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
2/4/2021	THU	12:00	2/4/21 12:00	7,571	2,880	1,331,890	351,886	43,986				
2/5/2021	FRI	12:00	2/5/21 12:00	7,571	2,880	1,342,793	354,767	44,346				
2/6/2021	SAT	12:00	2/6/21 12:00	7,571	2,880	1,353,695	357,647	44,706				
2/7/2021	SUN	12:00	2/7/21 12:00	7,571	2,880	1,364,597	360,528	45,066				
2/8/2021	MON	12:00	2/8/21 12:00	7,571	2,880	1,375,499	363,408	45,426				
2/9/2021	TUE	12:00	2/9/21 12:00	7,571	2,880	1,386,402	366,288	45,786				
2/10/2021	WED	12:00	2/10/21 12:00	7,571	2,880	1,397,304	369,169	46,146	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
2/11/2021	THU	12:00	2/11/21 12:00	7,571	2,880	1,408,206	372,049	46,506				
2/12/2021	FRI	12:00	2/12/21 12:00	7,571	2,880	1,419,108	374,930	46,866				
2/13/2021	SAT	12:00	2/13/21 12:00	7,571	2,880	1,430,010	377,810	47,226				
2/14/2021	SUN	12:00	2/14/21 12:00	7,571	2,880	1,440,913	380,690	47,586				
2/15/2021	MON	12:00	2/15/21 12:00	7,571	2,880	1,451,815	383,571	47,946				
2/16/2021	TUE	12:00	2/16/21 12:00	7,571	2,880	1,462,717	386,451	48,306				
2/17/2021	WED	12:00	2/17/21 12:00	7,571	2,880	1,473,619	389,331	48,666	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
2/18/2021	THU	12:00	2/18/21 12:00	7,571	2,880	1,484,522	392,212	49,026				
2/19/2021	FRI	12:00	2/19/21 12:00	7,571	2,880	1,495,424	395,092	49,387				
2/20/2021	SAT	12:00	2/20/21 12:00	7,571	2,880	1,506,326	397,973	49,747				
2/21/2021	SUN	12:00	2/21/21 12:00	7,571	2,880	1,517,228	400,853	50,107				
2/22/2021	MON	12:00	2/22/21 12:00	7,571	2,880	1,528,131	403,733	50,467				
2/23/2021	TUE	12:00	2/23/21 12:00	7,571	2,880	1,539,033	406,614	50,827				
2/24/2021	WED	12:00	2/24/21 12:00	7,571	2,880	1,549,935	409,494	51,187	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**

2/25/2021	THU	12:00	2/25/21 12:00	7,571	2,880	1,560,837	412,374	51,547				
2/26/2021	FRI	12:00	2/26/21 12:00	7,571	2,880	1,571,740	415,255	51,907				
2/27/2021	SAT	12:00	2/27/21 12:00	7,571	2,880	1,582,642	418,135	52,267				
2/28/2021	SUN	12:00	2/28/21 12:00	7,571	2,880	1,593,544	421,016	52,627				
3/1/2021	MON	12:00	3/1/21 12:00	7,571	2,880	1,604,446	423,896	52,987				
3/2/2021	TUE	12:00	3/2/21 12:00	7,571	2,880	1,615,349	426,776	53,347				
3/3/2021	WED	12:00	3/3/21 12:00	7,571	2,880	1,626,251	429,657	53,707	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
3/4/2021	THU	12:00	3/4/21 12:00	7,571	2,880	1,637,153	432,537	54,067				
3/5/2021	FRI	12:00	3/5/21 12:00	7,571	2,880	1,648,055	435,418	54,427				
3/6/2021	SAT	12:00	3/6/21 12:00	7,571	2,880	1,658,958	438,298	54,787				
3/7/2021	SUN	12:00	3/7/21 12:00	7,571	2,880	1,669,860	441,178	55,147				
3/8/2021	MON	12:00	3/8/21 12:00	7,571	2,880	1,680,762	444,059	55,507				
3/9/2021	TUE	12:00	3/9/21 12:00	7,571	2,880	1,691,664	446,939	55,867				
3/10/2021	WED	12:00	3/10/21 12:00	7,571	2,880	1,702,566	449,819	56,227	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
3/11/2021	THU	12:00	3/11/21 12:00	7,571	2,880	1,713,469	452,700	56,587				
3/12/2021	FRI	12:00	3/12/21 12:00	7,571	2,880	1,724,371	455,580	56,948				
3/13/2021	SAT	12:00	3/13/21 12:00	7,571	2,880	1,735,273	458,461	57,308				
3/14/2021	SUN	12:00	3/14/21 12:00	7,571	2,880	1,746,175	461,341	57,668				
3/15/2021	MON	12:00	3/15/21 12:00	7,571	2,880	1,757,078	464,221	58,028				
3/16/2021	TUE	12:00	3/16/21 12:00	7,571	2,880	1,767,980	467,102	58,388				
3/17/2021	WED	12:00	3/17/21 12:00	7,571	2,880	1,778,882	469,982	58,748	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
3/18/2021	THU	12:00	3/18/21 12:00	7,571	2,880	1,789,784	472,862	59,108				
3/19/2021	FRI	12:00	3/19/21 12:00	7,571	2,880	1,800,687	475,743	59,468				
3/20/2021	SAT	12:00	3/20/21 12:00	7,571	2,880	1,811,589	478,623	59,828				
3/21/2021	SUN	12:00	3/21/21 12:00	7,571	2,880	1,822,491	481,504	60,188				
3/22/2021	MON	12:00	3/22/21 12:00	7,571	2,880	1,833,393	484,384	60,548				
3/23/2021	TUE	12:00	3/23/21 12:00	7,571	2,880	1,844,296	487,264	60,908				
3/24/2021	WED	12:00	3/24/21 12:00	7,571	2,880	1,855,198	490,145	61,268	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
3/25/2021	THU	12:00	3/25/21 12:00	7,571	2,880	1,866,100	493,025	61,628				
3/26/2021	FRI	12:00	3/26/21 12:00	7,571	2,880	1,877,002	495,906	61,988				
3/27/2021	SAT	12:00	3/27/21 12:00	7,571	2,880	1,887,905	498,786	62,348				
3/28/2021	SUN	12:00	3/28/21 12:00	7,571	2,880	1,898,807	501,666	62,708				
3/29/2021	MON	12:00	3/29/21 12:00	7,571	2,880	1,909,709	504,547	63,068				
3/30/2021	TUE	12:00	3/30/21 12:00	7,571	2,880	1,920,611	507,427	63,428				
3/31/2021	WED	12:00	3/31/21 12:00	7,571	2,880	1,931,514	510,307	63,788	**PFAS, WC**	**WC**	**PFAS**	**(PFAS)**
4/1/2021	THU	12:00	4/1/21 12:00	7,571	2,880	1,942,416	513,188	64,148				
4/2/2021	FRI	12:00	4/2/21 12:00	7,571	2,880	1,953,318	516,068	64,509				

REGERATION AND DISTILLATION
SAMPLING AND ANALYSIS PLAN - LABORATORY SAMPLE

	Sample Type	Grab or Composite	Sample ID	Sample Port	Frequency	Analyses	
						PFAS	IPA
Regeneration	Regenerant Supply	G	REGEN SUPPLY	SP5	x1 per regen	X	X
	Regen Flush BV1	C	REGEN FLUSH BV1	SP6	x1 per regen	X	
	Regen Flush BV2	C	REGEN FLUSH BV2	SP6	x1 per regen	X	
	Regen Flush BV3	C	REGEN FLUSH BV3	SP6	x1 per regen	X	
	Regen Flush BV4	C	REGEN FLUSH BV4	SP6	x1 per regen	X	
	Regen Flush BV5	C	REGEN FLUSH BV5	SP6	x1 per regen	X	
	Rinse Water BV1	G	RINSE 1	SP7	x1 per regen	X	X
	Rinse Water BV2	G	RINSE 2	SP7	x1 per regen	X	X
	Rinse Water BV5	G	RINSE 5	SP7	x1 per regen	X	X
	Rinse Water BV10	G	RINSE 10	SP7	x1 per regen	X	X
	Rinse Water BV15	G	RINSE 15	SP7	x1 per regen	X	X
	Rinse Water BV20	G	RINSE 20	SP7	x1 per regen	X	X
	Regen Flush Composite / Distiller Feed	C	REGEN COMPOSITE	SP8	x1 per regen	X	X
Distillation Cycle and Batches	Distiller Feed	G	DIST FEED	for VOCs, Iron	x1 per batch	X	X
	Distillate at End of Batch	G	DIST EFF AT END	SP9	x1 per batch	X	X
	Distillate Purifier EFF	G	DIST PUR EFF	SP10	x1 per batch	X	X
	Still Bottoms	G	STILL BOTTOMS	SP11	x1 per batch	X	X
	Still Bottoms Composite	C	STILL BOTTOMS COMPOSITE	SP12	x1 per cycle	X	X

DISTILLATION
SAMPLING AND ANALYSIS PLAN - FIELD SAMPLES

	Sample Type	Grab or Composite	Sample ID	Sample Port	Target Frequency	Analyses	
						Conductivity	Specific Gravity
Distillation Cycle and Batches	Distiller Feed	G	DIST FEED	SP8	1x per batch	X	X
	Distillate	G	DIST EFF AT END	SP9	1x per hour	X	X
	Distillate Purifier EFF	G	DIST PUR EFF	SP10	1x per batch	X	X
	Still Bottoms	G	STILL BOTTOMS	SP11	1x per batch	X	X
	Still Bottoms Composite	G	STILL BOTTOMS COMPOSITE	SP12	1x per cycle	X	X

PLASMA DESTRUCTION
SAMPLING AND ANALYSIS PLAN - PER REACTOR BATCH

Type	Still Bottoms Tank	Precursor Oxidation Tank	High Concentration Plasma Reactor	Low Concentration Plasma Reactor	Total	QA/QC samples (10%)
PFAS	3	8	8	12	31	4
TOPA*	3	8	8	12	31	4
CIC**	3	8	8	12	31	4

APPENDIX F ECT2 ESTCP RPS DATA SHEETS

Success Criteria	IX effluent perfluorooctanoic acid (PFOA) + perfluorooctane sulfonic acid (PFOS) total concentration is less than 70 part per trillion (ppt) for 5,000 bed volumes (BV)
Confirmation Methodology	Arithmetic mean of weekly sample results from IX effluent below Success Criteria

Sample Port Location	LAB	Sample Label	Sample Date	Volume Treated		PFOS + PFOA	
				gal	Cumulative BVs		
Lag Regen IX Effluent - SP4							
SP4	Clarkson	SP4_GW_20210111	1/11/2021	113,761	11,698	**0.0099**	
SP4	Clarkson	SP4-GW-20210127	1/27/2021	154,524	15,889	**0.0099**	
SP4	Clarkson	SP4_GW_20210216	2/16/2021	189,483	19,484	**0.0099**	
SP4	Clarkson	SP4_GW_20210224	2/24/2021	216,088	22,220	**0.0126**	
SP4	Clarkson	SP4-GW-20210319	3/19/2021	260,959	26,834	**0.0198**	
SP4	Clarkson	SP4_GW_20210406	4/6/2021	281,113	28,906	**0.0099**	
SP4	Clarkson	SP4_GW_20210422	4/22/2021	319,490	32,852	**0.0099**	
SP4	Clarkson	SP4-GW-20210512	5/12/2021	330,367	33,971	**0.0099**	
SP4	Clarkson	SP4-GW_20210528	5/28/2021	344,884	35,464	**0.0099**	
SP4	Clarkson	SP4-GW_20210617	6/17/2021	376,290	38,693	**2.1270**	**OUTLIER**
SP4	Clarkson	SP4-GW_20210628	6/28/2021	378,201	38,890	**0.0099**	
SP4	Clarkson	SP4-GW/PW_20210629	6/29/2021	379,870	39,061	**0.0099**	
SP4	Clarkson	SP4-GW_20210701	7/1/2021	384,366	39,524	**0.0099**	
SP4	Clarkson	SP4-GW_20210702	7/2/2021	386,329	39,725	**0.0099**	

Project: **ESTCP Treatment Flow Volumes** Last Updated: 5/18/2022 10:26

Calculation

	Date	Daily Volume Treated (gal)	Total Flow	Calc'd Daily flow rate (gpm)	
	10/20/2020	2,100	2,100.2	**1.5**	
	10/21/2020	3,235	5,335.3	**2.2**	
	10/22/2020	3,225	8,560.5	**2.2**	
	10/23/2020	3,273	11,833.7	**2.3**	
	10/24/2020	3,327	15,160.8	**2.3**	
	10/25/2020	3,459	18,619.7	**2.4**	
	10/26/2020	2,025	20,644.6	**1.4**	
	10/27/2020	2,307	22,951.9	**1.6**	
	10/28/2020	3,176	26,127.7	**2.2**	
	10/29/2020	3,253	29,380.9	**2.3**	
	10/30/2020	3,200	32,580.7	**2.2**	
	10/31/2020	3,195	35,775.4	**2.2**	
	11/1/2020	3,223	38,998.8	**2.2**	
	11/2/2020	3,219	42,217.9	**2.2**	
	11/3/2020	3,222	45,439.8	**2.2**	
	11/4/2020	2,107	47,546.5	**1.5**	
	11/5/2020	0	47,546.5	**0.0**	
	11/6/2020	0	47,546.5	**0.0**	
	11/7/2020	0	47,546.5	**0.0**	
	11/8/2020	0	47,546.5	**0.0**	
	11/9/2020	0	47,546.5	**0.0**	
	11/10/2020	0	47,546.5	**0.0**	
	11/11/2020	0	47,546.5	**0.0**	
	11/12/2020	0	47,546.5	**0.0**	
	11/13/2020	0	47,546.5	**0.0**	
	11/14/2020	0	47,546.5	**0.0**	
	11/15/2020	0	47,546.5	**0.0**	
	11/16/2020	1,311	48,857.5	**0.9**	
Regen 1	11/17/2020	1,965	50,822.5	**1.4**	**Regen 1**
	11/18/2020	1,441	52,263.8	**1.0**	
	11/19/2020	0	52,263.8	**0.0**	
	11/20/2020	0	52,263.8	**0.0**	
	11/21/2020	0	52,263.8	**0.0**	
	11/22/2020	0	52,263.8	**0.0**	
	11/23/2020	420	52,683.8	**0.3**	
	11/24/2020	441	53,124.6	**0.3**	
	11/25/2020	392	53,517.0	**0.3**	
	11/26/2020	0	53,517.0	**0.0**	
	11/27/2020	0	53,517.0	**0.0**	
	11/28/2020	0	53,517.0	**0.0**	
	11/29/2020	0	53,517.0	**0.0**	
	11/30/2020	0	53,517.0	**0.0**	
	12/1/2020	0	53,517.0	**0.0**	
	12/2/2020	1,355	54,872.0	**0.9**	
	12/3/2020	3,240	58,111.6	**2.2**	
	12/4/2020	1,084	59,415.7	**0.8**	
	12/5/2020	0	59,415.7	**0.0**	
	12/6/2020	0	59,415.7	**0.0**	
	12/7/2020	0	59,415.7	**0.0**	
	12/8/2020	0	59,415.7	**0.0**	
	12/9/2020	0	59,415.7	**0.0**	
	12/10/2020	0	59,415.7	**0.0**	
	12/11/2020	2,033	61,449.0	**1.4**	
	12/12/2020	3,241	64,709.4	**2.3**	
	12/13/2020	3,225	67,934.2	**2.2**	
	12/14/2020	3,212	71,212.2	**2.2**	
	12/15/2020	1,862	73,074.5	**1.3**	
	12/16/2020	2,658	75,794.6	**1.8**	
	12/17/2020	3,245	79,039.2	**2.3**	
	12/18/2020	3,243	82,282.4	**2.3**	
	12/19/2020	3,245	85,527.5	**2.3**	
	12/20/2020	3,283	88,810.2	**2.3**	
	12/21/2020	3,133	91,942.9	**2.2**	
	12/22/2020	3,286	95,229.1	**2.3**	
	12/23/2020	2,670	97,898.7	**1.9**	
	12/24/2020	3,274	101,172.6	**2.3**	
	12/25/2020	2,707	103,890.7	**1.9**	
	12/26/2020	58	103,948.3	**0.0**	
	12/27/2020	2,555	106,503.6	**1.8**	

	12/28/2020	1,941	108,444.3	**1.3**	
	12/29/2020	1,729	110,158.3	**1.2**	
	12/30/2020	323	110,481.2	**0.2**	
	12/31/2020	1,388	111,869.2	**1.0**	
	1/1/2021	158	112,029.0	**0.1**	
	1/2/2021	0	112,029.0	**0.0**	
	1/3/2021	0	112,029.0	**0.0**	
	1/4/2021	0	112,029.0	**0.0**	
	1/5/2021	0	112,029.0	**0.0**	
	1/6/2021	0	112,029.0	**0.0**	
	1/7/2021	0	112,029.0	**0.0**	
	1/8/2021	0	112,029.0	**0.0**	
	1/9/2021	0	112,029.0	**0.0**	
	1/10/2021	0	112,029.0	**0.0**	
	1/11/2021	1,732	113,760.6	**1.2**	
	1/12/2021	371	114,131.3	**0.3**	
	1/13/2021	2,303	116,434.3	**1.6**	
Regen 2	1/14/2021	1,667	118,100.9	**1.2**	**Regen 2**
	1/15/2021	3,278	121,378.5	**2.3**	
	1/16/2021	3,020	124,431.9	**2.1**	
	1/17/2021	995	125,427.4	**0.7**	
	1/18/2021	1,841	127,268.0	**1.3**	
	1/19/2021	3,281	130,548.8	**2.3**	
	1/20/2021	3,295	133,843.4	**2.3**	
	1/21/2021	3,280	137,123.6	**2.3**	
	1/22/2021	3,267	140,390.7	**2.3**	
	1/23/2021	3,301	143,960.8	**2.3**	
	1/24/2021	2,139	146,099.9	**1.5**	
	1/25/2021	1,675	147,775.0	**1.2**	
	1/26/2021	3,312	151,223.9	**2.3**	
	1/27/2021	3,300	154,523.9	**2.3**	
	1/28/2021	3,295	157,818.7	**2.3**	
	1/29/2021	3,305	161,124.1	**2.3**	
	1/30/2021	2,327	163,450.7	**1.6**	
	1/31/2021	0	163,450.8	**0.0**	
	2/1/2021	2,195	165,646.0	**1.5**	
	2/2/2021	3,297	168,943.3	**2.3**	
	2/3/2021	3,301	172,623.2	**2.3**	
	2/4/2021	3,277	175,900.1	**2.3**	
	2/5/2021	3,303	179,203.6	**2.3**	
	2/6/2021	3,301	182,505.1	**2.3**	
	2/7/2021	1,288	183,793.3	**0.9**	
	2/8/2021	159	184,119.6	**0.1**	
	2/9/2021	1,381	185,500.9	**1.0**	
	2/10/2021	1,132	186,633.1	**0.8**	
	2/11/2021	956	187,588.9	**0.7**	
	2/12/2021	5	187,648.9	**0.0**	
	2/13/2021	0	187,648.9	**0.0**	
	2/14/2021	0	187,648.9	**0.0**	
	2/15/2021	1,671	189,319.9	**1.2**	
	2/16/2021	1,660	189,482.6	**1.2**	
Regen 3	2/17/2021	1,870	191,352.9	**1.3**	**Regen 3**
	2/18/2021	3,308	196,262.5	**2.3**	
	2/19/2021	3,302	199,564.2	**2.3**	
	2/20/2021	3,305	202,869.5	**2.3**	
	2/21/2021	3,307	206,176.2	**2.3**	
	2/22/2021	3,308	209,484.6	**2.3**	
	2/23/2021	3,303	212,787.4	**2.3**	
	2/24/2021	3,300	216,087.5	**2.3**	
	2/25/2021	3,239	219,326.3	**2.2**	
	2/26/2021	3,104	222,430.2	**2.2**	
	2/27/2021	3,302	225,732.2	**2.3**	
	2/28/2021	3,303	229,566.5	**2.3**	
	3/1/2021	3,093	232,659.5	**2.1**	
	3/2/2021	3,303	235,962.3	**2.3**	
	3/3/2021	3,300	239,262.6	**2.3**	
	3/4/2021	3,304	242,566.8	**2.3**	
	3/5/2021	2,378	244,945.0	**1.7**	
	3/6/2021	3,304	248,248.8	**2.3**	
	3/7/2021	3,304	251,553.3	**2.3**	
	3/8/2021	3,307	254,860.4	**2.3**	
	3/9/2021	3,309	258,624.5	**2.3**	
	3/10/2021	1,131	259,756.0	**0.8**	
	3/11/2021	0	259,756.0	**0.0**	
	3/12/2021	0	259,756.0	**0.0**	

	3/13/2021	0	259,756.0	**0.0**	
	3/14/2021	0	259,756.0	**0.0**	
	3/15/2021	0	259,756.0	**0.0**	
	3/16/2021	0	259,756.0	**0.0**	
	3/17/2021	0	259,756.0	**0.0**	
	3/18/2021	0	259,756.0	**0.0**	
	3/19/2021	1,179	260,959.0	**0.8**	
	3/20/2021	0	260,959.0	**0.0**	
	3/21/2021	0	260,959.0	**0.0**	
	3/22/2021	0	260,959.0	**0.0**	
	3/23/2021	0	260,959.0	**0.0**	
Regen 4	3/24/2021	430	261,388.7	**0.3**	**Regen 4**
	3/25/2021	2,295	263,683.2	**1.6**	
	3/26/2021	3,287	266,970.6	**2.3**	
	3/27/2021	3,298	270,268.5	**2.3**	
	3/28/2021	2,383	272,651.3	**1.7**	
	3/29/2021	1,308	273,958.9	**0.9**	
	3/30/2021	1,902	275,861.4	**1.3**	
	3/31/2021	339	276,200.8	**0.2**	
	4/1/2021	21	276,221.6	**0.0**	
	4/2/2021	0	276,221.6	**0.0**	
	4/3/2021	0	276,221.6	**0.0**	
	4/4/2021	0	276,221.6	**0.0**	
	4/5/2021	1,589	277,810.2	**1.1**	
	4/6/2021	3,303	281,113.1	**2.3**	
	4/7/2021	3,305	284,418.5	**2.3**	
	4/8/2021	3,303	287,722.0	**2.3**	
	4/9/2021	221	287,942.6	**0.2**	
	4/10/2021	0	287,942.6	**0.0**	
	4/11/2021	1,859	289,801.6	**1.3**	
	4/12/2021	3,305	293,107.0	**2.3**	
	4/13/2021	2,936	296,042.8	**2.0**	
	4/14/2021	3,289	299,332.1	**2.3**	
	4/15/2021	3,028	302,360.6	**2.1**	
	4/16/2021	3,288	305,649.0	**2.3**	
	4/17/2021	2,199	307,847.8	**1.5**	
	4/18/2021	0	307,847.8	**0.0**	
	4/19/2021	1,799	309,647.2	**1.2**	
	4/20/2021	3,306	312,952.9	**2.3**	
	4/21/2021	3,299	316,252.2	**2.3**	
	4/22/2021	3,238	319,489.9	**2.2**	
	4/23/2021	1,023	320,512.9	**0.7**	
	4/24/2021	0	320,512.9	**0.0**	
	4/25/2021	16	320,529.1	**0.0**	
	4/26/2021	0	320,529.1	**0.0**	
	4/27/2021	15	320,544.6	**0.0**	
	4/28/2021	14	320,558.9	**0.0**	
	4/29/2021	12	320,570.8	**0.0**	
	4/30/2021	0	320,570.8	**0.0**	
	5/1/2021	8	320,578.7	**0.0**	
	5/2/2021	0	320,578.7	**0.0**	
	5/3/2021	25	320,603.4	**0.0**	
	5/4/2021	0	320,603.4	**0.0**	
	5/5/2021	0	320,603.4	**0.0**	**Regen 5**
	5/6/2021	0	320,603.4	**0.0**	
	5/7/2021	0	320,603.4	**0.0**	
	5/8/2021	1,217	321,820.5	**0.8**	
	5/9/2021	1,563	323,383.9	**1.1**	
	5/10/2021	1,478	324,862.2	**1.0**	
	5/11/2021	2,767	327,628.8	**1.9**	
	5/12/2021	2,738	330,367.1	**1.9**	
	5/13/2021	846	331,212.6	**0.6**	
	5/14/2021	0	331,212.8	**0.0**	
	5/15/2021	0	331,212.8	**0.0**	
	5/16/2021	0	331,213.0	**0.0**	
	5/17/2021	0	331,213.2	**0.0**	
	5/18/2021	0	331,213.2	**0.0**	
	5/19/2021	0	331,213.2	**0.0**	
	5/20/2021	18	331,231.2	**0.0**	
	5/21/2021	0	331,231.4	**0.0**	
	5/22/2021	1,264	332,495.0	**0.9**	
	5/23/2021	2,951	335,446.0	**2.0**	
	5/24/2021	1,979	337,425.0	**1.4**	
	5/25/2021	1,261	338,686.4	**0.9**	
	5/26/2021	1,302	339,988.8	**0.9**	

5/27/2021	2,627	342,615.5	**1.8**
5/28/2021	2,268	344,884.0	**1.6**
5/29/2021	3,303	348,186.6	**2.3**
5/30/2021	3,298	351,484.3	**2.3**
5/31/2021	1,302	352,786.7	**0.9**
6/1/2021	0	352,787.0	**0.0**
6/2/2021	0	352,787.3	**0.0**
6/3/2021	0	352,787.6	**0.0**
6/4/2021	0	352,787.9	**0.0**
6/5/2021	0	352,788.2	**0.0**
6/6/2021	0	352,788.5	**0.0**
6/7/2021	0	352,788.8	**0.0**
6/8/2021	0	352,789.1	**0.0**
6/9/2021	0	352,789.4	**0.0**
6/10/2021	2,627	355,416.1	**1.8**
6/11/2021	2,246	357,662.3	**1.6**
6/12/2021	2,268	359,930.7	**1.6**
6/13/2021	3,303	363,233.4	**2.3**
6/14/2021	3,298	366,531.1	**2.3**
6/15/2021	3,160	369,690.9	**2.2**
6/16/2021	3,294	372,985.3	**2.3**
6/17/2021	3,305	376,290.4	**2.3**
6/18/2021	1,852	378,142.5	**1.3**
6/19/2021	0	378,142.8	**0.0**
6/20/2021	0	378,142.9	**0.0**
6/21/2021	0	378,142.9	**0.0**
6/22/2021	0	378,143.0	**0.0**
6/23/2021	0	378,143.1	**0.0**
6/24/2021	0	378,143.4	**0.0**
6/25/2021	0	378,143.7	**0.0**
6/26/2021	57	378,200.7	**0.0**
6/27/2021	0	378,200.8	**0.0**
6/28/2021	0	378,200.8	**0.0**
6/29/2021	1,669	379,869.8	**1.2**
6/30/2021	3,166	383,036.2	**2.2**
7/1/2021	1,330	384,366.5	**0.9**
7/2/2021	1,962	386,328.5	**1.4**
7/3/2021	1,994	388,322.4	**1.4**
7/4/2021	1	388,323.2	**0.0**
7/5/2021	1	388,324.1	**0.0**
7/6/2021	0	388,324.6	**0.0**
7/7/2021	0	388,324.8	**0.0**
7/8/2021	0	388,324.8	**0.0**
7/9/2021	0	388,325.0	**0.0**
7/10/2021	0	388,325.3	**0.0**
7/11/2021	0	388,325.5	**0.0**
7/12/2021	0	388,325.7	**0.0**
7/13/2021	0	388,326.0	**0.0**

RPS1 ESTCP FLOWS TABLE		Calculation			
Loading Cycle	**Start Date**	**End Date**	**Total Calendar Days**	**Treated Volume**	**Lead Vessel BVs**
Loading Cycle 1	10/20/2020	11/16/2020	27	50,822	5,226
Loading Cycle 2	11/17/2020	1/14/2021	58	67,278	6,919
Loading Cycle 3	1/15/2021	2/17/2021	33	73,252	7,533
Loading Cycle 4	2/17/2021	3/24/2021	35	70,036	7,202
Loading Cycle 5	3/24/2021	5/5/2021	42	59,215	6,090
Loading Cycle 6	5/8/2021	7/13/2021	66	67,723	6,964
			261	**388,326**	**39,935**

Success Criteria — Removal efficiency for all Non-Target PFAS compounds greater than 95%

Confirmation Methodology — Arithmetic mean of weekly sample results from IX effluent resulting in removal rates greater than 95%

Sample Port Location	LAB	Sample Label	Sample Date	Volume Treated		TOTAL PFAS	PFOS + PFOA	Perfluorooctane sulfonamide	Perfluorooctane sulfonamide	N-Methylperfluorooctanesulfonamide	N-Ethylperfluorooctanesulfonamide	N-methyl-perfluorooctane-sulfonamido acetic acid	N-ethyl-perfluorooctane-sulfonamido acetic acid	4:2 Fluoro telomer sulfonate	6:2 Fluoro telomer sulfonate	8:2 Fluoro telomer sulfonate	10:2 Fluoro telomer sulfonate	Perfluorobutanoic Acid	Perfluoropentanoic Acid	Perfluorohexanoic Acid	Perfluoroheptanoic Acid	Perfluorooctanoic Acid	Perfluorononanoic Acid	Perfluorodecanoic Acid	Perfluoroundecanoic Acid	Perfluorododecanoic Acid	Perfluorotridecanoic Acid	Perfluorotetradecanoic Acid
				gal	BVs			FOSA-1	FOSAA	N-MeFOSA	N-EtFOSA	N-MeFOSAA	N-EtFOSAA	4:2 FTS	6:2 FTS	8:2 FTS	10:2 FTS	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnDA	PFDoDA	PFTrDA	PFTeDA
Lag Regen IX Effluent - SP4																												
SP4	Clarkson	SP4_GW_20210111	1/11/2021	113,761	11,698	0.92	0.0099	0.00	0.01	0.02	0.01	0.01	0.01	0.05	0.07	0.01	0.01	0.30	0.29	0.05	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01
SP4	Clarkson	SP4-GW-20210127	1/27/2021	154,524	15,889	1.29	0.0099	0.00	0.01	0.02	0.01	0.01	0.01	0.04	0.30	0.01	0.01	0.24	0.43	0.10	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01
SP4	Clarkson	SP4_GW_20210216	2/16/2021	189,483	19,484	1.52	0.0099	0.00	0.01	0.02	0.01	0.01	0.01	0.05	0.31	0.01	0.01	0.32	0.52	0.14	0.01	0.00	0.00	0.00	0.02	0.01	0.00	0.01
SP4	Clarkson	SP4_GW_20210224	2/24/2021	216,088	22,220	1.52	0.0126	0.00	0.01	0.02	0.01	0.01	0.01	0.00	0.44	0.01	0.01	0.25	0.50	0.16	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01
SP4	Clarkson	SP4-GW-20210319	3/19/2021	260,959	26,834	3.03	0.0198	0.01	0.01	0.03	0.02	0.02	0.00	0.09	0.77	0.01	0.02	0.67	0.87	0.33	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.01
SP4	Clarkson	SP4_GW_20210406	4/6/2021	281,113	28,906	0.29	0.0099	0.00	0.01	0.02	0.01	0.01	0.01	0.00	0.10	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01
SP4	Clarkson	SP4_GW_20210422	4/22/2021	319,490	32,852	0.43	0.0099	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.16	0.07	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01
SP4	Clarkson	SP4-GW-20210512	5/12/2021	330,367	33,971	0.28	0.0099	ND	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.07	0.08	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01
SP4	Clarkson	SP4-GW_20210528	5/28/2021	344,884	35,464	0.64	0.0099	ND	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.16	0.26	0.00	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.01
SP4	Clarkson	SP4-GW_20210617	6/17/2021	376,290	38,693	4.85	2.1270	ND	0.00	0.00	0.00	0.01	0.01	0.05	0.46	0.05	0.00	0.25	0.37	0.20	0.11	0.31	0.00	0.00	0.02	0.01	0.00	0.09
SP4	Clarkson	SP4-GW_20210628	6/28/2021	378,201	38,890	0.66	0.0099	ND	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.00	0.23	0.26	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01
SP4	Clarkson	SP4-GW/PW_20210629	6/29/2021	379,870	39,061	0.81	0.0099	ND	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.28	0.34	0.05	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01
SP4	Clarkson	SP4-GW_20210701	7/1/2021	384,366	39,524	0.82	0.0099	ND	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.00	0.30	0.33	0.05	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01
SP4	Clarkson	SP4-GW_20210702	7/2/2021	386,329	39,725	0.84	0.0099	ND	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.01	0.00	0.29	0.36	0.06	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.01
Influent - SP1																												
SP1	Clarkson	INF-SP1	10/20/2020	2,100	-	58.74	27.85	0.06	0.00	0.00	0.00	0.00	0.00	0.06	11.18	0.61	0.00	0.71	2.43	4.10	1.25	5.31	0.08	0.00	0.00	0.00	0.00	0.00
SP1	Clarkson	SP1-GW - 20201021	10/21/2020	5,335	-	61.10	28.92	0.08	0.00	0.00	0.00	0.00	0.00	0.06	12.84	0.64	0.00	0.72	2.46	4.10	1.22	5.65	0.10	0.00	0.00	0.00	0.00	0.00
SP1	Clarkson	SP1-GW - 20201023	10/23/2020	11,834	-	56.66	26.63	0.06	0.00	0.00	0.00	0.00	0.00	0.05	10.61	0.40	0.00	0.68	2.38	3.83	1.17	5.50	0.08	0.00	0.00	0.00	0.00	0.00
SP1	Clarkson	SP1-GW - 20201028	10/28/2020	26,128	-	64.23	30.97	0.07	0.00	0.00	0.00	0.00	0.00	0.06	13.46	0.61	0.00	0.68	2.58	3.96	1.27	5.42	0.10	0.00	0.00	0.00	0.00	0.00
SP1	Clarkson	SP1-GW - 20201104	11/4/2020	47,547	-	55.76	26.60	0.07	0.00	0.00	0.00	0.00	0.00	0.06	10.95	0.79	0.00	0.74	2.22	3.47	1.08	4.90	0.12	0.00	0.00	0.00	0.00	0.00
SP1	Clarkson	SP1-GW-20201117	11/17/2020	50,822	-	50.88	26.86	0.07	0.01	0.02	0.01	0.01	0.01	0.05	9.65	0.46	0.01	0.52	2.06	2.99	0.93	3.50	0.08	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1_GW_20201216	12/16/2020	75,795	-	52.42	26.89	0.07	0.01	0.02	0.01	0.01	0.01	0.06	8.10	0.54	0.01	0.63	2.31	3.47	1.03	4.73	0.07	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1_GW_20201223	12/23/2020	97,899	-	65.61	32.40	0.07	0.01	0.02	0.01	0.01	0.01	0.07	13.42	0.81	0.01	0.67	2.53	3.79	1.22	5.85	0.09	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1_GW_20201229	12/29/2020	110,158	-	55.84	28.86	0.09	0.01	0.02	0.01	0.01	0.01	0.07	8.63	0.60	0.01	0.64	2.43	3.43	1.10	5.71	0.08	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW-20210111	1/11/2021	113,761	-	45.38	21.51	0.09	0.01	0.02	0.01	0.01	0.01	0.08	7.39	0.79	0.01	0.69	2.12	3.03	1.33	4.81	0.00	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW-20210120	1/20/2021	133,843	-	86.86	42.32	0.17	0.01	0.02	0.01	0.01	0.01	0.14	13.95	1.30	0.01	1.05	3.33	5.32	2.24	9.86	0.12	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW-20210127	1/27/2021	154,524		47.21	24.22	0.08	0.01	0.02	0.01	0.01	0.01	0.07	7.06	0.57	0.01	0.64	2.03	3.01	1.27	6.52	0.08	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW-20210203	2/3/2021	172,623		57.99	29.78	0.10	0.01	0.02	0.01	0.01	0.01	0.09	9.09	0.63	0.01	0.74	2.28	3.65	1.48	6.92	0.08	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW-20210210	2/10/2021	186,633		38.68	19.56	0.07	0.005	0.02	0.01	0.01	0.01	0.07	6.68	0.57	0.01	0.43	1.62	2.28	0.77	3.98	0.06	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW-20210216	2/16/2021	189,483		36.24	17.86	0.07	0.01	0.02	0.01	0.01	0.01	0.07	6.59	0.71	0.01	0.41	1.63	2.20	0.78	2.97	0.07	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1_GW_20210224	2/24/2021	216,088		36.77	18.31	0.07	0.01	0.02	0.01	0.01	0.01	0.05	6.25	0.71	0.01	0.43	1.59	2.24	0.77	4.25	0.05	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1_GW_20210304	3/4/2021	242,567		41.74	21.32	0.07	0.01	0.02	0.01	0.01	0.01	0.05	6.20	0.57	0.01	0.45	1.53	2.40	0.69	4.13	0.06	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW-20210319	3/19/2021	260,959		33.32	15.17	0.08	0.01	0.03	0.02	0.02	0.02	0.09	5.91	0.47	0.02	0.87	1.79	2.35	0.84	2.67	0.15	0.01	0.03	0.01	0.01	0.02
SP1	Clarkson	SP1_GW_20210406	4/6/2021	281,113		33.92	17.93	0.05	0.01	0.02	0.01	0.01	0.01	0.05	4.90	0.58	0.01	0.11	1.42	1.88	0.70	2.51	0.05	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1_GW_20210414	4/14/2021	299,332		34.89	17.97	0.05	0.01	0.02	0.01	0.01	0.01	0.04	4.82	0.57	0.01	0.20	1.48	2.03	0.69	3.35	0.05	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1_GW_20210422	4/22/2021	319,490		40.56	20.62	0.08	0.01	0.02	0.01	0.01	0.01	0.05	6.32	0.71	0.01	0.40	1.63	2.31	0.74	4.14	0.06	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW-20210514	5/14/2021	331,213		39.33	19.97	0.06	0.00	0.00	0.00	0.01	0.01	0.06	5.44	0.57	0.00	0.35	1.68	2.38	0.77	4.44	0.19	ND	ND	ND	ND	ND
SP1	Clarkson	SP1-GW_20210528	5/28/2021	344,884		33.91	16.21	0.05	0.00	0.00	0.00	0.01	0.01	0.10	5.27	0.45	0.00	0.38	1.58	1.97	0.70	3.62	0.21	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW_20210611	6/11/2021	357,662		33.51	17.23	0.05	0.00	0.00	0.00	0.01	0.01	0.10	5.09	0.55	0.00	0.33	1.55	1.88	0.66	2.38	0.22	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW_20210617	6/17/2021	376,290		43.35	22.03	0.14	0.00	0.00	0.00	0.01	0.01	0.10	5.54	0.72	0.00	0.44	2.00	2.59	0.93	4.24	0.18	0.00	0.02	0.01	0.00	0.14
SP1	Clarkson	SP1-GW_20210628	6/28/2021	378,201		20.81	5.24	0.04	0.00	0.00	0.00	0.01	0.01	0.04	5.52	0.25	0.00	0.44	1.68	1.90	0.75	2.25	0.01	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW/PW_20210629	6/29/2021	379,870		19.64	7.13	0.04	0.00	0.00	0.00	0.01	0.01	0.04	4.20	0.29	0.00	0.54	1.64	1.81	0.57	1.90	0.00	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW_20210701	7/1/2021	384,366		32.88	16.38	0.04	0.00	0.00	0.00	0.01	0.01	0.06	6.19	0.30	0.00	0.57	1.82	2.37	0.73	3.03	0.03	0.00	0.02	0.01	0.00	0.01
SP1	Clarkson	SP1-GW_20210702	7/2/2021	386,329		19.43	6.97	0.03	0.00	0.00	0.00	0.01	0.01	0.04	3.97	0.17	0.00	0.56	1.76	1.84	0.59	2.10	0.01	0.00	0.02	0.01	0.00	0.06
Lag Regen IX Effluent - SP4 - REMOVAL EFFICIENCIES																												
SP4	Clarkson	SP4_GW_20210111	1/11/2021	113,761	11,698	98.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	45.1%	99.0%	100.0%	100.0%	56.8%	86.3%	98.5%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SP4	Clarkson	SP4-GW-20210127	1/27/2021	154,524	15,889	97.3%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	39.1%	95.7%	100.0%	100.0%	63.2%	78.6%	96.6%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SP4	Clarkson	SP4_GW_20210216	2/16/2021	189,483	19,484	95.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	27.9%	95.3%	100.0%	100.0%	21.4%	68.3%	93.7%	98.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SP4	Clarkson	SP4_GW_20210224	2/24/2021	216,088	22,220	95.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	93.0%	100.0%	100.0%	42.7%	68.6%	92.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SP4	Clarkson	SP4-GW-20210319	3/19/2021	260,959	26,834	90.9%	99.9%	89.7%	0.0%	0.0%	0.0%	0.0%	81.3%	6.4%	87.1%	97.4%	0.0%	23.5%	51.6%	86.1%	99.0%	99.8%	96.2%	0.0%	0.0%	0.0%	0.0%	32.4%
SP4	Clarkson	SP4_GW_20210406	4/6/2021	281,113	28,906	99.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	97.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SP4	Clarkson	SP4_GW_20210422	4/22/2021	319,490	32,852	98.9%	100.0%	86.7%	100.0%	100.0%	100.0%	100.0%	100.0%	83.3%	99.8%	100.0%	100.0%	61.5%	95.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SP4	Clarkson	SP4-GW-20210512	5/12/2021	330,367	33,971	#N/A	#N/A	#VALUE!	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	#N/A	#N/A	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SP4	Clarkson	SP4-GW_20210528	5/28/2021	344,884	35,464	98.1%	100.0%	#VALUE!	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	56.6%	83.4%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	-504.9%	100.0%	100.0%
SP4	Clarkson	SP4-GW_20210617	6/17/2021	376,290	38,693	88.8%	95.1%	#VALUE!	100.0%	100.0%	100.0%	100.0%	100.0%	48.5%	91.8%	93.7%	100.0%	43.7%	81.7%	92.1%	88.6%	92.7%	100.0%	100.0%	100.0%	100.0%	100.0%	36.9%
SP4	Clarkson	SP4-GW_20210628	6/28/2021	378,201	38,890	96.8%	100.0%	#VALUE!	100.0%	100.0%	100.0%	100.0%	100.0%	57.9%	100.0%	100.0%	100.0%	48.5%	84.7%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SP4	Clarkson	SP4-GW/PW_20210629	6/29/2021	379,870	39,061	95.9%	99.9%	#VALUE!	100.0%	100.0%	100.0%	100.0%	100.0%	69.0%	100.0%	100.0%	100.0%	49.1%	79.2%	97.3%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SP4	Clarkson	SP4-GW_20210701	7/1/2021	384,366	39,524	97.5%	100.0%	#VALUE!	100.0%	100.0%	100.0%	100.0%	100.0%	64.1%	100.0%	100.0%	100.0%	47.5%	82.1%	97.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SP4	Clarkson	SP4-GW_20210702	7/2/2021	386,329	39,725	95.7%	99.9%	#VALUE!	100.0%	100.0%	100.0%	100.0%	100.0%	47.2%	100.0%	100.0%	100.0%	49.1%	79.8%	96.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

		Perfluorobutanesulfonate	Perfluoropentanesulfonic Acid	Perfluorohexanesulfonate	Perfluoroheptanesulfonate	Perfluorooctanesulfonate	Perfluorononanesulfonate	Perfluorodecanesulfonate
PFHxDA	PFODA	PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFNS	PFDS
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.05	0.97	0.06	1.82	0.01	0.01
0.00	0.00	0.00	0.00	0.04	0.01	0.01	0.01	0.01
0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.32	0.57	8.94	0.57	22.54	0	0
0.00	0.00	0.33	0.45	8.63	0.55	23.26	0	0
0.00	0.00	0.34	0.50	9.41	0.52	21.13	0	0
0.00	0.00	0.36	0.40	9.12	0.61	25.55	0	0
0.00	0.00	0.44	0.50	8.18	0.56	21.70	0	0
0.00	0.00	0.26	0.37	5.99	0.46	23.36	0.01	0.01
0.00	0.00	0.31	0.46	7.94	0.42	22.16	0.01	0.01
0.00	0.00	0.39	0.47	9.02	0.54	26.55	0.01	0.01
0.00	0.00	0.34	0.42	8.63	0.40	23.15	0.01	0.01
0.00	0.00	0.33	0.52	6.93	0.45	16.70	0.01	0.01
0.00	0.00	0.43	0.91	14.40	1.08	32.46	0.01	0.01
0.00	0.00	0.00	0.50	6.98	0.58	17.70	0.01	0.01
0.00	0.00	0.00	0.58	8.73	0.64	22.85	0.01	0.009
0.00	0.00	0.25	0.31	5.51	0.35	15.58	0.04	0.01
0.00	0.00	0.27	0.29	4.82	0.35	14.89	0.01	0.01
0.00	0.00	0.28	0.28	5.29	0.34	14.06	0.01	0.01
0.00	0.00	0.17	0.32	7.37	0.41	17.19	0.01	0.01
0.01	0.01	0.25	0.33	4.38	0.38	12.51	0.02	0.02
0.00	0.00	0.16	0.28	5.35	0.36	15.42	0.01	0.01
0.00	0.00	0.18	0.30	6.05	0.33	14.62	0.01	0.01
0.00	0.00	0.23	0.33	6.60	0.36	16.48	0.01	0.01
0.00	0.00	0.33	0.29	6.90	0.32	15.53	0.01	0.01
0.00	0.00	0.46	0.39	5.88	0.19	12.59	0.01	0.01
0.00	0.00	0.21	0.35	5.04	0.18	14.85	0.01	0.01
0.00	0.00	0.94	0.36	6.70	0.42	17.80	0.06	0.01
0.00	0.00	0.21	0.37	4.17	0.14	2.99	0.01	0.01
0.00	0.00	0.22	0.26	2.73	0.09	5.23	0.01	0.01
0.00	0.00	0.22	0.37	3.58	0.15	13.35	0.01	0.01
0.00	0.00	0.20	0.32	2.72	0.13	4.87	0.01	0.01
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.9%	100.0%	100.0%
0.0%	0.0%	97.3%	98.2%	99.8%	96.3%	99.9%	0.0%	0.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	85.4%	85.6%	85.0%	89.8%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	99.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	94.5%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Success Criteria 95% of Total PFAS mass recovered from resin
Confirmation Methodology Mass balance of resin loading based on arithmetic mean of influent and effluent analysis as compared to regenerant analysis and volume.

Mass Removal by IX1					
Volume Treated	Influent - SP1 (ug/L)	**Lead Regen IX Effluent - SP3 (ug/L)**	Mass Removed (g)	**Cumulative Mass Removed (g)**	
0	0	0	0	0	
2,100	58.74	0.08	0.47	0.47	
5,335	61.10	0.13	0.75	1.21	
11,834	56.66	0.16	1.39	2.60	
26,128	64.23	2.02	3.37	5.97	
47,547	55.76	7.30	3.93	9.90	
50,822	50.88	4.03	0.58	**10.48**	Regen 1
75,795	52.42	1.41	4.82	4.82	
97,899	65.61	5.45	5.03	9.85	
110,158	55.84	6.45	2.29	12.14	
113,761	45.38	3.89	0.57	**12.71**	Regen 2
133,843	86.86	0.51	6.56	6.56	
154,524	47.21	2.01	3.54	10.10	
172,623	57.99	5.28	3.61	13.71	
186,633	38.68	5.34	1.77	15.48	
189,483	36.24	5.15	0.34	**15.82**	Regen 3
216,088	36.77	1.00	3.60	3.60	
242,567	41.74	3.43	3.84	7.44	
260,959	33.32	6.33	1.88	**9.32**	Regen 4
281,113	33.92	0.47	2.55	**2.55**	
299,332	34.89	1.35	2.31	**4.86**	
319,490	40.56	3.56	2.82	**7.69**	Regen 5

Mass Removal by Regeneration						
Regen	**Sample Interval**	Volume Treated	**Concentration (µg/L)**	Mass Removed (g)	**Cumulative Mass Removed (g)**	
1	Regen BV1	**5.8**	590,516	**13.04**	**13.0**	
1	Regen BV2	**5.8**	108,003	**2.39**	**15.4**	
1	Regen BV3	**5.8**	**31,069**	**0.69**	**16.1**	
1	Regen BV4	**5.8**	**10,830**	**0.24**	**16.4**	
1	Regen BV5	**5.8**	**6,792**	**0.15**	**16.5**	
1	Rinse BV1	**9.7**	**298**	**0.01**	**16.5**	
1	Rinse BV2	**9.7**	**117**	**0.00**	**16.5**	
1	Rinse BV5	**29.2**	**94**	**0.01**	**16.5**	
1	Rinse BV10	**48.6**	**93**	**0.02**	**16.5**	
1	Rinse BV15	**48.6**	**106**	**0.02**	**16.6**	
1	Rinse BV20	**48.6**	**106**	**0.02**	**16.6**	Regen 1
2	Regen BV1	**5.8**	**121**	**0.00**	**0.0**	
2	Regen BV2	**5.8**	339,659	**7.50**	**7.5**	
2	Regen BV3	**5.8**	**76,843**	**1.70**	**9.2**	
2	Regen BV4	**5.8**	**32,452**	**0.72**	**9.9**	
2	Regen BV5	**5.8**	**14,762**	**0.33**	**10.2**	
2	Rinse BV1	**9.7**	**8,099**	**0.30**	**10.5**	
2	Rinse BV2	**9.7**	**237**	**0.01**	**10.6**	
2	Rinse BV5	**29.2**	**162**	**0.02**	**10.6**	
2	Rinse BV10	**48.6**	**113**	**0.02**	**10.6**	
2	Rinse BV15	**48.6**	**106**	**0.02**	**10.6**	
2	Rinse BV20	**48.6**	**112**	**0.02**	**10.6**	Regen 2
3	Regen BV1	**5.8**	595,657	**13.16**	**13.2**	
3	Regen BV2	**5.8**	144,120	**3.18**	**16.3**	
3	Regen BV3	**5.8**	**19,545**	**0.43**	**16.8**	
3	Regen BV4	**5.8**	**6,620**	**0.15**	**16.9**	
3	Regen BV5	**5.8**	**3,119**	**0.07**	**17.0**	
3	Rinse BV1	**9.7**	**20**	**0.00**	**17.0**	
3	Rinse BV2	**9.7**	**15**	**0.00**	**17.0**	
3	Rinse BV5	**29.2**	**9**	**0.00**	**17.0**	
3	Rinse BV10	**48.6**	**4**	**0.00**	**17.0**	
3	Rinse BV15	**48.6**	**2**	**0.00**	**17.0**	
3	Rinse BV20	**48.6**	**1**	**0.00**	**17.0**	Regen 3
4	Regen BV1	**5.8**	677,122	**14.95**	**15.0**	
4	Regen BV2	**5.8**	**50,191**	**1.11**	**16.1**	
4	Regen BV3	**5.8**	**8,965**	**0.20**	**16.3**	
4	Regen BV4	**5.8**	**2,844**	**0.06**	**16.3**	
4	Regen BV5	**5.8**	**1,288**	**0.03**	**16.4**	
4	Rinse BV1	**9.7**	**2**	**0.00**	**16.4**	
4	Rinse BV2	**9.7**	**1**	**0.00**	**16.4**	
4	Rinse BV5	**29.2**	**1**	**0.00**	**16.4**	
4	Rinse BV10	**48.6**	**0**	**0.00**	**16.4**	
4	Rinse BV15	**48.6**	**1**	**0.00**	**16.4**	
4	Rinse BV20	**48.6**	**0**	**0.00**	**16.4**	Regen 4

5	Regen BV1	**5.8**	158,622	**3.50**	**3.5**
5	Regen BV2	**5.8**	**27,317**	**0.60**	**4.1**
5	Regen BV3	**5.8**	**4,181**	**0.09**	**4.2**
5	Regen BV4	**5.8**	**1,707**	**0.04**	**4.2**
5	Regen BV5	**5.8**	**35,249**	**0.78**	**5.0**
5	Rinse BV1	**9.7**	**10**	**0.00**	**5.0**
5	Rinse BV2	**9.7**	**2**	**0.00**	**5.0**
5	Rinse BV5	**29.2**	**1**	**0.00**	**5.0**
5	Rinse BV10	**48.6**	**0**	**0.00**	**5.0**
5	Rinse BV15	**48.6**	**1**	**0.00**	**5.0**
5	Rinse BV20	**48.6**	**1**	**0.00**	**5.0** Regen 5

Regen	**Estimated PFAS Mass Loaded During Forward Flow (g)**	**Estimated PFAS Mass Recovered During Regen (g)**	**Percent Difference**
Regen 1	10.48	16.6	58%
Regen 2	12.71	10.6	-16%
Regen 3	15.82	17.0	7%
Regen 4	9.32	16.4	75%
Regen 5	7.69	5.0	-35%
Total	56.01	65.57	17%

Success Criteria	95% of regeneration solvent can be reused
Confirmation Methodology	Mass balance of resin loading based on arithmetic mean of influent and effluent analysis as compared to regenerant analysis and volume.

Still Bottoms Batch	IPA (mg/L)	IPA (%)	Still Bottoms Generated (L)	IPA in SB (mL)	Distiller Feed Volume (gal)	Distiller Feed Volume (L)	Est. IPA %	Est. Starting IPA (L)	Percent IPA Recovered
C1B1	8460	0.846%	3.5	29.61	4.6	17.5	64%	11.1	99.7%
C1B2	211	0.0211%	3.7	0.78	4.2	16.0	64%	10.2	100%
C1B3	1130	0.113%	3.7	4.18	4.2	16.0	64%	10.2	100%
C1B4	104	0.0104%	3.25	0.34	4.1	15.6	64%	9.9	100%
C1B5	275	0.0275%	2.5	0.69	4.7	17.6	64%	11.2	100%
C1B6	187	0.0187%	3	0.56	3.9	14.8	64%	9.4	100%
C2B4	364	0.036%	4	1.46	4.8	18.2	64%	11.6	100%
C2B5	113	0.011%	4	0.45	4.2	15.7	64%	10.0	100%
C2B6	42.8	0.004%	3.5	0.15	4.4	16.7	64%	10.7	100%
C2B7	68.6	0.007%	4.25	0.29	4.5	17.1	64%	10.9	100%
C2B8	87.3	0.009%	3.75	0.33	4.7	17.9	64%	11.4	100%
C2B9	199	0.020%	4.75	0.95	4.5	16.9	64%	10.7	100%
C2B10	90.3	0.009%	4.75	0.43	5.0	18.9	64%	12.1	100%
C2B11	185	0.019%	4.35	0.80	4.4	16.7	64%	10.6	100%
C2B12	51	0.005%	4.5	0.23	5.0	18.9	64%	12.0	100%
C2B13	245	0.025%	4.5	1.10	4.4	16.6	64%	10.6	100%
C2B14	154	0.015%	2.75	0.42	3.5	13.2	64%	8.4	100%
C3B3	1770	0.177%	4.53	8.01	5.0	18.9	64%	12.0	99.9%
C3B10	16000	1.600%	4.28	68.40	5.0	18.9	64%	12.0	99.4%
C4B3	91900	9.190%	5.55	510.05	5.0	18.9	64%	12.0	95.8%
C4B7	295	0.030%	4.10	1.21	5.0	18.9	64%	12.0	100%

Success Criteria — Less Than 10% Reduction in Resin Performance for 5 Loading/Regeneration Cycles

Confirmation Methodology — Monitoring/documentation of sample results and correlation to bed volumes treated between regeneration cycles

Lead Removal Efficiency		
BVs	TOTAL PFAS	PFOS + PFOA
216	99.9%	100.0%
549	99.8%	100.0%
1,217	99.7%	100.0%
2,687	96.9%	99.9%
4,889	86.9%	99.7%
5,226	92.1%	99.9%
2,568	97.3%	100.0%
4,841	91.7%	99.8%
6,101	88.4%	99.7%
6,472	91.4%	99.8%
1,618	99.4%	100.0%
3,744	95.7%	99.8%
5,605	90.9%	99.7%
7,046	86.2%	99.3%
7,339	85.8%	99.6%
2,734	97.3%	100.0%
5,457	91.8%	99.6%
7,348	81.0%	99.5%
2,072	98.6%	100.0%
3,946	96.1%	99.9%
6,018	91.2%	99.8%
2,612	98.4%	99.9%
3,926	93.3%	98.8%
5,841	90.3%	99.1%
6,038	92.3%	100.0%
6,209	89.5%	99.9%
6,672	93.0%	99.9%
6,873	85.5%	99.8%

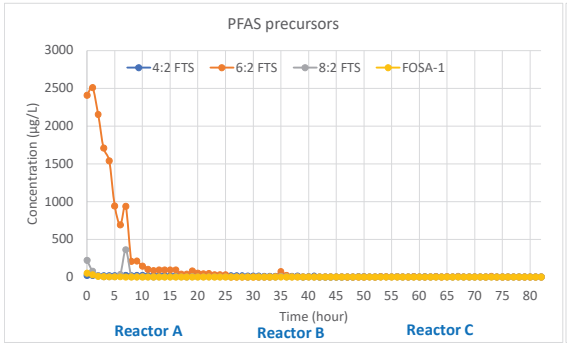
APPENDIX G CLARKSON FIELD DEMONSTRATION DATA AND SITE 8 DATA

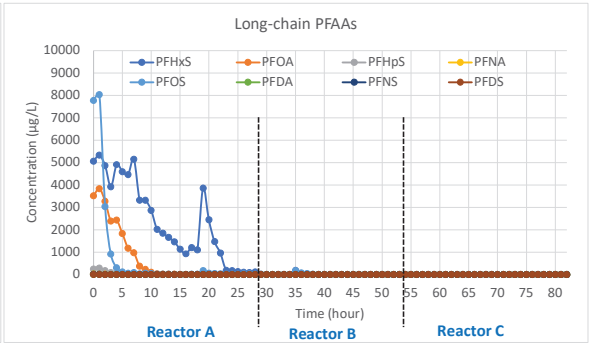
Concentrations (µg/L) NOTE ALL ZERO VALUES STAND FOR "BELOW DETECTION LIMIT"

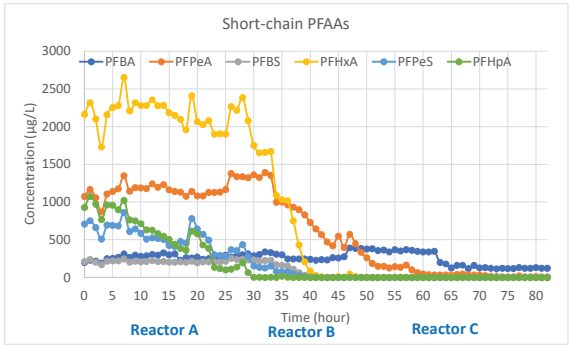
Time (hour)	4:2 FTS	6:2 FTS	8:2 FTS	FOSA-1	PFBA	PFPeA	PFBS	PFHxA	PFPeS	PFHpA	PFHxS	PFOA	PFHpS	PFNA	PFOS	PFDA	PFNS	PFDS
0	20	2409	221.6	49.7	199.4	1073	209.9	2160.3	708.7	928.1	5060.7	3514.5	247.2	35.5	7774.9	2.6	23.2	3.3
1	19.5	2509.6	75.3	28	230.6	1167.3	238.3	2314.1	752.4	1072.2	5335.8	3842.1	293.7	25.8	8036.3	1.1	11.4	1.7
2	17.8	2155.4	18.3	7.7	218.1	1057.2	201.1	2099	660.8	972.1	4869.2	3276.2	176.5	11.6	3036.9	0	2.7	0
3	14.6	1708.2	5.7	3.4	191	870.7	170	1727	510.3	767.5	3923.3	2382.7	93.1	5.8	912.6	0	1.3	0
4	19.4	1540.2	4.1	2	249.2	1107.6	213.7	2156.7	696	962.5	4910.5	2435.3	66	2.1	299.1	0	0	0
5	19.2	941.3	6.1	1.3	252.1	1141.5	221.2	2251.7	689.3	958.4	4601.1	1832.1	33.7	1.2	121.5	0	0	0
6	18.9	689.7	32.9	1.3	265.4	1175.3	220.2	2276.8	684.1	897.6	4470.8	1175.6	19.1	0	57.1	0	0	0
7	21.6	937.5	362.6	0	310.8	1349.4	246.6	2650.6	860.6	1022.4	5151.9	973.7	14.7	1.9	86.9	0	0	0
8	19.1	205.7	3.3	0	265	1143.4	205.7	2208.2	610.3	762.3	3327.2	372.7	5.3	0	34.8	0	0	0
9	20.1	212.1	4	0	296.2	1191.9	216.4	2317.7	643.3	751.3	3315.7	230.5	3.3	0	60.9	0	0	0
10	20.4	142.2	4.4	0	281.8	1188.3	208.9	2277.9	586.9	713.8	2866.8	107.8	2.5	0	44.3	0	0	0
11	18.7	101.5	1.9	0	286.3	1178.2	211.1	2278	508.6	632.9	2027	33.7	1.4	0	20.5	0	0	0
12	18.9	85.5	0	0	306.7	1240.7	224.4	2355.9	525.4	627.6	1847.6	21.4	1.3	0	10.3	0	0	0
13	18.1	92.8	1.8	0	298.1	1197	210.6	2275.8	516.8	581.9	1661.3	14.3	1.1	0	9.8	0	0	0
14	19.2	93.5	0.7	0	326.9	1231.3	212.7	2282.5	501.6	546.4	1463.6	12.5	1.4	0	8.5	0	0	0
15	19.2	93.1	2	0	299.7	1162.1	205.7	2182.5	424.9	503.8	1140.6	7.6	1.3	0	5.6	0	0	0
16	18.6	95.6	2.6	0	313.9	1138.9	202.6	2149.1	408.6	439.2	927.3	5.5	1	0	4.9	0	0	0
17	16	37.43	0.7	0.16	227.49	1129.27	206.84	2093.67	477.53	386.99	1204.3	4.98	0.29	0.09	13.57	0	0.15	0
18	15.43	36.56	0.52	0.19	264.91	1076.98	201.02	1956.92	452.89	361.54	1098.31	4.07	0.32	0.1	9.94	0	0.1	0
19	16.39	82.13	3.23	0.37	260.04	1140.87	216.78	2406.12	780.55	616	3860	49.02	4.7	0.94	182.01	0	0.95	0
20	13.89	51	1.66	0.22	269.73	1083.31	194.54	2064.08	645.85	578.01	2451.6	13.31	1.59	0.51	66.39	0	0.52	0
21	12.86	44.03	1.56	0.24	243.38	1082.74	208.71	2025.04	573.39	430.85	1470.43	6.35	1.05	0.42	47.14	0	0.35	0
22	14.06	45.83	1.52	0.21	249.03	1126.1	208.46	2079.15	495.79	386.78	961.83	5.03	0.73	0.42	40.59	0	0.36	0
23	12.54	30.97	0.74	0.15	257.52	1129.23	206.91	1901.69	300.83	135.83	186.93	1.73	0.31	0.15	16.32	0	0.14	0
24	11.79	31.07	0.81	0.14	268.14	1131.56	206.35	1904.3	292.96	118.99	171.75	1.5	0.27	0.17	14.04	0	0.17	0
25	12.96	28.75	1.2	0.13	298.57	1164.44	216.94	1900.62	285.33	100.8	137.72	1.31	0.33	0.16	14.74	0	0.12	0
26	15.22	0	1.05	0.2	271.8	1376.19	252.26	2264.55	368.22	111.67	111.92	2.73	0.51	0.22	29.12	0	0.2	0
27	14.06	0	0.94	0.19	290.64	1333.8	239.37	2215.26	355.69	137.75	95.3	5	0.51	0.29	28.66	0	0.11	0
28	14.68	0	1.07	0.21	300.31	1333.6	241.73	2384.12	434.88	195.56	112.65	4.52	0.51	0.29	27.1	0	0.15	0
29	13.34	0	0.37	0.16	311.87	1320.86	232.87	2075.75	276.2	65.57	24.12	1.72	0.27	0.15	9.09	0	0.1	0
30	10.92	0	-0.01	0.14	286.1	1359.28	230.74	1750.39	153.64	2.62	0.39	0.13	0.11	0	0.97	0	0	0
31	10.82	0	0.07	0.12	303.58	1323.99	214.77	1651.73	134.81	1.87	0.51	0.34	0.12	0	0.52	0	0	0
32	8.7	0	0.07	0.12	337.66	1391.73	225.13	1658.86	126.21	1.39	7.03	1.48	0.15	0	3.28	0	0	0
33	8.51	0	0.15	0.11	329.61	1354.16	228.16	1672.52	150.58	2.82	1.35	0.44	0.16	0	5.75	0	0	0
34	7.97	4.08	0.21	0	308.79	996.07	169.15	1088	78.96	1.07	2.53	1.54	0.21	0	5.9	0	0	0
35	6.54	72.34	6.39	0	300.28	999.87	160.83	1031.66	76.48	18.06	183.74	78.13	3.84	0.72	172.46	0	0	0
36	5.61	19.83	4.95	0	246.3	960.78	152.68	1016.65	75.45	2.41	23.68	11.7	0.95	0.27	80.62	0	0.2	0
37	8.95	6.32	4.28	0	245.93	934.02	109.9	750.14	45.19	1.26	6	3.3	0.45	0.2	48.23	0	0.27	0
38	13.86	6.23	2.76	0	246.6	898.35	63.56	431.47	26.94	1.57	8.77	3.88	0.27	0.19	15.36	0	0.09	0
39	0	2.02	1.05	0	247.75	831.06	29.21	207.39	11.94	0.55	3.12	1.32	0.16	0.15	7.92	0	0.1	0
40	3.87	1.1	0.66	0	241.63	729.57	10.63	83.13	4.5	0.37	2.07	0.91	0.16	0.09	4.85	0	0.09	0
41	10.75	1.63	0.55	0	229.99	643.63	3.49	27.87	1.71	0.37	2.28	1.05	0.12	0.1	4.68	0	0.09	0
42	0	0.71	0.55	0	237.41	566.99	1.07	8.7	0.56	0.18	0.79	0.4	0.09	0	2.68	0	0.08	0
43	0	0.74	0.6	0	232.72	472.51	0.56	4.5	0.46	0.19	0.81	0.45	0.11	0	4.09	0	0.09	0
44	0	2.13	0.49	0	264.71	418.55	0.26	2.22	0.28	0.18	0.64	0.33	0.1	0	1.49	0	0	0
45	0	1.97	0.6	0	259.88	548.16	2.35	14.21	1.26	0.72	2.32	1.11	0.16	0	7.25	0	0.09	0
46	0	0.63	0	0	274.62	397.54	0.49	3.09	0.4	0.23	1.12	0.59	0.1	0	2.96	0	0.08	0
47	0	0.38	0.66	0	391.63	573.44	8.1	46.05	2.59	0.11	1.42	0.48	0	0	5.52	0	0	0
48	0	0.41	0.28	0	386.57	449.52	2.9	14.2	1.2	0	0.88	0.41	0	0	3.08	0	0	0
49	2.57	0.19	0.63	0	383.28	331.82	1.08	5.17	0.64	0	0.91	0.37	0	0	2.91	0	0	0
50	3.12	0.09	0.3	0	375.88	262.26	0.48	1.6	0.4	0	0.53	0.28	0	0	2.35	0	0	0
51	2.24	0.74	0.72	0	380.91	185.6	0.2	0.97	0.33	0	0.49	0.27	0	0	2.15	0	0	0
52	2.36	0.35	0.23	0	358.45	149.23	0.07	0.59	0.16	0	0.26	0.16	0	0	1.18	0	0	0
53	2.6	4.61	1.58	0	364.72	148.97	0.43	1.22	0.32	0	0.76	0.3	0	0	2.16	0	0	0
54	2.13	3.89	0.78	0	340.61	127.98	0.05	0.77	0.17	0	0.39	0.13	0	0	1.62	0	0	0
55	1.93	2.43	0.68	0	369.15	143.29	0.77	3.75	0.34	0	0.54	0.17	0	0	1.89	0	0	0
56	2.28	5.96	5.25	0	349.22	134.17	0.42	2.5	0.26	0	0.49	0.17	0	0	1.53	0	0	0
57	2.17	1.54	0.33	0	369.54	165.36	1.16	3.7	0.69	0.19	0.85	0.41	0	0	2.78	0	0	0
58	2.12	0.4	0.24	0	362.1	99.16	0.32	0.87	0.23	0	0.3	0.1	0	0	1.75	0	0	0
59	2.84	3.36	1.4	0	345.55	64.07	0	0.23	0.12	0	0.24	0	0	0	1.41	0	0	0
60	2.14	0.86	0.39	0	340.37	46.45	0	0.14	0.11	0	0.13	0	0	0	1.2	0	0	0
61	2.63	0.34	0.19	0	340.36	37.5	0	#VALUE!	0.08	0	0.12	0	0	0	0.44	0	0	0
62	1.76	1.75	0.61	0	347.94	32.62	0	#VALUE!	0.1	0	0.15	0	0	0	0.49	0	0	0
63	2.91	4.61	0.67	0	196.75	32.22	0	0.61	0.1	0	0.15	0.1	0	0	0.77	0	0	0
64	2.03	0.54	0.73	0	179.75	34.09	0	0.61	0.12	0.13	0.1	0.09	0	0	0.39	0	0	0
65	1.54	5.71	0.88	0	126.96	35.86	1.33	5.51	0.6	0.32	1.91	0.73	0	0	3.11	0	0	0
66	1.72	0.7	0.15	0	158.27	39.97	0.07	0.78	0.16	0	0.39	0.16	0	0	0.97	0	0	0
67	1.72	7.49	4.19	0	163.17	47.44	0.3	1.79	0.29	0.18	0.98	0.43	0	0	1.21	0	0	0
68	1.77	0.85	0.53	0	118.24	32.45	0.08	0.8	0.14	0.16	0.33	0.19	0	0	0.43	0	0	0
69	1.46	1.86	0.28	0	158.75	32.85	0.18	0.94	0.2	0.19	0.56	0.27	0	0	0.62	0	0	0
70	1.44	1.3	0.57	0	129.11	32.79	0.24	1.48	0.22	0.15	0.66	0.46	0	0	1.76	0	0	0
71	1.72	1.52	0.45	0	130.62	22.83	0	0.34	0	0	0.26	0.06	0	0	0.22	0	0	0
72	1.67	0.26	0.14	0	120.79	16.51	0	0.28	0	0	0.12	0.11	0	0	0.34	0	0	0
73	1.49	9.08	1.72	0	115.55	11.84	0	0.34	0	0	0.24	0.1	0	0	0.19	0	0	0
74	1.49	0.06	0	0	121.96	10.65	0	0.29	0	0	0.12	0	0	0	0.16	0	0	0
75	1.32	0	0	0	117.56	9.29	0	0.27	0	0	0.11	0	0	0	0.29	0	0	0
76	1.49	0.46	0.15	0	118.29	8.12	0	#VALUE!	0	0	0.16	0	0	0	0.42	0	0	0
77	1.52	0.97	0.23	0	133.05	22.66	0.23	1.24	0.35	0.47	1.51	0.89	0	0	2.9	0	0	0
78	1.25	0.54	0.17	0	123.17	8.28	0	0.41	0	0.09	0.3	0.18	0	0	0.67	0	0	0
79	1.29	0.08	0	0	121.3	5.9	0	0.25	0	0	0.13	0.11	0	0	0.4	0	0	0
80	1.59	0.39	0	0	131.65	14.25	0	0.76	0	0.23	0.44	0.35	0	0	1.08	0	0	0
81	0.96	0.25	0	0	121.92	7.36	0	0.21	0	0.14	0.3	0.2	0	0	0.78	0	0	0
82	1.21	0	0	0	122.96	6.23	0	0.34	0	0	0.33	0.19	0	0	0.67	0	0	0
% change	93.95%	100.00%	100.00%	100.00%	38.34%	99.42%	100.00%	99.98%	100.00%	100.00%	99.99%	99.99%	100.00%	100.00%	99.99%	100.00%	100.00%	100.00%

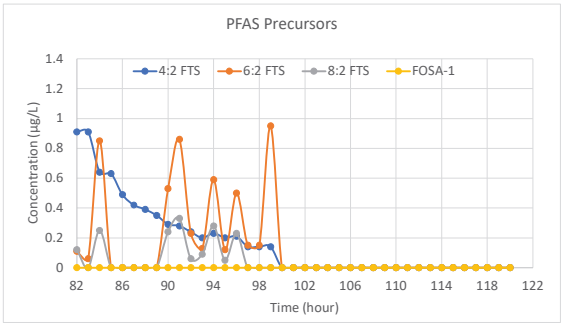
Concentrations (µg/L) NOTE ALL ZERO VALUES STAND FOR "BELOW DETECTION LIMIT"

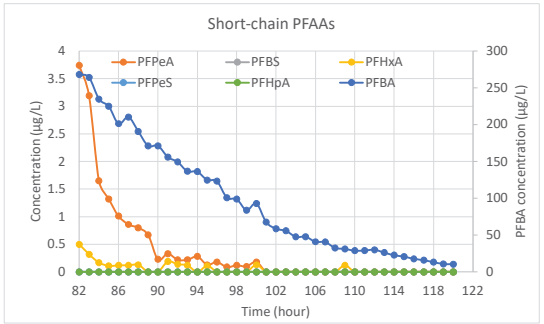
Time (hour)	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSAA	FOSA-1	MeFOSAA	PFBA	PFPeA	PFBS	PFHxA	PFPeS	PFHpA	PFHxS	PFOA	PFHpS	PFNA	PFOS	PFDA	PFNS	PFDS
82	0.91	0.11	0.12	0	0	0	268.27	3.74	0	0.5	0	0	0.19	0	0	0	0.31	0	0	0
83	0.91	0.06	0	0	0	0	264.29	3.19	0	0.32	0	0	0.19	0	0	0	0.31	0	0	0
84	0.64	0.85	0.25	0	0	0	234.76	1.65	0	0.17	0	0	0.15	0	0	0	0.23	0	0	0
85	0.63	0	0	0	0	0	224.92	1.32	0	0.11	0	0	0.16	0	0	0	0.13	0	0	0
86	0.49	0	0	0	0	0	201.24	1.01	0	0.12	0	0	0.13	0	0	0	0.23	0	0	0
87	0.42	0	0	0	0	0	210.38	0.86	0	0.12	0	0	0.19	0	0	0	0.31	0	0	0
88	0.39	0	0	0	0	0	190.73	0.8	0	0.13	0	0	0.18	0	0	0	0.48	0	0	0
89	0.35	0	0	0	0	0	171.15	0.67	0	0	0	0	0.17	0	0	0	0.5	0	0	0
90	0.29	0.53	0.24	0	0	0	171.22	0.23	0	0	0	0	0.22	0	0	0	0.41	0	0	0
91	0.28	0.86	0.33	0	0	0	155.98	0.33	0	0.19	0	0	0.46	0	0	0	1.19	0	0	0
92	0.24	0.23	0.06	0	0	0	149.34	0.22	0	0.14	0	0	0.24	0	0	0	0.72	0	0	0
93	0.2	0.13	0.09	0	0	0	136.78	0.22	0	0.12	0	0	0.2	0	0	0	0.65	0	0	0
94	0.23	0.59	0.28	0	0	0	136.18	0.28	0	0	0	0	0.21	0	0	0	0.76	0	0	0
95	0.2	0.12	0.05	0	0	0	124.71	0.13	0	0.11	0	0	0.19	0	0	0	0.61	0	0	0
96	0.21	0.5	0.23	0	0	0	123.35	0.18	0	0	0	0	0.23	0	0	0	0.89	0	0	0
97	0.14	0.15	0	0	0	0	100.77	0.09	0	0	0	0	0.17	0	0	0	0.55	0	0	0
98	0.14	0.15	0	0	0	0	98.94	0.12	0	0	0	0	0.16	0	0	0	0.49	0	0	0
99	0.14	0.95	0	0	0	0	83.75	0.1	0	0	0	0	0.13	0	0	0	0.5	0	0	0
100	0	0	0	0	0	0	93.11	0.18	0	0.13	0	0	0.29	0	0	0	0.94	0	0	0
101	0	0	0	0	0	0	67.58	0	0	0	0	0	0.12	0	0	0	0.65	0	0	0
102	0	0	0	0	0	0	58.81	0	0	0	0	0	0.14	0	0	0	0.48	0	0	0
103	0	0	0	0	0	0	55.91	0	0	0	0	0	0.15	0	0	0	0.57	0	0	0
104	0	0	0	0	0	0	47.75	0	0	0	0	0	0	0	0	0	0.47	0	0	0
105	0	0	0	0	0	0	47.91	0	0	0	0	0	0.15	0	0	0	0.52	0	0	0
106	0	0	0	0	0	0	41.03	0	0	0	0	0	0	0	0	0	0.57	0	0	0
107	0	0	0	0	0	0	40.6	0	0	0	0	0	0	0	0	0	0.63	0	0	0
108	0	0	0	0	0	0	32.58	0	0	0	0	0	0	0	0	0	0.63	0	0	0
109	0	0	0	0	0	0	31.32	0	0	0.12	0	0	0.21	0.22	0	0	0.62	0	0	0
110	0	0	0	0	0	0	28.87	0	0	0	0	0	0	0	0	0	0.57	0	0	0
111	0	0	0	0	0	0	29.1	0	0	0	0	0	0.15	0	0	0	0.65	0	0	0
112	0	0	0	0	0	0	29.99	0	0	0	0	0	0	0	0	0	0.46	0	0	0
113	0	0	0	0	0	0	26.31	0	0	0	0	0	0	0	0	0	0.56	0	0	0
114	0	0	0	0	0	0	22.78	0	0	0	0	0	0	0	0	0	0.47	0	0	0
115	0	0	0	0	0	0	20.83	0	0	0	0	0	0	0	0	0	0.82	0	0	0
116	0	0	0	0	0	0	17.8	0	0	0	0	0	0	0	0	0	0.62	0	0	0
117	0	0	0	0	0	0	15.96	0	0	0	0	0	0	0	0	0	0.63	0	0	0
118	0	0	0	0	0	0	13.22	0	0	0	0	0	0	0	0	0	0.55	0	0	0
119	0	0	0	0	0	0	10.85	0	0	0	0	0	0	0	0	0	0.5	0	0	0
120	0	0	0	0	0	0	10.48	0	0	0	0	0	0	0	0	0	0.53	0	0	0
%change	100.00%	100.00%	100.00%				96.09%	100.00%		100.00%							-70.97%			

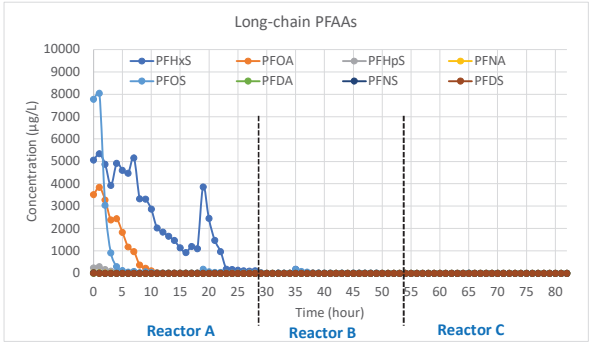

PFAS precursors
4:2 FTS
6:2 FTS
8:2 FTS
FOSA-1
Concentration (μg/L)
Time (hour)
Reactor A
Reactor B
Reactor C


Long-chain PFAAs
PFHxS
PFOA
PFHpS
PFNA
PFOS
PFDA
PFNS
PFDS
Concentration (μg/L)
Time (hour)
Reactor A
Reactor B
Reactor C

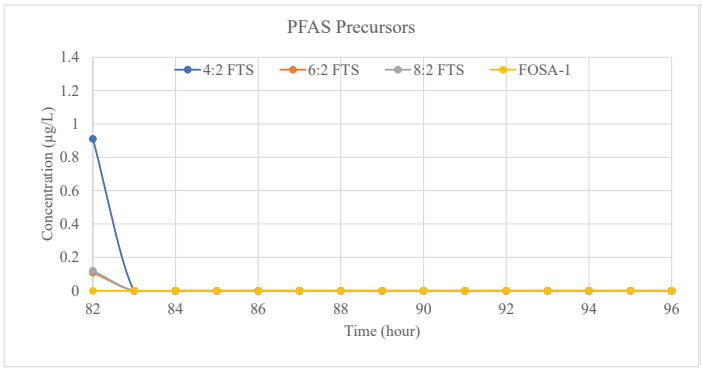

Short-chain PFAAs
PFBA
PFPeA
PFBS
PFHxA
PFPeS
PFHpA
Concentration (μg/L)
Time (hour)
Reactor A
Reactor B
Reactor C

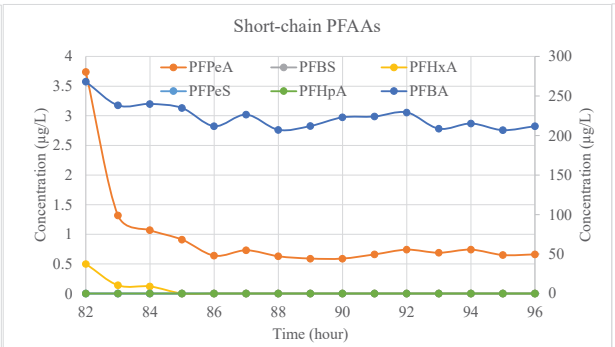

PFAS Precursors
4:2 FTS
6:2 FTS
8:2 FTS
FOSA-1
Concentration (μg/L)
Time (hour)

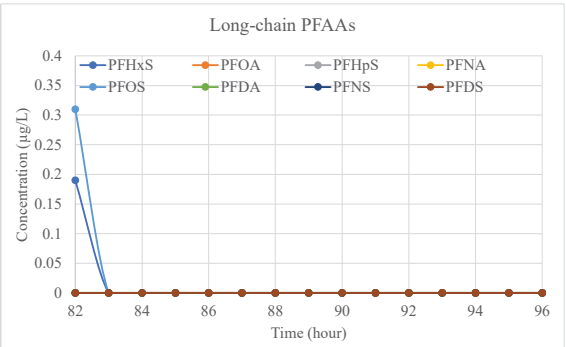

Short-chain PFAAs
PFPeA
PFBS
PFHxA
PFPeS
PFHpA
PFBA
Concentration (μg/L)
PFBA concentration (μg/L)
Time (hour)


Long-chain PFAAs
PFHxS
PFOA
PFHpS
PFNA
PFOS
PFDA
PFNS
PFDS
Concentration (μg/L)
Time (hour)
Reactor A
Reactor B
Reactor C

Treatment without CTAB																				
Concentration (µg/L)	NOTE ALL ZERO VALUES STAND FOR "BELOW DETECTION LIMIT"																			
Time (hour)	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSAA	FOSA-1	MeFOSAA	PFBA	PFPeA	PFBS	PFHxA	PFPeS	PFHpA	PFHxS	PFOA	PFHpS	PFNA	PFOS	PFDA	PFNS	PFDS
82	0.91	0.11	0.12	0	0	0	268.27	3.74	0	0.5	0	0	0.19	0	0	0	0.31	0	0	0
83	0	0	0	0	0	0	238.39	1.32	0	0.14	0	0	0	0	0	0	0	0	0	0
84	0	0	0	0	0	0	240.02	1.07	0	0.12	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	234.89	0.91	0	0	0	0	0	0	0	0	0	0	0	0
86	0	0	0	0	0	0	211.86	0.64	0	0	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	226.47	0.73	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	207.22	0.63	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	212.04	0.59	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	223.01	0.59	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	224.18	0.66	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	229.23	0.74	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	208.71	0.69	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	215.29	0.74	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	206.88	0.65	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	211.86	0.66	0	0	0	0	0	0	0	0	0	0	0	0







CLARKSON UNIVERSITY TOP DATA INTERPRETATION

(FROM EARLIER SITE 8 TREATABILITY WORK)

Table 1. Total oxidizable precursor (TOP) concentrations reduction in six different IX brine regenerant still bottom samples. TOP concentrations are normalized to initial (without dilution) in SB samples. S1* was undiluted, S3** was diluted 50 times, and other SB samples were diluted 10 times.

	TOP Initial (mg/L)	TOP final (mg/L)	TOP removal (%)
SB1*	3870	2	99.9
SB2	9260	34	99.6
SB3**	6870	13	99.8
SB4	4380	10	99.9
SB5	6360	11	99.8
SB6	9440	15	99.8

Table 2. Fluoride production in six different IX brine regenerant still bottom samples. Concentrations are normalized to initial (without dilution) in SB samples. S1* was undiluted, S3** was diluted 50 times, and other SB samples were diluted 10 times.

	Initial (mg/L)	Final (mg/L)
SB1*	340	7890
SB2	1670	8420
SB3**	4700	16800
SB4	1600	10700
SB5	360	14400
SB6	570	8800

Total oxidizable precursors (TOP) analysis

An earlier method developed by Houtz and Sedlak (2012) demonstrated that an excess of hydroxyl radicals ($^{\bullet}OH$) generated in persulfate oxidation fully converted PFAS precursors to PFAS.

Samples were diluted to 1000 times prior to heating samples at 85°C in the oven. To evaluate this method, a mixture of common PFAS precursors containing different carbon chain-lengths including 10:2 FTS, 4:2 FTS, 6:2 FTS, 8:2 FTS, EtFOSA, EtFOSAA, FOSA-1, FOSAA, MeFOSA and MeFOSAA were used. The control sample did not contain methanol or other organic solvents. The dilution was made in deionized water from the mixture of precursor's stock solution of 50 μg/L. The prepared solution containing the mixture of precursors was transferred in 50 mL high density polyethylene (HDPE) tubes with a headspace < 1 mL. Next, 60 mM potassium persulfate and 10 N NaOH solution were added to the precursors solution to maintain the pH above 12. Experiments were performed in duplicate, with an aliquot used as a room temperature control (i.e., it was kept at room temperature after addition of persulfate and NaOH solutions). The HDPE tubes were placed in a temperature-controlled oven at temperature 92°C for 6 h, and samples were analyzed after cooling at room temperature. A good conversion of all precursors to PFAAs (96.7 ± 4.3%) was achieved.

Reference:

Houtz, E. F.; Sedlak, D. L. Oxidative conversion as a means of detecting precursors to perfluoroalkyl acids in urban runoff. *Environ. Sci. Technol.* **2012**, *46*, 9342-9349.

APPENDIX H DATA QUALITY VALIDATION

Data Quality Assessment Report
ESTCP October 2020 Through May 2021
Pease Air Force Base
Portsmouth, New Hampshire

1.0 INTRODUCTION

A data quality assessment (DQA) was completed on selected laboratory data generated during remediation effectiveness evaluations completed from October 2020 through May 2021 completed at Pease Air Force Base in Portsmouth, New Hampshire. Groundwater, process water, and Regen/Distillation samples were submitted to the Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) in Potsdam, New York and SGS Laboratory in Orlando, Florida. Samples included in this DQA were analyzed using the following methods:

- Per- and Polyfloroalkyl Substances (PFAS) by USEPA Method EPA 537M QSM5.3 B-15
- Volatile Organic Compounds (VOCs) by USEPA Method 8260D

A summary of samples included in this review is presented in Table 1. The following laboratory reports were reviewed:

Clarkson 20210405
Clarkson 20210525
Clarkson 20210615
Clarkson 20210623
Clarkson 20210702

SGS FA83678
SGS FA86620

During the DQA, quality control (QC) data reported by the laboratories were reviewed to assess QC elements identified for this project in Requirements for SERDP AND ESTCP Projects Addressing PFAS-Related Issues; revised 07 January 2020. The following QC elements were included in this review:

Quality Assurance Elements:

- Performance Evaluation Sample Results
- Inter-laboratory Split Sample Results
- Blind Duplicates
- Laboratory Duplicates

Laboratory Reports:

- Laboratory Report Narratives
- Sample Collection and Preservation
- Holding Times
- Field and Laboratory Blanks
- Laboratory Control Samples (LCS)
- Matrix Spike/Matrix Spike Duplicates (MS/MSD)
- Internal Standard Response
- Surrogate Recovery
- Field Duplicate Precision
- Laboratory Duplicate Precision
- Target Analyte Calculations/Quantitation

With the exception of the items discussed below, QC elements and measurements checked during the DQA met requirements in the analytical method and/or validation guidelines. Unless specified below, results are interpreted to be usable as reported by the laboratory.

2.0 DQA SUMMARY

No data quality issues were identified, and results are interpreted to be usable as reported by the lab.

2.1 Performance Evaluation Sample

Two performance evaluation (PE) samples were obtained from ERA in Golden, Colorado and submitted to Clarkson laboratory for analysis. PE results are summarized on Table 2. The majority of target PFAS compounds were reported at concentration within the PE QC limits indicating good overall accuracy of measurement was occurring at the laboratory.

High recovery (188%) was reported for PFBA in one of two PE samples.

Low recovery of PFTeDA (46%) was reported in one of two PE samples.

FOSA-1 was detected in both PE analyses. It was not listed as present in the PE samples. The detections indicate the potential for false positive detections of FOSA-1 in field samples.

2.2 Split Sample Comparison

Split samples from location SP1-GW-20210304 were submitted to Clarkson and SGS in March 2021. A summary of split sample results is presented on Table 3. Relative percent

difference (RPD) of results ranged from 0 to 40. Excellent agreement was observed for the primary PFAS compounds PFOA (RPD 1) and PFOS (RPD 2) as well as Total PFAS (RPD 7). These result provide assurance that results provided by the primary lab, Clarkson University, are consistent with other commercial environmental testing service like SGS.

2.3 Sample Duplicate Analyses

Two blind field duplicates and a series of laboratory duplicates were analyzed to assess sampling and analytical precision as indicated on Table 1. Duplicate results are summarized on Table 4.

Excellent agreement was observed between results for both the field and laboratory duplicates. This is especially true for higher concentration results (>0.1 ng/mL). the majority of RPDs for results were less than 20 and relatively good agreement was observed in all samples. These results provide assurance that adequate field and laboratory precision was obtained to support data use objectives.

2.4 PFAS Laboratory QC Review

Laboratory data were evaluated based on the following elements:

- Lab Report Narrative
- * Sample Collection and Preservation
- * Holding Times
- QC Blanks
- * LCS
- MS/MSD
- * Surrogate Recovery
- Internal Standard Response
- * Reporting Limits
- * Calculations

* QC criteria were met for this parameter.

<u>Lab Report Narrative</u>

SDG: 20210405

The lab report narrative indicates the Ion ratio for MeFOSAA was out of range in sample SP3-GW-20210319.0. The compound identification is uncertain.

SDG: 20210720

Ion ratios were out of range for the following compounds listed below.

- PFHxS Branched in sample SP4-GW_20210628 (CA_0085)
- PFOS Linear in sample SP3-GW/PW_20210629 (CA-0087)
- EtFOSAA in sample SP1-GW_20210701 (CA_0089)
- PFBS in the associated method blank

The laboratory applied an 'I' flag for these compounds indicating uncertainty in identification.

QC Blanks

SDG: 20210405

The following compounds were detected in the laboratory method blank: EtFOSAA 0.003, FOSA-1 0.013, PFTeDA 0.016, PFTrDA 0.013. Similar concentrations in samples may be false positive or biased high due to trace laboratory contamination.

SDG: 20210525

The following compounds were detected in the laboratory the method blank and field QC blank: MDK - PFBS 0.015, FBK - 4:2 FTS 0.042, PFTeDA 0.035. Similar concentrations in samples may be false positive or biased high due to trace laboratory or field contamination.

SDG: 20210615

FOSA-1 was detected in the laboratory method blank: FOSA-1 0.022. Similar concentrations in samples may be false positive or biased high due to trace laboratory contamination.

SDG: 20210720

PFBS was detected in the laboratory method blank: PFBS **0.01**. Similar concentrations in samples may be false positive or biased high due to trace laboratory contamination.

MS/MSD

SDG: 20210615

MS/MSD were analyzed using SP2 GW. The relative percent difference (RPD) between MS and MSD sample for EtFOSAA (34) and MeFOSAA (33) was greater than 30%. The percent recovery of both compounds in the MS and MSD were within specified

acceptance limits. Neither compound was detected in the associated sample and results are interpreted to be usable as reported by the laboratory.

SDG: 20210623

MS/MSD were analyzed using SP4 GW. The recoveries of PFBA in the matrix spike and duplicate were 60% and 54% respectively, which was below the minimum recovery limit of 73%. The Lab applied a Q flag in the Sample Quantitation Reports and the result for PFBA in SP4 is considered estimated and biased low.

Internal Standard Response

SDG: 20210525

SP10-C3B6-DP-20210409 (CA0016)– Multiple internal standards are outside the method limit high including D3-MeFOSAA, D5-EtFOSAA, M2 4:2-FTS, M2 6:2-FTS, M2 8:2-FTS, M2PFTeDA, M7PFUdA and MPFDoA. Results associated with these internal standards are estimated values.

SP11-C3B10-DP-20210415 internal standard M2-6:2 FTS response is high. The results for 6:2 FTS in this sample is considered an estimated value.

SDG: 20210615

Internal standards M2-PFTeDA and M9-PFNA in sample SP7-Regen#5-RegenSupply-20210C50A5-0042 (CA-0042) were above the upper limit. Results for associated compounds are considered estimated values.

SDG: FA83678

Recoveries for internal standards d3-MeFOSAA (152) and d5-EtFOSAA (155) are above limits. Reporting limits for MeFOSAA and EtFOSAA are considered estimated in samples SP1-GW-20210304.

2.5 VOC Laboratory QC Review

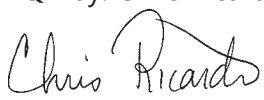
Laboratory data were evaluated based on the following parameters:

* Lab Report Narrative
* Sample Collection and Preservation
* Holding Times
* QC Blanks
* LCS

* Internal Standard Response
* Surrogate Recovery
* Reporting Limits

* QC criteria were met for this parameter.

DQA by: Chris Ricardi, NRCC-EAC



September 24, 2021

Reviewed by: Julie Ricardi

September 24, 2021

Table 1 - Sample Summary
Data Quality Assessment Report
ESTCP October 2020 Through May 2021
Pease Air Force Base
Portsmouth, New Hampshire

SYSTEM SAMPLES	PFAS SDG	PFAS Comment
FA78248 08272020 6028 Baseline Sample	missing full lab report	
SP1-GW-20210319(DoD)	20210405 RPT #002	
SP3-GW-20210319(DoD)	20210405 RPT #002	
SP4-GW-20210319(DoD)	20210405 RPT #002	
SP1_GW_20210414(DoD)	20210525 RPT #003	
SP3_GW_20210414(DoD)	20210525 RPT #003	
Fieldblank_20210414(DoD)	20210525 RPT #003	
SP1_GW_20210422(DoD)	missing full lab report	
SP3_GW_20210422(DoD)	missing full lab report	
SP4_GW_20210422(DoD)	missing full lab report	
SP1-GW-20210514 (DoD)	20210615 RPT #005	
SP3-GW-20210514 (DoD)	20210615 RPT #005	
SP4-GW-20210514(DoD)	20210615 RPT #005	
SP1-GW_20210528 (DoD)	20210623 RPT #006	
SP3-GW_20210528 (DoD)	20210623 RPT #006	
SP4-GW_20210528 (DoD)	20210623 RPT #006	
SP1-GW_20210611(DoD)	20210623 RPT #006	
SP3-GW_20210611(DoD)	20210623 RPT #006	
SP1-GW_20210628(DoD)	20210720 RPT #009	
SP3-GW_20210628(DoD)	20210720 RPT #009	
SP4-GW_20210628(DoD)	20210720 RPT #009	
SP1-GW_20210629(DoD)	20210720 RPT #009	
SP3-GW_20210629(DoD)	20210720 RPT #009	
SP4-GW_20210629(DoD)	20210720 RPT #009	
SP1-GW_20210701(DoD)	20210720 RPT #009	
SP3-GW_20210701(DoD)	20210720 RPT #009	
SP4-GW_20210701(DoD)	20210720 RPT #009	
SP1-GW_20210702(DoD)	20210720 RPT #009	
SP3-GW_20210702(DoD)	20210720 RPT #009	
SP4-GW_20210702(DoD)	20210720 RPT #009	

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Table 1 - Sample Summary
Data Quality Assessment Report
ESTCP October 2020 Through May 2021
Pease Air Force Base
Portsmouth, New Hampshire

REGEN/DISTILLATION SAMPLES	PFAS SDG	PFAS Comment
SP10-C3B6-DP-20210409	20210525 RPT #003	
SP08-C3B10_DF_20210414	20210525 RPT #003	
SP09_C3B10_DC_20210415	20210525 RPT #003	DF in lab report ID
SP11-C3B10_SB_20210415	20210525 RPT #003	DF in lab report ID
SP10-C3B10_DP_20210415	20210525 RPT #003	DF in lab report ID
SP09-C4B3-DC-20210429	20210615 RPT #005	
SP10-C4B3-DP-20210429	20210615 RPT #005	
SP08-C4B3-DF-20210429	20210615 RPT #005	
SP11-C4B3-SB-20210429	20210615 RPT #005	
SP7-Regen#5-Rinse1_20210505	20210615 RPT #005	
SP7-Regen#5-Rinse2_20210505	20210615 RPT #005	
SP7-Regen#5-Rinse5_20210505	20210615 RPT #005	
SP7-Regen#5-Rinse10_20210505	20210615 RPT #005	
SP7-Regen#5-Rinse15_20210505	20210615 RPT #005	
SP7-Regen#5-Rinse20_20210505	20210615 RPT #005	
SP7-Regen#5-Rinse5Dup_20210505	20210615 RPT #005	
SP5-Regen#5-Regensupply_20210505	20210615 RPT #005	
SP6-Regen#5-RegenflushBV1_20210505	20210615 RPT #005	
SP6-Regen#5-RegenflushBV2_20210505	20210615 RPT #005	
SP6-Regen#5-RegenflushBV3_20210505	20210615 RPT #005	
SP6-Regen#5-RegenflushBV4_20210505	20210615 RPT #005	
SP6-Regen#5-RegenflushBV5_20210505	20210615 RPT #005	
SP6-Regen#5-Regencomposite_20210505	20210615 RPT #005	
SP08-C4B7-DF-20210512	20210615 RPT #005	
SP09-C4B7-DC-20210512	20210615 RPT #005	
SP10-C4B7-DP-20210512	20210615 RPT #005	
SP11-C4B7-SB-20210512	20210615 RPT #005	

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Table 1 - Sample Summary
Data Quality Assessment Report
ESTCP October 2020 Through May 2021
Pease Air Force Base
Portsmouth, New Hampshire

PE SAMPLE	LABORATORY DUPLICATES
SP51_GW_20210304	SP3-GW-20201028
SP50_GW_20210304	SP3-GW-20201028 Duplicate
	SP3-GW-20201104
SPLIT SAMPLES	SP3-GW-20201104 Duplicate
SP1-GW-20210304 (SGS Split)	
	SP2-GW-20201117 (20A)
	SP2-GW-20201117 (20B - Lab Dup)
BLIND FIELD DUPLICATES	
SP3_GW_20201216	SP1_GW_20201229
SP25_GW_20201216 (SP3 Dup)	SP1_GW_20201229 (Lab Dup)
SP1_GW_20201223	SP3_GW_20210111
SP25_GW_20201223 (SP1 Dup)	SP3_GW_20210111 (Lab Dup)
	SP3-GW-20210216
	SP3-GW-20210216 (Dup)
	SP1_GW_20210304
	SP1_GW_20210304 (lab dup)

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Table 2 - Performance Evaluation Sample Resutls
Data Quality Assessment Report
ESTCP October 2020 Through May 2021
Pease Air Force Base
Portsmouth, New Hampshire

	CAS#	120226-60-0	757124-72-4	27619-97-2	39108-34-4	4151-50-2	2991-50-6	754-91-6	2806-24-8	31506-32-8	2355-31-9	375-22-4	375-73-5	335-76-2	307-55-1	335-77-3
Filename	**Sample ID**	**10:2 FTS**	**4:2 FTS**	**6:2 FTS**	**8:2 FTS**	**EtFOSA**	**EtFOSAA**	**FOSA-1**	**FOSAA**	**MeFOSA**	**MeFOSAA**	**PFBA**	**PFBS**	**PFDA**	**PFDoA**	**PFDS**
20210310_Sample_184	SP51_GW_20210304	ND	0.153	0.471	0.341	ND	0.117	0.202	ND	ND	0.106	0.174	0.115	0.157	0.33	ND
	ERA Conc.		0.135	0.38	0.337		0.136				0.159	0.15	0.139	0.145	0.472	<0.06
	Low QC Limit		0.081	0.228	0.202		0.0816				0.0954	0.09	0.0834	0.087	0.283	none
	High QC Limit		0.189	0.532	0.472		0.19				0.223	0.21	0.195	0.203	0.661	none
	Percent of ERA Conc.		113	124	101		86				67	116	83	108	70	
20210310_Sample_183	SP50_GW_20210304	ND	0.078	0.177	0.158	ND	0.074	0.101	ND	ND	0.069	0.141	0.035	0.075	0.179	ND
	ERA Conc.		0.0675	0.19	0.169		0.068				0.0795	0.075	0.0695	0.0725	0.236	
	Low QC Limit		0.0405	0.114	0.101		0.0408				0.0477	0.045	0.0417	0.0435	0.141	
	High QC Limit		0.0945	0.266	0.236		0.095				0.112	0.105	0.0975	0.102	0.331	
	Percent of ERA Conc.		116	93	93		109				87	188	50	103	76	

OUT OF ERA LISTED QC PERFORMANCE LIMITS
Concentration (ng/mL)

Table 2 - Performance Evaluation Sample Resutls
Data Quality Assessment Report
ESTCP October 2020 Through May 2021
Pease Air Force Base
Portsmouth, New Hampshire

	CAS#	375-85-9	375-92-8	307-24-4	67905-19-5	355-46-4	375-95-1	68259-12-1	335-67-1	16517-11-6	1763-23-1	2706-90-3	2706-91-4	376-06-7	72629-94-8	2058-94-8
Filename	**Sample ID**	**PFHpA**	**PFHpS**	**PFHxA**	**PFHxDA**	**PFHxS**	**PFNA**	**PFNS**	**PFOA**	**PFODA**	**PFOS**	**PFPeA**	**PFPeS**	**PFTeDA**	**PFTrDA**	**PFuDA**
20210310_Sample_184	SP51_GW_20210304	0.376	ND	0.202	ND	0.178	0.22	0.424	0.447	ND	0.367	0.437	0.453	0.106	0.315	0.282
	ERA Conc.	0.346	<0.060	0.194		0.211	0.2	0.459	0.385		0.429	0.444	0.463	0.23	0.477	0.294
	Low QC Limit	0.208	none	0.116		0.127	0.12	0.275	0.231		0.257	0.266	0.278	0.138	0.286	0.176
	High QC Limit	0.484	none	0.272		0.295	0.28	0.643	0.539		0.601	0.622	0.648	0.322	0.668	0.412
	Percent of ERA Conc.			104		84	110	92	116		86	98	98	46	66	96
20210310_Sample_183	SP50_GW_20210304	0.174	ND	0.104	ND	0.083	0.108	0.274	0.201	ND	0.195	0.215	0.211	0.077	0.166	0.154
	ERA Conc.	0.173		0.097		0.106	0.1	0.23	0.193		0.215	0.222	0.232	0.115	0.239	0.147
	Low QC Limit	0.104		0.058		0.0635	0.06	0.138	0.116		0.129	0.133	0.139	0.069	0.143	0.088
	High QC Limit	0.242		0.136		0.148	0.14	0.322	0.27		0.301	0.311	0.324	0.161	0.334	0.206
	Percent of ERA Conc.			107		78	108	119	104		91	97	91	67	69	105

OUT OF ERA LISTED QC PERFORMANCE LIMITS

Concentration (ng/mL)

Table 3 - Split Sample Summary
Data Quality Assessment Report
ESTCP October 2020 Through May 2021
Pease Air Force Base
Portsmouth, New Hampshire

					CAS#	120226-60-0	757124-72-4	27619-97-2	39108-34-4	4151-50-2	2991-50-6	754-91-6	2806-24-8	31506-32-8	2355-31-9	375-22-4	375-73-5
Sample ID	Total PFAS (n=24)	Total PFCA	Total PFSA	Total Precursors	PFOS + PFOA	**10:2 FTS**	**4:2 FTS**	**6:2 FTS**	**8:2 FTS**	**EtFOSA**	**EtFOSAA**	**FOSA-1**	**FOSAA**	**MeFOSA**	**MeFOSAA**	**PFBA**	**PFBS**
SP1_GW_20210304	7.5	9.27	25.5	6.82	21.3	ND	0.053	6.2	0.566	ND	ND	0.073	ND	ND	ND	0.45	0.168
SP1-GW-20210304 (SGS Split)	6.1	9.23	24.2	5.31	21.7	NA	0.0431	4.89	0.376	NA	0.0036	0.0678	NA	NA	0.0036	0.486	0.213
RPD	21	0	5	25	-2		21	24	40			7				-8	-24

	335-76-2	307-55-1	335-77-3	375-85-9	375-92-8	307-24-4	67905-19-5	355-46-4	375-95-1	68259-12-1	335-67-1	16517-11-6	1763-23-1	2706-90-3	2706-91-4	376-06-7	72629-94-8	2058-94-8
Sample ID	**PFDA**	**PFDoA**	**PFDS**	**PFHpA**	**PFHpS**	**PFHxA**	**PFHxDA**	**PFHxS**	**PFNA**	**PFNS**	**PFOA**	**PFODA**	**PFOS**	**PFPeA**	**PFPeS**	**PFTeDA**	**PFTrDA**	**PFuDA**
SP1_GW_20210304	ND	ND	ND	0.694	0.407	2.4	ND	7.37	0.063	ND	4.13	ND	17.2	1.53	0.321	ND	ND	ND
SP1-GW-20210304 (SGS Split)	0.0033	0.0018	0.0034	0.725	0.316	2.21	NA	5.88	0.0433	0.0388	4.18	NA	17.5	1.58	0.279	0.0018	0.0018	0.0018
RPD				-4	25	8		22	37		-1		-2	-3	14			

Concentration (ng/mL)

Table 4 - Duplicatet Sample Summary
Data Quality Assessment Report
ESTCP October 2020 Through May 2021
Pease Air Force Base
Portsmouth, New Hampshire

						120226-60-0	757124-72-4	27619-97-2	39108-34-4	4151-50-2	2991-50-6	754-91-6	2806-24-8	31506-32-8	2355-31-9	375-22-4	375-73-5
											Concentration (ng/mL)						
Sample ID	Total PFAS (n=24)	Total PFCA	Total PFSA	Total Precursors	PFOS + PFOA	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS
SP3-GW-20201028	2.021	1.15	0.03	0.841	0.09	ND	0.053	0.79	ND	ND	ND	ND	ND	ND	ND	0.39	ND
SP3-GW-20201028 Duplicate	2.04	1.15	0.03	0.86	0.07	ND	0.035	0.83	ND	ND	ND	ND	ND	ND	ND	0.41	ND
RPD	-1	0	-13	-2	23		41	-5								-6	
SP3-GW-20201104	7.295	3.30	0.00	3.998	0.16	ND	0.053	3.95	ND	ND	ND	ND	ND	ND	ND	0.67	ND
SP3-GW-20201104 Duplicate	6.969	3.25	0.00	3.716	0.15	ND	0.058	3.66	ND	ND	ND	ND	ND	ND	ND	0.62	ND
RPD	5	1		7	5		-9	8								7	
SP2-GW-20201117 (20A)																	
SP2-GW-20201117 (20B - Lab Dup)																	
SP3_GW_20201216	1.267	0.82	0.00	0.445	0.00	ND	0.025	0.42	ND	ND	ND	ND	ND	ND	ND	0.333	ND
SP25_GW_20201216 (SP3 Dup)	1.28	0.83	0.00	0.446	0.00	ND	0.026	0.42	ND	ND	ND	ND	ND	ND	ND	0.334	ND
RPD	-1	-1		0			-4	0								0	
SP1_GW_20201223	65.407	14.15	36.91	14.351	32.35	ND	0.074	13.4	0.805	ND	ND	0.072	ND	ND	ND	0.673	0.385
SP25_GW_20201223 (SP1 Dup)	61.242	14.50	35.72	10.997	30.98	ND	0.071	10.3	0.564	ND	ND	0.062	ND	ND	ND	0.671	0.391
RPD	7	-2	3	26	4		4	26	35			15				0	-2
SP1_GW_20201229	58.325	13.56	33.44	11.327	28.71	ND	0.069	10.3	0.887	ND	ND	0.071	ND	ND	ND	0.64	0.328
SP1_GW_20201229 (Lab Dup)	55.764	13.39	32.99	9.386	28.91	ND	0.066	8.63	0.603	ND	ND	0.087	ND	ND	ND	0.642	0.337
RPD	4	1	1	19	-1		4	18	38			-20				0	-3
SP3_GW_20210111	3.708	2.07	0.00	1.642	0.10	ND	0.056	1.55	0.036	ND	ND	ND	ND	ND	ND	0.478	ND
SP3_GW_20210111 (Lab Dup)	3.729	2.17	0.00	1.56	0.09	ND	0.061	1.48	0.019	ND	ND	ND	ND	ND	ND	0.567	ND
RPD	-1	-5		5	10		-9	5	62							-17	
SP3-GW-20210216	4.745	2.61	0.00	2.131	0.16	ND	0.068	2.042	0.021	ND	ND	ND	ND	ND	ND	0.46	ND
SP3-GW-20210216 (Dup)	5.002	2.61	0.01	2.385	0.16	ND	0.067	2.289	0.029	ND	ND	ND	ND	ND	ND	0.47	ND
RPD	-5	0	NC	-11	-1		1	-11	-32							-2	
SP1_GW_20210304	41.625	9.27	25.47	6.892	21.33	ND	0.053	6.2	0.566	ND	ND	0.073	ND	ND	ND	0.45	0.168
SP1_GW_20210304 (lab dup)	43.064	9.29	26.05	7.718	22.69	ND	0.047	7.07	0.536	ND	ND	0.065	ND	ND	ND	0.427	0.154
RPD	-3	0	-2	-11	-6		12	-13	5			12				5	9

Table 4 - Duplicatet Sample Summary
Data Quality Assessment Report
ESTCP October 2020 Through May 2021
Pease Air Force Base
Portsmouth, New Hampshire

	335-76-2	307-55-1	335-77-3	375-85-9	375-92-8	307-24-4	67905-19-5	355-46-4	375-95-1	68259-12-1	335-67-1	16517-11-6	1763-23-1	2706-90-3	2706-91-4	376-06-7	72629-94-8	2058-94-8
Sample ID	**PFDA**	**PFDoA**	**PFDS**	**PFHpA**	**PFHpS**	**PFHxA**	**PFHxDA**	**PFHxS**	**PFNA**	**PFNS**	**PFOA**	**PFODA**	**PFOS**	**PFPeA**	**PFPeS**	**PFTeDA**	**PFTrDA**	**PFuDA**
SP3-GW-20201028	ND	ND	ND	ND	ND	0.20	ND	0.028	ND	ND	0.086	ND	ND	0.48	ND	ND	ND	ND
SP3-GW-20201028 Duplicate	ND	ND	ND	ND	ND	0.20	ND	0.032	ND	ND	0.068	ND	ND	0.47	ND	ND	ND	ND
RPD						-2		-13			23			3				
SP3-GW-20201104	ND	ND	ND	0.12	ND	0.94	ND	ND	ND	ND	0.16	ND	ND	1.41	ND	ND	ND	ND
SP3-GW-20201104 Duplicate	ND	ND	ND	0.12	ND	0.98	ND	ND	ND	ND	0.15	ND	ND	1.38	ND	ND	ND	ND
RPD				2		-5					5			2				
SP2-GW-20201117 (20A)																		
SP2-GW-20201117 (20B - Lab Dup)																		
SP3_GW_20201216	ND	ND	ND	ND	ND	0.131	ND	ND	ND	ND	ND	ND	ND	0.358	ND	ND	ND	ND
SP25_GW_20201216 (SP3 Dup)	ND	ND	ND	0.029	ND	0.127	ND	ND	ND	ND	ND	ND	ND	0.344	ND	ND	ND	ND
RPD				NC		3								4				
SP1_GW_20201223	ND	ND	ND	1.22	0.536	3.79	ND	9.02	0.086	ND	5.85	ND	26.5	2.53	0.466	ND	ND	ND
SP25_GW_20201223 (SP1 Dup)	0.031	0.018	ND	1.22	0.46	4.05	ND	9.3	0.071	ND	5.88	ND	25.1	2.58	0.473	ND	ND	ND
RPD	NC	NC		0	15	-7		-3	19		-1		5	-2	-1			
SP1_GW_20201229	ND	ND	ND	1.13	0.452	3.56	ND	9.29	0.082	ND	5.81	ND	22.9	2.34	0.466	ND	ND	ND
SP1_GW_20201229 (Lab Dup)	ND	ND	ND	1.1	0.404	3.43	ND	8.63	0.08	ND	5.71	ND	23.2	2.43	0.415	ND	ND	ND
RPD				3	11	4		7	2		2		-1	-4	12			
SP3_GW_20210111	ND	ND	ND	0.07	ND	0.494	ND	ND	ND	ND	0.095	ND	ND	0.929	ND	ND	ND	ND
SP3_GW_20210111 (Lab Dup)	ND	ND	ND	0.057	ND	0.524	ND	ND	ND	ND	0.086	ND	ND	0.935	ND	ND	ND	ND
RPD				20		-6					10			-1				
SP3-GW-20210216	ND	ND	ND	0.111	ND	0.743	ND	ND	ND	ND	0.157	ND	ND	1.143	ND	ND	ND	ND
SP3-GW-20210216 (Dup)	ND	ND	ND	0.093	ND	0.742	ND	ND	ND	ND	0.152	ND	0.006	1.154	ND	ND	ND	ND
RPD				18		0					3		NC	-1				
SP1_GW_20210304	ND	ND	ND	0.694	0.407	2.4	ND	7.37	0.063	ND	4.13	ND	17.2	1.53	0.321	ND	ND	ND
SP1_GW_20210304 (lab dup)	ND	ND	ND	0.715	0.403	2.22	ND	6.8	0.051	ND	4.29	ND	18.4	1.59	0.296	ND	ND	ND
RPD				-3	1	8		8	21		-4		NC	-4	8			

APPENDIX I LCA, CAPITAL AND O&M COST ESTIMATE

PLASMA DESTRUCTION COST BASIS PROVIDED BY CLARKSON

Plasma Destruction

	QTY	Size	Type	Comments	Total Cost	Rated Power (KW)	Duty %	Notes
Plasma Generating Network	1	10 kW			$ 200,000.00	10.5	93%	
Reactors	3	280 gallons	Plug flow		$ 30,000.00		93%	Includes reactors and all power components.
Pumps	3		AOD	1" Double Diaphragm	$ 7,500.00			
Argon Recirc. Pump	3	5 CFM	Piston Air Compressor		$ 4,200.00	1	93%	Duty cycle takes into account maintenance after each batch
AC for Electronics Cooling	1	40000 BTU/hr	AC		$ 3,000.00	5.5	100%	
Bulk Argon Tank	1							
CTAB	1	250 gallon	HDPE	Make down tank with stand and mixer	$ 2,500.00			
Chemical Feed Pump	1	0.6 GPD	Diaphragm		$ 1,000.00			This is assuming a 50% saturation input fluid
					$ 248,200.00			

For Complete treatment of 1 batch of still bottoms (see notes):

	QTY	Units	Notes
Labor	30.5	Hrs	Assuming 1.5 hrs /day and 8 hrs between batches for maintenance
CTAB	125	Grams	
Argon	225	CuFt	This will be for "fresh" (makeup) argon from supply tank. Assumed on a 7% headspace turnover per hour
Argon (recirc.)	65000	Cuft	This should not impact cost and has some variability depending on final reactor design

Notes:

1) 435 gallons of undiluted still bottoms required to be treated in 15 days.
2) We are assuming 15 days up 1 day down schedule
3) Constant flow through reactors at .2 GPM

PROJECT INFORMATION BASIS OF ESTIMATE

Date:	10/4/2021
Client:	Environmental Security Technology Certification Program (ESTCP) 4800 Mark Center Drive, Suite 16F16 Alexandria, VA 22350-3605
Job #:	
Project #:	ER18-5015
Project:	ER18-5015 Removal and Destruction of PFAS and Co-Occurring Chemicals from Groundwater via Extraction and Treatment with Ion Exchange Media, and On-Site Regeneration, Distillation, and Plasma Destruction
Location:	This model represents work performed in non-remote lite urban areas. This model does not represent work performed in heavy urban environments.
Estimate Date:	10/4/2021
Prepared By:	James E. Hoy, CPE
Reviewed By:	Eric Thompson
Company:	Wood
Address:	511 Congress Street
City, State Zip:	Portland, ME 04101

BUDGET AND PROGRESS BUDGET:

1.	Regen IX	$	6,196,843

COST ANALYSIS/DESIGN BASIS

1. The cost model represents the building systems up to 5 feet outside the building footprint . It does not include site civil features such as parking lots, site utilities and grading. It is assumed that all of the structures will have services capable of operating a fully function building and process such as:
   3 phase power service.
   City water service suitable to meet the demands of fire protection (if required) and process requirements.
   City sewer service.
   Roads capable of handling heavy equipment for materials and chemical deliveries/waste pick-up.

2. Process and Building (general):
   Process tanks High Density Polyethylene (HDPE)
   Piping SCH80 Polyvinyl chloride (PVC)
   Scenario includes a small office, bathroom and electrical room.

3. Building and Specialty Process (Regenerable IX):
   Steel Building size – Estimated at 5,200 SQFT based on Site 8 configuration.
   Building, process equipment and all electrical to be explosion proof where IPA is present.
   Fire suppression system meeting NFPA requirements for IPA storage and use required.
   Plasma destruction process will be isolated from operations involving IPA to eliminate the need for explosion proof equipment.
   Building will be insulated and prefabricated metal construction meeting loading requirements for the Northeast.
   Raw IPA and spent regenerant storage – Double walled steel tank with leak detection located outside facility with security fencing and access for bulk delivery.

4 Influent Quality:
   100 GPM flowrate
   30 PPB total PFAS influent concentration
   Total and dissolved iron and manganese below 0.05 milligrams per liter (mg/L)
   TOC below 1 mg/L
   TSS below 1 mg/L
   VOCs non-detect

SOURCE OF COST DATA:

1. Material Unit Costs are based on multiple sources including in-house, estimating publications, estimating programs such as R. S. Means 2021, and Vendor support.
2. Craft rates and crew mixes are developed with assistance from multiple sources including in-house, estimating programs such as R. S. Means 2021 and National Estimator 2021. Commercial and industrial wage rates to satisfy Davis Bacon Wage Rate requirements.
3. Equipment costs based on latest rental rates from multi-sources including in-house, estimating programs such as R. S. Means 2021 and National Estimator 2021.
4. Regenerable IX/Plasma Destruction:
   IX/Regeneration/Distillation equipment costs – Based on estimates by ECT2.
   Distillation electrical costs based on estimates provided by ECT2.
   Labor requirements for regeneration and distillation based on estimates from ECT2.
5. Plasma equipment costs – based on estimates from Clarkson.
   Plasma operational costs – based on equipment ratings, argon and CTAB use from Clarkson.
   Plasma labor costs – based on estimates of labor hours from Clarkson.

ESTIMATE ASSUMPTIONS:

1. Federal, State and local permitting is not included.
2. Federal and State sales taxes are not included
3. The Division 1 costs are only for scheduling, project coordination, procumrement support, onsite supervision, and administrative work.
4. Division 2 - Abatement & Demolition, Division 14 Conveyors, Division 27 - Communications, Division 28 - Electronic Safety and Security, Division 32 - Exterior Improvements and Division 33 - Utilities are excluded from the cost to construct.
5. Groundwater extraction system(s), associated trenching, and piping costs are not included in this cost estimate.
6. No pretreatment for inorganics (iron and manganese, etc.) included.
7. Qualified contractors are available within the project area(s).
8. Hazardous materials/abatement not included in cost estimates.
9. The estimate represents the building footprint and excludes site civil works.
10. The prime contractor/general contractor is responsible for implementation of the work and will subcontract all trades.
11. Site geotechnical investigation is not included.
12. O&M costs are for 1 year.

TERMS AND DEFINITIONS

1. **General Requirements:** General Requirements are used as the clearinghouse for items that do not apply directly to construction, the cost of which are customarily spread out over the entire project. These costs are also referred to as project overhead.
2. **G&A:** G&A expenses, part of a company's operating expenses, are the general and administrative expenses of a company. Generally accepted accounting principles consider operating expenses to be the day-to-day costs of running a business.
3. **General Liability:** General liability insurance helps pay expenses related to third-party injuries and property damage. If a visitor is injured at your jobsite or property damage occurs during a renovation, for instance, general liability insurance can cover medical bills or the cost of repairs.
4. **Fee:** Construction Fee means a fee or other remuneration for acting as general contractor and/or construction manager to construct improvements, supervise and coordinate projects.
5. **P&P Bond:** Payment and Performance Bonds are two separate bonds that are often required for both public and private contracts. While they are separate bonds, they are often included together.
6. **Contingency:** A provision for an unforeseen event or circumstance.

DESCRIPTION OF MARK-UP & ADD-ONS:

Zero as the project is not location specific.

1.	State Sales Tax	0.0%
2.	County Tax	0.0%
3.	**Subcontractor General Requirements**	**21.3%**
	General Requirements & Supervision	10%
	G & A	3%
	General Liability	0.4%
	Fee	6%
	P&P Bond	1.85%
	Contingency	0%
4.	**Prime Contractor Markups**	**14.3%**
	General Requirements	5%
	G & A	3%
	General Liability	0.4%
	Fee	4%
	P&P Bond	1.85%
5.	**Project Markups**	
	Contingency	20%

IX REGENERATION COSTS PROVIDED BY ECT2

Flow Rate	gpm	**300.0**
PFAS Influent Concentration (PFOA/PFOS)	ug/L	20.0
PFAS Mass Flow Rate	mg/day	32,702.4
	lbs/yr	26.3
EBCT	min	4.0
Lead Vessel Size	CF	160.43
Bed Volumes to breakthrough		4,400
Days between Regens/Changeout	days	12.2

SL Media A Density	lb/CF	**29.0**
SL Media B Density	lb/CF	**43.0**
SL Media A Unit Sell Price	$/lb	**$ 2.50**
DP IX Resin Unit Sell Price	$/CF	**$ 300.00**
Regen IX Unit Sell Price	$/CF	**$ 250.00**
Media Disposal	$/CF	**$ 20.00**
Power	$/kWh	**$ 0.15**
Natural Gas	$/therm	**$ 1.50**

Days between changeouts	Days	12
Regens per year	EA	29.86
Media Volume	CF	160.4
	L	4,542.0
Amount of Media Regenerated per Year	CF	4,791.0
Amount of Regenerant per Regen	BVs	5.0
	gal	6,000.0
	L	22,710.0
	lbs	48,000.0
Percent of Regenerant Distilled		85%
Avg Heat of Vaporization	BTU/lb	800
Energy Required to Distill 5 BVs	BTU/regen	32,640,000
	kWh/regen	9,566
	kWh/year	285,683

Chiller Power

Chiller EER		8.00
Chiller COP		2.34
Energy Required to Cool Distillate	kWh/regen	4,080
	kWh/year	121,844

Electricity for Regen Pumps

Amount of Liquid processed	gal/regen	18,000.0	1 - pump through vessel; 2 - pump to distiller; 3 - pump through superloaders/purifiers
	gal/yr	537,545.5	
Pump Flow Rate	gpm	**5.0**	
Pumping Time	hrs/regen	60.0	
	hrs/yr	1,791.82	
Pump Electricity	kWh/regen	5.8	Assume 5 gpm, 20 psi discharge pressure
	kWh/year	174.2	

Salt

Salt Concentration	percent	**2%**
Amount of Salt in 5 BVs of Regenerant	lbs	960.0
Amount of Salt lost in regen process	percent	**100%**
	lbs/regen	960
	lbs/year	28,669

Superloader Media A

SL Media A Capacity	mg/g	**50.0**
Flow Rate	gpm	300.0
PFAS Concentration	ppb	20.0
PFAS loading per year	lbs/yr	26.3
LGAC Usage	lbs/regen	17.6
	lbs/yr	525.4
	lbs/CF regened	0.11

Distillate Purifiers

Amount of Distillate Processed	gal/yr	152,305	
Avg Flow Rate	gpm	1.22	Assume 40 hrs/wk operational time
EBCT	min	30	
Distillate Purifier Size	CF	4.89	
No of Purifiers in series	EA	3.0	
Total Amount of Distillate Purifier Media	CF	14.68	

Description	Units	Unit Price	Quantity per Year	QTY Per CF of Media Regened	Amount per Year	Per Regen	
Electricity - Distiller	kWh	$ 0.15	285,683	59.63	$ 42,852	$ 1,435	
Electricity - Chiller	kWh	$ 0.15	121,844	25.43	$ 18,277	$ 612	
Electricity - Regen Pumps	kWh	$ 0.15	174	0.036	$ 26	$ 1	Included in WOOD costs
Regenerant Salt	lbs	$ 0.20	28,669	5.98	$ 5,734	$ 192	Assumes 100% of salt passes through superloader and is discharged
Virgin Isopropyl Alcohol	gal	$ 4.00	3,046	0.64	$ 12,184	$ 408	Assumes 2% loss during regen
Superloader Media A	lbs	$ 2.50	525	0.11	$ 1,313	$ 44	Plasma Destruction Replaces Superloader
Superloader Media B	CF	$ 250.00	18.1	0.004	$ 4,529	$ 152	Plasma Destruction Replaces Superloader
Distillate Purifier Resin	CF	$ 300.00	14.7	0.0031	$ 4,405	$ 148	Assumes Annual Changeout
Spent Superloader LGAC Disposal	CF	$ 20	18.1	0.004	$ 362	$ 12	Plasma Destruction Replaces Superloader
Spent Superloader Resin Disposal	CF	$ 20	20.9	0.004	$ 418	$ 14	Plasma Destruction Replaces Superloader
Spent Distillate Purifier Resin Disposal	CF	$ 20	20.9	0.004	$ 418	$ 14	Assumes Changeout every 20 regens

Notes

1) Information provided by ECT2 based on operations at other sites

2) Above quantities highlighted in green used as basis for O&M cost estimates

OPERATION AND MAINTENANCE ESTIMATION
REGENERABLE IX WITH PLASMA DESTRUCTION

WASTE ESTIMATION

Process	Waste	QTY	UOM	Frequency (Days)	Cost	Annual Cost	Basis
Regen IX							
	Spent Filters	1	Drum	7	$ 544	$ 28,371.85	Non-Hazardous - Based on $74/CUFT incineration by Clean Harbors, Inc.
	Misc.	1	Drum	30	$ 544	$ 6,620.10	Non-Hazardous - Misc. PPE and expendables. Based on $74/CUFT incineration by Clean Harbors, Inc.
							Non-Hazardous - Based on $74/CUFT incineration by Clean Harbors, Inc.
	Distilate Purifier Resin	1	Drum	365	$ 544	$ 544.12	Based on ECT2 estimate of 0.0031 CF per CF media regenerated
							Non-Hazardous - Based on $74/CUFT incineration by Clean Harbors, Inc.
					Total Waste:	**$ 35,536.06**	

MATERIALS ESTIMATION

Process	Raw Materials	QTY	UOM	Frequency (Days)	Cost	Annual Cost	Basis
Regen IX							
	Filters	50	Ea.	7	$ 750	$ 39,107.14	Filters spiral wound polypropylene, 50 filters per changeout, $15 each.
	IPA	38	Gallons	14	$ 153	$ 4,061.45	Bulk 70% IPA estimated at $4.00/gallon delivered per ECT2
	Salt	359.0	Pounds	14	$ 0.20	$ 1,911.27	Based on ECT2 estimate of pounds/CUFT of Resin
	Distilate Purifier Resin	4.9	CUFT	365	$ 300	$ 1,468.38	Cost per CUFT provided by ECT2
Plasma Destruction	CTAB	125	Grams	14	$ 219	$ 5,822.34	CTAB 125 grams per destruction cycle, $175/100 grams per Clarkson estimate.
	Argon	225	CUFT	1974720	$ 110	$ 0.02	Makeup argon requirement per cycle per Clarkson estimate. Airgas cost $110 per 300 cuft cylinder. Assume 1 cylinder per cycle to account for losses.
					Total Materials:	**$ 52,370.62**	

POWER USAGE ESTIMATION

Process	Equipment	Type	Comments	Rated Power (KW)	Duty %	Energy Use	Notes
Regen IX	Influent Pumps	Centrifugal	7.5 Hp	6	100%	6	Only 1 pump operates at a time (excludes groundwater extraction pumps).
	Effluent Pumps	Centrifugal	7.5 Hp	6	100%	6	Only 1 pump operates at a time.
	Compressor	Rotary	20 Hp	15	25%	3.75	Assumes serves entire facility
	Distillation Unit	Thermal			100%	10.9	Based on ECT2 estimate of KW/CUFT of Resin
	Chiller	Thermal			100%	4.6	Based on ECT2 estimate of KW/CUFT of Resin
Plasma Destruction	Reactors	Plug flow	280 gallons each	10.5	93%	9.77	Based on Clarkson estimate.
	Argon Recirc. Pump	Piston Air Compressor	One per reactor	3	93%	2.79	Based on Clarkson estimate.
	AC for Electronics Cooling	Cabinet Style	40,000 BTU/Hr	11.7	93%	10.88	Based on Clarkson estimate.
	Chemical Feed Pump		Fractional Hp	0.25	93%	0.23	Based on Clarkson estimate.
Building Lighting, Heating and Cooling	Air conditioner and space heaters	Air conditioner and space heaters	100 Amp service	12	100%	12.00	Assume heating or cooling is always needed.
					Total Process KW:	66.93	Per Hour
						586268	KWHr Per Year
			Average Cost of Electricity (All Sectors) US February 2022 (EIA.GOV)			0.1155	$/KWHr
					Total Process Power:	**$ 67,713.97**	

LABOR ESTIMATION

Process	Frequency Days	Annual Frequency	Labor Hours	Total Annual Hours	Rate (Estimated)	Total	Basis/Comments
Regen Operations	14	27	24	639	$ 85.00	$ 54,298	Per ECT2 - 24 hours additional operator time required during regeneration
Forward Flow Operations	LS	1	2080	2080	$ 85.00	$ 176,800	Per ECT2 - one full time operator for operations
Plasma Destruction	14	27	30.5	812	$ 85.00	$ 69,003	Per Clarkson for operation/maintenance of the plasma system
Filter Change Outs	7	52	0	0	$ 85.00	$ -	Performed in conjunction with above tasks
Weekly Checks of system	7	52	0	0	$ 85.00	$ -	Performed in conjunction with above tasks
			Total Hours:	**3531**	**Annual Labor Cost:**	**$ 300,101**	

Total Annual O&M cost $ 455,721.27

OPERATION AND MAINTENANCE ESTIMATION
REGENERABLE IX WITH PLASMA DESTRUCTION

System Flow Rate	100	GPM
Lead Vessel Size	60	CUFT
Gallons @ 70 ppt PFOA+PFOS Breakthrough for first 60 cuft vessel	1,974,720	Based on ECT2 bed volume estimate below
Days for 70 ppt PFOA+PFOS Breakthrough for first 60 cuft vessel	14	Based on Lead vessel size above

Regeneration Basis - Provided by ECT2

Pilot Study BV until 70 ppt PFOS and PFOA breakthrough	4400	Per ECT2 Based on Pilot
Distilate purifier resin	0.0031	Per ECT2 0.0031 CF per CF media regenerated
	0.18	CF per regen of 60 cuft vessel
	4.9	CF per year
Makeup IPA	0.64	Per ECT2 0.64 gallons per CF media regenerated
	38	Gallons per regen of 60 cuft vessel
	1015	Gallons per year
Electricity - Distiller	59.6	KW/CF Media Per ECT2
	3578	Per Regen
	95228	KW/Year
	261	Per Day (365)
	10.9	Ave KW per Day
Electricity - Chiller	25.4	KW/CF Media Per ECT2
	1526	Per Regen
	40615	KW/Year
	111	Per Day (365)
	4.6	Ave KW (100% duty cycle)
Salt	6.0	Pounds/CUFT Resin
	359.0	Pounds per regen of 60 cuft vessel

COST OF PLASMA DESTRUCTION OF STILL BOTTOMS - O&M ONLY

Materials	$	5,822	
Power	$	15,263	
Labor	$	69,003	
Annual Cost	$	90,088	
Duration Between Each Regeneration		14	days
Distillations/year		27	
Vol. still bottoms/distillation		435	Gallons
Total volume still bottoms/Yr.		11578	Gallons
Estimated Cost	$	7.78	/Gallon for Plasma Destruction

COST OF STILL BOTTOMS DISPOSAL (INCINERATION)

Vol. still bottoms/distillation		435	Gallons
Estimated number of drums		8	
Drum cost	$	50	Each
Disposal cost	$	395	Per Clean Harbors Inc.
Total per drum of waste	$	3,520	
Pick-Up fee	$	425	Per Clean Harbors Inc.
Documentation/Approval Fee	$	100	Per Clean Harbors Inc.
Recovery/Waste Fee	$	700	Per Clean Harbors Inc.
Total	$	4,745	Per distillation event
Distillations/year		24	Based on 15 day cycle
Annual Cost	$	115,451	/Yr. for disposal through incineration
Estimated Cost	$	10.91	/Gallon for disposal through incineration

Notes:
Assumes 1 waste pick up every 15 days
Assumes disposal in drums

REGENERABLE IX

System Flow 100 GPM

Regen IX Equipment	QTY	Size	Type	Comments	Cost Each		Notes
Equalization Tank	1	6000 Gallon	HDPE	Flat bottom/closed top	$ 8,500	$ 8,500	
Influent Pumps	2	100 GPM, 80 PSI	Centrifugal	7.5 hp, 480VAC, 3 ph, 3450 RPM	$ 4,000	$ 8,000	
Flowmeter	1	0-120 GPM	Mag Flux	Badger Magnetic Flow Meter 3 Inch	$ 3,000	$ 3,000	
Filtration	2	100 GPM	Cartridge Filters	Harmsco HIF-42, one in service/one standby	$ 3,500	$ 7,000	
IX Vessels	2	60 CUFT (450 gallon)	Pressure vessel	Duplex Skid system w/all piping, air operated valves for in place regenerable operation	$ 125,000	$ 250,000	Estimated 125K per Duplex Skid (2 required per existing Site 8 System).
	240	CUFT	HC1	First Charge of Resin for four vessels (2-duplex skids)	$ 158	$ 37,920	Resin cost/cf provided by ECT2
Effluent Tank	1	6000 Gallon	HDPE	Flat bottom/closed top	$ 8,500	$ 8,500	
Effluent Pumps	2	100 GPM, 80 PSI	Centrifugal	7.5 hp, 480VAC, 3 ph, 3450 RPM	$ 4,000	$ 8,000	
Compressor	1	Atlas Copco		20 hp, 480VAC, 3 ph, 3450 RPM	$ 20,000	$ 20,000	Sizing/cost from existing Site 8 system.
Regeneration System Equipment							
Solvent Regenerant Supply Tank	1	5000 Gallon	Steel	Snyder Double walled IPA tank.	$ 35,000	$ 35,000	Cost provided by ECT2
Spent Solvent Regenerant Tank	1	5000 Gallon	Steel	Snyder Double walled IPA tank.	$ 35,000	$ 35,000	Cost provided by ECT2
Brine Makeup Tank	1		HDPE		$ 800	$ 800	Cost provided by ECT2
Startup Supplies	1	IPA, Salt, misc.			$ 5,000	$ 5,000	Cost provided by ECT2
Rinse Water Tank	1	6000 Gallon	HDPE	Cone bottom w/stand, closed top	$ 13,000	$ 13,000	
Flowmeters	2	0-120 GPM	Mag Flux	Badger Magnetic Flow Meter 1 Inch 150 lb Flange	$ 3,000	$ 6,000	
Pumps (AOD)	4	AOD	HDPE	1/2" Double Diaphragm	$ 1,200	$ 4,800	
Distillation System Equipment							
Distillation Unit	1				$ 250,000	$ 250,000	Cost provided by ECT2
Chiller System	1				$ 16,000	$ 16,000	Cost provided by ECT2
Distilate Purifier	2				$ 250	$ 500	Cost provided by ECT2
Distilate Purifier Resin	5	CF	LC1 Media		$ 276	$ 1,380	Resin cost/cf provided by ECT2
Still Bottoms Tote and Coil	1				$ 3,500	$ 3,500	Cost provided by ECT2
Still Bottoms Holding Tank	1				$ 850	$ 850	Cost provided by ECT2
Pumps	2	AOD	HDPE	1/2" Double Diaphragm	$ 1,200	$ 2,400	
Flowmeters	1	0-20 gpm	Mag Flux		$ 4,000	$ 4,000	
Minor Equipment							
Valves, y-strainers, regulators	LOT					$ 9,000	Cost provided by ECT2
SS valves	LOT					$ 11,000	Cost provided by ECT2
Other Minor Equipment	LOT					$ 5,000	Cost provided by ECT2
Hoses	LOT					$ 5,000	Cost provided by ECT2
Plasma Destruction System Equipment							
Plasma Generating Network	1	10 KW	Misc.	Electrical components	$ 200,000	$ 200,000	Cost provided by Clarkson
Reactors	3	280 gallons	HDPE	Plug flow configuration	$35,000.00	$ 105,000	Cost provided by Clarkson
Pumps	3	AOD	HDPE	1" Double Diaphragm	$ 1,200	$ 3,600	
Argon Recirc. Pump	3	5 CFM	Piston Air Compressor	One per reactor	$1,400.00	$4,200.00	Cost provided by Clarkson
AC for Electronics Cooling	1	40,000 BTU	Cabinet style		$3,000.00	$3,000.00	Cost provided by Clarkson
Argon	2	300 cuft	Cylinder	One cylider per cycle/one as spare	$ 110	$ 220	Airgas cost per cylinder
CTAB Makedown Tank	1	250 gallon	HDPE	Make down tank with stand and mixer	$ 2,500	$ 2,500	
Chemical Feed Pump	1	0-5 gallons per day	Diaphragm	Fractional HP	$ 1,000	$ 1,000	
Flowmeters	1	0-20 gpm	Magflux		$ 4,000	$ 4,000	

Total Equipment:	**$**	**1,082,670**
Piping Allowance:	$	75,000
Valve/Misc. Allowance:	$	75,000
Controls Allowance:	$	200,000
Total Capitol Equipment:	**$**	**1,432,670**

Notes:

1) Tank costs from NTOtank.com (2022)
2) Flowmeter, pump and misc equipment costs from web (2022).
3) Duplex system cost estimate (see note 5)
4) Building Sizing

IX/regen/distillation same foot print as Pease Site 8 (50 x 40) - explosion proof	2000 SQFT
Equalization tank, effluent tank, pumping and filtration (50 x 32 est., based on Site 8)	1600 SQFT
Plasma Destruction (50 x 32 est)	1600 SQFT
Total:	5200

5) Estimate of One Regenerable Duplex Skid Cost (60 CUFT Vessels) Same Configuration as Site 8:

	QTY	Cost Each	Total
Vessel fabrication (60 CUFT Stainless Steel Insulated Vessel)	2	$ 35,000	$ 70,000
4" SS Air Actuated Valves	10	$ 3,000	$ 30,000
Skid Fabrication, Painting, Interconnecting Plumbing	LS	$ 25,000	$ 25,000
		Total:	$ 125,000

ER18-5015 Removal and Destruction of PFAS and Co-Occurring Chemicals from Groundwater via Extraction and Treatment with Ion Exchange Media, and On-Site Regeneration, Distillation, and Plasma Destruction
Environmental Security Technology Certification Program (ESTCP)
Regenerable IX with Regeneration/Distillation and Plasma Destruction

Building Square Footage:
5,200

Division 1

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 1 - General Requirements														
Project Executive	4 hrs/wk @ 26 wks	1,039	hr	81.20	**84,383.04**	-	**-**	-	**-**	-	**-**	-	**-**	84,383
Project Manger	20 hrs/wk @ 26 wks	520	hr	77.00	**40,009.20**	-	**-**	-	**-**	-	**-**	-	**-**	40,009
Superintendent/Safety Officer	40 hrs/wk @ 26 wks	1,039	hr	84.00	**87,292.80**	-	**-**	-	**-**	-	**-**	-	**-**	87,293
Assistant Superintendent/Safety Officer	40 hrs/wk @ 26 wks	1,039	hr	77.00	**80,018.40**	-	**-**	-	**-**	-	**-**	-	**-**	80,018
Project Engineer	40 hrs/wk @ 26 wks	1,039	hr	77.00	**80,018.40**	-	**-**	-	**-**	-	**-**	-	**-**	80,018
Project Scheduler 1	8hrs/wk @ 26 wks	208	hr	77.00	**16,003.68**	-	**-**	-	**-**	-	**-**	-	**-**	16,004
Administrative Staff 1	40 hrs/wk @ 26 wks	1,039	hr	49.00	**50,920.80**	-	**-**	-	**-**	-	**-**	-	**-**	50,921
Procurement	16hrs/wk @ 1 wks	16	hr	67.20	**1,075.20**	-	**-**	-	**-**	-	**-**	-	**-**	1,075
Technical Staff 1	40 hrs/wk @ 26 wks	1,039	hr	63.00	**65,469.60**	-	**-**	-	**-**	-	**-**	-	**-**	65,470
Quality Control Manager	40 hrs/wk @ 26 wks	1,039	hr	63.00	**65,469.60**	-	**-**	-	**-**	-	**-**	-	**-**	65,470
Travel allowance		1	ls	-	**-**	-	**-**	-	**-**	-	**-**	15,000.00	**15,000.00**	15,000
Superintendent Trucks		6.0	mos	-	**-**	-	**-**	-	**-**	8,700.00	**52,200.00**	-	**-**	52,200
Testing Agency		1.0	sub	-	**-**	-	**-**	10,000.00	**10,000.00**	-	**-**	-	**-**	10,000
Engineering Service (Hoisting and Marine loadout)		1.0	sub	-	**-**	-	**-**	25,000.00	**25,000.00**	-	**-**	-	**-**	25,000
Field Trailer Delivery, Decks, Ramps, Accessories and Breakdown		1	ls	-	**-**	-	**-**	-	**-**	26,000.00	**26,000.00**	-	**-**	26,000
Field Office Trailer 1		6.0	mos	-	**-**	-	**-**	-	**-**	525.00	**3,150.00**	-	**-**	3,150
Field Office Furniture	Adjustable plan table ($1,208), chair ($319), 1 conf table ($24), 6 chairs ($729), 1 desk ($410), 2 chairs (570), 2 w/baskets ($30), 1 plan rack ($460), 2 file cabinets ($510), 1 bookcase ($131), 1 equipment table ($48), 1 marker board ($80), pens ($13), sign ($55)	1	ls	-	-	5,045.70	**5,045.70**	-	-	-	-	-	-	5,046
Conex (To store contractor materials)		6.0	mos	-	**-**	-	**-**	-	**-**	1,260.00	**7,560.00**	-	**-**	7,560
Field Office Supplies		1	ls	-	**-**	4,500.00	**4,500.00**	-	**-**	-	**-**	-	**-**	4,500
Field Storage Protection		1	ls	250.00	**250.00**	150.00	**150.00**	-	**-**	-	**-**	-	**-**	400
Temporary Power Monthly		6.0	mos	-	**-**	200.00	**1,200.00**	-	**-**	-	**-**	-	**-**	1,200
Temporary Toilet		6.0	mos	-	**-**	189.00	**1,134.00**	-	**-**	-	**-**	-	**-**	1,134
Temporary Water - Drinking		6.0	mos	-	**-**	50.00	**300.00**	-	**-**	-	**-**	-	**-**	300
Temporary Water - Consumption		6.0	mos	-	**-**	250.00	**1,500.00**	-	**-**	-	**-**	-	**-**	1,500
Monthly Communications		6.0	mos	-	**-**	500.00	**3,000.00**	-	**-**	-	**-**	-	**-**	3,000
Temporary Enclosures		1	ls	525.00	**525.00**	310.00	**310.00**	-	**-**	-	**-**	-	**-**	835
First Aid & Fire Protection		1	ls	100.00	**100.00**	150.00	**150.00**	-	**-**	-	**-**	-	**-**	250
Project Construction Fence & Signs		3,500	lf	-	**-**	18.00	**63,000.00**	-	**-**	-	**-**	-	**-**	63,000
Barrier Fence & Barriers- (orange)		1,200	lf	-	**-**	14.00	**16,800.00**	-	**-**	-	**-**	-	**-**	16,800
Dumpsters & Tips - For New Construction		6	ea	100.00	**600.00**	750.00	**4,500.00**	-	**-**	-	**-**	-	**-**	5,100
Job Site Sign		1	ea	80.00	**80.00**	100.00	**100.00**	-	**-**	-	**-**	-	**-**	180
Project Sign		1	ea	450.00	**450.00**	1,400.00	**1,400.00**	-	**-**	-	**-**	-	**-**	1,850
Expendables		1	ls	-	**-**	2,500.00	**2,500.00**	-	**-**	-	**-**	-	**-**	2,500
Equipment Rental (tools and site supplies)		26.0	wk	100.00	**2,600.00**	-	**-**	-	**-**	120.00	**3,120.00**	-	**-**	5,720
Safety Inspections and Reporting		416	hrs	65.00	**27,040.00**	-	**-**	-	**-**	-	**-**	-	**-**	27,040
Survey & Layout		1	ls	-	**-**	-	**-**	30,000.00	**30,000.00**	-	**-**	-	**-**	30,000
Training for Park Staff	8 hours for each system	1	ls	-	**-**	-	**-**	20,000.00	**20,000.00**	-	**-**	-	**-**	20,000
As Built Survey		1	ls	3,500.00	**3,500.00**	4,100.00	**4,100.00**	-	**-**	-	**-**	-	**-**	7,600
As Built Close Outs		1	ls	5,200.00	**5,200.00**	3,200.00	**3,200.00**	-	**-**	-	**-**	-	**-**	8,400
Contract Documents & Control		1	ls	360.00	**360.00**	2,100.00	**2,100.00**	-	**-**	-	**-**	-	**-**	2,460
State Sales Tax		0.0%					-							0.00
County Tax		0.00%					-							0.00
General Conditions and Requirements Subtotal					**611,365.72**		**114,989.70**		**85,000.00**		**92,030.00**		**15,000.00**	**918,385.42**
Prime Contractor Markups	**14.3%**				**87,119.62**		**16,386.03**		**12,112.50**		**13,114.28**		**2,137.50**	130,869.92
General Requirements	5%													
G & A	3%													
General Liability	0%													
Fee	4%													
P&P Bond	2%													
TOTAL GENERAL REQUIREMENTS					**698,485.34**		**131,375.73**		**97,112.50**		**105,144.28**		**17,137.50**	**1,049,255**

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Division 2

Division 3

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 3 - Concrete														
ASSUME NO WINTER READY MIX														
ASSUME NO PILES														
Structures Concrete														
Building Foundation:														
Ready Mix Materials - 3,000 PSI	5100 sf	192	cy	-	-	125.00	**24,037.01**	-	-	-	-	-	-	24,037.01
Admixtures - mid range		192	cy	-	-	2.00	**384.59**	-	-	-	-	-	-	384.59
Rebar Supplier		12	tns	-	-	1,800.00	**21,600.00**	-	-	-	-	-	-	21,600.00
Waterstop		392	lf	3.00	**1,176.00**	5.75	**2,254.00**	-	-	-	-	-	-	3,430.00
Form & Place Foundation Footings & Walls		193	cy	-	-	-	-	248.00	**47,864.00**					47,864.00
Rigid Insulation Foundation Walls		944	sf	0.30	**283.20**	2.20	**2,076.80**	-	-	-	-	-	-	2,360.00
Building Slab:	10"													
Ready Mix Materials - 4,000 PSI		160	cy	-	-	145.00	**23,178.52**	-	-	-	-	-	-	23,178.52
Admixtures - mid range		160	cy	-	-	3.00	**479.56**	-	-	-	-	-	-	479.56
Vapor Barrier and Tape		5,720	sf	0.15	**858.00**	0.33	**1,887.60**	-	-	-	-	-	-	2,745.60
Under slab Insulation		944	sf	0.25	**236.00**	3.53	**3,332.32**	-	-	-	-	-	-	3,568.32
Construction Joints		0	lf	4.00	-	3.25	-	-	-	-	-	-	-	
Construction Joint Dowels		0	ea	1.00	-	1.50	-	-	-	-	-	-	-	
Edge Forms At Doors		40	lf	3.00	**120.00**	3.00	**120.00**	-	-	-	-	-	-	240.00
Edge Forms At Stoops		24	lf	3.00	**72.00**	3.00	**72.00**	-	-	-	-	-	-	144.00
Perimeter Expansion Joints		392	ls	0.15	**58.80**	1.00	**392.00**	-	-	-	-	-	-	450.80
Perimeter Expansion Joint Trench drains		142	ls	0.15	**21.30**	1.00	**142.00**	-	-	-	-	-	-	163.30
Column Diamond Form & Strip		16	ea	35.00	**560.00**	10.00	**160.00**	-	-	-	-	-	-	720.00
Column Diamond Placement		16	ea	35.00	**560.00**	15.00	**240.00**	-	-	-	-	-	-	800.00
SOG Rebar		5	tns	450.00	**2,250.00**	1,200.00	**6,000.00**	-	-	-	-	-	-	8,250.00
Chairs		800	lf	0.50	**400.00**	0.63	**504.00**	-	-	-	-	-	-	904.00
Mesh		0	sf	0.08	-	0.44	-	-	-	-	-	-	-	0.00
SOG Concrete Placement		5,200	sf	2.00	**10,400.00**	-	-	-	-	-	-	-	-	10,400.00
Cure		5,200	sf	0.05	**260.00**	0.02	**104.00**	-	-	-	-	-	-	364.00
Saw Cut		325	lf	0.75	**243.75**	0.25	**81.25**	-	-	-	-	-	-	325.00
Caulk Control Joint & Saw Cuts		859	lf	1.00	**859.00**	0.44	**377.96**	-	-	-	-	-	-	1,236.96
Pour Prep		1	ea	250.00	**250.00**	-	-	-	-	-	-	-	-	250.00
Iso Slab @ Backwash Holding Tank	14 x 14 x 1.5	196	sf	-	-									
Ready Mix Materials - 4,000 PSI		13	cy	-	-	145.00	**1,885.00**	-	-	-	-	-	-	1,885.00
Admixtures - mid range		13	cy		-	3.00	**39.00**	-	-	-	-	-	-	39.00
Edge Forms		56	lf	4.00	**224.00**	4.00	**224.00**	-	-	-	-	-	-	448.00
Chamfer strip		56	lf	1.20	**67.20**	1.00	**56.00**	-	-	-	-	-	-	123.20
Pad Rebar		862	pd's	0.50	**431.00**	0.90	**775.80**	-	-	-	-	-	-	1,206.80
Waterstop		56	lf	3.00	**168.00**	5.75	**322.00**	-	-	-	-	-	-	490.00
Chairs		100	lf	0.50	**50.00**	0.89	**89.00**	-	-	-	-	-	-	139.00
SOG Concrete Placement		196	sf	0.55	**107.80**	-	-	-	-	-	-	-	-	107.80
Cure		196	sf	0.05	**9.80**	0.06	**11.76**	-	-	-	-	-	-	21.56
Iso Slab @ Effluent Tank & GAC Vessel	(10 x 12)+(8x7)	176	sf		-									
Ready Mix Materials - 4,000 PSI		12	cy	-	-	145.00	**1,740.00**	-	-	-	-	-	-	1,740.00
Admixtures - mid range		12	cy		-	3.00	**36.00**	-	-	-	-	-	-	36.00
Edge Forms		61	lf	4.00	**244.00**	4.00	**244.00**	-	-	-	-	-	-	488.00
Chamfer strip		61	lf	1.20	**73.20**	1.00	**61.00**	-	-	-	-	-	-	134.20
Pad Rebar		704	pd's	0.50	**352.00**	0.90	**633.60**	-	-	-	-	-	-	985.60
Waterstop		61	lf	3.00	**183.00**	5.75	**350.75**	-	-	-	-	-	-	533.75
Chairs		100	lf	0.50	**50.00**	0.89	**89.00**	-	-	-	-	-	-	139.00
SOG Concrete Placement		176	sf	0.55	**96.80**	-	-	-	-	-	-	-	-	96.80
Cure		176	sf	0.05	**8.80**	0.06	**10.56**	-	-	-	-	-	-	19.36
Slab @ Air Compressor	5 x 6	30	sf		-									
Ready Mix Materials - 4,000 PSI		1	cy		-	145.00	**145.00**	-	-	-	-	-	-	145.00
Admixtures - mid range		1	cy		-	3.00	**3.00**	-	-	-	-	-	-	3.00
Edge Forms		22	lf	4.00	**88.00**	4.00	**88.00**	-	-	-	-	-	-	176.00
Chamfer strip		22	lf	1.20	**26.40**	1.00	**22.00**	-	-	-	-	-	-	48.40
Pad Rebar		60	pd's	0.50	**30.00**	5.75	**345.00**	-	-	-	-	-	-	375.00
Chairs		10	lf	0.50	**5.00**	0.89	**8.90**	-	-	-	-	-	-	13.90
SOG Concrete Placement		30	sf	2.00	**60.00**	-	-	-	-	-	-	-	-	60.00
Cure		30	sf	0.05	**1.50**	0.02	**0.60**	-	-	-	-	-	-	2.10

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Slab @ Bladder Tank	4 ' Radious	16	sf												
Ready Mix Materials - 4,000 PSI		3	cy		-	145.00	**435.00**	-	-	-	-	-	-	-	435.00
Admixtures - mid range		3	cy		-	3.00	**9.00**	-	-	-	-	-	-	-	9.00
Edge Forms		15	lf	4.00	**60.00**	4.00	**60.00**	-	-	-	-	-	-	-	120.00
Chamfer strip		15	lf	1.20	**18.00**	1.00	**15.00**	-	-	-	-	-	-	-	33.00
Pad Rebar		32	pd's	0.50	**16.00**	0.90	**28.80**	-	-	-	-	-	-	-	44.80
Chairs		16	lf	0.50	**8.00**	0.89	**14.24**	-	-	-	-	-	-	-	22.24
SOG Concrete Placement		16	sf	2.00	**32.00**	-	**-**	-	-	-	-	-	-	-	32.00
Cure		16	sf	0.05	**0.80**	0.02	**0.32**	-	-	-	-	-	-	-	1.12
Slab @ Booster Pump	4 x 3	12	sf												
Ready Mix Materials - 4,000 PSI		1	cy		-	145.00	**145.00**	-	-	-	-	-	-	-	145.00
Admixtures - mid range		1	cy		-	3.00	**3.00**	-	-	-	-	-	-	-	3.00
Edge Forms		14	lf	4.00	**56.00**	4.00	**56.00**	-	-	-	-	-	-	-	112.00
Chamfer strip		14	lf	1.20	**16.80**	1.00	**14.00**	-	-	-	-	-	-	-	30.80
Pad Rebar		24	pd's	0.50	**12.00**	0.90	**21.60**	-	-	-	-	-	-	-	33.60
Chairs		6	lf	0.50	**3.00**	0.89	**5.34**	-	-	-	-	-	-	-	8.34
SOG Concrete Placement		12	sf	2.00	**24.00**	-	**-**	-	-	-	-	-	-	-	24.00
Cure		12	sf	0.05	**0.60**	0.02	**0.24**	-	-	-	-	-	-	-	0.84
Slab @ Electrical Panels	3 x 3	9	sf												
Ready Mix Materials - 4,000 PSI		1	cy		-	145.00	**145.00**	-	-	-	-	-	-	-	145.00
Admixtures - mid range		1	cy		-	3.00	**3.00**	-	-	-	-	-	-	-	3.00
Edge Forms		12	lf	4.00	**48.00**	4.00	**48.00**	-	-	-	-	-	-	-	96.00
Chamfer strip		12	lf	1.20	**14.40**	1.00	**12.00**	-	-	-	-	-	-	-	26.40
Pad Rebar		56	pd's	0.50	**28.00**	0.90	**50.40**	-	-	-	-	-	-	-	78.40
Chairs		6	lf	0.50	**3.00**	0.89	**5.34**	-	-	-	-	-	-	-	8.34
SOG Concrete Placement		9	sf	2.00	**18.00**	-	**-**	-	-	-	-	-	-	-	18.00
Cure		9	sf	0.05	**0.45**	0.02	**0.18**	-	-	-	-	-	-	-	0.63
Iso Slab @ Train A&B/Polish A&B/Regen	34 x 8 x 1.5	272	sf												
Ready Mix Materials - 4,000 PSI		15	cy		**-**	145.00	**2,175.00**	-	**-**	-	-	-	-	-	2,175.00
Admixtures - mid range		15	cy		-	3.00	**45.00**	-	-	-	-	-	-	-	45.00
Edge Forms		84	lf	4.00	**336.00**	4.00	**336.00**	-	-	-	-	-	-	-	672.00
Chamfer Strip		84	lf	1.20	**100.80**	1.00	**84.00**	-	-	-	-	-	-	-	184.80
Waterstop		84	lf	3.00	**252.00**	5.75	**483.00**	-	-	-	-	-	-	-	735.00
Pad Rebar		1,088	pd's	0.50	**544.00**	0.90	**979.20**	-	-	-	-	-	-	-	1,523.20
Chairs		45	lf	0.50	**22.50**	0.89	**40.05**	-	-	-	-	-	-	-	62.55
SOG Concrete Placement		272	sf	2.00	**544.00**	-	**-**	-	-	-	-	-	-	-	544.00
Cure		272	sf	0.05	**13.60**	0.02	**5.44**	-	-	-	-	-	-	-	19.04
Slab @ Rinse Tank	10' radius	80	sf												
Ready Mix Materials - 4,000 PSI		3	cy	-	**-**	145.00	**435.00**	-	**-**	-	-	-	-	-	435.00
Admixtures - mid range		3	cy	-	**-**	3.00	**9.00**	-	**-**	-	-	-	-	-	9.00
Edge Forms		14	lf	4.00	**56.00**	4.00	**56.00**	-	**-**	-	-	-	-	-	112.00
Concrete Placement		36	sf	2.00	**72.00**	-	**-**	-	**-**	-	-	-	-	-	72.00
Lid		9	sf	10.00	**90.00**	45.00	**405.00**	-	**-**	-	-	-	-	-	495.00
Trench Drain 2	28'														
Ready Mix Materials - 4,000 PSI		9	cy		**-**	145.00	**1,305.00**	-	**-**	-	-	-	-	-	1,305.00
Admixtures - mid range		9	cy		-	3.00	**27.00**	-	**-**	-	-	-	-	-	27.00
Edge Forms		57	lf	12.00	**684.00**	18.00	**1,026.00**	-	**-**	-	-	-	-	-	1,710.00
Waterstop		57	lf	1.20	**68.40**	0.83	**47.31**	-	**-**	-	-	-	-	-	115.71
Rebar		990	pd's	0.50	**495.00**	0.33	**326.70**	-	**-**	-	-	-	-	-	821.70
Chairs		10	lf	0.50	**5.00**	0.63	**6.30**	-	**-**	-	-	-	-	-	11.30
Trench Darin		1	ls	500.00	**500.00**	5,000.00	**5,000.00**	-	**-**	-	-	-	-	-	5,500.00
Concrete Placement		36	sf	0.55	**19.80**	-	**-**	-	**-**	-	-	-	-	-	19.80
Sump Pit 2	3' x 3'														
Ready Mix Materials - 4,000 PSI		2	cy		**-**	145.00	**290.00**	-	**-**	-	-	-	-	-	290.00
Admixtures - mid range		2	cy		-	3.00	**6.00**	-	**-**	-	-	-	-	-	6.00
Edge Forms		12	lf	12.00	**144.00**	18.00	**216.00**	-	**-**	-	-	-	-	-	360.00
Waterstop		9	lf	1.20	**10.80**	0.83	**7.47**	-	**-**	-	-	-	-	-	18.27
Rebar		220	pd's	0.50	**110.00**	0.90	**198.00**	-	**-**	-	-	-	-	-	308.00
Concrete Placement		36	sf	2.00	**72.00**	-	**-**	-	**-**	-	-	-	-	-	72.00
Lid		9	sf	10.00	**90.00**	45.00	**405.00**	-	**-**	-	-	-	-	-	495.00
															0.00
Exterior Building Bollards	in site civil	10	ea	-	**-**	-	**-**	860.00	**8,600.00**	-	-	-	-	-	8,600.00
Interior Building Bollards		10	ea	-	**-**	-	**-**	860.00	**8,600.00**	-	-	-	-	-	8,600.00
State Sales Tax		0.0%					**-**								0.00
County Tax		0.00%					**-**								0.00

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Division 3 - Concrete Subtotal					**29,036.30**		**119,687.14**		**65,064.00**		**-**		**-**	**213,787.44**
Subcontractor General Requirements	**21.3%**				**6,170.21**		**25,433.52**		**13,826.10**		**-**		**-**	45,429.83
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**5,016.93**		**20,679.69**		**11,241.84**		**-**		**-**	36,938.46
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL CONCRETE					**40,223.44**		**165,800.36**		**90,131.94**		**0.00**		**0.00**	**296,156**

Division 4

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 4 - Masonry														
Blast Divider Wall (between process area and the office area)		2,160	sf	-	**-**	-	**-**	14.00	**30,240.00**	-	**-**	-	**-**	30,240.00
State Sales Tax		0.0%					**-**							0.00
County Tax		0.00%					**-**							0.00
Division 4 - Masonry Subtotal					**-**		**-**		**30,240.00**		**-**		**-**	**30,240.00**
Subcontractor General Requirements	**21.3%**				**-**		**-**		**6,426.00**		**-**		**-**	6,426.00
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**-**		**-**		**5,224.91**		**-**		**-**	5,224.91
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL MASONRY					**0.00**		**0.00**		**41,890.91**		**0.00**		**0.00**	**41,891**

Division 5

ITEM DESCRIPTION			Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
			Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 5 - Metals															
Misc Steel (for pre-engineered building)															
Pipe Racks - Galv 8Wx15			13	tns		**-**	2,475.00	**32,175.00**	-	**-**	-	**-**	-	**-**	32,175.00
Galv			25,000	pds		**-**	-	-	0.50	**12,500.00**	-	**-**	-	**-**	12,500.00
Overhead Door Jamb			36	lf		**-**	15.00	**540.00**	-	**-**	-	**-**	-	**-**	540.00
Angles @ exposed edge slab conditions			36	lf		**-**	5.30	**190.80**	-	**-**	-	**-**	-	**-**	190.80
Hose "J" Hangars			3	ea		**-**	85.00	**255.00**	-	**-**	-	**-**	-	**-**	255.00
Burglar Bars in Louver Openings			40	sf		**-**	10.00	**400.00**	-	**-**	-	**-**	-	**-**	400.00
Crew Rate:	Base Wage & Fringe	Daily													
Foreman	140.00	$1,120.00													
Erector 1	120.00	$960.00													
Erector 2	120.00	$960.00													
Daily Labor Rate		***$3,040.00***													
Equipment:															
Pickup Truck		$79.45													
Rack Truck		$136.00													
Welding Machine		$526.00													
Torches & Gas		$15.00													
Small tools		$100.00													
Daily Equipment Rate		**$856.45**													
			10	days	3,040.00	**30,400.00**	-	-	-	**-**	$856.45	**8,564.50**	-	**-**	38,964.50
State Sales Tax			0.0%					**-**							0.00
County Tax			0.00%					-							0.00

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Division 5 - Metals Subtotal					**30,400.00**		**33,560.80**		**12,500.00**		**8,564.50**		**-**	**85,025.30**
Subcontractor General Requirements	**21.3%**				**6,460.00**		**7,131.67**		**2,656.25**		**1,819.96**		**-**	18,067.88
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**5,252.55**		**5,798.68**		**2,159.77**		**1,479.79**		**-**	14,690.78
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL METALS					**42,112.55**		**46,491.15**		**17,316.02**		**11,864.24**		**0.00**	**117,783.95**

Division 6

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 6 - Wood & Plastics														
Fasteners		1	ls	-	**-**	350.00	**350.00**	-	**-**	-	**-**	-	**-**	350.00
Tele Data Boards		6	ea	30.00	**180.00**	30.00	**180.00**	-	**-**	-	**-**	-	**-**	360.00
Bucks		250	lf	3.25	**812.50**	3.25	**812.50**	-	**-**	-	**-**	-	**-**	1,625.00
2 layers of plywood on metal lid over elec & controls		14	shts	26.00	**364.00**	65.00	**910.00**	-	**-**	-	**-**	-	**-**	1,274.00
Wainscot	FRP	896	sf	-	**-**	-	**-**	10.25	**9,184.00**	-	**-**	-	**-**	9,184.00
Trim on top of electrical closet	4"	33	lf	2.10	**69.30**	1.82	**60.06**	-	**-**	-	**-**	-	**-**	129.36
State Sales Tax		0.0%					**-**							0.00
County Tax		0.00%					**-**							0.00
Division 6 - Wood & Plastics Subtotal					**1,425.80**		**2,312.56**		**9,184.00**		**-**		**-**	**12,922.36**
Subcontractor General Requirements	**21.3%**				**302.98**		**491.42**		**1,951.60**		**-**		**-**	2,746.00
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**246.35**		**399.57**		**1,586.82**		**-**		**-**	2,232.74
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL WOOD & PLASTICS					**1,975.13**		**3,203.55**		**12,722.42**		**0.00**		**0.00**	**17,901.10**

Division 7

ITEM DESCRIPTION	Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
	Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 7 - Thermal & Moisture Protection													
In HM Walls - Batt Insulation - Included in Div 9	1	ls											0.00
Wall Insulation													
Batt Insulation - In Wall	5,616	sf	0.34	**1,909.44**	1.05	**5,896.80**	-	**-**	-	**-**	-	**-**	7,806.24
Exterior wall panel in Pre-engineered building package Div 5			-	**-**	-	**-**	-	**-**	-	**-**	-	**-**	0.00
Z-Strip Interior	3,100	lf	2.05	**6,355.00**	0.23	**713.00**	-	**-**	-	**-**	-	**-**	7,068.00
2" Rigid Interior - tape seams	6,504	sf	0.53	**3,447.12**	0.78	**5,073.12**	-	**-**	-	**-**	-	**-**	8,520.24
Liner Panel interior	6,504	sf	1.96	**12,747.84**	4.37	**28,422.48**	-	**-**	-	**-**	-	**-**	41,170.32
Spray Foam on Steel	210	sf	-	**-**	-	**-**	8.00	**1,680.00**	-	**-**	-	**-**	1,680.00

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Roof Insulation														
Batt Insulation		5,200	sf	0.91	**4,732.00**	0.75	**3,900.00**	-	-	-	-	-	-	8,632.00
Reinforced Fire Retardant Poly Sheeting - 6 Mil on Ceiling		5,200	sf	0.31	**1,612.00**	0.25	**1,300.00**	-	-	-	-	-	-	2,912.00
Strapping System - skyweb		5,200	sf	0.85	**4,420.00**	0.66	**3,432.00**	-	-	-	-	-	-	7,852.00
Metal roof in pre-engineered package	Div 5	5,200	sf	-	-	-	-	-	-	-	-	-	-	0.00
		0	ea	-	-	-	-	-	-	-	-	-	-	0.00
State Sales Tax		0.0%					-							0.00
County Tax		0.00%					-							0.00
Division 7 - Thermal & Moisture Protection Subtotal					**35,223.40**		**48,737.40**		**1,680.00**		-		-	**85,640.80**
Subcontractor General Requirements	**21.3%**				**7,484.97**		**10,356.70**		**357.00**		-		-	18,198.67
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**6,085.94**		**8,420.91**		**290.27**		-		-	14,797.12
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL THERMAL MOISTURE					**48,794.32**		**67,515.01**		**2,327.27**		**0.00**		**0.00**	**118,636.59**

Division 8

ITEM DESCRIPTION			Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
			Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 8 - Doors & Windows															
Exterior Doors															
	Pass door 1	insulated with closers	1	ea	185.00	**185.00**	1,250.00	**1,250.00**	-	-	-	-	-	-	1,435.00
	Pass door 2	insulated with closers	1	ea	185.00	**185.00**	1,250.00	**1,250.00**	-	-	-	-	-	-	1,435.00
	Overhead door	insulated with electric closers	1	ea	1,200.00	**1,200.00**	3,500.00	**3,500.00**	-	-	-	-	-	-	4,700.00
Interior doors															
	Blast Partition door 1	insulated with closers	1	ea	350.00	**350.00**	1,560.00	**1,560.00**	-	-	-	-	-	-	1,910.00
	Office door	insulated with closers	1	ea	185.00	**185.00**	1,250.00	**1,250.00**	-	-	-	-	-	-	1,435.00
	Water closet door	insulated with closers	1	ea	185.00	**185.00**	1,250.00	**1,250.00**	-	-	-	-	-	-	1,435.00
	Electrical Closet	insulated with closers	1	ea	185.00	**185.00**	1,250.00	**1,250.00**	-	-	-	-	-	-	1,435.00
	Grout Door Jambs		1	ea	-	-	-	-	41.00	**41.00**	-	-	-	-	41.00
Interior office window			1	ea	180.00	**180.00**	-	-	-	-	-	-	-	-	180.00
State Sales Tax			0.0%					-							0.00
County Tax			0.00%					-							0.00
Division 8 - Doors & Windows Subtotal						**2,655.00**		**11,310.00**		**41.00**		-		-	**14,006.00**
Subcontractor General Requirements	**21.3%**					**564.19**		**2,403.38**		**8.71**		-		-	2,976.28
General Requirements & Supervision	10.00%														
G & A	3.00%														
General Liability	0.40%														
Fee	6.00%														
P&P Bond	1.85%														
Contingency	0.00%														
Prime Contractor Markups	**14.3%**					**458.73**		**1,954.16**		**7.08**		-		-	**2,419.97**
General Requirements	5.0%														
G & A	3.0%														
General Liability	0.4%														
Fee	4.0%														
P&P Bond	1.9%														
TOTAL DOORS & WINDOWS						**3,677.92**		**15,667.53**		**56.80**		**0.00**		**0.00**	**19,402.25**

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Division 9

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 9 - Finishes														
Tank Handrails		273	lf	1.61	**440.00**	2.00	**546.00**	**-**	**-**	-	-	-	-	986.00
Wall Type A - Deck to Deck														
Structural 20 Gage Metal Framing 1 -		1,248	sf	4.04	**5,035.68**	2.02	**2,517.22**	-	**-**	-	-	-	-	7,552.90
batt Insulation		1,248	sf	1.88	**2,346.24**	0.80	**998.40**	-	**-**	-	-	-	-	3,344.64
Drywall - 1 layer one side		1,248	sf	1.18	**1,472.64**	1.10	**1,372.80**	-	**-**	-	-	-	-	2,845.44
Drywall - 2 layer one side		1,248	sf	0.65	**811.20**	1.10	**1,372.80**	-	**-**	-	-	-	-	2,184.00
Fire Caulk at Top & Bot		3,244	lf	0.69	**2,238.36**	2.39	**7,753.16**	-	**-**	-	-	-	-	9,991.52
Drywall Tape & Finish - level 4 finish		2,496	sf	0.05	**124.80**	0.60	**1,497.60**	-	**-**	-	-	-	-	1,622.40
Expansion Joint System at TOW		48	lf	12.63	**606.24**	2.65	**127.20**	-	**-**	-	-	-	-	733.44
Electrical Room														
Metal Framing - 33 rf		363	sf	0.52	**188.76**	1.03	**373.89**	-	**-**	-	-	-	-	562.65
bat Insulation		363	sf	0.94	**341.22**	0.40	**145.20**	-	**-**	-	-	-	-	486.42
Drywall - 1 layer each side		726	sf	1.18	**856.68**	1.10	**798.60**	-	**-**	-	-	-	-	1,655.28
Fire Caulk at BOW		363	lf	2.36	**856.68**	0.69	**250.47**	-	**-**	-	-	-	-	1,107.15
Drywall Tape & Finish - level 4 finish		726	sf	0.05	**36.30**	0.60	**435.60**	-	**-**	-	-	-	-	471.90
Set Welded Door Jamb	Mtls in Div 8	1	ea	65.00	**65.00**	-	**-**	-	**-**	-	-	-	-	65.00
Hard Ceiling in Electrical Room														
Metal Chanel Framing		216	sf	0.52	**112.32**	1.03	**222.48**	-	**-**	-	-	-	-	334.80
Drywall - 1 layer one side		216	sf	0.65	**140.40**	1.10	**237.60**	-	**-**	-	-	-	-	378.00
Drywall Tape & Finish - level 4 finish		216	sf	0.05	**10.80**	0.60	**129.60**	-	**-**	-	-	-	-	140.40
Plywood Lid in Div 6														
Flooring														
Epoxy Floors		5,200	sf	-	**-**	-	**-**	7.05	**36,660.00**	-	-	-	-	36,660.00
State Sales Tax		0.0%					-							0.00
County Tax		0.00%					-							0.00
Division 10 - Specialties Subtotal					**15,823.32**		**19,318.62**		**49,175.85**		**-**		**-**	**84,317.79**
Subcontractor General Requirements	**21.3%**				**3,362.46**		**4,105.21**		**10,449.87**		**-**		**-**	17,917.53
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**2,733.97**		**3,337.89**		**8,496.66**		**-**		**-**	14,568.53
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL SPECIALTIES					**21,919.75**		**26,761.72**		**68,122.38**		**0.00**		**0.00**	**116,803.85**

Division 10

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 10 - Specialties														
Paint														
Bath Accessories														
Toilet Paper Dispenser		1	ea	35.00	**35.00**	-	**-**	-	**-**	-	-	-	-	35.00
Paper Towel Dispenser		1	ea	35.00	**35.00**	660.00	**660.00**	-	**-**	-	-	-	-	695.00
Soap Dispenser		1	ea	35.00	**35.00**	51.50	**51.50**	-	**-**	-	-	-	-	86.50
Grab Bars		2	ea	35.00	**70.00**	30.00	**60.00**	-	**-**	-	-	-	-	130.00
ADA Mirror		4	ea	135.00	**540.00**	135.00	**540.00**	-	**-**	-	-	-	-	1,080.00
Close Hooks		1	ea	5.00	**5.00**	3.50	**3.50**	-	**-**	-	-	-	-	8.50
Fire Extinguisher	ABC Dry Chemical	3	ea	50.00	**150.00**	125.00	**375.00**	-	**-**	-	-	-	-	525.00
Building signage		1	ls	800.00	**800.00**	1,500.00	**1,500.00**	-	**-**	-	-	-	-	2,300.00
State Sales Tax		0.0%					-							0.00
County Tax		0.0%					-							0.00
Division 10 - Specialties Subtotal					**1,670.00**		**3,190.00**		**-**		**-**		**-**	**4,860.00**
Subcontractor General Requirements	**21.3%**				**354.88**		**677.88**		**-**		**-**		**-**	1,032.75
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**288.54**		**551.17**		**-**		**-**		**-**	**839.72**
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													

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Fee	4.0%													
P&P Bond	1.9%													
TOTAL SPECIALTIES					**2,313.42**		**4,419.05**		**0.00**		**0.00**		**0.00**	**6,732.47**

Division 11

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 11 - Equipment														
Office/Break Room:														
Water Filter		1	ea	50.00	**50.00**	2,500.00	**2,500.00**	-	**-**	-	**-**	-	**-**	2,550.00
Garbage Disposal		1	ea	50.00	**50.00**	109.00	**109.00**	-	**-**	-	**-**	-	**-**	159.00
Microwave		1	ea	50.00	**50.00**	55.00	**55.00**	-	**-**	-	**-**	-	**-**	105.00
Ice Maker		1	ea	50.00	**50.00**	800.00	**800.00**	-	**-**	-	**-**	-	**-**	850.00
Refrigerator		1	ea	50.00	**50.00**	800.00	**800.00**	-	**-**	-	**-**	-	**-**	850.00
Wheel stop & chain		2	ea	50.00	**100.00**	65.00	**130.00**	-	**-**	-	**-**	-	**-**	230.00
State Sales Tax		0.0%					**-**							0.00
County Tax		0.0%					**-**							0.00
Division 11 - Equipment Subtotal					**350.00**		**4,394.00**		**-**		**-**		**-**	**4,744.00**
Subcontractor General Requirements	**21.3%**				**74.38**		**933.73**		**-**		**-**		**-**	1,008.10
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**60.47**		**759.20**		**-**		**-**		**-**	819.67
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL EQUIPMENT					**484.85**		**6,086.93**		**0.00**		**0.00**		**0.00**	**6,571.77**

Division 12

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 12 - Furnishings														
Laboratory Cabinets		1	ea	1,200.00	**1,200.00**	6,500.00	**6,500.00**	**-**	-	-	-	-	-	7,700.00
Desk		1	ea	85.00	**85.00**	800.00	**800.00**	**-**	-	-	-	-	-	885.00
Chairs		2	ea	35.00	**70.00**	350.00	**700.00**	**-**	-	-	-	-	-	770.00
State Sales Tax		0.0%					**-**							0.00
County Tax		0.0%					**-**							0.00
Division 11 - Furnishings Subtotal					**1,355.00**		**8,000.00**		**-**		**-**		**-**	**9,355.00**
Subcontractor General Requirements	**21.3%**				**287.94**		**1,700.00**		**-**		**-**		**-**	1,987.94
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**234.12**		**1,382.25**		**-**		**-**		**-**	1,616.37
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL FURNISHINGS					**1,877.06**		**11,082.25**		**0.00**		**0.00**		**0.00**	**12,959.31**

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Division 13

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 13 - Special Construction														
Structural and Geotechnical Engineering Coordination		1	ls	-	-	-	-	**10,000.00**	**10,000.00**	-	-	-	-	10,000.00
Pre-engineered Building		5,200	sf			27.20	**141,440.00**							141,440.00
	Anchor Bolts					Included								
	Base & Leveling Plates					Included								
	Columns					Included								
	Beams					Included								
	Joist & Bridging					Included								
	X Bracing					Included								
	Steel Frame					Included								
	Purlins					Included								
	Girts					Included								
	Insulation 11000 sf					Included								
	Metal Siding					Included								
	Standing Seam Metal Roof					Included								
	Shipping					Included								
Structural Steel Erection		5,200	sf	8.50	**44,200.00**			-	-	-	-	-	-	44,200.00
State Sales Tax		0.0%					-							0.00
County Tax		0.00%					-							0.00
Division 13 - Special Construction Subtotal					**44,200.00**		**141,440.00**		**10,000.00**		-		-	**195,640.00**
Subcontractor General Requirements	**21.3%**				**9,392.50**		**30,056.00**		**2,125.00**		-		-	41,573.50
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**7,636.93**		**24,438.18**		**1,727.81**		-		-	33,802.92
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL SPECIAL CONSTRUCTION					**61,229.43**		**195,934.18**		**13,852.81**		**0.00**		**0.00**	**271,016.42**

Division 14

Division 21

ITEM DESCRIPTION	Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
	Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 21 - Fire Protection													
Wet Sprinkler System	5,200	ea	-	-	-	-	**4.35**	**22,620.00**	-	-	-	-	22,620.00
State Sales Tax	0.0%					-							0.00
County Tax	0.0%					-							0.00
Exclude Foam System for Chemical Storage													
Exclude Clean Agent for Server Room													
Assume In-Rack System is not Required													
Excludes Fire Pump													

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Division 13 - Special Construction Subtotal					-		-		**22,620.00**		-		-	**22,620.00**
Subcontractor General Requirements	**21.3%**				-		-		**4,806.75**		-		-	4,806.75
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				-		-		**3,908.31**		-		-	3,908.31
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL SPECIAL CONSTRUCTION					**0.00**		**0.00**		**31,335.06**		**0.00**		**0.00**	**31,335.06**

Division 22

ITEM DESCRIPTION			Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
			Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 22 - Plumbing															
Materials:															
Safety Shower/Eye Wash Station			1	ls	-	-	7,000.00	**7,000.00**	-	-	-	-	-	-	7,000.00
Fixture Assemblies															
	Water Closet (incl ADA)		1	ea	-	-	1,150.00	**1,150.00**	-	-	-	-	-	-	1,150.00
	Lavatory (incl ADA)		1	ea	-	-	292.00	**292.00**	-	-	-	-	-	-	292.00
	Stainless Steel Sink		1	ea	-	-	1,033.00	**1,033.00**	-	-	-	-	-	-	1,033.00
	Mop Sink		1	ea	-	-	1,225.00	**1,225.00**	-	-	-	-	-	-	1,225.00
	Emergency Shower/Eye Wash		1	ea	-	-	840.00	**840.00**	-	-	-	-	-	-	840.00
	Frostproof Hose Bibb		2	ea	-	-	500.00	**1,000.00**	-	-	-	-	-	-	1,000.00
WH-1	Tankless Domestic Water Heater		1	ea	-	-	10,356.00	**10,356.00**	-	-	-	-	-	-	10,356.00
HWC	Hot water Circulation Pump		1	ea	-	-	150.00	**150.00**	-	-	-	-	-	-	150.00
Domestic Water															
Water Meter			1	ea	-	-	7,525.00	**7,525.00**	-	-	-	-	-	-	7,525.00
Backflow Preventer -			1	ea	-	-	2,800.00	**2,800.00**	-	-	-	-	-	-	2,800.00
6" Domestic Water/Fire Protection Service Entrance		NOT REQUIRED	1	ea	-	-	-	-	-	-	-	-	-	-	0.00
Domestic/Sanitary Piping Allowance			1	ALLW	-	-	55,000.00	**55,000.00**	-	-	-	-	-	-	55,000.00
Air Compressor		SEE DIVISION 40		ea	-	-	-	-	-	-	-	-	-	-	0.00
400 Gal. Air Receiver			1	ea	-	-	2,000.00	**2,000.00**	-	-	-	-	-	-	2,000.00
Comp. Air/Wash/Lube System Overhead Reel			1	ea	-	-	7,525.00	**7,525.00**	-	-	-	-	-	-	7,525.00
1" Compressed Air System Piping			200	lf	-	-	7.40	**1,480.00**	-	-	-	-	-	-	1,480.00
Compressed Air Specialties			1	ls	-	-	700.00	**700.00**	-	-	-	-	-	-	700.00
Labeling			1	ls	-	-	1,865.00	**1,865.00**	-	-	-	-	-	-	1,865.00
Leak Testing			1	ls	-	-	-	-	-	-	-	-	-	-	0.00
Cleaning and Flushing			1	ls	-	-	-	-	-	-	-	-	-	-	0.00
Crew Rate:	Base Wage & Fringe														
Foreman 1	$140.00	$1,120.00													
Journeyman 2	$120.00	$960.00													
Apprentice 1	$120.00	$960.00													
Per Diem		$825.00													
Daily Labor Rate		***$3,865.00***													
Equipment:	**With GPS Control add $65.00 an hour														
Pick-up Truck	$19.00	$152.00													
Van with Tools and Parts		$185.00													
Fork Truck	$32.00	$256.00													
Manlift GENIE GTH-1056	$134.38	$1,075.04													
Daily Equipment Rate		***$1,668.04***													
		Daily Burn Rate	30	days	$3,865.00	**115,950.00**	-	-	-	-	$1,668.04	**50,041.20**	-	-	165,991.20
State Sales Tax			0.0%					-							0.00
County Tax			0.0%					-							0.00
Division 22 - Plumbing Subtotal						**115,950.00**		**101,941.00**		-		**50,041.20**		-	**267,932.20**
Subcontractor General Requirements	**21.3%**					**24,639.38**		**21,662.46**		-		**10,633.76**		-	56,935.59
General Requirements & Supervision	10.00%														
G & A	3.00%														
General Liability	0.40%														
Fee	6.00%														
P&P Bond	1.85%														
Contingency	0.00%														

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Prime Contractor Markups	**14.3%**				**20,033.99**		**17,613.49**		**-**		**8,646.18**		**-**	46,293.66
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL PLUMBING					**160,623.36**		**141,216.96**		**0.00**		**69,321.14**		**0.00**	**371,161.45**

Division 23

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 23 - Mechanical - HVAC														
Louvers		154	sf	2.00	**308.00**	12.00	**1,848.00**	-	**-**	-	-	-	-	2,156.00
Gas Fired Heat Recovery Unit ERV 1		1	ls	4,950.00	**4,950.00**	39,000.00	**39,000.00**	-	**-**	-	-	-	-	43,950.00
Gas Fired Heat Recovery Unit ERV 2		1	ls	4,950.00	**4,950.00**	55,000.00	**55,000.00**	-	**-**	-	-	-	-	59,950.00
EF-1 Ceiling Fan	Greencheck SP-A510	1	ea	439.00	**439.00**	878.66	**878.66**	-	**-**	-	-	-	-	1,317.66
Diffuser/Register/Grille														
	24x12	1	ea	439.00	**439.00**	103.68	**103.68**	-	**-**	-	-	-	-	542.68
	42x36	1	ea	439.00	**439.00**	544.32	**544.32**	-	**-**	-	-	-	-	983.32
	40x30	1	ea	439.00	**439.00**	425.00	**425.00**	-	**-**	-	-	-	-	864.00
	12x12	1	ea	439.00	**439.00**	65.33	**65.33**	-	**-**	-	-	-	-	504.33
New ductwork - Galv sht metal		1200	lbs	0.66	792.00	4.34	5,208.00	-	**-**	-	-	-	-	6,000.00
Insulation		288	lbs	0.66	190.08	4.34	1,249.92	-	**-**	-	-	-	-	1,440.00
								-	**-**	-	-	-	-	0.00
Equipment Support Steel		1	ls	2,398.00	**2,398.00**	4,500.00	**4,500.00**	-	**-**	-	-	-	-	6,898.00
								-	**-**	-	-	-	-	0.00
Temperature Controls		1	sys	5,000.00	**5,000.00**	10,000.00	**10,000.00**	-	**-**	-	-	-	-	15,000.00
Testing, Adjusting and Balancing		1	ls	3,500.00	**3,500.00**	-	**-**	-	**-**	-	-	-	-	3,500.00
Commissioning Services		1	ls	3,500.00	**3,500.00**	-	**-**	-	**-**	-	-	-	-	3,500.00
Electric power wiring not included.														
See Plumbing Estimate for Fuel Gas piping														
State Sales Tax		0.0%					-							0.00
County Tax		0.00%					-							0.00
Division 23 - Mechanical - HVAC Subtotal					**27,783.08**		**118,822.91**		**-**		**-**		**-**	**146,605.99**
Subcontractor General Requirements	**21.3%**				**5,903.90**		**25,249.87**		**-**		**-**		**-**	31,153.77
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**4,800.40**		**20,530.37**		**-**		**-**		**-**	25,330.77
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL MECHANICAL					**38,487.38**		**164,603.15**		**0.00**		**0.00**		**0.00**	**203,090.53**

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Division 26

ITEM DESCRIPTION		Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
		Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 26 - Electrical														
Building Electrical		5,200	sf	6.50	**33,800.00**	12.00	**62,400.00**	-	**-**	-	**-**	-	**-**	96,200.00
Power Panels					included		included							
Switches/Outlets					included		included							
Interior/Exterior Fixtures					included		included							
Egress Signs					included		included							
Room 101 Explosion Proof Upgrade - Note 3		1	ls	-	**-**	-	**-**		**-**	-	**-**	30,000.00	**30,000.00**	30,000.00
Process Hookup		1	ls	-	**-**	-	**-**	16,000.00	**16,000.00**	-	**-**	-	**-**	16,000.00
State Sales Tax		0.0%					-							0.00
County Tax		0.00%					-							0.00
Division 26 - Electrical Subtotal					**33,800.00**		**62,400.00**		**16,000.00**		**-**		**30,000.00**	**142,200.00**
Subcontractor General Requirements	**21.25%**				**7,182.50**		**13,260.00**		**3,400.00**		**-**		**6,375.00**	30,217.50
General Requirements & Supervision	10.00%													
G & A	3.00%													
General Liability	0.40%													
Fee	6.00%													
P&P Bond	1.85%													
Contingency	0.00%													
Prime Contractor Markups	**14.3%**				**5,840.01**		**10,781.55**		**2,764.50**		**-**		**5,183.44**	24,569.49
General Requirements	5.0%													
G & A	3.0%													
General Liability	0.4%													
Fee	4.0%													
P&P Bond	1.9%													
TOTAL Electrical					**46,822.51**		**86,441.55**		**22,164.50**		**0.00**		**41,558.44**	**196,986.99**

Division 28

Division 32

ITEM DESCRIPTION			Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
			Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 31 - Earthwork (Site regrading and excavation for foundation)															
Mobilization and Environmental Control:															
Mobilization			1	Sub	-	**-**	-	**-**	25,000.00	**25,000.00**	-	**-**	-	**-**	25,000.00
Survey & Layout			1	Sub	-	**-**	-	**-**	8,500.00	**8,500.00**	-	**-**	-	**-**	8,500.00
Erosion Control:															
Silt Fence			2200	lf	-	**-**	3.25	**7,150.00**	-	**-**	-	**-**	-	**-**	7,150.00
Hay bale with stakes			25	ea	-	**-**	10.00	**250.00**	-	**-**	-	**-**	-	**-**	250.00
Maintenance			40	hrs	43.10	**1,724.00**	-	**-**	-	**-**	-	**-**	-	**-**	1,724.00
Materials:															
Structural Gravel			250	cy	-	**-**	55.00	**13,750.00**	-	**-**	-	**-**	-	**-**	13,750.00
Bollards			4	ea	-	**-**	860.00	**3,440.00**	-	**-**	-	**-**	-	**-**	3,440.00
Crew Rate:	Base Wage & Fringe	Day Rate													
Foreman	56.70	$453.60													
Laborer 1	41.05	$328.40													
Laborer 2	41.05	$328.40													
Daily Labor Rate		***$1,110.40***													
Equipment:	Hour Rate	Day Rate													
Pickup truck		$46.00													
CAT 938K loader backhoe (operator and fuel)	175.00	$1,400.00													
CAT 259 Skid Steer	122.00	$976.00													
Forward Reverse Compactor	265.00	$2,120.00													
Van with tools and parts		$185.00													
Site Safety Package (signs, cones, barrels) per crew		$330.00													
Daily Equipment Rate		***$5,057.00***													
Daily Burn Rate			10	day	$1,110.40	**11,104.00**	-	**-**	-	**-**	$5,057.00	**50,570.00**	-	**-**	61,674.00
State Sales Tax			0.0%					-		-					0.00
County Tax			0.00%					-		-					0.00
Division 31 - Earthwork Subtotal						**12,828.00**		**24,590.00**		**33,500.00**		**50,570.00**		**-**	**121,488.00**
Subcontractor General Requirements		**21.3%**				**2,725.95**		**5,225.38**		**7,118.75**		**10,746.13**		**-**	25,816.20
General Requirements & Supervision		10.00%													
G & A		3.00%													
General Liability		0.40%													
Fee		6.00%													
P&P Bond		1.85%													
Contingency		0.00%													

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Prime Contractor Markups														
General Requirements	**12.4%**				**1,928.69**		**3,697.11**		**5,036.73**		**7,603.20**		-	18,265.72
G & A	5.0%													
General Liability	3.0%													
Fee	0.4%													
P&P Bond	4.0%													
TOTAL EARTHWORK					**17,482.64**		**33,512.48**		**45,655.48**		**68,919.32**		**0.00**	**165,569.92**

Division 32
Division 33
Division 41

ITEM DESCRIPTION			Quantity		Labor Cost		Material Cost		Subcontractor		Equipment		Other		TOTAL
			Number	Unit	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
Division 40 - Process Interconnections															
REGENERABLE IX															
Materials:															
Equalization Tank	6000 Gallon	HDPE	1	ea	-	-	8,500.00	**8,500.00**	-	-	-	-	-	-	8,500.00
Influent Pumps	100 GPM, 80 PSI	Centrifugal	2	ea	-	-	4,000.00	**8,000.00**	-	-	-	-	-	-	8,000.00
Flowmeter	0-120 GPM	Mag Flux	1	ea	-	-	3,000.00	**3,000.00**	-	-	-	-	-	-	3,000.00
Filtration	100 GPM	Cartridge Filters	2	ea	-	-	3,500.00	**7,000.00**	-	-	-	-	-	-	7,000.00
IX Vessels	60 CUFT (450 gallon)	Fiberglass or SS	2	ea	-	-	125,000.00	**250,000.00**	-	-	-	-	-	-	250,000.00
First Charge of Resin	60 CUFT Each		240	CUFT			158.00	**37,920.00**	-	-	-	-	-	-	37,920.00
Effluent Tank	6000 Gallon	HDPE	1	ea	-	-	8,500.00	**8,500.00**	-	-	-	-	-	-	8,500.00
Effluent Pumps	100 GPM, 80 PSI	Centrifugal	2	ea	-	-	4,000.00	**8,000.00**	-	-	-	-	-	-	8,000.00
Compressor	Atlas Copco		1	ea	-	-	20,000.00	**20,000.00**	-	-	-	-	-	-	20,000.00
Regeneration															
Solvent Regenerant Supply Tank	5000 Gallon	Steel, Double Walled with Leak Detection	1	ea	-	-	35,000.00	**35,000.00**	-	-	-	-	-	-	35,000.00
Spent Solvent Regenerant Tank	5000 Gallon	Steel, Double Walled with Leak Detection	1	ea	-	-	35,000.00	**35,000.00**	-	-	-	-	-	-	35,000.00
Brine Makeup Tank		HDPE	1	ea			800.00	**800.00**							800.00
Startup Supplies	IPA, Salt, misc.		1	LS			5,000.00	**5,000.00**	-	-	-	-	-	-	5,000.00
Rinse Water Tank	6000 Gallon	HDPE	1	ea	-	-	13,000.00	**13,000.00**	-	-	-	-	-	-	13,000.00
Flowmeters	0-120 GPM	Mag Flux	2	ea	-	-	3,000.00	**6,000.00**	-	-	-	-	-	-	6,000.00
Pumps (AOD)	AOD	HDPE	4	ea	-	-	1,200.00	**4,800.00**	-	-	-	-	-	-	4,800.00
Distillation															
Distillation Unit			1	ea	-	-	250,000.00	**250,000.00**	-	-	-	-	-	-	250,000.00
Chiller System			1	ea			16,000.00	**16,000.00**							16,000.00
Distilate Purifier			2	ea	-	-	250.00	**500.00**	-	-	-	-	-	-	500.00
Distilate Purifier Resin			5	CF			276.00	**1,380.00**	-	-	-	-	-	-	1,380.00
Still Bottoms Tote and Coil			1	ea			3,500.00	**3,500.00**	-	-	-	-	-	-	3,500.00
Still Bottoms Holding Tank		HDPE	1	ea	-	-	850.00	**850.00**	-	-	-	-	-	-	850.00
Pumps	AOD	HDPE	2	ea	-	-	1,200.00	**2,400.00**	-	-	-	-	-	-	2,400.00
Flowmeters	0-20 gpm	Mag Flux	1	ea	-	-	4,000.00	**4,000.00**	-	-	-	-	-	-	4,000.00
Plasma Destruction															
Plasma Generating Network	10 KW	Misc electrical components	1	ea	-	-	200,000.00	**200,000.00**	-	-	-	-	-	-	200,000.00
Reactors	280 gallon	HDPE	3	ea	-	-	35,000.00	**105,000.00**	-	-	-	-	-	-	105,000.00
Pumps	AOD	HDPE	3	ea	-	-	1,200.00	**3,600.00**	-	-	-	-	-	-	3,600.00
Argon Recirc. Pump	Piston Type Compressor	5 CFM	3	ea	-	-	1,400.00	**4,200.00**	-	-	-	-	-	-	4,200.00
AC for Electronics Cooling	40,000 BTU	Cabinet style	1	ea	-	-	3,000.00	**3,000.00**	-	-	-	-	-	-	3,000.00
Argon	300 CUFT	Cylinders	2	ea	-	-	110.00	**220.00**	-	-	-	-	-	-	220.00
CTAB	250 gallon	HDPE	1	ea	-	-	2,500.00	**2,500.00**	-	-	-	-	-	-	2,500.00
Chemical Feed Pump			1	ea	-	-	1,000.00	**1,000.00**	-	-	-	-	-	-	1,000.00
Flowmeters	0-20 gpm	Mag Flux	1	ea	-	-	4,000.00	**4,000.00**	-	-	-	-	-	-	4,000.00

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Minor Equipment			1	LOT			$ 9,000	**9,000.00**	-	-	-	-	-	-	9,000.00
Valves, y-strainers, regulators			1	LOT			$ 11,000	**11,000.00**	-	-	-	-	-	-	11,000.00
SS valves			1	LOT			$ 5,000	**5,000.00**	-	-	-	-	-	-	5,000.00
Other Minor Equipment			1	LOT			$ 5,000	**5,000.00**	-	-	-	-	-	-	5,000.00
Hoses															
Misc Piping															
	Valve Allowance		1	ALLW		-	75,000.00	**75,000.00**		-		-		-	75,000.00
	Pipie Allowance		1	ALLW		-	55,000.00	**75,000.00**		-		-		-	75,000.00
Crew Rate:	Base Wage & Fringe	Day Rate													
Foreman	135.00	$1,080.00													
Boiler Maker	145.00	$1,160.00													
Laborer 1 (Fire Watch)	120.00	$960.00													
Daily Labor Rate		***$3,200.00***													
Equipment:	Hour Rate	Day Rate													
Pickup truck		$46.00													
Fork Lift	$32.00	$256.00													
Van with tools and parts		$185.00													
Hand tools, safety gear		$185.00													
Daily Equipment Rate		***$672.00***													
Daily Burn Rate			10	day	$3,200.00	**32,000.00**	-	-	-	-	$672.00	**6,720.00**	-	-	38,720.00
						-		-		-		-		-	0.00
Fire stopping			1	ls	5,000.00	**5,000.00**	5,000.00	**5,000.00**	-	-		-		-	10,000.00
Testing, adjusting and balancing			1	ls	-	-	10,000.00	**10,000.00**	-	-		-		-	10,000.00
Pipe Valve & Tags			1	ls	-	-	5,000.00	**5,000.00**	-	-		-		-	5,000.00
On site training, as-built, close out			1	ls	-	-	5,270.00	**5,270.00**	-	-		-		-	5,270.00
	misc mechanical hookup		48	hrs	-	-	85.00	**4,080.00**	-	-		-		-	4,080.00
	Calls to Factory Rep		1	ea	-	-	1,500.00	**1,500.00**	-	-		-		-	1,500.00
	Testing		1	ea	-	-	-	-	20,000.00	**20,000.00**		-		-	20,000.00
	Control wiring		4	pt	-	-	-	-	300.00	**1,200.00**		-		-	1,200.00
	Piping sleeves		1	ea	-	-	-	-	2,000.00	**2,000.00**		-		-	2,000.00
	Sealing penetrations		1	ea	-	-	-	-	500.00	**500.00**		-		-	500.00
Controls for the Process			1	ea	-	-	-	-	200,000.00	**200,000.00**	-	-	-	-	200,000.00
State Sales Tax			0.0%					-							0.00
County Tax			0.0%					-							0.00
Subtotal Division 40 - Process Interconnections						**37,000.00**		**1,263,520.00**		**223,700.00**		**6,720.00**		-	**1,530,940.00**
Subcontractor General Requirements		**21.3%**				**7,862.50**		**268,498.00**		**47,536.25**		**1,428.00**		-	325,324.75
General Requirements & Supervision		10.0%													
G & A		3.0%													
General Liability		0.4%													
Fee		6.0%													
P&P Bond		1.9%													
Contingency		0.0%													
Prime Contractor Markups		**14.3%**				**6,392.91**		**218,312.57**		**38,651.17**		**1,161.09**		-	**264,517.73**
General Requirements		5.0%													
G & A		3.0%													
General Liability		0.4%													
Fee		4.0%													
P&P Bond		1.9%													
TOTAL PROCESS AND INTERCONNECTIONS						**51,255.41**		**1,750,330.57**		**309,887.42**		**9,309.09**		**0.00**	**2,120,782.48**

Division 41

Labor	1,237,764	
Treatment Equipment Cost	1,432,670	Includes Piping, Valving and Controls Allowances
Material	1,417,772	
Subcontract	752,575	
Equipment	264,558	
Other	58,696	
Total Cost	**$ 5,164,036**	
Total Check Balance	5,164,036	
Total Building Cost	**$ 5,164,036**	

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Wood
511 Congress Street
Portland, ME 04101

Project: ER18-5015 Removal and Destruction of PFAS and Co-Occurring Chemicals from Groundwater via Extraction and Treatment with Ion Exchange Media, and On-Site Regeneration, Distillation, and Plasma Destruction

Location: This model represents work performed in non-remote lite urban areas. This model does not represent work performed in heavy urban environments.

	Regen IX
Division 1 - General Conditions & General Requirements	$ 1,049,255
Division 2 - Existing Conditions	$ -
Division 3 - Concrete	$ 296,156
Division 4 - Masonry	$ 41,891
Division 5 - Metals	$ 117,784
Division 6 - Wood & Plastics	$ 17,901
Division 7 - Thermal & Moisture Protection	$ 118,637
Division 8 - Openings	$ 19,402
Division 9 - Finishes	$ 116,804
Division 10 - Specialties	$ 6,732
Division 11 - Equipment	$ 6,572
Division 12 - Furnishings	$ 12,959
Division 13 - Special Construction	$ 271,016
Division 14 - Conveyors	$ -
Division 21 - Fire Protection	$ 31,335
Division 22 - Plumbing	$ 371,161
Division 23 - Mechanical - HVAC	$ 203,091
Division 26 - Electrical	$ 196,987
Division 27 - Communications	$ -
Division 28 - Electronic Safety and Security	$ -
Division 31 - Earthwork	$ 165,570
Division 32 - Exterior Improvements	$ -
Division 33 - Utilities	$ -
Division 40 - Process Interconnections	$ 2,120,782
Division 41 - Processing & Handling Equipment	$ -

Subtotal		**$ 5,164,036**
Contingency	**20%**	$ 1,032,807
Estimated Total Cost		**$ 6,196,843**

GRAND TOTAL	**$ 6,196,843**
	+/- 30%

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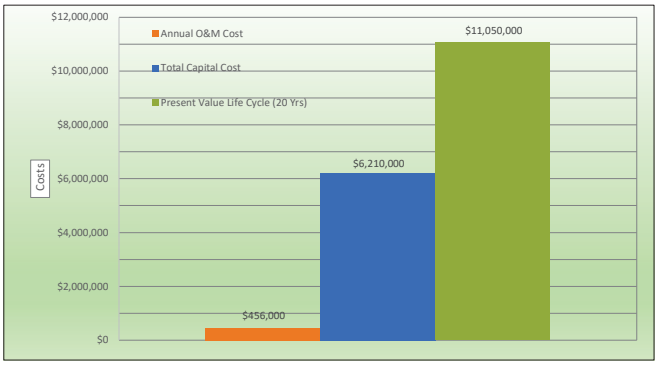
Criteria for LCA Duration - 70 ppt PFOS and PFOA Breakthrough

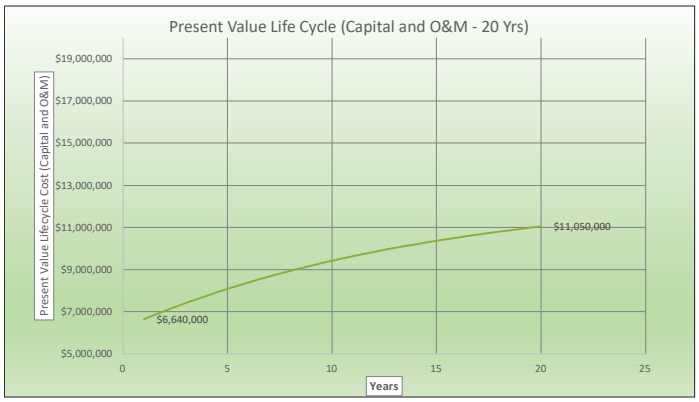
PRESENT WORTH ANALYSIS

Discount Rate	0.07	from Demonstration Plan 9/2020
Life Cycle Period	20	years (assumed)

	Regenex IX
Equipment Cost	$ 1,440,000
Building Cost	$ 3,730,000
Capital Cost	$ 5,170,000
20% Contingency	$ 1,034,000
Total Capital Cost	**$ 6,210,000**
Present Value of Capital Cost	$ 6,210,000
Annual O&M Cost	$ 456,000

Year	Annual O&M Cost	Present Value of O&M Costs	Present Value Life Cycle (20 Yrs)
1	$ 456,000	$ 426,168	$ 6,640,000
2	$ 456,000	$ 398,288	$ 7,038,288
3	$ 456,000	$ 372,232	$ 7,410,520
4	$ 456,000	$ 347,880	$ 7,758,400
5	$ 456,000	$ 325,122	$ 8,083,522
6	$ 456,000	$ 303,852	$ 8,387,374
7	$ 456,000	$ 283,974	$ 8,671,348
8	$ 456,000	$ 265,396	$ 8,936,744
9	$ 456,000	$ 248,034	$ 9,184,778
10	$ 456,000	$ 231,807	$ 9,416,585
11	$ 456,000	$ 216,642	$ 9,633,227
12	$ 456,000	$ 202,469	$ 9,835,697
13	$ 456,000	$ 189,224	$ 10,024,921
14	$ 456,000	$ 176,845	$ 10,201,765
15	$ 456,000	$ 165,275	$ 10,367,041
16	$ 456,000	$ 154,463	$ 10,521,504
17	$ 456,000	$ 144,358	$ 10,665,861
18	$ 456,000	$ 134,914	$ 10,800,775
19	$ 456,000	$ 126,088	$ 10,926,863
20	$ 456,000	$ 117,839	$ 11,050,000





Notes: Costs are for a duplex (lead and lag) treatment system with an average flowrate of 100 gpm and an average influent total PFOA and PFAS conc of 19.50 ug/L. The breakthrough duraration from lead vessel is used for O&M costs. All wastes requiring disposal classidied as non-hazardous.

PLASMA DESTRUCTION VS. OFF-SITE DISPOSAL COST COMPARISON

Description	Plasma Destruction	Off-site Disposal	Notes
Capital Cost	$ 323,520.00	N/A	Excludes building costs - assumes extra space would be used for waste handling and storage.
First Year O&M Cost	$ 101,700.57	$ 125,073	Based on drum disposal of 435 gallons every 15 days

COST OF STILL BOTTOMS DISPOSAL (OFF-SITE INCINERATION)

Basis

Vol. still bottoms/distillation	435	Gallons
Estimated number of drums	8	Per distillation event
Distillations (Events)/year	24	Based on 15 day cycle

Drum and Disposal Cost per Distillation Event

Drum cost	$	100	Each
Disposal cost	$	395	Per Clean Harbors Inc.
Total cost per distillation	$	3,915	Drum and disposal only

Fees per Waste Pickup

Pick-Up Fee	$	425	Per Clean Harbors Inc.
Documentation/Approval Fee	$	100	Per Clean Harbors Inc.
Recovery/Waste Fee	$	700	Per Clean Harbors Inc.
Total Fees per Pickup:	$	1,225	Per distillation event

Totals	Cost per Event	$	5,140	
	Annual Cost	$	125,073	/Yr. for disposal through incineration

Comparison

Cost per Gallon via Incineration:	$	11.82	/Gallon
Cost per Gallon via Plasma Destruction:	$	9.61	/Gallon

Notes:
Assumes 1 waste pick up every 15 days
Assumes disposal in drums

APPENDIX J STATISTICAL ANALYSIS REPORT

Statistical Analysis Report

1. **Executive Summary**
    a. (Critical points of analysis reiterated from #6)
2. **Introduction and Background**

Points to be addressed:

- Are weekly arithmetic means of iron and manganese influent <0.05 mg/l?
- Are weekly arithmetic means of TOC <1mg/l?
- Are PFOA and PFOS < 70 ppt @5000 bed volumes
- Are mean weekly removal of all non-target PFAS >95%?

3. **Data and Processing**

The data set consists of field demonstration data with 18 fluorinated compound analytes, collected between 0 and 82 hours; inorganic water quality analyses (WC) with 10 analytes, collected over 27 "batches" at up to 4 locations (SP-1, SP-2, SP-3 and SP-4) each time; PFAS-related analytes (35) collected over the same time period at the same 4 locations); and 51 volatile organic carbon analytes (VOC) collected between 8/27/2020 and 6/11/2021 – decision to terminate VOC sampling 1/11/2021 due to repeated non-detects.

Summated perfluorinated-compounds analyses (such as "Total PFCA" "Total PFSA") had no non-detects flagged. They were all treated as detections. Individual perfluorinated compounds had non-detects. These were flagged in the data set in the manner of ProUCL input file format with the analysis value equal to the detection limit and a non-detect flag set to 0. Otherwise, the analysis value was the analytical value and the non-detect flag was set to 1.

4. **Analytical Methods**

Weekly averages were determined based on "Batch" numbers.

USEPA's ProUCL was used to do group descriptive statistics which include mean (arithmetic average). The grouping was on sample location (SP-1 through SP-4) and Batch number ("SP-2_Batch_13", for instance).

Weekly (Batch) averages of inorganics were determined for SP-2 for addressing pretreatment effects. (First two goals)

(No TSS data available for third goal)

Weekly mean values for PFOA and PFOS for SP-3 and/or SP-4 were compared to 70 ppt for goal 4

Percent removal calculations were determined based on weekly average SP-2 concentrations minus either SP-3 or SP-4's weekly average concentration, divided by SP-2's weekly average concentration. These were compared to 95% for goal 5

5. **Results and Interpretations**
    - Are weekly arithmetic means of iron and manganese influent <0.05 mg/l?
    - Are weekly arithmetic means of TOC <1mg/l?

Results of these comparisons are in Table 1. Iron and manganese are below criteria except for Batch 4 for iron. TOC exceeds the criterion for every Batch.

- Are weekly arithmetic means of TSS <1 mg/l?

All TSS samples are below detection limit

- Are PFOA and PFOS < 70 ppt @5000 bed volumes

Results of these comparisons are in Table 2. There are numerous exceedances.

Table 3. Exceedances by analyte

	Exceed	Not Exceed
SP3 PFOS+PFOA	9	9
SP4 PFOS+PFOA	0	11
	31.0%	69.0%

- Are mean weekly removal of all non-target PFAS >95%?

Results of these comparisons are in Table 5. There are non-attainments.

Table 5. Attainment of Percent decrease Goal

	Attain	Not Attain	
Total_PFAS_n_24	1	27	3.6%
Total_PFCA	4	22	15.4%
Total_PFSA	28	0	100.0%
Total_Precursors	0	28	0.0%
	30.0%	70.0%	

6. Summary and Recommendations

- *Are weekly arithmetic means of iron and manganese influent <0.05 mg/l?*
  These goals were met in almost every instance

- *Are weekly arithmetic means of TOC <1mg/l?*
  This goal was not met in any batch.

- Are weekly arithmetic means of TSS <1 mg/l?
  All TSS samples are below detection limit

- *Are PFOA and PFOS < 70 ppt @5000 bed volumes*
  Goal met in 69% of cases for SP-3 and SP-4 combined, 100% of cases for SP-4

- *Are mean weekly removal of all non-target PFAS >95%?*
  Goal met in 30% of cases, including all PFAS and no precursor cases.

Table 1. Pretreatment Effluent versus Goals By Batch

Pretreatment effluent

SP-2

Variable	NumObs	Minimum	Maximum	Mean	Criteria	Mean exceeds?
Fe (sp2_batch 01)	2	0	0.02	0.01	0.05	
Fe (sp2_batch 02)	1	0.02	0.02	0.02	0.05	
Fe (sp2_batch 03)	1	0.02	0.02	0.02	0.05	
Fe (sp2_batch 04)	1	0.6	0.6	0.6	0.05	Yes
Fe (sp2_batch 07)	2	0.02	0.03	0.025	0.05	
Fe (sp2_batch 08)	1	0.03	0.03	0.03	0.05	
Fe (sp2_batch 09)	1	0.03	0.03	0.03	0.05	
Fe (sp2_batch 10)	1	0.02	0.02	0.02	0.05	
Fe (sp2_batch 11 and 12)	2	0	0.02	0.01	0.05	
Fe (sp2_batch 13 and 14)	2	0	0.03	0.015	0.05	
Fe (sp2_batch 15 and 16)	3	0.01	0.07	0.0333	0.05	
Fe (sp2_batch 17)	1	0	0	0	0.05	
Fe (sp2_batch 19 and 20)	2	0	0	0	0.05	
Fe (sp2_batch 21)	1	0	0	0	0.05	
Fe (sp2_batch 22)	1	0	0	0	0.05	
Fe (sp2_batch 23)	1	0	0	0	0.05	
Fe (sp2_batch 24)	1	0	0	0	0.05	
Fe (sp2_batch 25)	1	0	0	0	0.05	
Fe (sp2_batch 26)	2	0	0	0	0.05	
Fe (sp2_batch 27)	2	0	0	0	0.05	
Mn (sp2_batch 01)	2	0.8	1	0.9	0.05	Yes
Mn (sp2_batch 02)	1	0.5	0.5	0.5	0.05	Yes
Mn (sp2_batch 03)	1	0.4	0.4	0.4	0.05	Yes
Mn (sp2_batch 04)	1	0.6	0.6	0.6	0.05	Yes
Mn (sp2_batch 07)	2	0	0.2	0.1	0.05	Yes
Mn (sp2_batch 08)	1	0	0	0	0.05	
Mn (sp2_batch 09)	1	0.2	0.2	0.2	0.05	Yes
Mn (sp2_batch 10)	1	0	0	0	0.05	
Mn (sp2_batch 11 and 12)	2	0	0	0	0.05	
Mn (sp2_batch 13 and 14)	2	0	0.2	0.1	0.05	Yes
Mn (sp2_batch 15 and 16)	3	0	0.1	0.0333	0.05	
Mn (sp2_batch 17)	1	0.2	0.2	0.2	0.05	Yes
Mn (sp2_batch 19 and 20)	2	0	0	0	0.05	
Mn (sp2_batch 21)	1	0	0	0	0.05	
Mn (sp2_batch 22)	1	0	0	0	0.05	
Mn (sp2_batch 23)	1	0	0	0	0.05	
Mn (sp2_batch 24)	1	0	0	0	0.05	

Mn (sp2_batch 25)	1	0	0	0	0.05	
Mn (sp2_batch 26)	2	0	0	0	0.05	
Mn (sp2_batch 27)	2	0	0	0	0.05	
TOC (sp2_batch 01)	2	1.992	2.064	2.028	1	Yes
TOC (sp2_batch 02)	1	2.011	2.011	2.011	1	Yes
TOC (sp2_batch 03)	1	2.008	2.008	2.008	1	Yes
TOC (sp2_batch 04)	2	1.189	1.217	1.203	1	Yes
TOC (sp2_batch 07)	2	1.38	1.52	1.45	1	Yes
TOC (sp2_batch 08)	1	2.09	2.09	2.09	1	Yes
TOC (sp2_batch 09)	1	3.751	3.751	3.751	1	Yes
TOC (sp2_batch 10)	1	3.88	3.88	3.88	1	Yes
TOC (sp2_batch 11 and 12)	2	2.67	20.46	11.57	1	Yes
TOC (sp2_batch 13 and 14)	2	2.72	3.56	3.14	1	Yes
TOC (sp2_batch 15 and 16)	3	1.67	1.78	1.73	1	Yes
TOC (sp2_batch 19 and 20)	2	1.15	7.41	4.28	1	Yes
TOC (sp2_batch 21)	1	47.5	47.5	47.5	1	Yes
TOC (sp2_batch 22)	1	18.1	18.1	18.1	1	Yes
TOC (sp2_batch 23)	1	1.9	1.9	1.9	1	Yes
TOC (sp2_batch 24)	1	1.23	1.23	1.23	1	Yes
TOC (sp2_batch 25)	1	1.34	1.34	1.34	1	Yes
TOC (sp2_batch 26)	2	1.7	2.47	2.085	1	Yes
TOC (sp2_batch 27)	2	2.62	2.88	2.75	1	Yes

Table 2. PFOS PFAS Comparison

70 ppt = 70ng/L = 0.070ng/ml

	batch	**location**	**Mean**	Criteria	Exceeds?
Total_PFAS_n_24_	Batch 02	sp3	6.839	0.07	Yes
Total_PFCA	Batch 02	sp3	0.633	0.07	Yes
Total_PFSA	Batch 02	sp3	0.0275	0.07	
Total_Precursors	Batch 02	sp3	1.929	0.07	Yes
Total_PFAS_n_24_	Batch 03	sp3	14.13	0.07	Yes
Total_PFCA	Batch 03	sp3	3.275	0.07	Yes
Total_PFSA	Batch 03	sp3	0	0.07	
Total_Precursors	Batch 03	sp3	5.857	0.07	Yes
Total_PFAS_n_24_	Batch 04	sp3	10.87	0.07	Yes
Total_PFCA	Batch 04	sp3	2.208	0.07	Yes
Total_PFSA	Batch 04	sp3	0	0.07	
Total_Precursors	Batch 04	sp3	3.658	0.07	Yes
Total_PFAS_n_24_	Batch 07	sp3	6.774	0.07	Yes
Total_PFCA	Batch 07	sp3	0.828	0.07	Yes
Total_PFSA	Batch 07	sp3	0	0.07	

Total_Precursors	Batch 07	sp3	2.446	0.07	Yes
Total_PFAS_n_24_	Batch 08	sp3	14.31	0.07	Yes
Total_PFCA	Batch 08	sp3	2.841	0.07	Yes
Total_PFSA	Batch 08	sp3	0.04	0.07	
Total_Precursors	Batch 08	sp3	5.426	0.07	Yes
Total_PFAS_n_24_	Batch 09	sp3	11.72	0.07	Yes
Total_PFAS_n_24_	Batch 09	sp4	6.748	0.07	Yes
Total_PFCA	Batch 09	sp3	2.118	0.07	Yes
Total_PFCA	Batch 09	sp4	0.63	0.07	Yes
Total_PFSA	Batch 09	sp3	0	0.07	
Total_PFSA	Batch 09	sp4	0	0.07	
Total_Precursors	Batch 09	sp3	4.601	0.07	Yes
Total_Precursors	Batch 09	sp4	2.118	0.07	Yes
Total_PFAS_n_24_	Batch 10	sp3	4.332	0.07	Yes
Total_PFCA	Batch 10	sp3	0.293	0.07	Yes
Total_PFSA	Batch 10	sp3	0	0.07	
Total_Precursors	Batch 10	sp3	2.039	0.07	Yes
Total_PFAS_n_24_	Batch 11	sp3	10.49	0.07	Yes
Total_PFAS_n_24_	Batch 11	sp4	26.12	0.07	Yes
Total_PFCA	Batch 11	sp3	2.033	0.07	Yes
Total_PFCA	Batch 11	sp4	0.772	0.07	Yes
Total_PFSA	Batch 11	sp3	0	0.07	
Total_PFSA	Batch 11	sp4	0	0.07	
Total_Precursors	Batch 11	sp3	3.954	0.07	Yes
Total_Precursors	Batch 11	sp4	8.345	0.07	Yes
Total_PFAS_n_24_	Batch 13	sp3	13.31	0.07	Yes
Total_PFAS_n_24_	Batch 13	sp4	7.35	0.07	Yes
Total_PFCA	Batch 13	sp3	2.856	0.07	Yes
Total_PFCA	Batch 13	sp4	0.989	0.07	Yes
Total_PFSA	Batch 13	sp3	0.002	0.07	
Total_PFSA	Batch 13	sp4	0	0.07	
Total_Precursors	Batch 13	sp3	5.118	0.07	Yes
Total_Precursors	Batch 13	sp4	2.361	0.07	Yes
Total_PFAS_n_24_	Batch 15	sp3	9.559	0.07	Yes
Total_PFAS_n_24_	Batch 15	sp4	6.356	0.07	Yes
Total_PFCA	Batch 15	sp3	1.118	0.07	Yes
Total_PFCA	Batch 15	sp4	0.91	0.07	Yes
Total_PFSA	Batch 15	sp3	0.0135	0.07	
Total_PFSA	Batch 15	sp4	0.01	0.07	
Total_Precursors	Batch 15	sp3	2.928	0.07	Yes
Total_Precursors	Batch 15	sp4	1.436	0.07	Yes
Total_PFAS_n_24_	Batch 17	sp3	17.07	0.07	Yes
Total_PFAS_n_24_	Batch 17	sp4	8.714	0.07	Yes
Total_PFCA	Batch 17	sp3	3.623	0.07	Yes
Total_PFCA	Batch 17	sp4	1.858	0.07	Yes
Total_PFSA	Batch 17	sp3	0.027	0.07	

Total_PFSA	Batch 17	sp4	0	0.07	
Total_Precursors	Batch 17	sp3	6.42	0.07	Yes
Total_Precursors	Batch 17	sp4	3.856	0.07	Yes
Total_PFAS_n_24_	Batch 19	sp3	5.239	0.07	Yes
Total_PFAS_n_24_	Batch 19	sp4	1.102	0.07	Yes
Total_PFCA	Batch 19	sp3	0.414	0.07	Yes
Total_PFCA	Batch 19	sp4	0	0.07	
Total_PFSA	Batch 19	sp3	0.004	0.07	
Total_PFSA	Batch 19	sp4	0	0.07	
Total_Precursors	Batch 19	sp3	1.821	0.07	Yes
Total_Precursors	Batch 19	sp4	1.102	0.07	Yes
Total_PFAS_n_24_	Batch 21	sp3	12.41	0.07	Yes
Total_PFAS_n_24_	Batch 21	sp4	5.256	0.07	Yes
Total_PFCA	Batch 21	sp3	1.961	0.07	Yes
Total_PFCA	Batch 21	sp4	0.225	0.07	Yes
Total_PFSA	Batch 21	sp3	0	0.07	
Total_PFSA	Batch 21	sp4	0	0.07	
Total_Precursors	Batch 21	sp3	5.446	0.07	Yes
Total_Precursors	Batch 21	sp4	3.031	0.07	Yes
Total_PFAS_n_24_	Batch 22	sp4	9.152	0.07	Yes
Total_PFCA	Batch 22	sp4	0.152	0.07	Yes
Total_PFSA	Batch 22	sp4	0	0.07	
Total_Precursors	Batch 22	sp4	4	0.07	Yes
Total_PFAS_n_24_	Batch 23	sp3	9.397	0.07	Yes
Total_PFAS_n_24_	Batch 23	sp4	8.525	0.07	Yes
Total_PFCA	Batch 23	sp3	0.357	0.07	Yes
Total_PFCA	Batch 23	sp4	0.525	0.07	Yes
Total_PFSA	Batch 23	sp3	0	0.07	
Total_PFSA	Batch 23	sp4	0	0.07	
Total_Precursors	Batch 23	sp3	5.04	0.07	Yes
Total_Precursors	Batch 23	sp4	4	0.07	Yes
Total_PFAS_n_24_	Batch 24	sp3	19.16	0.07	Yes
Total_PFCA	Batch 24	sp3	0.802	0.07	Yes
Total_PFSA	Batch 24	sp3	1.008	0.07	Yes
Total_Precursors	Batch 24	sp3	7.352	0.07	Yes
Total_PFAS_n_24_	Batch 26	sp3	13.23	0.07	Yes
Total_PFAS_n_24_	Batch 26	sp4	11.6	0.07	Yes
Total_PFCA	Batch 26	sp3	1.34	0.07	Yes
Total_PFCA	Batch 26	sp4	0.58	0.07	Yes
Total_PFSA	Batch 26	sp3	0	0.07	
Total_PFSA	Batch 26	sp4	0.005	0.07	
Total_Precursors	Batch 26	sp3	6.39	0.07	Yes
Total_Precursors	Batch 26	sp4	6.015	0.07	Yes
Total_PFAS_n_24_	Batch 27	sp3	15.47	0.07	Yes
Total_PFAS_n_24_	Batch 27	sp4	11.23	0.07	Yes
Total_PFCA	Batch 27	sp3	1.92	0.07	Yes

Total_PFCA	Batch 27	sp4	0.695	0.07	Yes
Total_PFSA	Batch 27	sp3	0	0.07	
Total_PFSA	Batch 27	sp4	0	0.07	
Total_Precursors	Batch 27	sp3	6.55	0.07	Yes
Total_Precursors	Batch 27	sp4	5.53	0.07	Yes

Table 4. Batch Percent Decline

Analyte	Batch	Location	Mean	change	Percent Decrease	Meet Goals?
Total_PFAS_n_24	Batch 02	sp3	6.839	64.201	90.4%	
Total_PFCA	Batch 02	sp3	0.633	12.537	95.2%	Yes
Total_PFSA	Batch 02	sp3	0.0275	31.0425	99.9%	Yes
Total_Precursors	Batch 02	sp3	1.929	13.871	87.8%	
Total_PFAS_n_24	Batch 03	sp3	14.13	56.63	80.0%	
Total_PFCA	Batch 03	sp3	3.275	9.245	73.8%	
Total_PFSA	Batch 03	sp3	0	31.37	100.0%	Yes
Total_Precursors	Batch 03	sp3	5.857	10.013	63.1%	
Total_PFAS_n_24	Batch 04	sp3	10.87	54.88	83.5%	
Total_PFCA	Batch 04	sp3	2.208	7.872	78.1%	
Total_PFSA	Batch 04	sp3	0	30.44	100.0%	Yes
Total_Precursors	Batch 04	sp3	3.658	10.582	74.3%	
Total_PFAS_n_24	Batch 07	sp3	6.774	67.096	90.8%	
Total_PFCA	Batch 07	sp3	0.828	12.362	93.7%	
Total_PFSA	Batch 07	sp3	0	34.12	100.0%	Yes
Total_Precursors	Batch 07	sp3	2.446	13.114	84.3%	
Total_PFAS_n_24	Batch 08	sp3	14.31	59.8	80.7%	
Total_PFCA	Batch 08	sp3	2.841	10.979	79.4%	
Total_PFSA	Batch 08	sp3	0.04	34.01	99.9%	Yes
Total_Precursors	Batch 08	sp3	5.426	9.144	62.8%	
Total_PFAS_n_24	Batch 09	sp3	11.72	47.54	80.2%	
Total_PFAS_n_24	Batch 09	sp4	6.748	52.512	88.6%	
Total_PFCA	Batch 09	sp3	2.118	9.852	82.3%	
Total_PFCA	Batch 09	sp4	0.63	11.34	94.7%	
Total_PFSA	Batch 09	sp3	0	24.93	100.0%	Yes
Total_PFSA	Batch 09	sp4	0	24.93	100.0%	Yes
Total_Precursors	Batch 09	sp3	4.601	7.759	62.8%	
Total_Precursors	Batch 09	sp4	2.118	10.242	82.9%	
Total_PFAS_n_24	Batch 10	sp3	4.332	19.728	82.0%	
Total_PFCA	Batch 10	sp3	0.293	-0.293	increase	
Total_PFSA	Batch 10	sp3	0	9	100.0%	Yes
Total_Precursors	Batch 10	sp3	2.039	12.021	85.5%	
Total_PFAS_n_24	Batch 11	sp3	10.49	56.53	84.3%	
Total_PFAS_n_24	Batch 11	sp4	26.12	40.9	61.0%	
Total_PFCA	Batch 11	sp3	2.033	12.317	85.8%	
Total_PFCA	Batch 11	sp4	0.772	13.578	94.6%	
Total_PFSA	Batch 11	sp3	0	29.31	100.0%	Yes

Total_PFSA	Batch 11	sp4	0	29.31	100.0%	Yes
Total_Precursors	Batch 11	sp3	3.954	8.906	69.3%	
Total_Precursors	Batch 11	sp4	8.345	4.515	35.1%	
Total_PFAS_n_24	Batch 13	sp3	13.31	39.54	74.8%	
Total_PFAS_n_24	Batch 13	sp4	7.35	45.5	86.1%	
Total_PFCA	Batch 13	sp3	2.856	5.742	66.8%	
Total_PFCA	Batch 13	sp4	0.989	7.609	88.5%	
Total_PFSA	Batch 13	sp3	0.002	21.338	100.0%	Yes
Total_PFSA	Batch 13	sp4	0	21.34	100.0%	Yes
Total_Precursors	Batch 13	sp3	5.118	6.292	55.1%	
Total_Precursors	Batch 13	sp4	2.361	9.049	79.3%	
Total_PFAS_n_24	Batch 15	sp3	9.559	49.001	83.7%	
Total_PFAS_n_24	Batch 15	sp4	6.356	52.204	89.1%	
Total_PFCA	Batch 15	sp3	1.118	8.163	88.0%	
Total_PFCA	Batch 15	sp4	0.91	8.371	90.2%	
Total_PFSA	Batch 15	sp3	0.0135	23.9965	99.9%	Yes
Total_PFSA	Batch 15	sp4	0.01	24	100.0%	Yes
Total_Precursors	Batch 15	sp3	2.928	9.092	75.6%	
Total_Precursors	Batch 15	sp4	1.436	10.584	88.1%	
Total_PFAS_n_24	Batch 17	sp3	17.07	33.04	65.9%	
Total_PFAS_n_24	Batch 17	sp4	8.714	41.396	82.6%	
Total_PFCA	Batch 17	sp3	3.623	5.07	58.3%	
Total_PFCA	Batch 17	sp4	1.858	6.835	78.6%	
Total_PFSA	Batch 17	sp3	0.027	17.813	99.8%	Yes
Total_PFSA	Batch 17	sp4	0	17.84	100.0%	Yes
Total_Precursors	Batch 17	sp3	6.42	5.15	44.5%	
Total_Precursors	Batch 17	sp4	3.856	7.714	66.7%	
Total_PFAS_n_24	Batch 19	sp3	5.239	44.021	89.4%	
Total_PFAS_n_24	Batch 19	sp4	1.102	48.158	97.8%	Yes
Total_PFCA	Batch 19	sp3	0.414	6.824	94.3%	
Total_PFCA	Batch 19	sp4	0	7.238	100.0%	Yes
Total_PFSA	Batch 19	sp3	0.004	21.496	100.0%	Yes
Total_PFSA	Batch 19	sp4	0	21.5	100.0%	Yes
Total_Precursors	Batch 19	sp3	1.821	7.705	80.9%	
Total_Precursors	Batch 19	sp4	1.102	8.424	88.4%	
Total_PFAS_n_24	Batch 21	sp3	12.41	43.03	77.6%	
Total_PFAS_n_24	Batch 21	sp4	5.256	50.184	90.5%	
Total_PFCA	Batch 21	sp3	1.961	7.319	78.9%	
Total_PFCA	Batch 21	sp4	0.225	9.055	97.6%	Yes
Total_PFSA	Batch 21	sp3	0	24	100.0%	Yes
Total_PFSA	Batch 21	sp4	0	24	100.0%	Yes
Total_Precursors	Batch 21	sp3	5.446	5.714	51.2%	
Total_Precursors	Batch 21	sp4	3.031	8.129	72.8%	
Total_PFAS_n_24	Batch 22	sp4	9.152	-2.13	-30.3%	
Total_PFCA	Batch 22	sp4	0.152	-0.152	increase	
Total_PFSA	Batch 22	sp4	0	0	all 0	Yes

Total_Precursors	Batch 22	sp4	4	1.022	20.4%	
Total_PFAS_n_24	Batch 23	sp3	9.397	45.433	82.9%	
Total_PFAS_n_24	Batch 23	sp4	8.525	46.305	84.5%	
Total_PFCA	Batch 23	sp3	0.357	8.102	95.8%	Yes
Total_PFCA	Batch 23	sp4	0.525	7.934	93.8%	
Total_PFSA	Batch 23	sp3	0	19.51	100.0%	Yes
Total_PFSA	Batch 23	sp4	0	19.51	100.0%	Yes
Total_Precursors	Batch 23	sp3	5.04	8.83	63.7%	
Total_Precursors	Batch 23	sp4	4	9.87	71.2%	
Total_PFAS_n_24	Batch 24	sp3	19.16	35.23	64.8%	
Total_PFCA	Batch 24	sp3	0.802	6.213	88.6%	
Total_PFSA	Batch 24	sp3	1.008	19.582	95.1%	Yes
Total_Precursors	Batch 24	sp3	7.352	6.438	46.7%	
Total_PFAS_n_24	Batch 26	sp3	13.23	27.47	67.5%	
Total_PFAS_n_24	Batch 26	sp4	11.6	29.1	71.5%	
Total_PFCA	Batch 26	sp3	1.34	5.41	80.1%	
Total_PFCA	Batch 26	sp4	0.58	6.17	91.4%	
Total_PFSA	Batch 26	sp3	0	8.2	100.0%	Yes
Total_PFSA	Batch 26	sp4	0.005	8.195	99.9%	Yes
Total_Precursors	Batch 26	sp3	6.39	6.86	51.8%	
Total_Precursors	Batch 26	sp4	6.015	7.235	54.6%	
Total_PFAS_n_24	Batch 27	sp3	15.47	32.16	67.5%	
Total_PFAS_n_24	Batch 27	sp4	11.23	36.4	76.4%	
Total_PFCA	Batch 27	sp3	1.92	5.815	75.2%	
Total_PFCA	Batch 27	sp4	0.695	7.04	91.0%	
Total_PFSA	Batch 27	sp3	0	12.95	100.0%	Yes
Total_PFSA	Batch 27	sp4	0	12.95	100.0%	Yes
Total_Precursors	Batch 27	sp3	6.55	6.9	51.3%	
Total_Precursors	Batch 27	sp4	5.53	7.92	58.9%	

APPENDIX K ANALYTICAL REPORT

(SEE SEPARATE DOCUMENT)

CLARKSON WC RESULTS

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 1-4 Alkalinity Results

Batch 1 - Alkalinity	**Sample ID**	**Total Alkalinity as CaCO3 (mg/L)**
	INF- SP1	108
	PRETREAT- SP2	110
	LEAD EFF-SP3	88
	SP1-GW-20201021	105
	SP2-GW-20201021	118
	SP3-GW-20201021	128
	SP1-GW-20201023	106
	SP2-GW-20201023	108
	SP3-GW-20201023	110
	Field Blank	2
	CAARES Blank	2

Batch 2 - Alkalinity	**Sample ID**	**Total Alkalinity as CaCO3 (mg/L)**
	SP1-GW-20201028	109
	SP2-GW-20201028	116
	SP3-GW-20201028	114
	Trip Blank	3
	Caares blank	2

Batch 3 - Alkalinity	**Sample ID**	**Total Alkalinity as CaCO3 (mg/L)**
	SP1-GW-20201104	112
	SP2-GW-20201104	110
	Trip Blank	3
	Caares Blank	2

Batch 4 - Alkalinity	**Sample ID**	**Total Alkalinity as CaCO3 (mg/L)**
	SP1-GW-20201117	112
	SP2-GW-20201117	110
	Caares blank	2

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 1-4 Alkalinity Results

Batch 1 - Alkalinity	**Sample ID**	**Total Alkalinity as CaCO3 (mg/L)**
	INF- SP1	108
	PRETREAT- SP2	110
	LEAD EFF-SP3	88
	SP1-GW-20201021	105
	SP2-GW-20201021	118
	SP3-GW-20201021	128
	SP1-GW-20201023	106
	SP2-GW-20201023	108
	SP3-GW-20201023	110
	Field Blank	2
	CAARES Blank	2

Batch 2 - Alkalinity	**Sample ID**	**Total Alkalinity as CaCO3 (mg/L)**
	SP1-GW-20201028	109
	SP2-GW-20201028	116
	SP3-GW-20201028	114
	Trip Blank	3
	Caares blank	2

Batch 3 - Alkalinity	**Sample ID**	**Total Alkalinity as CaCO3 (mg/L)**
	SP1-GW-20201104	112
	SP2-GW-20201104	110
	Trip Blank	3
	Caares Blank	2

Batch 4 - Alkalinity	**Sample ID**	**Total Alkalinity as CaCO3 (mg/L)**
	SP1-GW-20201117	112
	SP2-GW-20201117	110
	Caares blank	2

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 7-10 - Alkalinity Results

	Sample	Total Alkalinity as CaCO3 (mg/L)
B7-1	SP1-GW-20201216	108
B7-2	SP2-GW-20201216	110
B8-1	SP1-GW-20201223	110
B8-2	SP2-GW-20201223	106
B8-5	SP1-GW-20201229	112
B8-6	SP2-GW-20201229	110
B9-1	SP1-GW-20210111	106
B9-2	SP2-GW-20210111	106
B9-4	SP25-GW-20210111	100
B9-5	Field Blank_20210111	4
B10-1	SP1-GW-20210120	103
B10-2	SP2-GW-20210120	124
	Caares blank	3

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 11-12 Alkalinity

CAARES sample ID	Sample	Total Alkalinity as CaCO3 (mg/L)
98	SP1-GW_20210127	102
99	SP2-GW_20210127	107
137	SP1-GW_20210203	109
138	SP2-GW_20210203	107
	CAARES Blank	3

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 13-14 Alkalinity

Batch number	CAARES sample ID	Sample	Total Alkalinity as CaCO3 (mg/L)
13	154	SP1_GW_20210210	102
13	155	SP2_GW_20210210	106
14	157	SP1_GW_20210216	104
14	158	SP2_GW_20210216	104
15	176	SP1_GW_20210224	106
15	177	SP2_GW_20210224	110
16	180	SP1_GW_20210304	110
16	181	SP2_GW_20210304	112
		CAARES Blank	3

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 17-19 Alkalinity Results

	CAARES sample ID	Client sample ID	Phenolphthalein digits required	Bromcresol digits required	Total Alkalinity as CaCO3 (mg/L)
B17	185	SP1-GW-20210319	0	110	110
B-17	186	SP2-GW-20210319	0	112	112
B-19	207	SP1-GW-20210406	0	104	104
B19	208	SP2-GW-20210406	0	106	106
	CARES Blank		0	2	2

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Alkalinity

Batch Number	CAARES ID	Sample ID	Phenolphthalein Digits Required	Bromcresol Digits Required	Total Alkalinity as CaCO3 (mg/L)
23	250	SP1-GW_20210528	0	115	115
23	251	SP2-GW_20210528	0	112	112
	Milli Q	Blank	0	3	3

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 24 Alkalinity

Batch Number	CAARES ID	Sample ID	Phenolphthalein Digits Required	Bromcresol Digits Required	Total Alkalinity as CaCO3 (mg/L)
24	254	SP1-GW_20210611	0	111	111
24	255	SP2-GW_20210611	0	115	115
	Milli Q	Blank	0	4	4

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 25 Alkalinity

Batch Number	CAARES ID	Sample ID	Phenolphthalein Digits Required	Bromcresol Digits Required	Total Alkalinity as CaCO3 (mg/L)
25	257	SP1-GW_20210617	0	116	116
25	258	SP2-GW_20210617	0	114	114
	Milli Q	Blank	0	5	5

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 26-27 Alkalinity

Batch Number	CAARES ID	Sample ID	Phenolphthalein Digits Required	Bromcresol Digits Required	Total Alkalinity as CaCO3 (mg/L)
26	264	SP1-GW_20210628	0	114	114
26	265	SP2-GW_20210628	0	113	113
26	268	SP1-GW/PW_20210629	0	111	111
26	269	SP2-GW/PW_20210629	0	115	115
27	272	SP1-GW_20210701	0	116	116
27	273	SP2-GW_20210701	0	114	114
27	276	SP1-GW_20210702	0	115	115
27	277	SP2-GW_20210702	0	113	113
	Milli Q	Blank	0	5	5

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 1-4 Hardness Results

Batch 1 - Hardness	**Sample ID**	**Mg (mg/L) as CaCO3**	**Ca (mg/L) as CaCO3**	**Total Hardness (mg/L)**
	INF- SP1	2.35	0.14	2.49
	PRETREAT- SP2	2.06	0.23	2.29
	LEAD EFF-SP3	1.88	0.07	1.95
	SP1-GW-20201021	2.46	0.12	2.58
	SP2-GW-20201021	2.05	0	2.05
	SP3-GW-20201021	2.13	0.3	2.43
	SP1-GW-20201023	1.6	0.91	2.51
	SP2-GW-20201023	2.21	0	2.21
	SP3-GW-20201023	2.07	0.37	2.44
	Field Blank	0.16	0.18	0.34
	CAARES Blank	0	0	0

Batch 2 - Hardness	**Sample ID**	**Mg (mg/L) as CaCO3**	**Ca (mg/L) as CaCO3**	**Total Hardness (mg/L)**
	SP1-GW-20201028	2.05	0.39	2.44
	SP2-GW-20201028	2.11	0.06	2.17
	SP3-GW-20201028	2.07	0.36	2.43
	Trip Blank	0.08	0	0.08
	Caares Blank	0.02	0.04	0.06

Batch 3 - Hardness	**Sample ID**	**Mg (mg/L) as CaCO3**	**Ca (mg/L) as CaCO3**	**Total Hardness (mg/L)**
	SP1-GW-20201104	1.96	0.03	1.99
	SP2-GW-20201104	2.09	0.06	2.15
	Trip Blank	0.12	0.06	0.18
	Caares Blank	0.02	0.04	0.06

Batch 4 - Hardness	**Sample ID**	**Mg (mg/L) as CaCO3**	**Ca (mg/L) as CaCO3**	**Total Hardness (mg/L)**
	SP1-GW-20201117	2.23	0	2.23
	SP2-GW-20201117	1.99	0.04	2.03
	Caares Blank	0.02	0.04	0.06

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 1-4 Fe Results

Batch 1- Fe	Sample ID	Fe Concentration (mg/L)
	INF- SP1	0.59
	INF- SP1 (duplicate)	0.59
	PRETREAT- SP2	0
	LEAD EFF-SP3	0.1
	SP1-GW-20201021	0.05
	SP2-GW-20201021	0.02
	SP3-GW-20201021	0
	SP1-GW-20201023	0.04
	SP2-GW-20201023	0
	SP3-GW-20201023	0.01
	Field Blank	0.02
	Caares blank	0

Batch 2 - Fe	Sample ID	Fe Concentration (mg/L)
	SP1-GW-20201028	0.05
	SP2-GW-20201028	0.02
	SP3-GW-20201028	0.02
	Trip Blank	0.01
	Caares Blank	0

Batch 3 - Fe	Sample ID	Fe Concentration (mg/L)
	SP1-GW-20201104	0.04
	SP2-GW-20201104	0.02
	Trip Blank	0.01
	Caares Blank	0

Batch 4 - Fe	Sample ID	Fe Concentration (mg/L)
	SP1-GW-20201117	0.6
	SP2-GW-20201117	0.6
	Caares Blank	0

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 5 & 7 Fe Results

		Sample	Fe Concentration (mg/L)
Batch 7 - Fe	**1**	SP1-GW-20201216	0.12
	2	SP2-GW-20201216	0.02
	3	Caares Blank	0.0
B5dup-Fe		SP2-GW-20201021	0.02

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Batch 8-16 - Fe

Batch number	CARES ID	Sample ID	Fe Concentration (mg/L)
8	**63**	SP1-GW_20201223	0.41
8	**64**	SP2-GW_20201223	0.03
8	**67**	SP1-GW_20201229	0.26
8	**68**	SP2-GW_20201229	0.03
9	**70**	SP1-GW_20210111	0.62
9	**71**	SP2-GW_20210111	0.03
9	**73**	SP25-GW_20210111	0.8
9	**74**	Field Blank_20210111	0.02
10	**75**	SP1-GW-20210120	0.09
10	**76**	SP2-GW-20210120	0.02
11	**98**	SP1-GW-20210127	0.16
11	**99**	SP2-GW-20210127	0.02
12	**137**	SP1-GW-20210203	0.07
12	**138**	SP2-GW-20210203	0
13	**154**	SP1-GW-20210210	0.17
13	**155**	SP2-GW-20210210	0
14	**157**	SP1-GW-20210216	0.04
14	**158**	SP2-GW-20210216	0.03
15	**176**	SP1-GW-20210224	0.07
15	**177**	SP2-GW-20210224	0.02
16	**180**	SP1-GW-20210304	0.04
16	**181**	SP2-GW-20210304	0.01
	CARES Blank		0

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Batch 17-20- Fe Results

CAARES Sample ID	Client Sample ID	Fe Concentration (mg/L)
185	SP1-GW-20210319	0.28
185_dup	SP1-GW-20210319	0.29
186	SP2-GW-20210319	0
207	SP1-GW-20210406	0.02
208	SP2-GW-20210406	0
211	SP1-GW-20210414	0.02
212	SP2-GW-20210414	0
214	Fieldblank_20210414	0
CAARES Blank		0

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Fe Concentration

Batch 23

Batch Number	CAARES ID	Sample ID	Fe Concentration (mg/L)
23	250	SP1-GW_20210528	0.03
23	251	SP2-GW_20210528	0.00
	Milli Q	Blank	0.00

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 1 IC results (mg/L)

Clarkson sample #	Sample Name	Chloride	Sulfate	Nitrate
	Blank	0.047	0.063	ND
1	SP2-GW-20201023	53.104	18.849	2.176
2	PRETREATOR 10-20-20	52.572	18.767	2.243
3	SP2-GW-20201021	52.612	18.677	2.016
4	Field Blank 10-21-20	0.088	0.093	ND
5	INF 10-20-20	52.201	18.52	2.176
6	SP3-GW-20201023	53.615	19.382	0.421
7	SP1-GW-20201021	52.735	18.638	2.138
8	LEAD EFF 10-20-20	81.864	1.656	0.332
9	SP3-GW-20201020	62.375	2.155	0.321
10A	SP1-GW-20201023	53.218	18.82	2.063
10B	SP1-GW-20201023 duplicate	53.014	18.734	2.076

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 2 IC Results

		IC results (mg/L)		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
11	TRIP BLANK 10-28-20	0.058	0.035	0.208
12	SP1-GW-20201028	53.039	45.611	2.042
13	SP3-GW-20201028	53.253	46.06	2.039
14	SP2-GW-20201028	53.26	45.625	2.031

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 3 IC Results

Clarkson sample #	Sample Name	IC results (mg/L) Chloride	Sulfate	Nitrate
	Blank	0.016	0.062	ND
15	SP1-GW-20201104	52.486	19.195	2.31
16	SP2-GW-20201104	52.424	19.147	2.239
18A	TRIP BLANK	0.005	0.056	0.333
18B	TRIP BLANK	0.006	0.056	0.333

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Batch 4 IC Results

Batch 4	**11/19/2020**	**IC results**		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
	Blank	N.A	N.A	N.A
19	SP1-GW-20201117	52.71	18.065	2.716
20	SP2-GW-202011117	52.937	18.146	2.696
20	SP2-GW-202011117 duplicate	53.014	18.191	2.692

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Batch 7 IC Results

Batch 7		IC results (mg/L)		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
	Blank	0.008	0.053	n.a.
59	SP1-GW-20201216	47.549	18.728	2.104
60	SP2-GW-20201216	47.655	18.74	2.034

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batches 8 & 9

Batches 8 and 9		**IC results (mg/L)**		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
	Blank	n.a.	0.053	n.a.
63	SP1-GW_20201223	44.862	19.407	1.779
64	SP2-GW_20201223	44.823	19.473	1.913
67	SP1-GW_20201229	42.354	19.727	1.359
68	SP2-GW_20201229	42.331	19.64	1.674
70	SP1-GW_20210111	37.242	19.26	1.627
71	SP2-GW_20210111	37.271	19.281	1.639
73	SP25-GW_20210111	36.731	18.792	1.639
74	FIELD BLANK_20210111	0.039	0.065	0.625

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 10 IC Results

Batch 10		IC results (mg/L)		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
	Blank	0.044	n.a.	n.a.
75	SP1-GW_20210120	37.856	19.069	1.548
76	SP2-GW_20210120	37.713	18.896	1.693

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 11 & 12 IC Results

Batch 11 and 12 Clarkson sample #	2/9/2021 Sample Name	IC results (mg/L) Chloride	Sulfate	Nitrate
	Blank	0.05	n.a.	n.a.
98	SP1-GW_20210127	39	18.42	1.76
99	SP2-GW_20210127	39.25	18.53	1.84
137	SP1-GW_20210203	37.65	18.05	1.72
138	SP2-GW_20210203	38.02	18.2	1.77

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Batch 13 & 14

Batch 11 and 12	2/9/2021	**IC results (mg/L)**		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
	Blank	0.05	n.a.	n.a.
154	SP1-GW_20210210	39.09	18.03	2.21
155	SP2-GW_20210210	39.11	18	1.94
157	SP1-GW_20210216	39.32	18.29	2.48
158	SP2-GW_20210216	39.05	17.9	2.24

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 15 & 16 Results

Batches 15 and 16		**IC results (mg/L)**		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
blank	blank	N/D	N/D	N/D
176	SP1-GW_20210224	26.57	18.00	2.15
177 a	SP2-GW_20210224	26.44	17.93	2.11
177 b	SP2-GW_20210224	26.48	17.92	2.11
180	SP1-GW_20210304	28.61	19.21	4.20
181	SP2-GW_20210304	30.27	23.46	16.57

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 1-4 Mn Results

Batch 1- Mn	**Sample ID**	**Mn Concentration (mg/L)**
	INF- SP1	0.6
	PRETREAT- SP2	1
	LEAD EFF-SP3	0.8
	SP1-GW-20201021	0.6
	SP2-GW-20201021	0.8
	SP3-GW-20201021	1.4
	SP1-GW-20201023	0.7
	SP2-GW-20201023	1
	SP3-GW-20201023	1.1
	Field Blank	0
	Caares Blank	0

Batch 2 - Mn	**Sample ID**	**Mn Concentration (mg/L)**
	SP1-GW-20201028	0.6
	SP2-GW-20201028	0.5
	SP3-GW-20201028	0.6
	Trip Blank	0
	Caares Blank	0

Batch 3 - Mn	**Sample ID**	**Mn Concentration (mg/L)**
	SP1-GW-20201104	0.5
	SP2-GW-20201104	0.4
	Trip Blank	0
	Caares Blank	0

Batch 4 - Mn	**Sample ID**	**Mn Concentration (mg/L)**
	SP1-GW-20201117	0.6
	SP2-GW-20201117	0.6
	Caares blank	0

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 5 & 7 Mn Results

		Sample	Mn Concentration (mg/L)
Batch 7 - Mn	**1**	SP1-GW-20201216	0.6
	2	SP2-GW-20201216	0.2
	3	Caares Blank	0.0
Batch 5- Mn		SP2-GW-20201021	0.6

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 8-16 - Mn

Batch number	CARES ID	Sample ID	Mn Concentration (mg/L)
8	**63**	SP1-GW_20201223	0.6
8	**64**	SP2-GW_20201223	0
8	**67**	SP1-GW_20201229	0.5
8	**68**	SP2-GW_20201229	0
9	**70**	SP1-GW_20210111	0.6
9	**71**	SP2-GW_20210111	0.2
9	**73**	SP25-GW_20210111	0.7
9	**74**	Field Blank_20210111	0
10	**75**	SP1-GW-20210120	0.5
10	**76**	SP2-GW-20210120	0
11	**98**	SP1-GW-20210127	0.4
11	**99**	SP2-GW-20210127	0
12	**137**	SP1-GW-20210203	0.5
12	**138**	SP2-GW-20210203	0
13	**154**	SP1-GW-20210210	0.5
13	**155**	SP2-GW-20210210	0.2
14	**157**	SP1-GW-20210216	0.5
14	**158**	SP2-GW-20210216	0
15	**176**	SP1-GW-20210224	0.1
15	**177**	SP2-GW-20210224	0
16	**180**	SP1-GW-20210304	0.1
16	**181**	SP2-GW-20210304	0
	CARES Blank		0

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 17-20- Mn

CAARES Sample ID	Client Sample ID	Mn Concentration (mg/L)
185	SP1-GW-20210319	0.5
185_dup	SP1-GW-20210319	0.5
186	SP2-GW-20210319	0.2
207	SP1-GW-20210406	0.3
208	SP2-GW-20210406	0
211	SP1-GW-20210414	0.3
212	SP2-GW-20210414	0
214	Fieldblank_20210414	0
CAARES Blank		0

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Total dissolved solids

Batch 1	Sample	Conductivity (µS)	TDS (g/L)
	INF- SP1	434.3	0.20
	PRETREAT- SP2	444.2	0.21
	LEAD EFF-SP3	467.5	0.22
	SP1-GW-20201021	440.1	0.20
	SP2-GW-20201021	440	0.20
	SP3-GW-20201021	446.9	0.21
	SP1-GW-20201023	437	0.20
	SP2-GW-20201023	438.5	0.20
	SP3-GW-20201023	442.2	0.21
	Field Blank	1.23	ND
	CAARES Blank	1.06	ND

Batch 2	Sample	Conductivity (µS)	TDS (g/L)
	SP1-GW-20201028	453.2	0.21
	SP2-GW-20201028	433.6	0.20
	SP3-GW-20201028	454.1	0.21
	Trip Blank	1.46	ND
	Caares Blank	0.84	ND

Batch 3	Sample	Conductivity (µS)	TDS (g/L)
	SP1-GW-20201104	438.3	0.20
	SP3-GW-20201104	443.8	0.21
	Trip Blank	1.89	ND
	Caares Blank	0.84	ND

Batch 4	Sample	Conductivity (µS)	TDS (g/L)
	SP1-GW-20201117	456.5	0.21
	SP2-GW-20201117	456.1	0.21
	Caares Blank	0.84	ND

Batch 7	Sample	Conductivity (µS)	TDS (g/L)
	SP1-GW-20201216	430.8	0.20
	SP2-GW-20201216	434.1	0.20
	CAARES Blank	0.84	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 7-10 Total Dissolved Solids

	Sample	Conductivity (µS)	TDS (g/L)
B7-1	SP1-GW-20201216	414.6	0.19
B7-2	SP2-GW-20201216	417.5	0.19
B8-1	SP1-GW-20201223	409.6	0.19
B8-2	SP2-GW-20201223	416	0.19
B8-5	SP1-GW-20201229	409.4	0.19
B8-6	SP2-GW-20201229	411.2	0.19
B9-1	SP1-GW-20210111	381.6	0.17
B9-1 repeat	SP1-GW-20210111	379.4	0.17
B9-2	SP2-GW-20210111	386.2	0.18
B9-4	SP25-GW-20210111	377.5	0.17
B9-5	Field Blank_20210111	3.15	ND
B10-1	SP1-GW-20210120	382.9	0.17
B10-2	SP2-GW-20210120	381.4	0.17
	Caares blank	2.1	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 11-12 TDS

CAARES sample ID	Sample	Conductivity (µS)	TDS (g/L)
98	SP1-GW_20210127	387.2	0.18
99	SP2-GW_20210127	384.8	0.18
137	SP1-GW_20210203	383.3	0.17
138	SP2-GW_20210203	385	0.18
	CAARES Blank	1.51	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 13-16 Total Dissolved Solids

Batch number	CAARES sample ID	Sample	Conductivity (µS)	TDS (g/L)
13	154	SP1_GW_20210210	403.5	0.19
13	155	SP2_GW_20210210	402.2	0.18
14	157	SP1_GW_20210216	400.1	0.18
14	158	SP2_GW_20210216	403.5	0.19
15	176	SP1_GW_20210224	402.2	0.18
15	177	SP2_GW_20210224	401.2	0.18
16	180	SP1_GW_20210304	415.7	0.19
16	181	SP2_GW_20210304	417.4	0.19
		CARES Blank	0.79	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

B17 and B19 TDS Results

	CAARES sample ID	Client sample ID	Conductivity (µS)	TDS (g/L)
B-17	185	SP1-GW-20210319	425.5	0.197
B-17	186	SP2-GW-20210319	429.3	0.199
B-19	207	SP1-GW-20210406	401.2	0.184
B-19	208	SP2-GW-20210406	404.5	0.186
	CARES Blank		0.62	-0.026

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 23 Conductivity (TDS)

Batch Number	CAARES ID	Sample ID	Conductivity (µS)	TDS (g/L)
23	250	SP1-GW_20210528	414.1	0.1908
23	251	SP2-GW_20210528	408.0	0.1876
	Milli Q	Blank	1.20	-0.0256

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 24-27 Conductivity (TDS)

Batch Number	CAARES ID	Sample ID	Conductivity (µS)	TDS (g/L)
24	254	SP1-GW_20210611	444	**0.21**
24	255	SP2-GW_20210611	431.5	**0.20**
	Milli Q	Blank	0.49	**ND**
25	257	SP1-GW_20210617	438.9	**0.204**
25	258	SP2-GW_20210617	436.4	**0.203**
	Milli Q	Blank	0.55	**ND**
26	264	SP1-GW_20210628	441.6	**0.21**
26	265	SP2-GW_20210628	446.7	**0.21**
26	268	SP1-GW/PW_20210629	451.5	**0.21**
26	269	SP2-GW/PW_20210629	449.3	**0.21**
27	272	SP1-GW_20210701	450.8	**0.21**
27	273	SP2-GW_20210701	452.6	**0.21**
27	276	SP1-GW_20210702	453.6	**0.21**
27	277	SP2-GW_20210702	453.8	**0.21**
	Milli Q	Blank	0.55	**ND**

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 17 TOC and IC Results

Batch 17 **3/30/2021**

Clarkson sample #	Sample Name	IC results (mg/L)			TOC results (mg/L)
		Chloride	**Sulfate**	**Nitrate**	
blank		n.a.	n.a.	n.a.	0
185	SP1_20210319	28.292	18.932	0.901	7.73
186	SP2_20210319	28.725	20.204	1.469	9.51

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 19 & 20 IC and TOC Results

Batches 19 and 20	4/23/2021	**IC results (mg/L)**		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
blank	blank	n.a.	n.a.	n.a.
207	SP1-GW_20210406	27.442	17.49	2.544
208	SP2-GW_20210406	27.447	17.481	2.204
211	SP1-GW_20210414	0.068	0.383	0.2483
212	SP2-GW_20210414	26.595	17.322	1.3631
214	Field Blank	n.a.	n.a.	0.215

TOC

		Result	Unit
blank	blank	0	mg/L
207	SP1-GW_20210406	1.13	mg/L
208	SP2-GW_20210406	1.15	mg/L
211	SP1-GW_20210414	10.68	mg/L
212	SP2-GW_20210414	7.41	mg/L
214	Field Blank	12.88	mg/L

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 21 TOC and IC Results

Batch 21	**4/29/2021**	**IC results (mg/L)**		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
blank	blank	n.a.	n.a.	0.257
216	SP1_GW_20210422	33.479	17.984	1.657
217	SP2_GW_20210422	27.139	17.748	2.052

TOC

		Result	**Unit**
blank	blank	0	mg/L
216	216 SP1_GW_20210422	53.9	mg/L
217	217 SP2_GW_20210422	47.5	mg/L

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 21 IC TOC Results

Batch 21	4/29/2021	**IC results (mg/L)**		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
blank	blank	n.a.	n.a.	0.22
224	SP1-GW_20210514	29.1	18.65	1.51
225	SP2-GW_20210514	29.09	18.08	1.54

TOC		Result	Unit
224	SP1-GW_20210514	60.73	mg/L
225	SP2-GW_20210514	18.1	mg/L

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 23 TOC and IC Results

Batch 23	6/4/2021	**IC results (mg/L)**		
Clarkson sample #	**Sample Name**	**Chloride**	**Sulfate**	**Nitrate**
blank	blank	n.a.	0.02	N.A.
250	SP1-GW_20210528	30.2	17.3	2.2
251	SP2-GW_20210528	30.3	17.3	2.4

TOC		Result	Unit
250	SP1-GW_20210528	60.73	mg/L
251	SP2-GW_20210528	1.9	mg/L

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 24-27 TOC and IC Results

7/15/2021

IC results (mg/L)

Clarkson sample #	Sample Name	Chloride	Sulfate	Nitrate
	blank	n.a.	0.09	n.a.
254	SP1-GW-20210611	33.79	17.19	2.32
255	SP2-GW-20210611	33.78	17.12	2.24
257	SP1-GW-20210617	34.15	17.05	2.03
258	SP2-GW-20210617	33.81	17.15	2.08
264	SP1-GW_20210628	35.52	16.80	1.89
265	SP2-GW_20210628	35.71	16.61	1.86
268	SP1-GW/PW-20210629	36.48	17.03	2.12
269	SP2-GW/PW-20210629	36.43	17.08	2.16
272	SP1-GW-20210701	37.10	17.14	2.24
273	SP2-GW-20210701	36.53	16.87	2.20
276	SP1-GW-20210702	37.35	17.17	2.30
277	SP2-GW-20210701	37.37	17.15	2.45

TOC

Clarkson sample #	Sample Name	Result
blank		0
254	SP1-GW-20210611	1.18
255	SP2-GW-20210611	1.23
257	SP1-GW-20210617	1.52
258	SP2-GW-20210617	1.34
264	SP1-GW_20210628	2.43
265	SP2-GW_20210628	1.7
268	SP1-GW/PW-20210629	2.45
269	SP2-GW/PW-20210629	2.47
272	SP1-GW-20210701	3.01
273	SP2-GW-20210701	2.88
276	SP1-GW-20210702	2.99
277	SP2-GW-20210701	2.62

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 1 TOC Results

Clarkson sample #	Sample Name	TOC in mg/L
	Blank	0.1069
1	SP2-GW-20201023	1.992
2	PRETREATOR 10-20-20	2.012
3	SP2-GW-20201021	2.064
4	Field Blank 10-21-20	0.5208
5	INF 10-20-20	1.607
6	SP3-GW-20201023	1.416
7	SP1-GW-20201021	2.212
8	LEAD EFF 10-20-20	0.6466
9	SP3-GW-20201021	0.9841
10A	SP1-GW-20201023	2.232
10B	SP1-GW-20201023 duplicate	2.184

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 2 TOC Results

Batch 2 11/5/2020

Clarkson sample #	Sample Name	TOC in mg/L
11	TRIP BLANK 10-28-20	0.2731
12	SP1-GW-20201028	2.187
13	SP3-GW-20201028	1.542
14	SP2-GW-20201028	2.011
blank		0.1069

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 3 TOC Results

Batch 3 11/13/2020

Clarkson sample #	Sample Name	TOC in mg/L
15	SP1-GW-20201104	2.599
16	SP2-GW-20201104	2.008
18A	TRIP BLANK	1.133
18B	TRIP BLANK	1.092
blank	blank	0.1899

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 4 TOC Results

Batch 4 **12/1/2020**

Clarkson sample #	Sample Name	TOC in mg/L
19	SP1-GW-20201117	2.57
20A	SP2-GW-20201117	1.217
20B	SP2-GW-20201117	1.189
blank	lab blank	0.1683

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 7, 8 & 9 TOC Results

Date/Time	1/14/2021 0:00
Instrument Options	TOC

Clarkson ID	Sample ID	Result	Unit	Date / Time
	blank	0.02849	mg/L	1/13/2021
59	SP1-GW_20201216	1.569	mg/L	1/13/2021
60	SP2-GW_20201216	1.379	mg/L	1/13/2021
63	SP1-GW_20201223	2.287	mg/L	1/13/2021
64	SP2-GW_20201223	1.52	mg/L	1/13/2021
67	SP1-GW_20201229	1.795	mg/L	1/13/2021
68	SP2-GW_20201229	2.087	mg/L	1/13/2021
	blank	0	mg/L	1/14/2021
70	SP1_20210111	1.951	mg/L	1/14/2021
71	SP2_20210111	3.571	mg/L	1/14/2021
73	SP25_20210111	2.298	mg/L	1/14/2021
74	Field blank 20210111	0.4212	mg/L	1/14/2021

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 10 TOC
Results

Clarkson ID	Sample ID	Result	Unit	Date / Time
	blank	0.432	mg/L	1/27/2021
75	SP1-GW_20210120	3.95	mg/L	1/27/2021
76	SP2-GW_20210120	3.88	mg/L	1/27/2021

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 11 and 12 TOC Results

	TOC 2/9/2021		
Clarkson ID	**Sample ID**	**Result**	**Unit**
	blank	0.03	mg/L
98	SP1-GW_20210127	1.86	mg/L
99	SP2-GW_20210127	2.67	mg/L
137	SP1-GW_20210203	66.12	mg/L
138	SP2-GW_20210203	20.46	mg/L

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 13 & 14 TOC Results

TOC 2/23/2021

Clarkson ID	Sample ID	Result	Unit
	blank	0	mg/L
154	SP1-GW_20210210	5.25	mg/L
155	SP2-GW_20210210	2.72	mg/L
157	SP1-GW_20210216	3.1	mg/L
158	SP2-GW_20210216	3.56	mg/L

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batches 15 & 16 Results

TOC **3/10/2021**

Clarkson ID	Sample ID	Result	Unit
blank	blank	0.1	mg/L
176	SP1-GW_20210224	1.74	mg/L
177	SP2-GW_20210224	1.67	mg/L
180	SP1-GW_20210304	1.81	mg/L
181	SP2-GW_20210304	1.78	mg/L

IPA RESULTS

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP18-5015 PFAS Removal; Pease AFB, NH

7311180270.6000 PO#F013200721

SGS Job Number: JD16804

Sampling Date: 11/23/20

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Avenue Suite 900
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Emma Driver

Total number of pages in report: **148**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Thelma Flaherty 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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EHS.US.CustomerCare@sgs.com

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: JD16804

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000 PO#F013200721

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JD16804-1	11/23/20	14:00		11/24/20	AQ	Ground Water	SP5-SUPPLY_20201123
JD16804-2	11/23/20	14:00		11/24/20	AQ	Ground Water	SP7-RWBV1_20201123
JD16804-3	11/23/20	14:00		11/24/20	AQ	Ground Water	SP7-RWBV2_20201123
JD16804-4	11/23/20	14:00		11/24/20	AQ	Ground Water	SP7-RWBV5_20201123
JD16804-5	11/23/20	14:00		11/24/20	AQ	Ground Water	SP7-RWBV10_20201123
JD16804-6	11/23/20	14:00		11/24/20	AQ	Ground Water	SP7-RWBV15_20201123
JD16804-7	11/23/20	14:00		11/24/20	AQ	Ground Water	SP7-RWBV20_20201123
JD16804-8	11/23/20	14:00		11/24/20	AQ	Equipment Blank	BWT-RINSE_20201123

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Wood Environment & Infrastructure Solut.	**Job No**	JD16804
Site:	ESTCP18-5015 PFAS Removal; Pease AFB, NH	**Report Date**	12/14/2020 8:29:09 A

On 11/24/2020, 8 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.9 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD16804 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

GC Volatiles By Method SW846 8015C

Matrix: AQ **Batch ID:** T:GQQ1735

- The data for SW846 8015C meets quality control requirements.
- JD16804-1: Sample analyzed beyond hold time. Sample vial contains headspace. Results may be biased low. Analysis performed at SGS Houston, TX.
- JD16804-2: Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
- JD16804-3: Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
- JD16804-4: Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
- JD16804-5: Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
- JD16804-6: Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
- JD16804-7: Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
- JD16804-8: Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	SGS Dayton, NJ	**Job No:**	JD16804
Site:	AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH	**Report Date**	12/11/2020 11:34:32 P

8 Samples were collected on 11/23/2020 and received intact at SGS North America Inc (SGS) on 11/24/2020 and properly preserved in 1 cooler at 1.6 Deg C. The samples received an SGS job number of JD16804. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

GC Volatiles By Method SW846 8015C

Matrix: AQ **Batch ID:** GQQ1735

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA68119-1MS, LA68119-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JD16804-1: Sample analyzed beyond hold time. Sample vial contains headspace. Results may be biased low.
- JD16804-2: Sample analyzed beyond hold time.
- JD16804-3: Sample analyzed beyond hold time.
- JD16804-4: Sample analyzed beyond hold time.
- JD16804-5: Sample analyzed beyond hold time.
- JD16804-6: Sample analyzed beyond hold time.
- JD16804-7: Sample analyzed beyond hold time.
- JD16804-8: Sample analyzed beyond hold time.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

Summary of Hits

Job Number: JD16804
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/23/20

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
JD16804-1	**SP5-SUPPLY_20201123**					
Isopropyl Alcohol [a]		3030000	2500	500 [b]	mg/l	SW846 8015C
JD16804-2	**SP7-RWBV1_20201123**					
Isopropyl Alcohol [c]		39400	50	10 [b]	mg/l	SW846 8015C
JD16804-3	**SP7-RWBV2_20201123**					
Isopropyl Alcohol [c]		2870	50	10 [b]	mg/l	SW846 8015C
JD16804-4	**SP7-RWBV5_20201123**					
Isopropyl Alcohol [c]		16.8	0.50	0.10 [b]	mg/l	SW846 8015C
JD16804-5	**SP7-RWBV10_20201123**					
Isopropyl Alcohol [c]		11.8	0.50	0.10 [b]	mg/l	SW846 8015C
JD16804-6	**SP7-RWBV15_20201123**					
Isopropyl Alcohol [c]		9.5	0.50	0.10 [b]	mg/l	SW846 8015C
JD16804-7	**SP7-RWBV20_20201123**					
Isopropyl Alcohol [c]		241	50	10 [b]	mg/l	SW846 8015C
JD16804-8	**BWT-RINSE_20201123**					
Isopropyl Alcohol [c]		87.3	0.50	0.10 [b]	mg/l	SW846 8015C

(a) Sample analyzed beyond hold time. Sample vial contains headspace. Results may be biased low. Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).
(c) Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP5-SUPPLY_20201123		
Lab Sample ID:	JD16804-1	**Date Sampled:**	11/23/20
Matrix:	AQ - Ground Water	**Date Received:**	11/24/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304423.D	5000	12/10/20 14:23	ATX	n/a	n/a	T:GQQ1735
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	3030000	2500	500 [b]	500	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	84%		62-122%

(a) Sample analyzed beyond hold time. Sample vial contains headspace. Results may be biased low. Analysis performed at SGS Houston, TX.

(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value

LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-RWBV1_20201123		
Lab Sample ID:	JD16804-2	**Date Sampled:**	11/23/20
Matrix:	AQ - Ground Water	**Date Received:**	11/24/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304424.D	100	12/10/20 14:34	ATX	n/a	n/a	T:GQQ1735
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	39400	50	10 [b]	10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	88%		62-122%

(a) Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-RWBV2_20201123		
Lab Sample ID:	JD16804-3	**Date Sampled:**	11/23/20
Matrix:	AQ - Ground Water	**Date Received:**	11/24/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304425.D	100	12/10/20 14:45	ATX	n/a	n/a	T:GQQ1735
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	2870	50	10 [b]	10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	85%		62-122%

(a) Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-RWBV5_20201123		
Lab Sample ID:	JD16804-4	**Date Sampled:**	11/23/20
Matrix:	AQ - Ground Water	**Date Received:**	11/24/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304433.D	1	12/10/20 16:15	ATX	n/a	n/a	T:GQQ1735
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	16.8	0.50	0.10 [b]	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	85%		62-122%

(a) Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-RWBV10_20201123		
Lab Sample ID:	JD16804-5	**Date Sampled:**	11/23/20
Matrix:	AQ - Ground Water	**Date Received:**	11/24/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304434.D	1	12/10/20 16:26	ATX	n/a	n/a	T:GQQ1735
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	11.8	0.50	0.10 [b]	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	85%		62-122%

(a) Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-RWBV15_20201123		
Lab Sample ID:	JD16804-6	**Date Sampled:**	11/23/20
Matrix:	AQ - Ground Water	**Date Received:**	11/24/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304435.D	1	12/10/20 16:37	ATX	n/a	n/a	T:GQQ1735
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	9.5	0.50	0.10 [b]	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	84%		62-122%

(a) Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-RWBV20_20201123		
Lab Sample ID:	JD16804-7	**Date Sampled:**	11/23/20
Matrix:	AQ - Ground Water	**Date Received:**	11/24/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304429.D	100	12/10/20 15:30	ATX	n/a	n/a	T:GQQ1735
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	241	50	10 [b]	10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	84%		62-122%

(a) Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	BWT-RINSE_20201123		
Lab Sample ID:	JD16804-8	**Date Sampled:**	11/23/20
Matrix:	AQ - Equipment Blank	**Date Received:**	11/24/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304436.D	1	12/10/20 16:48	ATX	n/a	n/a	T:GQQ1735
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	87.3	0.50	0.10 [b]	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	87%		62-122%

(a) Sample analyzed beyond hold time. Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

GW

9304 4369 5865

JD16804

GW

CHAIN OF CUSTODY

DATE: 11/23/20

COC #:

PAGE: 1 OF 1

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	FED EX
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	VOC-8260c: IPA 8015	STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
	~~SP1-GW-2020~~		~~WG~~	~~N~~	~~N~~	~~X~~					~~3~~	
1	SP5-Supply-20201123	11/23/20 14:00	GW	N	N	X	X				3	
2	SP7-RWBV1_20201123	11/23/20 14:00	GW	N	N	X	X				3	
3	SP7-RWBV2_20201123	11/23/20 14:00	GW	N	N	X	X				3	
4	SP7-RWBV5_20201123	11/23/20 14:00	GW	N	N	X	X				3	
5	SP7-RWBV10_20201123	11/23/20 14:00	GW	N	N	X	X				3	
6	SP7-RWBV15_20201123	11/23/20 14:00	GW	N	N	X	X				3	
7	SP7-RWBV20_20201123	11/23/20 14:00	GW	N	N	X	X				3	
8	BWT-Rinse_20201123	11/23/20 14:00	GW	N	N	X	X				3	
9												
10												
11												
12												

V665

INITIAL ASSESSMENT JAJK

LABEL VERIFICATION

Sampler's Signature:	Date: 11/23/20	Time: 15:30
Relinquished By/Affiliation: Wood E&IS	Date:	Time:
Received By:	Date: 11/24/20	Time: 13:00
Relinquished By/Affiliation: Wood	Date: 11/24/20	Time: 13:00
Received By:	Date: 11/24/20	Time: 1440
Relinquished By/Affiliation:	Date: 11/24/20	Time: 1710
Received By (LAB):	Date: 11/24/20	Time: 1710

Rec TF Friday 11/27/20 1810 Fed Ex Rel-Fed Ex 11/25/2020 5:00 Rec

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	°C

Send to NJ lab

Comments:
X=Analyze H=Hold Analysis Request PO # F013200721
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT:

CS# B'3k2

IR-4

3.4°C

IP

SGS-ACCUTEST MARLBOR 11/24

SGS Sample Receipt Summary

Job Number: JD16804 **Client:** _____ **Project:** _____

Date / Time Received: 11/24/2020 6:00:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (2.9);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify) _____ _____

Comments

SM089-02 Rev. Date 12/1/16

5.1 5

JD16804: Chain of Custody
Page 2 of 5

JD16804: Chain of Custody
Page 3 of 5

SGS Sample Receipt Summary

Job Number: JD16804 **Client:** Wood **Project:** ESTCP Site 8 Pilot

Date / Time Received: 11/24/2020 **Delivery Method:** FedEx **Airbill #'s:** 9304 9369 5865

Cooler Temps (Raw Measured) °C:

Cooler Temps (Corrected) °C:

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☑	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify) _____ _____

Comments: Sample -1: Received 3 x 40mL HCL preserved vials with headspace greater than 6mm in diameter.

SM089-02 Rev. Date 12/1/16

Responded to by: Kristin DeGraw Response Date: 11/25/2020

Please proceed per Eric Thompson.

Internal Sample Tracking Chronicle

Wood Environment & Infrastructure Solut.

Job No: JD16804

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000 PO#F013200721

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD16804-1 Collected: 23-NOV-20 14:00 By: SP5-SUPPLY_20201123				Received: 24-NOV-20	By: DG	
JD16804-1	SW846 8015C	10-DEC-20 14:23	ATX			D8015IPA
JD16804-2 Collected: 23-NOV-20 14:00 By: SP7-RWBV1_20201123				Received: 24-NOV-20	By: DG	
JD16804-2	SW846 8015C	10-DEC-20 14:34	ATX			D8015IPA
JD16804-3 Collected: 23-NOV-20 14:00 By: SP7-RWBV2_20201123				Received: 24-NOV-20	By: DG	
JD16804-3	SW846 8015C	10-DEC-20 14:45	ATX			D8015IPA
JD16804-4 Collected: 23-NOV-20 14:00 By: SP7-RWBV5_20201123				Received: 24-NOV-20	By: DG	
JD16804-4	SW846 8015C	10-DEC-20 16:15	ATX			D8015IPA
JD16804-5 Collected: 23-NOV-20 14:00 By: SP7-RWBV10_20201123				Received: 24-NOV-20	By: DG	
JD16804-5	SW846 8015C	10-DEC-20 16:26	ATX			D8015IPA
JD16804-6 Collected: 23-NOV-20 14:00 By: SP7-RWBV15_20201123				Received: 24-NOV-20	By: DG	
JD16804-6	SW846 8015C	10-DEC-20 16:37	ATX			D8015IPA
JD16804-7 Collected: 23-NOV-20 14:00 By: SP7-RWBV20_20201123				Received: 24-NOV-20	By: DG	
JD16804-7	SW846 8015C	10-DEC-20 15:30	ATX			D8015IPA
JD16804-8 Collected: 23-NOV-20 14:00 By: BWT-RINSE_20201123				Received: 24-NOV-20	By: DG	
JD16804-8	SW846 8015C	10-DEC-20 16:48	ATX			D8015IPA

SGS Internal Chain of Custody

Job Number: JD16804
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Received: 11/24/20

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD16804-1.1	Secured Storage	Krizhka Cuenta	11/30/20 16:40	Retrieve from Storage
JD16804-1.1	Krizhka Cuenta	Secured Storage	11/30/20 17:03	Return to Storage
JD16804-2.1	Secured Storage	Krizhka Cuenta	11/30/20 16:40	Retrieve from Storage
JD16804-2.1	Krizhka Cuenta	Secured Storage	11/30/20 17:03	Return to Storage
JD16804-3.1	Secured Storage	Krizhka Cuenta	11/30/20 16:40	Retrieve from Storage
JD16804-3.1	Krizhka Cuenta	Secured Storage	11/30/20 17:03	Return to Storage
JD16804-4.1	Secured Storage	Krizhka Cuenta	11/30/20 16:40	Retrieve from Storage
JD16804-4.1	Krizhka Cuenta	Secured Storage	11/30/20 17:03	Return to Storage
JD16804-5.1	Secured Storage	Krizhka Cuenta	11/30/20 16:40	Retrieve from Storage
JD16804-5.1	Krizhka Cuenta	Secured Storage	11/30/20 17:03	Return to Storage
JD16804-6.1	Secured Storage	Krizhka Cuenta	11/30/20 16:40	Retrieve from Storage
JD16804-6.1	Krizhka Cuenta	Secured Storage	11/30/20 17:03	Return to Storage

QC Evaluation: DOD QSM5.x Limits

Job Number: JD16804
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/23/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No DOD QSM5.x Limits Found.

* Sample used for QC is not from job JD16804

Misc. Forms

Custody Documents and Other Forms

(SGS Houston, TX)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle

SGS

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: JD16804

Client / Reporting Information

Company Name:
Street Address:
City: State: Zip:
Project Contact: E-mail: Kristin.Degraw@sgs.com
Phone #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: ESTCP18-5015 PFAS Removal, Pease AFB, NH
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB-Equipment Blank; RB - Rinse Blank; TB - Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	D8015/PA .	LAB USE ONLY
1	SP5-SUPPLY_20201123		11/23/20	2:00:00 PM		AQ	2	2								X	
2	SP7-RWBV1_20201123		11/23/20	2:00:00 PM		AQ	2	2								X	
3	SP7-RWBV2_20201123		11/23/20	2:00:00 PM		AQ	2	2								X	
4	SP7-RWBV5_20201123		11/23/20	2:00:00 PM		AQ	2	2								X	
5	SP7-RWBV10_20201123		11/23/20	2:00:00 PM		AQ	2	2								X	
6	SP7-RWBV15_20201123		11/23/20	2:00:00 PM		AQ	2	2								X	
7	SP7-RWBV20_20201123		11/23/20	2:00:00 PM		AQ	2	2								X	
8	BWT-RINSE_20201123		11/23/20	2:00:00 PM		AQ	2	2								X	

Turnaround Time (Business days)

Approved By (SGS PM) / Date:

- [ ] Standard 10 Business Days
- [ ] 5 Business Days RUSH
- [ ] 3 Business Days RUSH
- [ ] 2 Business Days RUSH
- [ ] 1 Business Day EMERGENCY
- [X] Other Due 12/8/2020

Emergency & Rush T/A data available via Lablink. Approval needed for RUSH/Emergency TAT

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other FULT1

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

Comments / Special Instructions: OK to run OOH per client.

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by 1	Date / Time:	Received By: 1 felix	Relinquished By 2	Date / Time: 12/1/20	Received By: 2
Relinquished by 3	Date / Time:	Received By: 3	Relinquished By 4	Date / Time:	Received By: 4
Relinquished by 5	Date / Time:	Received By 5	Custody Seal #	[X] Intact [ ] Not intact	Preserved where applicable [ ] Absent	Therm ID	On Ice [X]	Cooler Temp. °C 1.6

jd16804.xls
Rev. Date 4/10/18

JD16804: Chain of Custody
Page 1 of 3
SGS Houston, TX

SGS Sample Receipt Summary

Job Number: JD16804 **Client:** SGS-DAYTON **Project:** ESTCP18-5015 PFAS REMOVAL; PEASE AFB,

Date / Time Received: 12/10/2020 10:30:00 AM **Delv Method:** FEDEX **Airbill #'s:** 925108988163

# of Coolers: 1 **Therm ID:** IR-9; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (1.6/1.6);

Test Strip Lot #s: **pH 1-12:** 10D0391 **pH 12+:** _____ **Other: (Specify)** _____ _____

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑

3. Type Of TB Received	W	or	S	N/A
	☐		☐	☐

Misc. Information

Number of terracores: 0 Number of Lab Filtered Metals: 0

Number of 5035 Field Kits: 0

Residual Chlorine Test Strip Lot #: _____

Comments

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
14. % Solids Jar received?	☐		☐	☑
15. Residual Chlorine Present?	☐		☐	☑

Sample Receipt Log

Job #: JD16804 **Date / Time Received:** 12/10/2020 10:30:00 AM **Initials:** MAURICIM

Client: SGS-DAYTON

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	JD16804-1	40ml	1	VR12	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.6	0	1.6
1	JD16804-2	40ml	1	VR12	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.6	0	1.6
1	JD16804-3	40ml	1	VR12	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.6	0	1.6
1	JD16804-4	40ml	1	VR12	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.6	0	1.6
1	JD16804-5	40ml	1	VR12	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.6	0	1.6
1	JD16804-6	40ml	1	VR12	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.6	0	1.6
1	JD16804-7	40ml	1	VR12	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.6	0	1.6
1	JD16804-8	40ml	1	VR12	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.6	0	1.6

JD16804: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

SGS Dayton, NJ

Job No: JD16804

AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000 PO#F013200721

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD16804-1	Collected: 23-NOV-20 14:00 By: SP5-SUPPLY_20201123			Received: 24-NOV-20	By: MM	
JD16804-1	SW846 8015C	10-DEC-20 14:23	ZQ			D8015IPA
JD16804-2	Collected: 23-NOV-20 14:00 By: SP7-RWBV1_20201123			Received: 24-NOV-20	By: MM	
JD16804-2	SW846 8015C	10-DEC-20 14:34	ZQ			D8015IPA
JD16804-3	Collected: 23-NOV-20 14:00 By: SP7-RWBV2_20201123			Received: 24-NOV-20	By: MM	
JD16804-3	SW846 8015C	10-DEC-20 14:45	ZQ			D8015IPA
JD16804-4	Collected: 23-NOV-20 14:00 By: SP7-RWBV5_20201123			Received: 24-NOV-20	By: MM	
JD16804-4	SW846 8015C	10-DEC-20 16:15	ZQ			D8015IPA
JD16804-5	Collected: 23-NOV-20 14:00 By: SP7-RWBV10_20201123			Received: 24-NOV-20	By: MM	
JD16804-5	SW846 8015C	10-DEC-20 16:26	ZQ			D8015IPA
JD16804-6	Collected: 23-NOV-20 14:00 By: SP7-RWBV15_20201123			Received: 24-NOV-20	By: MM	
JD16804-6	SW846 8015C	10-DEC-20 16:37	ZQ			D8015IPA
JD16804-7	Collected: 23-NOV-20 14:00 By: SP7-RWBV20_20201123			Received: 24-NOV-20	By: MM	
JD16804-7	SW846 8015C	10-DEC-20 15:30	ZQ			D8015IPA
JD16804-8	Collected: 23-NOV-20 14:00 By: BWT-RINSE_20201123			Received: 24-NOV-20	By: MM	
JD16804-8	SW846 8015C	10-DEC-20 16:48	ZQ			D8015IPA

GC Volatiles

QC Data Summaries

(SGS Houston, TX)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JD16804
Account: ALNJ SGS Dayton, NJ
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQQ1735-MB	QQ304412.D	1	12/10/20	ZQ	n/a	n/a	GQQ1735

The QC reported here applies to the following samples: **Method:** SW846 8015C

JD16804-1, JD16804-2, JD16804-3, JD16804-4, JD16804-5, JD16804-6, JD16804-7, JD16804-8

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
71-41-0	1-Pentanol	90%	62-122%

Blank Spike Summary

Job Number: JD16804
Account: ALNJ SGS Dayton, NJ
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQQ1735-BS	QQ304411.D	1	12/10/20	ZQ	n/a	n/a	GQQ1735

The QC reported here applies to the following samples: **Method:** SW846 8015C

JD16804-1, JD16804-2, JD16804-3, JD16804-4, JD16804-5, JD16804-6, JD16804-7, JD16804-8

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	500	545	109	80-118

CAS No.	Surrogate Recoveries	BSP	Limits
71-41-0	1-Pentanol	86%	62-122%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD16804
Account: ALNJ SGS Dayton, NJ
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA68119-1MS	QQ304419.D	1	12/10/20	ZQ	n/a	n/a	GQQ1735
LA68119-1MSD	QQ304420.D	1	12/10/20	ZQ	n/a	n/a	GQQ1735
LA68119-1	QQ304414.D	1	12/10/20	ZQ	n/a	n/a	GQQ1735

The QC reported here applies to the following samples: **Method:** SW846 8015C

JD16804-1, JD16804-2, JD16804-3, JD16804-4, JD16804-5, JD16804-6, JD16804-7, JD16804-8

CAS No.	Compound	LA68119-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	Spike mg/l	MSD mg/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	0.11		500	529	106	500	548	110	4	80-118/29

CAS No.	Surrogate Recoveries	MS	MSD	LA68119-1	Limits
71-41-0	1-Pentanol	86%	86%	83%	62-122%

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JD16804
Account: ALNJ SGS Dayton, NJ
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Method: SW846 8015C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JD16804-1	QQ304423.D	84
JD16804-2	QQ304424.D	88
JD16804-3	QQ304425.D	85
JD16804-4	QQ304433.D	85
JD16804-5	QQ304434.D	85
JD16804-6	QQ304435.D	84
JD16804-7	QQ304429.D	84
JD16804-8	QQ304436.D	87
GQQ1735-BS	QQ304411.D	86
GQQ1735-MB	QQ304412.D	90
LA68119-1MS	QQ304419.D	86
LA68119-1MSD	QQ304420.D	86

Surrogate Compounds	Recovery Limits
S1 = 1-Pentanol	62-122%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD16804
Account: ALNJ SGS Dayton, NJ
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	GQQ1735-CC1734	**Injection Date:**	12/10/20
Lab File ID:	QQ304410.D	**Injection Time:**	11:49
Instrument ID:	GCQQ	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	2.99

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GQQ1735-BS	QQ304411.D	12/10/20	12:00	2.99
GQQ1735-MB	QQ304412.D	12/10/20	12:11	2.99
ZZZZZZ	QQ304413.D	12/10/20	12:30	2.99
LA68119-1	QQ304414.D	12/10/20	12:41	2.99
LA68119-1MS	QQ304419.D	12/10/20	13:37	2.99
LA68119-1MSD	QQ304420.D	12/10/20	13:48	2.99

Surrogate Compounds

S1 = 1-Pentanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD16804
Account: ALNJ SGS Dayton, NJ
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	GQQ1735-CC1734	**Injection Date:**	12/10/20
Lab File ID:	QQ304421.D	**Injection Time:**	14:00
Instrument ID:	GCQQ	**Method:**	SW846 8015C

	S1 [a] **RT**
Check Std	2.99

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
JD16804-1	QQ304423.D	12/10/20	14:23	2.99
JD16804-2	QQ304424.D	12/10/20	14:34	2.99
JD16804-3	QQ304425.D	12/10/20	14:45	2.99
JD16804-7	QQ304429.D	12/10/20	15:30	2.99
JD16804-4	QQ304433.D	12/10/20	16:15	2.99
JD16804-5	QQ304434.D	12/10/20	16:26	2.99
JD16804-6	QQ304435.D	12/10/20	16:37	2.99
JD16804-8	QQ304436.D	12/10/20	16:48	2.99
ZZZZZZ	QQ304437.D	12/10/20	16:59	2.99
ZZZZZZ	QQ304438.D	12/10/20	17:09	2.99

Surrogate Compounds

S1 = 1-Pentanol

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: JD16804 **Sample:** GQQ1734-ICC1734
Account: ALNJ SGS Dayton, NJ **Lab FileID:** QQ304402.D
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Response Factor Report HP5890

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration

Calibration Files
1 =QQ304397.D 2 =QQ304398.D 3 =QQ304399.D 4 =QQ304400.D
5 =QQ304401.D 6 =QQ304402.D 7 =QQ304403.D 8 =QQ304404.D

Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1) Methanol	1.494	1.664	1.255	1.189	1.194	1.223	1.205	1.198	1.303 E4	13.65
2) Ethanol	1.936	2.306	1.837	1.769	1.783	1.825	1.800	1.790	1.881 E4	9.56
3) Isopropyl Al	1.671	1.995	1.612	1.562	1.575	1.617	1.595	1.587	1.652 E4	8.62
4) Tert-Butyl A	2.737	3.340	2.630	2.525	2.549	2.622	2.589	2.585	2.697 E4	9.92
5) n-Propyl Alc	2.257	2.839	2.190	2.084	2.097	2.151	2.125	2.113	2.232 E4	11.28
6) sec-Butyl Al	2.921	3.257	2.428	2.248	2.254	2.311	2.281	2.268	2.496 E4	15.26
7) Isobutyl Alc	2.717	3.314	2.641	2.485	2.494	2.559	2.529	2.509	2.656 E4	10.45
8) n-Butyl Alco	3.101	3.427	2.636	2.453	2.454	2.526	2.495	2.481	2.697 E4	13.56
9) Isoamyl Alco	2.736	3.330	2.708	2.659	2.641	2.695	2.662	2.646	2.760 E4	8.44
10) 1-Pentanol	3.611	3.441	2.572	2.482	2.455	2.505	2.469	2.451	2.748 E4	17.61

(#) = Out of Range ### Number of calibration levels exceeded format ###

QQ1734.M Thu Dec 10 12:27:56 2020

Initial Calibration Verification

Job Number: JD16804 **Sample:** GQQ1734-ICV1734
Account: ALNJ SGS Dayton, NJ **Lab FileID:** QQ304406.D
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304406.D Vial: 12
Acq On : 09-Dec-2020, 20:28:05 Operator: ZEESHANQ
Sample : ICV1734-200 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.029	12.120 E3	7.0	99	0.00	0.43- 0.53
2	Ethanol	18.808	17.462 E3	7.2	96	0.00	0.61- 0.71
3	Isopropyl Alcohol	16.517	18.747 E3	-13.5	116	0.00	0.78- 0.88
4	Tert-Butyl Alcohol	26.973	26.481 E3	1.8	101	0.00	0.93- 1.03
5	n-Propyl Alcohol	22.319	22.189 E3	0.6	103	0.00	1.21- 1.31
6	sec-Butyl Alcohol	24.959	22.457 E3	10.0	97	0.00	1.49- 1.59
7	Isobutyl Alcohol	26.561	25.228 E3	5.0	99	0.00	1.75- 1.85
8	n-Butyl Alcohol	26.966	23.414 E3	13.2	93	0.00	2.06- 2.16
9	Isoamyl Alcohol	27.596	24.204 E3	12.3	90	0.00	2.67- 2.77
10 S	1-Pentanol	27.482	25.038 E3	8.9	100	0.00	2.94- 3.04

(#) = Out of Range SPCC's out = 0 CCC's out = 0
QQ304402.D QQ1734.M Thu Dec 10 12:28:19 2020

Continuing Calibration Summary

Job Number: JD16804 **Sample:** GQQ1735-CC1734
Account: ALNJ SGS Dayton, NJ **Lab FileID:** QQ304410.D
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304410.D Vial: 2
Acq On : 10-Dec-2020, 11:49:38 Operator: ZEESHANQ
Sample : CC1734-200 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.029	11.753 E3	9.8	96	0.00	0.43- 0.53
2	Ethanol	18.808	17.565 E3	6.6	96	0.00	0.61- 0.71
3	Isopropyl Alcohol	16.517	15.548 E3	5.9	96	0.00	0.78- 0.88
4	Tert-Butyl Alcohol	26.973	25.156 E3	6.7	96	0.00	0.93- 1.03
5	n-Propyl Alcohol	22.319	20.637 E3	7.5	96	0.00	1.21- 1.31
6	sec-Butyl Alcohol	24.959	22.134 E3	11.3	96	0.00	1.49- 1.59
7	Isobutyl Alcohol	26.561	24.420 E3	8.1	95	0.00	1.75- 1.85
8	n-Butyl Alcohol	26.966	24.031 E3	10.9	95	0.00	2.06- 2.16
9	Isoamyl Alcohol	27.596	25.592 E3	7.3	95	0.00	2.67- 2.77
10 S	1-Pentanol	27.482	23.780 E3	13.5	95	0.00	2.94- 3.04

(#) = Out of Range SPCC's out = 0 CCC's out = 0
QQ304402.D QQ1734.M Thu Dec 10 19:00:20 2020

Continuing Calibration Summary

Job Number: JD16804 **Sample:** GQQ1735-CC1734
Account: ALNJ SGS Dayton, NJ **Lab FileID:** QQ304421.D
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304421.D Vial: 2
Acq On : 10-Dec-2020, 14:00:09 Operator: ZEESHANQ
Sample : CC1734-200 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.029	11.848 E3	9.1	97	0.00	0.43- 0.53
2	Ethanol	18.808	17.737 E3	5.7	97	0.00	0.61- 0.71
3	Isopropyl Alcohol	16.517	15.705 E3	4.9	97	0.00	0.78- 0.88
4	Tert-Butyl Alcohol	26.973	25.275 E3	6.3	96	0.00	0.93- 1.03
5	n-Propyl Alcohol	22.319	20.773 E3	6.9	97	0.00	1.21- 1.31
6	sec-Butyl Alcohol	24.959	22.254 E3	10.8	96	0.00	1.49- 1.59
7	Isobutyl Alcohol	26.561	24.594 E3	7.4	96	0.00	1.75- 1.85
8	n-Butyl Alcohol	26.966	24.185 E3	10.3	96	0.00	2.06- 2.16
9	Isoamyl Alcohol	27.596	25.735 E3	6.7	95	0.00	2.67- 2.77
10 S	1-Pentanol	27.482	23.866 E3	13.2	95	0.00	2.94- 3.04

(#) = Out of Range SPCC's out = 0 CCC's out = 0
QQ304402.D QQ1734.M Thu Dec 10 19:00:21 2020

Continuing Calibration Summary

Job Number: JD16804 **Sample:** GQQ1736-CC1734
Account: ALNJ SGS Dayton, NJ **Lab FileID:** QQ304439.D
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304439.D Vial: 2
Acq On : 10-Dec-2020, 17:21:13 Operator: ZEESHANQ
Sample : CC1734-200 Inst : HP5890
Misc : GC12569,GQQ1736,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.029	12.246 E3	6.0	100	0.00	0.43- 0.53
2	Ethanol	18.808	18.299 E3	2.7	100	0.00	0.61- 0.71
3	Isopropyl Alcohol	16.517	16.211 E3	1.9	100	0.00	0.78- 0.88
4	Tert-Butyl Alcohol	26.973	26.151 E3	3.0	100	0.00	0.93- 1.03
5	n-Propyl Alcohol	22.319	21.451 E3	3.9	100	0.00	1.21- 1.31
6	sec-Butyl Alcohol	24.959	22.990 E3	7.9	99	0.00	1.49- 1.59
7	Isobutyl Alcohol	26.561	25.447 E3	4.2	99	0.00	1.75- 1.85
8	n-Butyl Alcohol	26.966	25.034 E3	7.2	99	0.00	2.06- 2.16
9	Isoamyl Alcohol	27.596	26.767 E3	3.0	99	0.00	2.67- 2.77
10 S	1-Pentanol	27.482	24.855 E3	9.6	99	0.00	2.94- 3.04

(#) = Out of Range SPCC's out = 0 CCC's out = 0
QQ304402.D QQ1734.M Fri Dec 11 11:31:26 2020

Run Sequence Report

Job Number: JD16804
Account: ALNJ SGS Dayton, NJ
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: GQQ1734	**Method:** SW846 8015C	**Instrument ID:** GCQQ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GQQ1734-IC1734	QQ304397.D	12/09/20 18:48	n/a	Initial cal 0.5
GQQ1734-IC1734	QQ304398.D	12/09/20 18:59	n/a	Initial cal 1
GQQ1734-IC1734	QQ304399.D	12/09/20 19:10	n/a	Initial cal 5
GQQ1734-IC1734	QQ304400.D	12/09/20 19:21	n/a	Initial cal 25
GQQ1734-IC1734	QQ304401.D	12/09/20 19:32	n/a	Initial cal 50
GQQ1734-ICC1734	QQ304402.D	12/09/20 19:43	n/a	Initial cal 200
GQQ1734-IC1734	QQ304403.D	12/09/20 19:54	n/a	Initial cal 500
GQQ1734-IC1734	QQ304404.D	12/09/20 20:05	n/a	Initial cal 1000
GQQ1734-ICV1734	QQ304406.D	12/09/20 20:28	n/a	Initial cal verification 200

Run Sequence Report

Job Number: JD16804
Account: ALNJ SGS Dayton, NJ
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: GQQ1735 **Method:** SW846 8015C **Instrument ID:** GCQQ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GQQ1735-CC1734	QQ304410.D	12/10/20 11:49	n/a	Continuing cal 200
GQQ1735-BS	QQ304411.D	12/10/20 12:00	n/a	Blank Spike
GQQ1735-MB	QQ304412.D	12/10/20 12:11	n/a	Method Blank
ZZZZZZ	QQ304413.D	12/10/20 12:30	n/a	(unrelated sample)
LA68119-1	QQ304414.D	12/10/20 12:41	n/a	(used for QC only; not part of job JD16804)
LA68119-1MS	QQ304419.D	12/10/20 13:37	n/a	Matrix Spike
LA68119-1MSD	QQ304420.D	12/10/20 13:48	n/a	Matrix Spike Duplicate
GQQ1735-CC1734	QQ304421.D	12/10/20 14:00	n/a	Continuing cal 200
JD16804-1	QQ304423.D	12/10/20 14:23	n/a	SP5-SUPPLY_20201123
JD16804-2	QQ304424.D	12/10/20 14:34	n/a	SP7-RWBV1_20201123
JD16804-3	QQ304425.D	12/10/20 14:45	n/a	SP7-RWBV2_20201123
JD16804-7	QQ304429.D	12/10/20 15:30	n/a	SP7-RWBV20_20201123
JD16804-4	QQ304433.D	12/10/20 16:15	n/a	SP7-RWBV5_20201123
JD16804-5	QQ304434.D	12/10/20 16:26	n/a	SP7-RWBV10_20201123
JD16804-6	QQ304435.D	12/10/20 16:37	n/a	SP7-RWBV15_20201123
JD16804-8	QQ304436.D	12/10/20 16:48	n/a	BWT-RINSE_20201123
ZZZZZZ	QQ304437.D	12/10/20 16:59	n/a	(unrelated sample)
ZZZZZZ	QQ304438.D	12/10/20 17:09	n/a	(unrelated sample)
GQQ1735-CC1734	QQ304439.D	12/10/20 17:21	n/a	Continuing cal 200

Run Sequence Report

Job Number: JD16804
Account: ALNJ SGS Dayton, NJ
Project: AMECMNM: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: GQQ1736 **Method:** SW846 8015C **Instrument ID:** GCQQ

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GQQ1736-CC1734	QQ304439.D	12/10/20 17:21	n/a	Continuing cal 200
GQQ1736-BS	QQ304440.D	12/10/20 17:32	n/a	Blank Spike
GQQ1736-MB	QQ304441.D	12/10/20 17:42	n/a	Method Blank
FA81453-1	QQ304442.D	12/10/20 18:13	n/a	(used for QC only; not part of job JD16804)
ZZZZZZ	QQ304443.D	12/10/20 18:24	n/a	(unrelated sample)
ZZZZZZ	QQ304444.D	12/10/20 18:35	n/a	(unrelated sample)
ZZZZZZ	QQ304445.D	12/10/20 18:46	n/a	(unrelated sample)
ZZZZZZ	QQ304446.D	12/10/20 18:57	n/a	(unrelated sample)
ZZZZZZ	QQ304447.D	12/10/20 19:08	n/a	(unrelated sample)
FA81453-1MS	QQ304448.D	12/10/20 19:19	n/a	Matrix Spike
FA81453-1MSD	QQ304449.D	12/10/20 19:30	n/a	Matrix Spike Duplicate
GQQ1736-CC1734	QQ304450.D	12/10/20 19:41	n/a	Continuing cal 200
ZZZZZZ	QQ304452.D	12/10/20 20:03	n/a	(unrelated sample)
ZZZZZZ	QQ304453.D	12/10/20 20:14	n/a	(unrelated sample)
ZZZZZZ	QQ304454.D	12/10/20 20:25	n/a	(unrelated sample)
ZZZZZZ	QQ304455.D	12/10/20 20:37	n/a	(unrelated sample)
ZZZZZZ	QQ304456.D	12/10/20 20:48	n/a	(unrelated sample)
ZZZZZZ	QQ304457.D	12/10/20 20:59	n/a	(unrelated sample)
ZZZZZZ	QQ304458.D	12/10/20 21:10	n/a	(unrelated sample)
ZZZZZZ	QQ304459.D	12/10/20 21:22	n/a	(unrelated sample)
ZZZZZZ	QQ304460.D	12/10/20 21:33	n/a	(unrelated sample)
ZZZZZZ	QQ304461.D	12/10/20 21:44	n/a	(unrelated sample)
GQQ1736-CC1734	QQ304462.D	12/10/20 21:56	n/a	Continuing cal 200
ZZZZZZ	QQ304464.D	12/10/20 22:18	n/a	(unrelated sample)
ZZZZZZ	QQ304465.D	12/10/20 22:29	n/a	(unrelated sample)
ZZZZZZ	QQ304466.D	12/10/20 22:41	n/a	(unrelated sample)
ZZZZZZ	QQ304467.D	12/10/20 22:51	n/a	(unrelated sample)
GQQ1736-CC1734	QQ304468.D	12/10/20 23:03	n/a	Continuing cal 200

GC Volatiles

Raw Data

(SGS Houston, TX)

Manual Integrations APPROVED
(compounds with "m" flag)
Stephanie Coch
12/11/20 15:01

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304423.D Vial: 13
Acq On : 10-Dec-2020, 14:23:06 Operator: ZEESHANQ
Sample : JD16804-1, 5000X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,5000,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 13:28:22 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
10) S	1-Pentanol	2.99	4623401	168.235	ppm	
Spiked Amount	200.000	Range 62 - 122	Recovery =	84.12%		
	Target Compounds					
1)	Methanol	0.48	1989	0.153	ppm	
2)	Ethanol	0.66	512	0.027	ppm	
3)	Isopropyl Alcohol	0.83	9994570	605.092	ppm	
4)	Tert-Butyl Alcohol	1.00f	10224	0.379	ppm	m
9)	Isoamyl Alcohol	2.74	4081	0.148	ppm	

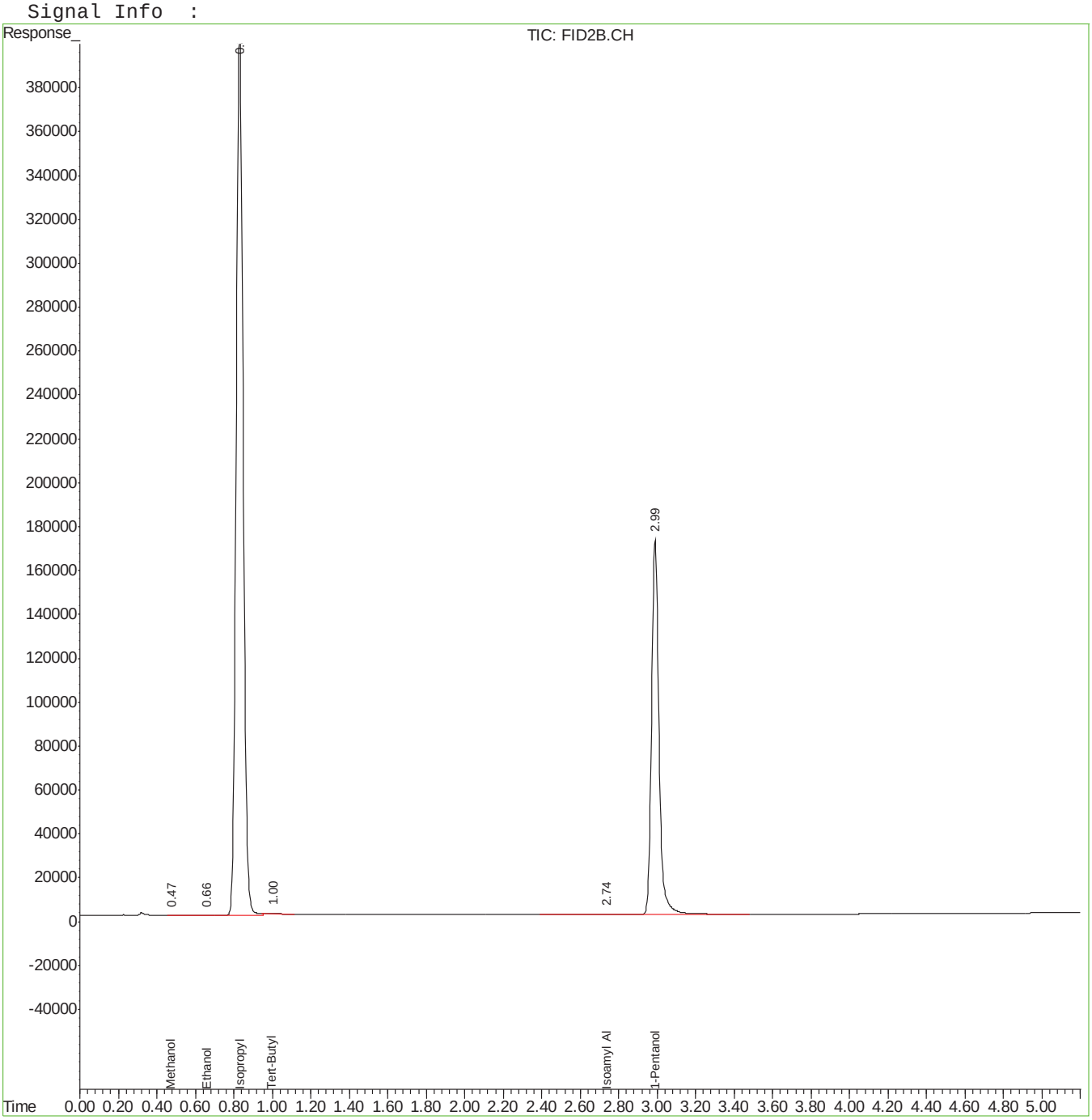
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304423.D QQ1734.M Thu Dec 10 19:02:09 2020 Page 1

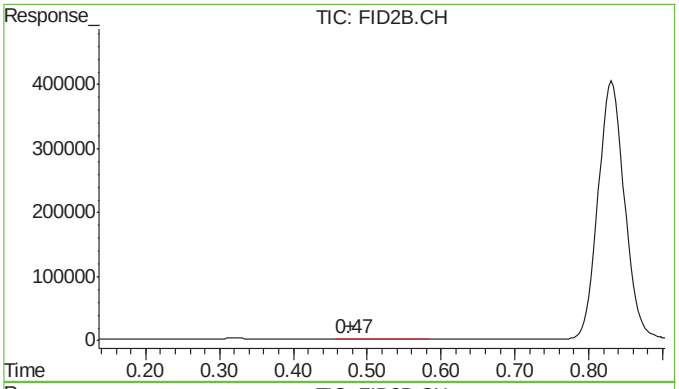
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304423.D Vial: 13
Acq On : 10-Dec-2020, 14:23:06 Operator: ZEESHANQ
Sample : JD16804-1, 5000X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,5000,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 18:55 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

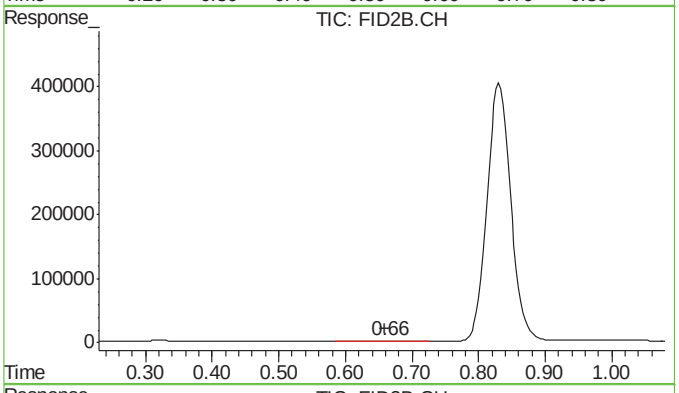
Volume Inj. :
Signal Phase :
Signal Info :





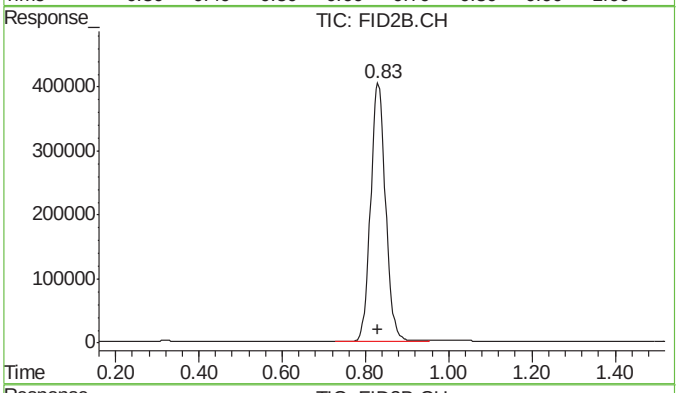
#1 Methanol

R.T.: 0.476 min
Delta R.T.: -0.001 min
Response: 1989
Conc: 0.15 ppm



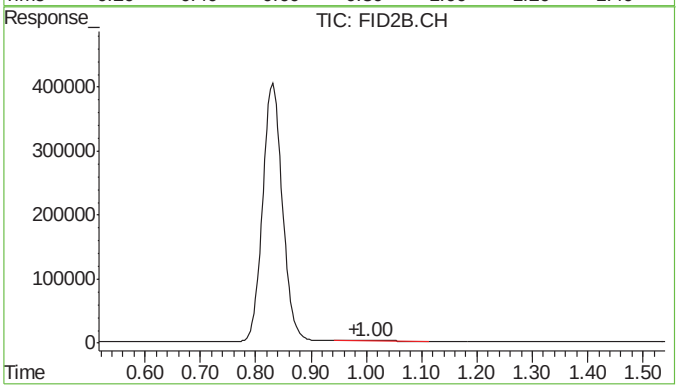
#2 Ethanol

R.T.: 0.660 min
Delta R.T.: 0.000 min
Response: 512
Conc: 0.03 ppm



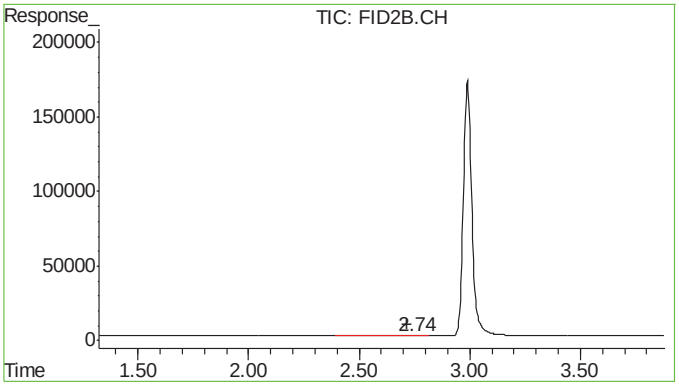
#3 Isopropyl Alcohol

R.T.: 0.831 min
Delta R.T.: 0.000 min
Response: 9994570
Conc: 605.09 ppm



#4 Tert-Butyl Alcohol

R.T.: 1.003 min
Delta R.T.: 0.025 min
Response: 10224
Conc: 0.38 ppm m



#9 Isoamyl Alcohol

R.T.:	2.742 min
Delta R.T.:	0.024 min
Response:	4081
Conc:	0.15 ppm

Manual Integration Approval Summary

Sample Number: JD16804-1
Lab FileID: QQ304423.D
Injection Time: 12/10/20 14:23

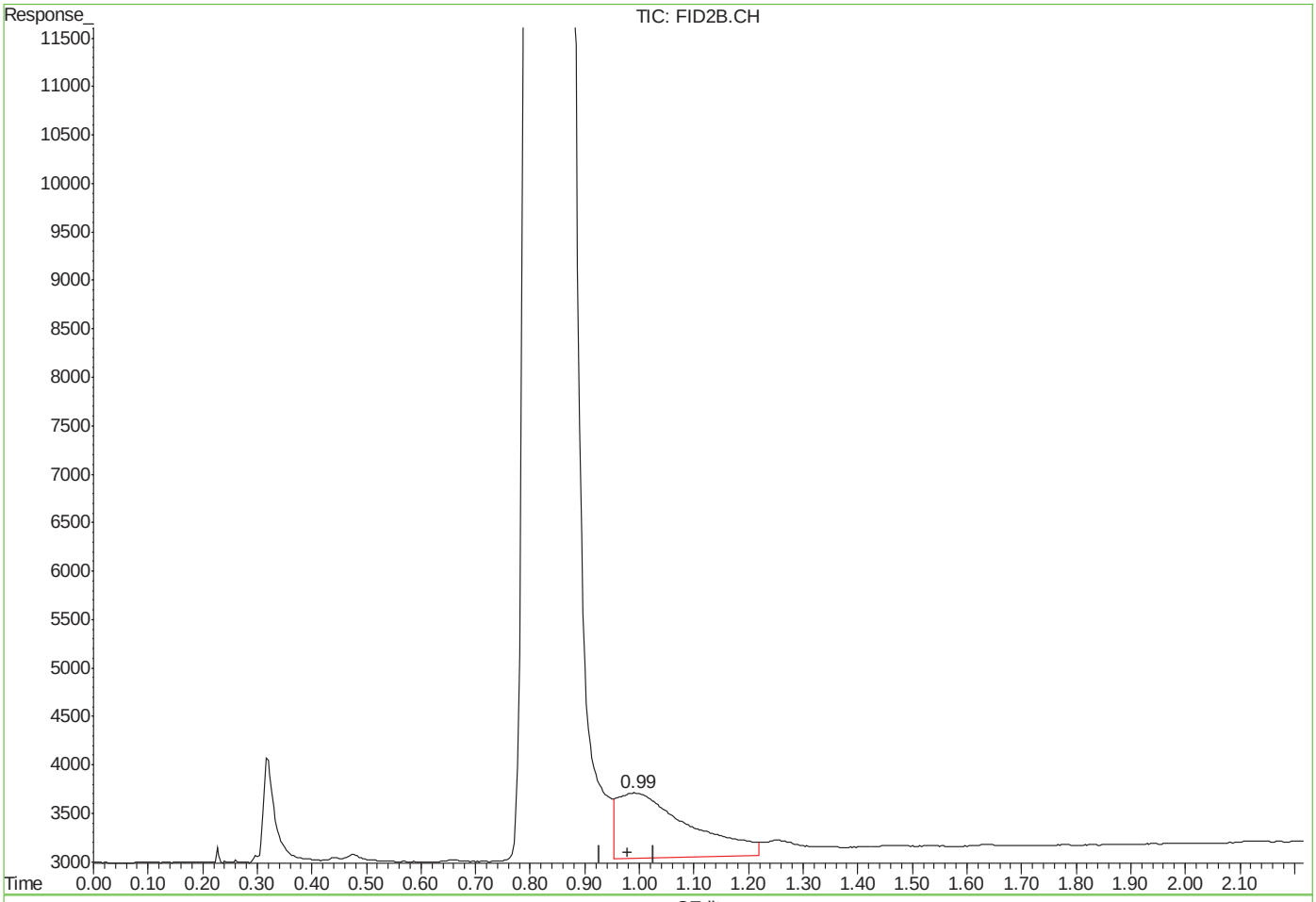
Method: SW846 8015C
Analyst approved: 12/10/20 19:00 Zeeshan Qayyum
Supervisor approved: 12/11/20 15:01 Stephanie Coch

Parameter	CAS	Sig#	R.T. (min.)	Reason
tert-Butyl Alcohol	75-65-0	1	1.00	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304423.D Vial: 13
Acq On : 10-Dec-2020, 14:23:06 Operator: ZEESHANQ
Sample : JD16804-1, 5000X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,5000,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 13:28 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

0.99min 2.283ppm

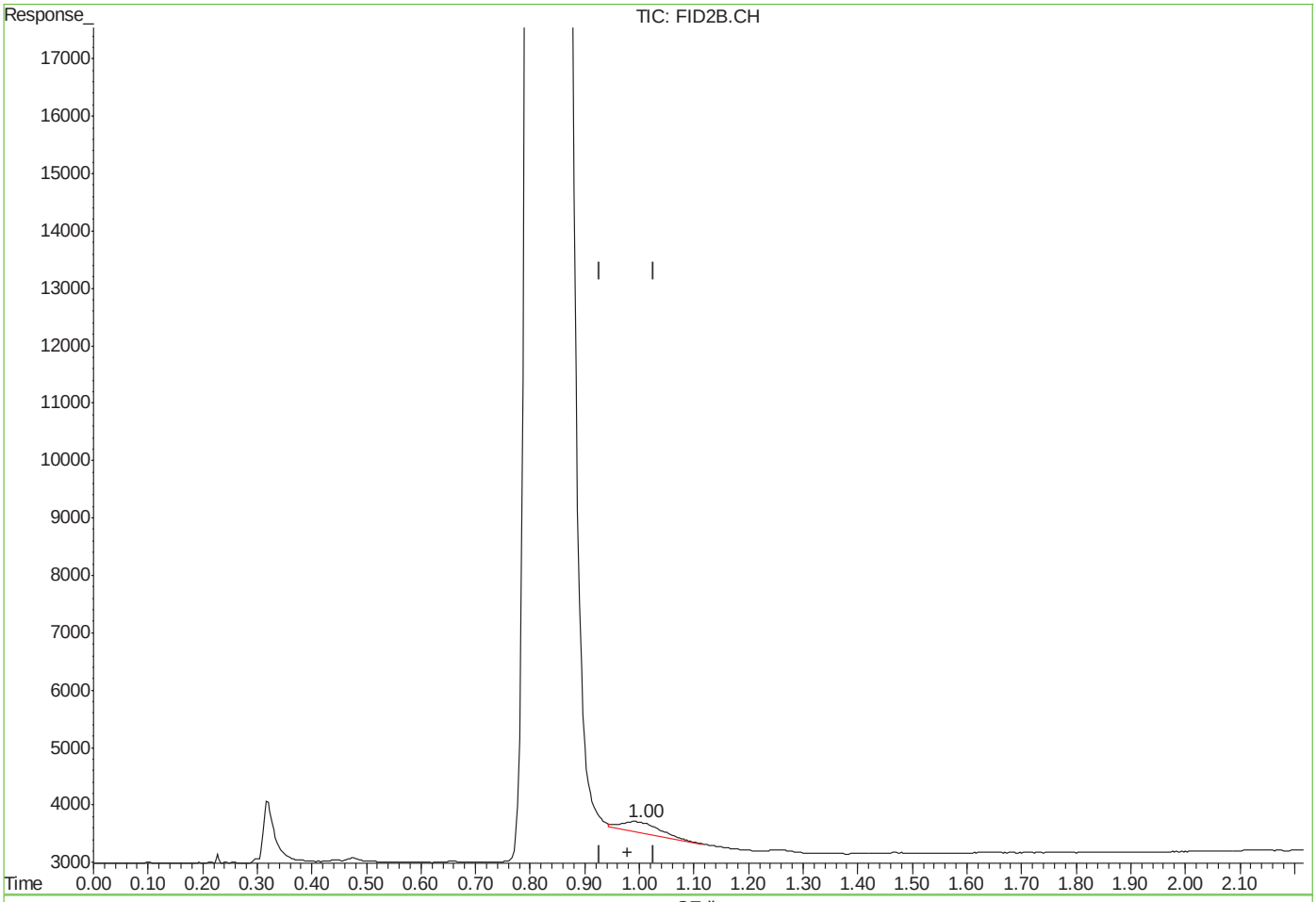
response 61572

(+) = Expected Retention Time
QQ304423.D QQ1734.M Thu Dec 10 18:54:40 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304423.D Vial: 13
Acq On : 10-Dec-2020, 14:23:06 Operator: ZEESHANQ
Sample : JD16804-1, 5000X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,5000,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 13:28 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

1.00min 0.379ppm m

response 10224

(+) = Expected Retention Time
QQ304423.D QQ1734.M Thu Dec 10 18:54:53 2020

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304424.D Vial: 14
Acq On : 10-Dec-2020, 14:34:33 Operator: ZEESHANQ
Sample : JD16804-2, 100X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,100,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 13:40:05 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
10) S 1-Pentanol	2.99	4839502	176.099 ppm
Spiked Amount 200.000	Range 62 - 122	Recovery = 88.05%	
Target Compounds			
1) Methanol	0.48	2552	0.196 ppm
3) Isopropyl Alcohol	0.84	6510213	394.142 ppm

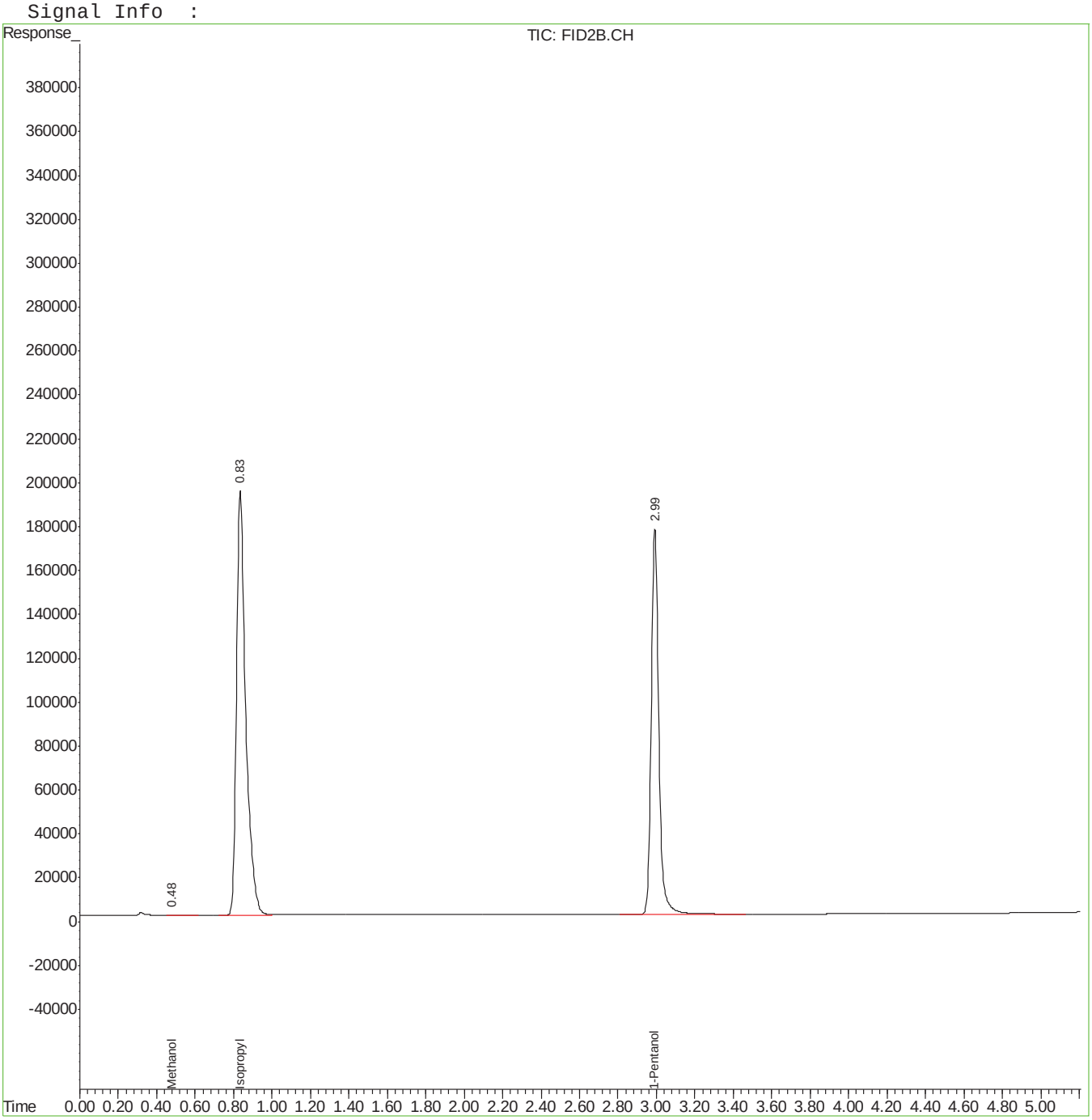
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304424.D QQ1734.M Thu Dec 10 19:02:10 2020 Page 1

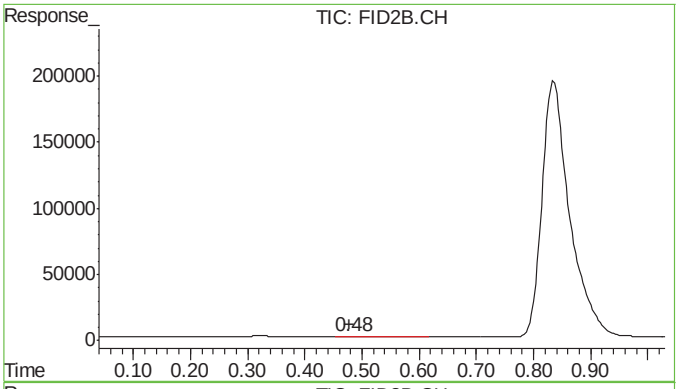
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304424.D Vial: 14
Acq On : 10-Dec-2020, 14:34:33 Operator: ZEESHANQ
Sample : JD16804-2, 100X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,100,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 18:55 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

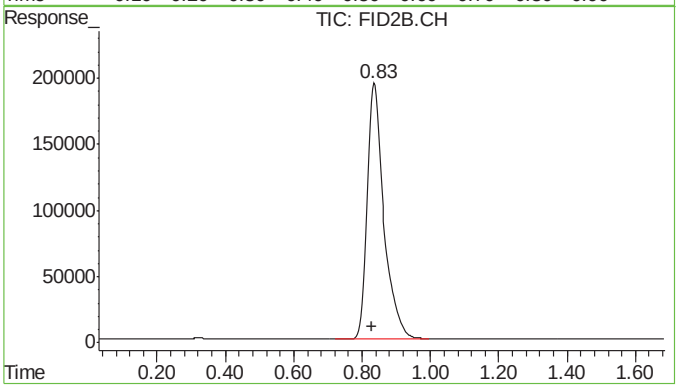
Volume Inj. :
Signal Phase :
Signal Info :





#1 Methanol

R.T.: 0.479 min
Delta R.T.: 0.001 min
Response: 2552
Conc: 0.20 ppm



#3 Isopropyl Alcohol

R.T.: 0.835 min
Delta R.T.: 0.005 min
Response: 6510213
Conc: 394.14 ppm

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304425.D Vial: 15
Acq On : 10-Dec-2020, 14:45:57 Operator: ZEESHANQ
Sample : JD16804-3, 100X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,100,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 13:51:04 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
10) S 1-Pentanol	2.99	4680823	170.325 ppm
Spiked Amount 200.000	Range 62 - 122	Recovery = 85.16%	
Target Compounds			
1) Methanol	0.47	1518	0.116 ppm
3) Isopropyl Alcohol	0.83	473994	28.697 ppm

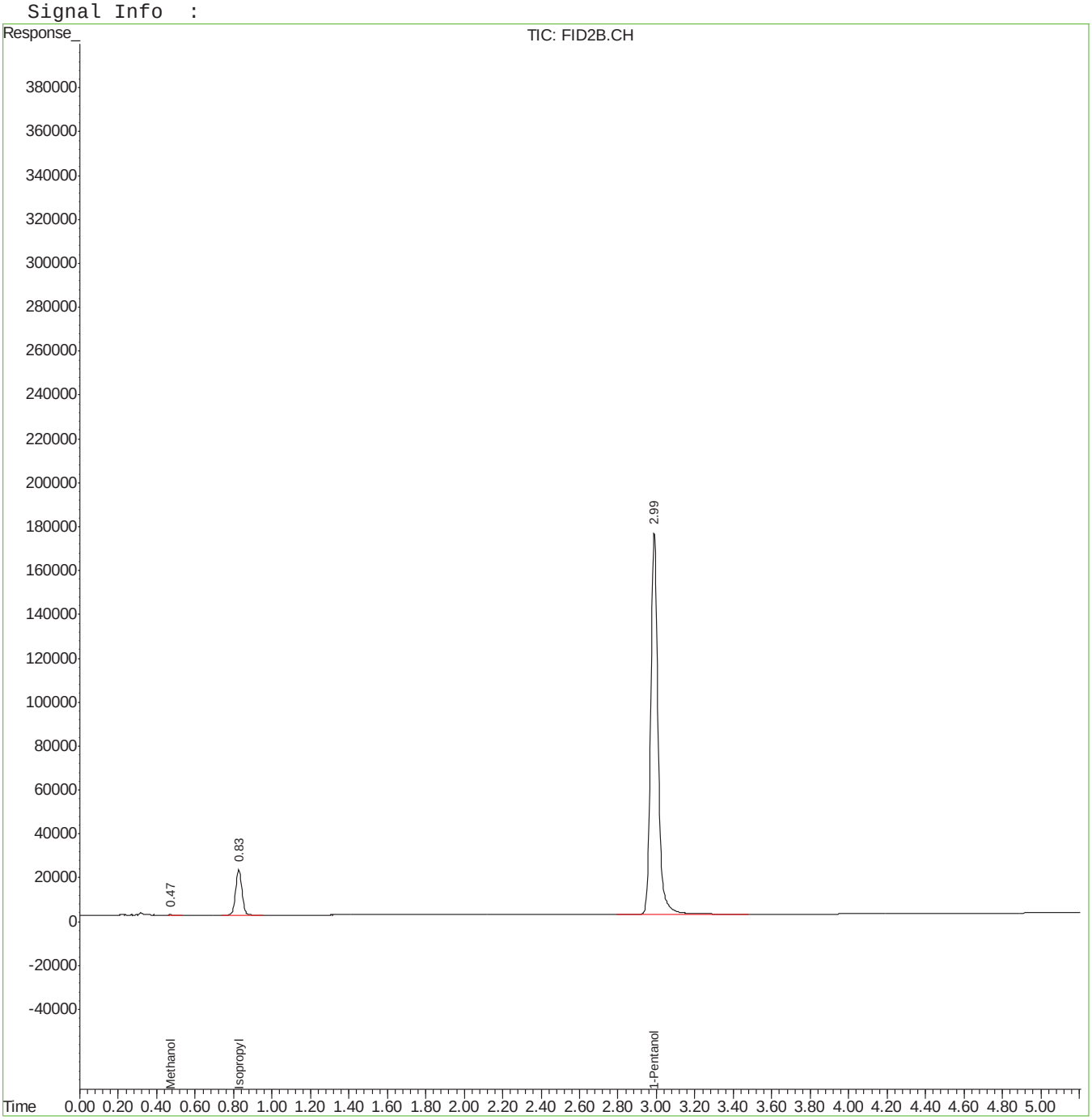
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304425.D QQ1734.M Thu Dec 10 19:02:11 2020 Page 1

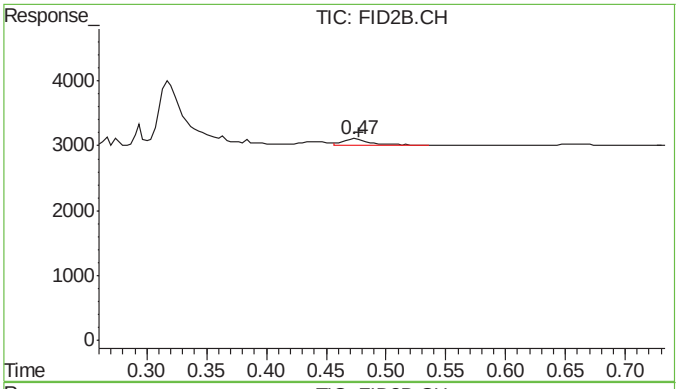
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304425.D Vial: 15
Acq On : 10-Dec-2020, 14:45:57 Operator: ZEESHANQ
Sample : JD16804-3, 100X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,100,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 18:56 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

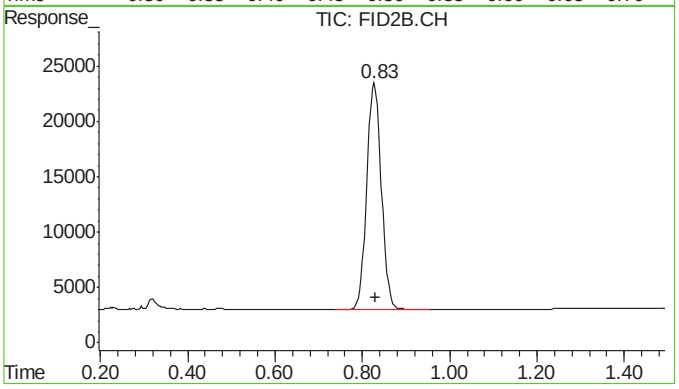
Volume Inj. :
Signal Phase :
Signal Info :





#1 Methanol

R.T.: 0.475 min
Delta R.T.: -0.003 min
Response: 1518
Conc: 0.12 ppm



#3 Isopropyl Alcohol

R.T.: 0.828 min
Delta R.T.: -0.003 min
Response: 473994
Conc: 28.70 ppm

8.1.3

8

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304433.D Vial: 21
Acq On : 10-Dec-2020, 16:15:19 Operator: ZEESHANQ
Sample : JD16804-4 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:13:08 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
10) S 1-Pentanol	2.99	4667764	169.850 ppm
Spiked Amount 200.000	Range 62 - 122	Recovery = 84.92%	
Target Compounds			
1) Methanol	0.47	2654	0.204 ppm
3) Isopropyl Alcohol	0.83	277447	16.797 ppm

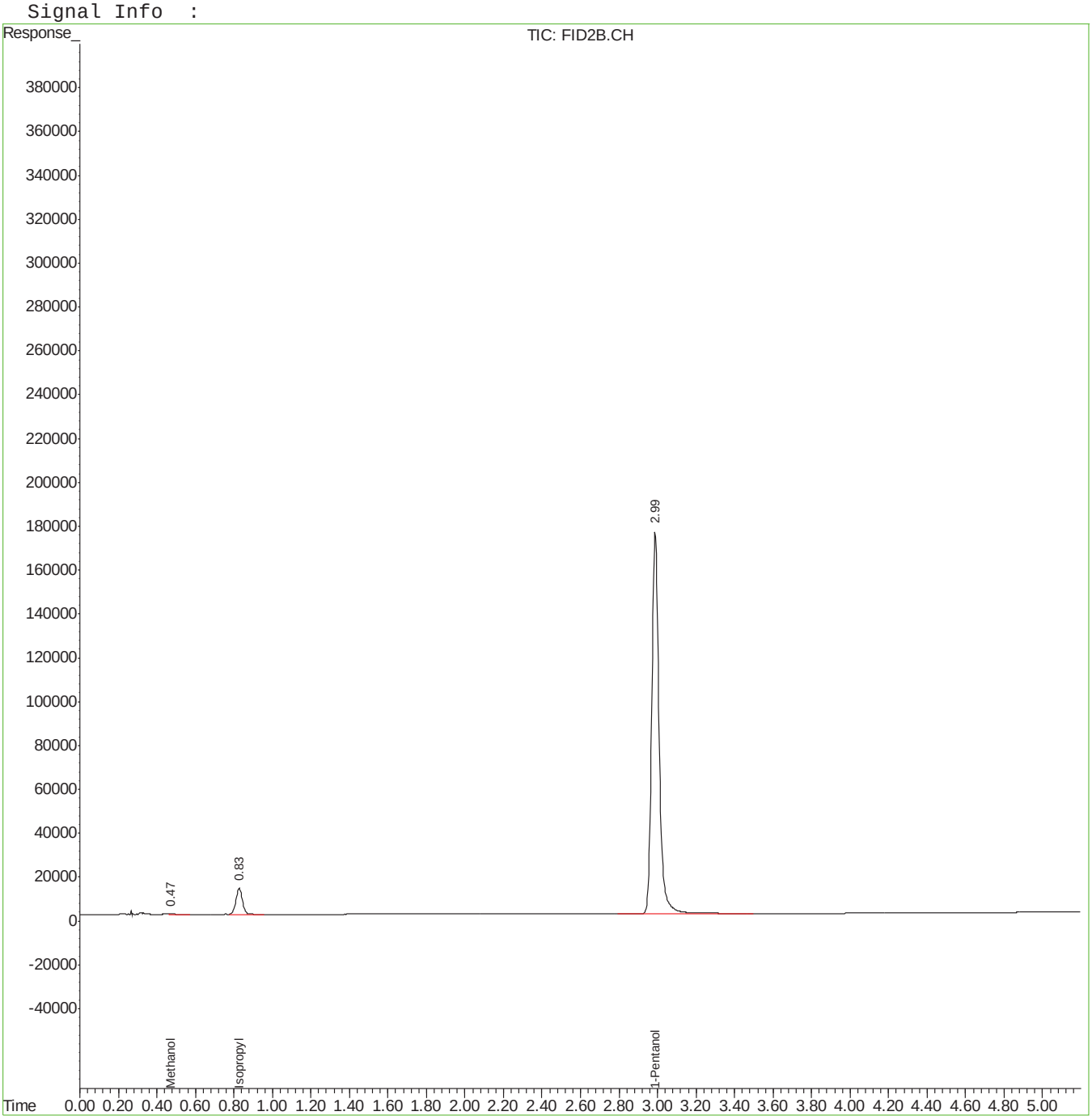
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304433.D QQ1734.M Thu Dec 10 19:02:13 2020 Page 1

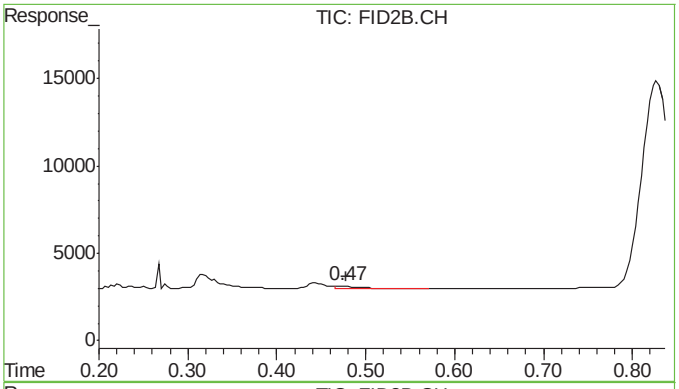
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304433.D Vial: 21
Acq On : 10-Dec-2020, 16:15:19 Operator: ZEESHANQ
Sample : JD16804-4 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 18:57 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

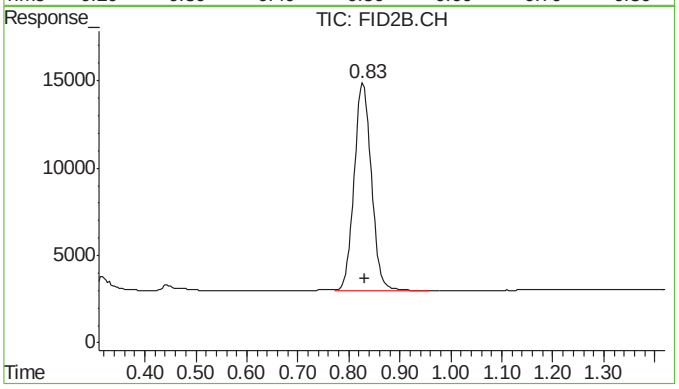
Volume Inj. :
Signal Phase :
Signal Info :





#1 Methanol

R.T.: 0.475 min
Delta R.T.: -0.003 min
Response: 2654
Conc: 0.20 ppm



#3 Isopropyl Alcohol

R.T.: 0.828 min
Delta R.T.: -0.003 min
Response: 277447
Conc: 16.80 ppm

8.1.4

8

Manual Integrations APPROVED
(compounds with "m" flag)
Stephanie Coch
12/11/20 14:05

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304434.D Vial: 22
Acq On : 10-Dec-2020, 16:26:08 Operator: ZEESHANQ
Sample : JD16804-5 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:13:18 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
10) S 1-Pentanol	2.99	4655390	169.399	ppm	
Spiked Amount 200.000	Range 62 - 122	Recovery = 84.70%			
Target Compounds					
1) Methanol	0.48	259	0.020	ppm	m
3) Isopropyl Alcohol	0.83	194736	11.790	ppm	
9) Isoamyl Alcohol	2.74	4203	0.152	ppm	

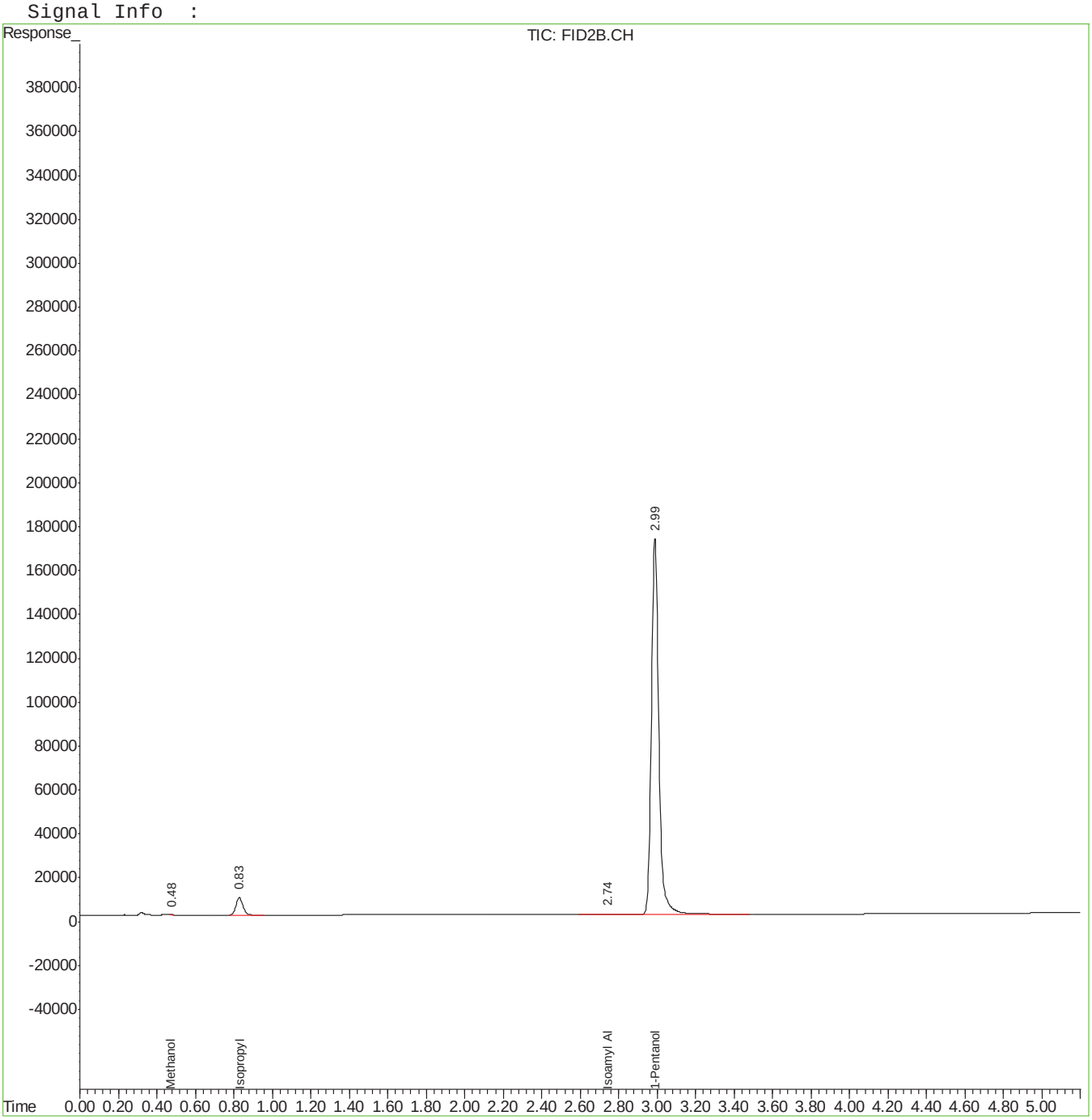
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304434.D QQ1734.M Thu Dec 10 19:02:14 2020 Page 1

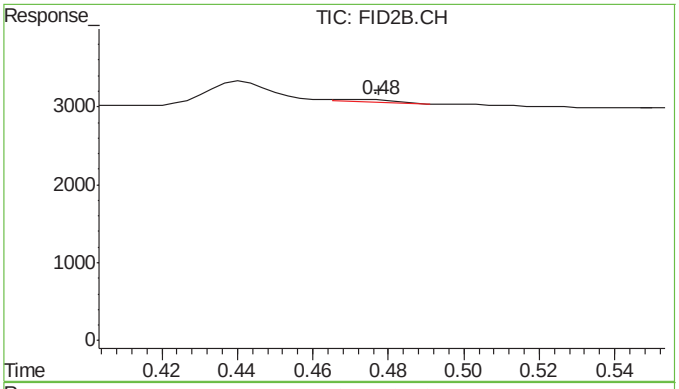
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304434.D Vial: 22
Acq On : 10-Dec-2020, 16:26:08 Operator: ZEESHANQ
Sample : JD16804-5 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 18:57 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

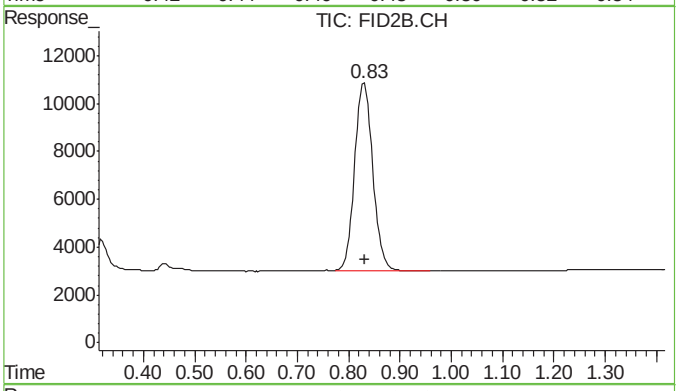
Volume Inj. :
Signal Phase :
Signal Info :





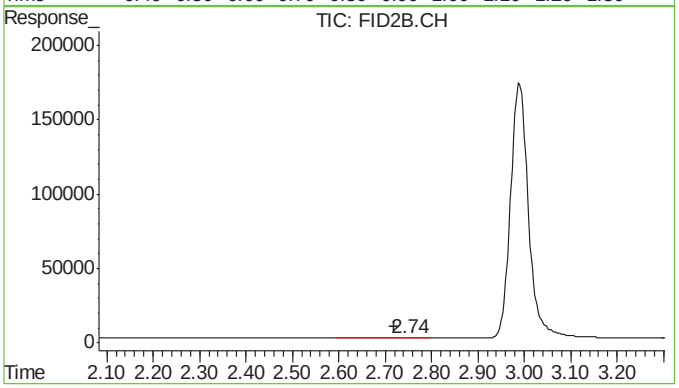
#1 Methanol

R.T.: 0.477 min
Delta R.T.: 0.000 min
Response: 259
Conc: 0.02 ppm m



#3 Isopropyl Alcohol

R.T.: 0.830 min
Delta R.T.: 0.000 min
Response: 194736
Conc: 11.79 ppm



#9 Isoamyl Alcohol

R.T.: 2.743 min
Delta R.T.: 0.025 min
Response: 4203
Conc: 0.15 ppm

Manual Integration Approval Summary

Sample Number: JD16804-5
Lab FileID: QQ304434.D
Injection Time: 12/10/20 16:26

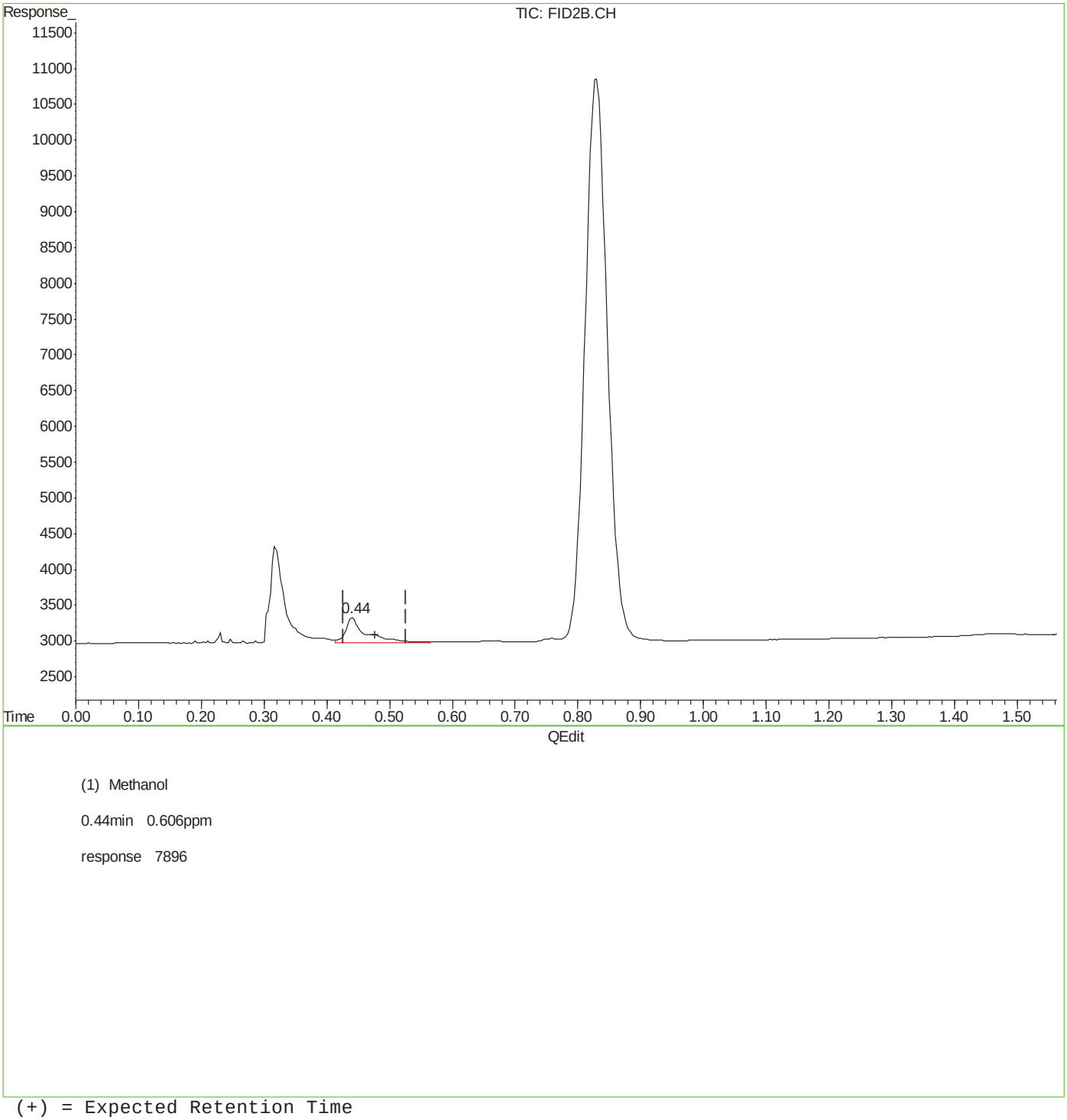
Method: SW846 8015C
Analyst approved: 12/10/20 19:00 Zeeshan Qayyum
Supervisor approved: 12/11/20 14:05 Stephanie Coch

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	0.48	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304434.D Vial: 22
Acq On : 10-Dec-2020, 16:26:08 Operator: ZEESHANQ
Sample : JD16804-5 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:13 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration

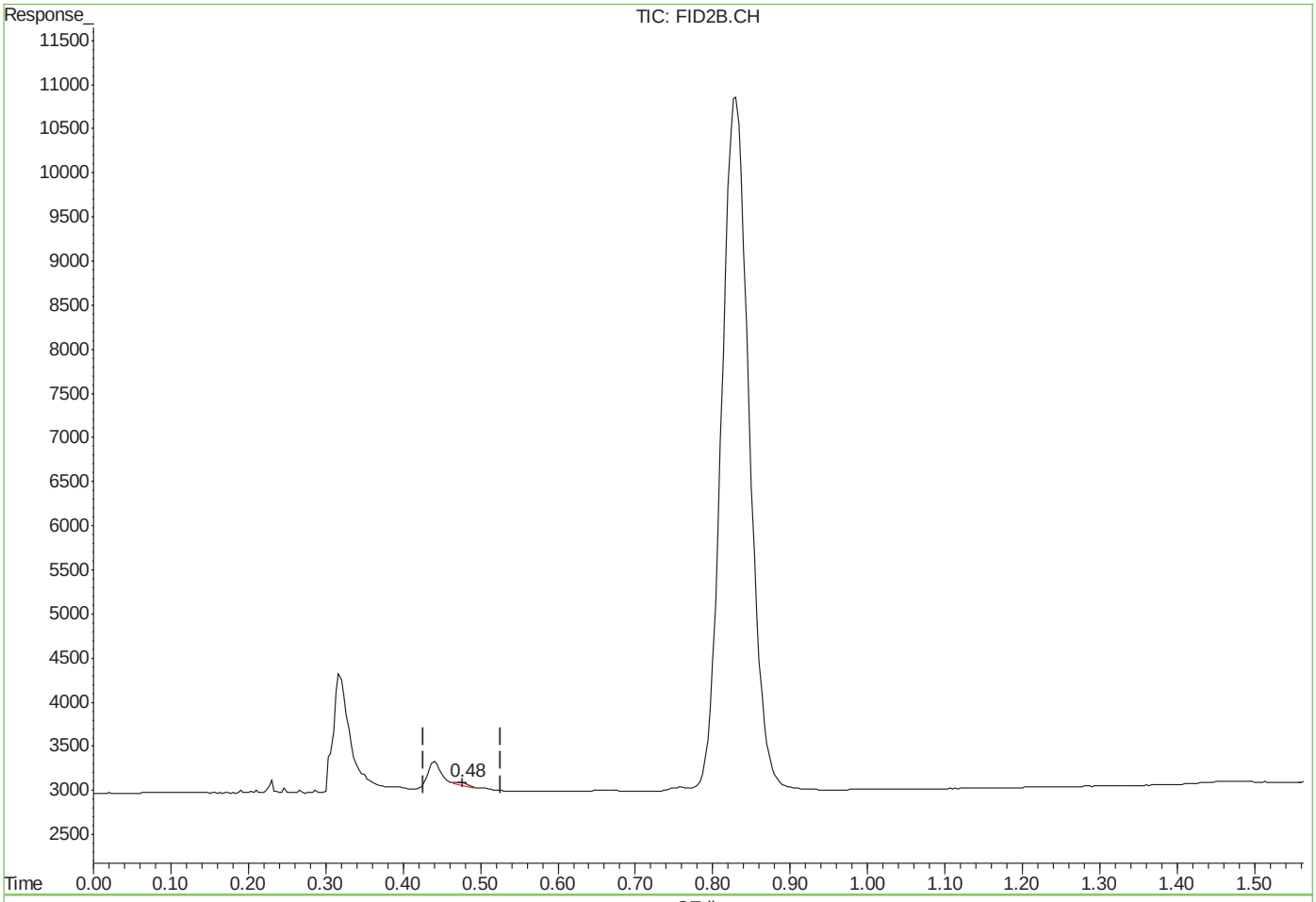


(+) = Expected Retention Time
QQ304434.D QQ1734.M Thu Dec 10 18:57:17 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304434.D Vial: 22
Acq On : 10-Dec-2020, 16:26:08 Operator: ZEESHANQ
Sample : JD16804-5 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:13 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(1) Methanol

0.48min 0.020ppm m

response 259

(+) = Expected Retention Time
QQ304434.D QQ1734.M Thu Dec 10 18:57:24 2020

Manual Integrations APPROVED
(compounds with "m" flag)
Stephanie Coch
12/11/20 14:05

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304435.D Vial: 23
Acq On : 10-Dec-2020, 16:37:15 Operator: ZEESHANQ
Sample : JD16804-6 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:13:24 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
10) S 1-Pentanol	2.99	4635848	168.688	ppm	
Spiked Amount 200.000	Range 62 - 122	Recovery = 84.34%			
Target Compounds					
1) Methanol	0.47	269	0.021	ppm	m
3) Isopropyl Alcohol	0.83	156797	9.493	ppm	

8.1.6

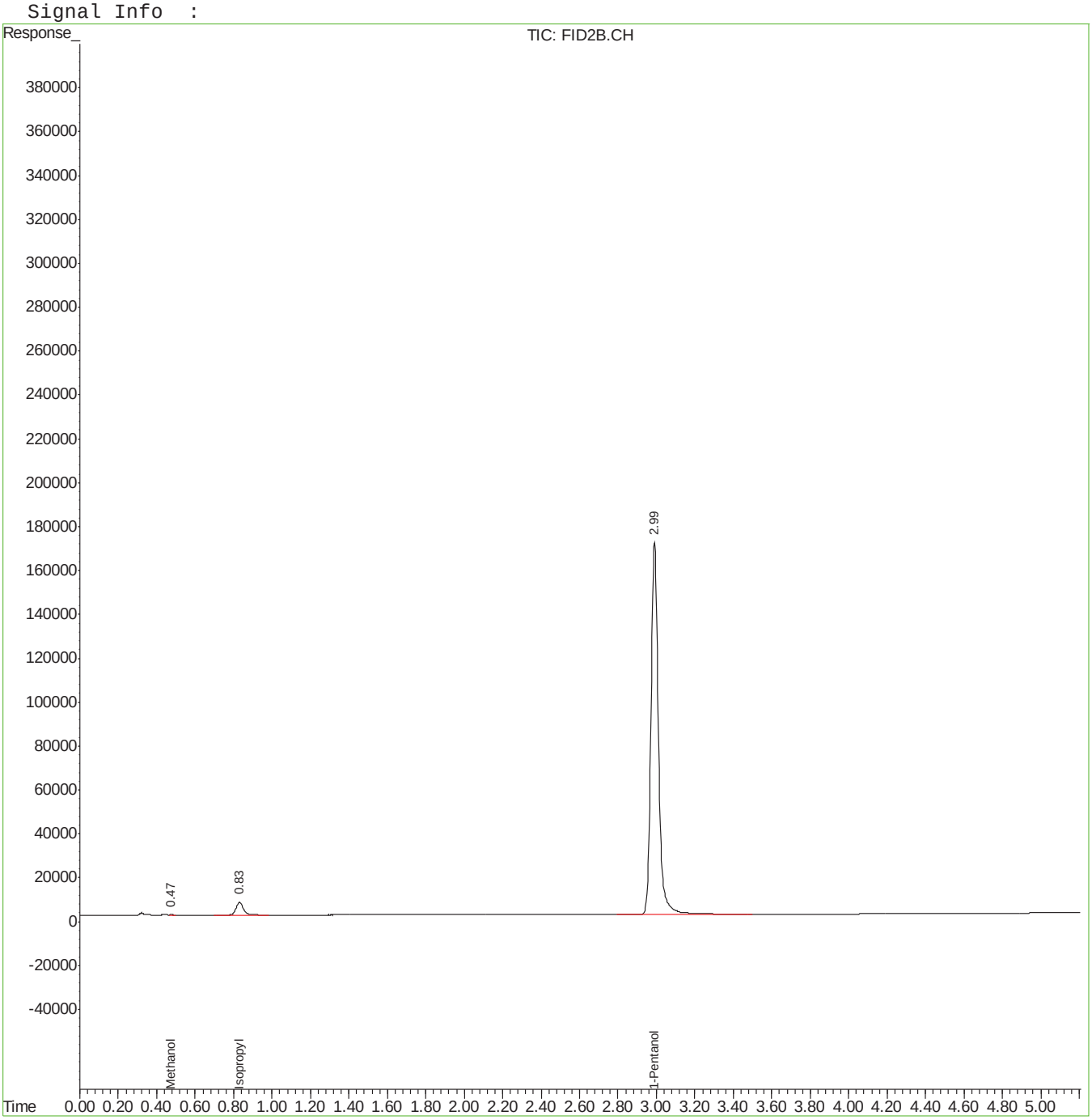
(f)=RT Delta > 1/2 Window (m)=manual int.

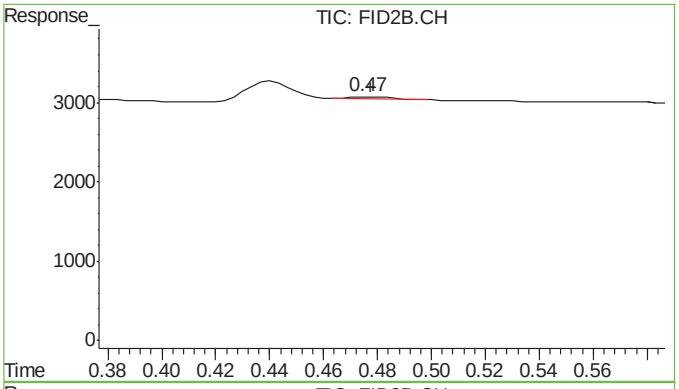
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304435.D Vial: 23
Acq On : 10-Dec-2020, 16:37:15 Operator: ZEESHANQ
Sample : JD16804-6 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 18:58 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

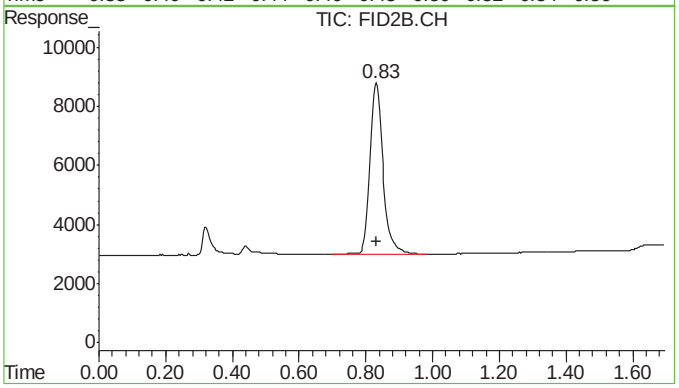
Volume Inj. :
Signal Phase :
Signal Info :





#1 Methanol

R.T.:	0.474 min
Delta R.T.:	-0.003 min
Response:	269
Conc:	0.02 ppm m



#3 Isopropyl Alcohol

R.T.:	0.831 min
Delta R.T.:	0.000 min
Response:	156797
Conc:	9.49 ppm

8.1.6

8

Manual Integration Approval Summary

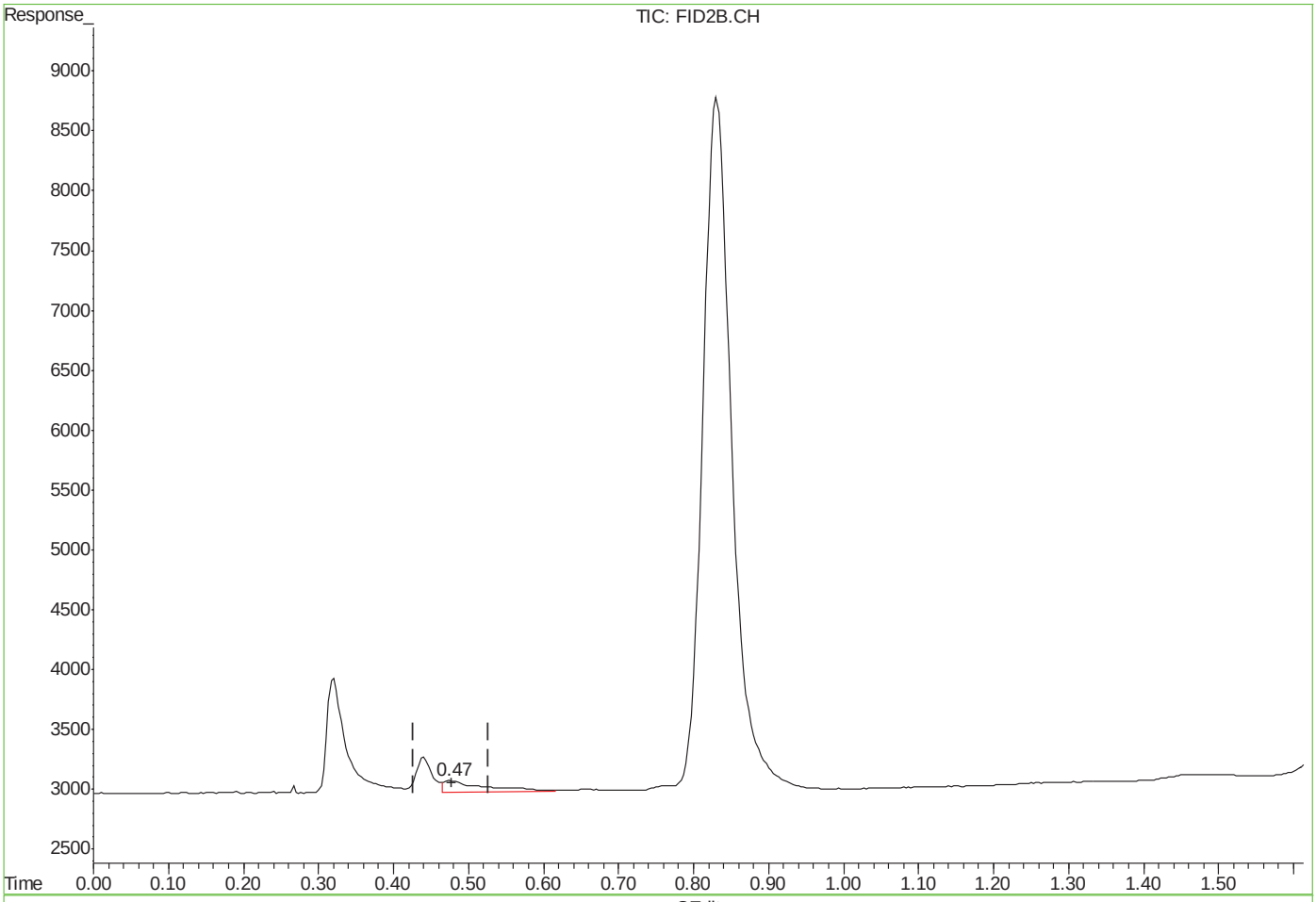
Sample Number: JD16804-6
Lab FileID: QQ304435.D
Injection Time: 12/10/20 16:37
Method: SW846 8015C
Analyst approved: 12/10/20 19:00 Zeeshan Qayyum
Supervisor approved: 12/11/20 14:05 Stephanie Coch

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	0.47	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304435.D Vial: 23
Acq On : 10-Dec-2020, 16:37:15 Operator: ZEESHANQ
Sample : JD16804-6 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:13 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(1) Methanol

0.48min 0.281ppm

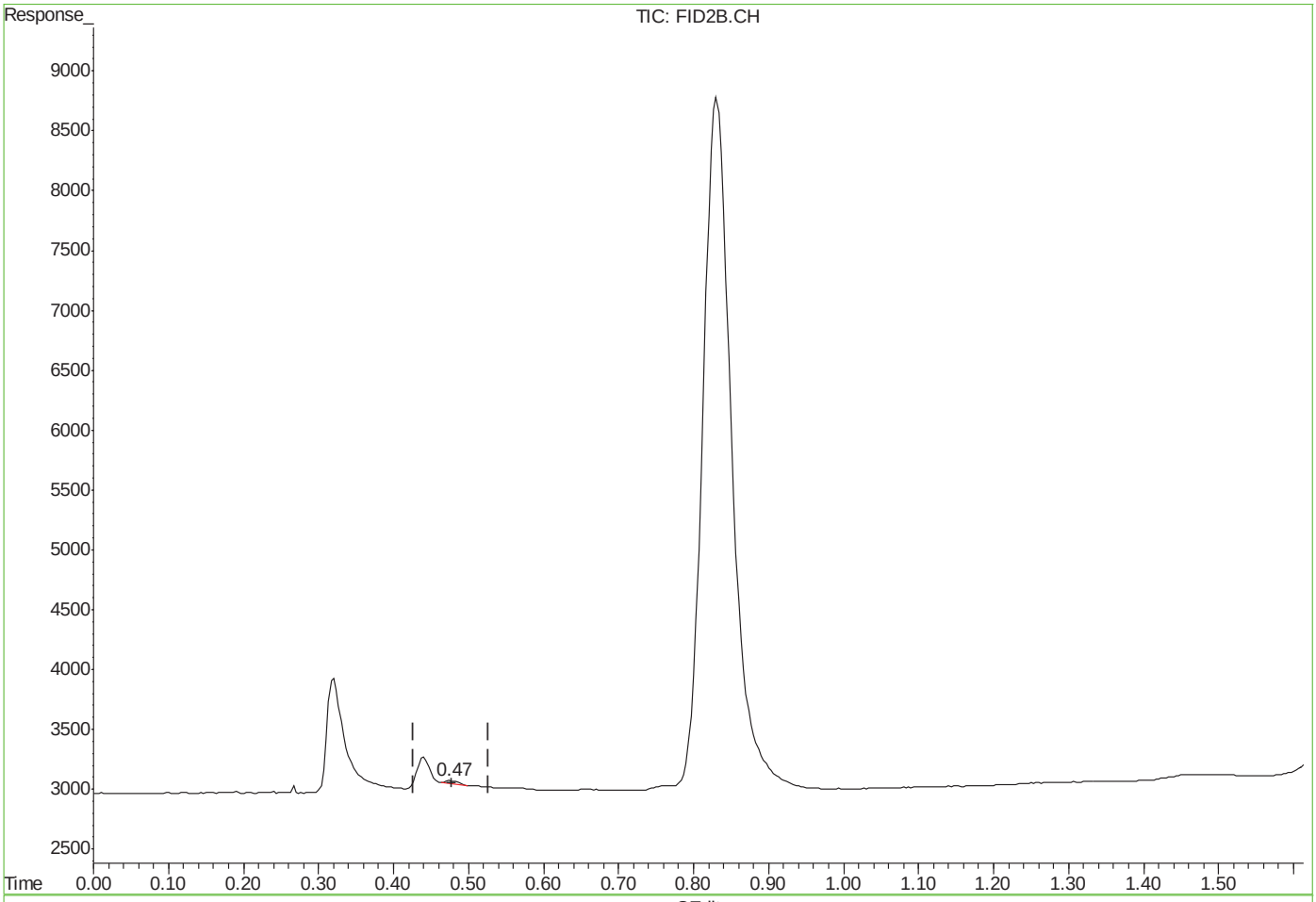
response 3662

(+) = Expected Retention Time
QQ304435.D QQ1734.M Thu Dec 10 18:57:52 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304435.D Vial: 23
Acq On : 10-Dec-2020, 16:37:15 Operator: ZEESHANQ
Sample : JD16804-6 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:13 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(1) Methanol

0.47min 0.021ppm m

response 269

(+) = Expected Retention Time
QQ304435.D QQ1734.M Thu Dec 10 18:57:58 2020

Manual Integrations APPROVED
(compounds with "m" flag)
Stephanie Coch
12/11/20 14:05

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304429.D Vial: 19
Acq On : 10-Dec-2020, 15:30:51 Operator: ZEESHANQ
Sample : JD16804-7, 100X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,100,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 14:36:42 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
10) S 1-Pentanol	2.99	4642618	168.935	ppm	
Spiked Amount 200.000	Range 62 - 122	Recovery = 84.47%			
Target Compounds					
1) Methanol	0.48	1114	0.085	ppm	m
3) Isopropyl Alcohol	0.83	39826	2.411	ppm	
9) Isoamyl Alcohol	2.75f	1693	0.061	ppm	

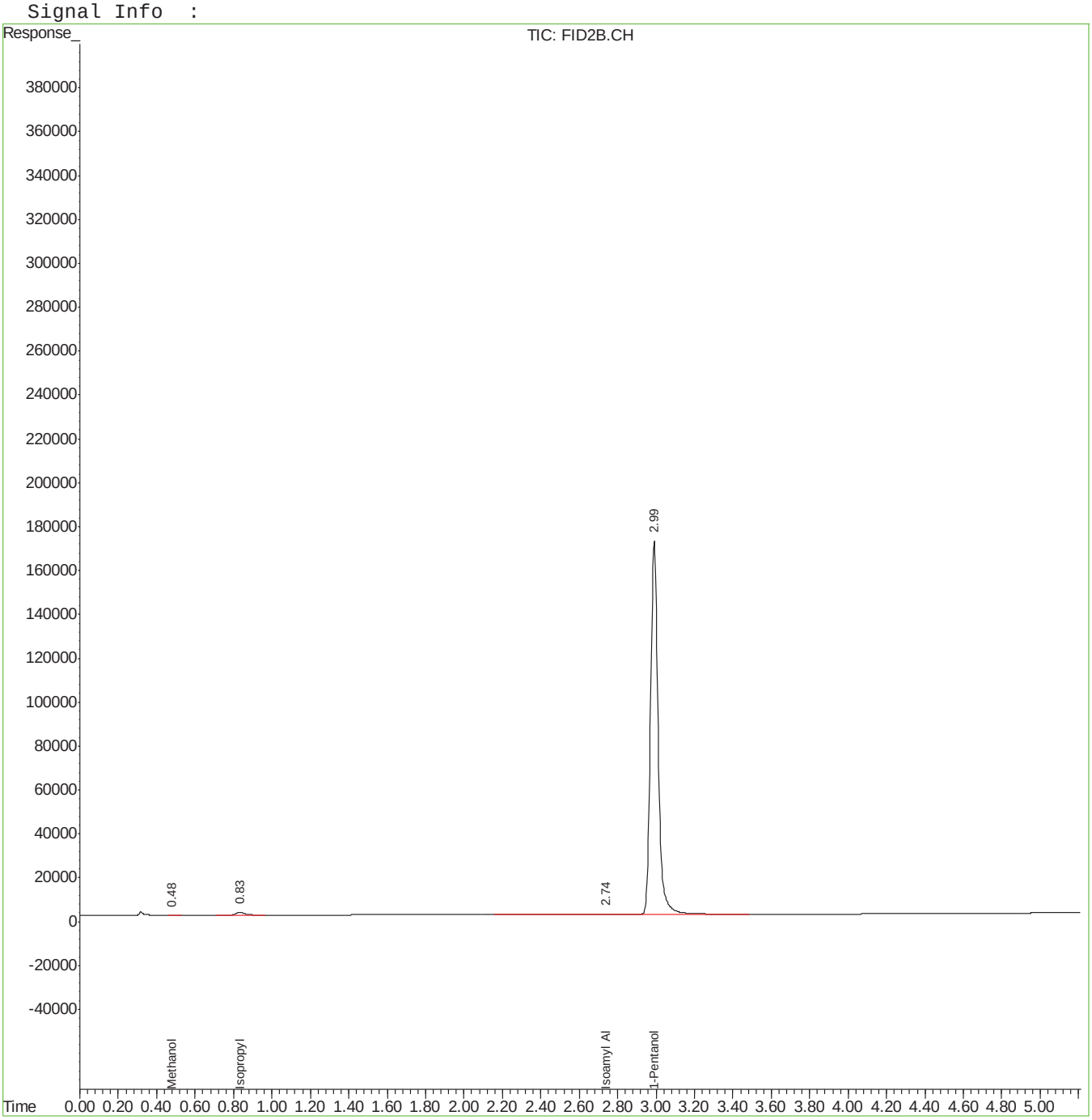
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304429.D QQ1734.M Thu Dec 10 19:02:12 2020 Page 1

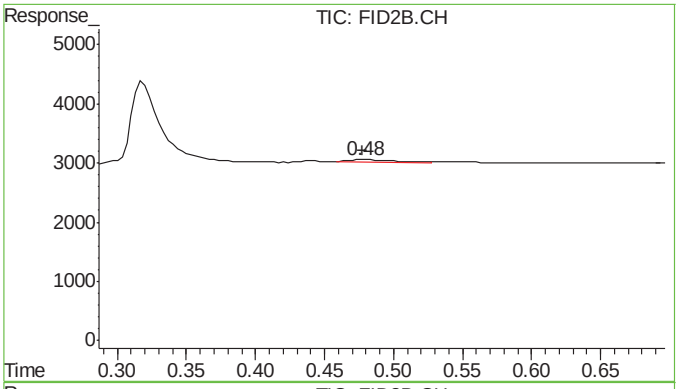
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304429.D Vial: 19
Acq On : 10-Dec-2020, 15:30:51 Operator: ZEESHANQ
Sample : JD16804-7, 100X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,100,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 14:53 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

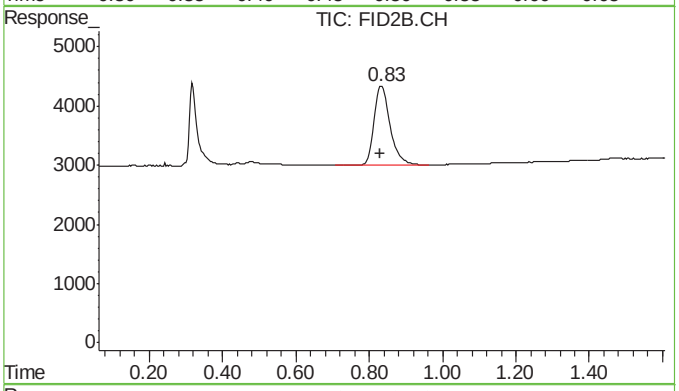
Volume Inj. :
Signal Phase :
Signal Info :





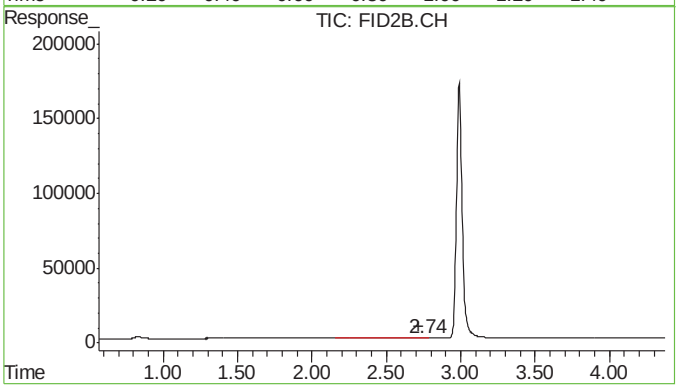
#1 Methanol

R.T.: 0.476 min
Delta R.T.: -0.002 min
Response: 1114
Conc: 0.09 ppm m



#3 Isopropyl Alcohol

R.T.: 0.834 min
Delta R.T.: 0.003 min
Response: 39826
Conc: 2.41 ppm



#9 Isoamyl Alcohol

R.T.: 2.745 min
Delta R.T.: 0.027 min
Response: 1693
Conc: 0.06 ppm

Manual Integration Approval Summary

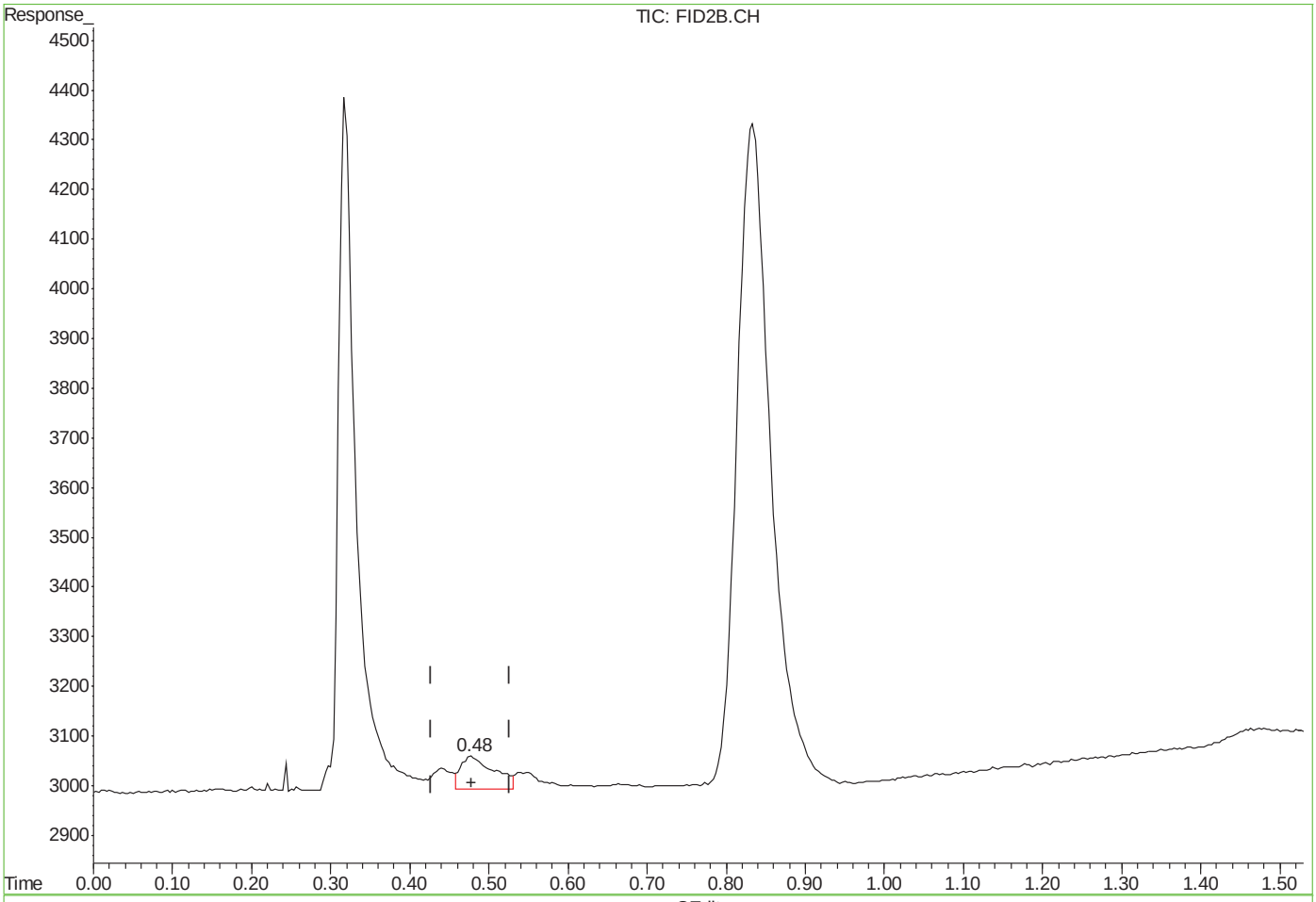
Sample Number: JD16804-7
Lab FileID: QQ304429.D
Injection Time: 12/10/20 15:30
Method: SW846 8015C
Analyst approved: 12/10/20 14:55 Zeeshan Qayyum
Supervisor approved: 12/11/20 14:05 Stephanie Coch

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	0.48	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304429.D Vial: 19
Acq On : 10-Dec-2020, 15:30:51 Operator: ZEESHANQ
Sample : JD16804-7, 100X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 14:36 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(1) Methanol

0.48min 0.148ppm

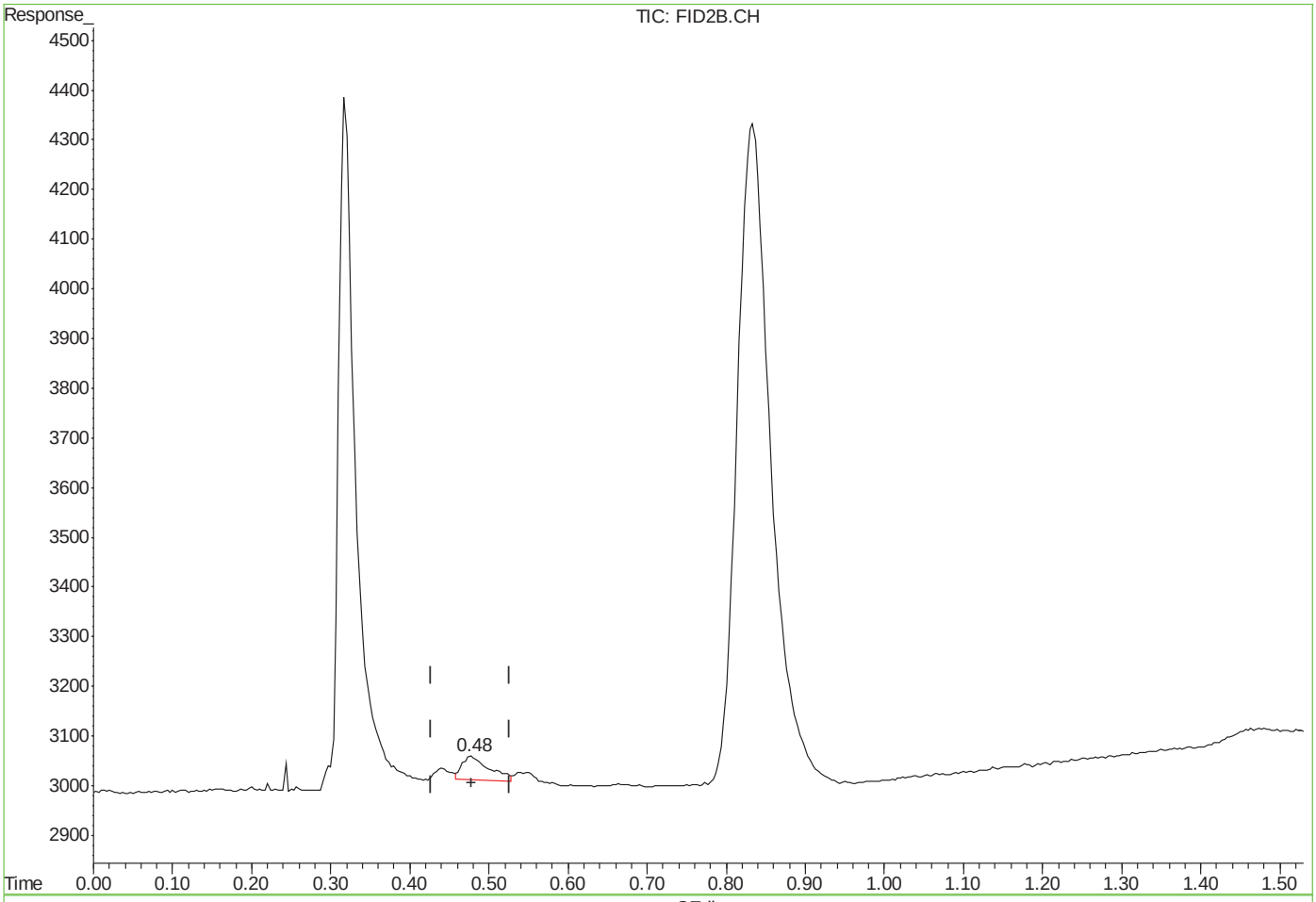
response 1931

(+) = Expected Retention Time
QQ304429.D QQ1734.M Thu Dec 10 14:53:33 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304429.D Vial: 19
Acq On : 10-Dec-2020, 15:30:51 Operator: ZEESHANQ
Sample : JD16804-7, 100X Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 14:36 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(1) Methanol

0.48min 0.085ppm m

response 1114

(+) = Expected Retention Time
QQ304429.D QQ1734.M Thu Dec 10 14:53:39 2020

8.1.7.3

8

Manual Integrations APPROVED
(compounds with "m" flag)
Stephanie Coch
12/11/20 14:05

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304436.D Vial: 24
Acq On : 10-Dec-2020, 16:48:03 Operator: ZEESHANQ
Sample : JD16804-8 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:13:30 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
10) S 1-Pentanol	2.99	4770199	173.577	ppm	
Spiked Amount 200.000	Range 62 - 122	Recovery = 86.79%			
Target Compounds					
1) Methanol	0.48	486	0.037	ppm	m
2) Ethanol	0.66	415	0.022	ppm	
3) Isopropyl Alcohol	0.83	1441562	87.275	ppm	

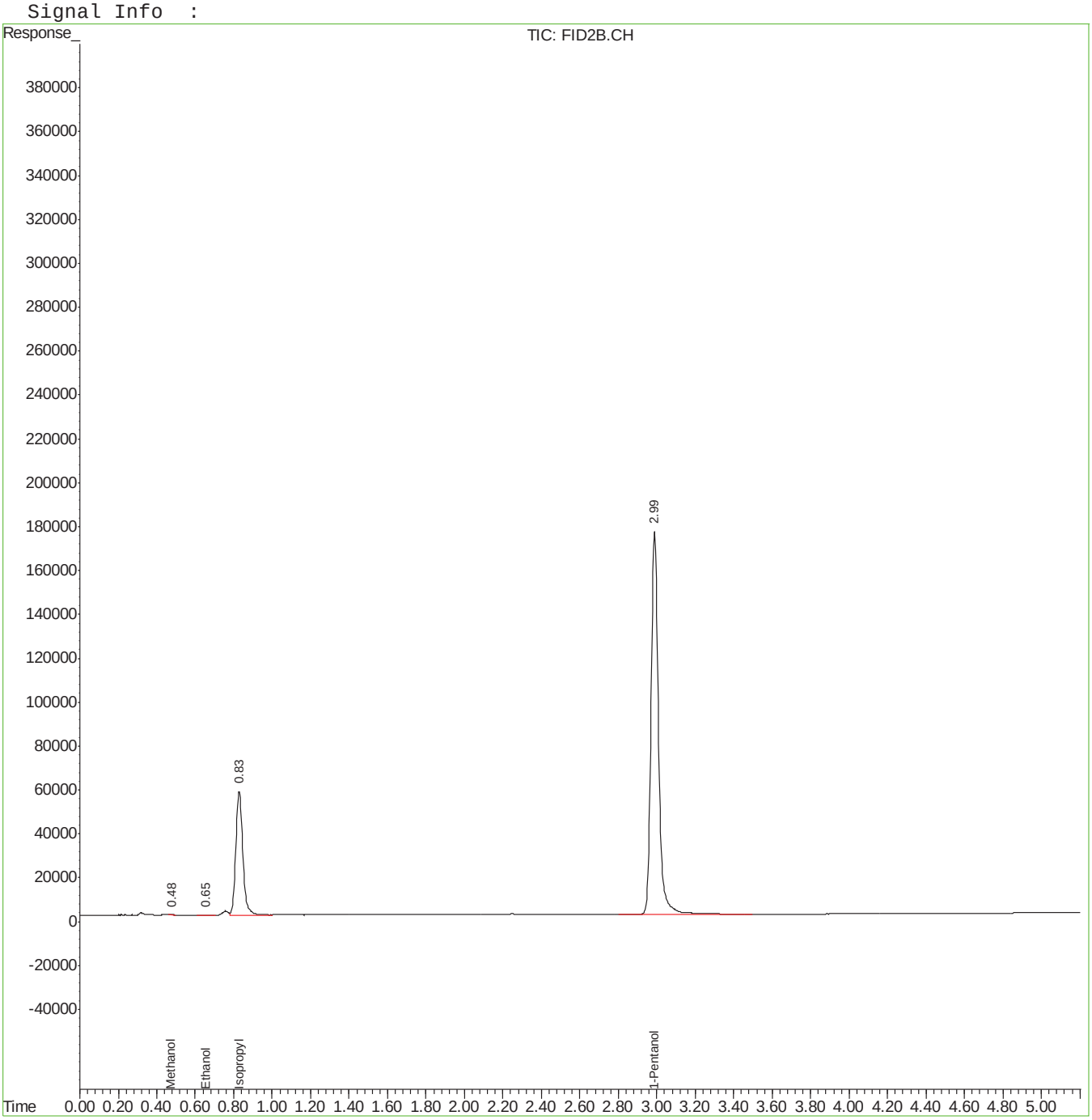
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304436.D QQ1734.M Thu Dec 10 19:02:16 2020 Page 1

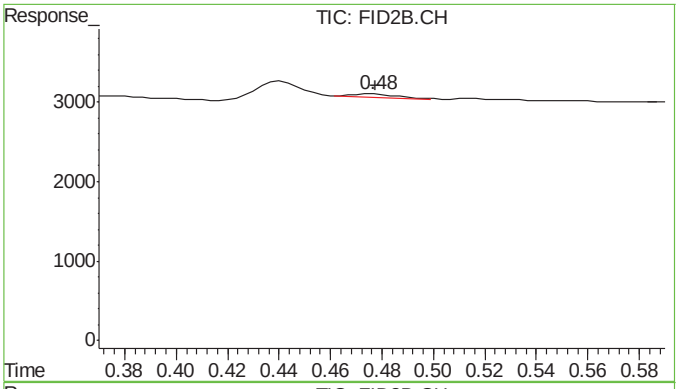
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304436.D Vial: 24
Acq On : 10-Dec-2020, 16:48:03 Operator: ZEESHANQ
Sample : JD16804-8 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 18:58 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

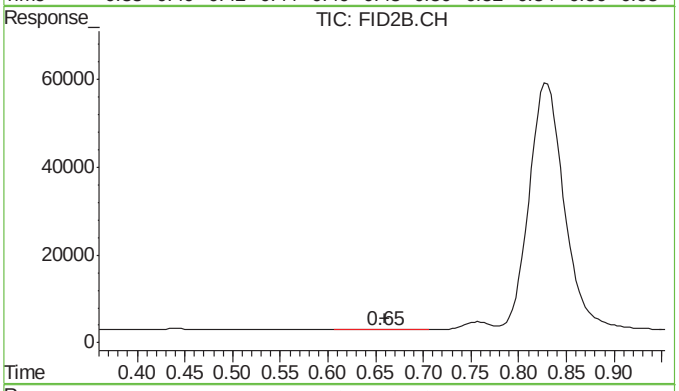
Volume Inj. :
Signal Phase :
Signal Info :





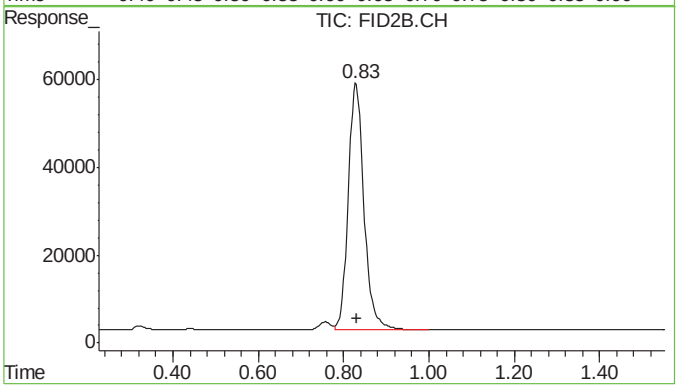
#1 Methanol

R.T.: 0.477 min
Delta R.T.: 0.000 min
Response: 486
Conc: 0.04 ppm m



#2 Ethanol

R.T.: 0.658 min
Delta R.T.: -0.001 min
Response: 415
Conc: 0.02 ppm



#3 Isopropyl Alcohol

R.T.: 0.829 min
Delta R.T.: -0.001 min
Response: 1441562
Conc: 87.28 ppm

8.1.8

8

Manual Integration Approval Summary

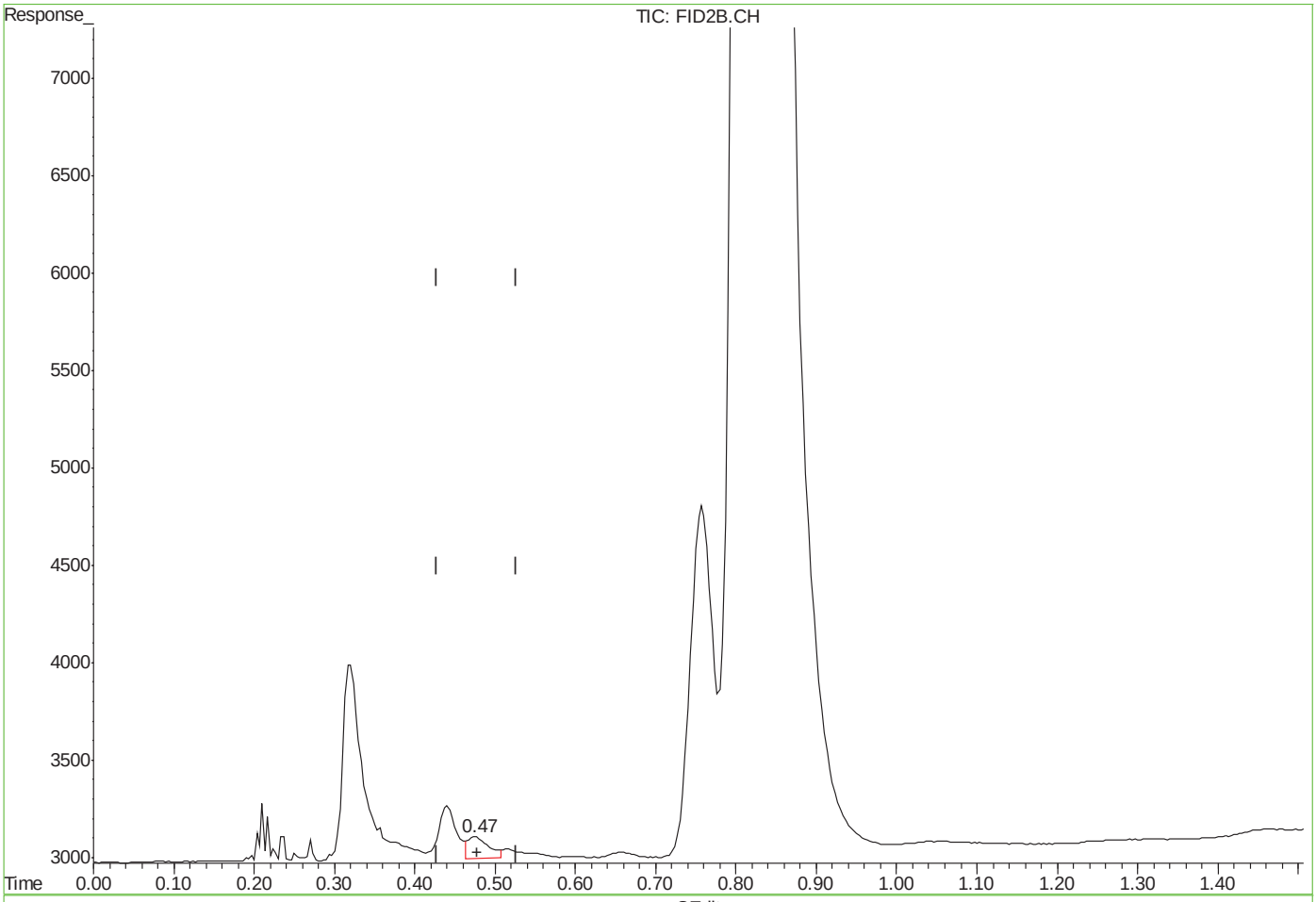
Sample Number: JD16804-8
Lab FileID: QQ304436.D
Injection Time: 12/10/20 16:48
Method: SW846 8015C
Analyst approved: 12/10/20 19:00 Zeeshan Qayyum
Supervisor approved: 12/11/20 14:05 Stephanie Coch

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	0.48	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304436.D Vial: 24
Acq On : 10-Dec-2020, 16:48:03 Operator: ZEESHANQ
Sample : JD16804-8 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:13 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(1) Methanol

0.48min 0.159ppm

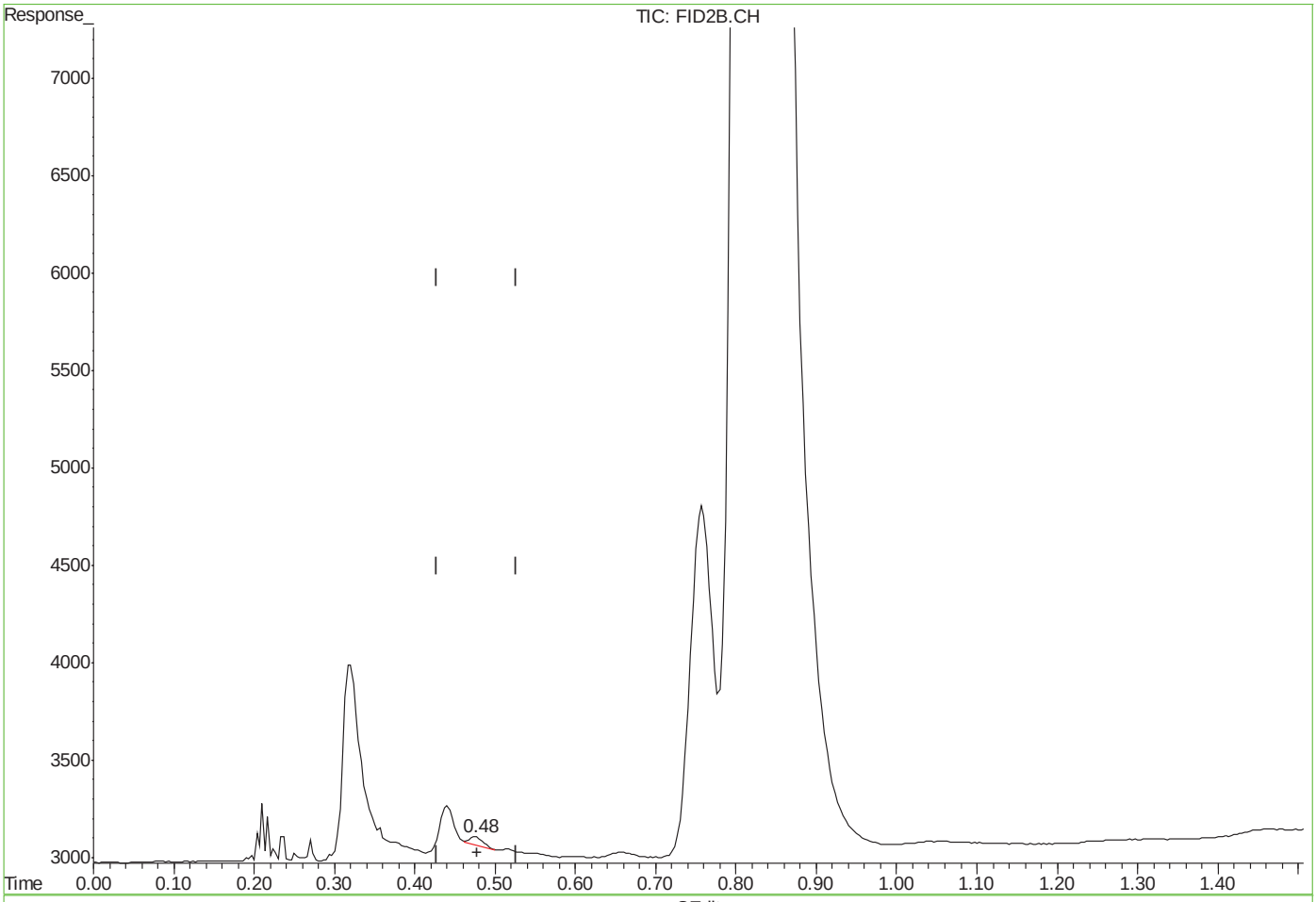
response 2069

(+) = Expected Retention Time
QQ304436.D QQ1734.M Thu Dec 10 18:58:34 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304436.D Vial: 24
Acq On : 10-Dec-2020, 16:48:03 Operator: ZEESHANQ
Sample : JD16804-8 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:13 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(1) Methanol

0.48min 0.037ppm m

response 486

(+) = Expected Retention Time
QQ304436.D QQ1734.M Thu Dec 10 18:58:40 2020

Manual Integrations APPROVED
(compounds with "m" flag)
Stephanie Coch
12/11/20 14:05

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304412.D Vial: 4
Acq On : 10-Dec-2020, 12:11:32 Operator: ZEESHANQ
Sample : MB Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 11:26:24 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
10) S 1-Pentanol	2.99	4953298	180.240	ppm	
Spiked Amount 200.000	Range 62 - 122	Recovery = 90.12%			
Target Compounds					
1) Methanol	0.48	1637	0.126	ppm	m
9) Isoamyl Alcohol	2.74	1864	0.068	ppm	m

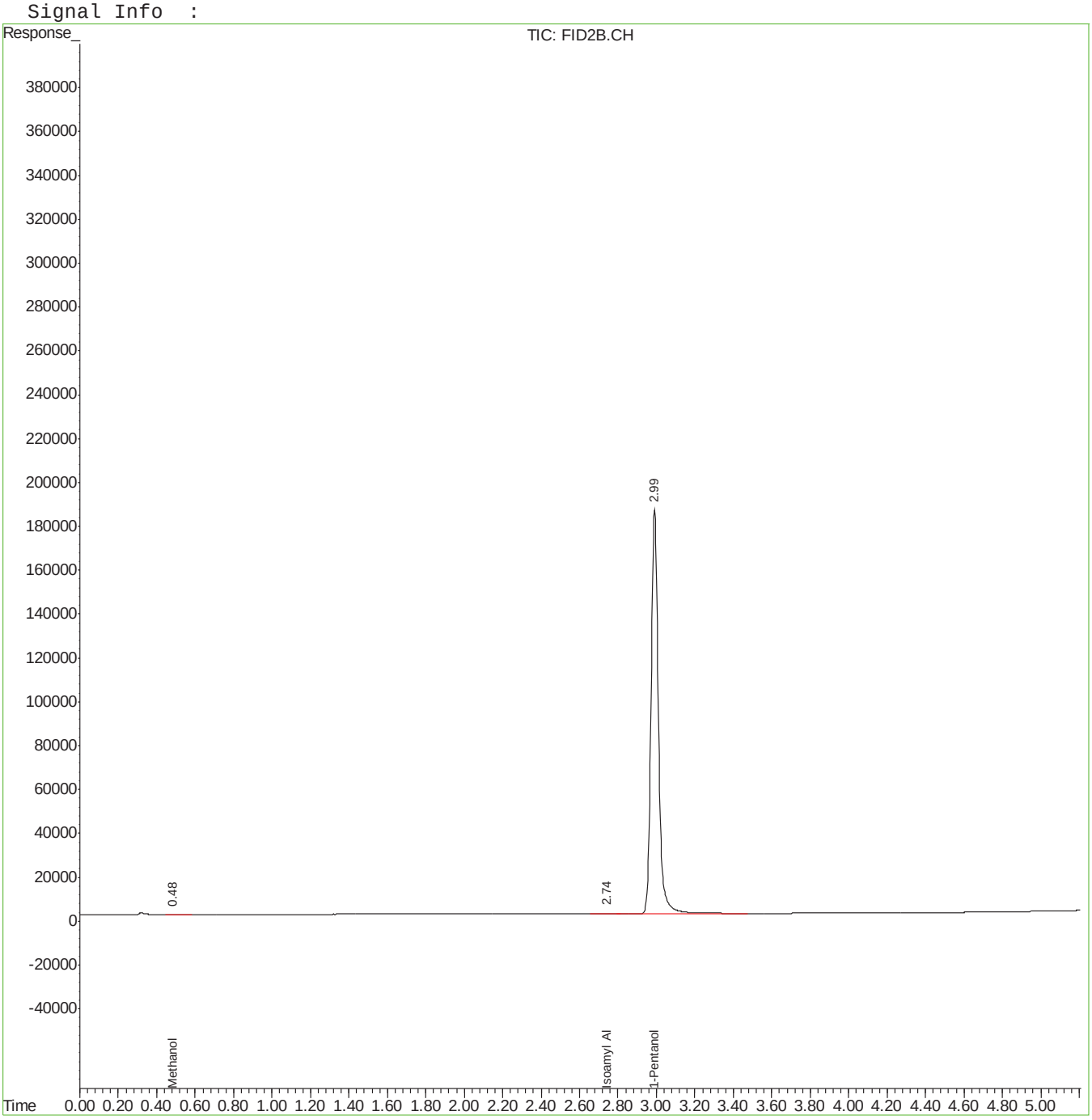
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304412.D QQ1734.M Thu Dec 10 19:02:07 2020 Page 1

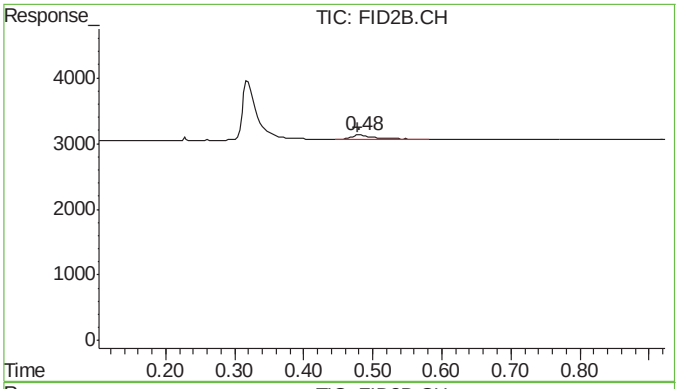
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304412.D Vial: 4
Acq On : 10-Dec-2020, 12:11:32 Operator: ZEESHANQ
Sample : MB Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 11:26 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

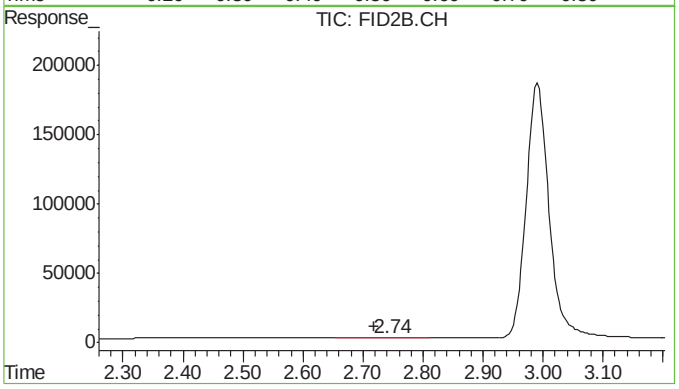
Volume Inj. :
Signal Phase :
Signal Info :





#1 Methanol

R.T.: 0.480 min
Delta R.T.: 0.002 min
Response: 1637
Conc: 0.13 ppm m



#9 Isoamyl Alcohol

R.T.: 2.740 min
Delta R.T.: 0.021 min
Response: 1864
Conc: 0.07 ppm m

Manual Integration Approval Summary

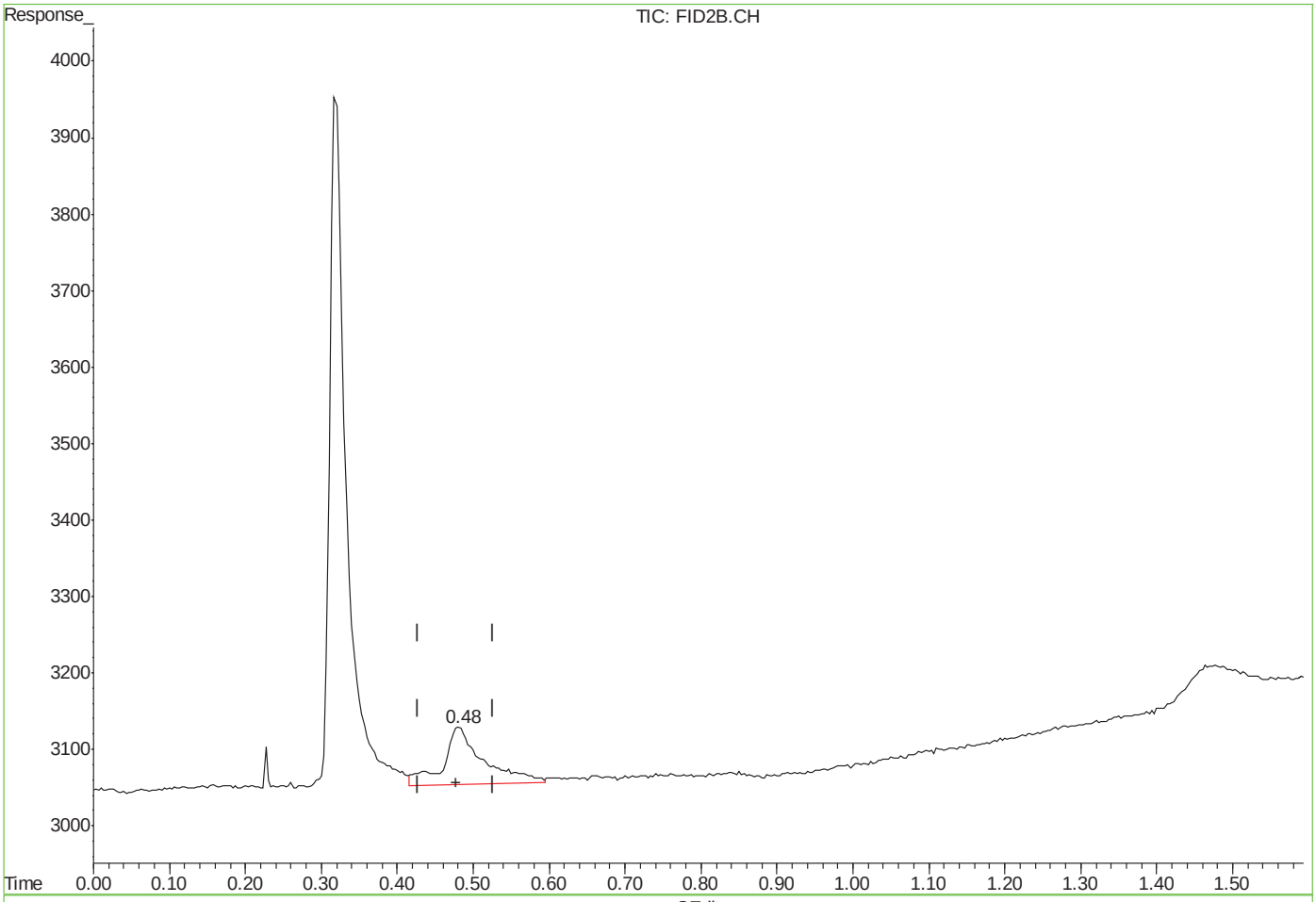
Sample Number: GQQ1735-MB
Lab FileID: QQ304412.D
Injection Time: 12/10/20 12:11
Method: SW846 8015C
Analyst approved: 12/10/20 19:00 Zeeshan Qayyum
Supervisor approved: 12/11/20 14:05 Stephanie Coch

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	0.48	Poor instrument integration
Isoamyl Alcohol	123-51-3	1	2.74	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304412.D Vial: 4
Acq On : 10-Dec-2020, 12:11:32 Operator: ZEESHANQ
Sample : BLK Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 11:26 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(1) Methanol

0.48min 0.209ppm

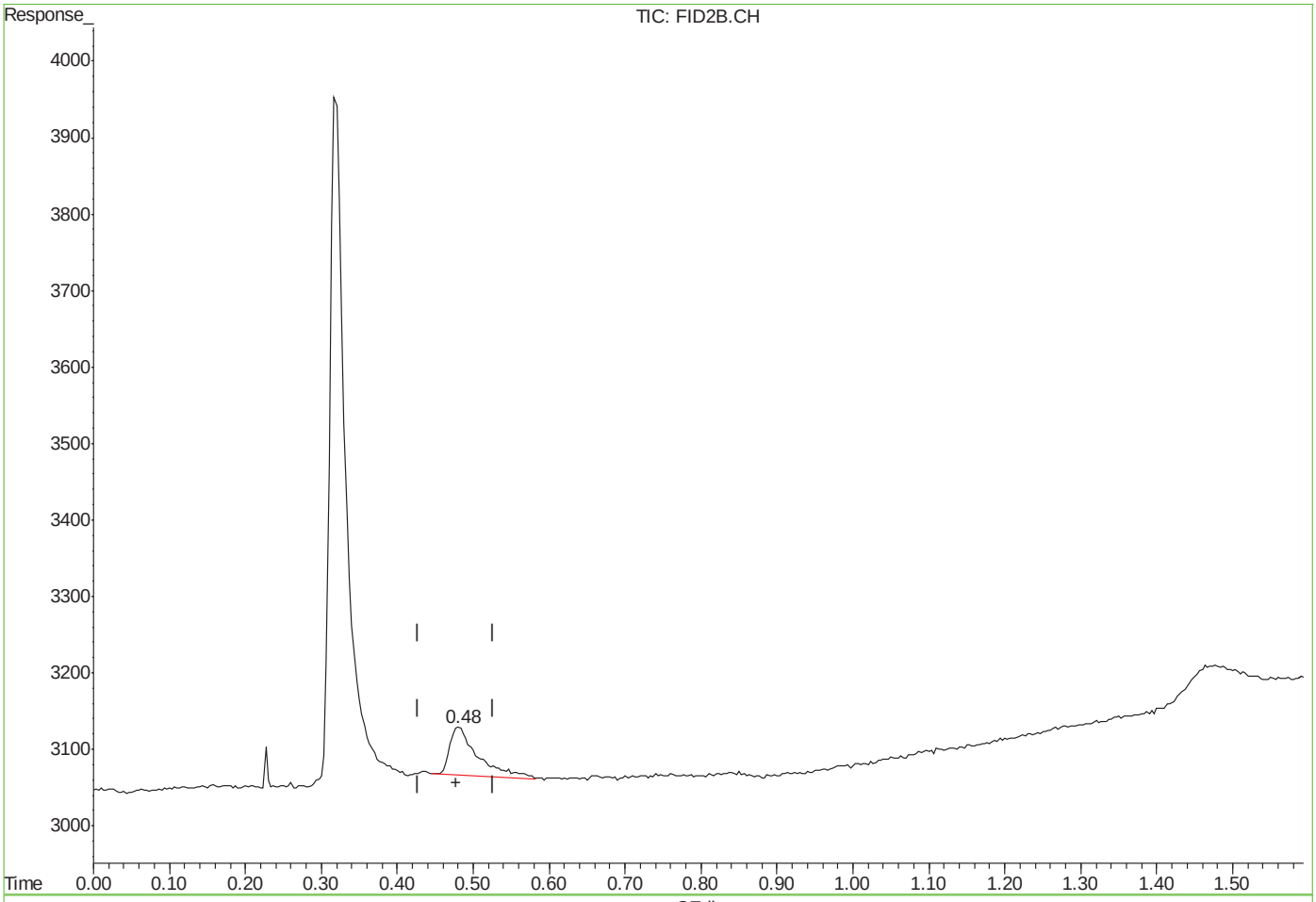
response 2720

(+) = Expected Retention Time
QQ304412.D QQ1734.M Thu Dec 10 11:26:32 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304412.D Vial: 4
Acq On : 10-Dec-2020, 12:11:32 Operator: ZEESHANQ
Sample : BLK Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 11:26 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(1) Methanol

0.48min 0.126ppm m

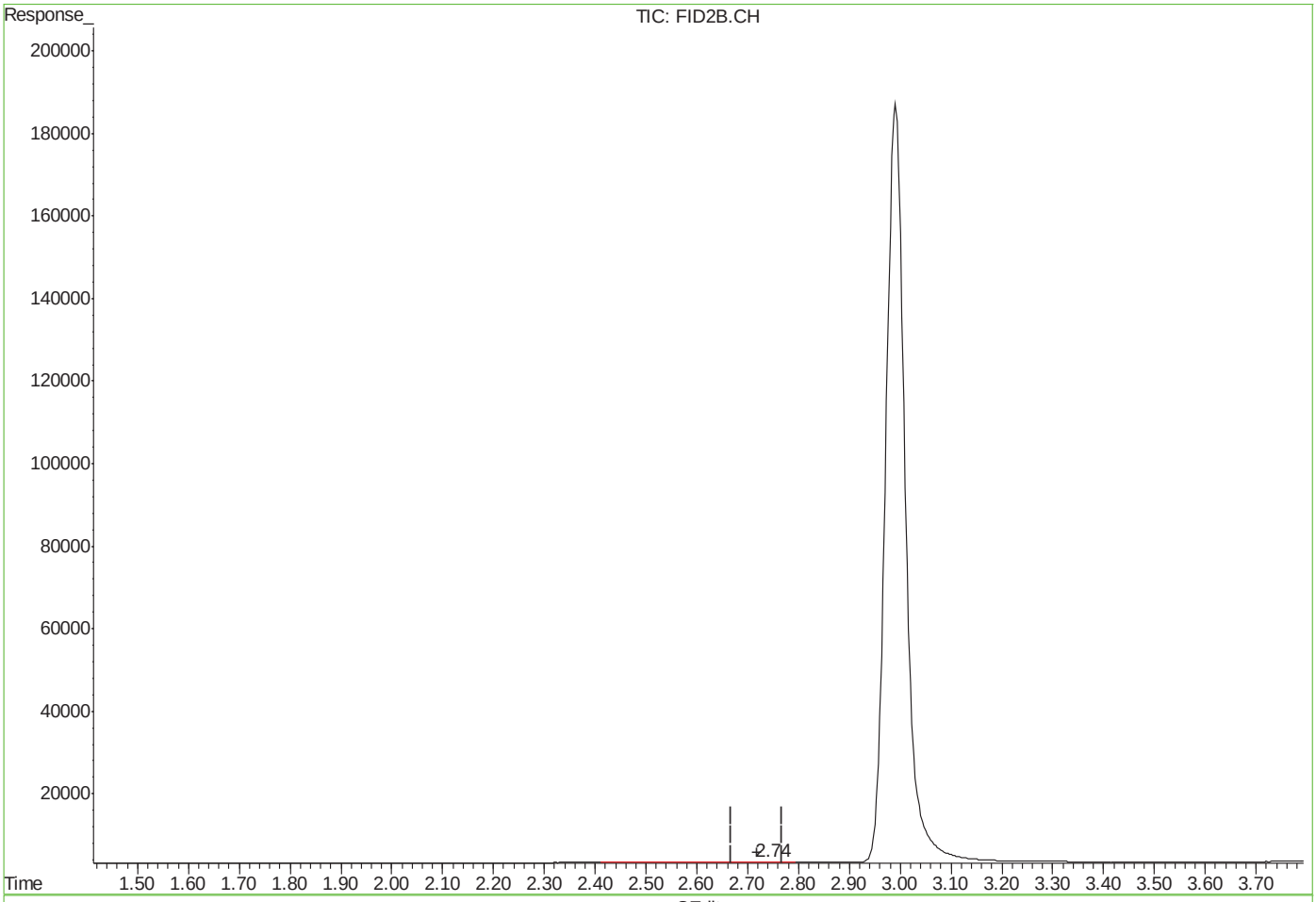
response 1637

(+) = Expected Retention Time
QQ304412.D QQ1734.M Thu Dec 10 11:26:39 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304412.D Vial: 4
Acq On : 10-Dec-2020, 12:11:32 Operator: ZEESHANQ
Sample : BLK Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 11:26 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(9) Isoamyl Alcohol

2.74min 0.138ppm

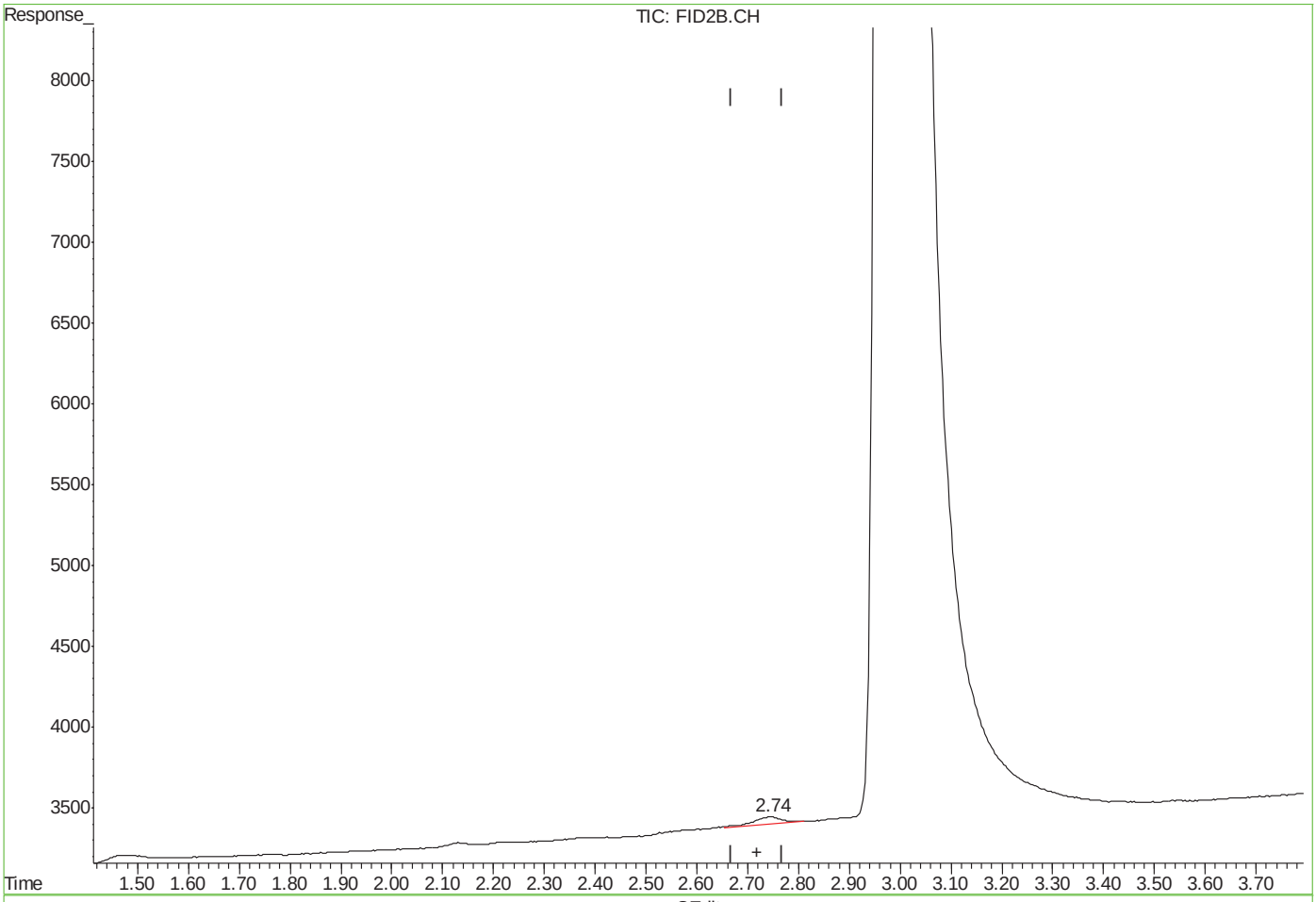
response 3803

(+) = Expected Retention Time
QQ304412.D QQ1734.M Thu Dec 10 11:26:50 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304412.D Vial: 4
Acq On : 10-Dec-2020, 12:11:32 Operator: ZEESHANQ
Sample : BLK Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 11:26 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration



(9) Isoamyl Alcohol

2.74min 0.068ppm m

response 1864

(+) = Expected Retention Time
QQ304412.D QQ1734.M Thu Dec 10 11:26:57 2020

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304411.D Vial: 3
Acq On : 10-Dec-2020, 12:00:47 Operator: ZEESHANQ
Sample : BS Inst : HP5890
Misc : GC12551,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 11:04:43 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	4743652	172.611 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	86.31%
	Target Compounds			
1)	Methanol	0.48	5814323	446.277 ppm
2)	Ethanol	0.66	8386821	445.917 ppm
3)	Isopropyl Alcohol	0.83	8995547	544.609 ppm
4)	Tert-Butyl Alcohol	0.98	12693621	470.600 ppm
5)	n-Propyl Alcohol	1.26	10633204	476.416 ppm
6)	sec-Butyl Alcohol	1.54	10738696	430.261 ppm
7)	Isobutyl Alcohol	1.81	12049314	453.644 ppm
8)	n-Butyl Alcohol	2.12	11176052	414.454 ppm
9)	Isoamyl Alcohol	2.72	11520868	417.478 ppm

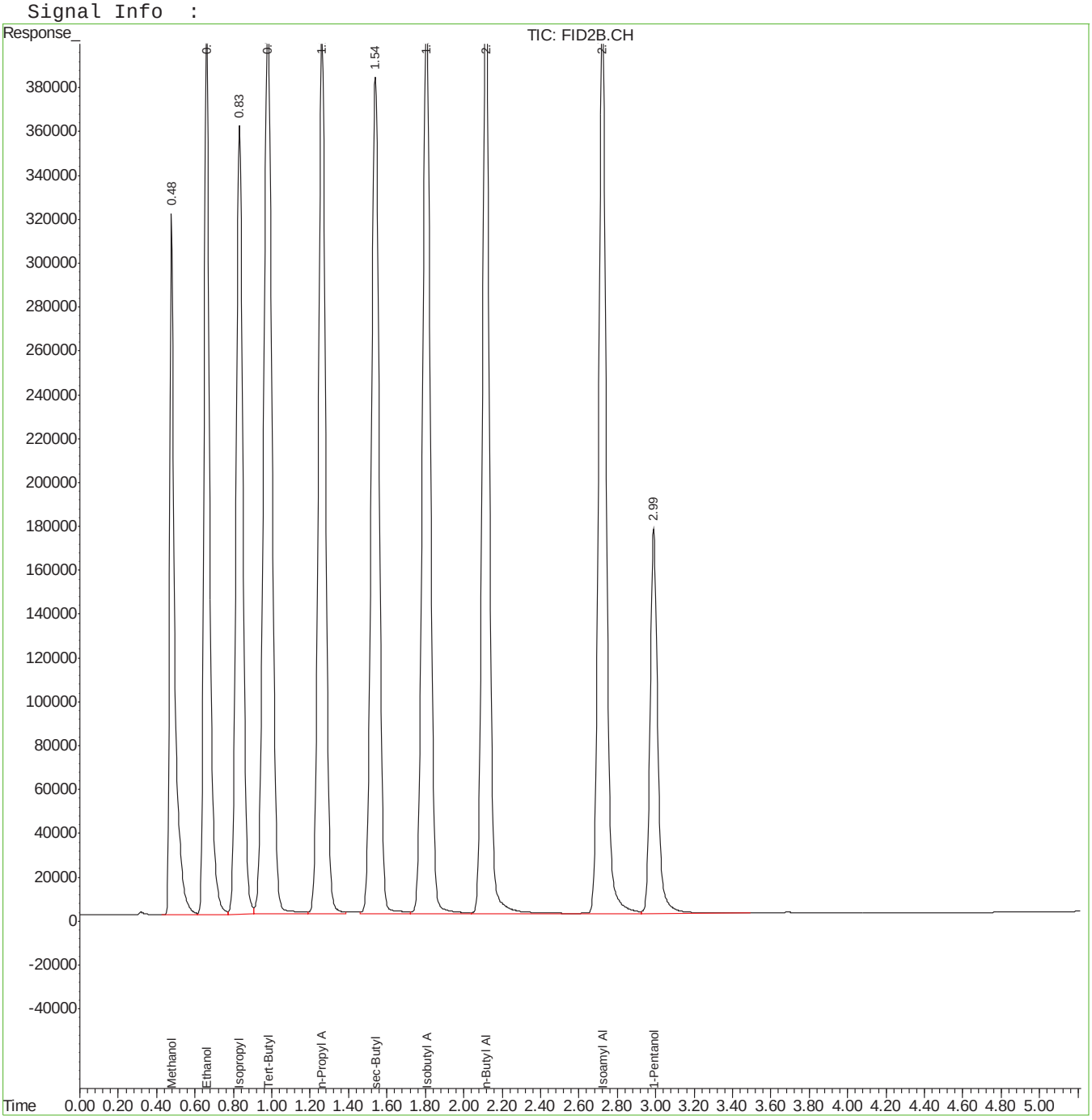
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304411.D QQ1734.M Thu Dec 10 19:01:37 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304411.D Vial: 3
Acq On : 10-Dec-2020, 12:00:47 Operator: ZEESHANQ
Sample : BS Inst : HP5890
Misc : GC12551,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 11:04 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304419.D Vial: 11
Acq On : 10-Dec-2020, 13:37:58 Operator: ZEESHANQ
Sample : LA68119-1MS Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 12:58:47 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	4750820	172.872 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	86.44%
	Target Compounds			
1)	Methanol	0.48	5679463	435.926 ppm
2)	Ethanol	0.66	8214214	436.740 ppm
3)	Isopropyl Alcohol	0.83	8733348	528.735 ppm
4)	Tert-Butyl Alcohol	0.98	11937983	442.586 ppm
5)	n-Propyl Alcohol	1.26	10364059	464.357 ppm
6)	sec-Butyl Alcohol	1.54	10414587	417.275 ppm
7)	Isobutyl Alcohol	1.81	11570506	435.617 ppm
8)	n-Butyl Alcohol	2.12	10784624	399.938 ppm
9)	Isoamyl Alcohol	2.72	11097508	402.137 ppm

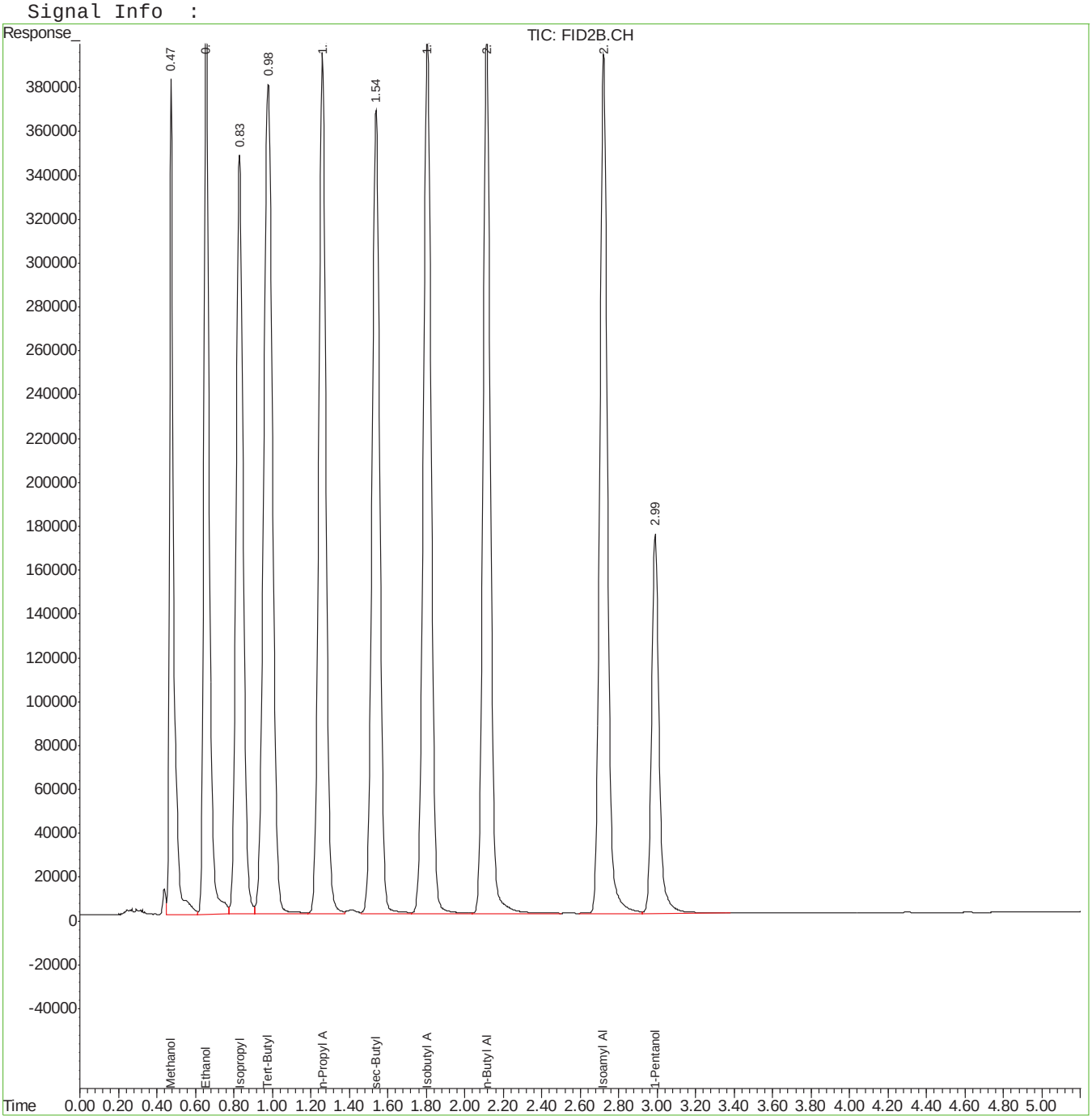
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304419.D QQ1734.M Thu Dec 10 19:01:39 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304419.D Vial: 11
Acq On : 10-Dec-2020, 13:37:58 Operator: ZEESHANQ
Sample : LA68119-1MS Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 12:58 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304420.D Vial: 12
Acq On : 10-Dec-2020, 13:48:40 Operator: ZEESHANQ
Sample : LA68119-1MSD Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 12:58:56 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	4719323	171.726 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	85.86%
	Target Compounds			
1)	Methanol	0.48	5765763	442.550 ppm
2)	Ethanol	0.66	8365680	444.793 ppm
3)	Isopropyl Alcohol	0.83	9053258	548.103 ppm
4)	Tert-Butyl Alcohol	0.98	12455341	461.766 ppm
5)	n-Propyl Alcohol	1.26	10717966	480.214 ppm
6)	sec-Butyl Alcohol	1.54	10671922	427.585 ppm
7)	Isobutyl Alcohol	1.81	11810889	444.667 ppm
8)	n-Butyl Alcohol	2.11	10974536	406.981 ppm
9)	Isoamyl Alcohol	2.72	11266297	408.253 ppm

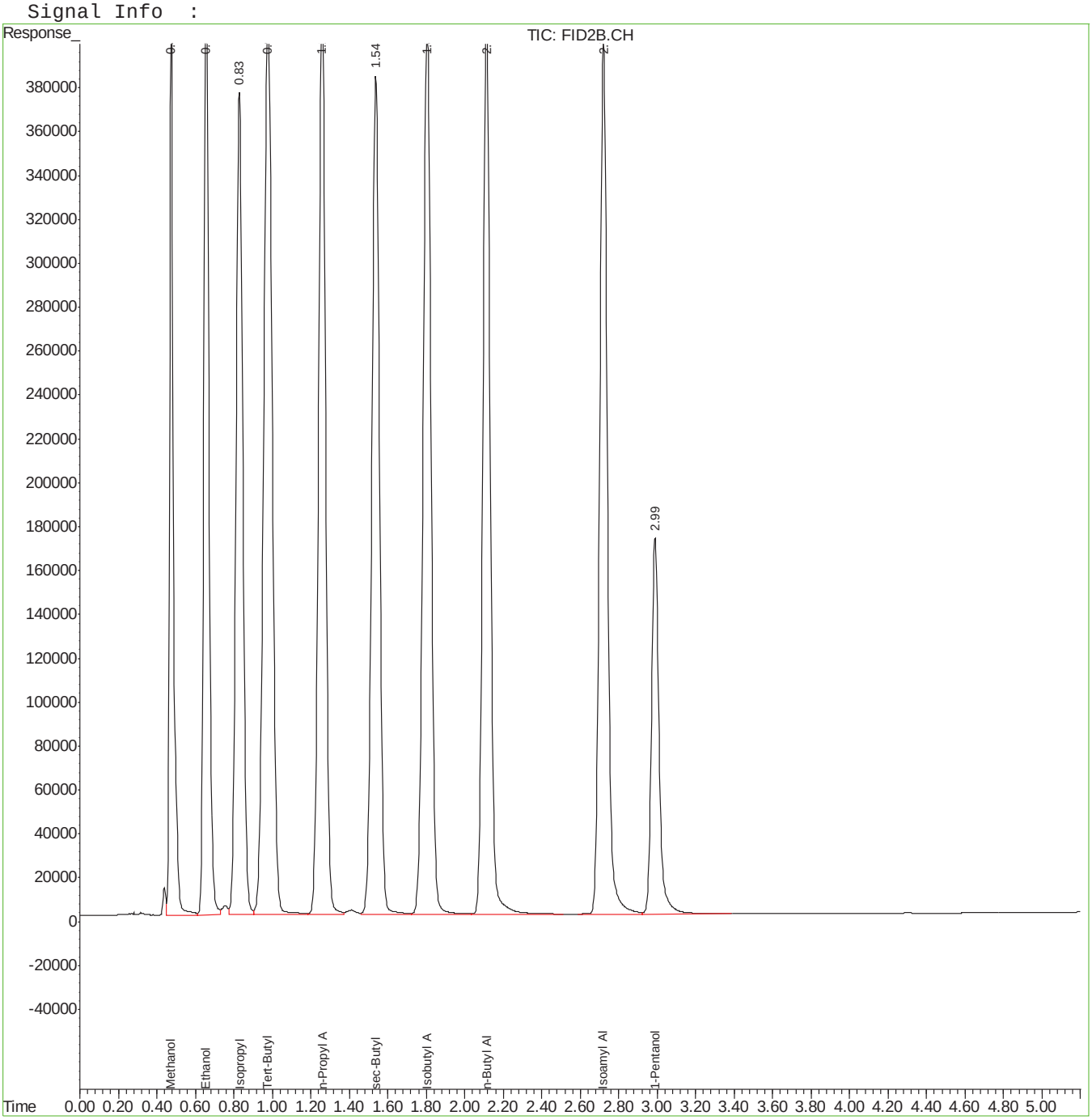
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304420.D QQ1734.M Thu Dec 10 19:01:40 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304420.D Vial: 12
Acq On : 10-Dec-2020, 13:48:40 Operator: ZEESHANQ
Sample : LA68119-1MSD Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 12:58 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Manual Integrations APPROVED
(compounds with "m" flag)
Stephanie Coch
12/11/20 10:26

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304397.D Vial: 3
Acq On : 09-Dec-2020, 18:48:22 Operator: ZEESHANQ
Sample : IC1734-0.5 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 09 19:06:00 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
10) S	1-Pentanol	2.99	18055	0.721	ppm	m
Spiked Amount	200.000	Range 62 - 122	Recovery =	0.36%#		
	Target Compounds					
1)	Methanol	0.48	7472	0.611	ppm	
2)	Ethanol	0.66	9682	0.531	ppm	
3)	Isopropyl Alcohol	0.84	8356	0.517	ppm	
4)	Tert-Butyl Alcohol	0.98	13686	0.522	ppm	
5)	n-Propyl Alcohol	1.26	11286	0.525	ppm	
6)	sec-Butyl Alcohol	1.54	14603	0.632	ppm	
7)	Isobutyl Alcohol	1.81	13585	0.531	ppm	
8)	n-Butyl Alcohol	2.12	15504	0.614	ppm	
9)	Isoamyl Alcohol	2.72	13681	0.508	ppm	m

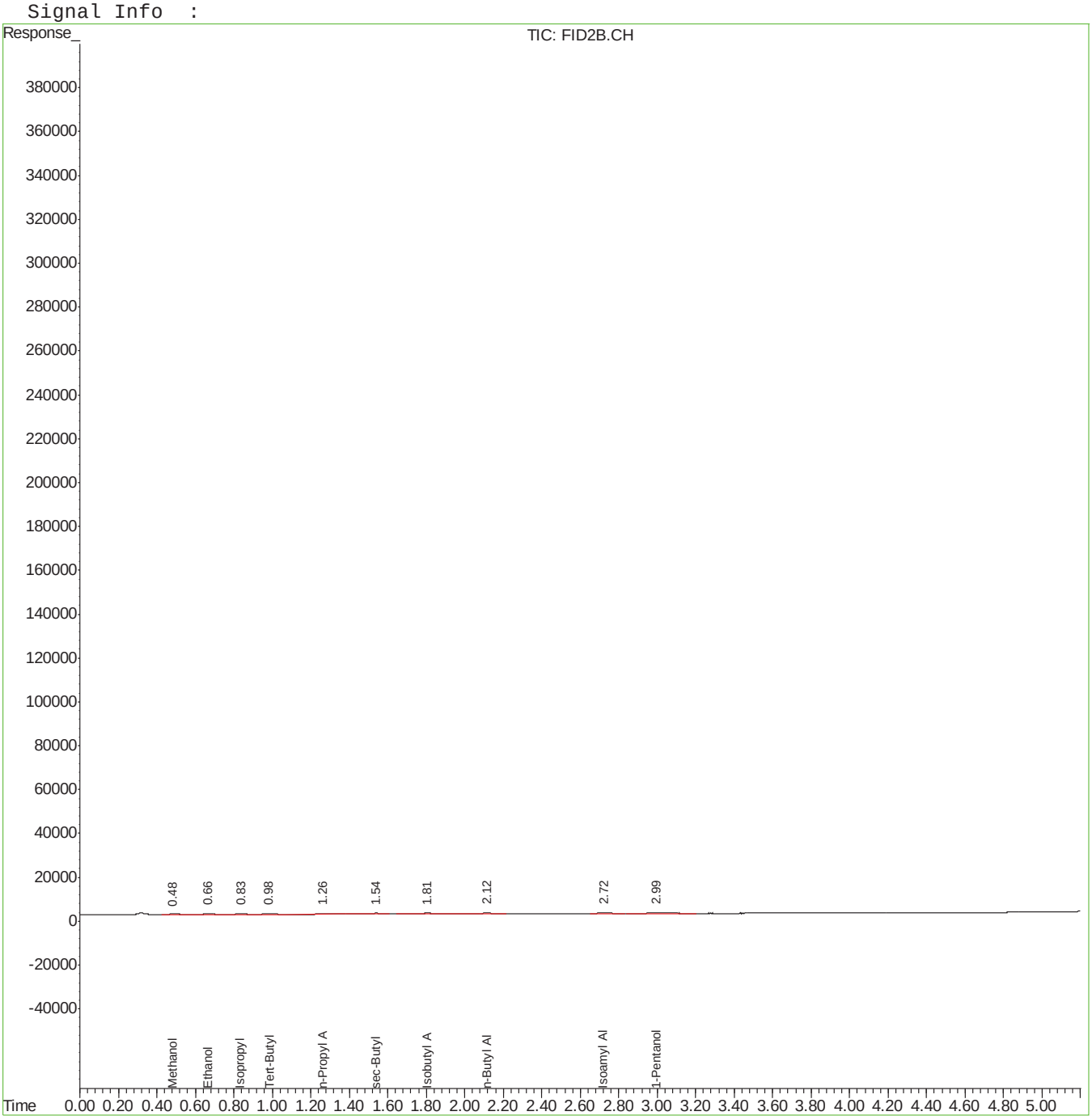
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304397.D QQ1734.M Thu Dec 10 12:29:06 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304397.D Vial: 3
Acq On : 09-Dec-2020, 18:48:22 Operator: ZEESHANQ
Sample : IC1734-0.5 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:11 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Manual Integration Approval Summary

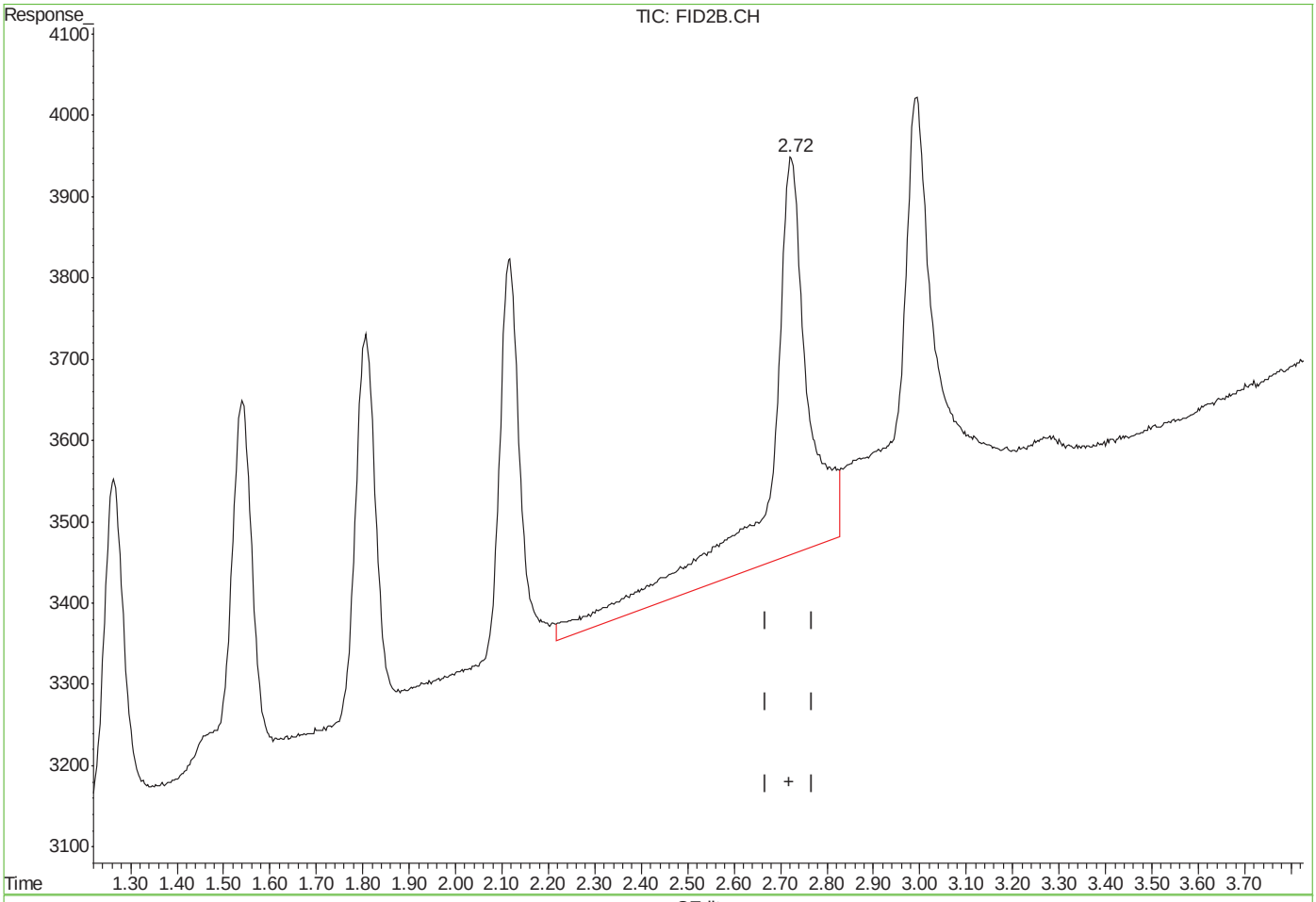
Sample Number: GQQ1734-IC1734
Lab FileID: QQ304397.D
Injection Time: 12/09/20 18:48
Method: SW846 8015C
Analyst approved: 12/10/20 12:26 Zeeshan Qayyum
Supervisor approved: 12/11/20 10:26 Stephanie Coch

Parameter	CAS	Sig#	R.T. (min.)	Reason
Isoamyl Alcohol	123-51-3	1	2.72	Poor instrument integration
1-Pentanol	71-41-0	1	2.99	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304397.D Vial: 3
Acq On : 09-Dec-2020, 18:48:22 Operator: ZEESHANQ
Sample : IC1734-0.5 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Multiple Level Calibration



(9) Isoamyl Alcohol

2.72min 1.050ppm

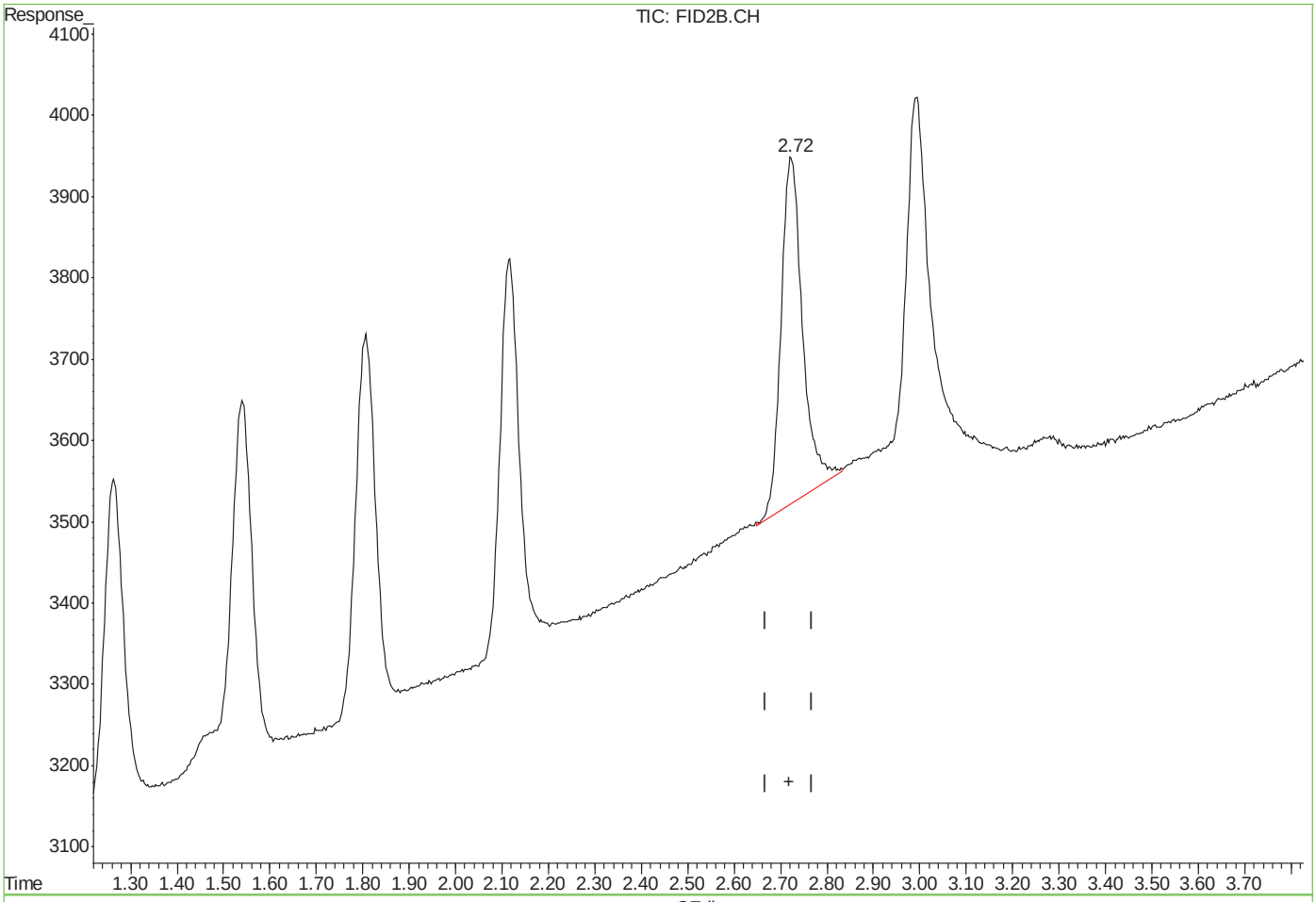
response 28306

(+) = Expected Retention Time
QQ304397.D QQ1734.M Wed Dec 09 19:06:23 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304397.D Vial: 3
Acq On : 09-Dec-2020, 18:48:22 Operator: ZEESHANQ
Sample : IC1734-0.5 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Multiple Level Calibration



(9) Isoamyl Alcohol

2.72min 0.508ppm m

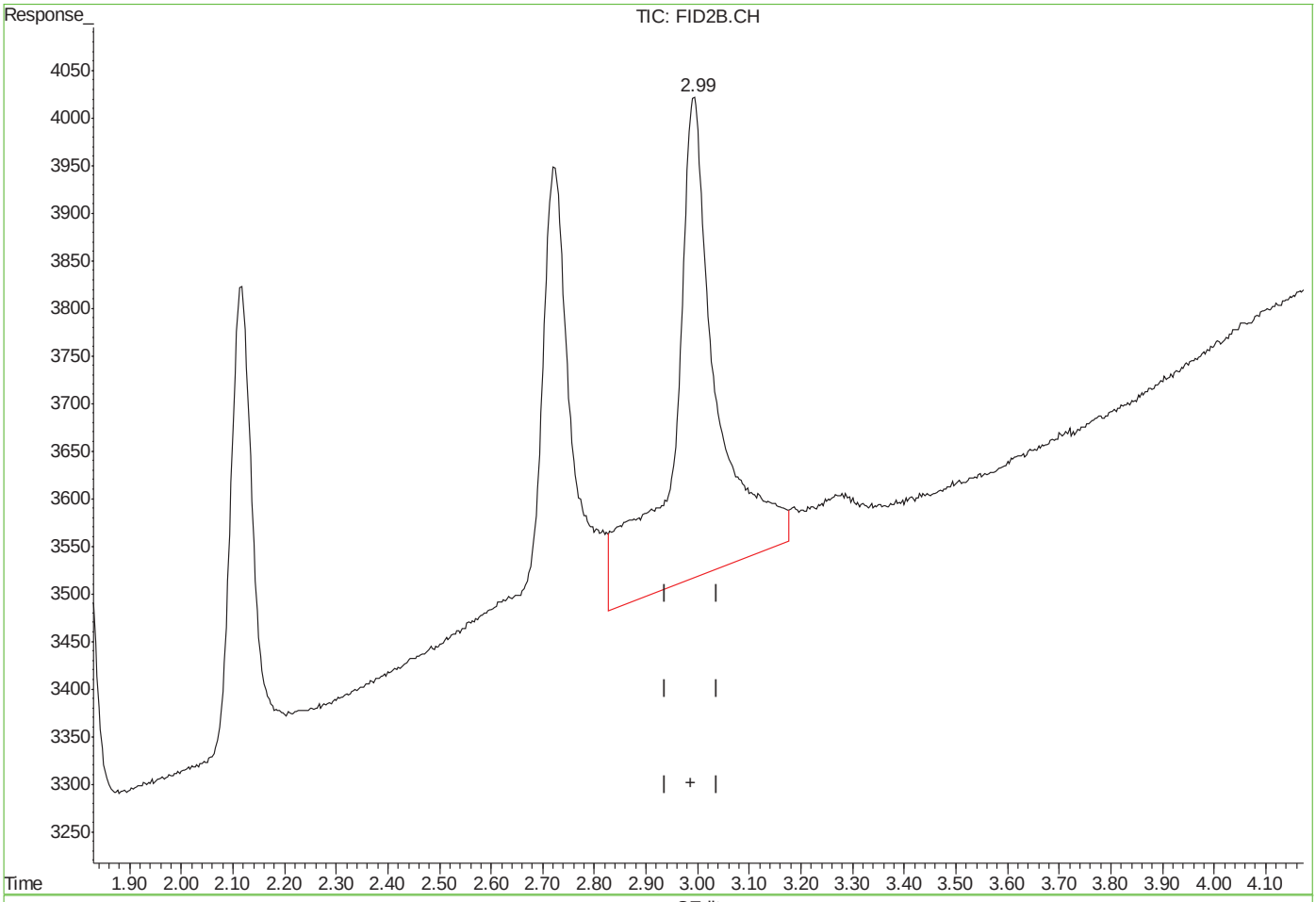
response 13681

(+) = Expected Retention Time
QQ304397.D QQ1734.M Wed Dec 09 19:06:28 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304397.D Vial: 3
Acq On : 09-Dec-2020, 18:48:22 Operator: ZEESHANQ
Sample : IC1734-0.5 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Multiple Level Calibration



(10) 1-Pentanol (S)

2.99min 1.169ppm

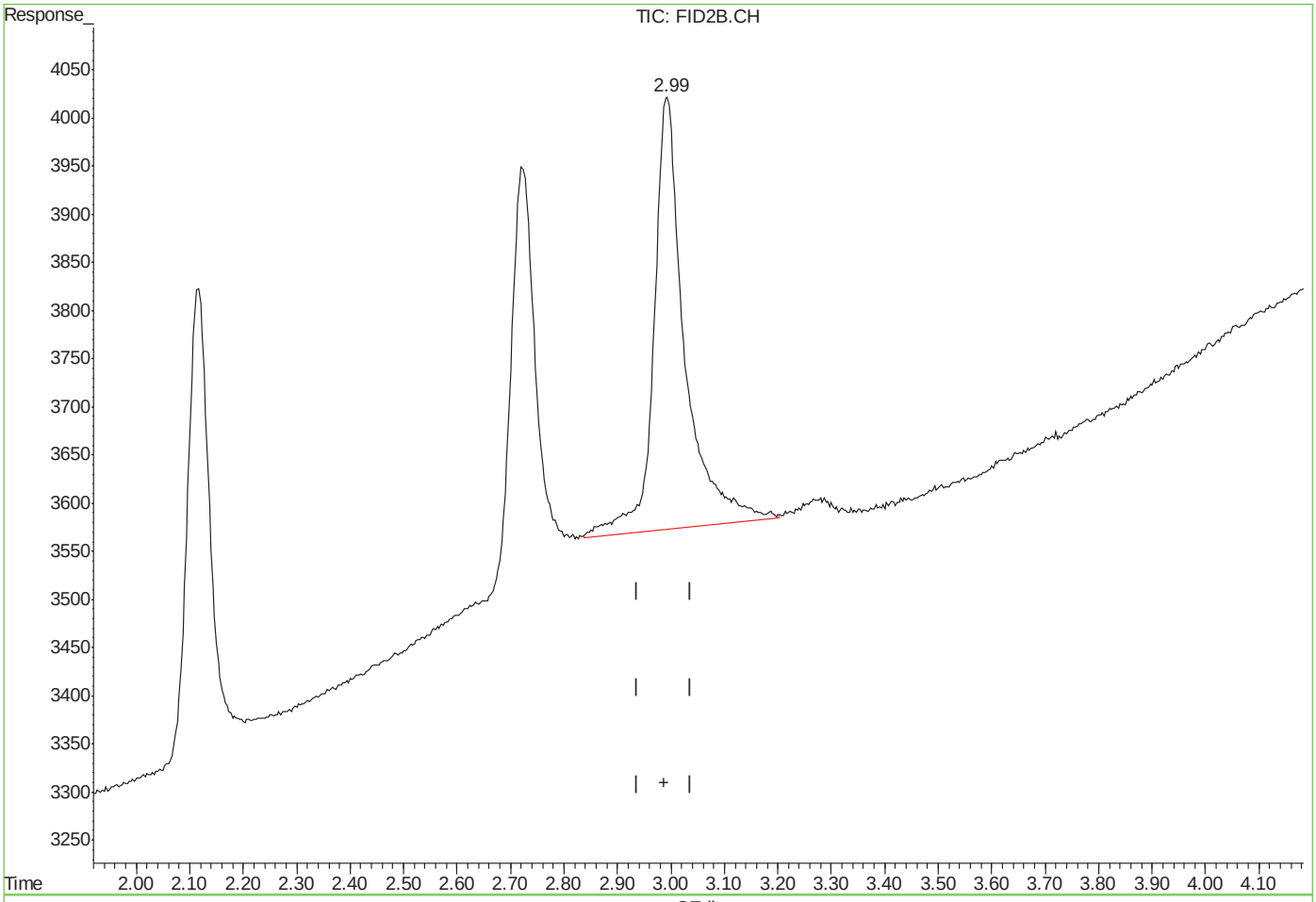
response 29290

(+) = Expected Retention Time
QQ304397.D QQ1734.M Wed Dec 09 19:06:33 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304397.D Vial: 3
Acq On : 09-Dec-2020, 18:48:22 Operator: ZEESHANQ
Sample : IC1734-0.5 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:11:31 2020
Response via : Multiple Level Calibration



(10) 1-Pentanol (S)

2.99min 0.721ppm m

response 18055

(+) = Expected Retention Time
QQ304397.D QQ1734.M Wed Dec 09 19:12:01 2020

Manual Integrations APPROVED
(compounds with "m" flag)
Stephanie Coch
12/11/20 10:26

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304398.D Vial: 4
Acq On : 09-Dec-2020, 18:59:28 Operator: ZEESHANQ
Sample : IC1734-1 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 09 19:06:01 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
10) S	1-Pentanol	2.99	34412	1.374	ppm	m
Spiked Amount	200.000	Range 62 - 122	Recovery =	0.69%#		
	Target Compounds					
1)	Methanol	0.48	16644	1.361	ppm	
2)	Ethanol	0.66	23065	1.264	ppm	
3)	Isopropyl Alcohol	0.84	19946	1.233	ppm	
4)	Tert-Butyl Alcohol	0.98	33403	1.274	ppm	
5)	n-Propyl Alcohol	1.26	28390	1.320	ppm	
6)	sec-Butyl Alcohol	1.54	32565	1.409	ppm	
7)	Isobutyl Alcohol	1.81	33138	1.295	ppm	
8)	n-Butyl Alcohol	2.12	34273	1.357	ppm	
9)	Isoamyl Alcohol	2.72	33302	1.236	ppm	m

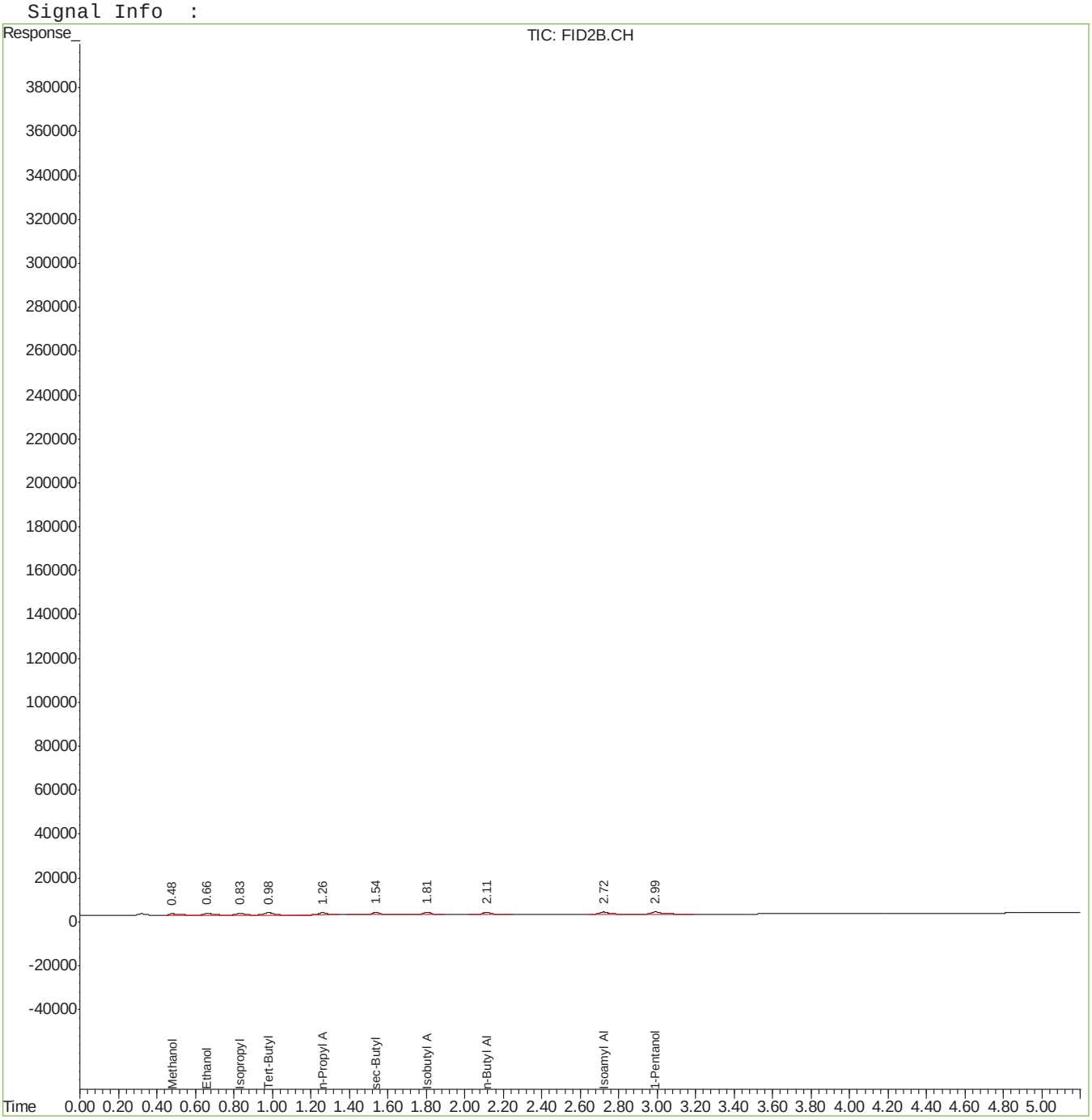
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304398.D QQ1734.M Thu Dec 10 12:29:07 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304398.D Vial: 4
Acq On : 09-Dec-2020, 18:59:28 Operator: ZEESHANQ
Sample : IC1734-1 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:10 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Manual Integration Approval Summary

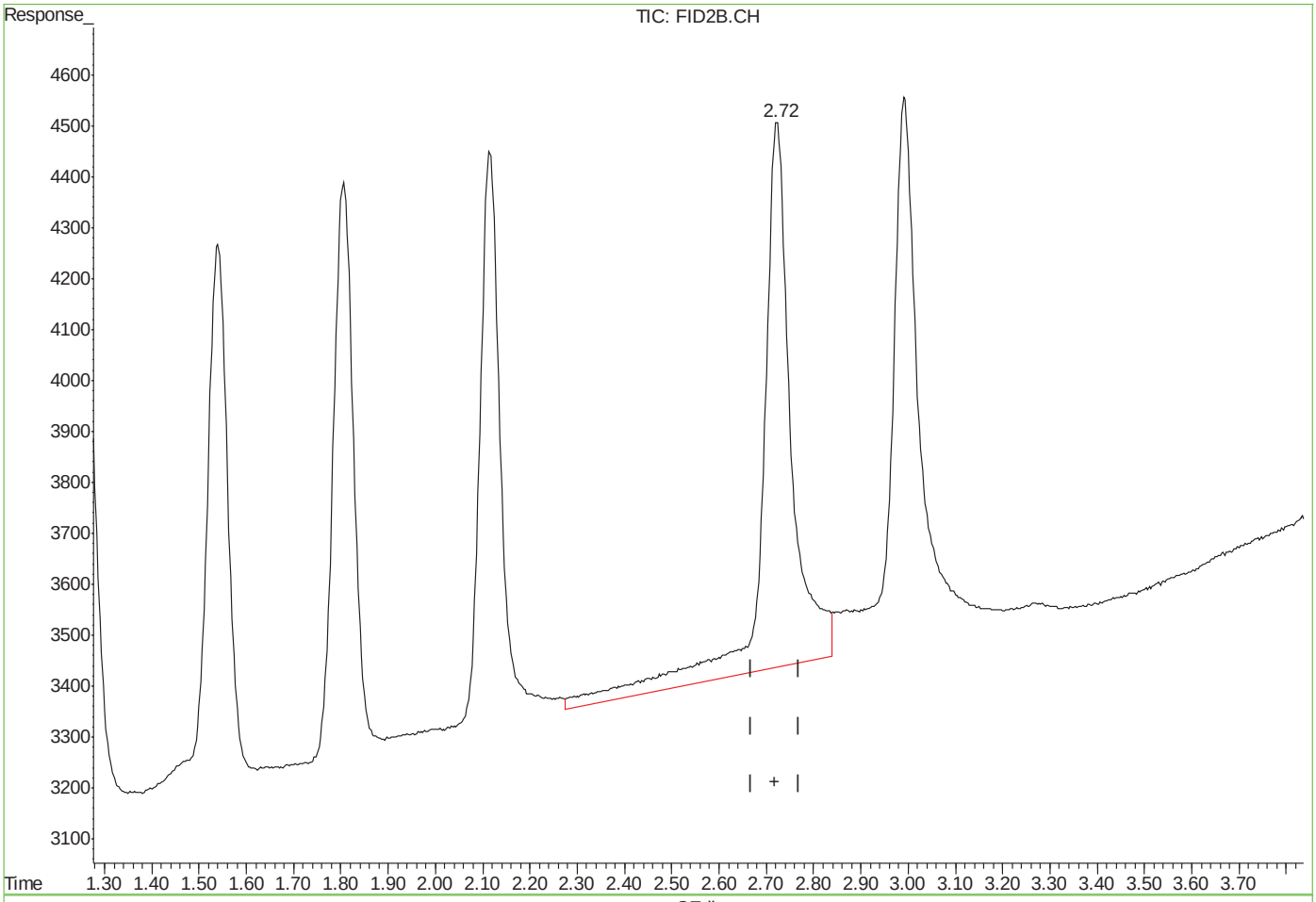
Sample Number: GQQ1734-IC1734
Lab FileID: QQ304398.D
Injection Time: 12/09/20 18:59
Method: SW846 8015C
Analyst approved: 12/10/20 12:26 Zeeshan Qayyum
Supervisor approved: 12/11/20 10:26 Stephanie Coch

Parameter	CAS	Sig#	R.T. (min.)	Reason
Isoamyl Alcohol	123-51-3	1	2.72	Poor instrument integration
1-Pentanol	71-41-0	1	2.99	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304398.D Vial: 4
Acq On : 09-Dec-2020, 18:59:28 Operator: ZEESHANQ
Sample : IC1734-1 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:07:03 2020
Response via : Multiple Level Calibration



(9) Isoamyl Alcohol

2.72min 1.697ppm

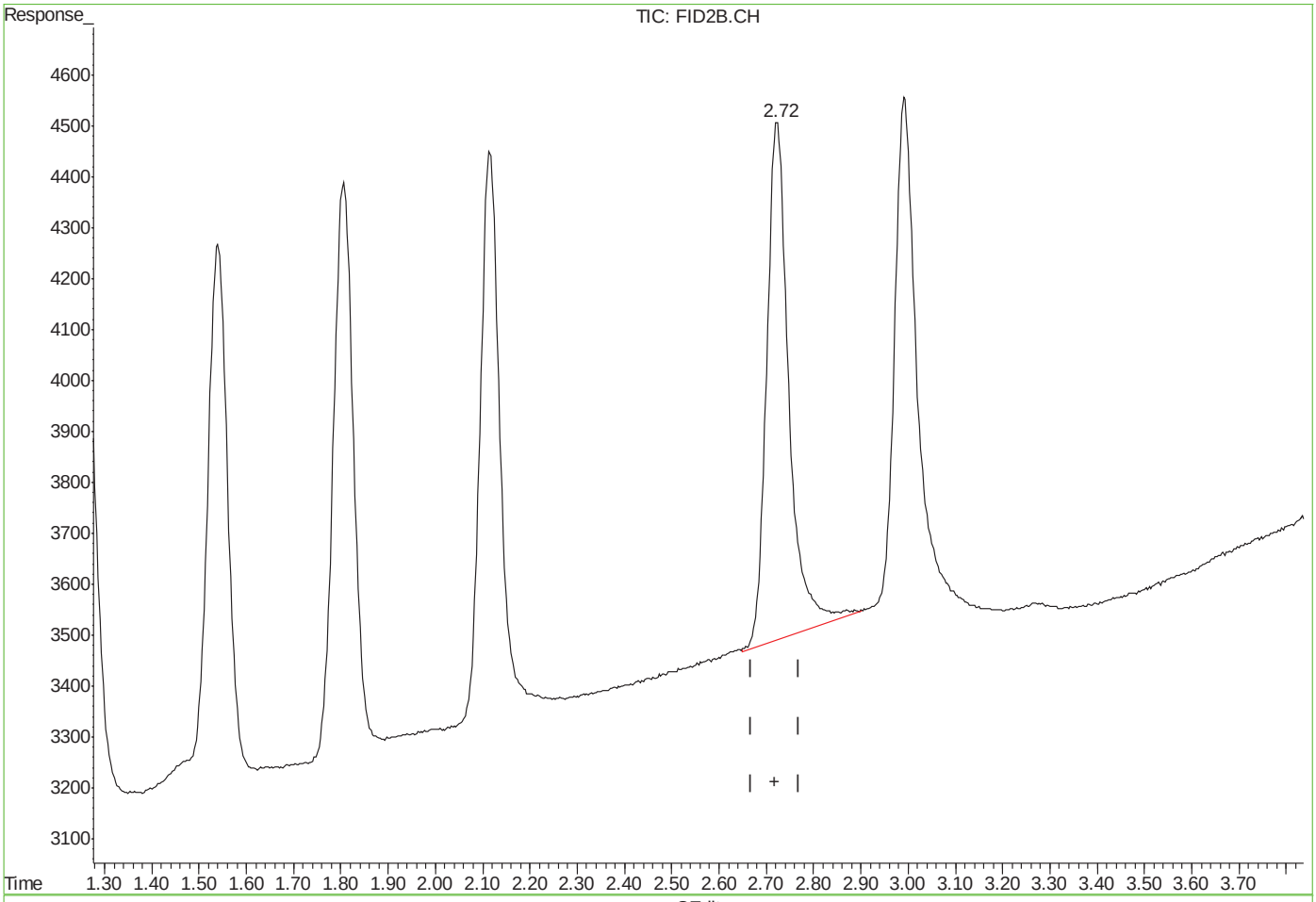
response 45730

(+) = Expected Retention Time
QQ304398.D QQ1734.M Wed Dec 09 19:07:16 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304398.D Vial: 4
Acq On : 09-Dec-2020, 18:59:28 Operator: ZEESHANQ
Sample : IC1734-1 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:07:03 2020
Response via : Multiple Level Calibration



(9) Isoamyl Alcohol

2.72min 1.236ppm m

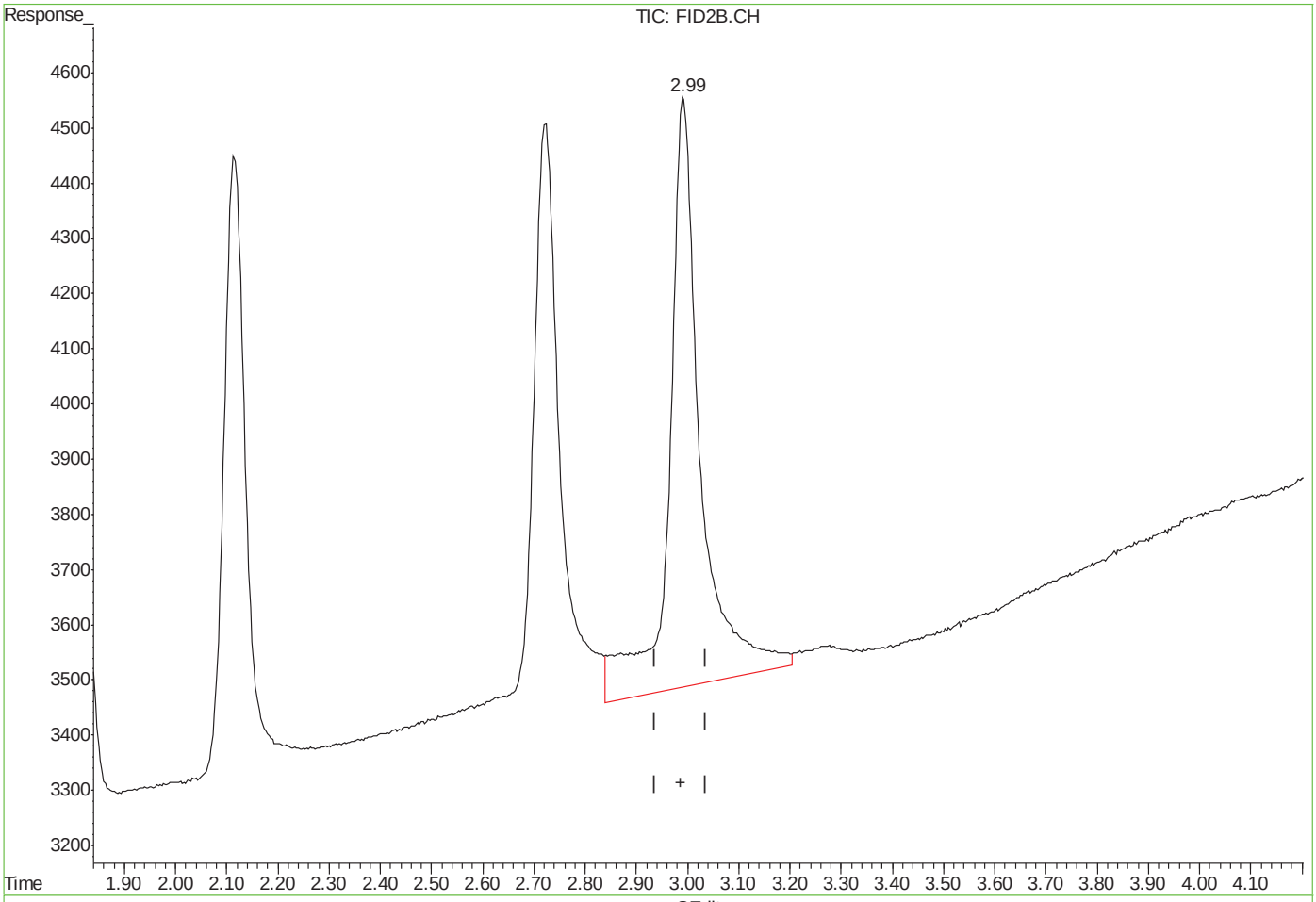
response 33302

(+) = Expected Retention Time
QQ304398.D QQ1734.M Wed Dec 09 19:07:26 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304398.D Vial: 4
Acq On : 09-Dec-2020, 18:59:28 Operator: ZEESHANQ
Sample : IC1734-1 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:07 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:09:41 2020
Response via : Multiple Level Calibration



(10) 1-Pentanol (S)

2.99min 1.819ppm

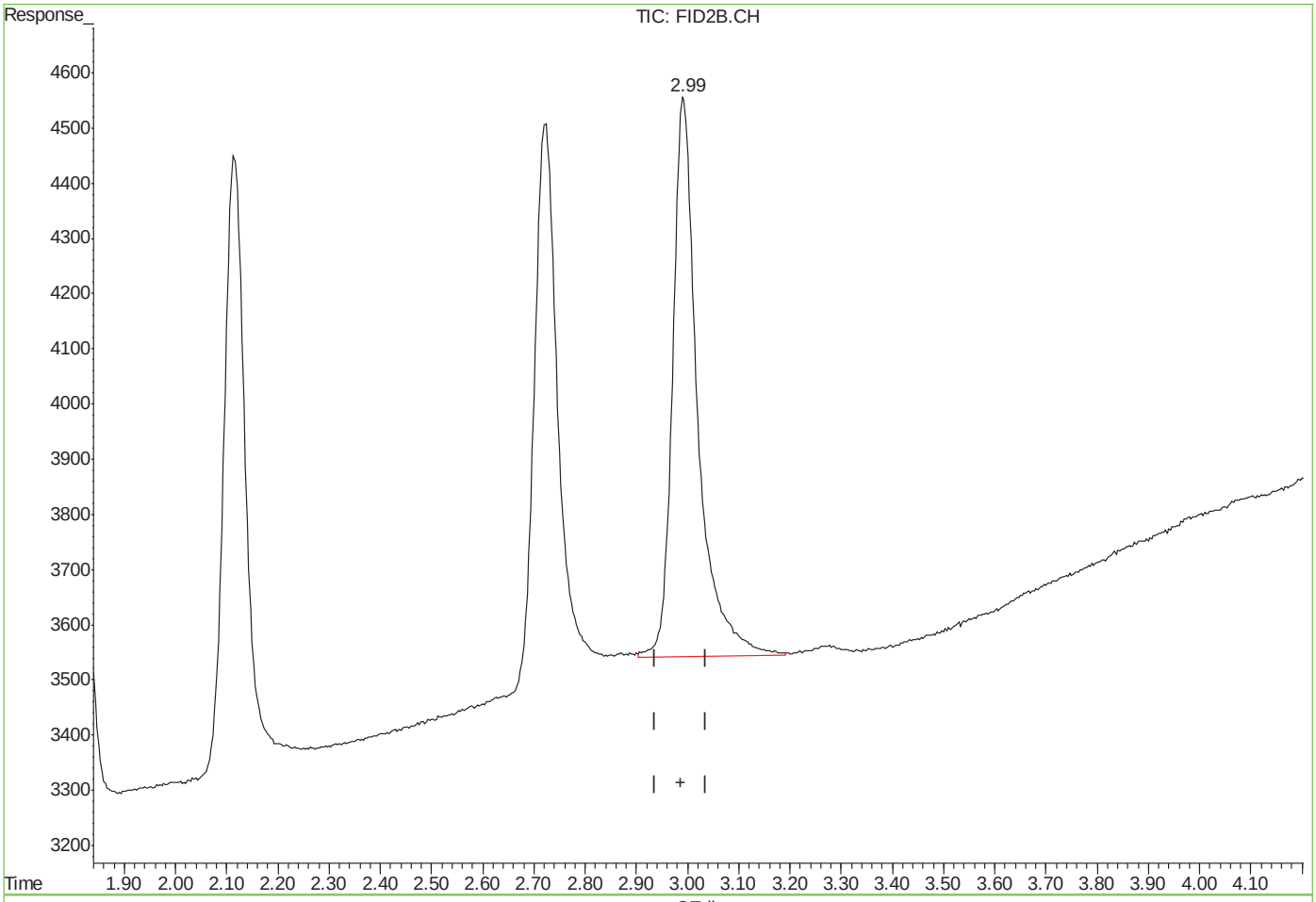
response 45565

(+) = Expected Retention Time
QQ304398.D QQ1734.M Wed Dec 09 19:10:30 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304398.D Vial: 4
Acq On : 09-Dec-2020, 18:59:28 Operator: ZEESHANQ
Sample : IC1734-1 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:07 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:09:41 2020
Response via : Multiple Level Calibration



(10) 1-Pentanol (S)

2.99min 1.374ppm m

response 34412

(+) = Expected Retention Time
QQ304398.D QQ1734.M Wed Dec 09 19:10:37 2020

Manual Integrations APPROVED
(compounds with "m" flag)
Stephanie Coch
12/11/20 10:26

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304399.D Vial: 5
Acq On : 09-Dec-2020, 19:10:32 Operator: ZEESHANQ
Sample : IC1734-5 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 09 19:06:02 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
10) S	1-Pentanol	2.99	128584	5.133	ppm	m
Spiked Amount	200.000	Range 62 - 122	Recovery =	2.57%#		
	Target Compounds					
1)	Methanol	0.48	62732	5.130	ppm	
2)	Ethanol	0.66	91825	5.032	ppm	
3)	Isopropyl Alcohol	0.84	80597	4.983	ppm	
4)	Tert-Butyl Alcohol	0.98	131523	5.017	ppm	
5)	n-Propyl Alcohol	1.26	109480	5.090	ppm	
6)	sec-Butyl Alcohol	1.54	121381	5.252	ppm	
7)	Isobutyl Alcohol	1.81	132066	5.161	ppm	
8)	n-Butyl Alcohol	2.12	131824	5.219	ppm	
9)	Isoamyl Alcohol	2.72	135401	5.024	ppm	m

8.5.3

8

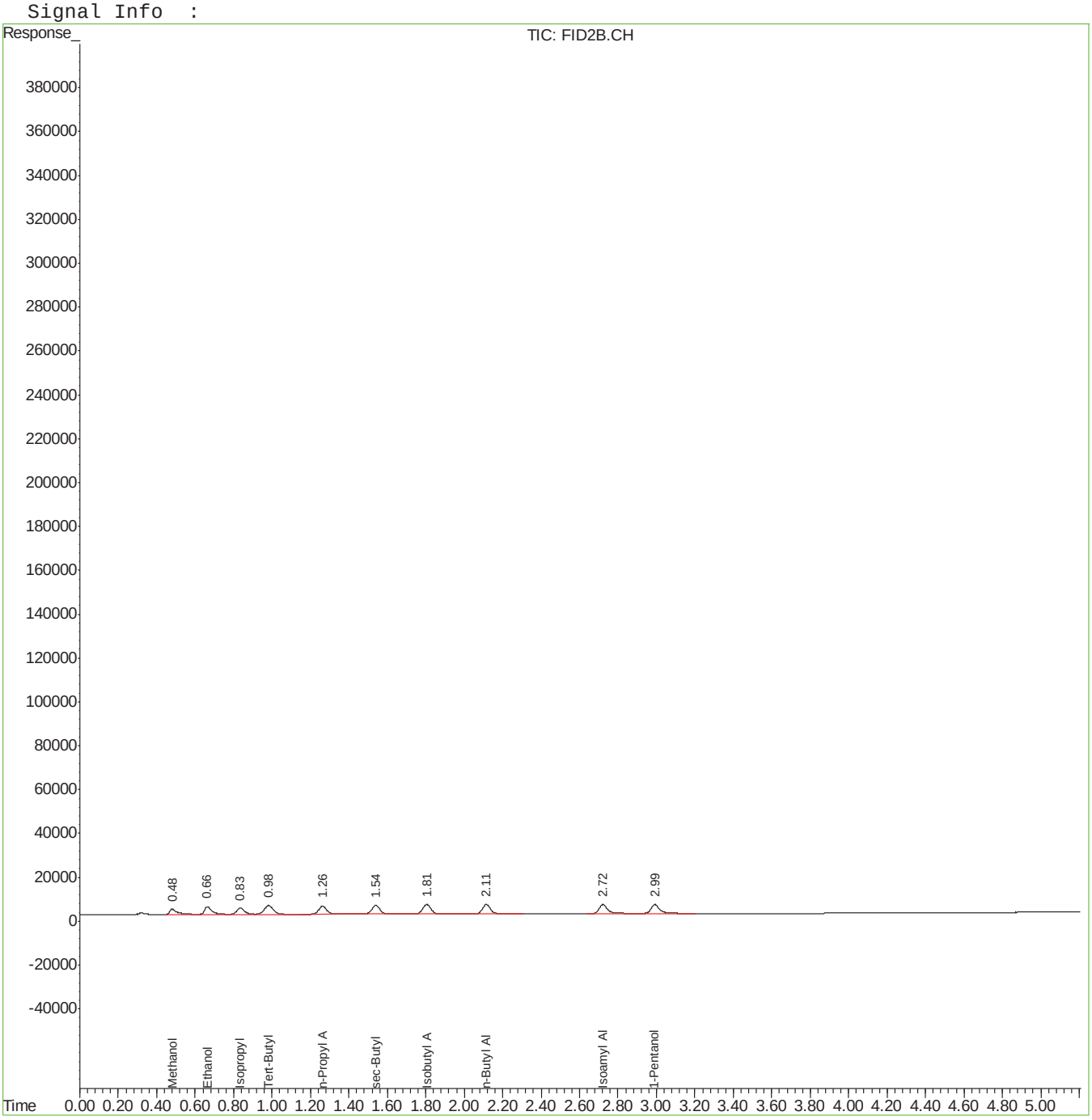
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304399.D QQ1734.M Thu Dec 10 12:29:08 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304399.D Vial: 5
Acq On : 09-Dec-2020, 19:10:32 Operator: ZEESHANQ
Sample : IC1734-5 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:11 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Manual Integration Approval Summary

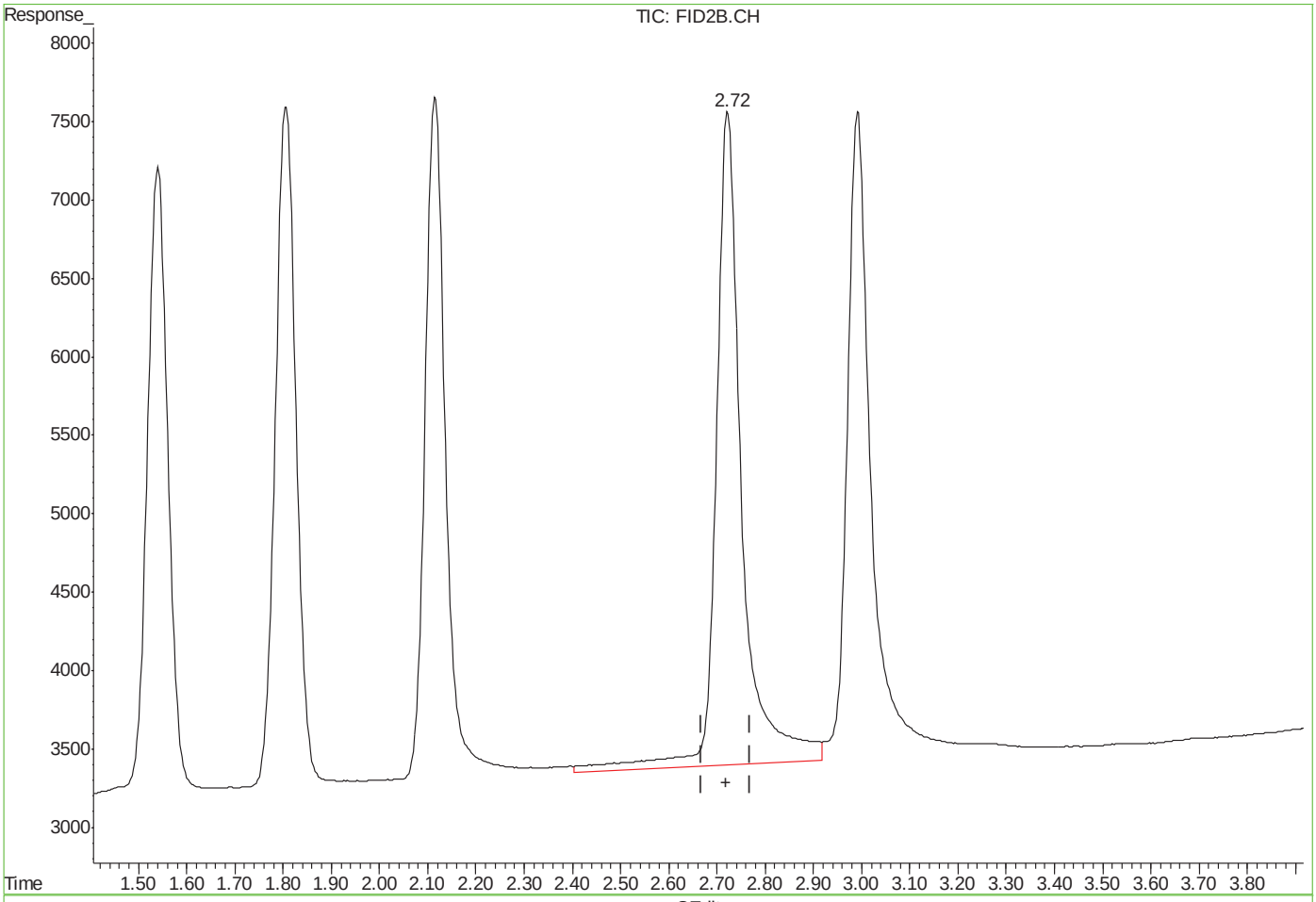
Sample Number: GQQ1734-IC1734
Lab FileID: QQ304399.D
Injection Time: 12/09/20 19:10
Method: SW846 8015C
Analyst approved: 12/10/20 12:26 Zeeshan Qayyum
Supervisor approved: 12/11/20 10:26 Stephanie Coch

Parameter	CAS	Sig#	R.T. (min.)	Reason
Isoamyl Alcohol	123-51-3	1	2.72	Poor instrument integration
1-Pentanol	71-41-0	1	2.99	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304399.D Vial: 5
Acq On : 09-Dec-2020, 19:10:32 Operator: ZEESHANQ
Sample : IC1734-5 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:07:41 2020
Response via : Multiple Level Calibration



(9) Isoamyl Alcohol

2.72min 5.771ppm

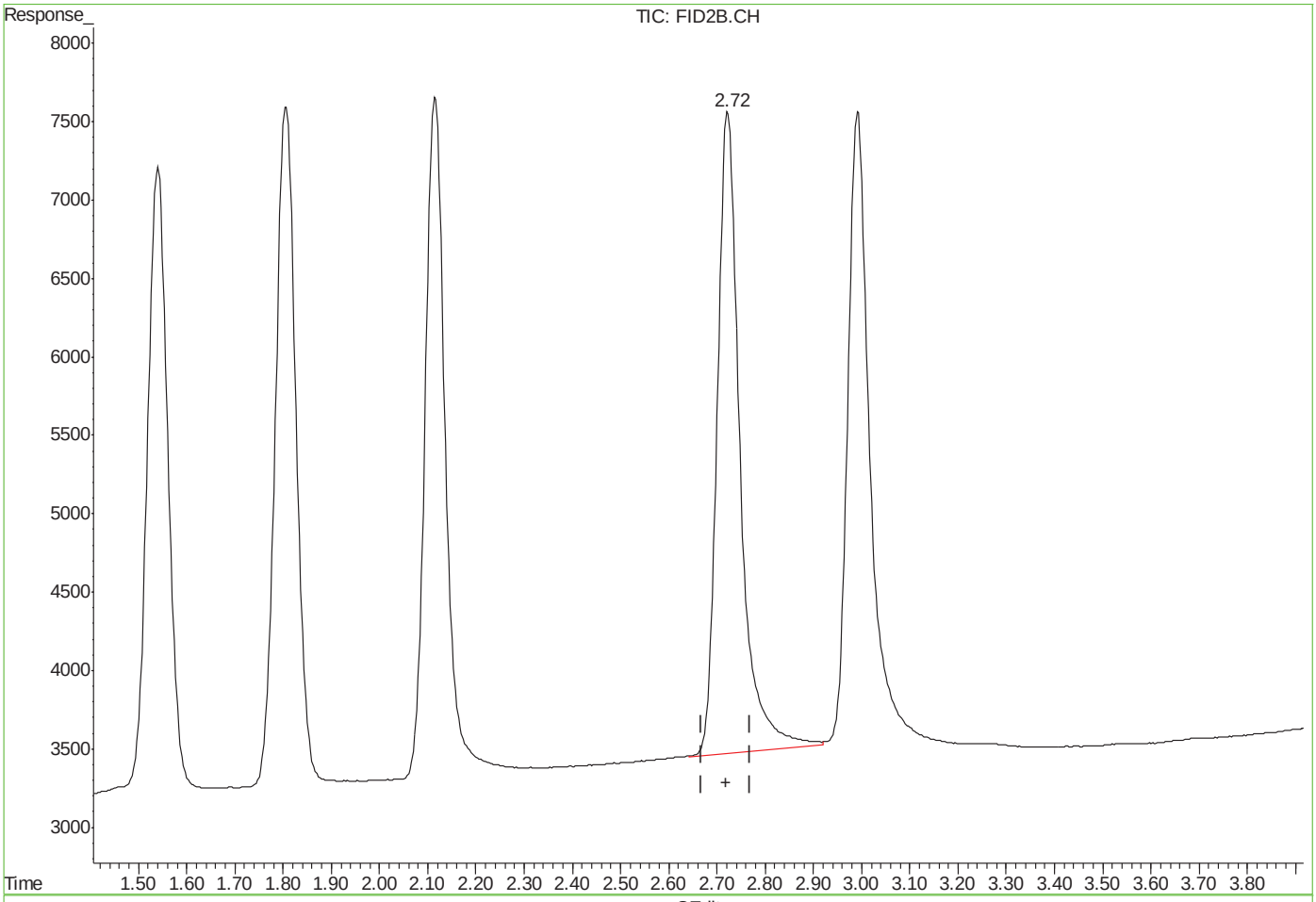
response 155520

(+) = Expected Retention Time
QQ304399.D QQ1734.M Wed Dec 09 19:07:53 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304399.D Vial: 5
Acq On : 09-Dec-2020, 19:10:32 Operator: ZEESHANQ
Sample : IC1734-5 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:07:41 2020
Response via : Multiple Level Calibration



(9) Isoamyl Alcohol

2.72min 5.024ppm m

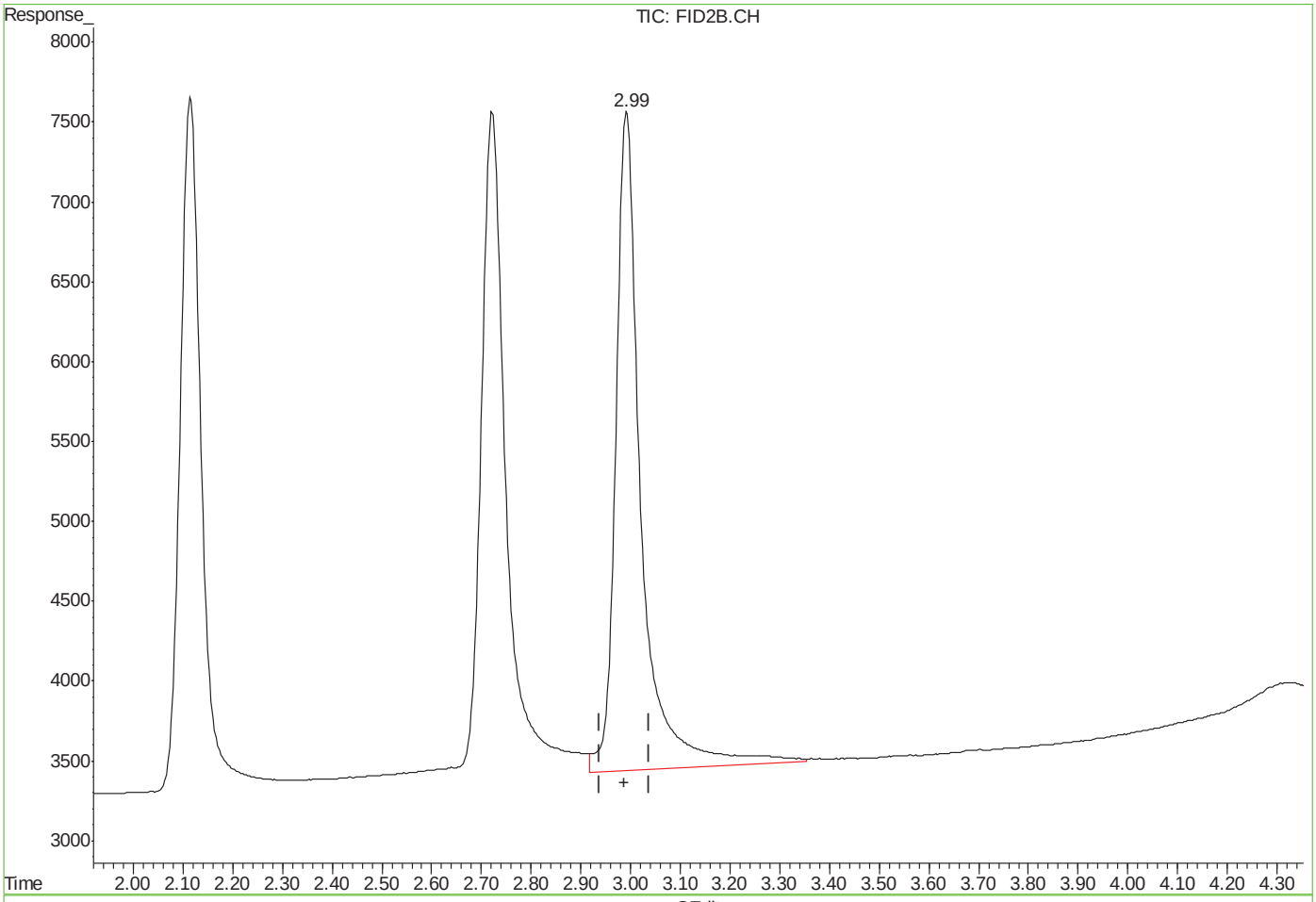
response 135401

(+) = Expected Retention Time
QQ304399.D QQ1734.M Wed Dec 09 19:08:05 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304399.D Vial: 5
Acq On : 09-Dec-2020, 19:10:32 Operator: ZEESHANQ
Sample : IC1734-5 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:08 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:10:59 2020
Response via : Multiple Level Calibration



(10) 1-Pentanol (S)

2.99min 5.851ppm

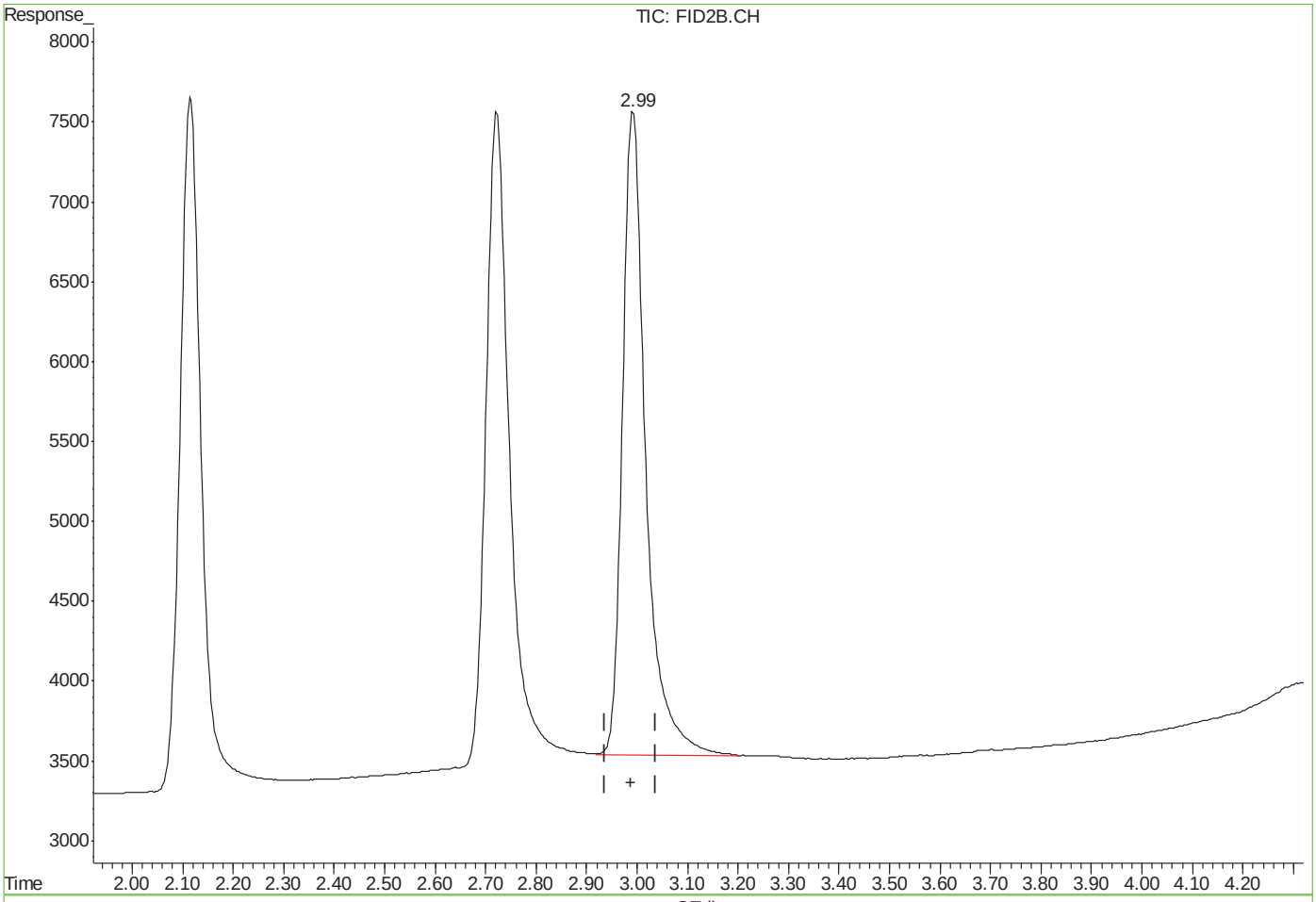
response 146577

(+) = Expected Retention Time
QQ304399.D QQ1734.M Wed Dec 09 19:11:08 2020

Quantitation Report (Qedit)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304399.D Vial: 5
Acq On : 09-Dec-2020, 19:10:32 Operator: ZEESHANQ
Sample : IC1734-5 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:08 2020 Quant Results File: QQ1734.RES

Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:10:59 2020
Response via : Multiple Level Calibration



(10) 1-Pentanol (S)

2.99min 5.133ppm m

response 128584

(+) = Expected Retention Time
QQ304399.D QQ1734.M Wed Dec 09 19:11:24 2020

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304400.D Vial: 6
Acq On : 09-Dec-2020, 19:21:42 Operator: ZEESHANQ
Sample : IC1734-25 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 09 19:06:03 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	620380	24.764 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	12.38%#
	Target Compounds			
1)	Methanol	0.48	297358	24.319 ppm
2)	Ethanol	0.66	442188	24.230 ppm
3)	Isopropyl Alcohol	0.83	390398	24.139 ppm
4)	Tert-Butyl Alcohol	0.98	631311	24.080 ppm
5)	n-Propyl Alcohol	1.26	521013	24.222 ppm
6)	sec-Butyl Alcohol	1.54	562118	24.324 ppm
7)	Isobutyl Alcohol	1.81	621307	24.278 ppm
8)	n-Butyl Alcohol	2.11	613167	24.277 ppm
9)	Isoamyl Alcohol	2.72	664809	24.669 ppm

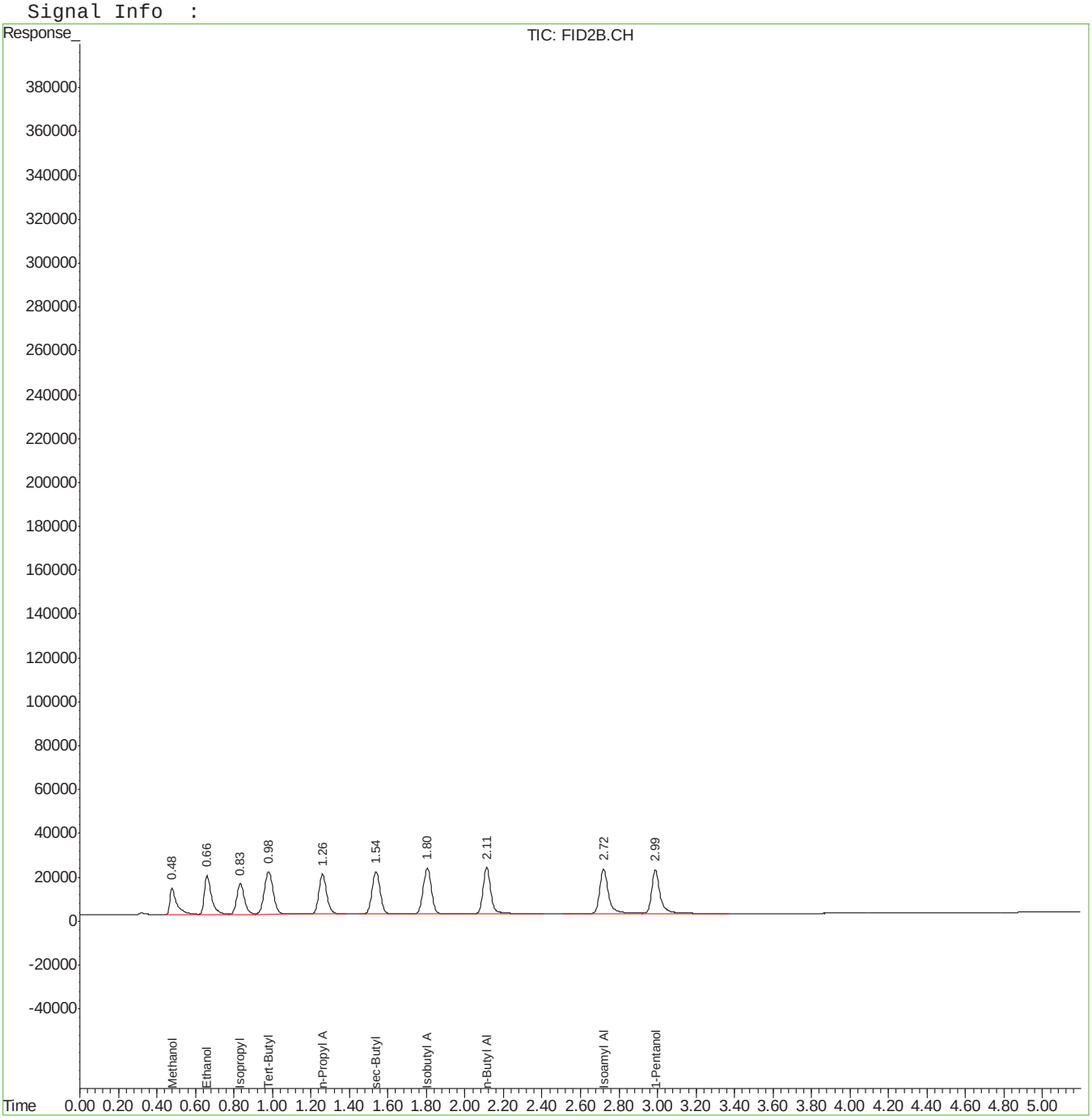
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304400.D QQ1734.M Thu Dec 10 12:29:09 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304400.D Vial: 6
Acq On : 09-Dec-2020, 19:21:42 Operator: ZEESHANQ
Sample : IC1734-25 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304401.D Vial: 7
Acq On : 09-Dec-2020, 19:32:42 Operator: ZEESHANQ
Sample : IC1734-50 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 09 19:06:04 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	1227548	49.001 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	24.50%#
	Target Compounds			
1)	Methanol	0.48	596892	48.816 ppm
2)	Ethanol	0.66	891394	48.845 ppm
3)	Isopropyl Alcohol	0.84	787674	48.703 ppm
4)	Tert-Butyl Alcohol	0.98	1274451	48.610 ppm
5)	n-Propyl Alcohol	1.26	1048663	48.753 ppm
6)	sec-Butyl Alcohol	1.54	1126847	48.761 ppm
7)	Isobutyl Alcohol	1.81	1247232	48.737 ppm
8)	n-Butyl Alcohol	2.12	1227062	48.582 ppm
9)	Isoamyl Alcohol	2.72	1320289	48.992 ppm

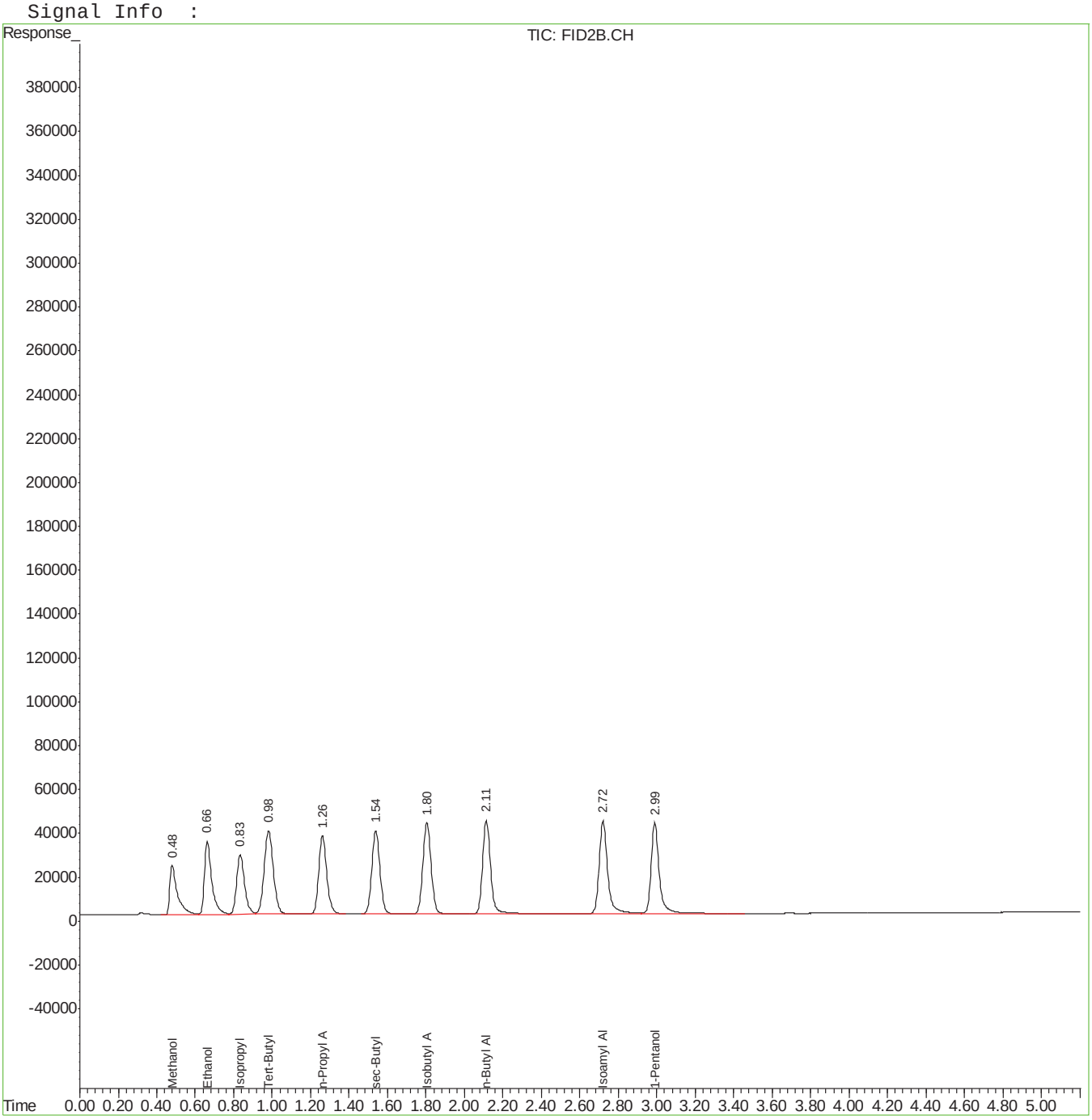
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304401.D QQ1734.M Thu Dec 10 12:29:10 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304401.D Vial: 7
Acq On : 09-Dec-2020, 19:32:42 Operator: ZEESHANQ
Sample : IC1734-50 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304402.D Vial: 8
Acq On : 09-Dec-2020, 19:43:58 Operator: ZEESHANQ
Sample : ICC1734-200 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 09 19:05:21 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:15 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
10) S 1-Pentanol	2.99	5010294	200.000 ppm
Spiked Amount 200.000	Range 62 - 122	Recovery = 100.00%	
Target Compounds			
1) Methanol	0.48	2445493	200.000 ppm
2) Ethanol	0.66	3649910	200.000 ppm
3) Isopropyl Alcohol	0.83	3234593	200.000 ppm
4) Tert-Butyl Alcohol	0.98	5243551	200.000 ppm
5) n-Propyl Alcohol	1.26	4301912	200.000 ppm
6) sec-Butyl Alcohol	1.54	4621905	200.000 ppm
7) Isobutyl Alcohol	1.80	5118213	200.000 ppm
8) n-Butyl Alcohol	2.11	5051514	200.000 ppm
9) Isoamyl Alcohol	2.72	5389843	200.000 ppm

8.5.6

8

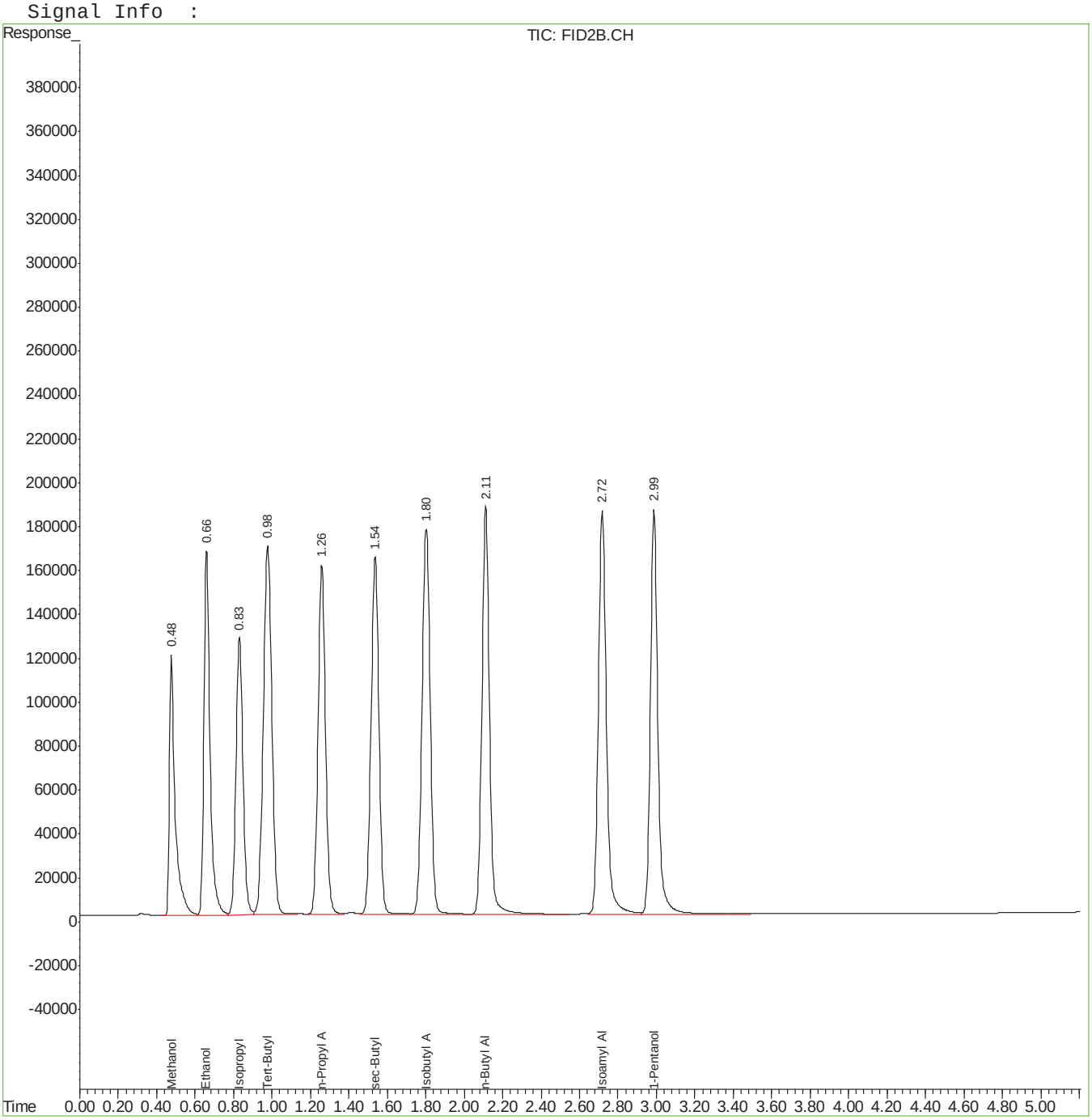
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304402.D QQ1734.M Thu Dec 10 12:29:11 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304402.D Vial: 8
Acq On : 09-Dec-2020, 19:43:58 Operator: ZEESHANQ
Sample : ICC1734-200 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:05 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:15 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304403.D Vial: 9
Acq On : 09-Dec-2020, 19:54:59 Operator: ZEESHANQ
Sample : IC1734-500 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 09 19:06:05 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	12345389	492.801 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	246.40%#
	Target Compounds			
1)	Methanol	0.48	6025823	492.810 ppm
2)	Ethanol	0.66	9000329	493.181 ppm
3)	Isopropyl Alcohol	0.83	7973298	493.002 ppm
4)	Tert-Butyl Alcohol	0.98	12946277	493.798 ppm
5)	n-Propyl Alcohol	1.26	10622985	493.873 ppm
6)	sec-Butyl Alcohol	1.54	11406983	493.605 ppm
7)	Isobutyl Alcohol	1.81	12642947	494.038 ppm
8)	n-Butyl Alcohol	2.12	12474449	493.889 ppm
9)	Isoamyl Alcohol	2.72	13308063	493.820 ppm

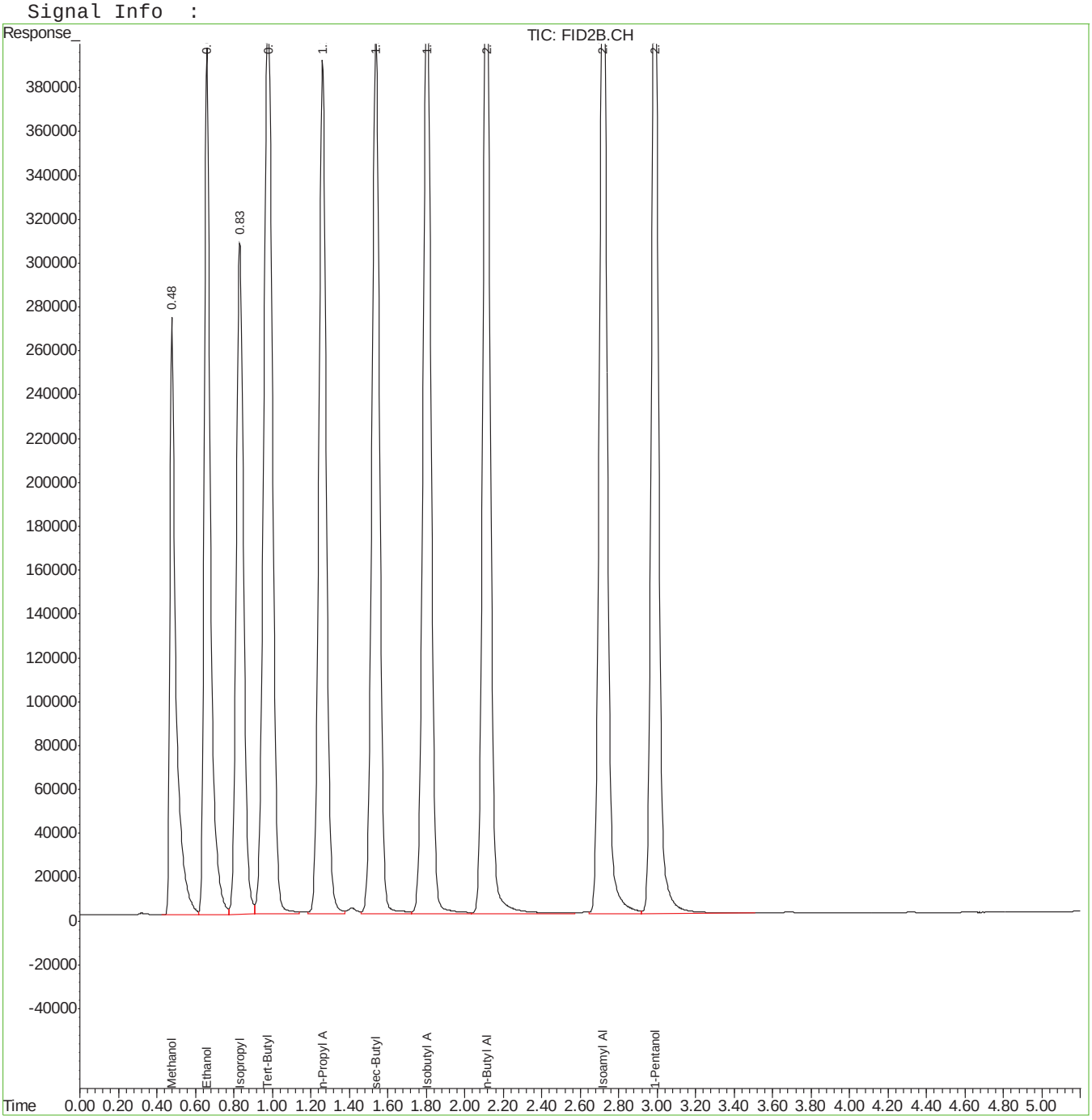
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304403.D QQ1734.M Thu Dec 10 12:29:12 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304403.D Vial: 9
Acq On : 09-Dec-2020, 19:54:59 Operator: ZEESHANQ
Sample : IC1734-500 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:06 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:05:36 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304404.D Vial: 10
Acq On : 09-Dec-2020, 20:05:41 Operator: ZEESHANQ
Sample : IC1734-1000 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 09 19:09:29 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:09:05 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	24505546	793.754 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	396.88%#
	Target Compounds			
1)	Methanol	0.48	11981861	909.230 ppm
2)	Ethanol	0.66	17904653	945.482 ppm
3)	Isopropyl Alcohol	0.83	15874186	955.738 ppm
4)	Tert-Butyl Alcohol	0.98	25853223	952.824 ppm
5)	n-Propyl Alcohol	1.26	21125118	939.323 ppm
6)	sec-Butyl Alcohol	1.54	22675783	896.819 ppm
7)	Isobutyl Alcohol	1.81	25093707	937.353 ppm
8)	n-Butyl Alcohol	2.12	24805883	909.498 ppm
9)	Isoamyl Alcohol	2.72	26463361	953.353 ppm

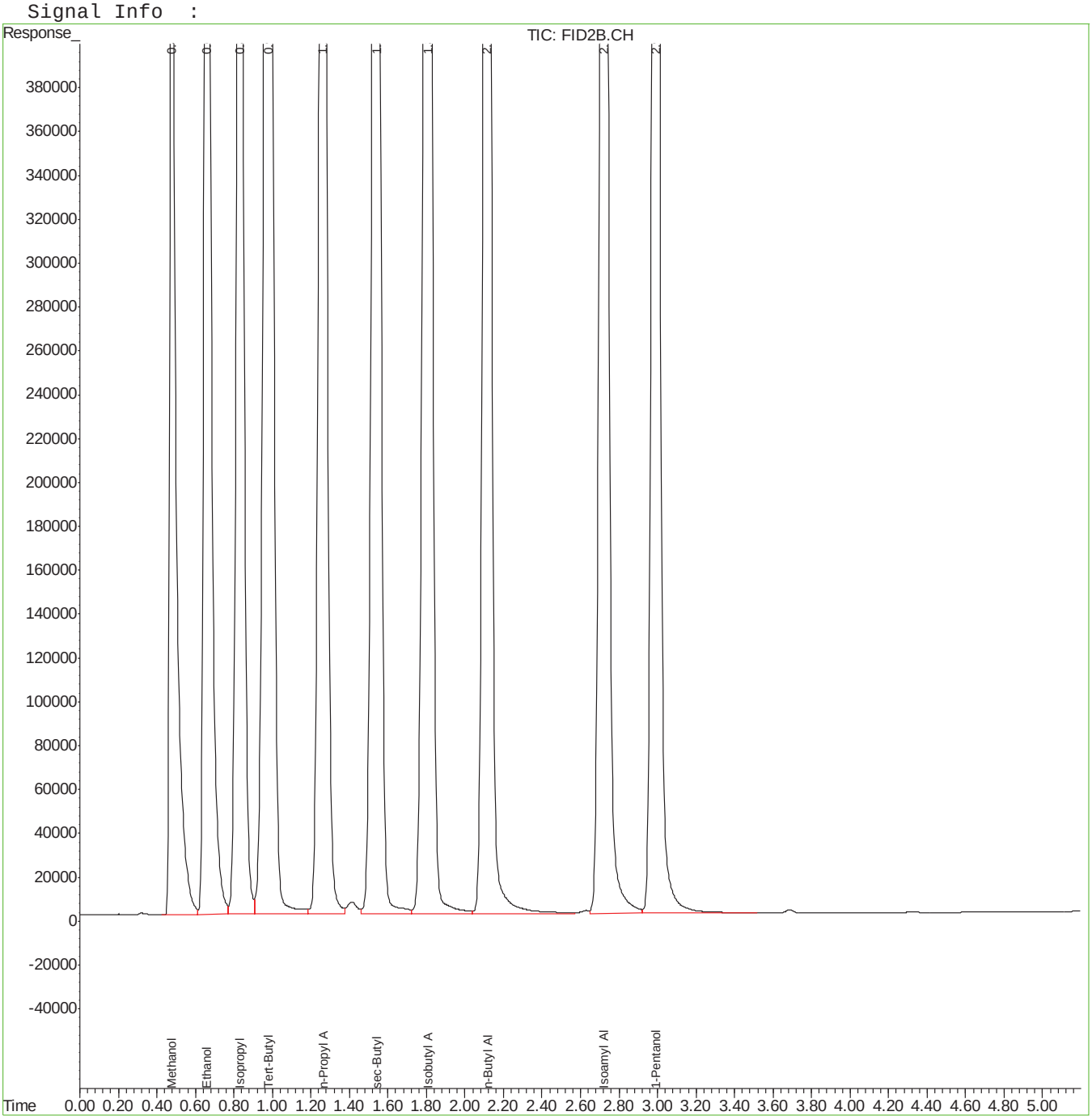
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304404.D QQ1734.M Thu Dec 10 12:29:13 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304404.D Vial: 10
Acq On : 09-Dec-2020, 20:05:41 Operator: ZEESHANQ
Sample : IC1734-1000 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 9 19:09 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:09:05 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304406.D Vial: 12
Acq On : 09-Dec-2020, 20:28:05 Operator: ZEESHANQ
Sample : ICV1734-200 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 10:16:10 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	5007616	182.216 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	91.11%
	Target Compounds			
1)	Methanol	0.48	2423972	186.051 ppm
2)	Ethanol	0.66	3492331	185.683 ppm
3)	Isopropyl Alcohol	0.83	3749334	226.992 ppm
4)	Tert-Butyl Alcohol	0.98	5296136	196.348 ppm
5)	n-Propyl Alcohol	1.26	4437798	198.834 ppm
6)	sec-Butyl Alcohol	1.54	4491499	179.958 ppm
7)	Isobutyl Alcohol	1.80	5045550	189.960 ppm
8)	n-Butyl Alcohol	2.11	4682800	173.658 ppm
9)	Isoamyl Alcohol	2.72	4840793	175.414 ppm

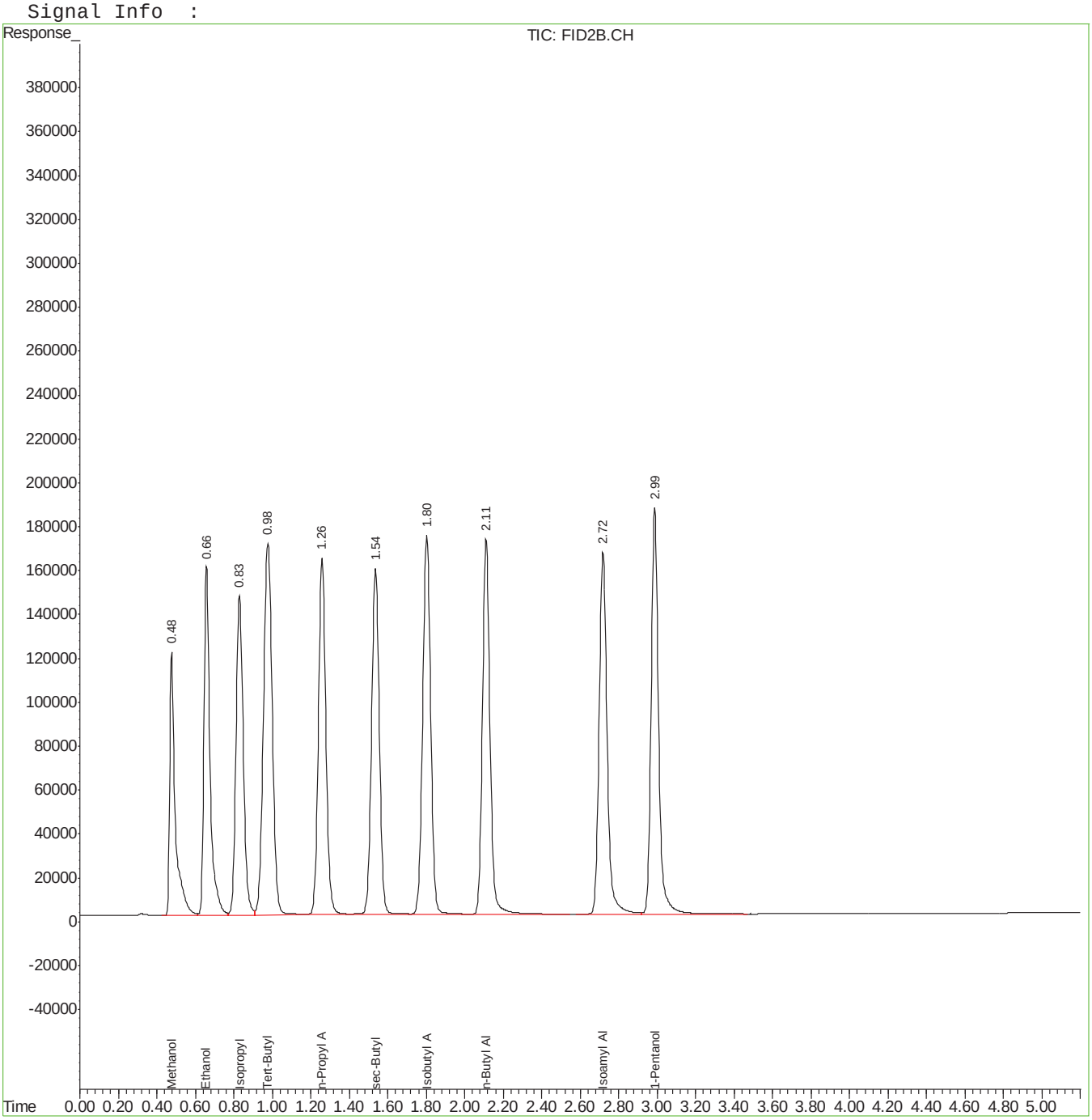
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304406.D QQ1734.M Thu Dec 10 12:29:14 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1734\QQ304406.D Vial: 12
Acq On : 09-Dec-2020, 20:28:05 Operator: ZEESHANQ
Sample : ICV1734-200 Inst : HP5890
Misc : GC12551,GQQ1734,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 10:16 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304410.D Vial: 2
Acq On : 10-Dec-2020, 11:49:38 Operator: ZEESHANQ
Sample : CC1734-200 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 10:53:33 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	4755944	173.058 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	86.53%
	Target Compounds			
1)	Methanol	0.48	2350559	180.416 ppm
2)	Ethanol	0.66	3512952	186.780 ppm
3)	Isopropyl Alcohol	0.83	3109666	188.266 ppm
4)	Tert-Butyl Alcohol	0.98	5031187	186.525 ppm
5)	n-Propyl Alcohol	1.26	4127450	184.929 ppm
6)	sec-Butyl Alcohol	1.54	4426790	177.365 ppm
7)	Isobutyl Alcohol	1.81	4883971	183.876 ppm
8)	n-Butyl Alcohol	2.12	4806152	178.232 ppm
9)	Isoamyl Alcohol	2.72	5118495	185.477 ppm

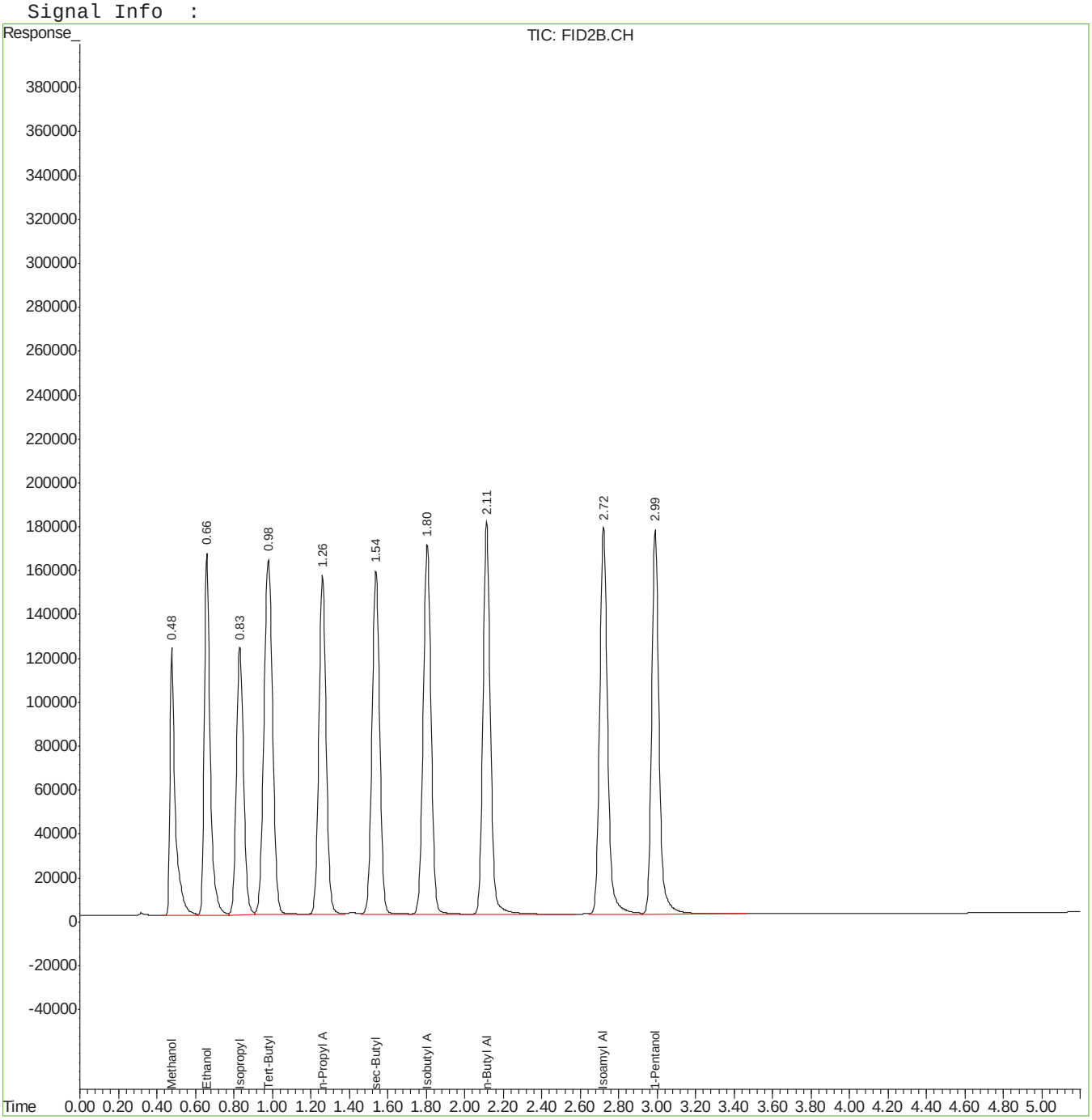
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304410.D QQ1734.M Thu Dec 10 19:01:36 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304410.D Vial: 2
Acq On : 10-Dec-2020, 11:49:38 Operator: ZEESHANQ
Sample : CC1734-200 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 10:53 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304421.D Vial: 2
Acq On : 10-Dec-2020, 14:00:09 Operator: ZEESHANQ
Sample : CC1734-200 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 13:18:13 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	4773149	173.684 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	86.84%
	Target Compounds			
1)	Methanol	0.47	2369697	181.885 ppm
2)	Ethanol	0.65	3547443	188.613 ppm
3)	Isopropyl Alcohol	0.83	3141094	190.168 ppm
4)	Tert-Butyl Alcohol	0.98	5055051	187.410 ppm
5)	n-Propyl Alcohol	1.26	4154622	186.146 ppm
6)	sec-Butyl Alcohol	1.54	4450720	178.324 ppm
7)	Isobutyl Alcohol	1.80	4918721	185.185 ppm
8)	n-Butyl Alcohol	2.11	4837062	179.378 ppm
9)	Isoamyl Alcohol	2.72	5147009	186.511 ppm

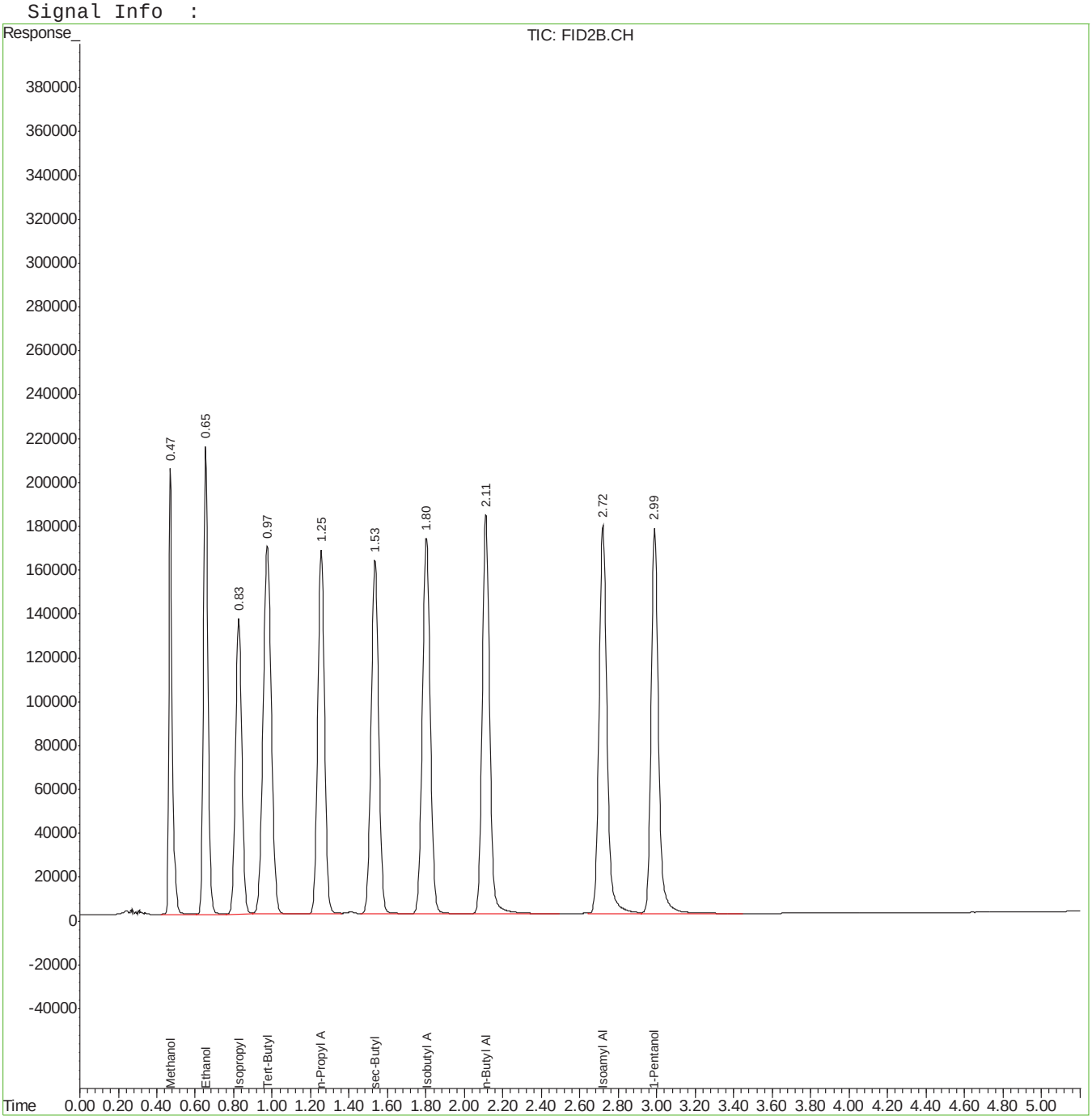
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304421.D QQ1734.M Thu Dec 10 19:01:41 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304421.D Vial: 2
Acq On : 10-Dec-2020, 14:00:09 Operator: ZEESHANQ
Sample : CC1734-200 Inst : HP5890
Misc : GC12569,GQQ1735,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 13:18 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304439.D Vial: 2
Acq On : 10-Dec-2020, 17:21:13 Operator: ZEESHANQ
Sample : CC1734-200 Inst : HP5890
Misc : GC12569,GQQ1736,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:25:28 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Initial Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
10) S	1-Pentanol	2.99	4970984	180.883 ppm
Spiked Amount	200.000	Range 62 - 122	Recovery =	90.44%
	Target Compounds			
1)	Methanol	0.47	2449296	187.995 ppm
2)	Ethanol	0.66	3659891	194.592 ppm
3)	Isopropyl Alcohol	0.83	3242213	196.290 ppm
4)	Tert-Butyl Alcohol	0.98	5230138	193.901 ppm
5)	n-Propyl Alcohol	1.26	4290144	192.218 ppm
6)	sec-Butyl Alcohol	1.54	4597997	184.225 ppm
7)	Isobutyl Alcohol	1.80	5089415	191.611 ppm
8)	n-Butyl Alcohol	2.11	5006850	185.675 ppm
9)	Isoamyl Alcohol	2.72	5353466	193.992 ppm

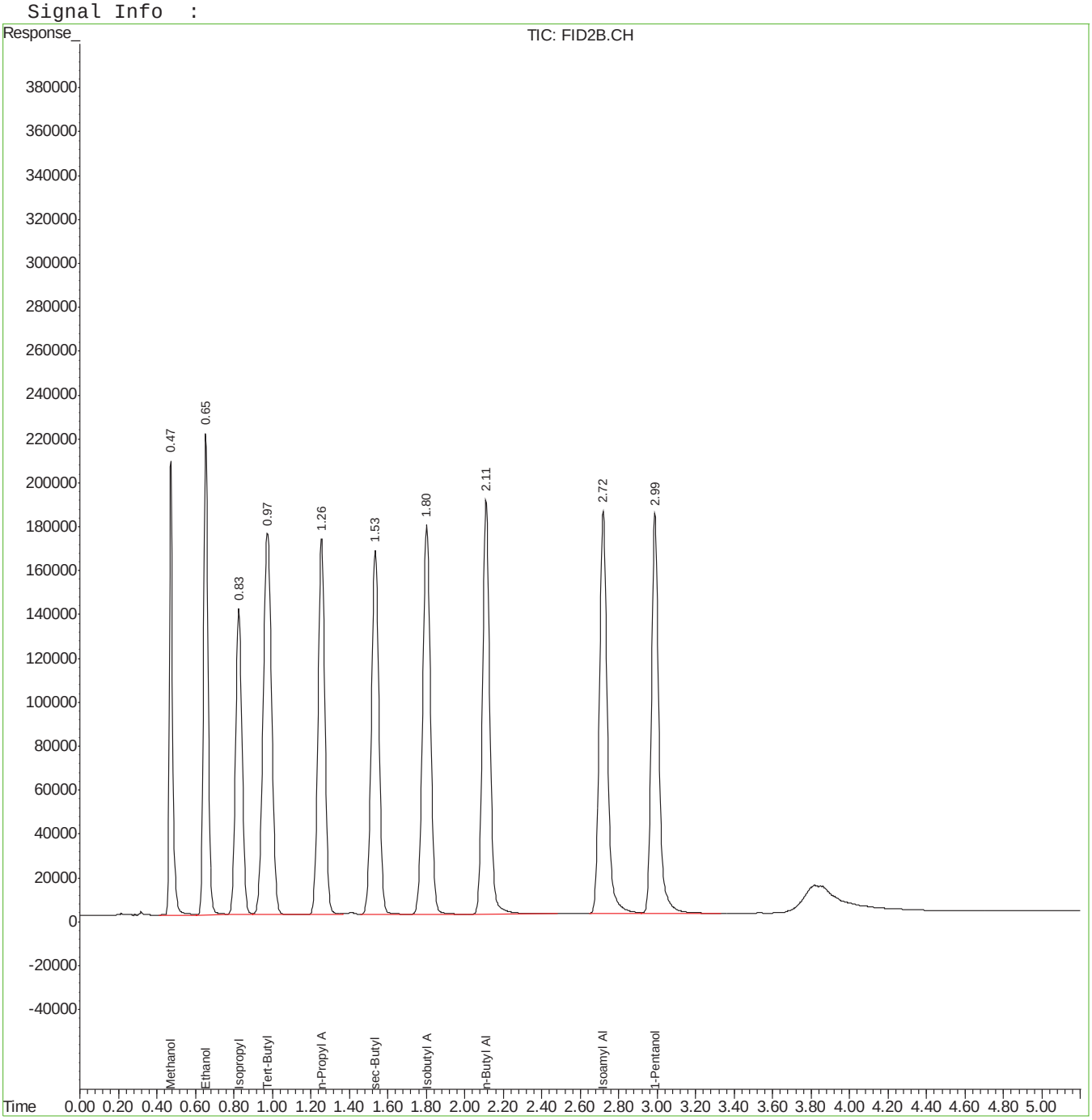
(f)=RT Delta > 1/2 Window (m)=manual int.
QQ304439.D QQ1734.M Fri Dec 11 11:33:33 2020 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\GQQ1735\QQ304439.D Vial: 2
Acq On : 10-Dec-2020, 17:21:13 Operator: ZEESHANQ
Sample : CC1734-200 Inst : HP5890
Misc : GC12569,GQQ1736,1,,,1,,WATER Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Dec 10 16:25 2020 Quant Results File: QQ1734.RES

Quant Method : C:\MSDCHEM\2\METHODS\QQ1734.M (Chemstation Integrator)
Title : SW846 8015B
Last Update : Wed Dec 09 19:12:08 2020
Response via : Multiple Level Calibration
DataAcq Meth : ALC.M

Volume Inj. :
Signal Phase :
Signal Info :



SGS

GC VOLATILE ANALYSIS LOG

Batch ID: GQQ1734/35 12/7/20

Date: 12/9/2020

Analyst Signature: [signature]

Ref #	Standard Data
A	Surrogate (Isobutanol) GV2498
B	Alcohol Std + Surr GV2511
C	Alcohol BS/MS/MSD GV2510
D	Propargyl Std + Surr
E	Propargyl BS/MS/MSD

Columns:	DB624
SW-846/EPA Method:	8015
Initial Cal. Method	IC1734
Calibration Date:	12/8/2020
Vial Lot #:	20146297
Solvent ID #:	N/A
Solvent:	DI Water

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with Accutest SOP TGC012.

Signature of Supervisor: _____

Ref #	Data File	Sample ID	Sample Amount	Method	MTX	PH	ALS#	Dil.	Vial #	Med. Lvl	Run OK	Comments	Init.
A	12304377	Blk	1mL	8LL	W	NA	96	NA	NA	NA	N		
	12/9/2020 78	Blk					1				X	BS not pass	
	79	BLK					1						
B	80	CC1701-200					2						
AC	81 ~~80~~	BS					3						
	82	BS					100						
	83	BSD					99						
A	84	BLK					1						
B	85	CC1701-200					2						
AC	86	BS					3						
	87	BS					100						
	88	BS					99						
	89	BSD					98						
	90	BS					97						
A	91	BLK					96						
	92	BLK					97						
	93	BLK					98						
	94	BLK					99						
	95	BLK					100						
B	96	PRIMER					2						

MTX = Matrix = W for water, S for soil, O for oil, and TCLP or SPLP for leachate Sample Amount = Volume (mL) or Weight (g)

Data Scanned _____ Form GC009-1

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SGS

GC VOLATILE ANALYSIS LOG

Batch ID: GQQ1734

Date: 12/9/2020

Analyst Signature: _____

Ref #	Standard Data
A	Surrogate (Isobutanol)
B	Alcohol Std + Surr
C	Alcohol BS/MS/MSD
D	Propargyl Std + Surr
E	Propargyl BS/MS/MSD

Columns:	DB624
SW-846/EPA Method:	8015
Initial Cal. Method	
Calibration Date:	
Vial Lot #:	
Solvent ID #:	
Solvent:	DI Water

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with Accutest SOP TGC012.

Signature of Supervisor: _____

Ref #	Data File	Sample ID	Sample Amount	Method	MTX	PH	ALS#	Dil.	Vial #	Med. Lvl	Run OK	Comments	Init.
B	QQ30397	ICV1734-0.5	1mL	ALL	W	NA	3	NA	NA	NA	✓	0.5ppm	ZY
	98	-1					4				✓	1ppm	
	99	-5					5				✓	5ppm	
	400	-25					6				✓	25ppm	
	01	-50					7				✓	50ppm	
	02	ICV1734-200					8				✓	200ppm	
	03	ICV1734-500					9				✓	500ppm	
	04	ICV1734-1000					10				✓	1000ppm	
A	05	BLK					11				✓		
B	06	ICV1734-200					12				✓	200ppm	
A	07	BLK					11				✓		

MTX = Matrix = W for water, S for soil, O for oil, and TCLP or SPLP for leachate Sample Amount = Volume (mL) or Weight (g)

Data Scanned _____ Form GC009-1

8.6.1

SGS

GC VOLATILE ANALYSIS LOG

Batch ID: GQQ1735/36

Date: 12/10/2020

Analyst Signature: [signature]

Ref #	Standard Data	
A	Surrogate (Isobutanol)	402498
B	Alcohol Std + Surr	402611
C	Alcohol BS/MS/MSD	402510
D	Propargyl Std + Surr	y
E	Propargyl BS/MS/MSD	

Columns:	DB624
SW-846/EPA Method:	8015
Initial Cal. Method	IC1734
Calibration Date:	12/9/2020
Vial Lot #:	20146297
Solvent ID #:	N/A
Solvent:	DI Water

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with Accutest SOP TGC012.

Signature of Supervisor: _____

Ref #	Data File	Sample ID	Sample Amount	Method	MTX	PH	ALS#	Dil.	Vial #	Med. Lvl	Run OK	Comments	Init.
NH	GQ304408	DW	1ml	ALL	W	7	96	1	N/A		X		
1	9	RAL					1				X		
B	10	CC1734-200					2					200ul/1ml	
AC	11	RS					3					20ul/100ul/1m	
A	12	MB					4					20ul/1ml	
	13	TD62958-8				NA	5	1x	N/A			DCS 0.25ppb 2.5ul/1ml	
	14	LA68119-1				>2	6	1x	18			20ul/1ml	
	15	JD16804-1				2	7	1x	20/20 1:10		X	Need by GC	
	16	-2				2	8	1x	1		X		
	17	-3				2	9	1x	1		X		
	18	-1				2	10	160x	1		X		
AC	19	LA68119-1MS				>2	11	1x	18			100ul/1ml	
AC	20	-1MSD				>2	12	1x	18				
B	21	CC1734-200				4	2	4	4			200ul/1ml	
A	22	CCV					4				X		
	23	JD16804-1				2	13	5000x	1			20ul/1ml	
	24	-2				2	14	100x	1				
	25	-3				2	15	160x	1				
	26	-4				2	16	100x	1		X	DNR Need 1x	
	27	-5				2	17	100x	1		X		

MTX = Matrix = W for water, S for soil, O for oil, and TCLP or SPLP for leachate Sample Amount = Volume (mL) or Weight (g)

SGS

GC VOLATILE ANALYSIS LOG

Batch ID: GQQ1735/36

Date: 12/10/2020

Analyst Signature: JD

Ref #	Standard Data
A	Surrogate (Isobutanol)
B	Alcohol Std + Surr
C	Alcohol BS/MS/MSD
D	Propargyl Std + Surr
E	Propargyl BS/MS/MSD

Columns:	DB624
SW-846/EPA Method:	8015
Initial Cal. Method	
Calibration Date:	
Vial Lot #:	
Solvent ID #:	
Solvent:	DI Water

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with Accutest SOP TGC012.

Signature of Supervisor: _____

Ref #	Data File	Sample ID	Sample Amount	Method	MTX	PH	ALS#	Dil.	Vial #	Med. Lvl	Run OK	Comments	Init.
A	28	SD16804-6	1ml	AC	W	C2	18	100X	1		Y	PNR. RE 1X	JD
	29	-7				C2	19	100X	1			20W/1ml	
	30	-8				C2	20	100X	1		X	RE 1X.	
B	31	CC1734-200				4	2	4	4			200W/1ml	
A	32	CCB				4	4	4	4				
	33	SD16804-4				C2	21	1X	1			20W/1ml	
	34	-5				C2	22	1X	1			20W/1ml 12/10/20	
	35	-6				C2	23	1X	1				
	36	-8				C2	24	1X	1				
	37	TD62956-1				C2	25	10X	20				
	38	931-1				32	26	10X	7				
B	39	CC1734-200				4	2	4	4			200W/1ml	
AC	40	BS				4	27		4			20W/1000W/1ml	
A	41	MB					23					20W/1ml	
	42	FA81453-1				C2	29	1X	6				
	43	-2				C2	30	1X	5				
	44	-3				C2	31	1X	4				
	45	-4				C2	32	1X	3				
	46	-5				C2	33	1X	4				
	47	-6				C2	34	1X	4				

MTX = Matrix = W for water, S for soil, O for oil, and TCLP or SPLP for leachate Sample Amount = Volume (mL) or Weight (g)

SGS

GC VOLATILE ANALYSIS LOG

12/10/2020

Batch ID: ~~GQQ1735/36~~ GQQ1735/36

Date: 12/10/2020

Analyst Signature:

Ref #	Standard Data
A	Surrogate (Isobutanol)
B	Alcohol Std + Surr
C	Alcohol BS/MS/MSD
D	Propargyl Std + Surr
E	Propargyl BS/MS/MSD

Columns:	DB624
SW-846/EPA Method:	8015
Initial Cal. Method	
Calibration Date:	
Vial Lot #:	
Solvent ID #:	
Solvent:	DI Water

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with Accutest SOP TGC012.

Signature of Supervisor: _____

Ref #	Data File	Sample ID	Sample Amount	Method	MTX	PH	ALS#	Dil.	Vial #	Med. Lvl	Run OK	Comments	Init.
AC	48	FA81453-1MS	1ml	AC4	W	L2	35	1X	~~8~~		✓	20ul/100ul/1ml	
	49	-1MSD				L2	36	1X	6		✓	"	
B	50	CC1734-200				NA	2	NA	4		✓	200ul/1ml	
A	51	CCB				1	4	1	1		Y	dry pellet	
	52	FA81453-7				L2	37	1X	8		✓	20ul/1ml	
	53	-8				L2	38	1X	2		✓		
	54	-9				L2	39	1X	4		✓		
	55	~~-37~~				L2	40	1X	5		✓		
	56	-38				L2	41	1X	12		✓		
	57	-39				L2	42	1X	4		✓		
	58	-42				L2	43	1X	5		✓		
	59	-43				L2	44	1X	9		✓		
	60	-44				L2	45	1X	4		✓		
	61	-46				L2	46	1X	3		✓		
B	62	CC1734-200				4	2	NA	4		✓	200ul/1ml	
A	63	CCB				4	1	1	1		X	dry pellet	
	64	FA81453-47				L2	47	1X	8		✓	20ul/1ml	
	65	-48				L2	48	1X	5		✓		
	66	-49				L2	49	1X	4		✓		
	67	-50				L2	50	1X	8		✓		

MTX = Matrix = W for water, S for soil, O for oil, and TCLP or SPLP for leachate Sample Amount = Volume (mL) or Weight (g)

Data Scanned _____ Form GC009-1

8.6.2 8

SGS

GC VOLATILE ANALYSIS LOG

Batch ID: GQQ1735/36

Date: 12/10/2020

Analyst Signature: [signature]

Ref #	Standard Data
A	Surrogate (Isobutanol)
B	Alcohol Std + Surr
C	Alcohol BS/MS/MSD
D	Propargyl Std + Surr
E	Propargyl BS/MS/MSD

Columns:	DB624
SW-846/EPA Method:	8015
Initial Cal. Method	
Calibration Date:	
Vial Lot #:	
Solvent ID #:	
Solvent:	DI Water

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with Accutest SOP TGC012.

Signature of Supervisor: _____

Ref #	Data File	Sample ID	Sample Amount	Method	MTX	PH	ALS#	Dil.	Vial #	Med. Lvl	Run OK	Comments	Init.
F	68	CC1734-200	1ml	ALL	W	4	2	4	4	1	✓	200ul	
A	69	CC...	1	1	1	1	4	4	4	1	X	Lapse	

MTX = Matrix = W for water, S for soil, O for oil, and TCLP or SPLP for leachate Sample Amount = Volume (mL) or Weight (g)

Data Scanned _____ Form GC009-1

8.6.2 8

SGS

GC VOLATILE ANALYSIS LOG

Batch ID: GQQ1735/36

Date: 12/10/2020

Analyst Signature: [signature]

Ref #	Standard Data	
A	Surrogate (Isobutanol)	902498
B	Alcohol Std + Surr	902611
C	Alcohol BS/MS/MSD	902510
D	Propargyl Std + Surr	y
E	Propargyl BS/MS/MSD	

Columns:	DB624
SW-846/EPA Method:	8015
Initial Cal. Method	IC1734
Calibration Date:	12/9/2020
Vial Lot #:	20146297
Solvent ID #:	N/A
Solvent:	DI Water

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with Accutest SOP TGC012.

Signature of Supervisor: _____

Ref #	Data File	Sample ID	Sample Amount	Method	MTX	PH	ALS#	Dil.	Vial #	Med. Lvl	Run OK	Comments	Init.
NH	GQ304408	DW	1ml	AL	W	7	96	1	N/A		X		
1	9	RL					1				X		
B	10	CC1734-200					2					200ul/1ml	
AC	11	RS					3					20ul/100ul/1m	
A	12	MB					4					20ul/1ml	
	13	TD62958-8				NA	5	1x	N/A			DCB 0.25ppb 2.5ul/1ml	
	14	LA63119-1				>2	6	1x	18			20ul/1ml	
	15	JD16804-1				2	7	1x	20/20 1:10		X	Need by GC	
	16	-2				2	8	1x	1		X		
	17	-3				2	9	1x	1		X		
	18	-1				2	10	160x	1		X		
AC	19	LA63119-1MS				>2	11	1x	18			100ul/1ml	
AC	20	-1MSD				>2	12	1x	18				
B	21	CC1734-200				4	2	4	4			200ul/1ml	
A	22	CCV					4				X		
	23	JD16804-1				2	13	5000x	1			20ul/1ml	
	24	-2				2	14	100x	1				
	25	-3				2	15	160x	1				
	26	-4				2	16	100x	1		X	DNR Need 1x	
	27	-5				2	17	100x	1		X		

MTX = Matrix = W for water, S for soil, O for oil, and TCLP or SPLP for leachate Sample Amount = Volume (mL) or Weight (g)

Data Scanned _____ Form GC009-1

8.6.3 8

SGS

GC VOLATILE ANALYSIS LOG

Batch ID: GQQ1735/36

Date: 12/10/2020

Analyst Signature:

Ref #	Standard Data
A	Surrogate (Isobutanol)
B	Alcohol Std + Surr
C	Alcohol BS/MS/MSD
D	Propargyl Std + Surr
E	Propargyl BS/MS/MSD

Columns:	DB624
SW-846/EPA Method:	8015
Initial Cal. Method	
Calibration Date:	
Vial Lot #:	
Solvent ID #:	
Solvent:	DI Water

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with Accutest SOP TGC012.

Signature of Supervisor: _____

Ref #	Data File	Sample ID	Sample Amount	Method	MTX	PH	ALS#	Dil.	Vial #	Med. Lvl	Run OK	Comments	Init.
A	28	SD16804-6	1ml	AC	W	CL	18	100X	1		Y	PNR. RE 1X	ZB
	29	-7				CL	19	100X	1			20W/1ml	
	30	-8				CL	20	100X	1		X	RE 1X.	
B	31	CC1734-200				Y	2	Y	Y			200W/1ml	
A	32	CCB				Y	Y	Y	Y		Y		
	33	SD16804-4				CL	21	1X	1			20W/1ml	
	34	-5				CL	22	1X	1			20W/12/10/20	
	35	-6				CL	23	1X	1				
	36	-8				CL	24	1X	1				
	37	SD62956-1				CL	25	10X	20				
	38	931-1				32	26	10X	7				
B	39	CC1734-200				Y	2	Y	Y			200W/1ml	
AC	40	BS				Y	27	Y	Y		X	20W/1000W/1ml	
A	41	MB					28					20W/1ml	
	42	FA81453-1				CL	29	1X	6				
	43	-2				CL	30	1X	5				
	44	-3				CL	31	1X	4				
	45	-4				CL	32	1X	3				
	46	-5				CL	33	1X	4				
	47	-6				CL	34	1X	4				

MTX = Matrix = W for water, S for soil, O for oil, and TCLP or SPLP for leachate Sample Amount = Volume (mL) or Weight (g)

SGS

GC VOLATILE ANALYSIS LOG

12/10/2020

Batch ID: ~~GQQ1735~~ GQQ1735/36

Date: 12/10/20

Analyst Signature: [signature]

Ref #	Standard Data
A	Surrogate (Isobutanol)
B	Alcohol Std + Surr
C	Alcohol BS/MS/MSD
D	Propargyl Std + Surr
E	Propargyl BS/MS/MSD

Columns:	DB624
SW-846/EPA Method:	8015
Initial Cal. Method	
Calibration Date:	
Vial Lot #:	
Solvent ID #:	
Solvent:	DI Water

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with Accutest SOP TGC012.

Signature of Supervisor: _____

Ref #	Data File	Sample ID	Sample Amount	Method	MTX	PH	ALS#	Dil.	Vial #	Med. Lvl	Run OK	Comments	Init.
AC	48	FA81453-1MS	1 mL	ALC	W	L2	35	1X	8		✓	20uL/100uL/1mL	
	49	-1MSD				L2	36	1X	6		✓	"	
B	50	CC1734-200				NA	2	NA	4		✓	200uL/1mL	
A	51	CCB				1	4	1	1		Y	ok to proceed	
	52	FA81453-7				L2	37	1X	8		✓	20uL/1mL	
	53	-8				L2	38	1X	2		✓		
	54	-9				L2	39	1X	4		✓		
	55	~~-37~~ 12/24/20				L2	40	1X	5		✓		
	56	-38				L2	41	1X	12		✓		
	57	-39				L2	42	1X	4		✓		
	58	-42				L2	43	1X	5		✓		
	59	-43				L2	44	1X	9		✓		
	60	-44				L2	45	1X	4		✓		
	61	-46				L2	46	1X	3		✓		
B	62	CC1734-200				4	2	NA	4		✓	200uL/1mL	
A	63	CCB				4	4	1	1		X	dup Blk	
	64	FA81453-47				L2	47	1X	8		✓	20uL/1mL	
	65	-48				L2	48	1X	5		✓		
	66	-49				L2	49	1X	4		✓		
	67	-50				L2	50	1X	8		✓		

MTX = Matrix = W for water, S for soil, O for oil, and TCLP or SPLP for leachate Sample Amount = Volume (mL) or Weight (g)

Data Scanned _____ Form GC009-1

8.6.3 8

SGS

GC VOLATILE ANALYSIS LOG

Batch ID: GQQ1735/36

Date: 12/10/2020

Analyst Signature: [signature]

Ref #	Standard Data
A	Surrogate (Isobutanol)
B	Alcohol Std + Surr
C	Alcohol BS/MS/MSD
D	Propargyl Std + Surr
E	Propargyl BS/MS/MSD

Columns:	DB624
SW-846/EPA Method:	8015
Initial Cal. Method	
Calibration Date:	
Vial Lot #:	
Solvent ID #:	
Solvent:	DI Water

Manually integrated chromatographic peaks in the following reportable files have been reviewed and verified to comply with Accutest SOP TGC012.

Signature of Supervisor: _____

Ref #	Data File	Sample ID	Sample Amount	Method	MTX	PH	ALS#	Dil.	Vial #	Med. Lvl	Run OK	Comments	Init.
F	68	CC1734-200	1ml	ALL	W	4	2	4	4	1	✓	200ul	
A	69	cc...	1	1	1	1	4	4	4	1	X	Lapse	

MTX = Matrix = W for water, S for soil, O for oil, and TCLP or SPLP for leachate Sample Amount = Volume (mL) or Weight (g)

Data Scanned _____ Form GC009-1

8.6.3 8

The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP18-5015 PFAS Removal; Pease AFB, NH

7311180270.6000 PO# F013200721

SGS Job Number: JD17136

Sampling Dates: 11/30/20 - 12/02/20

Report to:

eric.thompson2@woodplc.com

ATTN: Distribution4

Total number of pages in report: **11**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Thelma Flaherty 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Sample Summary

Wood Environment & Infrastructure Solut.

Job No: JD17136

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000 PO# F013200721

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JD17136-1	11/30/20	12:00		12/03/20	AQ	Ground Water	SP11-C1B1_20201130
JD17136-2	12/01/20	12:00		12/03/20	AQ	Ground Water	SP11-C1B2_20201201
JD17136-3	12/01/20	12:00		12/03/20	AQ	Ground Water	SP11-C1B3_20201201
JD17136-4	12/02/20	12:00		12/03/20	AQ	Ground Water	SP11-C1B4_20201202
JD17136-5	12/02/20	12:00		12/03/20	AQ	Ground Water	SP25-C1B4_20201202
JD17136-6	12/02/20	12:00		12/03/20	AQ	Ground Water	SP11-C1B5_20201202
JD17136-7	12/02/20	12:00		12/03/20	AQ	Ground Water	SP11-C1B6_20201202

Report of Analysis

Client Sample ID:	SP11-C1B1_20201130		
Lab Sample ID:	JD17136-1	**Date Sampled:**	11/30/20
Matrix:	AQ - Ground Water	**Date Received:**	12/03/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304533.D	1000	12/14/20 13:02	ATX	n/a	n/a	T:GQQ1739
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	8460	500	100 [b]	100	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	85%		62-122%

(a) Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP11-C1B2_20201201		
Lab Sample ID:	JD17136-2	**Date Sampled:**	12/01/20
Matrix:	AQ - Ground Water	**Date Received:**	12/03/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304546.D	50	12/14/20 15:29	ATX	n/a	n/a	T:GQQ1739
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	211	25	5.0 [b]	5.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	80%		62-122%

(a) Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP11-C1B3_20201201		
Lab Sample ID:	JD17136-3	**Date Sampled:**	12/01/20
Matrix:	AQ - Ground Water	**Date Received:**	12/03/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304547.D	100	12/14/20 15:40	ATX	n/a	n/a	T:GQQ1739
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	1130	50	10 [b]	10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	79%		62-122%

(a) Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP11-C1B4_20201202		
Lab Sample ID:	JD17136-4	**Date Sampled:**	12/02/20
Matrix:	AQ - Ground Water	**Date Received:**	12/03/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304548.D	20	12/14/20 15:51	ATX	n/a	n/a	T:GQQ1739
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	104	10	2.0 [b]	2.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	81%		62-122%

(a) Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP25-C1B4_20201202		
Lab Sample ID:	JD17136-5	**Date Sampled:**	12/02/20
Matrix:	AQ - Ground Water	**Date Received:**	12/03/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304549.D	10	12/14/20 16:02	ATX	n/a	n/a	T:GQQ1739
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	103	5.0	1.0 [b]	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	80%		62-122%

(a) Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP11-C1B5_20201202		
Lab Sample ID:	JD17136-6	**Date Sampled:**	12/02/20
Matrix:	AQ - Ground Water	**Date Received:**	12/03/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304551.D	20	12/14/20 16:24	ATX	n/a	n/a	T:GQQ1739
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	275	10	2.0 [b]	2.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	77%		62-122%

(a) Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP11-C1B6_20201202		
Lab Sample ID:	JD17136-7	**Date Sampled:**	12/02/20
Matrix:	AQ - Ground Water	**Date Received:**	12/03/20
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QQ304554.D	10	12/14/20 16:58	ATX	n/a	n/a	T:GQQ1739
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	187	5.0	1.0 [b]	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-41-0	1-Pentanol	77%		62-122%

(a) Analysis performed at SGS Houston, TX.
(b) Value reported is laboratory DL (MDL).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

GW

JD17136

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

CHAIN OF CUSTODY

DATE: 12/3/20
COC #:
PAGE: 1 OF 1

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	FED EX
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	VOC-8260c 8015 IPA	STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
1	SP1-GW-2020		WG	N	N	X					4	
2	SP11-CIB1_20201130	11/30/20 12:00	GW	N	N	X	X				3	
3	SP11-CIB2_20201204	12/01/20 12:00	GW	N	N	X	X				3	
4	SP11-CIB3_20201201	12/01/20 12:00	GW	N	N	X	X				3	
5	SP11-CIB4_20201202	12/02/20 12:00	GW	N	N	X	X				3	
6	SP2S-CIB4_20201202	12/02/20 12:00	GW	N	N	X	X				3	
7	SP11-CIB5_20201202	12/02/20 12:00	GW	N	N	X	X				3	
8	SP11-CIB6_20201202	12/02/20 12:00	GW	N	N	X	X				3	
9												
10												
11												
12												

1708

Sampler's Signature: [signature] Date: 12/3/20 Time: 12:00

Relinquished By/Affiliation: Wood E&IS [signature] Date: 12-3-20 Time: 1445

Received By: [signature] Date: 12/3/20 Time: 1450

Relinquished By/Affiliation: [signature] Date: 12/3/20 Time: 1730

Received By: Fed ex Date: Time:

Relinquished By/Affiliation: Date: 12/4/20 Time: 12:00

Received By (LAB): [signature] Date: Time:

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	3.2°C °C

IP IR-4

Comments:
X=Analyze H=Hold Analysis Request PO # F013200721
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT:

ESA Billing

Send to NJ lab

Initial Assessment JBV

Label Verification SPX

Fedex 9304 4369 6157 SGS-ACCUTEST MARLBOR 12/3

No bottle order

SGS Sample Receipt Summary

Job Number: JD17136 **Client:** _____ **Project:** _____

Date / Time Received: 12/3/2020 5:30:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (2.7);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JD17136: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

7311180270.6000

SGS Job Number: JD19789

Sampling Dates: 01/20/21 - 01/26/21

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Avenue Suite 900
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Eric Thompson

Total number of pages in report: **159**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Thelma Flaherty 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: JD19789

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JD19789-1	01/26/21	12:00		01/28/21	AQ	Ground Water	C2B11-SB-20210126
JD19789-2	01/25/21	12:00		01/28/21	AQ	Ground Water	C2B10-SB-20210125
JD19789-3	01/25/21	12:00		01/28/21	AQ	Ground Water	C2B9-SB-20210125
JD19789-4	01/25/21	12:00		01/28/21	AQ	Ground Water	C2B8-SB-20210125
JD19789-5	01/22/21	12:00		01/28/21	AQ	Ground Water	C2B7-SB-20210122
JD19789-6	01/22/21	12:00		01/28/21	AQ	Ground Water	C2B6-SB-20210122
JD19789-7	01/21/21	12:00		01/28/21	AQ	Ground Water	C2B5-SB-20210121
JD19789-8	01/21/21	12:00		01/28/21	AQ	Ground Water	C2B4-SB-20210121
JD19789-9	01/20/21	12:00		01/28/21	AQ	Ground Water	C2B3-SB-20210120

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Wood Environment & Infrastructure Solut.	**Job No**	JD19789
Site:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH	**Report Date**	2/10/2021 12:00:15 P

On 01/28/2021, 9 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD19789 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

GC Volatiles By Method SW846-8015D (DAI)

Matrix: AQ **Batch ID:** GGH6654

- All samples were analyzed within the recommended method holding time.
- Sample(s) JD19624-1MS, JD19624-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JD19789-1: (pH=6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.
- JD19789-2: (pH=6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.
- JD19789-3: (pH=6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.
- JD19789-5: (pH=6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.
- JD19789-6: (pH=6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.
- JD19789-7: (pH=6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.
- JD19789-8: (pH=6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.
- JD19789-9: (pH=6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

Matrix: AQ **Batch ID:** GGH6655

- All samples were analyzed within the recommended method holding time.
- Sample(s) JD19735-11MS, JD19735-11MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JD19789-4: (pH=6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JD19789
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Collected: 01/20/21 thru 01/26/21

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
JD19789-1	**C2B11-SB-20210126**					
Isopropyl Alcohol [a]		185000	20000	16000	ug/l	SW846-8015D (DAI)
JD19789-2	**C2B10-SB-20210125**					
Isopropyl Alcohol [a]		90300	20000	16000	ug/l	SW846-8015D (DAI)
JD19789-3	**C2B9-SB-20210125**					
Isopropyl Alcohol [a]		199000	20000	16000	ug/l	SW846-8015D (DAI)
JD19789-4	**C2B8-SB-20210125**					
Isopropyl Alcohol [a]		87300	20000	16000	ug/l	SW846-8015D (DAI)
JD19789-5	**C2B7-SB-20210122**					
Isopropyl Alcohol [a]		68600	20000	16000	ug/l	SW846-8015D (DAI)
JD19789-6	**C2B6-SB-20210122**					
Isopropyl Alcohol [a]		42800	20000	16000	ug/l	SW846-8015D (DAI)
JD19789-7	**C2B5-SB-20210121**					
Isopropyl Alcohol [a]		113000	20000	16000	ug/l	SW846-8015D (DAI)
JD19789-8	**C2B4-SB-20210121**					
Isopropyl Alcohol [a]		364000	20000	16000	ug/l	SW846-8015D (DAI)
JD19789-9	**C2B3-SB-20210120**					
Isopropyl Alcohol [a]		154000	20000	16000	ug/l	SW846-8015D (DAI)

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B11-SB-20210126		
Lab Sample ID:	JD19789-1	**Date Sampled:**	01/26/21
Matrix:	AQ - Ground Water	**Date Received:**	01/28/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123611.D	100	02/02/21 19:21	RS	n/a	n/a	GGH6654
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	185000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	98%		56-145%

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B10-SB-20210125		
Lab Sample ID:	JD19789-2	**Date Sampled:**	01/25/21
Matrix:	AQ - Ground Water	**Date Received:**	01/28/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123612.D	100	02/02/21 19:38	RS	n/a	n/a	GGH6654
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	90300	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	87%		56-145%

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B9-SB-20210125		
Lab Sample ID:	JD19789-3	**Date Sampled:**	01/25/21
Matrix:	AQ - Ground Water	**Date Received:**	01/28/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123613.D	100	02/02/21 19:56	RS	n/a	n/a	GGH6654
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	199000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	95%		56-145%

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B8-SB-20210125		
Lab Sample ID:	JD19789-4	**Date Sampled:**	01/25/21
Matrix:	AQ - Ground Water	**Date Received:**	01/28/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123626.D	100	02/04/21 15:15	RS	n/a	n/a	GGH6655
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	87300	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	96%		56-145%

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B7-SB-20210122		
Lab Sample ID:	JD19789-5	**Date Sampled:**	01/22/21
Matrix:	AQ - Ground Water	**Date Received:**	01/28/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123615.D	100	02/02/21 20:31	RS	n/a	n/a	GGH6654
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	68600	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	86%		56-145%

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B6-SB-20210122		
Lab Sample ID:	JD19789-6	**Date Sampled:**	01/22/21
Matrix:	AQ - Ground Water	**Date Received:**	01/28/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123616.D	100	02/02/21 20:48	RS	n/a	n/a	GGH6654
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	42800	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	88%		56-145%

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B5-SB-20210121		
Lab Sample ID:	JD19789-7	**Date Sampled:**	01/21/21
Matrix:	AQ - Ground Water	**Date Received:**	01/28/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123610.D	100	02/02/21 19:03	RS	n/a	n/a	GGH6654
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	113000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	85%		56-145%

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B4-SB-20210121		
Lab Sample ID:	JD19789-8	**Date Sampled:**	01/21/21
Matrix:	AQ - Ground Water	**Date Received:**	01/28/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123609.D	100	02/02/21 18:45	RS	n/a	n/a	GGH6654
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	364000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	87%		56-145%

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B3-SB-20210120		
Lab Sample ID:	JD19789-9	**Date Sampled:**	01/20/21
Matrix:	AQ - Ground Water	**Date Received:**	01/28/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123608.D	100	02/02/21 18:28	RS	n/a	n/a	GGH6654
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	154000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	92%		56-145%

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution required due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

9304 4369 9036

JD19789

DATE:

COC #:

PAGE: 1 OF 1

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

GW

CHAIN OF CUSTODY

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	FED EX
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD
1	SB1-GW-2020		~~WG~~	N	N
2	C2B11-SB_20210126	1/26/21 12:00	GW	N	N
3	C2B10-SB_20210125	1/25/21 12:00	GW	N	N
4	C2B9-SB_20210125	1/25/21 12:00	GW	N	N
5	C2B8-SB_20210125	1/25/21 12:00	GW	N	N
6	C2B7-SB_20210122	1/22/21 12:00	GW	N	N
7	C2B6-SB_20210122	1/22/21 12:00	GW	N	N
8	C2B5-SB_20210121	1/21/21 12:00	GW	N	N
9	C2B4-SB_20210121	1/21/21 12:00	GW	N	N
10	C2B3-SB_20210120	1/20/21 12:00	GW	N	N
11					
12					

Methods for Analysis: 8015 IPA

RUSH

STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analysis
X				3	
X				3	
X				3	
X				3	
X				3	
X				3	
X				3	
X				3	
X				3	

V1060

TP 1/22/21 per Thompson

Sampler's Signature:		Date: 1/27/21	Time: 12:00
Relinquished By/Affiliation: Wood E&IS		Date: 1/27/21	Time: 12:00
Received By:		Date: 1/28/21	Time: 1335
Relinquished By/Affiliation:		Date: 1/28/21	Time: 1700
Received By:	FedEx	Date:	Time:
Relinquished By/Affiliation:	fedex	Date: 1/29/21	Time: 10:00 AM
Received By (LAB):	DH	Date: 1/29/21	Time: 1200

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	°C

Comments:
X=Analyze H=Hold Analysis Request PO # F013200721
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT:

CS# 02040

IR-4 4iCIp

Initial Acceptance: KG 3A

Label Verification:

SGS-ACCUTEST MARLBOR 1/28

SGS Sample Receipt Summary

Job Number: JD19789 **Client:** _____ **Project:** _____

Date / Time Received: 1/28/2021 5:00:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (4.1);

Cooler Temps (Corrected) °C: Cooler 1: (2.8);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JD19789: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Wood Environment & Infrastructure Solut.

Job No: JD19789

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD19789-1 Collected: 26-JAN-21 12:00 By: C2B11-SB-20210126				Received: 28-JAN-21	By: DDH	
JD19789-1	SW846-8015D (DAI)	02-FEB-21 19:21	RS			D8015IPA
JD19789-2 Collected: 25-JAN-21 12:00 By: C2B10-SB-20210125				Received: 28-JAN-21	By: DDH	
JD19789-2	SW846-8015D (DAI)	02-FEB-21 19:38	RS			D8015IPA
JD19789-3 Collected: 25-JAN-21 12:00 By: C2B9-SB-20210125				Received: 28-JAN-21	By: DDH	
JD19789-3	SW846-8015D (DAI)	02-FEB-21 19:56	RS			D8015IPA
JD19789-4 Collected: 25-JAN-21 12:00 By: C2B8-SB-20210125				Received: 28-JAN-21	By: DDH	
JD19789-4	SW846-8015D (DAI)	04-FEB-21 15:15	RS			D8015IPA
JD19789-5 Collected: 22-JAN-21 12:00 By: C2B7-SB-20210122				Received: 28-JAN-21	By: DDH	
JD19789-5	SW846-8015D (DAI)	02-FEB-21 20:31	RS			D8015IPA
JD19789-6 Collected: 22-JAN-21 12:00 By: C2B6-SB-20210122				Received: 28-JAN-21	By: DDH	
JD19789-6	SW846-8015D (DAI)	02-FEB-21 20:48	RS			D8015IPA
JD19789-7 Collected: 21-JAN-21 12:00 By: C2B5-SB-20210121				Received: 28-JAN-21	By: DDH	
JD19789-7	SW846-8015D (DAI)	02-FEB-21 19:03	RS			D8015IPA
JD19789-8 Collected: 21-JAN-21 12:00 By: C2B4-SB-20210121				Received: 28-JAN-21	By: DDH	
JD19789-8	SW846-8015D (DAI)	02-FEB-21 18:45	RS			D8015IPA

Internal Sample Tracking Chronicle

Wood Environment & Infrastructure Solut.

Job No: JD19789

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD19789-9 Collected: 20-JAN-21 12:00 By: C2B3-SB-20210120				Received: 28-JAN-21	By: DDH	
JD19789-9	SW846-8015D (DAI)	02-FEB-21 18:28	RS			D8015IPA

SGS Internal Chain of Custody

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Received: 01/28/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD19789-1.1	Secured Storage	Robert Szot	02/02/21 19:02	Retrieve from Storage
JD19789-1.1	Robert Szot	GCGH	02/02/21 19:02	Load on Instrument
JD19789-1.1	GCGH	Bridget Kelly	02/09/21 09:23	Unload from Instrument
JD19789-1.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19789-2.1	Secured Storage	Robert Szot	02/02/21 19:02	Retrieve from Storage
JD19789-2.1	Robert Szot	GCGH	02/02/21 19:02	Load on Instrument
JD19789-2.1	GCGH	Bridget Kelly	02/09/21 09:23	Unload from Instrument
JD19789-2.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19789-3.1	Secured Storage	Robert Szot	02/02/21 19:02	Retrieve from Storage
JD19789-3.1	Robert Szot	GCGH	02/02/21 19:02	Load on Instrument
JD19789-3.1	GCGH	Bridget Kelly	02/09/21 09:23	Unload from Instrument
JD19789-3.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19789-4.1	Secured Storage	Robert Szot	02/02/21 19:02	Retrieve from Storage
JD19789-4.1	Robert Szot	GCGH	02/02/21 19:02	Load on Instrument
JD19789-4.1	GCGH	Bridget Kelly	02/09/21 09:23	Unload from Instrument
JD19789-4.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19789-5.1	Secured Storage	Robert Szot	02/02/21 19:02	Retrieve from Storage
JD19789-5.1	Robert Szot	GCGH	02/02/21 19:02	Load on Instrument
JD19789-5.1	GCGH	Bridget Kelly	02/09/21 09:23	Unload from Instrument
JD19789-5.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19789-6.1	Secured Storage	Robert Szot	02/02/21 19:02	Retrieve from Storage
JD19789-6.1	Robert Szot	GCGH	02/02/21 19:02	Load on Instrument
JD19789-6.1	GCGH	Bridget Kelly	02/09/21 09:23	Unload from Instrument
JD19789-6.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19789-7.1	Secured Storage	Robert Szot	02/02/21 19:02	Retrieve from Storage
JD19789-7.1	Robert Szot	GCGH	02/02/21 19:02	Load on Instrument
JD19789-7.1	GCGH	Bridget Kelly	02/09/21 09:23	Unload from Instrument
JD19789-7.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19789-8.1	Secured Storage	Robert Szot	02/02/21 19:02	Retrieve from Storage
JD19789-8.1	Robert Szot	GCGH	02/02/21 19:02	Load on Instrument
JD19789-8.1	GCGH	Bridget Kelly	02/09/21 09:23	Unload from Instrument
JD19789-8.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19789-9.1	Secured Storage	Robert Szot	02/02/21 19:02	Retrieve from Storage
JD19789-9.1	Robert Szot	GCGH	02/02/21 19:02	Load on Instrument
JD19789-9.1	GCGH	Bridget Kelly	02/09/21 09:23	Unload from Instrument
JD19789-9.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage

QC Evaluation: DOD QSM5.x Limits

Job Number: JD19789
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Collected: 01/20/21 thru 01/26/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No DOD QSM5.x Limits Found.

* Sample used for QC is not from job JD19789

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6654-MB2	GH123607.D	1	02/02/21	RS	n/a	n/a	GGH6654

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD19789-1, JD19789-2, JD19789-3, JD19789-5, JD19789-6, JD19789-7, JD19789-8, JD19789-9

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	88%	56-145%

Method Blank Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6655-MB1	GH123621.D	1	02/04/21	RS	n/a	n/a	GGH6655

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD19789-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	76%	56-145%

Method Blank Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6654-MB1	GH123597.D	1	02/02/21	RS	n/a	n/a	GGH6654

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

GGH6654-BS, JD19624-1MS, JD19624-1MSD

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	96%	56-145%

Blank Spike Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6654-BS	GH123598.D	1	02/02/21	RS	n/a	n/a	GGH6654

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD19789-1, JD19789-2, JD19789-3, JD19789-5, JD19789-6, JD19789-7, JD19789-8, JD19789-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	4370	87	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	108%	56-145%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6655-BS	GH123622.D	1	02/04/21	RS	n/a	n/a	GGH6655

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD19789-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	4380	88	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	85%	56-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD19624-1MS	GH123604.D	1	02/02/21	RS	n/a	n/a	GGH6654
JD19624-1MSD	GH123605.D	1	02/02/21	RS	n/a	n/a	GGH6654
JD19624-1	GH123599.D	1	02/02/21	RS	n/a	n/a	GGH6654

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD19789-1, JD19789-2, JD19789-3, JD19789-5, JD19789-6, JD19789-7, JD19789-8, JD19789-9

CAS No.	Compound	JD19624-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	ND		5000	4690	94	5000	4390	88	7	70-133/28

CAS No.	Surrogate Recoveries	MS	MSD	JD19624-1	Limits
111-27-3	Hexanol	94%	94%	114%	56-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD19735-11MS	GH123624.D	1	02/04/21	RS	n/a	n/a	GGH6655
JD19735-11MSD	GH123625.D	1	02/04/21	RS	n/a	n/a	GGH6655
JD19735-11	GH123623.D	1	02/04/21	RS	n/a	n/a	GGH6655

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD19789-4

CAS No.	Compound	JD19735-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	ND		5000	5350	107	5000	4790	96	11	70-133/28

CAS No.	Surrogate Recoveries	MS	MSD	JD19735-11	Limits
111-27-3	Hexanol	93%	85%	97%	56-145%

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Method: SW846-8015D (DAI) **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JD19789-1	GH123611.D	98
JD19789-2	GH123612.D	87
JD19789-3	GH123613.D	95
JD19789-4	GH123626.D	96
JD19789-5	GH123615.D	86
JD19789-6	GH123616.D	88
JD19789-7	GH123610.D	85
JD19789-8	GH123609.D	87
JD19789-9	GH123608.D	92
GGH6654-BS	GH123598.D	108
GGH6654-MB2	GH123607.D	88
GGH6655-BS	GH123622.D	85
GGH6655-MB1	GH123621.D	76
JD19624-1MS	GH123604.D	94
JD19624-1MSD	GH123605.D	94
JD19735-11MS	GH123624.D	93
JD19735-11MSD	GH123625.D	85
GGH6654-MB1	GH123597.D	96

Surrogate Compounds	Recovery Limits
S1 = Hexanol	56-145%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6654-CC6650	**Injection Date:**	02/02/21
Lab File ID:	GH123596.D	**Injection Time:**	12:34
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.33

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6654-MB1	GH123597.D	02/02/21	12:51	6.33
GGH6654-BS	GH123598.D	02/02/21	13:09	6.33
JD19624-1	GH123599.D	02/02/21	15:45	6.34
ZZZZZZ	GH123600.D	02/02/21	16:02	6.33
ZZZZZZ	GH123601.D	02/02/21	16:19	6.33
ZZZZZZ	GH123602.D	02/02/21	16:37	6.33
ZZZZZZ	GH123603.D	02/02/21	16:55	6.33
JD19624-1MS	GH123604.D	02/02/21	17:18	6.33
JD19624-1MSD	GH123605.D	02/02/21	17:35	6.33

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6654-CC6650	**Injection Date:**	02/02/21
Lab File ID:	GH123606.D	**Injection Time:**	17:53
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.33

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6654-MB2	GH123607.D	02/02/21	18:10	6.33
JD19789-9	GH123608.D	02/02/21	18:28	6.33
JD19789-8	GH123609.D	02/02/21	18:45	6.33
JD19789-7	GH123610.D	02/02/21	19:03	6.33
JD19789-1	GH123611.D	02/02/21	19:21	6.33
JD19789-2	GH123612.D	02/02/21	19:38	6.33
JD19789-3	GH123613.D	02/02/21	19:56	6.33
JD19789-5	GH123615.D	02/02/21	20:31	6.33
JD19789-6	GH123616.D	02/02/21	20:48	6.33

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6655-CC6650	**Injection Date:**	02/04/21
Lab File ID:	GH123620.D	**Injection Time:**	12:39
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.35

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6655-MB1	GH123621.D	02/04/21	12:56	6.35
GGH6655-BS	GH123622.D	02/04/21	13:14	6.35
JD19735-11	GH123623.D	02/04/21	14:23	6.35
JD19735-11MS	GH123624.D	02/04/21	14:40	6.35
JD19735-11MSD	GH123625.D	02/04/21	14:58	6.35
JD19789-4	GH123626.D	02/04/21	15:15	6.35
ZZZZZZ	GH123627.D	02/04/21	15:33	6.35
ZZZZZZ	GH123628.D	02/04/21	17:05	6.35
ZZZZZZ	GH123629.D	02/04/21	17:33	6.35
ZZZZZZ	GH123630.D	02/04/21	17:51	6.35

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: JD19789 **Sample:** GGH6650-ICC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123505.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Response Factor Report HP5890

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Fri Jan 22 08:22:19 2021
Response via : Initial Calibration

Calibration Files
500 =GH123503.D 5000=GH123505.D 200 =GH123502.D 1000=GH123504.D
10k =GH123506.D 50k =GH123507.D 100k=GH123508.D =

Compound	500	5000	200	1000	10k	50k	100k	Avg	%RSD
1) Methanol	1.315	1.496	1.528	1.248	1.329	1.381	1.316	1.373 E1	7.50
2) Ethanol	1.772	1.923	1.366	1.788	1.725	1.904	1.829	1.758 E1	10.63
3) 2-Propanol	1.990	1.987	1.975	1.736	2.072	1.938	1.928	1.947 E1	5.34
4) Tert-Butyl A	2.605	2.786	2.938	2.716	2.797	2.704	2.756	2.757 E1	3.72
5) 1-Propanol	2.416	2.354	2.433	2.403	2.343	2.361	2.346	2.379 E1	1.56
6) 2-Butanol	2.452	2.403	2.486	2.579	2.410	2.410	2.425	2.452 E1	2.58
7) Isobutanol	2.799	2.850	2.945	2.854	2.784	2.787	2.815	2.833 E1	2.00
8) 1-butanol	2.768	2.761	3.495	2.846	2.788	2.697	2.681	2.862 E1	9.94
9) Hexanol	7.457	7.547	7.256	7.629	7.485	7.454	8.004	7.547 E1	3.07

(#) = Out of Range ### Number of calibration levels exceeded format ###

MGH6650.M Wed Jan 27 14:52:21 2021 RPT1

Initial Calibration Verification

Job Number: JD19789 **Sample:** GGH6650-ICV6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123511.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Fri Jan 22 08:22:19 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.445	2.1	90	0.00	1.17- 1.57
2	Ethanol	17.581	17.316	1.5	90	0.00	1.63- 2.03
3	2-Propanol	19.467	18.161	6.7	91	0.00	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.933	6.0	93	0.00	2.27- 2.67
5	1-Propanol	23.795	22.052	7.3	94	0.00	2.89- 3.29
6	2-Butanol	24.522	22.588	7.9	94	0.00	3.32- 3.72
7	Isobutanol	28.333	26.335	7.1	92	0.00	3.79- 4.19
8	1-butanol	28.623	26.300	8.1	95	0.00	4.32- 4.72
9 S	Hexanol	75.474	70.559	6.5	93	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123511.D MGH6650.M Wed Jan 27 14:49:38 2021 RPT1

Continuing Calibration Summary

Job Number: JD19789 **Sample:** GGH6654-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123596.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123596.D Vial: 2
Acq On : 02-Feb-2021, 12:34:21 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : GC57414,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.274	10.6	82	0.01	1.17- 1.57
2	Ethanol	17.581	18.690	-6.3	97	0.00	1.63- 2.03
3	2-Propanol	19.467	18.960	2.6	95	-0.02	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.251	4.8	94	-0.02	2.27- 2.67
5	1-Propanol	23.795	21.568	9.4	92	-0.02	2.89- 3.29
6	2-Butanol	24.522	21.466	12.5	89	-0.02	3.32- 3.72
7	Isobutanol	28.333	34.894	-23.2#	122	-0.02	3.79- 4.19
8	1-butanol	28.623	25.298	11.6	92	-0.01	4.32- 4.72
9 S	Hexanol	75.474	65.779	12.8	87	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Mon Feb 08 13:39:38 2021 RPT1

Continuing Calibration Summary

Job Number: JD19789 **Sample:** GGH6654-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123606.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\GGH6654\GH123606.D          Vial: 12
Acq On    : 02-Feb-2021, 17:53:07                    Operator: RobertS
Sample    : CC6650-10000                             Inst    : HP5890
Misc      : GC57420,GGH6654,5.0,,,,1                 Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title        : Alcohols by Direct Injection
Last Update  : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.692	7.6	96	0.00	1.17- 1.57
2	Ethanol	17.581	17.490	0.5	101	0.00	1.63- 2.03
3	2-Propanol	19.467	18.356	5.7	89	-0.02	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.896	2.5	96	-0.02	2.27- 2.67
5	1-Propanol	23.795	23.527	1.1	100	-0.01	2.89- 3.29
6	2-Butanol	24.522	24.327	0.8	101	-0.02	3.32- 3.72
7	Isobutanol	28.333	28.801	-1.7	103	-0.02	3.79- 4.19
8	1-butanol	28.623	28.386	0.8	102	-0.01	4.32- 4.72
9 S	Hexanol	75.474	75.401	0.1	101	-0.01	6.14- 6.54

```
   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    GH123506.D MGH6650.M        Mon Feb 08 13:45:03 2021   RPT1
```

6.6.4

6

Continuing Calibration Summary

Job Number: JD19789 **Sample:** GGH6654-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123618.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123618.D Vial: 24
Acq On : 02-Feb-2021, 21:23:56 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	14.249	-3.8	95	0.00	1.17- 1.57
2	Ethanol	17.581	17.630	-0.3	92	0.00	1.63- 2.03
3	2-Propanol	19.467	17.199	11.7	87	-0.02	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.826	6.3	93	-0.02	2.27- 2.67
5	1-Propanol	23.795	23.644	0.6	100	-0.02	2.89- 3.29
6	2-Butanol	24.522	24.076	1.8	100	-0.02	3.32- 3.72
7	Isobutanol	28.333	28.265	0.2	99	-0.02	3.79- 4.19
8	1-butanol	28.623	28.364	0.9	103	-0.02	4.32- 4.72
9 S	Hexanol	75.474	61.421	18.6	81	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Mon Feb 08 13:57:08 2021 RPT1

6.6.5

Continuing Calibration Summary

Job Number: JD19789 **Sample:** GGH6655-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123620.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123620.D Vial: 2
Acq On : 04-Feb-2021, 12:39:22 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : GC57437,GGH6655,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	11.838	13.8	79	0.00	1.17- 1.57
2	Ethanol	17.581	16.867	4.1	88	0.00	1.63- 2.03
3	2-Propanol	19.467	17.815	8.5	90	0.00	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.223	4.9	94	0.00	2.27- 2.67
5	1-Propanol	23.795	22.882	3.8	97	0.00	2.89- 3.29
6	2-Butanol	24.522	23.243	5.2	97	0.00	3.32- 3.72
7	Isobutanol	28.333	26.459	6.6	93	0.00	3.79- 4.19
8	1-butanol	28.623	27.396	4.3	99	0.00	4.32- 4.72
9 S	Hexanol	75.474	69.070	8.5	92	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Mon Feb 08 14:32:49 2021 RPT1

Continuing Calibration Summary

Job Number: JD19789 **Sample:** GGH6655-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123631.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123631.D Vial: 13
Acq On : 04-Feb-2021, 18:08:50 Operator: RobertS
Sample : CC6650-10000 Inst : HP5890
Misc : GC57431,GGH6655,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.181	11.3	92	0.02	1.17- 1.57
2	Ethanol	17.581	16.482	6.3	96	0.01	1.63- 2.03
3	2-Propanol	19.467	17.732	8.9	86	0.00	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.272	4.7	94	0.00	2.27- 2.67
5	1-Propanol	23.795	22.363	6.0	95	0.00	2.89- 3.29
6	2-Butanol	24.522	22.765	7.2	94	0.00	3.32- 3.72
7	Isobutanol	28.333	26.698	5.8	96	0.00	3.79- 4.19
8	1-butanol	28.623	26.051	9.0	93	0.00	4.32- 4.72
9 S	Hexanol	75.474	61.002	19.2	81	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Mon Feb 08 14:47:26 2021 RPT1

Run Sequence Report

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6650 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6650-IC6650	GH123502.D	01/21/21 18:20	n/a	Initial cal 200
GGH6650-IC6650	GH123503.D	01/21/21 18:37	n/a	Initial cal 500
GGH6650-IC6650	GH123504.D	01/21/21 18:55	n/a	Initial cal 1000
GGH6650-ICC6650	GH123505.D	01/21/21 19:12	n/a	Initial cal 5000
GGH6650-IC6650	GH123506.D	01/21/21 19:30	n/a	Initial cal 10000
GGH6650-IC6650	GH123507.D	01/21/21 19:47	n/a	Initial cal 50000
GGH6650-IC6650	GH123508.D	01/21/21 20:05	n/a	Initial cal 100000
GGH6650-ICV6650	GH123511.D	01/21/21 20:57	n/a	Initial cal verification 5000

Run Sequence Report

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6654 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6654-CC6650	GH123596.D	02/02/21 12:34	n/a	Continuing cal 5000
GGH6654-MB1	GH123597.D	02/02/21 12:51	n/a	Method Blank
GGH6654-BS	GH123598.D	02/02/21 13:09	n/a	Blank Spike
JD19624-1	GH123599.D	02/02/21 15:45	n/a	(used for QC only; not part of job JD19789)
ZZZZZZ	GH123600.D	02/02/21 16:02	n/a	(unrelated sample)
ZZZZZZ	GH123601.D	02/02/21 16:19	n/a	(unrelated sample)
ZZZZZZ	GH123602.D	02/02/21 16:37	n/a	(unrelated sample)
ZZZZZZ	GH123603.D	02/02/21 16:55	n/a	(unrelated sample)
JD19624-1MS	GH123604.D	02/02/21 17:18	n/a	Matrix Spike
JD19624-1MSD	GH123605.D	02/02/21 17:35	n/a	Matrix Spike Duplicate
GGH6654-CC6650	GH123606.D	02/02/21 17:53	n/a	Continuing cal 10000
GGH6654-MB2	GH123607.D	02/02/21 18:10	n/a	Method Blank
JD19789-9	GH123608.D	02/02/21 18:28	n/a	C2B3-SB-20210120
JD19789-8	GH123609.D	02/02/21 18:45	n/a	C2B4-SB-20210121
JD19789-7	GH123610.D	02/02/21 19:03	n/a	C2B5-SB-20210121
JD19789-1	GH123611.D	02/02/21 19:21	n/a	C2B11-SB-20210126
JD19789-2	GH123612.D	02/02/21 19:38	n/a	C2B10-SB-20210125
JD19789-3	GH123613.D	02/02/21 19:56	n/a	C2B9-SB-20210125
JD19789-5	GH123615.D	02/02/21 20:31	n/a	C2B7-SB-20210122
JD19789-6	GH123616.D	02/02/21 20:48	n/a	C2B6-SB-20210122
GGH6654-CC6650	GH123618.D	02/02/21 21:23	n/a	Continuing cal 5000

Run Sequence Report

Job Number: JD19789
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6655 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6655-CC6650	GH123620.D	02/04/21 12:39	n/a	Continuing cal 5000
GGH6655-MB1	GH123621.D	02/04/21 12:56	n/a	Method Blank
GGH6655-BS	GH123622.D	02/04/21 13:14	n/a	Blank Spike
JD19735-11	GH123623.D	02/04/21 14:23	n/a	(used for QC only; not part of job JD19789)
JD19735-11MS	GH123624.D	02/04/21 14:40	n/a	Matrix Spike
JD19735-11MSD	GH123625.D	02/04/21 14:58	n/a	Matrix Spike Duplicate
JD19789-4	GH123626.D	02/04/21 15:15	n/a	C2B8-SB-20210125
ZZZZZZ	GH123627.D	02/04/21 15:33	n/a	(unrelated sample)
ZZZZZZ	GH123628.D	02/04/21 17:05	n/a	(unrelated sample)
ZZZZZZ	GH123629.D	02/04/21 17:33	n/a	(unrelated sample)
ZZZZZZ	GH123630.D	02/04/21 17:51	n/a	(unrelated sample)
GGH6655-CC6650	GH123631.D	02/04/21 18:08	n/a	Continuing cal 10000
GGH6655-MB2	GH123632.D	02/04/21 18:26	n/a	Method Blank
ZZZZZZ	GH123633.D	02/04/21 18:43	n/a	(unrelated sample)
ZZZZZZ	GH123634.D	02/04/21 19:01	n/a	(unrelated sample)
ZZZZZZ	GH123635.D	02/04/21 19:19	n/a	(unrelated sample)
ZZZZZZ	GH123636.D	02/04/21 19:36	n/a	(unrelated sample)
ZZZZZZ	GH123637.D	02/04/21 19:54	n/a	(unrelated sample)
ZZZZZZ	GH123638.D	02/04/21 20:11	n/a	(unrelated sample)
ZZZZZZ	GH123639.D	02/04/21 20:29	n/a	(unrelated sample)
ZZZZZZ	GH123640.D	02/04/21 20:47	n/a	(unrelated sample)
ZZZZZZ	GH123641.D	02/04/21 21:04	n/a	(unrelated sample)
GGH6655-CC6650	GH123642.D	02/04/21 21:22	n/a	Continuing cal 5000

GC Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123611.D Vial: 17
Acq On : 02-Feb-2021, 19:21:00 Operator: RobertS
Sample : JD19789-1 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 03 07:07:06 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	370840	4913.454 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 98.27%	
Target Compounds			
3) 2-Propanol	2.18	36075	185311.473 ug/L

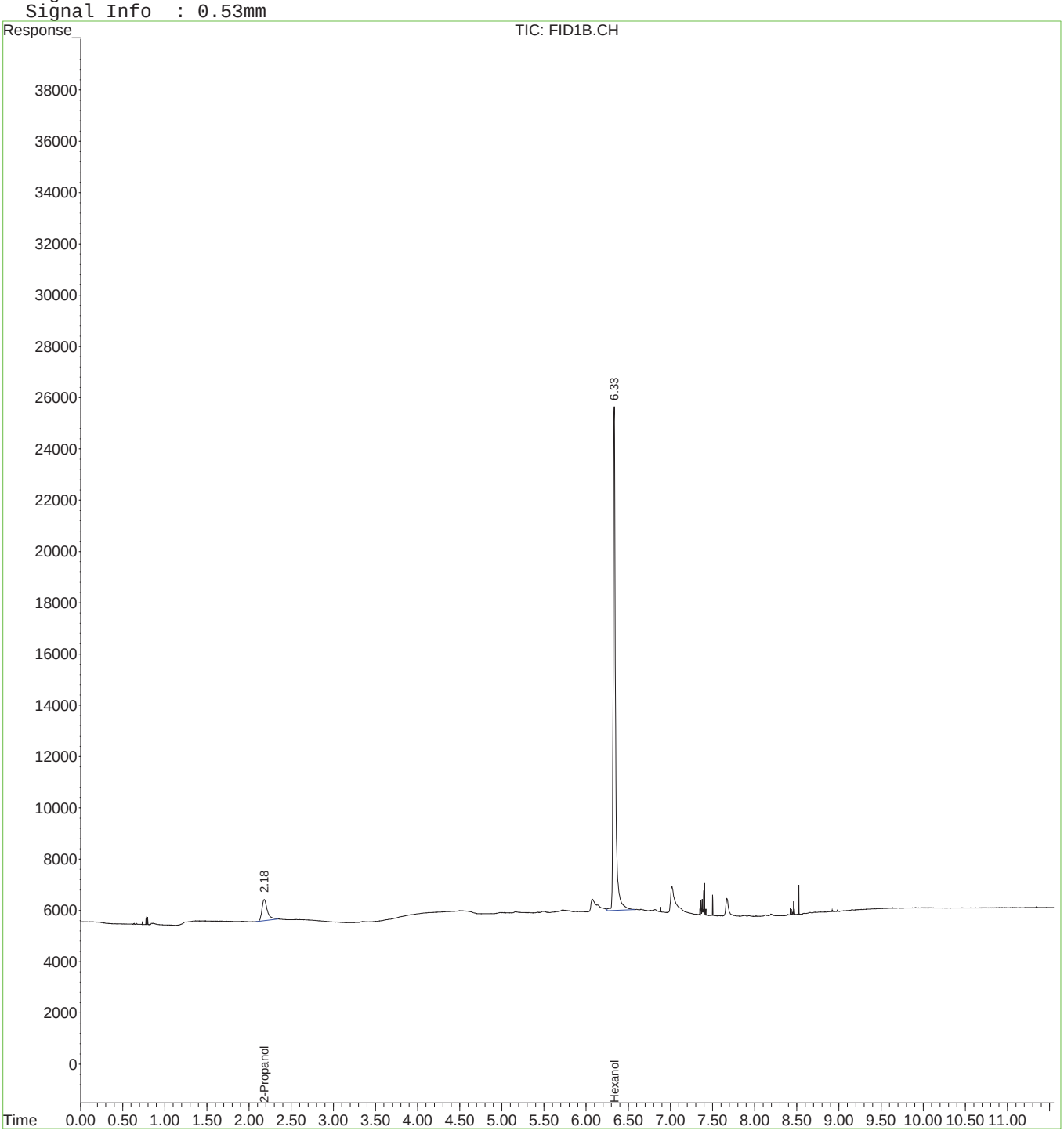
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123611.D MGH6650.M Wed Feb 10 08:55:01 2021 RPT1

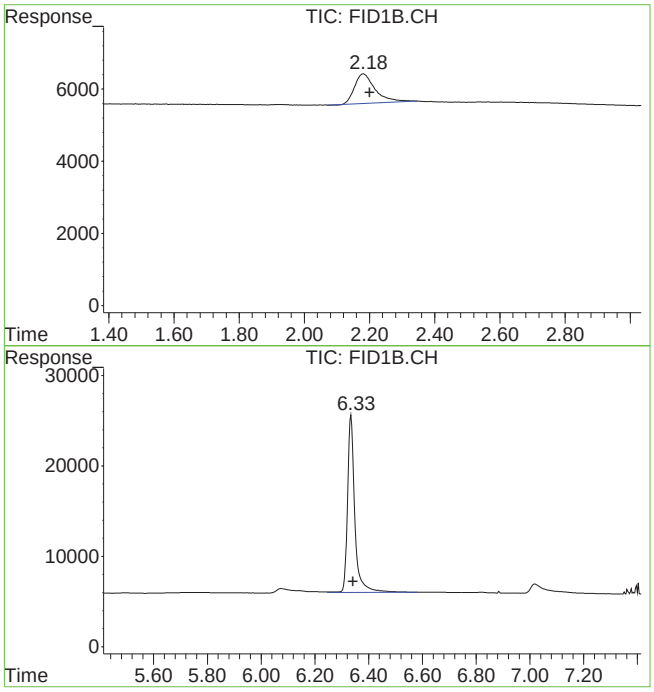
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123611.D Vial: 17
Acq On : 02-Feb-2021, 19:21:00 Operator: RobertS
Sample : JD19789-1 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:46 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.182 min
Delta R.T.: -0.019 min
Response: 36075
Conc: 185311.47 ug/L

#9 Hexanol

R.T.: 6.335 min
Delta R.T.: -0.008 min
Response: 370840
Conc: 4913.45 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123612.D Vial: 18
Acq On : 02-Feb-2021, 19:38:30 Operator: RobertS
Sample : JD19789-2 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 03 07:07:18 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	326751	4329.305 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	86.59%
Target Compounds			
3) 2-Propanol	2.18	17588	90348.223 ug/L

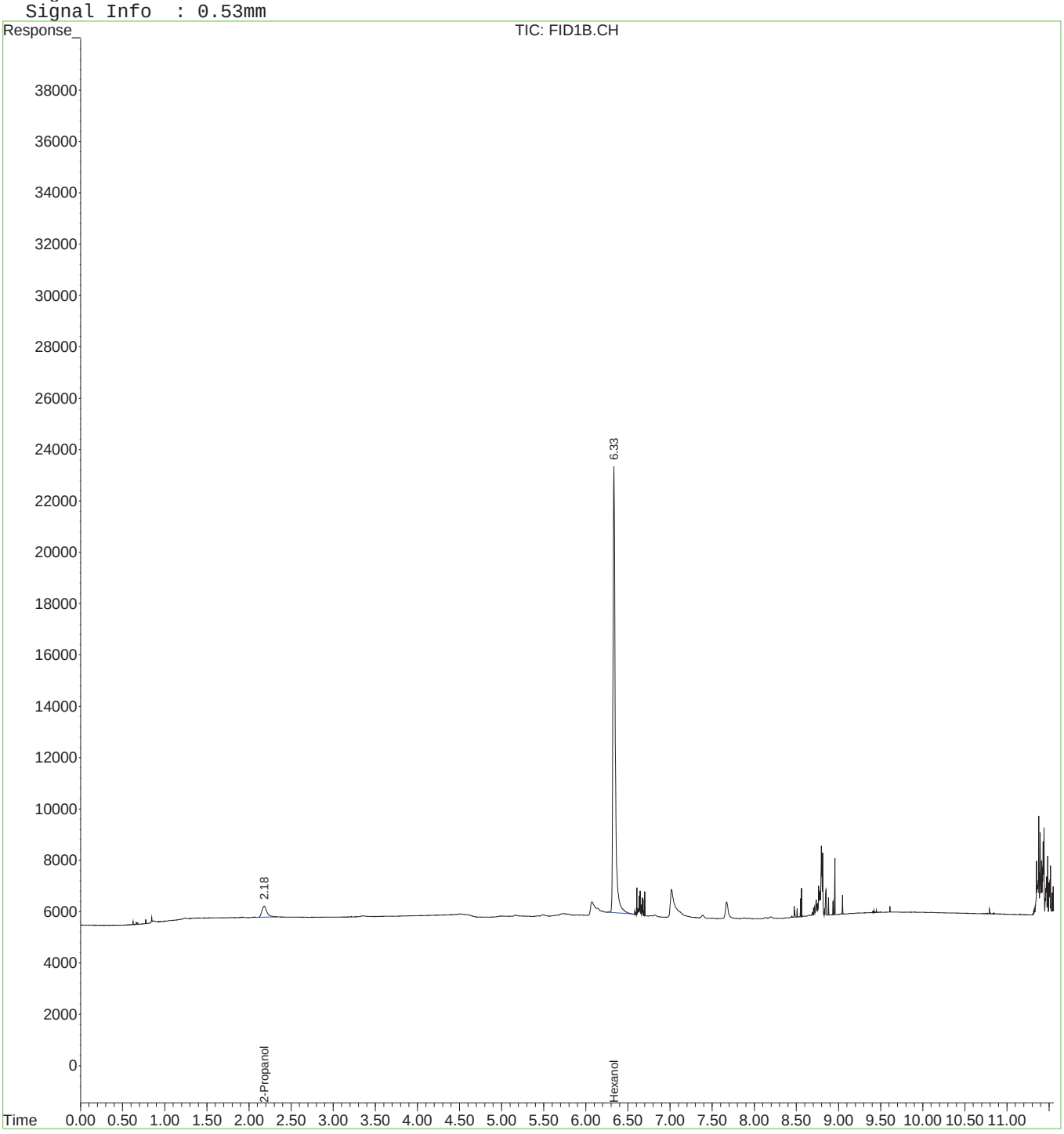
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123612.D MGH6650.M Wed Feb 10 08:55:01 2021 RPT1

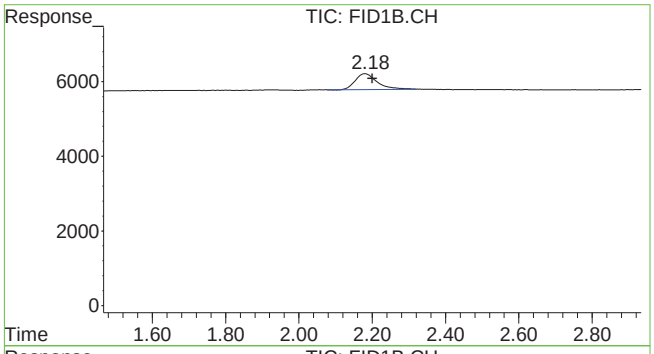
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123612.D Vial: 18
Acq On : 02-Feb-2021, 19:38:30 Operator: RobertS
Sample : JD19789-2 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:46 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

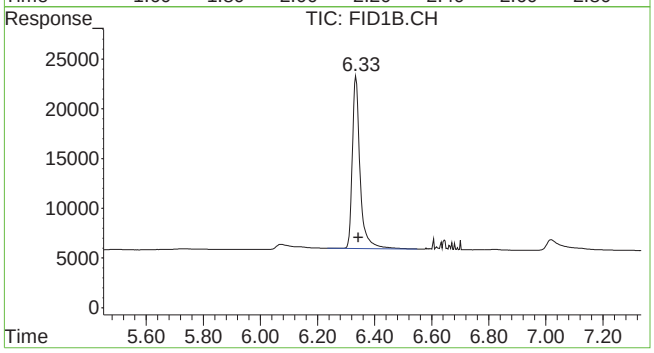
Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.181 min
Delta R.T.: -0.019 min
Response: 17588
Conc: 90348.22 ug/L



#9 Hexanol

R.T.: 6.335 min
Delta R.T.: -0.008 min
Response: 326751
Conc: 4329.31 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123613.D Vial: 19
Acq On : 02-Feb-2021, 19:56:05 Operator: RobertS
Sample : JD19789-3 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 03 07:07:27 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	359952	4769.197 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 95.38%	
Target Compounds			
3) 2-Propanol	2.19	38655	198568.113 ug/L

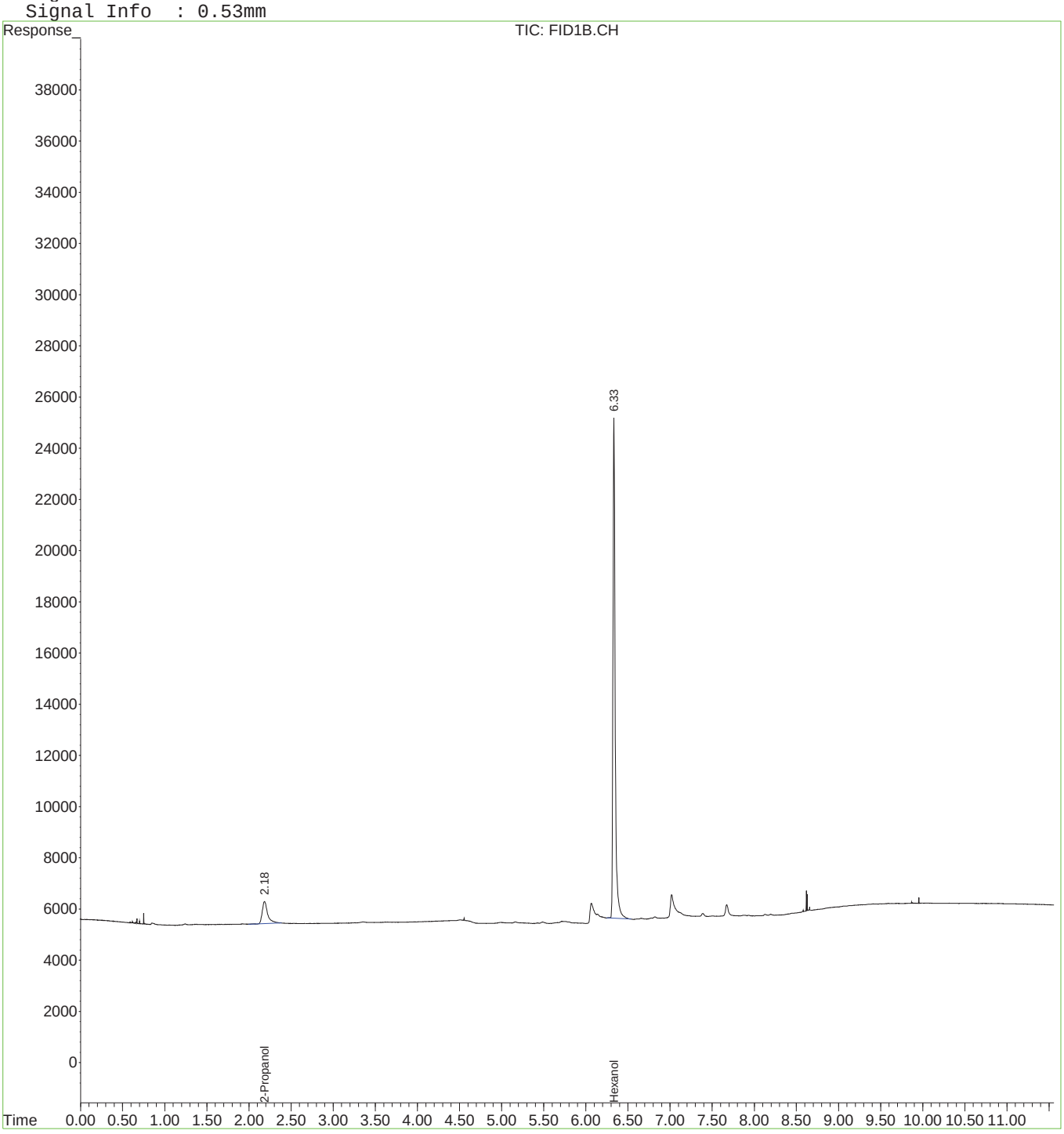
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123613.D MGH6650.M Wed Feb 10 08:55:03 2021 RPT1

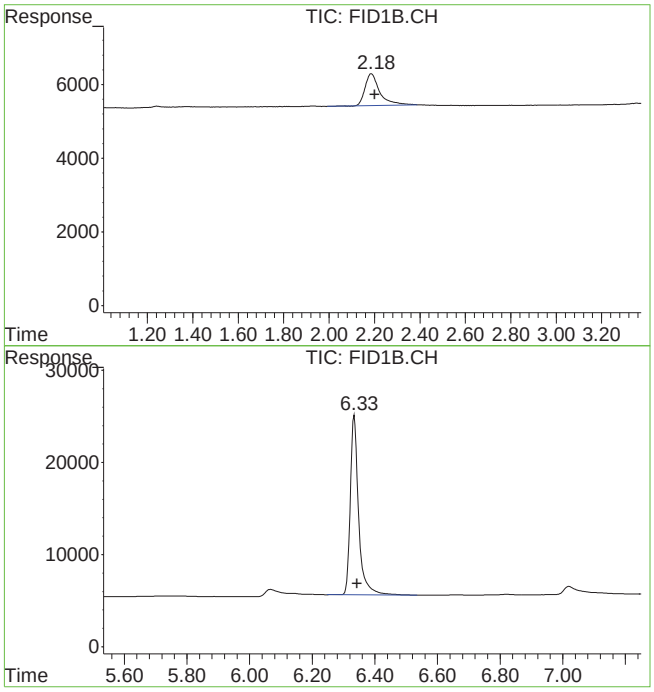
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123613.D Vial: 19
Acq On : 02-Feb-2021, 19:56:05 Operator: RobertS
Sample : JD19789-3 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:47 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.185 min
Delta R.T.: -0.015 min
Response: 38655
Conc: 198568.11 ug/L

#9 Hexanol

R.T.: 6.334 min
Delta R.T.: -0.008 min
Response: 359952
Conc: 4769.20 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123626.D Vial: 8
Acq On : 04-Feb-2021, 15:15:54 Operator: RobertS
Sample : JD19789-4 Inst : HP5890
Misc : GC57437,GGH6655,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 04 17:07:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	362974	4809.245 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	96.18%
Target Compounds			
3) 2-Propanol	2.21	16992	87286.635 ug/L

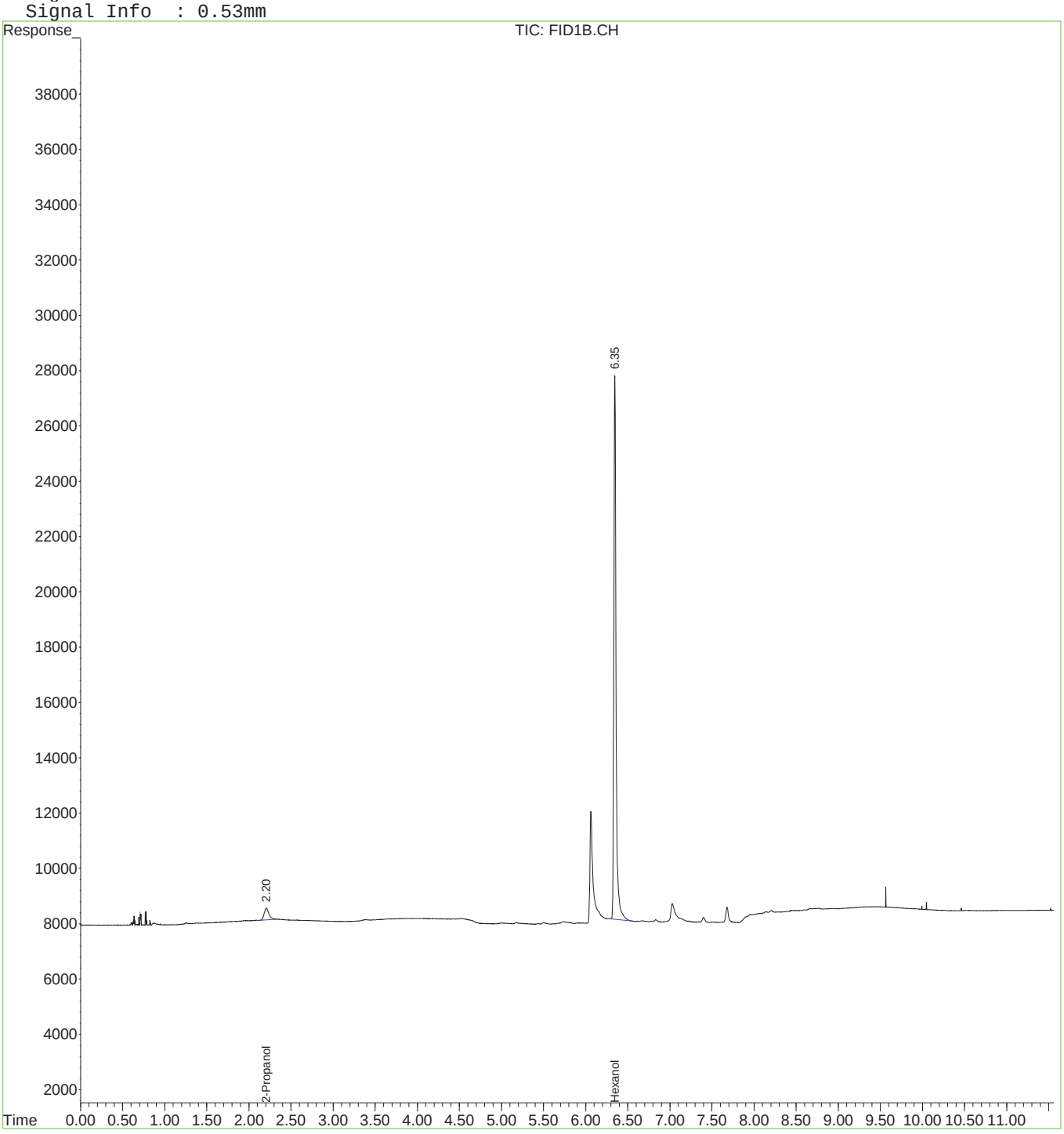
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123626.D MGH6650.M Wed Feb 10 09:23:40 2021 RPT1

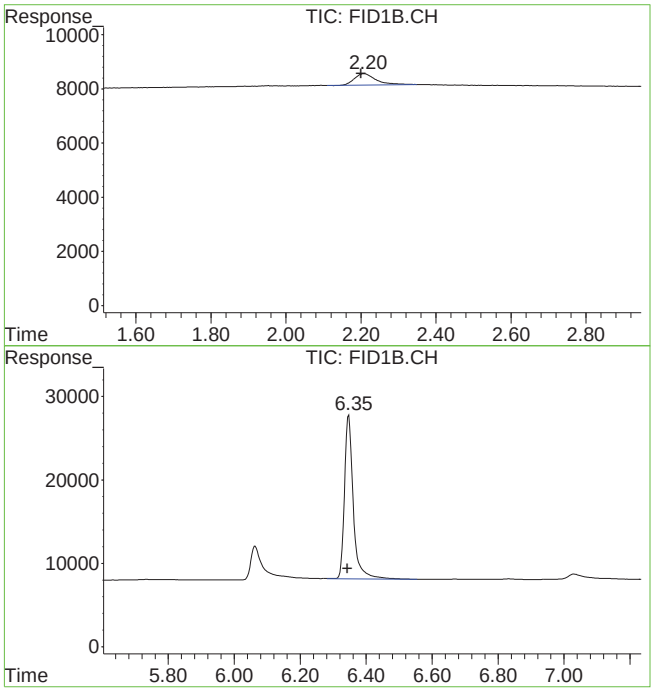
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123626.D Vial: 8
Acq On : 04-Feb-2021, 15:15:54 Operator: RobertS
Sample : JD19789-4 Inst : HP5890
Misc : GC57437,GGH6655,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 8 14:45 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.207 min
Delta R.T.: 0.007 min
Response: 16992
Conc: 87286.63 ug/L

#9 Hexanol

R.T.: 6.347 min
Delta R.T.: 0.004 min
Response: 362974
Conc: 4809.25 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123615.D Vial: 21
Acq On : 02-Feb-2021, 20:31:16 Operator: RobertS
Sample : JD19789-5 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 03 07:07:50 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	324829	4303.840 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 86.08%	
Target Compounds			
3) 2-Propanol	2.19	13354	68598.889 ug/L

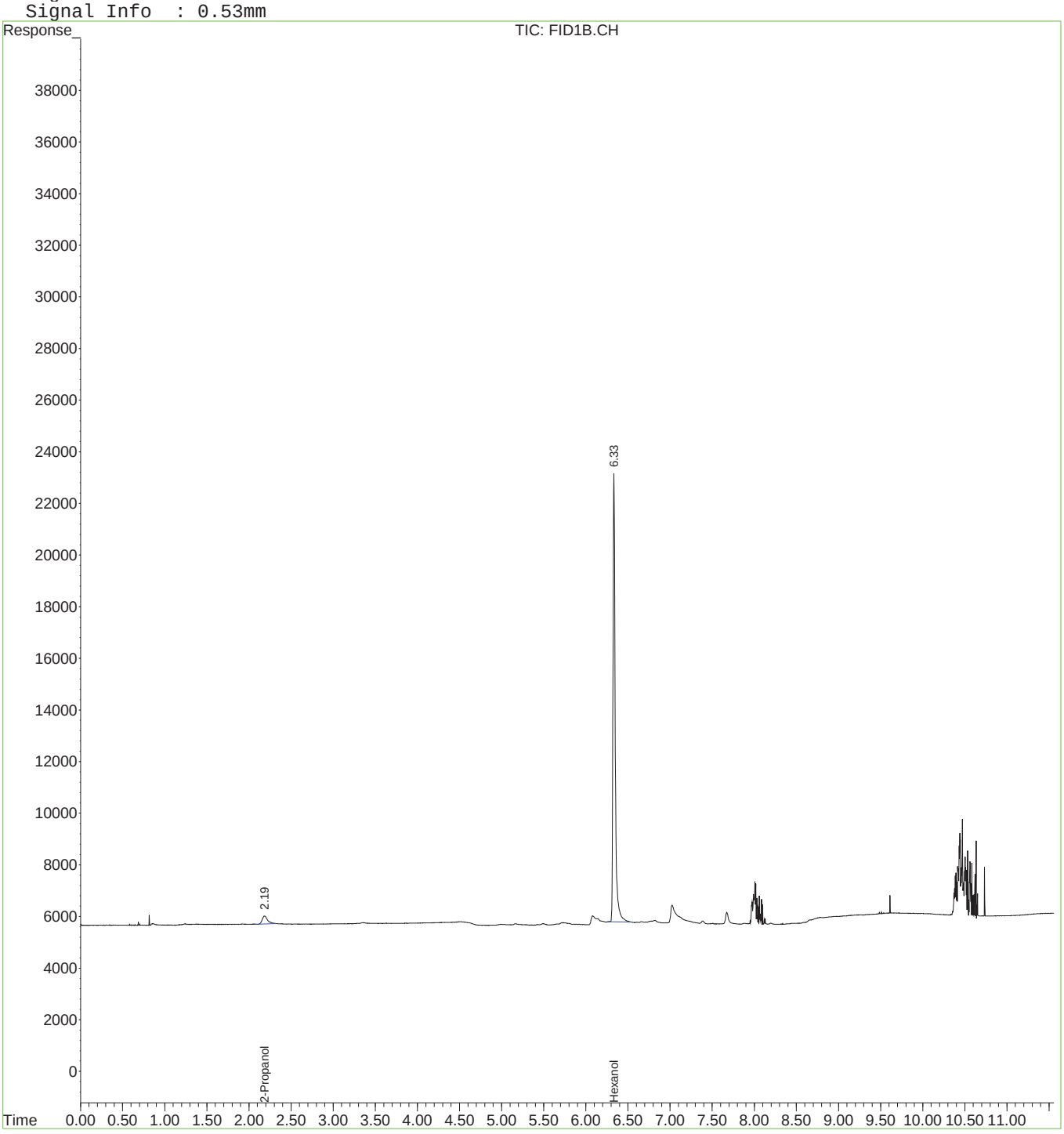
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123615.D MGH6650.M Wed Feb 10 08:55:05 2021 RPT1

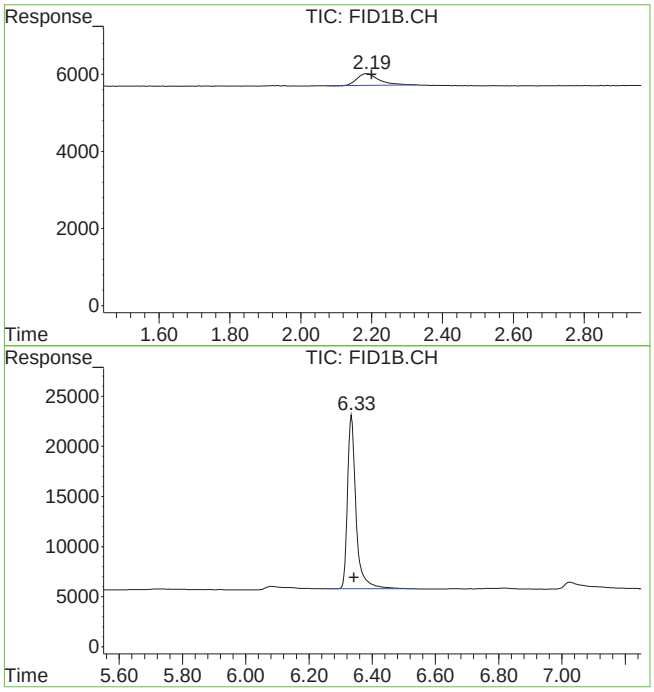
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123615.D Vial: 21
Acq On : 02-Feb-2021, 20:31:16 Operator: RobertS
Sample : JD19789-5 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:48 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.186 min
Delta R.T.: -0.014 min
Response: 13354
Conc: 68598.89 ug/L

#9 Hexanol

R.T.: 6.335 min
Delta R.T.: -0.008 min
Response: 324829
Conc: 4303.84 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123616.D Vial: 22
Acq On : 02-Feb-2021, 20:48:52 Operator: RobertS
Sample : JD19789-6 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 03 07:08:01 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	331616	4393.758 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 87.88%	
Target Compounds			
3) 2-Propanol	2.19	8335	42815.864 ug/L

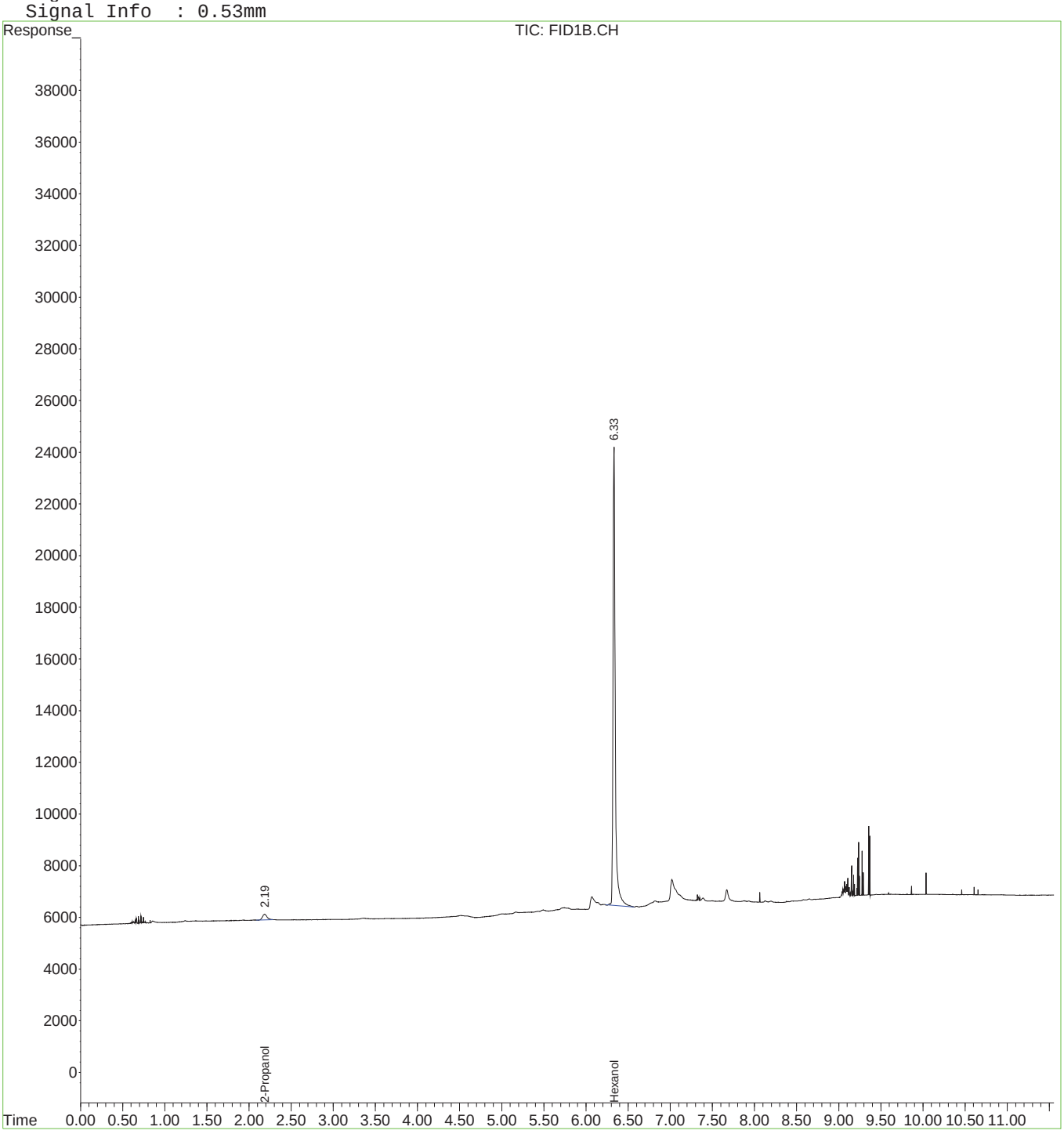
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123616.D MGH6650.M Wed Feb 10 08:55:06 2021 RPT1

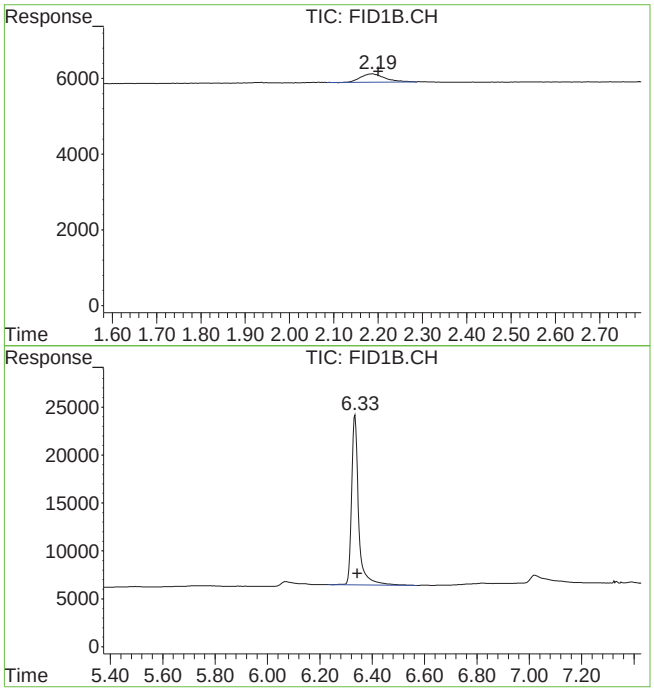
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123616.D Vial: 22
Acq On : 02-Feb-2021, 20:48:52 Operator: RobertS
Sample : JD19789-6 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:54 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.187 min
Delta R.T.: -0.013 min
Response: 8335
Conc: 42815.86 ug/L

#9 Hexanol

R.T.: 6.334 min
Delta R.T.: -0.009 min
Response: 331616
Conc: 4393.76 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123610.D Vial: 16
Acq On : 02-Feb-2021, 19:03:24 Operator: RobertS
Sample : JD19789-7 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 03 07:07:02 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	320178	4242.211 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 84.84%	
Target Compounds			
3) 2-Propanol	2.18	21913	112565.003 ug/L

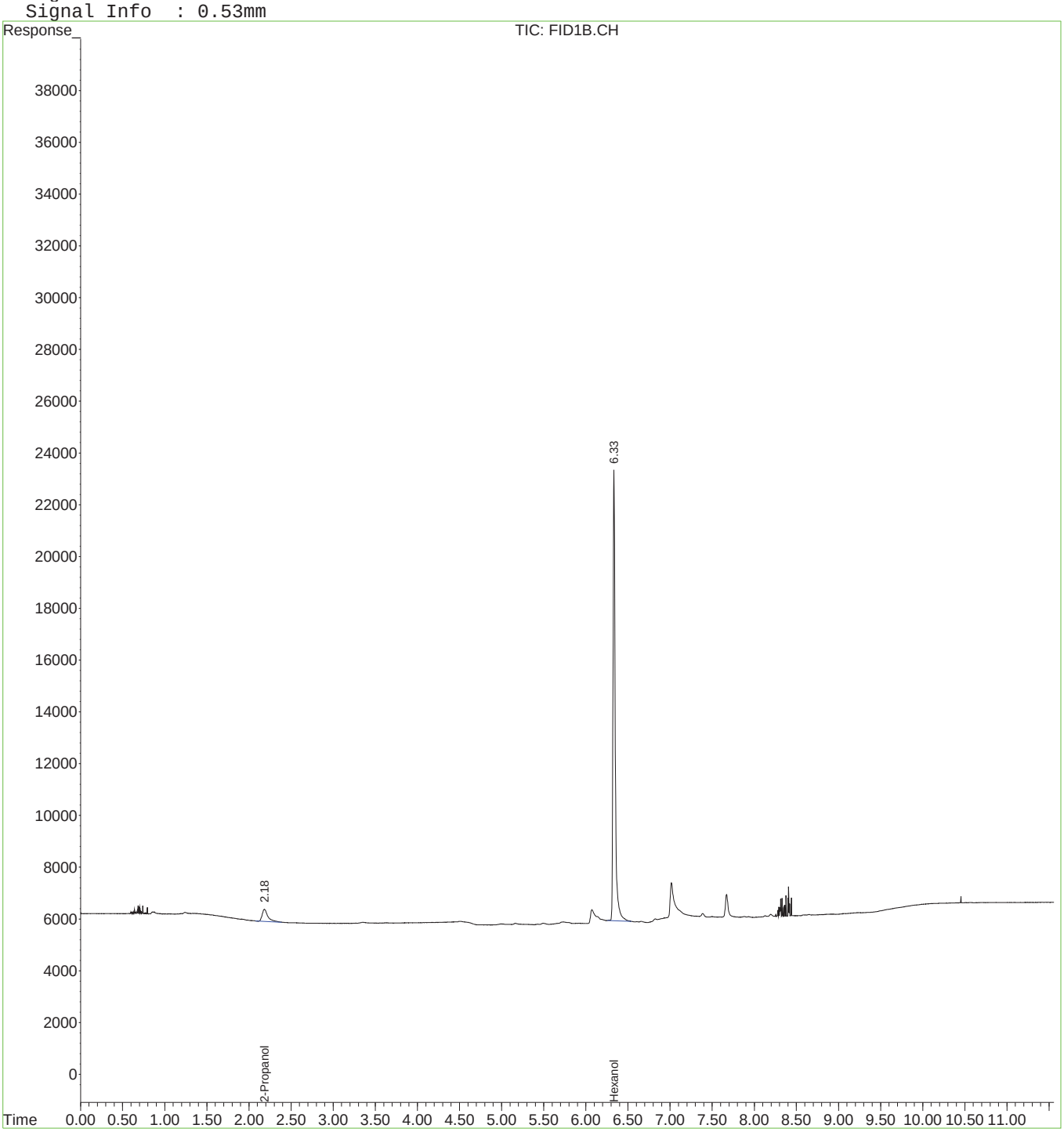
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123610.D MGH6650.M Wed Feb 10 08:55:00 2021 RPT1

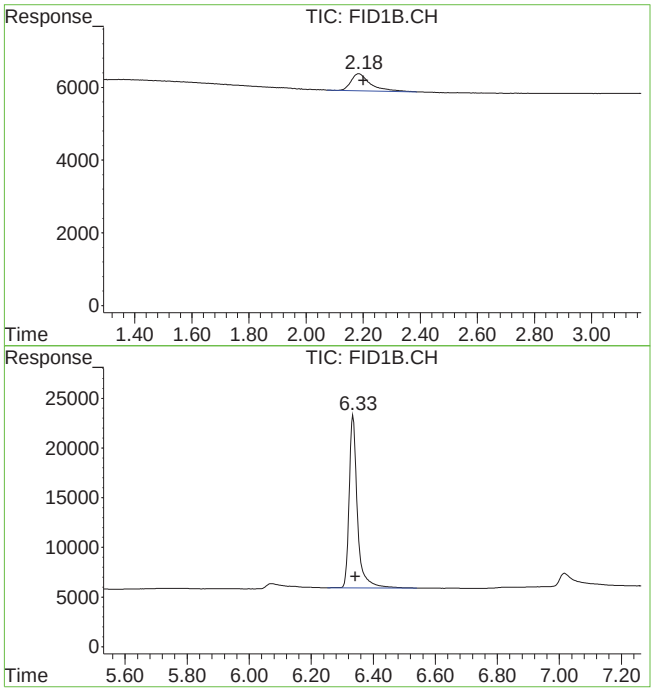
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123610.D Vial: 16
Acq On : 02-Feb-2021, 19:03:24 Operator: RobertS
Sample : JD19789-7 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:46 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.185 min
Delta R.T.: -0.016 min
Response: 21913
Conc: 112565.00 ug/L

#9 Hexanol

R.T.: 6.335 min
Delta R.T.: -0.008 min
Response: 320178
Conc: 4242.21 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123609.D Vial: 15
Acq On : 02-Feb-2021, 18:45:50 Operator: RobertS
Sample : JD19789-8 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 02 19:01:36 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	329630	4367.446 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	87.35%
Target Compounds			
3) 2-Propanol	2.19	70916	364286.389 ug/L

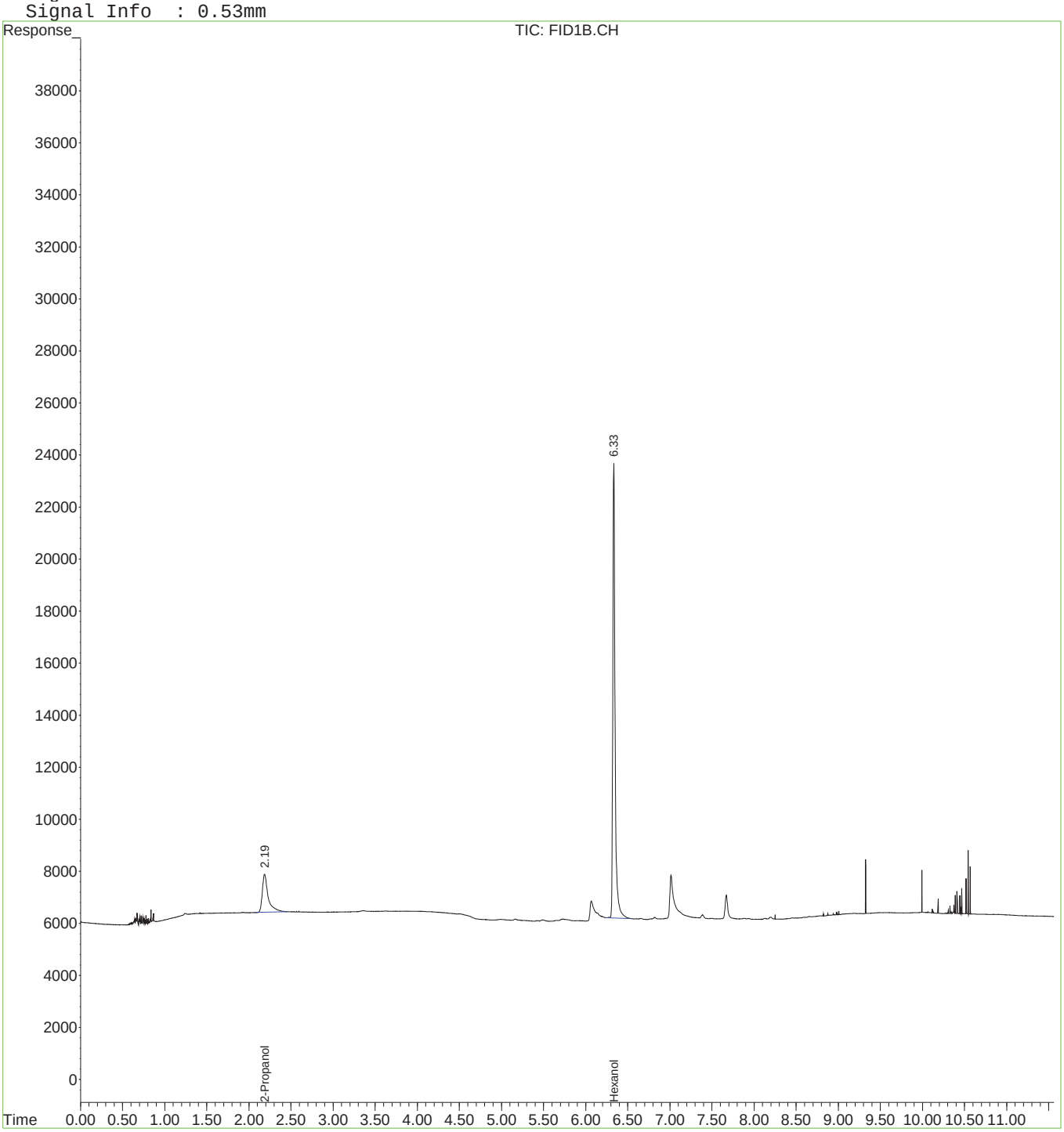
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123609.D MGH6650.M Wed Feb 10 08:54:59 2021 RPT1

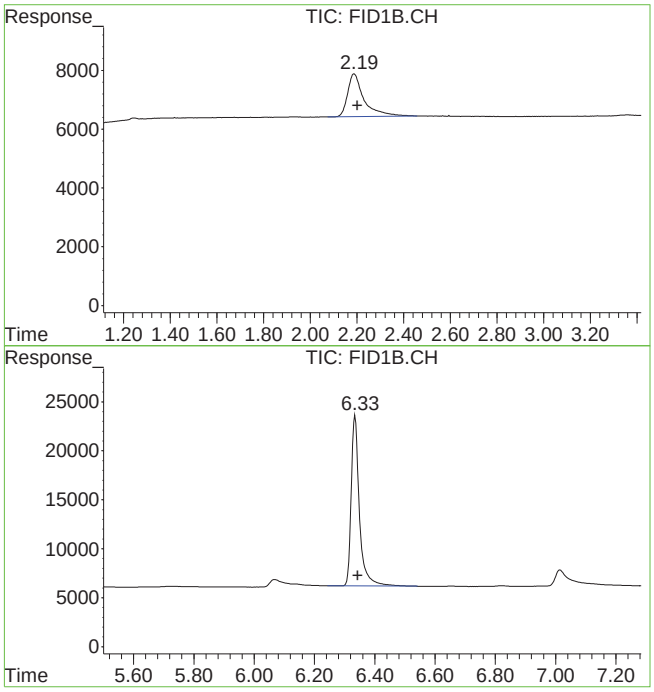
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123609.D Vial: 15
Acq On : 02-Feb-2021, 18:45:50 Operator: RobertS
Sample : JD19789-8 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:46 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.188 min
Delta R.T.: -0.013 min
Response: 70916
Conc: 364286.39 ug/L

#9 Hexanol

R.T.: 6.335 min
Delta R.T.: -0.008 min
Response: 329630
Conc: 4367.45 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123608.D Vial: 14
Acq On : 02-Feb-2021, 18:28:12 Operator: RobertS
Sample : JD19789-9 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 02 19:01:24 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	347867	4609.076 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 92.18%	
Target Compounds			
3) 2-Propanol	2.19	29907	153626.897 ug/L

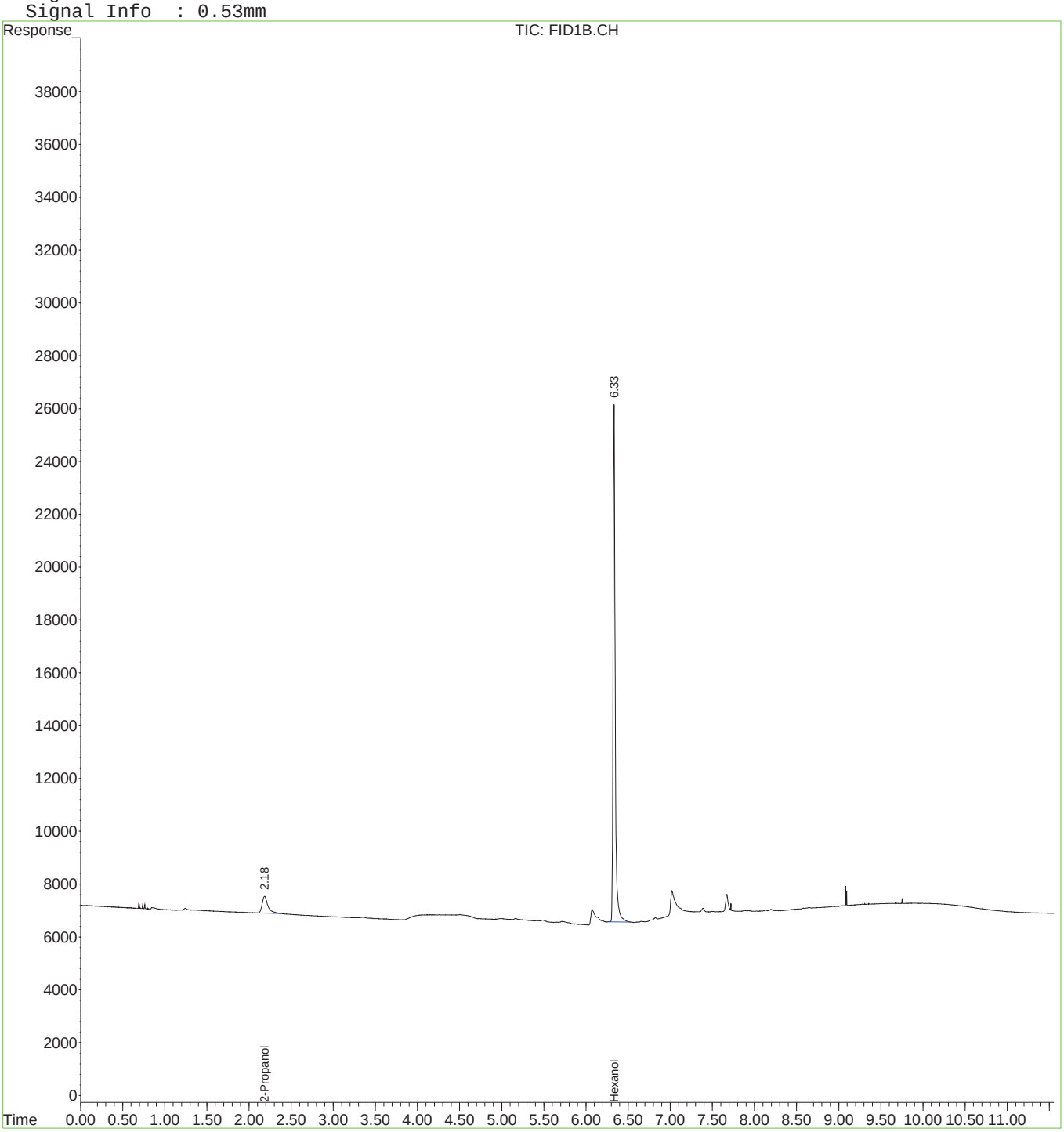
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123608.D MGH6650.M Wed Feb 10 08:54:59 2021 RPT1

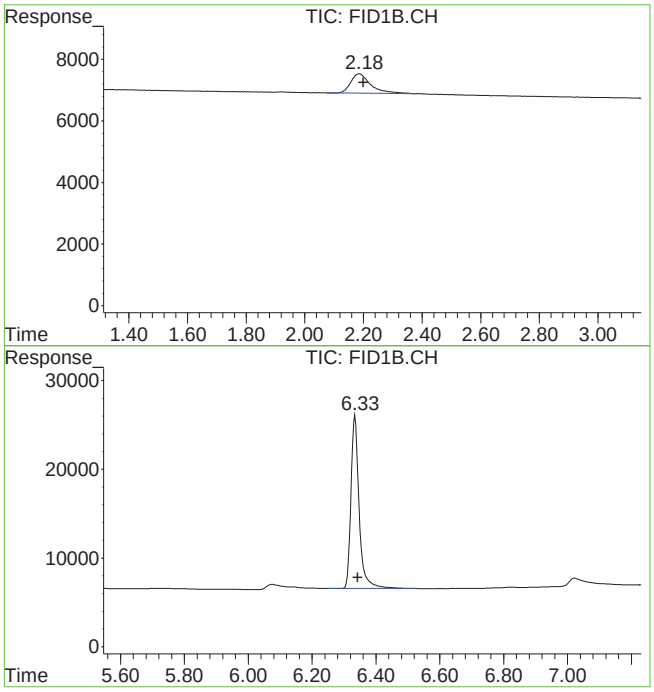
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123608.D Vial: 14
Acq On : 02-Feb-2021, 18:28:12 Operator: RobertS
Sample : JD19789-9 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:55 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.186 min
Delta R.T.: -0.014 min
Response: 29907
Conc: 153626.90 ug/L

#9 Hexanol

R.T.: 6.334 min
Delta R.T.: -0.008 min
Response: 347867
Conc: 4609.08 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123607.D Vial: 13
Acq On : 02-Feb-2021, 18:10:39 Operator: RobertS
Sample : MB2 Inst : HP5890
Misc : GC57420,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 02 18:33:07 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	333513	4418.891 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 88.38%	
Target Compounds			

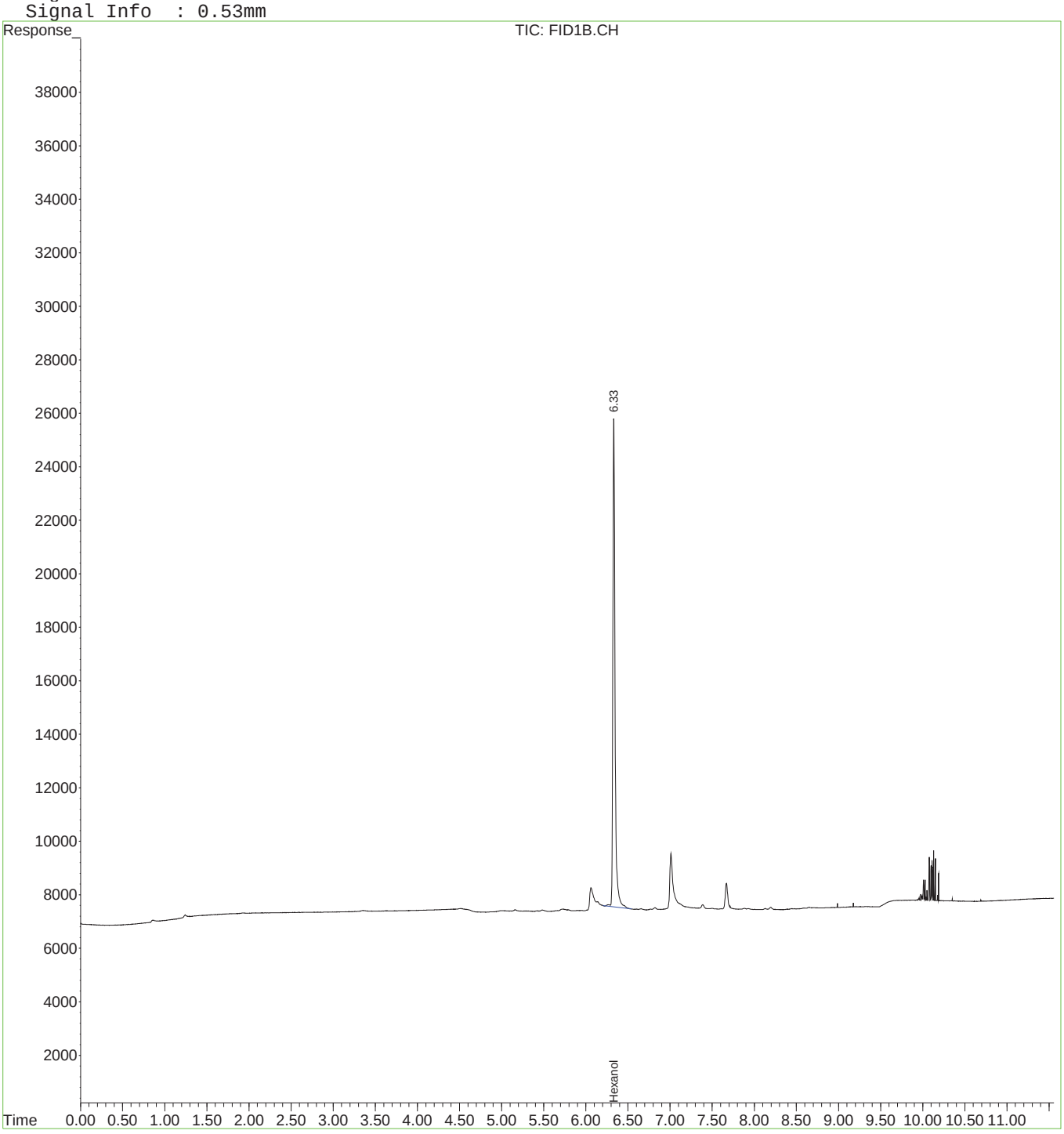
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123607.D MGH6650.M Mon Feb 08 13:58:06 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123607.D Vial: 13
Acq On : 02-Feb-2021, 18:10:39 Operator: RobertS
Sample : MB2 Inst : HP5890
Misc : GC57420,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:45 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123621.D Vial: 3
Acq On : 04-Feb-2021, 12:56:49 Operator: RobertS
Sample : MB1 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 04 14:07:51 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	287705	3811.965 ug/L

Spiked Amount 5000.000 Range 56 - 145 Recovery = 76.24%

Target Compounds

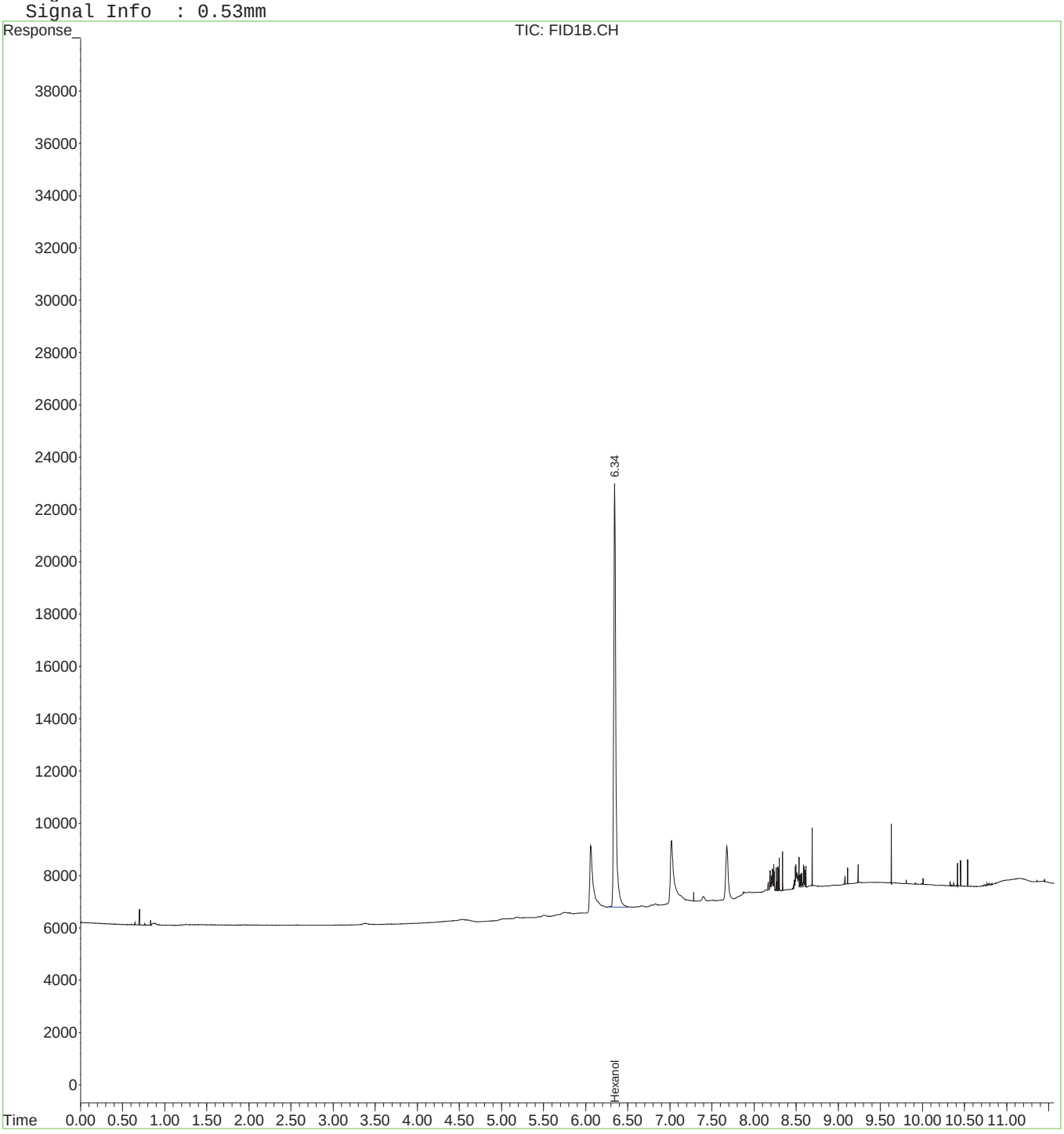
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123621.D MGH6650.M Mon Feb 08 14:58:17 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123621.D Vial: 3
Acq On : 04-Feb-2021, 12:56:49 Operator: RobertS
Sample : MB1 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 8 14:32 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123597.D Vial: 3
Acq On : 02-Feb-2021, 12:51:50 Operator: RobertS
Sample : MB1 Inst : HP5890
Misc : GC57414,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 02 13:06:26 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.33	361545	4790.309	ug/L

Spiked Amount 5000.000 Range 56 - 145 Recovery = 95.81%

Target Compounds

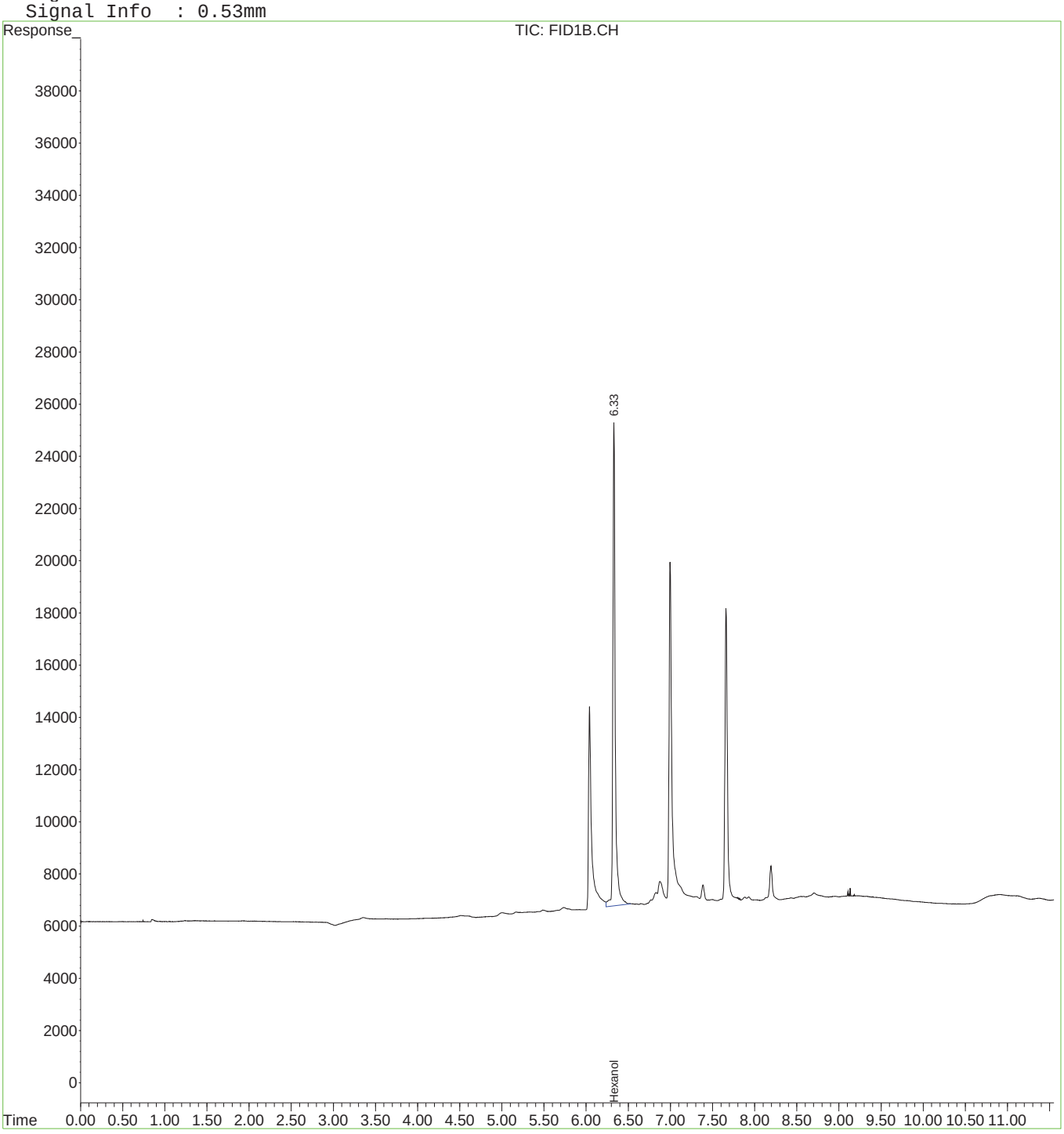
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123597.D MGH6650.M Mon Feb 08 13:57:58 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123597.D Vial: 3
Acq On : 02-Feb-2021, 12:51:50 Operator: RobertS
Sample : MB1 Inst : HP5890
Misc : GC57414,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:40 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123598.D Vial: 4
Acq On : 02-Feb-2021, 13:09:17 Operator: RobertS
Sample : BS Inst : HP5890
Misc : GC57414,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 02 15:41:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
9) S	Hexanol	6.33	405678	5375.043	ug/L
Spiked Amount	5000.000	Range 56 - 145	Recovery =	107.50%	
	Target Compounds				
1)	Methanol	1.37	55884	4069.555	ug/L
2)	Ethanol	1.82	78529	4466.798	ug/L
3)	2-Propanol	2.18	85026	4367.676	ug/L
4)	Tert-Butyl Alcohol	2.46	126569	4590.150	ug/L
5)	1-Propanol	3.08	104811	4404.826	ug/L
6)	2-Butanol	3.50	114686	4676.779	ug/L
7)	Isobutanol	3.97	136881	4831.208	ug/L
8)	1-butanol	4.51	134700	4705.927	ug/L

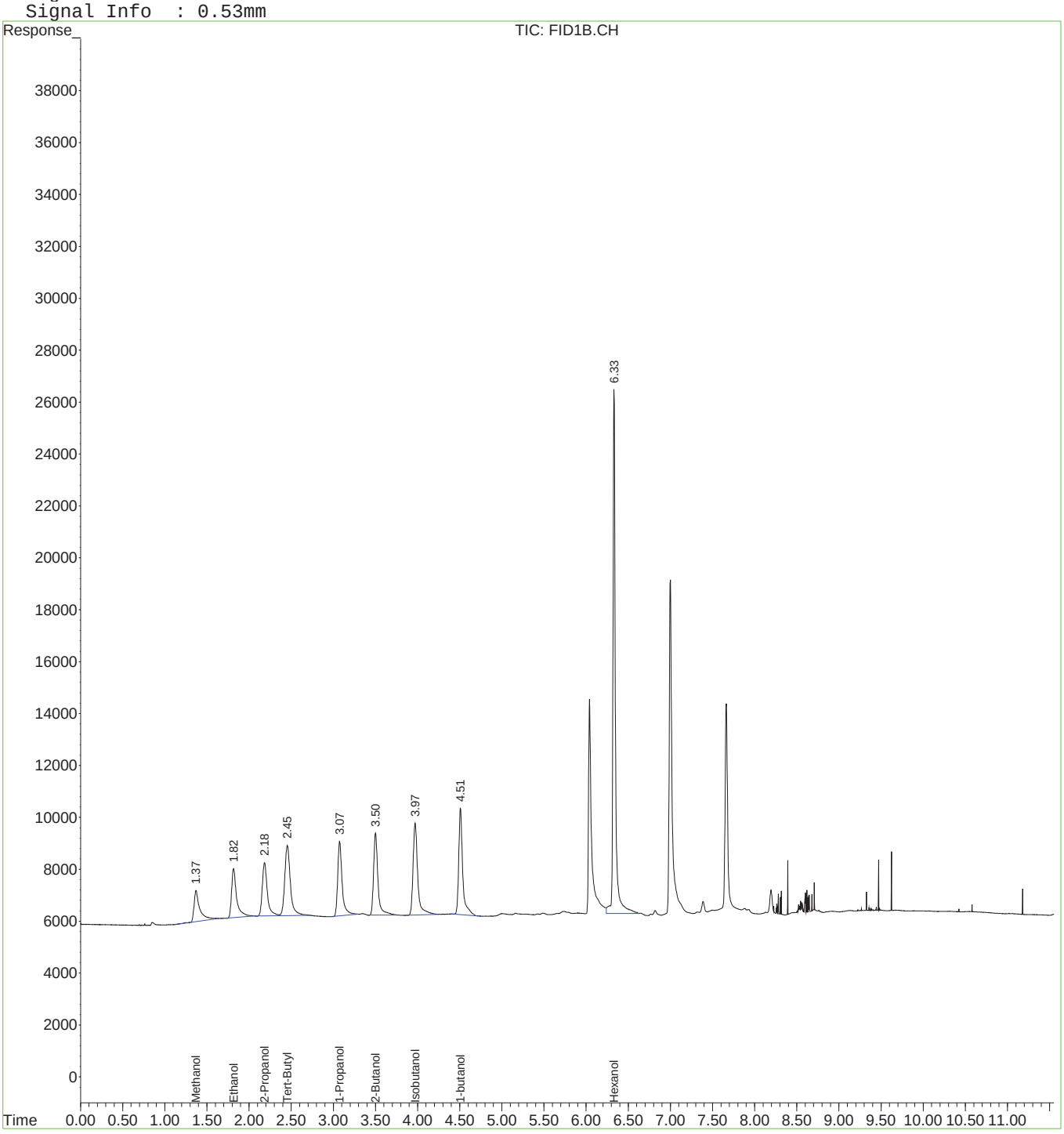
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123598.D MGH6650.M Mon Feb 08 13:57:59 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123598.D Vial: 4
Acq On : 02-Feb-2021, 13:09:17 Operator: RobertS
Sample : BS Inst : HP5890
Misc : GC57414,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 2 15:41 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
02/08/21 22:02

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123622.D Vial: 4
Acq On : 04-Feb-2021, 13:14:23 Operator: RobertS
Sample : BS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 04 14:08:04 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.35	321814	4263.881	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 85.28%			
Target Compounds					
1) Methanol	1.41	63725	4640.541	ug/L	m
2) Ethanol	1.84	88035	5007.496	ug/L	m
3) 2-Propanol	2.21	85278	4380.651	ug/L	m
4) Tert-Butyl Alcohol	2.48	134595	4881.227	ug/L	
5) 1-Propanol	3.10	106249	4465.255	ug/L	
6) 2-Butanol	3.52	110664	4512.775	ug/L	
7) Isobutanol	3.99	129995	4588.170	ug/L	
8) 1-butanol	4.53	127888	4467.925	ug/L	

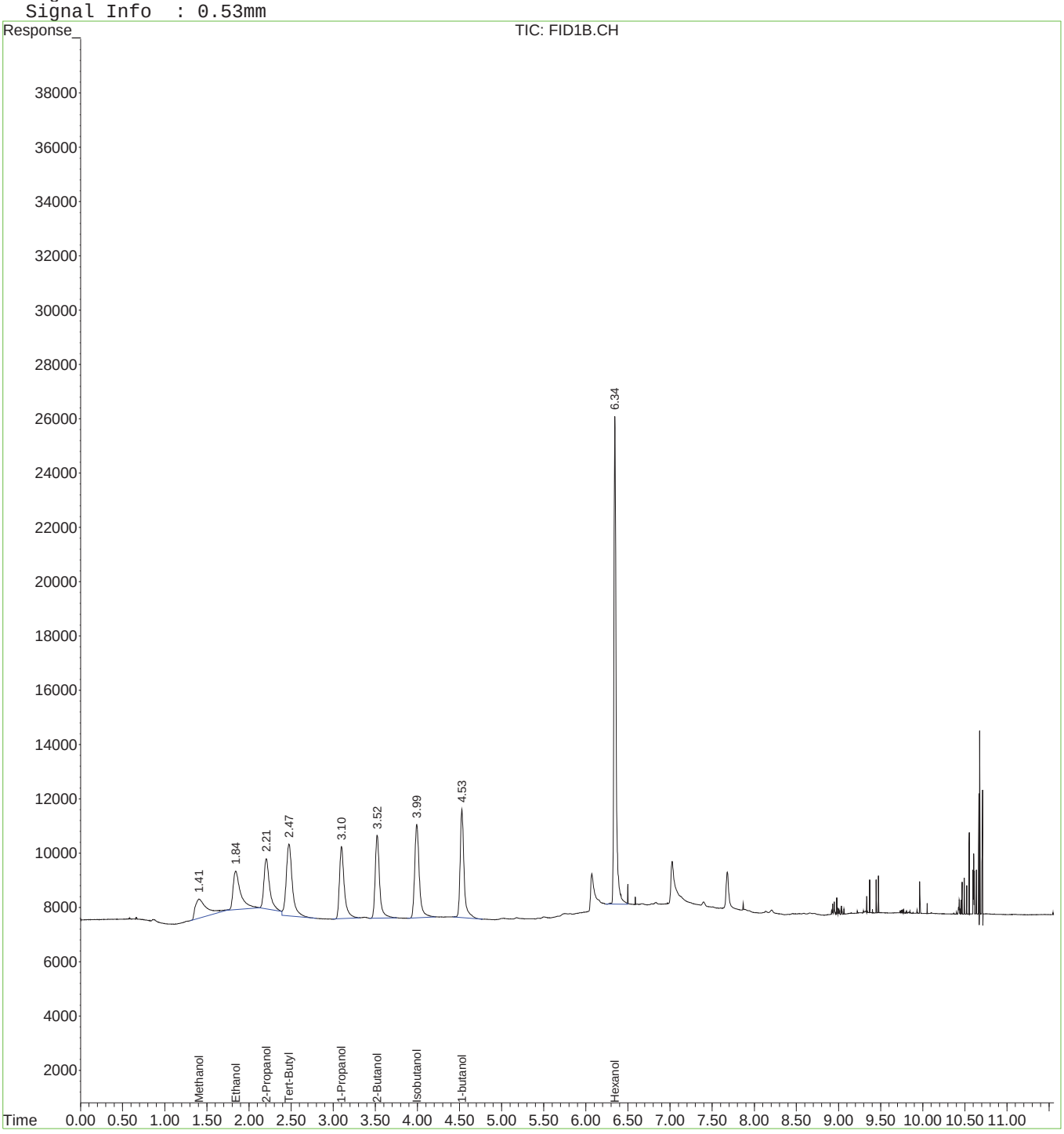
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123622.D MGH6650.M Mon Feb 08 14:58:18 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123622.D Vial: 4
Acq On : 04-Feb-2021, 13:14:23 Operator: RobertS
Sample : BS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 8 14:34 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

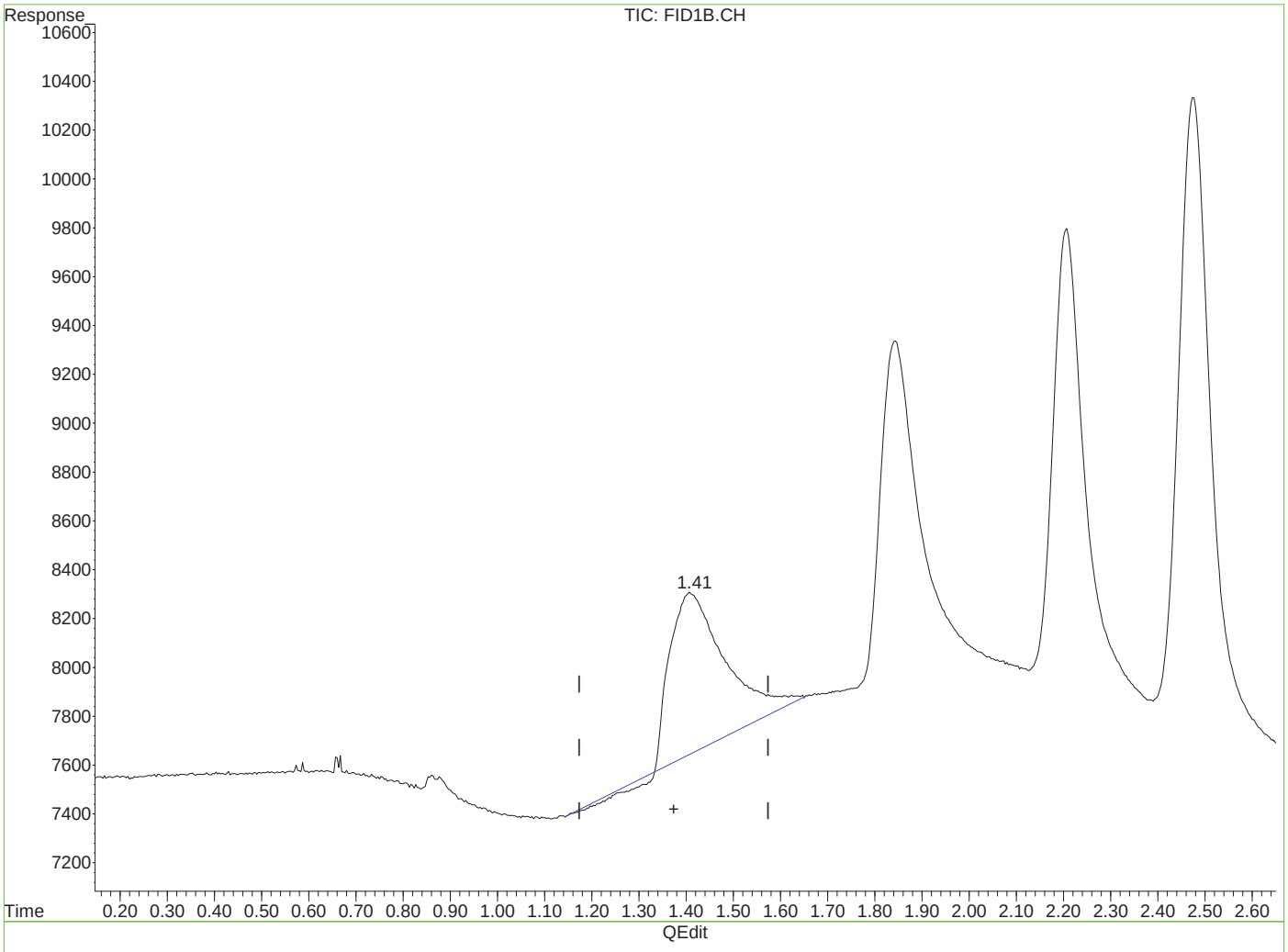
Sample Number: GGH6655-BS
Lab FileID: GH123622.D
Injection Time: 02/04/21 13:14
Method: SW846-8015D (DAI)
Analyst approved: 02/08/21 15:37 MoHui Huang
Supervisor approved: 02/08/21 22:02 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.41	Poor instrument integration
Ethanol	64-17-5	1	1.84	Poor instrument integration
Isopropyl Alcohol	67-63-0	1	2.21	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123622.D Vial: 4
Acq On : 04-Feb-2021, 13:14:23 Operator: RobertS
Sample : BS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 4 14:08 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.41min 3750.638ug/L

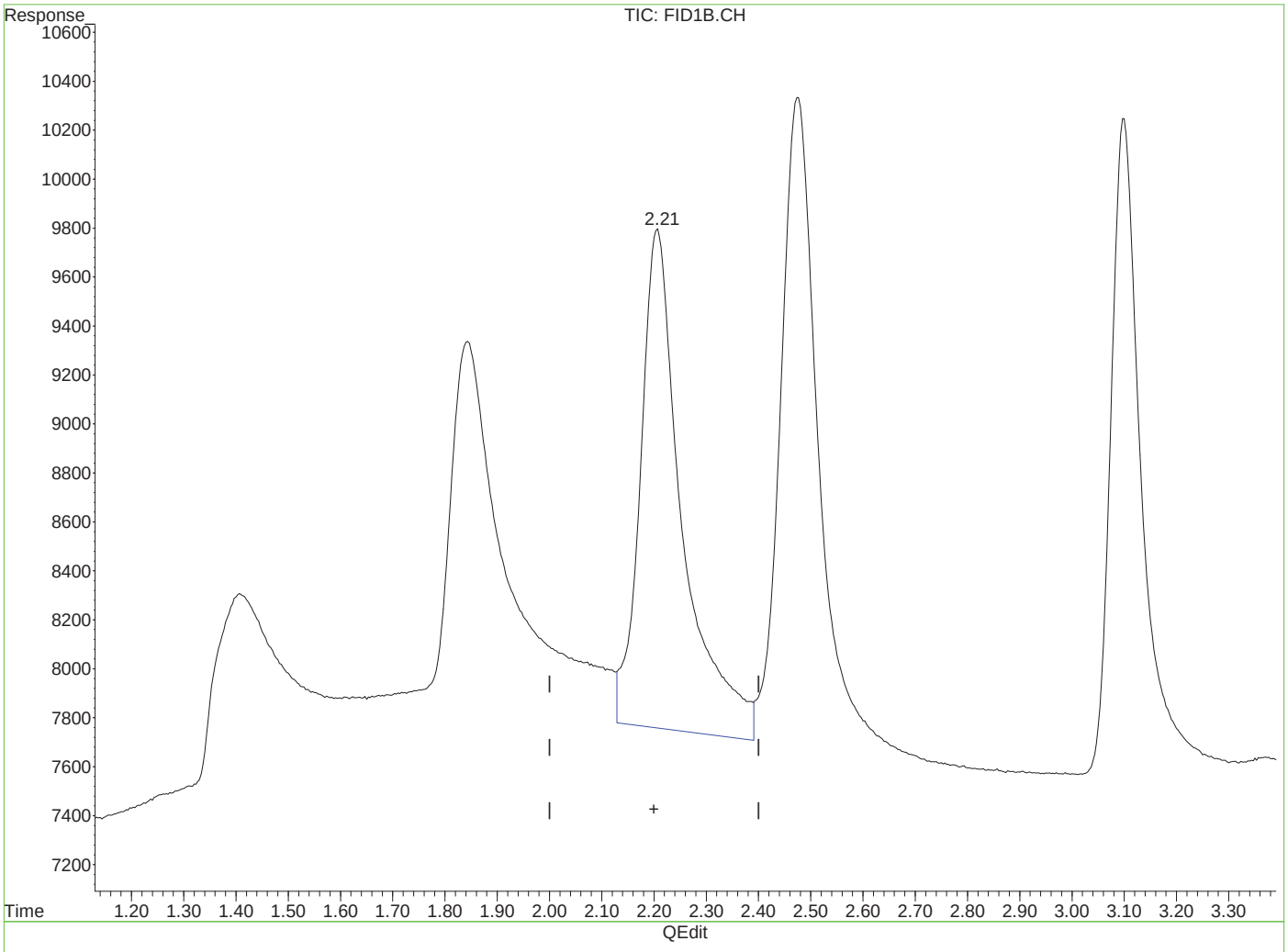
response 51505

(+) = Expected Retention Time
GH123622.D MGH6650.M Mon Feb 08 14:33:22 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123622.D Vial: 4
Acq On : 04-Feb-2021, 13:14:23 Operator: RobertS
Sample : BS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 4 14:08 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.21min 5819.210ug/L

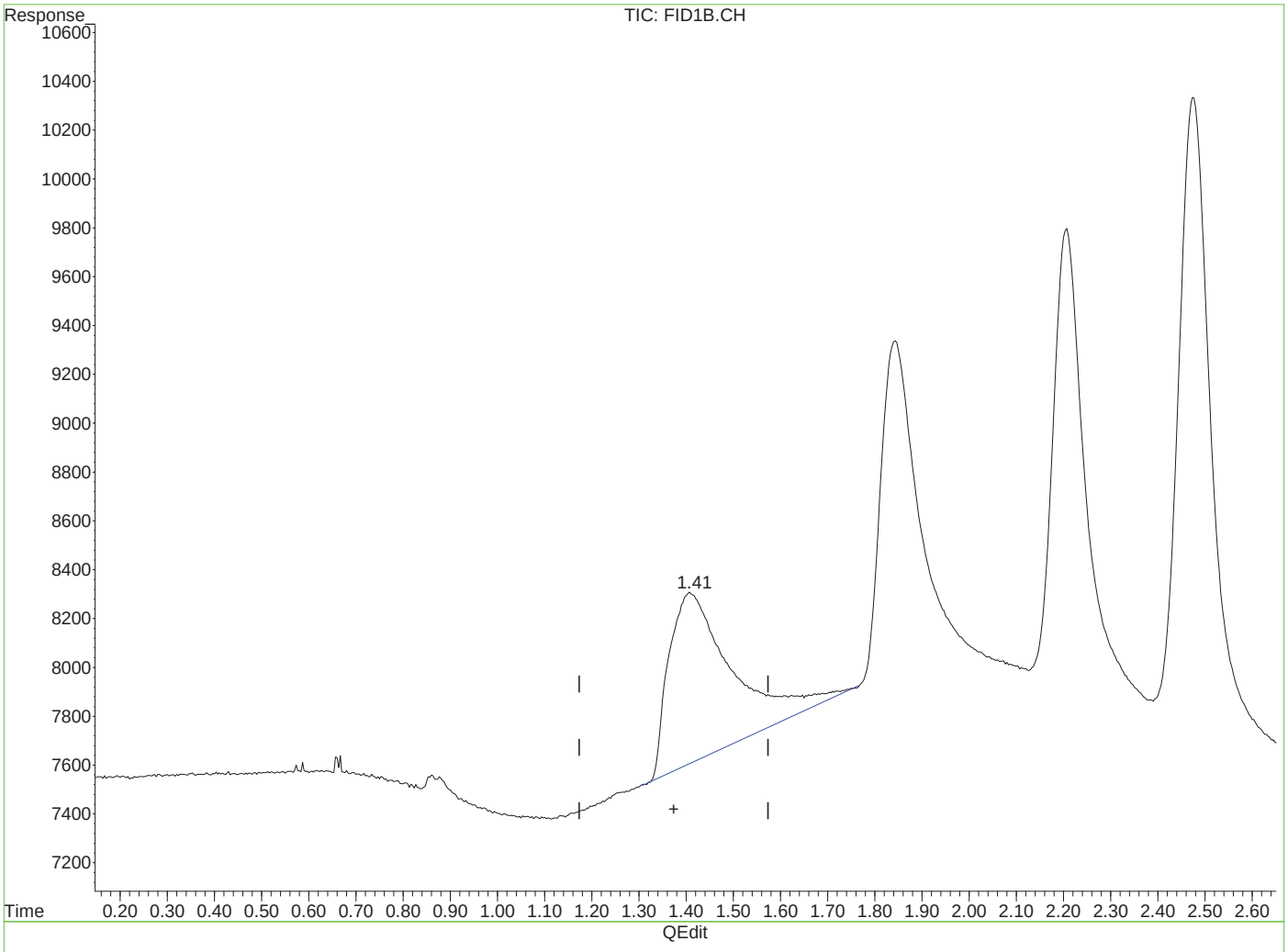
response 113283

(+) = Expected Retention Time
GH123622.D MGH6650.M Mon Feb 08 14:33:33 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123622.D Vial: 4
Acq On : 04-Feb-2021, 13:14:23 Operator: RobertS
Sample : BS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 4 14:08 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.41min 4640.541ug/L m

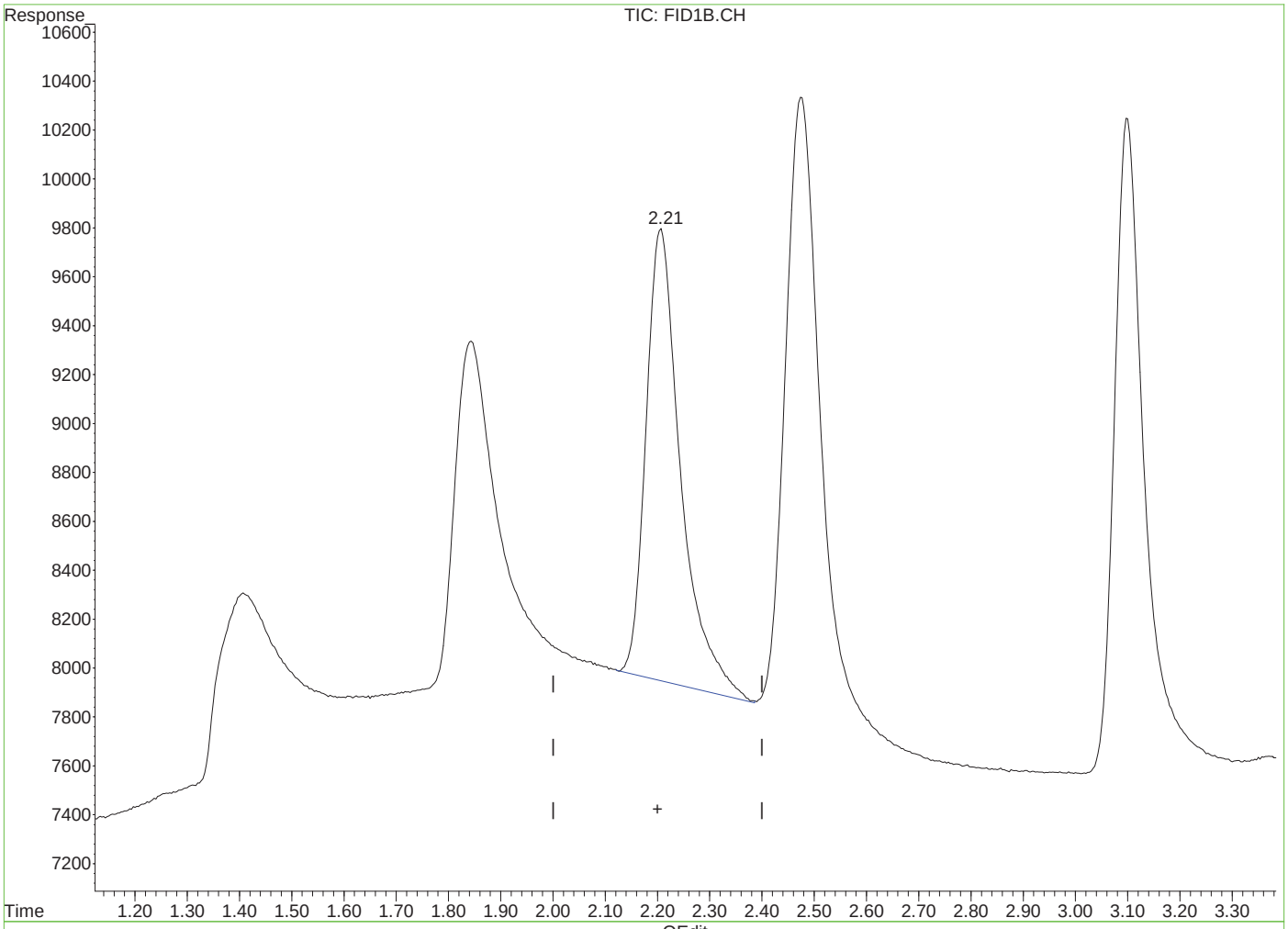
response 63725

(+) = Expected Retention Time
GH123622.D MGH6650.M Mon Feb 08 14:34:15 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123622.D Vial: 4
Acq On : 04-Feb-2021, 13:14:23 Operator: RobertS
Sample : BS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 4 14:08 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.21min 4380.651ug/L m

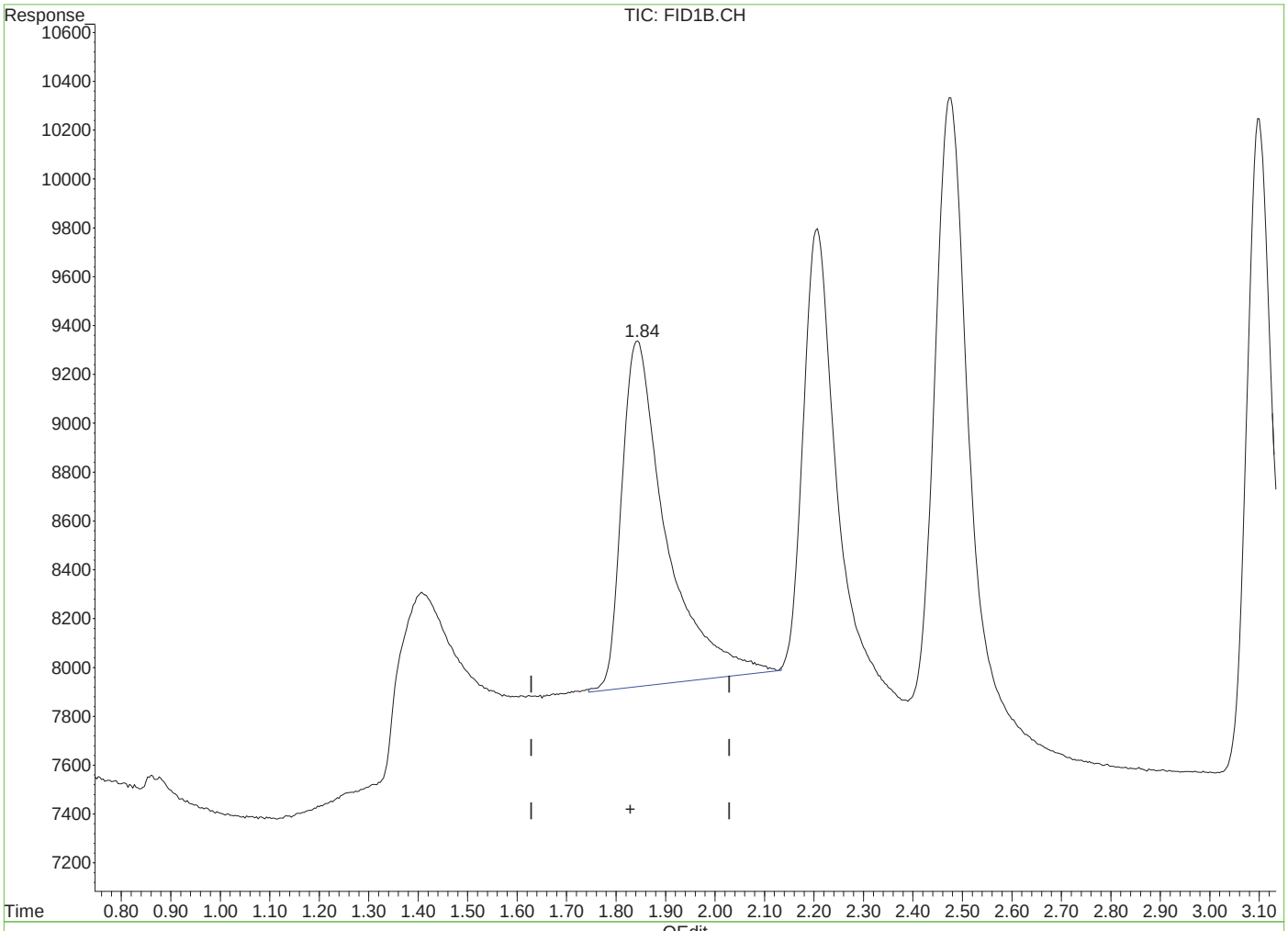
response 85278

(+) = Expected Retention Time
GH123622.D MGH6650.M Mon Feb 08 14:34:30 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123622.D Vial: 4
Acq On : 04-Feb-2021, 13:14:23 Operator: RobertS
Sample : BS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 4 14:08 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.84min 5007.496ug/L m

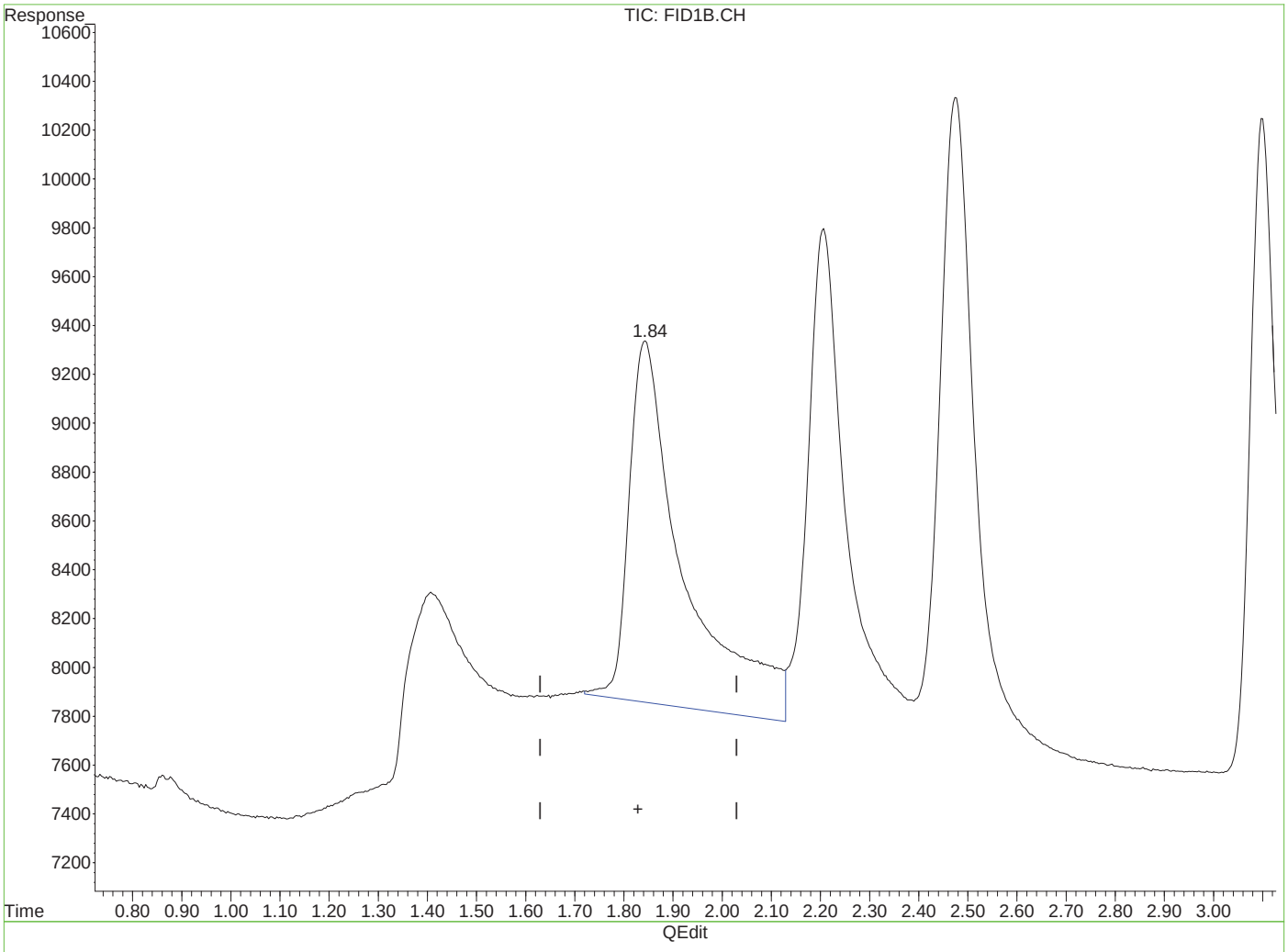
response 88035

(+) = Expected Retention Time
GH123622.D MGH6650.M Mon Feb 08 14:35:03 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123622.D Vial: 4
Acq On : 04-Feb-2021, 13:14:23 Operator: RobertS
Sample : BS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 8 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.84min 6473.681ug/L

response 113812

(+) = Expected Retention Time
GH123622.D MGH6650.M Mon Feb 08 14:36:32 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123604.D Vial: 10
Acq On : 02-Feb-2021, 17:18:03 Operator: RobertS
Sample : JD19624-1MS Inst : HP5890
Misc : GC57420,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 02 18:32:52 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.33	354633	4698.728	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 93.97%		
Target Compounds				
1) Methanol	1.38	60274	4389.202	ug/L
2) Ethanol	1.81	84178	4788.130	ug/L
3) 2-Propanol	2.18	91356	4692.874	ug/L
4) Tert-Butyl Alcohol	2.45	135863	4927.185	ug/L
5) 1-Propanol	3.07	108464	4558.326	ug/L
6) 2-Butanol	3.50	116539	4752.372	ug/L
7) Isobutanol	3.97	138115	4874.769	ug/L
8) 1-butanol	4.51	137985	4820.692	ug/L

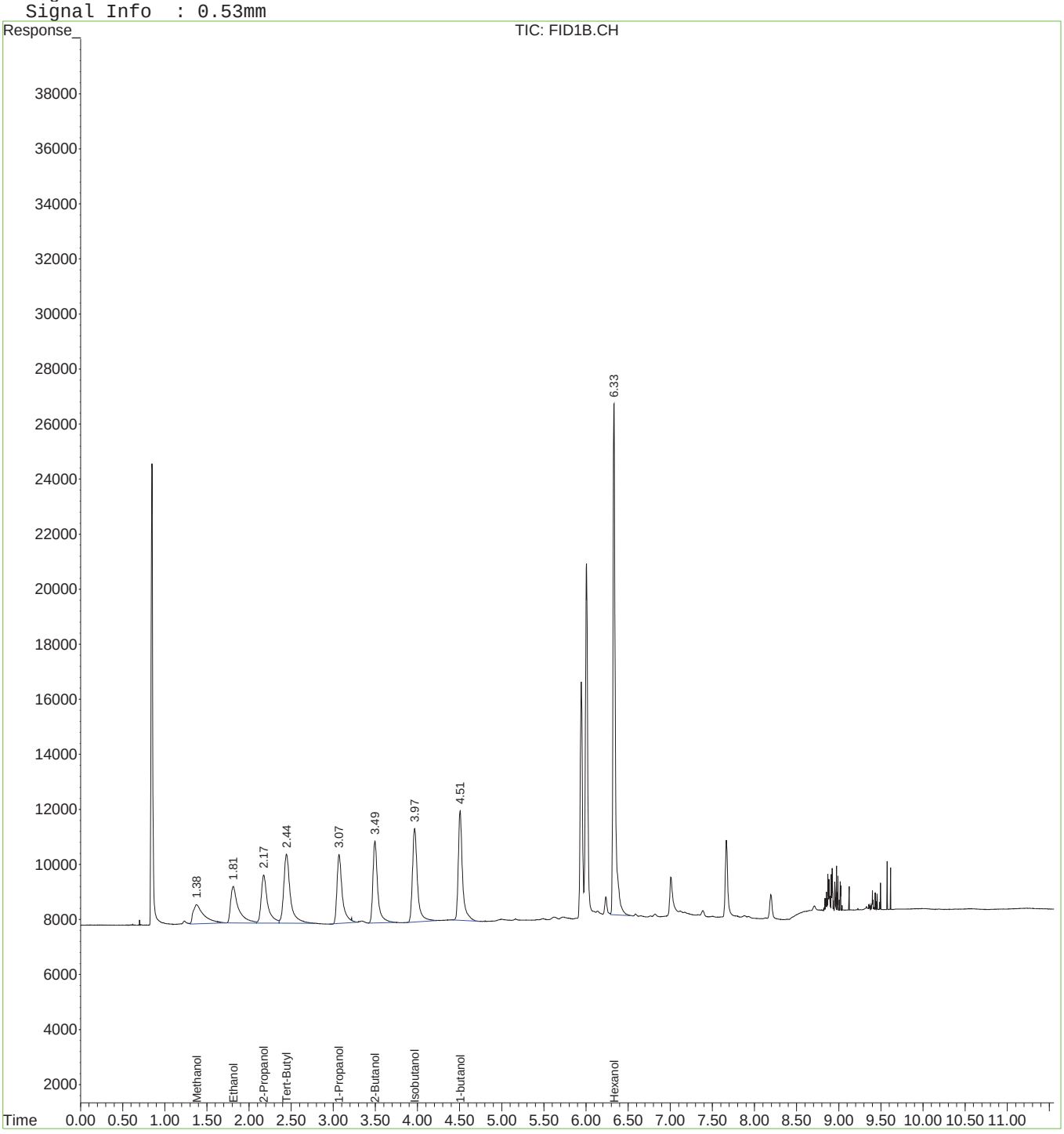
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123604.D MGH6650.M Mon Feb 08 13:58:03 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123604.D Vial: 10
Acq On : 02-Feb-2021, 17:18:03 Operator: RobertS
Sample : JD19624-1MS Inst : HP5890
Misc : GC57420,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 2 18:32 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123605.D Vial: 11
Acq On : 02-Feb-2021, 17:35:32 Operator: RobertS
Sample : JD19624-1MSD Inst : HP5890
Misc : GC57420,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 02 18:32:57 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	355455	4709.620 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 94.19%	
Target Compounds			
1) Methanol	1.36	51445	3746.268 ug/L
2) Ethanol	1.80	78191	4447.534 ug/L
3) 2-Propanol	2.17	85414	4387.606 ug/L
4) Tert-Butyl Alcohol	2.44	131912	4783.913 ug/L
5) 1-Propanol	3.07	111187	4672.768 ug/L
6) 2-Butanol	3.49	114033	4650.152 ug/L
7) Isobutanol	3.97	133735	4720.190 ug/L
8) 1-butanol	4.51	126900	4433.423 ug/L

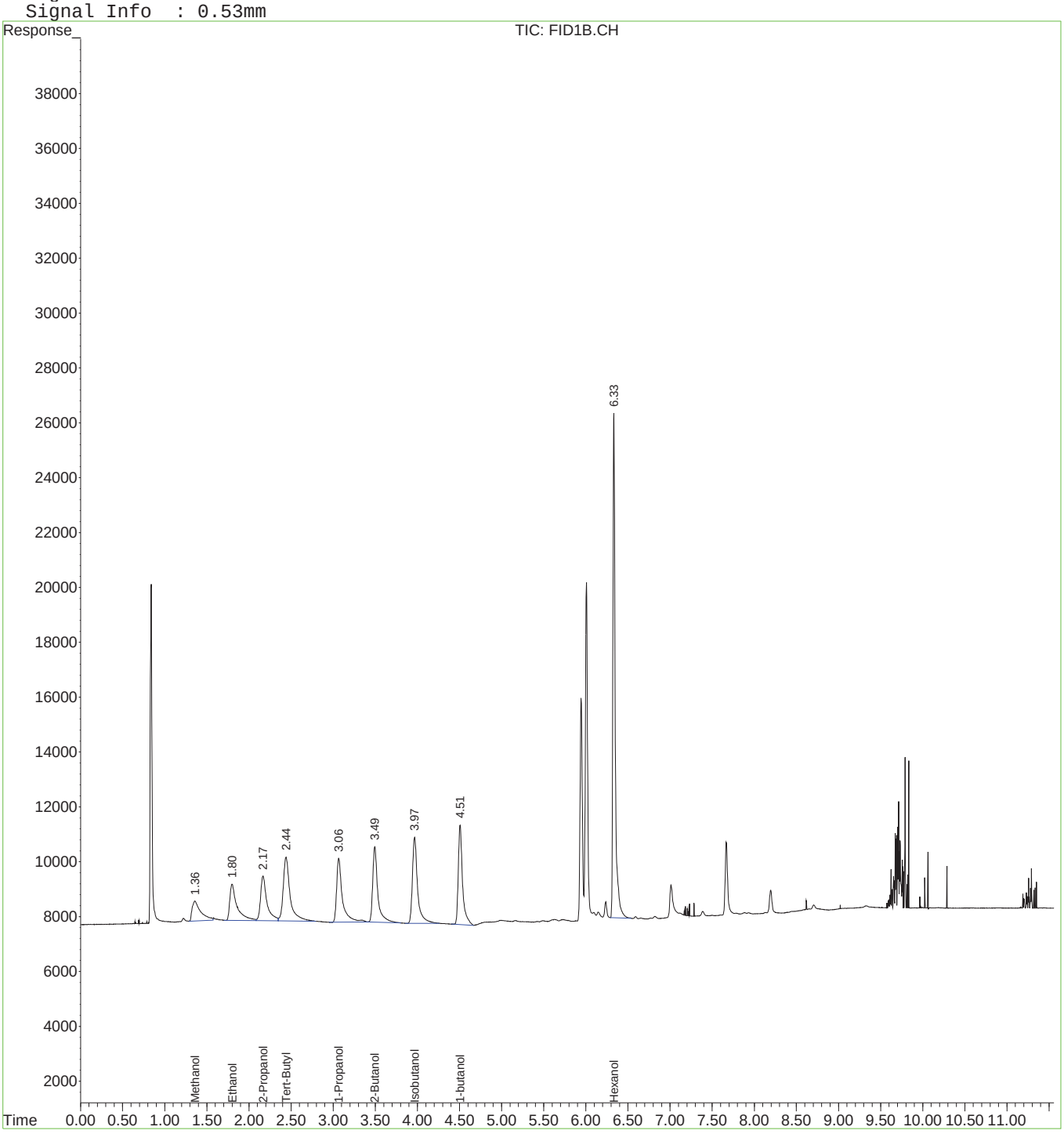
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123605.D MGH6650.M Mon Feb 08 13:58:04 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123605.D Vial: 11
Acq On : 02-Feb-2021, 17:35:32 Operator: RobertS
Sample : JD19624-1MSD Inst : HP5890
Misc : GC57420,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 2 18:32 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
02/08/21 22:03

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123624.D Vial: 6
Acq On : 04-Feb-2021, 14:40:54 Operator: RobertS
Sample : JD19735-11MS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 04 17:07:06 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	352413	4669.305 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 93.39%	
Target Compounds			
1) Methanol	1.39	71307	5192.610 ug/L m
2) Ethanol	1.84	69972	3980.060 ug/L
3) 2-Propanol	2.21	104083	5346.644 ug/L
4) Tert-Butyl Alcohol	2.48	146144	5300.038 ug/L
5) 1-Propanol	3.10	115286	4845.044 ug/L
6) 2-Butanol	3.53	119636	4878.663 ug/L
7) Isobutanol	4.00	135356	4777.382 ug/L
8) 1-butanol	4.53	132894	4642.831 ug/L

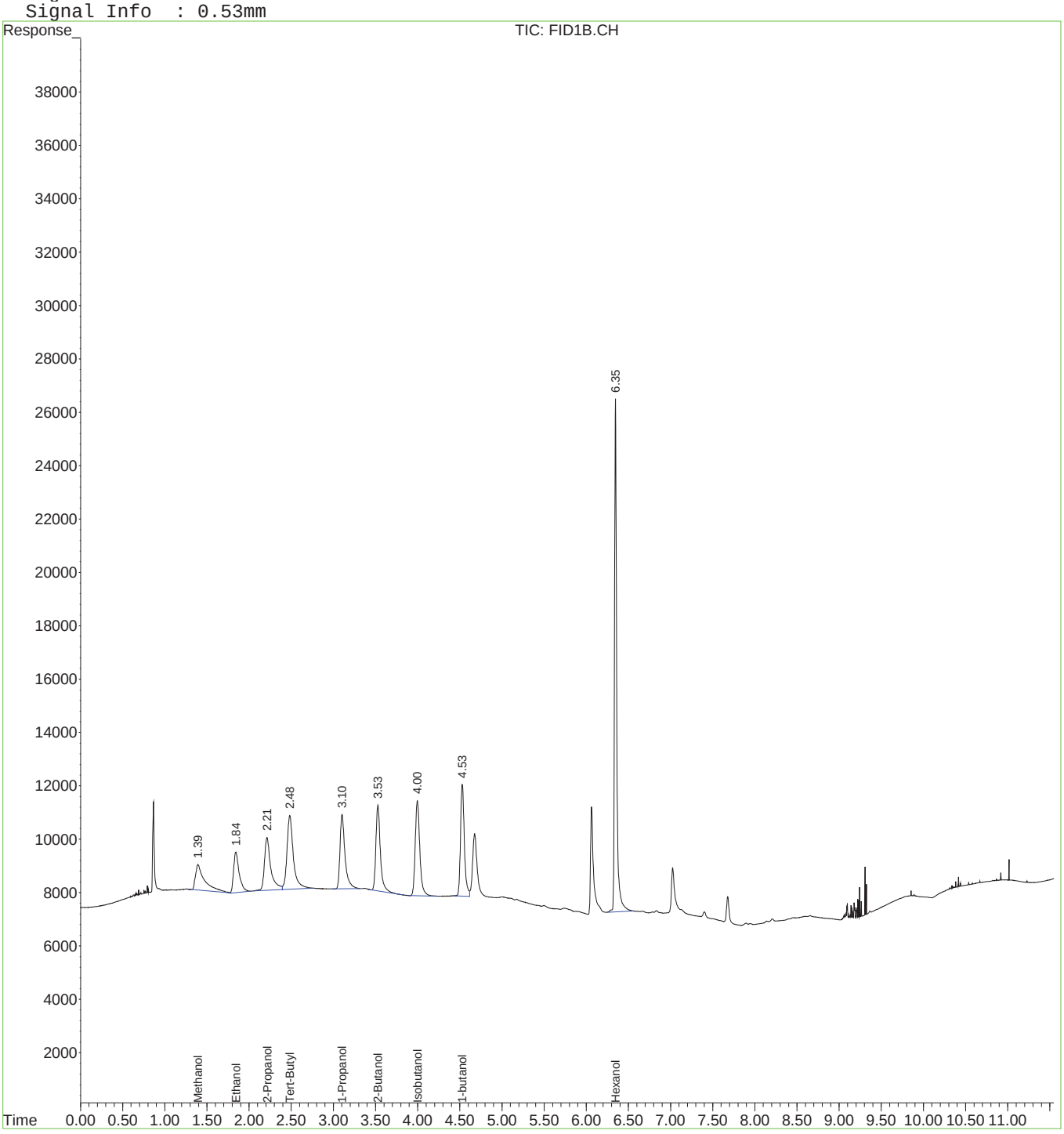
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123624.D MGH6650.M Mon Feb 08 14:58:20 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123624.D Vial: 6
Acq On : 04-Feb-2021, 14:40:54 Operator: RobertS
Sample : JD19735-11MS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 8 14:44 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

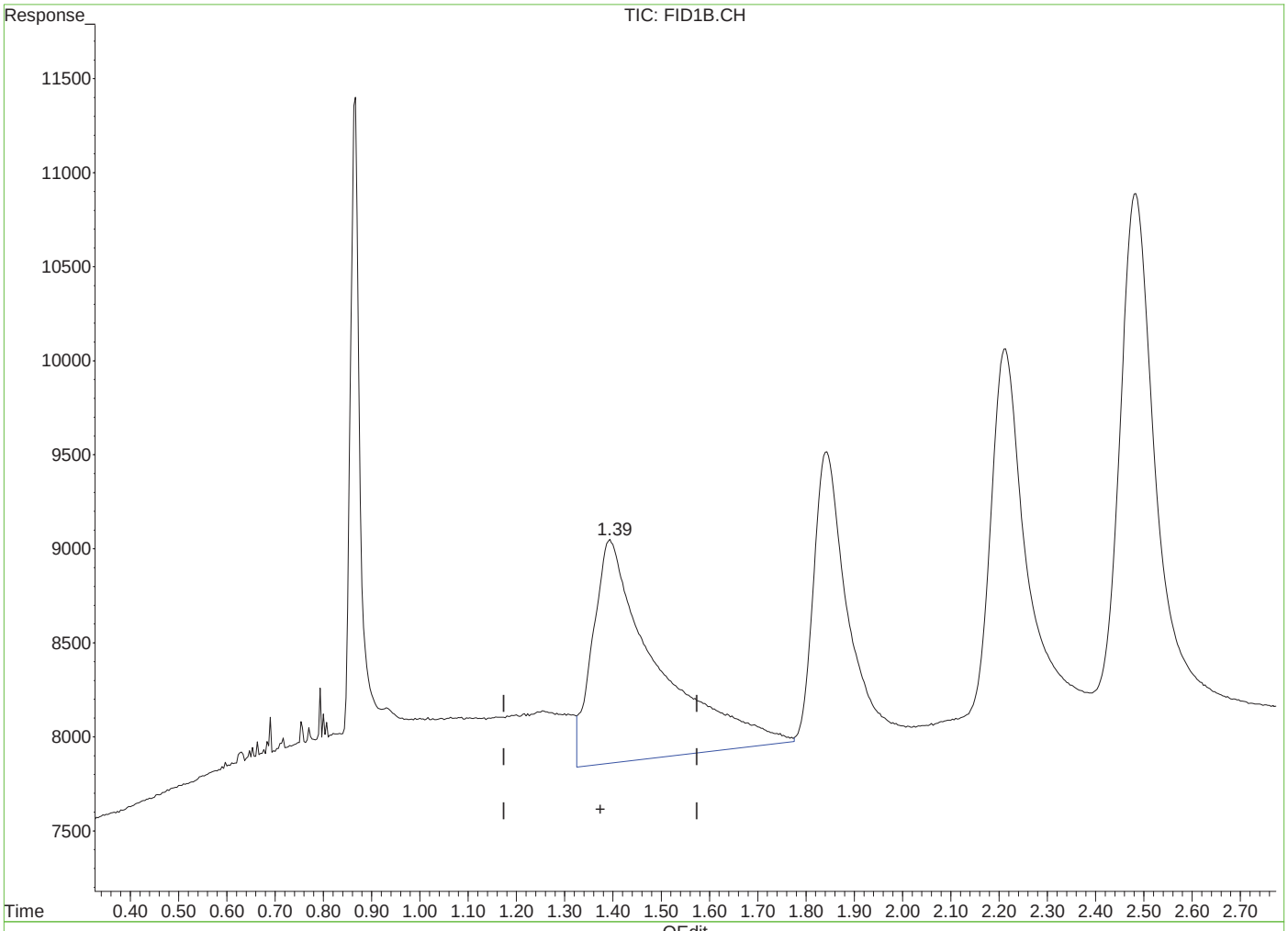
Sample Number: JD19735-11MS
Lab FileID: GH123624.D
Injection Time: 02/04/21 14:40
Method: SW846-8015D (DAI)
Analyst approved: 02/08/21 15:37 MoHui Huang
Supervisor approved: 02/08/21 22:03 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.39	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123624.D Vial: 6
Acq On : 04-Feb-2021, 14:40:54 Operator: RobertS
Sample : JD19735-11MS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 4 17:07 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.39min 8033.386ug/L

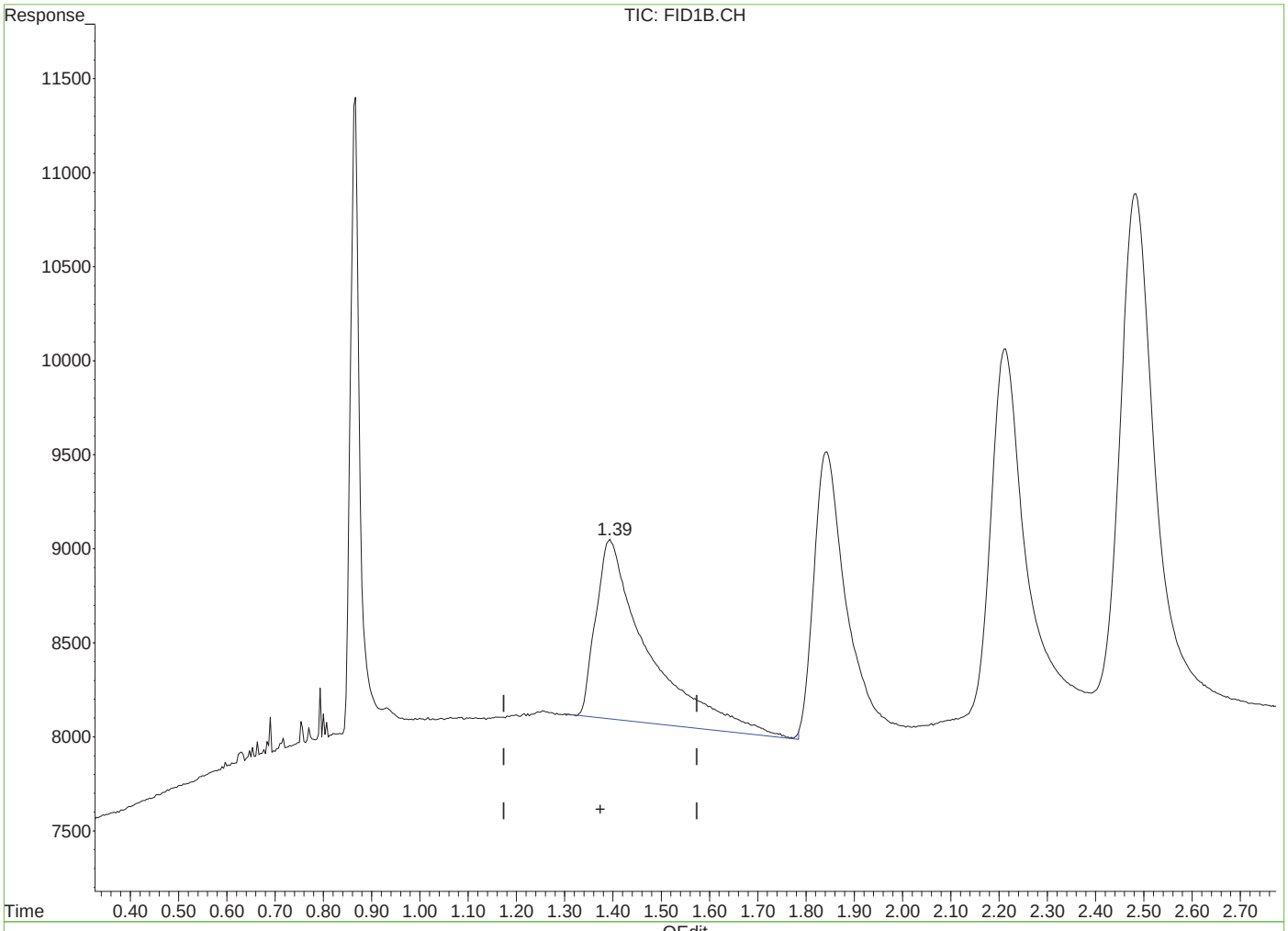
response 110317

(+) = Expected Retention Time
GH123624.D MGH6650.M Mon Feb 08 14:43:36 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123624.D Vial: 6
Acq On : 04-Feb-2021, 14:40:54 Operator: RobertS
Sample : JD19735-11MS Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 4 17:07 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.39min 5192.610ug/L m

response 71307

(+) = Expected Retention Time
GH123624.D MGH6650.M Mon Feb 08 14:44:05 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123625.D Vial: 7
Acq On : 04-Feb-2021, 14:58:23 Operator: RobertS
Sample : JD19735-11MSD Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 04 17:07:23 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	322550	4273.636 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 85.47%	
Target Compounds			
1) Methanol	1.40	63730	4640.850 ug/L
2) Ethanol	1.84	86973	4947.097 ug/L
3) 2-Propanol	2.21	93297	4792.550 ug/L
4) Tert-Butyl Alcohol	2.48	139715	5066.911 ug/L
5) 1-Propanol	3.10	113404	4765.962 ug/L
6) 2-Butanol	3.53	117556	4793.823 ug/L
7) Isobutanol	3.99	137511	4853.433 ug/L
8) 1-butanol	4.53	159870	5585.278 ug/L

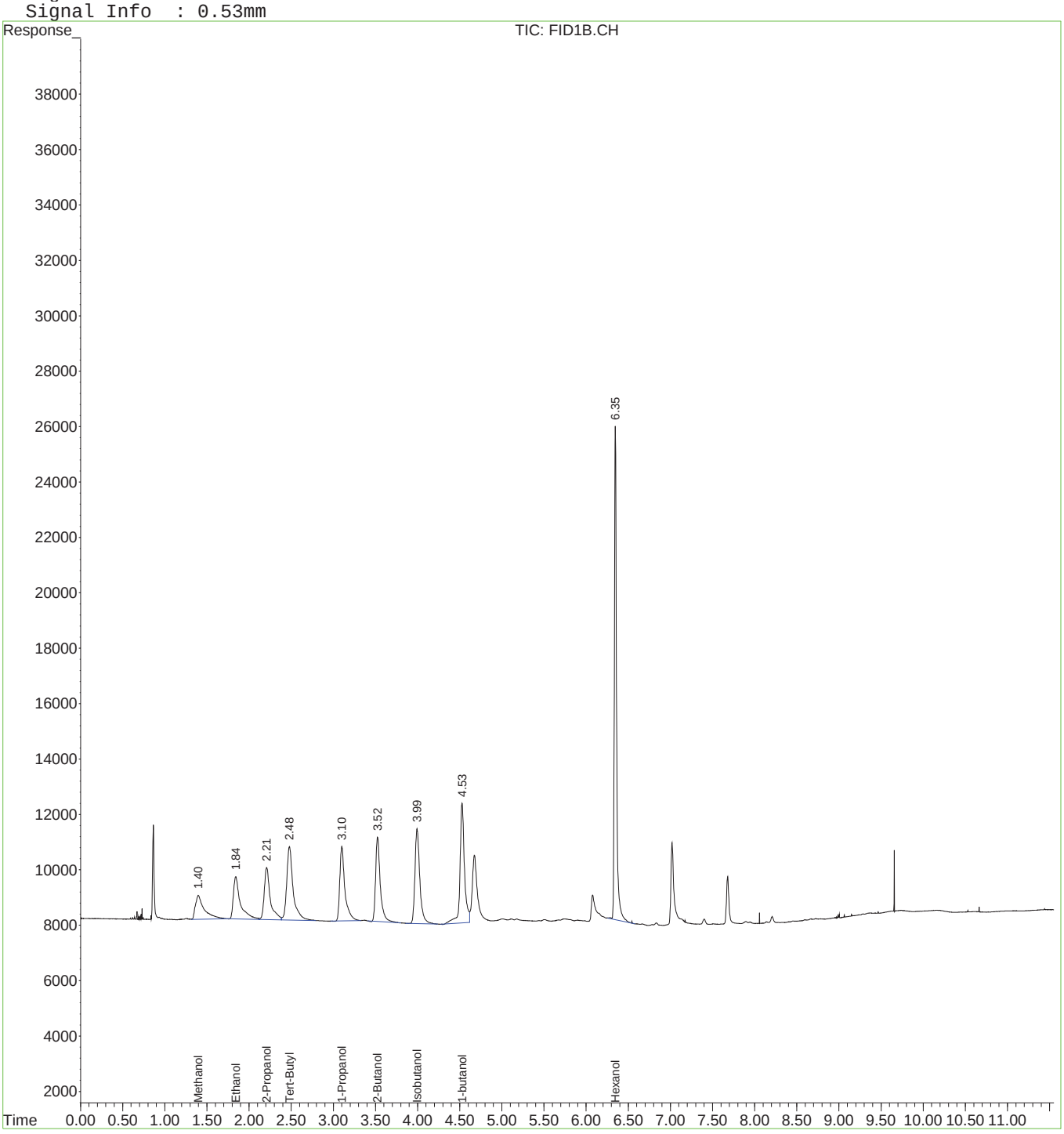
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123625.D MGH6650.M Mon Feb 08 14:58:21 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123625.D Vial: 7
Acq On : 04-Feb-2021, 14:58:23 Operator: RobertS
Sample : JD19735-11MSD Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 4 17:07 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:53 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.34	362785	4469.376	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 89.39%			
Target Compounds					
1) Methanol	1.37	3057	207.681	ug/L	
2) Ethanol	1.82	2731	153.906	ug/L	m
3) 2-Propanol	2.20	3951	200.505	ug/L	m
4) Tert-Butyl Alcohol	2.47	5876	198.400	ug/L	
5) 1-Propanol	3.09	4867	199.937	ug/L	
6) 2-Butanol	3.52	4972	191.683	ug/L	
7) Isobutanol	3.99	5889	197.827	ug/L	
8) 1-butanol	4.52	6991	232.719	ug/L	m

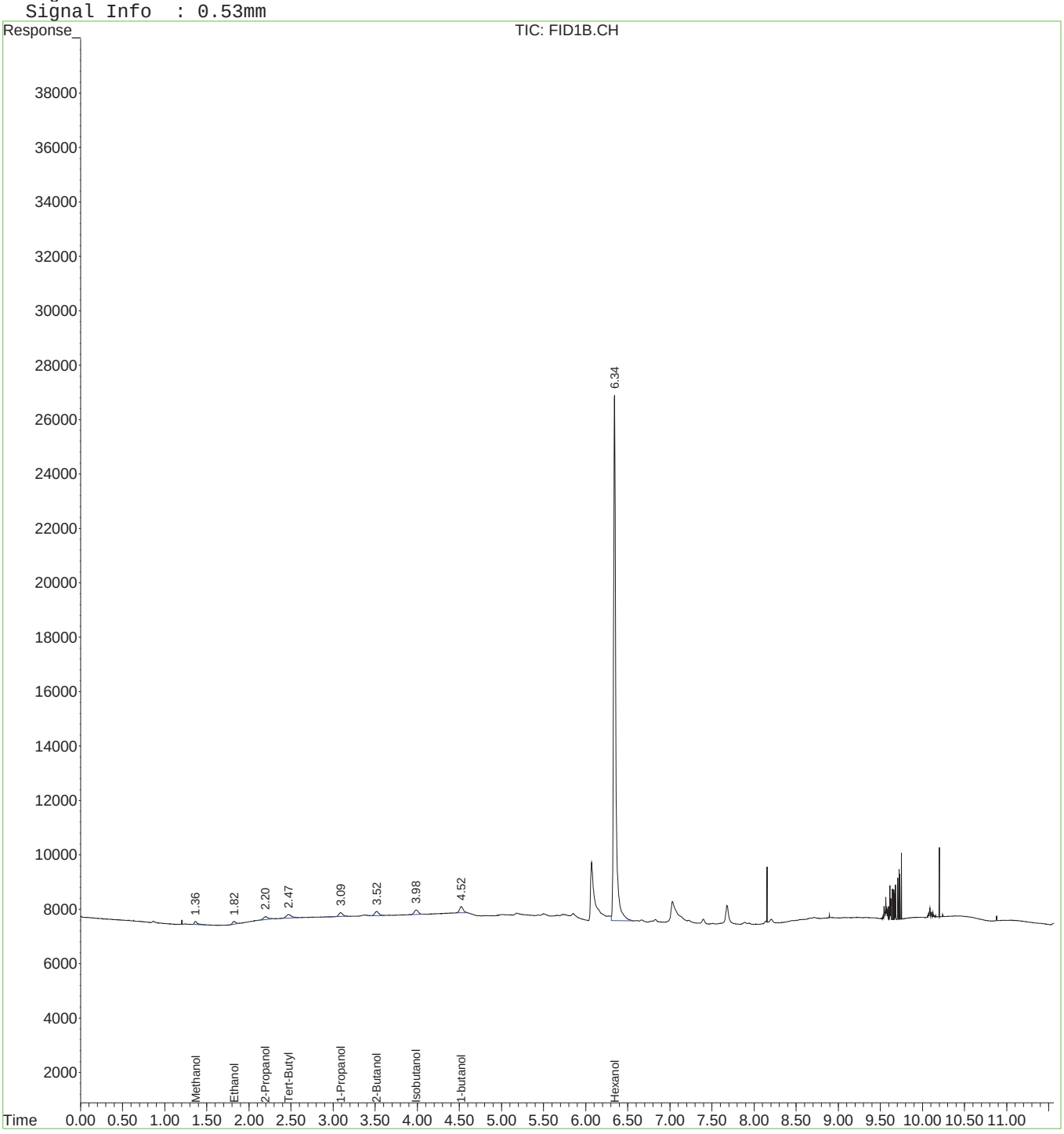
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123502.D MGH6650.M Thu Jan 28 11:49:02 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:24 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

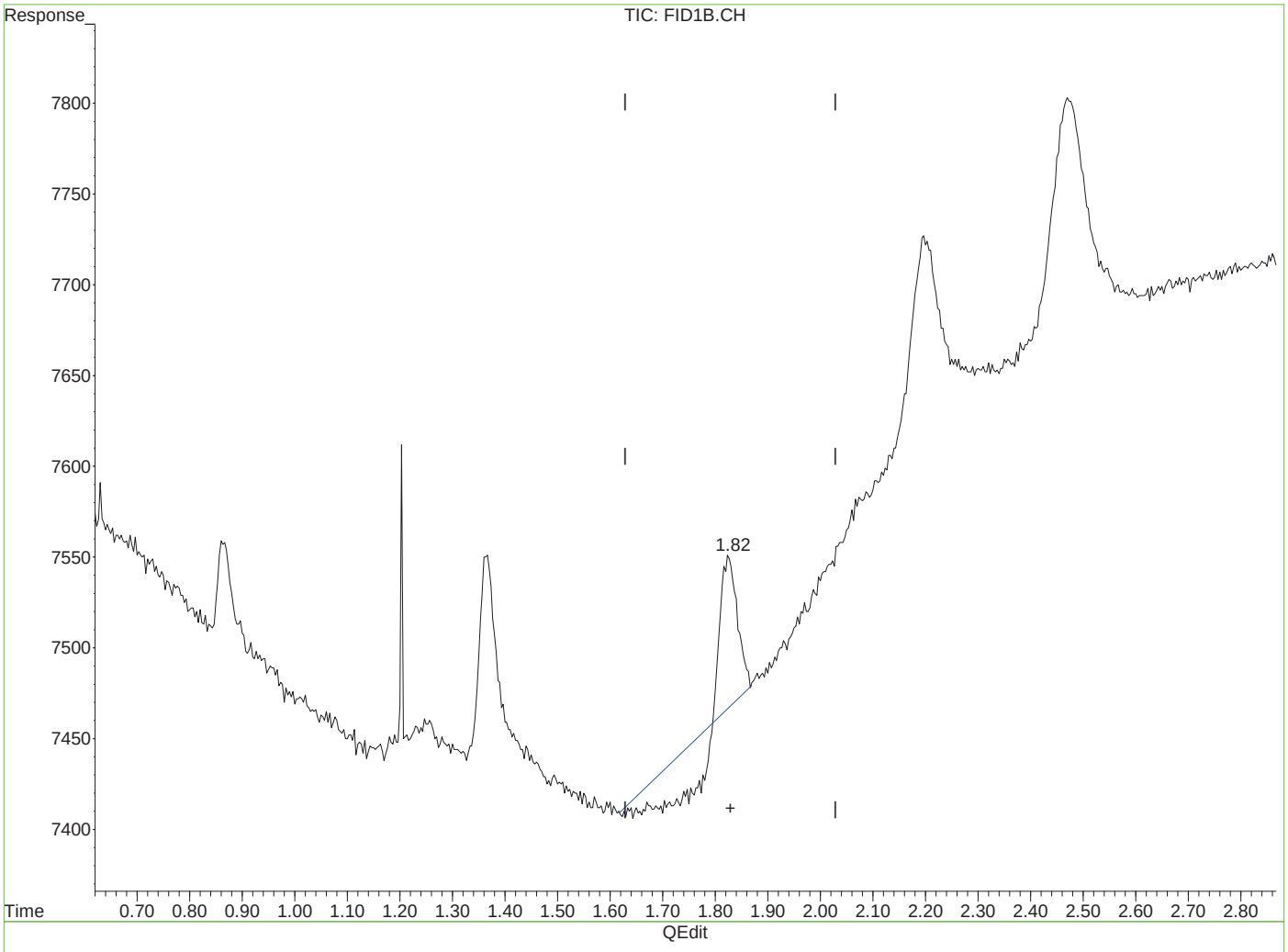
Sample Number: GGH6650-IC6650
Lab FileID: GH123502.D
Injection Time: 01/21/21 18:20
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethanol	64-17-5	1	1.82	Poorly defined baseline
Isopropyl Alcohol	67-63-0	1	2.20	Poorly defined baseline
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.83min 1.939ug/L

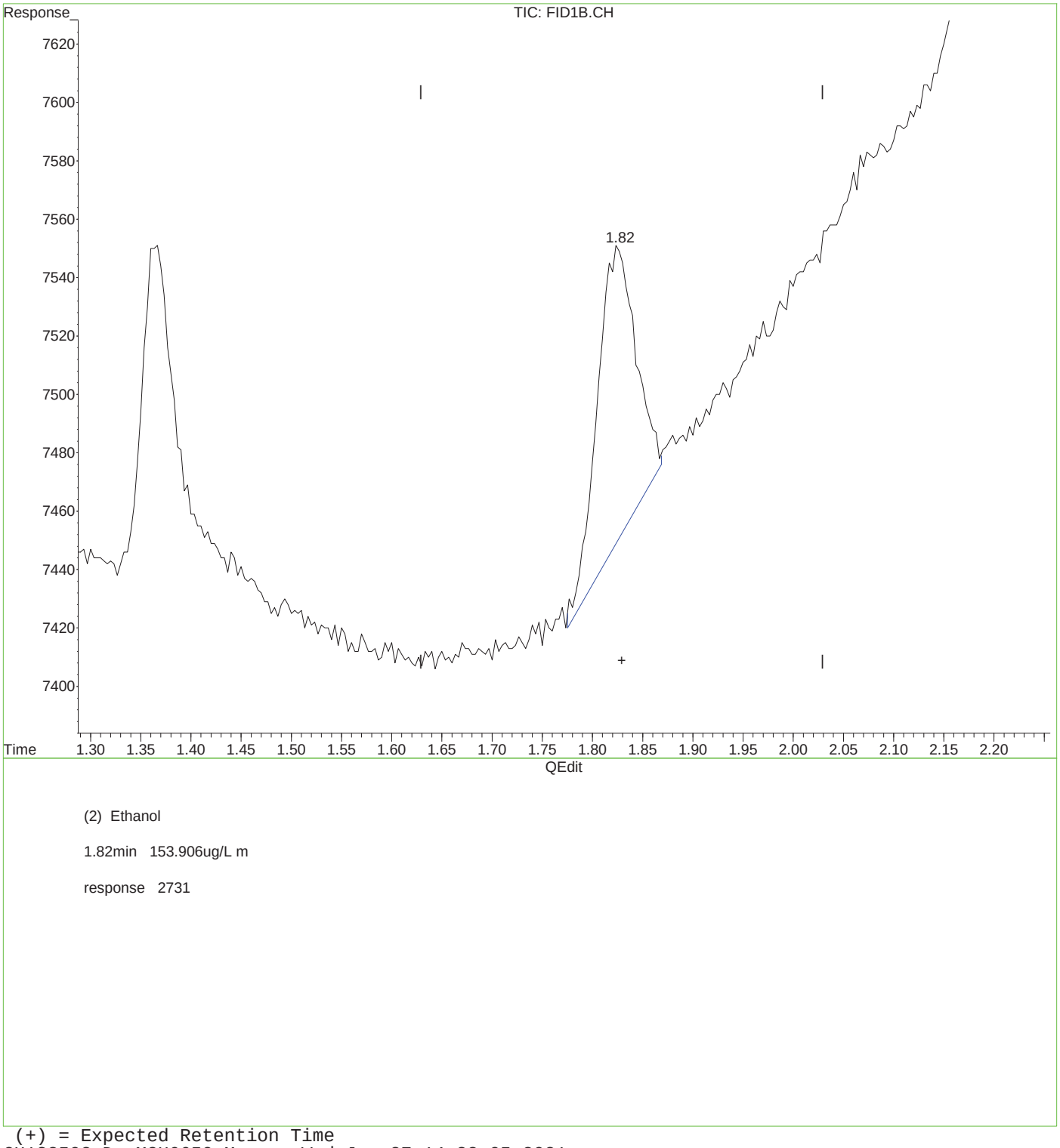
response 34

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:22:46 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.82min 153.906ug/L m

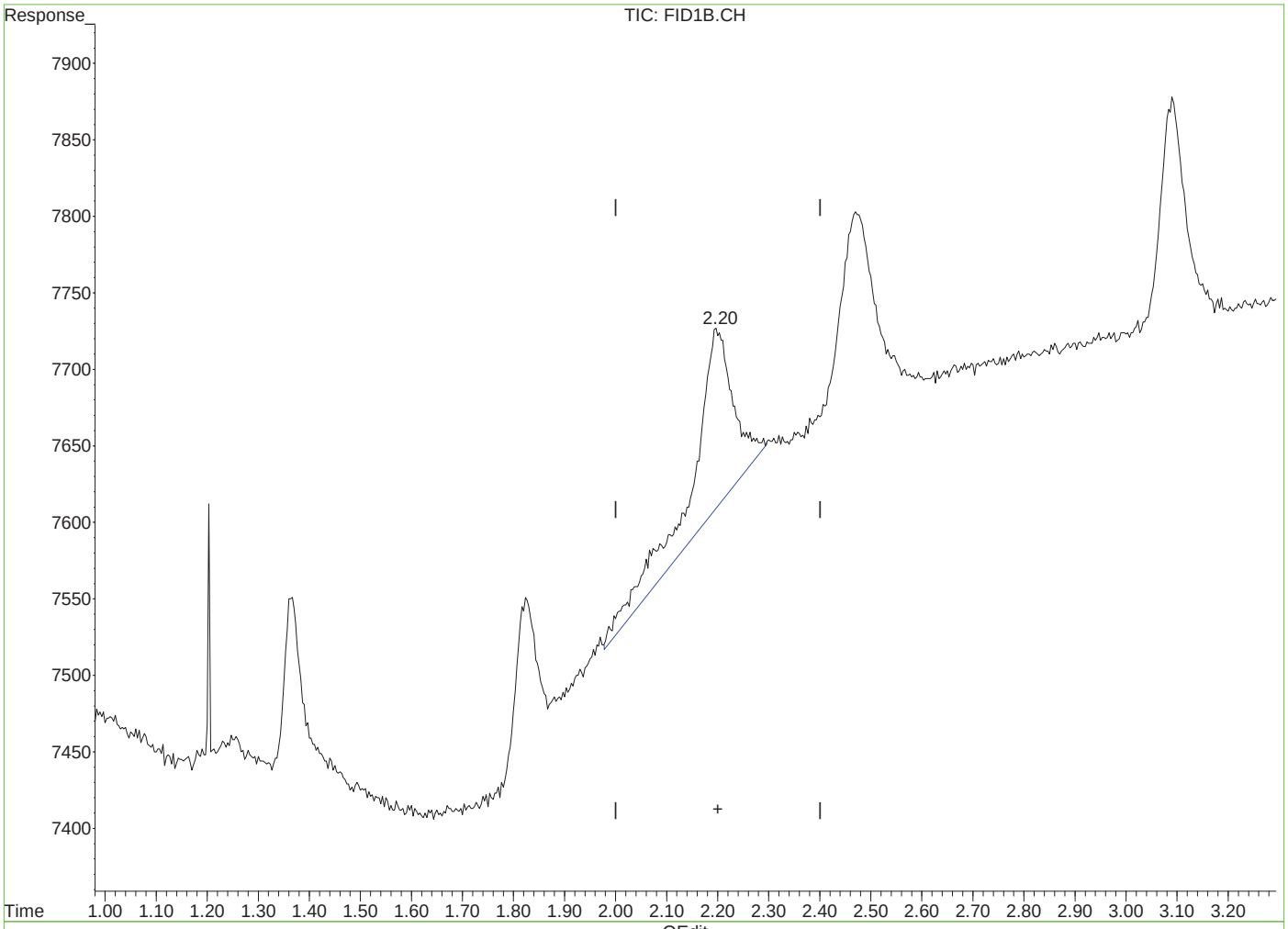
response 2731

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:05 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 324.750ug/L

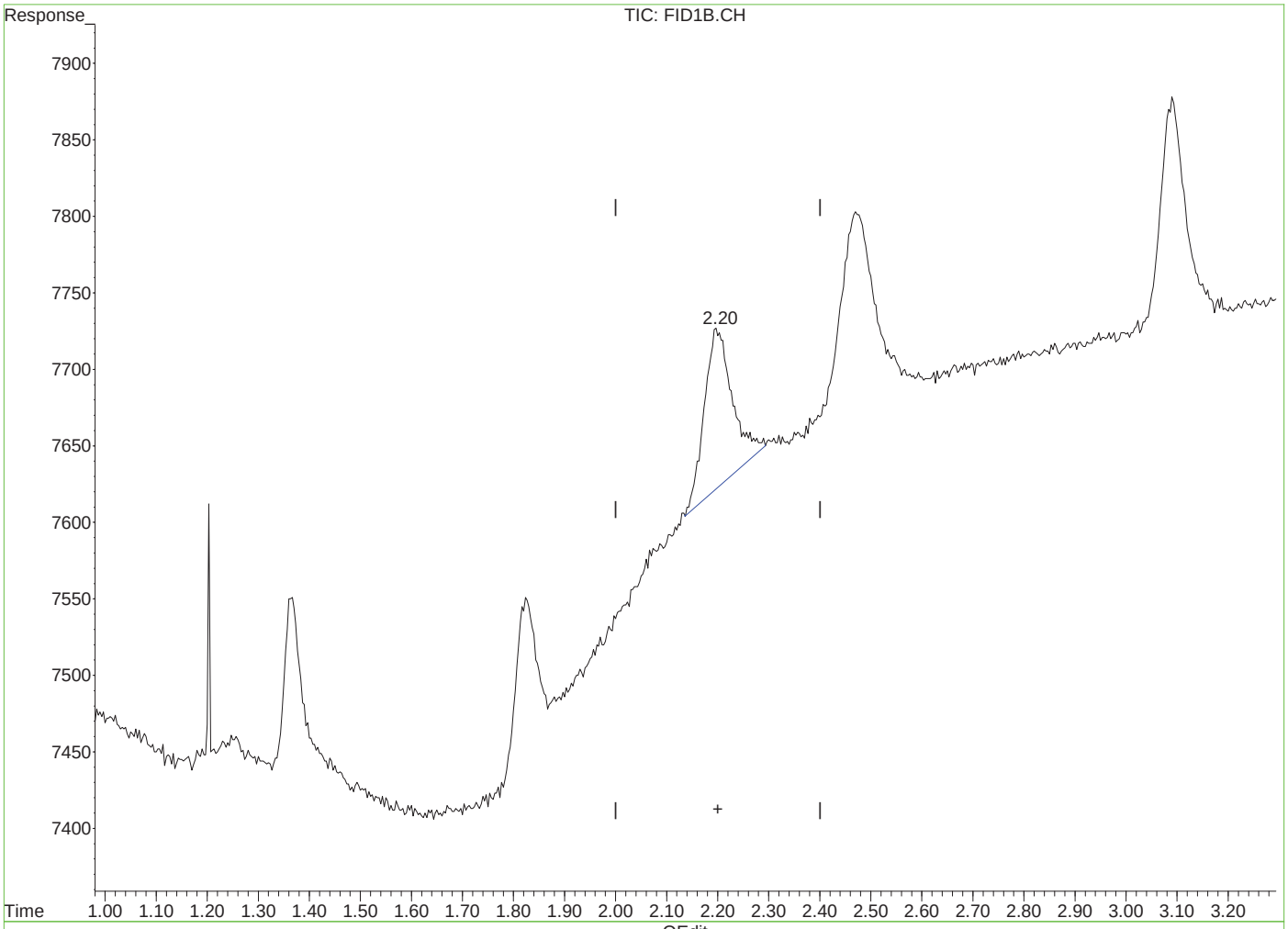
response 6399

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:11 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 200.505ug/L m

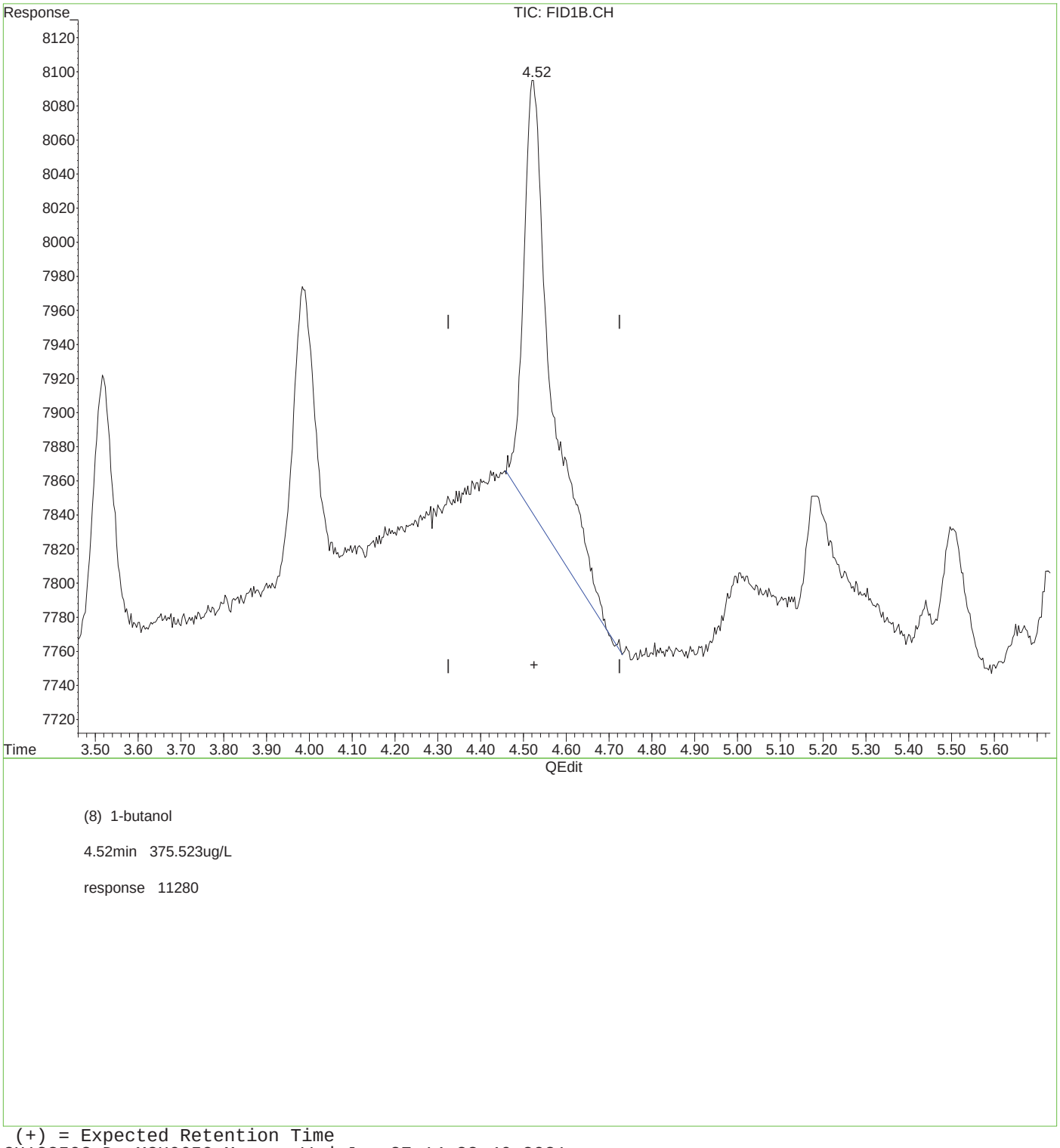
response 3951

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:29 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 375.523ug/L

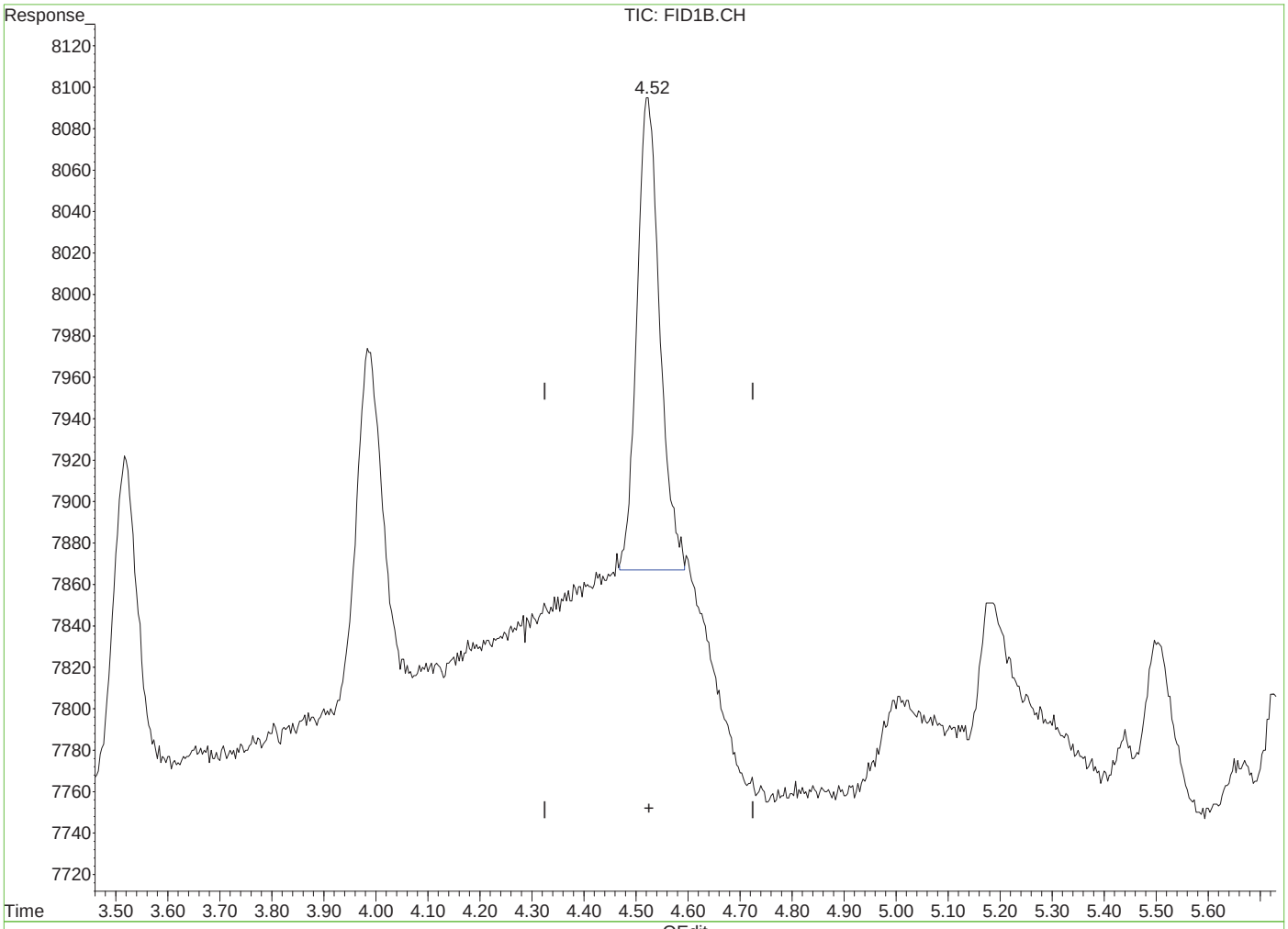
response 11280

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:46 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 232.719ug/L m

response 6991

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:24:16 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27:02 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	372862	4593.521	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	91.87%		
	Target Compounds					
1)	Methanol	1.37	6575	446.750	ug/L	
2)	Ethanol	1.82	8858	499.112	ug/L	
3)	2-Propanol	2.20	9949	504.943	ug/L	
4)	Tert-Butyl Alcohol	2.47	13023	439.713	ug/L	
5)	1-Propanol	3.09	12081	496.301	ug/L	
6)	2-Butanol	3.52	12261	472.693	ug/L	
7)	Isobutanol	3.99	13995	470.095	ug/L	
8)	1-butanol	4.53	13839	460.691	ug/L	m

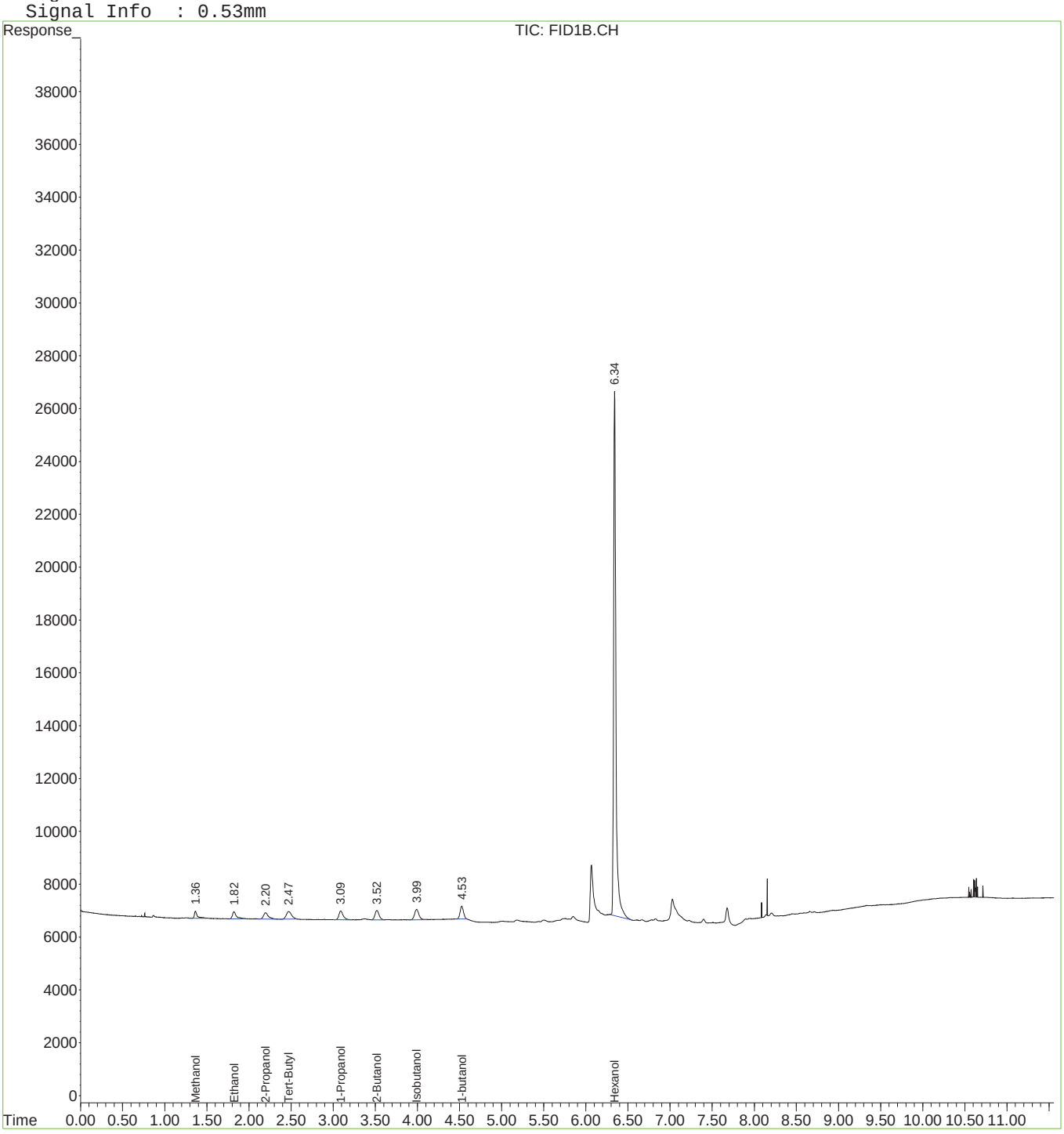
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123503.D MGH6650.M Thu Jan 28 11:49:03 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

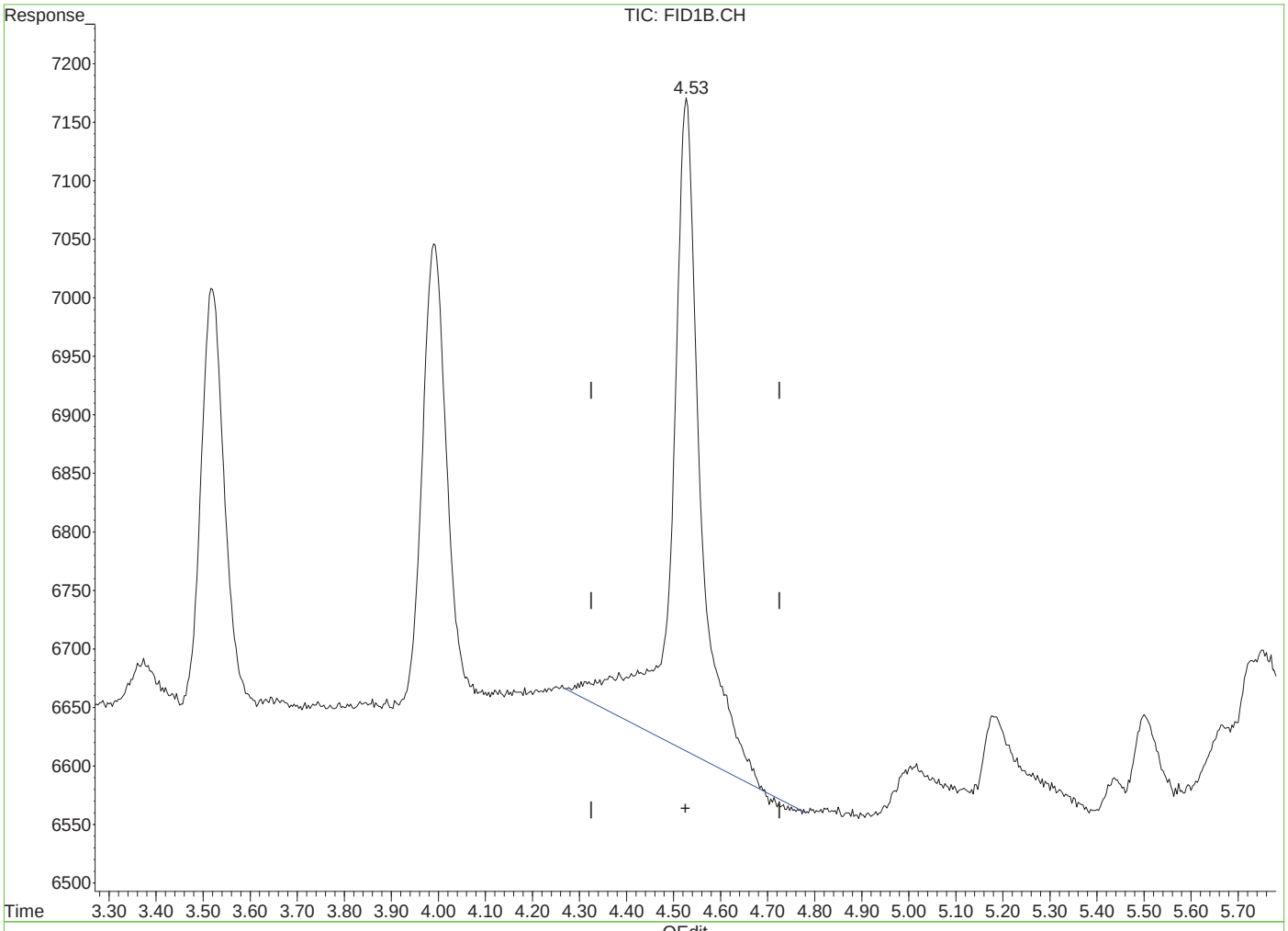
Sample Number: GGH6650-IC6650
Lab FileID: GH123503.D
Injection Time: 01/21/21 18:37
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.53	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:24 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.53min 814.009ug/L

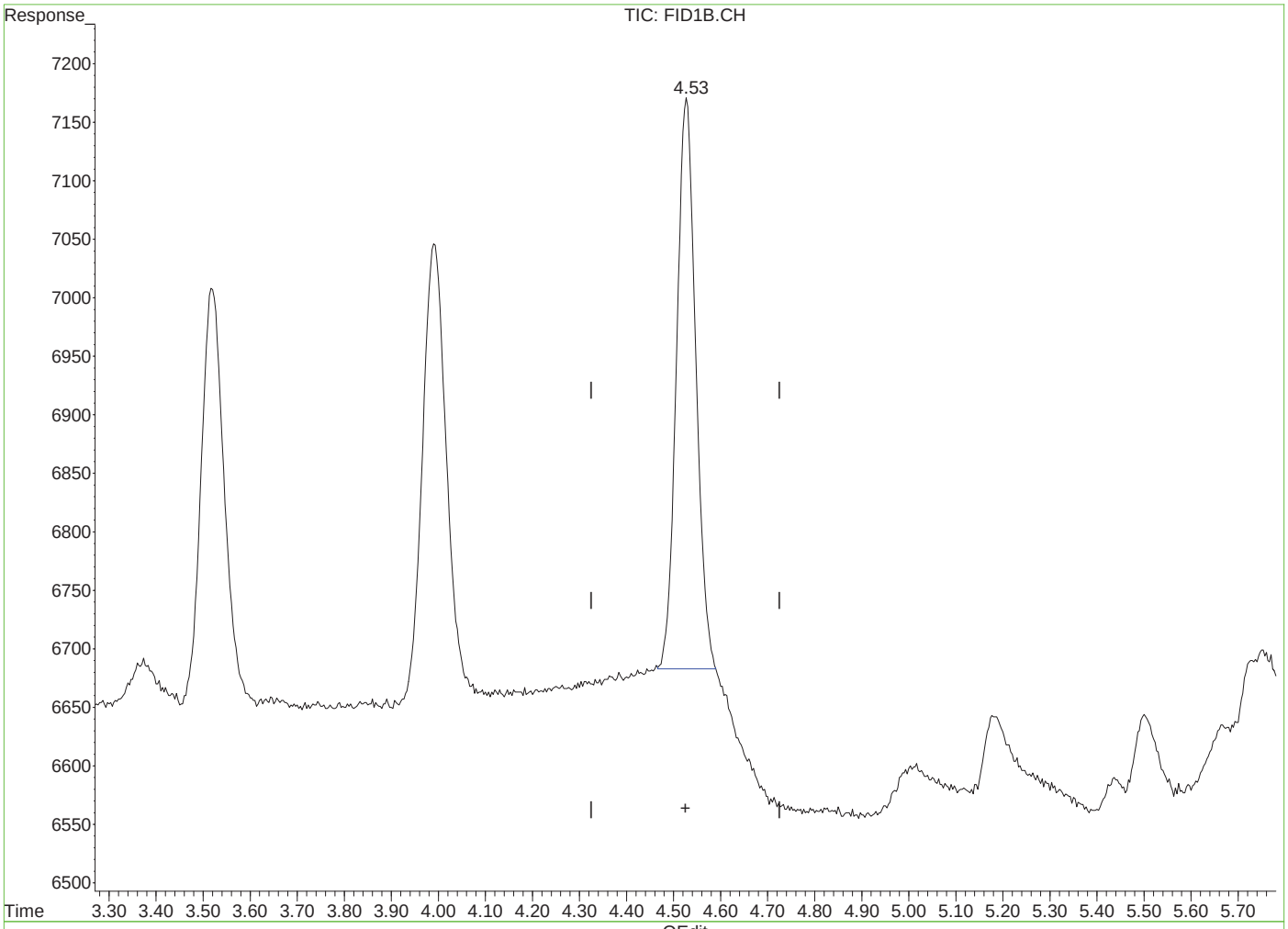
response 24452

(+) = Expected Retention Time
GH123503.D MGH6650.M Wed Jan 27 14:25:33 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.53min 460.691ug/L m

response 13839

(+) = Expected Retention Time
GH123503.D MGH6650.M Wed Jan 27 14:27:41 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28:40 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	381467	4699.533	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	93.99%		
	Target Compounds					
1)	Methanol	1.39	12476	847.660	ug/L	
2)	Ethanol	1.83	17879	1007.394	ug/L	
3)	2-Propanol	2.20	17361	881.107	ug/L	
4)	Tert-Butyl Alcohol	2.47	27162	917.115	ug/L	m
5)	1-Propanol	3.09	24031	987.222	ug/L	
6)	2-Butanol	3.52	25793	994.389	ug/L	
7)	Isobutanol	3.99	28536	958.548	ug/L	
8)	1-butanol	4.52	28463	947.542	ug/L	m

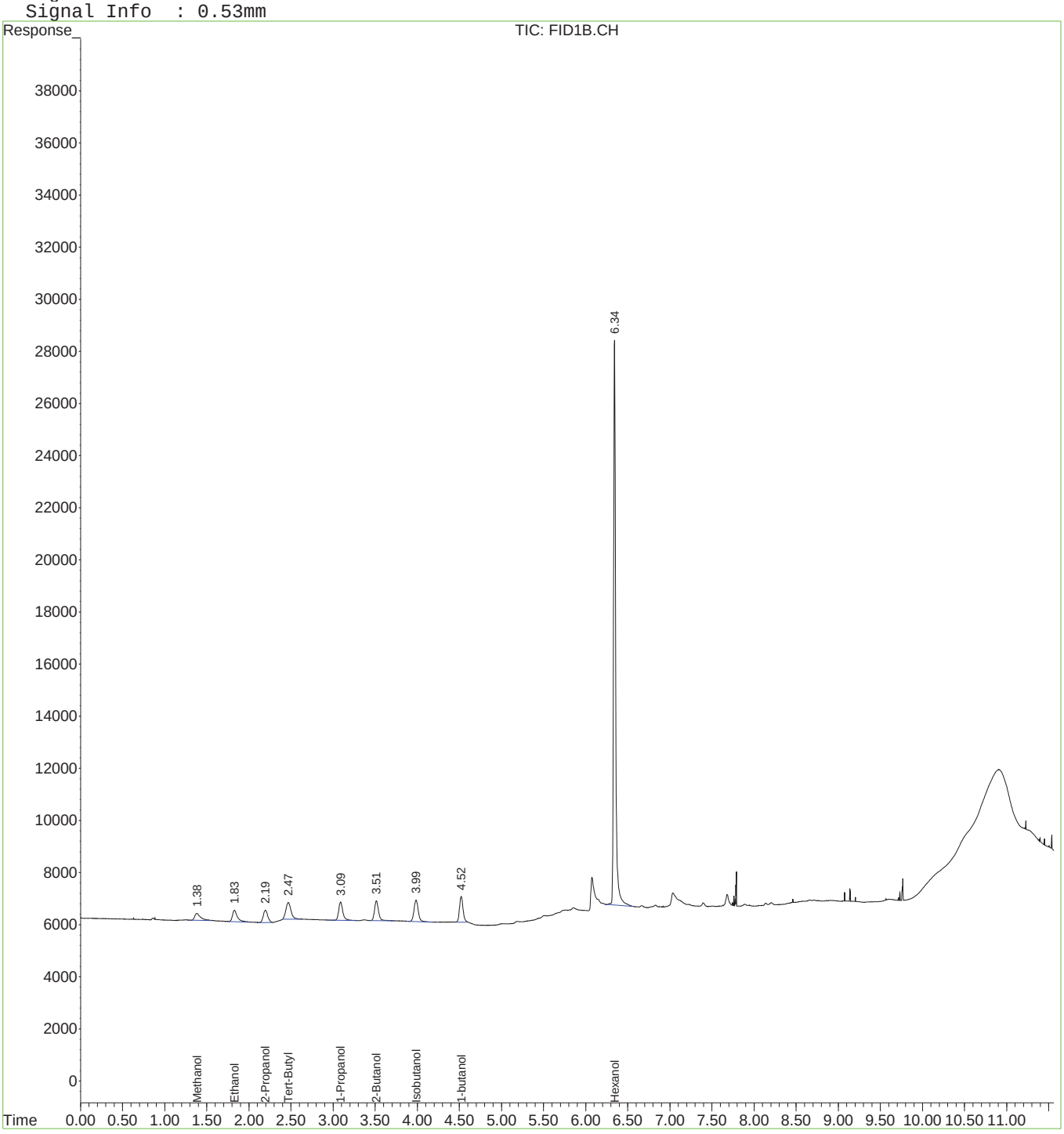
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123504.D MGH6650.M Thu Jan 28 11:49:04 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

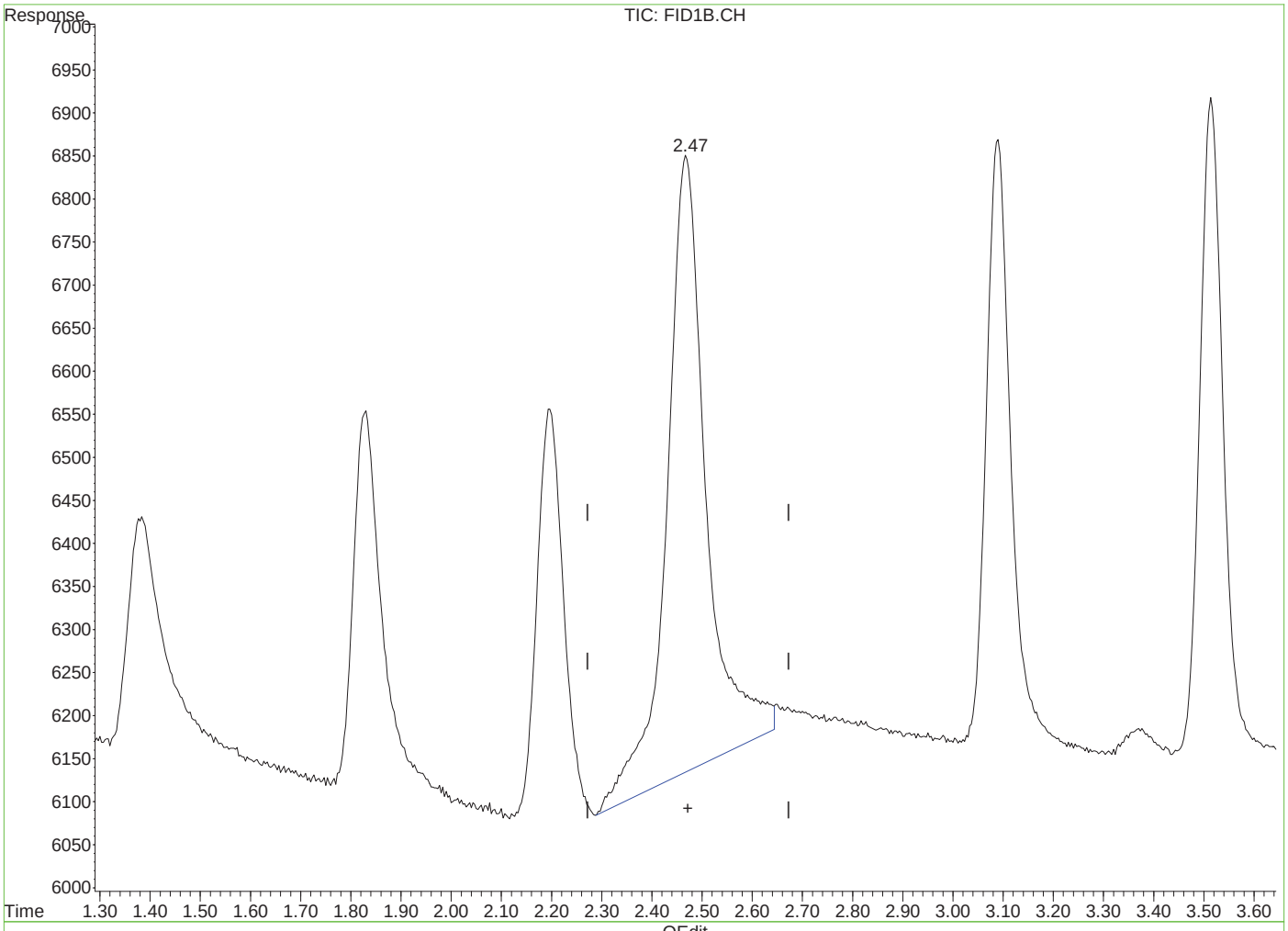
Sample Number: GGH6650-IC6650
Lab FileID: GH123504.D
Injection Time: 01/21/21 18:55
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tertiary Butyl Alcohol	75-65-0	1	2.47	Poorly defined baseline
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 1312.383ug/L

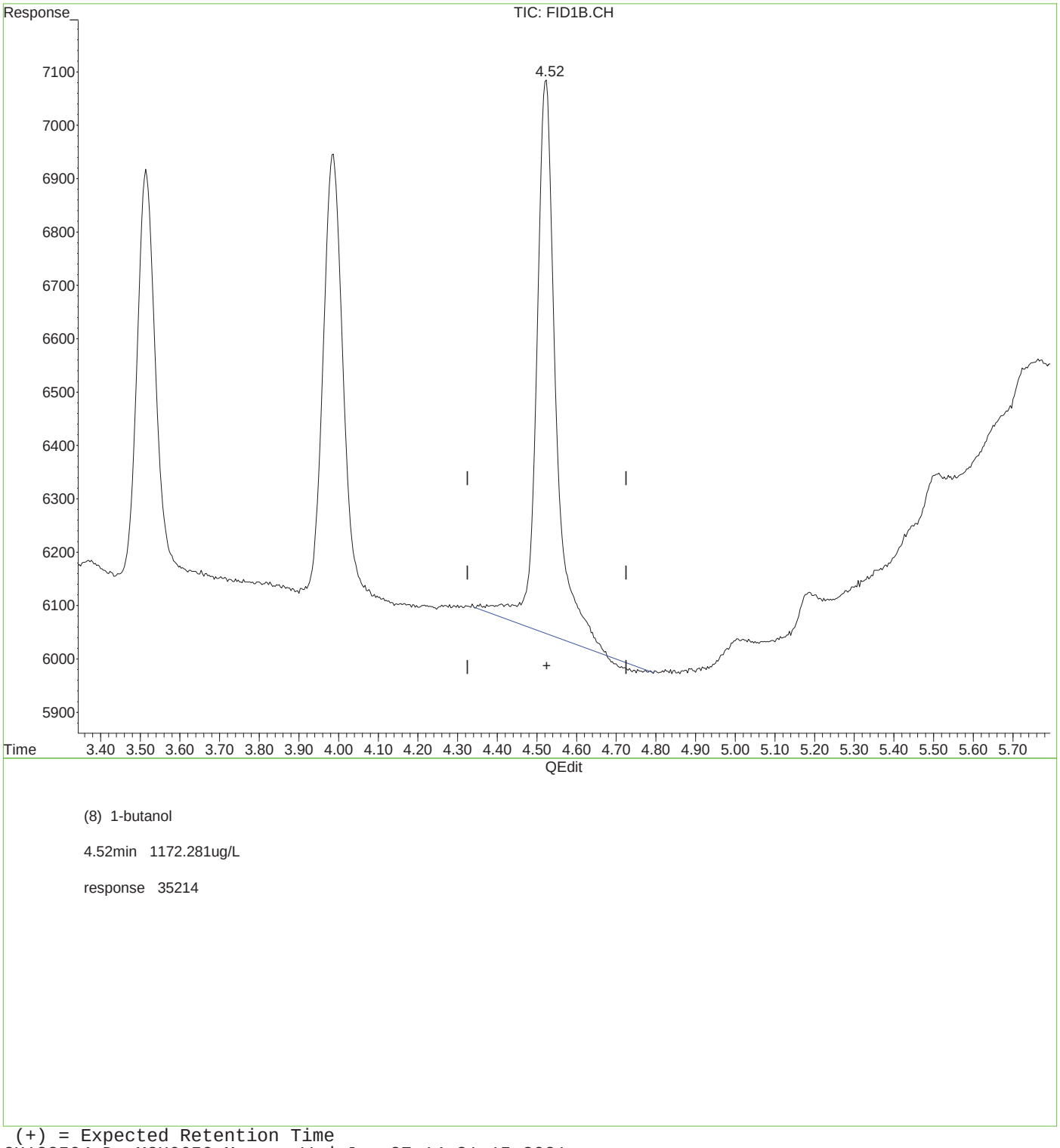
response 38868

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:28:50 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 1172.281ug/L

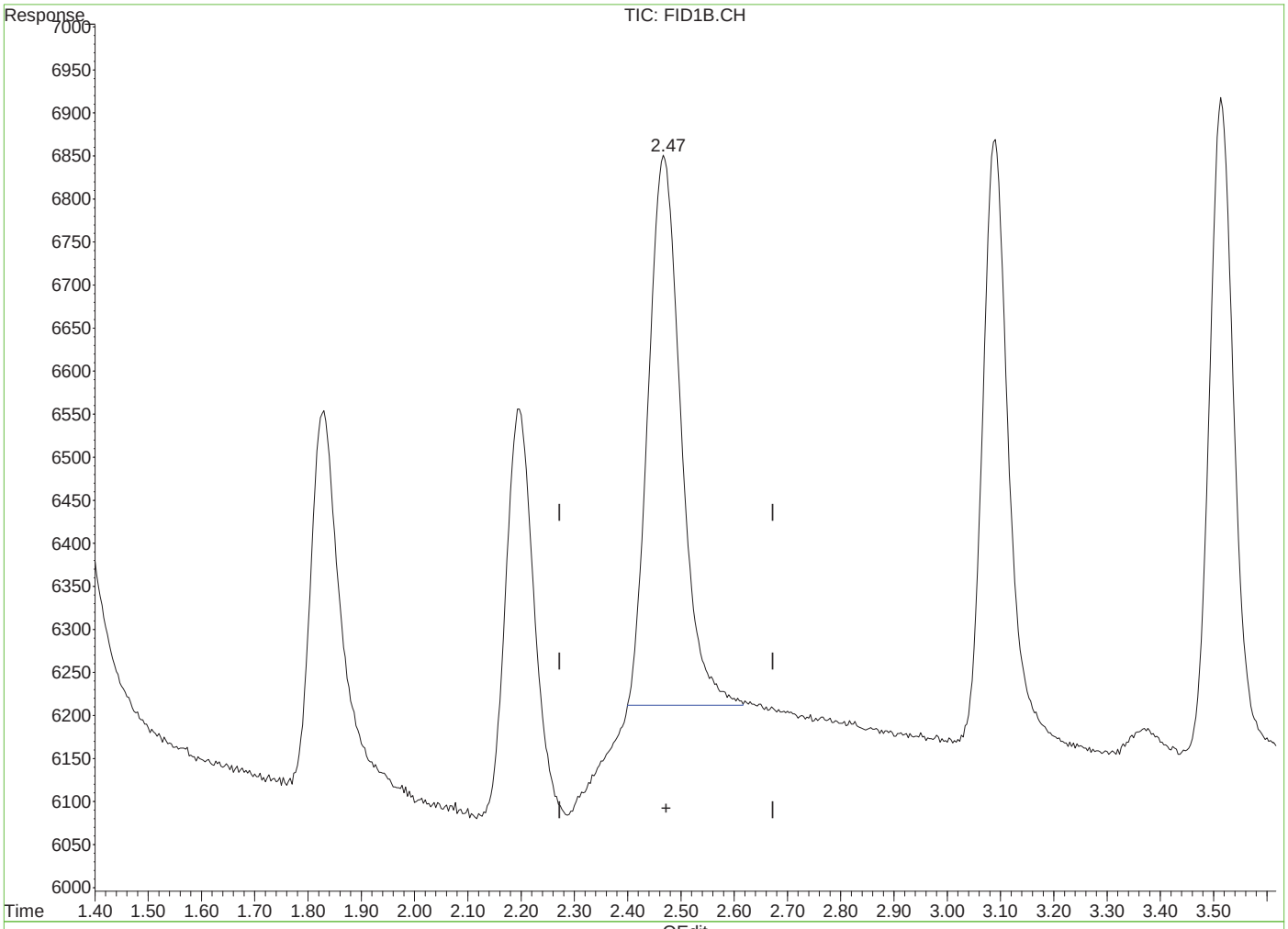
response 35214

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:15 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 917.115ug/L m

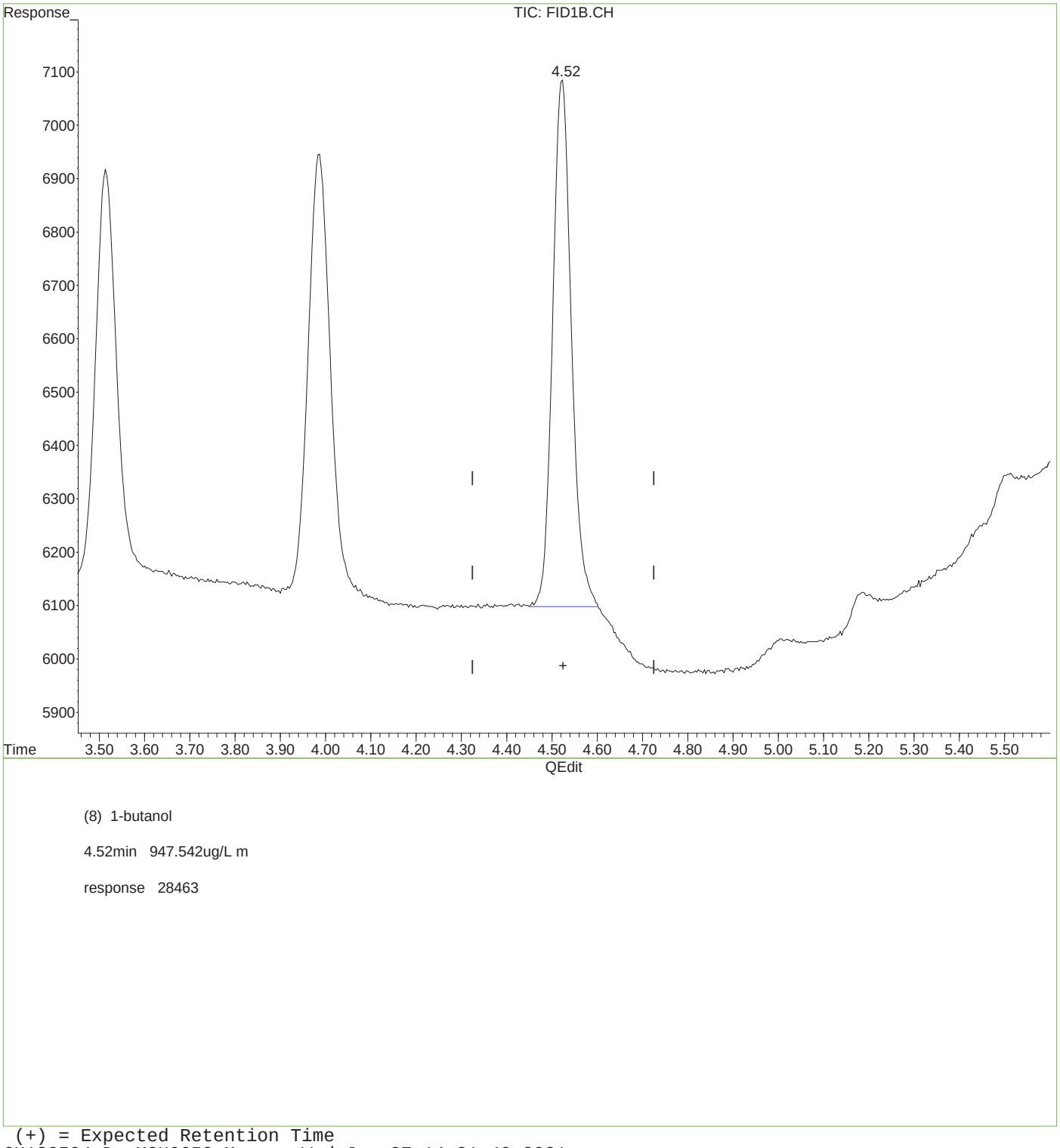
response 27162

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:33 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:40 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : ICC6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.34	377342	4648.713	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 92.97%			
Target Compounds					
1) Methanol	1.37	74814	5083.278	ug/L	
2) Ethanol	1.83	96172	5418.810	ug/L	
3) 2-Propanol	2.20	99364	5042.983	ug/L	
4) Tert-Butyl Alcohol	2.47	139318	4704.098	ug/L	
5) 1-Propanol	3.09	117675	4834.321	ug/L	
6) 2-Butanol	3.52	120168	4632.822	ug/L	
7) Isobutanol	3.99	142497	4786.631	ug/L	
8) 1-butanol	4.52	138066	4596.184	ug/L	m

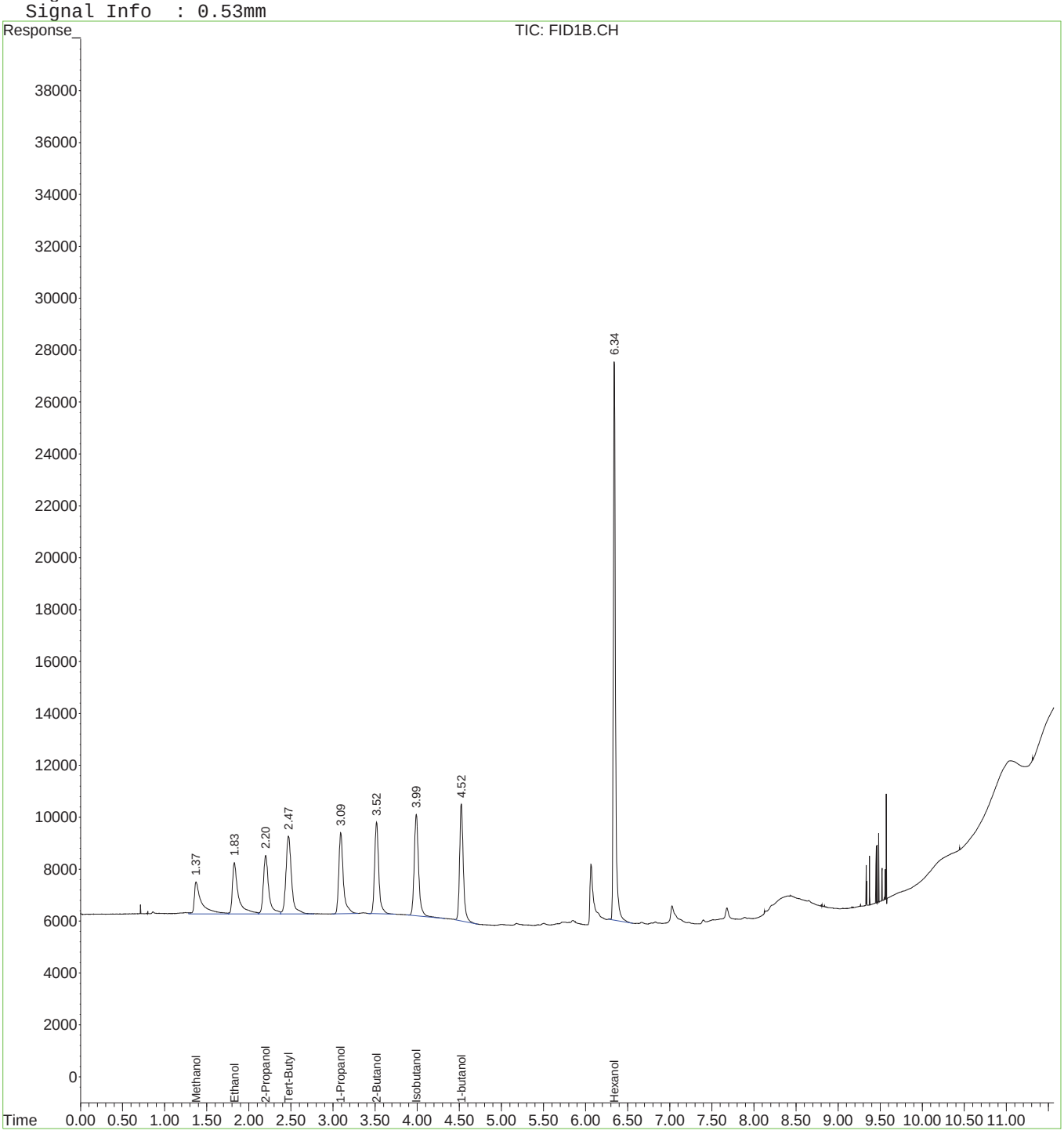
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123505.D MGH6650.M Thu Jan 28 11:49:05 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : ICC6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:35 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

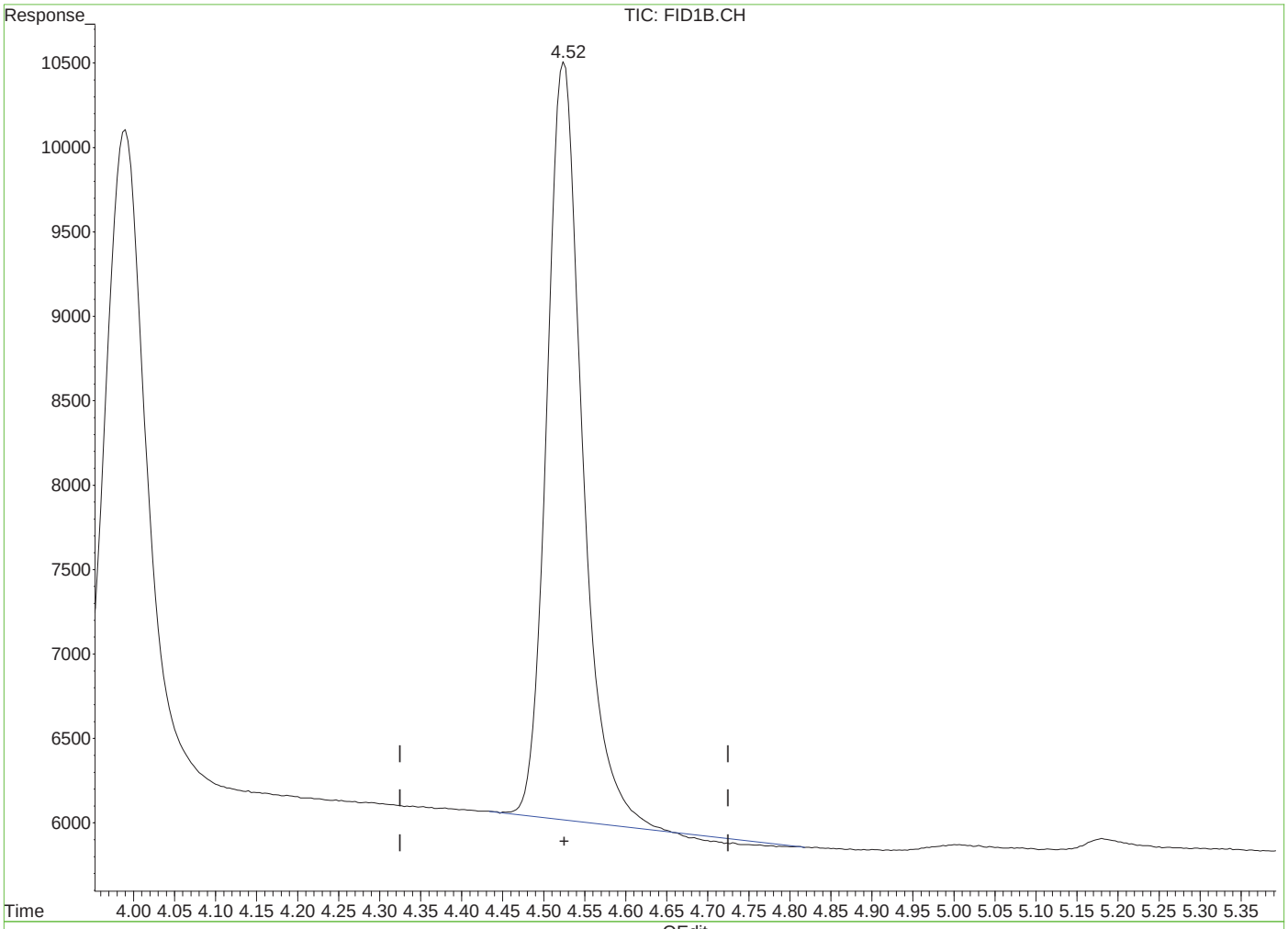
Sample Number: GGH6650-ICC6650
Lab FileID: GH123505.D
Injection Time: 01/21/21 19:12
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 17:03 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : IC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 4479.071ug/L

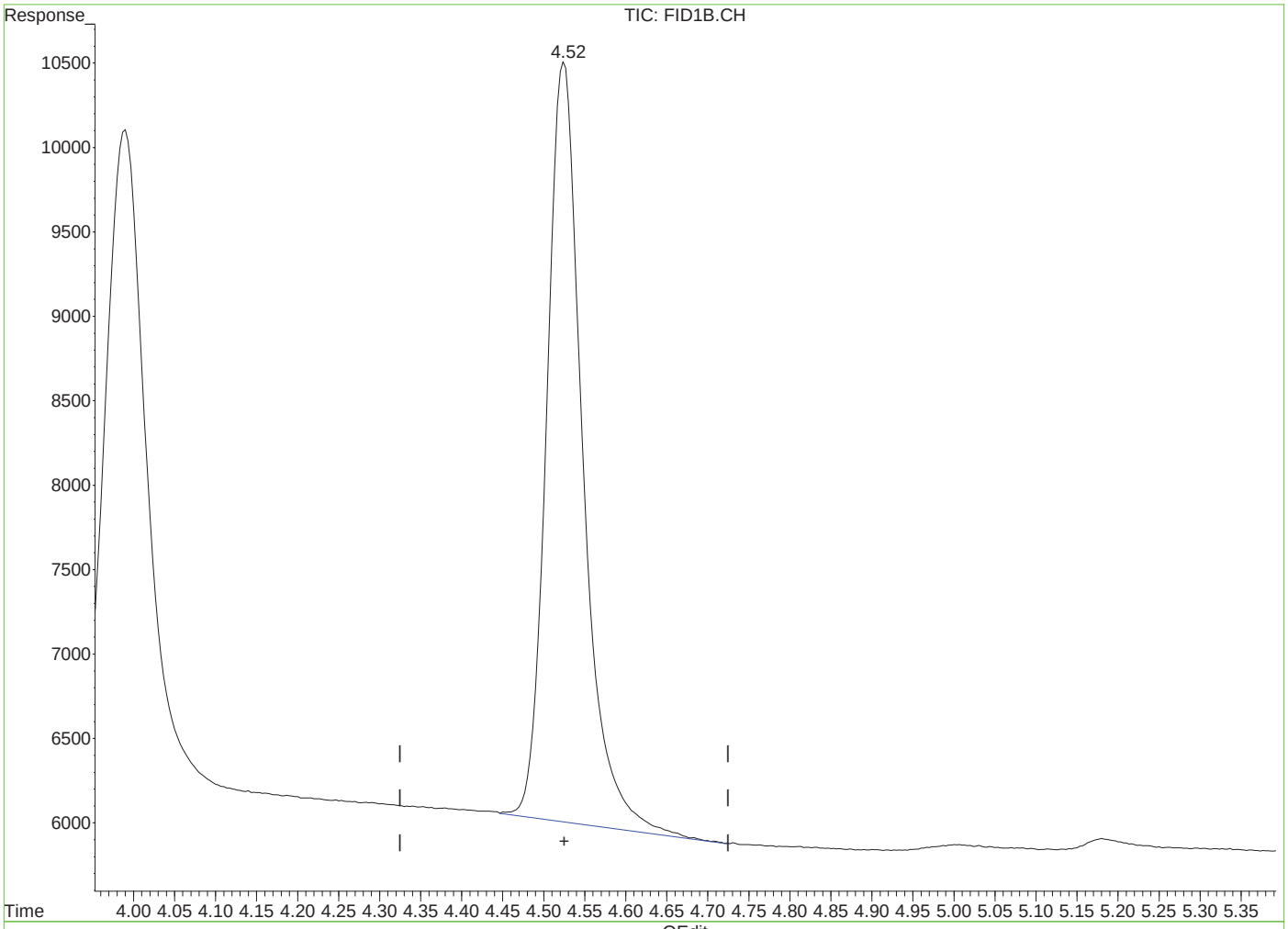
response 134548

(+) = Expected Retention Time
GH123505.D MGH6650.M Wed Jan 27 14:35:16 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : IC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 4596.184ug/L m

response 138066

(+) = Expected Retention Time
GH123505.D MGH6650.M Wed Jan 27 14:35:26 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36:53 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	374248	4610.600	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	92.21%		
	Target Compounds					
1)	Methanol	1.36	132883	9028.795	ug/L	m
2)	Ethanol	1.82	172505	9719.783	ug/L	
3)	2-Propanol	2.20	207197	10515.759	ug/L	
4)	Tert-Butyl Alcohol	2.48	279728	9445.053	ug/L	
5)	1-Propanol	3.09	234299	9625.417	ug/L	
6)	2-Butanol	3.52	240950	9289.334	ug/L	
7)	Isobutanol	3.99	278406	9351.981	ug/L	
8)	1-butanol	4.53	278773	9280.289	ug/L	

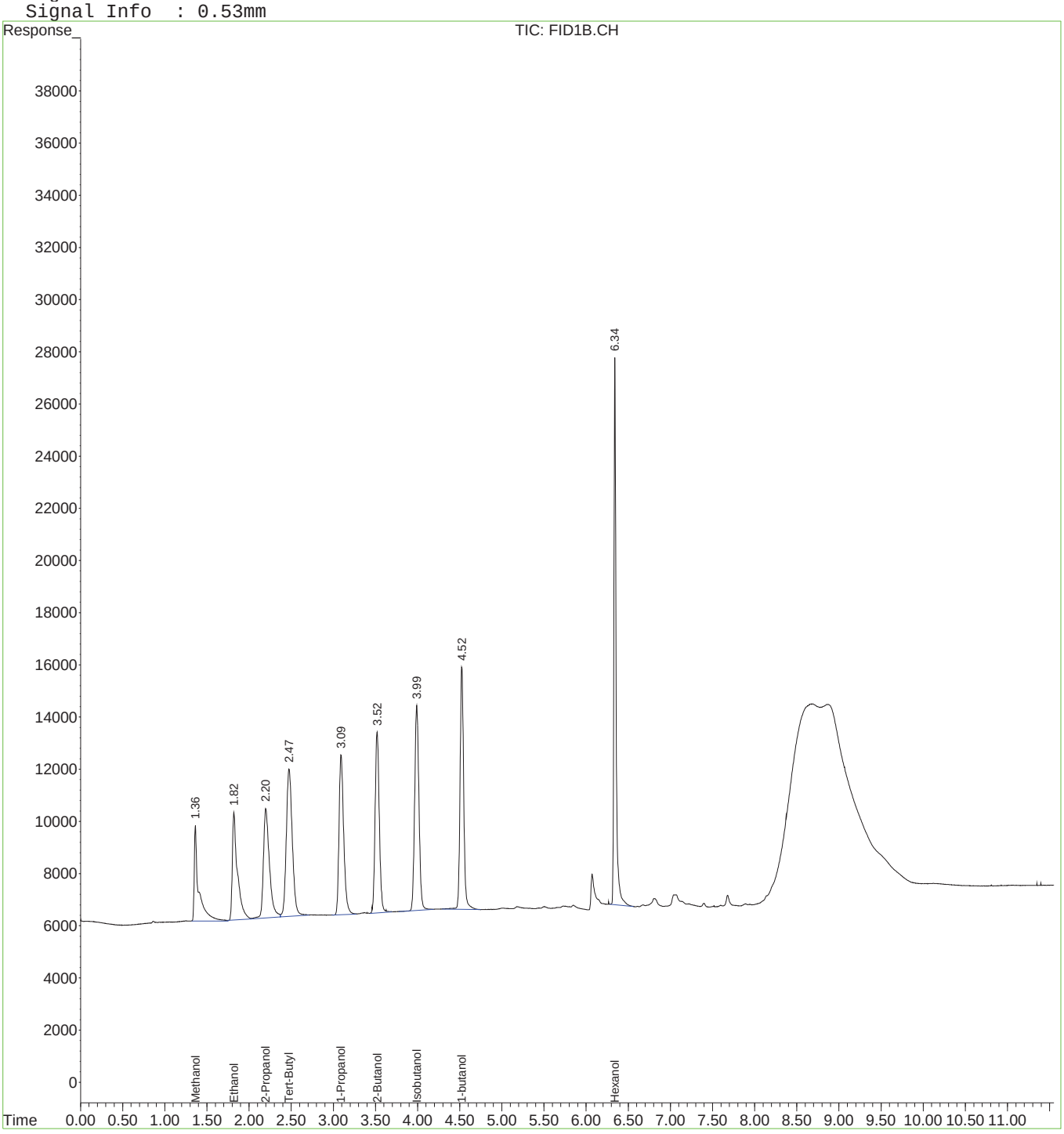
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123506.D MGH6650.M Thu Jan 28 11:49:06 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:37 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

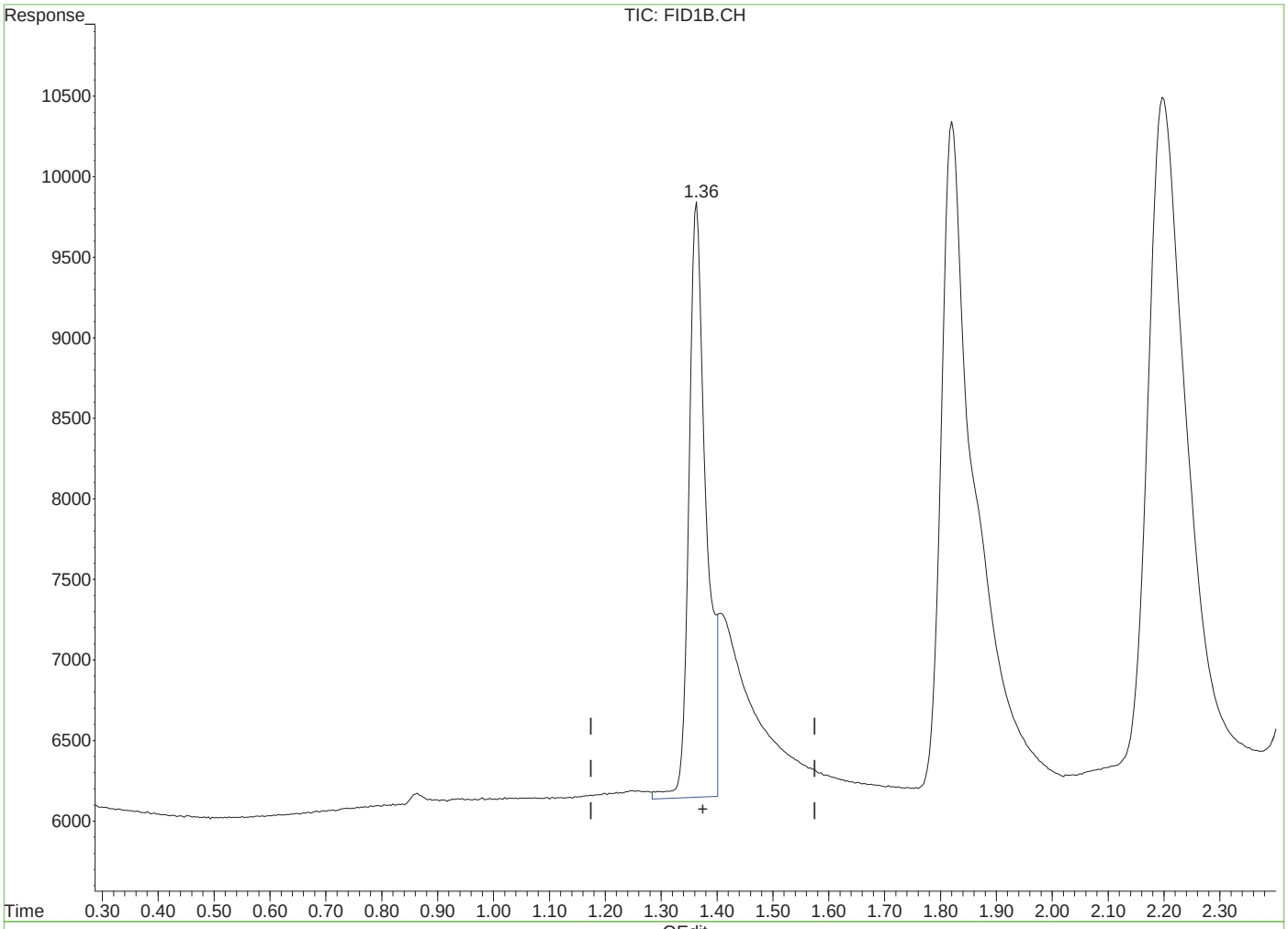
Sample Number: GGH6650-IC6650
Lab FileID: GH123506.D
Injection Time: 01/21/21 19:30
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.36	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(1) Methanol

1.36min 5330.881ug/L

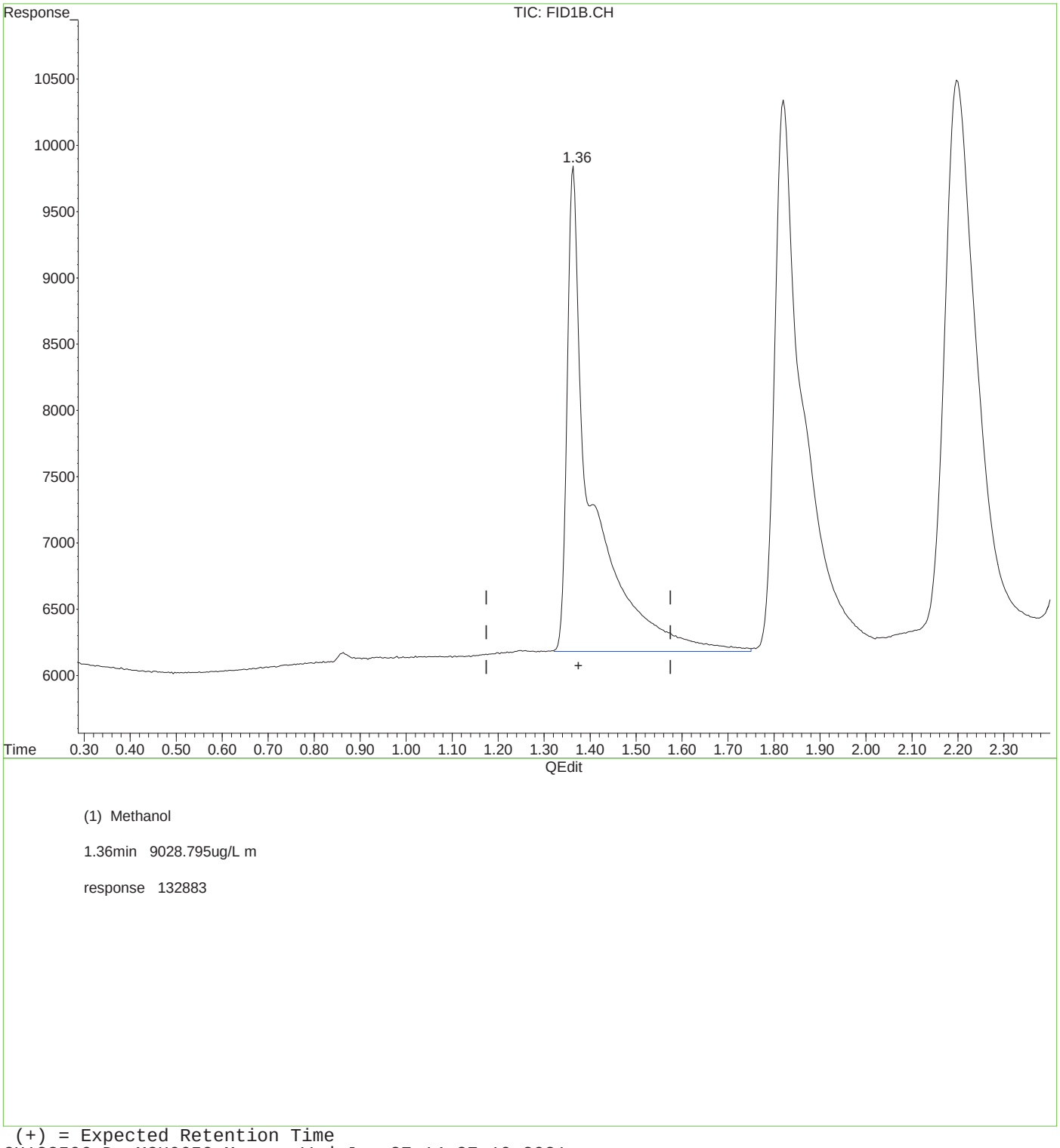
response 78458

(+) = Expected Retention Time
GH123506.D MGH6650.M Wed Jan 27 14:36:58 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(1) Methanol

1.36min 9028.795ug/L m

response 132883

(+) = Expected Retention Time
GH123506.D MGH6650.M Wed Jan 27 14:37:10 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123507.D Vial: 7
Acq On : 21-Jan-2021, 19:47:53 Operator: RobertS
Sample : IC6650-50000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:58 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	372684	4591.337 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	91.83%
Target Compounds			
1) Methanol	1.36	690329	46904.730 ug/L
2) Ethanol	1.82	951912	53635.503 ug/L
3) 2-Propanol	2.19	969223	49190.370 ug/L
4) Tert-Butyl Alcohol	2.46	1351830	45644.672 ug/L
5) 1-Propanol	3.08	1180715	48505.957 ug/L
6) 2-Butanol	3.51	1205035	46457.625 ug/L
7) Isobutanol	3.98	1393365	46804.770 ug/L
8) 1-butanol	4.52	1348419	44888.565 ug/L

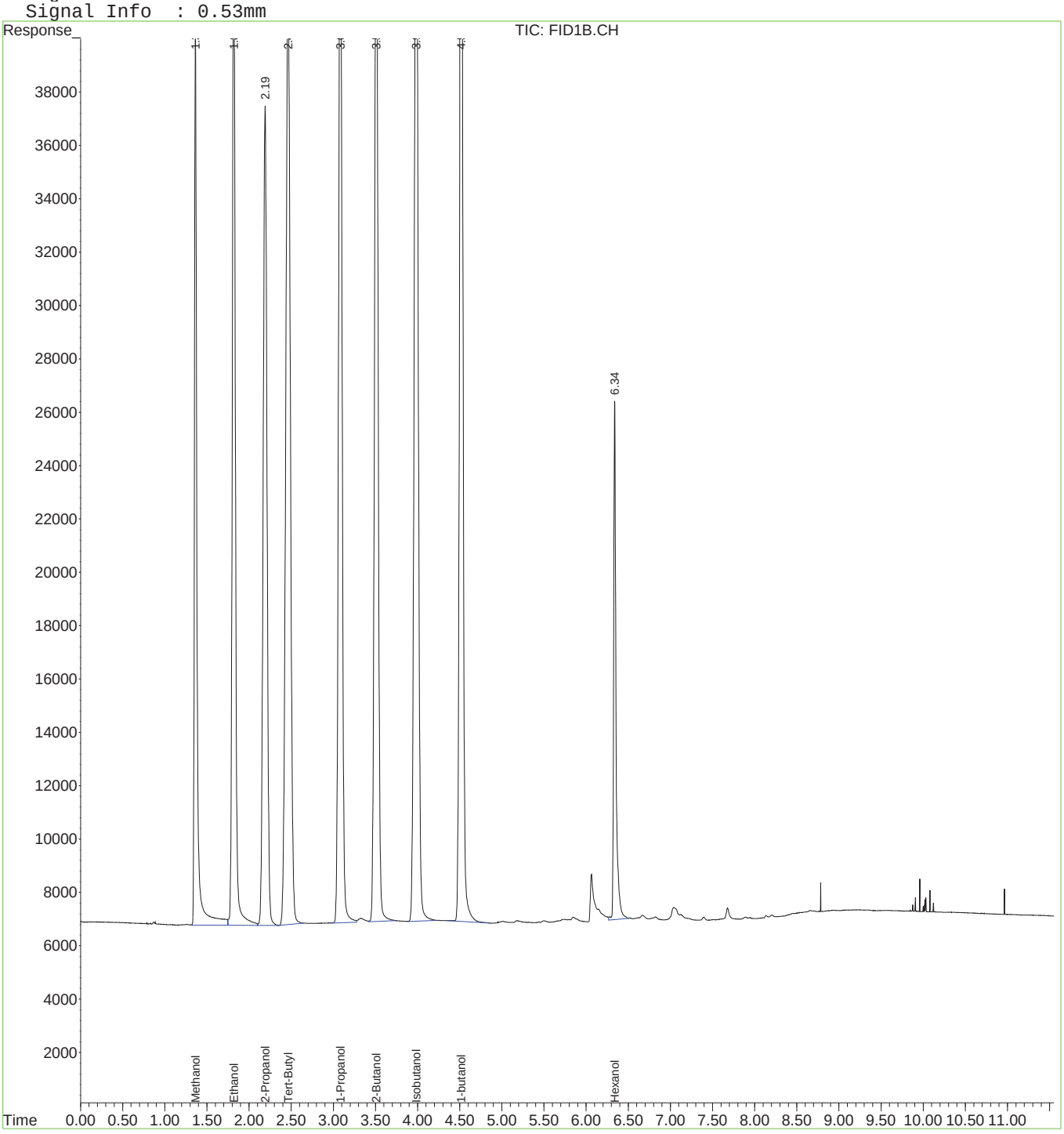
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123507.D MGH6650.M Thu Jan 28 11:49:07 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123507.D Vial: 7
Acq On : 21-Jan-2021, 19:47:53 Operator: RobertS
Sample : IC6650-50000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123508.D Vial: 8
Acq On : 21-Jan-2021, 20:05:23 Operator: RobertS
Sample : IC6650-100000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:59 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	400215	4930.502 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	98.61%
Target Compounds			
1) Methanol	1.39	1315982	89415.013 ug/L
2) Ethanol	1.83	1828883	103048.508 ug/L
3) 2-Propanol	2.20	1927951	97848.076 ug/L
4) Tert-Butyl Alcohol	2.47	2755902	93053.290 ug/L
5) 1-Propanol	3.09	2345722	96366.592 ug/L
6) 2-Butanol	3.51	2425281	93501.660 ug/L
7) Isobutanol	3.98	2815008	94559.395 ug/L
8) 1-butanol	4.52	2681081	89252.569 ug/L

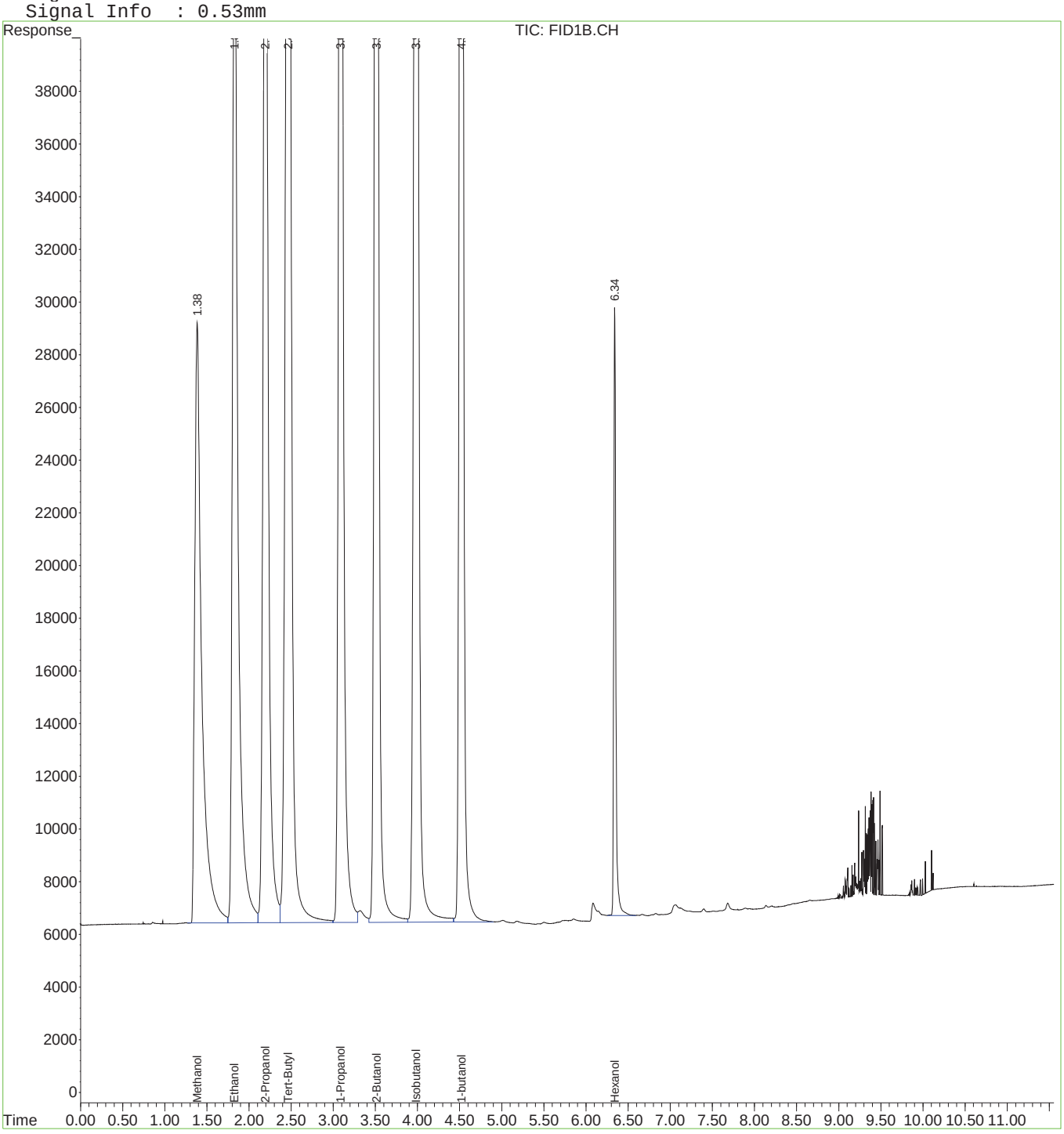
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123508.D MGH6650.M Thu Jan 28 11:49:09 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123508.D Vial: 8
Acq On : 21-Jan-2021, 20:05:23 Operator: RobertS
Sample : IC6650-100000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:39:43 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	352796	4674.379 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 93.49%	
Target Compounds			
1) Methanol	1.38	67223	4895.271 ug/L
2) Ethanol	1.83	86579	4924.696 ug/L
3) 2-Propanol	2.20	90803	4664.435 ug/L
4) Tert-Butyl Alcohol	2.47	129667	4702.482 ug/L
5) 1-Propanol	3.09	110258	4633.711 ug/L
6) 2-Butanol	3.51	112941	4605.631 ug/L
7) Isobutanol	3.99	131677	4647.551 ug/L
8) 1-butanol	4.52	131501	4594.175 ug/L

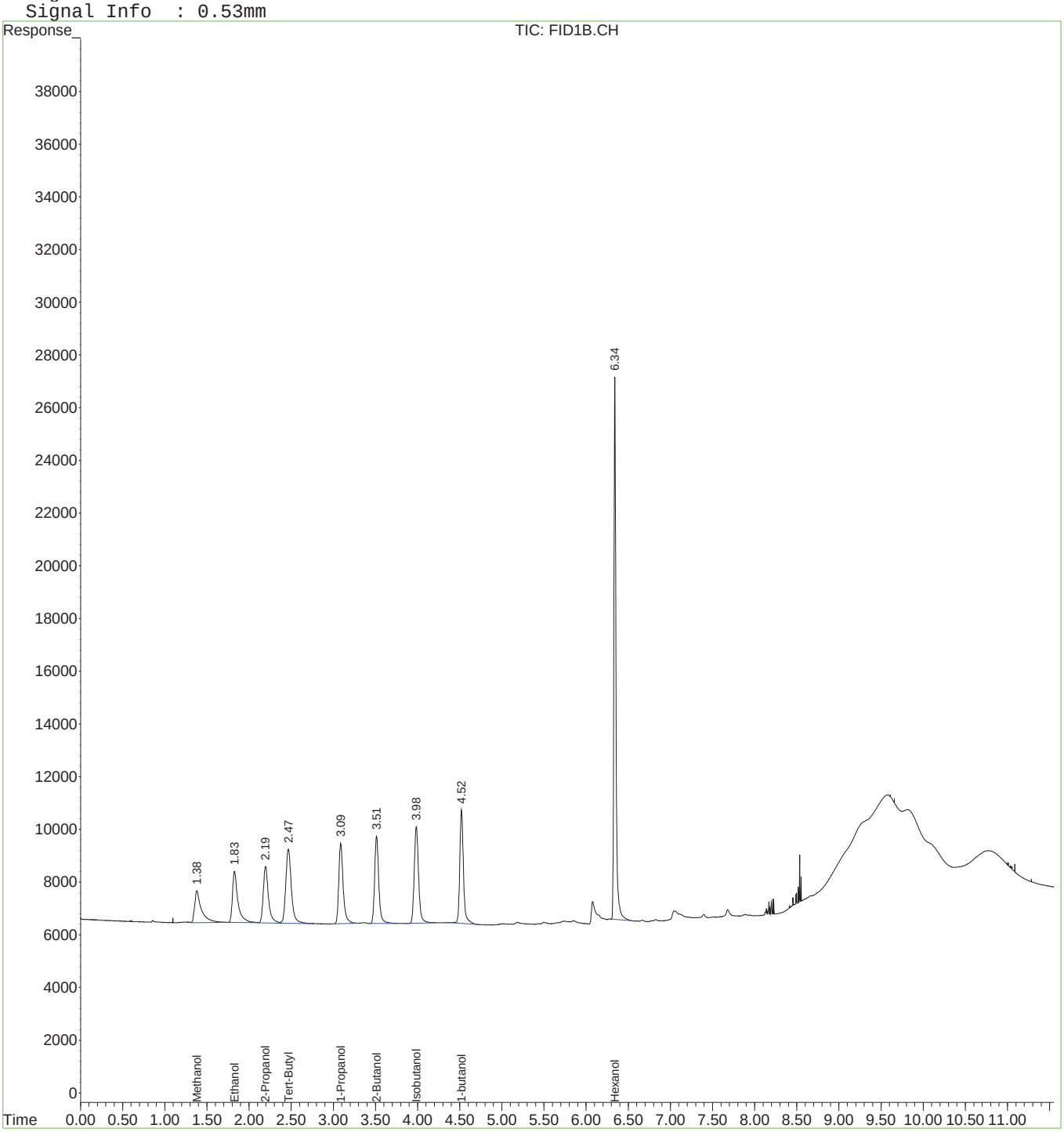
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123511.D MGH6650.M Thu Jan 28 11:49:10 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:39 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123596.D Vial: 2
Acq On : 02-Feb-2021, 12:34:21 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : GC57414,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 02 13:05:50 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	328895	4357.705 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 87.15%	
Target Compounds			
1) Methanol	1.38	61371	4469.103 ug/L
2) Ethanol	1.82	93452	5315.635 ug/L
3) 2-Propanol	2.18	94801	4869.812 ug/L
4) Tert-Butyl Alcohol	2.45	131254	4760.064 ug/L
5) 1-Propanol	3.08	107840	4532.130 ug/L
6) 2-Butanol	3.50	107332	4376.896 ug/L
7) Isobutanol	3.97	174470	6157.913 ug/L
8) 1-butanol	4.51	126488	4419.041 ug/L

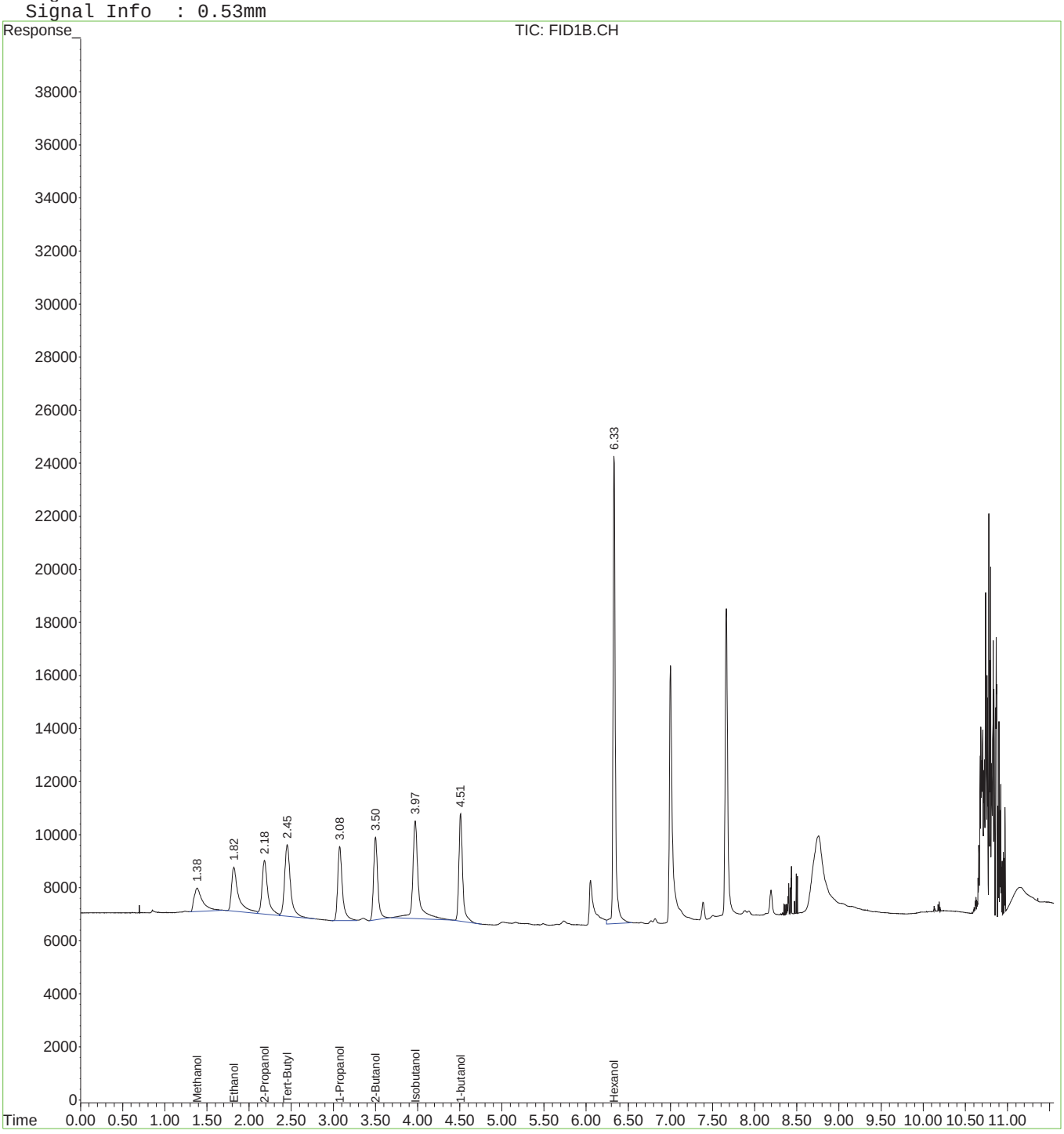
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123596.D MGH6650.M Mon Feb 08 13:57:58 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123596.D Vial: 2
Acq On : 02-Feb-2021, 12:34:21 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : GC57414,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 2 13:05 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123606.D Vial: 12
Acq On : 02-Feb-2021, 17:53:07 Operator: RobertS
Sample : CC6650-10000 Inst : HP5890
Misc : GC57420,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 02 18:33:01 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.33	377003	4995.118 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 99.90%	
Target Compounds			
1) Methanol	1.38	126924	9242.703 ug/L
2) Ethanol	1.82	174901	9948.467 ug/L
3) 2-Propanol	2.19	183556	9429.062 ug/L
4) Tert-Butyl Alcohol	2.46	268962	9754.153 ug/L
5) 1-Propanol	3.08	235265	9887.315 ug/L
6) 2-Butanol	3.50	243268	9920.248 ug/L
7) Isobutanol	3.97	288006	10165.175 ug/L
8) 1-butanol	4.51	283856	9916.896 ug/L

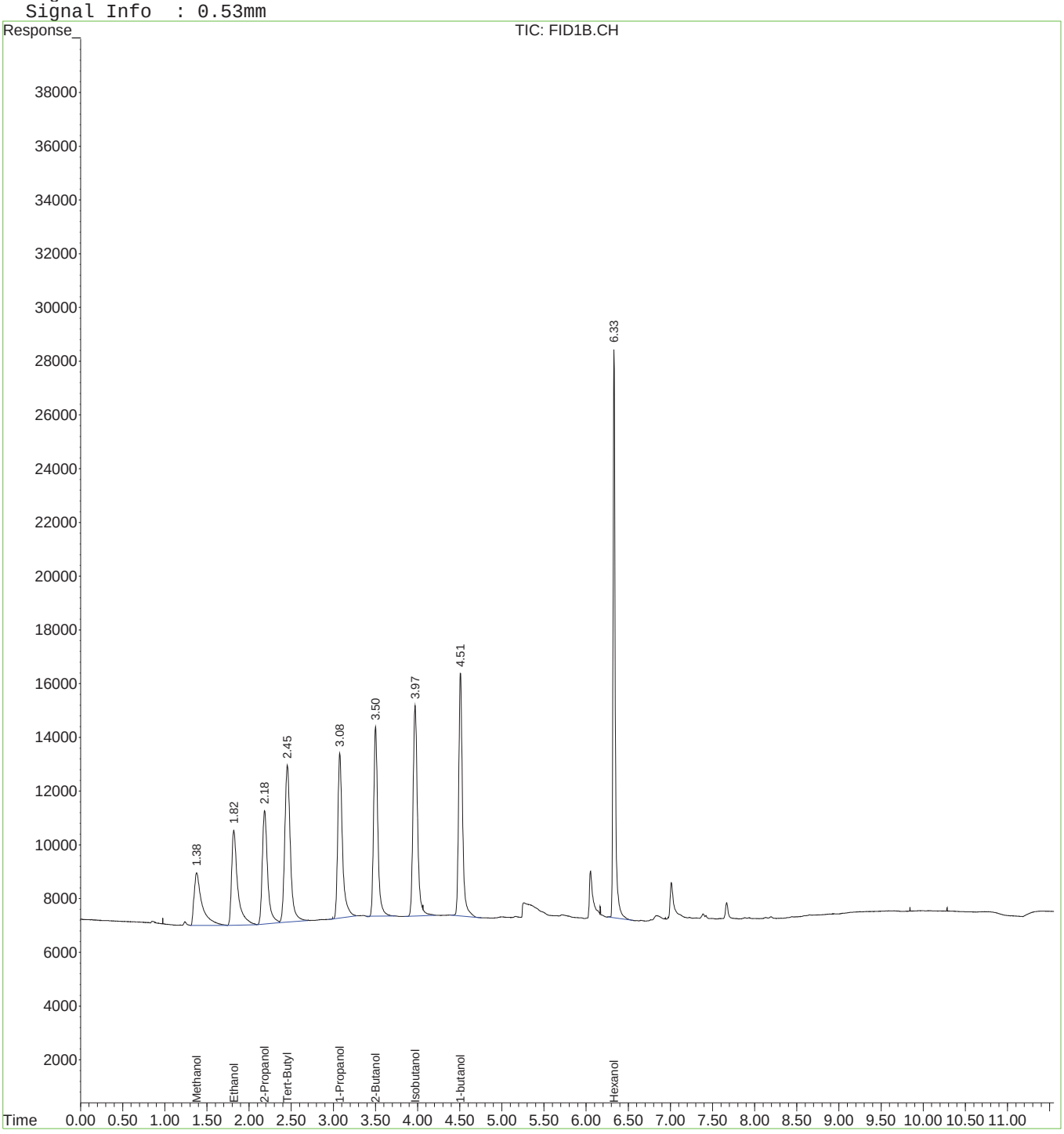
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123606.D MGH6650.M Mon Feb 08 13:58:05 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123606.D Vial: 12
Acq On : 02-Feb-2021, 17:53:07 Operator: RobertS
Sample : CC6650-10000 Inst : HP5890
Misc : GC57420,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 2 18:33 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
02/08/21 16:08

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123618.D Vial: 24
Acq On : 02-Feb-2021, 21:23:56 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 03 07:08:19 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.33	307106	4069.012	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 81.38%			
Target Compounds					
1) Methanol	1.38	71247	5188.293	ug/L	m
2) Ethanol	1.82	88152	5014.158	ug/L	
3) 2-Propanol	2.18	85995	4417.493	ug/L	
4) Tert-Butyl Alcohol	2.46	129132	4683.088	ug/L	
5) 1-Propanol	3.08	118221	4968.402	ug/L	
6) 2-Butanol	3.50	120380	4908.976	ug/L	
7) Isobutanol	3.97	141327	4988.116	ug/L	
8) 1-butanol	4.51	141820	4954.664	ug/L	

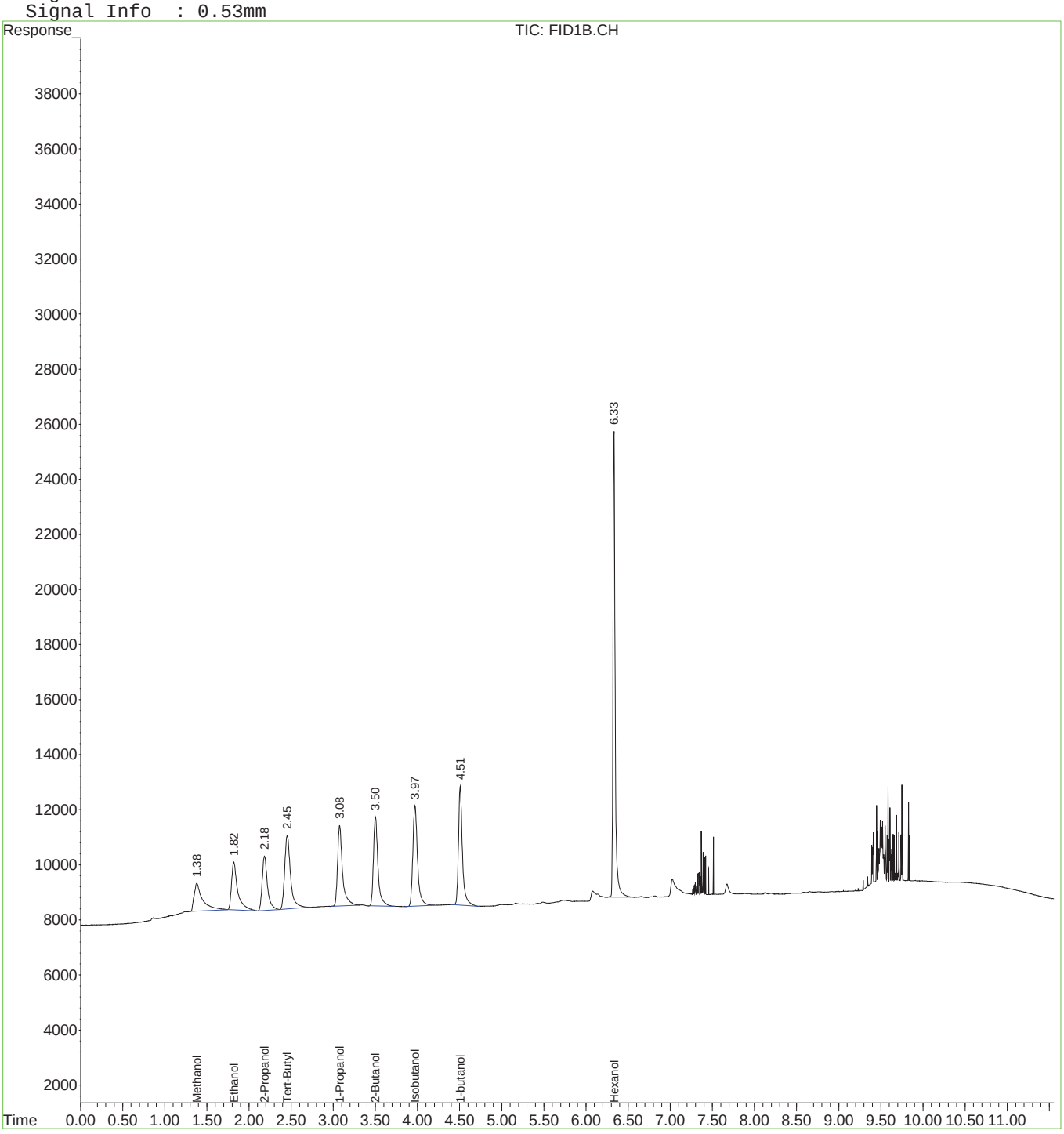
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123618.D MGH6650.M Mon Feb 08 13:58:07 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123618.D Vial: 24
Acq On : 02-Feb-2021, 21:23:56 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 8 13:56 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

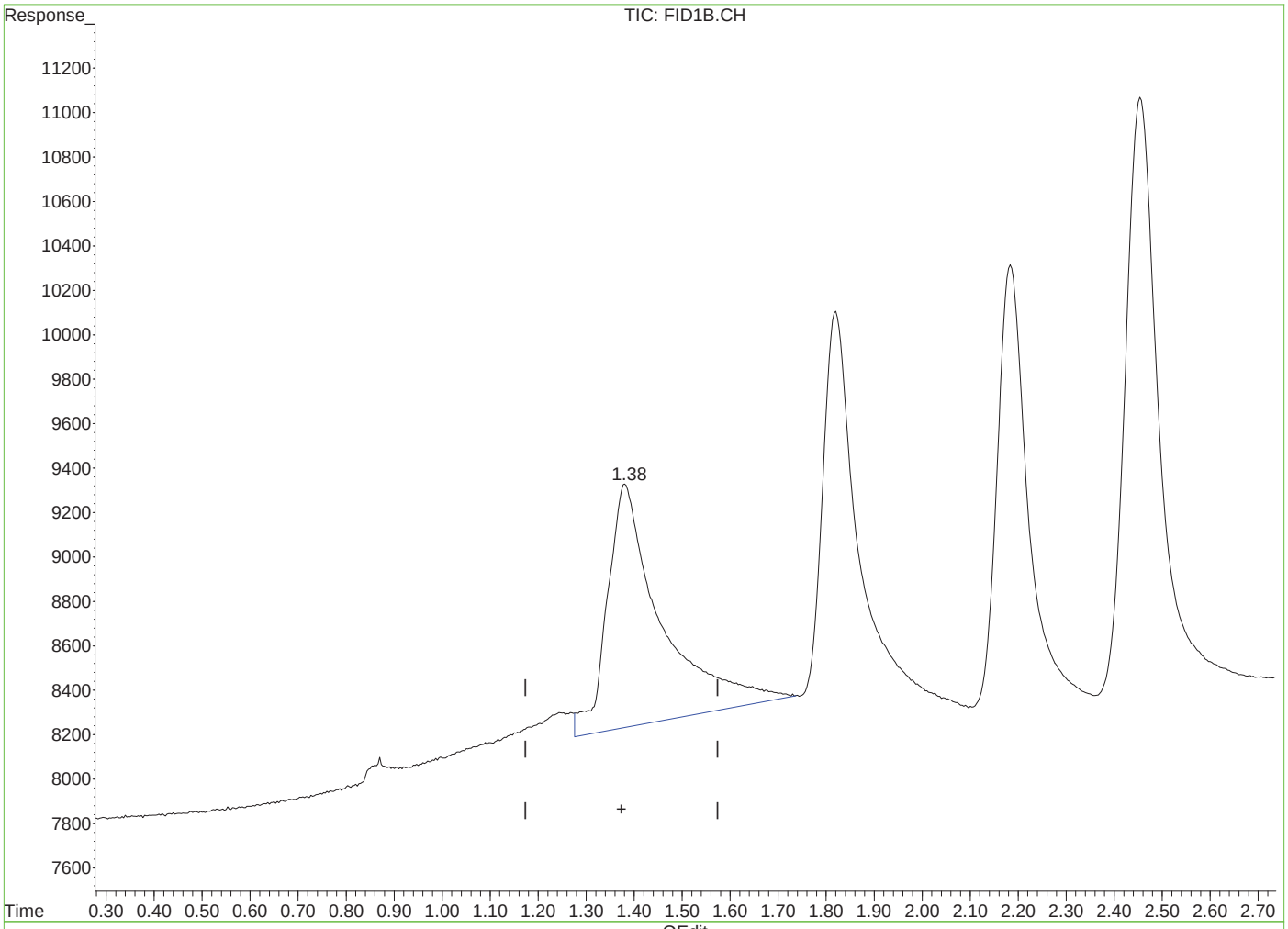
Sample Number: GGH6654-CC6650
Lab FileID: GH123618.D
Injection Time: 02/02/21 21:23
Method: SW846-8015D (DAI)
Analyst approved: 02/08/21 15:31 MoHui Huang
Supervisor approved: 02/08/21 16:08 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.38	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123618.D Vial: 24
Acq On : 02-Feb-2021, 21:23:56 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 3 7:08 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.38min 6242.264ug/L

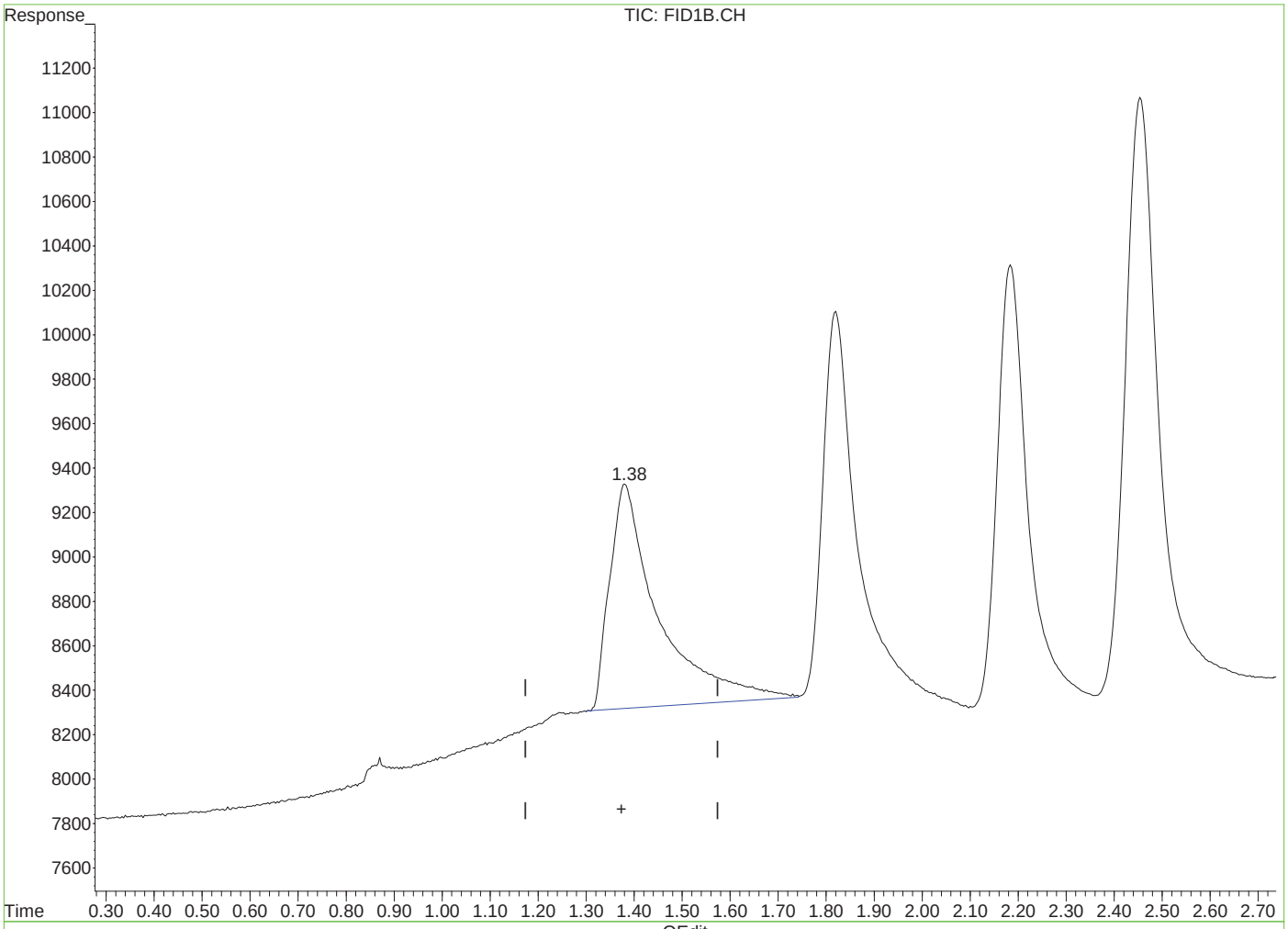
response 85721

(+) = Expected Retention Time
GH123618.D MGH6650.M Mon Feb 08 13:55:58 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6654\GH123618.D Vial: 24
Acq On : 02-Feb-2021, 21:23:56 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : GC57437,GGH6654,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 3 7:08 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.38min 5188.293ug/L m

response 71247

(+) = Expected Retention Time
GH123618.D MGH6650.M Mon Feb 08 13:56:33 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123620.D Vial: 2
Acq On : 04-Feb-2021, 12:39:22 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 04 14:07:40 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
9) S	Hexanol	6.35	345351	4575.742	ug/L
Spiked Amount	5000.000	Range 56 - 145	Recovery =	91.51%	
	Target Compounds				
1)	Methanol	1.38	59189	4310.210	ug/L
2)	Ethanol	1.83	84335	4797.017	ug/L
3)	2-Propanol	2.19	89077	4575.801	ug/L
4)	Tert-Butyl Alcohol	2.47	131114	4754.977	ug/L
5)	1-Propanol	3.09	114410	4808.219	ug/L
6)	2-Butanol	3.52	116217	4739.249	ug/L
7)	Isobutanol	3.99	132297	4669.420	ug/L
8)	1-butanol	4.53	136980	4785.566	ug/L

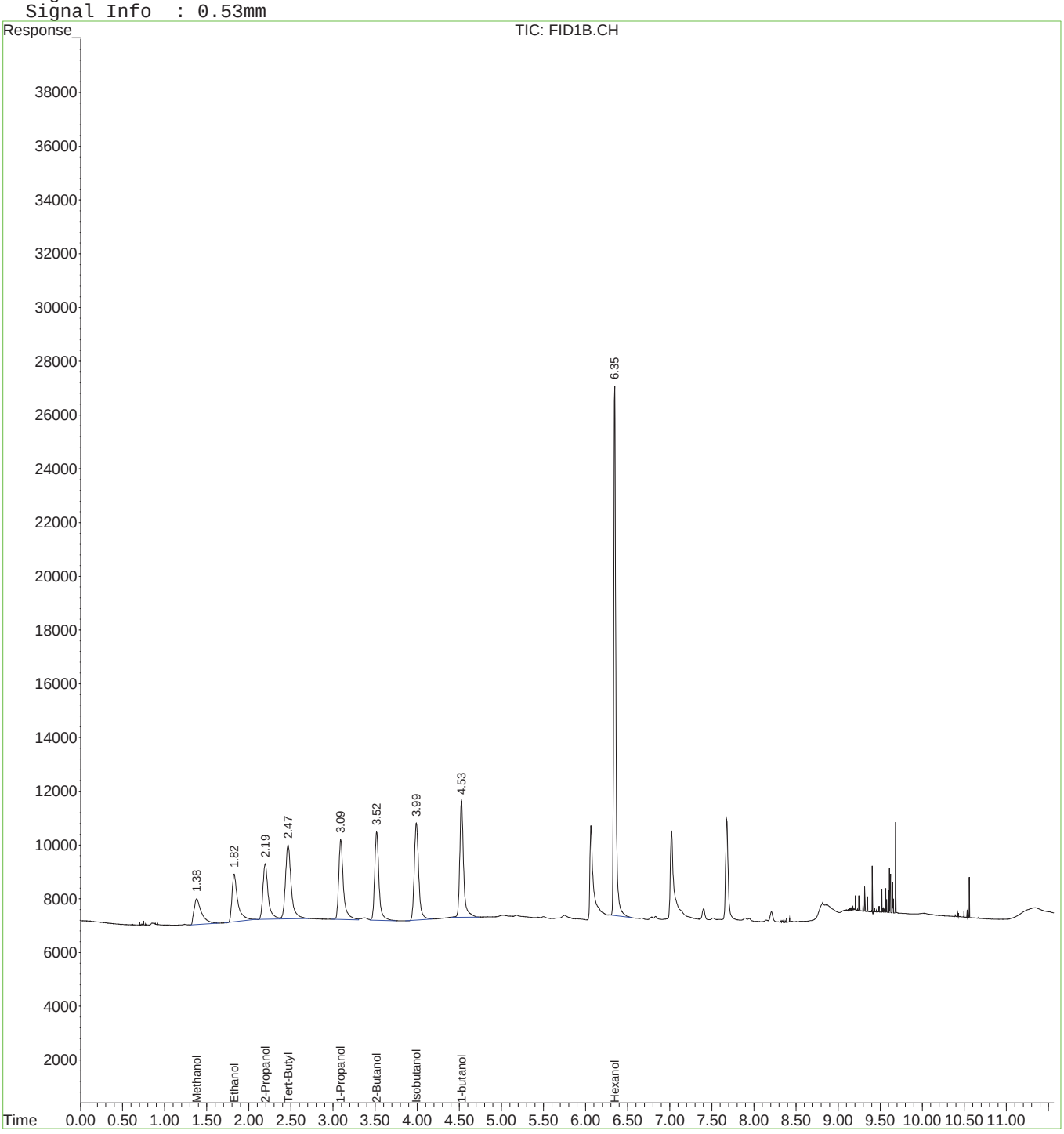
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123620.D MGH6650.M Mon Feb 08 14:58:16 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123620.D Vial: 2
Acq On : 04-Feb-2021, 12:39:22 Operator: RobertS
Sample : CC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 4 14:07 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
02/08/21 22:07

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123631.D Vial: 13
Acq On : 04-Feb-2021, 18:08:50 Operator: RobertS
Sample : CC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 04 18:38:06 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.35	305011	4041.258	ug/L	m
Spiked Amount 5000.000	Range 56 - 145	Recovery = 80.83%			
Target Compounds					
1) Methanol	1.39	121807	8870.108	ug/L	
2) Ethanol	1.84	164822	9375.189	ug/L	
3) 2-Propanol	2.21	177324	9108.964	ug/L	
4) Tert-Butyl Alcohol	2.48	262718	9527.728	ug/L	
5) 1-Propanol	3.10	223627	9398.211	ug/L	
6) 2-Butanol	3.53	227650	9283.364	ug/L	
7) Isobutanol	4.00	266980	9423.060	ug/L	
8) 1-butanol	4.53	260507	9101.168	ug/L	

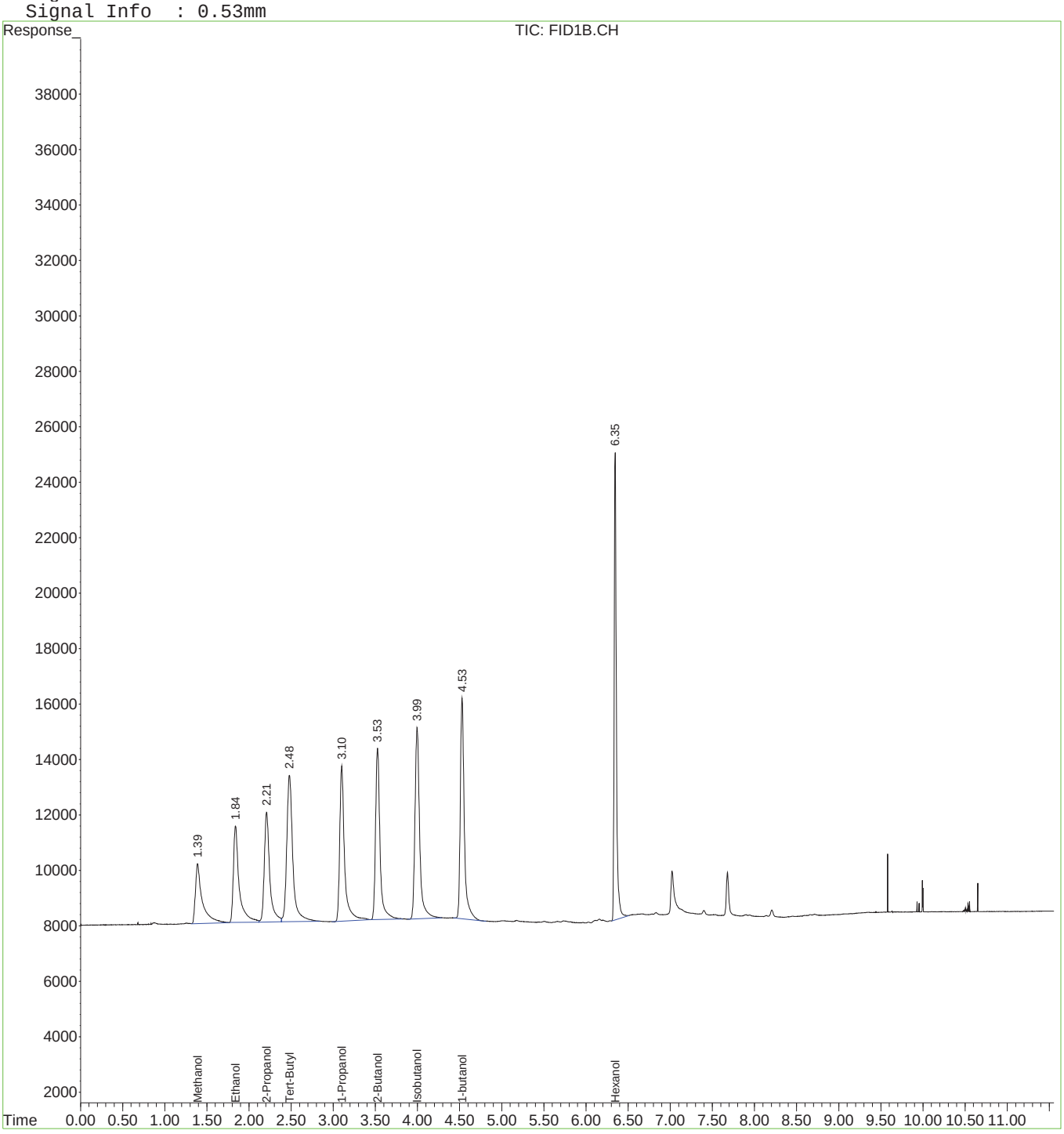
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123631.D MGH6650.M Mon Feb 08 14:58:25 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123631.D Vial: 13
Acq On : 04-Feb-2021, 18:08:50 Operator: RobertS
Sample : CC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 5 12:38 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

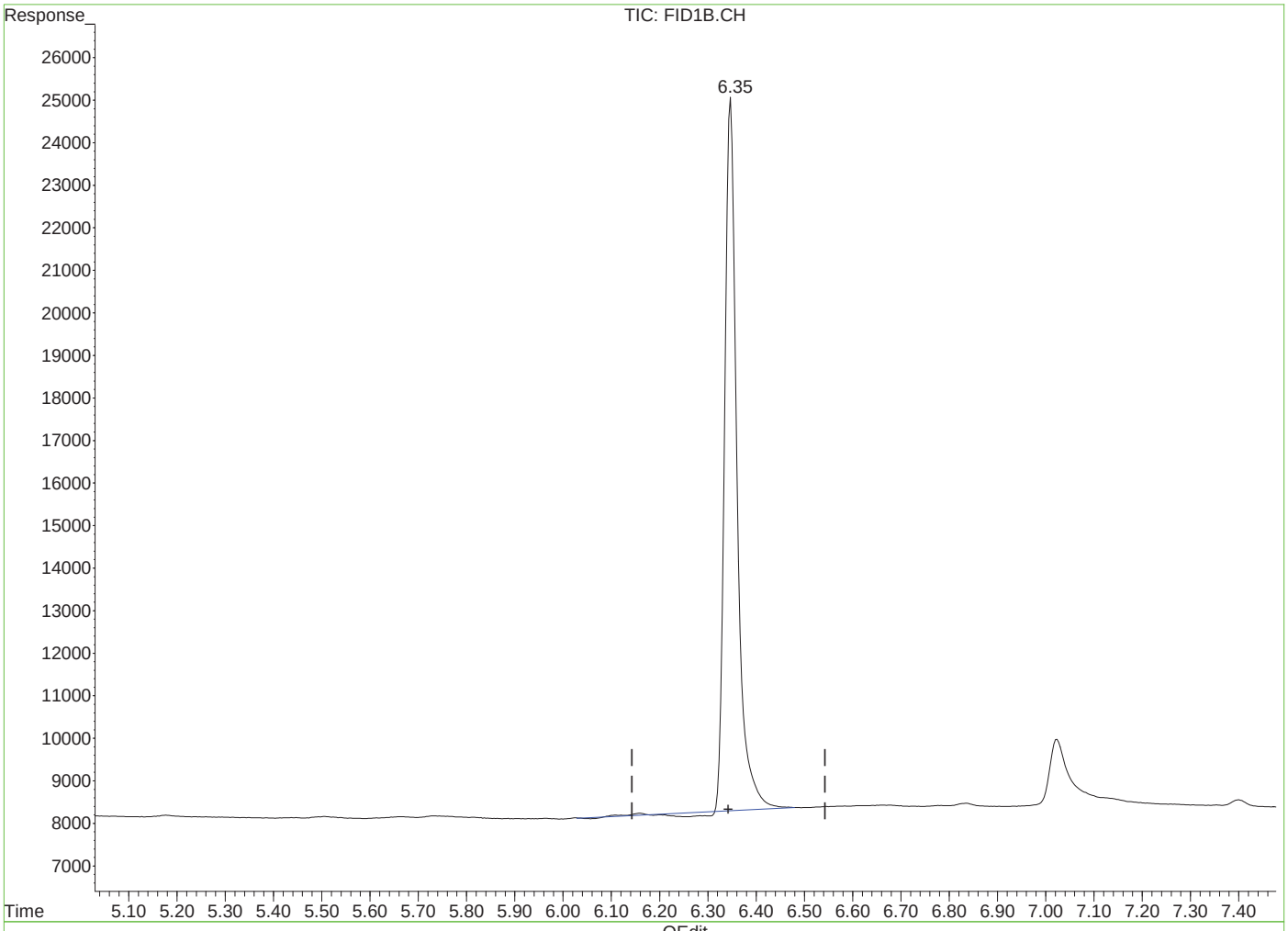
Sample Number: GGH6655-CC6650
Lab FileID: GH123631.D
Injection Time: 02/04/21 18:08
Method: SW846-8015D (DAI)
Analyst approved: 02/08/21 15:37 MoHui Huang
Supervisor approved: 02/08/21 22:07 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Hexanol	111-27-3	1	6.35	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123631.D Vial: 13
Acq On : 04-Feb-2021, 18:08:50 Operator: RobertS
Sample : CC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 8 15:42 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(9) Hexanol (S)

6.35min 3892.065ug/L

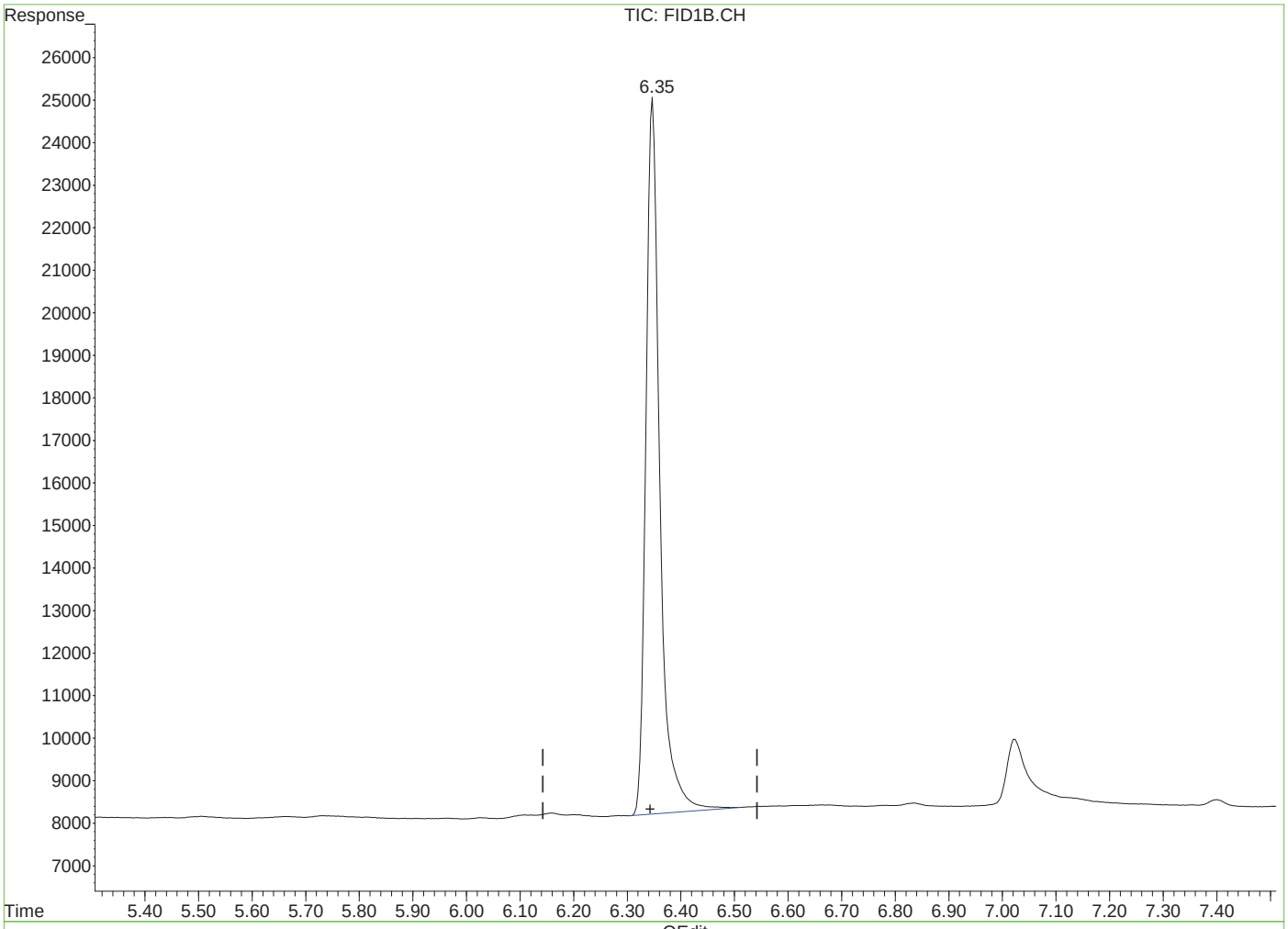
response 293751

(+) = Expected Retention Time
GH123631.D MGH6650.M Mon Feb 08 15:42:18 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6655\GH123631.D Vial: 13
Acq On : 04-Feb-2021, 18:08:50 Operator: RobertS
Sample : CC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 5 12:38 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(9) Hexanol (S)

6.35min 4041.258ug/L m

response 305011

(+) = Expected Retention Time
GH123631.D MGH6650.M Mon Feb 08 15:43:33 2021 RPT1

GC Volatile Run Log

Standard / Reagents	Lot #					
ALC Surrogate	V020-2702-97				Column	RTX-1701 (30m x 0.53mm x 3um)
Concentration	2000 ppm				Method	8015D Alcohols
expiration date	2/21/21				Init Calib Date	1/21/2021
ALC STD	V020-2702-98				Analysis Date	1/21/2021
Concentration	100 ppm				Sequence loaded by	Robert Szot
expiration date	2/21/21				Data processed by	Robert Szot
					Batch ID	GGH6650
ALC (2) STD	V020-2702-99				Matrix	AQ
Concentration	100 ppm				Approved By:	KANYAV
expiration date	2/21/21		Calibration method	MGH6650	Approved Date:	1/28/2021 8:20:51 AM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Inj. Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123500	IB		NA			0.002			1	OK	
GH	123501	IB		NA			0.002			2	OK	
GH	123502	IC6650-200		NA		8015 ALC initial cal.	0.002			3	OK	2 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123503	IC6650-500		NA		8015 ALC initial cal.	0.002			4	OK	5 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123504	IC6650-1000		NA		8015 ALC initial cal.	0.002			5	OK	10 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123505	IC6650-5000		NA		8015 ALC initial cal.	0.002			6	OK	50 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123506	IC6650-10000		NA		8015 ALC initial cal.	0.002			7	OK	100 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123507	IC6650-50000		NA		8015 ALC initial cal.	0.002			8	OK	500 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123508	IC6650-100000		NA		8015 ALC initial cal.	0.002			9	OK	1000 uL ALC + 2.5 uL surrogate
GH	123509	IB		NA			0.002			10	OK	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Inj. Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123510	IB		NA			0.002			11	OK	
GH	123511	ICV6650-5000		NA		8015 ALC initial cal.	0.002			12	OK	50 uL ALC(2), 2.5 uL surrogate / 1 mL DI H2O FV

GC Volatile Run Log

Standard / Reagents	Lot #					
ALC Surrogate	V020-2702-97				Column	RTX-1701 (30m x 0.53mm x 3um)
Concentration	2000 ppm				Method	8015D Alcohols
expiration date	2/21/21				Init Calib Date	1/21/2021
ALC STD	V020-2702-98				Analysis Date	2/2/2021
Concentration	100 ppm				Sequence loaded by	Robert Szot
expiration date	2/21/21				Data processed by	Mohui Huang
					Batch ID	GGH6654
ALC (2) STD	V020-2702-99				Matrix	AQ
Concentration	100 ppm				Approved By:	KANYAV
expiration date	2/21/21		Calibration method	MGH6650	Approved Date:	2/8/2021 1:40:05 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123595	IB		NA			0.002			1	ok	
GH	123596	CC6650-5000		NA			0.002			2	ok	50 uL ALC, 2.5 uL surrogate / 1 mL FV
GH	123597	MB1		NA			0.002			3	ok	
GH	123598	BS		NA			0.002			4	ok	50 uL ALC(2), 2.5 uL surrogate / 1 mL FV
GH	123599	JD19624-1	11	NA	GC57420	D8015LMA	0.002		1	5	ok	
GH	123600	JD19624-2	5	NA	GC57420	D8015LMA	0.002		1	6	ok	
GH	123601	JD19624-3	4	NA	GC57420	D8015LMA	0.002		1	7	ok	
GH	123602	JD19624-4	7	NA	GC57420	D8015LMA	0.002		1	8	ok	
GH	123603	JD19624-5	4	NA	GC57420	D8015LMA	0.002		1	9	ok	
GH	123604	JD19624-1MS	11	NA	GC57420	D8015LMA	0.002		1	10	ok	50 uL ALC(2), 2.5 uL surrogate, 950 uL sample

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123605	JD19624-1MSD	11	NA	GC57420	D8015LMA	0.002		1	11	ok	50 uL ALC(2), 2.5 uL surrogate, 950 uL sample
GH	123606	CC6650-10000		NA			0.002			12	ok	100 uL ALC, 2.5 uL surrogate / 1 mL FV
GH	123607	MB2		NA			0.002			13	ok	
GH	123608	JD19789-9	1	100	GC57437	D8015IPA	0.002		6	14	ok	Dilution required due to high concentration of target compound
GH	123609	JD19789-8	1	100	GC57437	D8015IPA	0.002		6	15	ok	Dilution required due to high concentration of target compound
GH	123610	JD19789-7	1	100	GC57437	D8015IPA	0.002		6	16	ok	Dilution required due to high concentration of target compound
GH	123611	JD19789-1	1	100	GC57437	D8015IPA	0.002		6	17	ok	Dilution required due to high concentration of target compound
GH	123612	JD19789-2	1	100	GC57437	D8015IPA	0.002		6	18	ok	Dilution required due to high concentration of target compound
GH	123613	JD19789-3	1	100	GC57437	D8015IPA	0.002		6	19	ok	Dilution required due to high concentration of target compound
GH	123614	JD19789-4	1	100	GC57437	D8015IPA	0.002		6	20	rr	Dilution required due to high concentration of target compound
GH	123615	JD19789-5	1	100	GC57437	D8015IPA	0.002		6	21	ok	Dilution required due to high concentration of target compound
GH	123616	JD19789-6	1	100	GC57437	D8015IPA	0.002		6	22	ok	Dilution required due to high concentration of target compound
GH	123617	IB		NA			0.002			23	ok	
GH	123618	CC6650-5000		NA			0.002			24	ok	50 uL ALC, 2.5 uL surrogate / 1 mL FV

GC Volatile Run Log

Standard / Reagents	Lot #					
ALC Surrogate	V020-2702-97		ALC (2) STD	V020-2702-99	Column	RTX-1701 (30m x 0.53mm x 3um)
Concentration	2000 ppm		Concentration	100 ppm	Method	8015D Alcohols
expiration date	2/21/21		expiration date	2/21/21	Init Calib Date	1/21/2021
ALC STD	V020-2702-98				Analysis Date	2/4/2021
Concentration	100 ppm				Sequence loaded by	Robert Szot
expiration date	2/21/21				Data processed by	Mohui Huang
					Batch ID	GGH6655
					Matrix	AQ
					Approved By:	ROBERTS
pH paper lot #207519 EXP: 3/15/2			Calibration method	MGH6650	Approved Date:	2/10/2021 2:14:44 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123620	CC6650-5000		NA			0.002			1	ok	50 uL ALC, 2.5 uL Surr / 1 mL FV
GH	123621	MB		NA			0.002			2	ok	
GH	123622	BS		NA			0.002			3	ok	50 uL ALC(2), 2.5 uL Surr / 1 mL FV
GH	123623	JD19735-11	16	NA	GC57432	D8015LMA	0.002		1	4	ok	
GH	123624	JD19735-11MS	16	NA	GC57432	D8015LMA	0.002		1	5	ok	50 uL ALC(2), 2.5 uL Surr, 950 uL sample
GH	123625	JD19735-11MSD	16	NA	GC57432	D8015LMA	0.002		1	6	ok	50 uL ALC(2), 2.5 uL Surr, 950 uL sample
GH	123626	JD19789-4	2	100x	GC57437	D8015IPA	0.5/50		6	7	ok	
GH	123627	JD19735-6	7	NA	GC57432	D8015LMA	0.002		1	8	ok	
GH	123628	JD19735-13	5	NA	GC57432	D8015LMA	0.002		1	9	ok	
GH	123629	JD19735-14	5	NA	GC57432	D8015LMA	0.002		1	10	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123630	JD19735-1	7	NA	GC57432	D8015LMA	0.002		1	11	ok	
GH	123631	CC6655-10000		NA			0.002			12	ok	100 uL ALC, 2.5 uL Surr / 1 mL FV
GH	123632	MB2		NA			0.002		1	13	ok	
GH	123633	JD19735-2	7	NA	GC57432	D8015LMA	0.002		1	14	ok	
GH	123634	JD19735-3	7	NA	GC57432	D8015LMA	0.002		1	15	ok	
GH	123635	JD19735-4	7	NA	GC57432	D8015LMA	0.002		1	16	ok	
GH	123636	JD19735-5	7	NA	GC57432	D8015LMA	0.002		1	17	ok	
GH	123637	JD19735-7	7	NA	GC57432	D8015LMA	0.002		1	18	ok	
GH	123638	JD19735-8	7	NA	GC57432	D8015LMA	0.002		1	19	ok	
GH	123639	JD19735-9	7	NA	GC57432	D8015LMA	0.002		1	20	ok	
GH	123640	JD19735-10	7	NA	GC57432	D8015LMA	0.002		1	21	ok	
GH	123641	JD19735-12	5	NA	GC57432	D8015LMA	0.002		1	22	ok	
GH	123642	CC6650-5000		NA			0.002			23	ok	50 uL ALC, 2.5 uL Surr / 1 mL FV

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

7311180270.6000

SGS Job Number: JD19971

Sampling Dates: 01/26/21 - 01/29/21

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Avenue Suite 900
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Eric Thompson

Total number of pages in report: **109**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Thelma Flaherty 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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EHS.US.CustomerCare@sgs.com

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: JD19971

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JD19971-1	01/26/21	12:00		02/04/21	AQ	Ground Water	C2B12-SB-20210126
JD19971-2	01/27/21	12:00		02/04/21	AQ	Ground Water	C2B13-SB-20210127
JD19971-3	01/27/21	12:00		02/04/21	AQ	Ground Water	C2B14-SB-20210127
JD19971-4	01/27/21	12:00		02/04/21	AQ	Ground Water	C2B25-SB-20210127
JD19971-5	01/29/21	12:00		02/04/21	AQ	Ground Water	C2B1-14-SBCOMP-20210129

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Wood Environment & Infrastructure Solut.	**Job No**	JD19971
Site:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH	**Report Date**	2/18/2021 2:29:15 PM

On 02/04/2021, 5 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD19971 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

GC Volatiles By Method SW846-8015D (DAI)

Matrix: AQ **Batch ID:** GGH6658

- All samples were analyzed within the recommended method holding time.
- Sample(s) JD19864-1MS, JD19864-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JD19971-1: Sample vials contained headspace greater than 6mm.
- JD19971-2: Sample vials contained headspace greater than 6mm.
- JD19971-3: Sample vials contained headspace greater than 6mm.
- JD19971-4: Sample vials contained headspace greater than 6mm.
- JD19971-5: Sample vials contained headspace greater than 6mm.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JD19971
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Collected: 01/26/21 thru 01/29/21

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
JD19971-1	**C2B12-SB-20210126**					
Isopropyl Alcohol [a]		51000	20000	16000	ug/l	SW846-8015D (DAI)
JD19971-2	**C2B13-SB-20210127**					
Isopropyl Alcohol [a]		245000	20000	16000	ug/l	SW846-8015D (DAI)
JD19971-3	**C2B14-SB-20210127**					
Isopropyl Alcohol [a]		154000	20000	16000	ug/l	SW846-8015D (DAI)
JD19971-4	**C2B25-SB-20210127**					
Isopropyl Alcohol [a]		549000	20000	16000	ug/l	SW846-8015D (DAI)
JD19971-5	**C2B1-14-SBCOMP-20210129**					
Isopropyl Alcohol [a]		216000	20000	16000	ug/l	SW846-8015D (DAI)

(a) Sample vials contained headspace greater than 6mm.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B12-SB-20210126		
Lab Sample ID:	JD19971-1	**Date Sampled:**	01/26/21
Matrix:	AQ - Ground Water	**Date Received:**	02/04/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123693.D	100	02/08/21 19:20	RS	n/a	n/a	GGH6658
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	51000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	109%		56-145%

(a) Sample vials contained headspace greater than 6mm.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B13-SB-20210127		
Lab Sample ID:	JD19971-2	**Date Sampled:**	01/27/21
Matrix:	AQ - Ground Water	**Date Received:**	02/04/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123694.D	100	02/08/21 19:38	RS	n/a	n/a	GGH6658
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	245000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	100%		56-145%

(a) Sample vials contained headspace greater than 6mm.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B14-SB-20210127		
Lab Sample ID:	JD19971-3	**Date Sampled:**	01/27/21
Matrix:	AQ - Ground Water	**Date Received:**	02/04/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123695.D	100	02/08/21 19:55	RS	n/a	n/a	GGH6658
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	154000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	105%		56-145%

(a) Sample vials contained headspace greater than 6mm.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B25-SB-20210127		
Lab Sample ID:	JD19971-4	**Date Sampled:**	01/27/21
Matrix:	AQ - Ground Water	**Date Received:**	02/04/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123696.D	100	02/08/21 20:13	RS	n/a	n/a	GGH6658
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	549000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	101%		56-145%

(a) Sample vials contained headspace greater than 6mm.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	C2B1-14-SBCOMP-20210129		
Lab Sample ID:	JD19971-5	**Date Sampled:**	01/29/21
Matrix:	AQ - Ground Water	**Date Received:**	02/04/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123697.D	100	02/08/21 20:30	RS	n/a	n/a	GGH6658
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	216000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	89%		56-145%

(a) Sample vials contained headspace greater than 6mm.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

GW

9304 4369 9253

PM

JD19971

CHAIN OF CUSTODY

DATE:
COC #:
PAGE: 1 OF 1

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	FED EX
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

Sample Information						Methods for Analysis		RUSH				
No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	VOC-8260c TDA-5015		STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES / HOLD All Analytes
1	~~SP1-GW_2020~~		~~WG~~	~~N~~	~~N~~	~~X~~						
2	C2B12-SB_20210126	1/26/21 12:00	GW	N	N	X	1	X				
3	C2B13-SB_20210127	1/27/21 12:00	GW	N	N	X	2	X				
4	C2B14-SB_20210127	1/27/21 12:00	GW	N	N	X	3	X				
5	C2B25-SB_20210127	1/27/21 12:00	GW	N	N	X	4	X				
6	C2B1-14-SBcomp_20210129	1/29/21 12:00	GW	N	N	X	5	X				
7												
8												
9												
10												
11												
12												

V1083

Sampler's Signature: Date: 2/3/21 Time: 13:00

Relinquished By/Affiliation: Wood E&IS Date: 2/4/21 Time: 1355

Received By: Date: 2/4/21 Time: 1355

Relinquished By/Affiliation: Date: 2/4/21 Time: 1641

Received By: Date: 2/4/21 Time: 1641

Relinquished By/Affiliation: Date: 2/4/21 Time: 1760

Received By (SGS): Date: Time:

For Lab Use		
Does COC match samples:	Y or N	
Broken Container:	Y or N	
COC seal intact:	Y or N	
Other problems:	Y or N	
WSDOT contacted:	Y or N	
Date contacted:		
Cooler Temperature at receipt:	°C	

Comments:
X=Analyze H=Hold Analysis Request **PO # F013200721**
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT:

send to New Jersey Lab

Relinq- Fedex C.S. 02052 2/5/21 0120

Rec'd by

SGS-ACCUTEST MARLBOR 2/4

IR4 4.1 CTP

Initial Assessment: KG 2/4

Label Verification:

SGS Sample Receipt Summary

Job Number: JD19971 **Client:** WOOD E&IS **Project:** ESTCP SITE 8 PILOT

Date / Time Received: 2/4/2021 5:10:00 PM **Delivery Method:** FedEx **Airbill #'s:** 9304 4369 9253

Cooler Temps (Raw Measured) °C: Cooler 1: (4.1);

Cooler Temps (Corrected) °C: Cooler 1: (2.8);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☑	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify)

Comments: 1). All Voa vials contain headspace of greater than 6mm.

SM089-02 Rev. Date 12/1/16

5.1 5

JD19971: Chain of Custody
Page 2 of 3

Responded to by: Thelma Flaherty

Response Date: 2/5/21

Per Eric Thompson email received 2/5/21 @ 3:22pm.
>> Please proceed with analysis and note on final lab report.

JD19971: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

Wood Environment & Infrastructure Solut.

Job No: JD19971

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD19971-1 Collected: 26-JAN-21 12:00 By: C2B12-SB-20210126				Received: 04-FEB-21	By: JP	
JD19971-1	SW846-8015D (DAI)	08-FEB-21 19:20	RS			D8015IPA
JD19971-2 Collected: 27-JAN-21 12:00 By: C2B13-SB-20210127				Received: 04-FEB-21	By: JP	
JD19971-2	SW846-8015D (DAI)	08-FEB-21 19:38	RS			D8015IPA
JD19971-3 Collected: 27-JAN-21 12:00 By: C2B14-SB-20210127				Received: 04-FEB-21	By: JP	
JD19971-3	SW846-8015D (DAI)	08-FEB-21 19:55	RS			D8015IPA
JD19971-4 Collected: 27-JAN-21 12:00 By: C2B25-SB-20210127				Received: 04-FEB-21	By: JP	
JD19971-4	SW846-8015D (DAI)	08-FEB-21 20:13	RS			D8015IPA
JD19971-5 Collected: 29-JAN-21 12:00 By: C2B1-14-SBCOMP-20210129				Received: 04-FEB-21	By: JP	
JD19971-5	SW846-8015D (DAI)	08-FEB-21 20:30	RS			D8015IPA

SGS Internal Chain of Custody

Job Number: JD19971
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Received: 02/04/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD19971-1.2	Secured Storage	Bridget Kelly	02/09/21 09:22	Retrieve from Storage
JD19971-1.2	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19971-2.2	Secured Storage	Bridget Kelly	02/09/21 09:22	Retrieve from Storage
JD19971-2.2	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19971-3.2	Secured Storage	Bridget Kelly	02/09/21 09:22	Retrieve from Storage
JD19971-3.2	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19971-4.1	Secured Storage	Bridget Kelly	02/09/21 09:22	Retrieve from Storage
JD19971-4.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage
JD19971-5.1	Secured Storage	Bridget Kelly	02/09/21 09:22	Retrieve from Storage
JD19971-5.1	Bridget Kelly	Secured Storage	02/09/21 09:23	Return to Storage

QC Evaluation: DOD QSM5.x Limits

Job Number: JD19971
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Collected: 01/26/21 thru 01/29/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No DOD QSM5.x Limits Found.

* Sample used for QC is not from job JD19971

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JD19971
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6658-MB2	GH123690.D	1	02/08/21	RS	n/a	n/a	GGH6658

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD19971-1, JD19971-2, JD19971-3, JD19971-4, JD19971-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	101%	56-145%

Method Blank Summary

Job Number: JD19971
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6658-MB	GH123682.D	1	02/08/21	RS	n/a	n/a	GGH6658

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

GGH6658-BS, JD19864-1MS, JD19864-1MSD

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	112%	56-145%

Blank Spike Summary

Job Number: JD19971
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6658-BS	GH123683.D	1	02/08/21	RS	n/a	n/a	GGH6658

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD19971-1, JD19971-2, JD19971-3, JD19971-4, JD19971-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	4620	92	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	103%	56-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD19971
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD19864-1MS	GH123687.D	1	02/08/21	RS	n/a	n/a	GGH6658
JD19864-1MSD	GH123688.D	1	02/08/21	RS	n/a	n/a	GGH6658
JD19864-1	GH123684.D	1	02/08/21	RS	n/a	n/a	GGH6658

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD19971-1, JD19971-2, JD19971-3, JD19971-4, JD19971-5

CAS No.	Compound	JD19864-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	ND		5000	5130	103	5000	4520	90	13	70-133/28

CAS No.	Surrogate Recoveries	MS	MSD	JD19864-1	Limits
111-27-3	Hexanol	113%	102%	93%	56-145%

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JD19971
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Method: SW846-8015D (DAI) **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JD19971-1	GH123693.D	109
JD19971-2	GH123694.D	100
JD19971-3	GH123695.D	105
JD19971-4	GH123696.D	101
JD19971-5	GH123697.D	89
GGH6658-BS	GH123683.D	103
GGH6658-MB2	GH123690.D	101
JD19864-1MS	GH123687.D	113
JD19864-1MSD	GH123688.D	102
GGH6658-MB	GH123682.D	112

Surrogate Compounds	Recovery Limits
S1 = Hexanol	56-145%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD19971
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6658-CC6650	**Injection Date:**	02/08/21
Lab File ID:	GH123681.D	**Injection Time:**	15:33
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.35

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6658-MB	GH123682.D	02/08/21	15:51	6.35
GGH6658-BS	GH123683.D	02/08/21	16:09	6.35
JD19864-1	GH123684.D	02/08/21	16:38	6.36
ZZZZZZ	GH123685.D	02/08/21	16:57	6.36
ZZZZZZ	GH123686.D	02/08/21	17:15	6.36
JD19864-1MS	GH123687.D	02/08/21	17:33	6.35
JD19864-1MSD	GH123688.D	02/08/21	17:51	6.36

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD19971
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6658-CC6650	**Injection Date:**	02/08/21
Lab File ID:	GH123689.D	**Injection Time:**	18:09
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.35

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6658-MB2	GH123690.D	02/08/21	18:26	6.35
ZZZZZZ	GH123691.D	02/08/21	18:44	6.35
ZZZZZZ	GH123692.D	02/08/21	19:02	6.35
JD19971-1	GH123693.D	02/08/21	19:20	6.36
JD19971-2	GH123694.D	02/08/21	19:38	6.36
JD19971-3	GH123695.D	02/08/21	19:55	6.36
JD19971-4	GH123696.D	02/08/21	20:13	6.36
JD19971-5	GH123697.D	02/08/21	20:30	6.36

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: JD19971 **Sample:** GGH6650-ICC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123505.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Response Factor Report HP5890

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Fri Jan 22 08:22:19 2021
Response via : Initial Calibration

Calibration Files
500 =GH123503.D 5000=GH123505.D 200 =GH123502.D 1000=GH123504.D
10k =GH123506.D 50k =GH123507.D 100k=GH123508.D =

Compound	500	5000	200	1000	10k	50k	100k	Avg	%RSD
1) Methanol	1.315	1.496	1.528	1.248	1.329	1.381	1.316	1.373 E1	7.50
2) Ethanol	1.772	1.923	1.366	1.788	1.725	1.904	1.829	1.758 E1	10.63
3) 2-Propanol	1.990	1.987	1.975	1.736	2.072	1.938	1.928	1.947 E1	5.34
4) Tert-Butyl A	2.605	2.786	2.938	2.716	2.797	2.704	2.756	2.757 E1	3.72
5) 1-Propanol	2.416	2.354	2.433	2.403	2.343	2.361	2.346	2.379 E1	1.56
6) 2-Butanol	2.452	2.403	2.486	2.579	2.410	2.410	2.425	2.452 E1	2.58
7) Isobutanol	2.799	2.850	2.945	2.854	2.784	2.787	2.815	2.833 E1	2.00
8) 1-butanol	2.768	2.761	3.495	2.846	2.788	2.697	2.681	2.862 E1	9.94
9) Hexanol	7.457	7.547	7.256	7.629	7.485	7.454	8.004	7.547 E1	3.07

(#) = Out of Range ### Number of calibration levels exceeded format ###

MGH6650.M Wed Jan 27 14:52:21 2021 RPT1

Initial Calibration Verification

Job Number: JD19971 **Sample:** GGH6650-ICV6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123511.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Fri Jan 22 08:22:19 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.445	2.1	90	0.00	1.17- 1.57
2	Ethanol	17.581	17.316	1.5	90	0.00	1.63- 2.03
3	2-Propanol	19.467	18.161	6.7	91	0.00	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.933	6.0	93	0.00	2.27- 2.67
5	1-Propanol	23.795	22.052	7.3	94	0.00	2.89- 3.29
6	2-Butanol	24.522	22.588	7.9	94	0.00	3.32- 3.72
7	Isobutanol	28.333	26.335	7.1	92	0.00	3.79- 4.19
8	1-butanol	28.623	26.300	8.1	95	0.00	4.32- 4.72
9 S	Hexanol	75.474	70.559	6.5	93	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123511.D MGH6650.M Wed Jan 27 14:49:38 2021 RPT1

Continuing Calibration Summary

Job Number: JD19971 **Sample:** GGH6658-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123681.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123681.D Vial: 2
Acq On : 08-Feb-2021, 15:33:15 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57414,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	14.049	-2.3	106	0.03	1.17- 1.57
2	Ethanol	17.581	20.236	-15.1	117	0.03	1.63- 2.03
3	2-Propanol	19.467	19.679	-1.1	95	0.03	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	27.248	1.2	97	0.03	2.27- 2.67
5	1-Propanol	23.795	22.106	7.1	94	0.03	2.89- 3.29
6	2-Butanol	24.522	22.953	6.4	95	0.02	3.32- 3.72
7	Isobutanol	28.333	26.280	7.2	94	0.02	3.79- 4.19
8	1-butanol	28.623	30.067	-5.0	108	0.02	4.32- 4.72
9 S	Hexanol	75.474	89.781	-19.0	120	0.01	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Wed Feb 17 11:41:19 2021 RPT1

Continuing Calibration Summary

Job Number: JD19971 **Sample:** GGH6658-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123689.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123689.D Vial: 10
Acq On : 08-Feb-2021, 18:09:00 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57438,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.521	8.8	84	0.03	1.17- 1.57
2	Ethanol	17.581	17.833	-1.4	93	0.02	1.63- 2.03
3	2-Propanol	19.467	18.492	5.0	93	0.01	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.968	2.2	97	0.00	2.27- 2.67
5	1-Propanol	23.795	22.813	4.1	97	0.01	2.89- 3.29
6	2-Butanol	24.522	22.931	6.5	95	0.01	3.32- 3.72
7	Isobutanol	28.333	26.334	7.1	92	0.01	3.79- 4.19
8	1-butanol	28.623	26.393	7.8	96	0.01	4.32- 4.72
9 S	Hexanol	75.474	78.211	-3.6	104	0.01	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Wed Feb 17 11:42:25 2021 RPT1

6.6.4

6

Continuing Calibration Summary

Job Number: JD19971 **Sample:** GGH6658-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123698.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123698.D Vial: 19
Acq On : 08-Feb-2021, 20:47:15 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.187	11.3	92	0.04	1.17- 1.57
2	Ethanol	17.581	16.716	4.9	97	0.03	1.63- 2.03
3	2-Propanol	19.467	17.345	10.9	84	0.03	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	23.698	14.1	85	0.03	2.27- 2.67
5	1-Propanol	23.795	24.741	-4.0	106	0.03	2.89- 3.29
6	2-Butanol	24.522	22.392	8.7	93	0.03	3.32- 3.72
7	Isobutanol	28.333	25.085	11.5	90	0.03	3.79- 4.19
8	1-butanol	28.623	25.398	11.3	91	0.03	4.32- 4.72
9 S	Hexanol	75.474	75.341	0.2	101	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Wed Feb 17 11:41:20 2021 RPT1

Run Sequence Report

Job Number: JD19971
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6650 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6650-IC6650	GH123502.D	01/21/21 18:20	n/a	Initial cal 200
GGH6650-IC6650	GH123503.D	01/21/21 18:37	n/a	Initial cal 500
GGH6650-IC6650	GH123504.D	01/21/21 18:55	n/a	Initial cal 1000
GGH6650-ICC6650	GH123505.D	01/21/21 19:12	n/a	Initial cal 5000
GGH6650-IC6650	GH123506.D	01/21/21 19:30	n/a	Initial cal 10000
GGH6650-IC6650	GH123507.D	01/21/21 19:47	n/a	Initial cal 50000
GGH6650-IC6650	GH123508.D	01/21/21 20:05	n/a	Initial cal 100000
GGH6650-ICV6650	GH123511.D	01/21/21 20:57	n/a	Initial cal verification 5000

Run Sequence Report

Job Number: JD19971
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6658 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6658-CC6650	GH123681.D	02/08/21 15:33	n/a	Continuing cal 10000
GGH6658-MB	GH123682.D	02/08/21 15:51	n/a	Method Blank
GGH6658-BS	GH123683.D	02/08/21 16:09	n/a	Blank Spike
JD19864-1	GH123684.D	02/08/21 16:38	n/a	(used for QC only; not part of job JD19971)
ZZZZZZ	GH123685.D	02/08/21 16:57	n/a	(unrelated sample)
ZZZZZZ	GH123686.D	02/08/21 17:15	n/a	(unrelated sample)
JD19864-1MS	GH123687.D	02/08/21 17:33	n/a	Matrix Spike
JD19864-1MSD	GH123688.D	02/08/21 17:51	n/a	Matrix Spike Duplicate
GGH6658-CC6650	GH123689.D	02/08/21 18:09	n/a	Continuing cal 5000
GGH6658-MB2	GH123690.D	02/08/21 18:26	n/a	Method Blank
ZZZZZZ	GH123691.D	02/08/21 18:44	n/a	(unrelated sample)
ZZZZZZ	GH123692.D	02/08/21 19:02	n/a	(unrelated sample)
JD19971-1	GH123693.D	02/08/21 19:20	n/a	C2B12-SB-20210126
JD19971-2	GH123694.D	02/08/21 19:38	n/a	C2B13-SB-20210127
JD19971-3	GH123695.D	02/08/21 19:55	n/a	C2B14-SB-20210127
JD19971-4	GH123696.D	02/08/21 20:13	n/a	C2B25-SB-20210127
JD19971-5	GH123697.D	02/08/21 20:30	n/a	C2B1-14-SBCOMP-20210129
GGH6658-CC6650	GH123698.D	02/08/21 20:47	n/a	Continuing cal 10000

GC Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123693.D Vial: 14
Acq On : 08-Feb-2021, 19:20:31 Operator: RobertS
Sample : jd19971-1 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30:04 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	412607	5466.852 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 109.34%	
Target Compounds			
3) 2-Propanol	2.23	9935	51035.606 ug/L

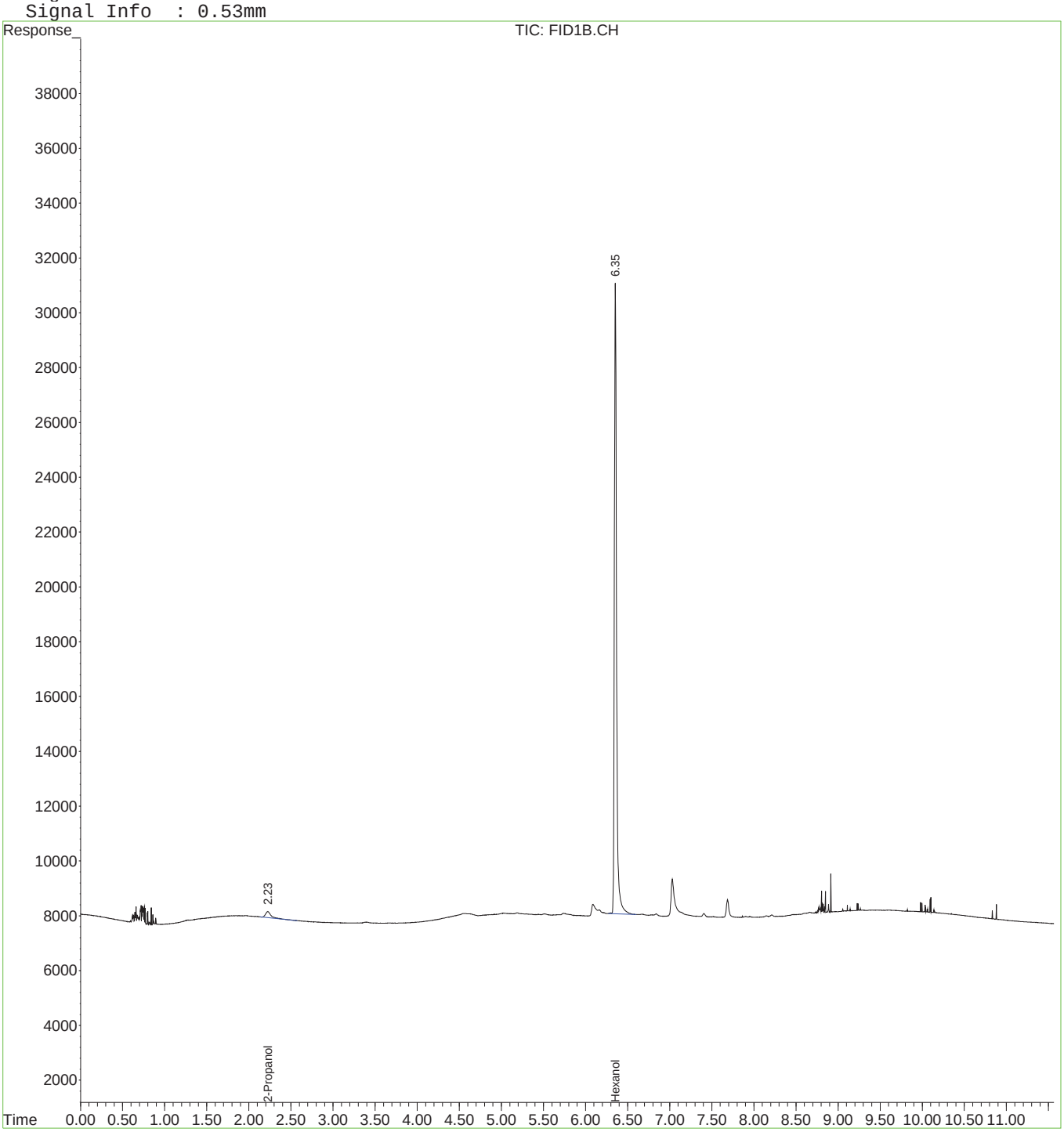
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123693.D MGH6650.M Wed Feb 17 16:08:15 2021 RPT1

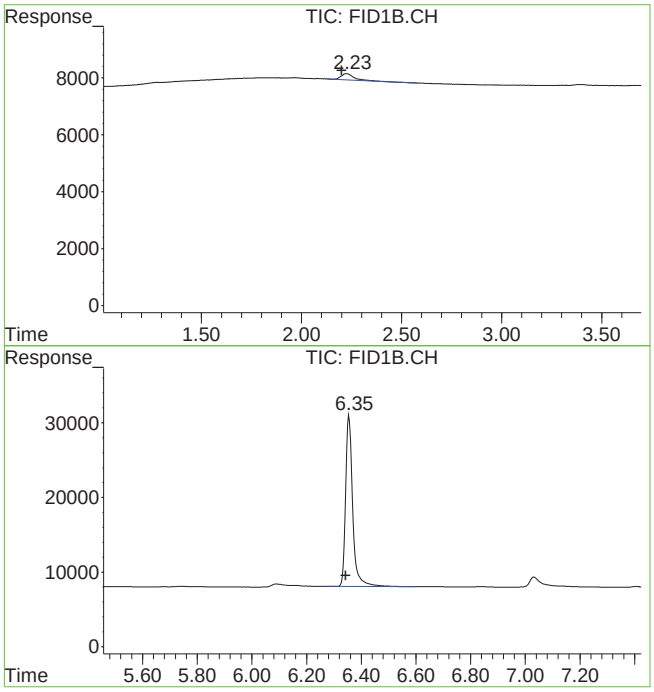
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123693.D Vial: 14
Acq On : 08-Feb-2021, 19:20:31 Operator: RobertS
Sample : jd19971-1 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:44 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.226 min
Delta R.T.: 0.026 min
Response: 9935
Conc: 51035.61 ug/L

#9 Hexanol

R.T.: 6.355 min
Delta R.T.: 0.013 min
Response: 412607
Conc: 5466.85 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123694.D Vial: 15
Acq On : 08-Feb-2021, 19:38:18 Operator: RobertS
Sample : jd19971-2 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30:06 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	376851	4993.107 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 99.86%	
Target Compounds			
3) 2-Propanol	2.23	47729	245180.908 ug/L

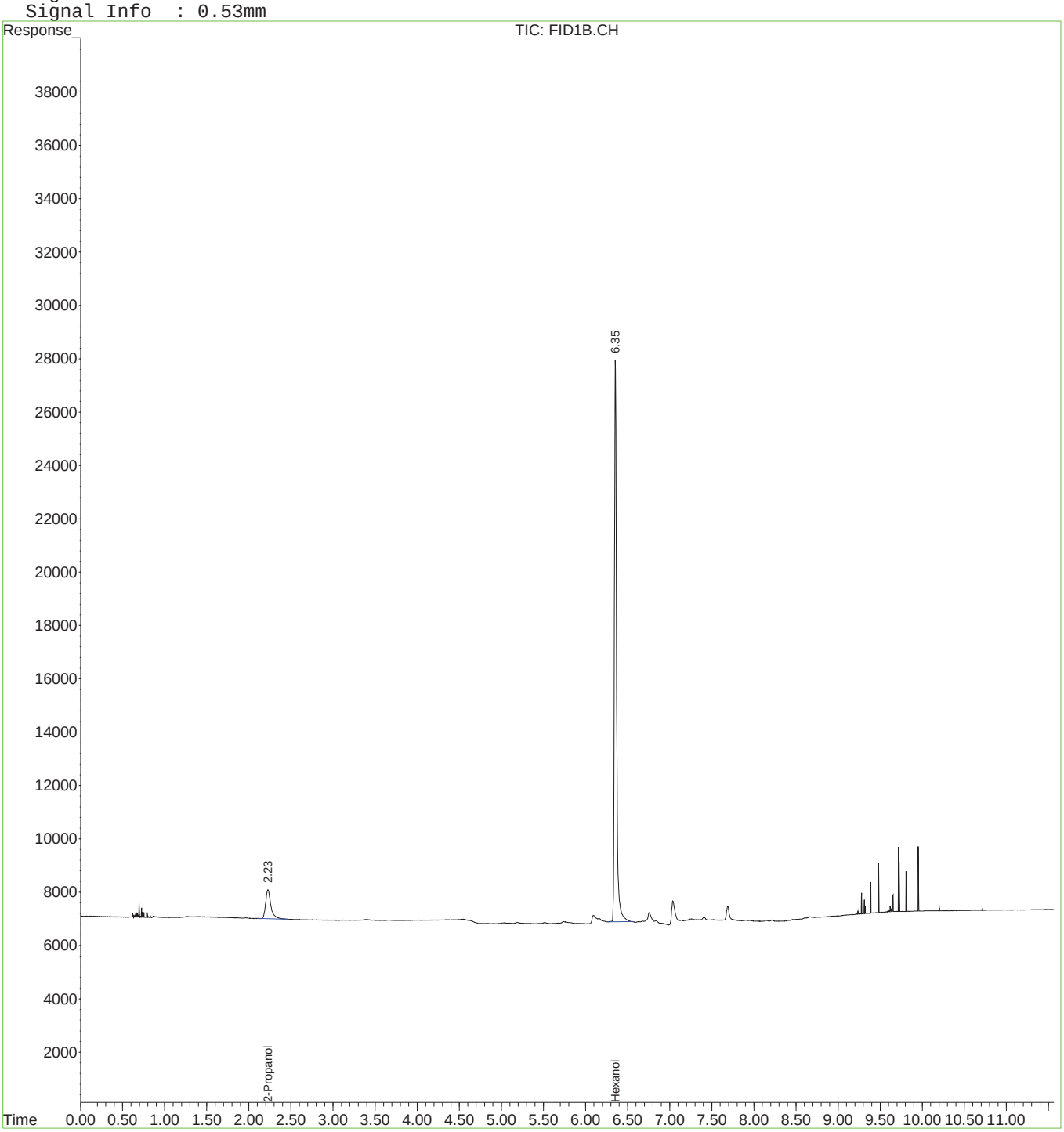
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123694.D MGH6650.M Wed Feb 17 16:08:16 2021 RPT1

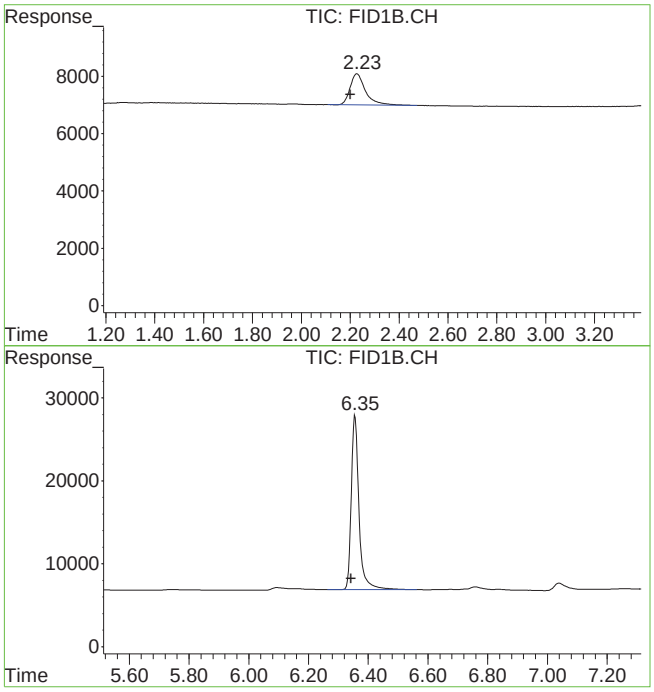
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123694.D Vial: 15
Acq On : 08-Feb-2021, 19:38:18 Operator: RobertS
Sample : jd19971-2 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.228 min
Delta R.T.: 0.027 min
Response: 47729
Conc: 245180.91 ug/L

#9 Hexanol

R.T.: 6.356 min
Delta R.T.: 0.013 min
Response: 376851
Conc: 4993.11 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123695.D Vial: 16
Acq On : 08-Feb-2021, 19:55:49 Operator: RobertS
Sample : jd19971-3 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30:08 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	396229	5249.847 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 105.00%	
Target Compounds			
3) 2-Propanol	2.23	29899	153587.221 ug/L

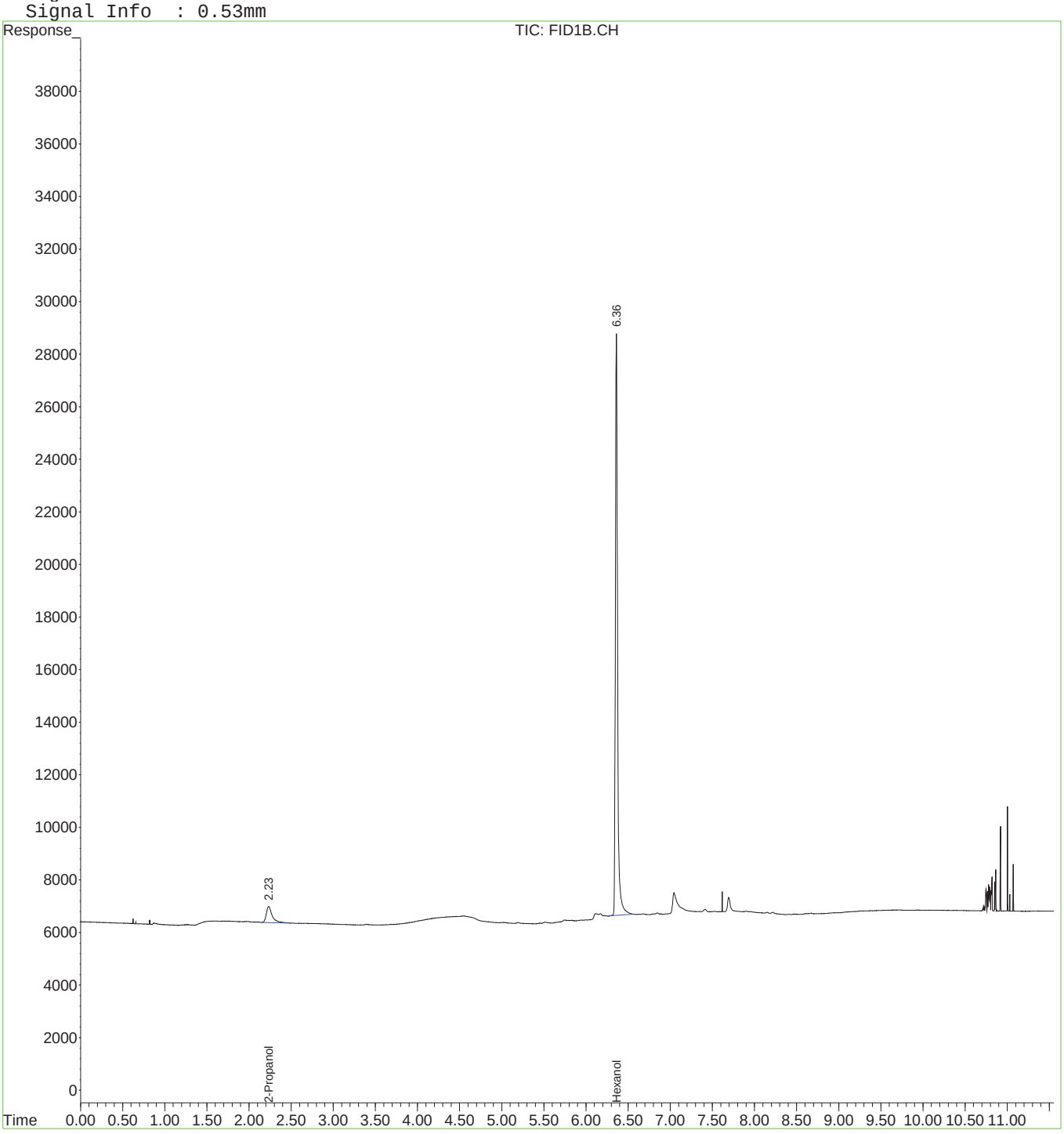
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123695.D MGH6650.M Wed Feb 17 16:08:17 2021 RPT1

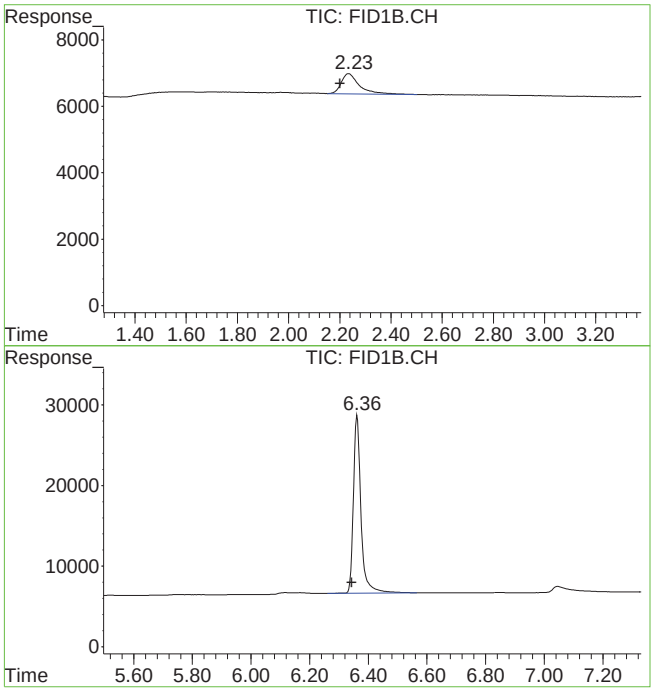
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123695.D Vial: 16
Acq On : 08-Feb-2021, 19:55:49 Operator: RobertS
Sample : jd19971-3 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:45 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.235 min
Delta R.T.: 0.035 min
Response: 29899
Conc: 153587.22 ug/L

#9 Hexanol

R.T.: 6.362 min
Delta R.T.: 0.019 min
Response: 396229
Conc: 5249.85 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123696.D Vial: 17
Acq On : 08-Feb-2021, 20:13:04 Operator: RobertS
Sample : jd19971-4 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30:09 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	382050	5061.988 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 101.24%	
Target Compounds			
3) 2-Propanol	2.24	106813	548686.027 ug/L

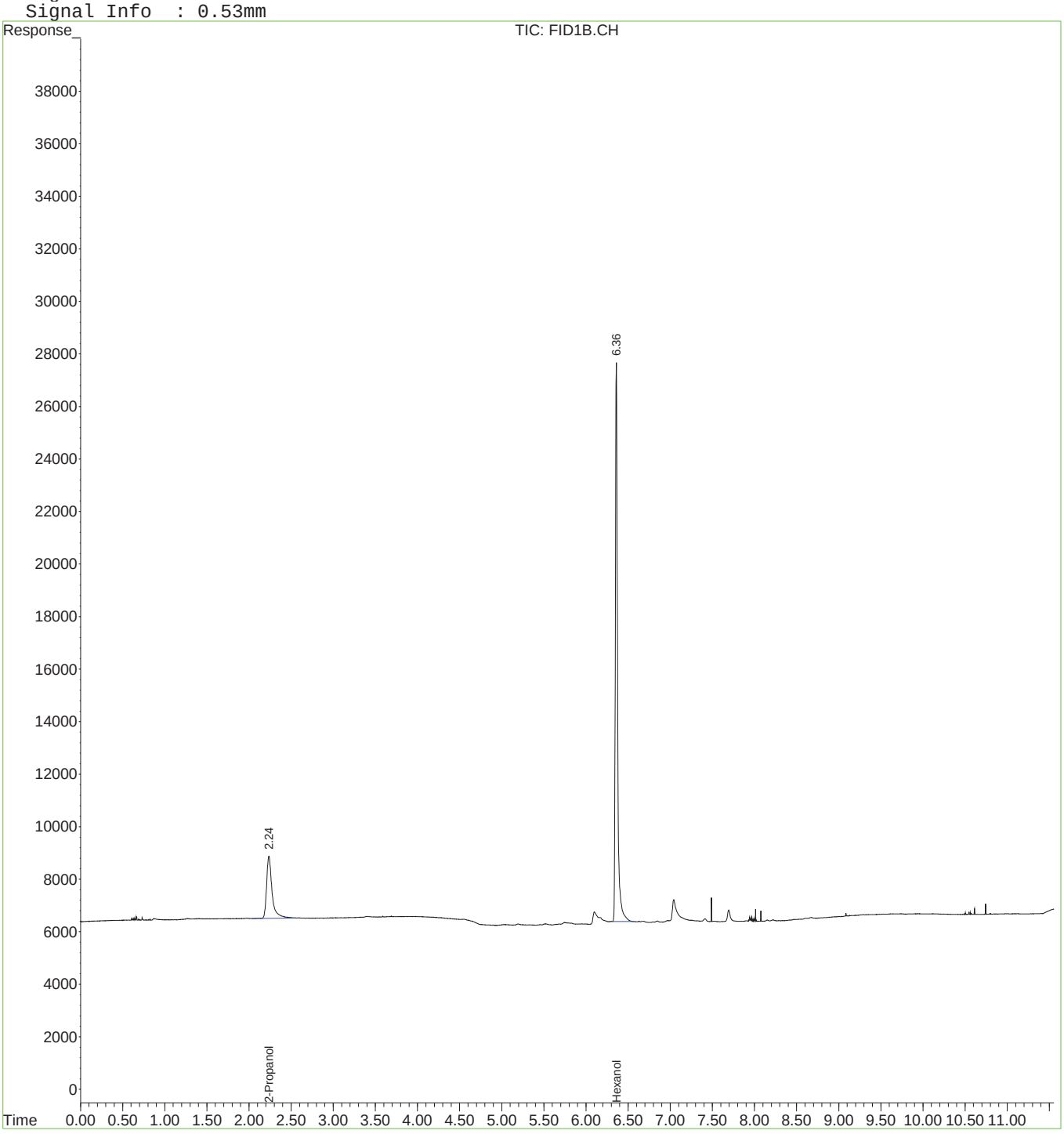
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123696.D MGH6650.M Wed Feb 17 16:08:18 2021 RPT1

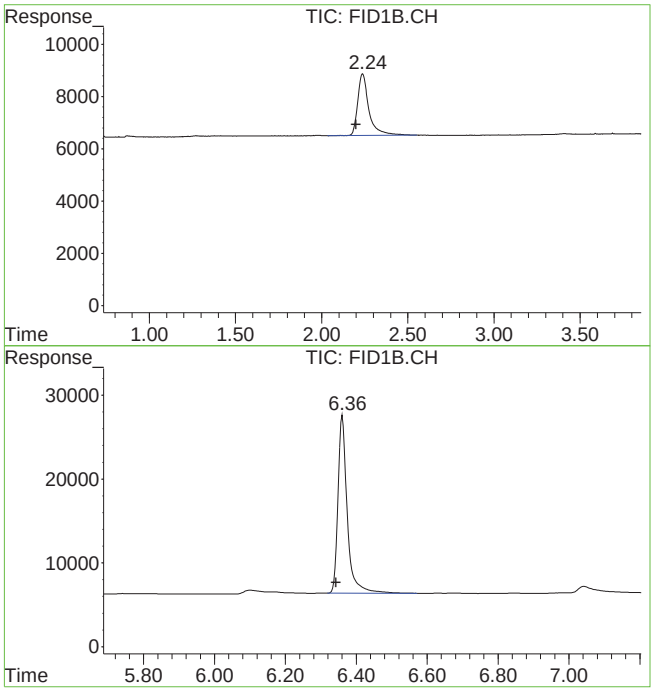
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123696.D Vial: 17
Acq On : 08-Feb-2021, 20:13:04 Operator: RobertS
Sample : jd19971-4 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.237 min
Delta R.T.: 0.037 min
Response: 106813
Conc: 548686.03 ug/L

#9 Hexanol

R.T.: 6.361 min
Delta R.T.: 0.018 min
Response: 382050
Conc: 5061.99 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123697.D Vial: 18
Acq On : 08-Feb-2021, 20:30:12 Operator: RobertS
Sample : jd19971-5 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30:11 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	337621	4473.328 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 89.47%	
Target Compounds			
3) 2-Propanol	2.23	42011	215807.911 ug/L

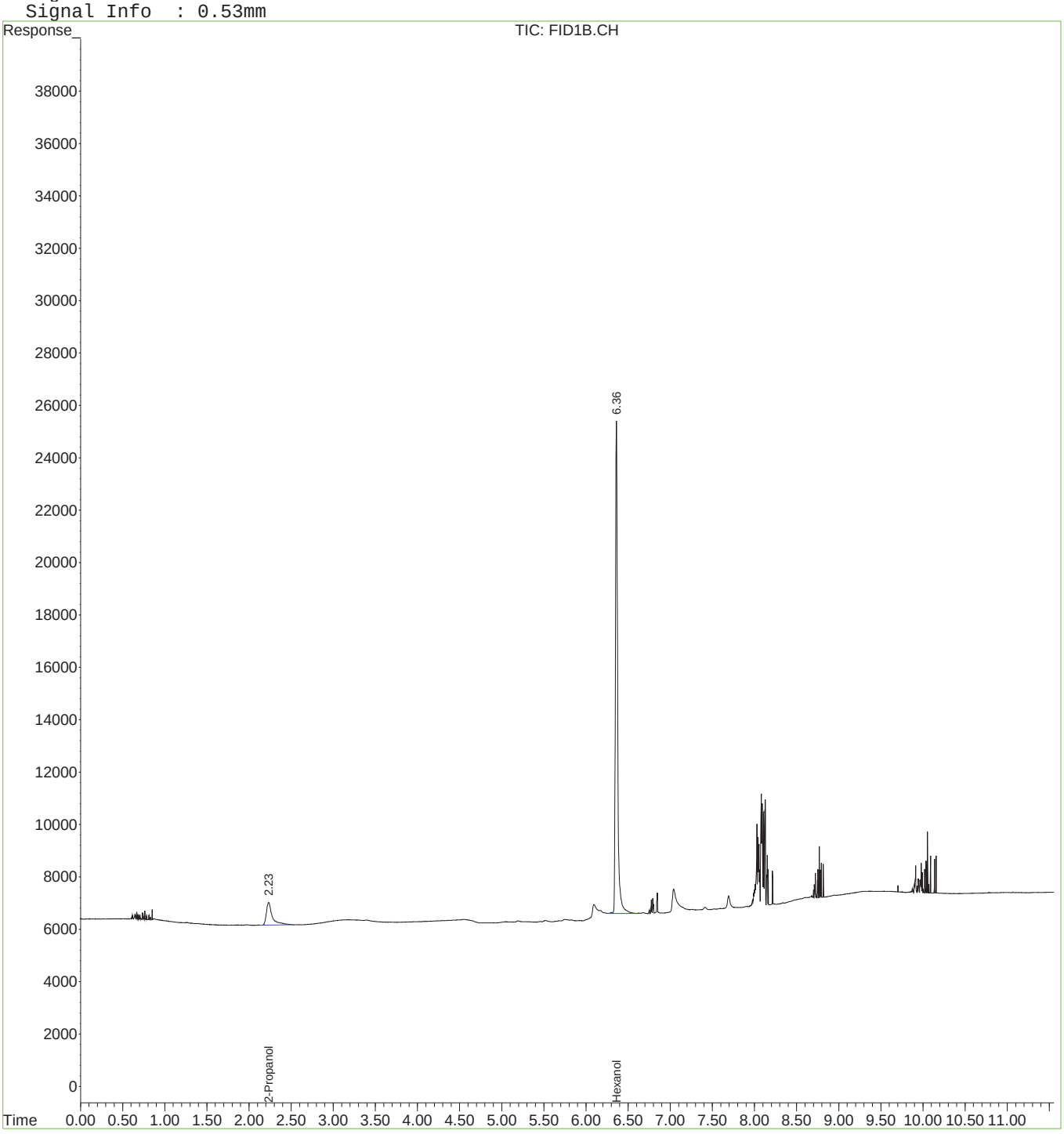
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123697.D MGH6650.M Wed Feb 17 16:08:19 2021 RPT1

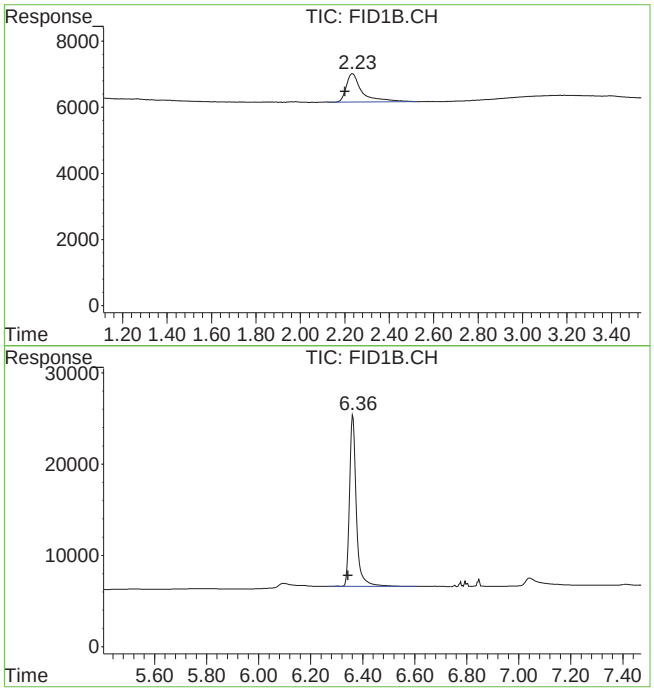
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123697.D Vial: 18
Acq On : 08-Feb-2021, 20:30:12 Operator: RobertS
Sample : jd19971-5 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:45 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.234 min
Delta R.T.: 0.034 min
Response: 42011
Conc: 215807.91 ug/L

#9 Hexanol

R.T.: 6.363 min
Delta R.T.: 0.020 min
Response: 337621
Conc: 4473.33 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123690.D Vial: 11
Acq On : 08-Feb-2021, 18:26:55 Operator: RobertS
Sample : mb2 Inst : HP5890
Misc : GC57438,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30:00 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	379636	5030.007 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 100.60%	
Target Compounds			

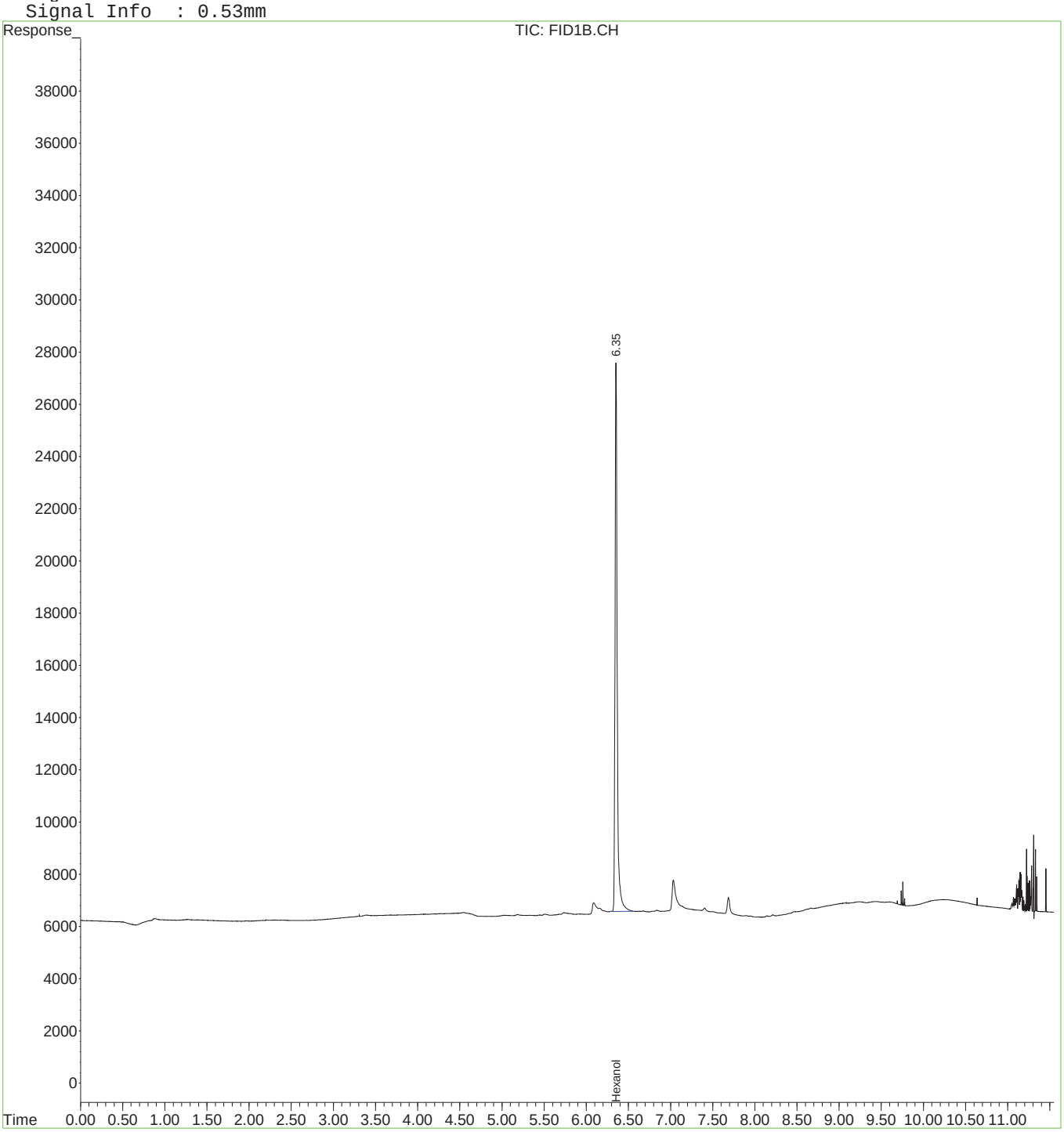
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123690.D MGH6650.M Wed Feb 17 14:56:05 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123690.D Vial: 11
Acq On : 08-Feb-2021, 18:26:55 Operator: RobertS
Sample : mb2 Inst : HP5890
Misc : GC57438,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123682.D Vial: 3
Acq On : 08-Feb-2021, 15:51:32 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57414,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29:47 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	423265	5608.070 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 112.16%	
Target Compounds			

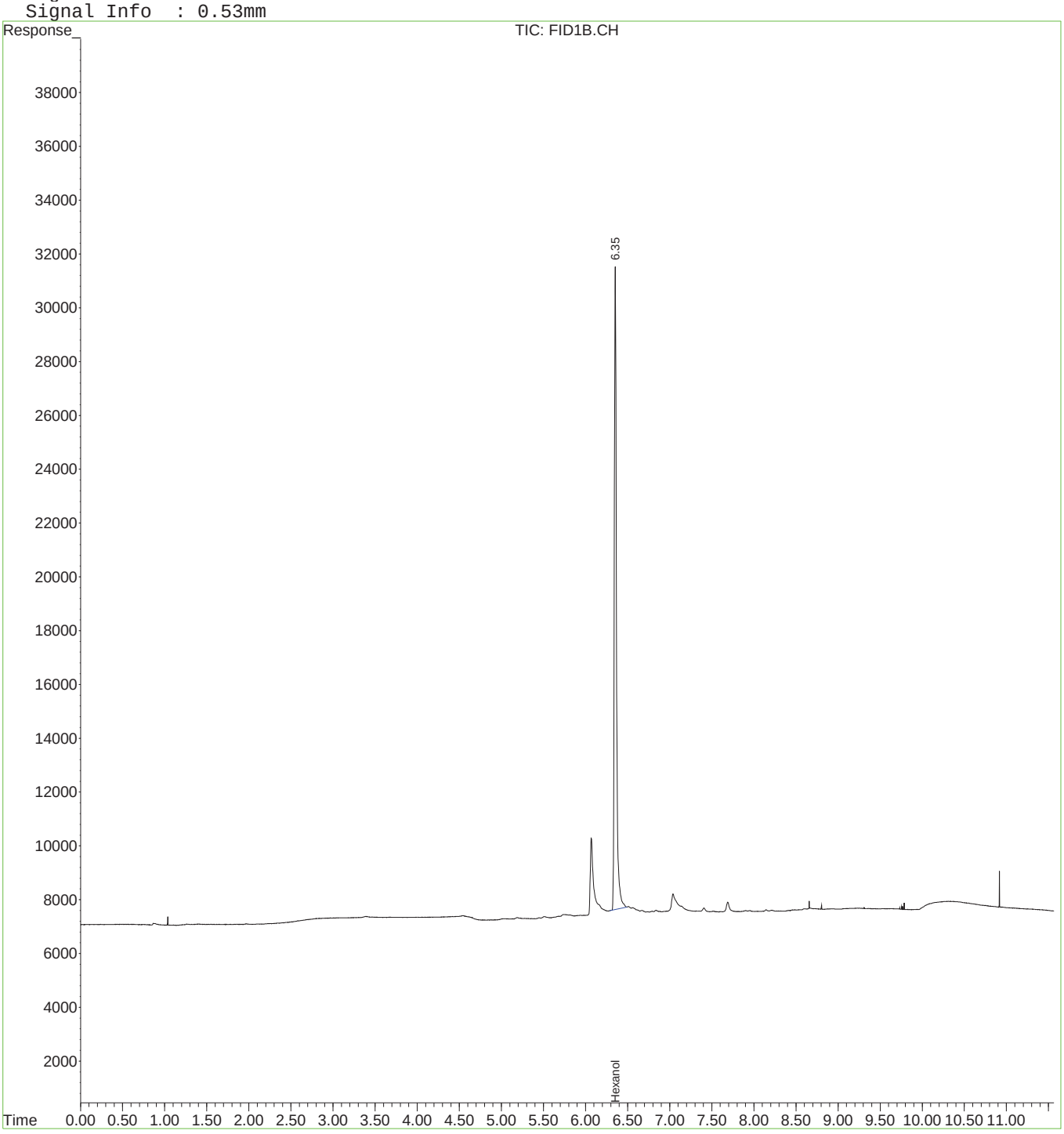
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123682.D MGH6650.M Wed Feb 17 14:56:01 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123682.D Vial: 3
Acq On : 08-Feb-2021, 15:51:32 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57414,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:42 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123683.D Vial: 4
Acq On : 08-Feb-2021, 16:09:43 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57414,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29:48 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.35	388868	5152.322	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 103.05%		
Target Compounds				
1) Methanol	1.39	59557	4336.999	ug/L
2) Ethanol	1.84	84658	4815.424	ug/L
3) 2-Propanol	2.21	89862	4616.096	ug/L
4) Tert-Butyl Alcohol	2.48	131885	4782.946	ug/L
5) 1-Propanol	3.11	91900	3862.205	ug/L
6) 2-Butanol	3.53	112307	4579.786	ug/L
7) Isobutanol	4.01	128612	4539.355	ug/L
8) 1-butanol	4.54	122768	4289.064	ug/L

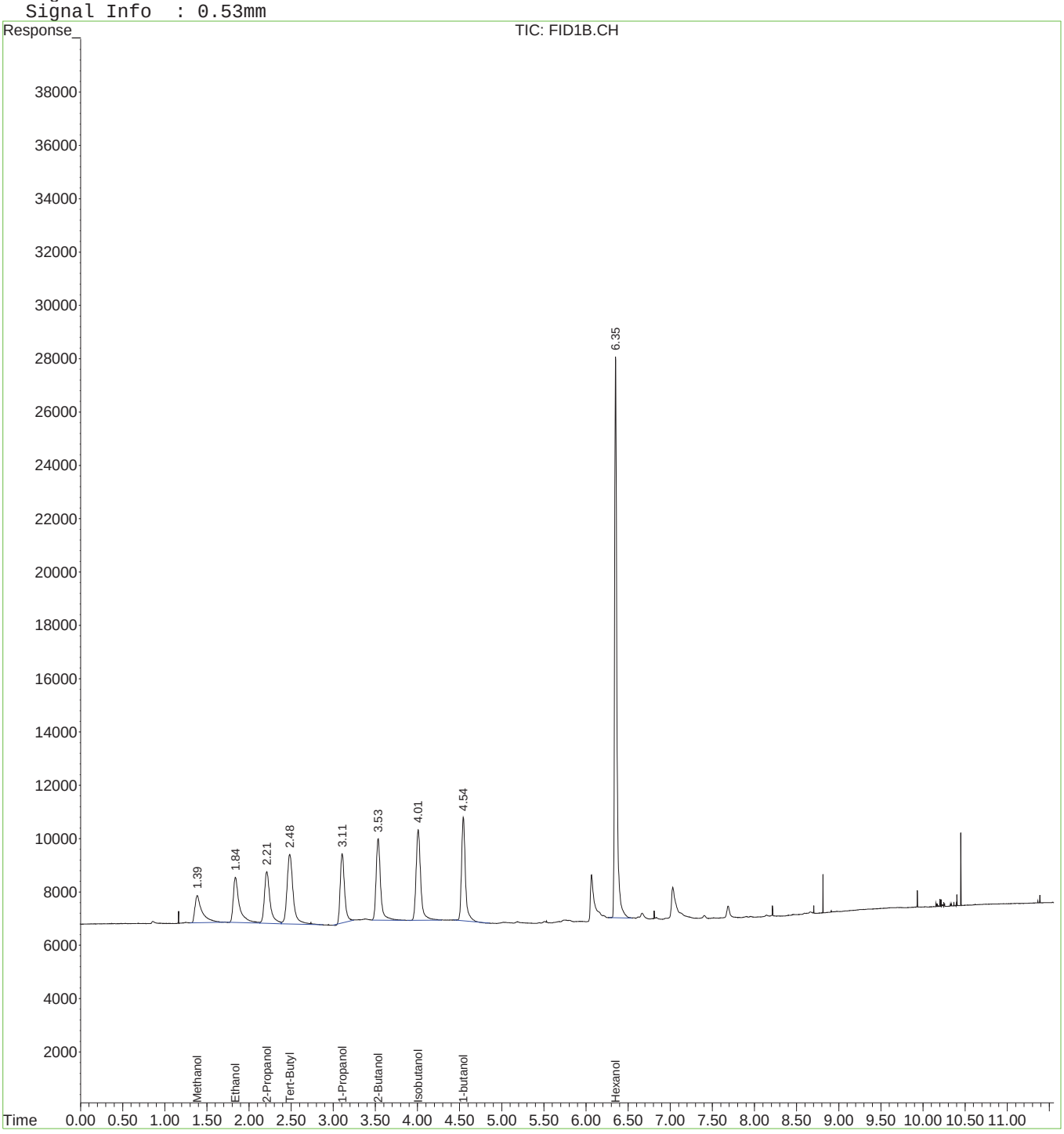
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123683.D MGH6650.M Wed Feb 17 11:47:54 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123683.D Vial: 4
Acq On : 08-Feb-2021, 16:09:43 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57414,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123687.D Vial: 8
Acq On : 08-Feb-2021, 17:33:04 Operator: RobertS
Sample : JD19864-1ms Inst : HP5890
Misc : GC57438,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29:55 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	427439	5663.370 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 113.27%	
Target Compounds			
1) Methanol	1.42	126384	9203.416 ug/L
2) Ethanol	1.86	114121	6491.302 ug/L
3) 2-Propanol	2.23	99918	5132.687 ug/L
4) Tert-Butyl Alcohol	2.49	136440	4948.109 ug/L
5) 1-Propanol	3.12	110487	4643.364 ug/L
6) 2-Butanol	3.54	113704	4636.736 ug/L
7) Isobutanol	4.01	133262	4703.493 ug/L
8) 1-butanol	4.54	137004	4786.409 ug/L

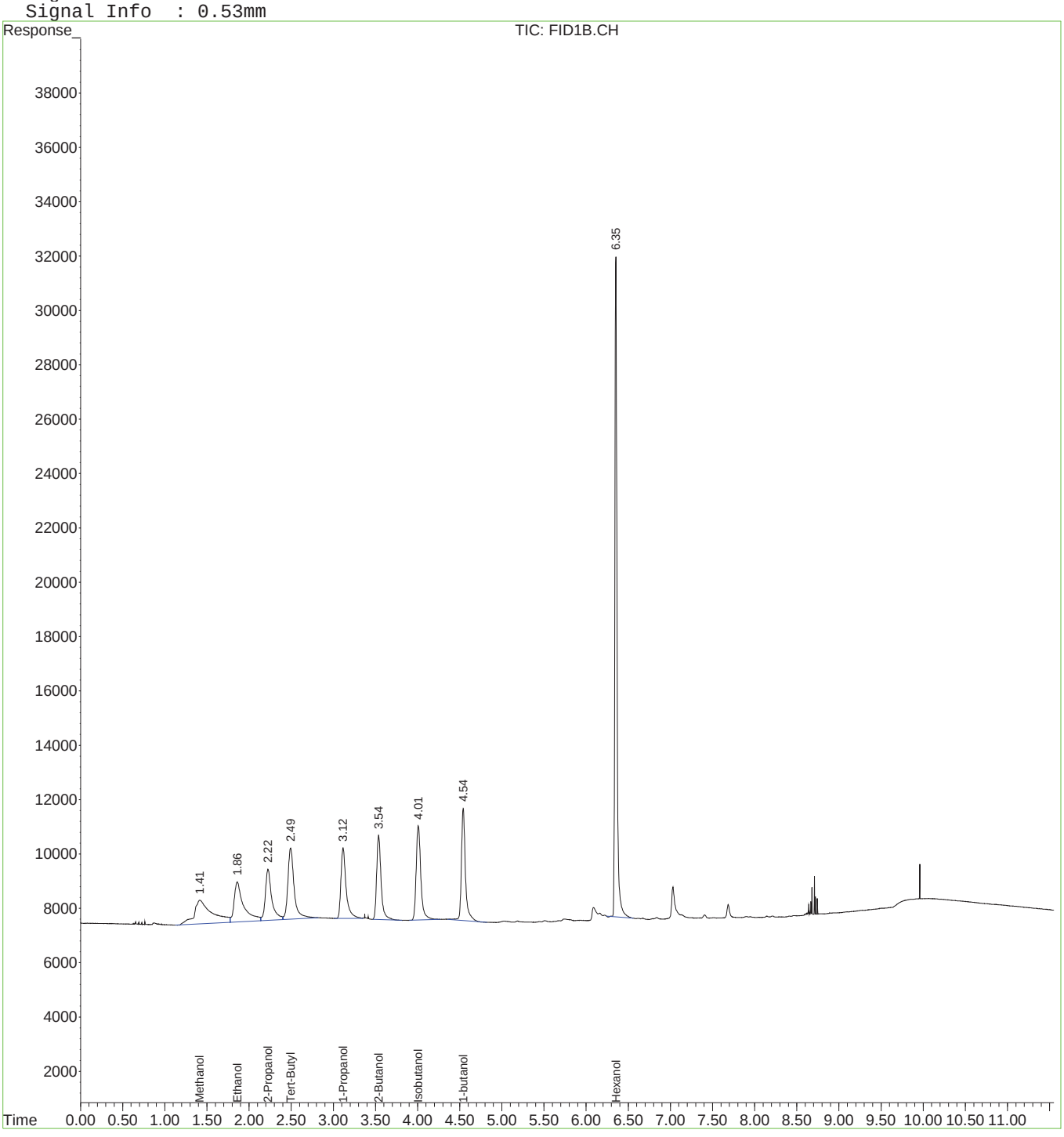
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123687.D MGH6650.M Wed Feb 17 11:47:55 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123687.D Vial: 8
Acq On : 08-Feb-2021, 17:33:04 Operator: RobertS
Sample : JD19864-1ms Inst : HP5890
Misc : GC57438,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123688.D Vial: 9
Acq On : 08-Feb-2021, 17:51:01 Operator: RobertS
Sample : JD19864-1msd Inst : HP5890
Misc : GC57438,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29:56 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	383269	5078.144 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 101.56%	
Target Compounds			
1) Methanol	1.41	60772	4425.495 ug/L
2) Ethanol	1.86	85200	4846.215 ug/L
3) 2-Propanol	2.22	88017	4521.335 ug/L
4) Tert-Butyl Alcohol	2.49	127501	4623.956 ug/L
5) 1-Propanol	3.11	109423	4598.631 ug/L
6) 2-Butanol	3.54	112739	4597.398 ug/L
7) Isobutanol	4.01	129833	4582.468 ug/L
8) 1-butanol	4.54	113800	3975.775 ug/L

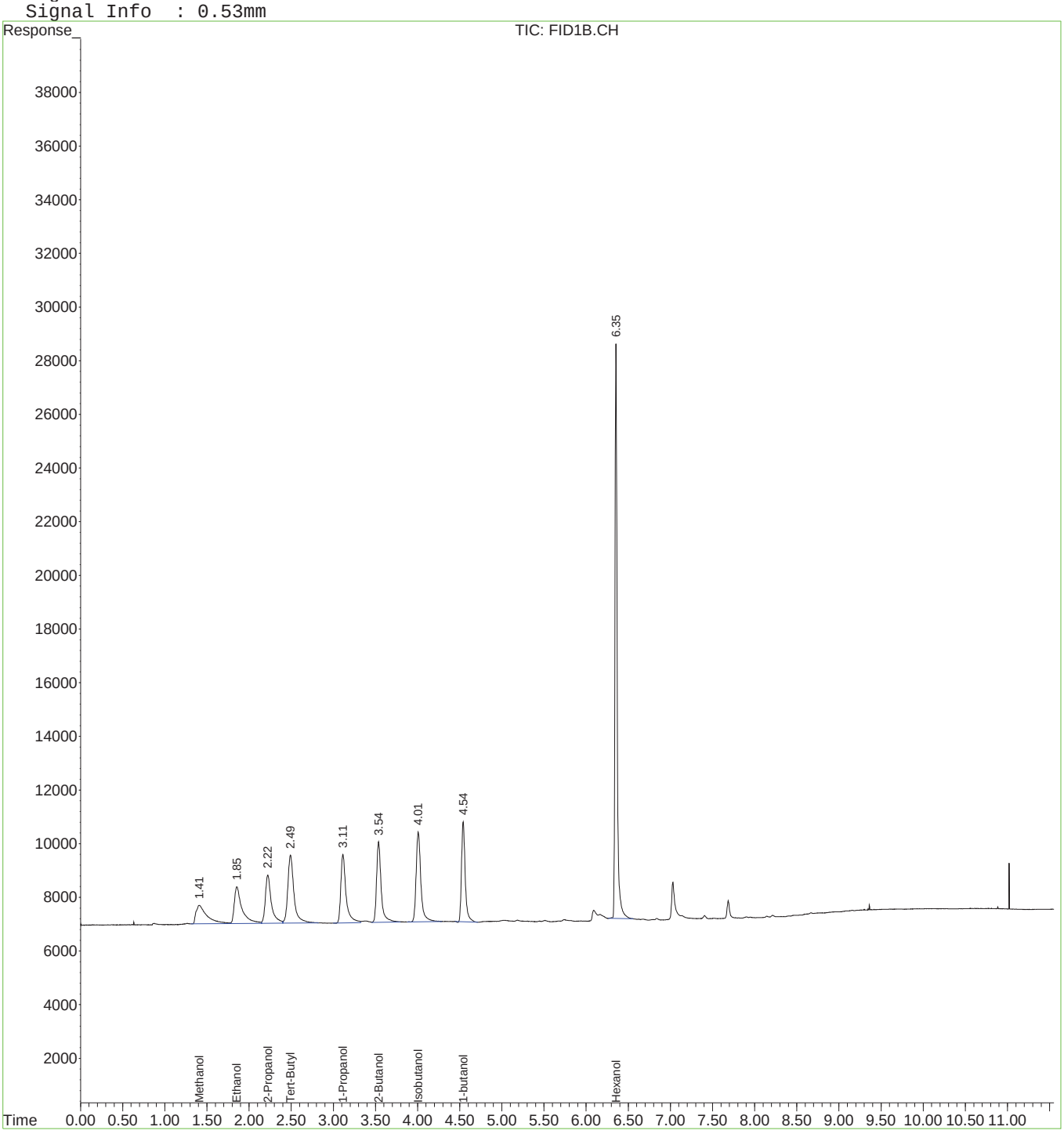
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123688.D MGH6650.M Wed Feb 17 11:47:56 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123688.D Vial: 9
Acq On : 08-Feb-2021, 17:51:01 Operator: RobertS
Sample : JD19864-1msd Inst : HP5890
Misc : GC57438,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:53 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.34	362785	4469.376	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 89.39%			
Target Compounds					
1) Methanol	1.37	3057	207.681	ug/L	
2) Ethanol	1.82	2731	153.906	ug/L	m
3) 2-Propanol	2.20	3951	200.505	ug/L	m
4) Tert-Butyl Alcohol	2.47	5876	198.400	ug/L	
5) 1-Propanol	3.09	4867	199.937	ug/L	
6) 2-Butanol	3.52	4972	191.683	ug/L	
7) Isobutanol	3.99	5889	197.827	ug/L	
8) 1-butanol	4.52	6991	232.719	ug/L	m

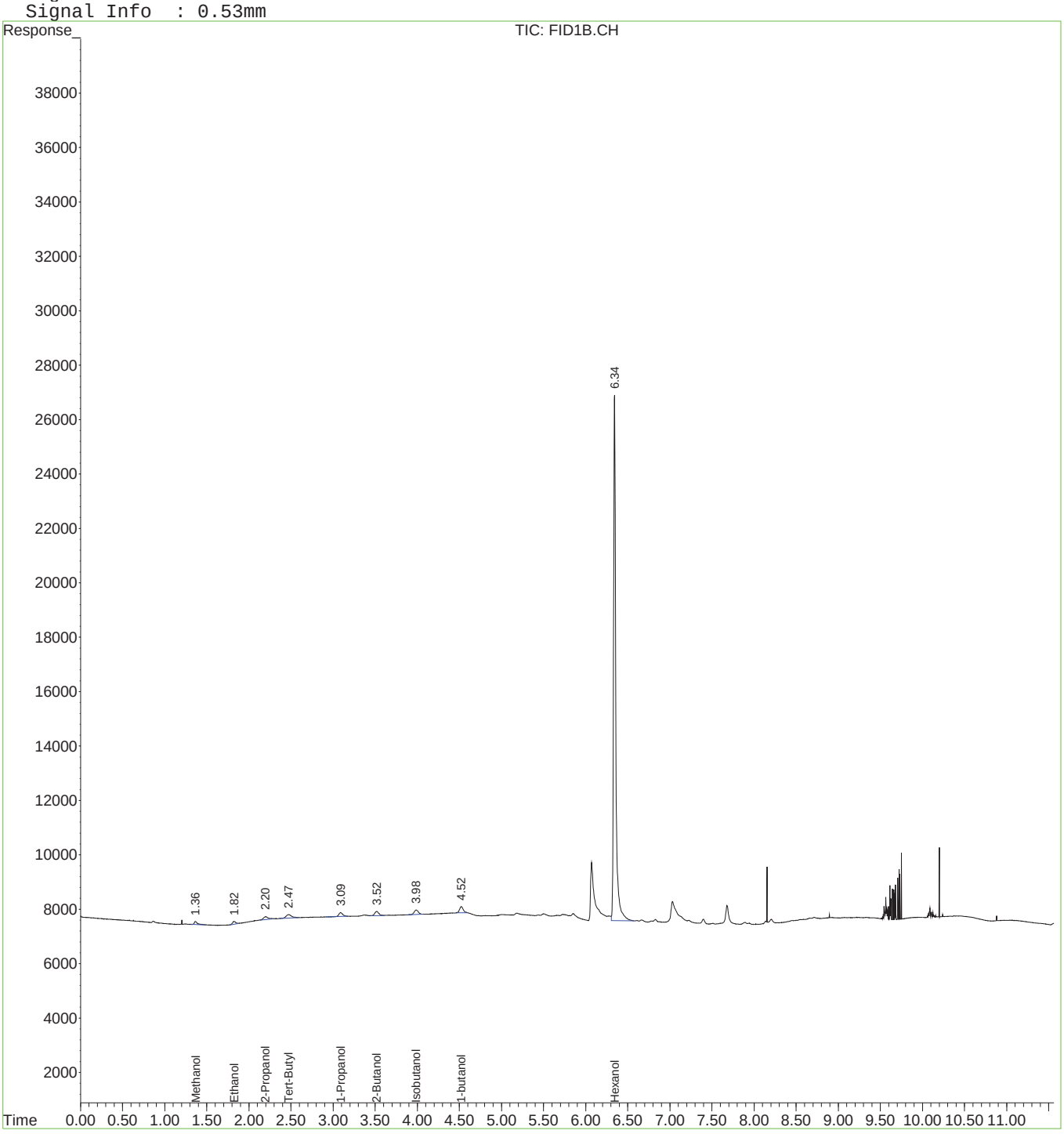
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123502.D MGH6650.M Thu Jan 28 11:49:02 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:24 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

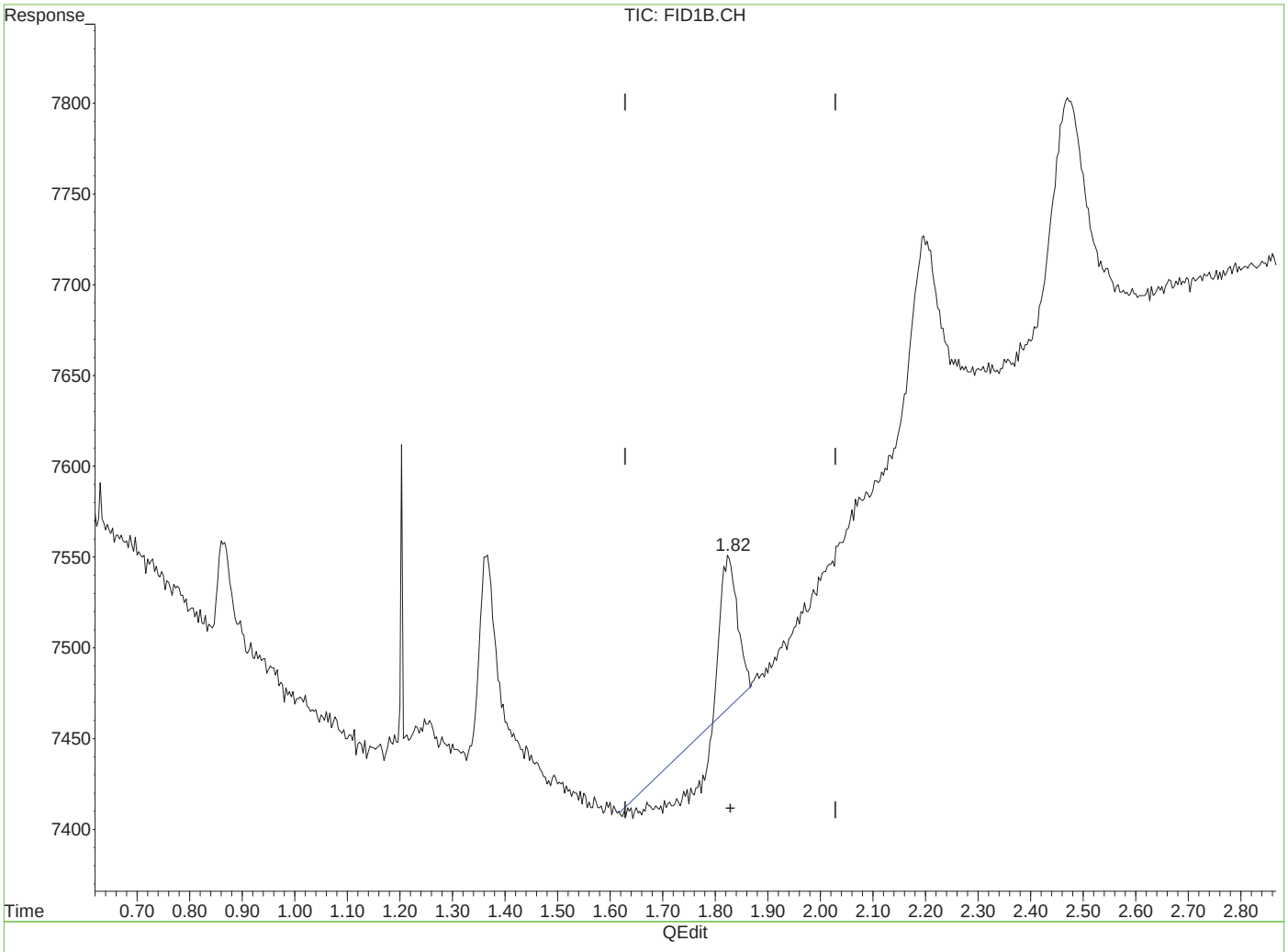
Sample Number: GGH6650-IC6650
Lab FileID: GH123502.D
Injection Time: 01/21/21 18:20
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethanol	64-17-5	1	1.82	Poorly defined baseline
Isopropyl Alcohol	67-63-0	1	2.20	Poorly defined baseline
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.83min 1.939ug/L

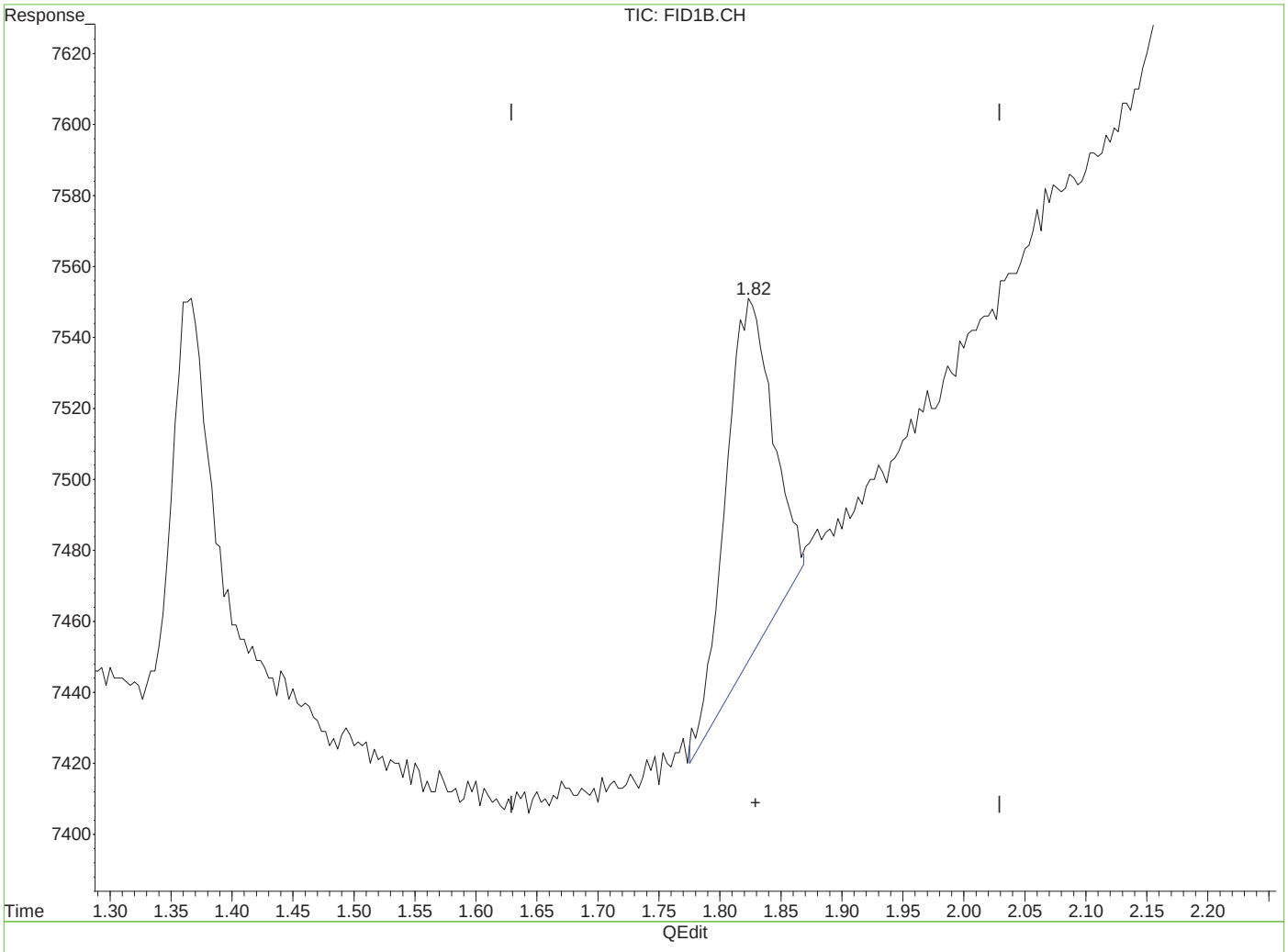
response 34

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:22:46 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.82min 153.906ug/L m

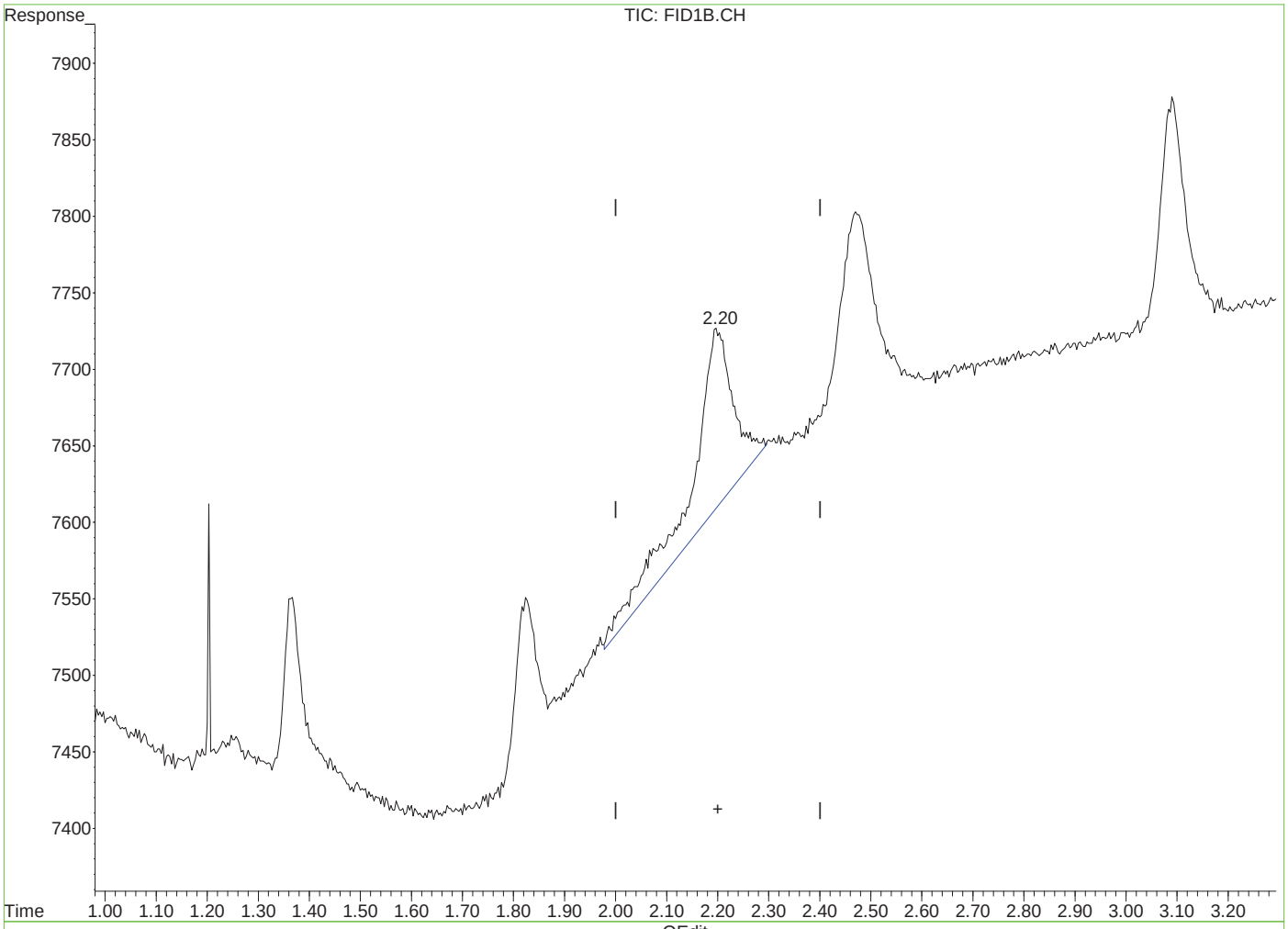
response 2731

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:05 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 324.750ug/L

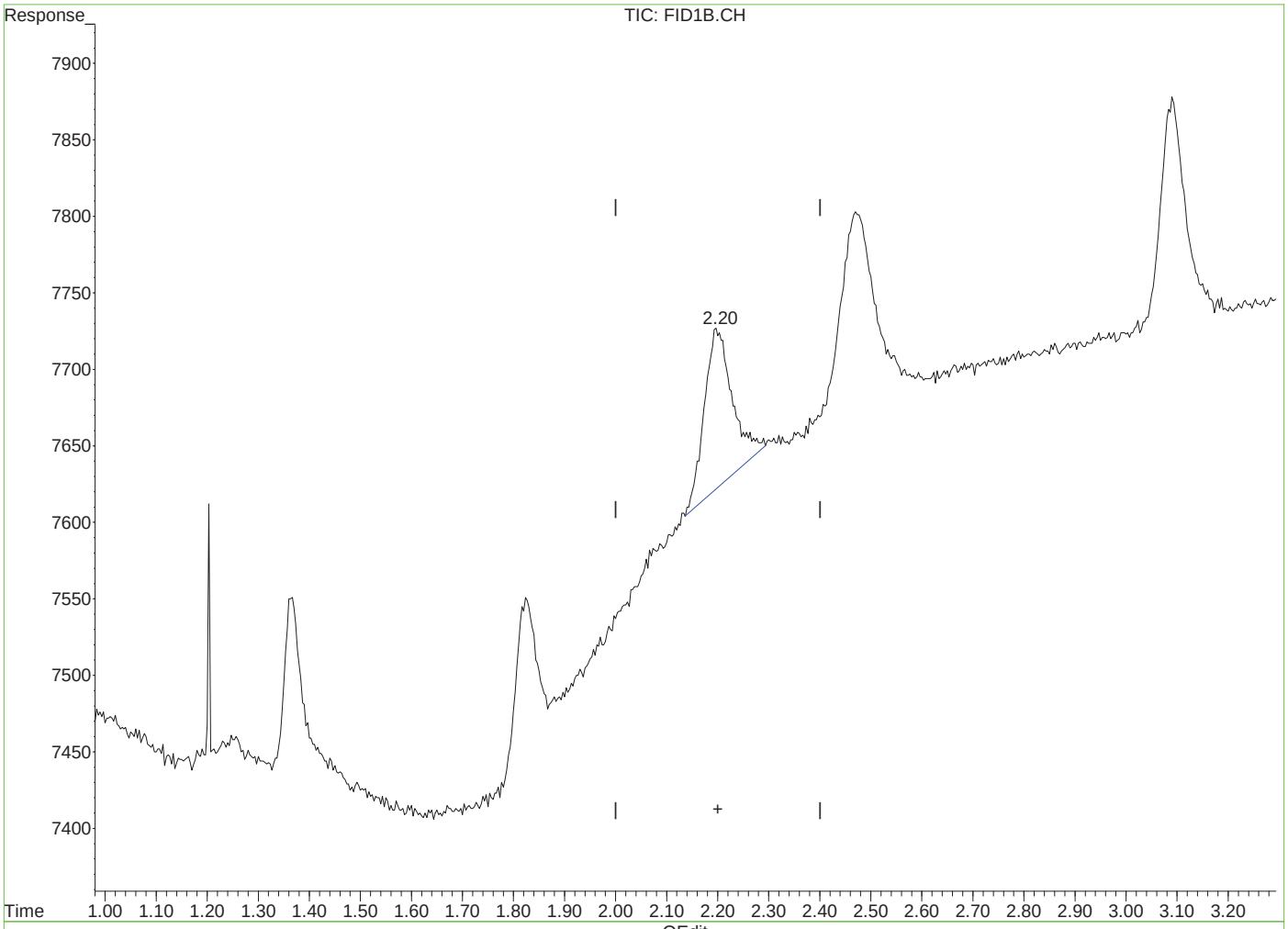
response 6399

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:11 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 200.505ug/L m

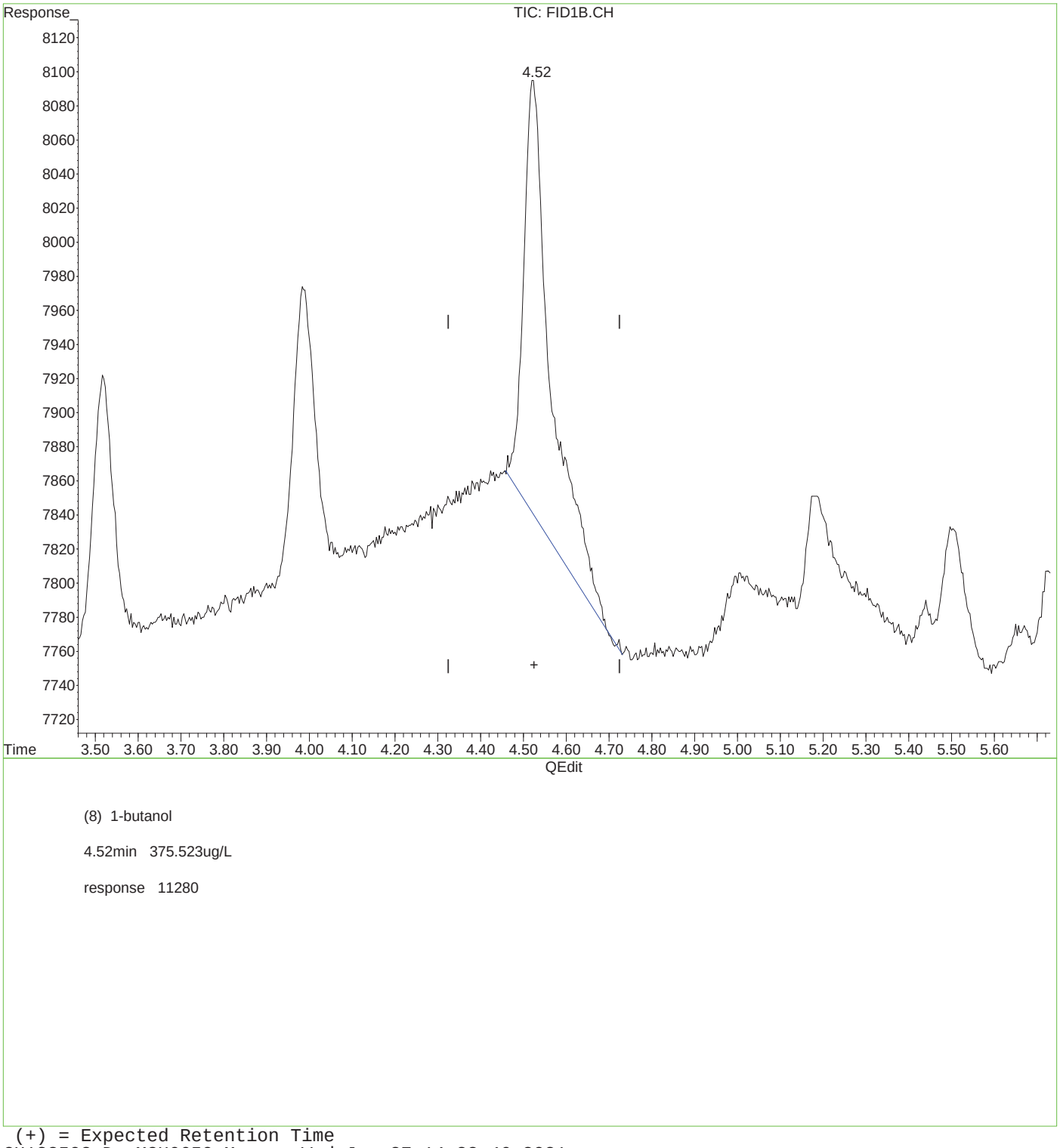
response 3951

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:29 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 375.523ug/L

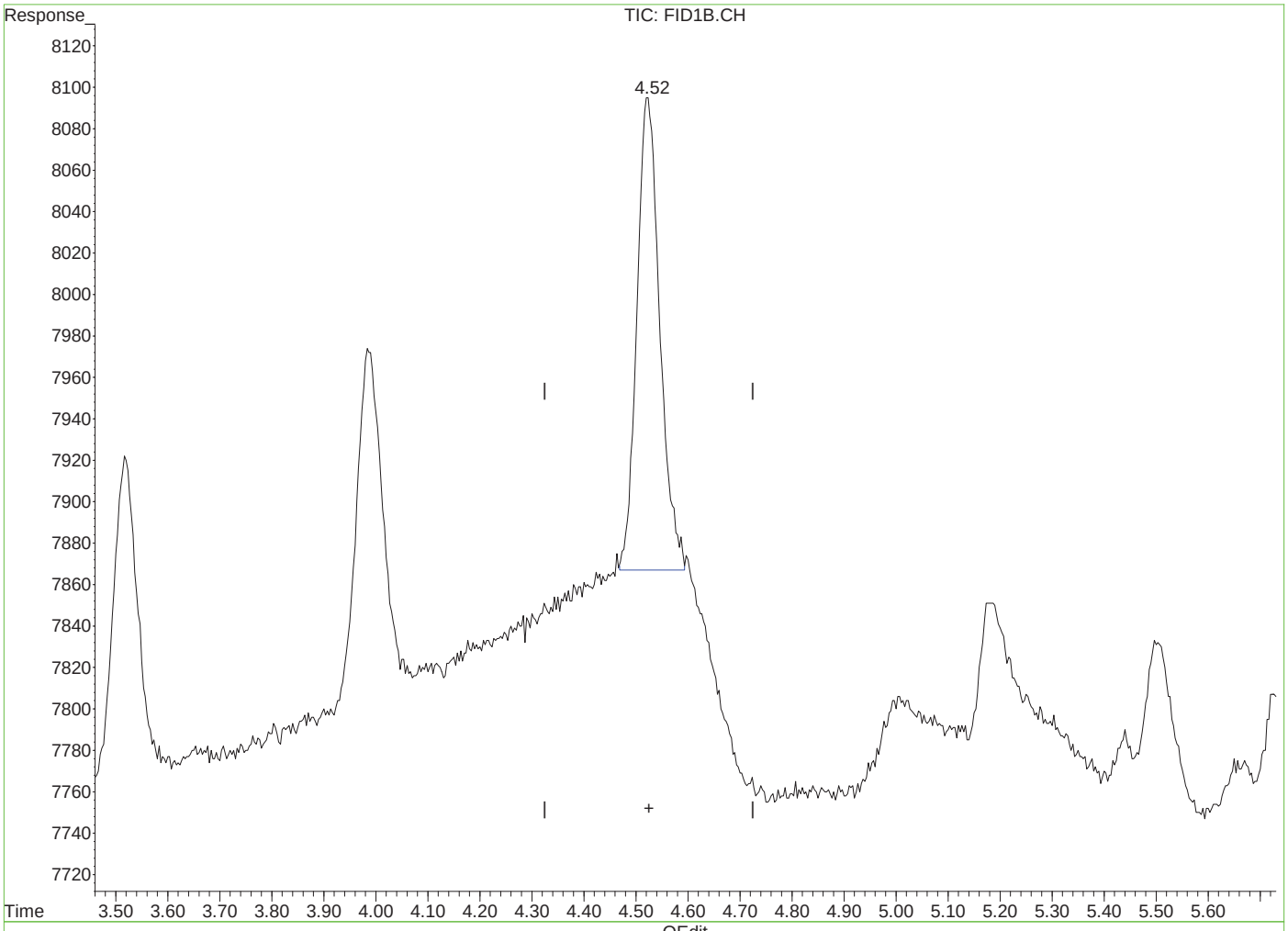
response 11280

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:46 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 232.719ug/L m

response 6991

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:24:16 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27:02 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.34	372862	4593.521	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 91.87%			
Target Compounds					
1) Methanol	1.37	6575	446.750	ug/L	
2) Ethanol	1.82	8858	499.112	ug/L	
3) 2-Propanol	2.20	9949	504.943	ug/L	
4) Tert-Butyl Alcohol	2.47	13023	439.713	ug/L	
5) 1-Propanol	3.09	12081	496.301	ug/L	
6) 2-Butanol	3.52	12261	472.693	ug/L	
7) Isobutanol	3.99	13995	470.095	ug/L	
8) 1-butanol	4.53	13839	460.691	ug/L	m

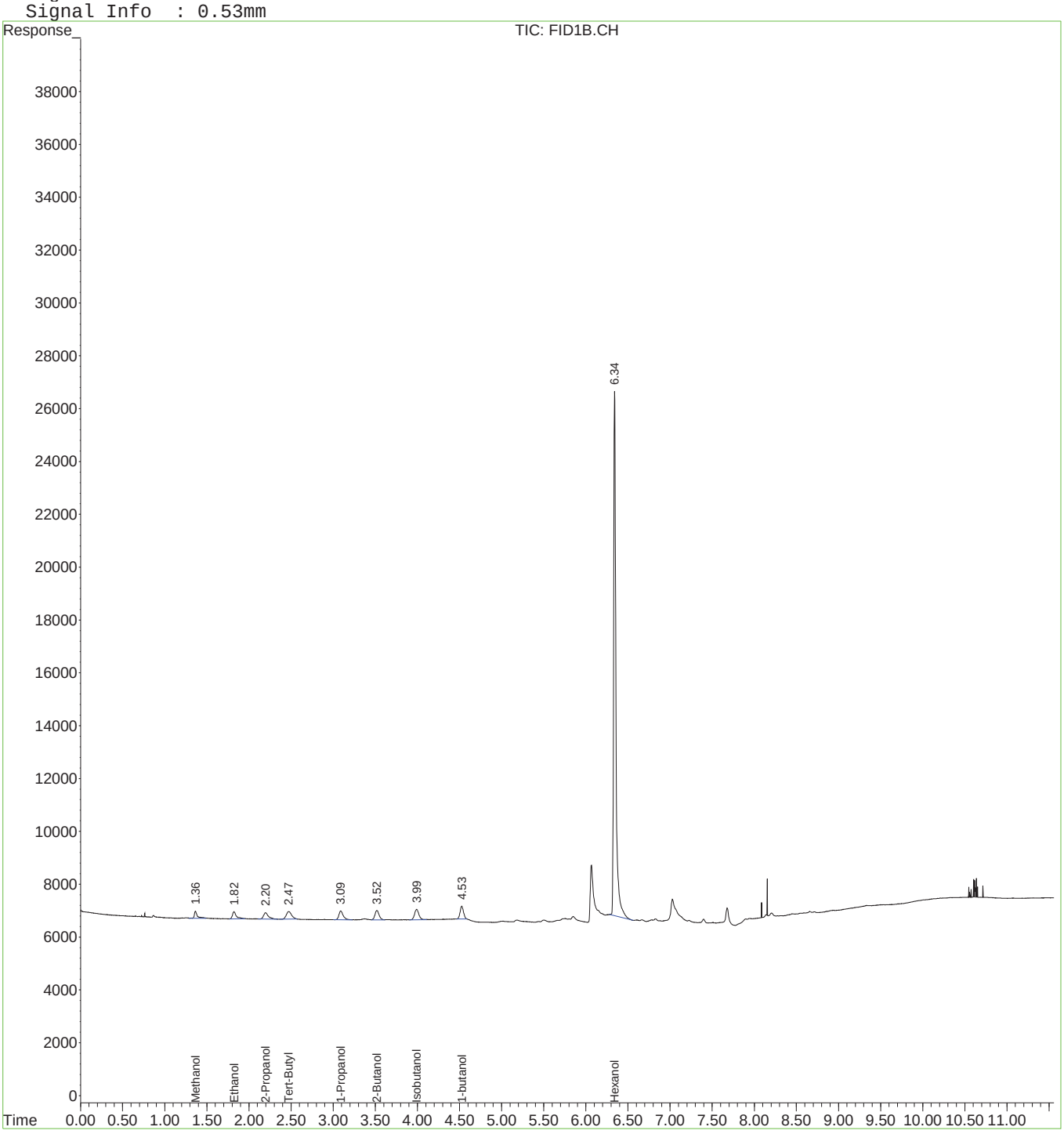
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123503.D MGH6650.M Thu Jan 28 11:49:03 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

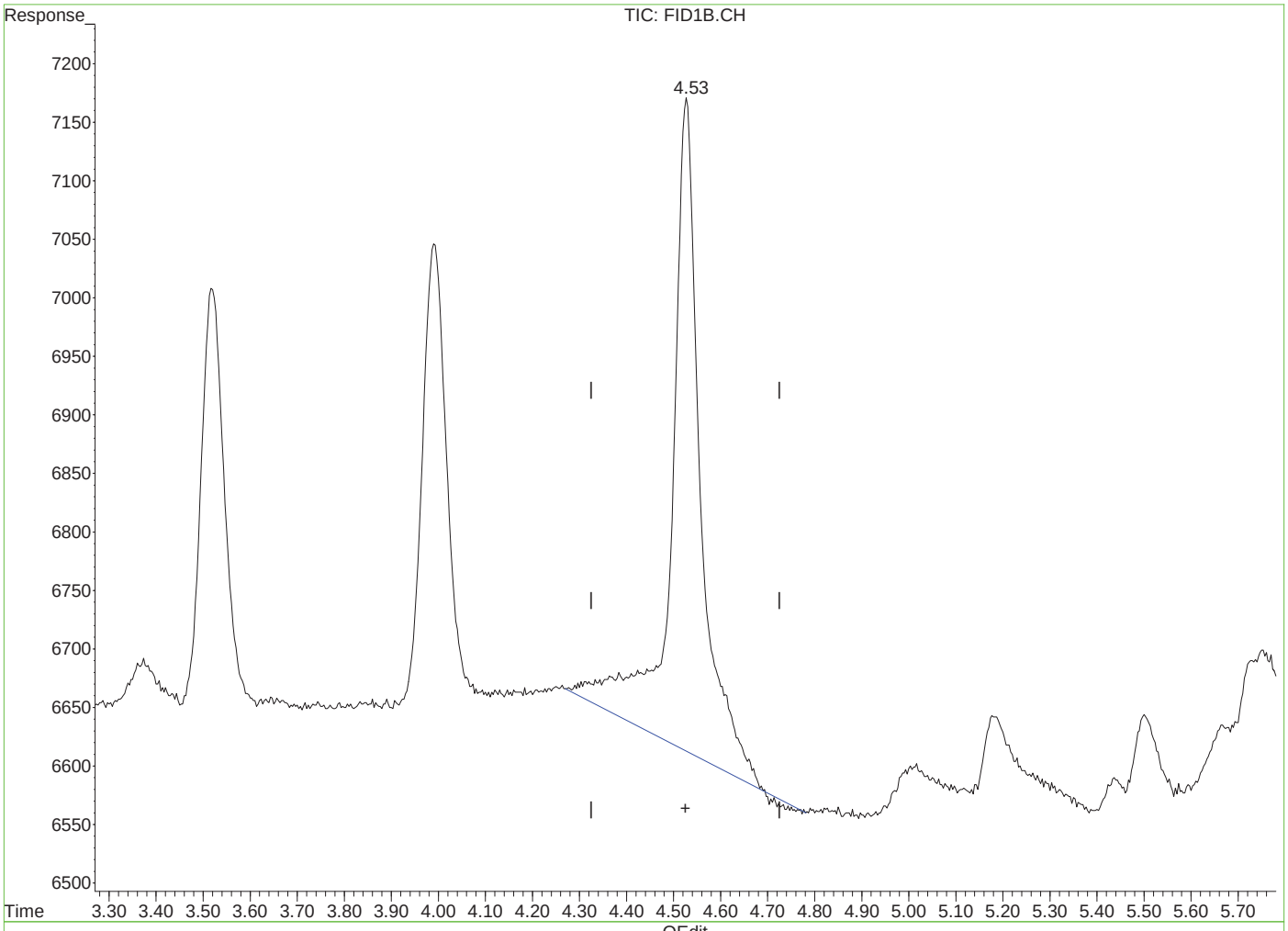
Sample Number: GGH6650-IC6650
Lab FileID: GH123503.D
Injection Time: 01/21/21 18:37
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.53	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:24 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.53min 814.009ug/L

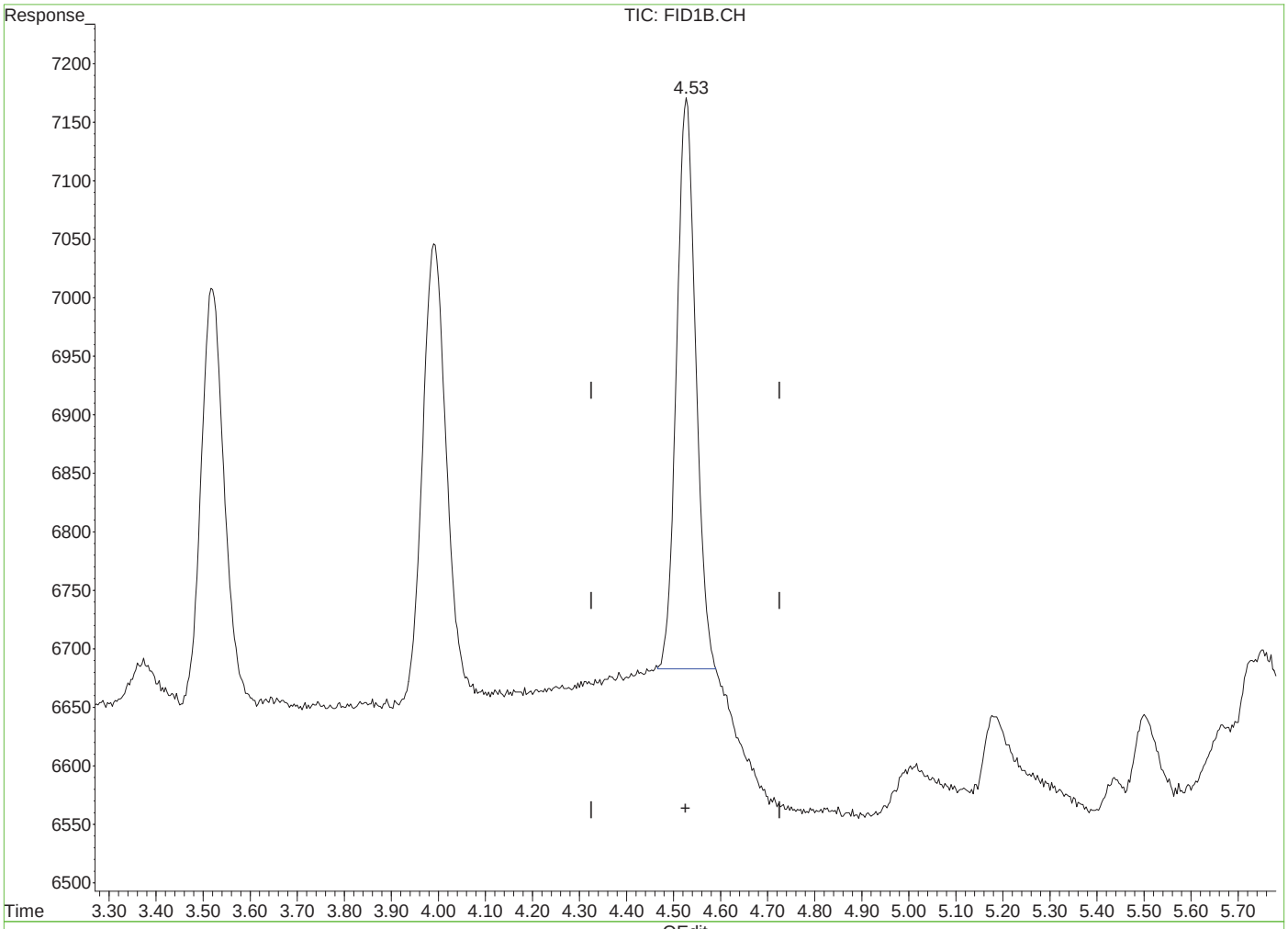
response 24452

(+) = Expected Retention Time
GH123503.D MGH6650.M Wed Jan 27 14:25:33 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.53min 460.691ug/L m

response 13839

(+) = Expected Retention Time
GH123503.D MGH6650.M Wed Jan 27 14:27:41 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28:40 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	381467	4699.533	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	93.99%		
	Target Compounds					
1)	Methanol	1.39	12476	847.660	ug/L	
2)	Ethanol	1.83	17879	1007.394	ug/L	
3)	2-Propanol	2.20	17361	881.107	ug/L	
4)	Tert-Butyl Alcohol	2.47	27162	917.115	ug/L	m
5)	1-Propanol	3.09	24031	987.222	ug/L	
6)	2-Butanol	3.52	25793	994.389	ug/L	
7)	Isobutanol	3.99	28536	958.548	ug/L	
8)	1-butanol	4.52	28463	947.542	ug/L	m

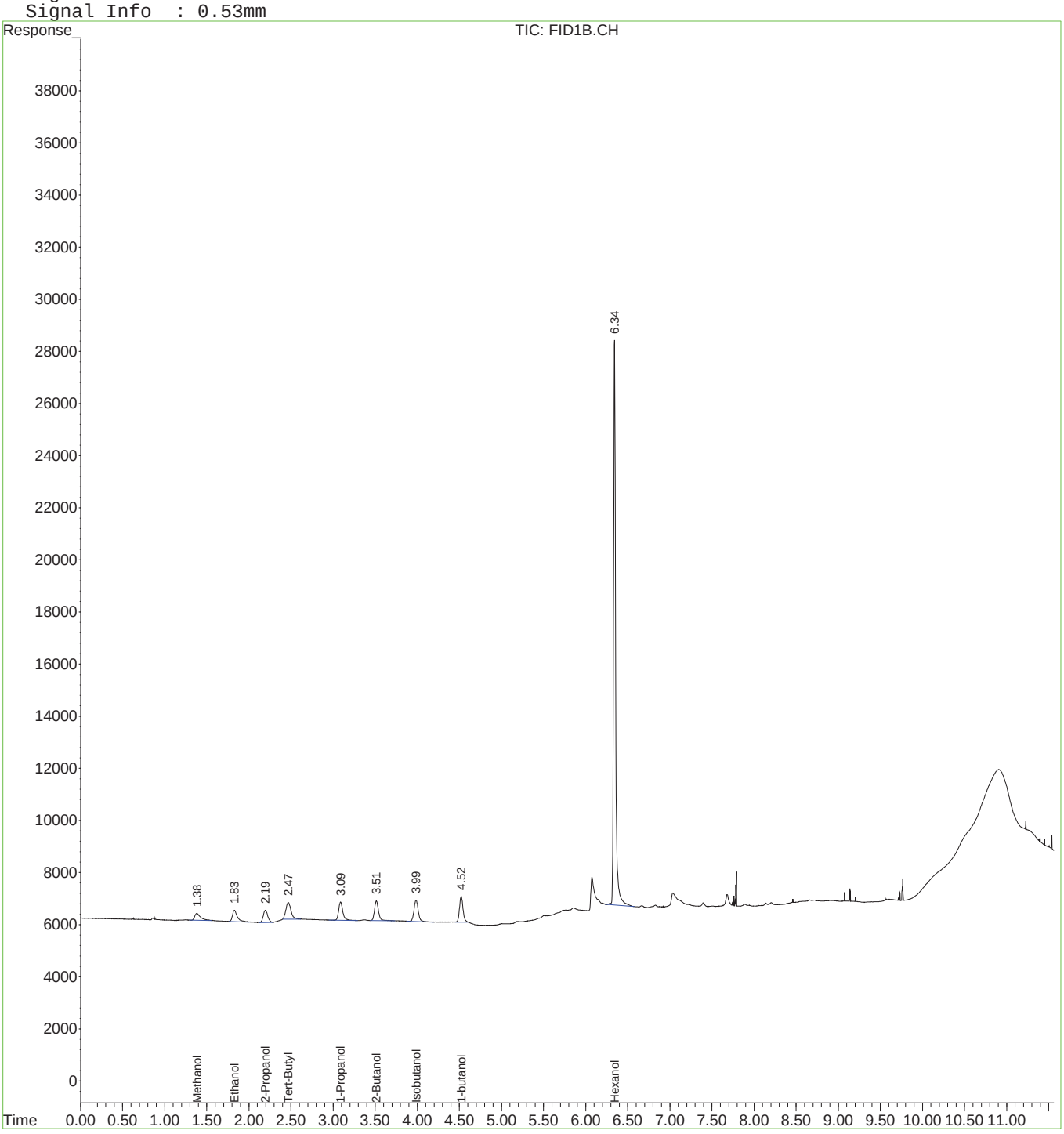
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

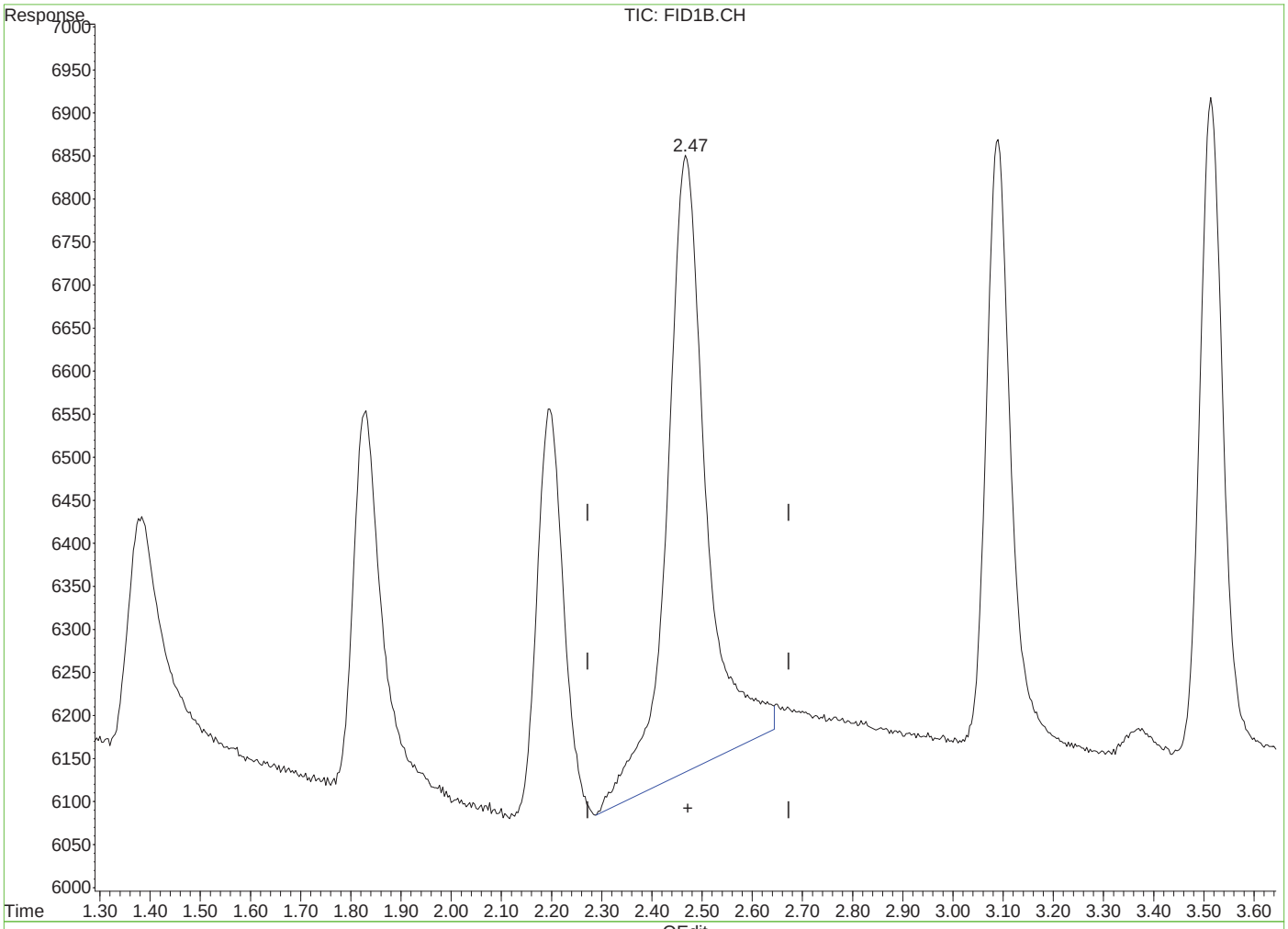
Sample Number: GGH6650-IC6650
Lab FileID: GH123504.D
Injection Time: 01/21/21 18:55
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tertiary Butyl Alcohol	75-65-0	1	2.47	Poorly defined baseline
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 1312.383ug/L

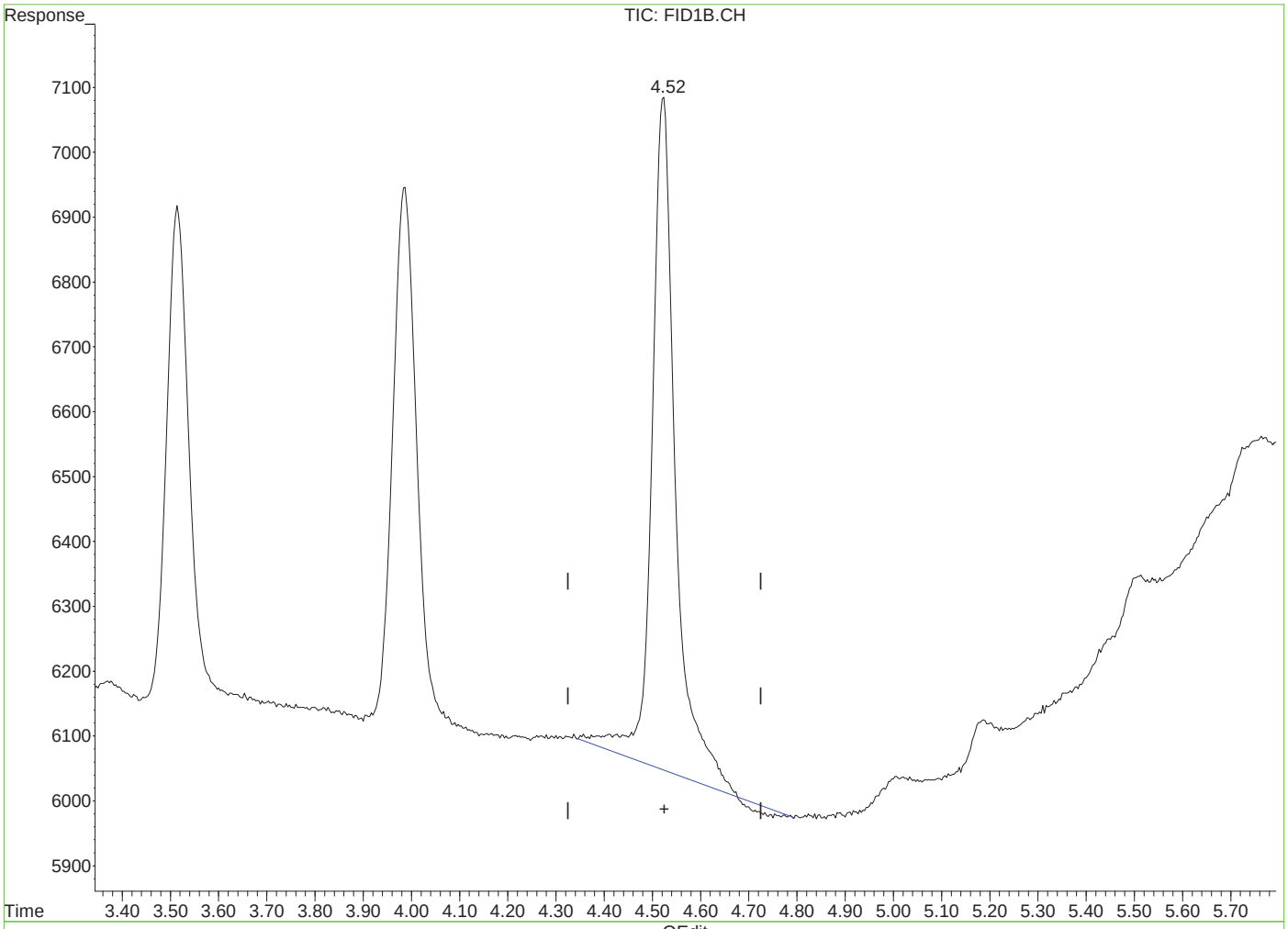
response 38868

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:28:50 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 1172.281ug/L

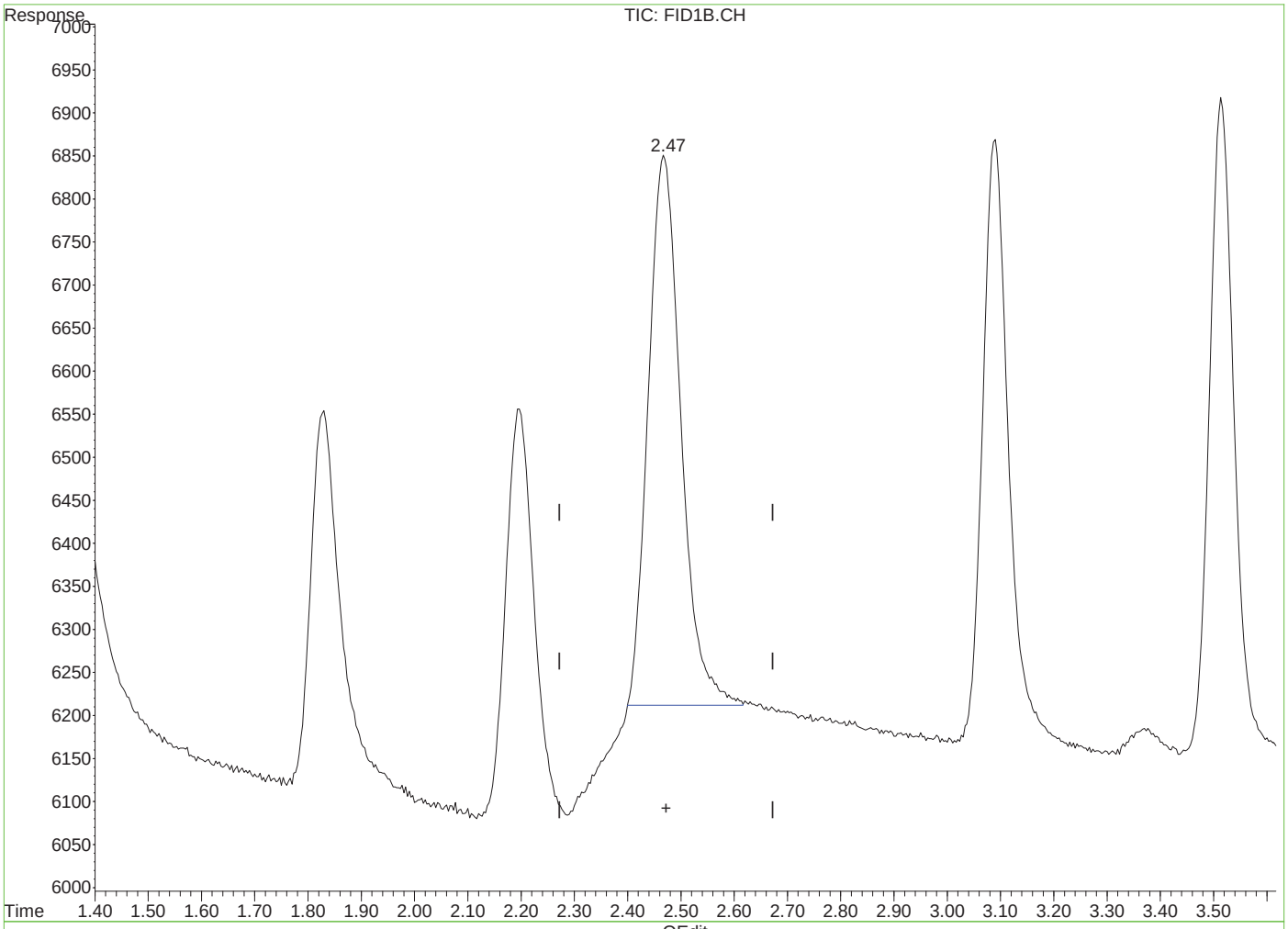
response 35214

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:15 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 917.115ug/L m

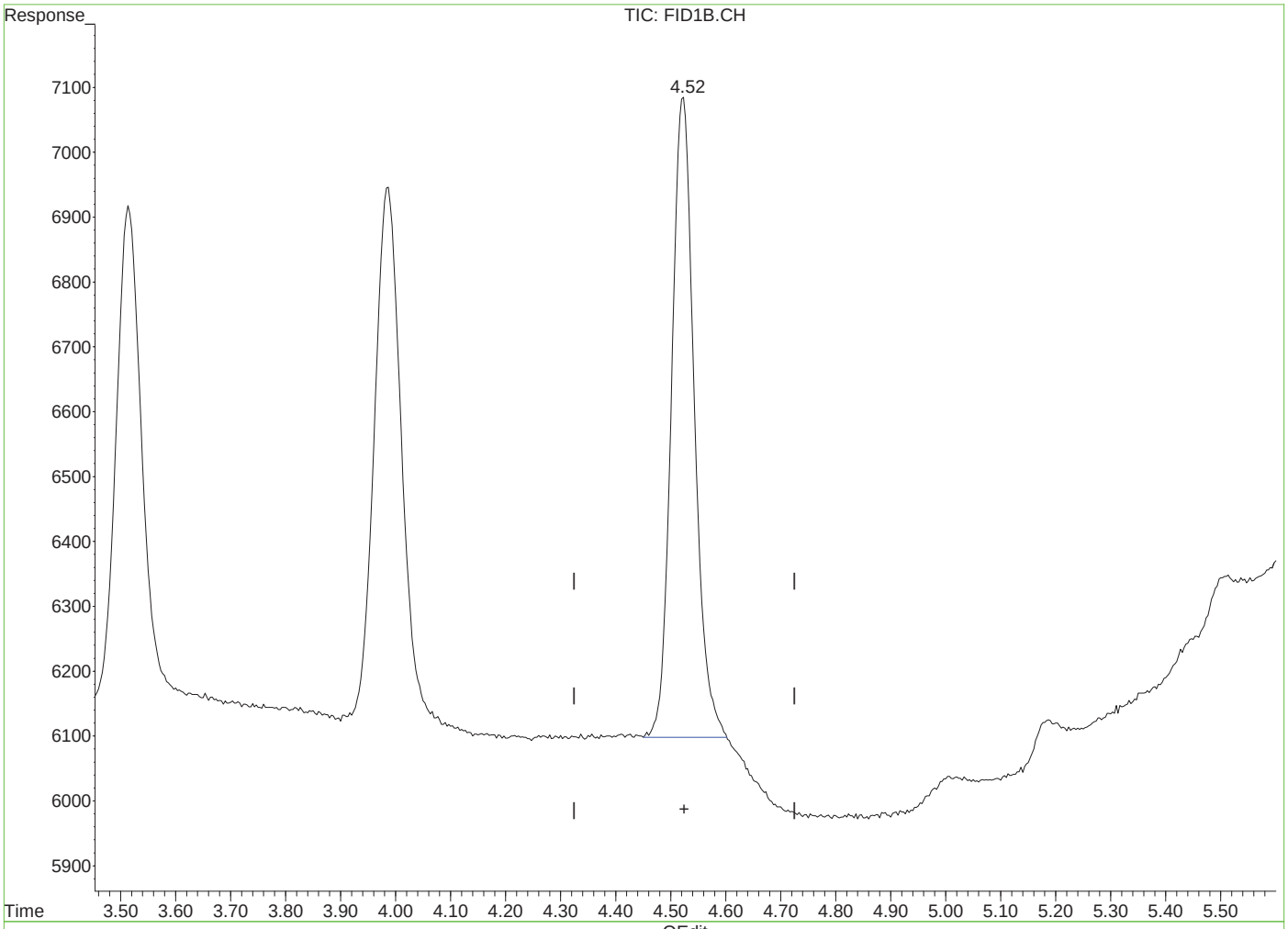
response 27162

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:33 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 947.542ug/L m

response 28463

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:40 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : ICC6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	377342	4648.713	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	92.97%		
	Target Compounds					
1)	Methanol	1.37	74814	5083.278	ug/L	
2)	Ethanol	1.83	96172	5418.810	ug/L	
3)	2-Propanol	2.20	99364	5042.983	ug/L	
4)	Tert-Butyl Alcohol	2.47	139318	4704.098	ug/L	
5)	1-Propanol	3.09	117675	4834.321	ug/L	
6)	2-Butanol	3.52	120168	4632.822	ug/L	
7)	Isobutanol	3.99	142497	4786.631	ug/L	
8)	1-butanol	4.52	138066	4596.184	ug/L	m

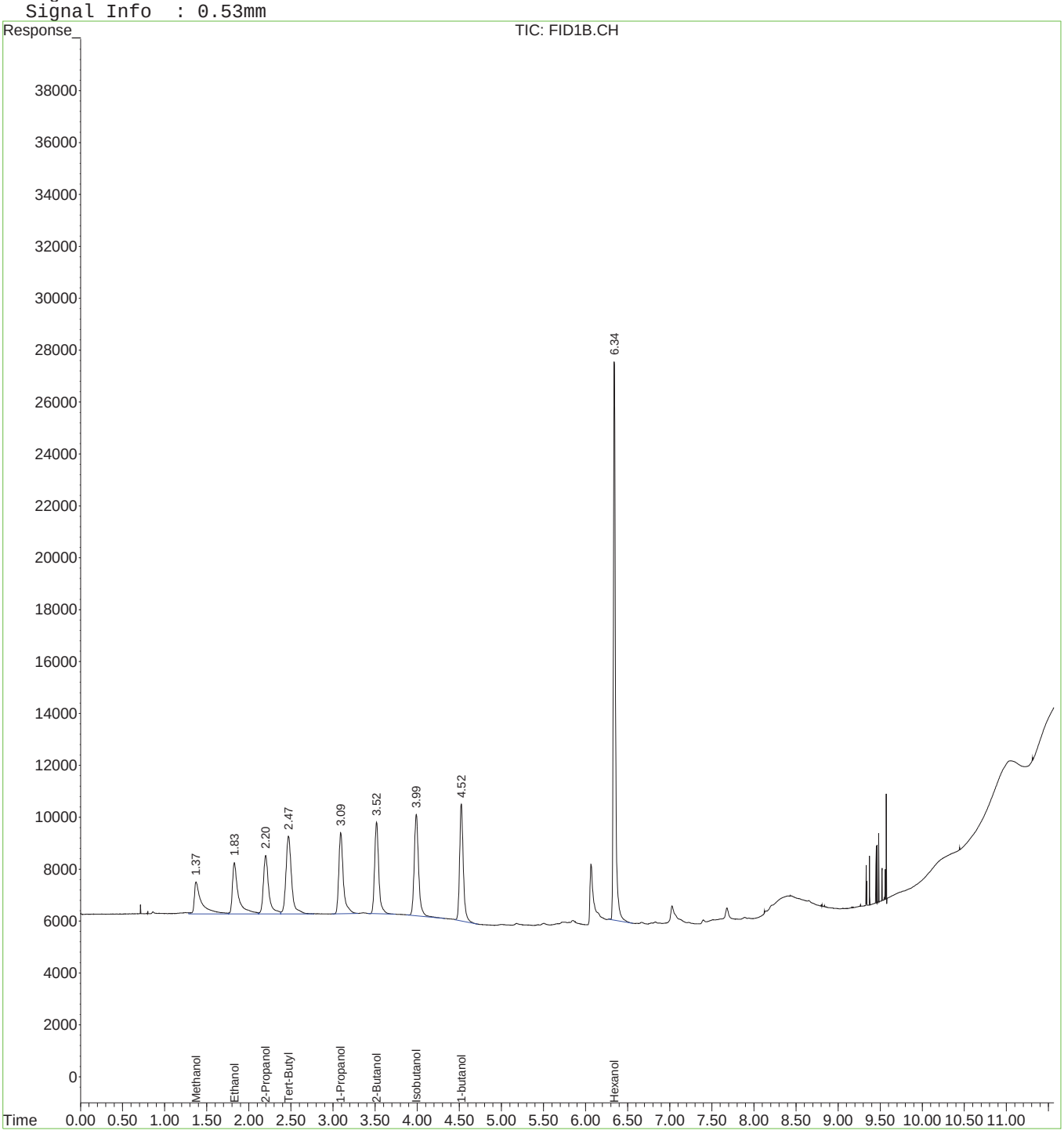
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123505.D MGH6650.M Thu Jan 28 11:49:05 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : ICC6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:35 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

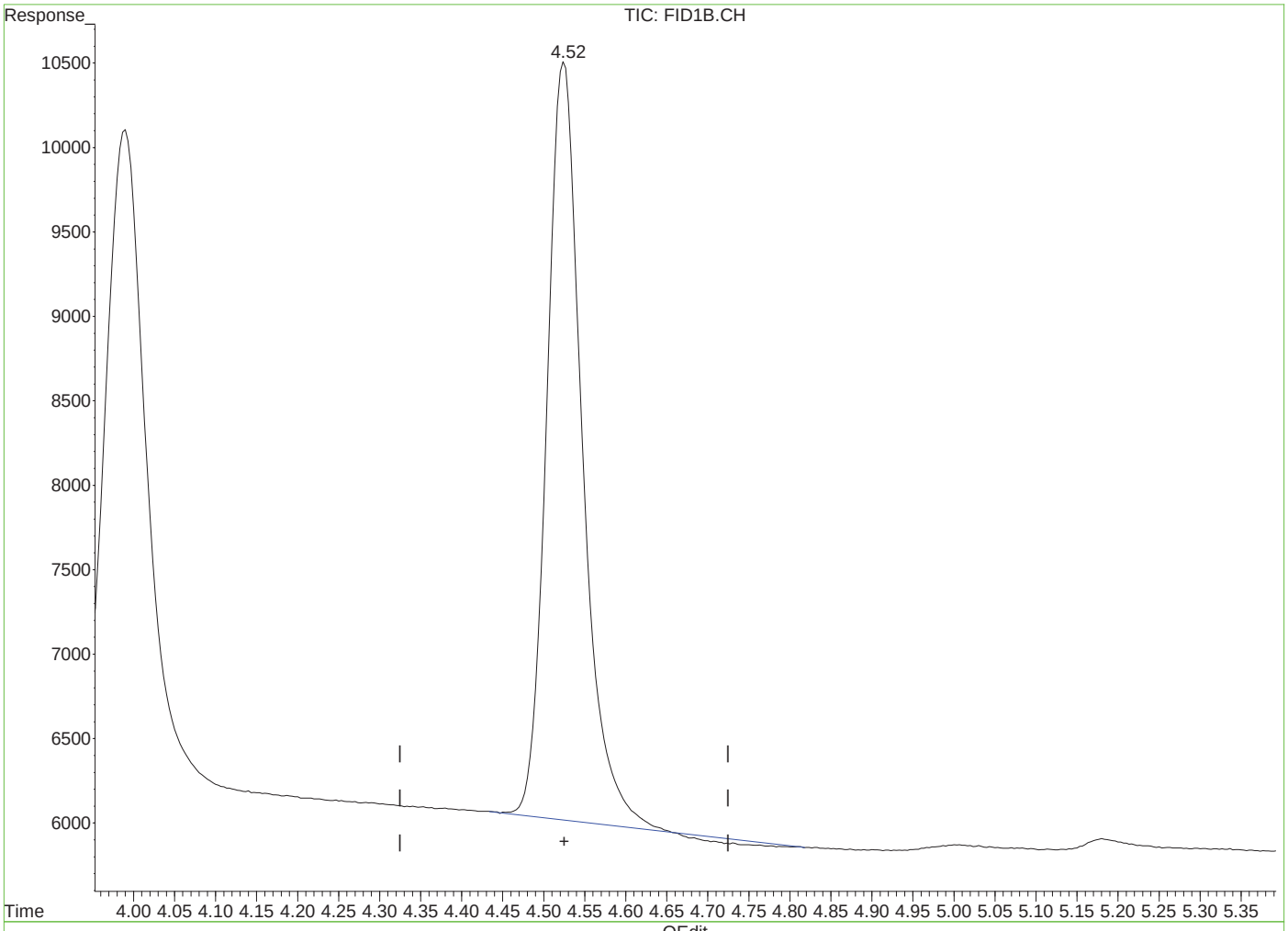
Sample Number: GGH6650-ICC6650
Lab FileID: GH123505.D
Injection Time: 01/21/21 19:12
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 17:03 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : IC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 4479.071ug/L

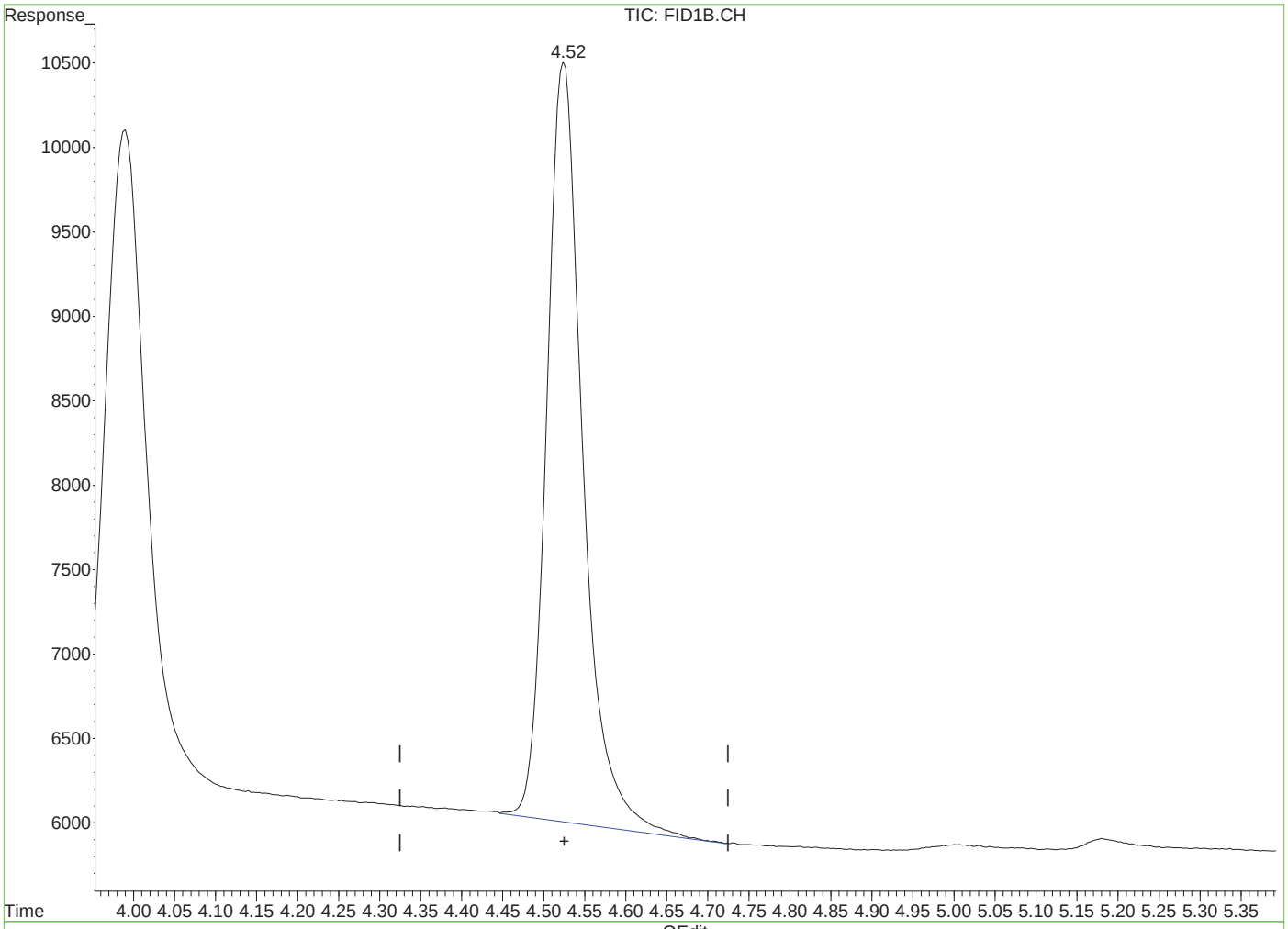
response 134548

(+) = Expected Retention Time
GH123505.D MGH6650.M Wed Jan 27 14:35:16 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : IC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 4596.184ug/L m

response 138066

(+) = Expected Retention Time
GH123505.D MGH6650.M Wed Jan 27 14:35:26 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36:53 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	374248	4610.600	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	92.21%		
	Target Compounds					
1)	Methanol	1.36	132883	9028.795	ug/L	m
2)	Ethanol	1.82	172505	9719.783	ug/L	
3)	2-Propanol	2.20	207197	10515.759	ug/L	
4)	Tert-Butyl Alcohol	2.48	279728	9445.053	ug/L	
5)	1-Propanol	3.09	234299	9625.417	ug/L	
6)	2-Butanol	3.52	240950	9289.334	ug/L	
7)	Isobutanol	3.99	278406	9351.981	ug/L	
8)	1-butanol	4.53	278773	9280.289	ug/L	

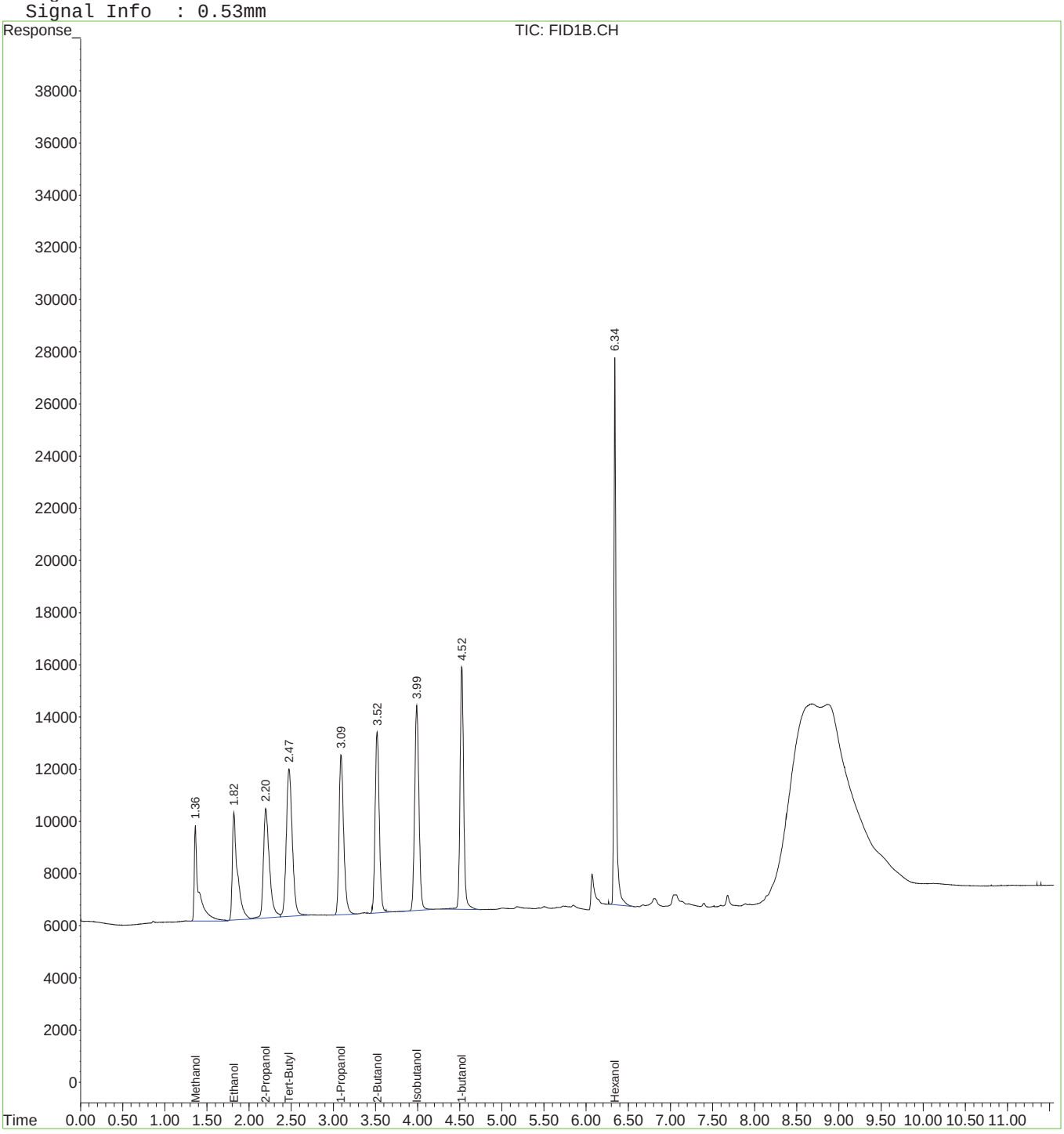
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123506.D MGH6650.M Thu Jan 28 11:49:06 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:37 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

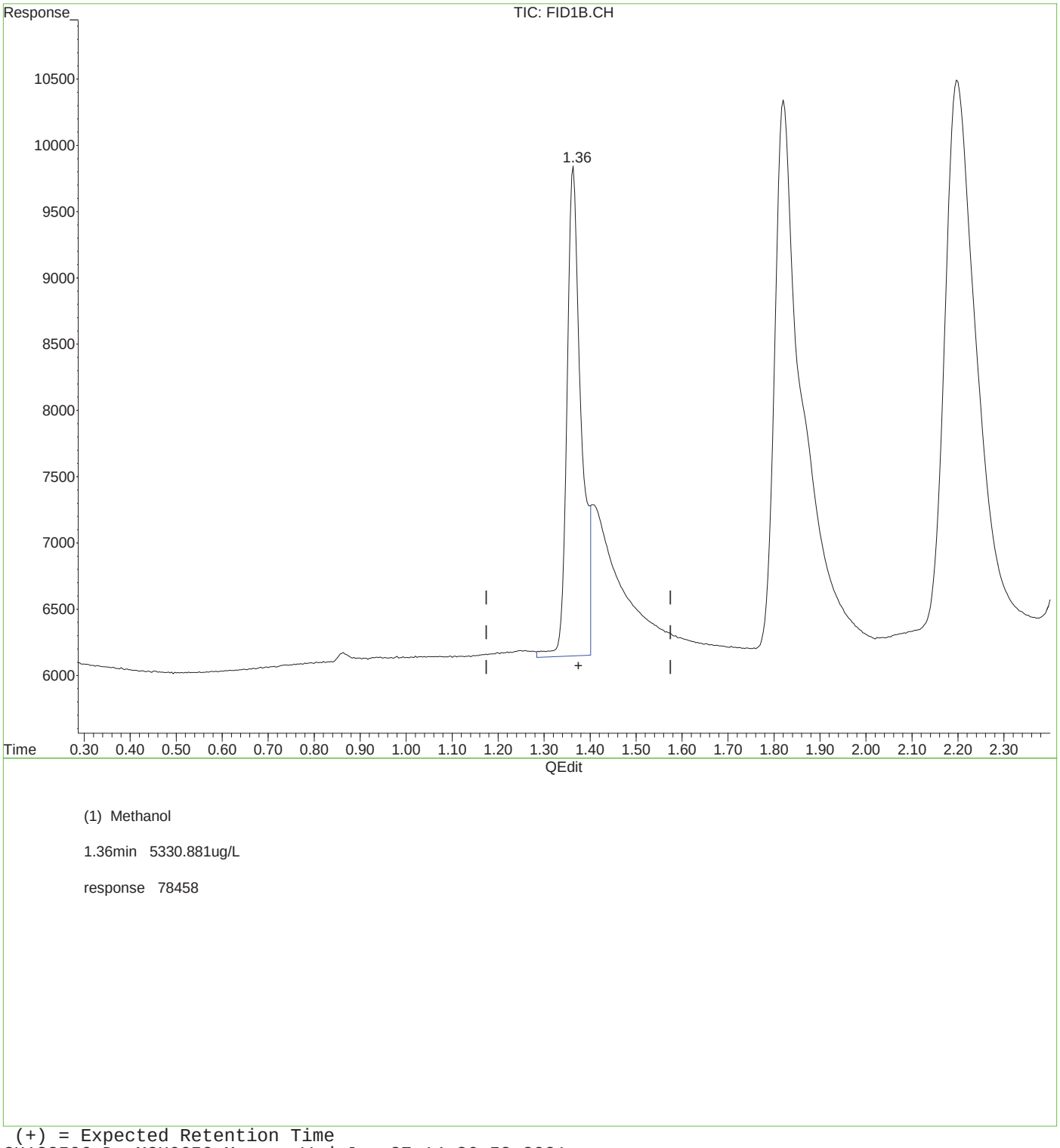
Sample Number: GGH6650-IC6650
Lab FileID: GH123506.D
Injection Time: 01/21/21 19:30
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.36	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(1) Methanol

1.36min 5330.881ug/L

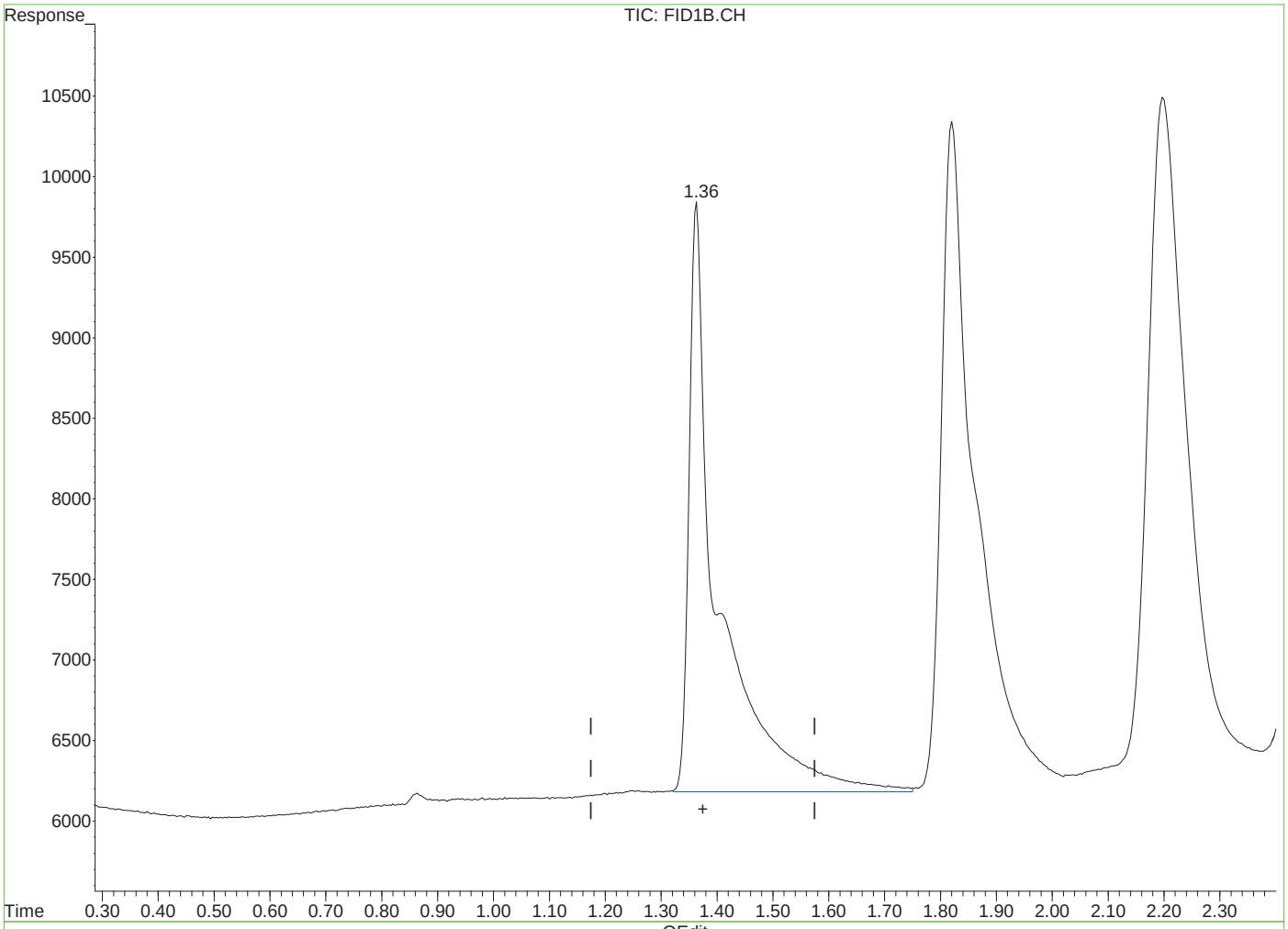
response 78458

(+) = Expected Retention Time
GH123506.D MGH6650.M Wed Jan 27 14:36:58 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(1) Methanol

1.36min 9028.795ug/L m

response 132883

(+) = Expected Retention Time
GH123506.D MGH6650.M Wed Jan 27 14:37:10 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123507.D Vial: 7
Acq On : 21-Jan-2021, 19:47:53 Operator: RobertS
Sample : IC6650-50000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:58 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	372684	4591.337 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 91.83%	
Target Compounds			
1) Methanol	1.36	690329	46904.730 ug/L
2) Ethanol	1.82	951912	53635.503 ug/L
3) 2-Propanol	2.19	969223	49190.370 ug/L
4) Tert-Butyl Alcohol	2.46	1351830	45644.672 ug/L
5) 1-Propanol	3.08	1180715	48505.957 ug/L
6) 2-Butanol	3.51	1205035	46457.625 ug/L
7) Isobutanol	3.98	1393365	46804.770 ug/L
8) 1-butanol	4.52	1348419	44888.565 ug/L

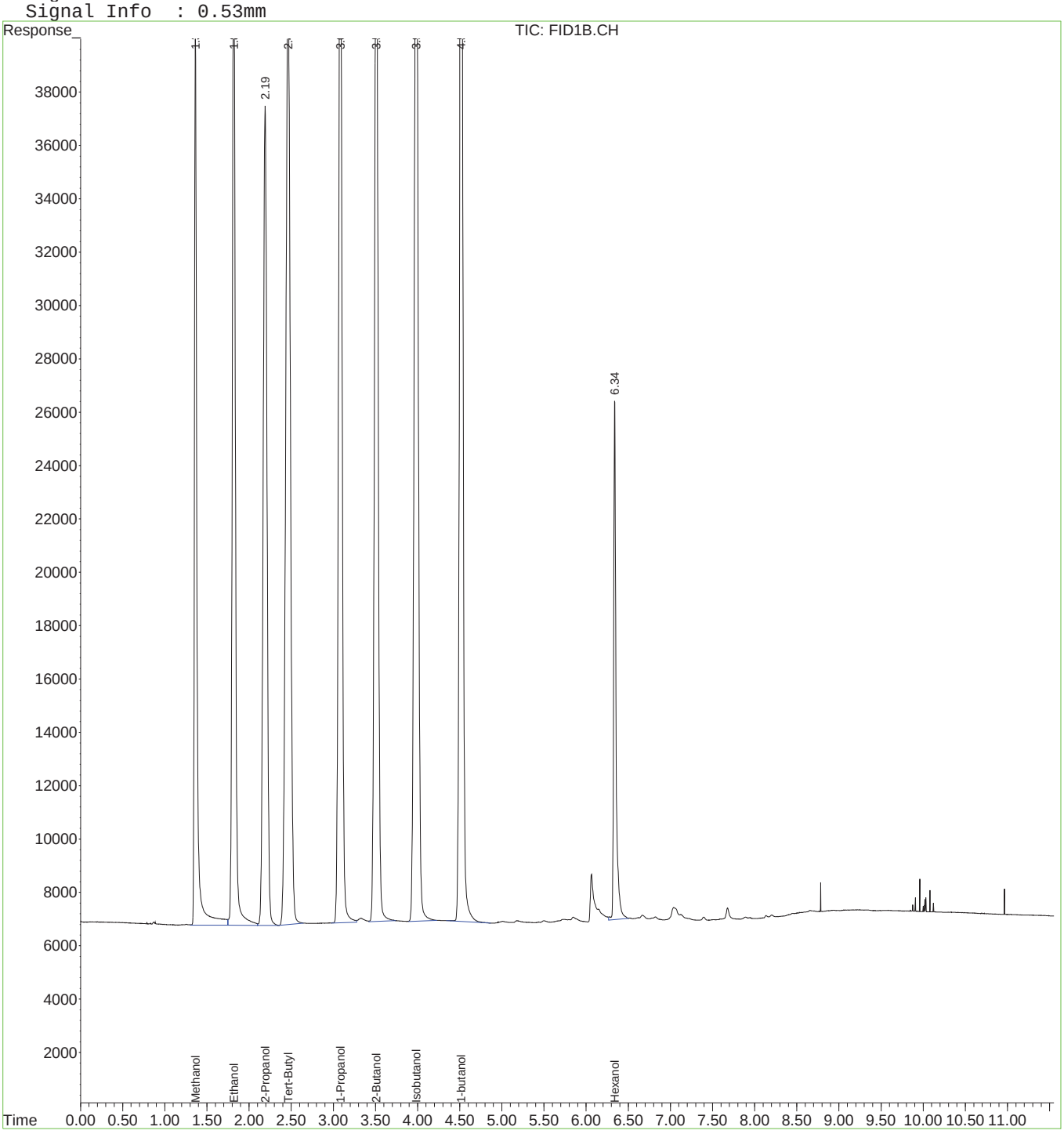
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123507.D MGH6650.M Thu Jan 28 11:49:07 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123507.D Vial: 7
Acq On : 21-Jan-2021, 19:47:53 Operator: RobertS
Sample : IC6650-50000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123508.D Vial: 8
Acq On : 21-Jan-2021, 20:05:23 Operator: RobertS
Sample : IC6650-100000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:59 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	400215	4930.502 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	98.61%
Target Compounds			
1) Methanol	1.39	1315982	89415.013 ug/L
2) Ethanol	1.83	1828883	103048.508 ug/L
3) 2-Propanol	2.20	1927951	97848.076 ug/L
4) Tert-Butyl Alcohol	2.47	2755902	93053.290 ug/L
5) 1-Propanol	3.09	2345722	96366.592 ug/L
6) 2-Butanol	3.51	2425281	93501.660 ug/L
7) Isobutanol	3.98	2815008	94559.395 ug/L
8) 1-butanol	4.52	2681081	89252.569 ug/L

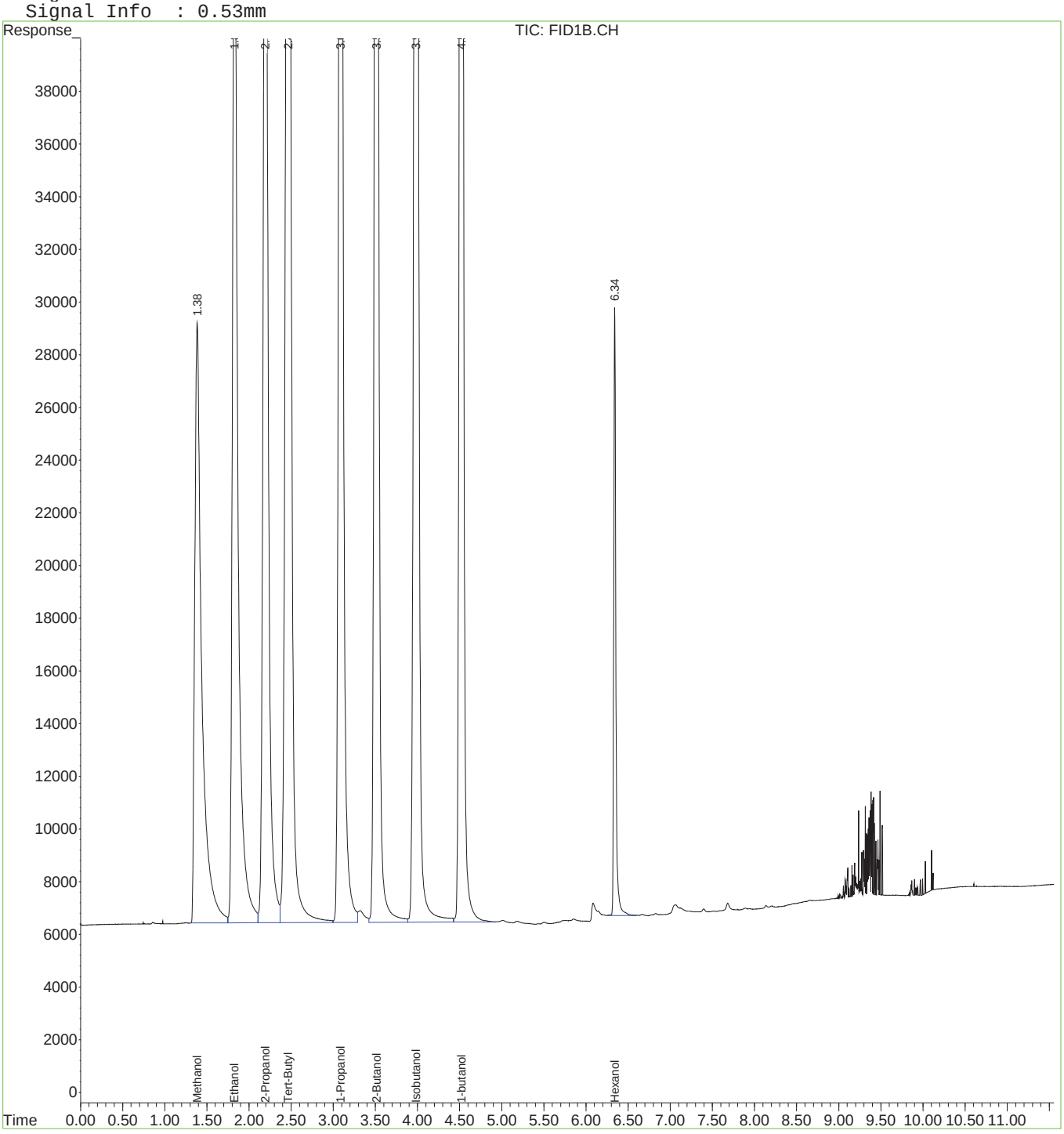
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123508.D MGH6650.M Thu Jan 28 11:49:09 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123508.D Vial: 8
Acq On : 21-Jan-2021, 20:05:23 Operator: RobertS
Sample : IC6650-100000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:39:43 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	352796	4674.379 ug/L
Spiked Amount 5000.000 Range 56 - 145 Recovery = 93.49%			
Target Compounds			
1) Methanol	1.38	67223	4895.271 ug/L
2) Ethanol	1.83	86579	4924.696 ug/L
3) 2-Propanol	2.20	90803	4664.435 ug/L
4) Tert-Butyl Alcohol	2.47	129667	4702.482 ug/L
5) 1-Propanol	3.09	110258	4633.711 ug/L
6) 2-Butanol	3.51	112941	4605.631 ug/L
7) Isobutanol	3.99	131677	4647.551 ug/L
8) 1-butanol	4.52	131501	4594.175 ug/L

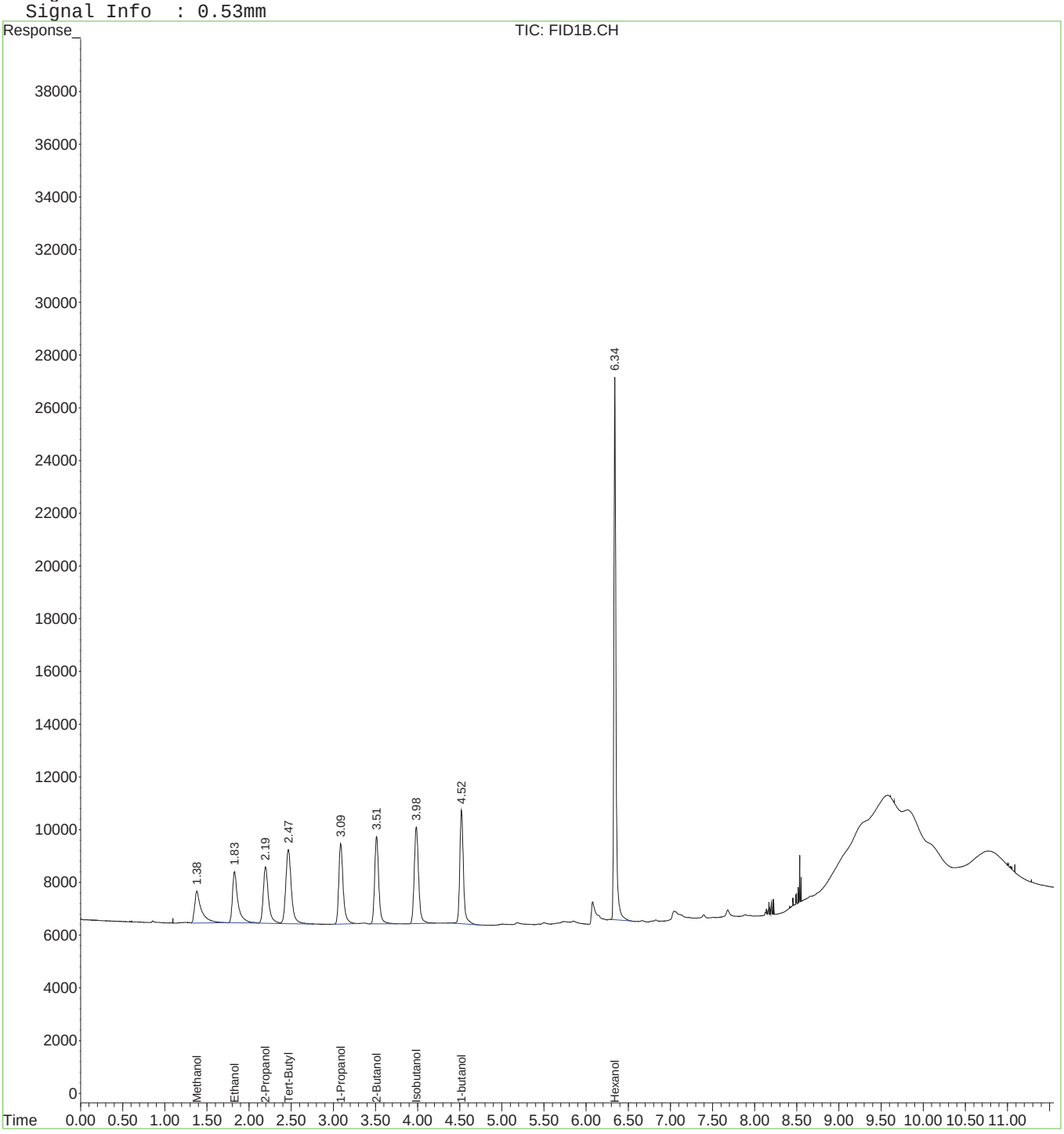
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123511.D MGH6650.M Thu Jan 28 11:49:10 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:39 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
02/17/21 13:25

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123681.D Vial: 2
Acq On : 08-Feb-2021, 15:33:15 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57414,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29:45 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	448906	5947.801 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 118.96%	
Target Compounds			
1) Methanol	1.41	140488	10230.424 ug/L m
2) Ethanol	1.86	202363	11510.544 ug/L
3) 2-Propanol	2.23	196788	10108.776 ug/L
4) Tert-Butyl Alcohol	2.50	272482	9881.807 ug/L
5) 1-Propanol	3.12	221057	9290.213 ug/L
6) 2-Butanol	3.54	229526	9359.892 ug/L
7) Isobutanol	4.01	262802	9275.587 ug/L
8) 1-butanol	4.55	300668	10504.242 ug/L

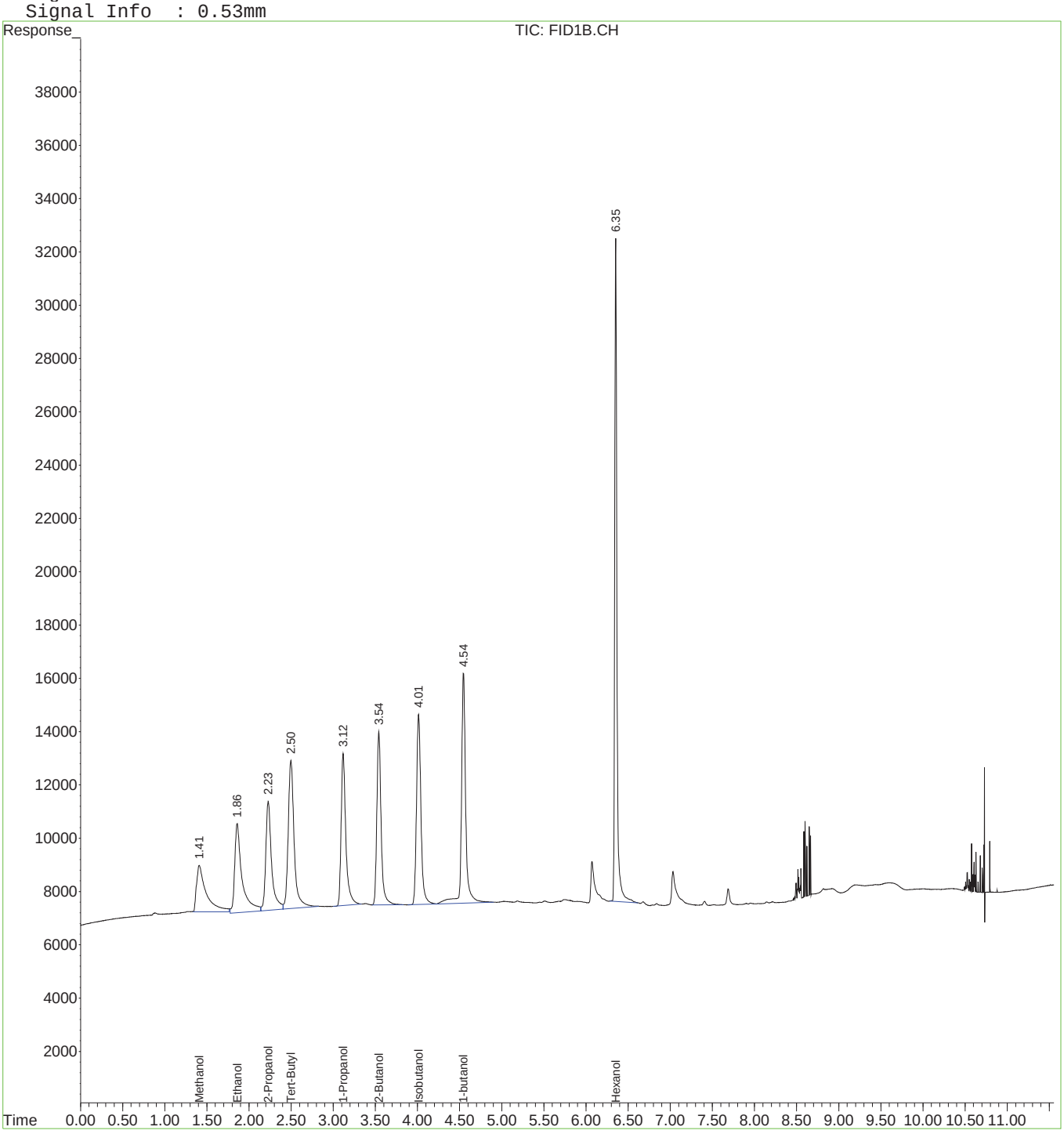
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123681.D MGH6650.M Wed Feb 17 11:47:53 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123681.D Vial: 2
Acq On : 08-Feb-2021, 15:33:15 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57414,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:40 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

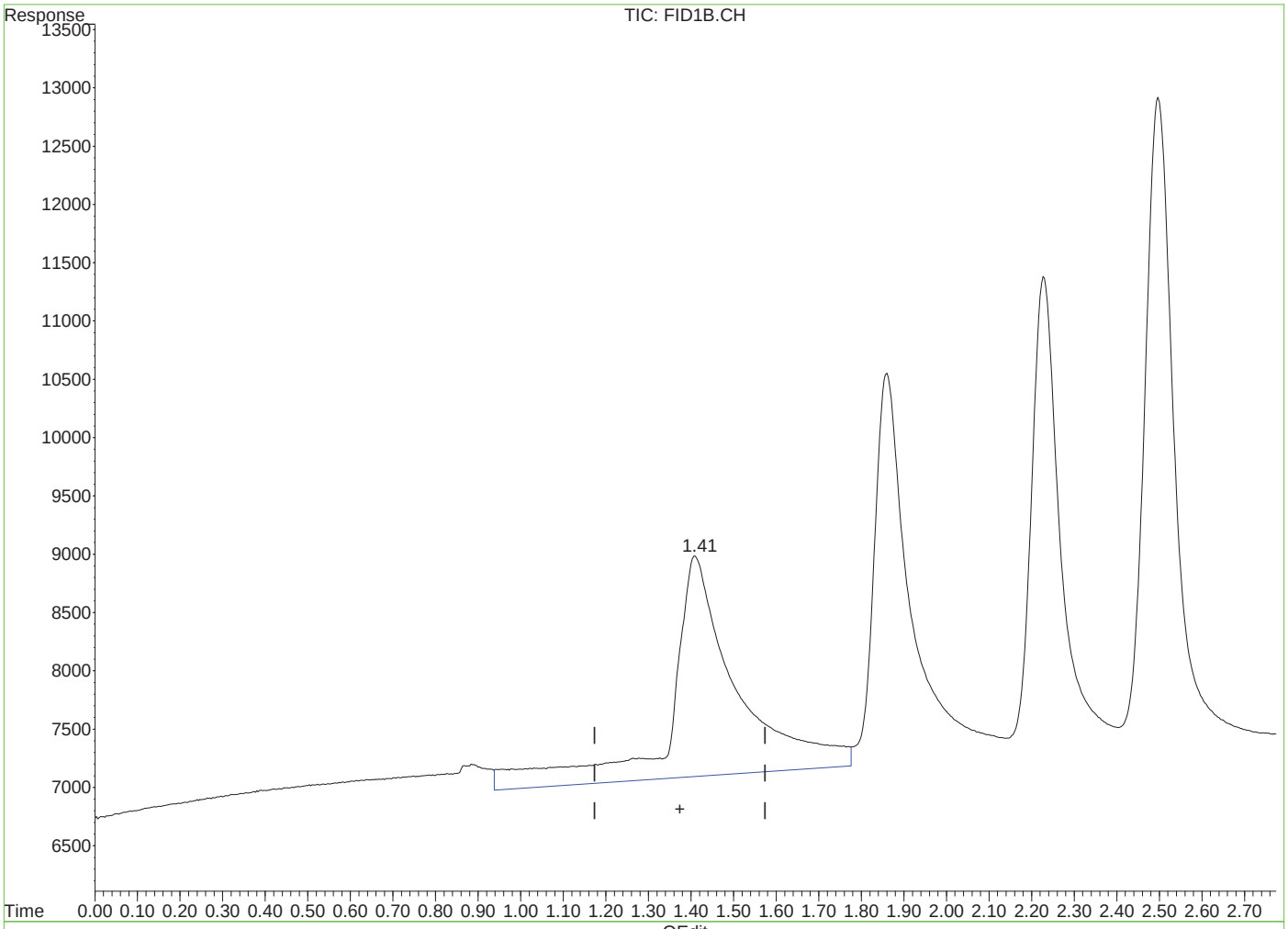
Sample Number: GGH6658-CC6650
Lab FileID: GH123681.D
Injection Time: 02/08/21 15:33
Method: SW846-8015D (DAI)
Analyst approved: 02/17/21 11:48 Bridget Kelly
Supervisor approved: 02/17/21 13:25 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.41	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123681.D Vial: 2
Acq On : 08-Feb-2021, 15:33:15 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57414,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.41min 15270.251ug/L

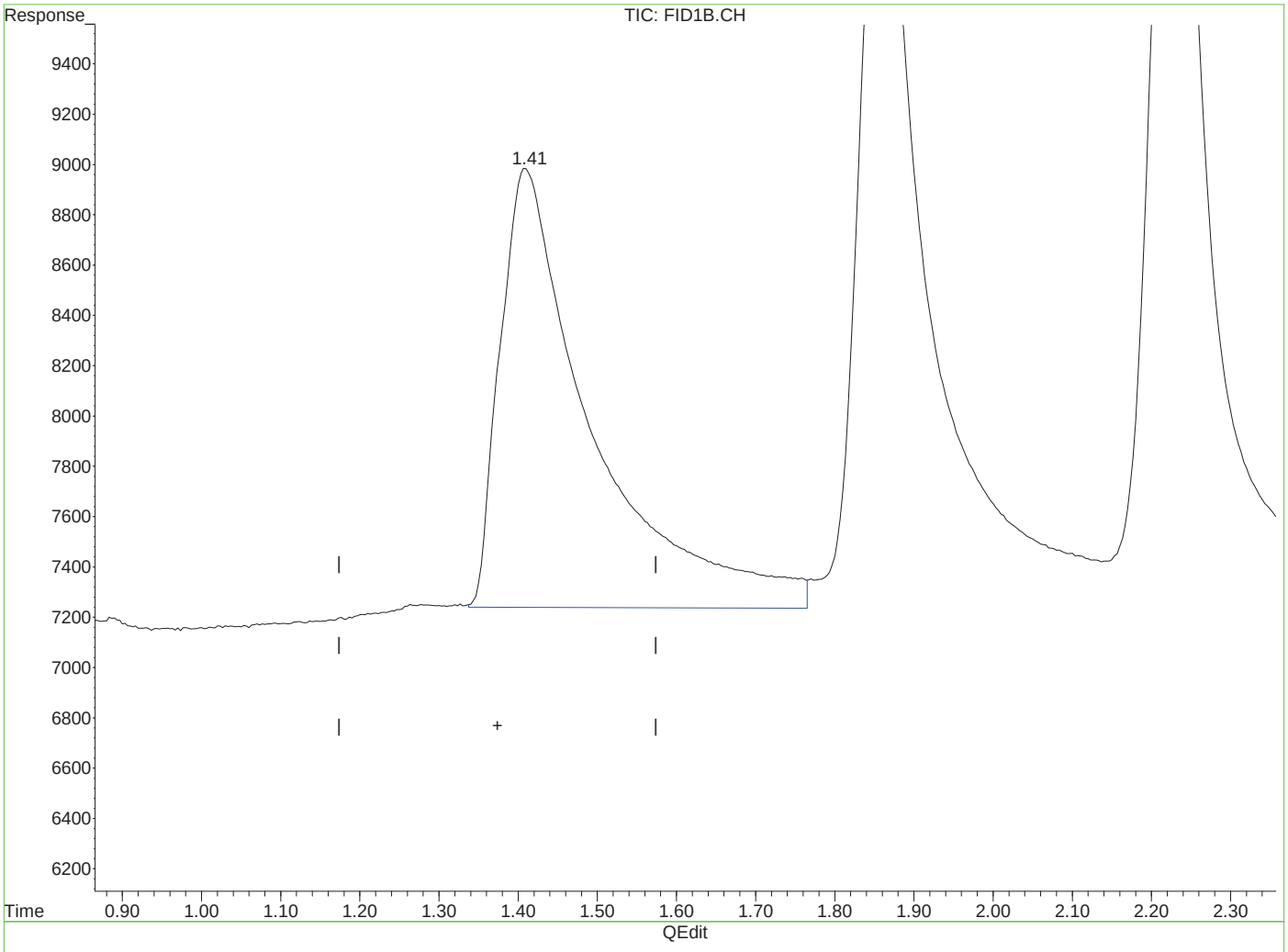
response 209696

(+) = Expected Retention Time
GH123681.D MGH6650.M Wed Feb 17 11:40:29 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123681.D Vial: 2
Acq On : 08-Feb-2021, 15:33:15 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57414,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.41min 10230.424ug/L m

response 140488

(+) = Expected Retention Time
GH123681.D MGH6650.M Wed Feb 17 11:40:39 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123689.D Vial: 10
Acq On : 08-Feb-2021, 18:09:00 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57438,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29:58 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	391055	5181.304 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 103.63%	
Target Compounds			
1) Methanol	1.41	62607	4559.110 ug/L
2) Ethanol	1.85	89166	5071.841 ug/L
3) 2-Propanol	2.21	92462	4749.688 ug/L
4) Tert-Butyl Alcohol	2.48	134842	4890.159 ug/L
5) 1-Propanol	3.11	114067	4793.808 ug/L
6) 2-Butanol	3.53	114653	4675.444 ug/L
7) Isobutanol	4.00	131670	4647.303 ug/L
8) 1-butanol	4.54	131965	4610.381 ug/L

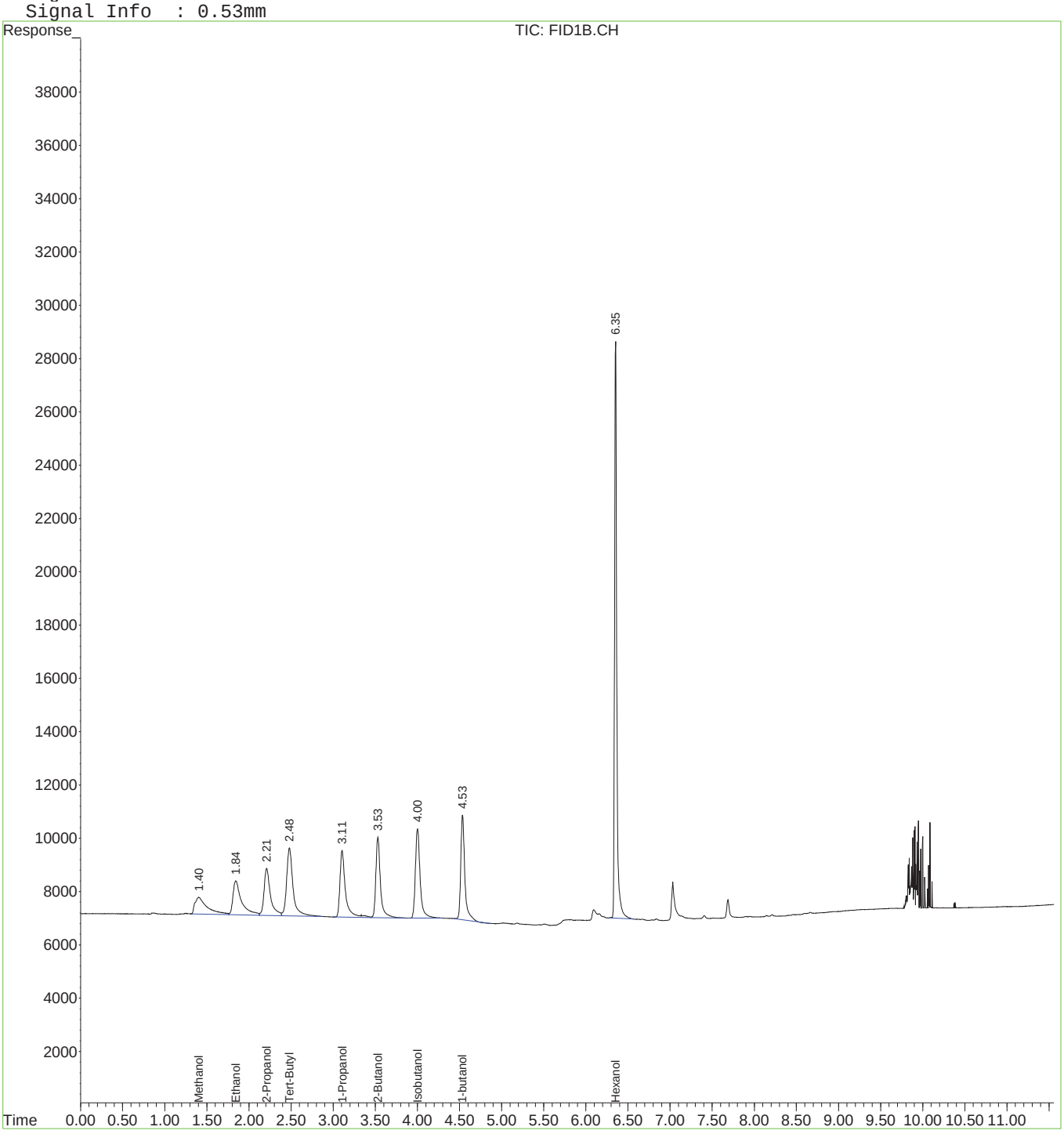
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123689.D MGH6650.M Wed Feb 17 11:47:57 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123689.D Vial: 10
Acq On : 08-Feb-2021, 18:09:00 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57438,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:29 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123698.D Vial: 19
Acq On : 08-Feb-2021, 20:47:15 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	376704	4991.152 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	99.82%
Target Compounds			
1) Methanol	1.41	121869	8874.641 ug/L
2) Ethanol	1.86	167155	9507.909 ug/L
3) 2-Propanol	2.23	173448	8909.822 ug/L
4) Tert-Butyl Alcohol	2.50	236979	8594.250 ug/L
5) 1-Propanol	3.13	247407	10397.596 ug/L
6) 2-Butanol	3.55	223915	9131.071 ug/L
7) Isobutanol	4.02	250846	8853.618 ug/L
8) 1-butanol	4.55	253976	8872.992 ug/L

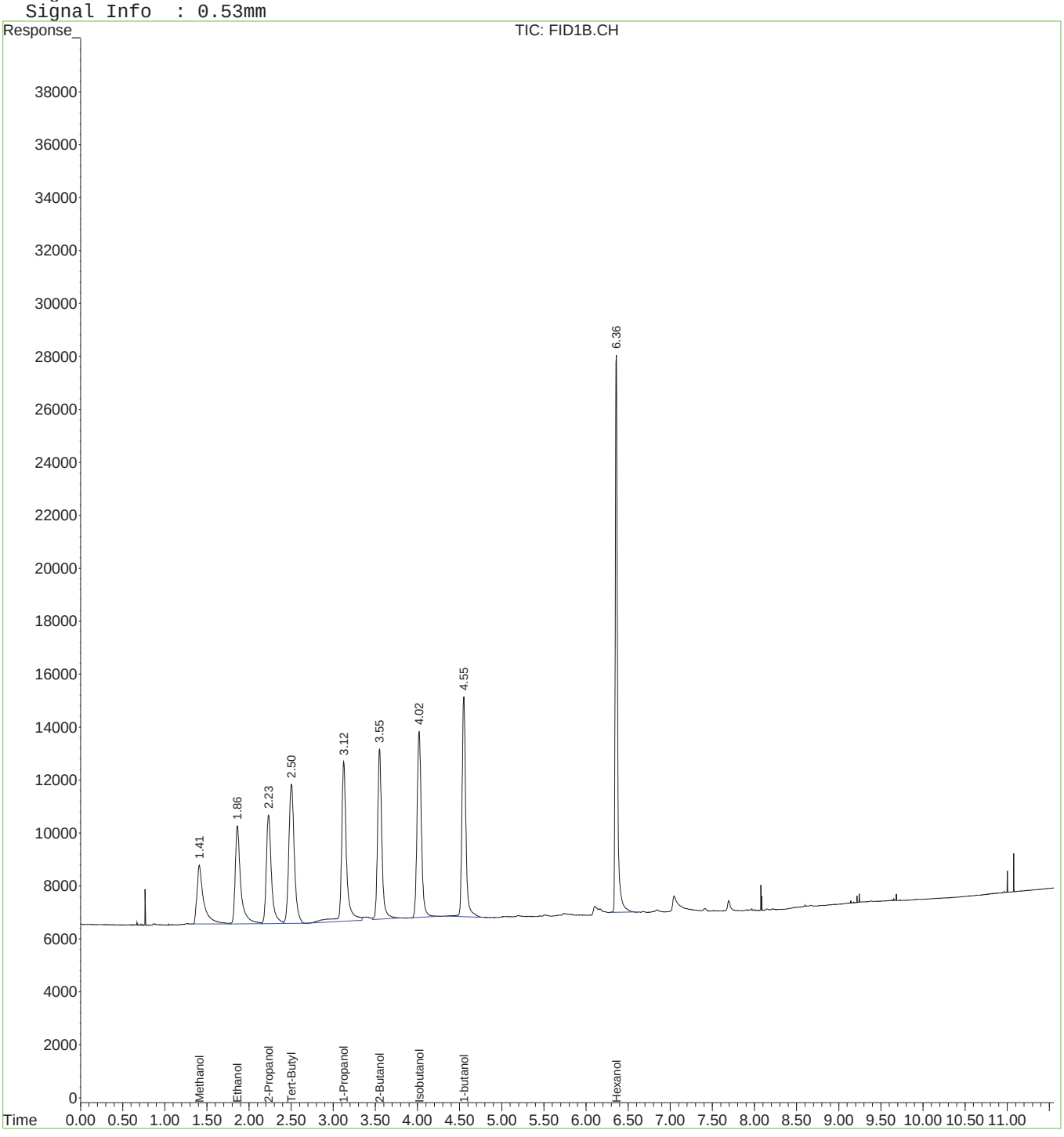
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123698.D MGH6650.M Wed Feb 17 11:47:58 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6658\GH123698.D Vial: 19
Acq On : 08-Feb-2021, 20:47:15 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57455,GGH6658,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Feb 17 11:30 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



GC Volatile Run Log

Standard / Reagents	Lot #					
ALC Surrogate	V020-2702-97				Column	RTX-1701 (30m x 0.53mm x 3um)
Concentration	2000 ppm				Method	8015D Alcohols
expiration date	2/21/21				Init Calib Date	1/21/2021
ALC STD	V020-2702-98				Analysis Date	1/21/2021
Concentration	100 ppm				Sequence loaded by	Robert Szot
expiration date	2/21/21				Data processed by	Robert Szot
					Batch ID	GGH6650
ALC (2) STD	V020-2702-99				Matrix	AQ
Concentration	100 ppm				Approved By:	KANYAV
expiration date	2/21/21		Calibration method	MGH6650	Approved Date:	1/28/2021 8:20:51 AM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Inj. Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123500	IB		NA			0.002			1	OK	
GH	123501	IB		NA			0.002			2	OK	
GH	123502	IC6650-200		NA		8015 ALC initial cal.	0.002			3	OK	2 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123503	IC6650-500		NA		8015 ALC initial cal.	0.002			4	OK	5 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123504	IC6650-1000		NA		8015 ALC initial cal.	0.002			5	OK	10 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123505	IC6650-5000		NA		8015 ALC initial cal.	0.002			6	OK	50 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123506	IC6650-10000		NA		8015 ALC initial cal.	0.002			7	OK	100 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123507	IC6650-50000		NA		8015 ALC initial cal.	0.002			8	OK	500 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123508	IC6650-100000		NA		8015 ALC initial cal.	0.002			9	OK	1000 uL ALC + 2.5 uL surrogate
GH	123509	IB		NA			0.002			10	OK	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Inj. Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123510	IB		NA			0.002			11	OK	
GH	123511	ICV6650-5000		NA		8015 ALC initial cal.	0.002			12	OK	50 uL ALC(2), 2.5 uL surrogate / 1 mL DI H2O FV

GC Volatile Run Log

Standard / Reagents	Lot #					
ALC Surrogate	V020-2702-97		ALC (2) STD	V020-2702-99	Column	RTX-1701 (30m x 0.53mm x 3um)
Concentration	2000 ppm		Concentration	100 ppm	Method	8015D Alcohols
expiration date	2/21/21		expiration date	2/21/21	Init Calib Date	1/21/2021
ALC STD	V020-2702-98				Analysis Date	2/9/2021
Concentration	100 ppm				Sequence loaded by	Bridget Kelly
expiration date	2/21/21				Data processed by	Bridget Kelly
					Batch ID	GGH6658
					Matrix	AQ
					Approved By:	KANYAV
pH paper lot #207519 EXP: 3/15/22			Calibration method	MGH6650	Approved Date:	2/17/2021 10:37:52 AM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123676	IB		NA			0.002			1	ok	
GH	123677	CC6650-10000		NA			0.002			2	ng	analyst prepped wrong
GH	123678	MB		NA			0.002			3	not used	
GH	123679	BS		NA			0.002			4	not used	
GH	123680	IB		NA			0.002			5	ok	
GH	123681	CC6650-10000		NA			0.002			6	ok	100 uL ALC, 2.5 uL surr / 1 mL FV
GH	123682	MB		NA			0.002			7	ok	
GH	123683	BS		NA			0.002			8	ok	50 uL ALC(2), 2.5 uL surr / 1 mL FV
GH	123684	JD19864-1	11	NA	GC57447	D8015LMA	0.002		1	9	ok	
GH	123685	JD19864-2	6	NA	GC57447	D8015LMA	0.002		1	10	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123686	JD19864-3	6	NA	GC57447	D8015LMA	0.002		1	11	ok	
GH	123687	JD19864-1MS	11	NA	GC57447		0.002		1	12	ok	50 uL ALC(2), 2.5 uL surr 950 uL sample
GH	123688	JD19864-1MSD	11	NA	GC57447		0.002		1	13	ok	50 uL ALC(2), 2.5 uL surr 950 uL sample
GH	123689	CC6650-5000		NA			0.002			14	ok	50 uL ALC, 2.5 uL surr / 1 mL FV
GH	123690	MB2		NA			0.002			15	ok	
GH	123691	JD19864-6	8	NA	GC57447	D8015LMA	0.002		1	16	ok	
GH	123692	JD19864-7	5	NA	GC57447	D8015LMA	0.002		1	17	ok	
GH	123693	JD19971-1	2	100x	GC57455	D8015IPA	0.5/50		6	18	ok	
GH	123694	JD19971-2	2	100x	GC57455	D8015IPA	0.5/50		6	19	ok	
GH	123695	JD19971-3	2	100x	GC57455	D8015IPA	0.5/50		6	20	ok	
GH	123696	JD19971-4	1	100x	GC57455	D8015IPA	0.5/50		6	21	ok	
GH	123697	JD19971-5	1	100x	GC57455	D8015IPA	0.5/50		6	22	ok	
GH	123698	CC6650-10000		NA			0.002			23	ok	100 uL ALC, 2.5 uL surr / 1 mL FV

The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

7311180270.6000

SGS Job Number: JD20859

Sampling Date: 02/17/21

Report to:

eric.thompson2@woodplc.com

ATTN: Distribution4

Total number of pages in report: **11**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Thelma Flaherty 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Sample Summary

Wood Environment & Infrastructure Solut.

Job No: JD20859

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JD20859-1	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE1_20210217
JD20859-2	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE2_20210217
JD20859-3	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE5_20210217
JD20859-4	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE5_20210217_DUP
JD20859-5	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE10_20210217
JD20859-6	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE15_20210217
JD20859-7	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE20_20210217

Report of Analysis

Client Sample ID: SP7_RINSE1_20210217
Lab Sample ID: JD20859-1 **Date Sampled:** 02/17/21
Matrix: AQ - Water **Date Received:** 02/26/21
Method: SW846-8015D (DAI) **Percent Solids:** n/a
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123824.D	100	03/01/21 16:03	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	2190000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	94%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SP7_RINSE2_20210217
Lab Sample ID: JD20859-2 **Date Sampled:** 02/17/21
Matrix: AQ - Water **Date Received:** 02/26/21
Method: SW846-8015D (DAI) **Percent Solids:** n/a
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123825.D	100	03/01/21 16:21	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	289000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	88%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP7_RINSE5_20210217		
Lab Sample ID:	JD20859-3	**Date Sampled:**	02/17/21
Matrix:	AQ - Water	**Date Received:**	02/26/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123826.D	100	03/01/21 16:38	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	96500	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	89%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SP7_RINSE5_20210217_DUP
Lab Sample ID: JD20859-4 **Date Sampled:** 02/17/21
Matrix: AQ - Water **Date Received:** 02/26/21
Method: SW846-8015D (DAI) **Percent Solids:** n/a
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123827.D	100	03/01/21 16:56	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	98400	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	92%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP7_RINSE10_20210217		
Lab Sample ID:	JD20859-5	**Date Sampled:**	02/17/21
Matrix:	AQ - Water	**Date Received:**	02/26/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123828.D	100	03/01/21 17:13	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	32900	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	98%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SP7_RINSE15_20210217
Lab Sample ID: JD20859-6 **Date Sampled:** 02/17/21
Matrix: AQ - Water **Date Received:** 02/26/21
Method: SW846-8015D (DAI) **Percent Solids:** n/a
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123829.D	100	03/01/21 17:31	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	20200	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	90%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SP7_RINSE20_20210217
Lab Sample ID: JD20859-7 **Date Sampled:** 02/17/21
Matrix: AQ - Water **Date Received:** 02/26/21
Method: SW846-8015D (DAI) **Percent Solids:** n/a
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123866.D	20	03/03/21 11:14	RS	n/a	n/a	GGH6666
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	11300	4000	3200	1600	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	70%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Initial Assessment 2B: PP

Label Verification _____

SGS IPA SAMPLES JD 20859

WW

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

CHAIN OF CUSTODY

FedEx # 930443700022

DATE: 2/24/21

COC #: _____

PAGE: 1 OF 1

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	FED EX
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

Sample Information						Methods for Analysis	RUSH					
No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	IPA - 8015	STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
1	SB1-GW_2020		WG	N	N	X					3	
2	SP7_Rinse2_20210217	1200 2/17/21	WG	N	N	X	X				3	
3	SP7_Rinse2_20210217	1200 2/17/21	WG	N	N	X	X				3	
4	SP7_Rinse5_20210217	1200 2/17/21	WG	N	N	X	X				3	
5	SP7_Rinse5_20210217_DUP	1200 2/17/21	WG	FD	N	X	X				3	
6	SP7_Rinse10_20210217	1200 2/17/21	WG	N	N	X	X				3	
7	SP7_Rinse15_20210217	1200 2/17/21	WG	N	N	X	X				3	
8	SP7_Rinse20_20210217	1200 2/17/21	WG	N	N	X	X				3	
9												
10												
11												
12												

1 2 3 4 5 6 7

V1192

Sampler's Signature: _____ Date: 2/24/21 Time: 1200

Relinquished By/Affiliation: Wood E&IS _____ Date: 2/24/21 Time: 1200

Received By: _____ Date: _____ Time: _____

Relinquished By/Affiliation: WOOD _____ Date: 2/25/21 Time: 13:30

Received By: _____ Date: 2/25/21 Time: 13:30

Relinquished By/Affiliation: _____ Date: 2/25/21 Time: ~~1520~~ 1720

Received By (LAB): FedEx Date: 2/25/21 Time: 1700

CS 02106

SGS-ACCUTEST 2/25 MARLBOR

Relinquished by: FedEx Date 2/26/2021 Time: 11:45.

Rec'd by _____

IR4-2.9°C Ip

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	°C

Comments:
X=Analyze H=Hold Analysis Request **PO # F013200721**
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT:

JD20859: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JD20859 **Client:** _____ **Project:** _____

Date / Time Received: 2/26/2021 11:45:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (2.9);

Cooler Temps (Corrected) °C: Cooler 1: (1.6);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JD20859: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

7311180270.6000

SGS Job Number: JD20859

Sampling Date: 02/17/21

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Avenue Suite 900
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Eric Thompson

Total number of pages in report: **156**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Thelma Flaherty 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: JD20859

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JD20859-1	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE1_20210217
JD20859-2	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE2_20210217
JD20859-3	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE5_20210217
JD20859-4	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE5_20210217_DUP
JD20859-5	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE10_20210217
JD20859-6	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE15_20210217
JD20859-7	02/17/21	12:00		02/26/21	AQ	Water	SP7_RINSE20_20210217

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Wood Environment & Infrastructure Solut.	**Job No**	JD20859
Site:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH	**Report Date**	3/12/2021 10:29:11 A

On 02/26/2021, 7 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 1.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD20859 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

GC Volatiles By Method SW846-8015D (DAI)

Matrix: AQ **Batch ID:** GGH6664

- All samples were analyzed within the recommended method holding time.
- Sample(s) FA83241-1MS, FA83241-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JD20859-1: Diluted due to high concentration of target compound.
- JD20859-2: Diluted due to high concentration of target compound.
- JD20859-3: Diluted due to high concentration of target compound.
- JD20859-4: Diluted due to high concentration of target compound.
- JD20859-5: Diluted due to high concentration of target compound.
- JD20859-6: Diluted due to high concentration of target compound.

Matrix: AQ **Batch ID:** GGH6666

- All samples were analyzed within the recommended method holding time.
- Sample(s) JD20874-4MS, JD20874-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for MSD for Isopropyl Alcohol are outside control limits for sample JD20874-4MSD. Analytical precision exceeds in-house control limits.
- JD20859-7: Diluted due to high concentration of target compound.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JD20859
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Collected: 02/17/21

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
JD20859-1	**SP7_RINSE1_20210217**					
Isopropyl Alcohol [a]		2190000	20000	16000	ug/l	SW846-8015D (DAI)
JD20859-2	**SP7_RINSE2_20210217**					
Isopropyl Alcohol [a]		289000	20000	16000	ug/l	SW846-8015D (DAI)
JD20859-3	**SP7_RINSE5_20210217**					
Isopropyl Alcohol [a]		96500	20000	16000	ug/l	SW846-8015D (DAI)
JD20859-4	**SP7_RINSE5_20210217_DUP**					
Isopropyl Alcohol [a]		98400	20000	16000	ug/l	SW846-8015D (DAI)
JD20859-5	**SP7_RINSE10_20210217**					
Isopropyl Alcohol [a]		32900	20000	16000	ug/l	SW846-8015D (DAI)
JD20859-6	**SP7_RINSE15_20210217**					
Isopropyl Alcohol [a]		20200	20000	16000	ug/l	SW846-8015D (DAI)
JD20859-7	**SP7_RINSE20_20210217**					
Isopropyl Alcohol [a]		11300	4000	3200	ug/l	SW846-8015D (DAI)

(a) Diluted due to high concentration of target compound.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7_RINSE1_20210217		
Lab Sample ID:	JD20859-1	**Date Sampled:**	02/17/21
Matrix:	AQ - Water	**Date Received:**	02/26/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123824.D	100	03/01/21 16:03	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	2190000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	94%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7_RINSE2_20210217		
Lab Sample ID:	JD20859-2	**Date Sampled:**	02/17/21
Matrix:	AQ - Water	**Date Received:**	02/26/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123825.D	100	03/01/21 16:21	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	289000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	88%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7_RINSE5_20210217		
Lab Sample ID:	JD20859-3	**Date Sampled:**	02/17/21
Matrix:	AQ - Water	**Date Received:**	02/26/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123826.D	100	03/01/21 16:38	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	96500	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	89%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7_RINSE5_20210217_DUP		
Lab Sample ID:	JD20859-4	**Date Sampled:**	02/17/21
Matrix:	AQ - Water	**Date Received:**	02/26/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123827.D	100	03/01/21 16:56	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	98400	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	92%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7_RINSE10_20210217		
Lab Sample ID:	JD20859-5	**Date Sampled:**	02/17/21
Matrix:	AQ - Water	**Date Received:**	02/26/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123828.D	100	03/01/21 17:13	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	32900	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	98%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7_RINSE15_20210217		
Lab Sample ID:	JD20859-6	**Date Sampled:**	02/17/21
Matrix:	AQ - Water	**Date Received:**	02/26/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123829.D	100	03/01/21 17:31	RS	n/a	n/a	GGH6664
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	20200	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	90%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7_RINSE20_20210217		
Lab Sample ID:	JD20859-7	**Date Sampled:**	02/17/21
Matrix:	AQ - Water	**Date Received:**	02/26/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH123866.D	20	03/03/21 11:14	RS	n/a	n/a	GGH6666
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	11300	4000	3200	1600	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	70%		56-145%

(a) Diluted due to high concentration of target compound.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

Initial Assessment 2B: PP

Label Verification _____

SGS IPA SAMPLES JD 20859

WW

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

CHAIN OF CUSTODY

FedEx # 930443700022

DATE: 2/24/21

COC #: _____

PAGE: 1 OF 1

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	FED EX
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	IPA - 8015	STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
1	SB1-GW_2020		WG	N	N	X					3	
2	SP7_Rinse2_20210217	1200 2/17/21	WG	N	N	X	X				3	
3	SP7_Rinse2_20210217	1200 2/17/21	WG	N	N	X	X				3	
4	SP7_Rinse5_20210217	1200 2/17/21	WG	N	N	X	X				3	
5	SP7_Rinse5_20210217_DUP	1200 2/17/21	WG	FD	N	X	X				3	
6	SP7_Rinse10_20210217	1200 2/17/21	WG	N	N	X	X				3	
7	SP7_Rinse15_20210217	1200 2/17/21	WG	N	N	X	X				3	
8	SP7_Rinse20_20210217	1200 2/17/21	WG	N	N	X	X				3	
9												
10												
11												
12												

1 2 3 4 5 6 7

V1192

Sampler's Signature: _____ Date: 2/24/21 Time: 1200

Relinquished By/Affiliation: Wood E&IS _____ Date: 2/24/21 Time: 1200

Received By: _____ Date: _____ Time: _____

Relinquished By/Affiliation: WOOD _____ Date: 2/25/21 Time: 13:30

Received By: _____ Date: 2/25/21 Time: 13:30

Relinquished By/Affiliation: _____ Date: 2/25/21 Time: ~~1520~~ 1720

Received By (LAB): FedEx Date: 2/25/21 Time: 1700

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	°C

Comments:
X=Analyze H=Hold Analysis Request PO # F013200721
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT:

CS 02106

SGS-ACCUTEST 2/25 MARLBOR

IR4-2.9°C Ip

Relinquished by: FedEx Date 2/26/2021 Time: 11:45.

Rec'd by _____

5.1 5

JD20859: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JD20859 **Client:** _____ **Project:** _____

Date / Time Received: 2/26/2021 11:45:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (2.9);

Cooler Temps (Corrected) °C: Cooler 1: (1.6);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JD20859: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Wood Environment & Infrastructure Solut.

Job No: JD20859

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD20859-1 Collected: 17-FEB-21 12:00 By: SP7_RINSE1_20210217				Received: 26-FEB-21	By: JP	
JD20859-1	SW846-8015D (DAI)	01-MAR-21 16:03	RS			D8015IPA
JD20859-2 Collected: 17-FEB-21 12:00 By: SP7_RINSE2_20210217				Received: 26-FEB-21	By: JP	
JD20859-2	SW846-8015D (DAI)	01-MAR-21 16:21	RS			D8015IPA
JD20859-3 Collected: 17-FEB-21 12:00 By: SP7_RINSE5_20210217				Received: 26-FEB-21	By: JP	
JD20859-3	SW846-8015D (DAI)	01-MAR-21 16:38	RS			D8015IPA
JD20859-4 Collected: 17-FEB-21 12:00 By: SP7_RINSE5_20210217_DUP				Received: 26-FEB-21	By: JP	
JD20859-4	SW846-8015D (DAI)	01-MAR-21 16:56	RS			D8015IPA
JD20859-5 Collected: 17-FEB-21 12:00 By: SP7_RINSE10_20210217				Received: 26-FEB-21	By: JP	
JD20859-5	SW846-8015D (DAI)	01-MAR-21 17:13	RS			D8015IPA
JD20859-6 Collected: 17-FEB-21 12:00 By: SP7_RINSE15_20210217				Received: 26-FEB-21	By: JP	
JD20859-6	SW846-8015D (DAI)	01-MAR-21 17:31	RS			D8015IPA
JD20859-7 Collected: 17-FEB-21 12:00 By: SP7_RINSE20_20210217				Received: 26-FEB-21	By: JP	
JD20859-7	SW846-8015D (DAI)	03-MAR-21 11:14	RS			D8015IPA

SGS Internal Chain of Custody

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Received: 02/26/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD20859-1.1	Secured Storage	Bridget Kelly	03/01/21 16:38	Retrieve from Storage
JD20859-1.1	Bridget Kelly	GCGH	03/01/21 16:38	Load on Instrument
JD20859-1.1	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-1.1	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage
JD20859-1.2	Secured Storage	Bridget Kelly	03/03/21 15:32	Retrieve from Storage
JD20859-1.2	Bridget Kelly	GCGH	03/03/21 15:32	Load on Instrument
JD20859-1.2	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-1.2	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage
JD20859-2.1	Secured Storage	Bridget Kelly	03/01/21 16:38	Retrieve from Storage
JD20859-2.1	Bridget Kelly	GCGH	03/01/21 16:38	Load on Instrument
JD20859-2.1	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-2.1	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage
JD20859-2.2	Secured Storage	Bridget Kelly	03/03/21 15:32	Retrieve from Storage
JD20859-2.2	Bridget Kelly	GCGH	03/03/21 15:32	Load on Instrument
JD20859-2.2	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-2.2	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage
JD20859-3.1	Secured Storage	Bridget Kelly	03/01/21 16:38	Retrieve from Storage
JD20859-3.1	Bridget Kelly	GCGH	03/01/21 16:38	Load on Instrument
JD20859-3.1	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-3.1	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage
JD20859-4.2	Secured Storage	Bridget Kelly	03/01/21 16:38	Retrieve from Storage
JD20859-4.2	Bridget Kelly	GCGH	03/01/21 16:38	Load on Instrument
JD20859-4.2	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-4.2	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage
JD20859-5.1	Secured Storage	Bridget Kelly	03/01/21 16:38	Retrieve from Storage
JD20859-5.1	Bridget Kelly	GCGH	03/01/21 16:38	Load on Instrument
JD20859-5.1	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-5.1	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage
JD20859-6.1	Secured Storage	Bridget Kelly	03/01/21 16:38	Retrieve from Storage
JD20859-6.1	Bridget Kelly	GCGH	03/01/21 16:38	Load on Instrument
JD20859-6.1	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-6.1	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage
JD20859-6.2	Secured Storage	Bridget Kelly	03/03/21 15:32	Retrieve from Storage
JD20859-6.2	Bridget Kelly	GCGH	03/03/21 15:32	Load on Instrument
JD20859-6.2	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-6.2	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage

SGS Internal Chain of Custody

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Received: 02/26/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD20859-7.1	Secured Storage	Bridget Kelly	03/01/21 16:38	Retrieve from Storage
JD20859-7.1	Bridget Kelly	GCGH	03/01/21 16:38	Load on Instrument
JD20859-7.1	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-7.1	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage
JD20859-7.2	Secured Storage	Bridget Kelly	03/03/21 15:32	Retrieve from Storage
JD20859-7.2	Bridget Kelly	GCGH	03/03/21 15:32	Load on Instrument
JD20859-7.2	GCGH	Bridget Kelly	03/04/21 14:47	Unload from Instrument
JD20859-7.2	Bridget Kelly	Secured Storage	03/04/21 14:47	Return to Storage

QC Evaluation: DOD QSM5.x Limits

Job Number: JD20859
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Collected: 02/17/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No DOD QSM5.x Limits Found.

* Sample used for QC is not from job JD20859

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6664-MB2	GH123823.D	1	03/01/21	RS	n/a	n/a	GGH6664

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD20859-1, JD20859-2, JD20859-3, JD20859-4, JD20859-5, JD20859-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	102%	56-145%

Method Blank Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6666-MB	GH123862.D	1	03/03/21	RS	n/a	n/a	GGH6666

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD20859-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	72%	56-145%

Method Blank Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6664-MB	GH123814.D	1	03/01/21	RS	n/a	n/a	GGH6664

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

GGH6664-BS, FA83241-1MS, FA83241-1MSD

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	90%	56-145%

Blank Spike Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6664-BS	GH123815.D	1	03/01/21	RS	n/a	n/a	GGH6664

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD20859-1, JD20859-2, JD20859-3, JD20859-4, JD20859-5, JD20859-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	4630	93	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	81%	56-145%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6666-BS	GH123863.D	1	03/03/21	RS	n/a	n/a	GGH6666

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD20859-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	4670	93	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	95%	56-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA83241-1MS	GH123820.D	1	03/01/21	RS	n/a	n/a	GGH6664
FA83241-1MSD	GH123821.D	1	03/01/21	RS	n/a	n/a	GGH6664
FA83241-1	GH123816.D	1	03/01/21	RS	n/a	n/a	GGH6664

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD20859-1, JD20859-2, JD20859-3, JD20859-4, JD20859-5, JD20859-6

CAS No.	Compound	FA83241-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	ND		5000	4390	88	5000	4960	99	12	70-133/28

CAS No.	Surrogate Recoveries	MS	MSD	FA83241-1	Limits
111-27-3	Hexanol	97%	93%	94%	56-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD20874-4MS	GH123868.D	1	03/03/21	RS	n/a	n/a	GGH6666
JD20874-4MSD	GH123869.D	1	03/03/21	RS	n/a	n/a	GGH6666
JD20874-4	GH123867.D	1	03/03/21	RS	n/a	n/a	GGH6666

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD20859-7

CAS No.	Compound	JD20874-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	200	U	5000	4260	85	5000	5710	114	29* [a]	70-133/28

CAS No.	Surrogate Recoveries	MS	MSD	JD20874-4	Limits
111-27-3	Hexanol	92%	91%	87%	56-145%

(a) Analytical precision exceeds in-house control limits.

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Method: SW846-8015D (DAI) **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JD20859-1	GH123824.D	94
JD20859-2	GH123825.D	88
JD20859-3	GH123826.D	89
JD20859-4	GH123827.D	92
JD20859-5	GH123828.D	98
JD20859-6	GH123829.D	90
JD20859-7	GH123866.D	70
FA83241-1MS	GH123820.D	97
FA83241-1MSD	GH123821.D	93
GGH6664-BS	GH123815.D	81
GGH6664-MB2	GH123823.D	102
GGH6666-BS	GH123863.D	95
GGH6666-MB	GH123862.D	72
JD20874-4MS	GH123868.D	92
JD20874-4MSD	GH123869.D	91
GGH6664-MB	GH123814.D	90

Surrogate Compounds	Recovery Limits
S1 = Hexanol	56-145%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6664-CC6650	**Injection Date:**	03/01/21
Lab File ID:	GH123813.D	**Injection Time:**	12:17
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.35

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6664-MB	GH123814.D	03/01/21	12:34	6.35
GGH6664-BS	GH123815.D	03/01/21	12:52	6.35
FA83241-1	GH123816.D	03/01/21	13:43	6.35
ZZZZZZ	GH123817.D	03/01/21	14:01	6.35
ZZZZZZ	GH123818.D	03/01/21	14:18	6.35
ZZZZZZ	GH123819.D	03/01/21	14:36	6.35
FA83241-1MS	GH123820.D	03/01/21	14:53	6.35
FA83241-1MSD	GH123821.D	03/01/21	15:11	6.35

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6664-CC6650	**Injection Date:**	03/01/21
Lab File ID:	GH123822.D	**Injection Time:**	15:28
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.34

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6664-MB2	GH123823.D	03/01/21	15:46	6.35
JD20859-1	GH123824.D	03/01/21	16:03	6.35
JD20859-2	GH123825.D	03/01/21	16:21	6.35
JD20859-3	GH123826.D	03/01/21	16:38	6.35
JD20859-4	GH123827.D	03/01/21	16:56	6.35
JD20859-5	GH123828.D	03/01/21	17:13	6.35
JD20859-6	GH123829.D	03/01/21	17:31	6.35

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6666-CC6650	**Injection Date:**	03/03/21
Lab File ID:	GH123861.D	**Injection Time:**	09:07
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.37

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6666-MB	GH123862.D	03/03/21	09:32	6.37
GGH6666-BS	GH123863.D	03/03/21	09:50	6.36
JD20859-7	GH123866.D	03/03/21	11:14	6.36
JD20874-4	GH123867.D	03/03/21	11:31	6.36
JD20874-4MS	GH123868.D	03/03/21	11:49	6.36
JD20874-4MSD	GH123869.D	03/03/21	12:06	6.36

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: JD20859 **Sample:** GGH6650-ICC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123505.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Response Factor Report HP5890

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Fri Jan 22 08:22:19 2021
Response via : Initial Calibration

Calibration Files
500 =GH123503.D 5000=GH123505.D 200 =GH123502.D 1000=GH123504.D
10k =GH123506.D 50k =GH123507.D 100k=GH123508.D =

Compound	500	5000	200	1000	10k	50k	100k	Avg	%RSD
1) Methanol	1.315	1.496	1.528	1.248	1.329	1.381	1.316	1.373 E1	7.50
2) Ethanol	1.772	1.923	1.366	1.788	1.725	1.904	1.829	1.758 E1	10.63
3) 2-Propanol	1.990	1.987	1.975	1.736	2.072	1.938	1.928	1.947 E1	5.34
4) Tert-Butyl A	2.605	2.786	2.938	2.716	2.797	2.704	2.756	2.757 E1	3.72
5) 1-Propanol	2.416	2.354	2.433	2.403	2.343	2.361	2.346	2.379 E1	1.56
6) 2-Butanol	2.452	2.403	2.486	2.579	2.410	2.410	2.425	2.452 E1	2.58
7) Isobutanol	2.799	2.850	2.945	2.854	2.784	2.787	2.815	2.833 E1	2.00
8) 1-butanol	2.768	2.761	3.495	2.846	2.788	2.697	2.681	2.862 E1	9.94
9) Hexanol	7.457	7.547	7.256	7.629	7.485	7.454	8.004	7.547 E1	3.07

(#) = Out of Range ### Number of calibration levels exceeded format ###

MGH6650.M Wed Jan 27 14:52:21 2021 RPT1

Initial Calibration Verification

Job Number: JD20859 **Sample:** GGH6650-ICV6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123511.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Fri Jan 22 08:22:19 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.445	2.1	90	0.00	1.17- 1.57
2	Ethanol	17.581	17.316	1.5	90	0.00	1.63- 2.03
3	2-Propanol	19.467	18.161	6.7	91	0.00	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.933	6.0	93	0.00	2.27- 2.67
5	1-Propanol	23.795	22.052	7.3	94	0.00	2.89- 3.29
6	2-Butanol	24.522	22.588	7.9	94	0.00	3.32- 3.72
7	Isobutanol	28.333	26.335	7.1	92	0.00	3.79- 4.19
8	1-butanol	28.623	26.300	8.1	95	0.00	4.32- 4.72
9 S	Hexanol	75.474	70.559	6.5	93	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123511.D MGH6650.M Wed Jan 27 14:49:38 2021 RPT1

Continuing Calibration Summary

Job Number: JD20859 **Sample:** GGH6664-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123813.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123813.D Vial: 2
Acq On : 01-Mar-2021, 12:17:18 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	11.266	18.0	75	0.02	1.17- 1.57
2	Ethanol	17.581	16.719	4.9	87	0.01	1.63- 2.03
3	2-Propanol	19.467	17.508	10.1	88	0.00	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.131	5.2	94	0.00	2.27- 2.67
5	1-Propanol	23.795	23.380	1.7	99	0.00	2.89- 3.29
6	2-Butanol	24.522	25.824	-5.3	107	0.00	3.32- 3.72
7	Isobutanol	28.333	27.053	4.5	95	0.00	3.79- 4.19
8	1-butanol	28.623	27.254	4.8	99	0.00	4.32- 4.72
9 S	Hexanol	75.474	72.586	3.8	96	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Tue Mar 02 14:03:44 2021 RPT1

Continuing Calibration Summary

Job Number: JD20859 **Sample:** GGH6664-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123822.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123822.D Vial: 11
Acq On : 01-Mar-2021, 15:28:44 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.992	-1.9	105	0.00	1.17- 1.57
2	Ethanol	17.581	17.356	1.3	101	0.00	1.63- 2.03
3	2-Propanol	19.467	19.093	1.9	92	0.00	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	24.853	9.9	89	0.00	2.27- 2.67
5	1-Propanol	23.795	22.893	3.8	98	0.00	2.89- 3.29
6	2-Butanol	24.522	23.546	4.0	98	0.00	3.32- 3.72
7	Isobutanol	28.333	27.591	2.6	99	0.00	3.79- 4.19
8	1-butanol	28.623	28.183	1.5	101	0.00	4.32- 4.72
9 S	Hexanol	75.474	69.277	8.2	93	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Tue Mar 02 14:13:45 2021 RPT1

6.6.4

Continuing Calibration Summary

Job Number: JD20859 **Sample:** GGH6664-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123831.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123831.D Vial: 20
Acq On : 01-Mar-2021, 18:05:57 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.621	8.1	84	0.02	1.17- 1.57
2	Ethanol	17.581	16.730	4.8	87	0.01	1.63- 2.03
3	2-Propanol	19.467	19.041	2.2	96	0.01	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	27.341	0.8	98	0.01	2.27- 2.67
5	1-Propanol	23.795	23.048	3.1	98	0.01	2.89- 3.29
6	2-Butanol	24.522	22.832	6.9	95	0.01	3.32- 3.72
7	Isobutanol	28.333	27.383	3.4	96	0.00	3.79- 4.19
8	1-butanol	28.623	28.123	1.7	102	0.00	4.32- 4.72
9 S	Hexanol	75.474	73.413	2.7	97	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Tue Mar 02 15:15:25 2021 RPT1

Continuing Calibration Summary

Job Number: JD20859 **Sample:** GGH6666-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123861.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123861.D Vial: 2
Acq On : 03-Mar-2021, 09:07:35 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.508	8.9	94	0.06	1.17- 1.57
2	Ethanol	17.581	17.363	1.2	101	0.05	1.63- 2.03
3	2-Propanol	19.467	18.529	4.8	89	0.05	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.339	4.5	94	0.05	2.27- 2.67
5	1-Propanol	23.795	22.284	6.4	95	0.05	2.89- 3.29
6	2-Butanol	24.522	22.545	8.1	94	0.04	3.32- 3.72
7	Isobutanol	28.333	26.605	6.1	96	0.04	3.79- 4.19
8	1-butanol	28.623	25.848	9.7	93	0.04	4.32- 4.72
9 S	Hexanol	75.474	72.845	3.5	97	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Wed Mar 10 16:17:26 2021 RPT1

Continuing Calibration Summary

Job Number: JD20859 **Sample:** GGH6666-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123871.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123871.D Vial: 12
Acq On : 03-Mar-2021, 12:41:47 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57552,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.243	10.8	82	0.04	1.17- 1.57
2	Ethanol	17.581	16.552	5.9	86	0.03	1.63- 2.03
3	2-Propanol	19.467	16.994	12.7	86	0.03	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.131	8.9	90	0.03	2.27- 2.67
5	1-Propanol	23.795	21.895	8.0	93	0.03	2.89- 3.29
6	2-Butanol	24.522	22.643	7.7	94	0.03	3.32- 3.72
7	Isobutanol	28.333	26.169	7.6	92	0.03	3.79- 4.19
8	1-butanol	28.623	25.680	10.3	93	0.03	4.32- 4.72
9 S	Hexanol	75.474	65.263	13.5	86	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Wed Mar 10 16:15:49 2021 RPT1

Run Sequence Report

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6650 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6650-IC6650	GH123502.D	01/21/21 18:20	n/a	Initial cal 200
GGH6650-IC6650	GH123503.D	01/21/21 18:37	n/a	Initial cal 500
GGH6650-IC6650	GH123504.D	01/21/21 18:55	n/a	Initial cal 1000
GGH6650-ICC6650	GH123505.D	01/21/21 19:12	n/a	Initial cal 5000
GGH6650-IC6650	GH123506.D	01/21/21 19:30	n/a	Initial cal 10000
GGH6650-IC6650	GH123507.D	01/21/21 19:47	n/a	Initial cal 50000
GGH6650-IC6650	GH123508.D	01/21/21 20:05	n/a	Initial cal 100000
GGH6650-ICV6650	GH123511.D	01/21/21 20:57	n/a	Initial cal verification 5000

Run Sequence Report

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6664 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6664-CC6650	GH123813.D	03/01/21 12:17	n/a	Continuing cal 5000
GGH6664-MB	GH123814.D	03/01/21 12:34	n/a	Method Blank
GGH6664-BS	GH123815.D	03/01/21 12:52	n/a	Blank Spike
FA83241-1	GH123816.D	03/01/21 13:43	n/a	(used for QC only; not part of job JD20859)
ZZZZZZ	GH123817.D	03/01/21 14:01	n/a	(unrelated sample)
ZZZZZZ	GH123818.D	03/01/21 14:18	n/a	(unrelated sample)
ZZZZZZ	GH123819.D	03/01/21 14:36	n/a	(unrelated sample)
FA83241-1MS	GH123820.D	03/01/21 14:53	n/a	Matrix Spike
FA83241-1MSD	GH123821.D	03/01/21 15:11	n/a	Matrix Spike Duplicate
GGH6664-CC6650	GH123822.D	03/01/21 15:28	n/a	Continuing cal 10000
GGH6664-MB2	GH123823.D	03/01/21 15:46	n/a	Method Blank
JD20859-1	GH123824.D	03/01/21 16:03	n/a	SP7_RINSE1_20210217
JD20859-2	GH123825.D	03/01/21 16:21	n/a	SP7_RINSE2_20210217
JD20859-3	GH123826.D	03/01/21 16:38	n/a	SP7_RINSE5_20210217
JD20859-4	GH123827.D	03/01/21 16:56	n/a	SP7_RINSE5_20210217_DUP
JD20859-5	GH123828.D	03/01/21 17:13	n/a	SP7_RINSE10_20210217
JD20859-6	GH123829.D	03/01/21 17:31	n/a	SP7_RINSE15_20210217
GGH6664-CC6650	GH123831.D	03/01/21 18:05	n/a	Continuing cal 5000
GGH6664-MB3	GH123832.D	03/01/21 18:23	n/a	Method Blank
ZZZZZZ	GH123833.D	03/01/21 18:41	n/a	(unrelated sample)
ZZZZZZ	GH123834.D	03/01/21 18:58	n/a	(unrelated sample)
ZZZZZZ	GH123835.D	03/01/21 19:16	n/a	(unrelated sample)
ZZZZZZ	GH123836.D	03/01/21 19:33	n/a	(unrelated sample)
ZZZZZZ	GH123837.D	03/01/21 19:51	n/a	(unrelated sample)
GGH6664-CC6650	GH123840.D	03/01/21 20:43	n/a	Continuing cal 10000

Run Sequence Report

Job Number: JD20859
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6666 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6666-CC6650	GH123861.D	03/03/21 09:07	n/a	Continuing cal 10000
GGH6666-MB	GH123862.D	03/03/21 09:32	n/a	Method Blank
GGH6666-BS	GH123863.D	03/03/21 09:50	n/a	Blank Spike
JD20859-7	GH123866.D	03/03/21 11:14	n/a	SP7_RINSE20_20210217
JD20874-4	GH123867.D	03/03/21 11:31	n/a	(used for QC only; not part of job JD20859)
JD20874-4MS	GH123868.D	03/03/21 11:49	n/a	Matrix Spike
JD20874-4MSD	GH123869.D	03/03/21 12:06	n/a	Matrix Spike Duplicate
GGH6666-CC6650	GH123871.D	03/03/21 12:41	n/a	Continuing cal 5000
GGH6666-MB2	GH123872.D	03/03/21 13:34	n/a	Method Blank
ZZZZZZ	GH123873.D	03/03/21 13:52	n/a	(unrelated sample)
ZZZZZZ	GH123874.D	03/03/21 14:09	n/a	(unrelated sample)
ZZZZZZ	GH123877.D	03/03/21 15:02	n/a	(unrelated sample)
ZZZZZZ	GH123878.D	03/03/21 15:19	n/a	(unrelated sample)
ZZZZZZ	GH123879.D	03/03/21 15:37	n/a	(unrelated sample)
GGH6666-CC6650	GH123880.D	03/03/21 15:54	n/a	Continuing cal 10000
GGH6666-MB3	GH123881.D	03/03/21 16:12	n/a	Method Blank
ZZZZZZ	GH123882.D	03/03/21 16:29	n/a	(unrelated sample)
ZZZZZZ	GH123883.D	03/03/21 16:47	n/a	(unrelated sample)
ZZZZZZ	GH123884.D	03/03/21 17:04	n/a	(unrelated sample)
ZZZZZZ	GH123885.D	03/03/21 17:22	n/a	(unrelated sample)
ZZZZZZ	GH123886.D	03/03/21 17:39	n/a	(unrelated sample)
GGH6666-CC6650	GH123887.D	03/03/21 17:56	n/a	Continuing cal 5000

GC Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123824.D Vial: 13
Acq On : 01-Mar-2021, 16:03:42 Operator: RobertS
Sample : jd20859-1 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:45 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	355926	4715.853 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 94.32%	
Target Compounds			
3) 2-Propanol	2.21	426022	2188430.784 ug/L

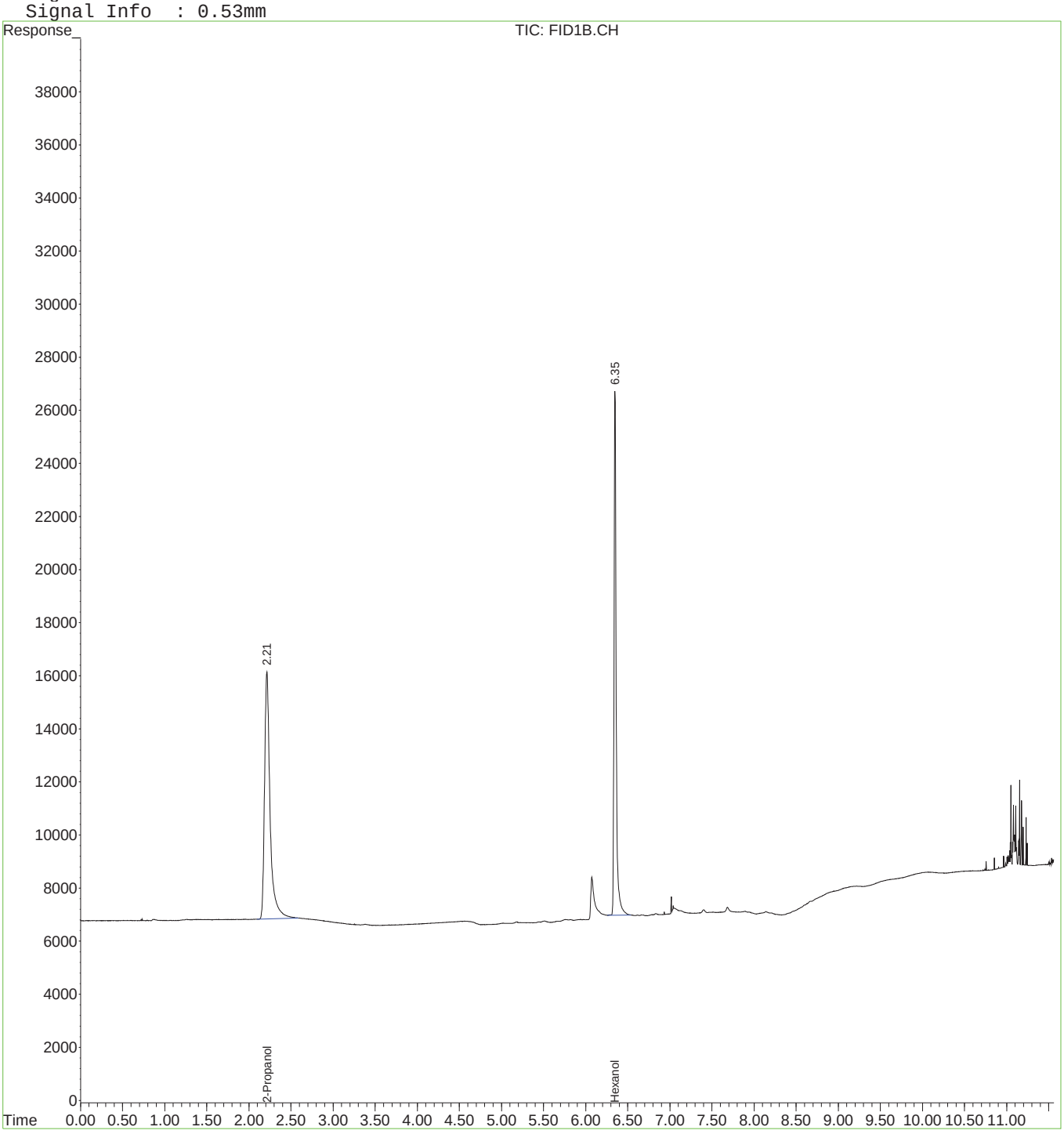
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123824.D MGH6650.M Tue Mar 02 15:09:40 2021 RPT1

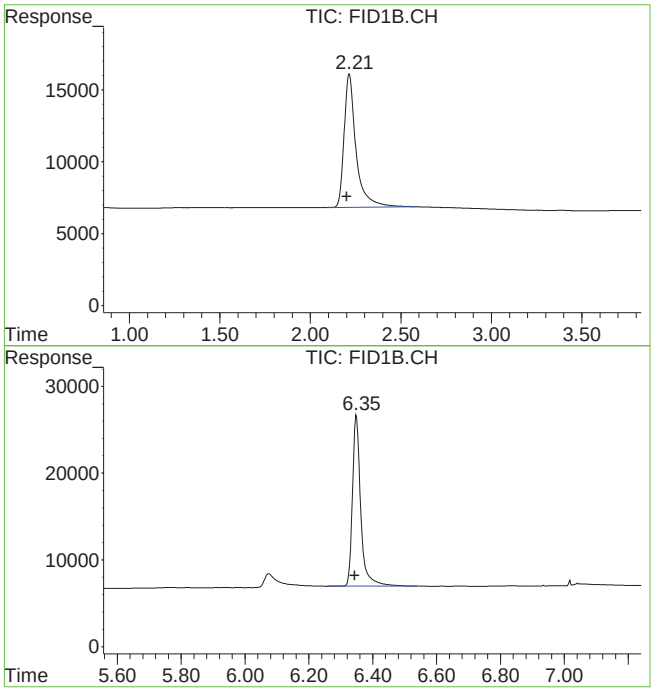
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123824.D Vial: 13
Acq On : 01-Mar-2021, 16:03:42 Operator: RobertS
Sample : jd20859-1 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.215 min
Delta R.T.: 0.014 min
Response: 426022
Conc: 2188430.78 ug/L

#9 Hexanol

R.T.: 6.349 min
Delta R.T.: 0.006 min
Response: 355926
Conc: 4715.85 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123825.D Vial: 14
Acq On : 01-Mar-2021, 16:21:08 Operator: RobertS
Sample : jd20859-2 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:46 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	331926	4397.860 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 87.96%	
Target Compounds			
3) 2-Propanol	2.21	56196	288673.231 ug/L

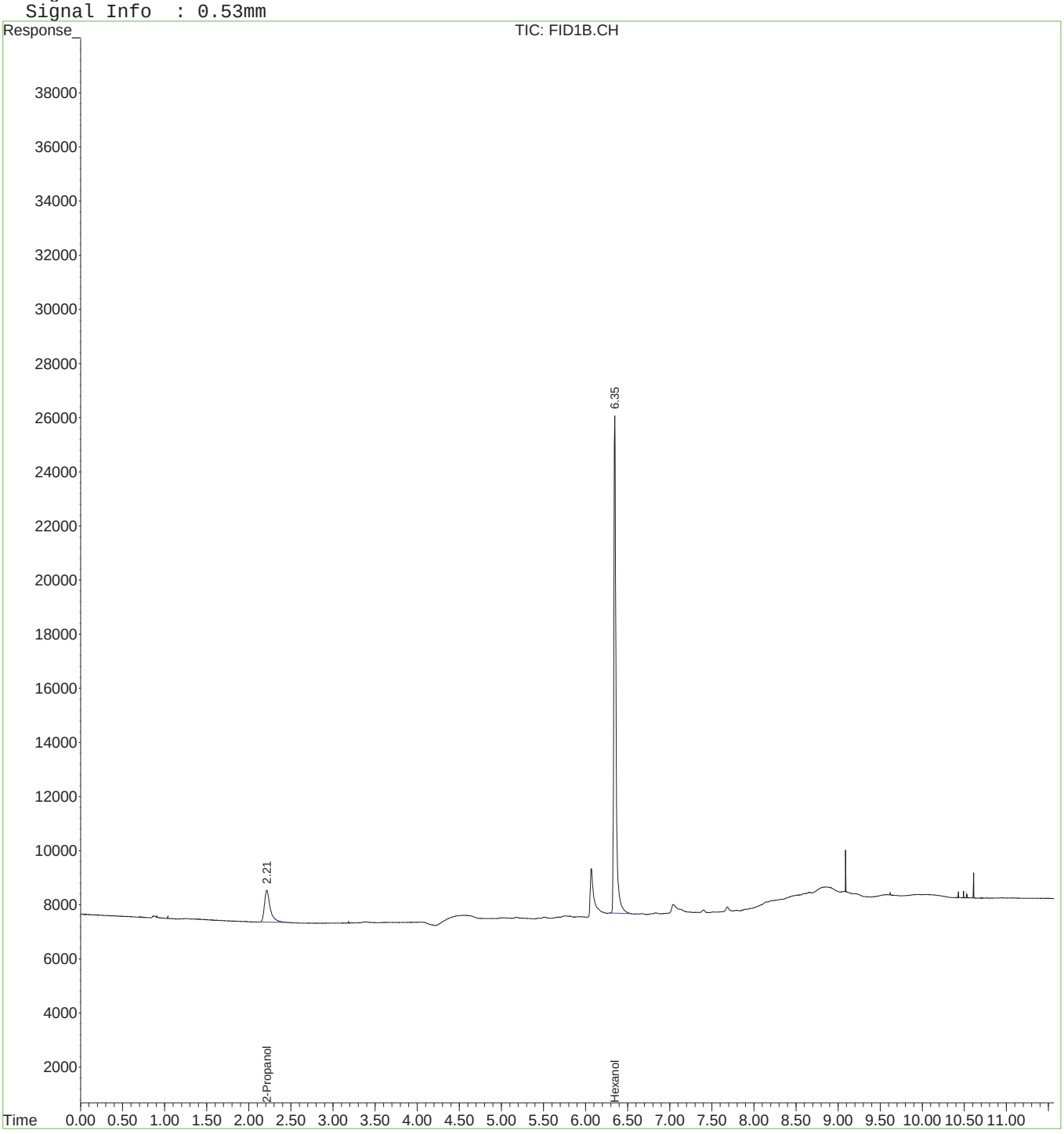
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123825.D MGH6650.M Tue Mar 02 15:09:51 2021 RPT1

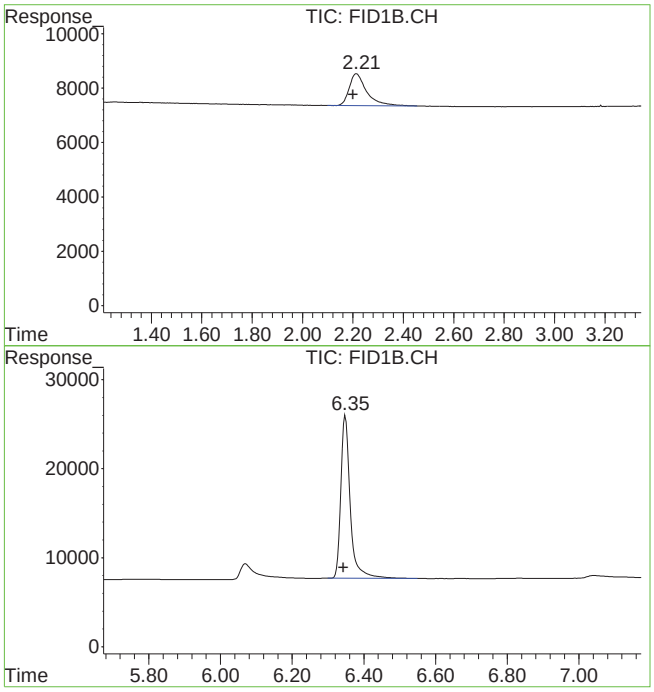
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123825.D Vial: 14
Acq On : 01-Mar-2021, 16:21:08 Operator: RobertS
Sample : jd20859-2 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 2 15:09 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.214 min
Delta R.T.: 0.014 min
Response: 56196
Conc: 288673.23 ug/L

#9 Hexanol

R.T.: 6.349 min
Delta R.T.: 0.006 min
Response: 331926
Conc: 4397.86 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123826.D Vial: 15
Acq On : 01-Mar-2021, 16:38:37 Operator: RobertS
Sample : jd20859-3 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:47 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	334327	4429.677 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	88.59%
Target Compounds			
3) 2-Propanol	2.21	18778	96461.692 ug/L

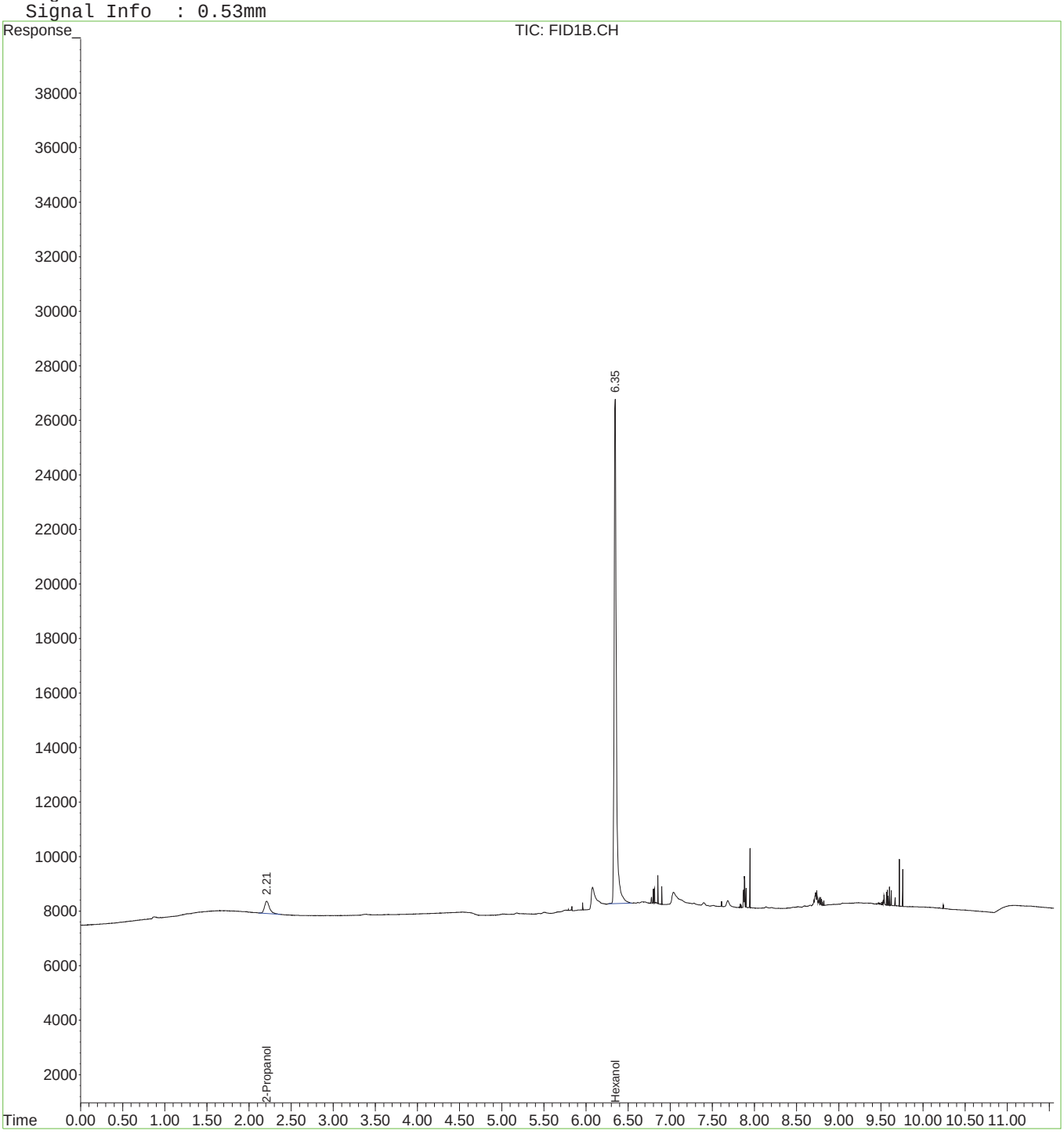
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123826.D MGH6650.M Tue Mar 02 15:10:01 2021 RPT1

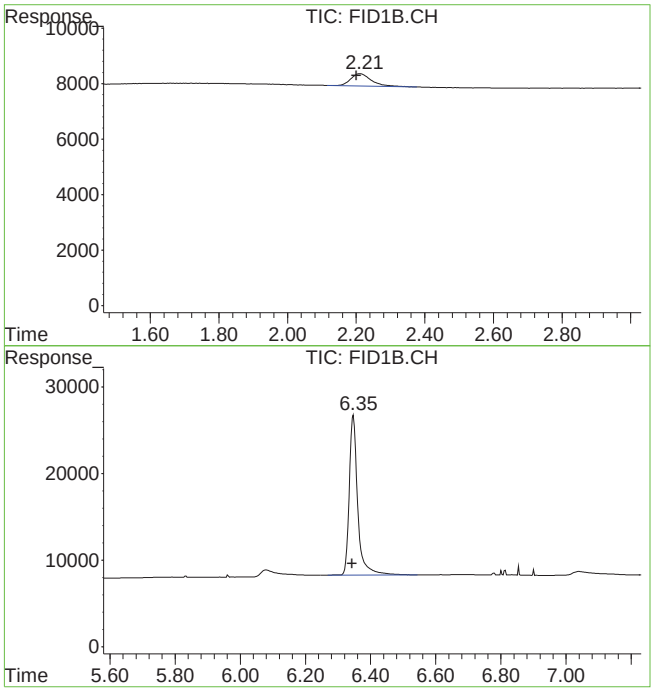
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123826.D Vial: 15
Acq On : 01-Mar-2021, 16:38:37 Operator: RobertS
Sample : jd20859-3 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.211 min
Delta R.T.: 0.011 min
Response: 18778
Conc: 96461.69 ug/L

#9 Hexanol

R.T.: 6.347 min
Delta R.T.: 0.004 min
Response: 334327
Conc: 4429.68 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123827.D Vial: 16
Acq On : 01-Mar-2021, 16:56:07 Operator: RobertS
Sample : jd20859-4 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:48 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	348382	4615.902 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 92.32%	
Target Compounds			
3) 2-Propanol	2.21	19154	98390.094 ug/L

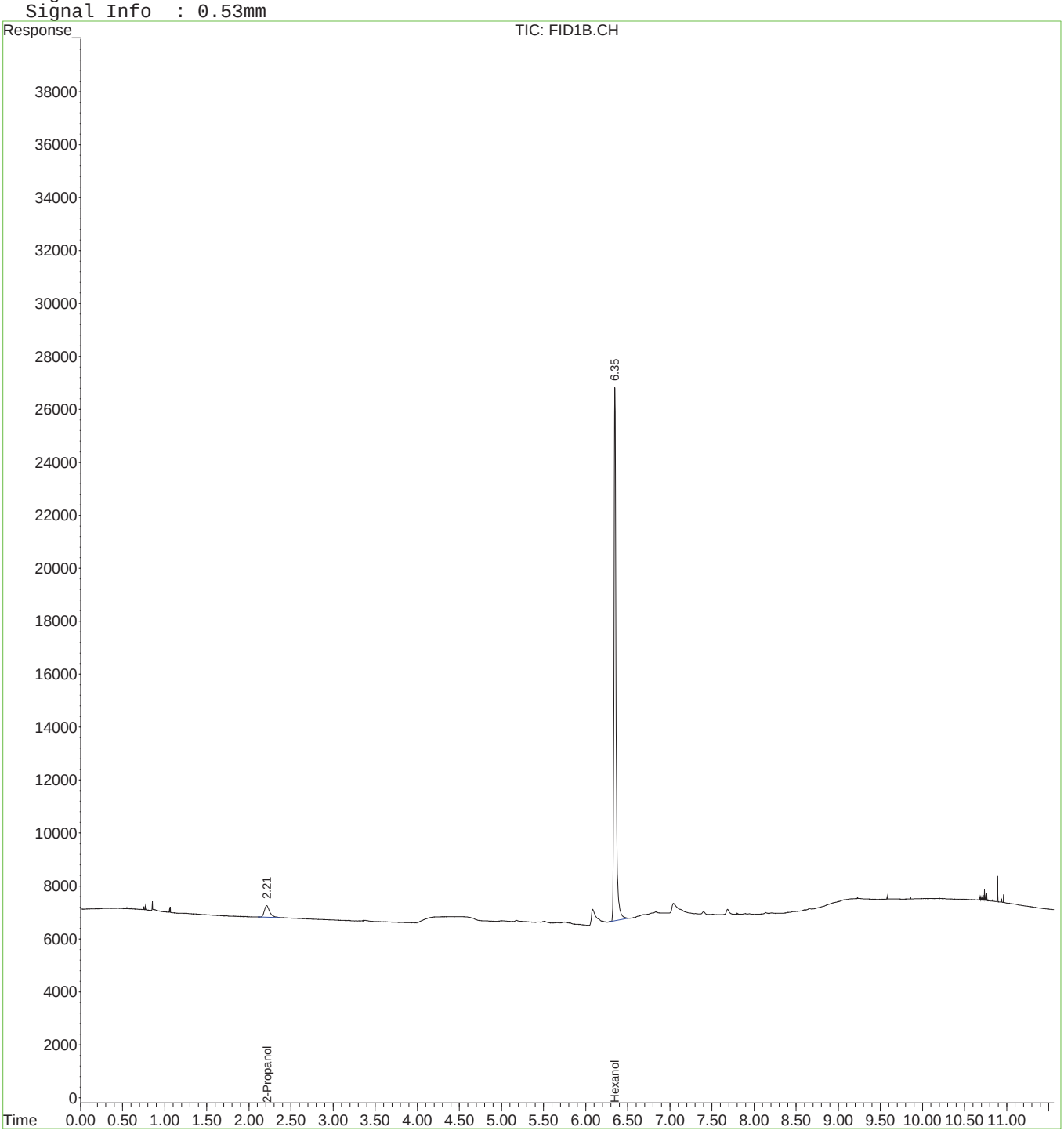
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123827.D MGH6650.M Tue Mar 02 15:10:19 2021 RPT1

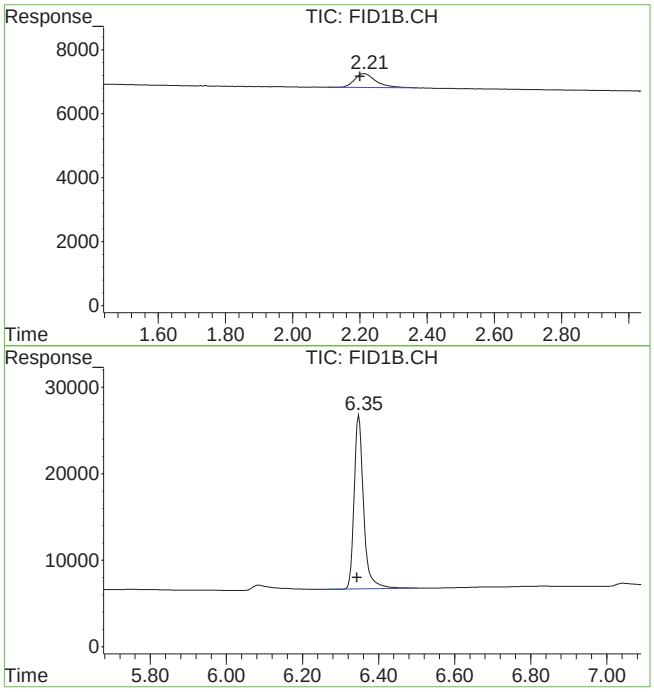
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123827.D Vial: 16
Acq On : 01-Mar-2021, 16:56:07 Operator: RobertS
Sample : jd20859-4 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.214 min
Delta R.T.: 0.013 min
Response: 19154
Conc: 98390.09 ug/L

#9 Hexanol

R.T.: 6.348 min
Delta R.T.: 0.005 min
Response: 348382
Conc: 4615.90 ug/L

Manual Integrations APPROVED
(compounds with "m" flag)
MoHui Huang
03/11/21 13:17

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123828.D Vial: 17
Acq On : 01-Mar-2021, 17:13:41 Operator: RobertS
Sample : jd20859-5 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:49 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	368875	4887.426 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 97.75%	
Target Compounds			
3) 2-Propanol	2.22	6411	32930.518 ug/L m

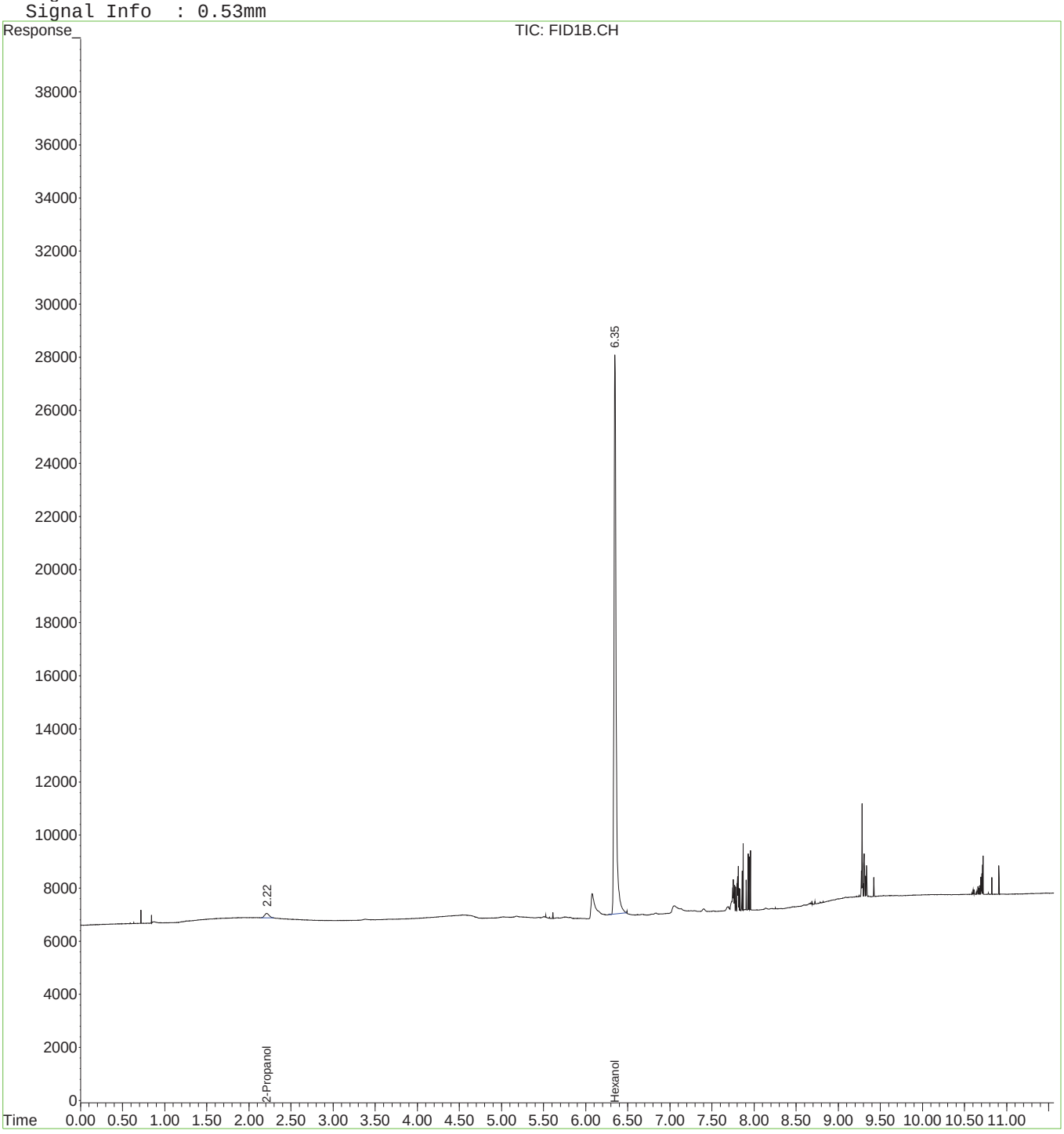
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123828.D MGH6650.M Tue Mar 02 15:10:56 2021 RPT1

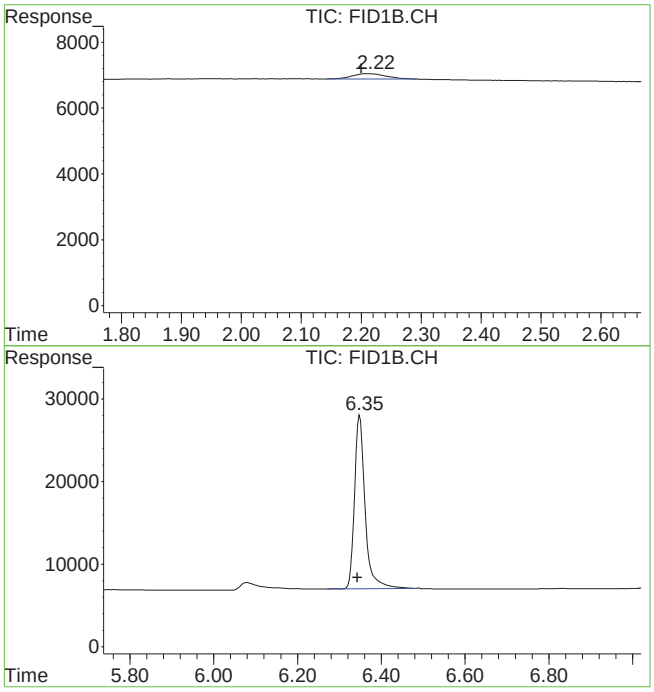
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123828.D Vial: 17
Acq On : 01-Mar-2021, 17:13:41 Operator: RobertS
Sample : jd20859-5 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 2 15:10 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.215 min
Delta R.T.: 0.015 min
Response: 6411
Conc: 32930.52 ug/L m

#9 Hexanol

R.T.: 6.349 min
Delta R.T.: 0.006 min
Response: 368875
Conc: 4887.43 ug/L

Manual Integration Approval Summary

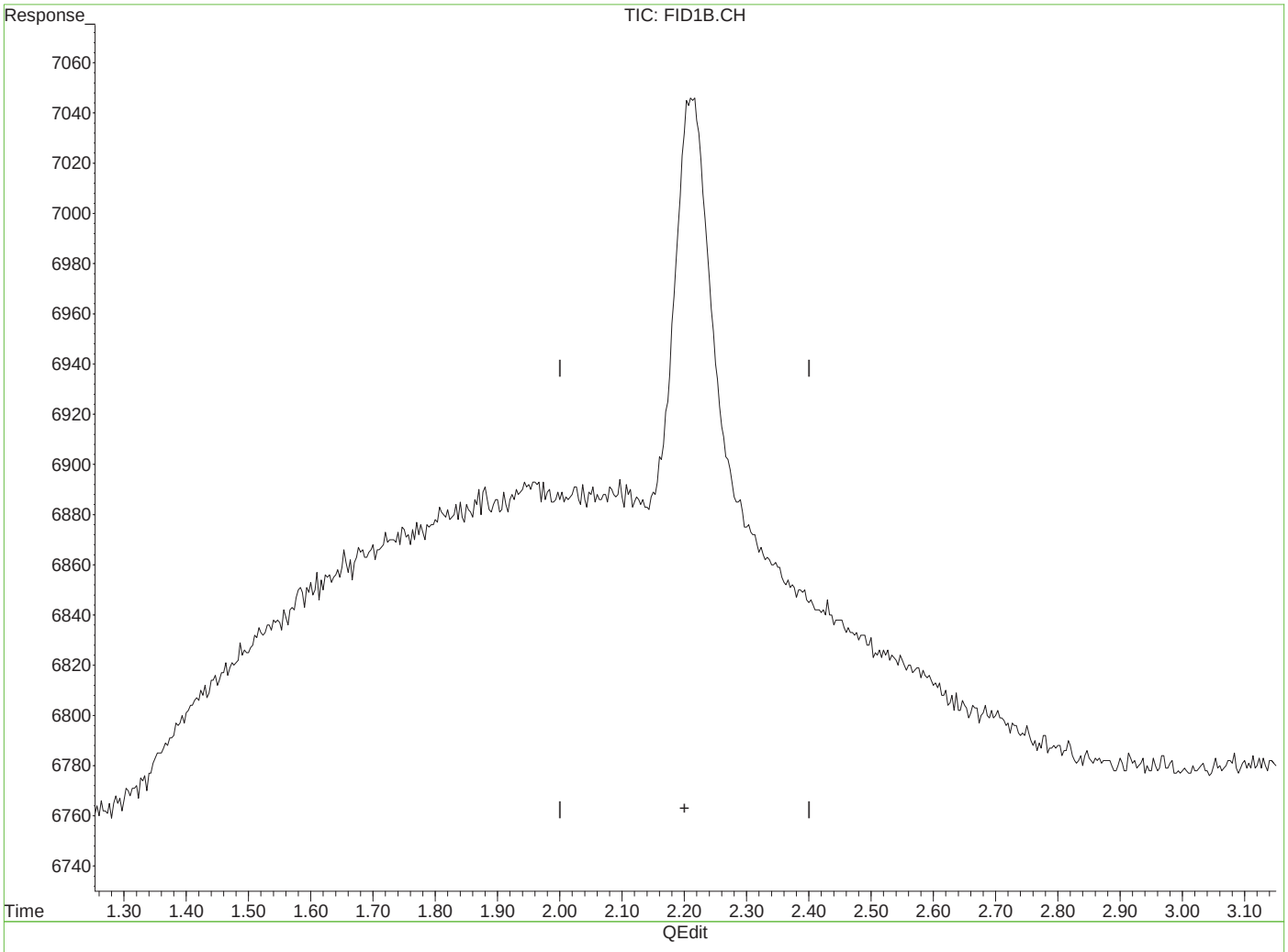
Sample Number: JD20859-5
Lab FileID: GH123828.D
Injection Time: 03/01/21 17:13
Method: SW846-8015D (DAI)
Analyst approved: 03/02/21 15:14 Bridget Kelly
Supervisor approved: 03/11/21 13:17 MoHui Huang

Parameter	CAS	Sig#	R.T. (min.)	Reason
Isopropyl Alcohol	67-63-0	1	2.22	Missed peak

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123828.D Vial: 17
Acq On : 01-Mar-2021, 17:13:41 Operator: RobertS
Sample : jd20859-5 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 0.000ug/L

response 0

(+) = Expected Retention Time
GH123828.D MGH6650.M Tue Mar 02 15:10:26 2021 RPT1

Manual Integrations APPROVED
(compounds with "m" flag)
MoHui Huang
03/11/21 13:56

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123829.D Vial: 18
Acq On : 01-Mar-2021, 17:31:07 Operator: RobertS
Sample : jd20859-6 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:50 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	340707	4514.206 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 90.28%	
Target Compounds			
3) 2-Propanol	2.21	3926	20169.853 ug/L m

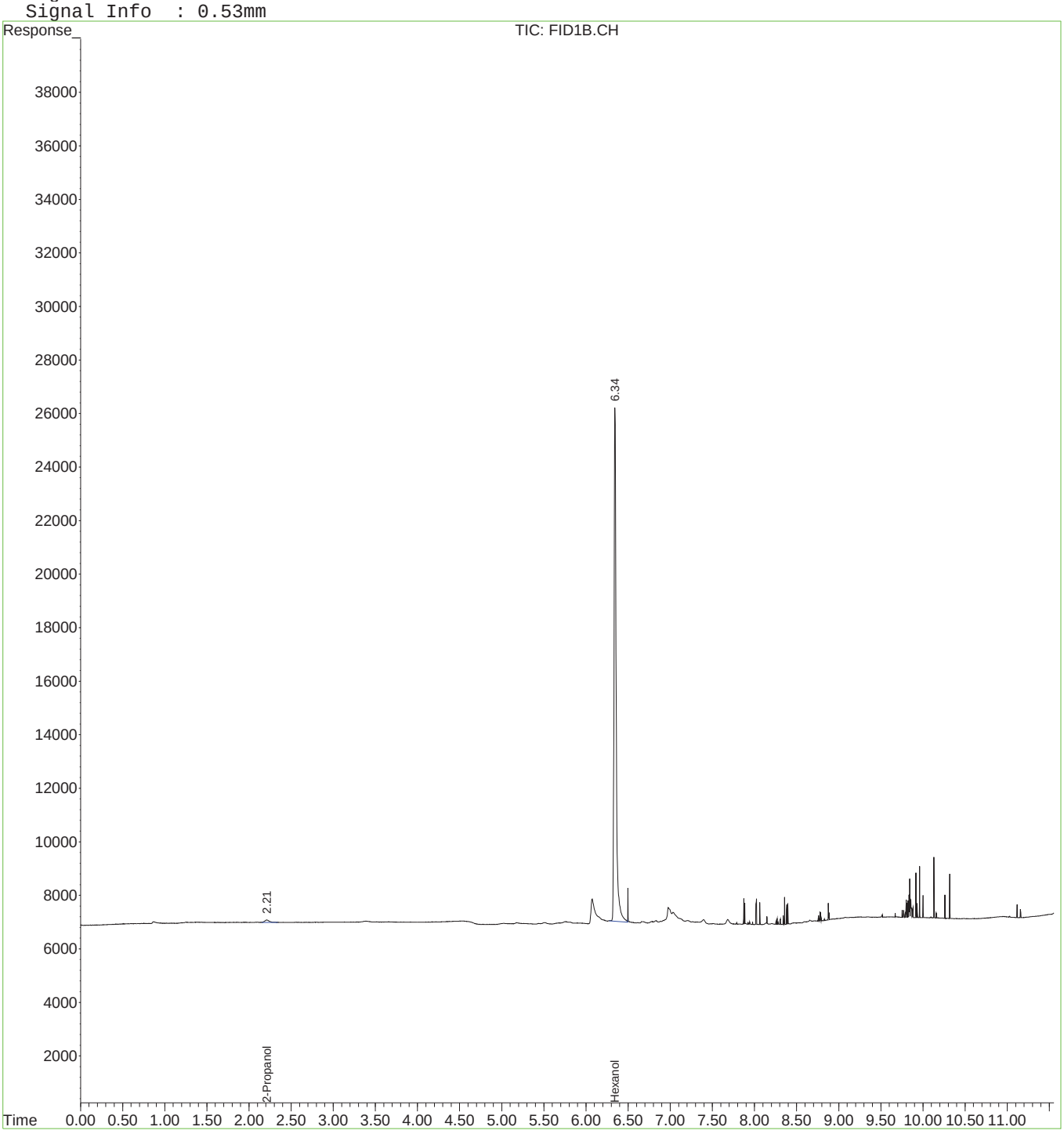
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123829.D MGH6650.M Tue Mar 02 15:11:35 2021 RPT1

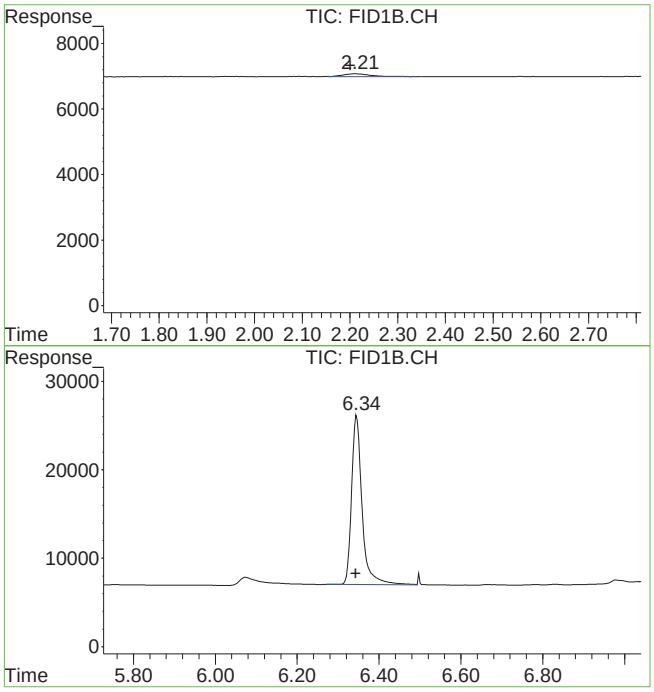
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123829.D Vial: 18
Acq On : 01-Mar-2021, 17:31:07 Operator: RobertS
Sample : jd20859-6 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Mar 2 15:11 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.210 min
Delta R.T.: 0.009 min
Response: 3926
Conc: 20169.85 ug/L m

#9 Hexanol

R.T.: 6.345 min
Delta R.T.: 0.003 min
Response: 340707
Conc: 4514.21 ug/L

Manual Integration Approval Summary

Sample Number: JD20859-6
Lab FileID: GH123829.D
Injection Time: 03/01/21 17:31
Method: SW846-8015D (DAI)
Analyst approved: 03/02/21 15:14 Bridget Kelly
Supervisor approved: 03/11/21 13:56 MoHui Huang

Parameter	CAS	Sig#	R.T. (min.)	Reason
Isopropyl Alcohol	67-63-0	1	2.21	Missed peak

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123866.D Vial: 7
Acq On : 03-Mar-2021, 11:14:14 Operator: RobertS
Sample : jd20859-7 Inst : HP5890
Misc : GC57555,GGH6666,5.0,,,,20 Multiplr: 20.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12:47 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	265658	3519.843 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 70.40%	
Target Compounds			
3) 2-Propanol	2.23	11020	11321.626 ug/L

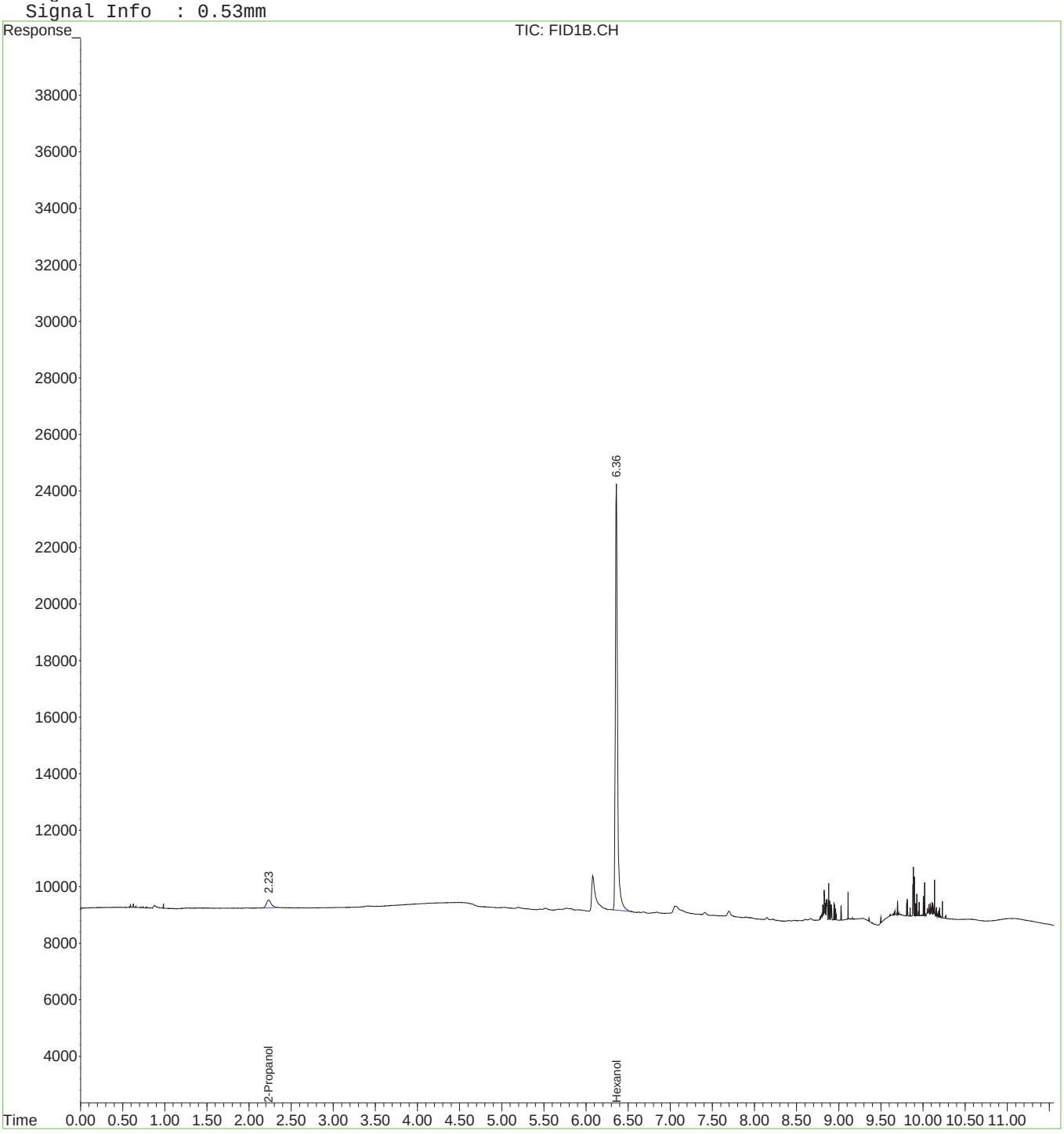
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123866.D MGH6650.M Wed Mar 10 16:19:29 2021 RPT1

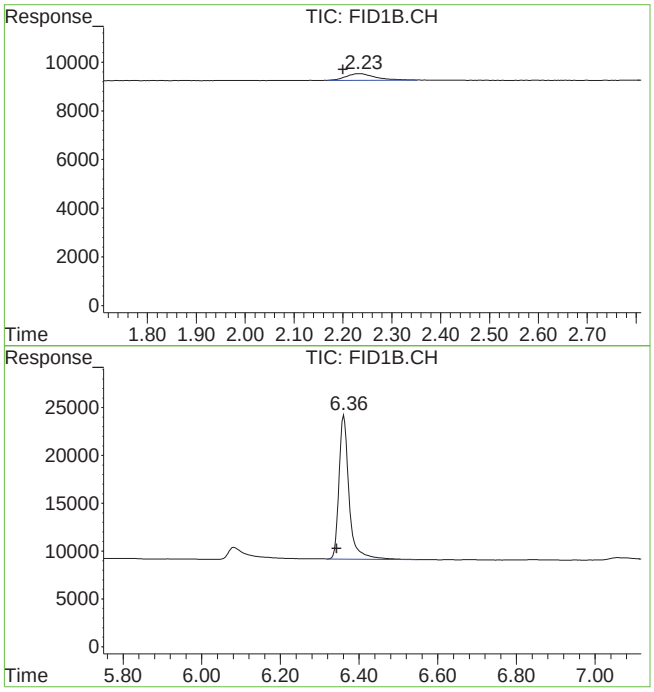
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123866.D Vial: 7
Acq On : 03-Mar-2021, 11:14:14 Operator: RobertS
Sample : jd20859-7 Inst : HP5890
Misc : GC57555,GGH6666,5.0,,,,20 Multiplr: 20.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.233 min
Delta R.T.: 0.033 min
Response: 11020
Conc: 11321.63 ug/L

#9 Hexanol

R.T.: 6.361 min
Delta R.T.: 0.018 min
Response: 265658
Conc: 3519.84 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123823.D Vial: 12
Acq On : 01-Mar-2021, 15:46:14 Operator: RobertS
Sample : mb2 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:44 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	383574	5082.178 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 101.64%	
Target Compounds			

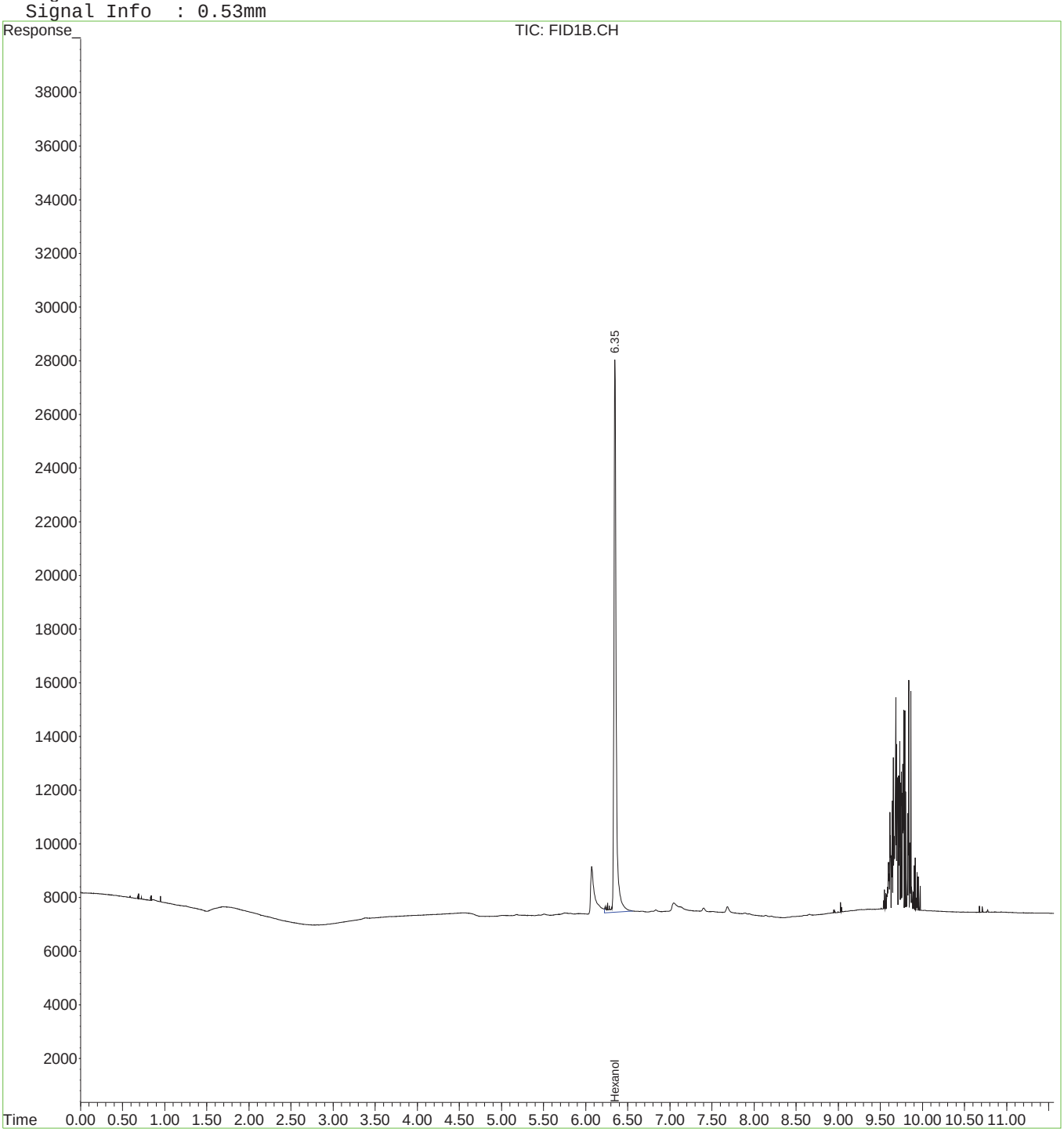
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123823.D MGH6650.M Tue Mar 02 15:09:16 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123823.D Vial: 12
Acq On : 01-Mar-2021, 15:46:14 Operator: RobertS
Sample : mb2 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123862.D Vial: 3
Acq On : 03-Mar-2021, 09:32:41 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57532,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12:43 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.37	273185	3619.579	ug/L

Spiked Amount 5000.000 Range 56 - 145 Recovery = 72.39%

Target Compounds

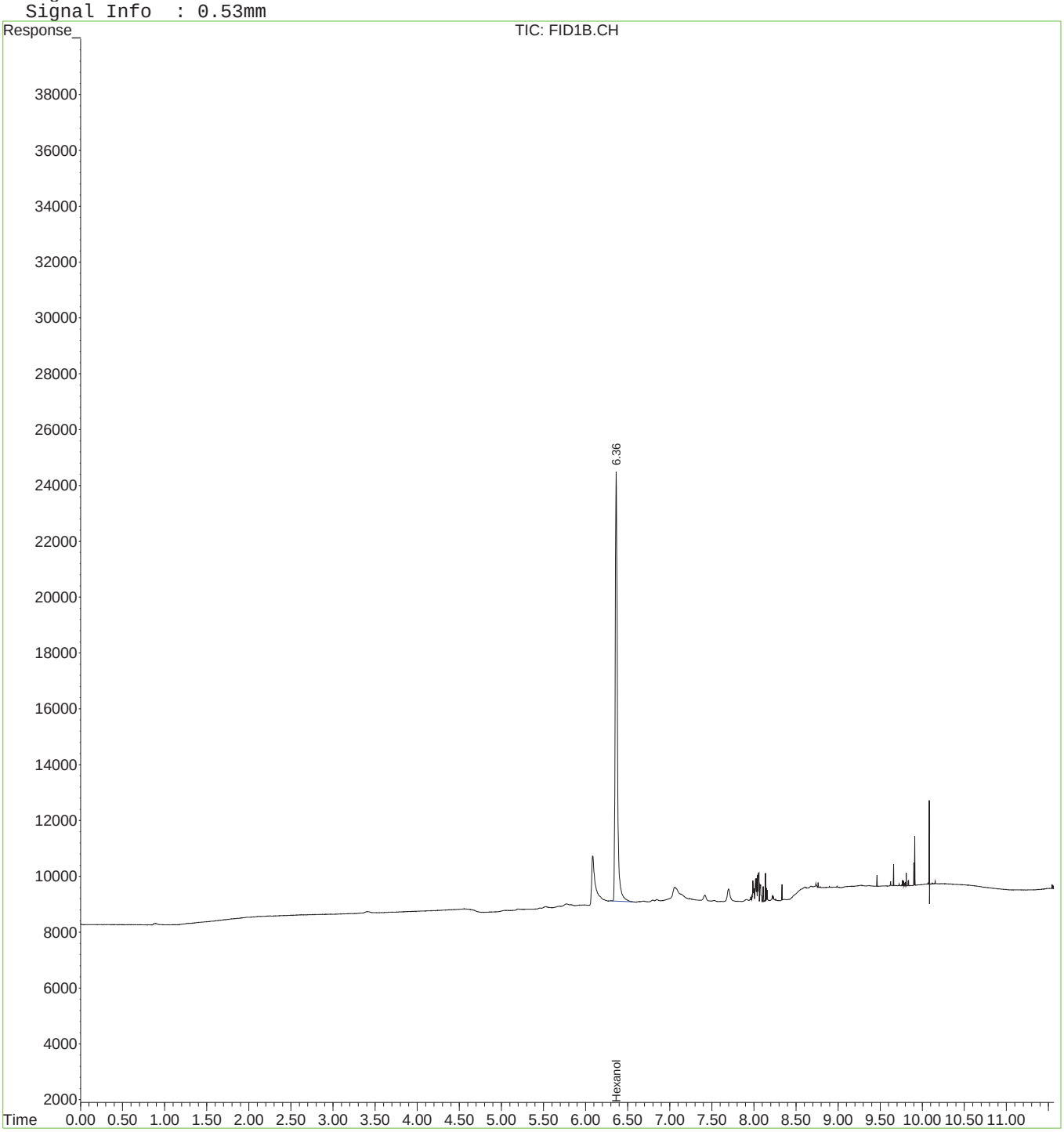
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123862.D MGH6650.M Wed Mar 10 16:18:14 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123862.D Vial: 3
Acq On : 03-Mar-2021, 09:32:41 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57532,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123814.D Vial: 3
Acq On : 01-Mar-2021, 12:34:43 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:35 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	339991	4504.727 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 90.09%	
Target Compounds			

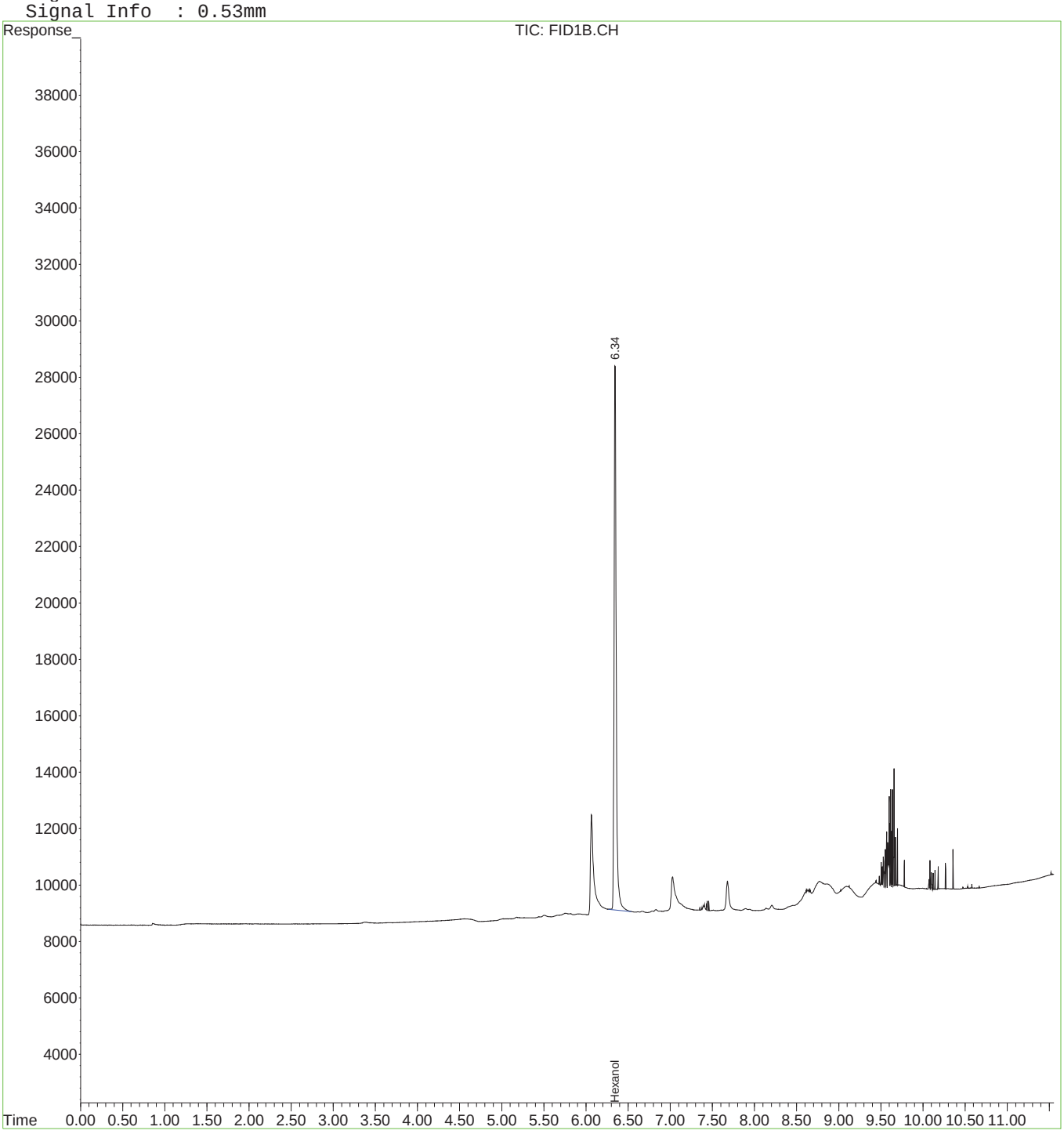
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123814.D MGH6650.M Tue Mar 02 14:03:59 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123814.D Vial: 3
Acq On : 01-Mar-2021, 12:34:43 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123815.D Vial: 4
Acq On : 01-Mar-2021, 12:52:15 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:36 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.35	307464	4073.758	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 81.48%		
Target Compounds				
1) Methanol	1.39	59666	4344.897	ug/L
2) Ethanol	1.84	84823	4824.818	ug/L
3) 2-Propanol	2.21	90180	4632.449	ug/L
4) Tert-Butyl Alcohol	2.48	133416	4838.467	ug/L
5) 1-Propanol	3.10	103708	4358.460	ug/L
6) 2-Butanol	3.53	112374	4582.527	ug/L
7) Isobutanol	4.00	167031	5895.351	ug/L
8) 1-butanol	4.53	127456	4452.861	ug/L

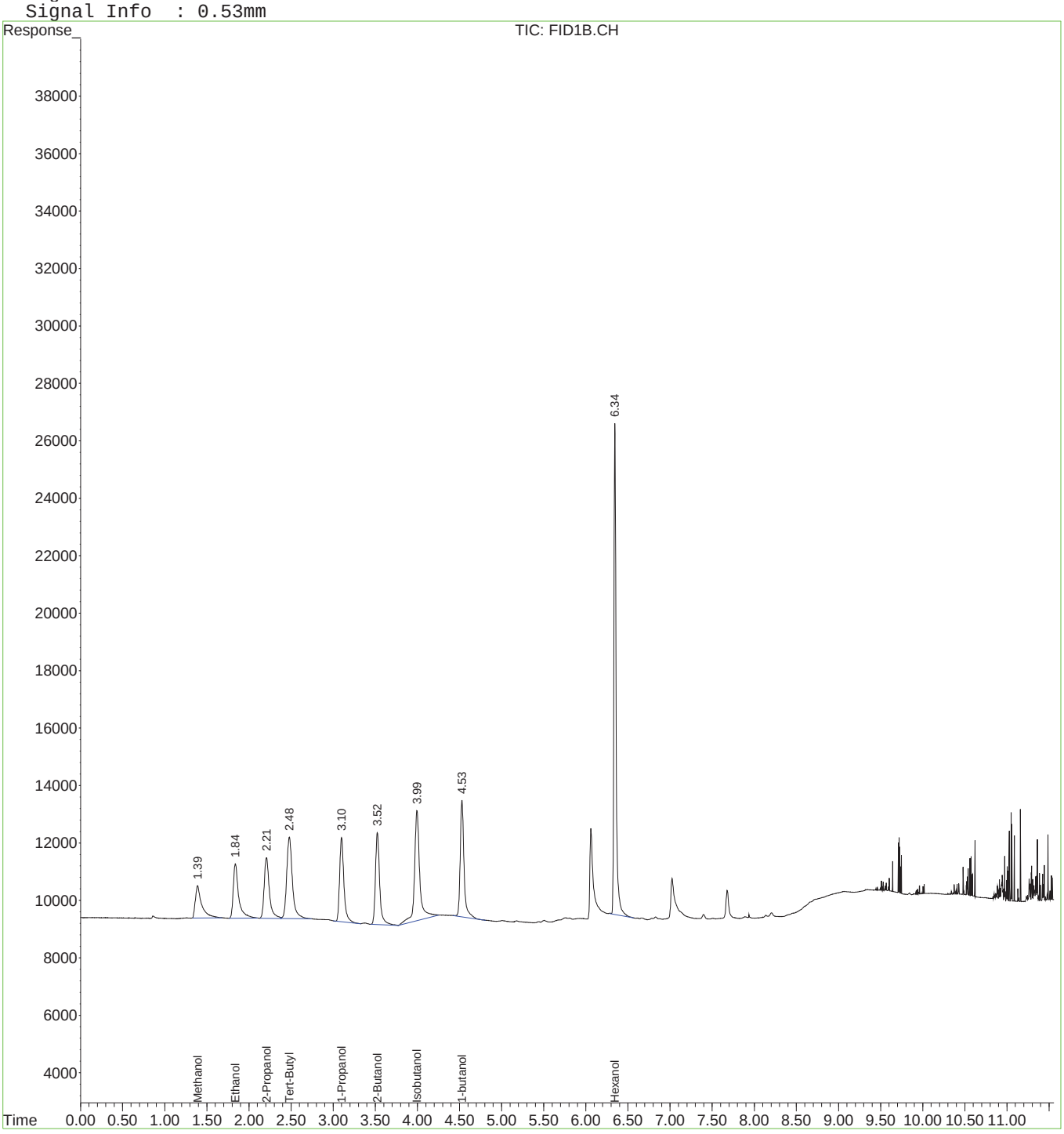
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123815.D MGH6650.M Tue Mar 02 14:04:11 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123815.D Vial: 4
Acq On : 01-Mar-2021, 12:52:15 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123863.D Vial: 4
Acq On : 03-Mar-2021, 09:50:09 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57532,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12:44 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	360055	4770.557 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 95.41%	
Target Compounds			
1) Methanol	1.42	60993	4441.593 ug/L
2) Ethanol	1.87	85878	4884.802 ug/L
3) 2-Propanol	2.24	90832	4665.964 ug/L
4) Tert-Butyl Alcohol	2.52	131177	4757.249 ug/L
5) 1-Propanol	3.14	132976	5588.496 ug/L
6) 2-Butanol	3.56	114115	4653.501 ug/L
7) Isobutanol	4.03	136589	4820.905 ug/L
8) 1-butanol	4.56	130142	4546.673 ug/L

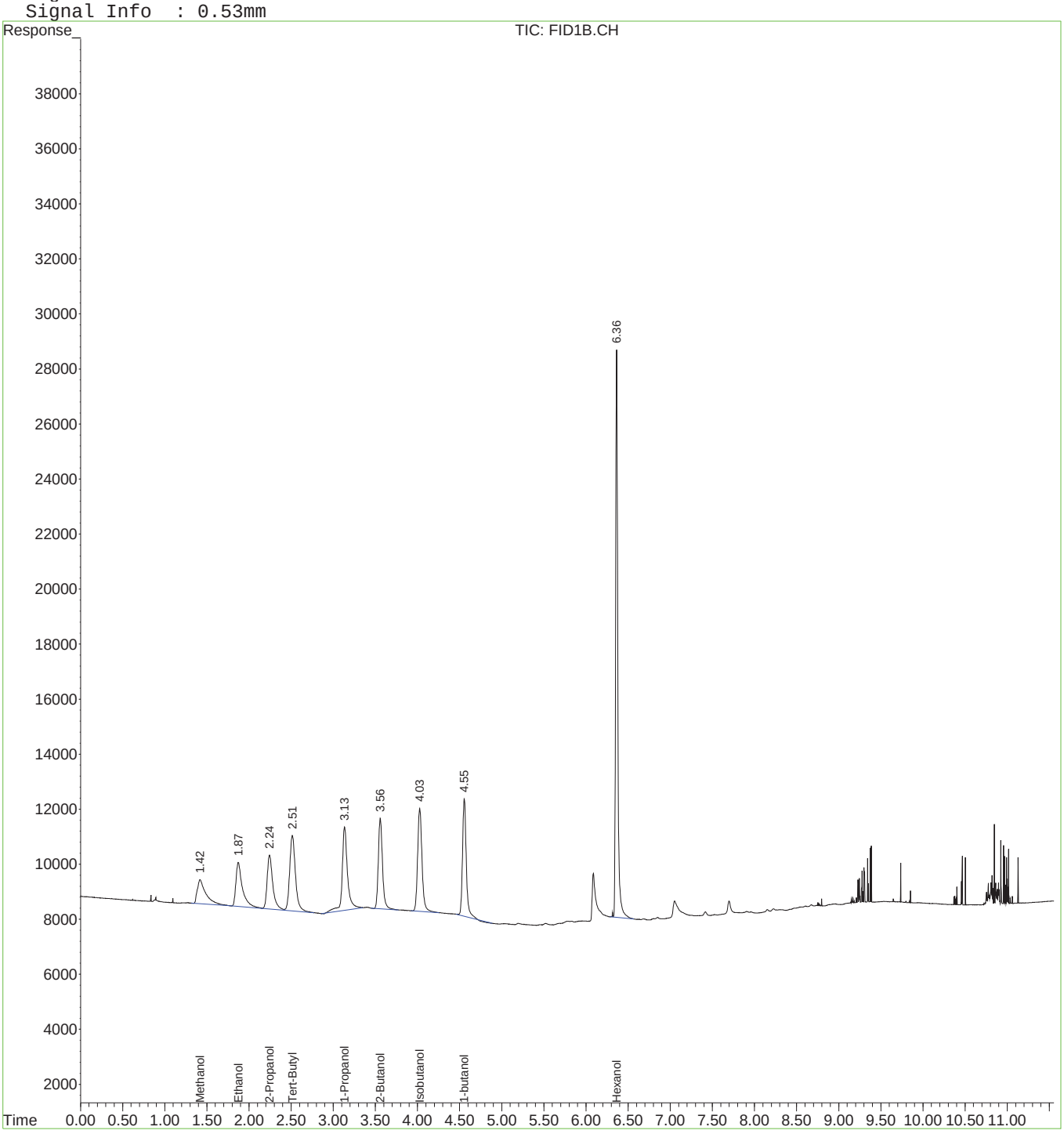
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123863.D MGH6650.M Wed Mar 10 16:18:22 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123863.D Vial: 4
Acq On : 03-Mar-2021, 09:50:09 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57532,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123820.D Vial: 9
Acq On : 01-Mar-2021, 14:53:45 Operator: RobertS
Sample : fa83241-1ms Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:10:12 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.35	365802	4846.708	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 96.93%		
Target Compounds				
1) Methanol	1.39	55726	4058.002	ug/L
2) Ethanol	1.84	78596	4470.603	ug/L
3) 2-Propanol	2.21	85454	4389.679	ug/L
4) Tert-Butyl Alcohol	2.48	131024	4751.720	ug/L
5) 1-Propanol	3.10	116563	4898.698	ug/L
6) 2-Butanol	3.53	117585	4795.003	ug/L
7) Isobutanol	4.00	139106	4909.760	ug/L
8) 1-butanol	4.53	131825	4605.479	ug/L

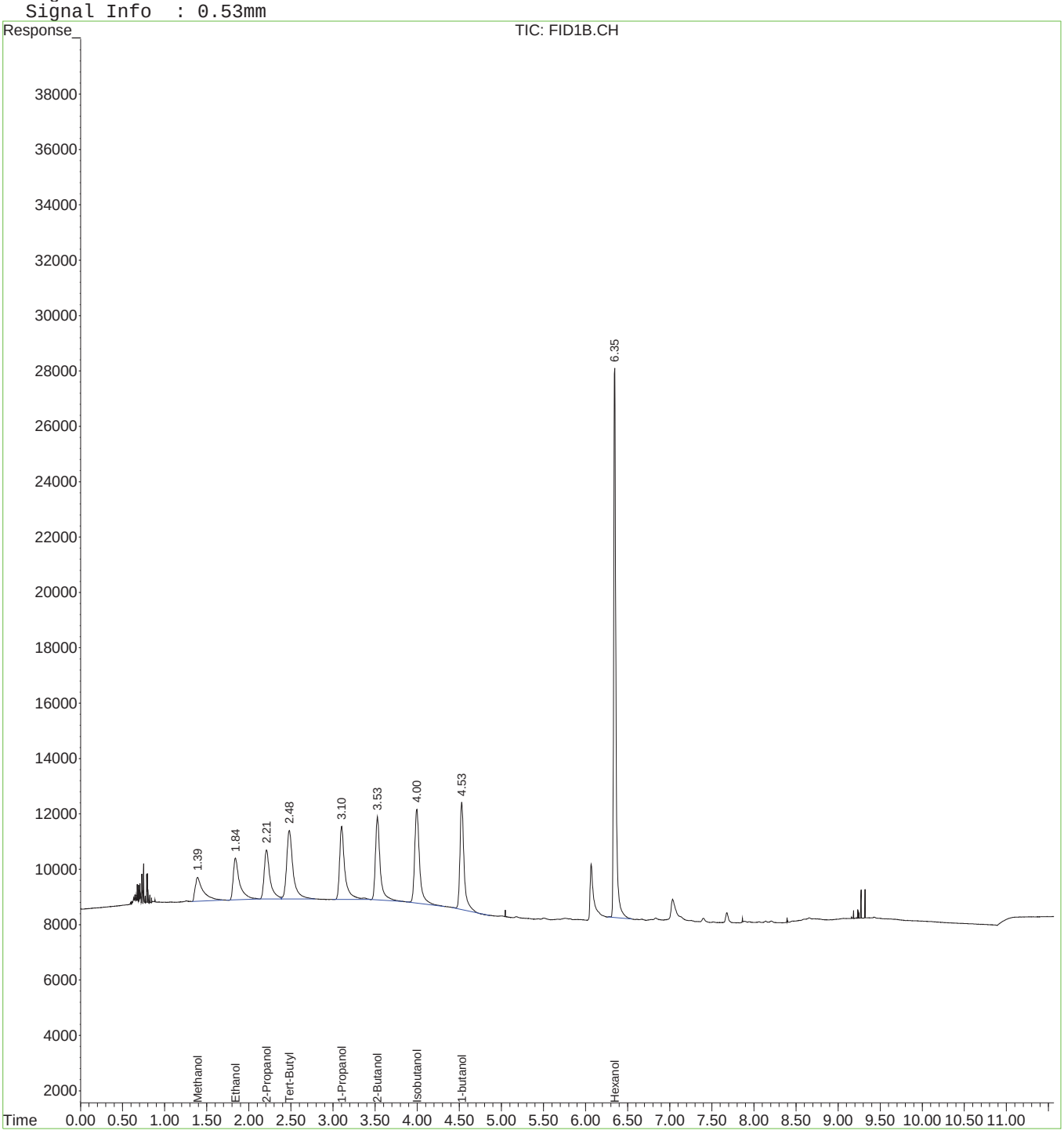
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123820.D MGH6650.M Tue Mar 02 14:10:17 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123820.D Vial: 9
Acq On : 01-Mar-2021, 14:53:45 Operator: RobertS
Sample : fa83241-1ms Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:10 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
MoHui Huang
03/02/21 14:33

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123821.D Vial: 10
Acq On : 01-Mar-2021, 15:11:13 Operator: RobertS
Sample : fa83241-1msd Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:42 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.35	349533	4631.155	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	92.62%		
	Target Compounds					
1)	Methanol	1.39	63152	4598.798	ug/L	m
2)	Ethanol	1.84	104178	5925.701	ug/L	m
3)	2-Propanol	2.21	96600	4962.223	ug/L	
4)	Tert-Butyl Alcohol	2.48	114225	4142.467	ug/L	m
5)	1-Propanol	3.10	104285	4382.726	ug/L	
6)	2-Butanol	3.53	110380	4501.215	ug/L	
7)	Isobutanol	3.99	129242	4561.591	ug/L	
8)	1-butanol	4.53	126849	4431.644	ug/L	

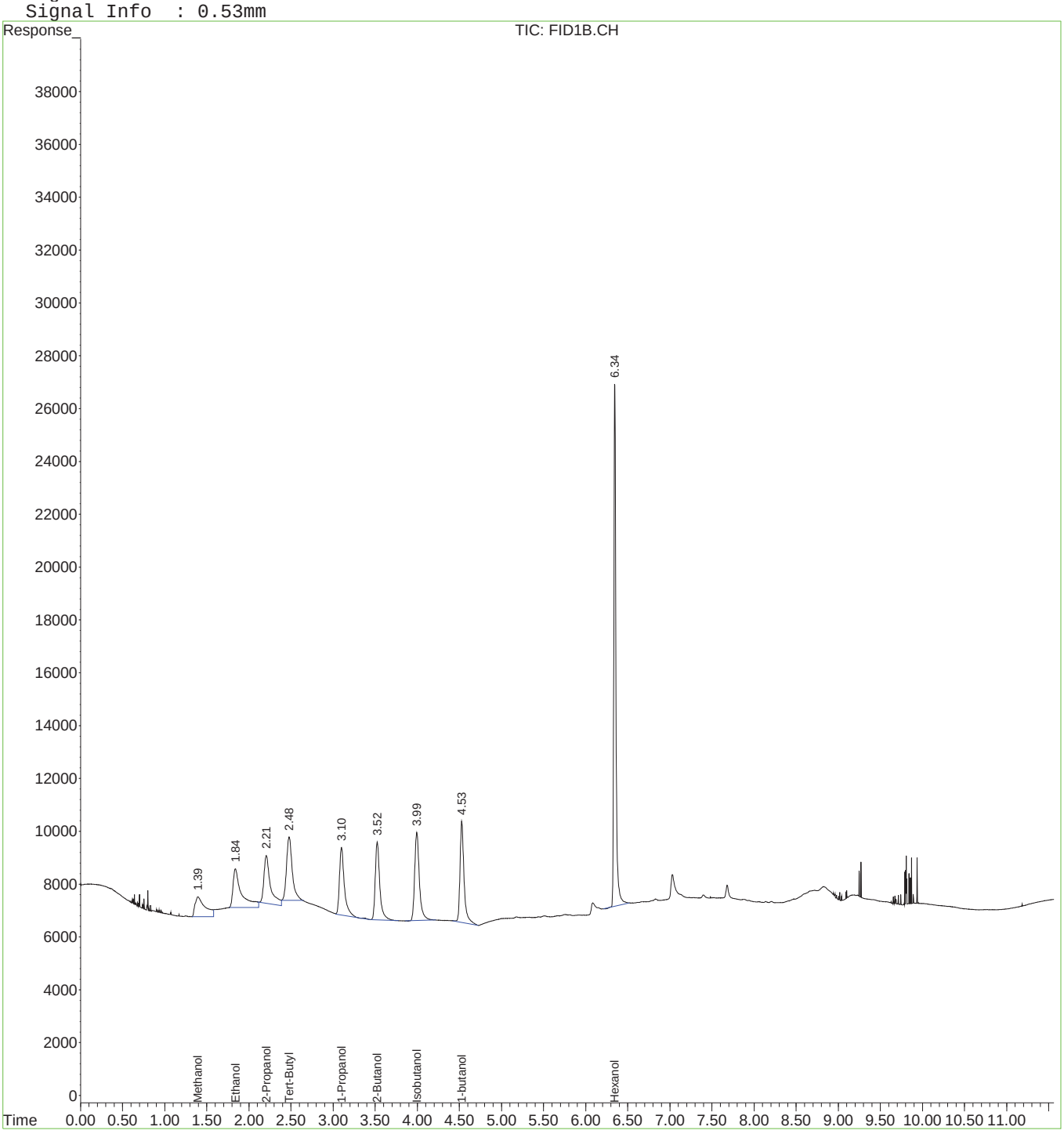
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123821.D MGH6650.M Tue Mar 02 14:11:34 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123821.D Vial: 10
Acq On : 01-Mar-2021, 15:11:13 Operator: RobertS
Sample : fa83241-1msd Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:11 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

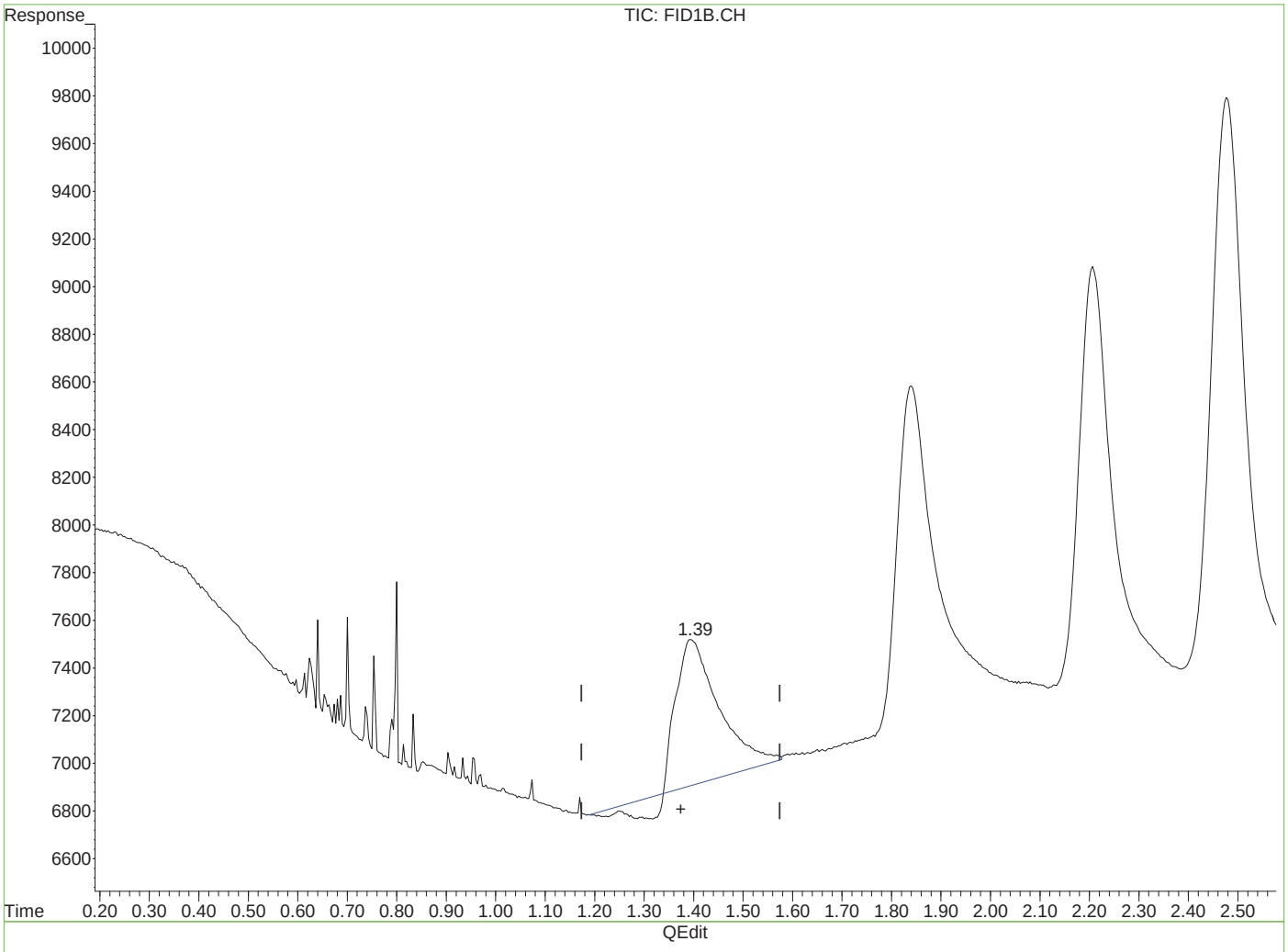
Sample Number: FA83241-1MSD
Lab FileID: GH123821.D
Injection Time: 03/01/21 15:11
Method: SW846-8015D (DAI)
Analyst approved: 03/02/21 14:15 Bridget Kelly
Supervisor approved: 03/02/21 14:33 MoHui Huang

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.39	Poorly defined baseline
Ethanol	64-17-5	1	1.84	Poorly defined baseline
Tertiary Butyl Alcohol	75-65-0	1	2.48	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123821.D Vial: 10
Acq On : 01-Mar-2021, 15:11:13 Operator: RobertS
Sample : fa83241-1msd Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.40min 2391.077ug/L

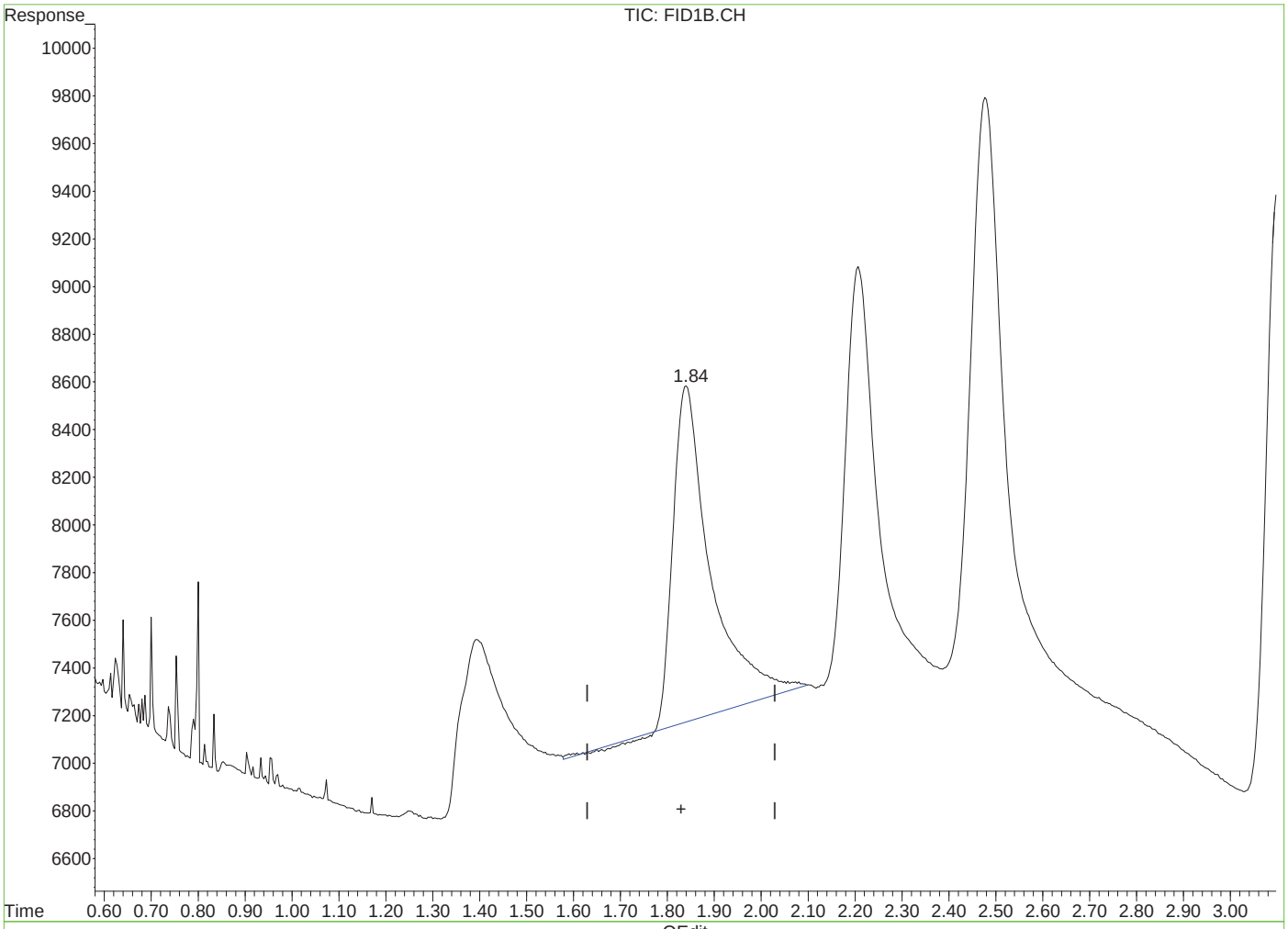
response 32835

(+) = Expected Retention Time
GH123821.D MGH6650.M Tue Mar 02 14:10:25 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123821.D Vial: 10
Acq On : 01-Mar-2021, 15:11:13 Operator: RobertS
Sample : fa83241-1msd Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.84min 4421.657ug/L

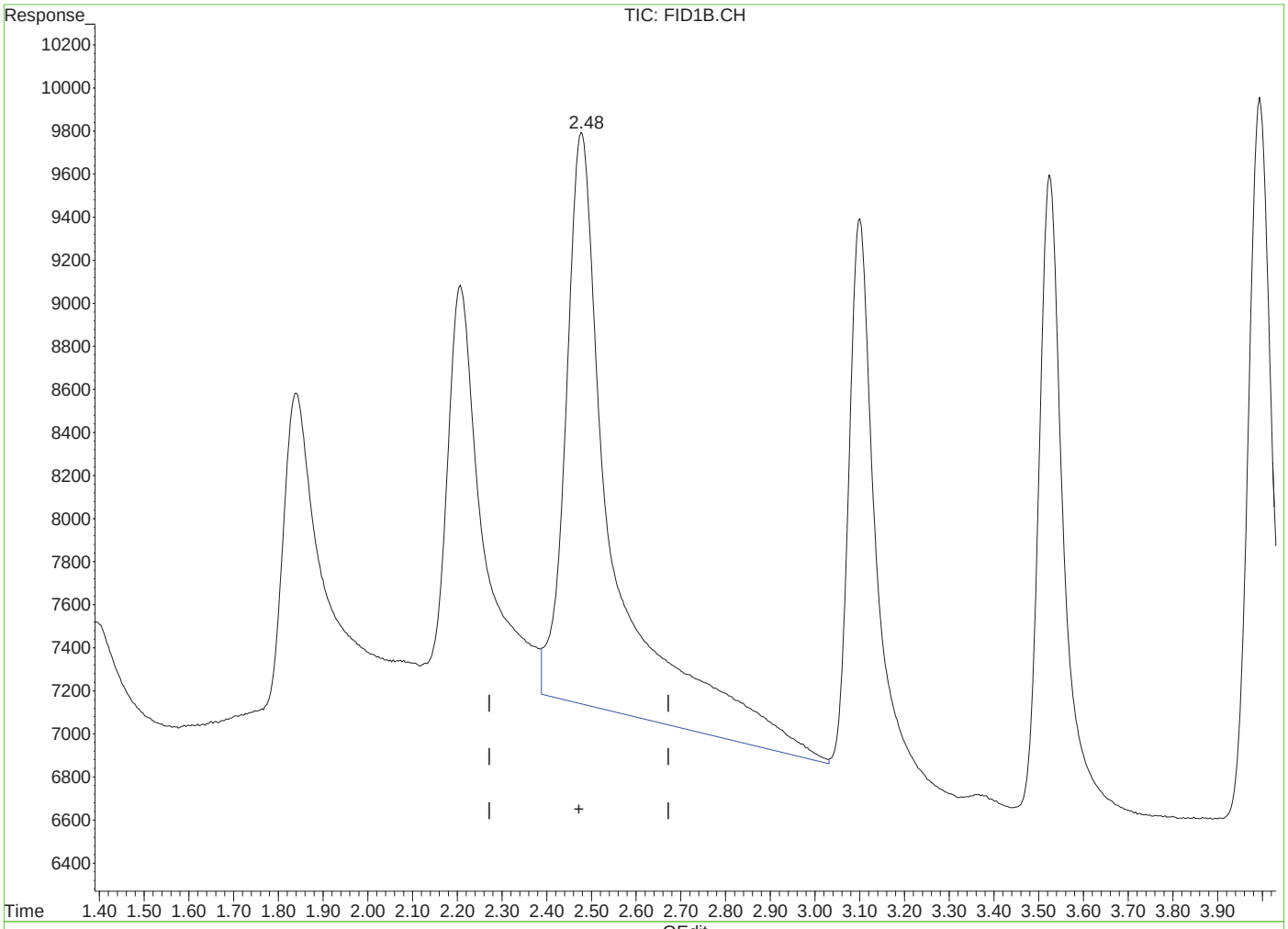
response 77736

(+) = Expected Retention Time
GH123821.D MGH6650.M Tue Mar 02 14:10:46 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123821.D Vial: 10
Acq On : 01-Mar-2021, 15:11:13 Operator: RobertS
Sample : fa83241-1msd Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.48min 7062.620ug/L

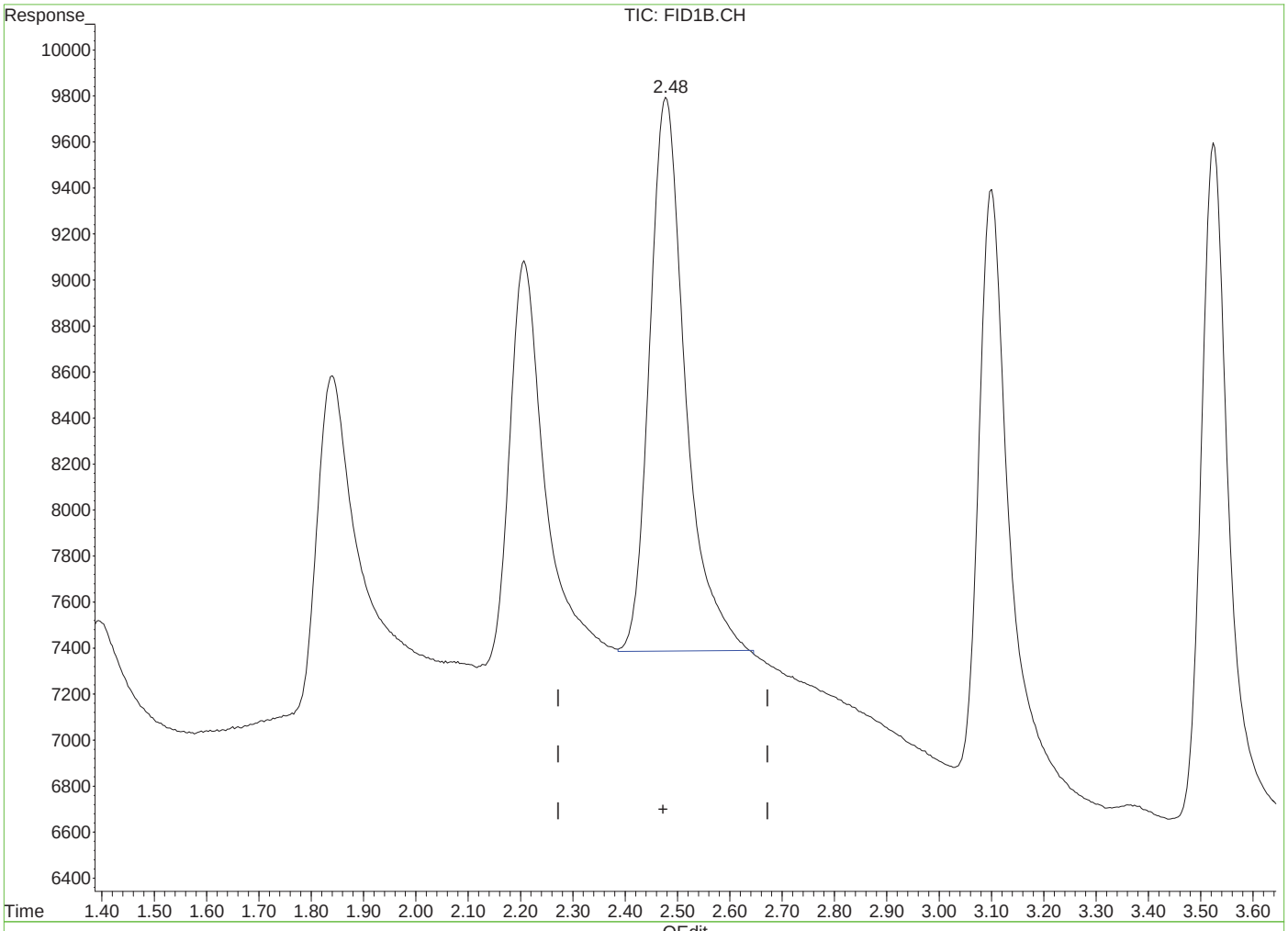
response 194745

(+) = Expected Retention Time
GH123821.D MGH6650.M Tue Mar 02 14:11:12 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123821.D Vial: 10
Acq On : 01-Mar-2021, 15:11:13 Operator: RobertS
Sample : fa83241-1msd Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.48min 4142.467ug/L m

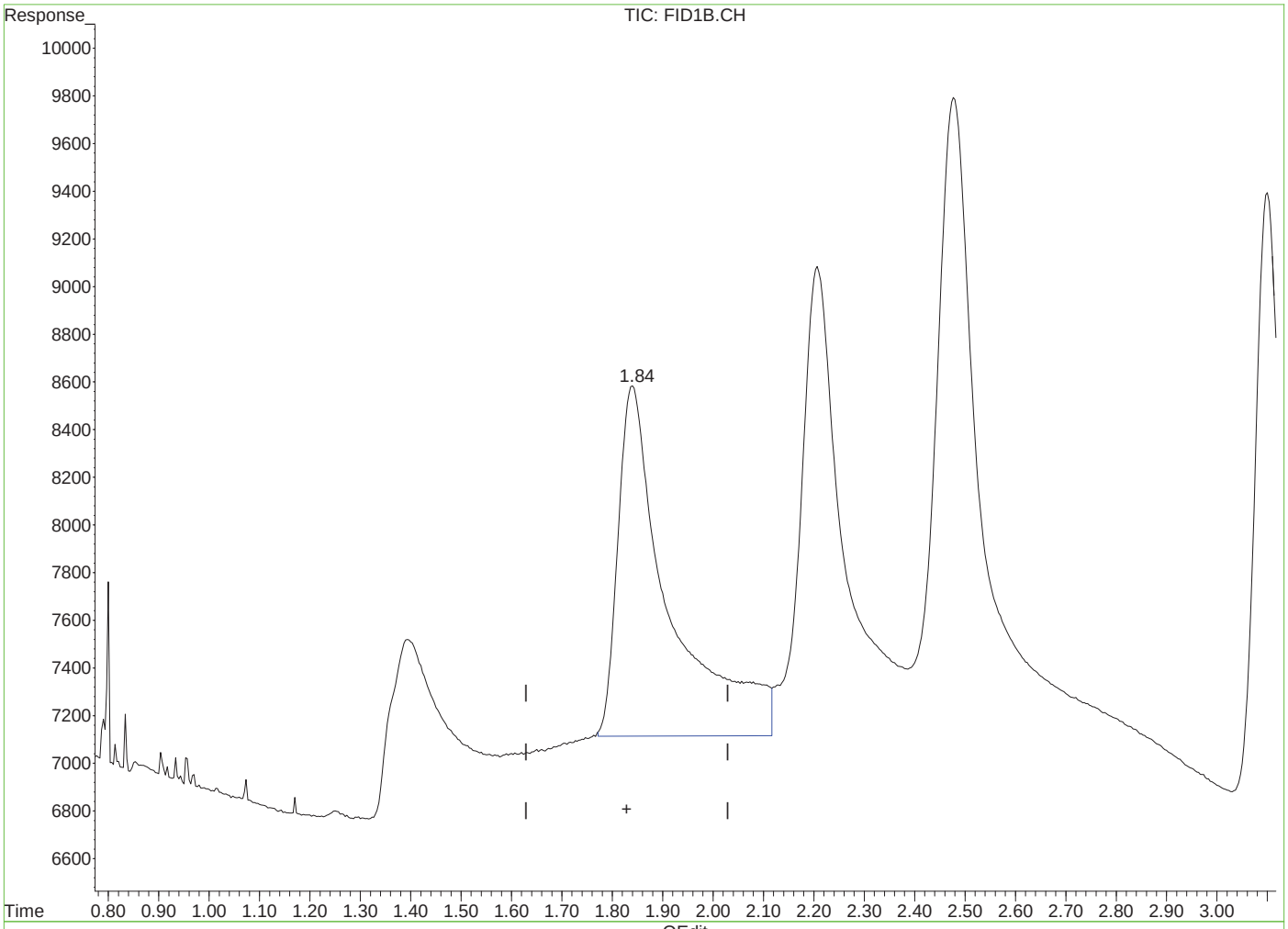
response 114225

(+) = Expected Retention Time
GH123821.D MGH6650.M Tue Mar 02 14:11:30 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123821.D Vial: 10
Acq On : 01-Mar-2021, 15:11:13 Operator: RobertS
Sample : fa83241-1msd Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:11 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.84min 5925.701ug/L m

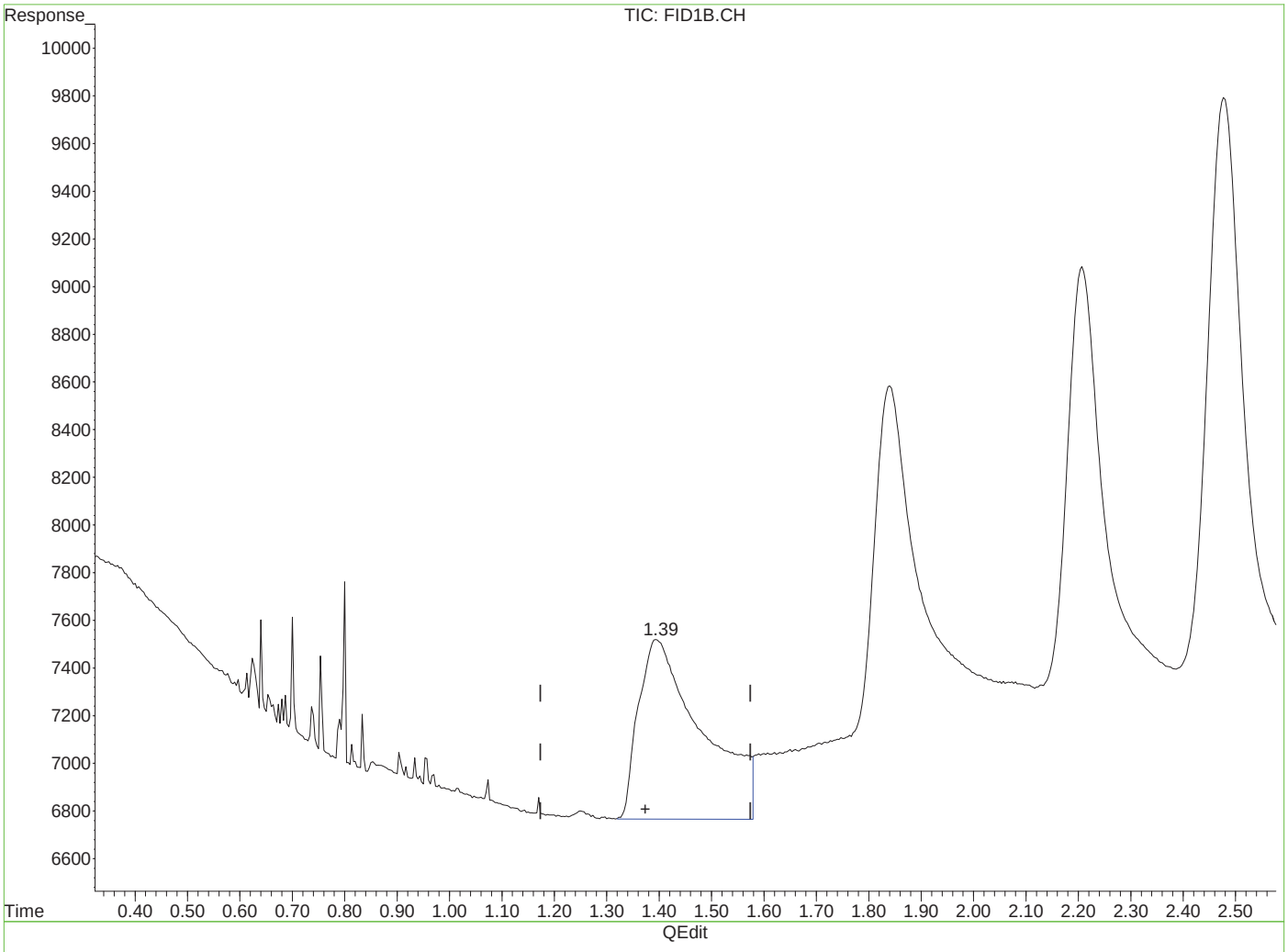
response 104178

(+) = Expected Retention Time
GH123821.D MGH6650.M Tue Mar 02 16:01:11 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123821.D Vial: 10
Acq On : 01-Mar-2021, 15:11:13 Operator: RobertS
Sample : fa83241-1msd Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:11 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.39min 4598.798ug/L m

response 63152

(+) = Expected Retention Time
GH123821.D MGH6650.M Tue Mar 02 16:33:05 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123868.D Vial: 9
Acq On : 03-Mar-2021, 11:49:14 Operator: RobertS
Sample : jd20874-4ms Inst : HP5890
Misc : GC57552,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12:49 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	347737	4607.357	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 92.15%		
Target Compounds				
1) Methanol	1.41	55752	4059.891	ug/L
2) Ethanol	1.87	83808	4767.043	ug/L
3) 2-Propanol	2.24	82849	4255.871	ug/L
4) Tert-Butyl Alcohol	2.51	138270	5014.480	ug/L
5) 1-Propanol	3.13	112246	4717.266	ug/L
6) 2-Butanol	3.56	113742	4638.317	ug/L
7) Isobutanol	4.02	136693	4824.587	ug/L
8) 1-butanol	4.55	134445	4697.016	ug/L

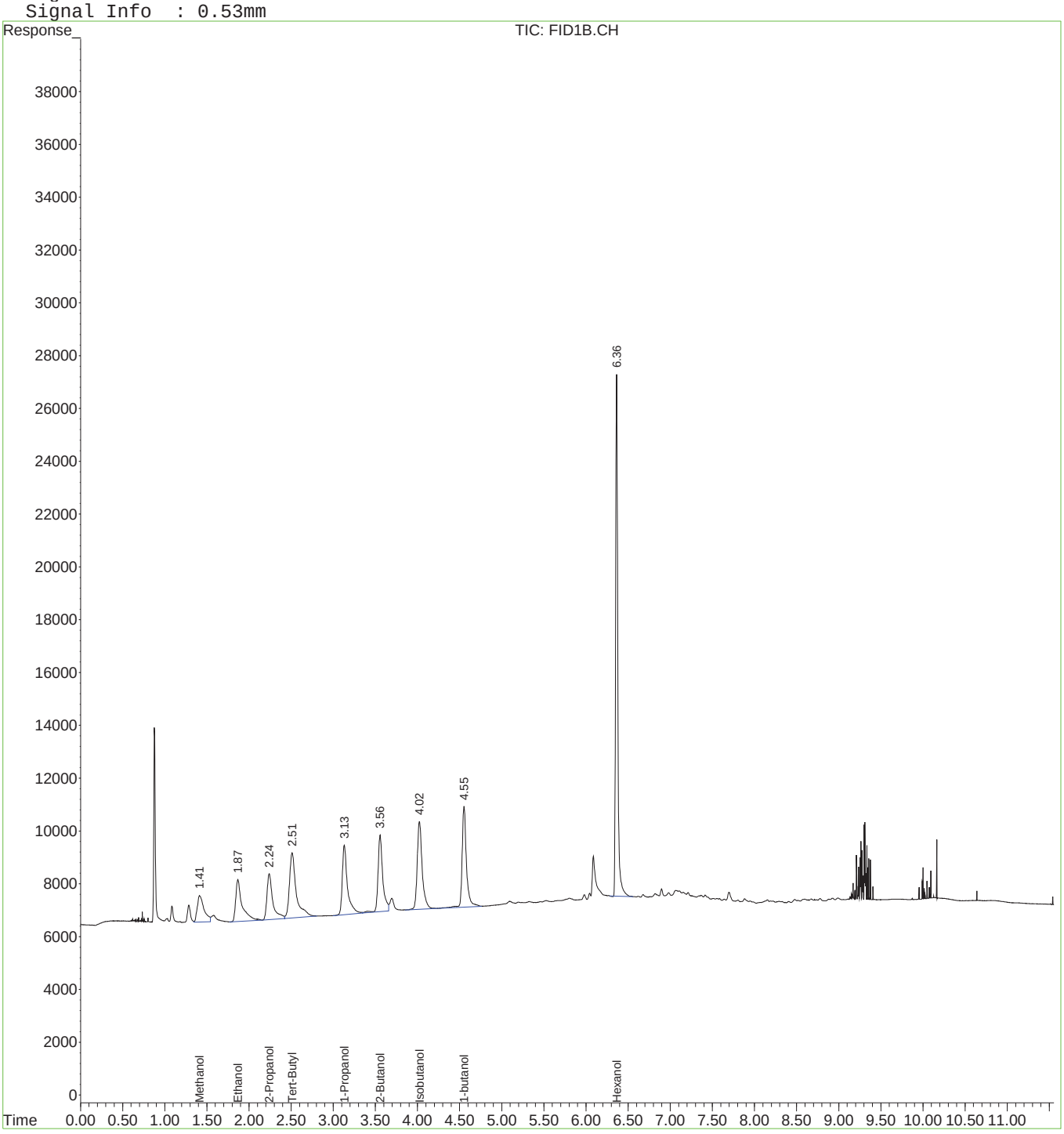
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123868.D MGH6650.M Wed Mar 10 16:20:06 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123868.D Vial: 9
Acq On : 03-Mar-2021, 11:49:14 Operator: RobertS
Sample : jd20874-4ms Inst : HP5890
Misc : GC57552,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123869.D Vial: 10
Acq On : 03-Mar-2021, 12:06:49 Operator: RobertS
Sample : jd20874-4msd Inst : HP5890
Misc : GC57552,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12:50 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	343198	4547.215 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 90.94%	
Target Compounds			
1) Methanol	1.41	44359	3230.292 ug/L
2) Ethanol	1.87	103313	5876.507 ug/L
3) 2-Propanol	2.24	111098	5706.992 ug/L
4) Tert-Butyl Alcohol	2.51	171396	6215.846 ug/L
5) 1-Propanol	3.13	104610	4396.349 ug/L
6) 2-Butanol	3.56	100775	4109.498 ug/L
7) Isobutanol	4.02	131803	4651.983 ug/L
8) 1-butanol	4.55	131455	4592.576 ug/L

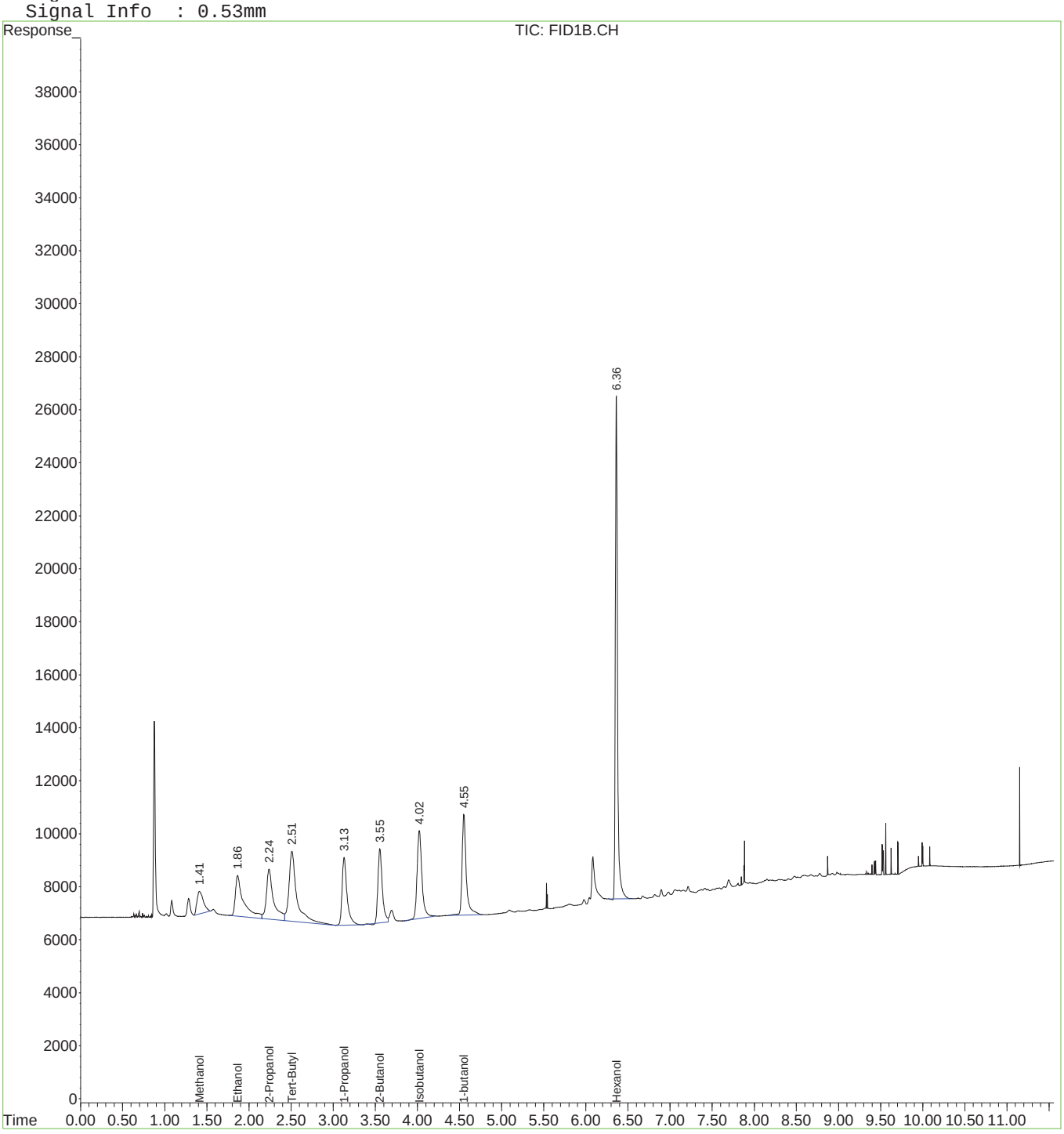
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123869.D MGH6650.M Wed Mar 10 16:20:14 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123869.D Vial: 10
Acq On : 03-Mar-2021, 12:06:49 Operator: RobertS
Sample : jd20874-4msd Inst : HP5890
Misc : GC57552,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:53 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.34	362785	4469.376	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 89.39%			
Target Compounds					
1) Methanol	1.37	3057	207.681	ug/L	
2) Ethanol	1.82	2731	153.906	ug/L	m
3) 2-Propanol	2.20	3951	200.505	ug/L	m
4) Tert-Butyl Alcohol	2.47	5876	198.400	ug/L	
5) 1-Propanol	3.09	4867	199.937	ug/L	
6) 2-Butanol	3.52	4972	191.683	ug/L	
7) Isobutanol	3.99	5889	197.827	ug/L	
8) 1-butanol	4.52	6991	232.719	ug/L	m

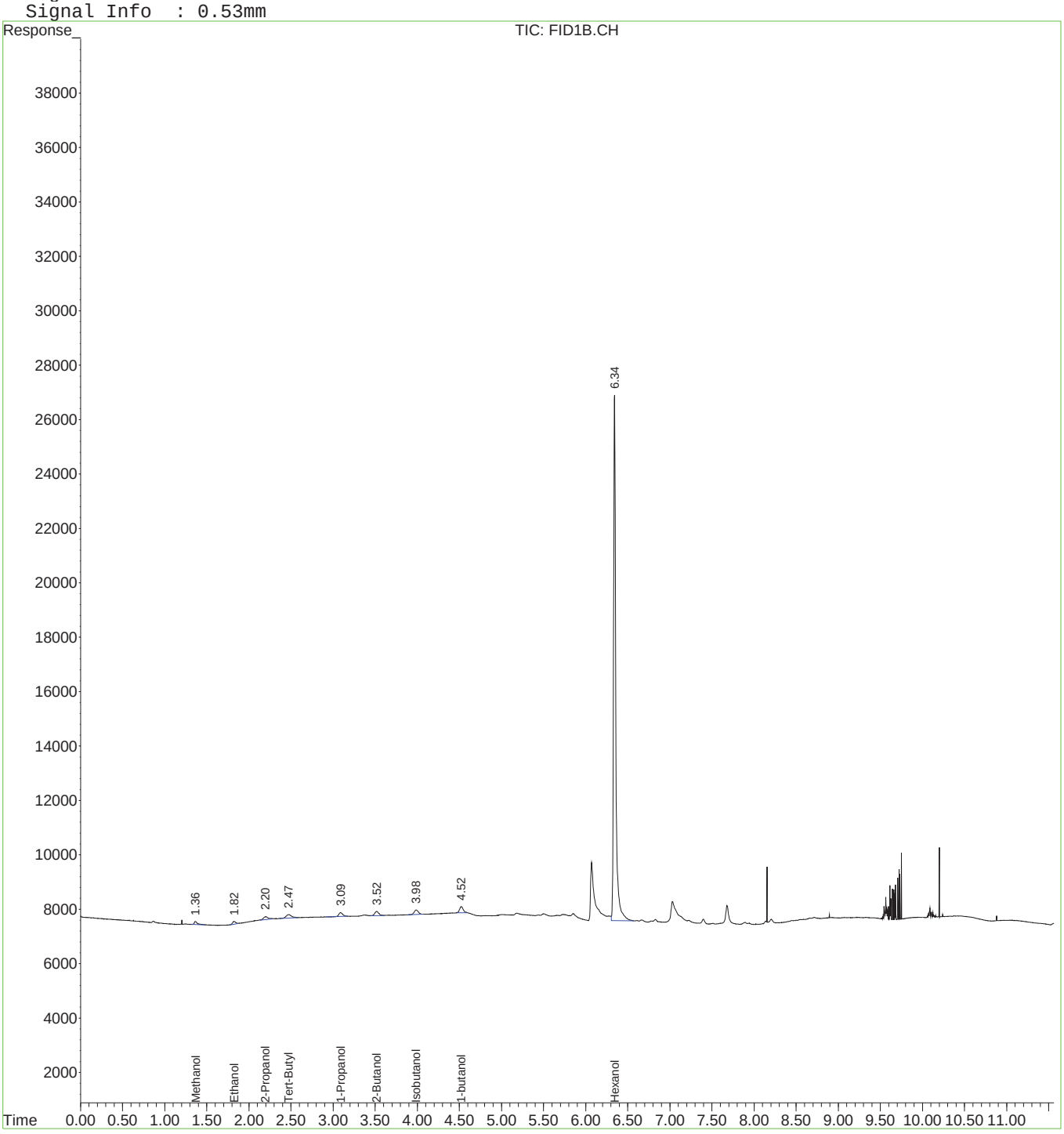
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123502.D MGH6650.M Thu Jan 28 11:49:02 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:24 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

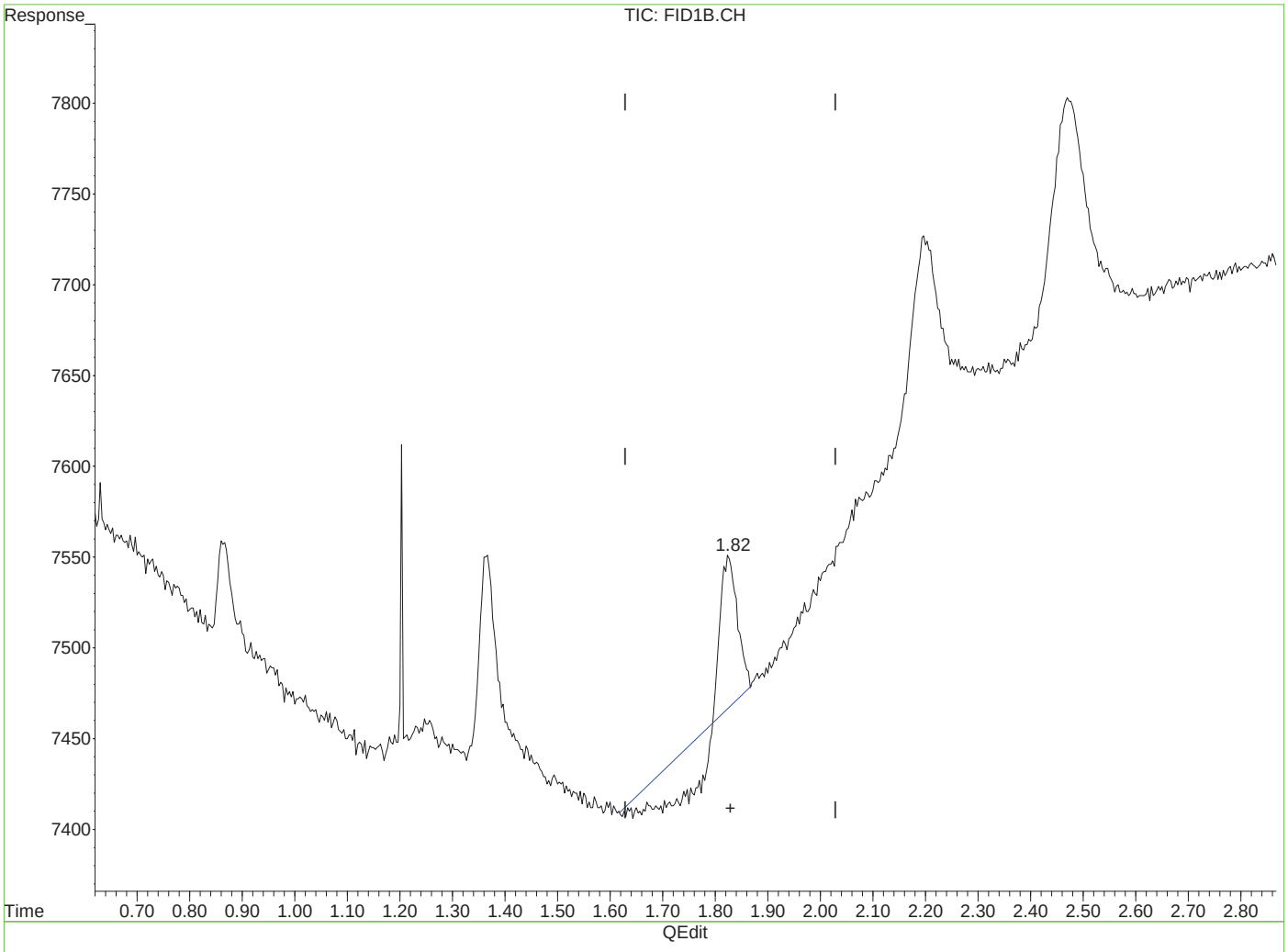
Sample Number: GGH6650-IC6650
Lab FileID: GH123502.D
Injection Time: 01/21/21 18:20
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethanol	64-17-5	1	1.82	Poorly defined baseline
Isopropyl Alcohol	67-63-0	1	2.20	Poorly defined baseline
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.83min 1.939ug/L

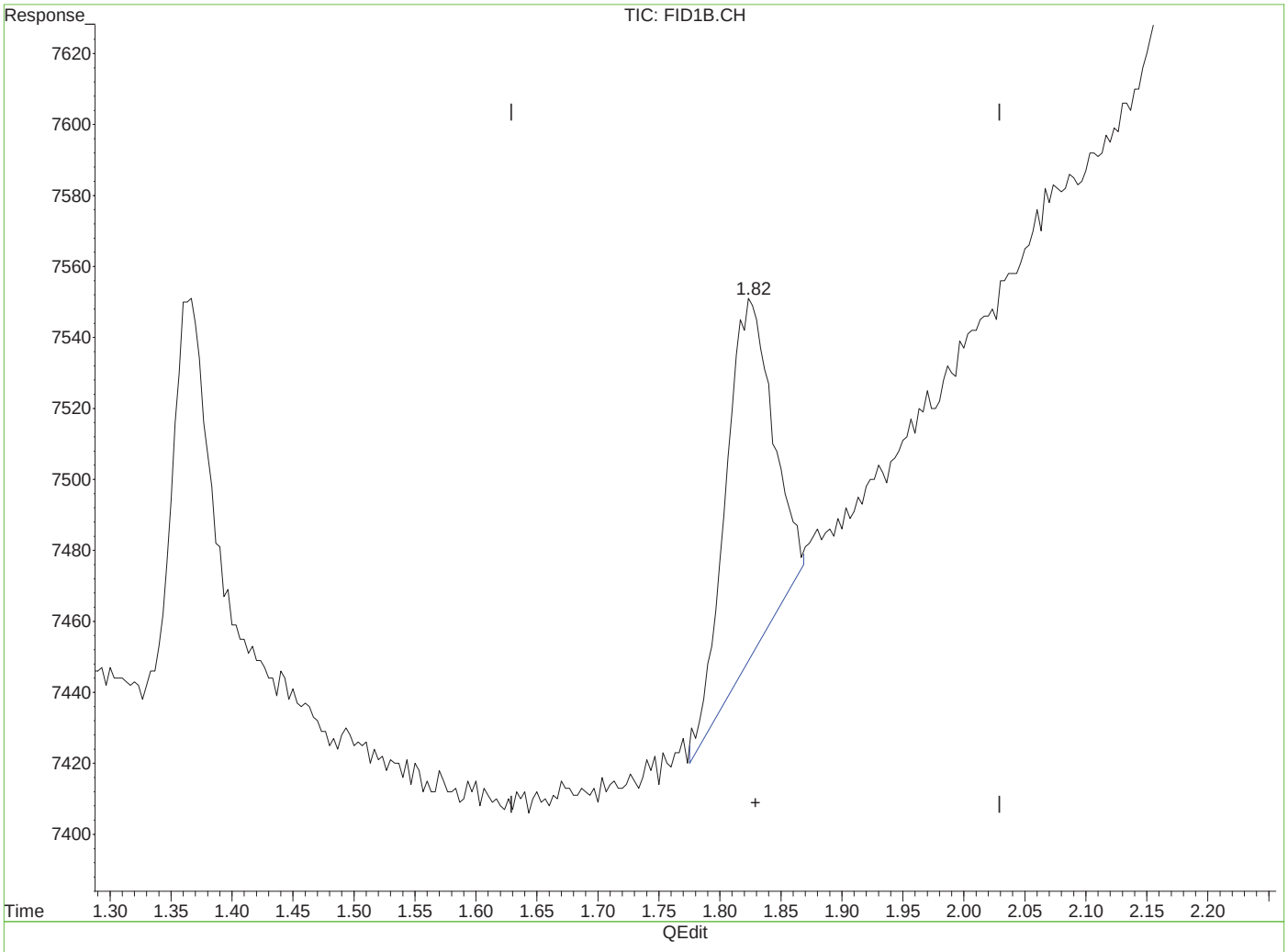
response 34

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:22:46 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.82min 153.906ug/L m

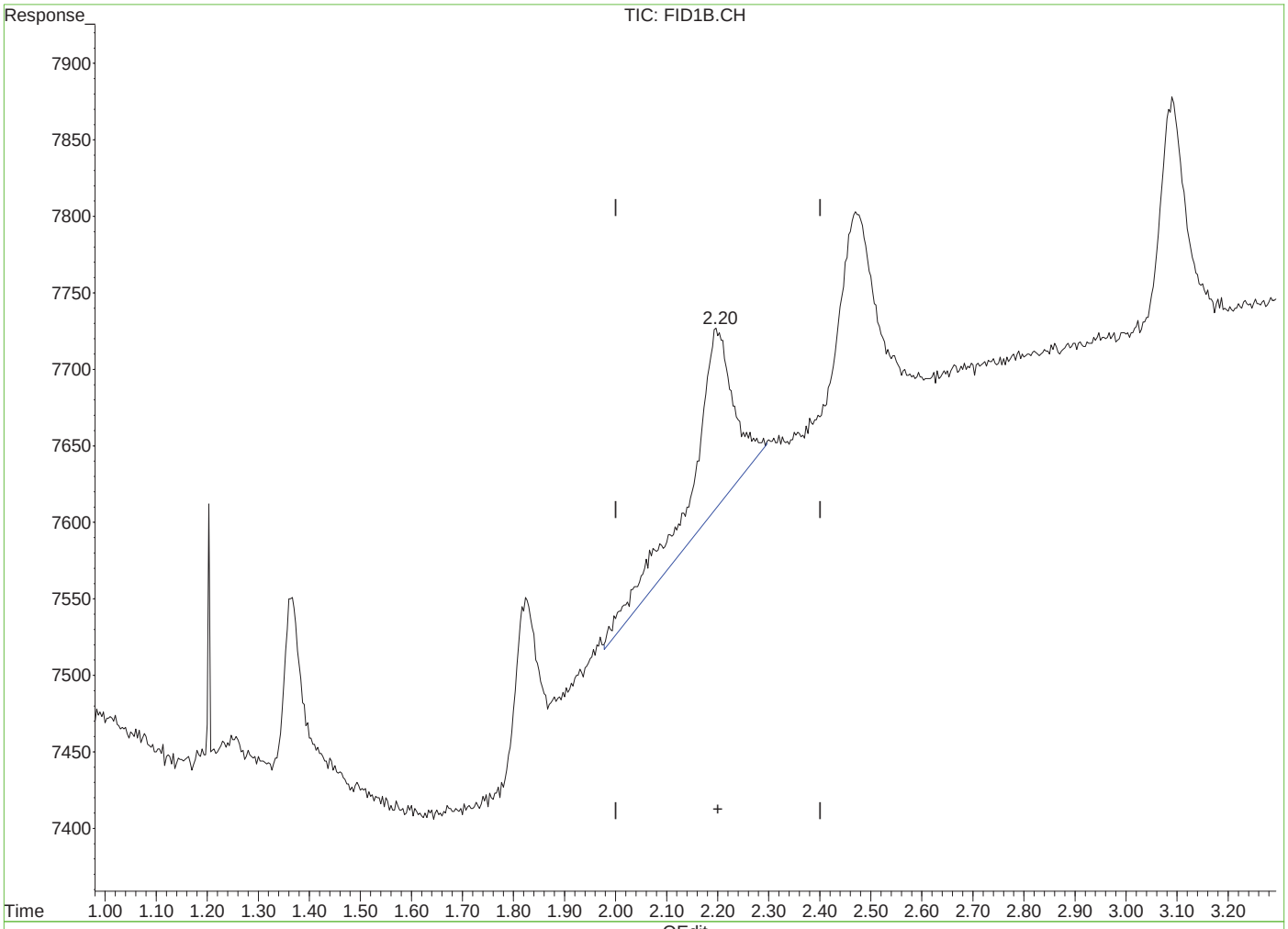
response 2731

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:05 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 324.750ug/L

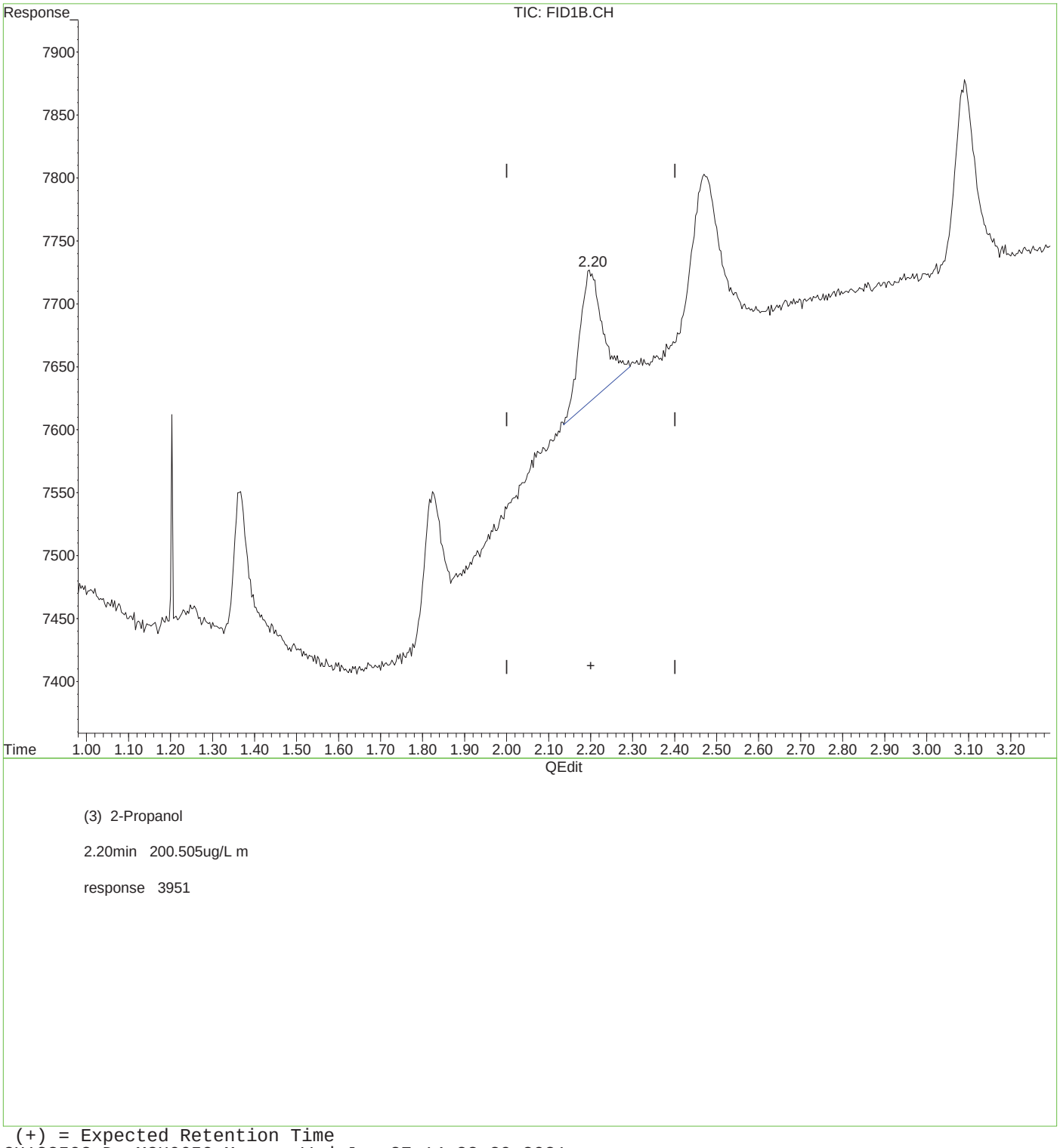
response 6399

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:11 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 200.505ug/L m

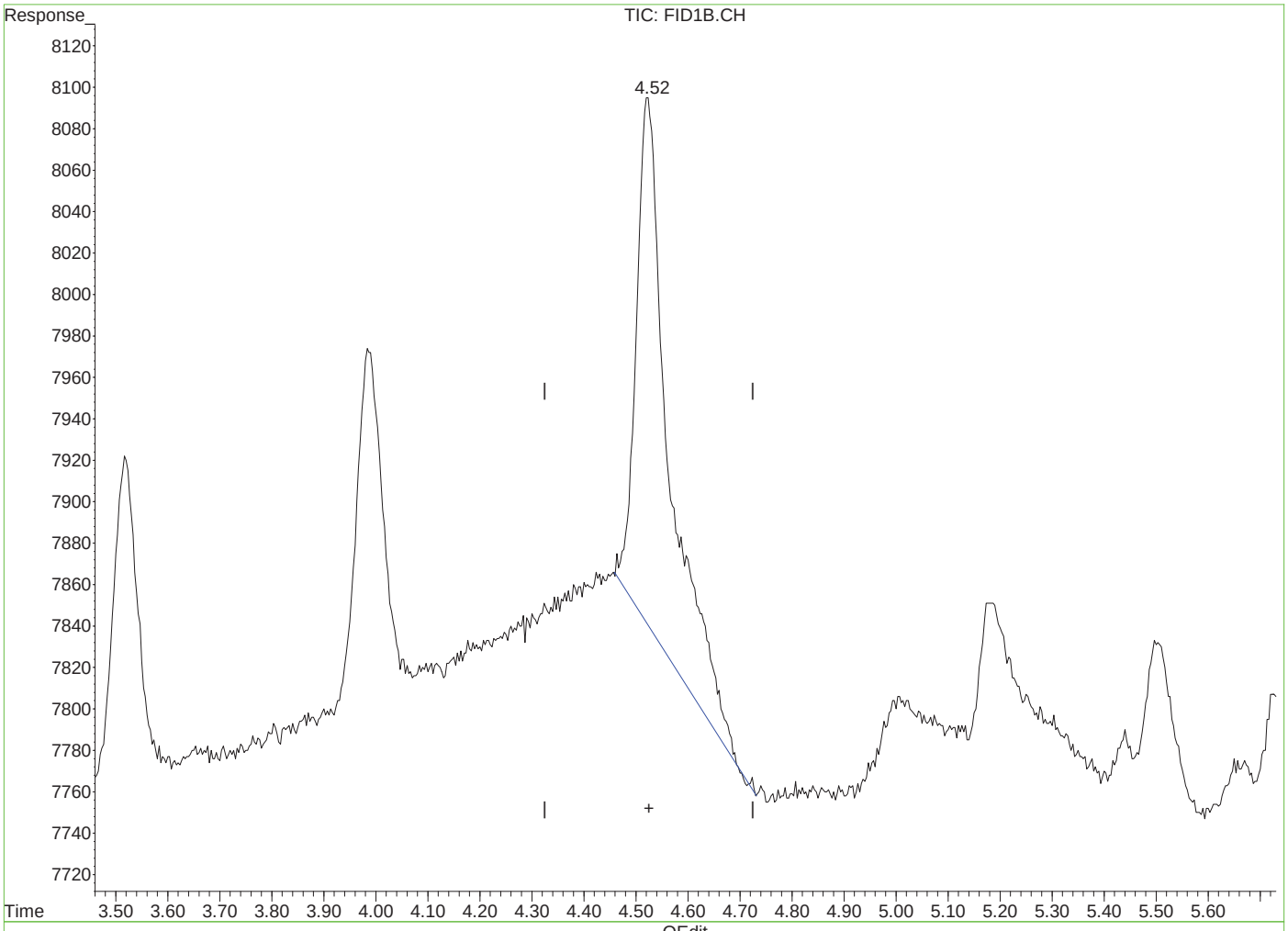
response 3951

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:29 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 375.523ug/L

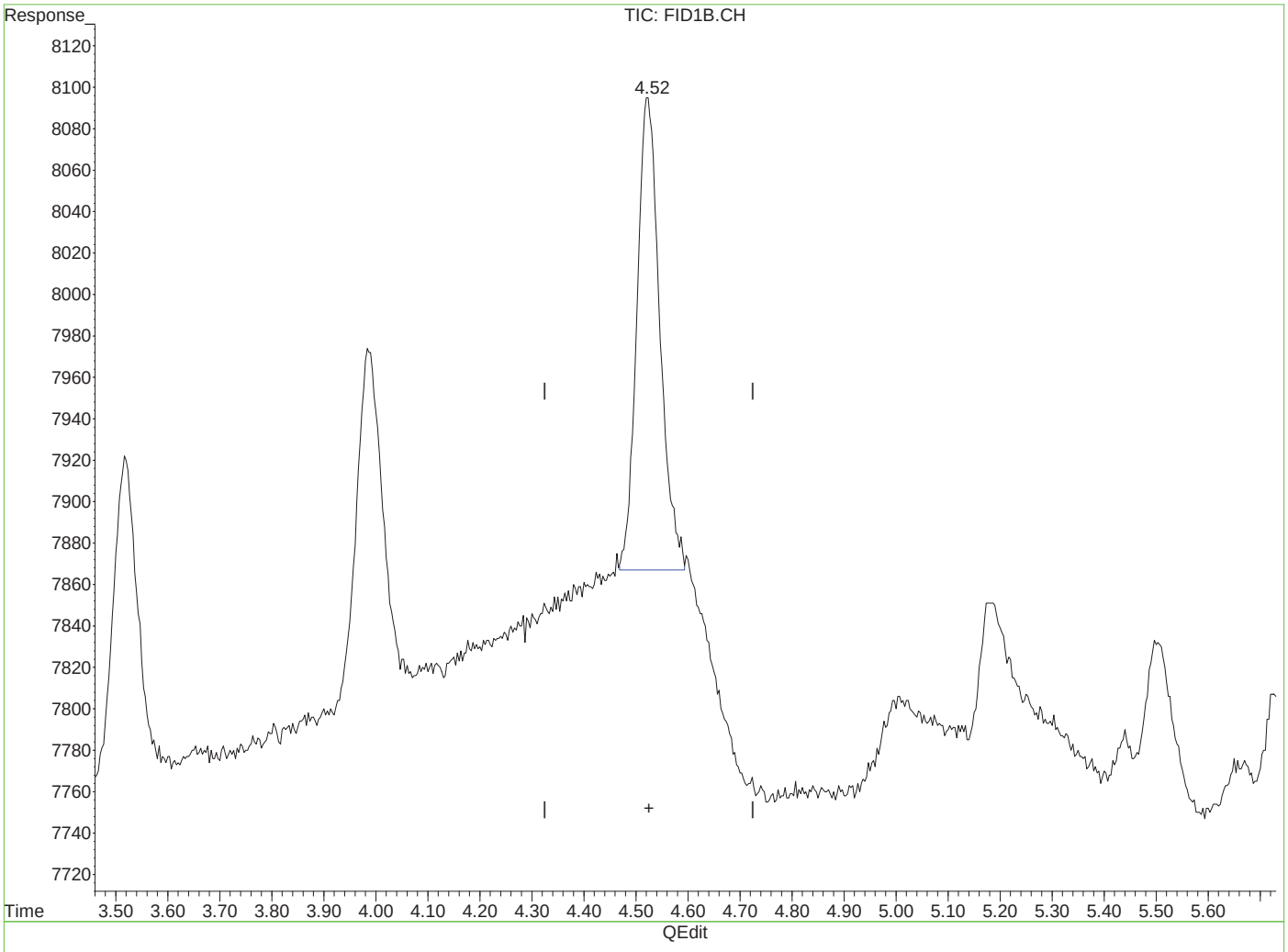
response 11280

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:46 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 232.719ug/L m

response 6991

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:24:16 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27:02 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	372862	4593.521	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	91.87%		
	Target Compounds					
1)	Methanol	1.37	6575	446.750	ug/L	
2)	Ethanol	1.82	8858	499.112	ug/L	
3)	2-Propanol	2.20	9949	504.943	ug/L	
4)	Tert-Butyl Alcohol	2.47	13023	439.713	ug/L	
5)	1-Propanol	3.09	12081	496.301	ug/L	
6)	2-Butanol	3.52	12261	472.693	ug/L	
7)	Isobutanol	3.99	13995	470.095	ug/L	
8)	1-butanol	4.53	13839	460.691	ug/L	m

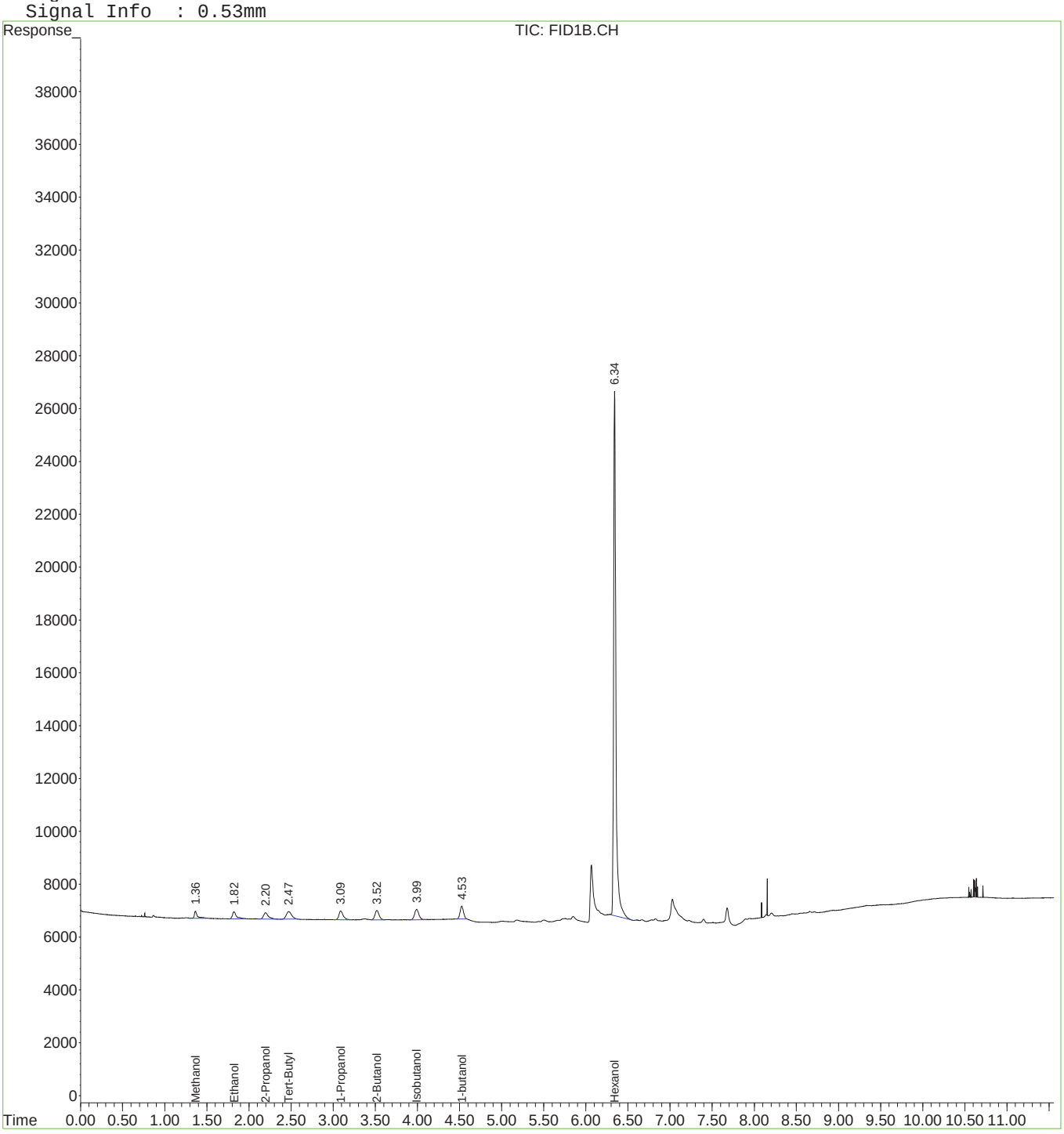
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123503.D MGH6650.M Thu Jan 28 11:49:03 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

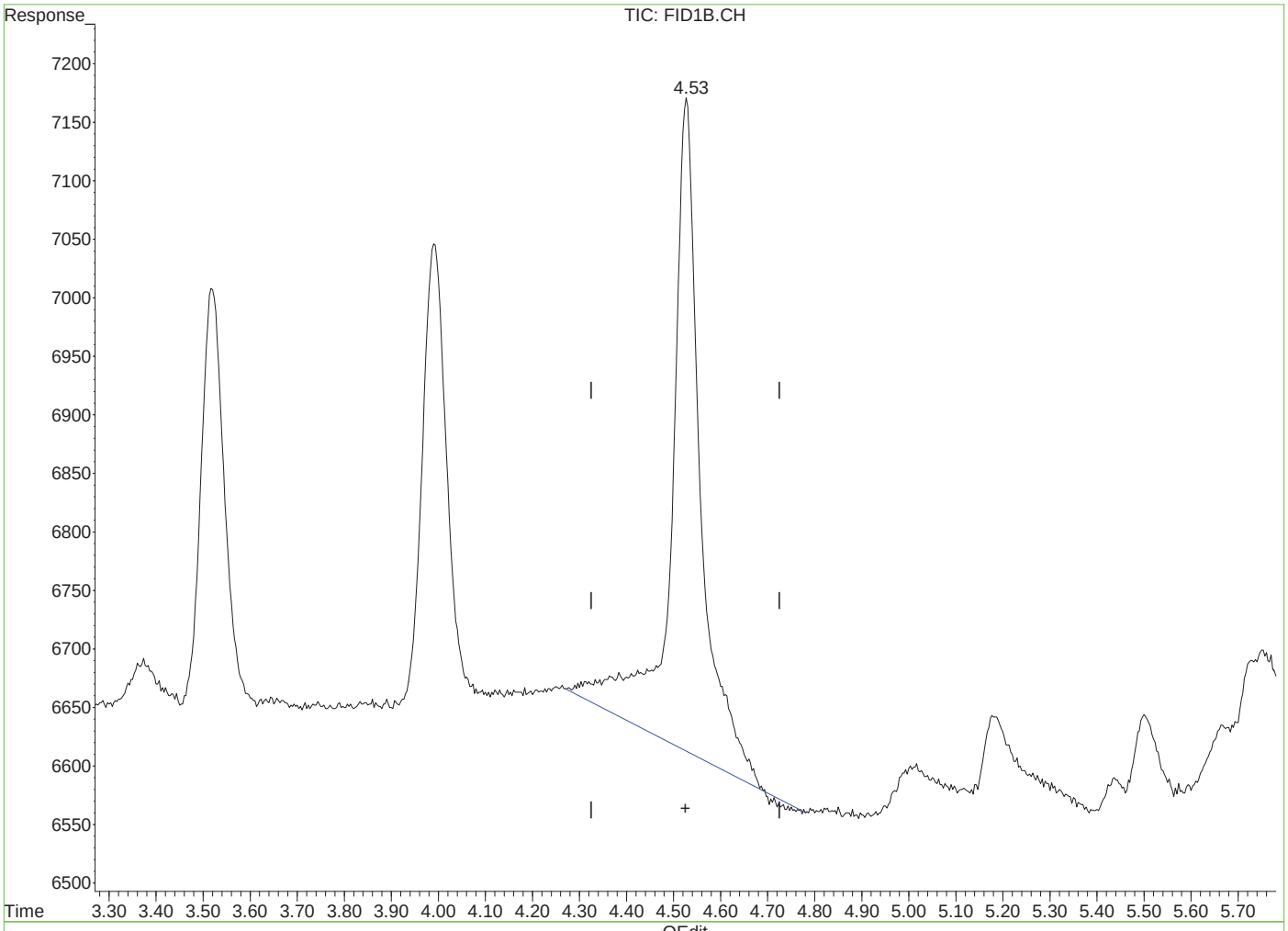
Sample Number: GGH6650-IC6650
Lab FileID: GH123503.D
Injection Time: 01/21/21 18:37
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.53	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:24 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.53min 814.009ug/L

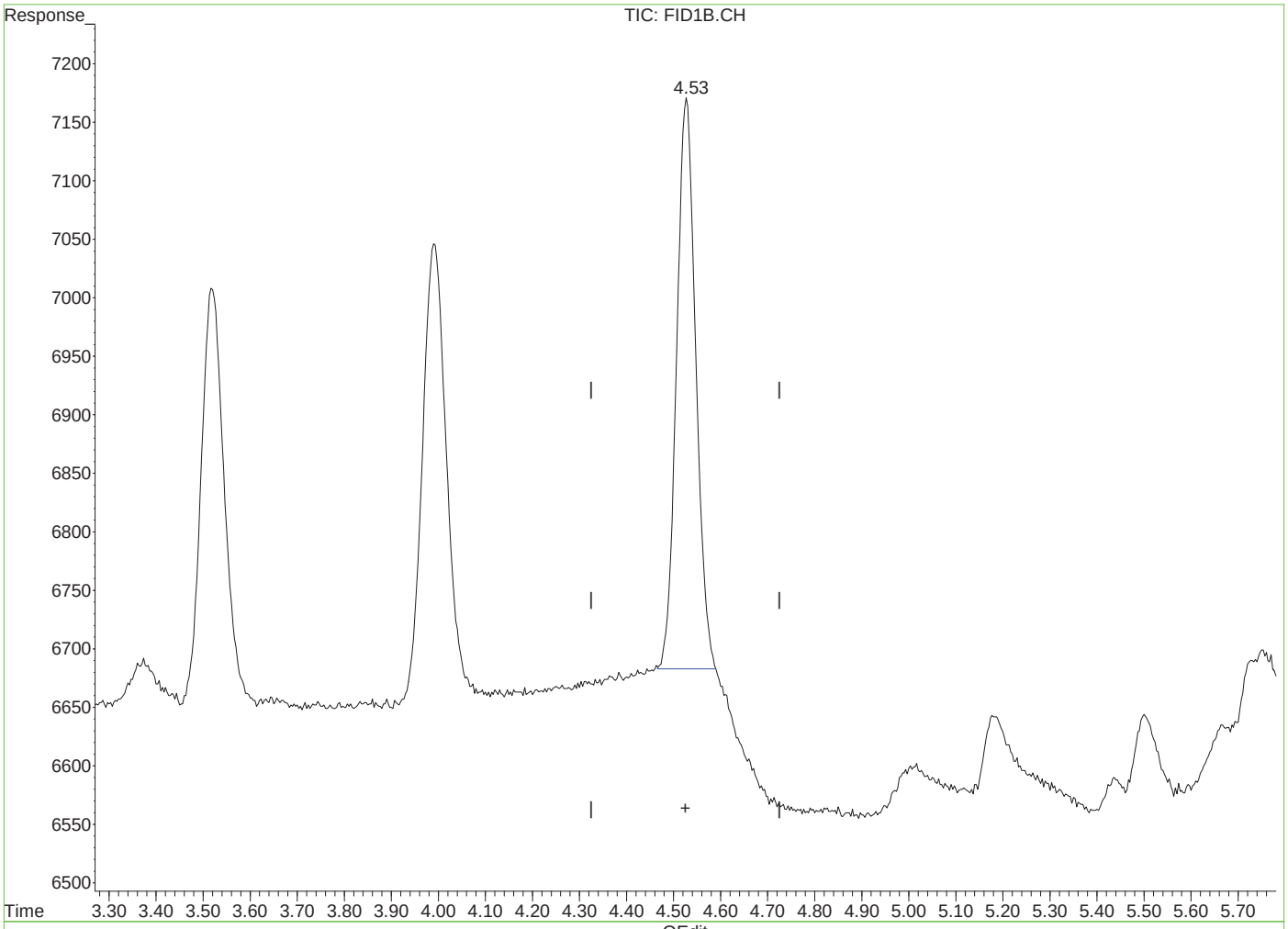
response 24452

(+) = Expected Retention Time
GH123503.D MGH6650.M Wed Jan 27 14:25:33 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.53min 460.691ug/L m

response 13839

(+) = Expected Retention Time
GH123503.D MGH6650.M Wed Jan 27 14:27:41 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28:40 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	381467	4699.533	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	93.99%		
	Target Compounds					
1)	Methanol	1.39	12476	847.660	ug/L	
2)	Ethanol	1.83	17879	1007.394	ug/L	
3)	2-Propanol	2.20	17361	881.107	ug/L	
4)	Tert-Butyl Alcohol	2.47	27162	917.115	ug/L	m
5)	1-Propanol	3.09	24031	987.222	ug/L	
6)	2-Butanol	3.52	25793	994.389	ug/L	
7)	Isobutanol	3.99	28536	958.548	ug/L	
8)	1-butanol	4.52	28463	947.542	ug/L	m

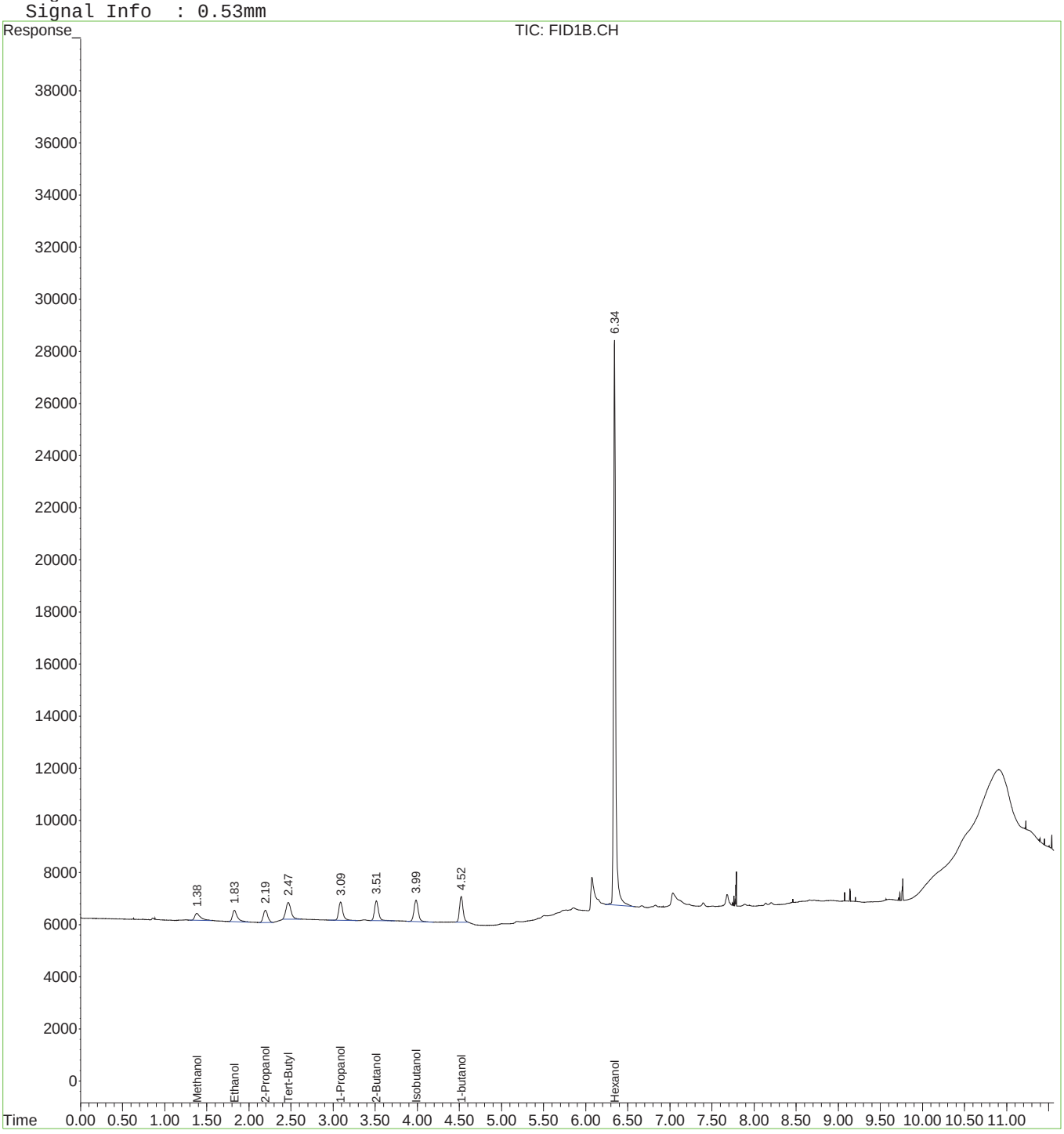
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123504.D MGH6650.M Thu Jan 28 11:49:04 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

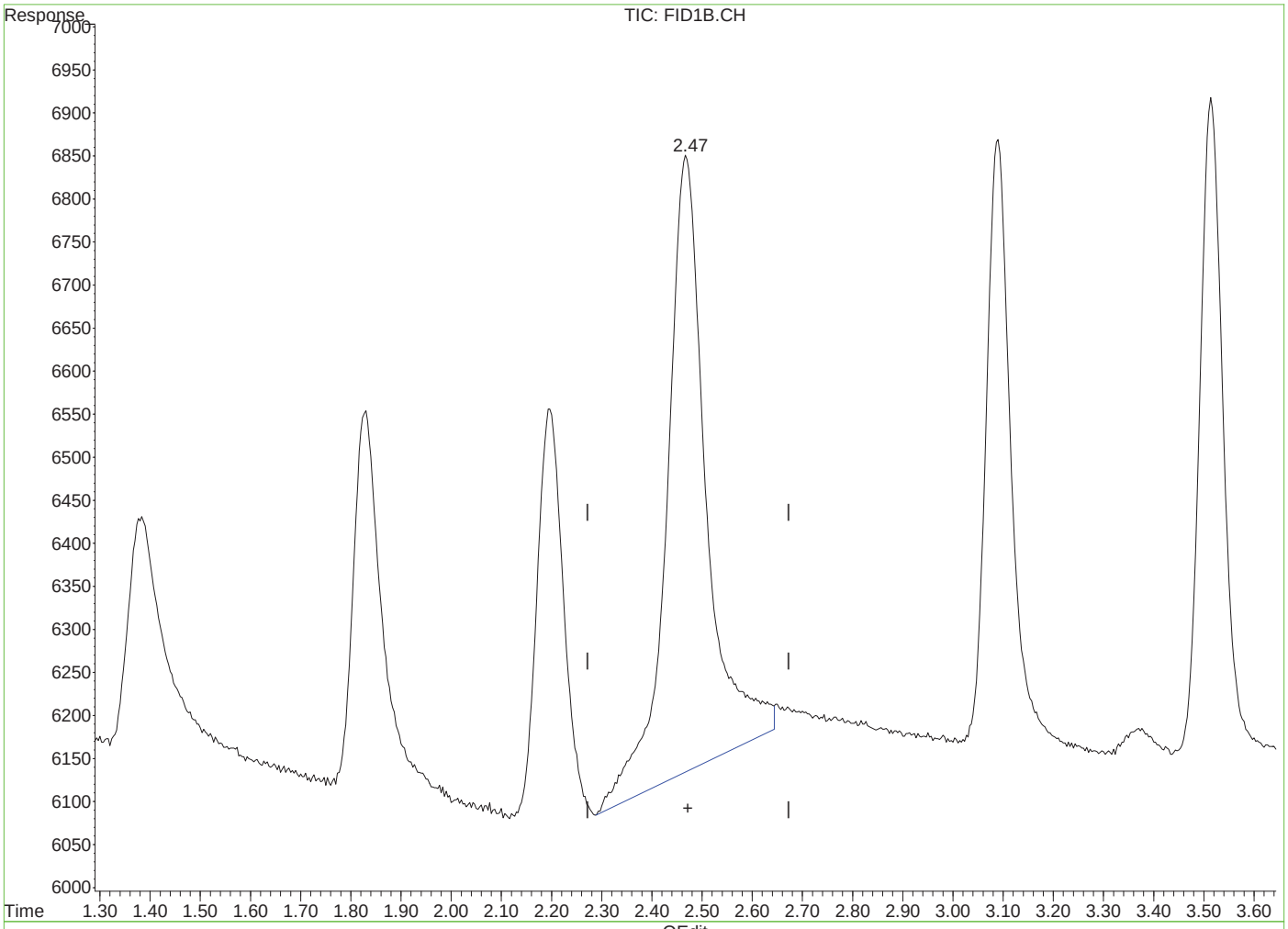
Sample Number: GGH6650-IC6650
Lab FileID: GH123504.D
Injection Time: 01/21/21 18:55
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tertiary Butyl Alcohol	75-65-0	1	2.47	Poorly defined baseline
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 1312.383ug/L

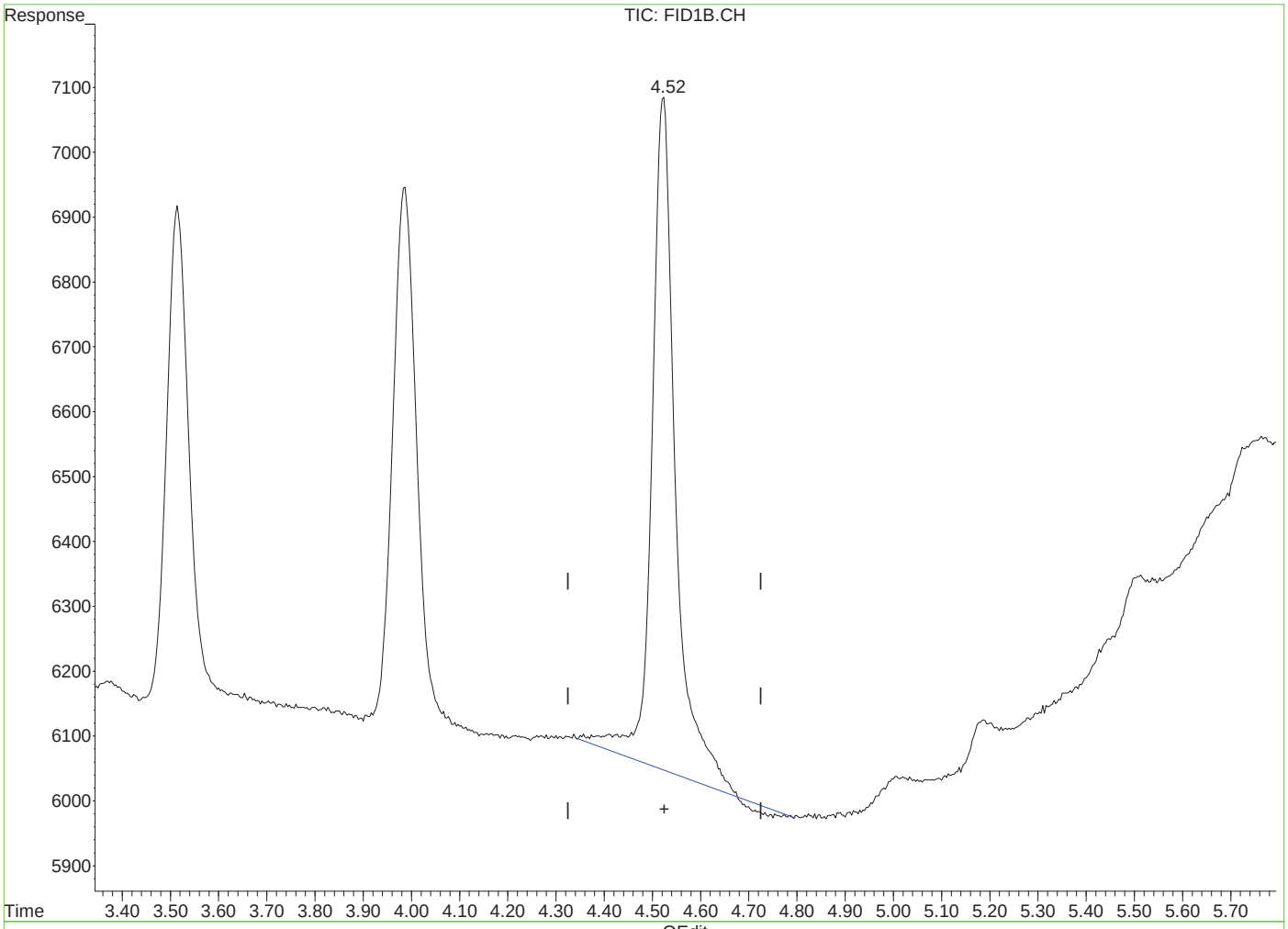
response 38868

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:28:50 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 1172.281ug/L

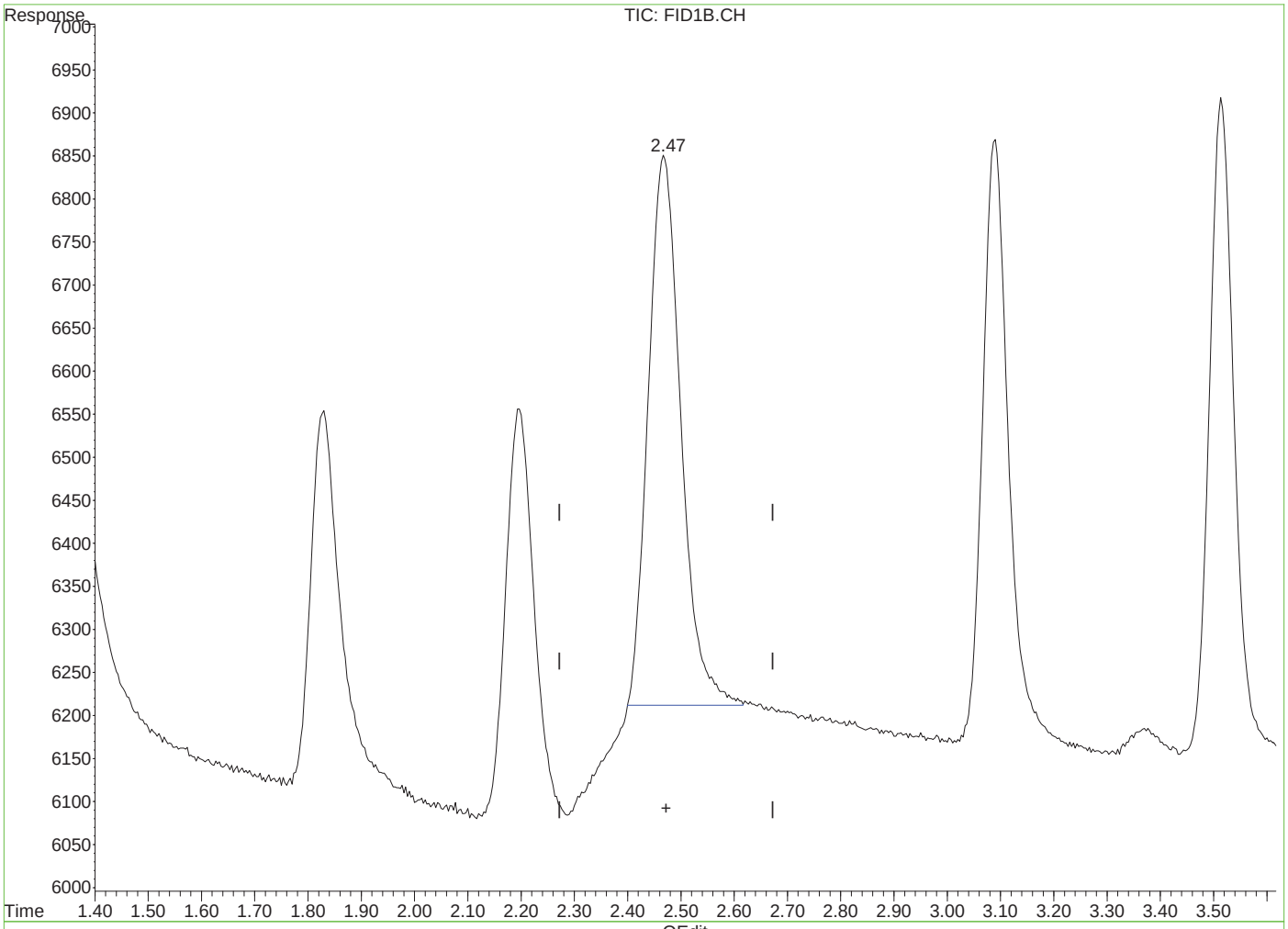
response 35214

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:15 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 917.115ug/L m

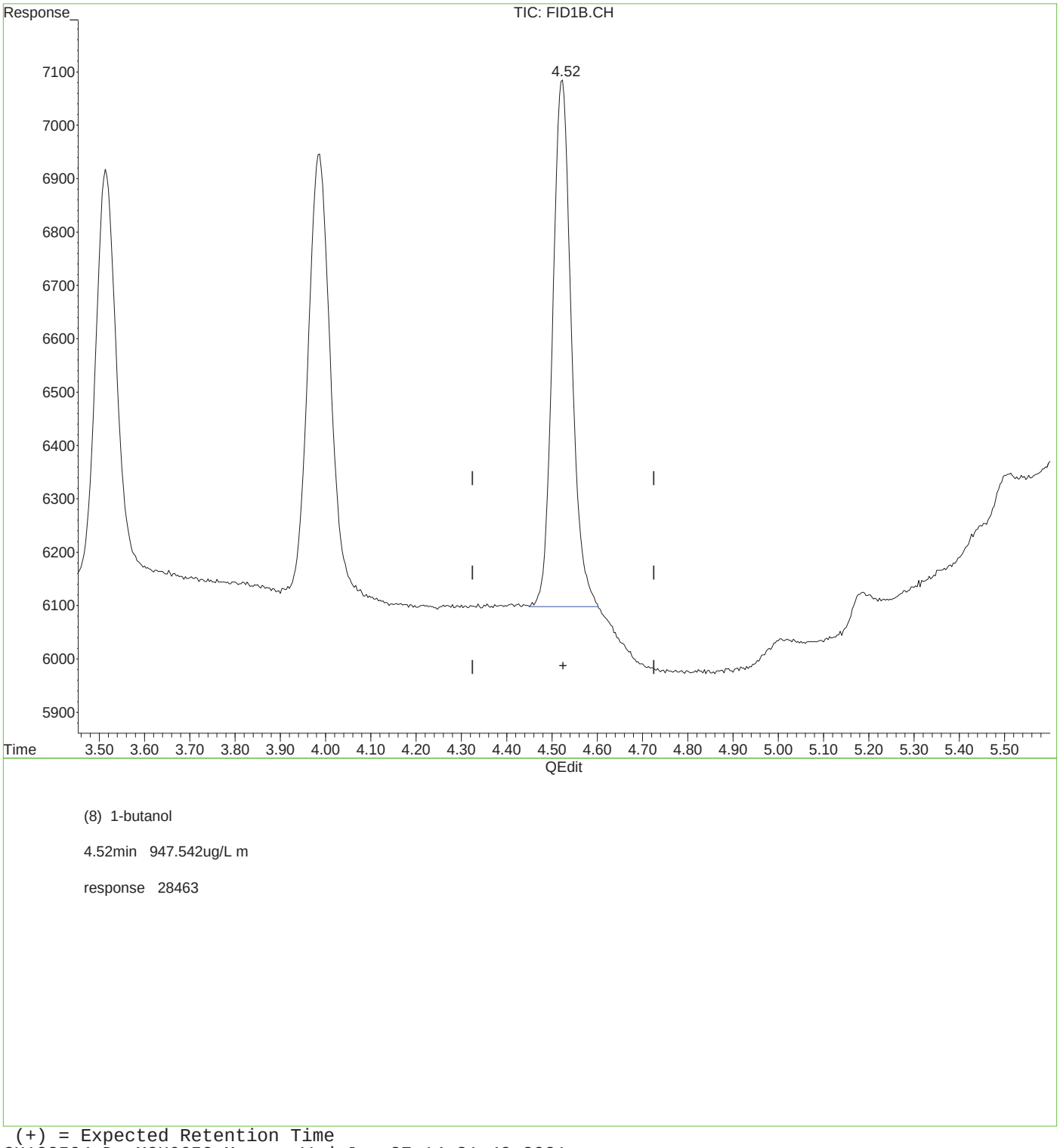
response 27162

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:33 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:40 2021

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : ICC6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	377342	4648.713	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	92.97%		
	Target Compounds					
1)	Methanol	1.37	74814	5083.278	ug/L	
2)	Ethanol	1.83	96172	5418.810	ug/L	
3)	2-Propanol	2.20	99364	5042.983	ug/L	
4)	Tert-Butyl Alcohol	2.47	139318	4704.098	ug/L	
5)	1-Propanol	3.09	117675	4834.321	ug/L	
6)	2-Butanol	3.52	120168	4632.822	ug/L	
7)	Isobutanol	3.99	142497	4786.631	ug/L	
8)	1-butanol	4.52	138066	4596.184	ug/L	m

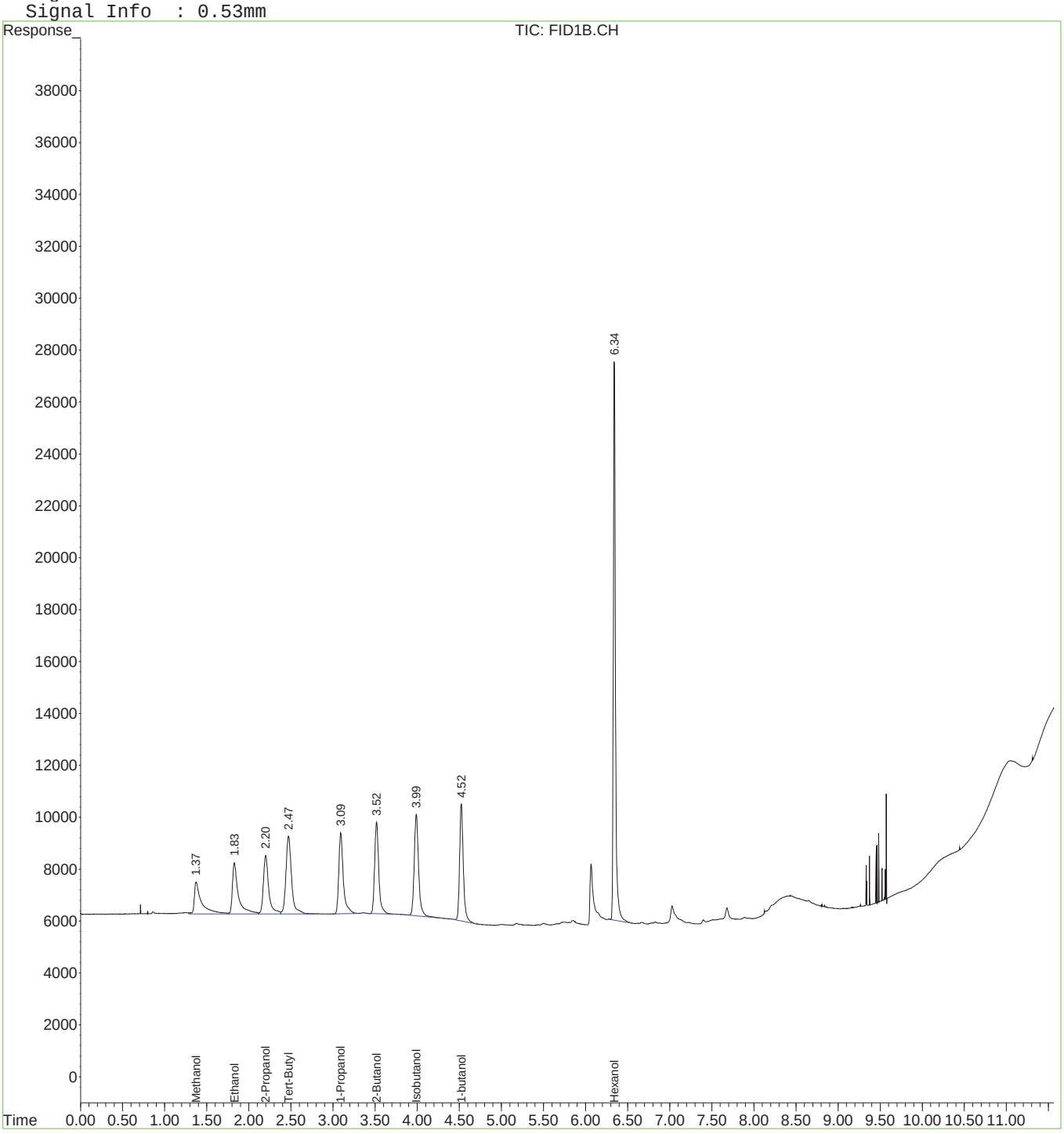
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123505.D MGH6650.M Thu Jan 28 11:49:05 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : ICC6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:35 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

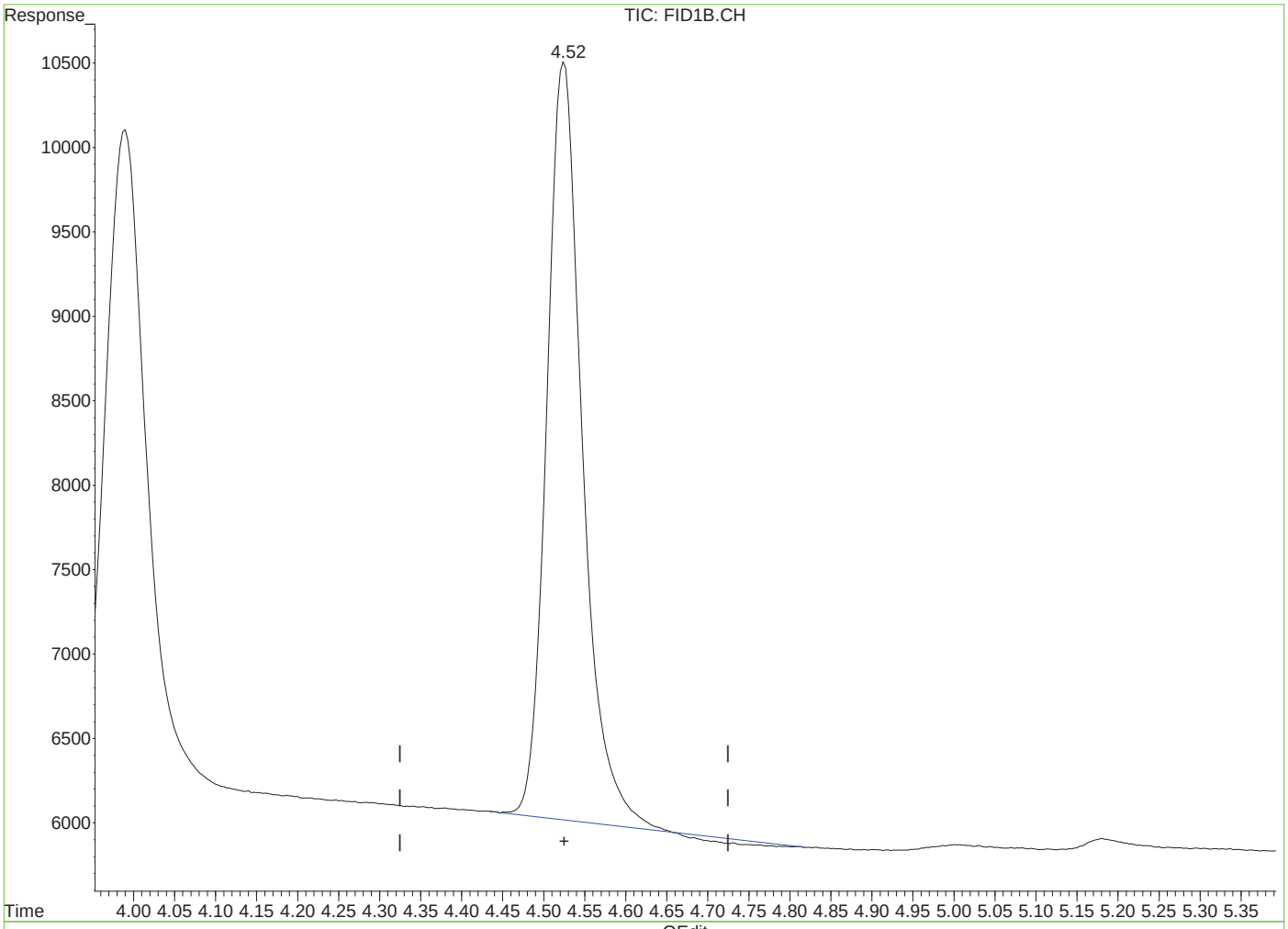
Sample Number: GGH6650-ICC6650
Lab FileID: GH123505.D
Injection Time: 01/21/21 19:12
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 17:03 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : IC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 4479.071ug/L

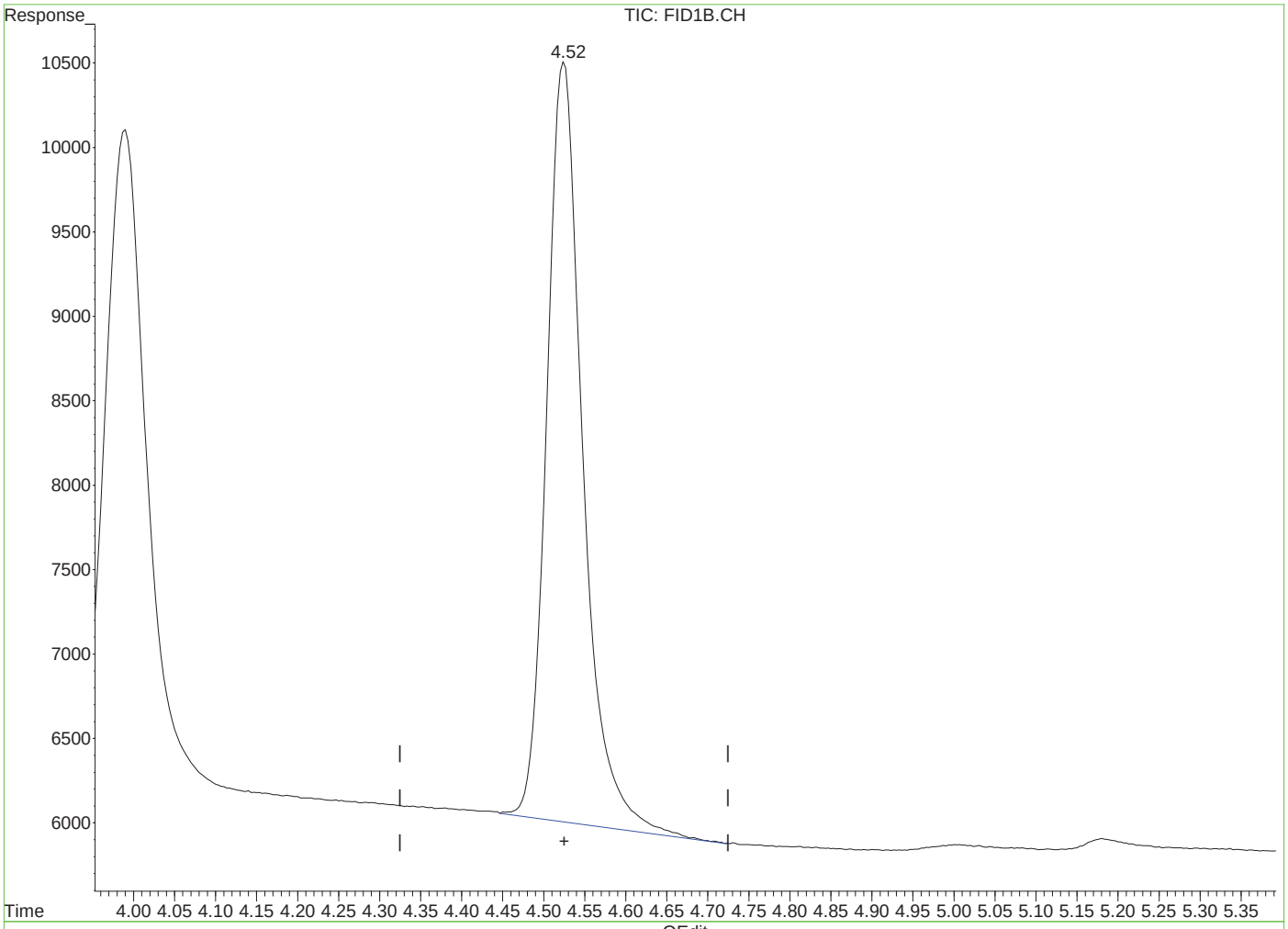
response 134548

(+) = Expected Retention Time
GH123505.D MGH6650.M Wed Jan 27 14:35:16 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : IC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 4596.184ug/L m

response 138066

(+) = Expected Retention Time
GH123505.D MGH6650.M Wed Jan 27 14:35:26 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36:53 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	374248	4610.600	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	92.21%		
	Target Compounds					
1)	Methanol	1.36	132883	9028.795	ug/L	m
2)	Ethanol	1.82	172505	9719.783	ug/L	
3)	2-Propanol	2.20	207197	10515.759	ug/L	
4)	Tert-Butyl Alcohol	2.48	279728	9445.053	ug/L	
5)	1-Propanol	3.09	234299	9625.417	ug/L	
6)	2-Butanol	3.52	240950	9289.334	ug/L	
7)	Isobutanol	3.99	278406	9351.981	ug/L	
8)	1-butanol	4.53	278773	9280.289	ug/L	

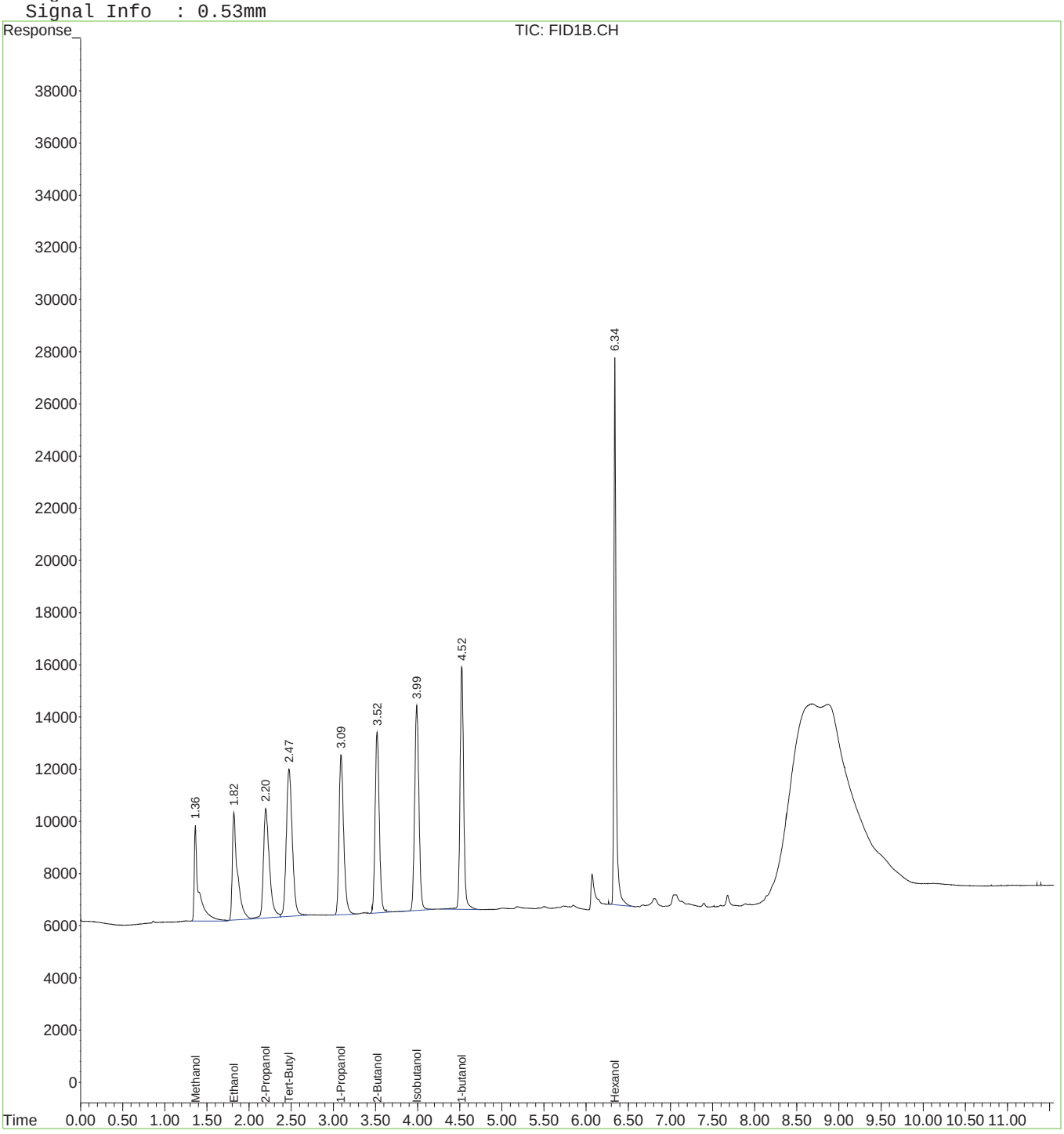
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123506.D MGH6650.M Thu Jan 28 11:49:06 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:37 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

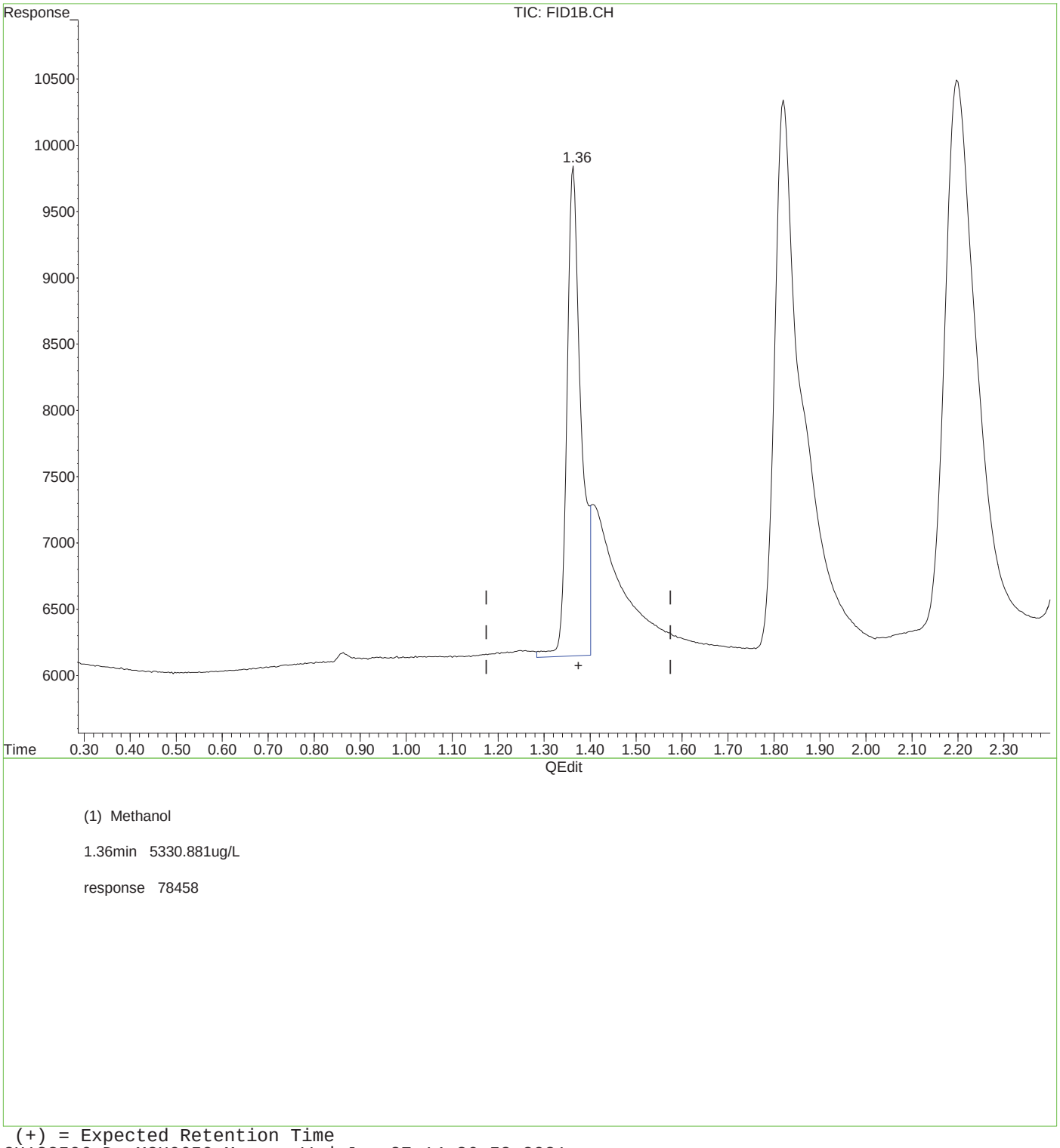
Sample Number: GGH6650-IC6650
Lab FileID: GH123506.D
Injection Time: 01/21/21 19:30
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.36	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(1) Methanol

1.36min 5330.881ug/L

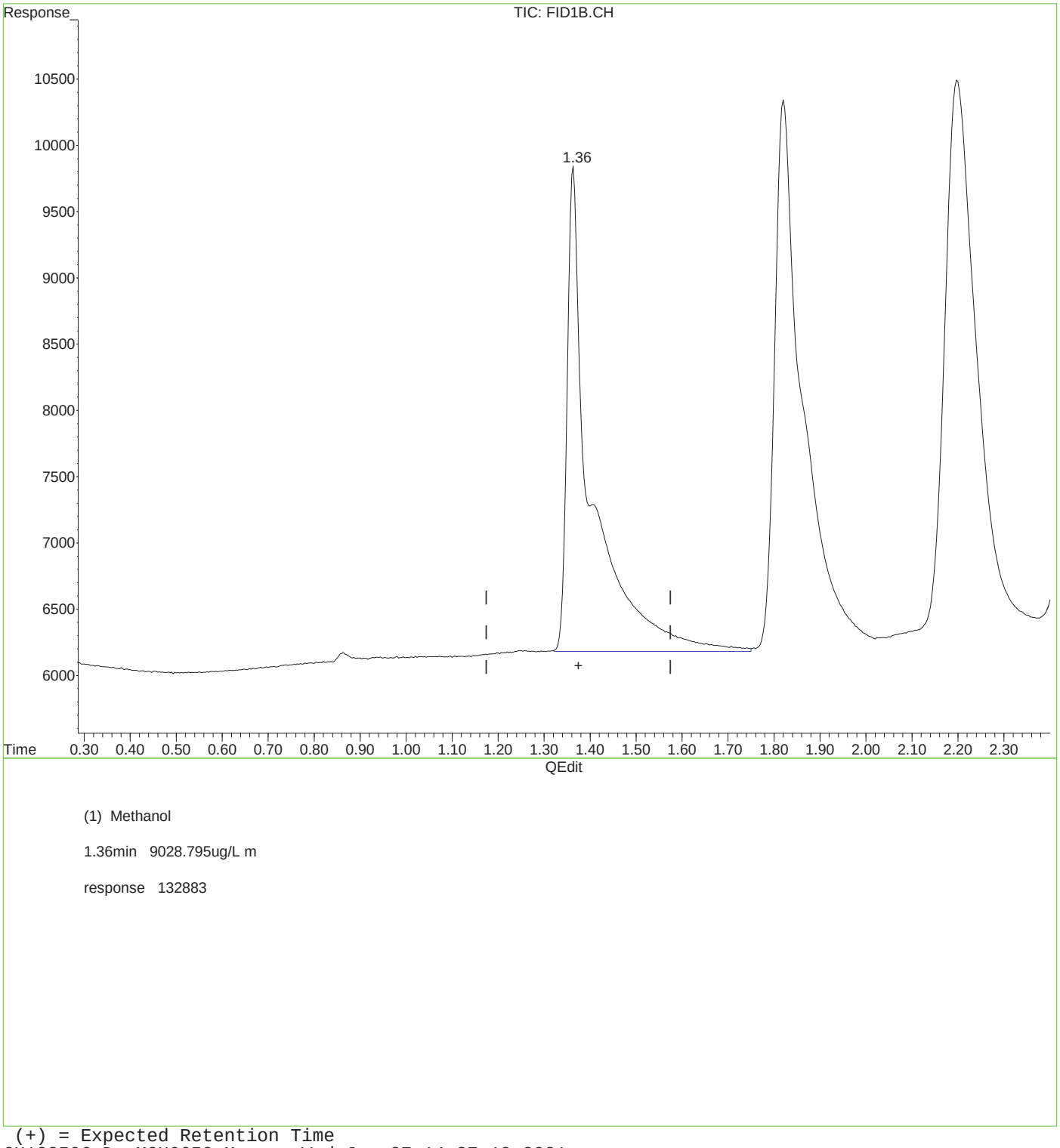
response 78458

(+) = Expected Retention Time
GH123506.D MGH6650.M Wed Jan 27 14:36:58 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(1) Methanol

1.36min 9028.795ug/L m

response 132883

(+) = Expected Retention Time
GH123506.D MGH6650.M Wed Jan 27 14:37:10 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123507.D Vial: 7
Acq On : 21-Jan-2021, 19:47:53 Operator: RobertS
Sample : IC6650-50000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:58 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	372684	4591.337 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	91.83%
Target Compounds			
1) Methanol	1.36	690329	46904.730 ug/L
2) Ethanol	1.82	951912	53635.503 ug/L
3) 2-Propanol	2.19	969223	49190.370 ug/L
4) Tert-Butyl Alcohol	2.46	1351830	45644.672 ug/L
5) 1-Propanol	3.08	1180715	48505.957 ug/L
6) 2-Butanol	3.51	1205035	46457.625 ug/L
7) Isobutanol	3.98	1393365	46804.770 ug/L
8) 1-butanol	4.52	1348419	44888.565 ug/L

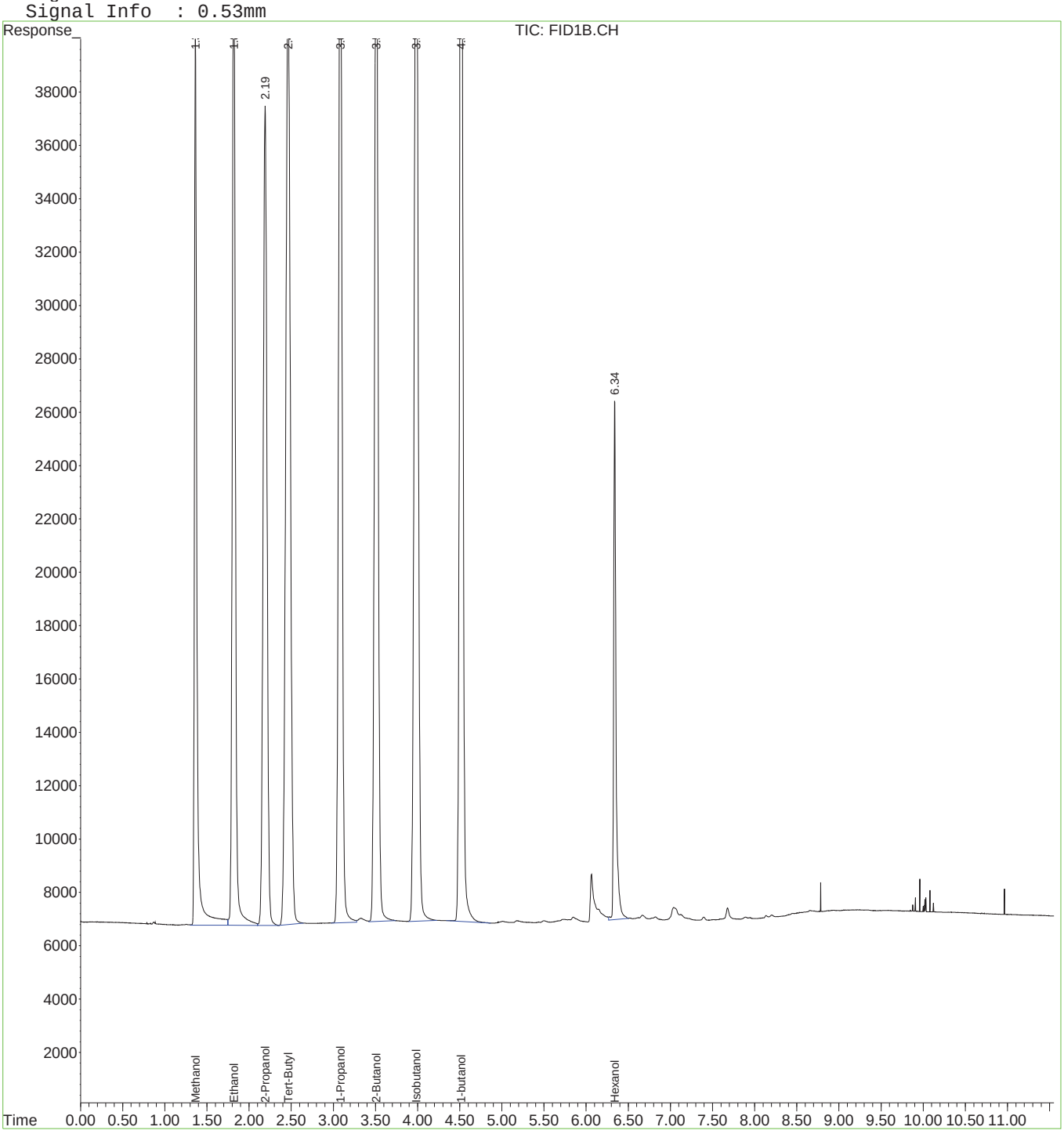
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123507.D MGH6650.M Thu Jan 28 11:49:07 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123507.D Vial: 7
Acq On : 21-Jan-2021, 19:47:53 Operator: RobertS
Sample : IC6650-50000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123508.D Vial: 8
Acq On : 21-Jan-2021, 20:05:23 Operator: RobertS
Sample : IC6650-100000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:59 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	400215	4930.502 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	98.61%
Target Compounds			
1) Methanol	1.39	1315982	89415.013 ug/L
2) Ethanol	1.83	1828883	103048.508 ug/L
3) 2-Propanol	2.20	1927951	97848.076 ug/L
4) Tert-Butyl Alcohol	2.47	2755902	93053.290 ug/L
5) 1-Propanol	3.09	2345722	96366.592 ug/L
6) 2-Butanol	3.51	2425281	93501.660 ug/L
7) Isobutanol	3.98	2815008	94559.395 ug/L
8) 1-butanol	4.52	2681081	89252.569 ug/L

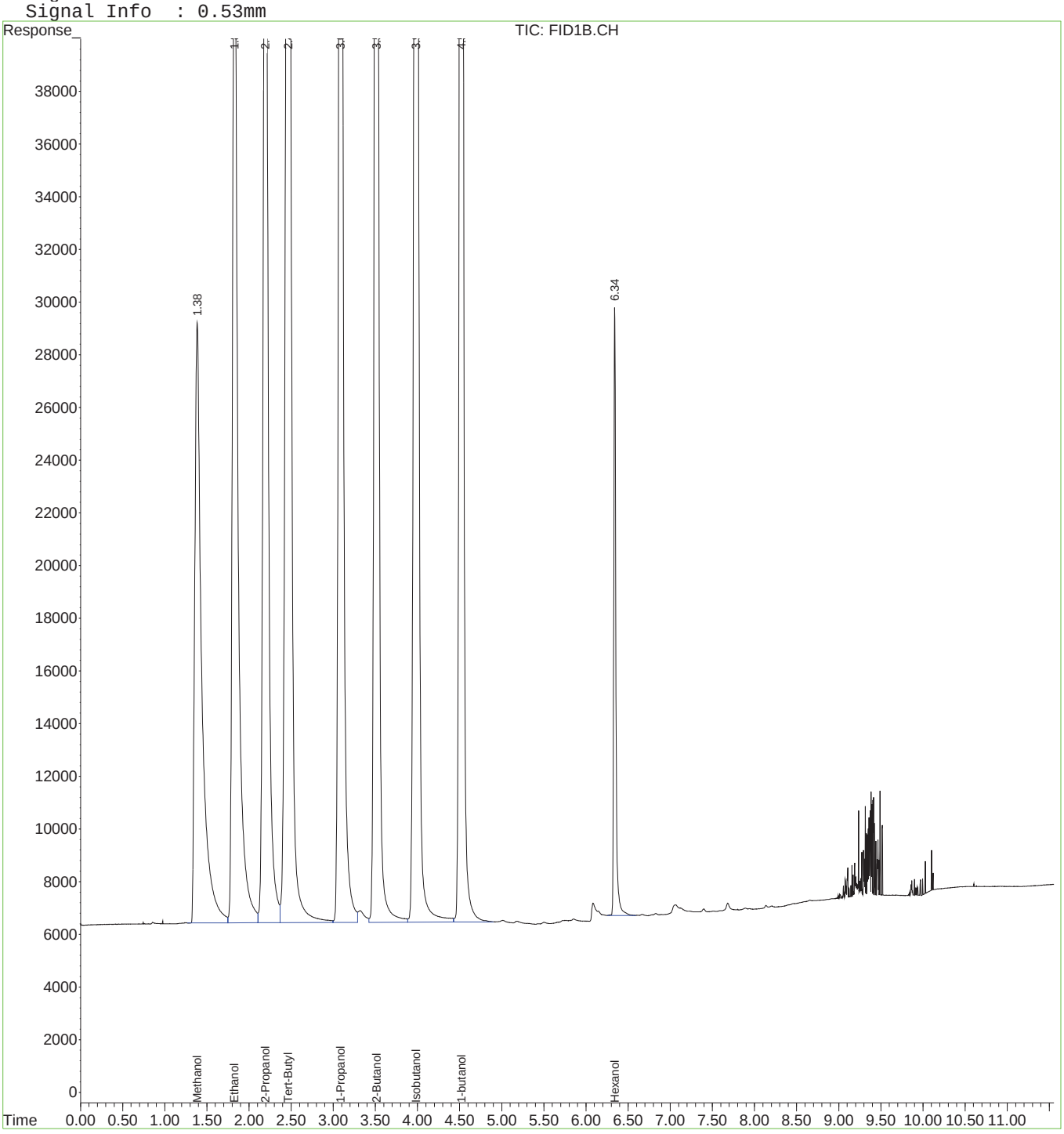
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123508.D MGH6650.M Thu Jan 28 11:49:09 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123508.D Vial: 8
Acq On : 21-Jan-2021, 20:05:23 Operator: RobertS
Sample : IC6650-100000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:39:43 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	352796	4674.379 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 93.49%	
Target Compounds			
1) Methanol	1.38	67223	4895.271 ug/L
2) Ethanol	1.83	86579	4924.696 ug/L
3) 2-Propanol	2.20	90803	4664.435 ug/L
4) Tert-Butyl Alcohol	2.47	129667	4702.482 ug/L
5) 1-Propanol	3.09	110258	4633.711 ug/L
6) 2-Butanol	3.51	112941	4605.631 ug/L
7) Isobutanol	3.99	131677	4647.551 ug/L
8) 1-butanol	4.52	131501	4594.175 ug/L

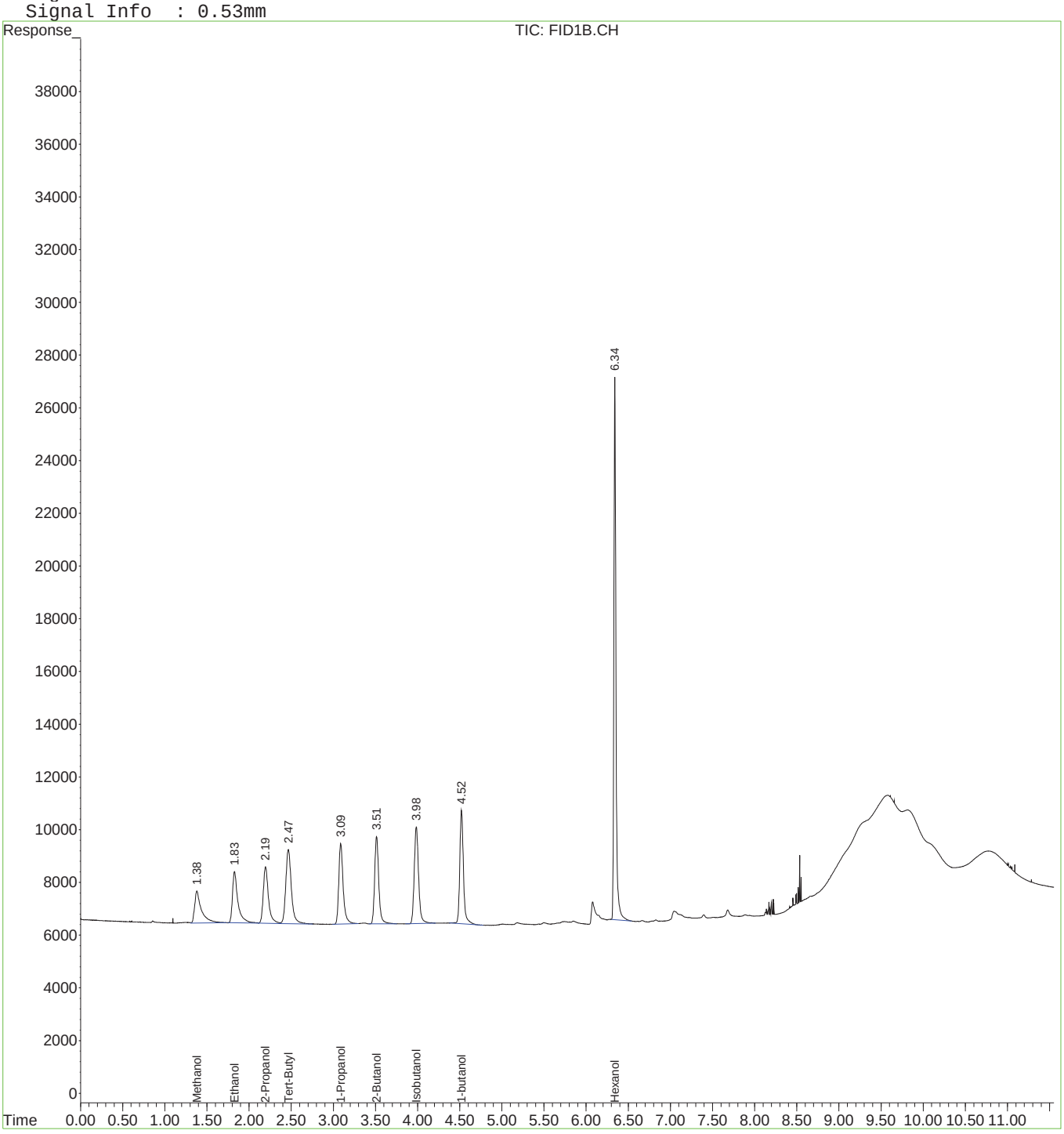
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123511.D MGH6650.M Thu Jan 28 11:49:10 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:39 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123813.D Vial: 2
Acq On : 01-Mar-2021, 12:17:18 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:34 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.35	362929	4808.637 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	96.17%
Target Compounds			
1) Methanol	1.40	56331	4102.081 ug/L
2) Ethanol	1.84	83596	4754.980 ug/L
3) 2-Propanol	2.21	87539	4496.773 ug/L
4) Tert-Butyl Alcohol	2.48	130653	4738.265 ug/L
5) 1-Propanol	3.10	116899	4912.839 ug/L
6) 2-Butanol	3.53	129122	5265.485 ug/L
7) Isobutanol	3.99	135266	4774.213 ug/L
8) 1-butanol	4.53	136269	4760.753 ug/L

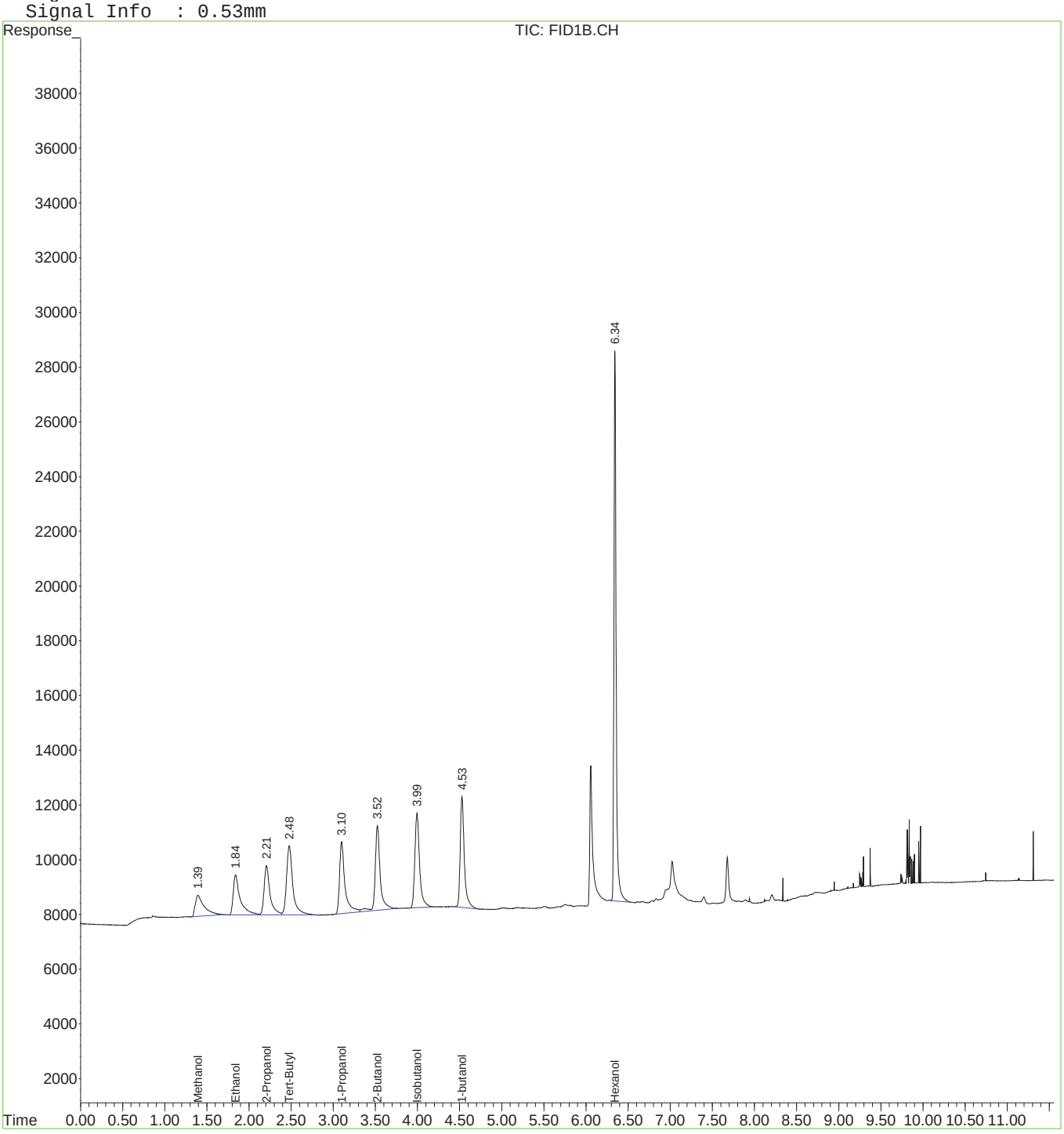
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123813.D MGH6650.M Tue Mar 02 14:02:53 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123813.D Vial: 2
Acq On : 01-Mar-2021, 12:17:18 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
MoHui Huang
03/02/21 14:33

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123822.D Vial: 11
Acq On : 01-Mar-2021, 15:28:44 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:43 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.34	346386	4589.460	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 91.79%			
Target Compounds					
1) Methanol	1.37	139919	10189.002	ug/L	
2) Ethanol	1.83	173555	9871.944	ug/L	m
3) 2-Propanol	2.20	190931	9807.914	ug/L	m
4) Tert-Butyl Alcohol	2.47	248531	9013.215	ug/L	m
5) 1-Propanol	3.09	228927	9620.933	ug/L	
6) 2-Butanol	3.52	235464	9602.019	ug/L	
7) Isobutanol	3.99	275906	9738.106	ug/L	
8) 1-butanol	4.53	281832	9846.169	ug/L	

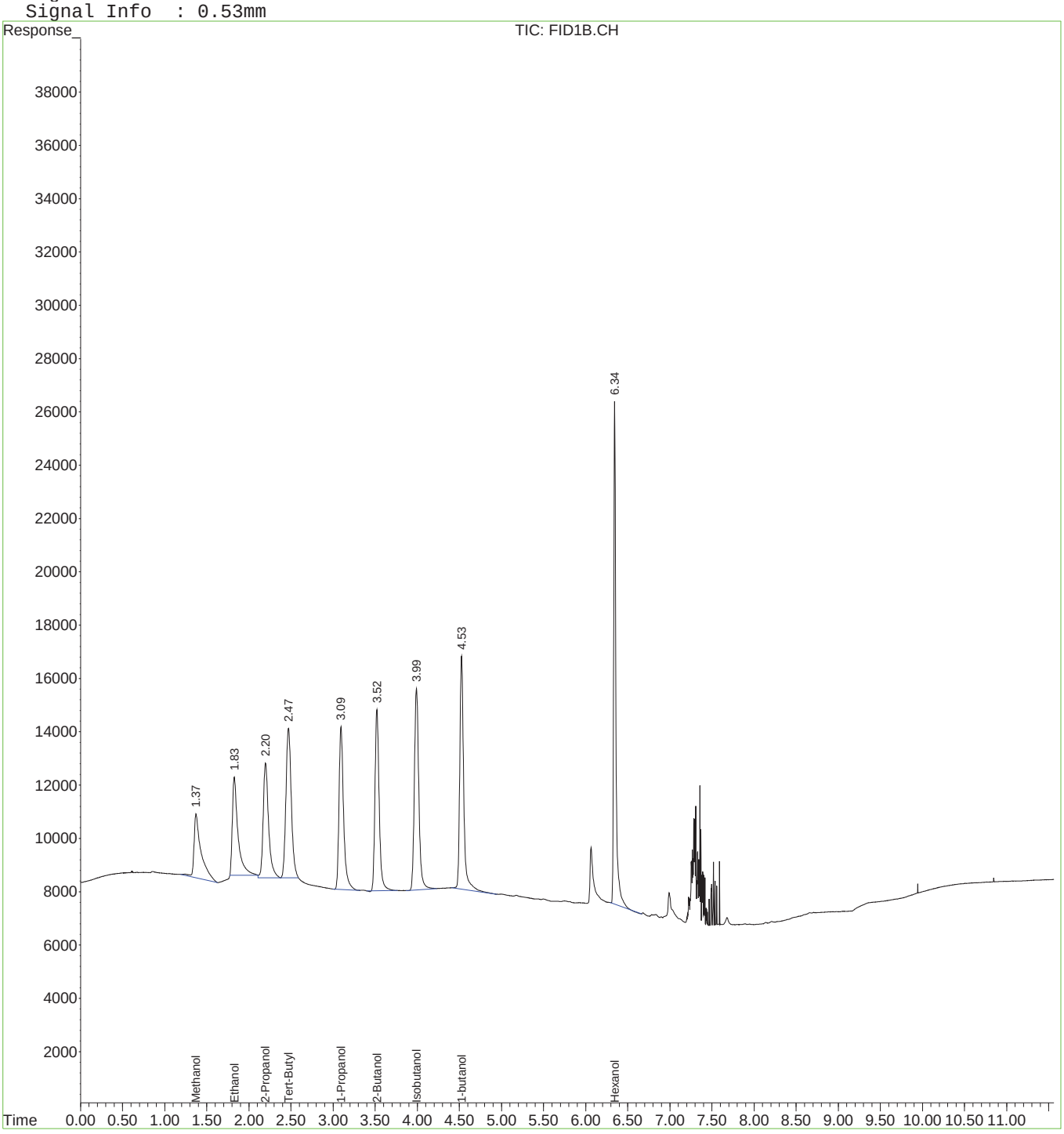
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123822.D MGH6650.M Tue Mar 02 14:13:48 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123822.D Vial: 11
Acq On : 01-Mar-2021, 15:28:44 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

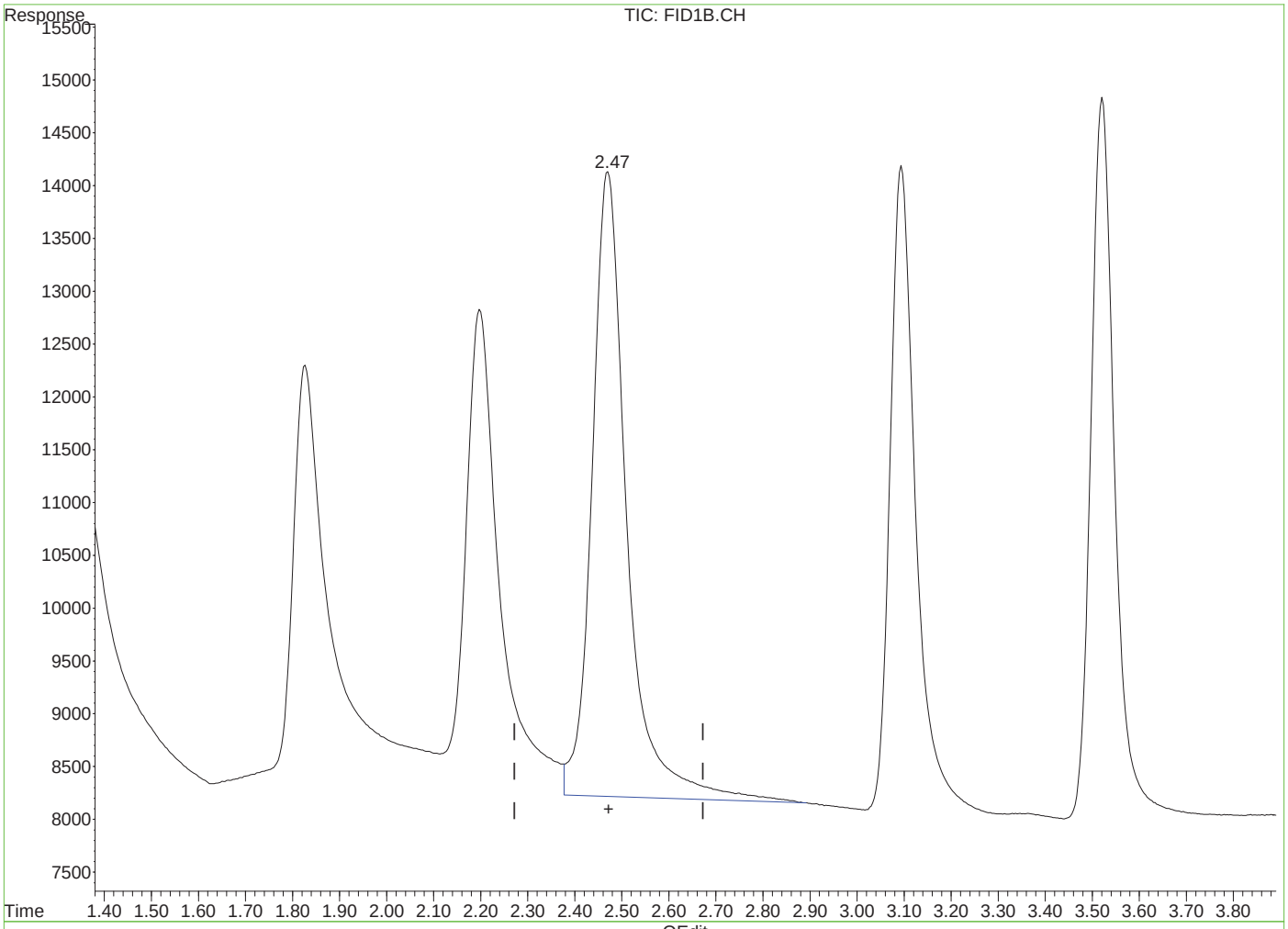
Sample Number: GGH6664-CC6650
Lab FileID: GH123822.D
Injection Time: 03/01/21 15:28
Method: SW846-8015D (DAI)
Analyst approved: 03/02/21 14:15 Bridget Kelly
Supervisor approved: 03/02/21 14:33 MoHui Huang

Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethanol	64-17-5	1	1.83	Poorly defined baseline
Isopropyl Alcohol	67-63-0	1	2.20	Poorly defined baseline
Tertiary Butyl Alcohol	75-65-0	1	2.47	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123822.D Vial: 11
Acq On : 01-Mar-2021, 15:28:44 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 11074.426ug/L

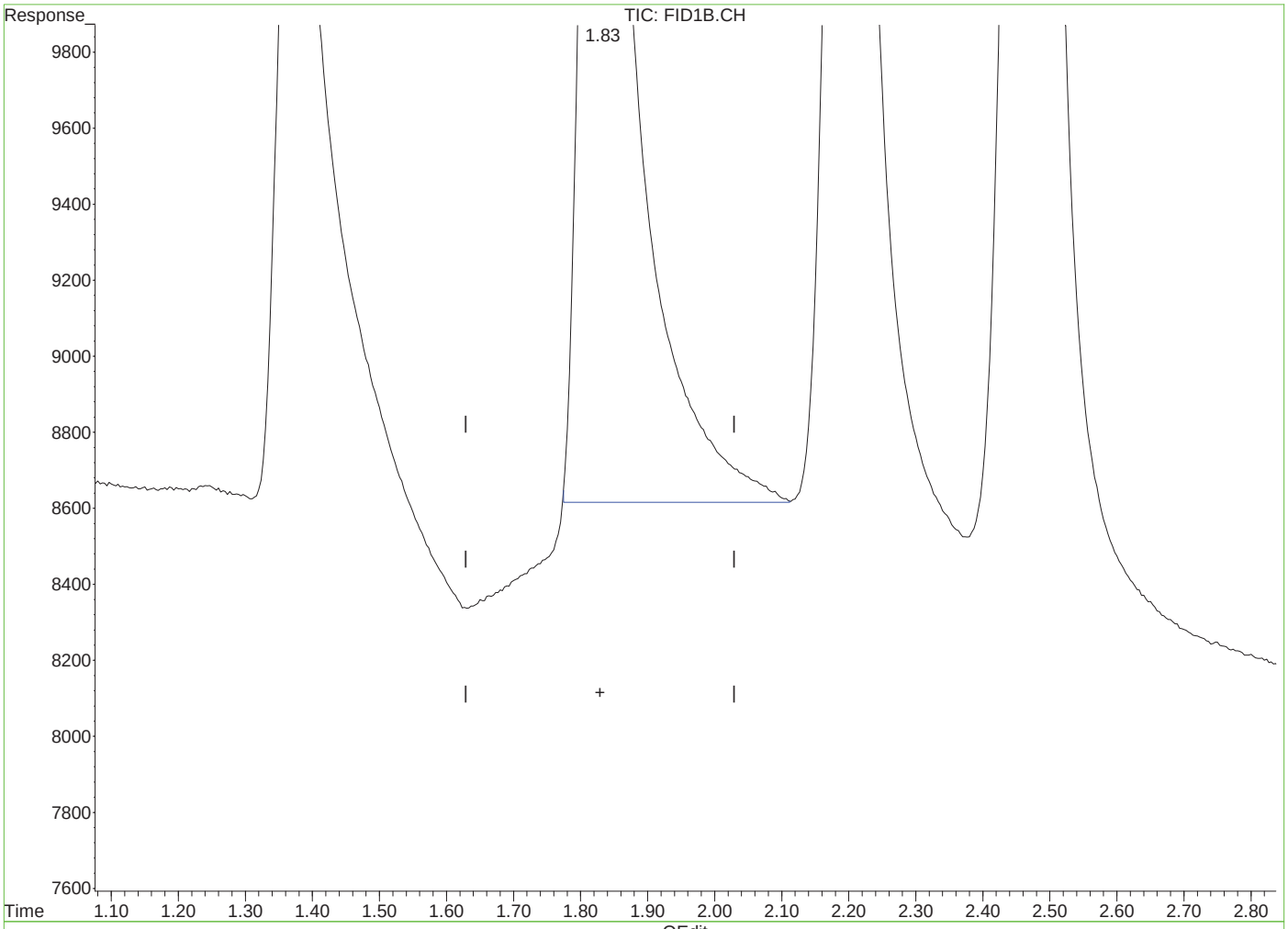
response 305367

(+) = Expected Retention Time
GH123822.D MGH6650.M Tue Mar 02 14:12:59 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123822.D Vial: 11
Acq On : 01-Mar-2021, 15:28:44 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.83min 9871.944ug/L m

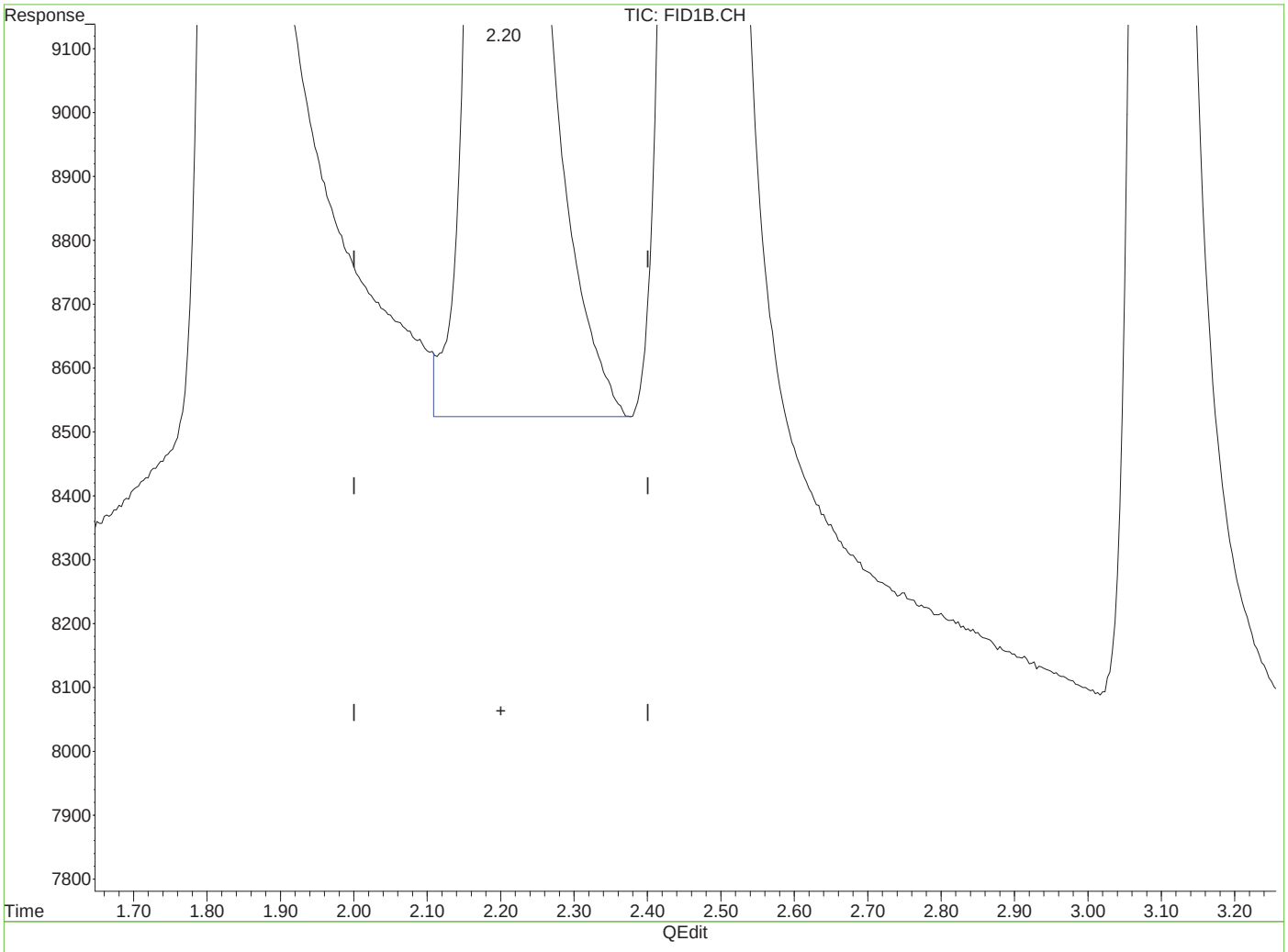
response 173555

(+) = Expected Retention Time
GH123822.D MGH6650.M Tue Mar 02 14:13:10 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123822.D Vial: 11
Acq On : 01-Mar-2021, 15:28:44 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 9807.914ug/L m

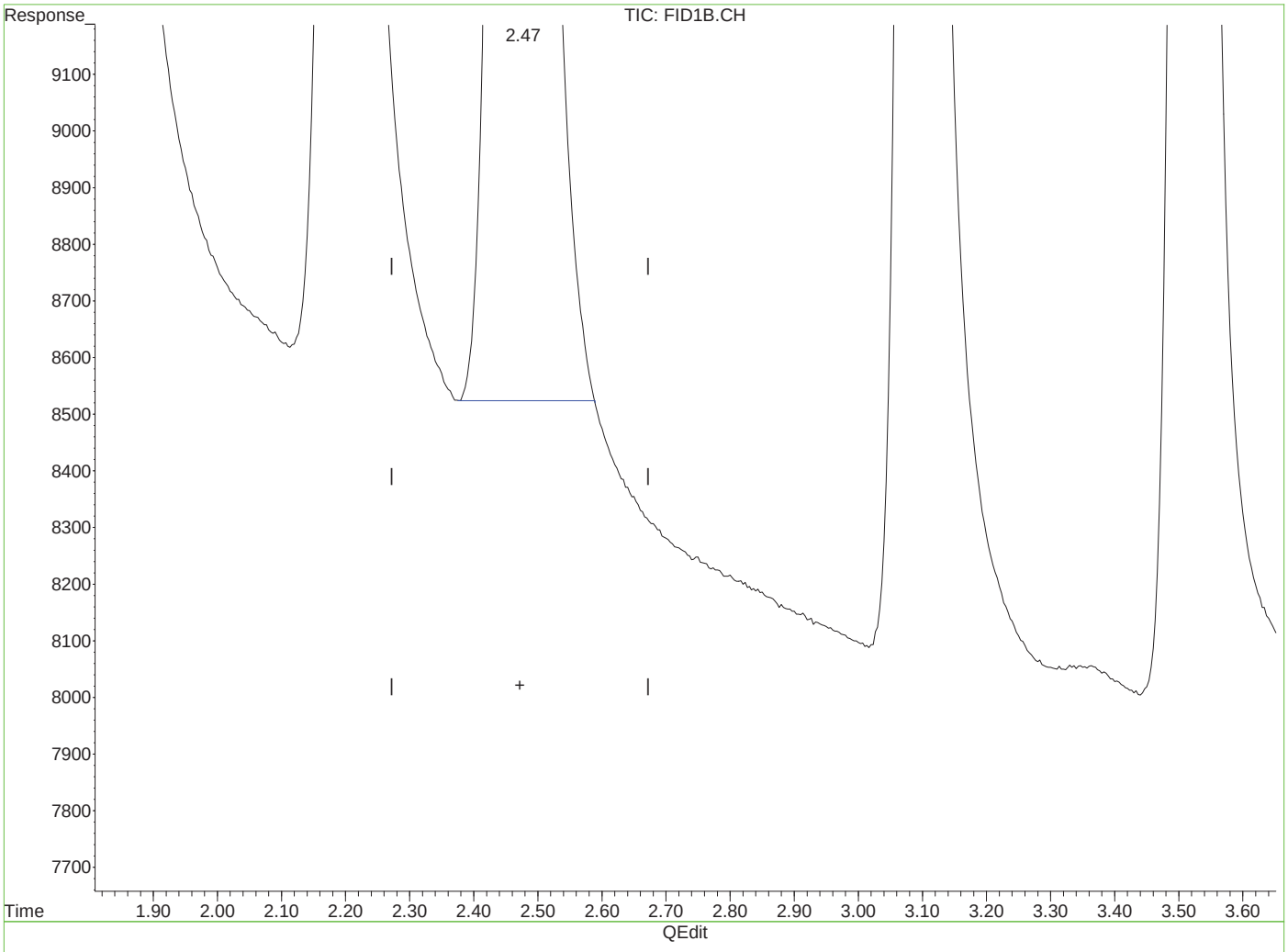
response 190931

(+) = Expected Retention Time
GH123822.D MGH6650.M Tue Mar 02 14:13:22 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123822.D Vial: 11
Acq On : 01-Mar-2021, 15:28:44 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 9013.215ug/L m

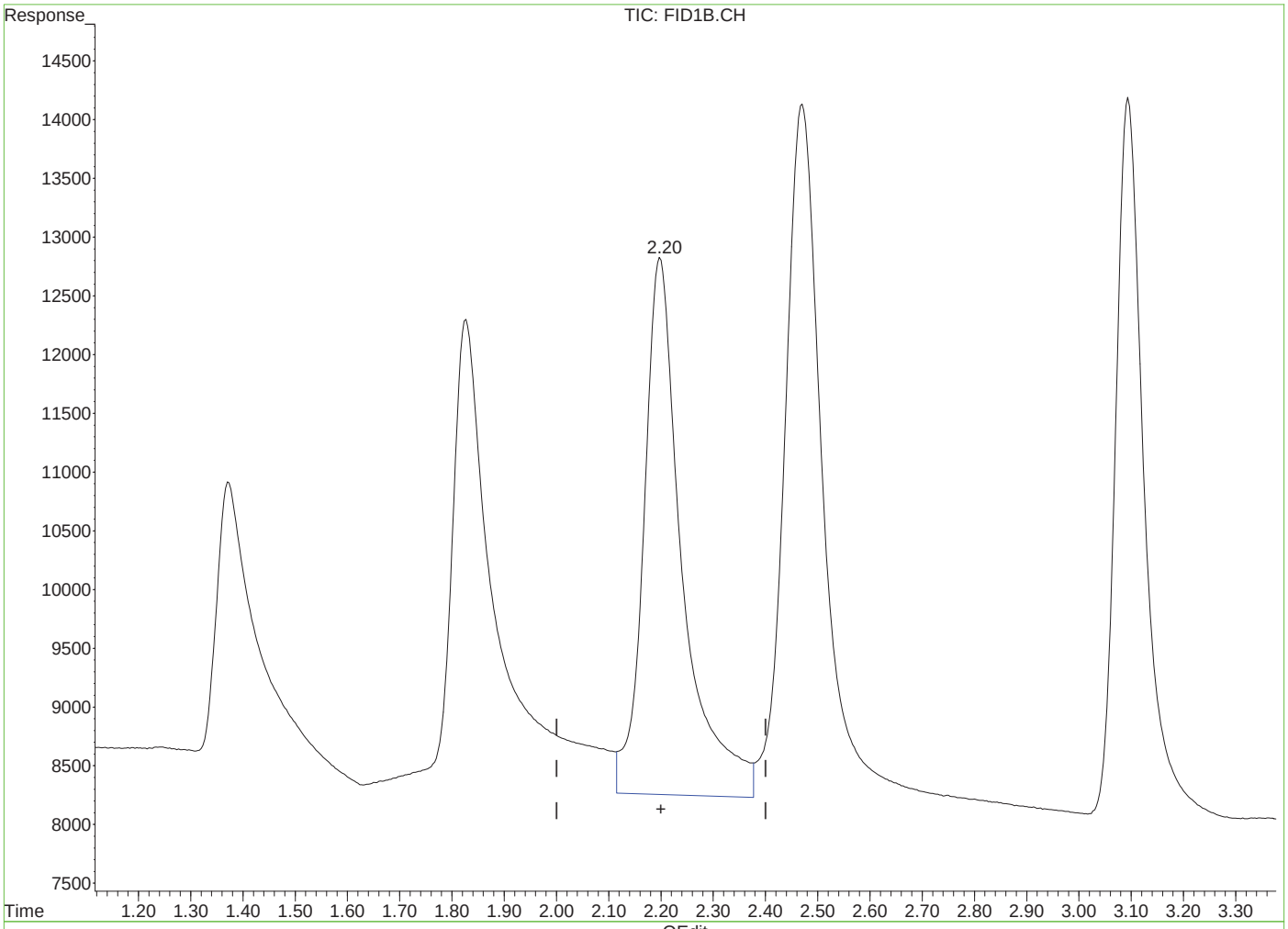
response 248531

(+) = Expected Retention Time
GH123822.D MGH6650.M Tue Mar 02 14:13:30 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123822.D Vial: 11
Acq On : 01-Mar-2021, 15:28:44 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 16:02 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 12009.147ug/L

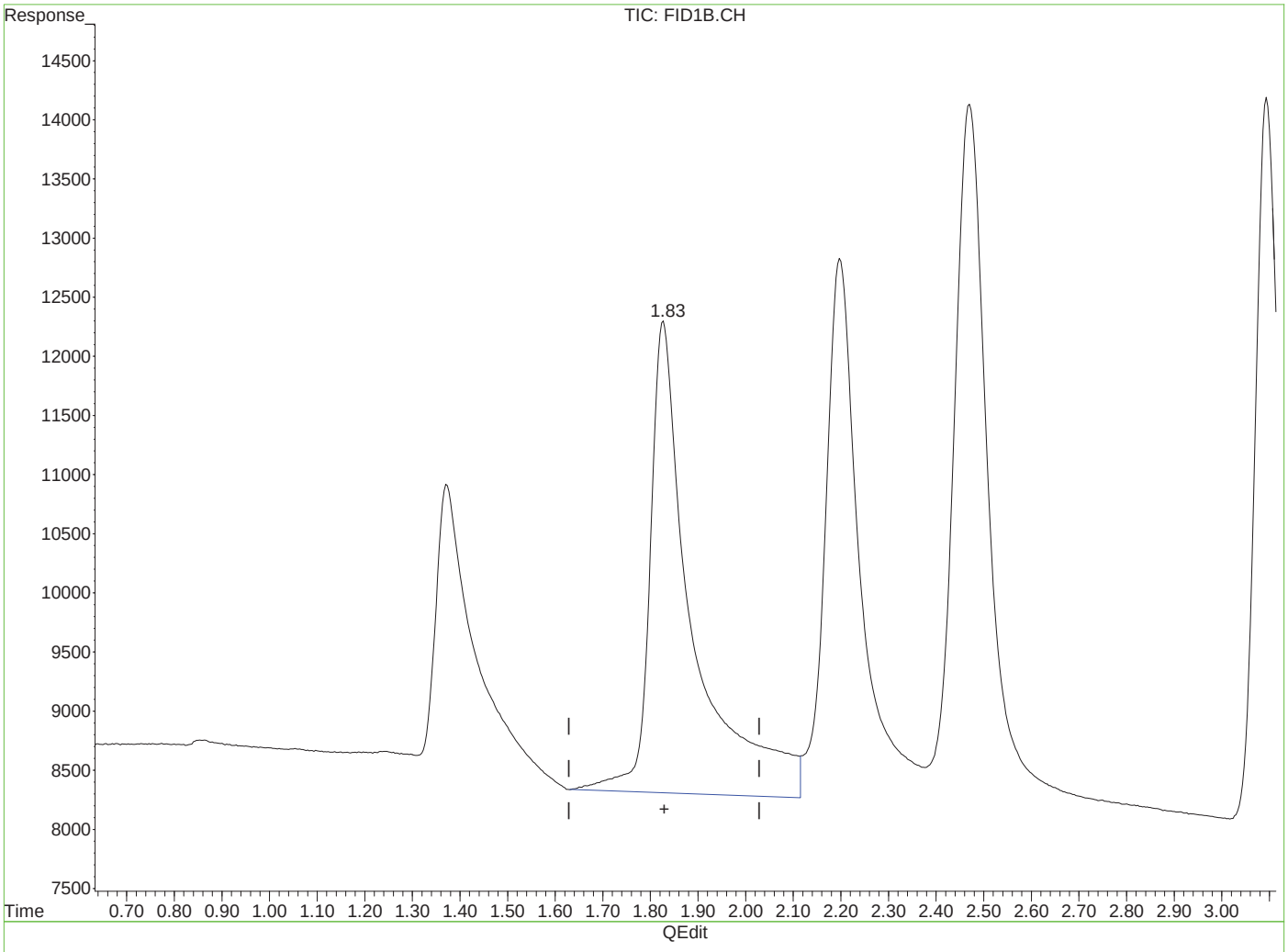
response 233782

(+) = Expected Retention Time
GH123822.D MGH6650.M Tue Mar 02 16:02:26 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123822.D Vial: 11
Acq On : 01-Mar-2021, 15:28:44 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 16:02 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.83min 14075.774ug/L

response 247461

(+) = Expected Retention Time

GH123822.D MGH6650.M Tue Mar 02 16:33:46 2021 RPT1

Manual Integrations APPROVED
(compounds with "m" flag)
MoHui Huang
03/04/21 13:31

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123831.D Vial: 20
Acq On : 01-Mar-2021, 18:05:57 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 02 14:01:52 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.35	367066	4863.459	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 97.27%			
Target Compounds					
1) Methanol	1.39	63106	4595.461	ug/L	m
2) Ethanol	1.84	83651	4758.112	ug/L	
3) 2-Propanol	2.21	95205	4890.588	ug/L	
4) Tert-Butyl Alcohol	2.48	136706	4957.755	ug/L	
5) 1-Propanol	3.10	115240	4843.112	ug/L	
6) 2-Butanol	3.53	114159	4655.302	ug/L	
7) Isobutanol	4.00	136913	4832.358	ug/L	
8) 1-butanol	4.53	140616	4912.622	ug/L	

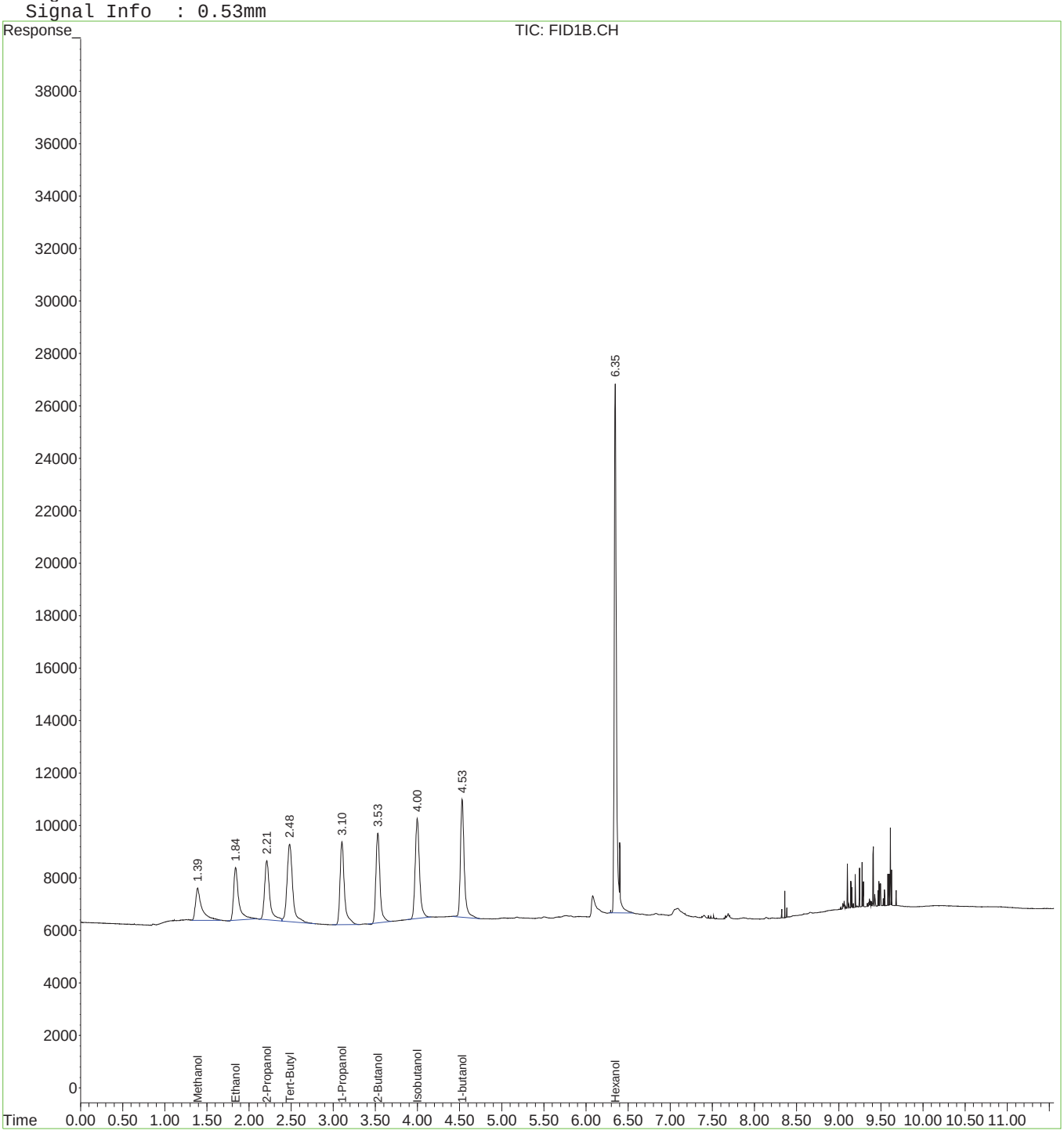
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123831.D MGH6650.M Tue Mar 02 15:15:14 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123831.D Vial: 20
Acq On : 01-Mar-2021, 18:05:57 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 15:12 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

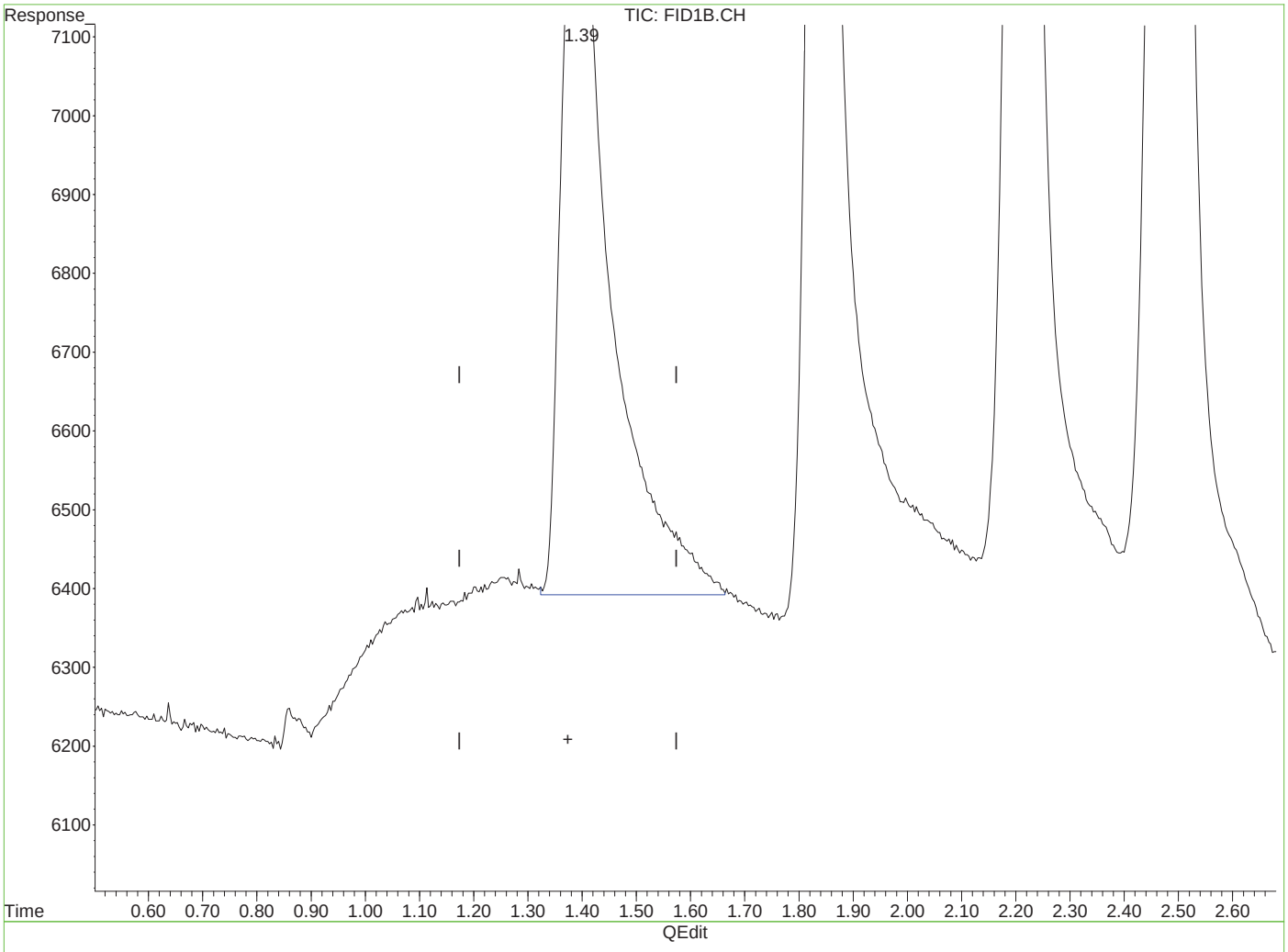
Sample Number: GGH6664-CC6650
Lab FileID: GH123831.D
Injection Time: 03/01/21 18:05
Method: SW846-8015D (DAI)
Analyst approved: 03/02/21 15:16 Bridget Kelly
Supervisor approved: 03/04/21 13:31 MoHui Huang

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.39	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123831.D Vial: 20
Acq On : 01-Mar-2021, 18:05:57 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 2 14:01 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.39min 4595.461ug/L m

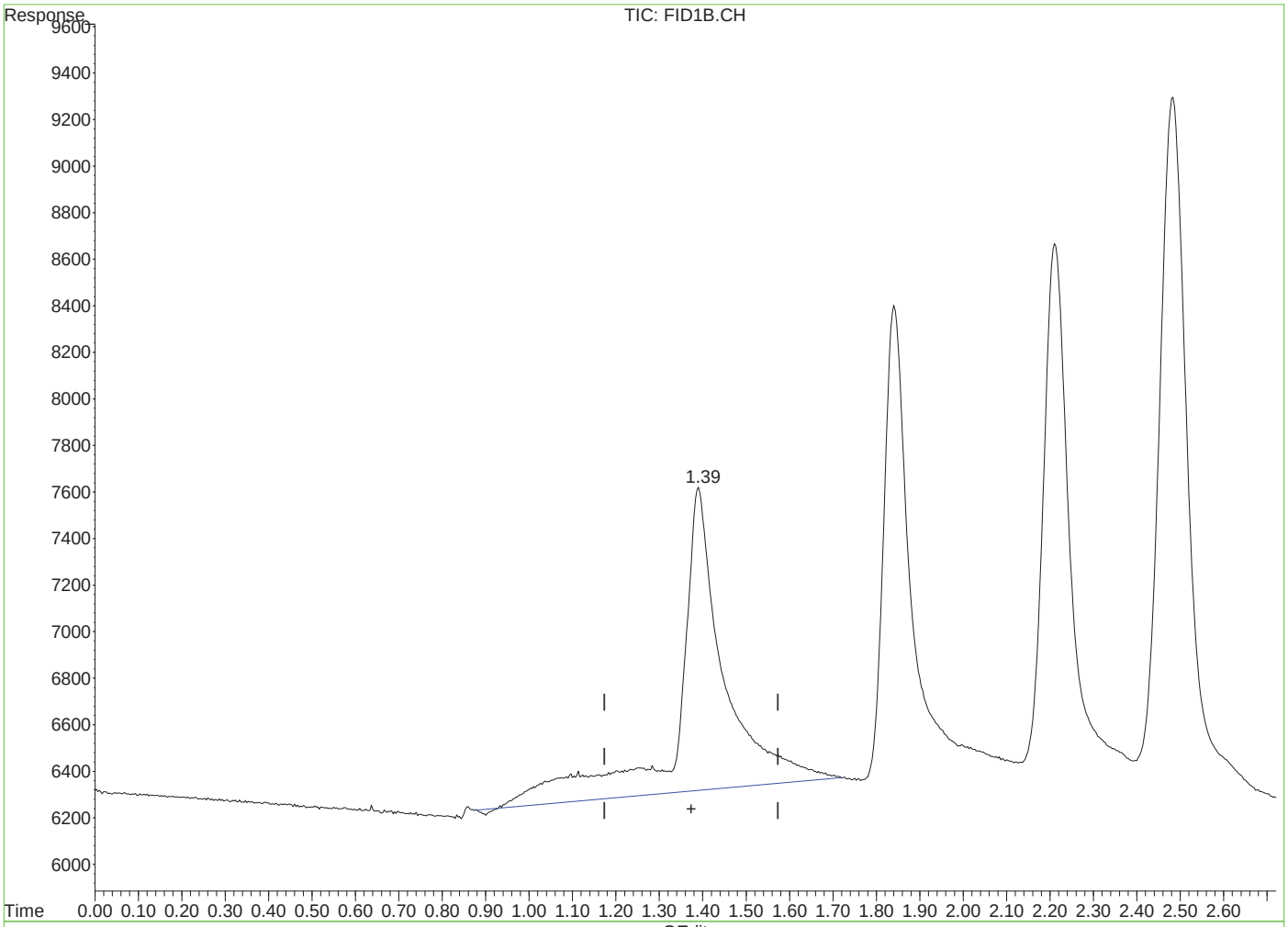
response 63106

(+) = Expected Retention Time
GH123831.D MGH6650.M Tue Mar 02 15:12:43 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6664\GH123831.D Vial: 20
Acq On : 01-Mar-2021, 18:05:57 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57555,GGH6664,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 4 14:05 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(1) Methanol

1.39min 7008.798ug/L

response 96247

(+) = Expected Retention Time
GH123831.D MGH6650.M Thu Mar 04 14:05:42 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123861.D Vial: 2
Acq On : 03-Mar-2021, 09:07:35 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12:42 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	364225	4825.809 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 96.52%	
Target Compounds			
1) Methanol	1.43	125084	9108.713 ug/L
2) Ethanol	1.88	173632	9876.300 ug/L
3) 2-Propanol	2.25	185293	9518.312 ug/L
4) Tert-Butyl Alcohol	2.52	263391	9552.130 ug/L
5) 1-Propanol	3.14	222841	9365.178 ug/L
6) 2-Butanol	3.56	225446	9193.480 ug/L
7) Isobutanol	4.03	266051	9390.273 ug/L
8) 1-butanol	4.56	258483	9030.445 ug/L

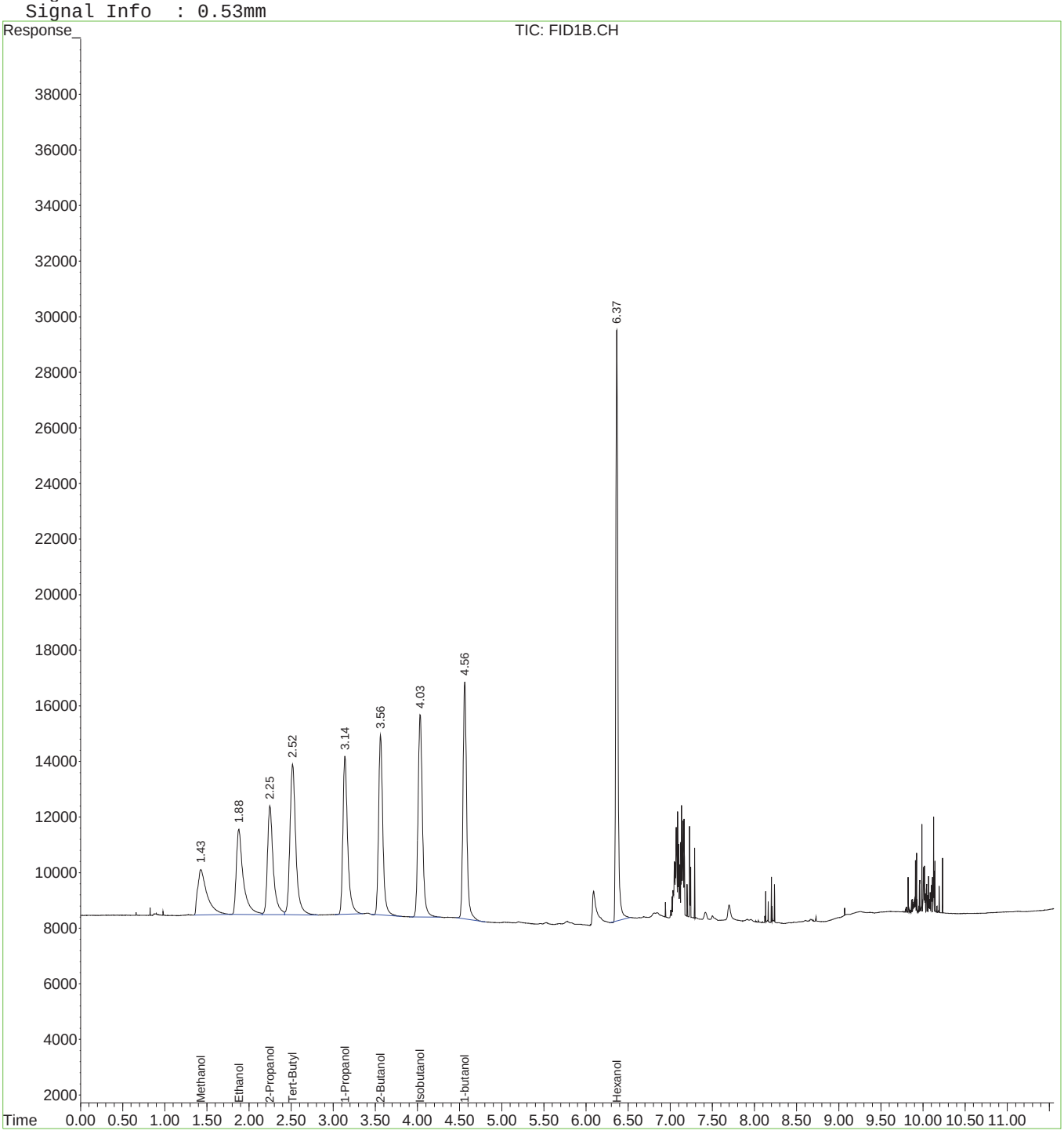
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123861.D MGH6650.M Wed Mar 10 16:16:11 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123861.D Vial: 2
Acq On : 03-Mar-2021, 09:07:35 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57532,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123871.D Vial: 12
Acq On : 03-Mar-2021, 12:41:47 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57552,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12:52 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	326314	4323.508	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 86.47%		
Target Compounds				
1) Methanol	1.41	61214	4457.668	ug/L
2) Ethanol	1.86	82762	4707.581	ug/L
3) 2-Propanol	2.23	84969	4364.778	ug/L
4) Tert-Butyl Alcohol	2.50	125657	4557.054	ug/L
5) 1-Propanol	3.13	109474	4600.797	ug/L
6) 2-Butanol	3.55	113214	4616.777	ug/L
7) Isobutanol	4.02	130845	4618.153	ug/L
8) 1-butanol	4.55	128400	4485.845	ug/L

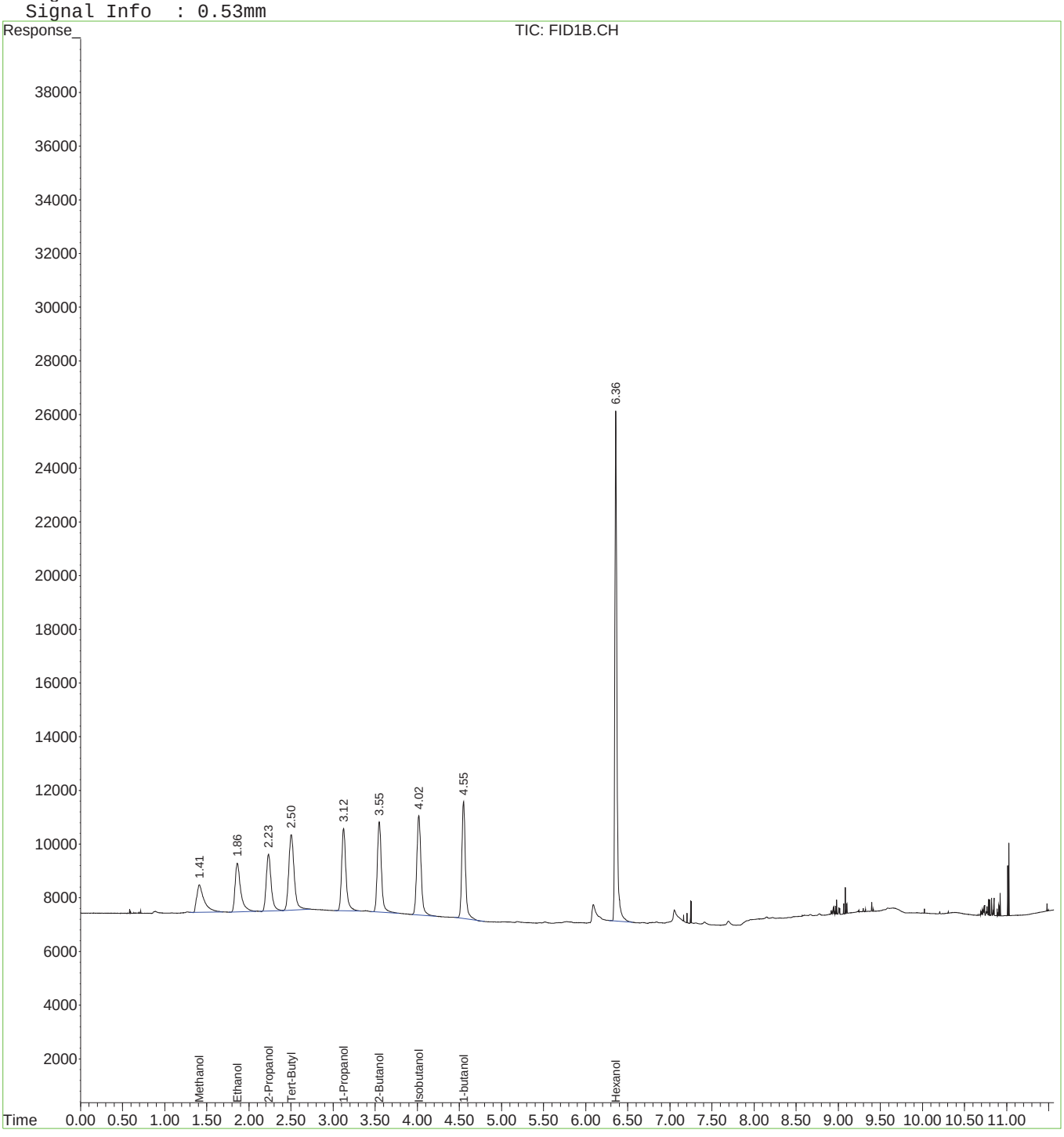
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123871.D MGH6650.M Wed Mar 10 16:16:16 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6666\GH123871.D Vial: 12
Acq On : 03-Mar-2021, 12:41:47 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57552,GGH6666,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Mar 10 16:12 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



GC Volatile Run Log

Standard / Reagents	Lot #					
ALC Surrogate	V020-2702-97				Column	RTX-1701 (30m x 0.53mm x 3um)
Concentration	2000 ppm				Method	8015D Alcohols
expiration date	2/21/21				Init Calib Date	1/21/2021
ALC STD	V020-2702-98				Analysis Date	1/21/2021
Concentration	100 ppm				Sequence loaded by	Robert Szot
expiration date	2/21/21				Data processed by	Robert Szot
					Batch ID	GGH6650
ALC (2) STD	V020-2702-99				Matrix	AQ
Concentration	100 ppm				Approved By:	KANYAV
expiration date	2/21/21		Calibration method	MGH6650	Approved Date:	1/28/2021 8:20:51 AM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Inj. Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123500	IB		NA			0.002			1	OK	
GH	123501	IB		NA			0.002			2	OK	
GH	123502	IC6650-200		NA		8015 ALC initial cal.	0.002			3	OK	2 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123503	IC6650-500		NA		8015 ALC initial cal.	0.002			4	OK	5 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123504	IC6650-1000		NA		8015 ALC initial cal.	0.002			5	OK	10 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123505	IC6650-5000		NA		8015 ALC initial cal.	0.002			6	OK	50 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123506	IC6650-10000		NA		8015 ALC initial cal.	0.002			7	OK	100 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123507	IC6650-50000		NA		8015 ALC initial cal.	0.002			8	OK	500 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123508	IC6650-100000		NA		8015 ALC initial cal.	0.002			9	OK	1000 uL ALC + 2.5 uL surrogate
GH	123509	IB		NA			0.002			10	OK	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Inj. Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123510	IB		NA			0.002			11	OK	
GH	123511	ICV6650-5000		NA		8015 ALC initial cal.	0.002			12	OK	50 uL ALC(2), 2.5 uL surrogate / 1 mL DI H2O FV

GC Volatile Run Log

Standard / Reagents	Lot #					
ALC Surrogate	V020-2702-111		ALC (2) STD	V020-2702-109	Column	RTX-1701 (30m x 0.53mm x 3um)
Concentration	2000 ppm		Concentration	100 ppm	Method	8015D Alcohols
expiration date	4/1/21		expiration date	3/24/21	Init Calib Date	1/21/2021
ALC STD	V020-2702-108				Analysis Date	3/1/2021
Concentration	100 ppm				Sequence loaded by	Bridget Kelly
expiration date	3/24/21				Data processed by	Bridget Kelly
					Batch ID	GGH6664
					Matrix	AQ
					Approved By:	MOHUI
pH paper lot #207519 EXP: 3/15/22			Calibration method	MGH6650	Approved Date:	3/2/2021 4:31:53 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123810	IB		NA			5			1	ok	
GH	123811	IB		NA			5			2	ok	
GH	123812	IB		NA			5			3	ok	
GH	123813	CC6650-5000		NA			0.002			4	ok	50 uL ALC, 2.5 uL surr / 1 mL FV
GH	123814	MB		NA			0.002			5	ok	
GH	123815	BS		NA			0.002			6	ok	50 uL ALC(2), 2.5 uL surr / 1 mL FV
GH	123816	FA83241-1	2	NA	GC57532	D8015METH	0.002		1	7	ok	
GH	123817	FA83241-2	2	NA	GC57532	D8015METH	0.002		1	8	ok	
GH	123818	FA83241-3	2	NA	GC57532	D8015METH	0.002		1	9	ok	
GH	123819	FA83241-4	2	NA	GC57532	D8015METH	0.002		1	10	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123820	FA83241-1MS	2	NA	GC57532	D8015METH	0.002		1	11	ok	50 uL ALC(2), 2.5 uL surr, 950 uL sample
GH	123821	FA83241-1MSD	2	NA	GC57532	D8015METH	0.002		1	12	ok	50 uL ALC(2), 2.5 uL surr, 950 uL sample
GH	123822	CC6650-10000		NA			0.002			13	ok	100 uL ALC, 2.5 uL surr / 1 mL FV
GH	123823	MB2		NA			0.002			14	ok	
GH	123824	JD20859-1	1	100x	GC57555	D8015IPA	0.5/50		1	15	ok/dl	f/d
GH	123825	JD20859-2	1	100x	GC57555	D8015IPA	0.5/50		1	16	ok	
GH	123826	JD20859-3	1	100x	GC57555	D8015IPA	0.5/50		1	17	ok	
GH	123827	JD20859-4	2	100x	GC57555	D8015IPA	0.5/50		1	18	ok	
GH	123828	JD20859-5	1	100x	GC57555	D8015IPA	0.5/50		1	19	ok	
GH	123829	JD20859-6	1	100x	GC57555	D8015IPA	0.5/50		1	20	rr	o/d
GH	123830	JD20859-7	1	100x	GC57555	D8015IPA	0.5/50		1	21	rr	o/d
GH	123831	CC6650-5000		NA			0.002			22	ok	50 uL ALC, 2.5 uL surr / 1 mL FV
GH	123832	MB3		NA			0.002			23	ok	
GH	123833	JD19597-1	3	10x	GC57546		5/50		9	24	ok	
GH	123834	JD19594-1	3	2000x	GC57546		25uL/50 mL		9	25	ok	
GH	123835	JD19596-1	3	2000x	GC57546		25uL/50 mL		5	26	ok	
GH	123836	JD19595-1	4	2000x	GC57546		25uL/50 mL		5	27	ok	
GH	123837	JD20843-1	3	2000x	GC57548		25uL/50 mL		9	28	ok	
GH	123838	IB		NA			0.002			29	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123839	IB		NA			0.002			30	ok	
GH	123840	CC6650-10000		NA			0.002			31	ok	100 uL ALC, 2.5 uL surr / 1 mL FV

GC Volatile Run Log

Standard / Reagents	Lot #					
ALC Surrogate	v020-2702-111		ALC (2) STD	v020-2702-109	Column	RTX-1701 (30m x 0.53mm x 3um)
Concentration	2000 ppm		Concentration	100 ppm	Method	8015D Alcohols
Expiration Date	4/1/21		Expiration Date	3/24/21	Init Calib Date	12/29/2020
ALC STD	v020-2702-108				Analysis Date	3/3/2021
Concentration	100 ppm				Sequence loaded by	Bridget Kelly
Expiration Date	3/24/21				Data processed by	Bridget Kell
					Batch ID	GGH6666
					Matrix	AQ
					Approved By:	MOHUI
pH paper lot #207519 EXP: 3/15/22			Calibration method	MGH6650	Approved Date:	3/12/2021 12:05:51 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123860	IB		NA			0.002			1	ok	
GH	123861	CC-6650-10000		NA			0.002			2	ok	100 uL ALC, 2.5 uL surr / 1 mL FV
GH	123862	MB		NA			0.002			3	ok	
GH	123863	BS		NA			0.002			4	ok	50 uL ALC(2), 2.5 uL surr / 1 mL FV
GH	123864	JD20859-1	2	1000x	GC57555	D8015IPA	50uL/50 mL		1	5	not needed	
GH	123865	JD20859-6	2	20x	GC57555	D8015IPA	2.5/50		1	6	not needed	
GH	123866	JD20859-7	2	20x	GC57555	D8015IPA	2.5/50		1	7	ok	
GH	123867	JD20874-4	31	NA	GC57552		0.002		1	8	ok	
GH	123868	JD20874-4MS	31	NA	GC57552		0.002		1	9	ok	50 uL ALC(2), 2.5 uL surr, 950 uL sample
GH	123869	JD20874-4MSD	31	NA	GC57552		0.002		1	10	ok	50 uL ALC(2), 2.5 uL surr, 950 uL sample

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123870	JD20859-2	2	1000x	GC57555	D8015IPA	50uL/50 mL		1	11	not needed	
GH	123871	CC6650-5000		NA			0.002			12	ok	50 uL ALC, 2.5 uL surr / 1 mL FV
GH	123872	MB2		NA			0.002			13	ok	
GH	123873	JD20874-10	17	NA	GC57552		0.002		1	14	ok	
GH	123874	JD20874-11	12	NA	GC57552		0.002		1	15	ok	
GH	123875	JD20859-1	2	100x	GC57555	D8015IPA	0.5/50		1	16	not needed	
GH	123876	JD20859-2	2	100x	GC57555	D8015IPA	0.5/50		1	17	not needed	
GH	123877	JD20874-1	17	NA	GC57552		0.002		1	18	ok	
GH	123878	JD20874-2	15	NA	GC57552		0.002		1	19	ok	
GH	123879	JD20874-3	13	NA	GC57552		0.002		1	20	ok	
GH	123880	CC6650-10000		NA			0.002			21	ok	100 uL ALC, 2.5 uL surr / 1 mL FV
GH	123881	MB3		NA			0.002			22	ok	
GH	123882	JD20874-5	15	NA	GC57552		0.002		1	23	ok	
GH	123883	JD20874-6	17	NA	GC57552		0.002		1	24	ok	
GH	123884	JD20874-7	10	NA	GC57552		0.002		1	25	ok	
GH	123885	JD20874-8	13	NA	GC57552		0.002		1	26	ok	
GH	123886	JD20874-9	19	NA	GC57552		0.002		1	27	ok	
GH	123887	CC6650-5000		NA			0.002			28	ok	50 uL ALC, 2.5 uL surr / 1 mL FV

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

7311180270.7000

SGS Job Number: JD23852

Sampling Date: 04/15/21

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Avenue Suite 900
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Eric Thompson

Total number of pages in report: **132**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Thelma Flaherty 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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EHS.US.CustomerCare@sgs.com

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: JD23852

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270.7000

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JD23852-1	04/15/21	08:10	BPN	04/22/21	AQ	Water	SP11-C3B10-SB-20210415

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Wood Environment & Infrastructure Solut.	**Job No**	JD23852
Site:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH	**Report Date**	5/6/2021 9:33:45 AM

On 04/22/2021, 1 Sample(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD23852 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

GC Volatiles By Method SW846-8015D (DAI)

Matrix: AQ **Batch ID:** GGH6687

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- JD23852-1: (pH=6)Sample pH did not satisfy field preservation criteria. Dilution due to high concentration of target compound.

Matrix: AQ **Batch ID:** GGH6688

- All samples were analyzed within the recommended method holding time.
- Sample(s) JD23913-2MS, JD23913-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JD23852-1: (pH=6)Sample pH did not satisfy field preservation criteria.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JD23852
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Collected: 04/15/21

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
JD23852-1	**SP11-C3B10-SB-20210415**					
Isopropyl Alcohol [a]		16000000	200000	160000	ug/l	SW846-8015D (DAI)

(a) (pH= 6)Sample pH did not satisfy field preservation criteria.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP11-C3B10-SB-20210415		
Lab Sample ID:	JD23852-1	**Date Sampled:**	04/15/21
Matrix:	AQ - Water	**Date Received:**	04/22/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH124415.D	100	04/28/21 20:25	RS	n/a	n/a	GGH6687
Run #2 [b]	GH124428.D	1000	04/29/21 13:26	RS	n/a	n/a	GGH6688

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	16000000 [c]	200000	160000	81000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	91%	87%	56-145%

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Dilution due to high concentration of target compound.
(b) (pH= 6)Sample pH did not satisfy field preservation criteria.
(c) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

WW

9304 43703282

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : PAGE 1 OF

SGS - ORLANDO Quote # SKIFF # JD 23852

Client / Reporting Information		Project Information		Analytical Information	Matrix Codes
Company Name: WOOD PLC		Project Name: SITE 8 PILOT			DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid
Address: 511 CONGRESS STREET		Street 20 SHORT STREET			
City: PORTLAND State: MAINE Zip: 04101		City NEWINGTON State NH			
Project Contact: ERIC THOMPSON Email: ERIC.THOMPSON2@WOODPLC.COM		Project # 7311180270.7000			
Phone #: 207.747.7388		Fax #			
Sampler(s) Name(s) (Printed) Sampler 1: Sampler 2:		Client Purchase Order #			

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	CONTAINER INFORMATION: OTHER	NONE	HCl	HNO3	H2SO4	NAOH	NAOH+ZNAC	DI WATER	MEOH	IPA - 8015	LAB USE ONLY
1	SB4 SP11-C3B10-SB-20210415	4/15/21	08:10	BPN	Wwdr	3			X							X	
																	W445

Turnaround Time (Business days)

- 10 Day (Business) — Approved By: / Date:
- 7 Day
- 5 Day
- 3 Day *RUSH*
- 2 Day *RUSH*
- 1 Day *RUSH*
- Other

Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [X] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULLT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

Send to NJ lab for IPA analysis

SGS ACCUTEST MARLBOR 4/22

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Martha Chick Wood	4/22/21 11:00	2	3	4/22/21	4
5		4/22/21 18:00	6	7 fedex	4/23/21 10:00	8

Lab Use Only : Cooler Temperature (s) Celsius (corrected): CS 15679

http://www.sgs.com/en/terms-and-conditions

33 CP

SGS COC Blank Rev 031318

JD23852: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: JD23852 **Client:** _____ **Project:** _____

Date / Time Received: 4/22/2021 6:00:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.3);

Cooler Temps (Corrected) °C: Cooler 1: (2.6);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

5.1 5

JD23852: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Wood Environment & Infrastructure Solut.

Job No: JD23852

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270.7000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD23852-1	Collected: 15-APR-21 08:10 By: BPN			Received: 22-APR-21 By: JP		
SP11-C3B10-SB-20210415						
JD23852-1	SW846-8015D (DAI)	28-APR-21 20:25	RS			
JD23852-1	SW846-8015D (DAI)	29-APR-21 13:26	RS			D8015IPA

SGS Internal Chain of Custody

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Received: 04/22/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD23852-1.1	Secured Storage	Bridget Kelly	04/28/21 17:00	Retrieve from Storage
JD23852-1.1	Bridget Kelly	GCGH	04/28/21 17:00	Load on Instrument
JD23852-1.1	GCGH	Bridget Kelly	04/29/21 15:39	Unload from Instrument
JD23852-1.1	Bridget Kelly	Secured Storage	04/29/21 15:39	Return to Storage
JD23852-1.2	Secured Storage	Bridget Kelly	04/29/21 17:48	Retrieve from Storage
JD23852-1.2	Bridget Kelly	GCGH	04/29/21 17:49	Load on Instrument
JD23852-1.2	GCGH	Bridget Kelly	05/03/21 12:02	Unload from Instrument
JD23852-1.2	Bridget Kelly	Secured Storage	05/03/21 12:02	Return to Storage

QC Evaluation: DOD QSM5.x Limits

Job Number: JD23852
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Collected: 04/15/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No DOD QSM5.x Limits Found.

* Sample used for QC is not from job JD23852

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6687-MB3	GH124412.D	1	04/28/21	RS	n/a	n/a	GGH6687

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD23852-1

CAS No.	Compound	Result	RL	MDL	Units	Q

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	94%	56-145%

Method Blank Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6688-MB	GH124422.D	1	04/29/21	RS	n/a	n/a	GGH6688

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD23852-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	81%	56-145%

Method Blank Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6687-MB	GH124393.D	1	04/28/21	RS	n/a	n/a	GGH6687

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

GGH6687-BS, JD23825-1MS, JD23825-1MSD

CAS No.	Compound	Result	RL	MDL	Units	Q

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	92%	56-145%

Blank Spike Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6687-BS	GH124394.D	1	04/28/21	RS	n/a	n/a	GGH6687

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD23852-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	89%	56-145%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6688-BS	GH124423.D	1	04/29/21	RS	n/a	n/a	GGH6688

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD23852-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	4920	98	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	88%	56-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD23825-1MS	GH124400.D	1	04/28/21	RS	n/a	n/a	GGH6687
JD23825-1MSD	GH124401.D	1	04/28/21	RS	n/a	n/a	GGH6687
JD23825-1	GH124395.D	1	04/28/21	RS	n/a	n/a	GGH6687

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD23852-1

CAS No.	Compound	JD23825-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD

CAS No.	Surrogate Recoveries	MS	MSD	JD23825-1	Limits
111-27-3	Hexanol	98%	92%	94%	56-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD23913-2MS	GH124429.D	1	04/29/21	RS	n/a	n/a	GGH6688
JD23913-2MSD	GH124430.D	1	04/29/21	RS	n/a	n/a	GGH6688
JD23913-2	GH124424.D	1	04/29/21	RS	n/a	n/a	GGH6688

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD23852-1

CAS No.	Compound	JD23913-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	ND		5000	4710	94	5000	4880	98	4	70-133/28

CAS No.	Surrogate Recoveries	MS	MSD	JD23913-2	Limits
111-27-3	Hexanol	92%	87%	82%	56-145%

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Method: SW846-8015D (DAI) **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JD23852-1	GH124415.D	91
JD23852-1	GH124428.D	87
GGH6687-BS	GH124394.D	89
GGH6687-MB3	GH124412.D	94
GGH6688-BS	GH124423.D	88
GGH6688-MB	GH124422.D	81
JD23825-1MS	GH124400.D	98
JD23825-1MSD	GH124401.D	92
JD23913-2MS	GH124429.D	92
JD23913-2MSD	GH124430.D	87
GGH6687-MB	GH124393.D	92

Surrogate Compounds	Recovery Limits
S1 = Hexanol	56-145%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6686-CC6650	**Injection Date:**	04/28/21
Lab File ID:	GH124389.D	**Injection Time:**	11:46
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.36

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6687-MB	GH124393.D	04/28/21	12:56	6.36
GGH6687-BS	GH124394.D	04/28/21	13:14	6.36
JD23825-1	GH124395.D	04/28/21	14:17	6.36
ZZZZZZ	GH124396.D	04/28/21	14:34	6.36
ZZZZZZ	GH124397.D	04/28/21	14:52	6.36
ZZZZZZ	GH124398.D	04/28/21	15:09	6.36
ZZZZZZ	GH124399.D	04/28/21	15:27	6.36
JD23825-1MS	GH124400.D	04/28/21	15:45	6.36
JD23825-1MSD	GH124401.D	04/28/21	16:02	6.36

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6687-CC6650	**Injection Date:**	04/28/21
Lab File ID:	GH124411.D	**Injection Time:**	19:15
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.36

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6687-MB3	GH124412.D	04/28/21	19:33	6.36
ZZZZZZ	GH124413.D	04/28/21	19:50	6.36
ZZZZZZ	GH124414.D	04/28/21	20:08	6.36
JD23852-1	GH124415.D	04/28/21	20:25	6.36

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6688-CC6650	**Injection Date:**	04/29/21
Lab File ID:	GH124421.D	**Injection Time:**	10:40
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.36

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6688-MB	GH124422.D	04/29/21	11:24	6.36
GGH6688-BS	GH124423.D	04/29/21	11:42	6.36
JD23913-2	GH124424.D	04/29/21	12:16	6.36
ZZZZZZ	GH124425.D	04/29/21	12:33	6.36
ZZZZZZ	GH124426.D	04/29/21	12:51	6.36
ZZZZZZ	GH124427.D	04/29/21	13:08	6.36
JD23852-1	GH124428.D	04/29/21	13:26	6.36
JD23913-2MS	GH124429.D	04/29/21	13:44	6.36
JD23913-2MSD	GH124430.D	04/29/21	14:01	6.36

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: JD23852 **Sample:** GGH6650-ICC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123505.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Response Factor Report HP5890

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Fri Jan 22 08:22:19 2021
Response via : Initial Calibration

Calibration Files
500 =GH123503.D 5000=GH123505.D 200 =GH123502.D 1000=GH123504.D
10k =GH123506.D 50k =GH123507.D 100k=GH123508.D =

Compound	500	5000	200	1000	10k	50k	100k	Avg	%RSD
1) Methanol	1.315	1.496	1.528	1.248	1.329	1.381	1.316	1.373 E1	7.50
2) Ethanol	1.772	1.923	1.366	1.788	1.725	1.904	1.829	1.758 E1	10.63
3) 2-Propanol	1.990	1.987	1.975	1.736	2.072	1.938	1.928	1.947 E1	5.34
4) Tert-Butyl A	2.605	2.786	2.938	2.716	2.797	2.704	2.756	2.757 E1	3.72
5) 1-Propanol	2.416	2.354	2.433	2.403	2.343	2.361	2.346	2.379 E1	1.56
6) 2-Butanol	2.452	2.403	2.486	2.579	2.410	2.410	2.425	2.452 E1	2.58
7) Isobutanol	2.799	2.850	2.945	2.854	2.784	2.787	2.815	2.833 E1	2.00
8) 1-butanol	2.768	2.761	3.495	2.846	2.788	2.697	2.681	2.862 E1	9.94
9) Hexanol	7.457	7.547	7.256	7.629	7.485	7.454	8.004	7.547 E1	3.07

(#) = Out of Range ### Number of calibration levels exceeded format ###

MGH6650.M Wed Jan 27 14:52:21 2021 RPT1

Initial Calibration Verification

Job Number: JD23852 **Sample:** GGH6650-ICV6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123511.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Fri Jan 22 08:22:19 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.445	2.1	90	0.00	1.17- 1.57
2	Ethanol	17.581	17.316	1.5	90	0.00	1.63- 2.03
3	2-Propanol	19.467	18.161	6.7	91	0.00	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.933	6.0	93	0.00	2.27- 2.67
5	1-Propanol	23.795	22.052	7.3	94	0.00	2.89- 3.29
6	2-Butanol	24.522	22.588	7.9	94	0.00	3.32- 3.72
7	Isobutanol	28.333	26.335	7.1	92	0.00	3.79- 4.19
8	1-butanol	28.623	26.300	8.1	95	0.00	4.32- 4.72
9 S	Hexanol	75.474	70.559	6.5	93	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123511.D MGH6650.M Wed Jan 27 14:49:38 2021 RPT1

Continuing Calibration Summary

Job Number: JD23852 **Sample:** GGH6686-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124389.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6686\GH124389.D Vial: 45
Acq On : 28-Apr-2021, 11:46:16 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57823,GGH6686,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.665	0.5	103	0.04	1.17- 1.57
2	Ethanol	17.581	18.724	-6.5	109	0.04	1.63- 2.03
3	2-Propanol	19.467	19.268	1.0	93	0.03	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	27.667	-0.3	99	0.03	2.27- 2.67
5	1-Propanol	23.795	22.937	3.6	98	0.03	2.89- 3.29
6	2-Butanol	24.522	23.455	4.4	97	0.03	3.32- 3.72
7	Isobutanol	28.333	27.540	2.8	99	0.03	3.79- 4.19
8	1-butanol	28.623	27.117	5.3	97	0.03	4.32- 4.72
9 S	Hexanol	75.474	77.272	-2.4	103	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Wed Apr 28 12:09:52 2021 RPT1

Continuing Calibration Summary

Job Number: JD23852 **Sample:** GGH6687-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124392.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124392.D Vial: 3
Acq On : 28-Apr-2021, 12:38:58 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.155	4.2	88	0.04	1.17- 1.57
2	Ethanol	17.581	17.794	-1.2	93	0.04	1.63- 2.03
3	2-Propanol	19.467	18.501	5.0	93	0.04	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.170	5.1	94	0.03	2.27- 2.67
5	1-Propanol	23.795	22.968	3.5	98	0.03	2.89- 3.29
6	2-Butanol	24.522	23.319	4.9	97	0.03	3.32- 3.72
7	Isobutanol	28.333	26.879	5.1	94	0.03	3.79- 4.19
8	1-butanol	28.623	25.492	10.9	92	0.03	4.32- 4.72
9 S	Hexanol	75.474	65.316	13.5	87	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Thu Apr 29 15:28:22 2021 RPT1

Continuing Calibration Summary

Job Number: JD23852 **Sample:** GGH6687-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124402.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124402.D Vial: 13
Acq On : 28-Apr-2021, 16:20:09 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.031	5.1	98	0.04	1.17- 1.57
2	Ethanol	17.581	17.707	-0.7	103	0.03	1.63- 2.03
3	2-Propanol	19.467	18.606	4.4	90	0.03	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.413	4.2	94	0.03	2.27- 2.67
5	1-Propanol	23.795	22.783	4.3	97	0.03	2.89- 3.29
6	2-Butanol	24.522	23.091	5.8	96	0.03	3.32- 3.72
7	Isobutanol	28.333	26.794	5.4	96	0.02	3.79- 4.19
8	1-butanol	28.623	25.492	10.9	91	0.02	4.32- 4.72
9 S	Hexanol	75.474	71.552	5.2	96	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Fri Apr 30 10:00:11 2021 RPT1

Continuing Calibration Summary

Job Number: JD23852 **Sample:** GGH6687-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124411.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124411.D Vial: 22
Acq On : 28-Apr-2021, 19:15:35 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	11.793	14.1	79	0.04	1.17- 1.57
2	Ethanol	17.581	16.608	5.5	86	0.04	1.63- 2.03
3	2-Propanol	19.467	17.528	10.0	88	0.03	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.678	6.9	92	0.03	2.27- 2.67
5	1-Propanol	23.795	21.955	7.7	93	0.03	2.89- 3.29
6	2-Butanol	24.522	22.262	9.2	93	0.03	3.32- 3.72
7	Isobutanol	28.333	26.324	7.1	92	0.03	3.79- 4.19
8	1-butanol	28.623	26.478	7.5	96	0.02	4.32- 4.72
9 S	Hexanol	75.474	65.124	13.7	86	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Thu Apr 29 15:28:46 2021 RPT1

Continuing Calibration Summary

Job Number: JD23852 **Sample:** GGH6687-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124417.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124417.D Vial: 28
Acq On : 28-Apr-2021, 21:01:09 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57850,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	14.727	-7.2	111	0.02	1.17- 1.57
2	Ethanol	17.581	18.765	-6.7	109	0.02	1.63- 2.03
3	2-Propanol	19.467	18.365	5.7	89	0.03	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.440	4.1	95	0.03	2.27- 2.67
5	1-Propanol	23.795	22.999	3.3	98	0.03	2.89- 3.29
6	2-Butanol	24.522	23.432	4.4	97	0.03	3.32- 3.72
7	Isobutanol	28.333	27.484	3.0	99	0.02	3.79- 4.19
8	1-butanol	28.623	26.716	6.7	96	0.02	4.32- 4.72
9 S	Hexanol	75.474	75.163	0.4	100	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Thu Apr 29 15:27:49 2021 RPT1

Continuing Calibration Summary

Job Number: JD23852 **Sample:** GGH6688-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124421.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124421.D Vial: 38
Acq On : 29-Apr-2021, 10:40:38 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57864,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.381	2.6	89	0.01	1.17- 1.57
2	Ethanol	17.581	16.903	3.9	88	0.01	1.63- 2.03
3	2-Propanol	19.467	17.547	9.9	88	0.01	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.604	7.1	92	0.02	2.27- 2.67
5	1-Propanol	23.795	23.059	3.1	98	0.02	2.89- 3.29
6	2-Butanol	24.522	24.027	2.0	100	0.02	3.32- 3.72
7	Isobutanol	28.333	28.261	0.3	99	0.02	3.79- 4.19
8	1-butanol	28.623	26.863	6.1	97	0.02	4.32- 4.72
9 S	Hexanol	75.474	66.982	11.3	89	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Tue May 04 16:55:40 2021 RPT1

Continuing Calibration Summary

Job Number: JD23852 **Sample:** GGH6688-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124431.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124431.D Vial: 48
Acq On : 29-Apr-2021, 14:19:04 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57858,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.125	4.4	99	0.03	1.17- 1.57
2	Ethanol	17.581	18.052	-2.7	105	0.03	1.63- 2.03
3	2-Propanol	19.467	18.733	3.8	90	0.03	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.157	5.1	94	0.02	2.27- 2.67
5	1-Propanol	23.795	22.231	6.6	95	0.02	2.89- 3.29
6	2-Butanol	24.522	22.825	6.9	95	0.02	3.32- 3.72
7	Isobutanol	28.333	26.538	6.3	95	0.02	3.79- 4.19
8	1-butanol	28.623	25.632	10.4	92	0.02	4.32- 4.72
9 S	Hexanol	75.474	62.282	17.5	83	0.01	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Tue May 04 16:56:26 2021 RPT1

Run Sequence Report

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6650 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6650-IC6650	GH123502.D	01/21/21 18:20	n/a	Initial cal 200
GGH6650-IC6650	GH123503.D	01/21/21 18:37	n/a	Initial cal 500
GGH6650-IC6650	GH123504.D	01/21/21 18:55	n/a	Initial cal 1000
GGH6650-ICC6650	GH123505.D	01/21/21 19:12	n/a	Initial cal 5000
GGH6650-IC6650	GH123506.D	01/21/21 19:30	n/a	Initial cal 10000
GGH6650-IC6650	GH123507.D	01/21/21 19:47	n/a	Initial cal 50000
GGH6650-IC6650	GH123508.D	01/21/21 20:05	n/a	Initial cal 100000
GGH6650-ICV6650	GH123511.D	01/21/21 20:57	n/a	Initial cal verification 5000

Run Sequence Report

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6686 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6686-CC6650	GH124354.D	04/27/21 09:15	n/a	Continuing cal 5000
GGH6686-MB	GH124355.D	04/27/21 10:17	n/a	Method Blank
GGH6686-BS	GH124356.D	04/27/21 10:35	n/a	Blank Spike
ZZZZZZ	GH124357.D	04/27/21 11:12	n/a	(unrelated sample)
JD23621-2A	GH124358.D	04/27/21 11:29	n/a	(used for QC only; not part of job JD23852)
ZZZZZZ	GH124360.D	04/27/21 12:04	n/a	(unrelated sample)
ZZZZZZ	GH124361.D	04/27/21 12:21	n/a	(unrelated sample)
ZZZZZZ	GH124362.D	04/27/21 12:38	n/a	(unrelated sample)
ZZZZZZ	GH124363.D	04/27/21 12:56	n/a	(unrelated sample)
GGH6686-CC6650	GH124366.D	04/27/21 13:48	n/a	Continuing cal 10000
GGH6686-MB2	GH124367.D	04/27/21 14:06	n/a	Method Blank
ZZZZZZ	GH124370.D	04/27/21 14:58	n/a	(unrelated sample)
GGH6686-CC6650	GH124374.D	04/27/21 16:32	n/a	Continuing cal 5000
GGH6686-CC6650	GH124382.D	04/28/21 09:20	n/a	Continuing cal 5000
GGH6686-MB4	GH124383.D	04/28/21 09:38	n/a	Method Blank
GGH6686-BS2	GH124384.D	04/28/21 09:55	n/a	Blank Spike
JD23621-2AMS	GH124385.D	04/28/21 10:36	n/a	Matrix Spike
JD23621-2AMSD	GH124386.D	04/28/21 10:54	n/a	Matrix Spike Duplicate
GGH6686-CC6650	GH124389.D	04/28/21 11:46	n/a	Continuing cal 10000

Run Sequence Report

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6687 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6687-CC6650	GH124392.D	04/28/21 12:38	n/a	Continuing cal 5000
GGH6687-MB	GH124393.D	04/28/21 12:56	n/a	Method Blank
GGH6687-BS	GH124394.D	04/28/21 13:14	n/a	Blank Spike
JD23825-1	GH124395.D	04/28/21 14:17	n/a	(used for QC only; not part of job JD23852)
ZZZZZZ	GH124396.D	04/28/21 14:34	n/a	(unrelated sample)
ZZZZZZ	GH124397.D	04/28/21 14:52	n/a	(unrelated sample)
ZZZZZZ	GH124398.D	04/28/21 15:09	n/a	(unrelated sample)
ZZZZZZ	GH124399.D	04/28/21 15:27	n/a	(unrelated sample)
JD23825-1MS	GH124400.D	04/28/21 15:45	n/a	Matrix Spike
JD23825-1MSD	GH124401.D	04/28/21 16:02	n/a	Matrix Spike Duplicate
GGH6687-CC6650	GH124402.D	04/28/21 16:20	n/a	Continuing cal 10000
ZZZZZZ	GH124404.D	04/28/21 17:12	n/a	(unrelated sample)
ZZZZZZ	GH124405.D	04/28/21 17:29	n/a	(unrelated sample)
ZZZZZZ	GH124406.D	04/28/21 17:47	n/a	(unrelated sample)
ZZZZZZ	GH124407.D	04/28/21 18:05	n/a	(unrelated sample)
ZZZZZZ	GH124408.D	04/28/21 18:22	n/a	(unrelated sample)
ZZZZZZ	GH124409.D	04/28/21 18:40	n/a	(unrelated sample)
ZZZZZZ	GH124410.D	04/28/21 18:57	n/a	(unrelated sample)
GGH6687-CC6650	GH124411.D	04/28/21 19:15	n/a	Continuing cal 5000
GGH6687-MB3	GH124412.D	04/28/21 19:33	n/a	Method Blank
ZZZZZZ	GH124413.D	04/28/21 19:50	n/a	(unrelated sample)
ZZZZZZ	GH124414.D	04/28/21 20:08	n/a	(unrelated sample)
JD23852-1	GH124415.D	04/28/21 20:25	n/a	SP11-C3B10-SB-20210415
GGH6687-CC6650	GH124417.D	04/28/21 21:01	n/a	Continuing cal 10000

Run Sequence Report

Job Number: JD23852
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6688 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6688-CC6650	GH124421.D	04/29/21 10:40	n/a	Continuing cal 5000
GGH6688-MB	GH124422.D	04/29/21 11:24	n/a	Method Blank
GGH6688-BS	GH124423.D	04/29/21 11:42	n/a	Blank Spike
JD23913-2	GH124424.D	04/29/21 12:16	n/a	(used for QC only; not part of job JD23852)
ZZZZZZ	GH124425.D	04/29/21 12:33	n/a	(unrelated sample)
ZZZZZZ	GH124426.D	04/29/21 12:51	n/a	(unrelated sample)
ZZZZZZ	GH124427.D	04/29/21 13:08	n/a	(unrelated sample)
JD23852-1	GH124428.D	04/29/21 13:26	n/a	SP11-C3B10-SB-20210415
JD23913-2MS	GH124429.D	04/29/21 13:44	n/a	Matrix Spike
JD23913-2MSD	GH124430.D	04/29/21 14:01	n/a	Matrix Spike Duplicate
GGH6688-CC6650	GH124431.D	04/29/21 14:19	n/a	Continuing cal 10000
GGH6688-MB2	GH124432.D	04/29/21 14:47	n/a	Method Blank
ZZZZZZ	GH124433.D	04/29/21 15:05	n/a	(unrelated sample)
ZZZZZZ	GH124434.D	04/29/21 15:22	n/a	(unrelated sample)
ZZZZZZ	GH124435.D	04/29/21 15:40	n/a	(unrelated sample)
ZZZZZZ	GH124436.D	04/29/21 15:58	n/a	(unrelated sample)
ZZZZZZ	GH124437.D	04/29/21 16:15	n/a	(unrelated sample)
ZZZZZZ	GH124438.D	04/29/21 16:33	n/a	(unrelated sample)
ZZZZZZ	GH124439.D	04/29/21 16:50	n/a	(unrelated sample)
ZZZZZZ	GH124440.D	04/29/21 17:08	n/a	(unrelated sample)
GGH6688-CC6650	GH124441.D	04/29/21 17:28	n/a	Continuing cal 5000
GGH6688-MB3	GH124442.D	04/29/21 17:48	n/a	Method Blank
ZZZZZZ	GH124443.D	04/29/21 18:06	n/a	(unrelated sample)
ZZZZZZ	GH124444.D	04/29/21 18:23	n/a	(unrelated sample)
ZZZZZZ	GH124445.D	04/29/21 18:41	n/a	(unrelated sample)
JD23956-1	GH124446.D	04/29/21 18:59	n/a	(used for QC only; not part of job JD23852)
ZZZZZZ	GH124447.D	04/29/21 19:16	n/a	(unrelated sample)
ZZZZZZ	GH124448.D	04/29/21 19:34	n/a	(unrelated sample)
ZZZZZZ	GH124449.D	04/29/21 19:52	n/a	(unrelated sample)
JD23956-1MS	GH124450.D	04/29/21 20:09	n/a	Matrix Spike
JD23956-1MSD	GH124451.D	04/29/21 20:27	n/a	Matrix Spike Duplicate
GGH6688-CC6650	GH124452.D	04/29/21 20:45	n/a	Continuing cal 10000

GC Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124415.D Vial: 26
Acq On : 28-Apr-2021, 20:25:59 Operator: RobertS
Sample : jd23852-1 Inst : HP5890
Misc : GC57857,GGH6687,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25:44 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	343682	4553.625 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 91.07%	
Target Compounds			
3) 2-Propanol	2.23	3011536	15469942.443 ug/L

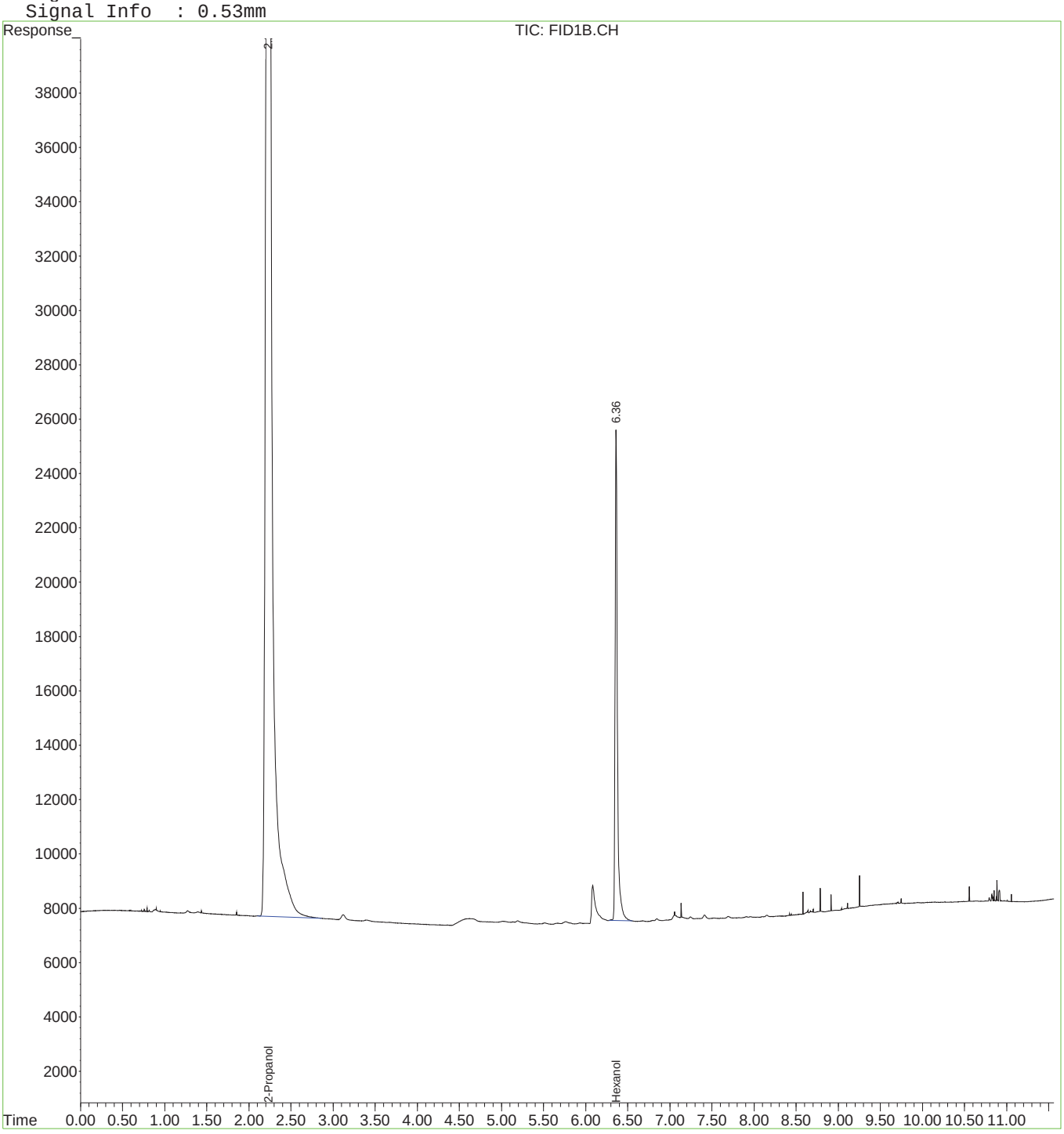
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124415.D MGH6650.M Thu Apr 29 15:29:30 2021 RPT1

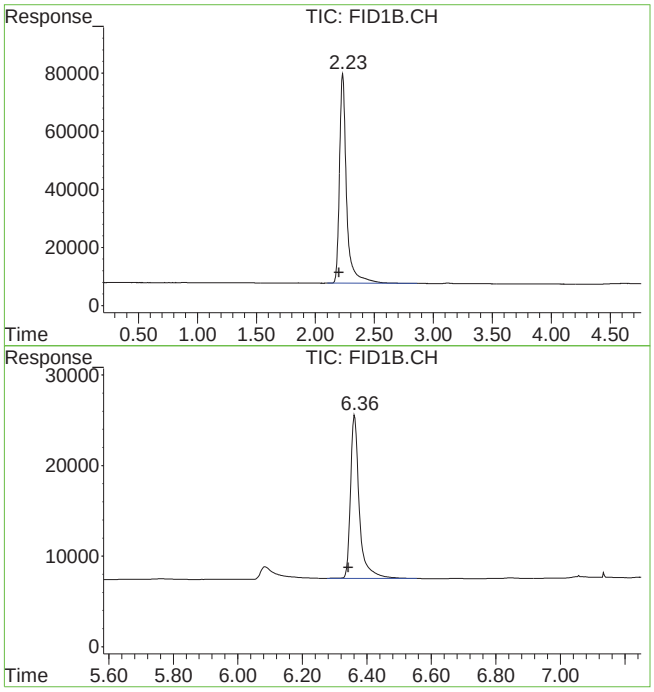
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124415.D Vial: 26
Acq On : 28-Apr-2021, 20:25:59 Operator: RobertS
Sample : jd23852-1 Inst : HP5890
Misc : GC57857,GGH6687,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:29 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.231 min
Delta R.T.: 0.030 min
Response: 3011536
Conc: 15469942.44 ug/L

#9 Hexanol

R.T.: 6.363 min
Delta R.T.: 0.020 min
Response: 343682
Conc: 4553.63 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124428.D Vial: 45
Acq On : 29-Apr-2021, 13:26:27 Operator: RobertS
Sample : jd23852-1 Inst : HP5890
Misc : GC57857,GGH6688,5.0,,,,1000 Multiplr: 1000.00
IntFile : EVENTS.E
Quant Time: May 04 16:47:11 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	328710	4355.260 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	87.11%
Target Compounds			
3) 2-Propanol	2.22	312278	16041410.053 ug/L

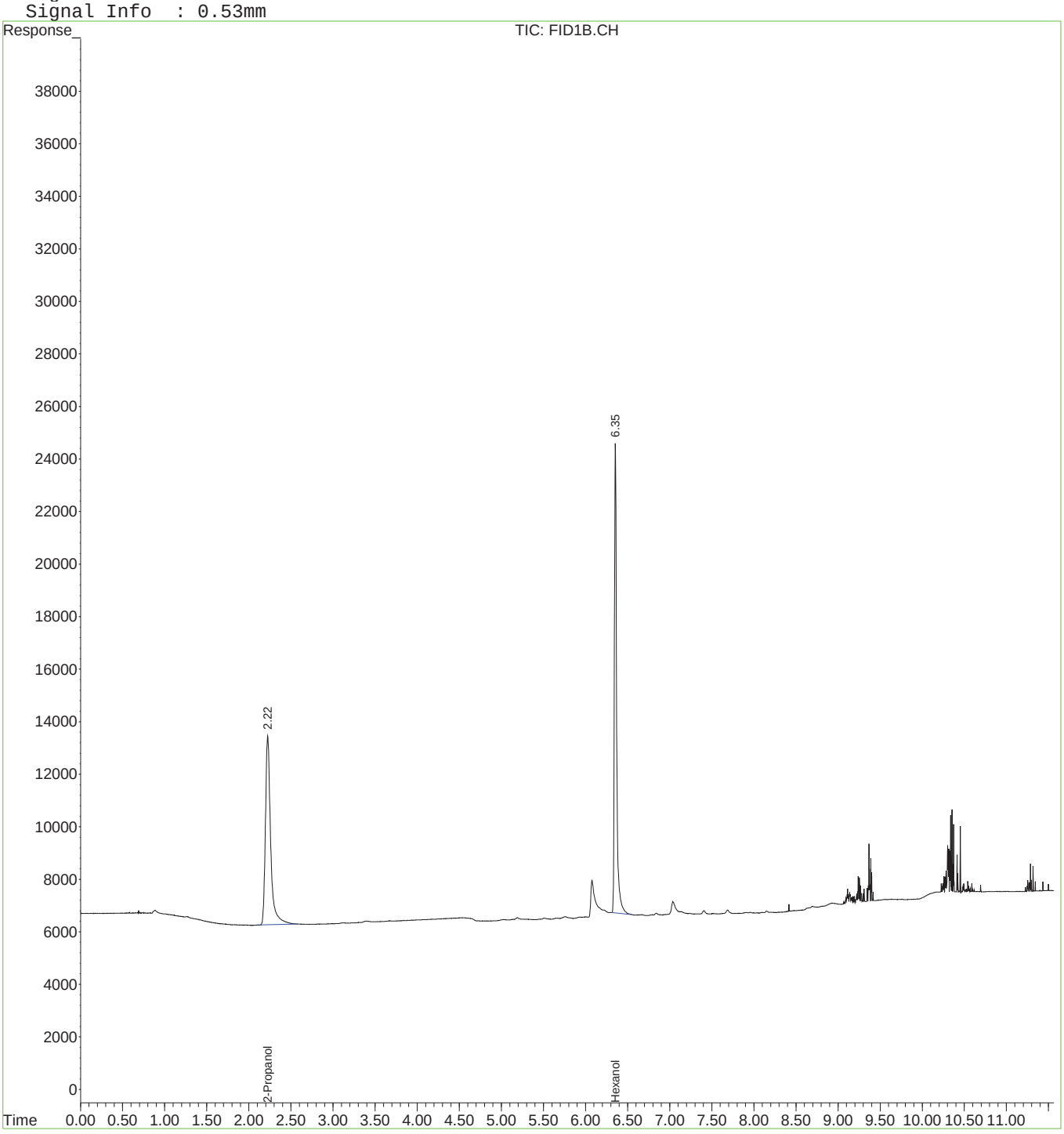
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124428.D MGH6650.M Tue May 04 16:58:42 2021 RPT1

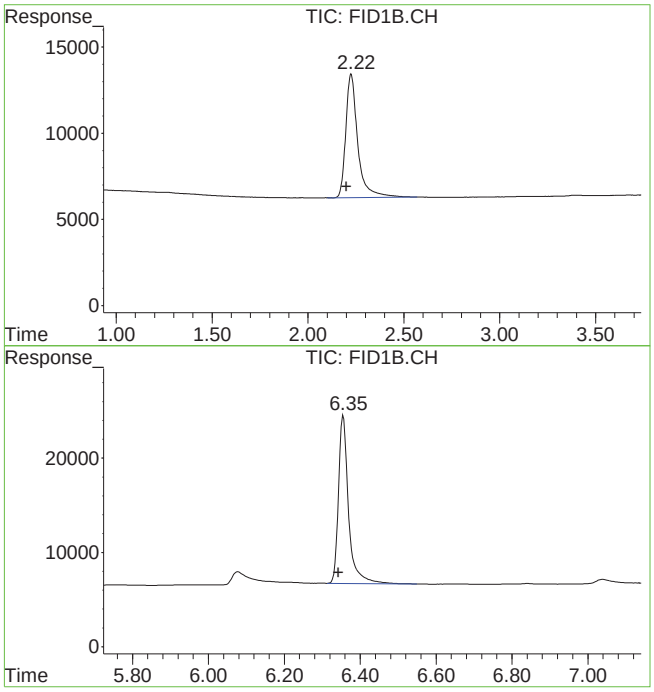
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124428.D Vial: 45
Acq On : 29-Apr-2021, 13:26:27 Operator: RobertS
Sample : jd23852-1 Inst : HP5890
Misc : GC57857,GGH6688,5.0,,,,1000 Multiplr: 1000.00
IntFile : EVENTS.E
Quant Time: May 4 16:47 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.225 min
Delta R.T.: 0.024 min
Response: 312278
Conc: 16041410.05 ug/L

#9 Hexanol

R.T.: 6.356 min
Delta R.T.: 0.013 min
Response: 328710
Conc: 4355.26 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124412.D Vial: 23
Acq On : 28-Apr-2021, 19:33:10 Operator: RobertS
Sample : mb3 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25:41 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	355099	4704.901	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 94.10%		
Target Compounds				

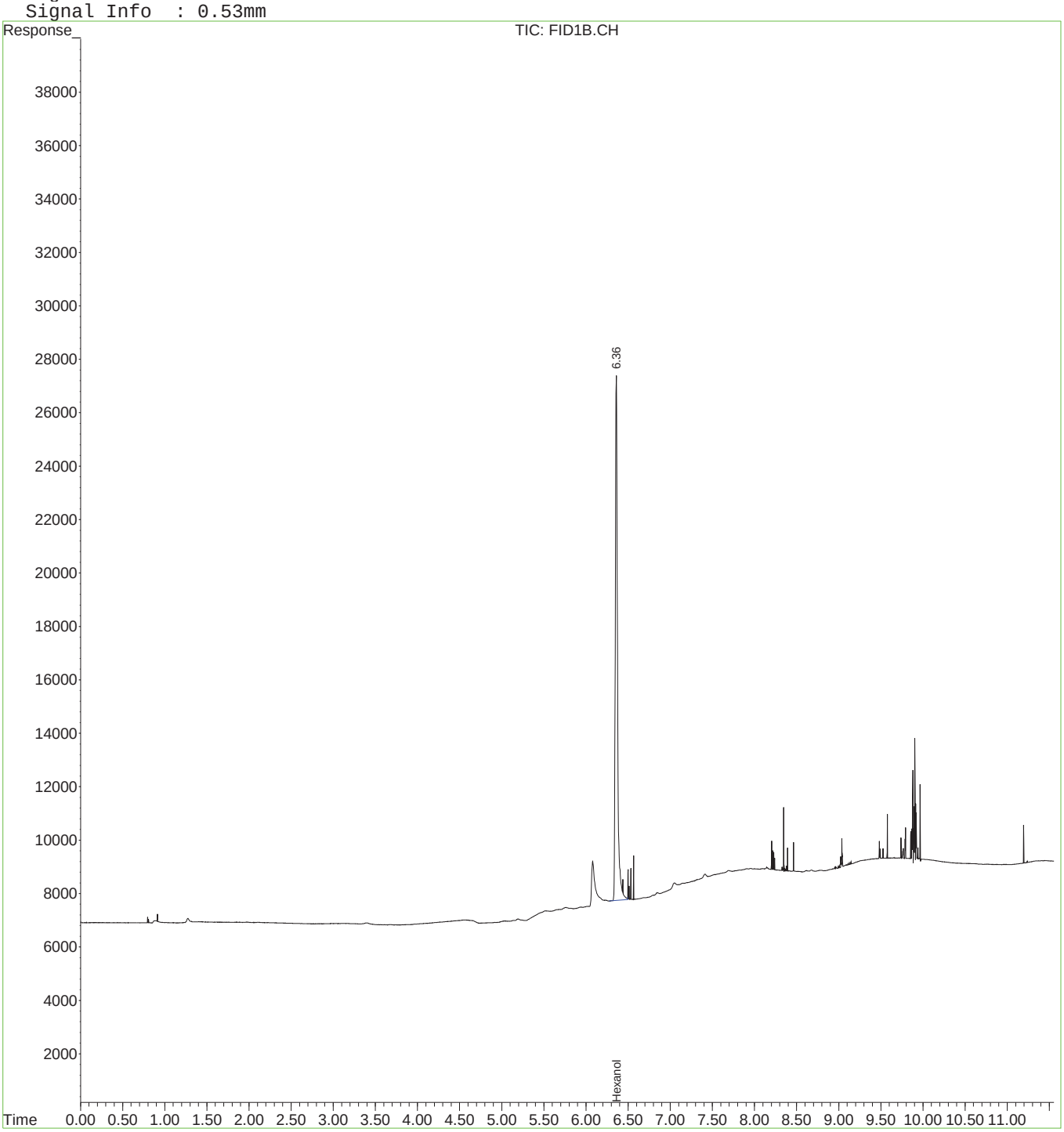
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124412.D MGH6650.M Thu Apr 29 15:28:56 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124412.D Vial: 23
Acq On : 28-Apr-2021, 19:33:10 Operator: RobertS
Sample : mb3 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124422.D Vial: 39
Acq On : 29-Apr-2021, 11:24:59 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57864,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 04 16:47:05 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	304544	4035.064	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 80.70%		
Target Compounds				

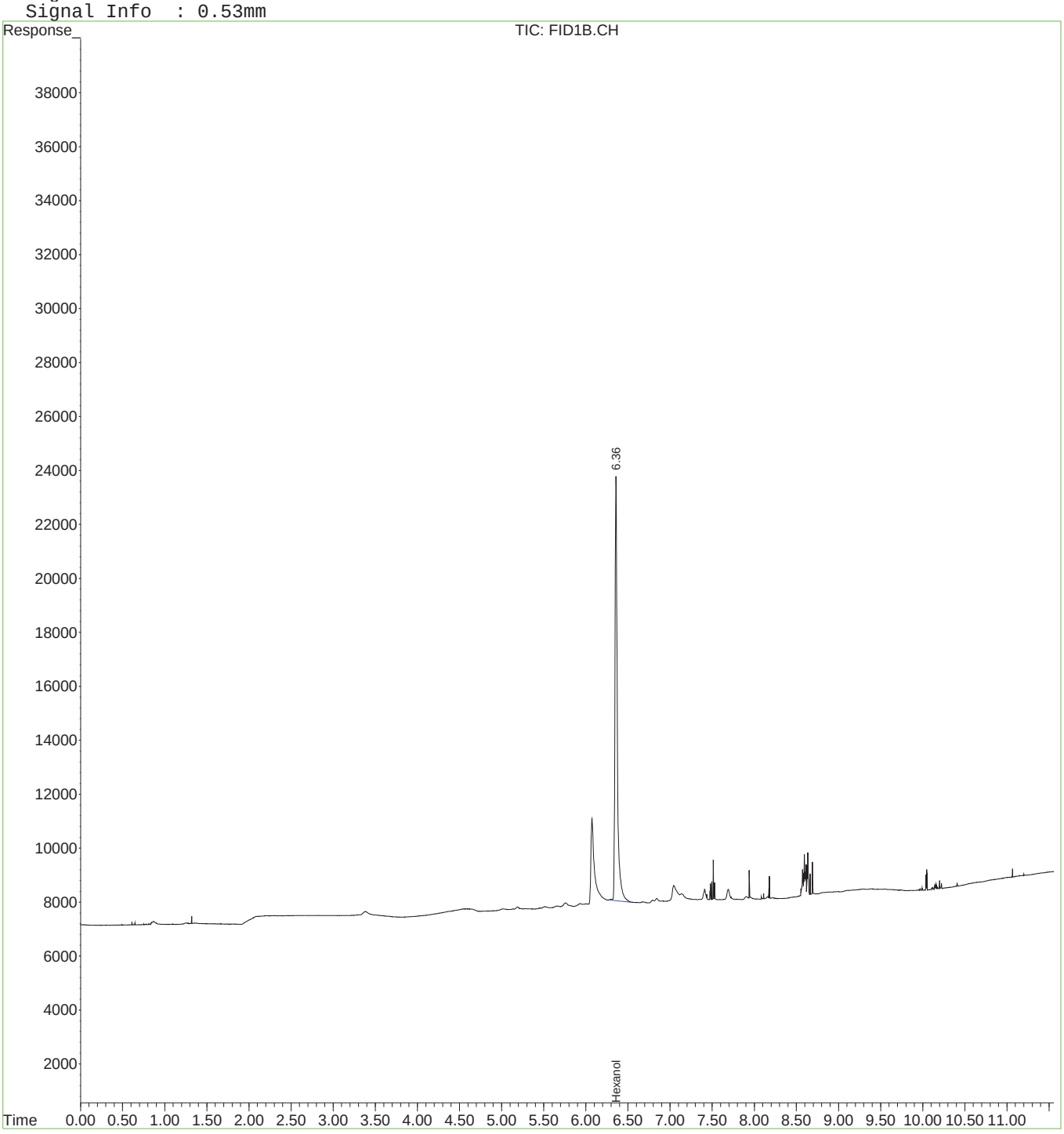
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124422.D MGH6650.M Tue May 04 16:57:51 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124422.D Vial: 39
Acq On : 29-Apr-2021, 11:24:59 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57864,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 4 16:57 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124393.D Vial: 4
Acq On : 28-Apr-2021, 12:56:30 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25:22 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	347270	4601.162	ug/L

Spiked Amount 5000.000 Range 56 - 145 Recovery = 92.02%

Target Compounds

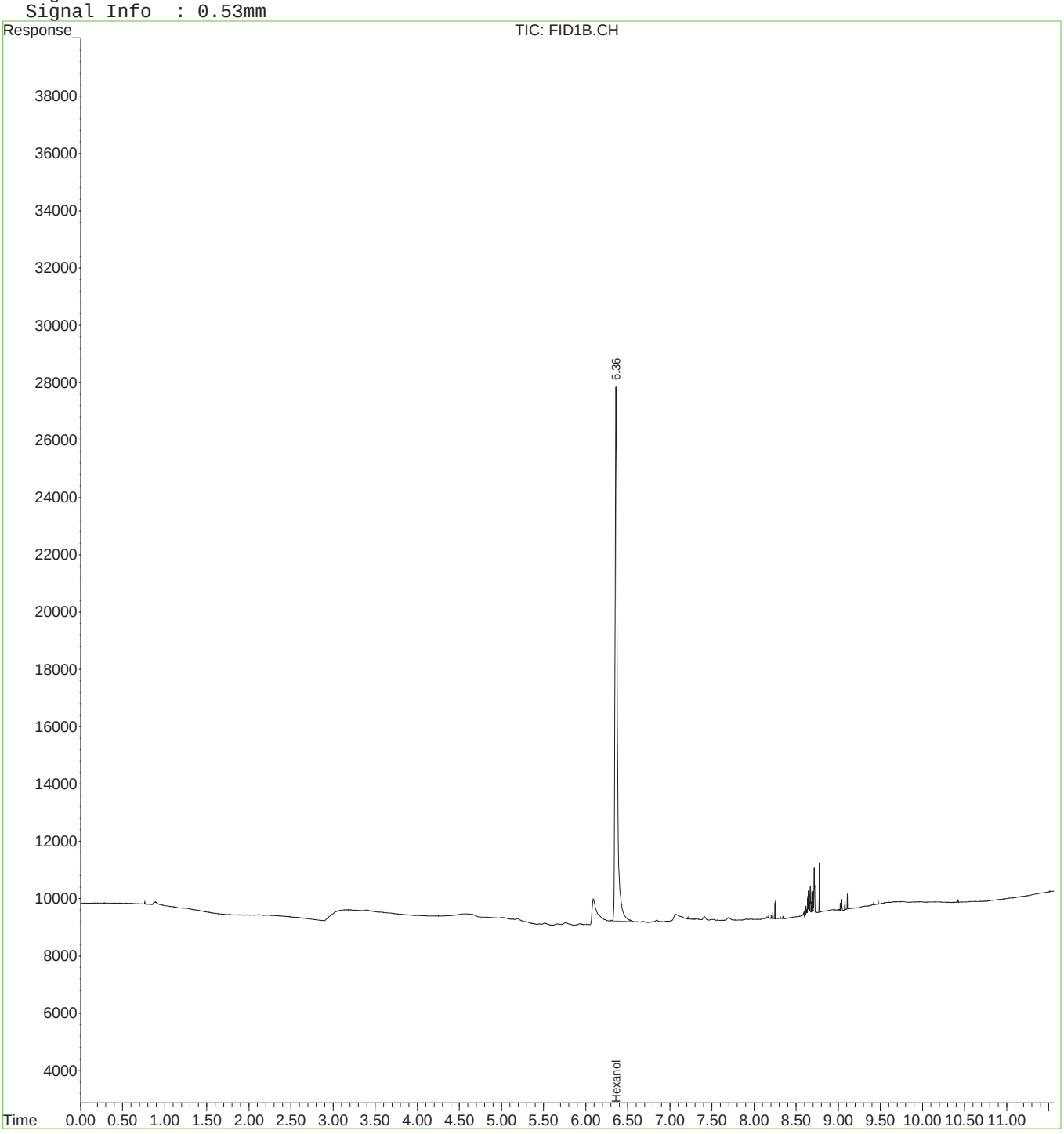
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124393.D MGH6650.M Thu Apr 29 15:29:42 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124393.D Vial: 4
Acq On : 28-Apr-2021, 12:56:30 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:29 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124394.D Vial: 5
Acq On : 28-Apr-2021, 13:14:05 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25:23 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	337260	4468.539	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 89.37%		
Target Compounds				
1) Methanol	1.41	56292	4099.219	ug/L
2) Ethanol	1.86	86526	4921.661	ug/L
3) 2-Propanol	2.24	87794	4509.908	ug/L
4) Tert-Butyl Alcohol	2.51	130156	4720.229	ug/L
5) 1-Propanol	3.13	117337	4931.225	ug/L
6) 2-Butanol	3.55	117576	4794.663	ug/L
7) Isobutanol	4.02	138858	4900.994	ug/L
8) 1-butanol	4.55	135232	4724.499	ug/L

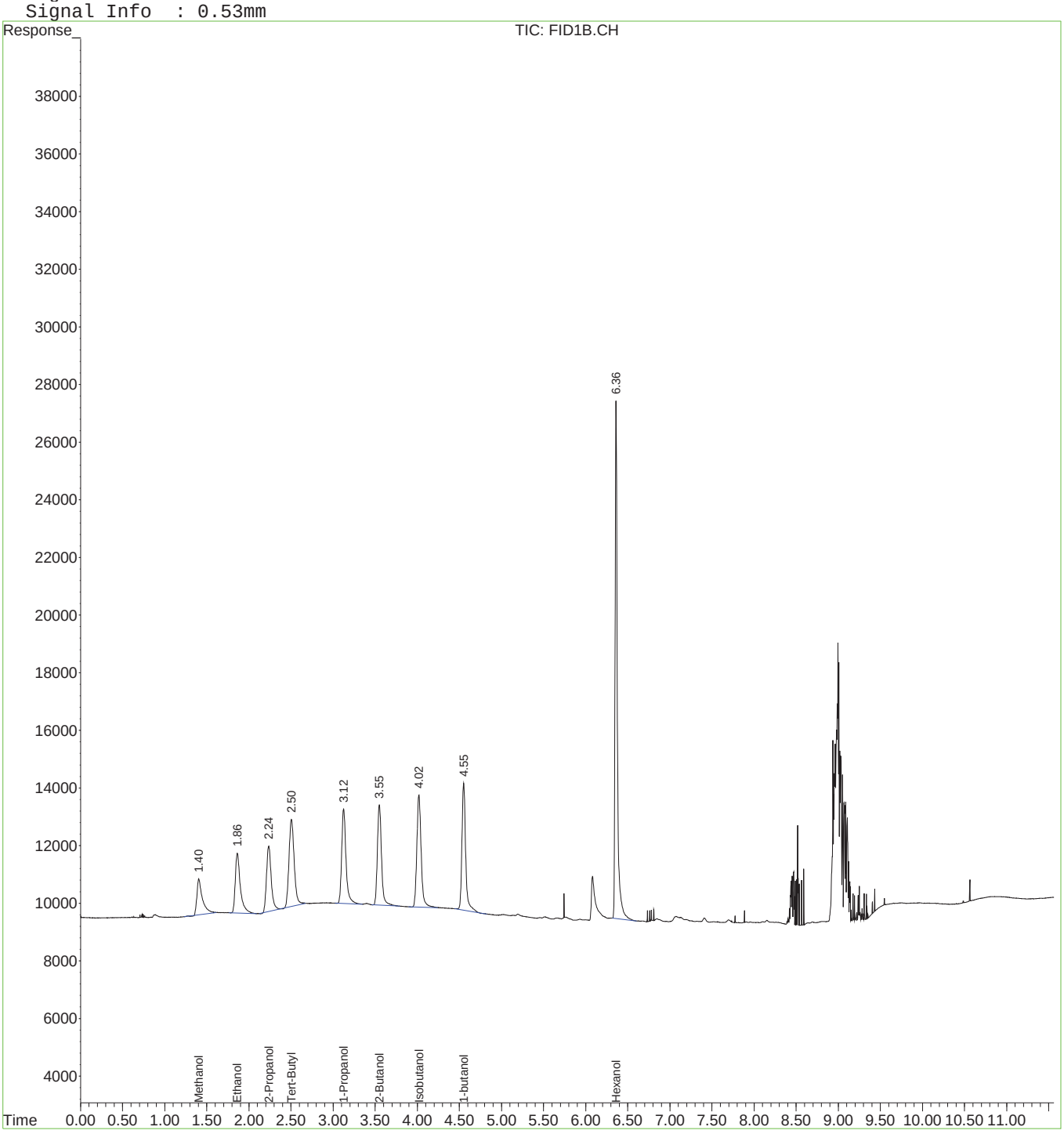
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124394.D MGH6650.M Thu Apr 29 15:29:49 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124394.D Vial: 5
Acq On : 28-Apr-2021, 13:14:05 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124423.D Vial: 40
Acq On : 29-Apr-2021, 11:42:24 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57864,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 04 16:47:06 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	333644	4420.628	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 88.41%		
Target Compounds				
1) Methanol	1.40	60140	4379.475	ug/L
2) Ethanol	1.86	91284	5192.289	ug/L
3) 2-Propanol	2.23	95722	4917.127	ug/L
4) Tert-Butyl Alcohol	2.50	138901	5037.378	ug/L
5) 1-Propanol	3.12	118211	4967.946	ug/L
6) 2-Butanol	3.54	120304	4905.886	ug/L
7) Isobutanol	4.01	138210	4878.120	ug/L
8) 1-butanol	4.54	119457	4173.400	ug/L

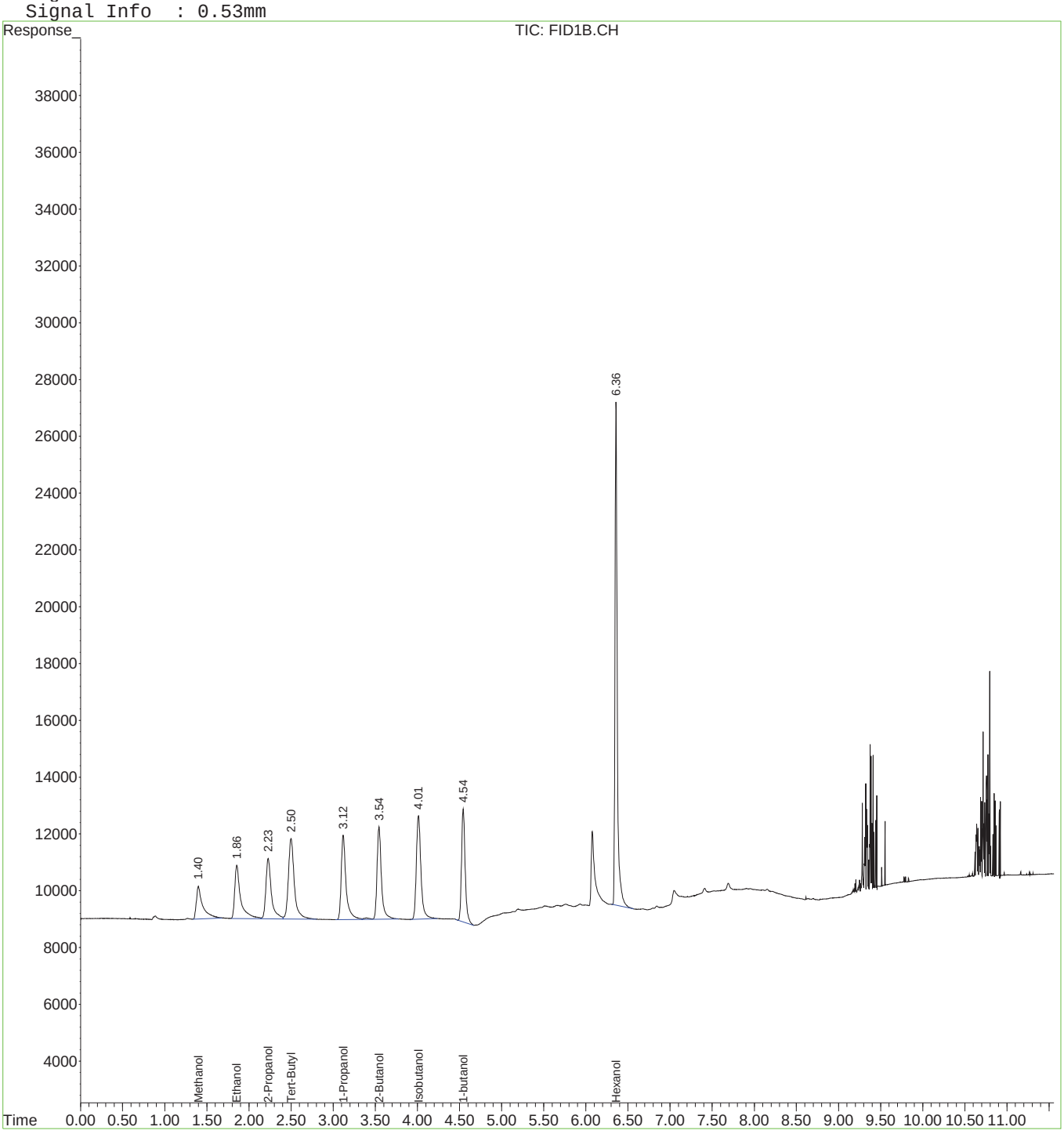
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124423.D MGH6650.M Tue May 04 16:58:06 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124423.D Vial: 40
Acq On : 29-Apr-2021, 11:42:24 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57864,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 4 16:47 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124400.D Vial: 11
Acq On : 28-Apr-2021, 15:45:01 Operator: RobertS
Sample : jd23825-1ms Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25:29 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	368248	4879.112	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 97.58%		
Target Compounds				
1) Methanol	1.41	65722	4785.948	ug/L
2) Ethanol	1.86	86929	4944.553	ug/L
3) 2-Propanol	2.23	91822	4716.816	ug/L
4) Tert-Butyl Alcohol	2.50	135035	4897.187	ug/L
5) 1-Propanol	3.12	115457	4852.238	ug/L
6) 2-Butanol	3.55	116691	4758.569	ug/L
7) Isobutanol	4.02	137155	4840.871	ug/L
8) 1-butanol	4.55	131040	4578.055	ug/L

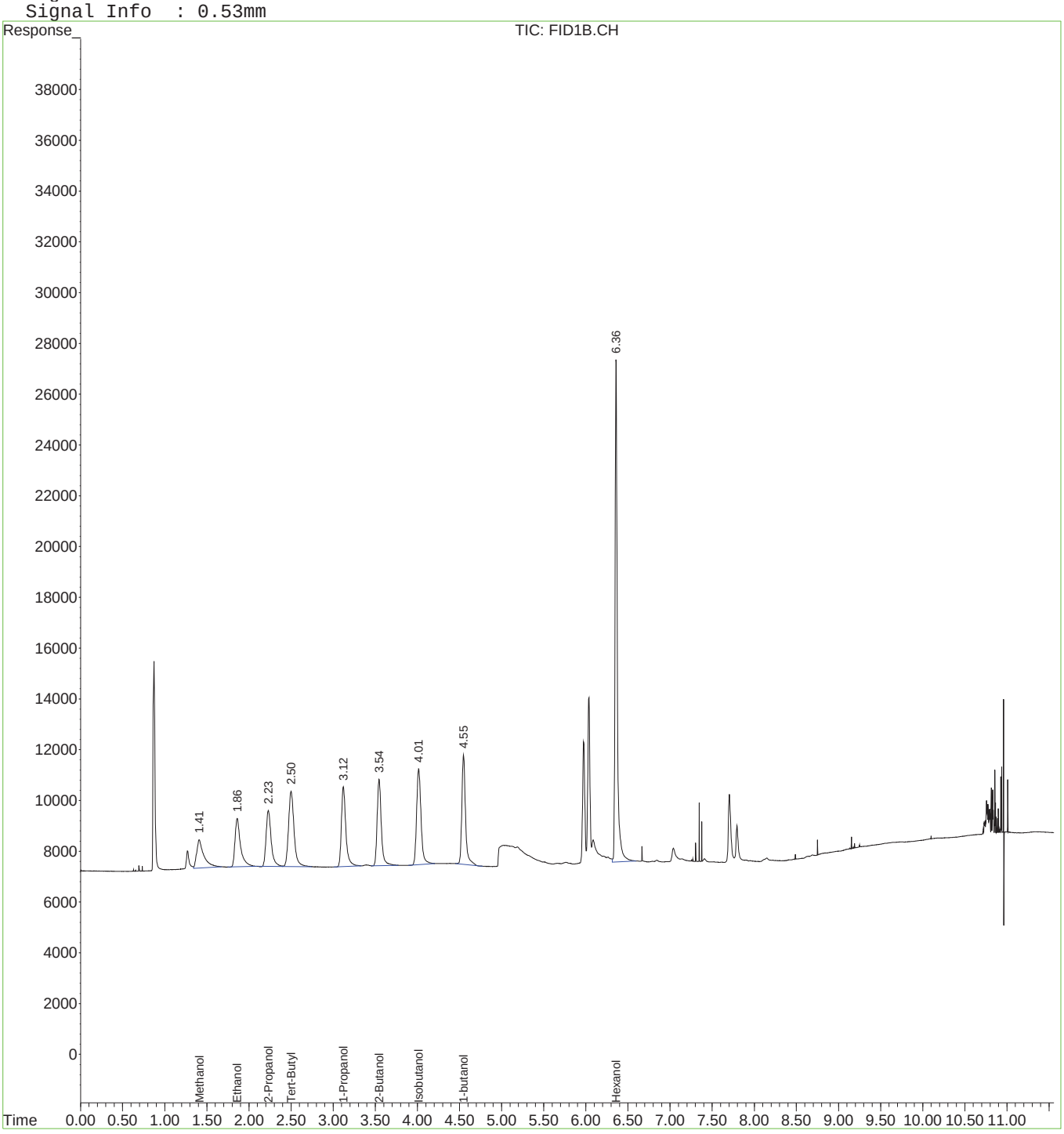
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124400.D MGH6650.M Thu Apr 29 15:30:04 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124400.D Vial: 11
Acq On : 28-Apr-2021, 15:45:01 Operator: RobertS
Sample : jd23825-1ms Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124401.D Vial: 12
Acq On : 28-Apr-2021, 16:02:37 Operator: RobertS
Sample : jd23825-1msd Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25:30 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	347677	4606.559	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 92.13%		
Target Compounds				
1) Methanol	1.41	62561	4555.715	ug/L
2) Ethanol	1.86	83623	4756.507	ug/L
3) 2-Propanol	2.23	90102	4628.442	ug/L
4) Tert-Butyl Alcohol	2.50	136745	4959.184	ug/L
5) 1-Propanol	3.12	117435	4935.344	ug/L
6) 2-Butanol	3.55	118868	4847.339	ug/L
7) Isobutanol	4.02	139432	4921.251	ug/L
8) 1-butanol	4.55	134849	4711.132	ug/L

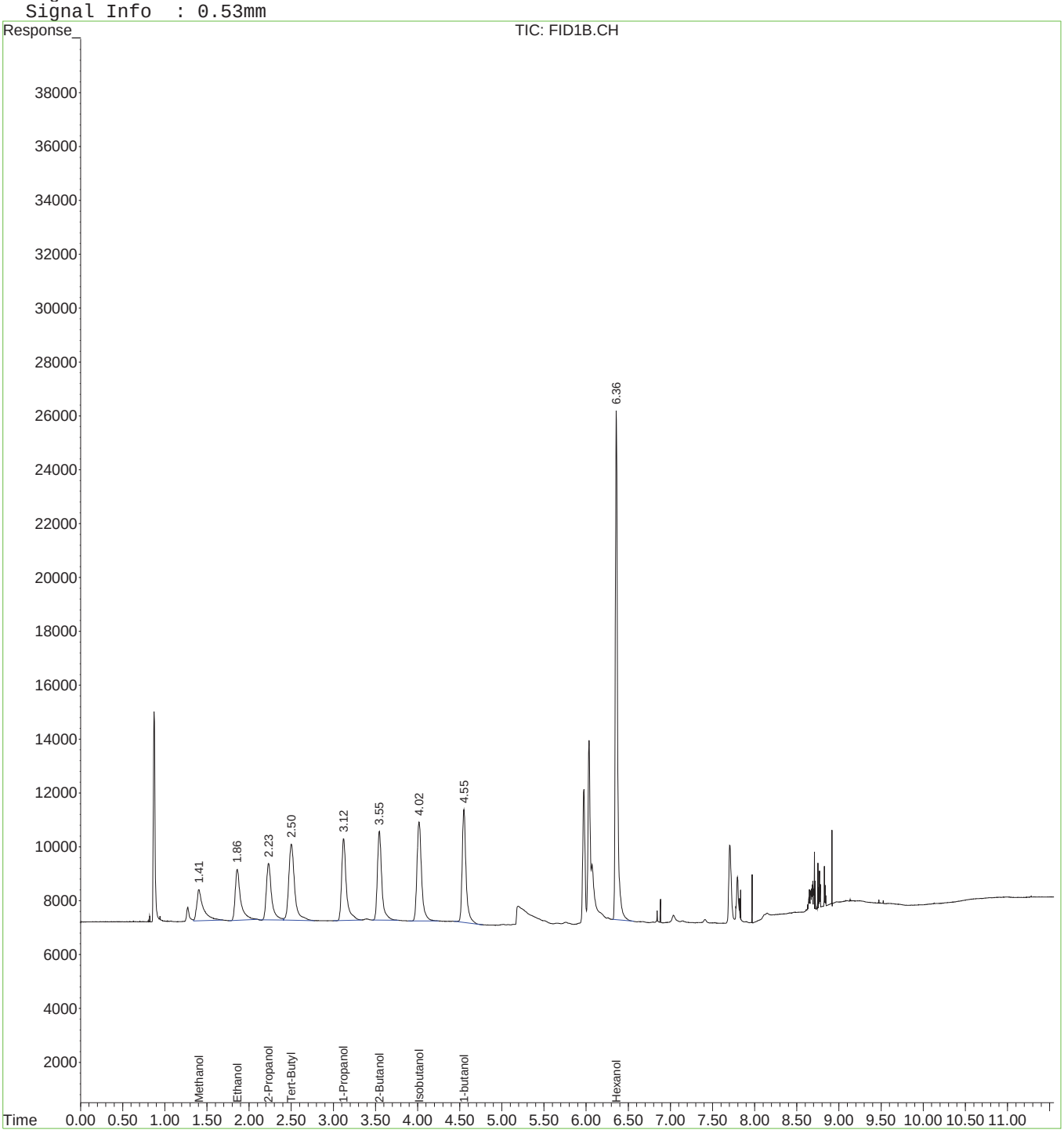
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124401.D MGH6650.M Thu Apr 29 15:30:18 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124401.D Vial: 12
Acq On : 28-Apr-2021, 16:02:37 Operator: RobertS
Sample : jd23825-1msd Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124429.D Vial: 46
Acq On : 29-Apr-2021, 13:44:00 Operator: RobertS
Sample : jd23913-2ms Inst : HP5890
Misc : GC57858,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 04 16:47:12 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	346915	4596.462	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 91.93%		
Target Compounds				
1) Methanol	1.41	56817	4137.444	ug/L
2) Ethanol	1.86	84758	4821.066	ug/L
3) 2-Propanol	2.23	91631	4707.005	ug/L
4) Tert-Butyl Alcohol	2.50	140110	5081.232	ug/L
5) 1-Propanol	3.12	132772	5579.894	ug/L
6) 2-Butanol	3.54	119608	4877.508	ug/L
7) Isobutanol	4.01	141727	5002.242	ug/L
8) 1-butanol	4.54	139825	4884.979	ug/L

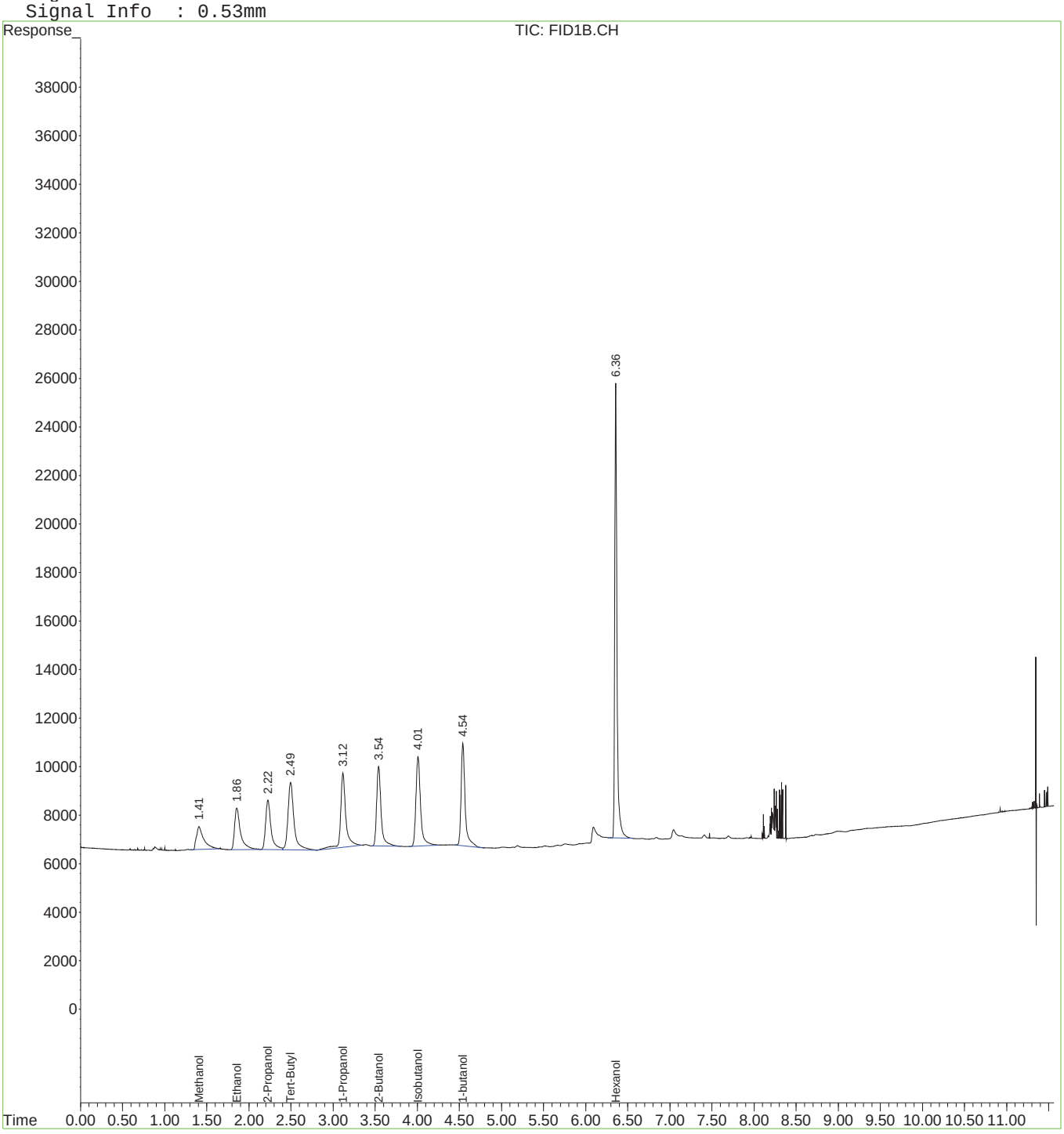
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124429.D MGH6650.M Tue May 04 16:58:49 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124429.D Vial: 46
Acq On : 29-Apr-2021, 13:44:00 Operator: RobertS
Sample : jd23913-2ms Inst : HP5890
Misc : GC57858,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 4 16:47 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124430.D Vial: 47
Acq On : 29-Apr-2021, 14:01:34 Operator: RobertS
Sample : jd23913-2msd Inst : HP5890
Misc : GC57858,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 04 16:47:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	329631	4367.455	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 87.35%		
Target Compounds				
1) Methanol	1.40	64512	4697.807	ug/L
2) Ethanol	1.85	84565	4810.118	ug/L
3) 2-Propanol	2.23	95008	4880.462	ug/L
4) Tert-Butyl Alcohol	2.50	148786	5395.856	ug/L
5) 1-Propanol	3.12	113847	4784.546	ug/L
6) 2-Butanol	3.54	116066	4733.082	ug/L
7) Isobutanol	4.01	136802	4828.408	ug/L
8) 1-butanol	4.54	133282	4656.383	ug/L

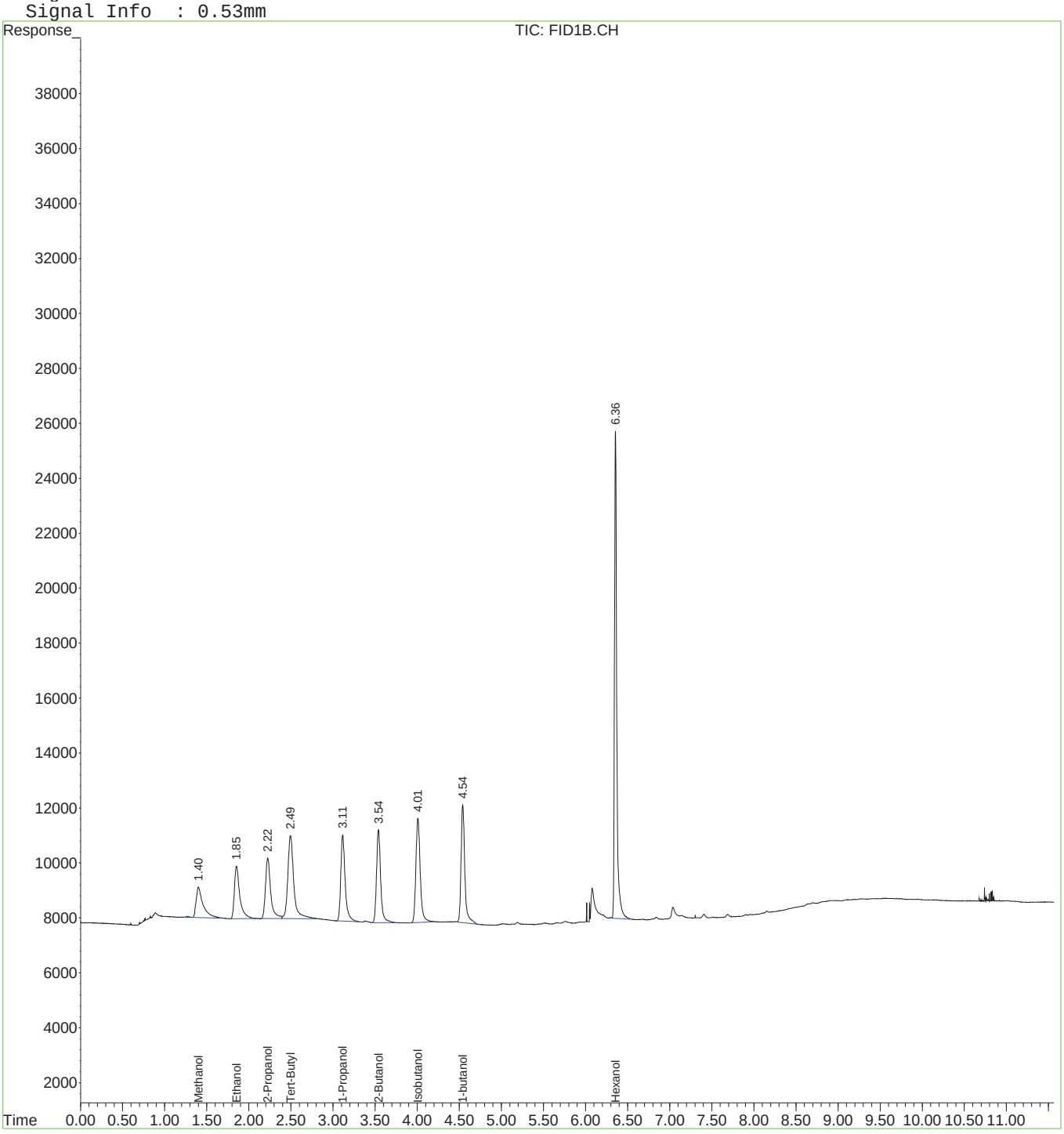
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124430.D MGH6650.M Tue May 04 16:58:55 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124430.D Vial: 47
Acq On : 29-Apr-2021, 14:01:34 Operator: RobertS
Sample : jd23913-2msd Inst : HP5890
Misc : GC57858,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 4 16:47 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:53 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.34	362785	4469.376	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 89.39%			
Target Compounds					
1) Methanol	1.37	3057	207.681	ug/L	
2) Ethanol	1.82	2731	153.906	ug/L	m
3) 2-Propanol	2.20	3951	200.505	ug/L	m
4) Tert-Butyl Alcohol	2.47	5876	198.400	ug/L	
5) 1-Propanol	3.09	4867	199.937	ug/L	
6) 2-Butanol	3.52	4972	191.683	ug/L	
7) Isobutanol	3.99	5889	197.827	ug/L	
8) 1-butanol	4.52	6991	232.719	ug/L	m

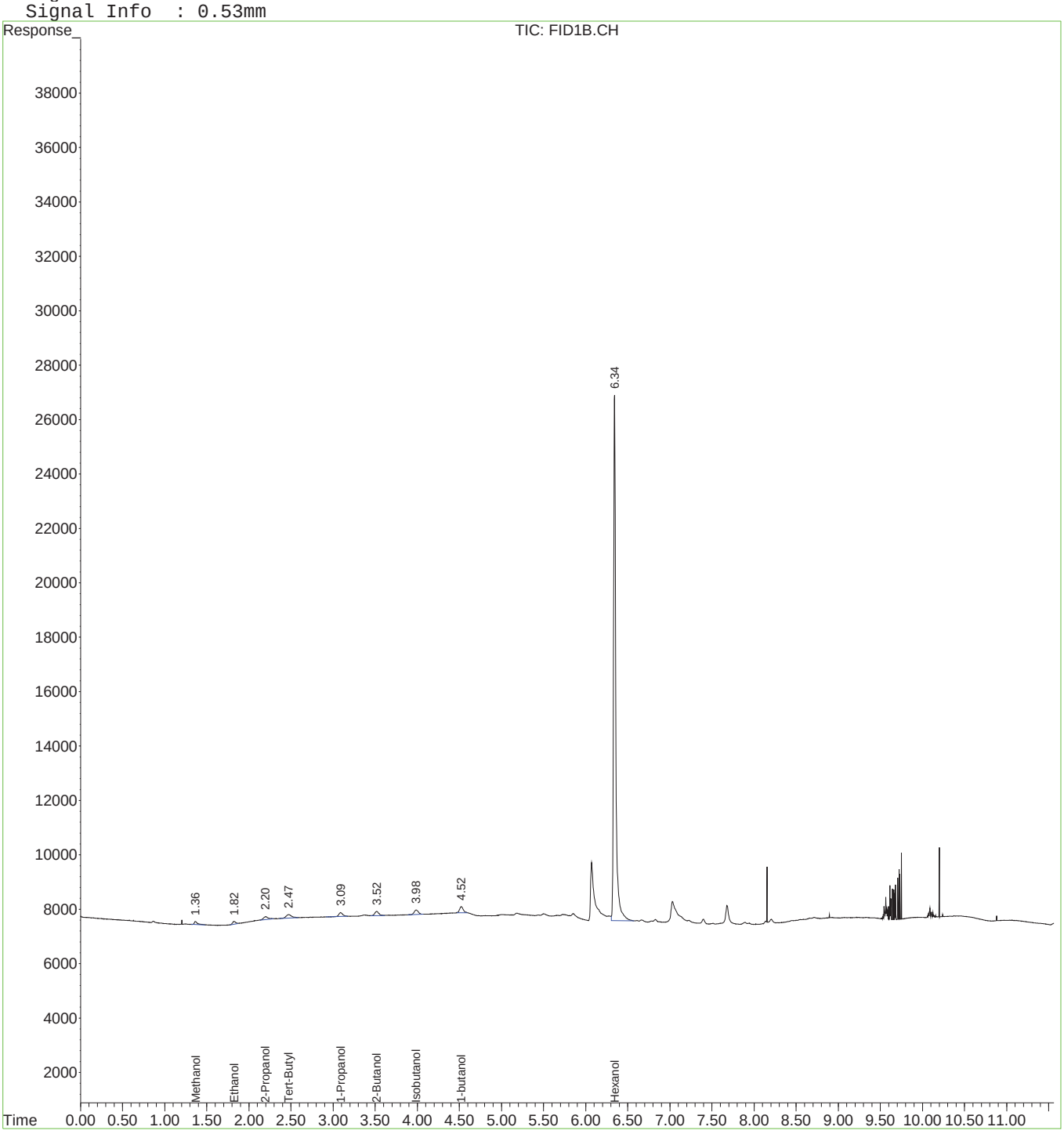
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123502.D MGH6650.M Thu Jan 28 11:49:02 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:24 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

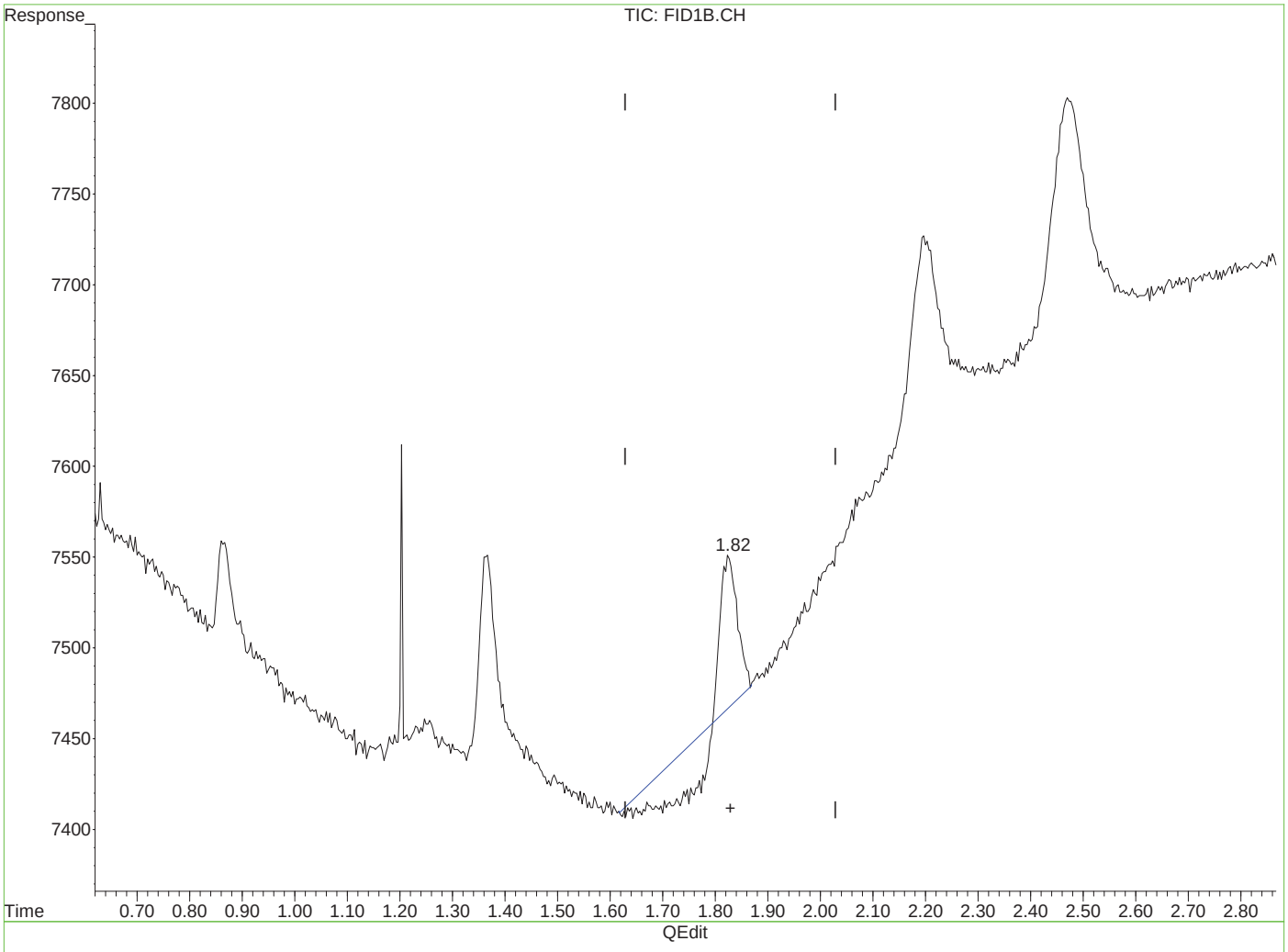
Sample Number: GGH6650-IC6650
Lab FileID: GH123502.D
Injection Time: 01/21/21 18:20
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethanol	64-17-5	1	1.82	Poorly defined baseline
Isopropyl Alcohol	67-63-0	1	2.20	Poorly defined baseline
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.83min 1.939ug/L

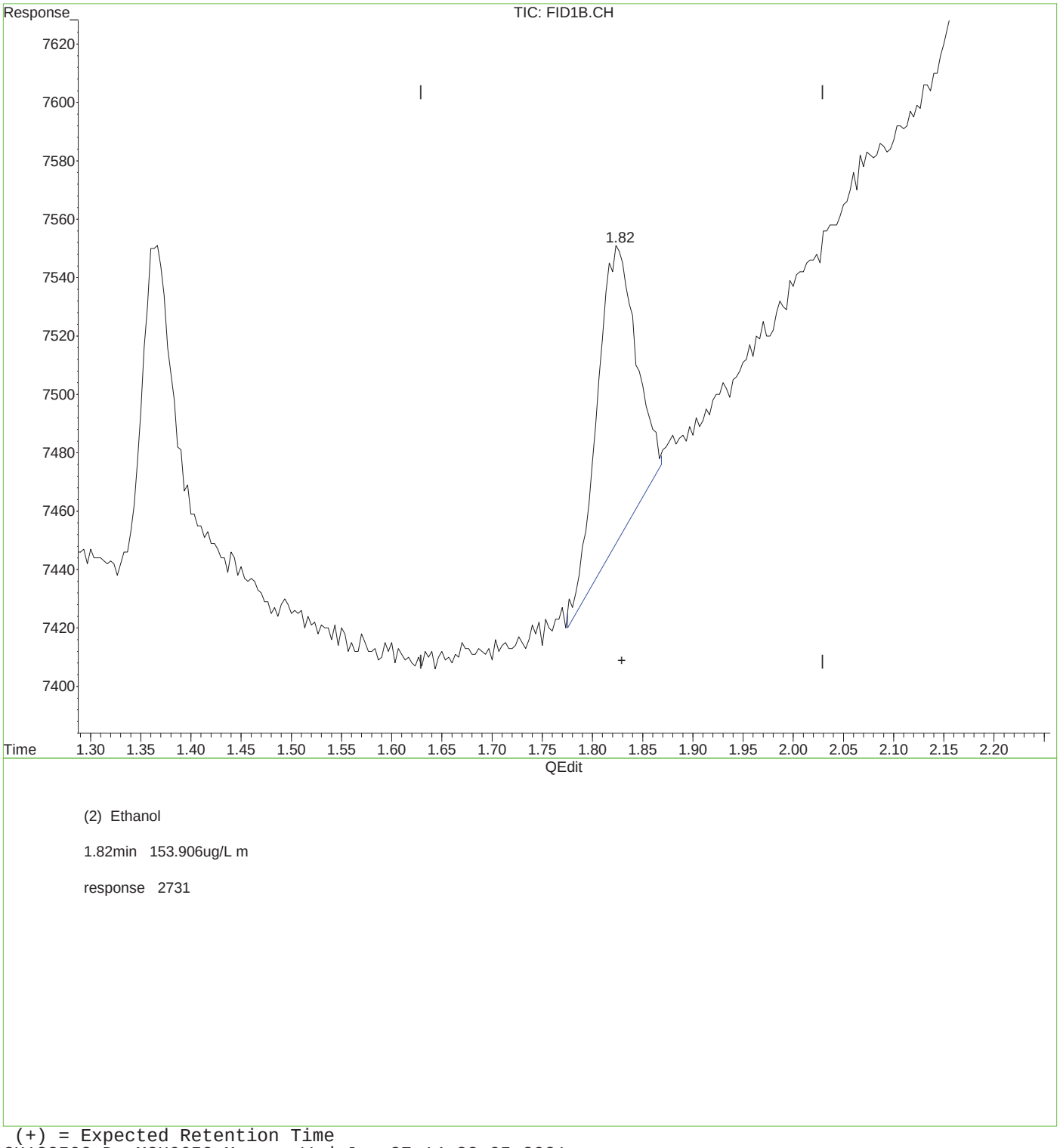
response 34

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:22:46 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration

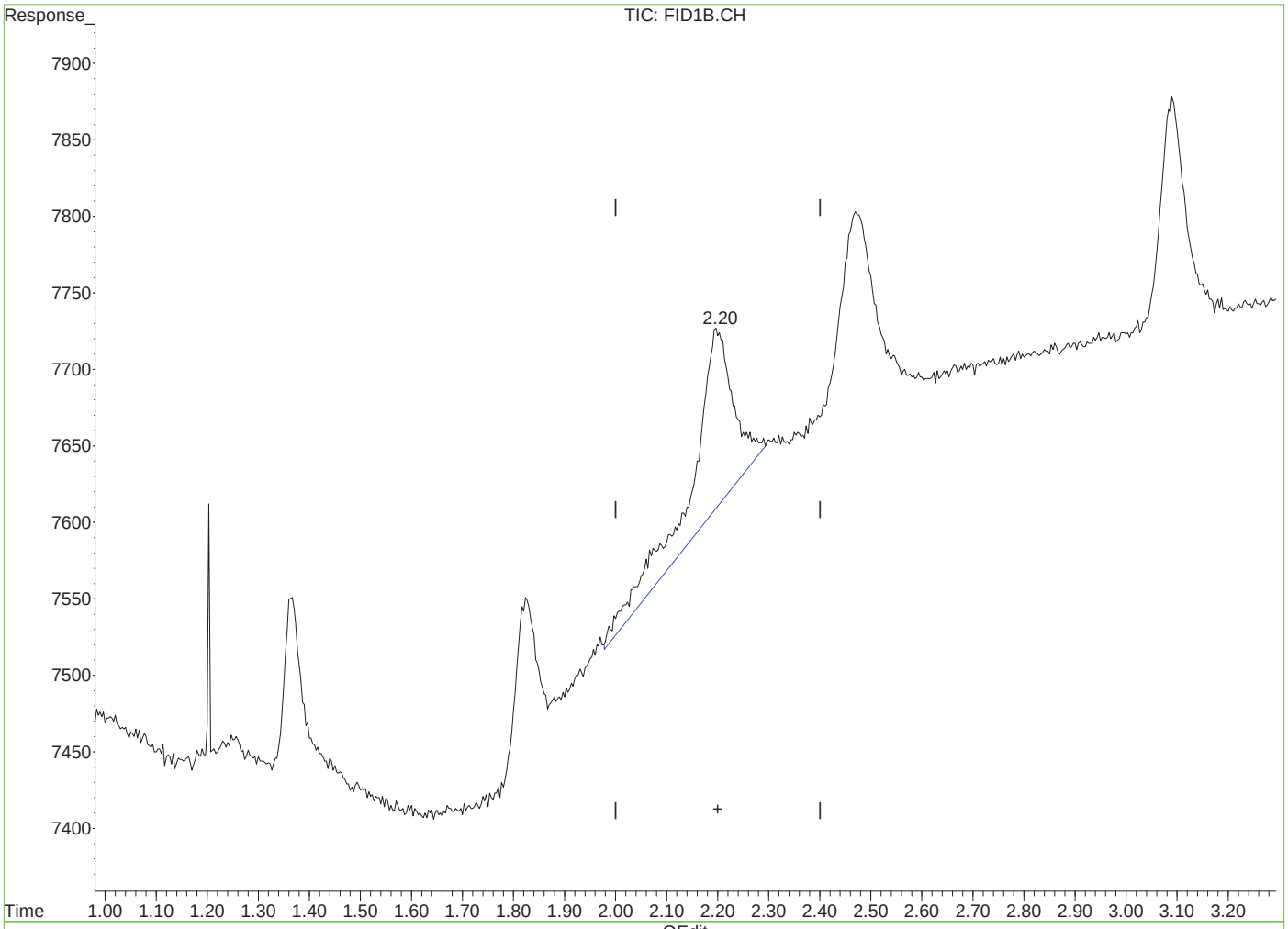


(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:05 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 324.750ug/L

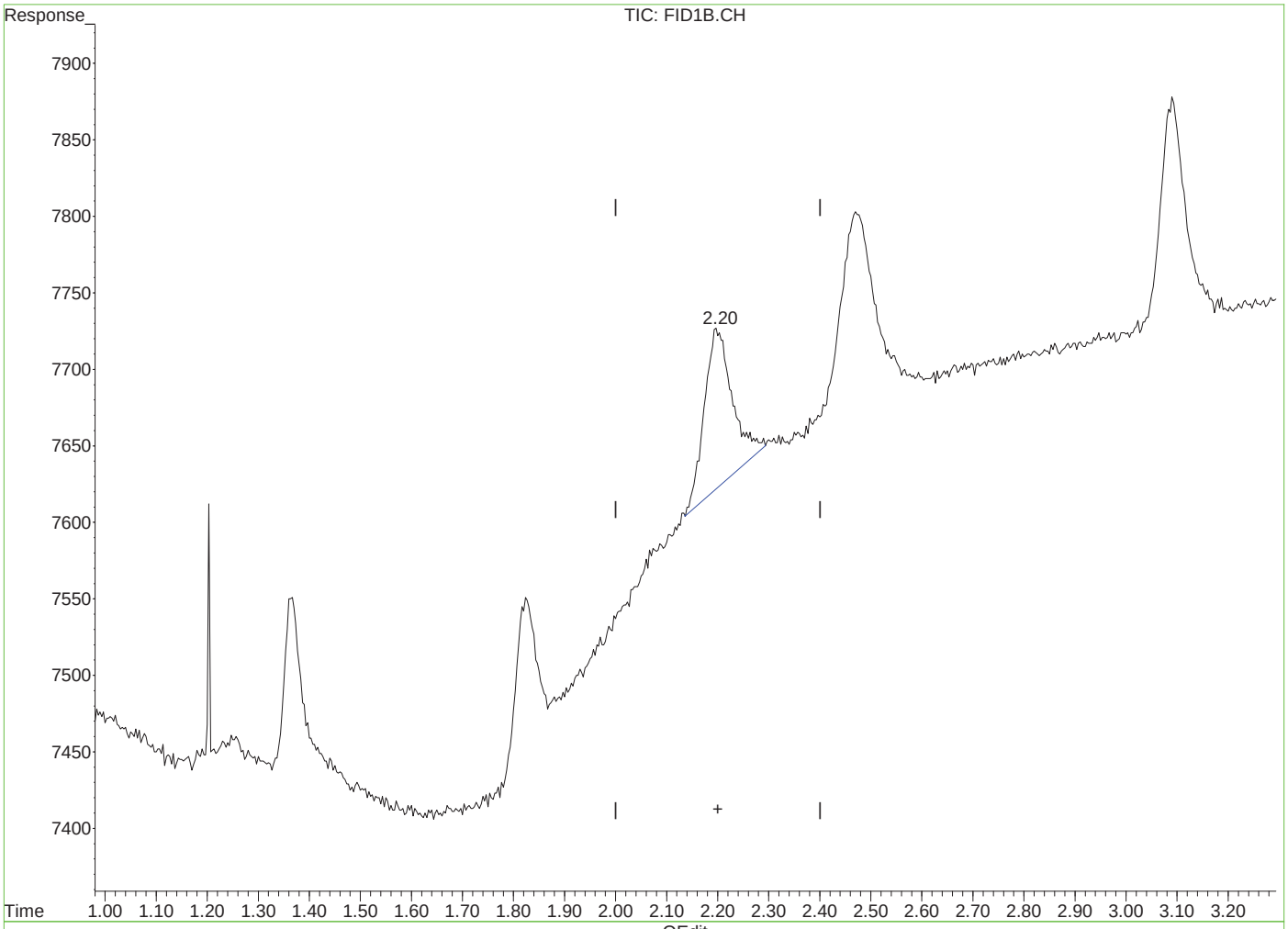
response 6399

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:11 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 200.505ug/L m

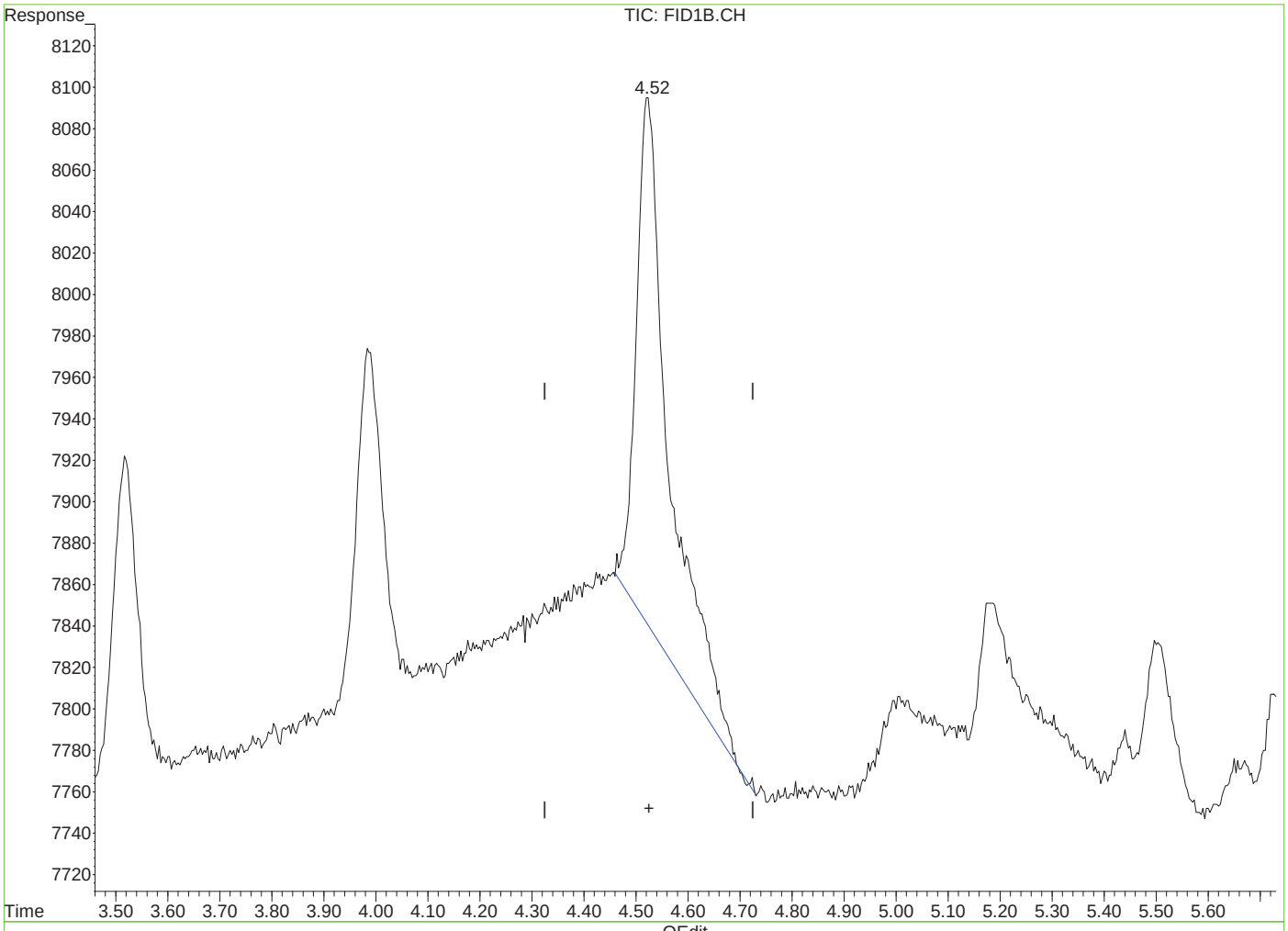
response 3951

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:29 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 375.523ug/L

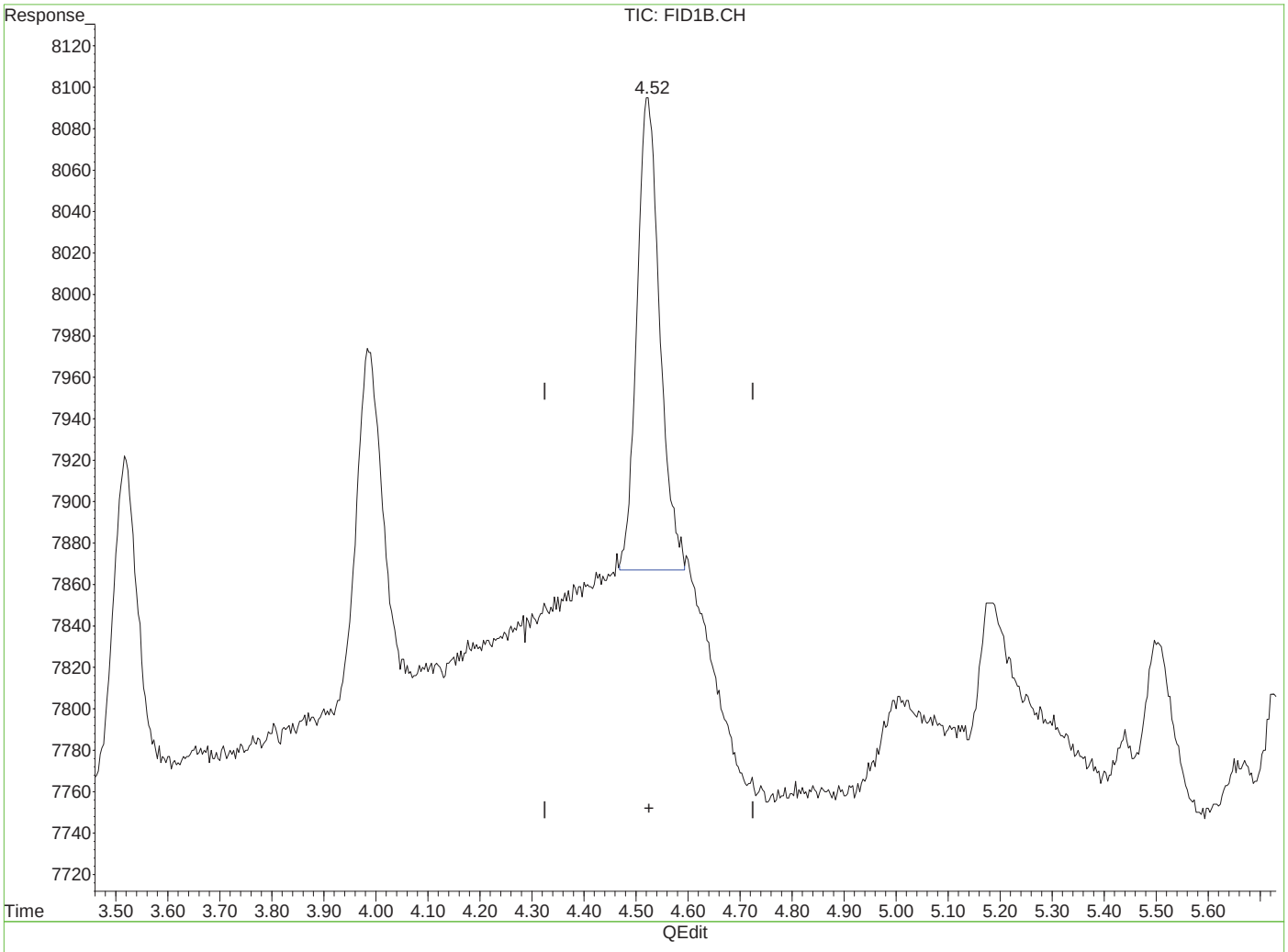
response 11280

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:46 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 232.719ug/L m

response 6991

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:24:16 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27:02 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	372862	4593.521	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	91.87%		
	Target Compounds					
1)	Methanol	1.37	6575	446.750	ug/L	
2)	Ethanol	1.82	8858	499.112	ug/L	
3)	2-Propanol	2.20	9949	504.943	ug/L	
4)	Tert-Butyl Alcohol	2.47	13023	439.713	ug/L	
5)	1-Propanol	3.09	12081	496.301	ug/L	
6)	2-Butanol	3.52	12261	472.693	ug/L	
7)	Isobutanol	3.99	13995	470.095	ug/L	
8)	1-butanol	4.53	13839	460.691	ug/L	m

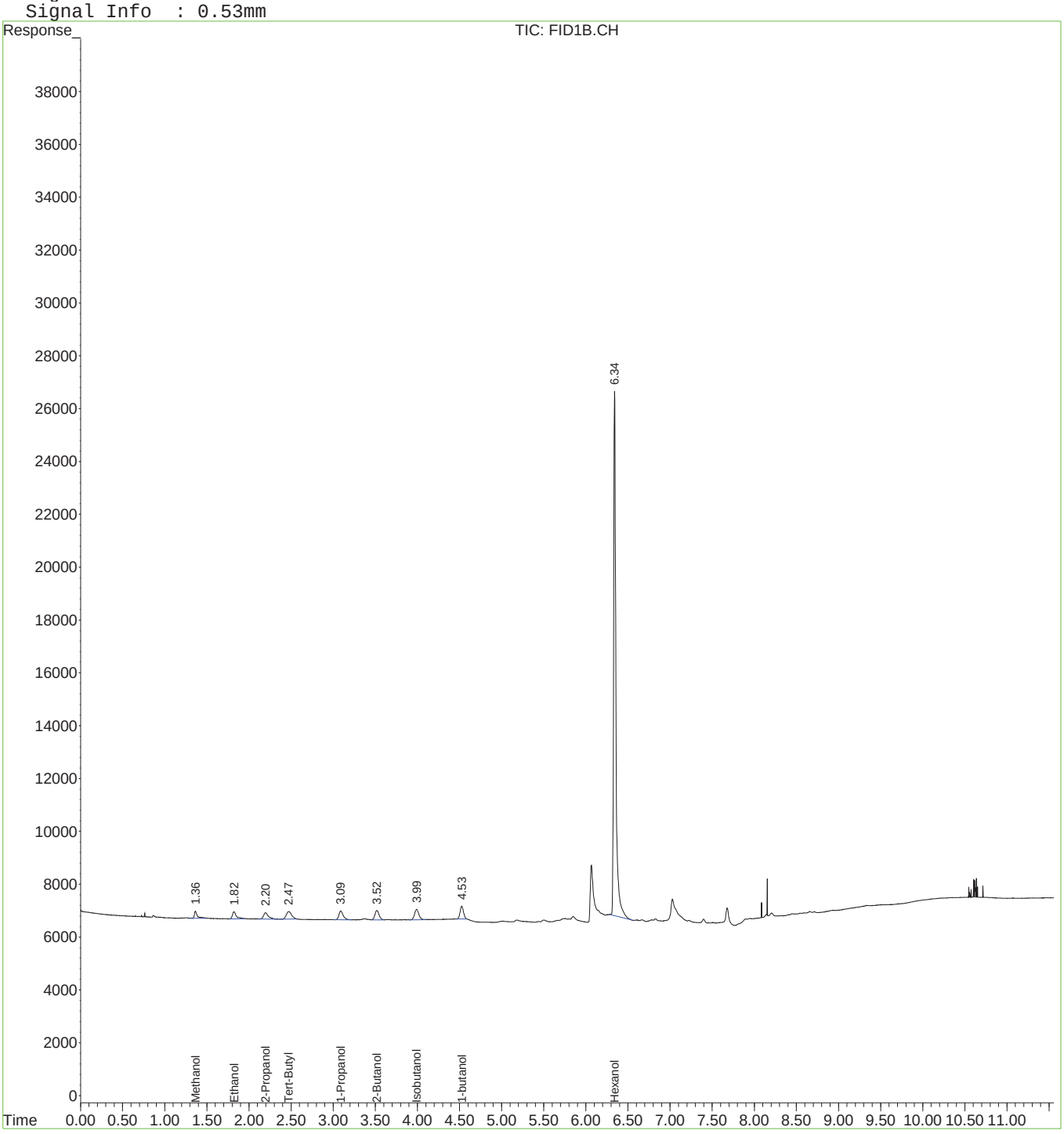
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123503.D MGH6650.M Thu Jan 28 11:49:03 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

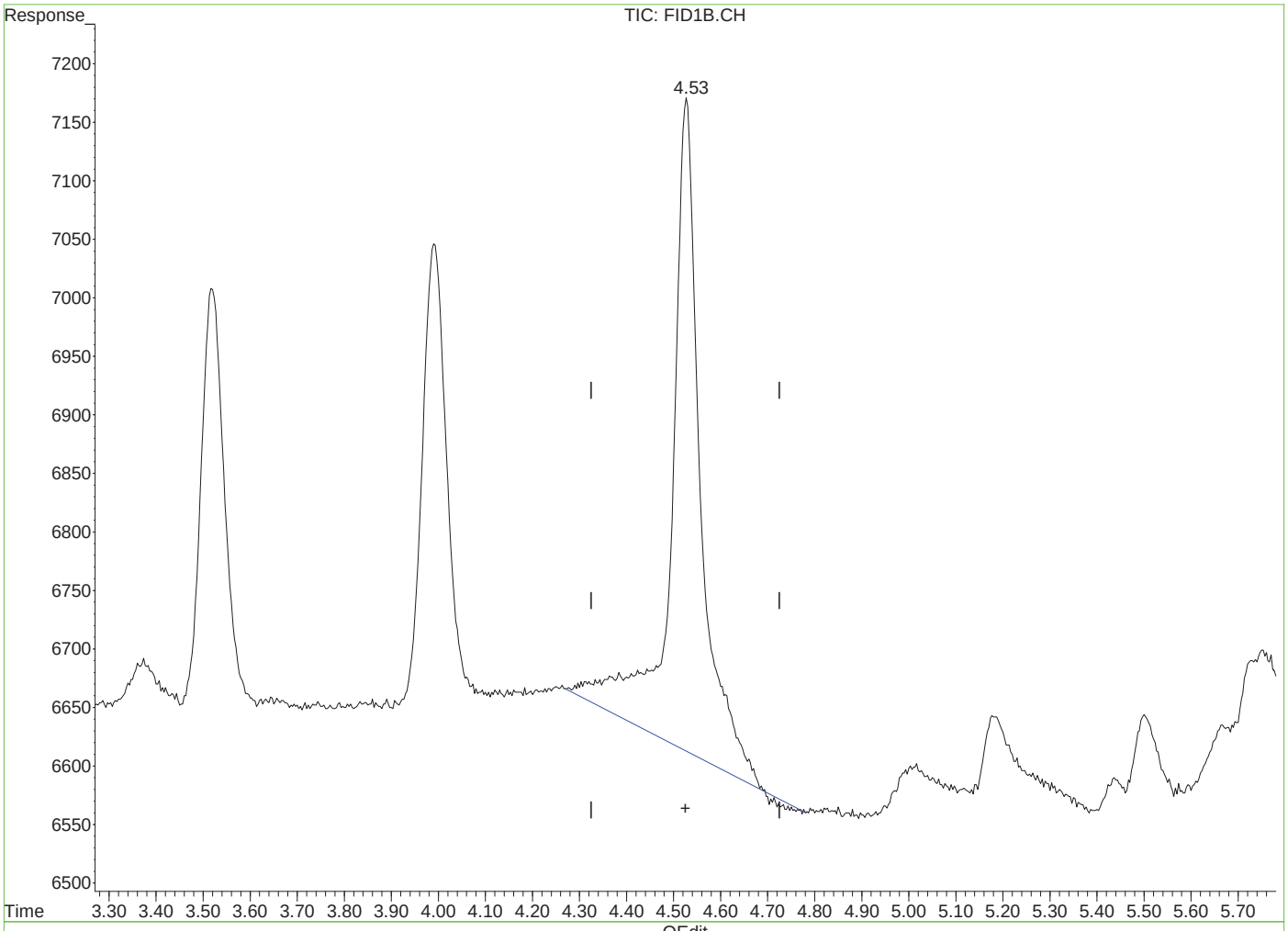
Sample Number: GGH6650-IC6650
Lab FileID: GH123503.D
Injection Time: 01/21/21 18:37
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.53	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:24 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.53min 814.009ug/L

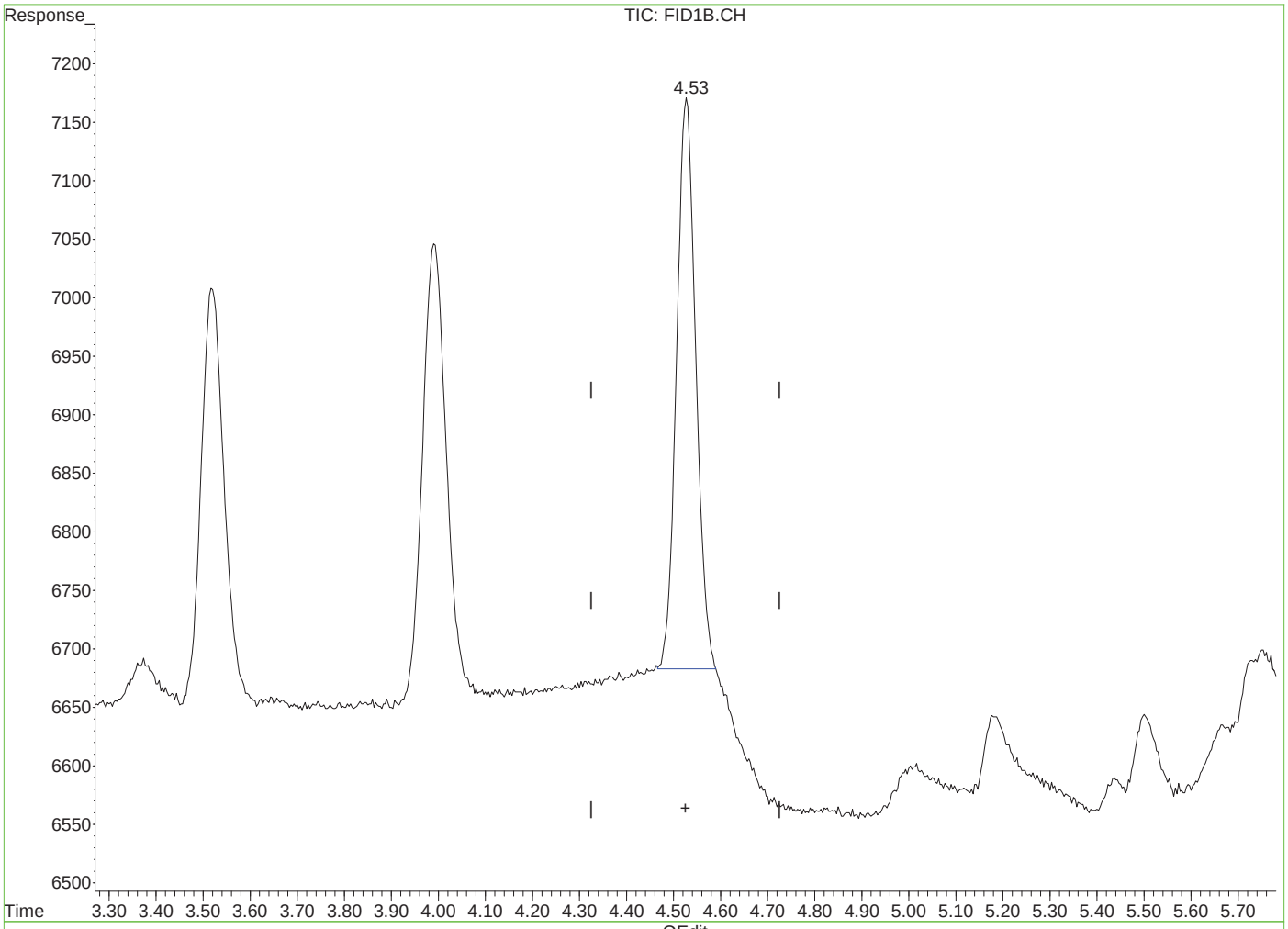
response 24452

(+) = Expected Retention Time
GH123503.D MGH6650.M Wed Jan 27 14:25:33 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.53min 460.691ug/L m

response 13839

(+) = Expected Retention Time
GH123503.D MGH6650.M Wed Jan 27 14:27:41 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28:40 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.34	381467	4699.533	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 93.99%			
Target Compounds					
1) Methanol	1.39	12476	847.660	ug/L	
2) Ethanol	1.83	17879	1007.394	ug/L	
3) 2-Propanol	2.20	17361	881.107	ug/L	
4) Tert-Butyl Alcohol	2.47	27162	917.115	ug/L	m
5) 1-Propanol	3.09	24031	987.222	ug/L	
6) 2-Butanol	3.52	25793	994.389	ug/L	
7) Isobutanol	3.99	28536	958.548	ug/L	
8) 1-butanol	4.52	28463	947.542	ug/L	m

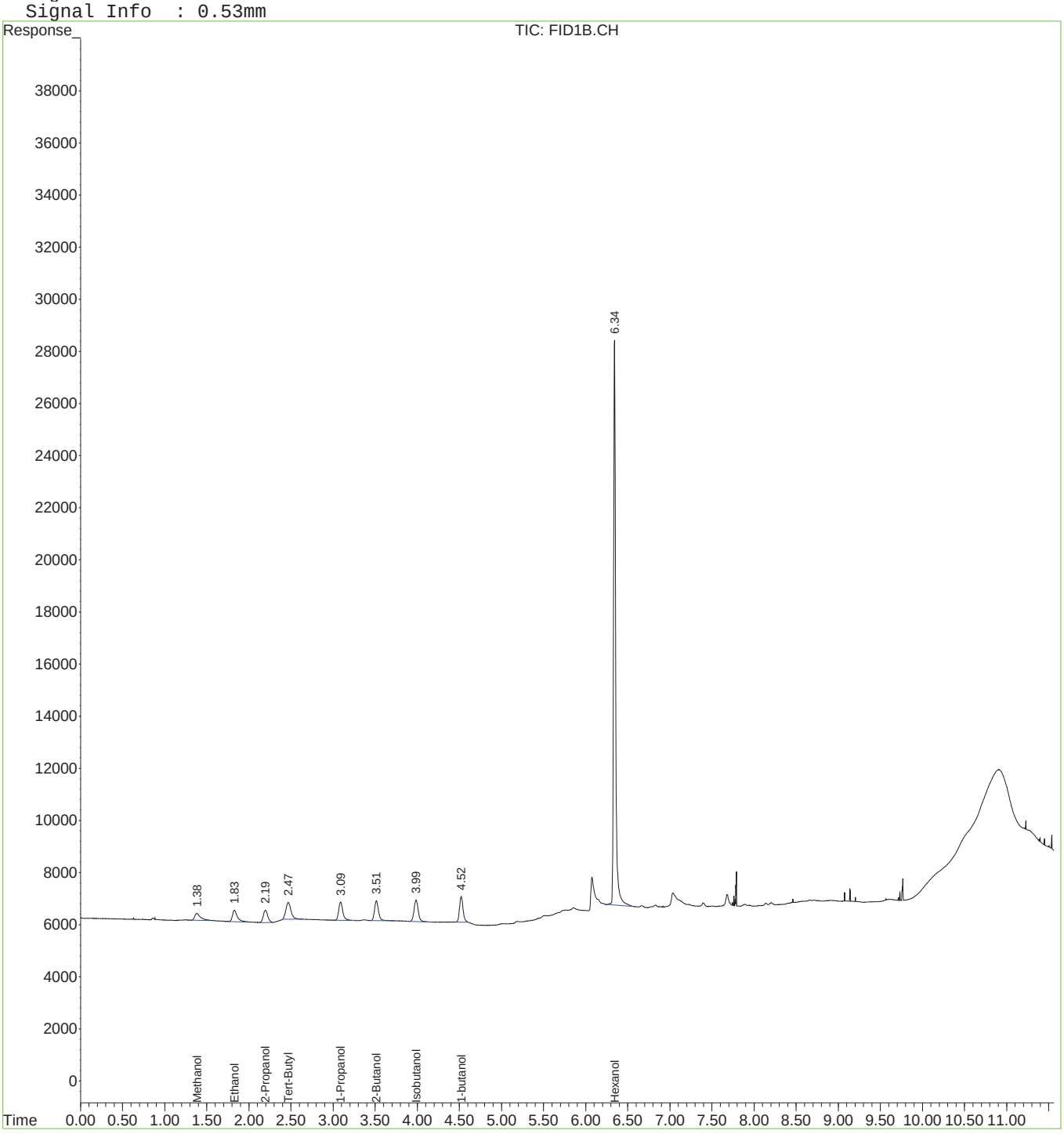
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

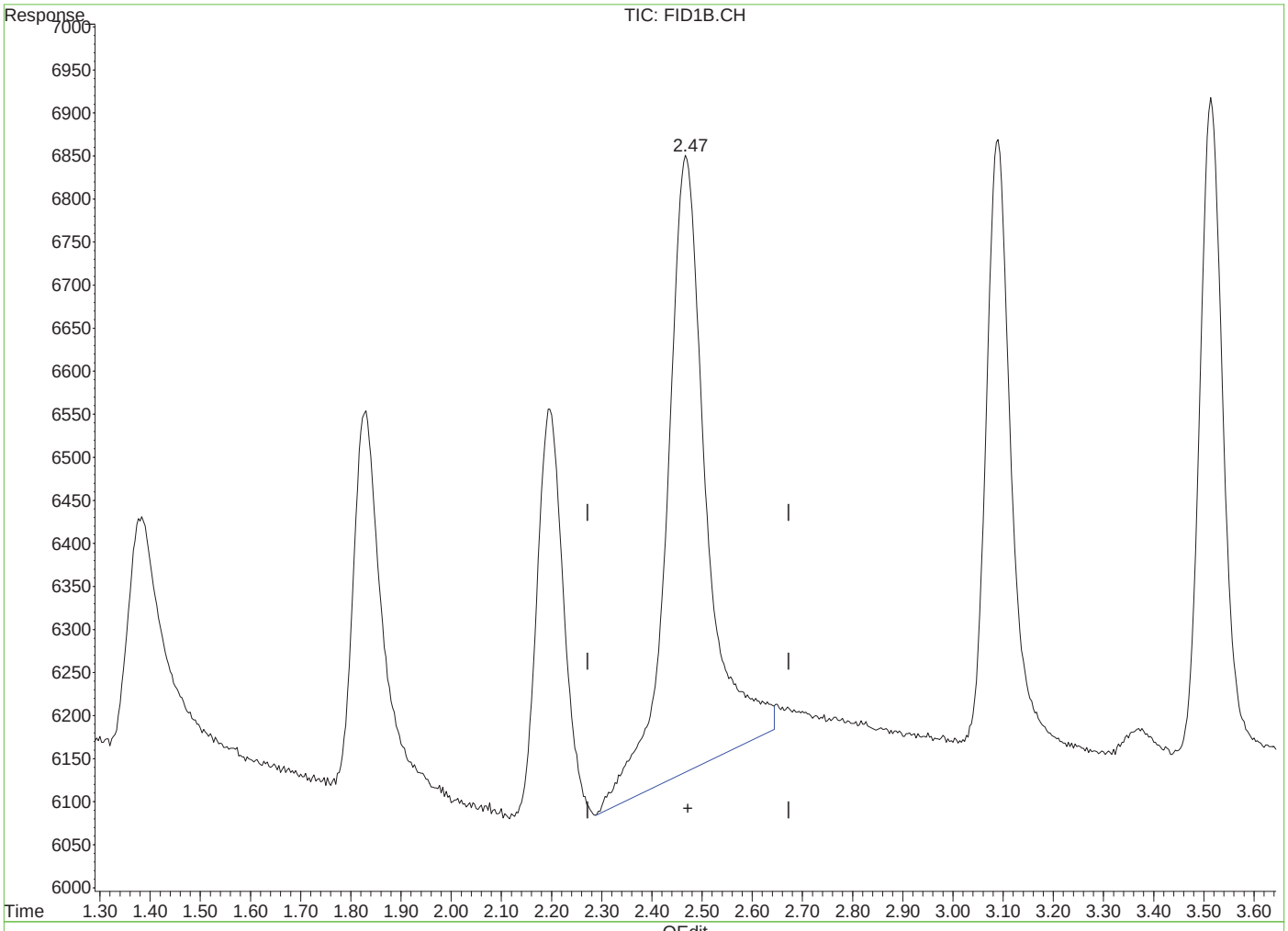
Sample Number: GGH6650-IC6650
Lab FileID: GH123504.D
Injection Time: 01/21/21 18:55
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tertiary Butyl Alcohol	75-65-0	1	2.47	Poorly defined baseline
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 1312.383ug/L

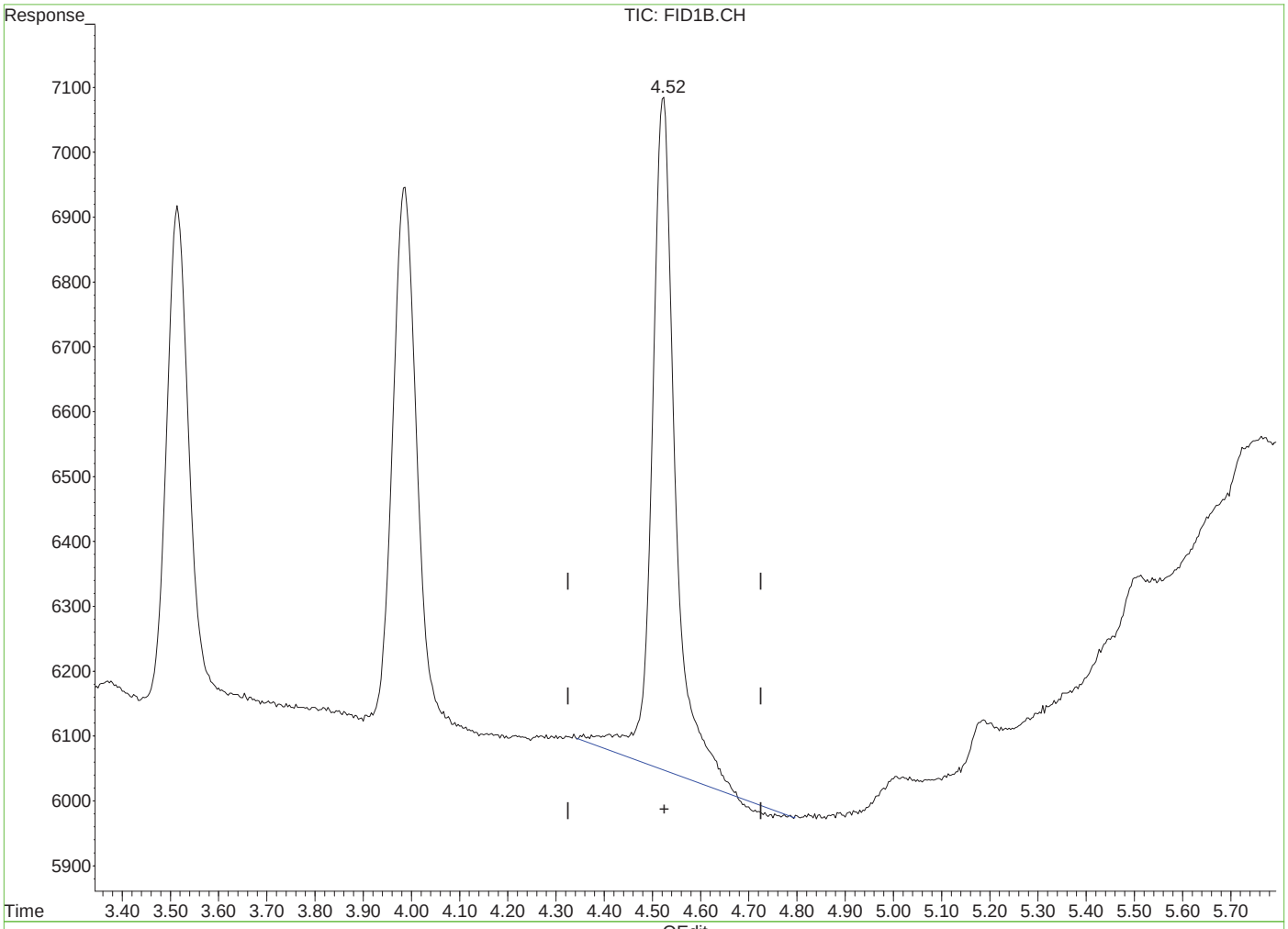
response 38868

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:28:50 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 1172.281ug/L

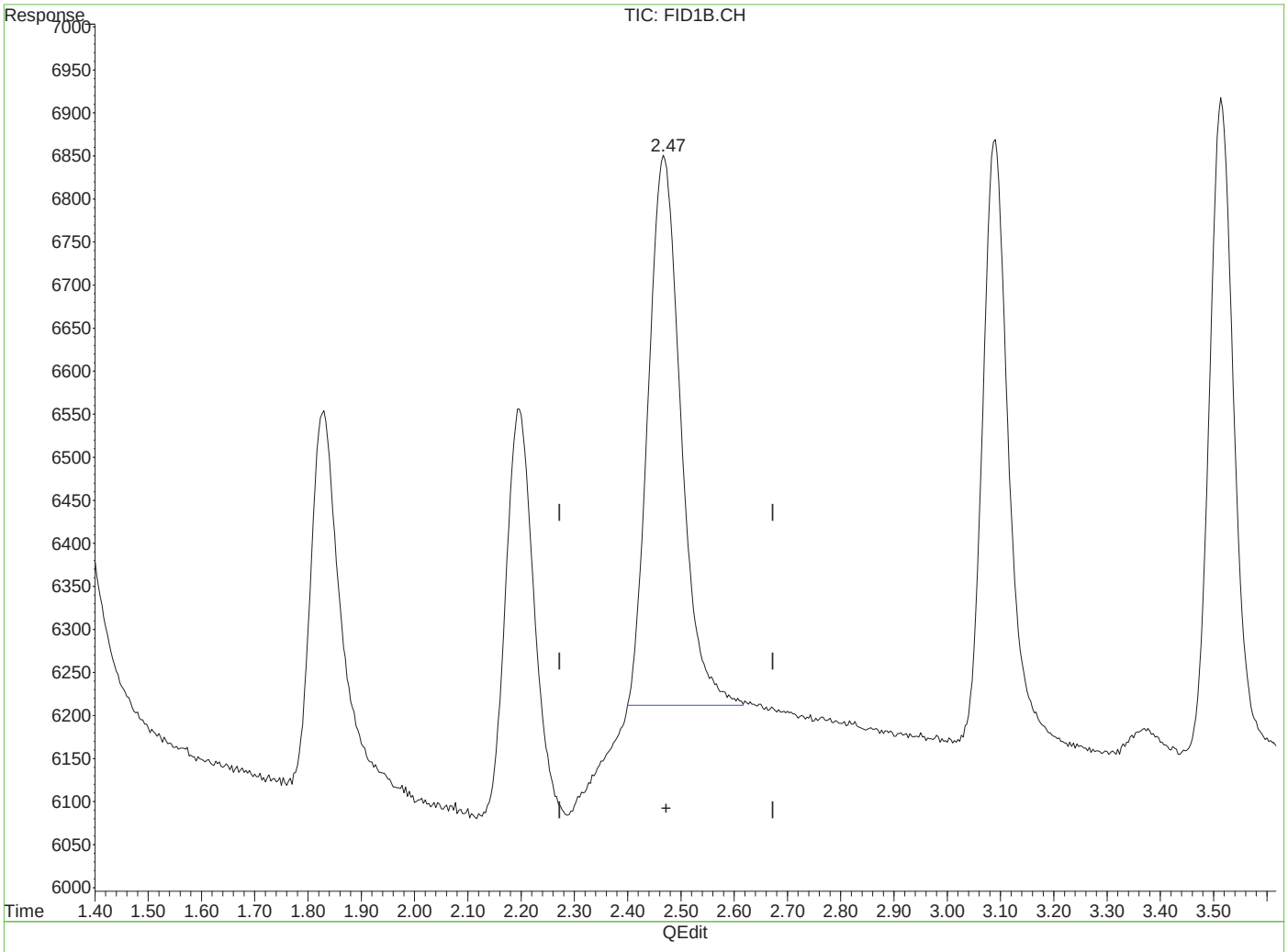
response 35214

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:15 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 917.115ug/L m

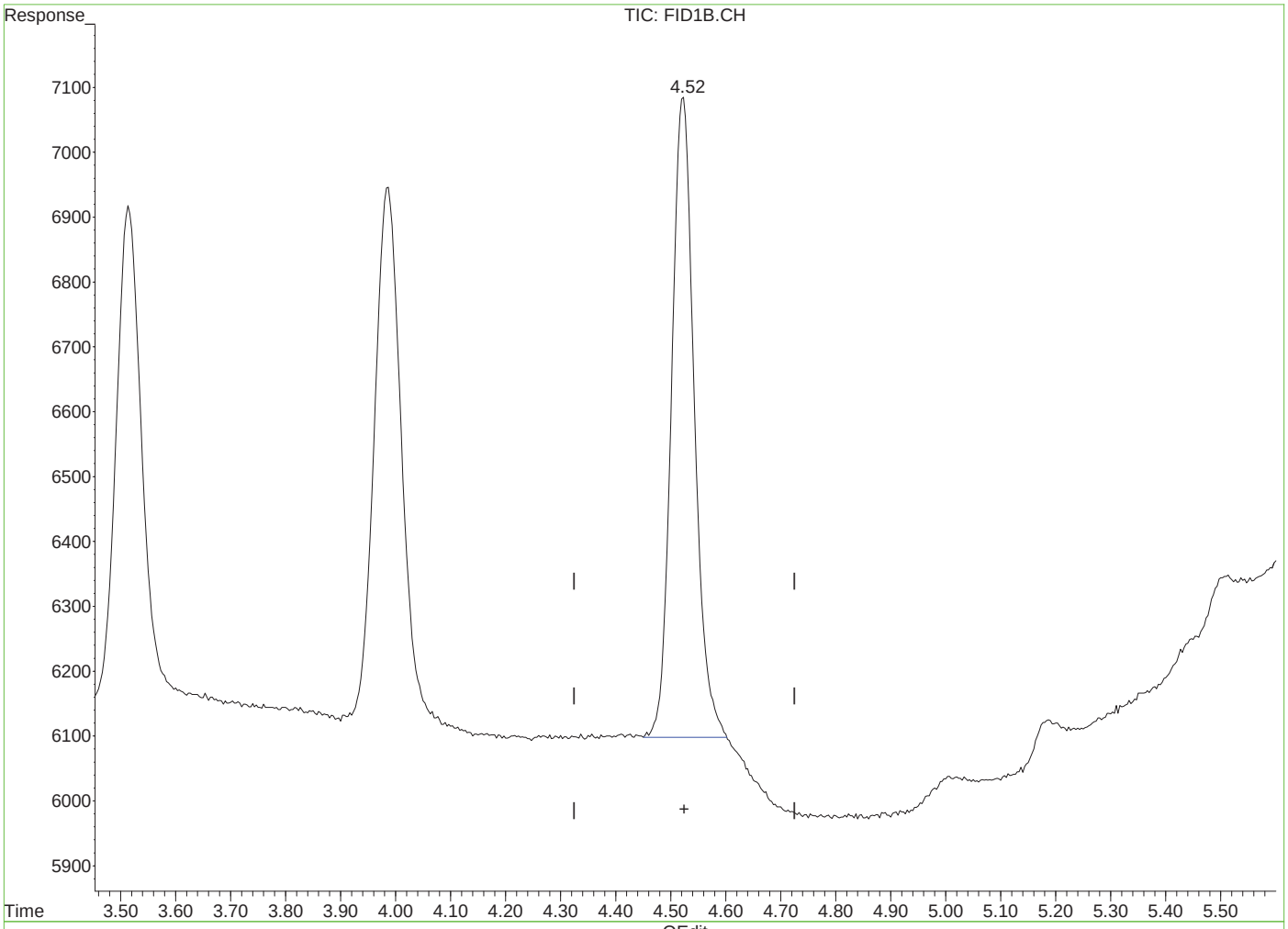
response 27162

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:33 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 947.542ug/L m

response 28463

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:40 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : ICC6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	377342	4648.713	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	92.97%		
	Target Compounds					
1)	Methanol	1.37	74814	5083.278	ug/L	
2)	Ethanol	1.83	96172	5418.810	ug/L	
3)	2-Propanol	2.20	99364	5042.983	ug/L	
4)	Tert-Butyl Alcohol	2.47	139318	4704.098	ug/L	
5)	1-Propanol	3.09	117675	4834.321	ug/L	
6)	2-Butanol	3.52	120168	4632.822	ug/L	
7)	Isobutanol	3.99	142497	4786.631	ug/L	
8)	1-butanol	4.52	138066	4596.184	ug/L	m

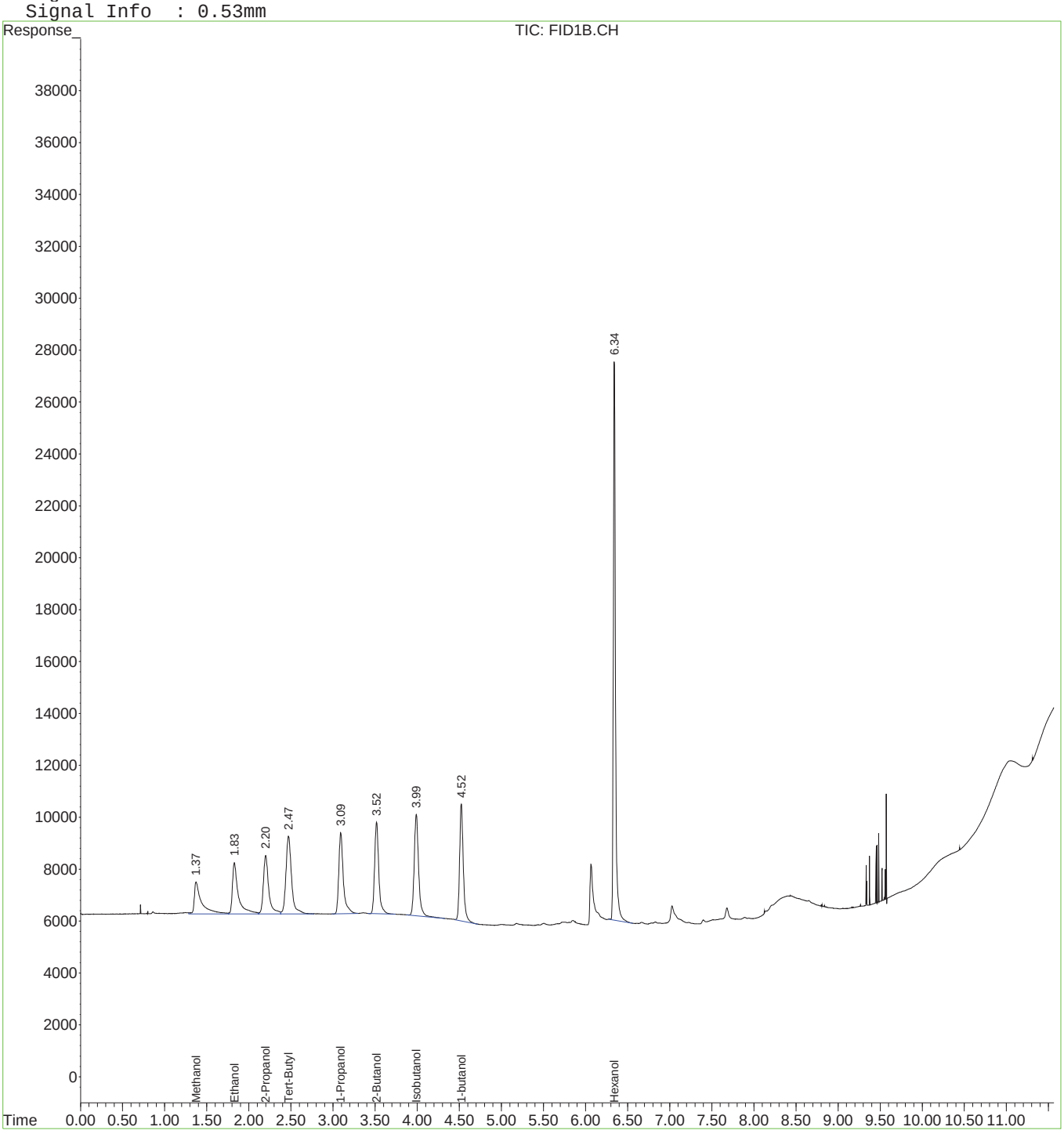
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123505.D MGH6650.M Thu Jan 28 11:49:05 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : ICC6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:35 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

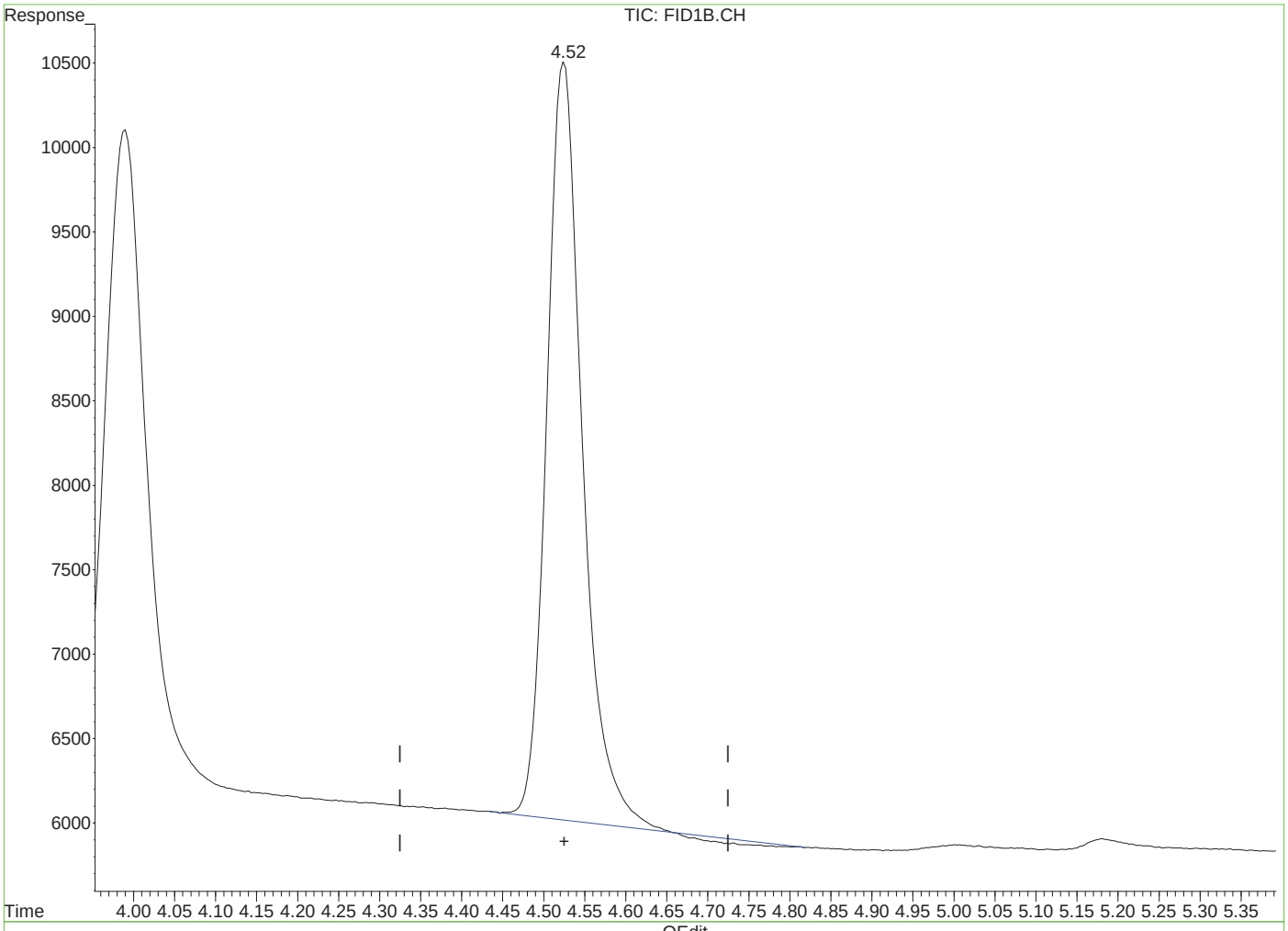
Sample Number: GGH6650-ICC6650
Lab FileID: GH123505.D
Injection Time: 01/21/21 19:12
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 17:03 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : IC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 4479.071ug/L

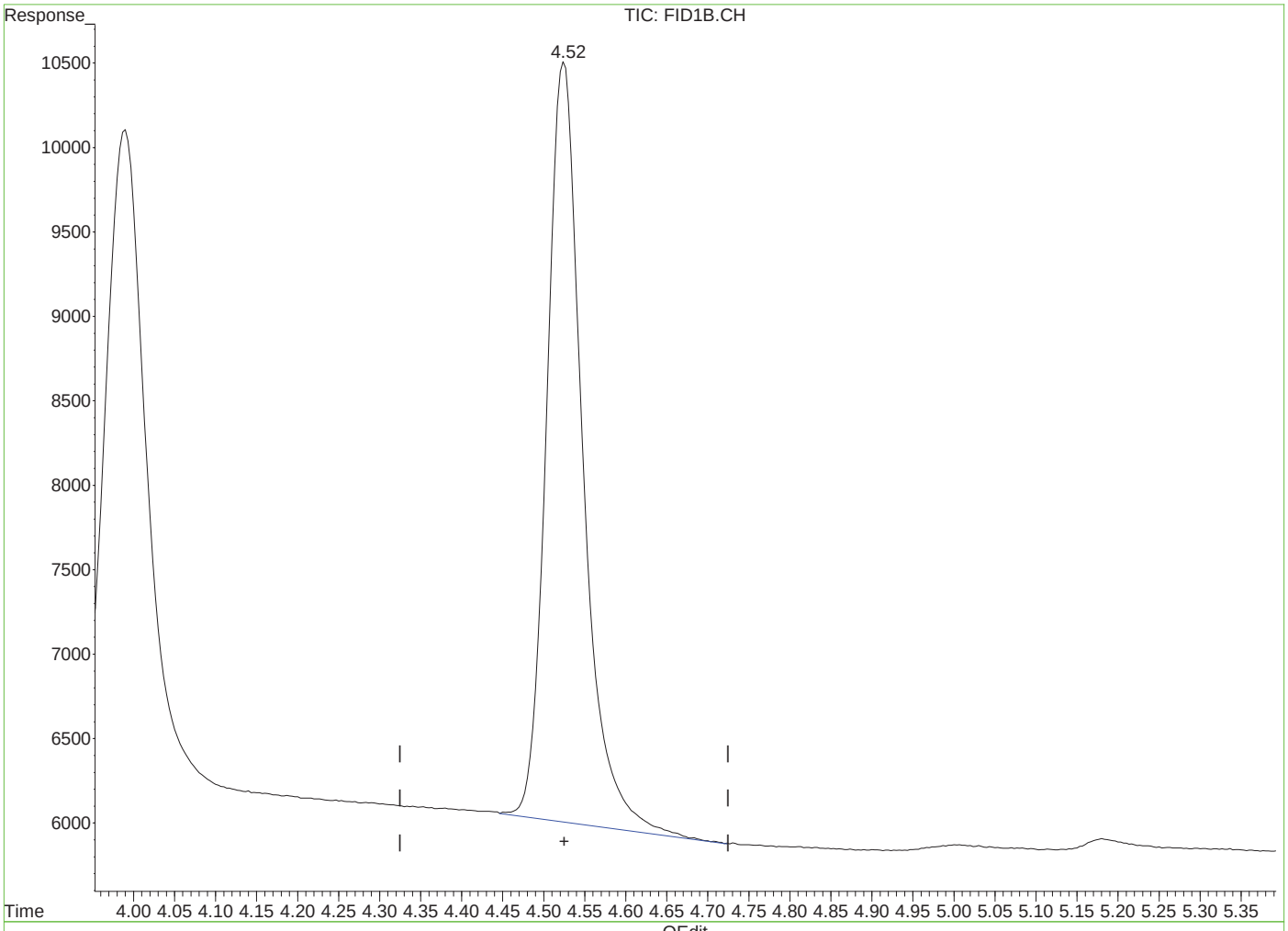
response 134548

(+) = Expected Retention Time
GH123505.D MGH6650.M Wed Jan 27 14:35:16 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : IC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 4596.184ug/L m

response 138066

(+) = Expected Retention Time
GH123505.D MGH6650.M Wed Jan 27 14:35:26 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36:53 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	374248	4610.600	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	92.21%		
	Target Compounds					
1)	Methanol	1.36	132883	9028.795	ug/L	m
2)	Ethanol	1.82	172505	9719.783	ug/L	
3)	2-Propanol	2.20	207197	10515.759	ug/L	
4)	Tert-Butyl Alcohol	2.48	279728	9445.053	ug/L	
5)	1-Propanol	3.09	234299	9625.417	ug/L	
6)	2-Butanol	3.52	240950	9289.334	ug/L	
7)	Isobutanol	3.99	278406	9351.981	ug/L	
8)	1-butanol	4.53	278773	9280.289	ug/L	

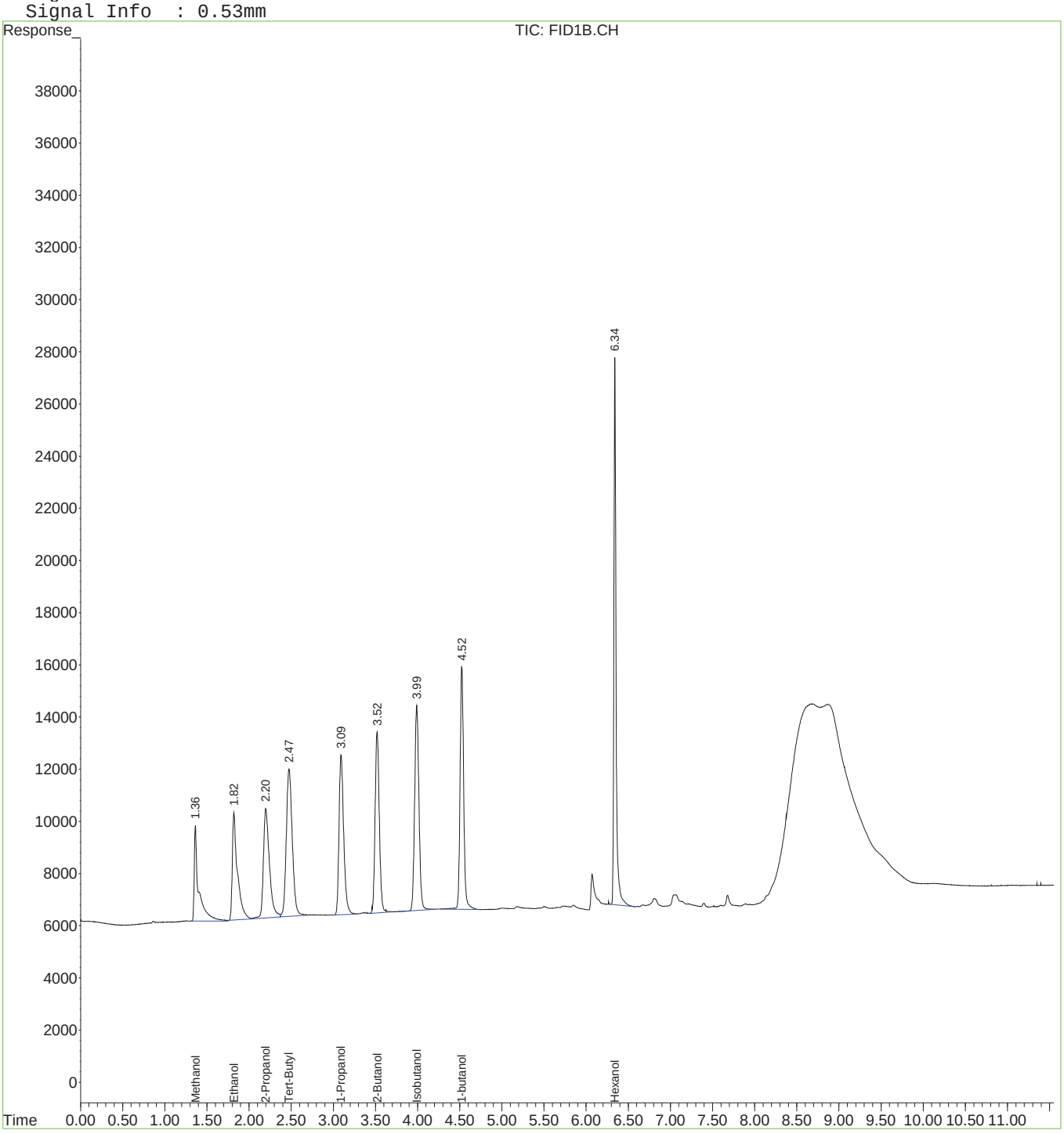
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123506.D MGH6650.M Thu Jan 28 11:49:06 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:37 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

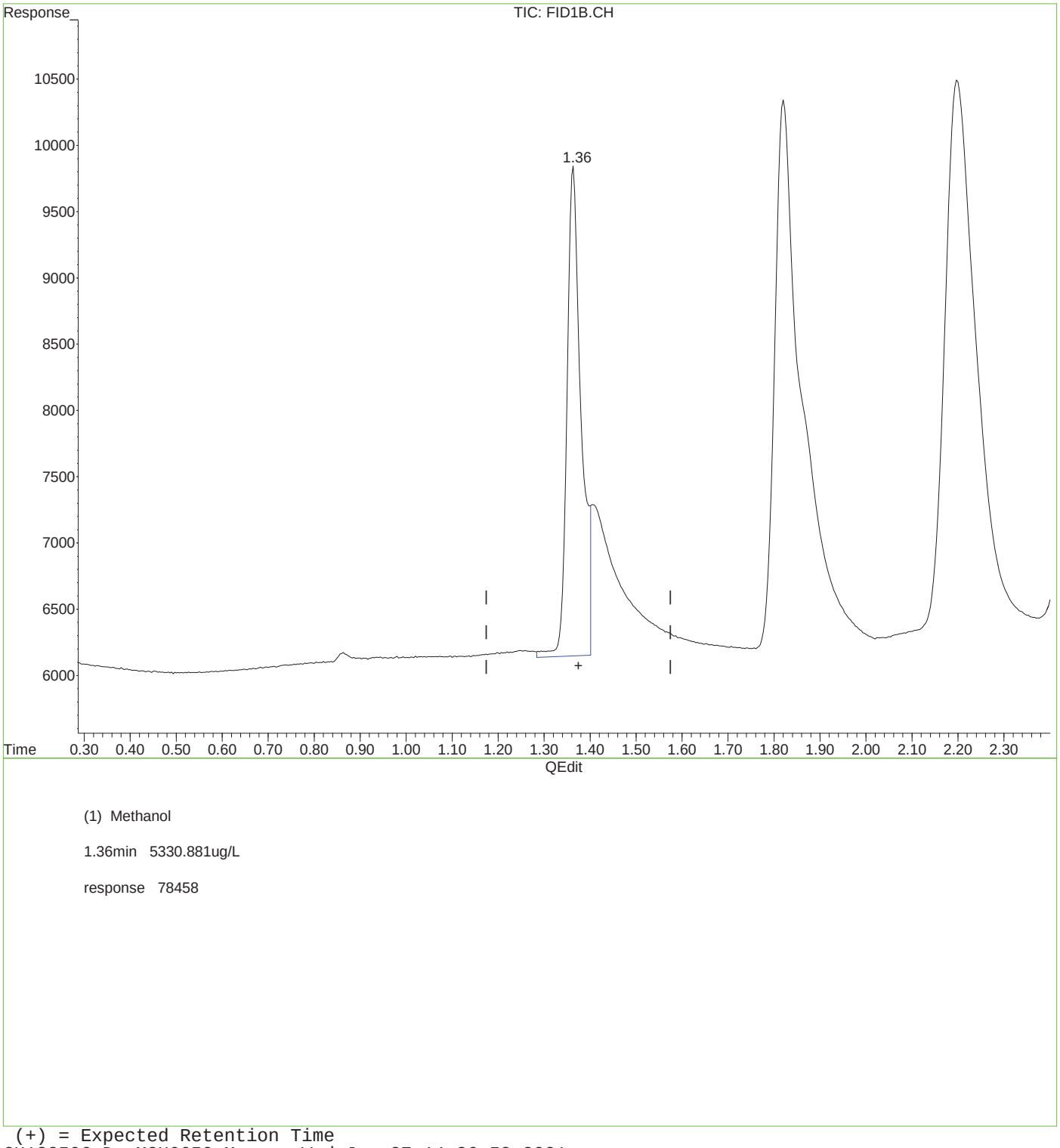
Sample Number: GGH6650-IC6650
Lab FileID: GH123506.D
Injection Time: 01/21/21 19:30
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.36	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(1) Methanol

1.36min 5330.881ug/L

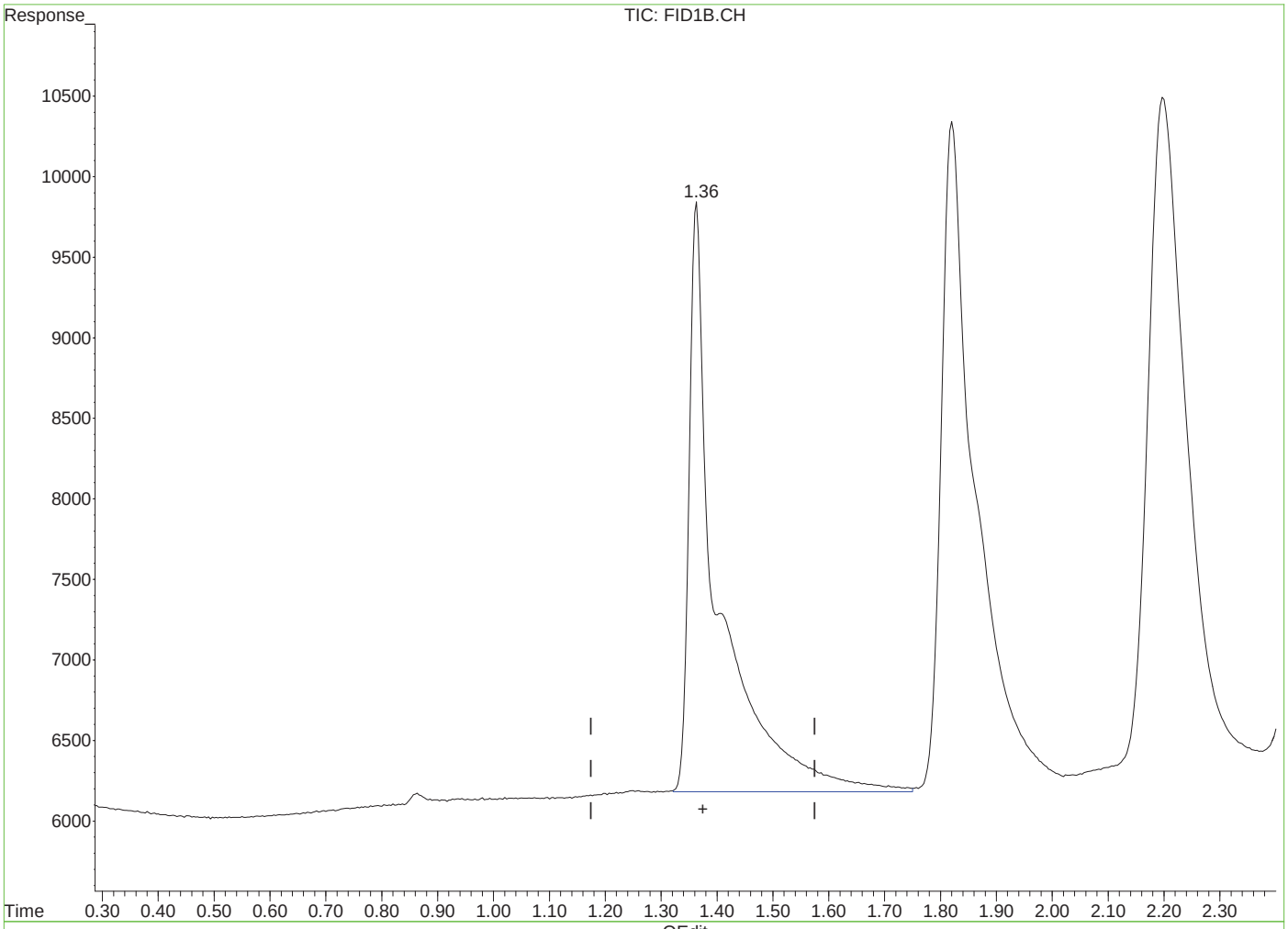
response 78458

(+) = Expected Retention Time
GH123506.D MGH6650.M Wed Jan 27 14:36:58 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(1) Methanol

1.36min 9028.795ug/L m

response 132883

(+) = Expected Retention Time
GH123506.D MGH6650.M Wed Jan 27 14:37:10 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123507.D Vial: 7
Acq On : 21-Jan-2021, 19:47:53 Operator: RobertS
Sample : IC6650-50000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:58 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	372684	4591.337 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 91.83%	
Target Compounds			
1) Methanol	1.36	690329	46904.730 ug/L
2) Ethanol	1.82	951912	53635.503 ug/L
3) 2-Propanol	2.19	969223	49190.370 ug/L
4) Tert-Butyl Alcohol	2.46	1351830	45644.672 ug/L
5) 1-Propanol	3.08	1180715	48505.957 ug/L
6) 2-Butanol	3.51	1205035	46457.625 ug/L
7) Isobutanol	3.98	1393365	46804.770 ug/L
8) 1-butanol	4.52	1348419	44888.565 ug/L

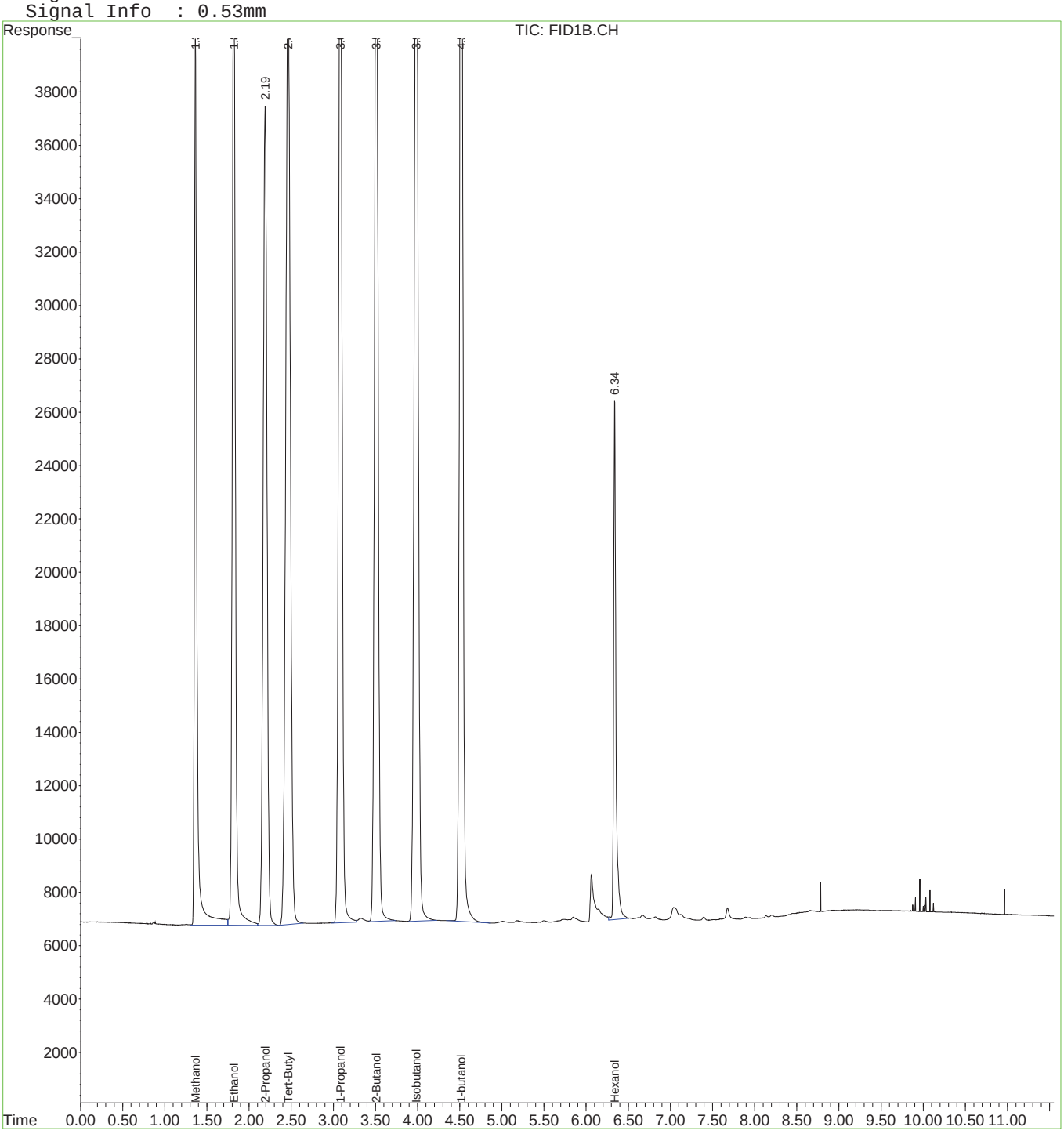
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123507.D MGH6650.M Thu Jan 28 11:49:07 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123507.D Vial: 7
Acq On : 21-Jan-2021, 19:47:53 Operator: RobertS
Sample : IC6650-50000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123508.D Vial: 8
Acq On : 21-Jan-2021, 20:05:23 Operator: RobertS
Sample : IC6650-100000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:59 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	400215	4930.502 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	98.61%
Target Compounds			
1) Methanol	1.39	1315982	89415.013 ug/L
2) Ethanol	1.83	1828883	103048.508 ug/L
3) 2-Propanol	2.20	1927951	97848.076 ug/L
4) Tert-Butyl Alcohol	2.47	2755902	93053.290 ug/L
5) 1-Propanol	3.09	2345722	96366.592 ug/L
6) 2-Butanol	3.51	2425281	93501.660 ug/L
7) Isobutanol	3.98	2815008	94559.395 ug/L
8) 1-butanol	4.52	2681081	89252.569 ug/L

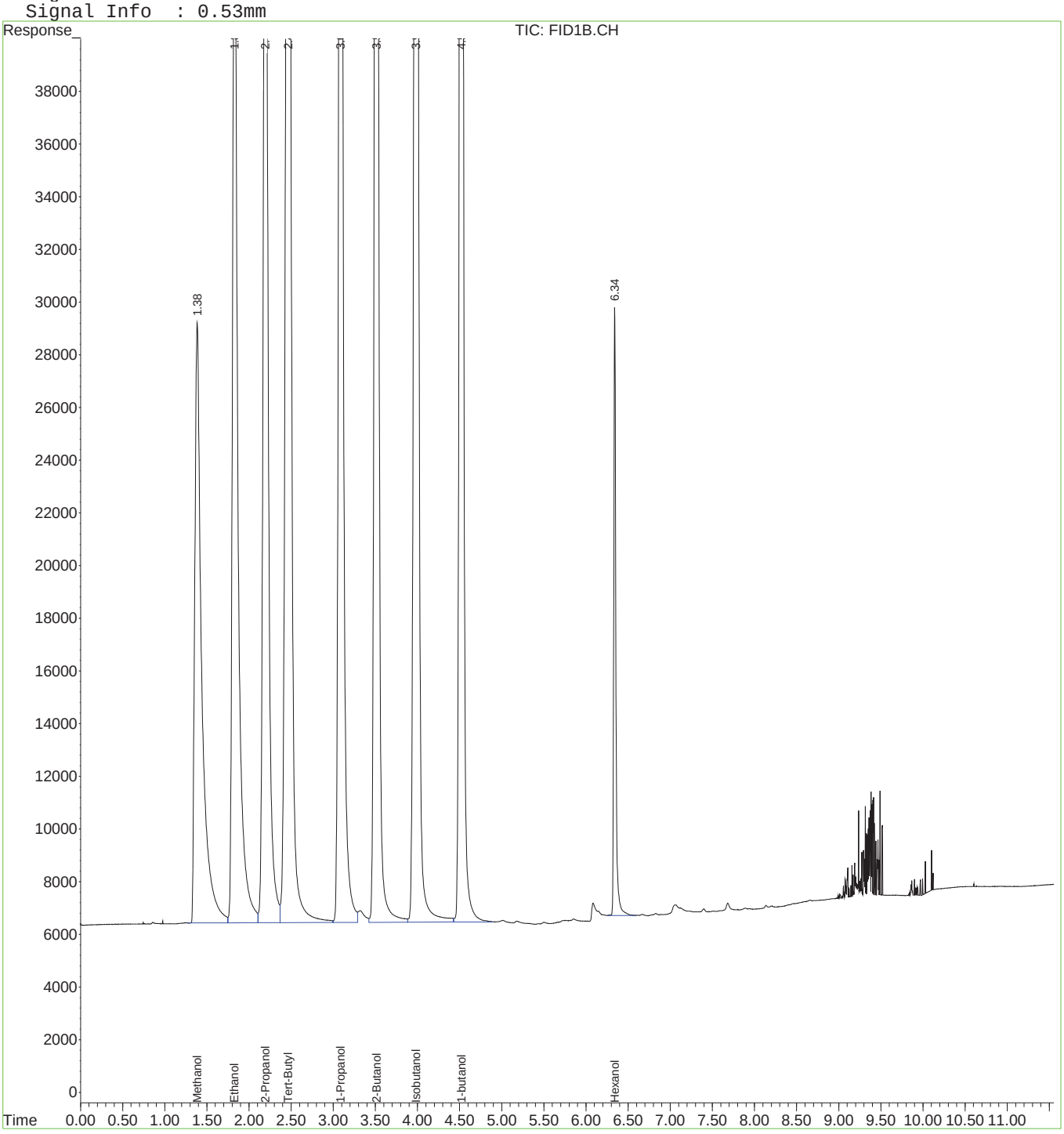
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123508.D MGH6650.M Thu Jan 28 11:49:09 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123508.D Vial: 8
Acq On : 21-Jan-2021, 20:05:23 Operator: RobertS
Sample : IC6650-100000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:39:43 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	352796	4674.379 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 93.49%	
Target Compounds			
1) Methanol	1.38	67223	4895.271 ug/L
2) Ethanol	1.83	86579	4924.696 ug/L
3) 2-Propanol	2.20	90803	4664.435 ug/L
4) Tert-Butyl Alcohol	2.47	129667	4702.482 ug/L
5) 1-Propanol	3.09	110258	4633.711 ug/L
6) 2-Butanol	3.51	112941	4605.631 ug/L
7) Isobutanol	3.99	131677	4647.551 ug/L
8) 1-butanol	4.52	131501	4594.175 ug/L

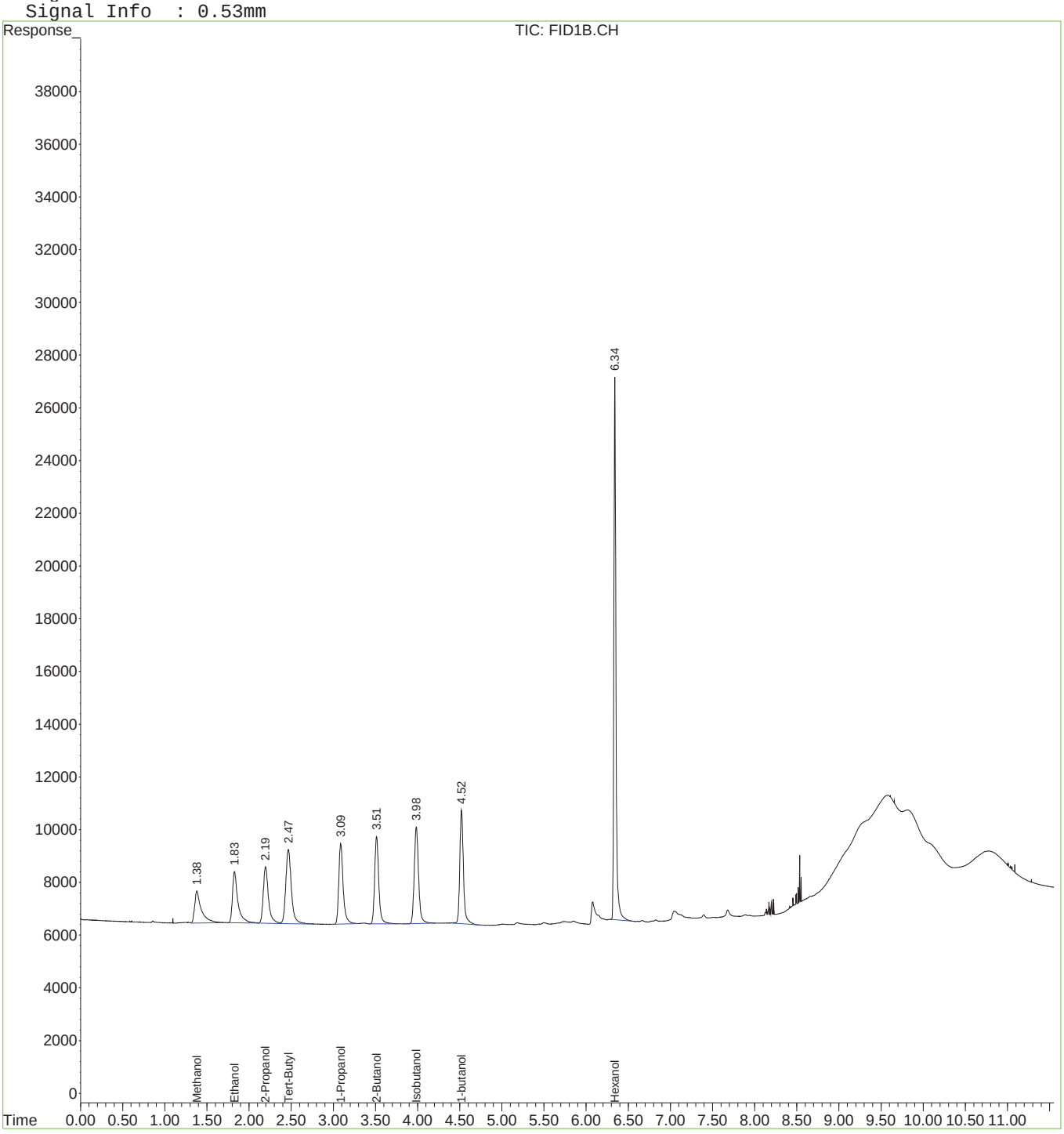
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123511.D MGH6650.M Thu Jan 28 11:49:10 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:39 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6686\GH124389.D Vial: 45
Acq On : 28-Apr-2021, 11:46:16 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57823,GGH6686,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 28 12:07:35 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	386360	5119.086 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 102.38%	
Target Compounds			
1) Methanol	1.41	136647	9950.748 ug/L
2) Ethanol	1.86	187238	10650.224 ug/L
3) 2-Propanol	2.23	192679	9897.696 ug/L
4) Tert-Butyl Alcohol	2.50	276672	10033.750 ug/L
5) 1-Propanol	3.13	229370	9639.571 ug/L
6) 2-Butanol	3.55	234555	9564.945 ug/L
7) Isobutanol	4.02	275403	9720.345 ug/L
8) 1-butanol	4.55	271172	9473.752 ug/L

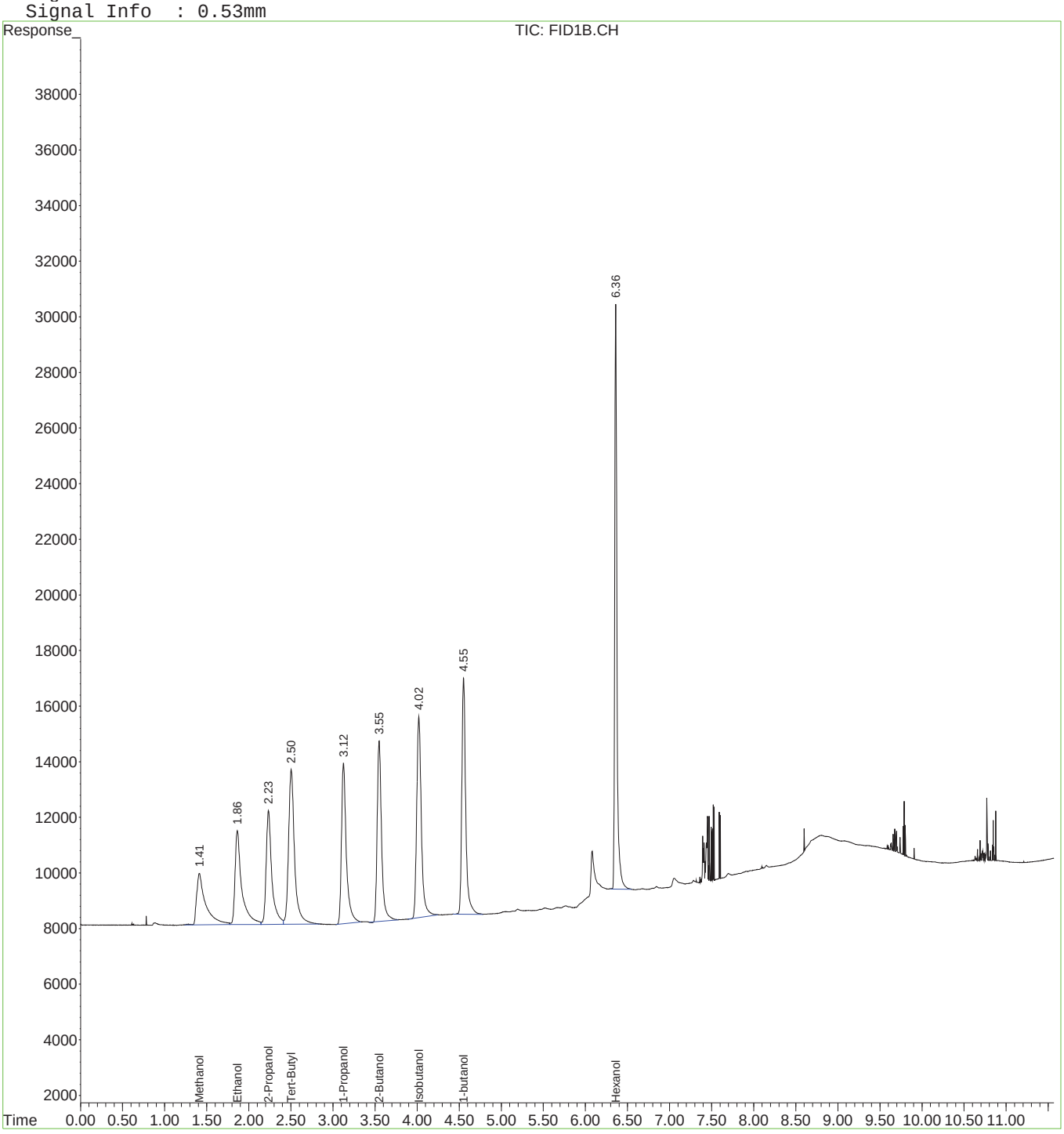
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124389.D MGH6650.M Wed Apr 28 12:09:40 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6686\GH124389.D Vial: 45
Acq On : 28-Apr-2021, 11:46:16 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57823,GGH6686,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 28 12:07 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124392.D Vial: 3
Acq On : 28-Apr-2021, 12:38:58 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	326580	4327.041 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	86.54%
Target Compounds			
1) Methanol	1.41	65774	4789.694 ug/L
2) Ethanol	1.87	88972	5060.781 ug/L
3) 2-Propanol	2.24	92504	4751.835 ug/L
4) Tert-Butyl Alcohol	2.51	130849	4745.366 ug/L
5) 1-Propanol	3.13	114840	4826.286 ug/L
6) 2-Butanol	3.55	116594	4754.585 ug/L
7) Isobutanol	4.02	134393	4743.381 ug/L
8) 1-butanol	4.55	127462	4453.069 ug/L

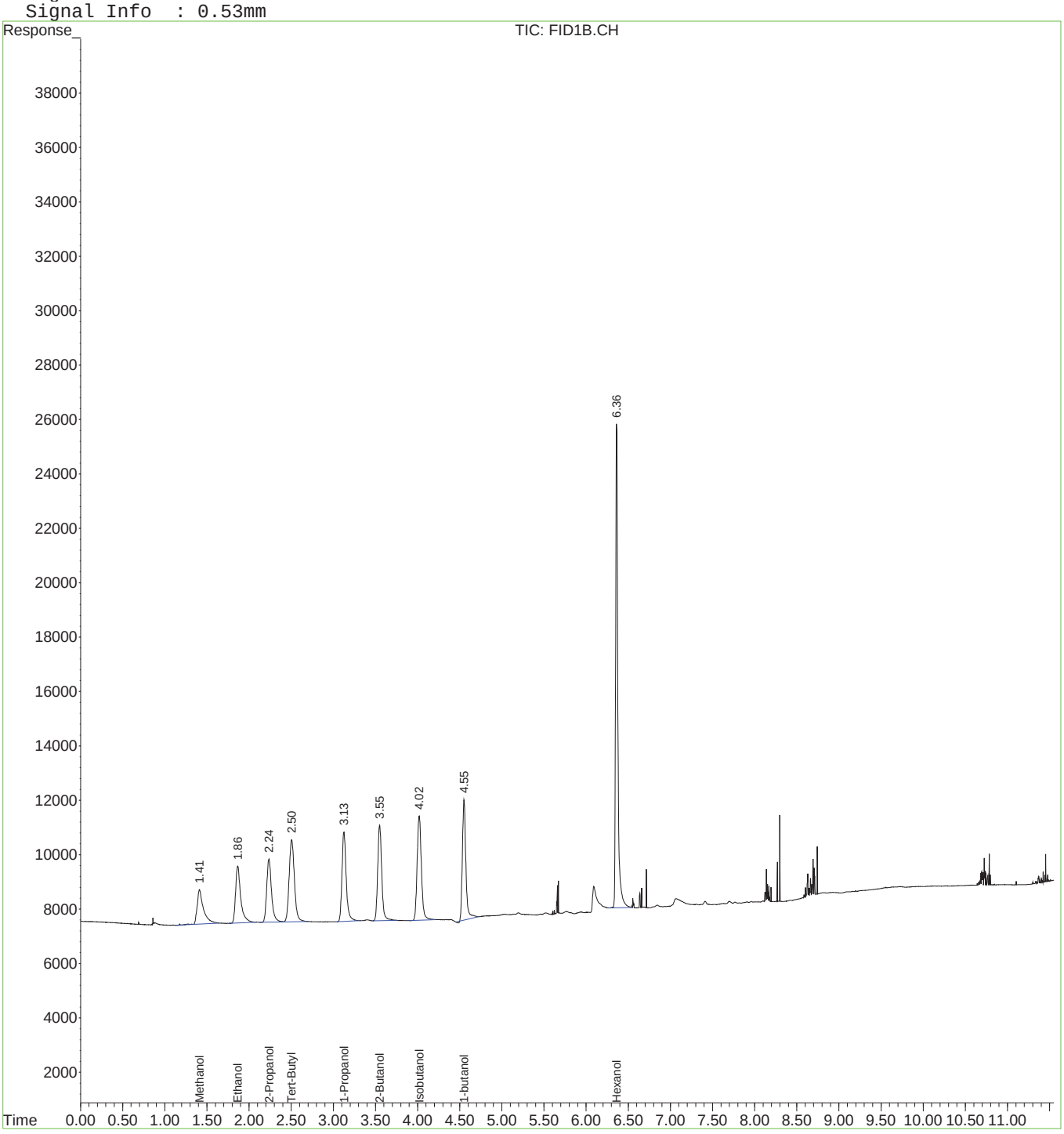
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124392.D MGH6650.M Thu Apr 29 15:28:08 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124392.D Vial: 3
Acq On : 28-Apr-2021, 12:38:58 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124402.D Vial: 13
Acq On : 28-Apr-2021, 16:20:09 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	357760	4740.149 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 94.80%	
Target Compounds			
1) Methanol	1.41	130311	9489.385 ug/L
2) Ethanol	1.86	177069	10071.820 ug/L
3) 2-Propanol	2.23	186059	9557.651 ug/L
4) Tert-Butyl Alcohol	2.50	264126	9578.785 ug/L
5) 1-Propanol	3.12	227833	9574.949 ug/L
6) 2-Butanol	3.55	230914	9416.484 ug/L
7) Isobutanol	4.01	267945	9457.106 ug/L
8) 1-butanol	4.55	254920	8905.995 ug/L

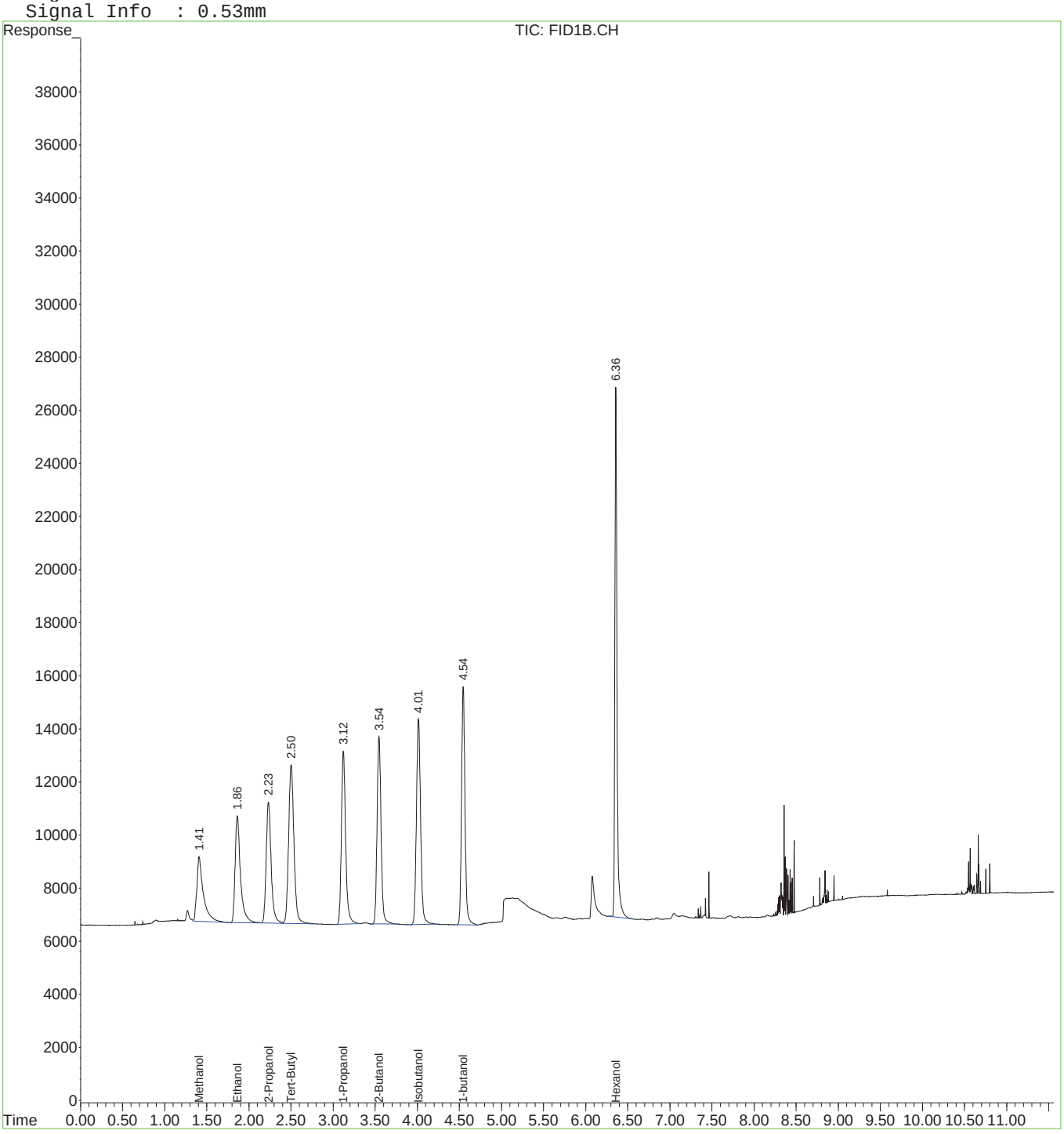
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124402.D MGH6650.M Fri Apr 30 09:59:55 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124402.D Vial: 13
Acq On : 28-Apr-2021, 16:20:09 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124411.D Vial: 22
Acq On : 28-Apr-2021, 19:15:35 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25:40 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	325618	4314.292 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 86.29%	
Target Compounds			
1) Methanol	1.41	58966	4293.983 ug/L
2) Ethanol	1.87	83038	4723.245 ug/L
3) 2-Propanol	2.23	87640	4501.962 ug/L
4) Tert-Butyl Alcohol	2.50	128389	4656.128 ug/L
5) 1-Propanol	3.12	109773	4613.342 ug/L
6) 2-Butanol	3.55	111308	4539.033 ug/L
7) Isobutanol	4.02	131620	4645.532 ug/L
8) 1-butanol	4.55	132389	4625.178 ug/L

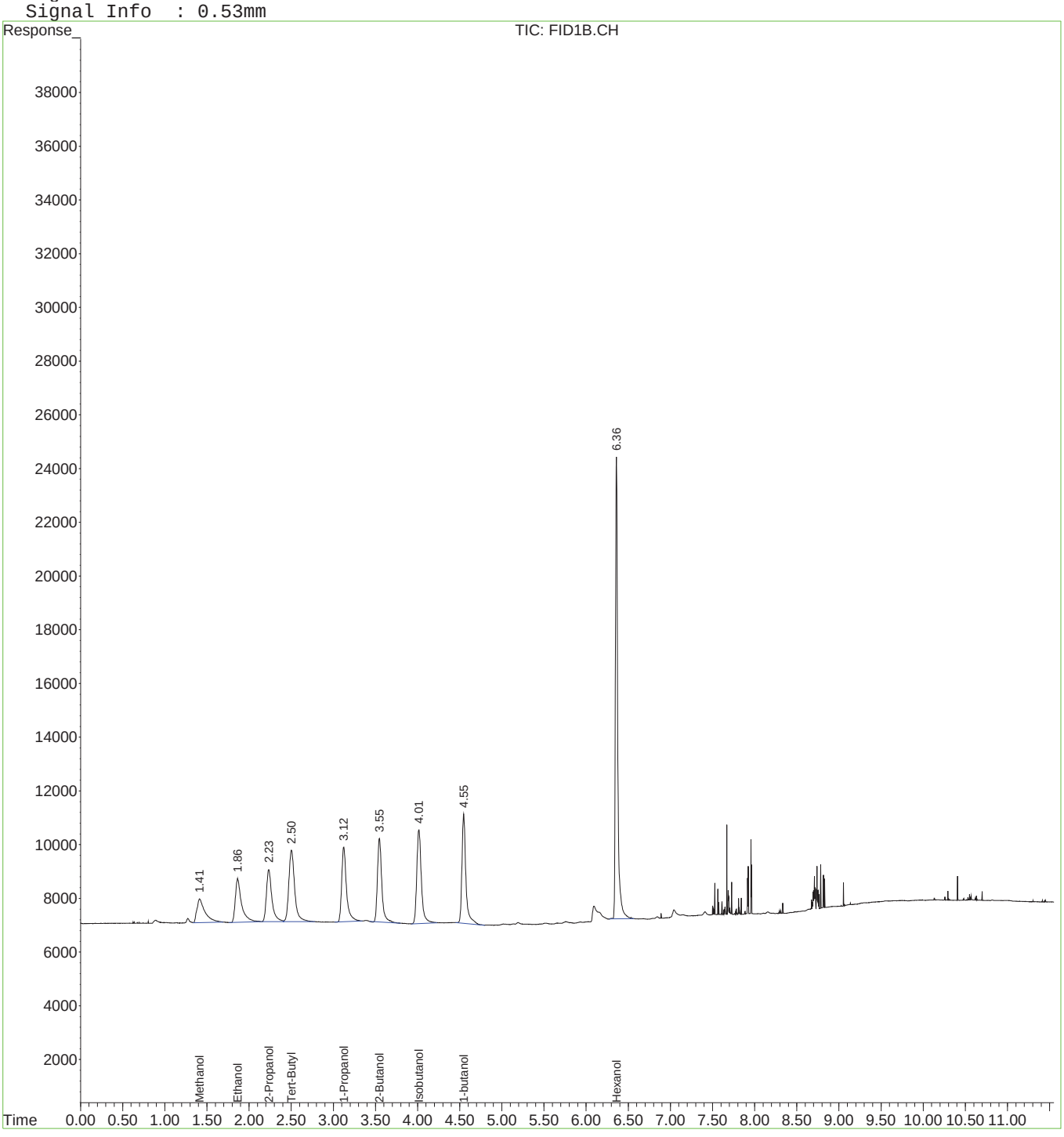
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124411.D MGH6650.M Thu Apr 29 15:28:34 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124411.D Vial: 22
Acq On : 28-Apr-2021, 19:15:35 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57851,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



SGS
JD23852

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124417.D Vial: 28
Acq On : 28-Apr-2021, 21:01:09 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57850,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25:46 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	375817	4979.409 ug/L
Spiked Amount 5000.000 Range 56 - 145 Recovery = 99.59%			
Target Compounds			
1) Methanol	1.39	147271	10724.384 ug/L
2) Ethanol	1.85	187654	10673.903 ug/L
3) 2-Propanol	2.23	183646	9433.712 ug/L
4) Tert-Butyl Alcohol	2.50	264402	9588.798 ug/L
5) 1-Propanol	3.12	229985	9665.410 ug/L
6) 2-Butanol	3.54	234320	9555.382 ug/L
7) Isobutanol	4.02	274842	9700.554 ug/L
8) 1-butanol	4.55	267165	9333.764 ug/L

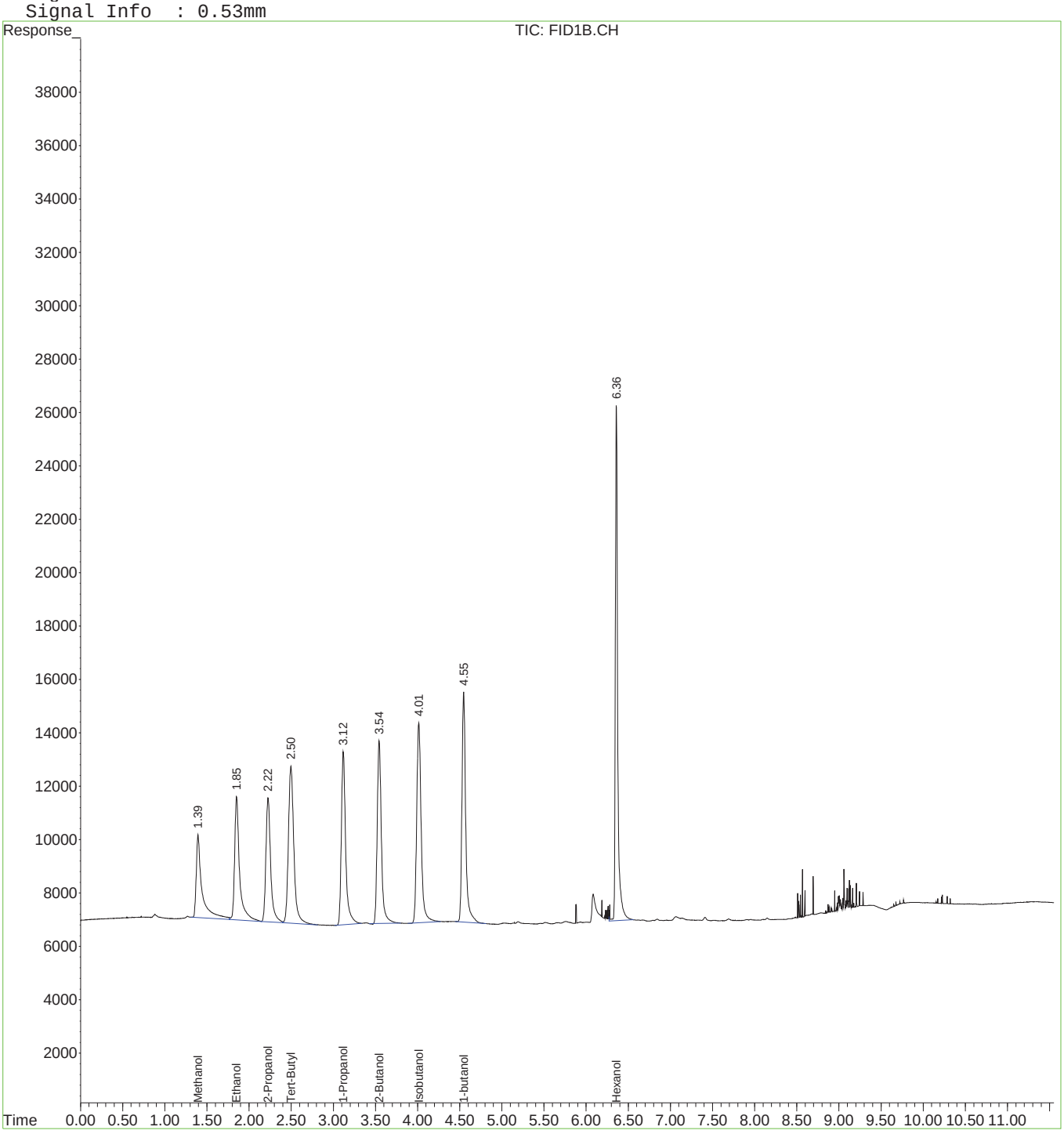
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124417.D MGH6650.M Thu Apr 29 15:27:55 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6687\GH124417.D Vial: 28
Acq On : 28-Apr-2021, 21:01:09 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57850,GGH6687,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Apr 29 15:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



SGS
JD23852

Manual Integrations APPROVED
(compounds with "m" flag)
MoHui Huang
05/05/21 19:50

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124421.D Vial: 38
Acq On : 29-Apr-2021, 10:40:38 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57864,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 04 16:47:04 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.36	334910	4437.408	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 88.75%			
Target Compounds					
1) Methanol	1.39	66905	4872.095	ug/L	
2) Ethanol	1.84	84517	4807.387	ug/L	
3) 2-Propanol	2.21	87735	4506.845	ug/L	
4) Tert-Butyl Alcohol	2.49	128022	4642.824	ug/L	
5) 1-Propanol	3.11	115296	4845.475	ug/L	
6) 2-Butanol	3.54	120135	4899.008	ug/L	
7) Isobutanol	4.01	141305	4987.374	ug/L	
8) 1-butanol	4.54	134316	4692.526	ug/L	m

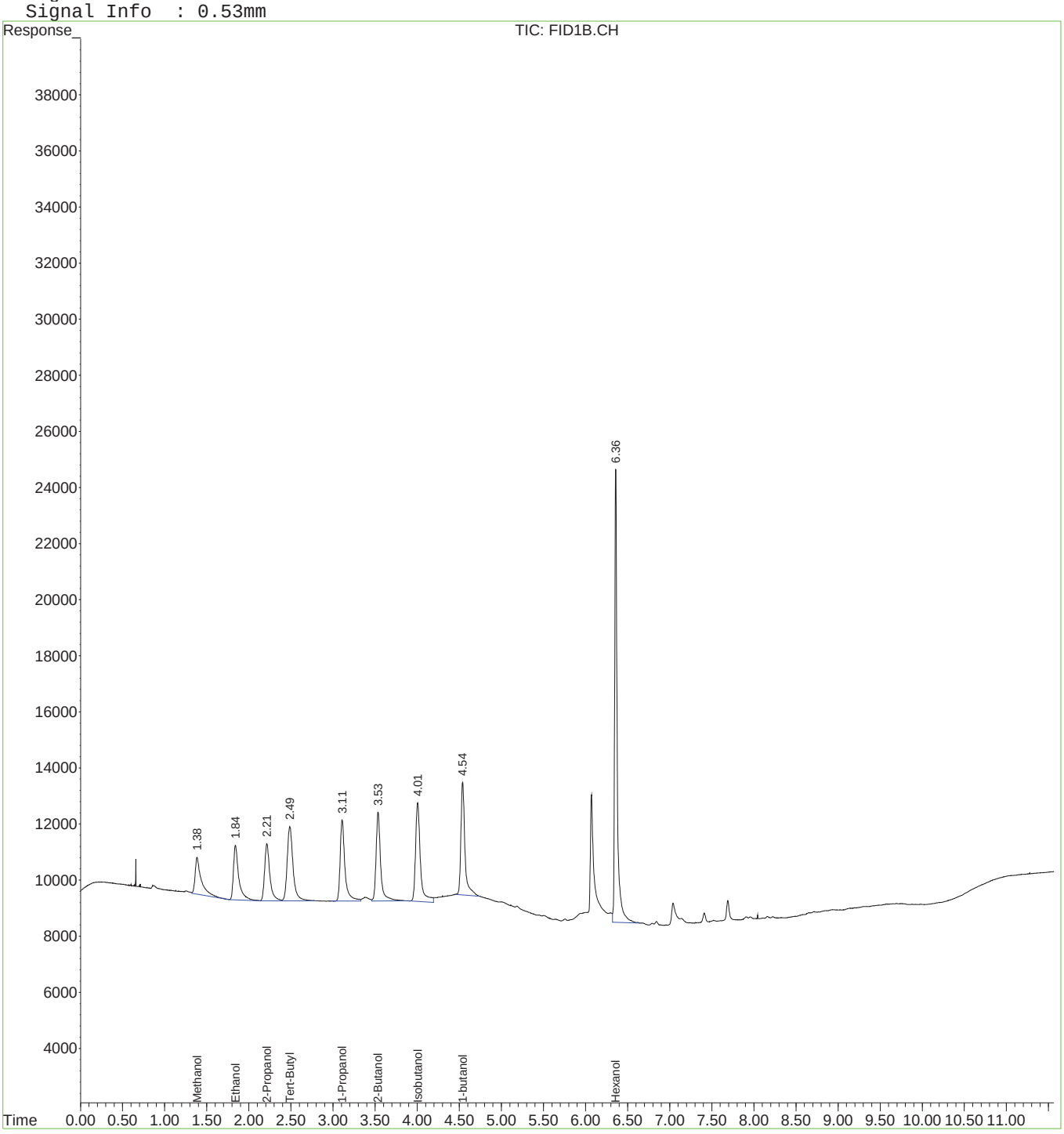
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124421.D MGH6650.M Tue May 04 16:55:29 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124421.D Vial: 38
Acq On : 29-Apr-2021, 10:40:38 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57864,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 4 16:55 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

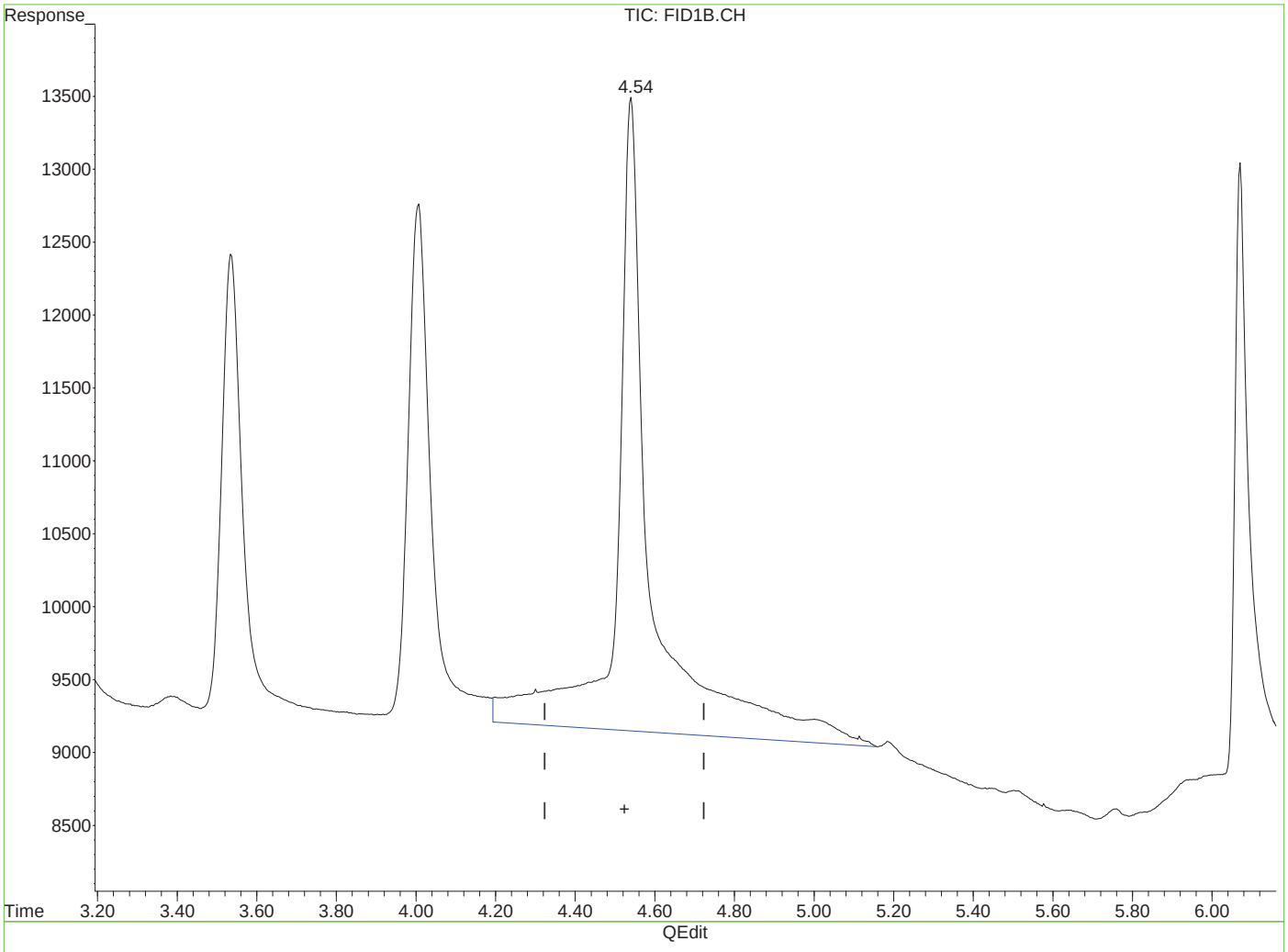
Sample Number: GGH6688-CC6650
Lab FileID: GH124421.D
Injection Time: 04/29/21 10:40
Method: SW846-8015D (DAI)
Analyst approved: 05/04/21 16:55 Bridget Kelly
Supervisor approved: 05/05/21 19:50 MoHui Huang

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.54	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124421.D Vial: 38
Acq On : 29-Apr-2021, 10:40:38 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57864,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 4 16:47 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.54min 9402.102ug/L

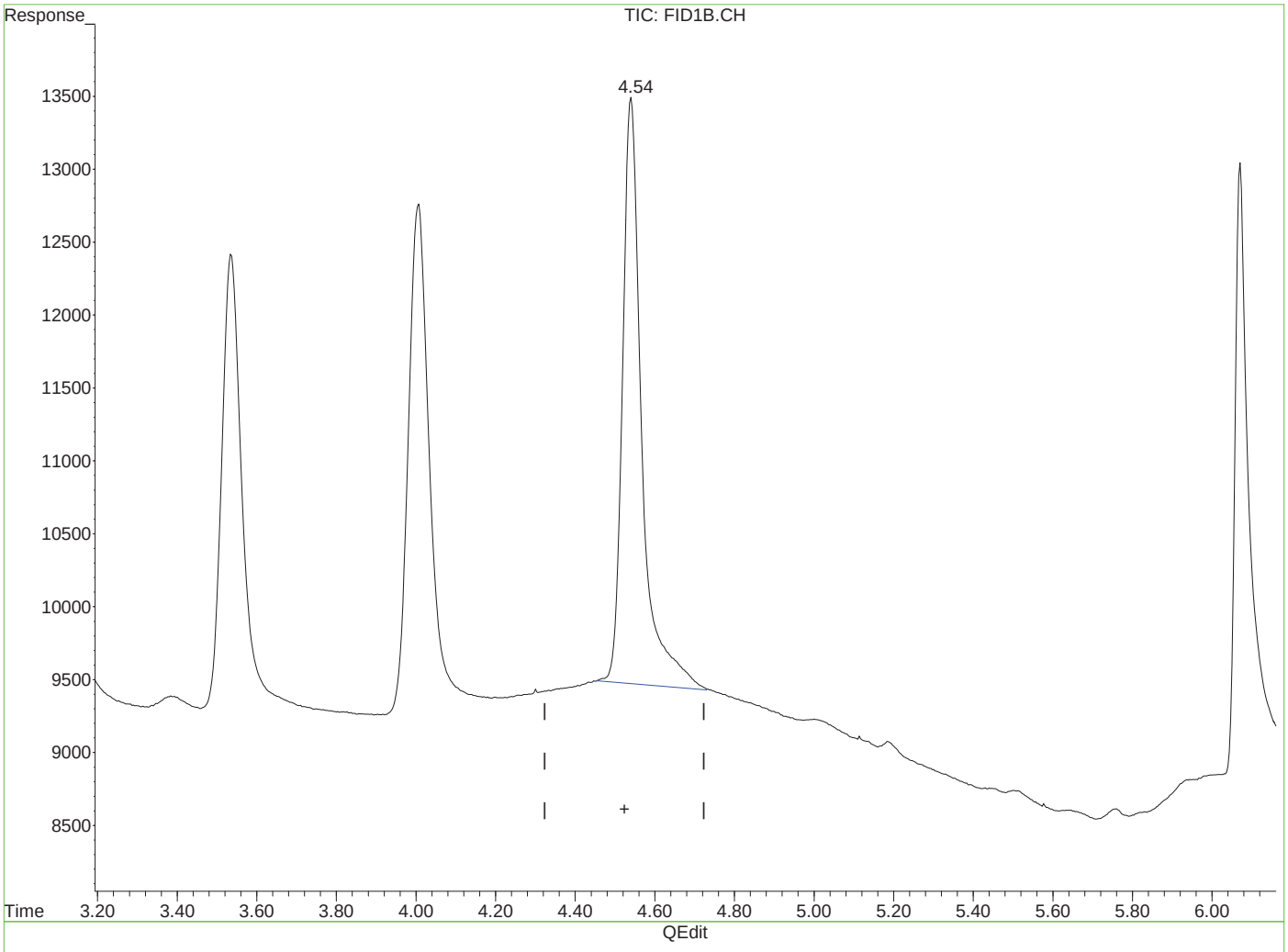
response 269121

(+) = Expected Retention Time
GH124421.D MGH6650.M Tue May 04 16:54:38 2021 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124421.D Vial: 38
Acq On : 29-Apr-2021, 10:40:38 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57864,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 4 16:47 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.54min 4692.526ug/L m

response 134316

(+) = Expected Retention Time
GH124421.D MGH6650.M Tue May 04 16:55:04 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124431.D Vial: 48
Acq On : 29-Apr-2021, 14:19:04 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57858,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 04 16:47:14 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	311412	4126.060 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 82.52%	
Target Compounds			
1) Methanol	1.40	131253	9557.928 ug/L
2) Ethanol	1.86	180518	10267.978 ug/L
3) 2-Propanol	2.23	187326	9622.735 ug/L
4) Tert-Butyl Alcohol	2.50	261573	9486.174 ug/L
5) 1-Propanol	3.12	222313	9342.984 ug/L
6) 2-Butanol	3.54	228249	9307.778 ug/L
7) Isobutanol	4.01	265382	9366.636 ug/L
8) 1-butanol	4.54	256319	8954.844 ug/L

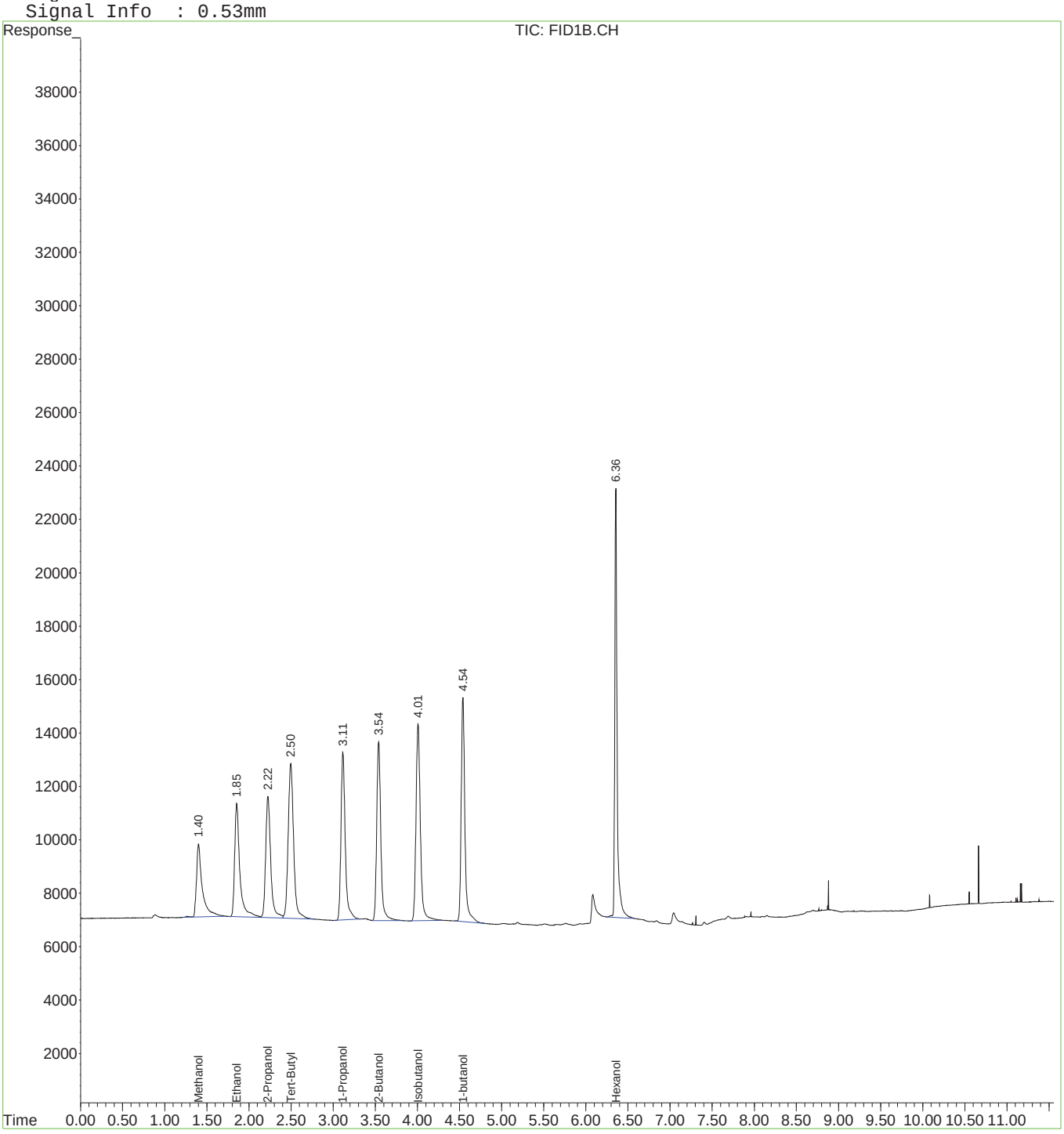
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124431.D MGH6650.M Tue May 04 16:56:09 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6688\GH124431.D Vial: 48
Acq On : 29-Apr-2021, 14:19:04 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57858,GGH6688,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 4 16:47 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



GC Volatile Run Log

Standard / Reagents	Lot #					
ALC Surrogate	V020-2702-97				Column	RTX-1701 (30m x 0.53mm x 3um)
Concentration	2000 ppm				Method	8015D Alcohols
expiration date	2/21/21				Init Calib Date	1/21/2021
ALC STD	V020-2702-98				Analysis Date	1/21/2021
Concentration	100 ppm				Sequence loaded by	Robert Szot
expiration date	2/21/21				Data processed by	Robert Szot
					Batch ID	GGH6650
ALC (2) STD	V020-2702-99				Matrix	AQ
Concentration	100 ppm				Approved By:	KANYAV
expiration date	2/21/21		Calibration method	MGH6650	Approved Date:	1/28/2021 8:20:51 AM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Inj. Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123500	IB		NA			0.002			1	OK	
GH	123501	IB		NA			0.002			2	OK	
GH	123502	IC6650-200		NA		8015 ALC initial cal.	0.002			3	OK	2 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123503	IC6650-500		NA		8015 ALC initial cal.	0.002			4	OK	5 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123504	IC6650-1000		NA		8015 ALC initial cal.	0.002			5	OK	10 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123505	IC6650-5000		NA		8015 ALC initial cal.	0.002			6	OK	50 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123506	IC6650-10000		NA		8015 ALC initial cal.	0.002			7	OK	100 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123507	IC6650-50000		NA		8015 ALC initial cal.	0.002			8	OK	500 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123508	IC6650-100000		NA		8015 ALC initial cal.	0.002			9	OK	1000 uL ALC + 2.5 uL surrogate
GH	123509	IB		NA			0.002			10	OK	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Inj. Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123510	IB		NA			0.002			11	OK	
GH	123511	ICV6650-5000		NA		8015 ALC initial cal.	0.002			12	OK	50 uL ALC(2), 2.5 uL surrogate / 1 mL DI H2O FV

GC Volatile Run Log

Standard / Reagents	Lot #					
Standard	ALC STD: V020-2702-141	ALC STD(2): V020-2702-1142			Column	MXT(105MX0.53MMX0.3UM)
Standard Concentration	100ppm	100ppm			Method	8015D Alcohols
Expiration Date	5/27/2021	5/27/2021			Init Calib Date	12/29/2020
ALC Surrogate	V020-2702-128					
Surrogate Concentration	2000ppm				Analysis Date	4/27/2021
Expiration Date	5/1/2021				Sequence loaded by	Bridget Kelly
					Data processed by	Bridget Kelly
					Batch ID	GGH6686
					Matrix	AQ
					Approved By:	MOHUI
pH paper wide range lot#223120	Exp. 8/15/2023		Initial Calibration Method	MGH6650	Approved Date:	4/29/2021 1:15:24 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124352	IB		NA			5			1	ok	
GH	124353	IB		NA			5			2	ok	
GH	124354	CC6650-5000		NA			5			3	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124355	MB		NA			5			4	ok	
GH	124356	BS		NA			5			5	ok	50 uL STD(2), 2.5 uL surr / 1 mL FV
GH	124357	JD23621-1A		NA	GC57823	D8015METH	5			6	ok	
GH	124358	JD23621-2A		NA	GC57823	D8015METH	5			7	ok	
GH	124359	JD23621-3A		NA	GC57823	D8015METH	5			8	ok	
GH	124360	JD23621-4A		NA	GC57823	D8015METH	5			9	ok	
GH	124361	JD23621-5A		NA	GC57823	D8015METH	5			10	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124362	JD23621-6A		NA	GC57823	D8015METH	5			11	ok	
GH	124363	JD23621-7A		NA	GC57823	D8015METH	5			12	ok	
GH	124364	IB		NA			5			13	ok	
GH	124365	CC6650-10000		NA			5			14	ng	prepped wrong 100 uL STD, 2.5 uL surr / 1 mL FV
GH	124366	CC6650-10000		NA			5			15	ok	100 uL STD, 2.5 uL surr / 1 mL FV
GH	124367	MB2		NA			5			16	ok	
GH	124368	JD23621-1AMS		NA	GC57823	D8015METH	5			17	not used	50 uL STD(2), 2.5 uL surr
GH	124369	JD23621-1AMSD		NA	GC57823	D8015METH	5			18	NG	no surr spiked 50 uL STD(2), 2.5 uL surr
GH	124370	IB		NA			5			19	ok	
GH	124371	IB		NA			5			20	ok	
GH	124372	CC6650-5000		NA			5			21	NG	prepped wrong 50 uL STD, 2.5 uL surr / 1 mL FV
GH	124373	CC6650-5000		NA			5			22	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124374	MB3		NA			5			23	RR	
GH	124375	JD23621-1AMS		NA			5			24	RR	50 uL STD(2), 2.5 uL surr
GH	124376	JD23621-1AMSD		NA			5			25	RR	50 uL STD(2), 2.5 uL surr
GH	124377	IB		NA			5			26	RR	
GH	124378	IB		NA			5			27	RR	
GH	124379	CC6650-10000		NA			5			28	NG	100 uL STD, 2.5 uL surr / 1 mL FV surr high
GH	124381	IB		NA			5			30	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Purge Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124382	IB		NA			5			31	ok	
GH	124383	CC6650-5000		NA			5			32	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124384	MB4		NA			5			33	ok	
GH	124385	BS2		NA			5			34	ok	50 uL STD(2), 2.5 uL surr / 1 mL FV
GH	124386	JD23621-2AMS		NA			5			35	ok	50 uL STD(2), 2.5 uL surr
GH	124387	JD23621-2AMSD		NA			5			36	ok	50 uL STD(2), 2.5 uL surr
GH	124388	IB		NA			5			37	ok	
GH	124389	IB		NA			5			38	ok	
GH	124390	CC6650-10000		NA			5			39	ok	100 uL STD, 2.5 uL surr / 1 mL FV

GC Volatile Run Log

Standard / Reagents	Lot #					
Standard	ALC STD: V020-2702-141	ALC STD(2): V020-2702-1142			Column	MXT(105MX0.53MMX0.3UM)
Standard Concentration	100ppm	100ppm			Method	8015D Alcohols
Expiration Date	5/27/2021	5/27/2021			Init Calib Date	12/29/2020
ALC Surrogate	V020-2702-128					
Surrogate Concentration	2000ppm				Analysis Date	4/18/2021
Expiration Date	5/1/2021				Sequence loaded by	Bridget Kelly
					Data processed by	Bridget Kelly
					Batch ID	GGH6687
					Matrix	AQ
					Approved By:	MOHUI
pH paper wide range lot#223120	Exp. 8/15/2023		Initial Calibration Method	MGH6650	Approved Date:	5/5/2021 7:33:09 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124390	IB		NA			0.002			1	ok	
GH	124391	IB		NA			0.002			2	ok	
GH	124392	CC6650-5000		NA			0.002			3	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124393	MB		NA			0.002			4	ok	
GH	124394	BS		NA			0.002			5	ok	50 uL STD(2), 2.5 uL surr / 1 mL FV
GH	124395	JD23825-1	20	NA	GC57852		0.002		1	6	ok	
GH	124396	JD23825-2	6	NA	GC57852		0.002		1	7	ok	
GH	124397	JD23825-3	6	NA	GC57852		0.002		1	8	ok	
GH	124398	JD23825-4	7	NA	GC57852		0.002		1	9	ok	
GH	124399	JD23825-5	7	NA	GC57852		0.002		1	10	ok	

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Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124400	JD23825-1MS	20	NA	GC57852		0.002		1	11	ok	50 uL STD(2), 2.5 uL surr, 950 uL sample
GH	124401	JD23825-1MSD	20	NA	GC57852		0.002		1	12	ok	50 uL STD(2), 2.5 uL surr, 950 uL sample
GH	124402	CC6650-10000		NA			0.002			13	ok	100 uL STD, 2.5 uL surr / 1 mL FV
GH	124403	MB2		NA			0.002			14	ok	
GH	124404	JD23825-6	8	NA	GC57852		0.002		1	15	ok	
GH	124405	JD23825-11	5	NA	GC57852		0.002		1	16	ok	
GH	124406	JD23825-12	5	NA	GC57852		0.002		1	17	ok	
GH	124407	JD23825-7	4	NA	GC57852		0.002		1	18	ok	
GH	124408	JD23825-8	6	NA	GC57852		0.002		1	19	ok	
GH	124409	JD23825-9	5	NA	GC57852		0.002		1	20	ok	
GH	124410	JD23825-10	4	NA	GC57852		0.002		1	21	ok	
GH	124411	CC6650-5000		NA			0.002			22	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124412	MB3		NA			0.002			23	ok	
GH	124413	JD23820-1	3	NA	GC57850	D8015ETHL	0.002		1	24	ok	
GH	124414	JD23820-2	3	NA	GC57850	D8015ETHL	0.002		1	25	ok	
GH	124415	JD23852-1	1	100x	GC57857	D8015IPA	0.5/50		6	26	ok	
GH	124416	IB		NA			0.002			27	ok	
GH	124417	CC6650-10000		NA			0.002			28	ok	100 uL STD, 2.5 uL surr / 1 mL FV

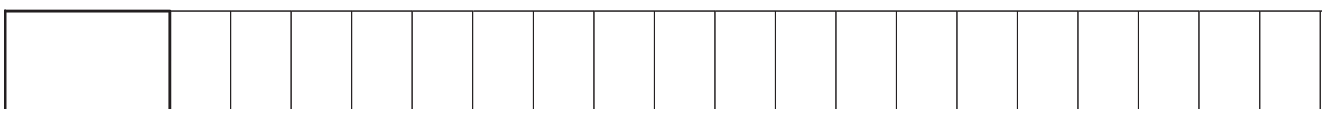
GC Volatile Run Log

Standard / Reagents	Lot #					
Standard	ALC STD: V020-2702-141	ALC STD(2): V020-2702-1142			Column	MXT(105MX0.53MMX0.3UM)
Standard Concentration	100ppm	100ppm			Method	8015D Alcohols
Expiration Date	5/27/2021	5/27/2021			Init Calib Date	12/29/2020
ALC Surrogate	V020-2702-128					
Surrogate Concentration	2000ppm				Analysis Date	4/29/2021
Expiration Date	5/1/2021				Sequence loaded by	Bridget Kelly
					Data processed by	Bridget Kelly
					Batch ID	GGH6688
					Matrix	AQ
					Approved By:	MOHUI
pH paper wide range lot#223120	Exp. 8/15/2023		Initial Calibration Method	MGH6650	Approved Date:	5/5/2021 7:41:07 PM

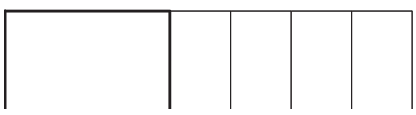
Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124418	IB		NA			0.002			1	ok	
GH	124419	IB		NA			0.002			2	ok	
GH	124420	IB		NA			0.002			3	ok	
GH	124421	CC6650-5000		NA			0.002			4	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124422	MB		NA			0.002			5	ok	
GH	124423	BS		NA			0.002			6	ok	50 uL STD(2), 2.5 uL surr / 1 mL FV
GH	124424	JD23913-2	11	NA	GC57859		0.002		1	7	ok	
GH	124425	JD23913-3	5	NA	GC57859		0.002		1	8	ok	
GH	124426	JD23913-4	5	NA	GC57859		0.002		1	9	ok	
GH	124427	JD23913-5	5	NA	GC57859		0.002		1	10	ok	

| | | |

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124428	JD23852-1	2	1000x	GC57857	D8015IPA	50uL/50 mL		6	11	ok	
GH	124429	JD23913-2MD	11	NA	GC57859		0.002		1	12	ok	50 uL STD(2), 2.5 uL surr,950 uL sample
GH	124430	JD23913-2MSD	11	NA	GC57858	D8015LMA	0.002		1	13	ok	50 uL STD(2), 2.5 uL surr,950 uL sample
GH	124431	CC6650-10000		NA			0.002			14	ok	100 uL STD, 2.5 uL surr / 1 mL FV
GH	124432	MB2		NA			0.002			15	ok	
GH	124433	JD23913-6	5	NA	GC57859		0.002		1	16	ok	
GH	124434	JD23943-7	5	NA			0.002		1	17	ok	
GH	124435	JD23913-1	7	NA	GC57859		0.002		1	18	ok	
GH	124436	JD23913-8	6	NA	GC57859		0.002		1	19	ok	
GH	124437	JD23913-9	6	NA	GC57859		0.002		1	20	ok	
GH	124438	JD23913-10	6	NA	GC57859		0.002		1	21	ok	
GH	124439	JD23913-11	6	NA	GC57859		0.002		1	22	ok	
GH	124440	JD23913-12	6	NA	GC57859		0.002		1	23	ok	
GH	124441	CC6650-5000		NA			0.002			24	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124442	MB3		NA			0.002			25	ok	
GH	124443	JD23913-13	6	NA	GC57859		0.002		1	26	ok	
GH	124444	JD23956-5	8	NA	GC57865		0.002		1	27	ok	
GH	124445	JD23956-6	7	NA	GC57865		0.002		1	28	ok	
GH	124446	JD23956-1	23	NA	GC57865		0.002		1	29	ok	



Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124447	JD23956-2	7	NA	GC57865		0.002		1	30	ok	
GH	124448	JD23956-3	3	NA	GC57865		0.002		1	31	ok	
GH	124449	JD23956-4	5	NA	GC57865		0.002		1	32	ok	
GH	124450	CC6650-10000		NA			0.002			33	ok	100 uL STD, 2.5 uL surr / 1 mL FV



The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

7311180270

SGS Job Number: JD25405

Sampling Dates: 04/29/21 - 05/12/21

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Avenue Suite 900
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Eric Thompson

Total number of pages in report: **190**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Caitlin Brice, M.S.
General Manager

Client Service contact: Thelma Flaherty 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: JD25405

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD25405-1	04/29/21	10:55		05/20/21	AQ	Ground Water	SP11-C4B3-SB-20210429
JD25405-2	05/05/21	15:45		05/20/21	AQ	Ground Water	SP7-REGEN#5-RINSE5DUP-20210505
JD25405-3	05/05/21	17:15		05/20/21	AQ	Ground Water	SP7-REGEN#5-RINSE2D-20210505
JD25405-4	05/05/21	15:25		05/20/21	AQ	Ground Water	SP7-REGEN#5-RINSE1-20210505
JD25405-5	05/05/21	16:15		05/20/21	AQ	Ground Water	SP7-REGEN#5-RINSE10-20210505
JD25405-6	05/05/21	15:30		05/20/21	AQ	Ground Water	SP7-REGEN#5-RINSE2-20210505
JD25405-7	05/05/21	16:48		05/20/21	AQ	Ground Water	SP7-REGEN#5-RINSE15-20210505
JD25405-8	05/05/21	15:45		05/20/21	AQ	Ground Water	SP7-REGEN#5-RINSE2D-20210505
JD25405-9	05/12/21	10:55		05/20/21	AQ	Ground Water	SP11-C4B7-SB-20210512

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Wood Environment & Infrastructure Solut.	**Job No**	JD25405
Site:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH	**Report Date**	6/3/2021 10:11:55 AM

On 05/20/2021, 9 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JD25405 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

GC Volatiles By Method SW846-8015D (DAI)

Matrix: AQ **Batch ID:** GGH6696

- Sample(s) JD25405-2MS, JD25405-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for Isopropyl Alcohol are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- JD25405-2: Sample received outside the holding time.
- JD25405-9: (pH=5)Sample pH did not satisfy field preservation criteria. Dilution due to high concentration of target compound.

Matrix: AQ **Batch ID:** GGH6699

- All method blanks for this batch meet method specific criteria.
- Sample(s) JD25405-3MS, JD25405-3MSD were used as the QC samples indicated.
- Matrix Spike Duplicate Recovery(s) for Isopropyl Alcohol are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- JD25405-4: Sample received outside the holding time.
- JD25405-3: Sample received outside the holding time.
- JD25405-5: Sample received outside the holding time.
- JD25405-1: (pH=4)Sample pH did not satisfy field preservation criteria. Sample received outside the holding time. Dilution due to high concentration of target compound.

Matrix: AQ **Batch ID:** GGH6700

- All method blanks for this batch meet method specific criteria.
- Sample(s) JD25706-2MS, JD25706-2MSD were used as the QC samples indicated.
- JD25405-6: Sample received outside the holding time.
- JD25405-7: Sample received outside the holding time.
- JD25405-8: Sample received outside the holding time.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JD25405
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Collected: 04/29/21 thru 05/12/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
JD25405-1	**SP11-C4B3-SB-20210429**					
Isopropyl Alcohol [a]		91900000	200000	160000	ug/l	SW846-8015D (DAI)
JD25405-2	**SP7-REGEN#5-RINSE5DUP-20210505**					
Isopropyl Alcohol [b]		81800	200	160	ug/l	SW846-8015D (DAI)
JD25405-3	**SP7-REGEN#5-RINSE2D-20210505**					
Isopropyl Alcohol [b]		14100	200	160	ug/l	SW846-8015D (DAI)
JD25405-4	**SP7-REGEN#5-RINSE1-20210505**					
Isopropyl Alcohol [b]		1450000	20000	16000	ug/l	SW846-8015D (DAI)
JD25405-5	**SP7-REGEN#5-RINSE10-20210505**					
Isopropyl Alcohol [b]		21800	200	160	ug/l	SW846-8015D (DAI)
JD25405-6	**SP7-REGEN#5-RINSE2-20210505**					
Isopropyl Alcohol [b]		218000	4000	3200	ug/l	SW846-8015D (DAI)
JD25405-7	**SP7-REGEN#5-RINSE15-20210505**					
Isopropyl Alcohol [b]		15200	200	160	ug/l	SW846-8015D (DAI)
JD25405-8	**SP7-REGEN#5-RINSE2D-20210505**					
Isopropyl Alcohol [b]		85600	200	160	ug/l	SW846-8015D (DAI)
JD25405-9	**SP11-C4B7-SB-20210512**					
Isopropyl Alcohol [c]		295000	20000	16000	ug/l	SW846-8015D (DAI)

(a) (pH= 4)Sample pH did not satisfy field preservation criteria. Sample received outside the holding time. Dilution due to high concentration of target compound.
(b) Sample received outside the holding time.
(c) (pH= 5)Sample pH did not satisfy field preservation criteria. Dilution due to high concentration of target compound.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP11-C4B3-SB-20210429		
Lab Sample ID:	JD25405-1	**Date Sampled:**	04/29/21
Matrix:	AQ - Ground Water	**Date Received:**	05/20/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH124713.D	1000	05/29/21 16:38	RS	n/a	n/a	GGH6699
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	91900000	200000	160000	81000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	83%		56-145%

(a) (pH= 4)Sample pH did not satisfy field preservation criteria. Sample received outside the holding time.
Dilution due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-REGEN#5-RINSE5DUP-20210505		
Lab Sample ID:	JD25405-2	**Date Sampled:**	05/05/21
Matrix:	AQ - Ground Water	**Date Received:**	05/20/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH124604.D	1	05/25/21 12:37	RS	n/a	n/a	GGH6696
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	81800	200	160	81	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	94%		56-145%

(a) Sample received outside the holding time.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-REGEN#5-RINSE2D-20210505		
Lab Sample ID:	JD25405-3	**Date Sampled:**	05/05/21
Matrix:	AQ - Ground Water	**Date Received:**	05/20/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH124699.D	1	05/29/21 12:33	RS	n/a	n/a	GGH6699
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	14100	200	160	81	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	88%		56-145%

(a) Sample received outside the holding time.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-REGEN#5-RINSE1-20210505		
Lab Sample ID:	JD25405-4	**Date Sampled:**	05/05/21
Matrix:	AQ - Ground Water	**Date Received:**	05/20/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH124700.D	100	05/29/21 12:50	RS	n/a	n/a	GGH6699
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	1450000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	86%		56-145%

(a) Sample received outside the holding time.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-REGEN#5-RINSE10-20210505		
Lab Sample ID:	JD25405-5	**Date Sampled:**	05/05/21
Matrix:	AQ - Ground Water	**Date Received:**	05/20/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH124701.D	1	05/29/21 13:08	RS	n/a	n/a	GGH6699
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	21800	200	160	81	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	94%		56-145%

(a) Sample received outside the holding time.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-REGEN#5-RINSE2-20210505		
Lab Sample ID:	JD25405-6	**Date Sampled:**	05/05/21
Matrix:	AQ - Ground Water	**Date Received:**	05/20/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH124724.D	20	06/01/21 11:53	RS	n/a	n/a	GGH6700
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	218000	4000	3200	1600	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	76%		56-145%

(a) Sample received outside the holding time.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-REGEN#5-RINSE15-20210505		
Lab Sample ID:	JD25405-7	**Date Sampled:**	05/05/21
Matrix:	AQ - Ground Water	**Date Received:**	05/20/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH124720.D	1	06/01/21 10:44	RS	n/a	n/a	GGH6700
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	15200	200	160	81	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	92%		56-145%

(a) Sample received outside the holding time.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP7-REGEN#5-RINSE2D-20210505		
Lab Sample ID:	JD25405-8	**Date Sampled:**	05/05/21
Matrix:	AQ - Ground Water	**Date Received:**	05/20/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH124725.D	1	06/01/21 12:32	RS	n/a	n/a	GGH6700
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	85600	200	160	81	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	81%		56-145%

(a) Sample received outside the holding time.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP11-C4B7-SB-20210512		
Lab Sample ID:	JD25405-9	**Date Sampled:**	05/12/21
Matrix:	AQ - Ground Water	**Date Received:**	05/20/21
Method:	SW846-8015D (DAI)	**Percent Solids:**	n/a
Project:	ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	GH124605.D	100	05/25/21 13:26	RS	n/a	n/a	GGH6696
Run #2							

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-63-0	Isopropyl Alcohol	295000	20000	16000	8100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
111-27-3	Hexanol	90%		56-145%

(a) (pH= 5)Sample pH did not satisfy field preservation criteria. Dilution due to high concentration of target compound.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

GW

9304 4370 5057

JD 25405

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

SHIP TO: SGS
~~Clarkson University~~
~~CAARES Facility~~
~~8 Clarkson Avenue~~
~~Potsdam, New York 13699~~
~~Attn: Sujan Fernando~~

CHAIN OF CUSTODY

DATE:
COC #:
PAGE: 1 OF 1

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	~~FEDEX~~ Courier
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	PFAS DoD-4°C	Alkalinity, TDS, TSS, Cl, SO4, NO3	Hardness, Fe, Mn	TOC	IPA 8015	STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analytes
	~~1 SP1-GW-2020~~		WG	N	N	X	X	X	X							
	~~2 SP2-GW-2020~~		WG	N	N		X	X	X							
	~~3 SP3-GW-2020~~		WG	N	N	X										
1	4 SP11-C4B3-SB-20210429	4/29/21 10:55	GW	N	N					X	X				3	
2	5 SP7-Reg#S-Rinse5Dup-20210505	5/5/21 15:45	GW	N	N					X	X				3	
3	6 SP7-Reg#S-Rinse10-20210505	5/5/21 17:15	GW	N	N					X	X				3	
4	7 SP7-Reg#S-Rinse1-20210505	5/5/21 15:25	GW	N	N					X	X				3	
5	8 SP7-Reg#S-Rinse10-20210505	5/5/21 16:15	GW	N	N					X	X				3	
6	9 SP7-Reg#S-Rinse2-20210505	5/5/21 15:30	GW	N	N					X	X				3	
7	10 SP7-Reg#S-Rinse15-20210505	5/5/21 16:48	GW	N	N					X	X				3	
8	11 SP7-Reg#S-Rinse5-20210505	5/5/21 15:45	GW	N	N					X	X				3	
9	12 SP11-C4B7-SB-20210512	5/12/21 10:55	GW	N	N					X	X				3	

Methods for Analysis

RUSH

Sampler's Signature: Date: 5/20/21 Time: 13:30

Relinquished By/Affiliation: Wood E&IS Date: 5-20-21 Time: 1555

Received By: ~~Fed Ex~~ Date: 5/20/21 Time: 1555

Relinquished By/Affiliation: Date: 5/21/21 Time: 1750

Received By: Date: Time:

Relinquished By/Affiliation: Date: 5/21/21 Time: 1000

Received By (LAB): Jeemit Patel

For Lab Use

Does COC match samples:	Y or N
Broken Container	Y or N
COC seal intact	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	°C

Comments:
X=Analyze H=Hold Analysis Request PO # F013200721
Analyze all samples within 10 business days
Please report only the Pesse 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT: 1

send to New Jersey Lab for IPA analysis

GS# 15744

SGS-ACCUTEST MARLBOR 5/20 on ice

IR-4

INITIAL ASESSMENT

LABEL VERIFICATION

Tc

V702

3.3°C

IP

5.1 5

SGS Sample Receipt Summary

Job Number: JD25405 **Client:** WOOD **Project:** ESTCP SITE 8 PILOT

Date / Time Received: 5/20/2021 6:30:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.3);

Cooler Temps (Corrected) °C: Cooler 1: (2.6);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 212820 pH 12+: 203117A Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

5.1 5

JD25405: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Wood Environment & Infrastructure Solut.

Job No: JD25405

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD25405-1 Collected: 29-APR-21 10:55 By: SP11-C4B3-SB-20210429				Received: 20-MAY-21	By: JP	
JD25405-1	SW846-8015D (DAI)	29-MAY-21 16:38	RS			D8015IPA
JD25405-2 Collected: 05-MAY-21 15:45 By: SP7-REGEN#5-RINSE5DUP-20210505				Received: 20-MAY-21	By: JP	
JD25405-2	SW846-8015D (DAI)	25-MAY-21 12:37	RS			D8015IPA
JD25405-3 Collected: 05-MAY-21 17:15 By: SP7-REGEN#5-RINSE2D-20210505				Received: 20-MAY-21	By: JP	
JD25405-3	SW846-8015D (DAI)	29-MAY-21 12:33	RS			D8015IPA
JD25405-4 Collected: 05-MAY-21 15:25 By: SP7-REGEN#5-RINSE1-20210505				Received: 20-MAY-21	By: JP	
JD25405-4	SW846-8015D (DAI)	29-MAY-21 12:50	RS			D8015IPA
JD25405-5 Collected: 05-MAY-21 16:15 By: SP7-REGEN#5-RINSE10-20210505				Received: 20-MAY-21	By: JP	
JD25405-5	SW846-8015D (DAI)	29-MAY-21 13:08	RS			D8015IPA
JD25405-6 Collected: 05-MAY-21 15:30 By: SP7-REGEN#5-RINSE2-20210505				Received: 20-MAY-21	By: JP	
JD25405-6	SW846-8015D (DAI)	01-JUN-21 11:53	RS			D8015IPA
JD25405-7 Collected: 05-MAY-21 16:48 By: SP7-REGEN#5-RINSE15-20210505				Received: 20-MAY-21	By: JP	
JD25405-7	SW846-8015D (DAI)	01-JUN-21 10:44	RS			D8015IPA
JD25405-8 Collected: 05-MAY-21 15:45 By: SP7-REGEN#5-RINSE2D-20210505				Received: 20-MAY-21	By: JP	
JD25405-8	SW846-8015D (DAI)	01-JUN-21 12:32	RS			D8015IPA

Internal Sample Tracking Chronicle

Wood Environment & Infrastructure Solut.

Job No: JD25405

ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Project No: 7311180270

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD25405-9 Collected: 12-MAY-21 10:55 By: SP11-C4B7-SB-20210512				Received: 20-MAY-21	By: JP	
JD25405-9	SW846-8015D (DAI)	25-MAY-21 13:26	RS			D8015IPA

SGS Internal Chain of Custody

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Received: 05/20/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD25405-1.1	Secured Storage	Bridget Kelly	05/25/21 16:04	Retrieve from Storage
JD25405-1.1	Bridget Kelly	GCGH	05/25/21 16:04	Load on Instrument
JD25405-1.1	GCGH	Bridget Kelly	05/26/21 15:32	Unload from Instrument
JD25405-1.1	Bridget Kelly	Secured Storage	05/26/21 15:33	Return to Storage
JD25405-1.3	Secured Storage	Bridget Kelly	05/29/21 14:01	Retrieve from Storage
JD25405-1.3	Bridget Kelly	GCGH	05/29/21 14:01	Load on Instrument
JD25405-1.3	GCGH	Bridget Kelly	06/02/21 12:19	Unload from Instrument
JD25405-1.3	Bridget Kelly	Secured Storage	06/02/21 12:19	Return to Storage
JD25405-2.2	Secured Storage	Bridget Kelly	05/25/21 16:04	Retrieve from Storage
JD25405-2.2	Bridget Kelly	GCGH	05/25/21 16:04	Load on Instrument
JD25405-2.2	GCGH	Bridget Kelly	05/26/21 15:32	Unload from Instrument
JD25405-2.2	Bridget Kelly	Secured Storage	05/26/21 15:33	Return to Storage
JD25405-3.1	Secured Storage	Bridget Kelly	05/29/21 14:01	Retrieve from Storage
JD25405-3.1	Bridget Kelly	GCGH	05/29/21 14:01	Load on Instrument
JD25405-3.1	GCGH	Bridget Kelly	06/02/21 12:19	Unload from Instrument
JD25405-3.1	Bridget Kelly	Secured Storage	06/02/21 12:19	Return to Storage
JD25405-3.3	Secured Storage	Bridget Kelly	05/25/21 16:04	Retrieve from Storage
JD25405-3.3	Bridget Kelly	GCGH	05/25/21 16:04	Load on Instrument
JD25405-3.3	GCGH	Bridget Kelly	05/26/21 15:32	Unload from Instrument
JD25405-3.3	Bridget Kelly	Secured Storage	05/26/21 15:33	Return to Storage
JD25405-4.1	Secured Storage	Bridget Kelly	05/25/21 16:04	Retrieve from Storage
JD25405-4.1	Bridget Kelly	GCGH	05/25/21 16:04	Load on Instrument
JD25405-4.1	GCGH	Bridget Kelly	05/26/21 15:32	Unload from Instrument
JD25405-4.1	Bridget Kelly	Secured Storage	05/26/21 15:33	Return to Storage
JD25405-4.3	Secured Storage	Bridget Kelly	05/29/21 14:01	Retrieve from Storage
JD25405-4.3	Bridget Kelly	GCGH	05/29/21 14:01	Load on Instrument
JD25405-4.3	GCGH	Bridget Kelly	06/02/21 12:19	Unload from Instrument
JD25405-4.3	Bridget Kelly	Secured Storage	06/02/21 12:19	Return to Storage
JD25405-5.1	Secured Storage	Bridget Kelly	05/25/21 16:04	Retrieve from Storage
JD25405-5.1	Bridget Kelly	GCGH	05/25/21 16:04	Load on Instrument
JD25405-5.1	GCGH	Bridget Kelly	05/26/21 15:32	Unload from Instrument
JD25405-5.1	Bridget Kelly	Secured Storage	05/26/21 15:33	Return to Storage
JD25405-5.3	Secured Storage	Bridget Kelly	05/29/21 14:01	Retrieve from Storage
JD25405-5.3	Bridget Kelly	GCGH	05/29/21 14:01	Load on Instrument
JD25405-5.3	GCGH	Bridget Kelly	06/02/21 12:19	Unload from Instrument
JD25405-5.3	Bridget Kelly	Secured Storage	06/02/21 12:19	Return to Storage

SGS Internal Chain of Custody

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Received: 05/20/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD25405-6.3	Secured Storage	Bridget Kelly	05/25/21 16:04	Retrieve from Storage
JD25405-6.3	Bridget Kelly	GCGH	05/25/21 16:04	Load on Instrument
JD25405-6.3	GCGH	Bridget Kelly	05/26/21 15:32	Unload from Instrument
JD25405-6.3	Bridget Kelly	Secured Storage	05/26/21 15:33	Return to Storage
JD25405-7.1	Secured Storage	Bridget Kelly	05/25/21 16:04	Retrieve from Storage
JD25405-7.1	Bridget Kelly	GCGH	05/25/21 16:04	Load on Instrument
JD25405-7.1	GCGH	Bridget Kelly	05/26/21 15:32	Unload from Instrument
JD25405-7.1	Bridget Kelly	Secured Storage	05/26/21 15:33	Return to Storage
JD25405-8.3	Secured Storage	Bridget Kelly	05/25/21 16:04	Retrieve from Storage
JD25405-8.3	Bridget Kelly	GCGH	05/25/21 16:04	Load on Instrument
JD25405-8.3	GCGH	Bridget Kelly	05/26/21 15:32	Unload from Instrument
JD25405-8.3	Bridget Kelly	Secured Storage	05/26/21 15:33	Return to Storage
JD25405-9.1	Secured Storage	Bridget Kelly	05/25/21 16:04	Retrieve from Storage
JD25405-9.1	Bridget Kelly	GCGH	05/25/21 16:04	Load on Instrument
JD25405-9.1	GCGH	Bridget Kelly	05/26/21 15:32	Unload from Instrument
JD25405-9.1	Bridget Kelly	Secured Storage	05/26/21 15:33	Return to Storage

QC Evaluation: DOD QSM5.x Limits

Job Number: JD25405
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH
Collected: 04/29/21 thru 05/12/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No DOD QSM5.x Limits Found.

* Sample used for QC is not from job JD25405

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6696-MB2	GH124603.D	1	05/25/21	RS	n/a	n/a	GGH6696

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25405-2, JD25405-9

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	94%	56-145%

Method Blank Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6699-MB2	GH124698.D	1	05/29/21	RS	n/a	n/a	GGH6699

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25405-3, JD25405-4, JD25405-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	75%	56-145%

Method Blank Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6699-MB3	GH124705.D	1	05/29/21	RS	n/a	n/a	GGH6699

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25405-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	86%	56-145%

Method Blank Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6700-MB	GH124718.D	1	06/01/21	RS	n/a	n/a	GGH6700

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25405-6, JD25405-7, JD25405-8

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	88%	56-145%

Method Blank Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6696-MB	GH124593.D	1	05/25/21	RS	n/a	n/a	GGH6696

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

GGH6696-BS

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	83%	56-145%

Method Blank Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6699-MB	GH124688.D	1	05/29/21	RS	n/a	n/a	GGH6699

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

GGH6699-BS

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	86%	56-145%

Method Blank Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6700-MB2	GH124728.D	1	06/01/21	RS	n/a	n/a	GGH6700

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25706-2MS, JD25706-2MSD

CAS No.	Compound	Result	RL	MDL	Units	Q
67-63-0	Isopropyl Alcohol	ND	200	81	ug/l	

CAS No.	Surrogate Recoveries		Limits
111-27-3	Hexanol	86%	56-145%

Blank Spike Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6696-BS	GH124594.D	1	05/25/21	RS	n/a	n/a	GGH6696

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25405-2, JD25405-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	4590	92	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	90%	56-145%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6699-BS	GH124689.D	1	05/29/21	RS	n/a	n/a	GGH6699

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25405-1, JD25405-3, JD25405-4, JD25405-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	4230	85	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	79%	56-145%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGH6700-BS	GH124719.D	1	06/01/21	RS	n/a	n/a	GGH6700

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25405-6, JD25405-7, JD25405-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-63-0	Isopropyl Alcohol	5000	4430	89	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
111-27-3	Hexanol	84%	56-145%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD25405-2MS	GH124607.D	1	05/25/21	RS	n/a	n/a	GGH6696
JD25405-2MSD	GH124608.D	1	05/25/21	RS	n/a	n/a	GGH6696
JD25405-2 [a]	GH124604.D	1	05/25/21	RS	n/a	n/a	GGH6696

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25405-2, JD25405-9

CAS No.	Compound	JD25405-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	81800		5000	83100	26* [b]	5000	82900	22* [b]	0	70-133/28

CAS No.	Surrogate Recoveries	MS	MSD	JD25405-2	Limits
111-27-3	Hexanol	91%	96%	94%	56-145%

(a) Sample received outside the holding time.
(b) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD25405-3MS	GH124702.D	1	05/29/21	RS	n/a	n/a	GGH6699
JD25405-3MSD	GH124703.D	1	05/29/21	RS	n/a	n/a	GGH6699
JD25405-3 [a]	GH124699.D	1	05/29/21	RS	n/a	n/a	GGH6699

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25405-1, JD25405-3, JD25405-4, JD25405-5

CAS No.	Compound	JD25405-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	14100		5000	17900	76	5000	17400	66* [b]	3	70-133/28

CAS No.	Surrogate Recoveries	MS	MSD	JD25405-3	Limits
111-27-3	Hexanol	106%	80%	88%	56-145%

(a) Sample received outside the holding time.
(b) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD25706-2MS	GH124731.D	1	06/01/21	RS	n/a	n/a	GGH6700
JD25706-2MSD	GH124732.D	1	06/01/21	RS	n/a	n/a	GGH6700
JD25706-2	GH124729.D	1	06/01/21	RS	n/a	n/a	GGH6700

The QC reported here applies to the following samples: **Method:** SW846-8015D (DAI)

JD25405-6, JD25405-7, JD25405-8

CAS No.	Compound	JD25706-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-63-0	Isopropyl Alcohol	200	U	5000	4360	87	5000	4410	88	1	70-133/28

CAS No.	Surrogate Recoveries	MS	MSD	JD25706-2	Limits
111-27-3	Hexanol	84%	72%	76%	56-145%

* = Outside of Control Limits.

Surrogate Recovery Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Method: SW846-8015D (DAI) **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
JD25405-1	GH124713.D	83
JD25405-2	GH124604.D	94
JD25405-3	GH124699.D	88
JD25405-4	GH124700.D	86
JD25405-5	GH124701.D	94
JD25405-6	GH124724.D	76
JD25405-7	GH124720.D	92
JD25405-8	GH124725.D	81
JD25405-9	GH124605.D	90
GGH6696-BS	GH124594.D	90
GGH6696-MB2	GH124603.D	94
GGH6699-BS	GH124689.D	79
GGH6699-MB2	GH124698.D	75
GGH6699-MB3	GH124705.D	86
GGH6700-BS	GH124719.D	84
GGH6700-MB	GH124718.D	88
JD25405-2MS	GH124607.D	91
JD25405-2MSD	GH124608.D	96
JD25405-3MS	GH124702.D	106
JD25405-3MSD	GH124703.D	80
JD25706-2MS	GH124731.D	84
JD25706-2MSD	GH124732.D	72
GGH6696-MB	GH124593.D	83
GGH6699-MB	GH124688.D	86
GGH6700-MB2	GH124728.D	86

Surrogate Compounds	Recovery Limits
S1 = Hexanol	56-145%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6696-CC6650	**Injection Date:**	05/25/21
Lab File ID:	GH124592.D	**Injection Time:**	09:06
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.37

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6696-MB	GH124593.D	05/25/21	09:24	6.37
GGH6696-BS	GH124594.D	05/25/21	09:41	6.37
ZZZZZZ	GH124595.D	05/25/21	09:59	6.37
ZZZZZZ	GH124596.D	05/25/21	10:16	6.37
ZZZZZZ	GH124598.D	05/25/21	10:51	6.37
ZZZZZZ	GH124599.D	05/25/21	11:08	6.37
ZZZZZZ	GH124600.D	05/25/21	11:25	6.37

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6696-CC6650	**Injection Date:**	05/25/21
Lab File ID:	GH124602.D	**Injection Time:**	12:00
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.37

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6696-MB2	GH124603.D	05/25/21	12:19	6.37
JD25405-2	GH124604.D	05/25/21	12:37	6.37
JD25405-9	GH124605.D	05/25/21	13:26	6.37
ZZZZZZ	GH124606.D	05/25/21	13:43	6.37
JD25405-2MS	GH124607.D	05/25/21	14:00	6.37
JD25405-2MSD	GH124608.D	05/25/21	14:18	6.36
ZZZZZZ	GH124609.D	05/25/21	14:35	6.37

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6699-CC6650	**Injection Date:**	05/29/21
Lab File ID:	GH124687.D	**Injection Time:**	08:54
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.36

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6699-MB	GH124688.D	05/29/21	09:12	6.36
GGH6699-BS	GH124689.D	05/29/21	09:29	6.36
ZZZZZZ	GH124690.D	05/29/21	09:53	6.36
ZZZZZZ	GH124691.D	05/29/21	10:10	6.36
ZZZZZZ	GH124692.D	05/29/21	10:28	6.36
ZZZZZZ	GH124693.D	05/29/21	10:49	6.36
ZZZZZZ	GH124694.D	05/29/21	11:06	6.36

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6699-CC6650	**Injection Date:**	05/29/21
Lab File ID:	GH124697.D	**Injection Time:**	11:58
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.36

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6699-MB2	GH124698.D	05/29/21	12:15	6.36
JD25405-3	GH124699.D	05/29/21	12:33	6.36
JD25405-4	GH124700.D	05/29/21	12:50	6.36
JD25405-5	GH124701.D	05/29/21	13:08	6.36
JD25405-3MS	GH124702.D	05/29/21	13:25	6.36
JD25405-3MSD	GH124703.D	05/29/21	13:43	6.36

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6699-CC6650	**Injection Date:**	05/29/21
Lab File ID:	GH124704.D	**Injection Time:**	14:00
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.36

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6699-MB3	GH124705.D	05/29/21	14:18	6.36
ZZZZZZ	GH124706.D	05/29/21	14:35	6.36
ZZZZZZ	GH124707.D	05/29/21	14:53	6.36
ZZZZZZ	GH124708.D	05/29/21	15:10	6.36
ZZZZZZ	GH124709.D	05/29/21	15:28	6.36
ZZZZZZ	GH124710.D	05/29/21	15:45	6.36
ZZZZZZ	GH124711.D	05/29/21	16:03	6.37
ZZZZZZ	GH124712.D	05/29/21	16:20	6.37
JD25405-1	GH124713.D	05/29/21	16:38	6.36

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6700-CC6650	**Injection Date:**	06/01/21
Lab File ID:	GH124717.D	**Injection Time:**	09:14
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.37

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6700-MB	GH124718.D	06/01/21	09:43	6.36
GGH6700-BS	GH124719.D	06/01/21	10:00	6.37
JD25405-7	GH124720.D	06/01/21	10:44	6.36
ZZZZZZ	GH124721.D	06/01/21	11:01	6.36
ZZZZZZ	GH124722.D	06/01/21	11:18	6.37
ZZZZZZ	GH124723.D	06/01/21	11:36	6.36
JD25405-6	GH124724.D	06/01/21	11:53	6.36
JD25405-8	GH124725.D	06/01/21	12:32	6.37

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Check Std:	GGH6700-CC6650	**Injection Date:**	06/01/21
Lab File ID:	GH124727.D	**Injection Time:**	14:26
Instrument ID:	GCGH	**Method:**	SW846-8015D (DAI)

	S1 [a] **RT**
Check Std	6.37

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
GGH6700-MB2	GH124728.D	06/01/21	15:03	6.37
JD25706-2	GH124729.D	06/01/21	15:20	6.37
ZZZZZZ	GH124730.D	06/01/21	15:37	6.37
JD25706-2MS	GH124731.D	06/01/21	15:54	6.37
JD25706-2MSD	GH124732.D	06/01/21	16:12	6.37

Surrogate Compounds

S1 = Hexanol

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: JD25405 **Sample:** GGH6650-ICC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123505.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Response Factor Report HP5890

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Fri Jan 22 08:22:19 2021
Response via : Initial Calibration

Calibration Files
500 =GH123503.D 5000=GH123505.D 200 =GH123502.D 1000=GH123504.D
10k =GH123506.D 50k =GH123507.D 100k=GH123508.D =

Compound	500	5000	200	1000	10k	50k	100k	Avg	%RSD
1) Methanol	1.315	1.496	1.528	1.248	1.329	1.381	1.316	1.373 E1	7.50
2) Ethanol	1.772	1.923	1.366	1.788	1.725	1.904	1.829	1.758 E1	10.63
3) 2-Propanol	1.990	1.987	1.975	1.736	2.072	1.938	1.928	1.947 E1	5.34
4) Tert-Butyl A	2.605	2.786	2.938	2.716	2.797	2.704	2.756	2.757 E1	3.72
5) 1-Propanol	2.416	2.354	2.433	2.403	2.343	2.361	2.346	2.379 E1	1.56
6) 2-Butanol	2.452	2.403	2.486	2.579	2.410	2.410	2.425	2.452 E1	2.58
7) Isobutanol	2.799	2.850	2.945	2.854	2.784	2.787	2.815	2.833 E1	2.00
8) 1-butanol	2.768	2.761	3.495	2.846	2.788	2.697	2.681	2.862 E1	9.94
9) Hexanol	7.457	7.547	7.256	7.629	7.485	7.454	8.004	7.547 E1	3.07

(#) = Out of Range ### Number of calibration levels exceeded format ###

MGH6650.M Wed Jan 27 14:52:21 2021 RPT1

Initial Calibration Verification

Job Number: JD25405 **Sample:** GGH6650-ICV6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH123511.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Fri Jan 22 08:22:19 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.445	2.1	90	0.00	1.17- 1.57
2	Ethanol	17.581	17.316	1.5	90	0.00	1.63- 2.03
3	2-Propanol	19.467	18.161	6.7	91	0.00	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.933	6.0	93	0.00	2.27- 2.67
5	1-Propanol	23.795	22.052	7.3	94	0.00	2.89- 3.29
6	2-Butanol	24.522	22.588	7.9	94	0.00	3.32- 3.72
7	Isobutanol	28.333	26.335	7.1	92	0.00	3.79- 4.19
8	1-butanol	28.623	26.300	8.1	95	0.00	4.32- 4.72
9 S	Hexanol	75.474	70.559	6.5	93	0.00	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123511.D MGH6650.M Wed Jan 27 14:49:38 2021 RPT1

Continuing Calibration Summary

Job Number: JD25405 **Sample:** GGH6696-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124592.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124592.D Vial: 38
Acq On : 25-May-2021, 09:06:55 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	13.070	4.8	87	0.05	1.17- 1.57
2	Ethanol	17.581	18.217	-3.6	95	0.05	1.63- 2.03
3	2-Propanol	19.467	21.132	-8.6	106	0.05	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	35.632	-29.2#	128	0.05	2.27- 2.67
5	1-Propanol	23.795	22.785	4.2	97	0.05	2.89- 3.29
6	2-Butanol	24.522	21.968	10.4	91	0.05	3.32- 3.72
7	Isobutanol	28.333	24.939	12.0	88	0.04	3.79- 4.19
8	1-butanol	28.623	25.641	10.4	93	0.04	4.32- 4.72
9 S	Hexanol	75.474	62.793	16.8	83	0.03	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Tue May 25 16:15:08 2021 RPT1

Continuing Calibration Summary

Job Number: JD25405 **Sample:** GGH6696-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124602.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\1\DATA\GGH6696\GH124602.D          Vial: 48
Acq On    : 25-May-2021, 12:00:20                    Operator: RobertS
Sample    : cc6650-10000                             Inst    : HP5890
Misc      : GC57971,GGH6696,5.0,,,,1                 Multiplr: 1.00
IntFile   : EVENTS.E

Method       : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title        : Alcohols by Direct Injection
Last Update  : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.451	9.3	94	0.03	1.17- 1.57
2	Ethanol	17.581	17.124	2.6	99	0.04	1.63- 2.03
3	2-Propanol	19.467	17.831	8.4	86	0.05	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.641	7.0	92	0.05	2.27- 2.67
5	1-Propanol	23.795	21.546	9.5	92	0.04	2.89- 3.29
6	2-Butanol	24.522	21.825	11.0	91	0.04	3.32- 3.72
7	Isobutanol	28.333	25.626	9.6	92	0.04	3.79- 4.19
8	1-butanol	28.623	25.035	12.5	90	0.03	4.32- 4.72
9 S	Hexanol	75.474	66.947	11.3	89	0.02	6.14- 6.54

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 GH123506.D MGH6650.M       Tue May 25 16:15:43 2021   RPT1
```

Continuing Calibration Summary

Job Number: JD25405 **Sample:** GGH6696-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124610.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124610.D Vial: 56
Acq On : 25-May-2021, 15:05:24 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57954,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.756	7.1	85	0.05	1.17- 1.57
2	Ethanol	17.581	17.294	1.6	90	0.04	1.63- 2.03
3	2-Propanol	19.467	17.651	9.3	89	0.04	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.245	8.4	91	0.04	2.27- 2.67
5	1-Propanol	23.795	27.025	-13.6	115	0.04	2.89- 3.29
6	2-Butanol	24.522	23.040	6.0	96	0.04	3.32- 3.72
7	Isobutanol	28.333	25.138	11.3	88	0.03	3.79- 4.19
8	1-butanol	28.623	26.032	9.1	94	0.03	4.32- 4.72
9 S	Hexanol	75.474	68.103	9.8	90	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Tue May 25 16:15:09 2021 RPT1

Continuing Calibration Summary

Job Number: JD25405 **Sample:** GGH6699-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124687.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124687.D Vial: 43
Acq On : 29-May-2021, 08:54:59 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC58012,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.144	11.6	91	0.03	1.17- 1.57
2	Ethanol	17.581	17.312	1.5	100	0.03	1.63- 2.03
3	2-Propanol	19.467	17.997	7.6	87	0.03	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	26.200	5.0	94	0.03	2.27- 2.67
5	1-Propanol	23.795	24.845	-4.4	106	0.03	2.89- 3.29
6	2-Butanol	24.522	23.067	5.9	96	0.03	3.32- 3.72
7	Isobutanol	28.333	26.184	7.6	94	0.02	3.79- 4.19
8	1-butanol	28.623	24.902	13.0	89	0.02	4.32- 4.72
9 S	Hexanol	75.474	69.098	8.4	92	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Wed Jun 02 09:30:40 2021 RPT1

Continuing Calibration Summary

Job Number: JD25405 **Sample:** GGH6699-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124697.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124697.D Vial: 53
Acq On : 29-May-2021, 11:58:32 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	11.624	15.4	78	0.05	1.17- 1.57
2	Ethanol	17.581	16.723	4.9	87	0.04	1.63- 2.03
3	2-Propanol	19.467	17.470	10.3	88	0.04	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.732	6.7	92	0.03	2.27- 2.67
5	1-Propanol	23.795	21.959	7.7	93	0.03	2.89- 3.29
6	2-Butanol	24.522	22.131	9.8	92	0.03	3.32- 3.72
7	Isobutanol	28.333	26.023	8.2	91	0.03	3.79- 4.19
8	1-butanol	28.623	25.579	10.6	93	0.02	4.32- 4.72
9 S	Hexanol	75.474	65.112	13.7	86	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Wed Jun 02 09:30:04 2021 RPT1

Continuing Calibration Summary

Job Number: JD25405 **Sample:** GGH6699-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124704.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124704.D Vial: 60
Acq On : 29-May-2021, 14:00:37 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.061	12.2	91	0.04	1.17- 1.57
2	Ethanol	17.581	17.029	3.1	99	0.04	1.63- 2.03
3	2-Propanol	19.467	17.704	9.1	85	0.04	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.489	7.6	91	0.03	2.27- 2.67
5	1-Propanol	23.795	21.184	11.0	90	0.04	2.89- 3.29
6	2-Butanol	24.522	21.263	13.3	88	0.03	3.32- 3.72
7	Isobutanol	28.333	24.668	12.9	89	0.03	3.79- 4.19
8	1-butanol	28.623	22.993	19.7	82	0.03	4.32- 4.72
9 S	Hexanol	75.474	68.586	9.1	92	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Wed Jun 02 09:30:41 2021 RPT1

Continuing Calibration Summary

Job Number: JD25405 **Sample:** GGH6699-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124714.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124714.D Vial: 70
Acq On : 29-May-2021, 16:55:36 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC58019,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	11.749	14.4	79	0.05	1.17- 1.57
2	Ethanol	17.581	16.187	7.9	84	0.04	1.63- 2.03
3	2-Propanol	19.467	17.350	10.9	87	0.04	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.465	7.6	91	0.04	2.27- 2.67
5	1-Propanol	23.795	21.979	7.6	93	0.04	2.89- 3.29
6	2-Butanol	24.522	21.984	10.3	91	0.04	3.32- 3.72
7	Isobutanol	28.333	25.543	9.8	90	0.03	3.79- 4.19
8	1-butanol	28.623	25.075	12.4	91	0.03	4.32- 4.72
9 S	Hexanol	75.474	70.741	6.3	94	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Wed Jun 02 09:30:05 2021 RPT1

Continuing Calibration Summary

Job Number: JD25405 **Sample:** GGH6700-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124717.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124717.D Vial: 3
Acq On : 01-Jun-2021, 09:14:54 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC58012,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.341	10.1	93	0.05	1.17- 1.57
2	Ethanol	17.581	16.494	6.2	96	0.04	1.63- 2.03
3	2-Propanol	19.467	17.292	11.2	83	0.04	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	24.777	10.1	89	0.04	2.27- 2.67
5	1-Propanol	23.795	20.903	12.2	89	0.04	2.89- 3.29
6	2-Butanol	24.522	21.479	12.4	89	0.04	3.32- 3.72
7	Isobutanol	28.333	25.033	11.6	90	0.04	3.79- 4.19
8	1-butanol	28.623	24.591	14.1	88	0.04	4.32- 4.72
9 S	Hexanol	75.474	62.526	17.2	84	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Wed Jun 02 16:35:56 2021 RPT1

Continuing Calibration Summary

Job Number: JD25405 **Sample:** GGH6700-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124727.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124727.D Vial: 13
Acq On : 01-Jun-2021, 14:26:14 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.228	11.0	82	0.04	1.17- 1.57
2	Ethanol	17.581	16.137	8.2	84	0.04	1.63- 2.03
3	2-Propanol	19.467	16.914	13.1	85	0.04	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	24.565	10.9	88	0.03	2.27- 2.67
5	1-Propanol	23.795	21.141	11.2	90	0.04	2.89- 3.29
6	2-Butanol	24.522	21.718	11.4	90	0.03	3.32- 3.72
7	Isobutanol	28.333	25.425	10.3	89	0.03	3.79- 4.19
8	1-butanol	28.623	25.433	11.1	92	0.03	4.32- 4.72
9 S	Hexanol	75.474	62.675	17.0	83	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123505.D MGH6650.M Wed Jun 02 16:35:21 2021 RPT1

Continuing Calibration Summary

Job Number: JD25405 **Sample:** GGH6700-CC6650
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** GH124733.D
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124733.D Vial: 19
Acq On : 01-Jun-2021, 16:29:35 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC58014,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Methanol	13.732	12.276	10.6	92	0.05	1.17- 1.57
2	Ethanol	17.581	16.878	4.0	98	0.04	1.63- 2.03
3	2-Propanol	19.467	17.633	9.4	85	0.04	2.00- 2.40
4	Tert-Butyl Alcohol	27.574	25.260	8.4	90	0.04	2.27- 2.67
5	1-Propanol	23.795	20.847	12.4	89	0.04	2.89- 3.29
6	2-Butanol	24.522	21.993	10.3	91	0.04	3.32- 3.72
7	Isobutanol	28.333	26.957	4.9	97	0.04	3.79- 4.19
8	1-butanol	28.623	24.915	13.0	89	0.03	4.32- 4.72
9 S	Hexanol	75.474	62.385	17.3	83	0.02	6.14- 6.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GH123506.D MGH6650.M Wed Jun 02 16:35:57 2021 RPT1

Run Sequence Report

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6650 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6650-IC6650	GH123502.D	01/21/21 18:20	n/a	Initial cal 200
GGH6650-IC6650	GH123503.D	01/21/21 18:37	n/a	Initial cal 500
GGH6650-IC6650	GH123504.D	01/21/21 18:55	n/a	Initial cal 1000
GGH6650-ICC6650	GH123505.D	01/21/21 19:12	n/a	Initial cal 5000
GGH6650-IC6650	GH123506.D	01/21/21 19:30	n/a	Initial cal 10000
GGH6650-IC6650	GH123507.D	01/21/21 19:47	n/a	Initial cal 50000
GGH6650-IC6650	GH123508.D	01/21/21 20:05	n/a	Initial cal 100000
GGH6650-ICV6650	GH123511.D	01/21/21 20:57	n/a	Initial cal verification 5000

Run Sequence Report

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6696 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6696-CC6650	GH124592.D	05/25/21 09:06	n/a	Continuing cal 5000
GGH6696-MB	GH124593.D	05/25/21 09:24	n/a	Method Blank
GGH6696-BS	GH124594.D	05/25/21 09:41	n/a	Blank Spike
ZZZZZZ	GH124595.D	05/25/21 09:59	n/a	(unrelated sample)
ZZZZZZ	GH124596.D	05/25/21 10:16	n/a	(unrelated sample)
ZZZZZZ	GH124598.D	05/25/21 10:51	n/a	(unrelated sample)
ZZZZZZ	GH124599.D	05/25/21 11:08	n/a	(unrelated sample)
ZZZZZZ	GH124600.D	05/25/21 11:25	n/a	(unrelated sample)
GGH6696-CC6650	GH124602.D	05/25/21 12:00	n/a	Continuing cal 10000
GGH6696-MB2	GH124603.D	05/25/21 12:19	n/a	Method Blank
JD25405-2	GH124604.D	05/25/21 12:37	n/a	SP7-REGEN#5-RINSE5DUP-20210505
JD25405-9	GH124605.D	05/25/21 13:26	n/a	SP11-C4B7-SB-20210512
ZZZZZZ	GH124606.D	05/25/21 13:43	n/a	(unrelated sample)
JD25405-2MS	GH124607.D	05/25/21 14:00	n/a	Matrix Spike
JD25405-2MSD	GH124608.D	05/25/21 14:18	n/a	Matrix Spike Duplicate
ZZZZZZ	GH124609.D	05/25/21 14:35	n/a	(unrelated sample)
GGH6696-CC6650	GH124610.D	05/25/21 15:05	n/a	Continuing cal 5000
GGH6696-MB3	GH124611.D	05/25/21 15:26	n/a	Method Blank
ZZZZZZ	GH124612.D	05/25/21 15:44	n/a	(unrelated sample)
ZZZZZZ	GH124613.D	05/25/21 16:01	n/a	(unrelated sample)
ZZZZZZ	GH124614.D	05/25/21 16:19	n/a	(unrelated sample)
ZZZZZZ	GH124615.D	05/25/21 16:36	n/a	(unrelated sample)
ZZZZZZ	GH124616.D	05/25/21 16:53	n/a	(unrelated sample)
GGH6696-CC6650	GH124619.D	05/25/21 17:46	n/a	Continuing cal 10000

Run Sequence Report

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6699 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6699-CC6650	GH124687.D	05/29/21 08:54	n/a	Continuing cal 10000
GGH6699-MB	GH124688.D	05/29/21 09:12	n/a	Method Blank
GGH6699-BS	GH124689.D	05/29/21 09:29	n/a	Blank Spike
ZZZZZZ	GH124690.D	05/29/21 09:53	n/a	(unrelated sample)
ZZZZZZ	GH124691.D	05/29/21 10:10	n/a	(unrelated sample)
ZZZZZZ	GH124692.D	05/29/21 10:28	n/a	(unrelated sample)
ZZZZZZ	GH124693.D	05/29/21 10:49	n/a	(unrelated sample)
ZZZZZZ	GH124694.D	05/29/21 11:06	n/a	(unrelated sample)
GGH6699-CC6650	GH124697.D	05/29/21 11:58	n/a	Continuing cal 5000
GGH6699-MB2	GH124698.D	05/29/21 12:15	n/a	Method Blank
JD25405-3	GH124699.D	05/29/21 12:33	n/a	SP7-REGEN#5-RINSE2D-20210505
JD25405-4	GH124700.D	05/29/21 12:50	n/a	SP7-REGEN#5-RINSE1-20210505
JD25405-5	GH124701.D	05/29/21 13:08	n/a	SP7-REGEN#5-RINSE10-20210505
JD25405-3MS	GH124702.D	05/29/21 13:25	n/a	Matrix Spike
JD25405-3MSD	GH124703.D	05/29/21 13:43	n/a	Matrix Spike Duplicate
GGH6699-CC6650	GH124704.D	05/29/21 14:00	n/a	Continuing cal 10000
GGH6699-MB3	GH124705.D	05/29/21 14:18	n/a	Method Blank
ZZZZZZ	GH124706.D	05/29/21 14:35	n/a	(unrelated sample)
ZZZZZZ	GH124707.D	05/29/21 14:53	n/a	(unrelated sample)
ZZZZZZ	GH124708.D	05/29/21 15:10	n/a	(unrelated sample)
ZZZZZZ	GH124709.D	05/29/21 15:28	n/a	(unrelated sample)
ZZZZZZ	GH124710.D	05/29/21 15:45	n/a	(unrelated sample)
ZZZZZZ	GH124711.D	05/29/21 16:03	n/a	(unrelated sample)
ZZZZZZ	GH124712.D	05/29/21 16:20	n/a	(unrelated sample)
JD25405-1	GH124713.D	05/29/21 16:38	n/a	SP11-C4B3-SB-20210429
GGH6699-CC6650	GH124714.D	05/29/21 16:55	n/a	Continuing cal 5000

Run Sequence Report

Job Number: JD25405
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP Site 8 Pilot, PFAS Removal; Pease AFB, NH

Run ID: GGH6700 **Method:** SW846-8015D (DAI) **Instrument ID:** GCGH

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
GGH6700-CC6650	GH124717.D	06/01/21 09:14	n/a	Continuing cal 10000
GGH6700-MB	GH124718.D	06/01/21 09:43	n/a	Method Blank
GGH6700-BS	GH124719.D	06/01/21 10:00	n/a	Blank Spike
JD25405-7	GH124720.D	06/01/21 10:44	n/a	SP7-REGEN#5-RINSE15-20210505
ZZZZZZ	GH124721.D	06/01/21 11:01	n/a	(unrelated sample)
ZZZZZZ	GH124722.D	06/01/21 11:18	n/a	(unrelated sample)
ZZZZZZ	GH124723.D	06/01/21 11:36	n/a	(unrelated sample)
JD25405-6	GH124724.D	06/01/21 11:53	n/a	SP7-REGEN#5-RINSE2-20210505
JD25405-8	GH124725.D	06/01/21 12:32	n/a	SP7-REGEN#5-RINSE2D-20210505
GGH6700-CC6650	GH124727.D	06/01/21 14:26	n/a	Continuing cal 5000
GGH6700-MB2	GH124728.D	06/01/21 15:03	n/a	Method Blank
JD25706-2	GH124729.D	06/01/21 15:20	n/a	(used for QC only; not part of job JD25405)
ZZZZZZ	GH124730.D	06/01/21 15:37	n/a	(unrelated sample)
JD25706-2MS	GH124731.D	06/01/21 15:54	n/a	Matrix Spike
JD25706-2MSD	GH124732.D	06/01/21 16:12	n/a	Matrix Spike Duplicate
GGH6700-CC6650	GH124733.D	06/01/21 16:29	n/a	Continuing cal 10000
GGH6700-MB3	GH124734.D	06/01/21 16:49	n/a	Method Blank
ZZZZZZ	GH124735.D	06/01/21 17:06	n/a	(unrelated sample)
ZZZZZZ	GH124736.D	06/01/21 17:23	n/a	(unrelated sample)
ZZZZZZ	GH124737.D	06/01/21 17:41	n/a	(unrelated sample)
ZZZZZZ	GH124738.D	06/01/21 17:58	n/a	(unrelated sample)
ZZZZZZ	GH124739.D	06/01/21 18:15	n/a	(unrelated sample)
ZZZZZZ	GH124740.D	06/01/21 18:32	n/a	(unrelated sample)
GGH6700-CC6650	GH124742.D	06/01/21 19:07	n/a	Continuing cal 5000

GC Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124713.D Vial: 69
Acq On : 29-May-2021, 16:38:09 Operator: RobertS
Sample : jd25405-1 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1000 Multiplr: 1000.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	314588	4168.150 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	83.36%
Target Compounds			
3) 2-Propanol	2.24	1789149	91906684.210 ug/L

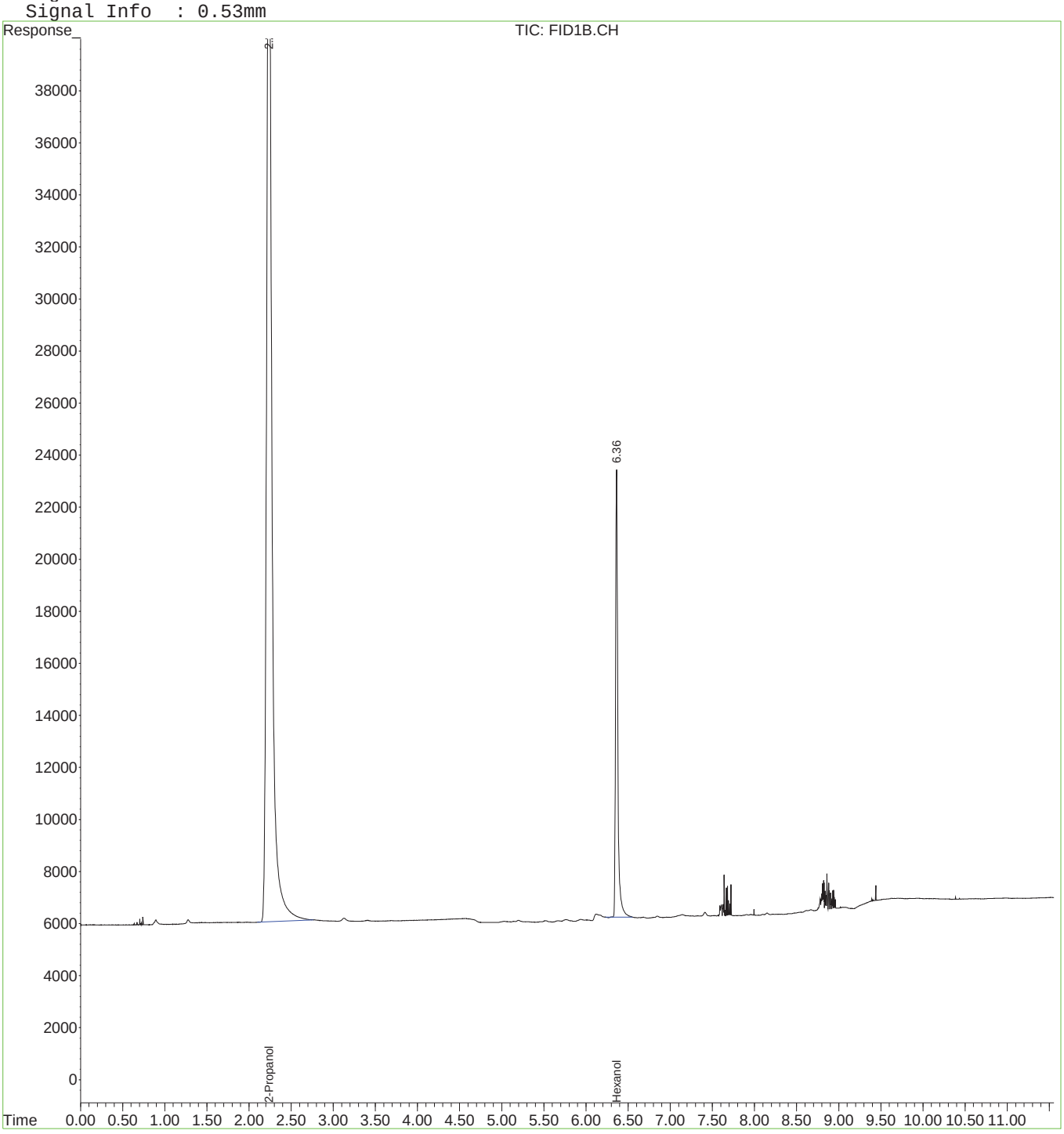
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124713.D MGH6650.M Wed Jun 02 15:44:40 2021 RPT1

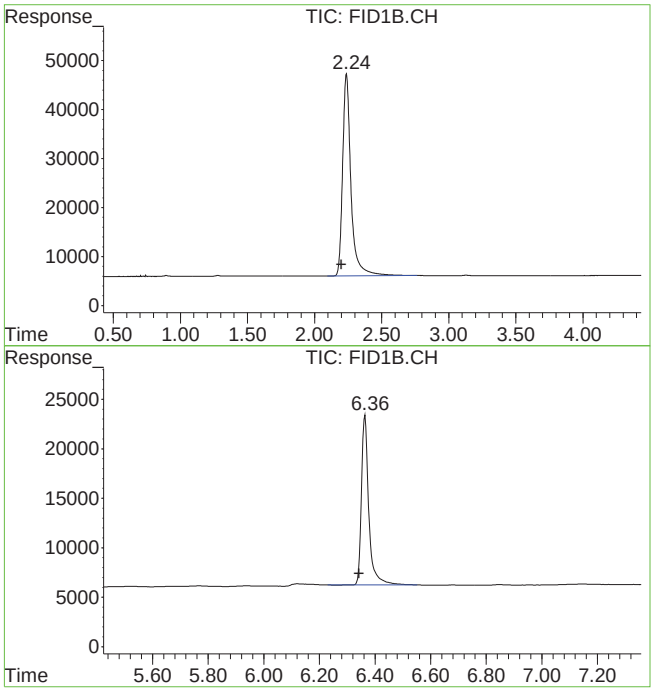
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124713.D Vial: 69
Acq On : 29-May-2021, 16:38:09 Operator: RobertS
Sample : jd25405-1 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1000 Multiplr: 1000.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.238 min
Delta R.T.: 0.037 min
Response: 1789149
Conc: 91906684.21 ug/L

#9 Hexanol

R.T.: 6.364 min
Delta R.T.: 0.021 min
Response: 314588
Conc: 4168.15 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124604.D Vial: 50
Acq On : 25-May-2021, 12:37:09 Operator: RobertS
Sample : jd25405-2 Inst : HP5890
Misc : GC57993,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13:51 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	353908	4689.116 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 93.78%	
Target Compounds			
3) 2-Propanol	2.24	1592203	81789.817 ug/L

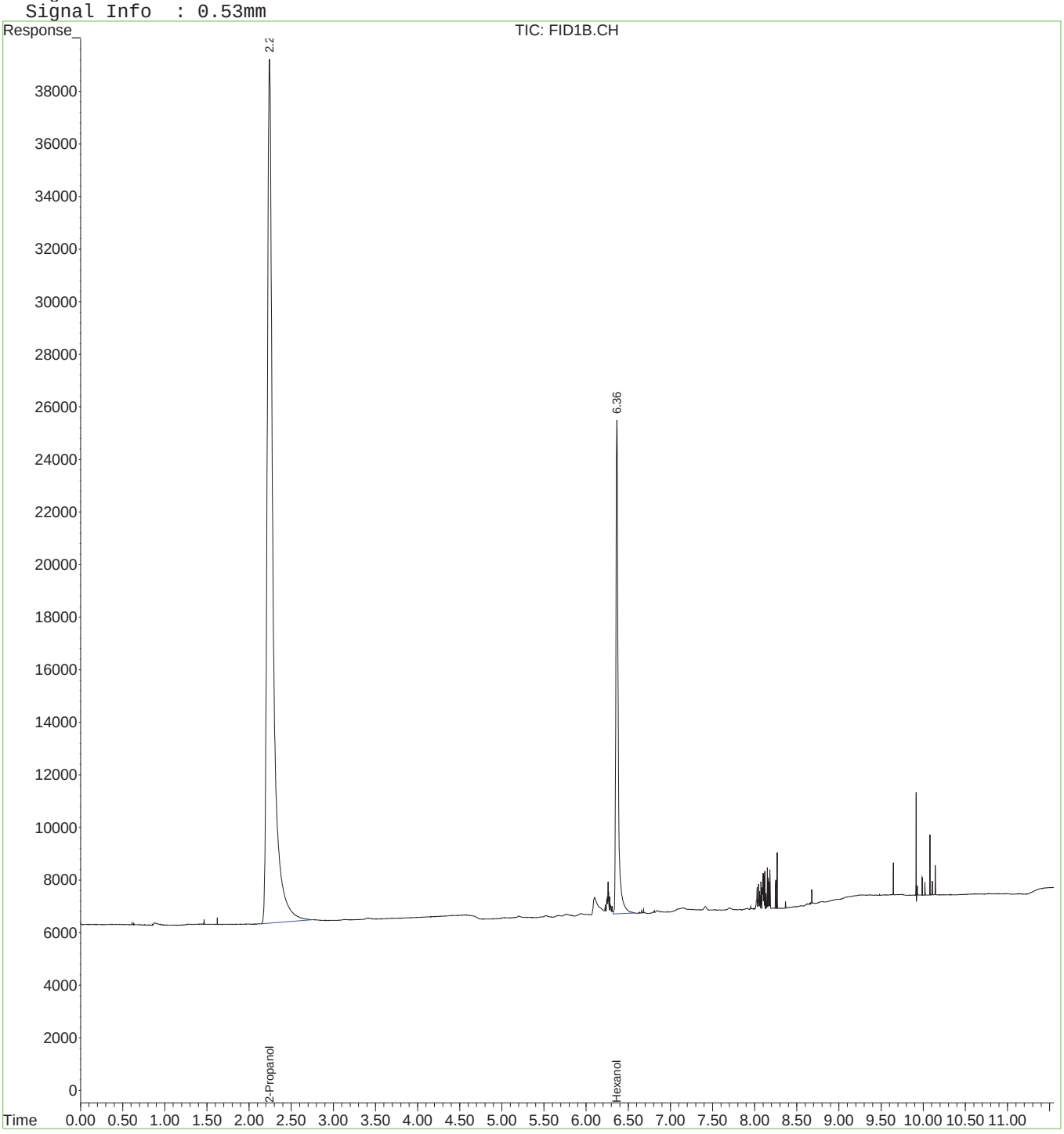
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124604.D MGH6650.M Tue May 25 16:17:55 2021 RPT1

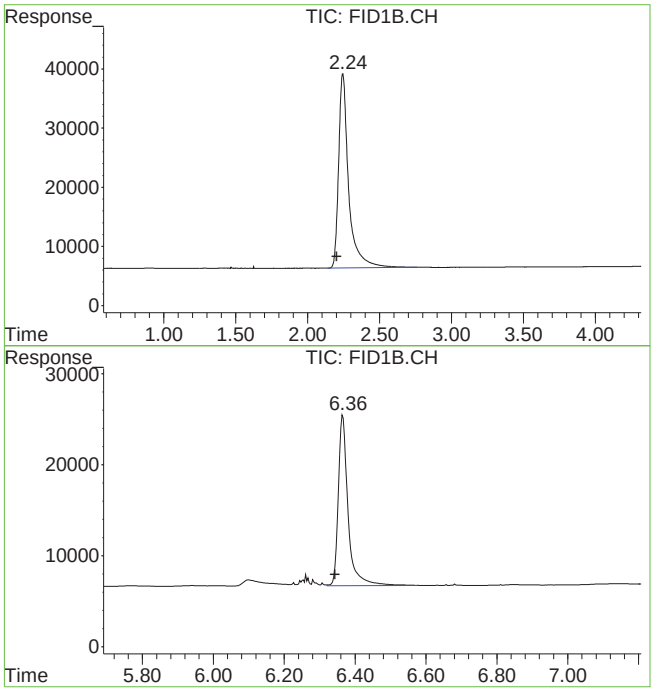
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124604.D Vial: 50
Acq On : 25-May-2021, 12:37:09 Operator: RobertS
Sample : jd25405-2 Inst : HP5890
Misc : GC57993,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.244 min
Delta R.T.: 0.043 min
Response: 1592203
Conc: 81789.82 ug/L

#9 Hexanol

R.T.: 6.366 min
Delta R.T.: 0.023 min
Response: 353908
Conc: 4689.12 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124699.D Vial: 55
Acq On : 29-May-2021, 12:33:24 Operator: RobertS
Sample : jd25405-3 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:17 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	333340	4416.605 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	88.33%
Target Compounds			
3) 2-Propanol	2.24	274497	14100.624 ug/L

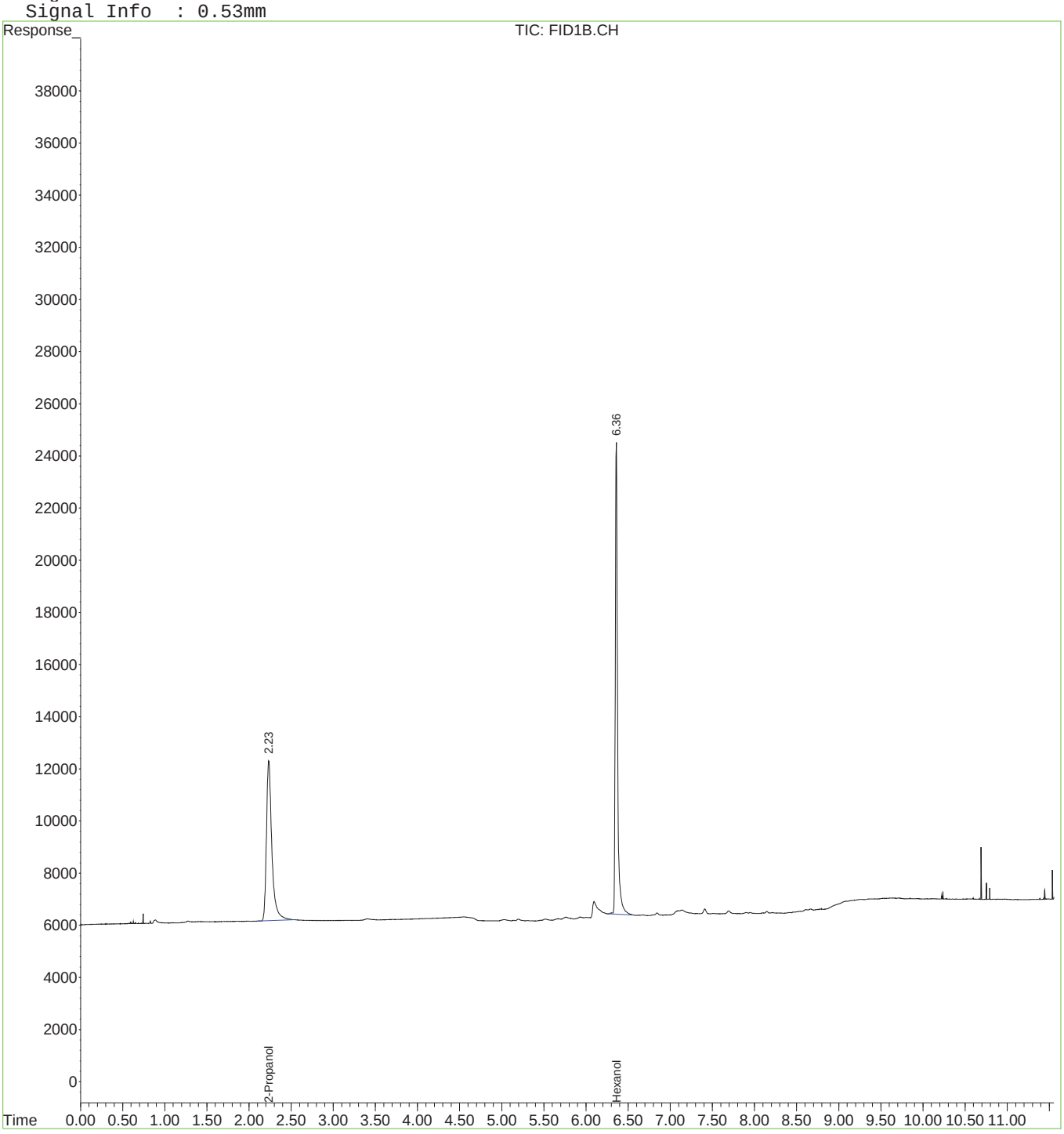
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124699.D MGH6650.M Wed Jun 02 09:37:11 2021 RPT1

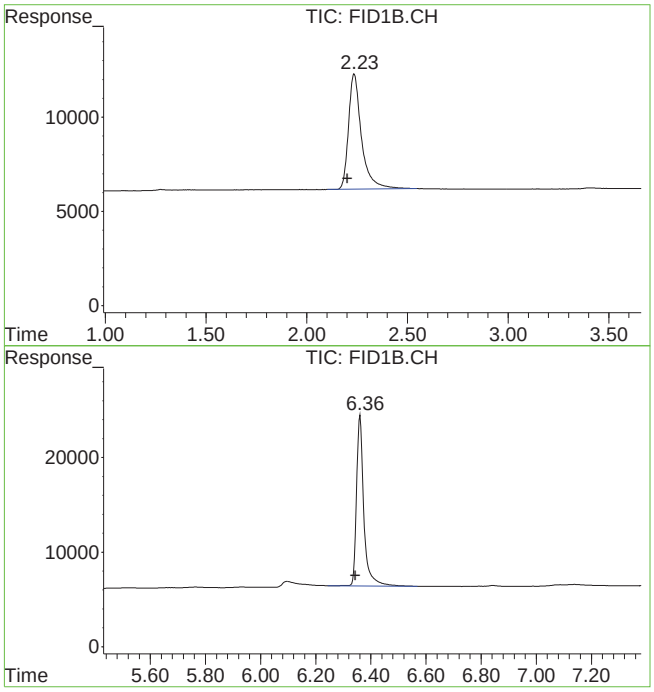
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124699.D Vial: 55
Acq On : 29-May-2021, 12:33:24 Operator: RobertS
Sample : jd25405-3 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.235 min
Delta R.T.: 0.035 min
Response: 274497
Conc: 14100.62 ug/L

#9 Hexanol

R.T.: 6.361 min
Delta R.T.: 0.018 min
Response: 333340
Conc: 4416.61 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124700.D Vial: 56
Acq On : 29-May-2021, 12:50:53 Operator: RobertS
Sample : jd25405-4 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:18 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	325875	4317.700 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 86.35%	
Target Compounds			
3) 2-Propanol	2.24	281416	1445606.783 ug/L

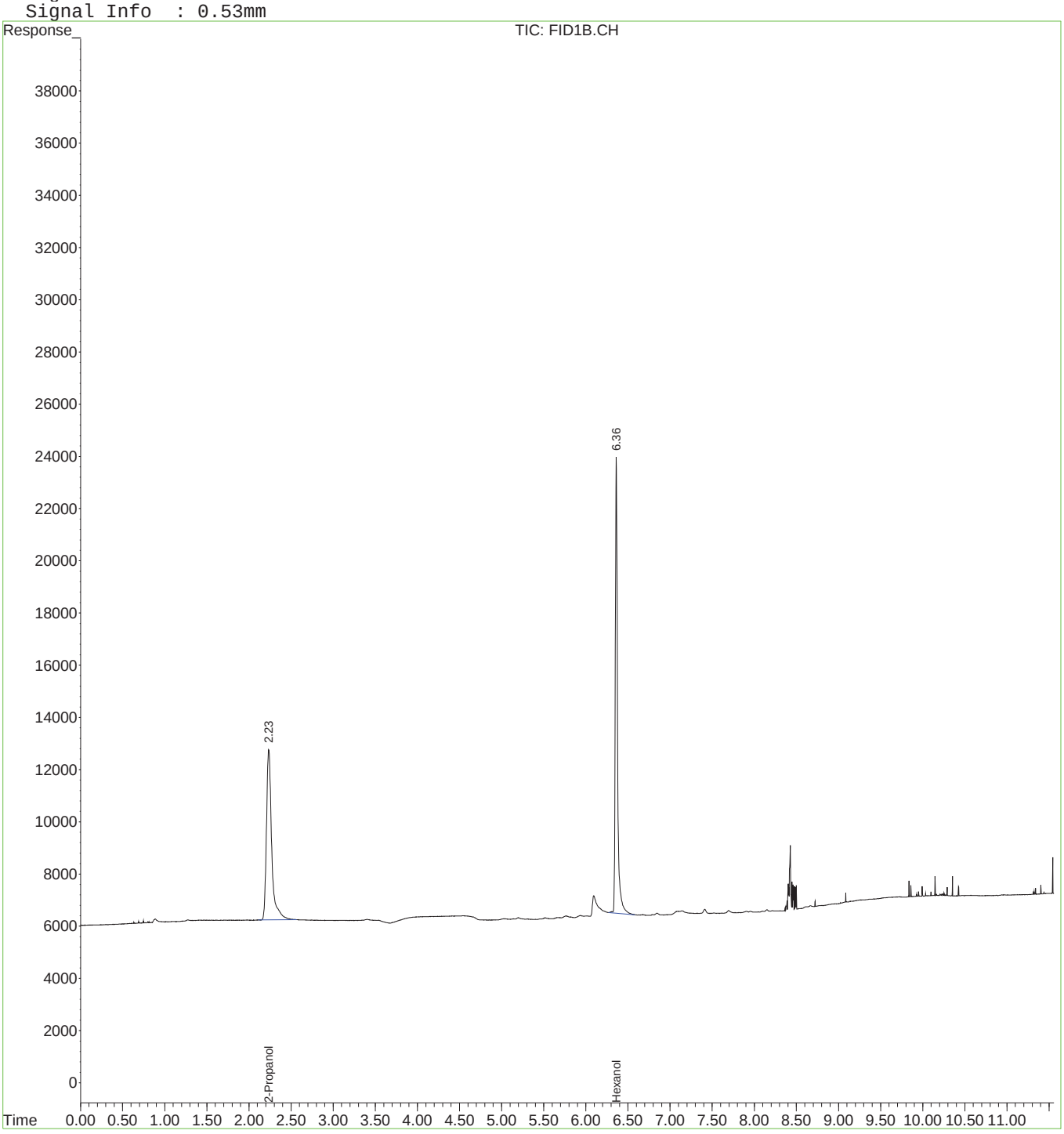
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124700.D MGH6650.M Wed Jun 02 09:37:18 2021 RPT1

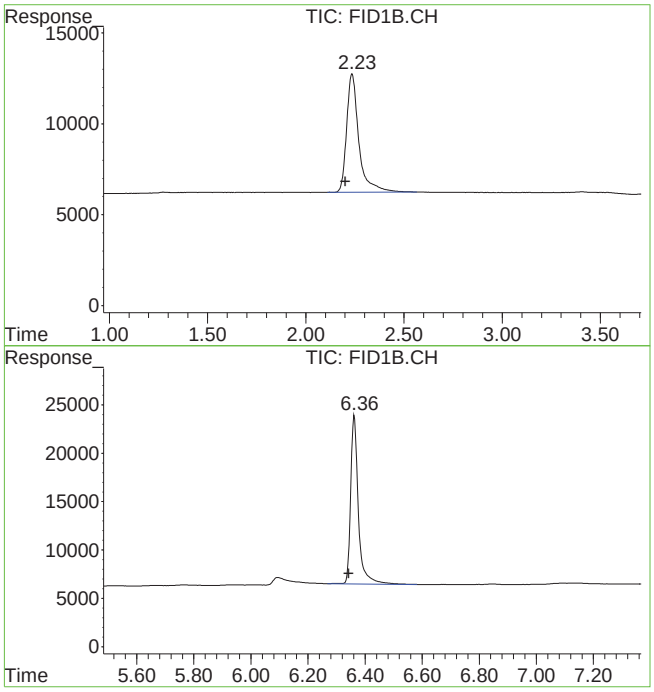
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124700.D Vial: 56
Acq On : 29-May-2021, 12:50:53 Operator: RobertS
Sample : jd25405-4 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.236 min
Delta R.T.: 0.035 min
Response: 281416
Conc: 1445606.78 ug/L

#9 Hexanol

R.T.: 6.362 min
Delta R.T.: 0.019 min
Response: 325875
Conc: 4317.70 ug/L

Manual Integrations APPROVED (compounds with "m" flag)
Kanya Veerawat 06/03/21 01:37

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124701.D Vial: 57
Acq On : 29-May-2021, 13:08:23 Operator: RobertS
Sample : jd25405-5 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:19 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	353234	4680.187 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 93.60%	
Target Compounds			
3) 2-Propanol	2.24	425058	21834.768 ug/L m

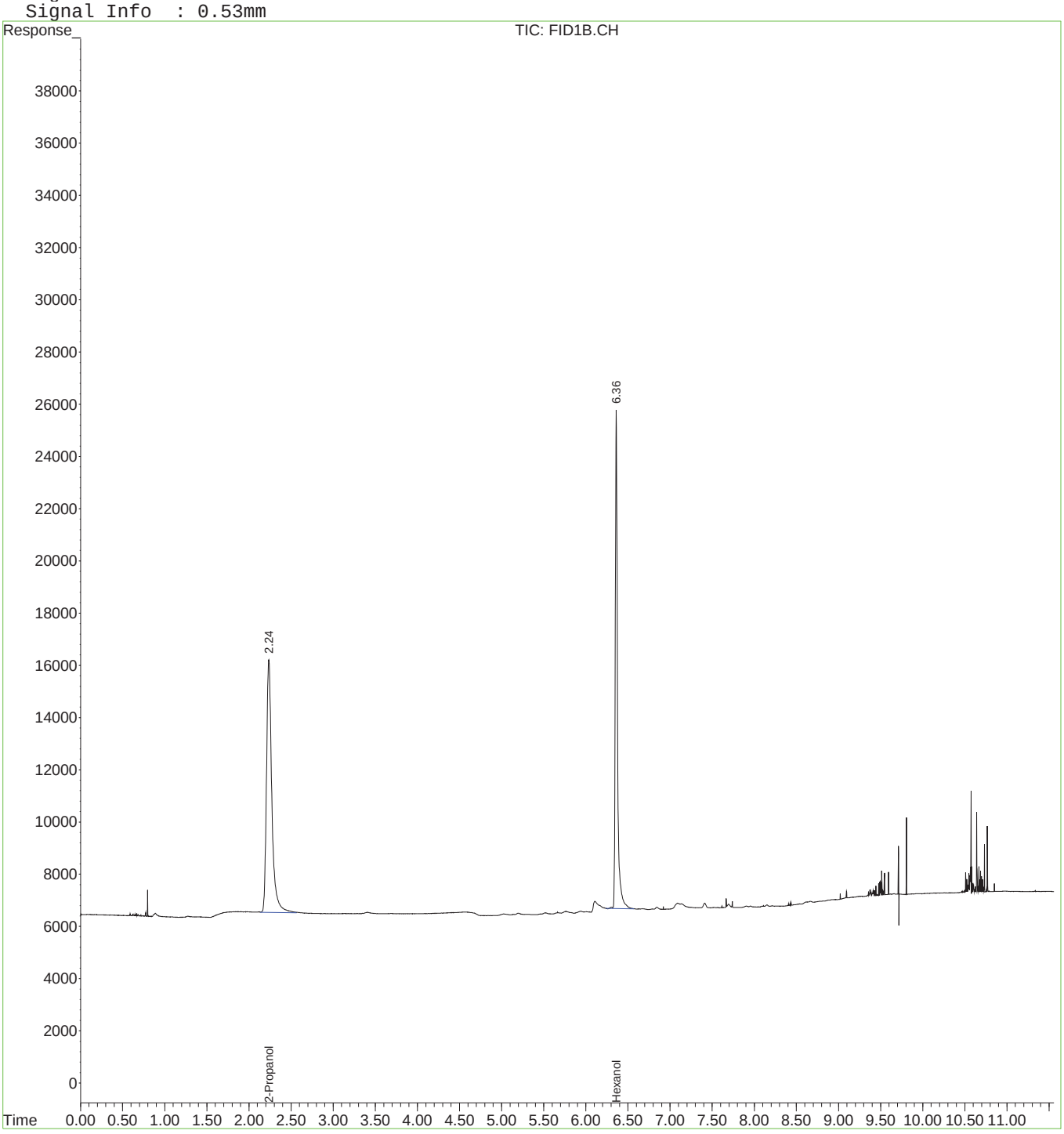
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124701.D MGH6650.M Wed Jun 02 09:37:58 2021 RPT1

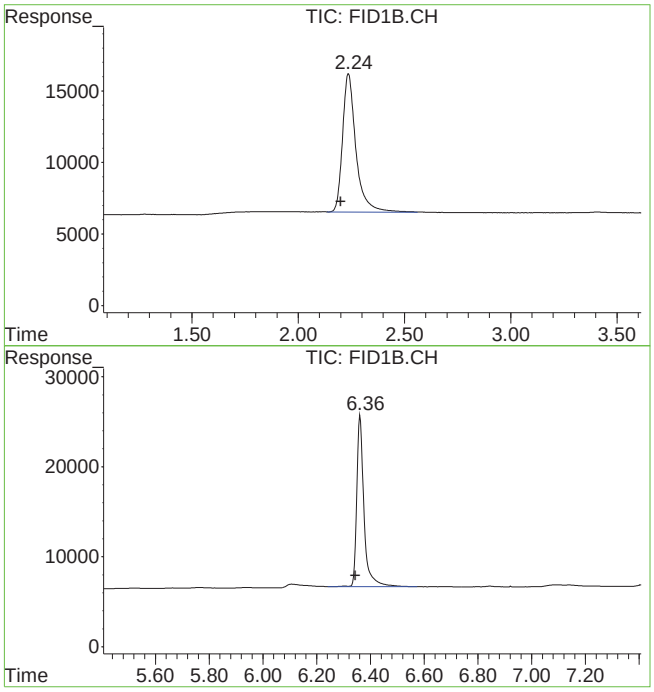
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124701.D Vial: 57
Acq On : 29-May-2021, 13:08:23 Operator: RobertS
Sample : jd25405-5 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:37 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.235 min
Delta R.T.: 0.035 min
Response: 425058
Conc: 21834.77 ug/L m

#9 Hexanol

R.T.: 6.362 min
Delta R.T.: 0.019 min
Response: 353234
Conc: 4680.19 ug/L

Manual Integration Approval Summary

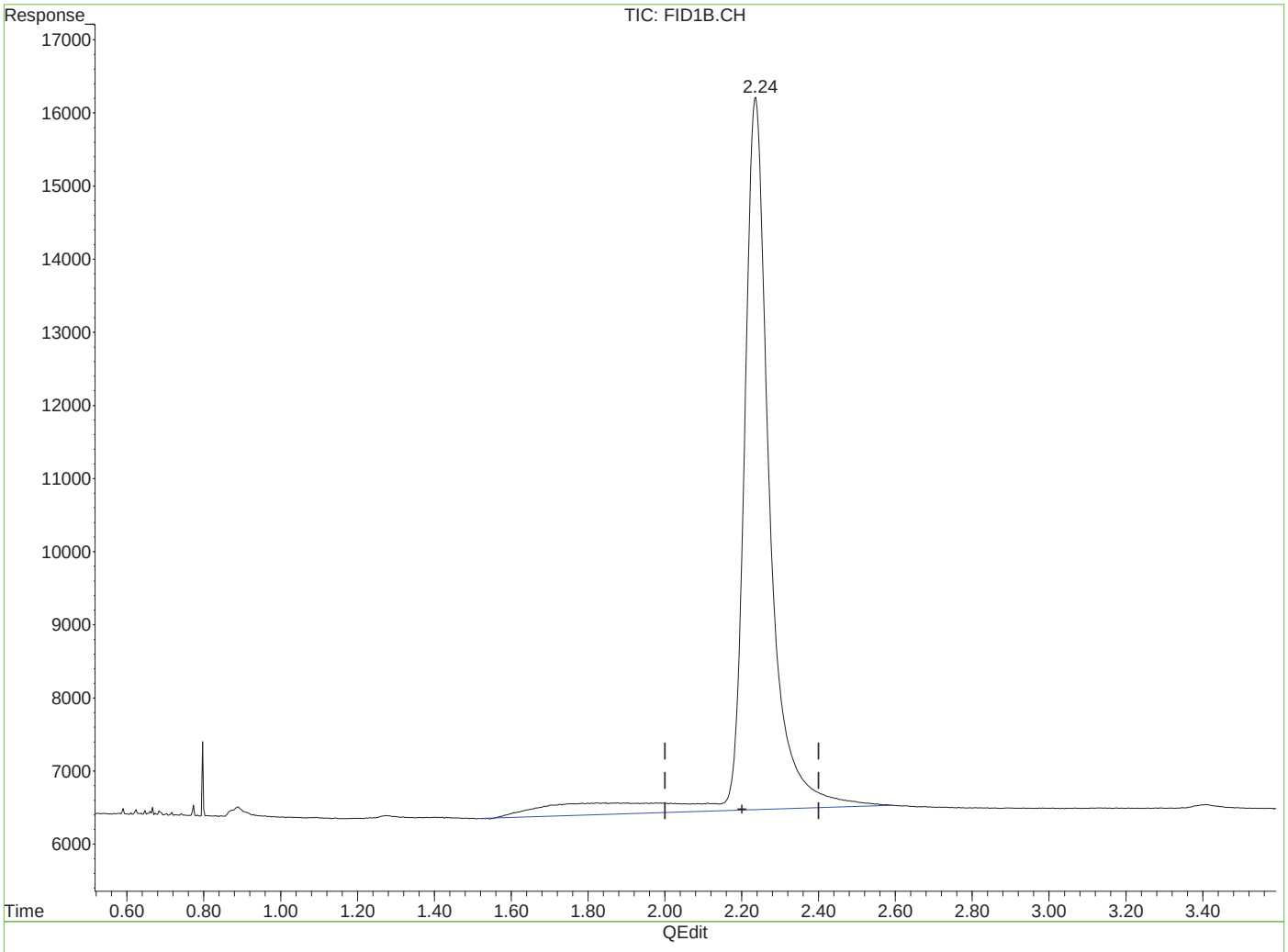
Sample Number: JD25405-5
Lab FileID: GH124701.D
Injection Time: 05/29/21 13:08
Method: SW846-8015D (DAI)
Analyst approved: 06/02/21 15:36 Bridget Kelly
Supervisor approved: 06/03/21 01:37 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Isopropyl Alcohol	67-63-0	1	2.24	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124701.D Vial: 57
Acq On : 29-May-2021, 13:08:23 Operator: RobertS
Sample : jd25405-5 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.24min 24557.627ug/L

response 478064

(+) = Expected Retention Time
GH124701.D MGH6650.M Wed Jun 02 09:37:37 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124724.D Vial: 10
Acq On : 01-Jun-2021, 11:53:23 Operator: RobertS
Sample : jd25405-6 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,20 Multiplr: 20.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:27 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	287100	3803.939 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 76.08%	
Target Compounds			
3) 2-Propanol	2.24	211819	217617.999 ug/L

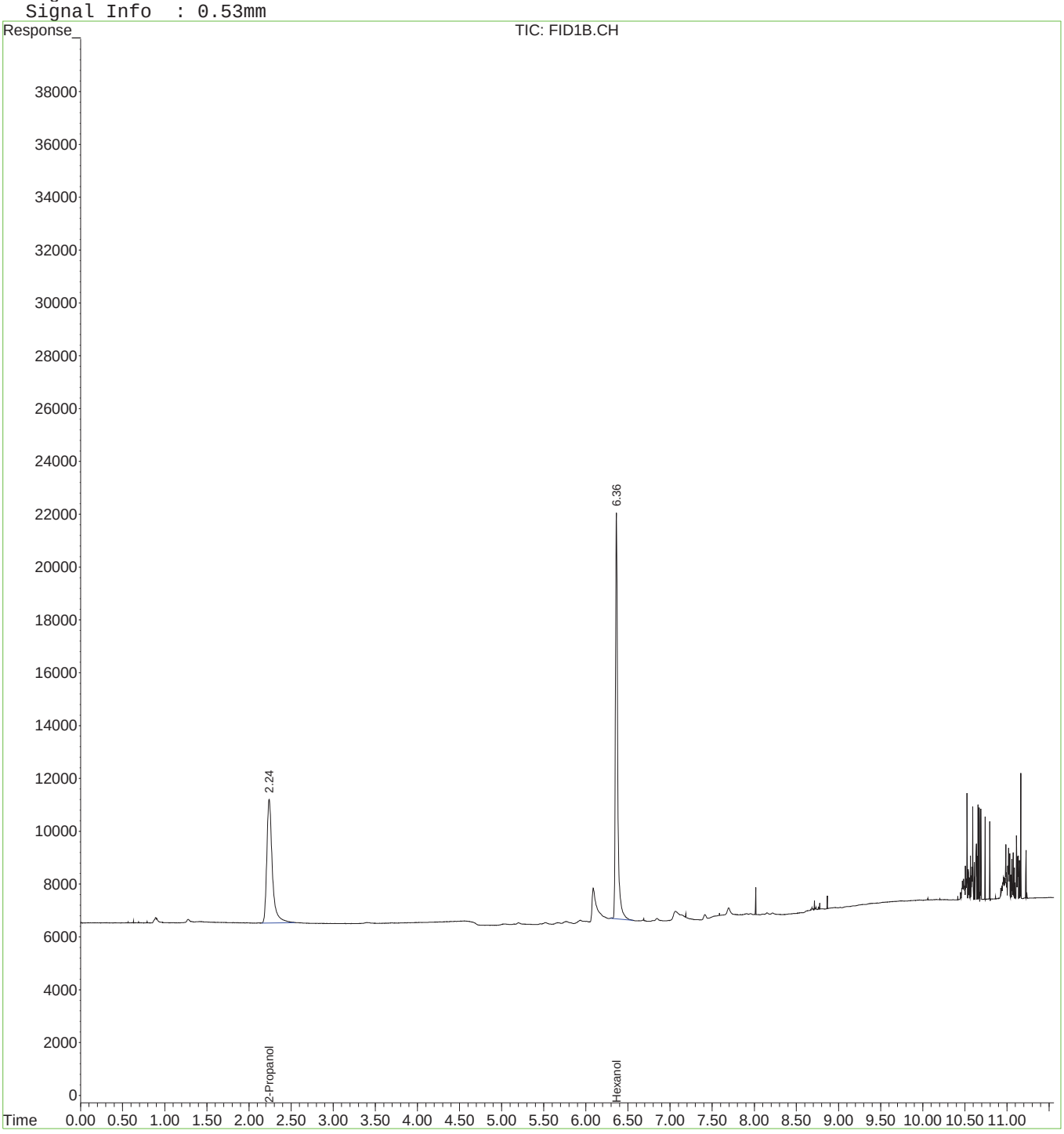
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124724.D MGH6650.M Wed Jun 02 16:38:45 2021 RPT1

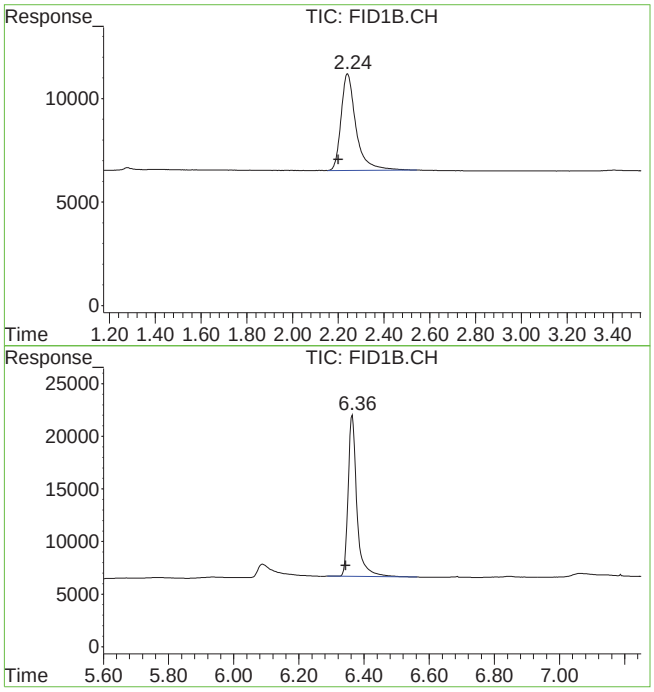
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124724.D Vial: 10
Acq On : 01-Jun-2021, 11:53:23 Operator: RobertS
Sample : jd25405-6 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,20 Multiplr: 20.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.241 min
Delta R.T.: 0.040 min
Response: 211819
Conc: 217618.00 ug/L

#9 Hexanol

R.T.: 6.364 min
Delta R.T.: 0.021 min
Response: 287100
Conc: 3803.94 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124720.D Vial: 6
Acq On : 01-Jun-2021, 10:44:17 Operator: RobertS
Sample : jd25405-7 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:23 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	346874	4595.918 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 91.92%	
Target Compounds			
3) 2-Propanol	2.24	295005	15154.090 ug/L

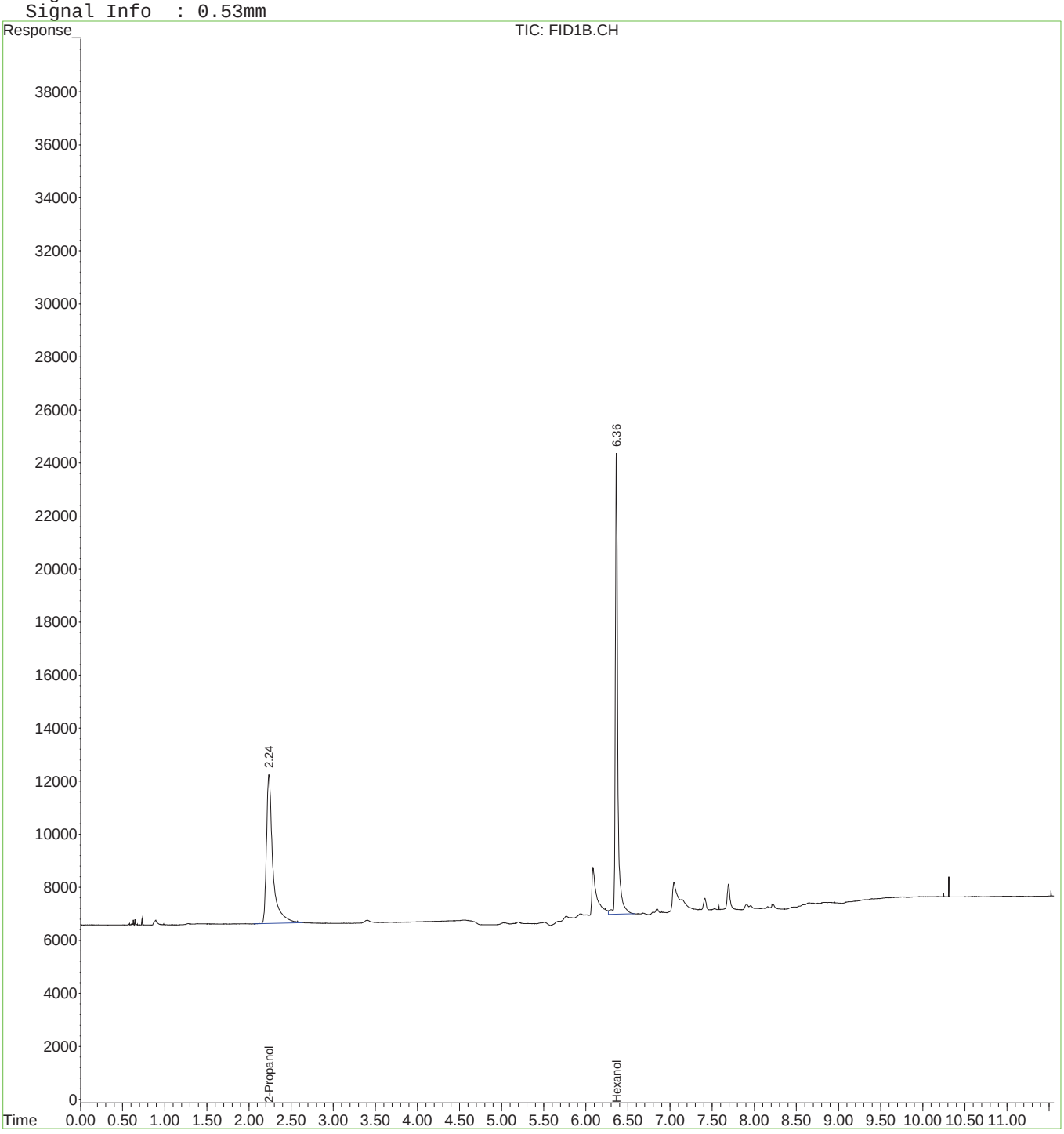
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124720.D MGH6650.M Wed Jun 02 16:36:55 2021 RPT1

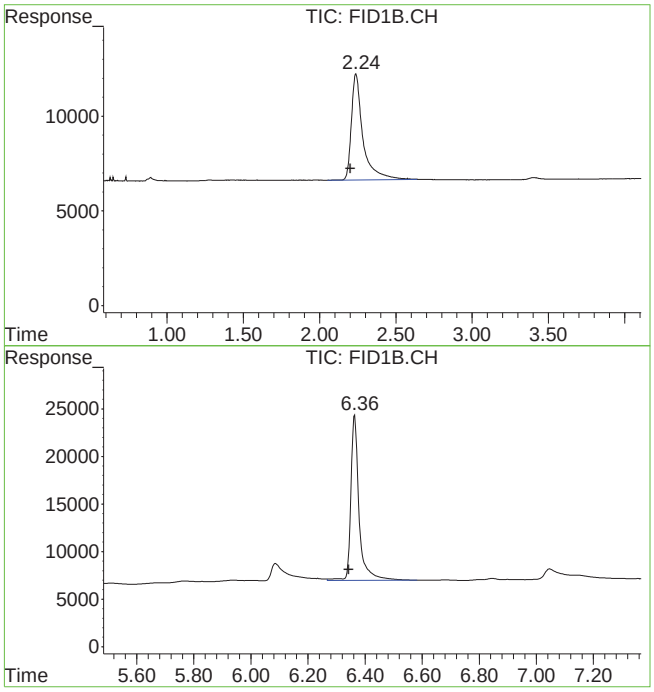
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124720.D Vial: 6
Acq On : 01-Jun-2021, 10:44:17 Operator: RobertS
Sample : jd25405-7 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.238 min
Delta R.T.: 0.037 min
Response: 295005
Conc: 15154.09 ug/L

#9 Hexanol

R.T.: 6.364 min
Delta R.T.: 0.021 min
Response: 346874
Conc: 4595.92 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124725.D Vial: 11
Acq On : 01-Jun-2021, 12:32:11 Operator: RobertS
Sample : jd25405-8 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	304879	4039.500 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	80.79%
Target Compounds			
3) 2-Propanol	2.24	1667206	85642.614 ug/L

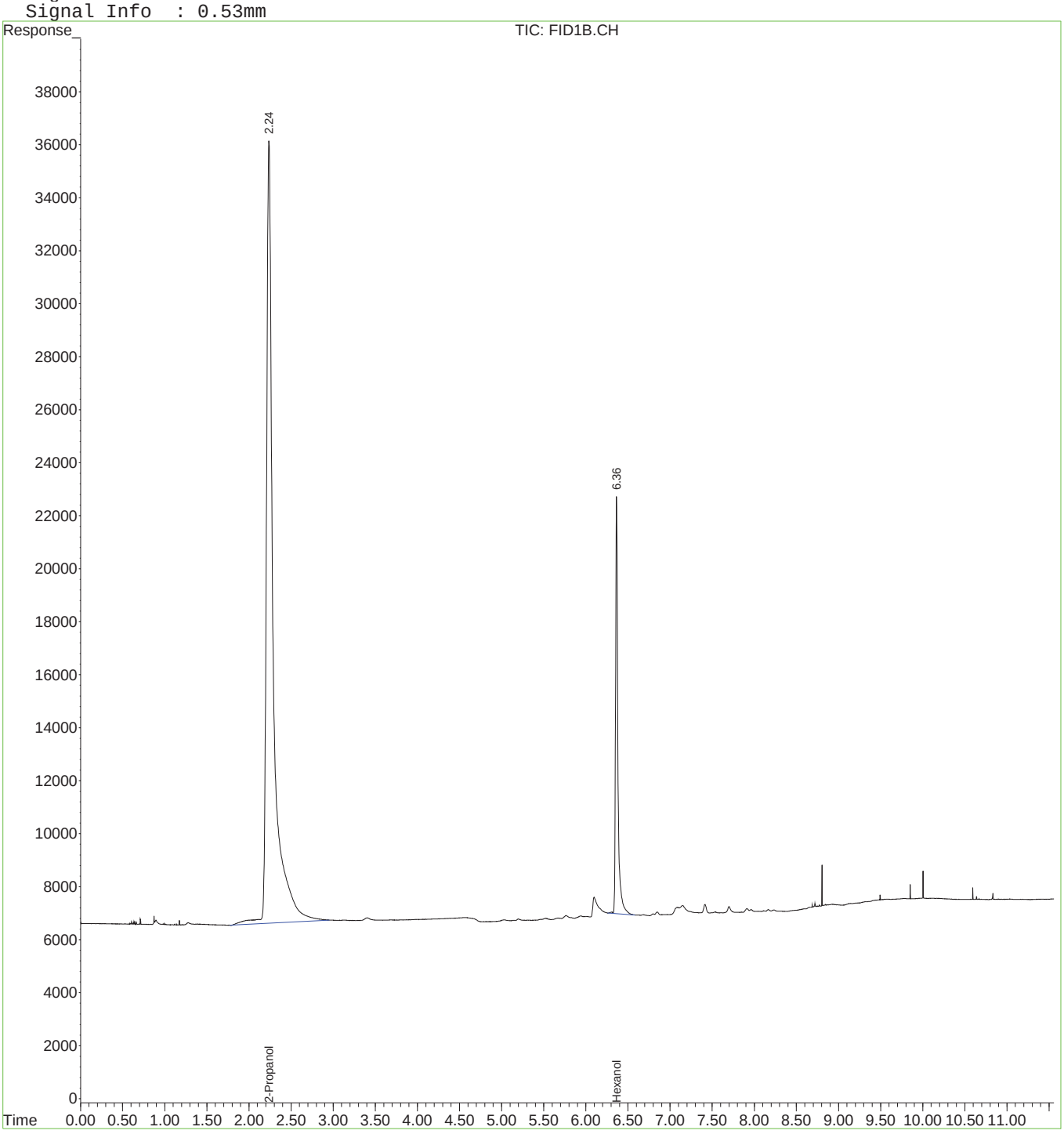
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124725.D MGH6650.M Wed Jun 02 16:38:52 2021 RPT1

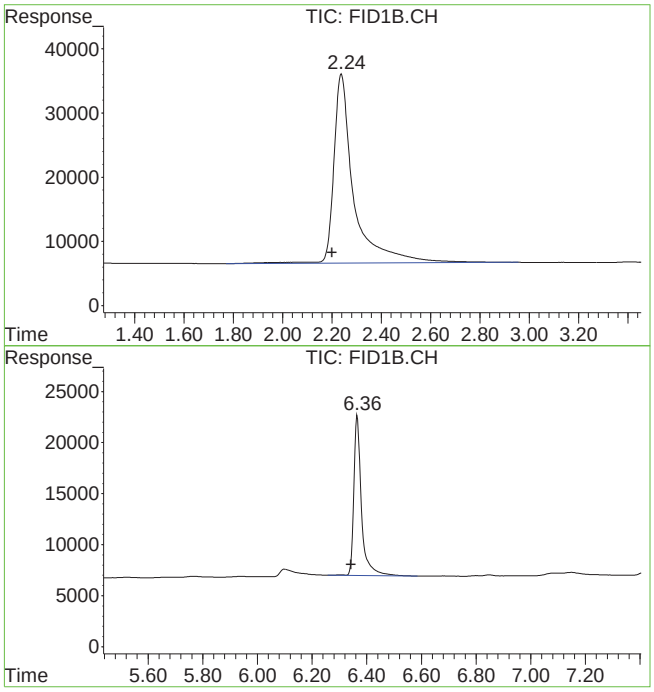
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124725.D Vial: 11
Acq On : 01-Jun-2021, 12:32:11 Operator: RobertS
Sample : jd25405-8 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.238 min
Delta R.T.: 0.038 min
Response: 1667206
Conc: 85642.61 ug/L

#9 Hexanol

R.T.: 6.366 min
Delta R.T.: 0.023 min
Response: 304879
Conc: 4039.50 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124605.D Vial: 51
Acq On : 25-May-2021, 13:26:09 Operator: RobertS
Sample : jd25405-9 Inst : HP5890
Misc : GC57993,GGH6696,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: May 25 16:13:52 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	341082	4519.183 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	90.38%
Target Compounds			
3) 2-Propanol	2.24	57357	294634.653 ug/L

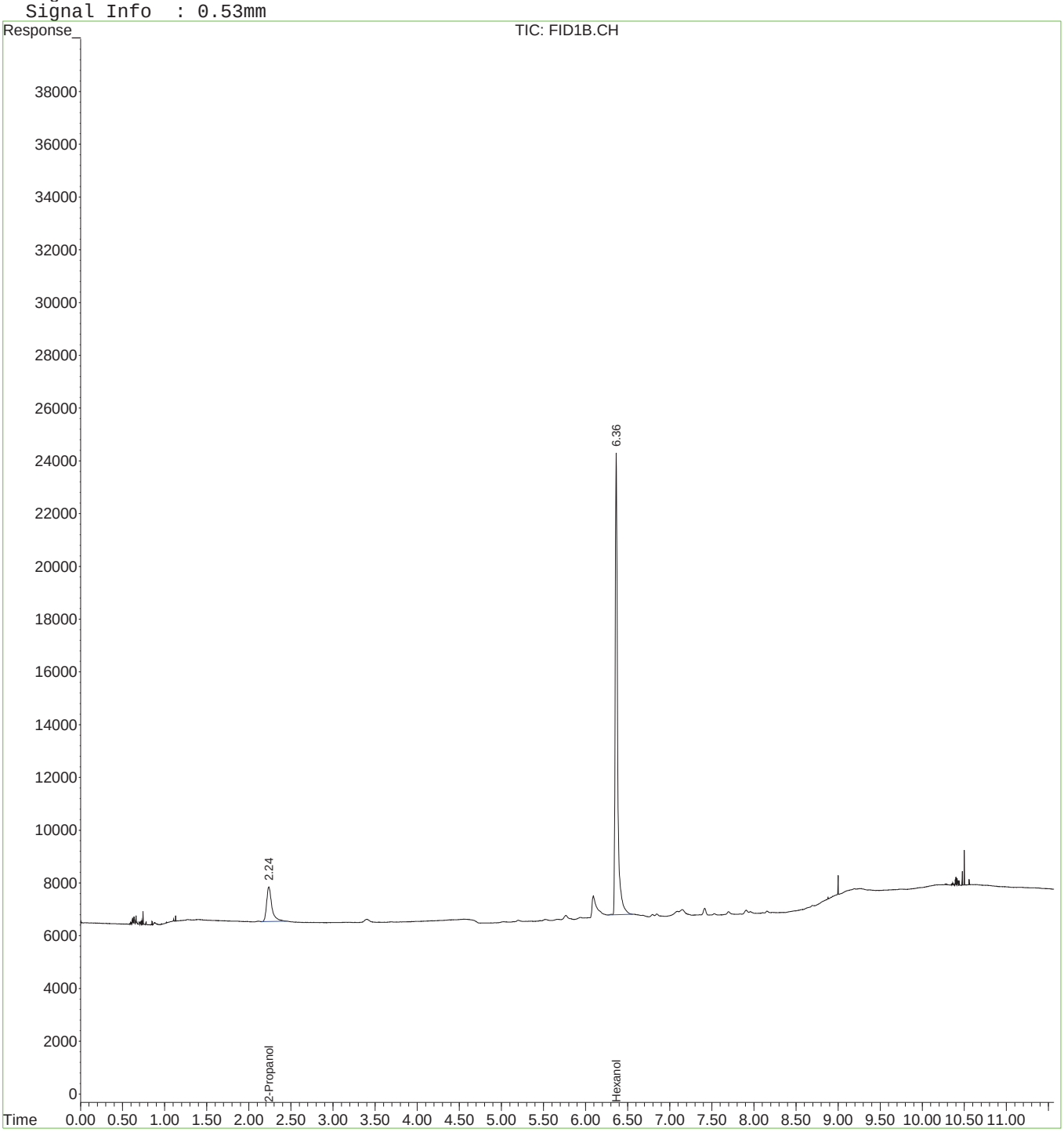
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124605.D MGH6650.M Tue May 25 16:18:08 2021 RPT1

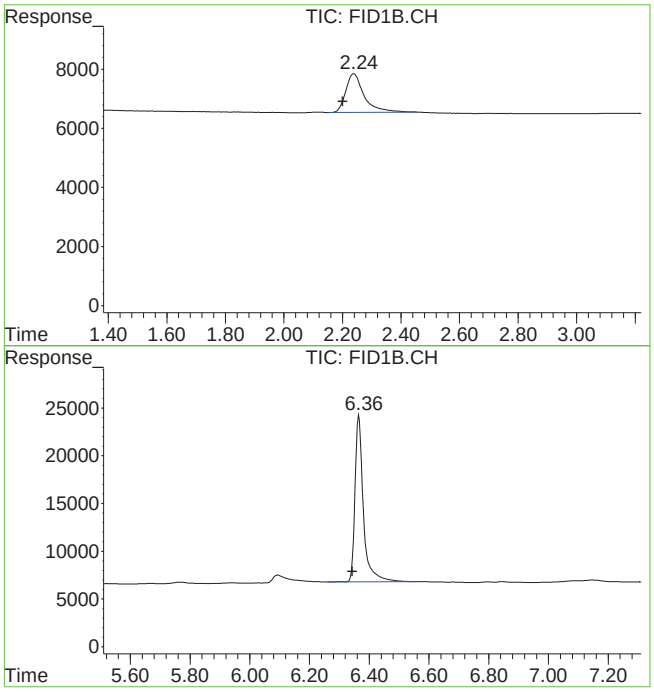
Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124605.D Vial: 51
Acq On : 25-May-2021, 13:26:09 Operator: RobertS
Sample : jd25405-9 Inst : HP5890
Misc : GC57993,GGH6696,5.0,,,,100 Multiplr: 100.00
IntFile : EVENTS.E
Quant Time: May 25 16:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm





#3 2-Propanol

R.T.: 2.239 min
Delta R.T.: 0.038 min
Response: 57357
Conc: 294634.65 ug/L

#9 Hexanol

R.T.: 6.366 min
Delta R.T.: 0.023 min
Response: 341082
Conc: 4519.18 ug/L

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124603.D Vial: 49
Acq On : 25-May-2021, 12:19:51 Operator: RobertS
Sample : mb2 Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13:50 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.37	353245	4680.339	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 93.61%		
Target Compounds				

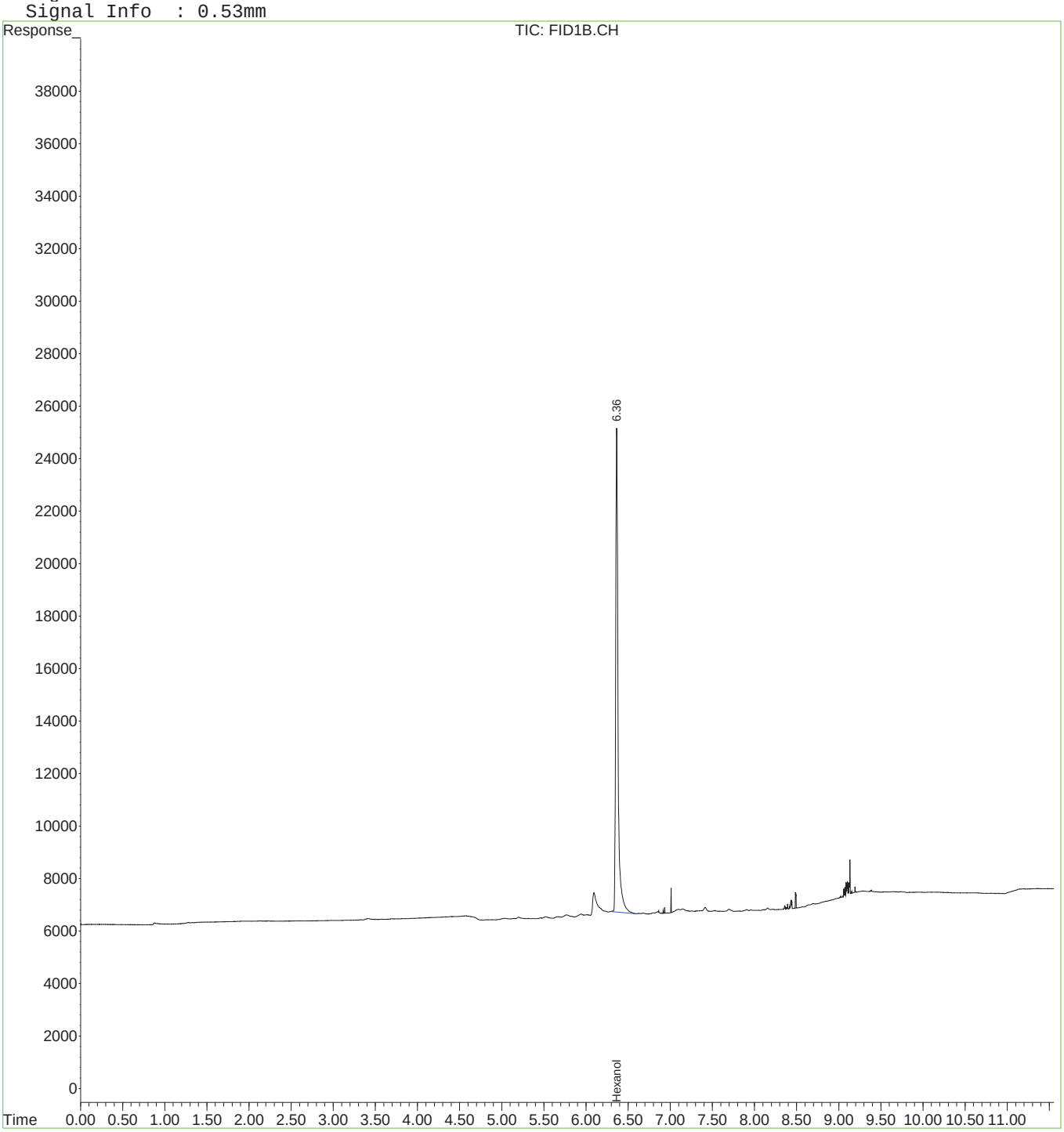
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124603.D MGH6650.M Tue May 25 16:17:46 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124603.D Vial: 49
Acq On : 25-May-2021, 12:19:51 Operator: RobertS
Sample : mb2 Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124698.D Vial: 54
Acq On : 29-May-2021, 12:15:58 Operator: RobertS
Sample : mb2 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:16 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	284738	3772.650 ug/L

Spiked Amount 5000.000 Range 56 - 145 Recovery = 75.45%

Target Compounds

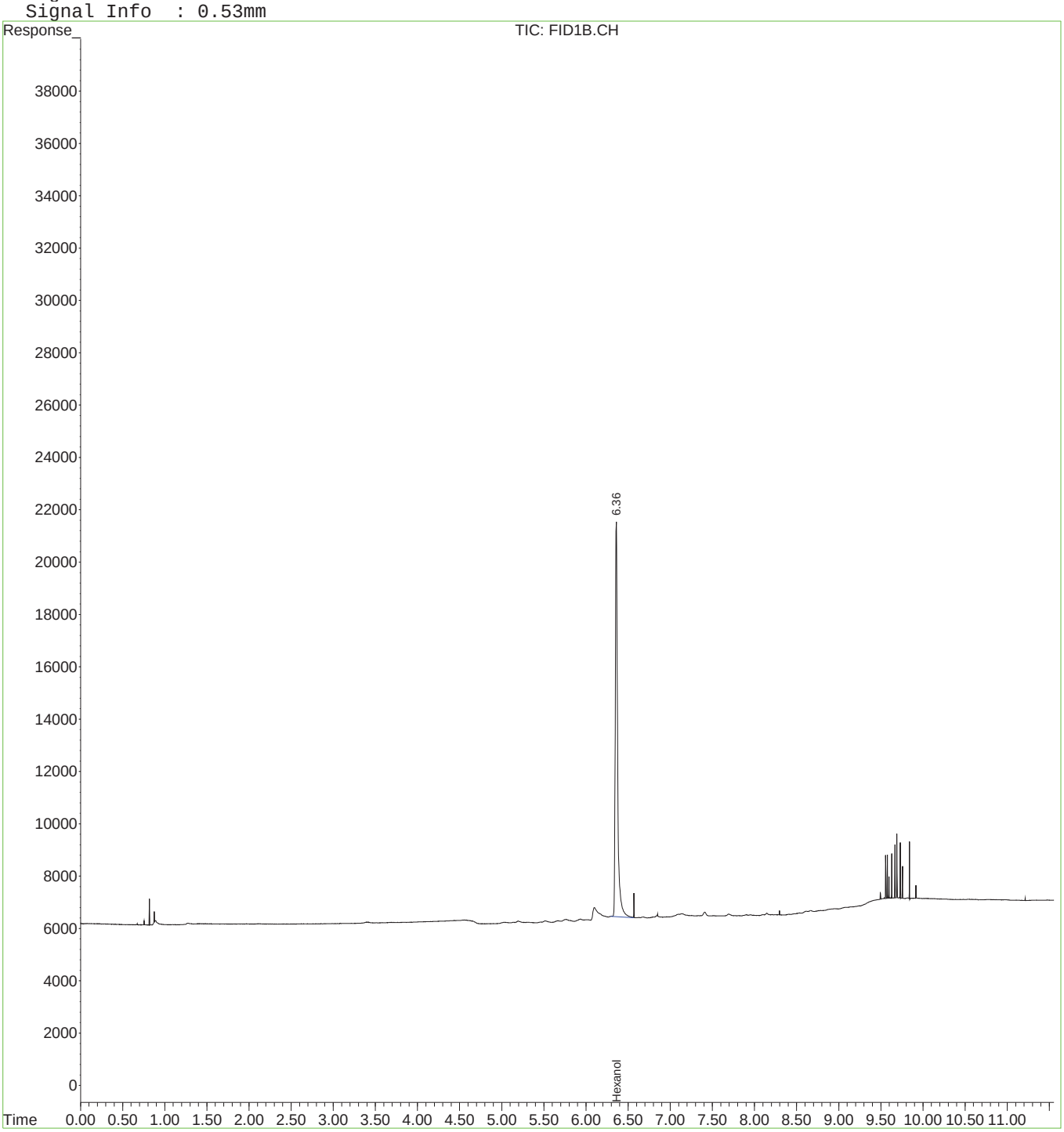
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124698.D MGH6650.M Wed Jun 02 09:37:01 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124698.D Vial: 54
Acq On : 29-May-2021, 12:15:58 Operator: RobertS
Sample : mb2 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124705.D Vial: 61
Acq On : 29-May-2021, 14:18:24 Operator: RobertS
Sample : mb4 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:23 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	325124	4307.743 ug/L

Spiked Amount 5000.000 Range 56 - 145 Recovery = 86.15%

Target Compounds

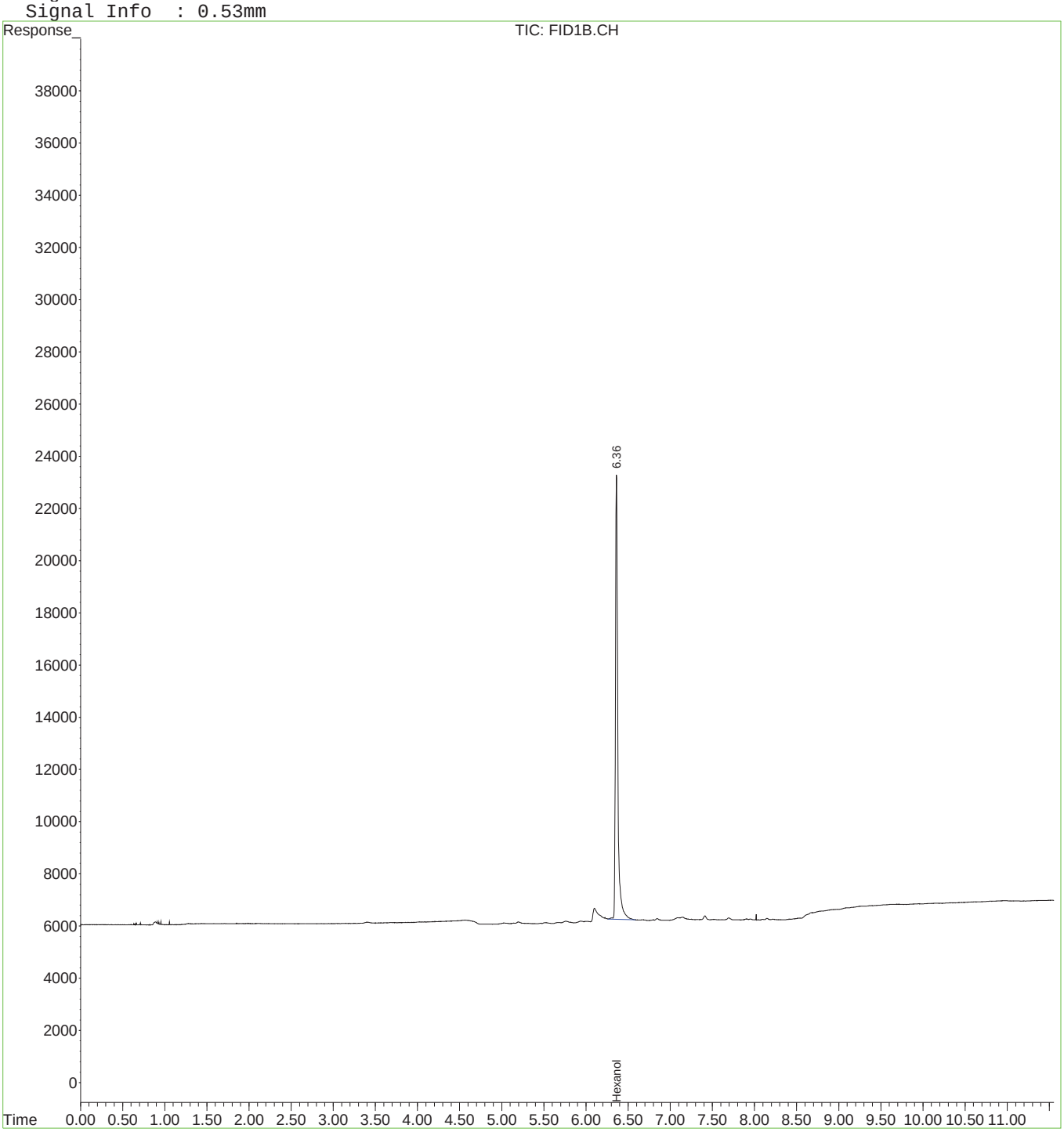
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124705.D MGH6650.M Wed Jun 02 09:38:19 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124705.D Vial: 61
Acq On : 29-May-2021, 14:18:24 Operator: RobertS
Sample : mb4 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124718.D Vial: 4
Acq On : 01-Jun-2021, 09:43:25 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC58012,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	330877	4383.974	ug/L

Spiked Amount 5000.000 Range 56 - 145 Recovery = 87.68%

Target Compounds

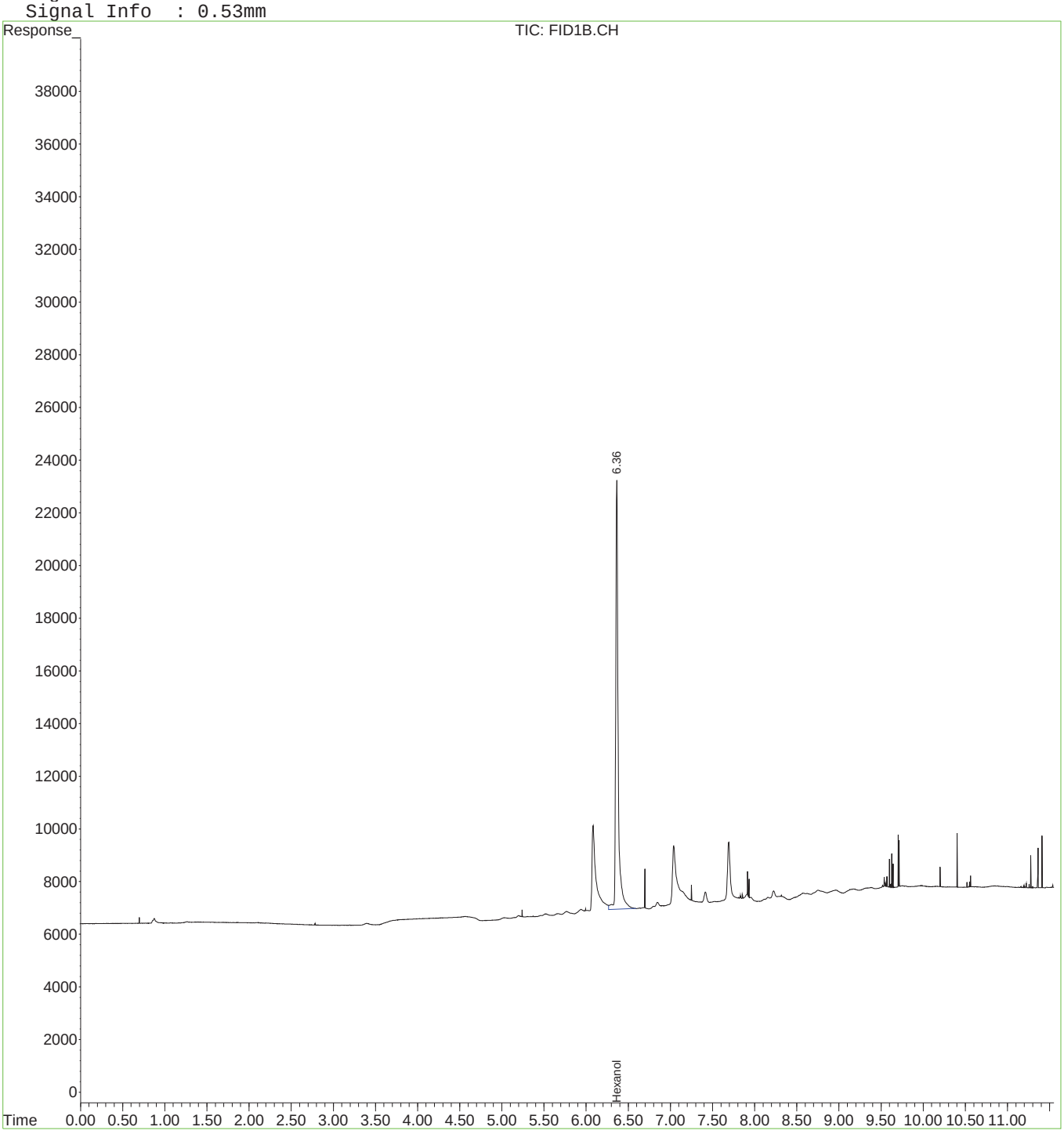
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124718.D MGH6650.M Wed Jun 02 16:36:39 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124718.D Vial: 4
Acq On : 01-Jun-2021, 09:43:25 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC58012,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124593.D Vial: 39
Acq On : 25-May-2021, 09:24:09 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13:40 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.37	312817	4144.677	ug/L

Spiked Amount 5000.000 Range 56 - 145 Recovery = 82.89%

Target Compounds

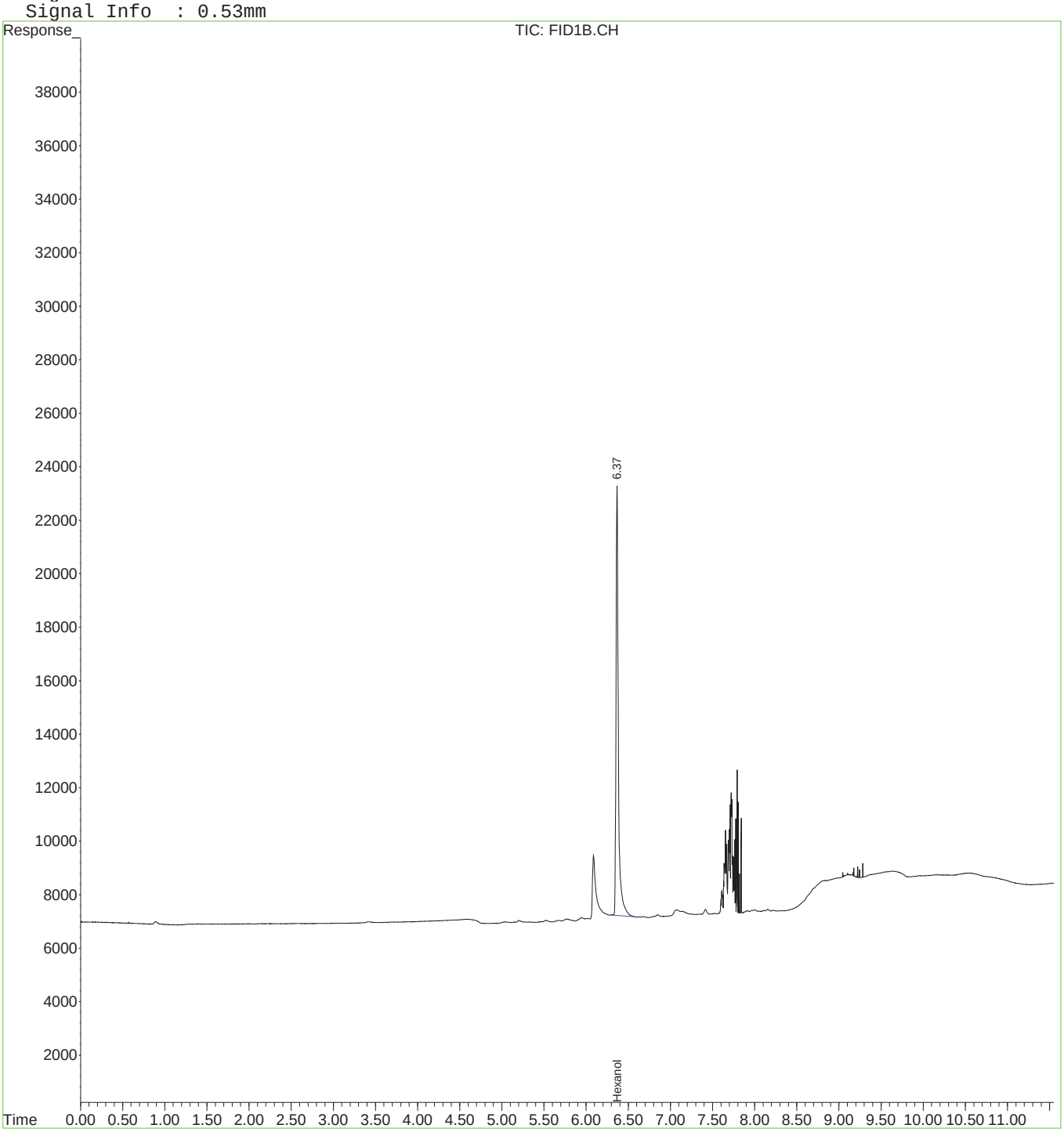
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124593.D MGH6650.M Tue May 25 16:15:55 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124593.D Vial: 39
Acq On : 25-May-2021, 09:24:09 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124688.D Vial: 44
Acq On : 29-May-2021, 09:12:16 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC58012,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:06 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	325669	4314.967	ug/L

Spiked Amount 5000.000 Range 56 - 145 Recovery = 86.30%

Target Compounds

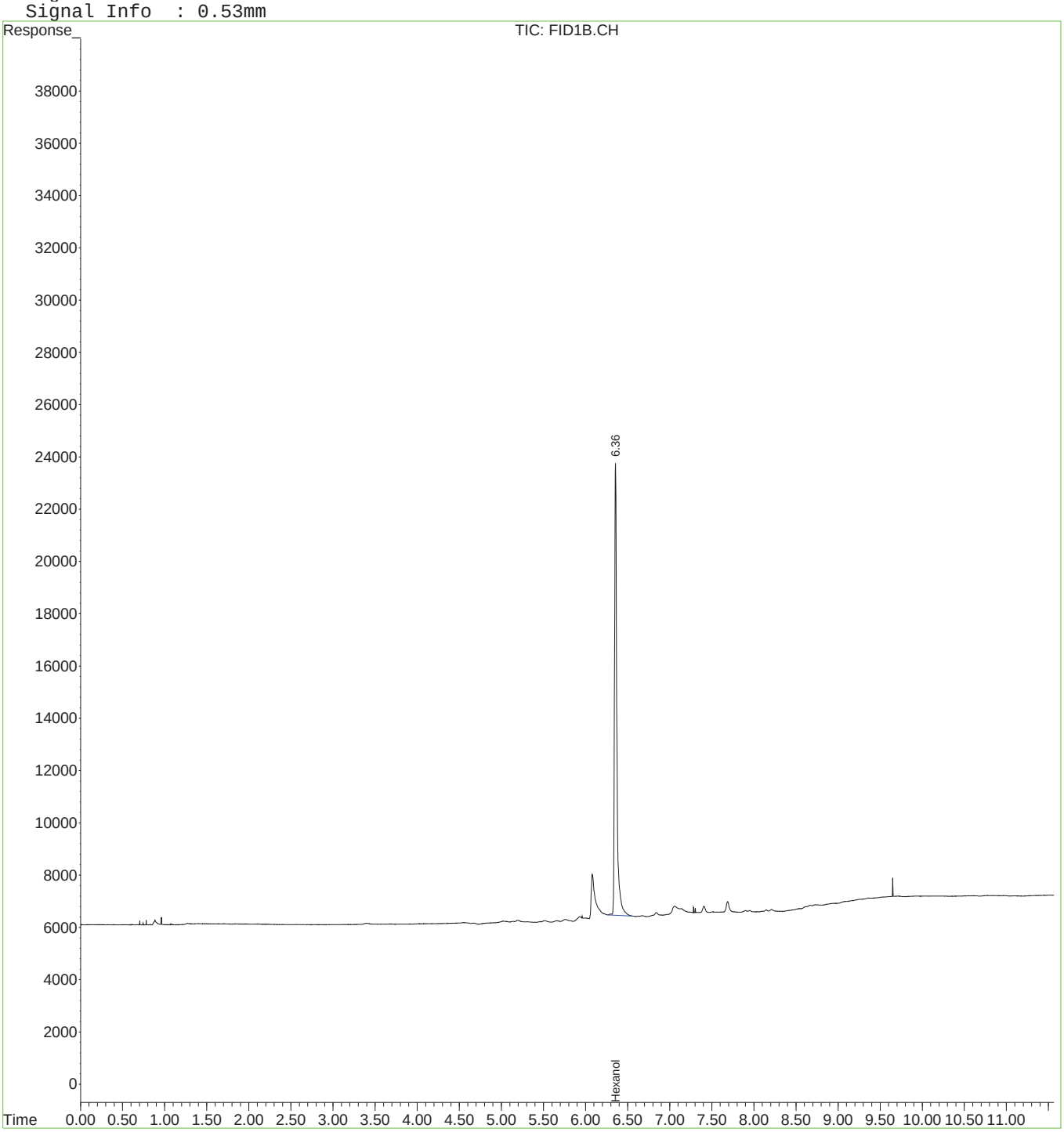
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124688.D MGH6650.M Wed Jun 02 09:34:21 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124688.D Vial: 44
Acq On : 29-May-2021, 09:12:16 Operator: RobertS
Sample : mb Inst : HP5890
Misc : GC58012,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124728.D Vial: 14
Acq On : 01-Jun-2021, 15:03:05 Operator: RobertS
Sample : mb2 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	324285	4296.624 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 85.93%	
Target Compounds			

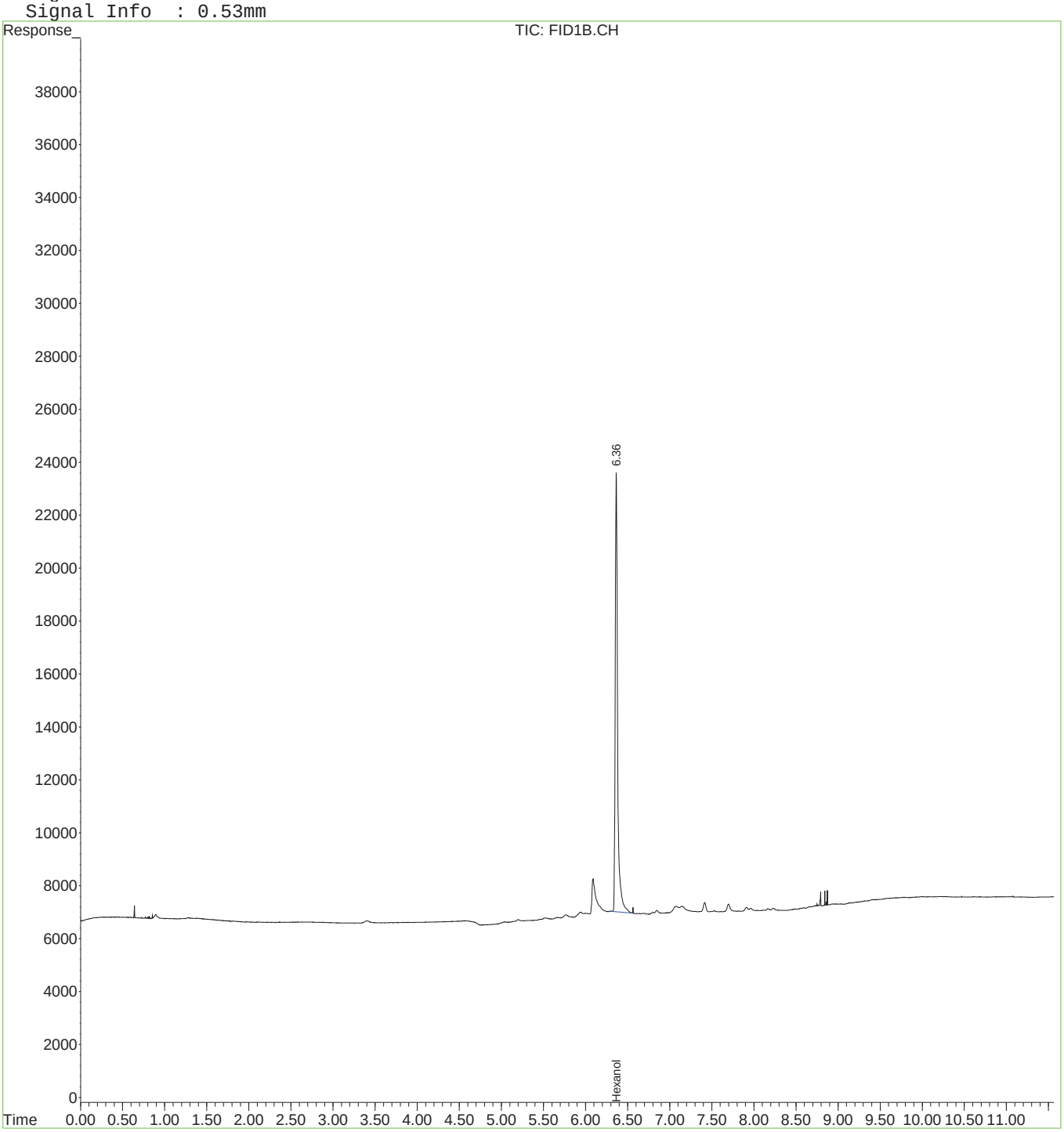
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124728.D MGH6650.M Wed Jun 02 16:39:03 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124728.D Vial: 14
Acq On : 01-Jun-2021, 15:03:05 Operator: RobertS
Sample : mb2 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124594.D Vial: 40
Acq On : 25-May-2021, 09:41:29 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13:41 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	338085	4479.473 ug/L
Spiked Amount 5000.000 Range 56 - 145 Recovery = 89.59%			
Target Compounds			
1) Methanol	1.42	60534	4408.119 ug/L
2) Ethanol	1.87	85044	4837.348 ug/L
3) 2-Propanol	2.25	89342	4589.387 ug/L
4) Tert-Butyl Alcohol	2.52	131203	4758.202 ug/L
5) 1-Propanol	3.14	112116	4711.825 ug/L
6) 2-Butanol	3.56	113363	4622.843 ug/L
7) Isobutanol	4.03	137668	4858.983 ug/L
8) 1-butanol	4.56	128876	4502.466 ug/L

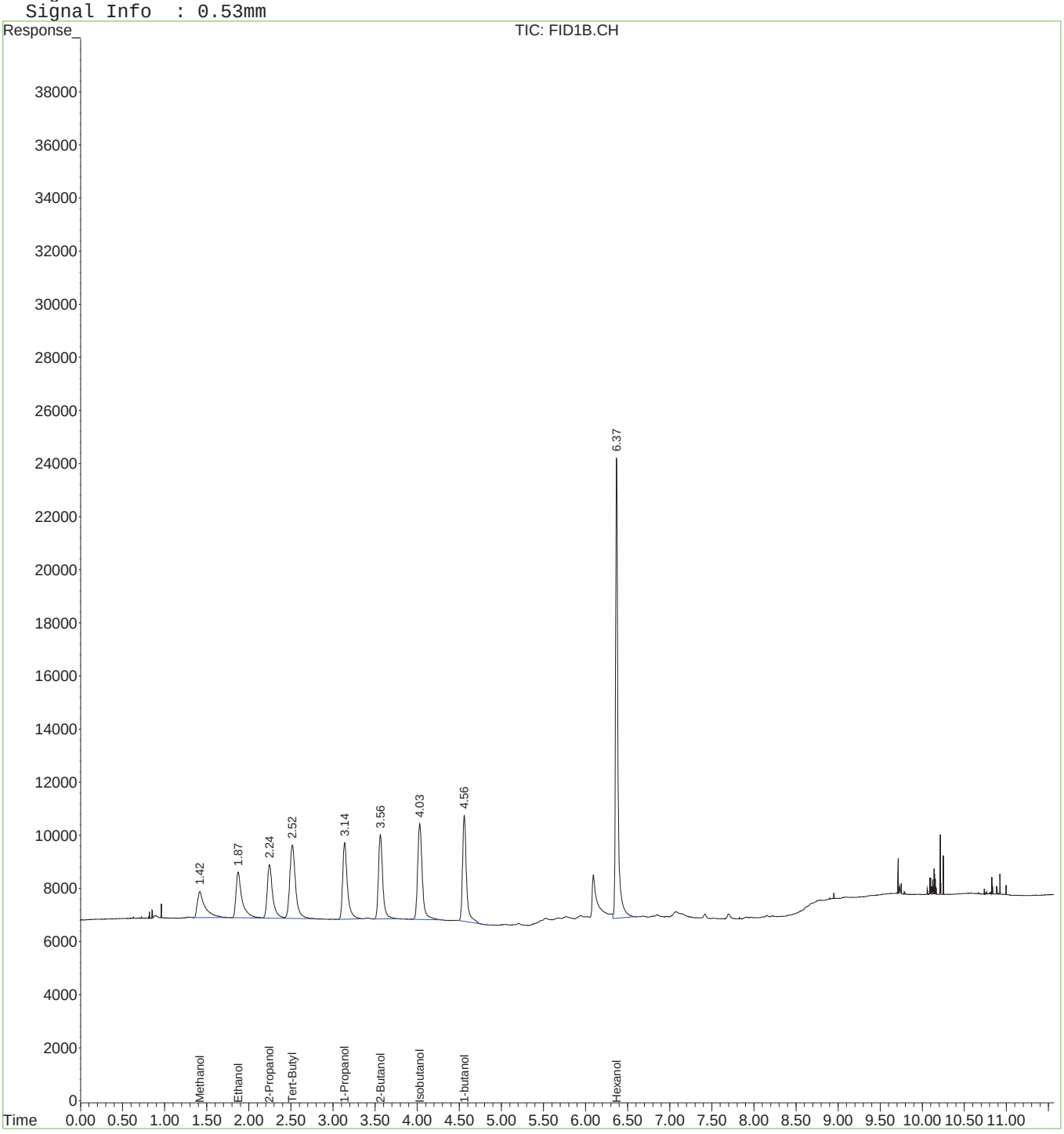
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124594.D MGH6650.M Tue May 25 16:16:53 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124594.D Vial: 40
Acq On : 25-May-2021, 09:41:29 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124689.D Vial: 45
Acq On : 29-May-2021, 09:29:38 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC58012,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:07 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.36	297639	3943.586	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 78.87%		
Target Compounds				
1) Methanol	1.41	58539	4262.825	ug/L
2) Ethanol	1.86	78067	4440.485	ug/L
3) 2-Propanol	2.23	82335	4229.459	ug/L
4) Tert-Butyl Alcohol	2.50	124579	4517.979	ug/L
5) 1-Propanol	3.12	107368	4512.269	ug/L
6) 2-Butanol	3.55	106558	4345.348	ug/L
7) Isobutanol	4.01	126172	4453.247	ug/L
8) 1-butanol	4.55	125206	4374.233	ug/L

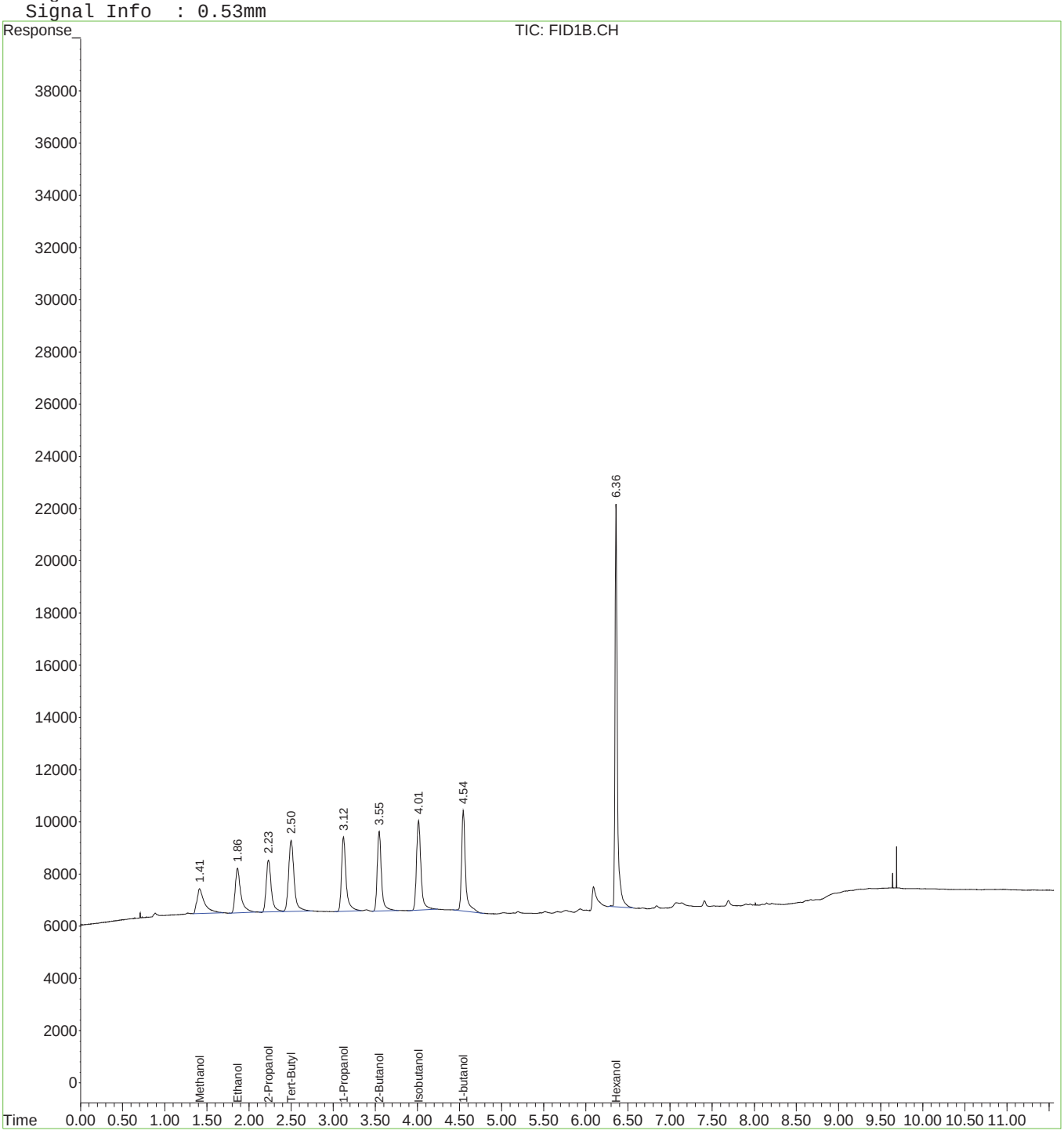
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124689.D MGH6650.M Wed Jun 02 09:34:28 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124689.D Vial: 45
Acq On : 29-May-2021, 09:29:38 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC58012,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124719.D Vial: 5
Acq On : 01-Jun-2021, 10:00:39 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC58012,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:22 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	318182	4215.768 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 84.32%	
Target Compounds			
1) Methanol	1.42	59691	4346.776 ug/L
2) Ethanol	1.87	81179	4617.512 ug/L
3) 2-Propanol	2.24	86258	4430.960 ug/L
4) Tert-Butyl Alcohol	2.51	126901	4602.190 ug/L
5) 1-Propanol	3.14	108320	4552.261 ug/L
6) 2-Butanol	3.56	109828	4478.690 ug/L
7) Isobutanol	4.03	130804	4616.714 ug/L
8) 1-butanol	4.56	128697	4496.217 ug/L

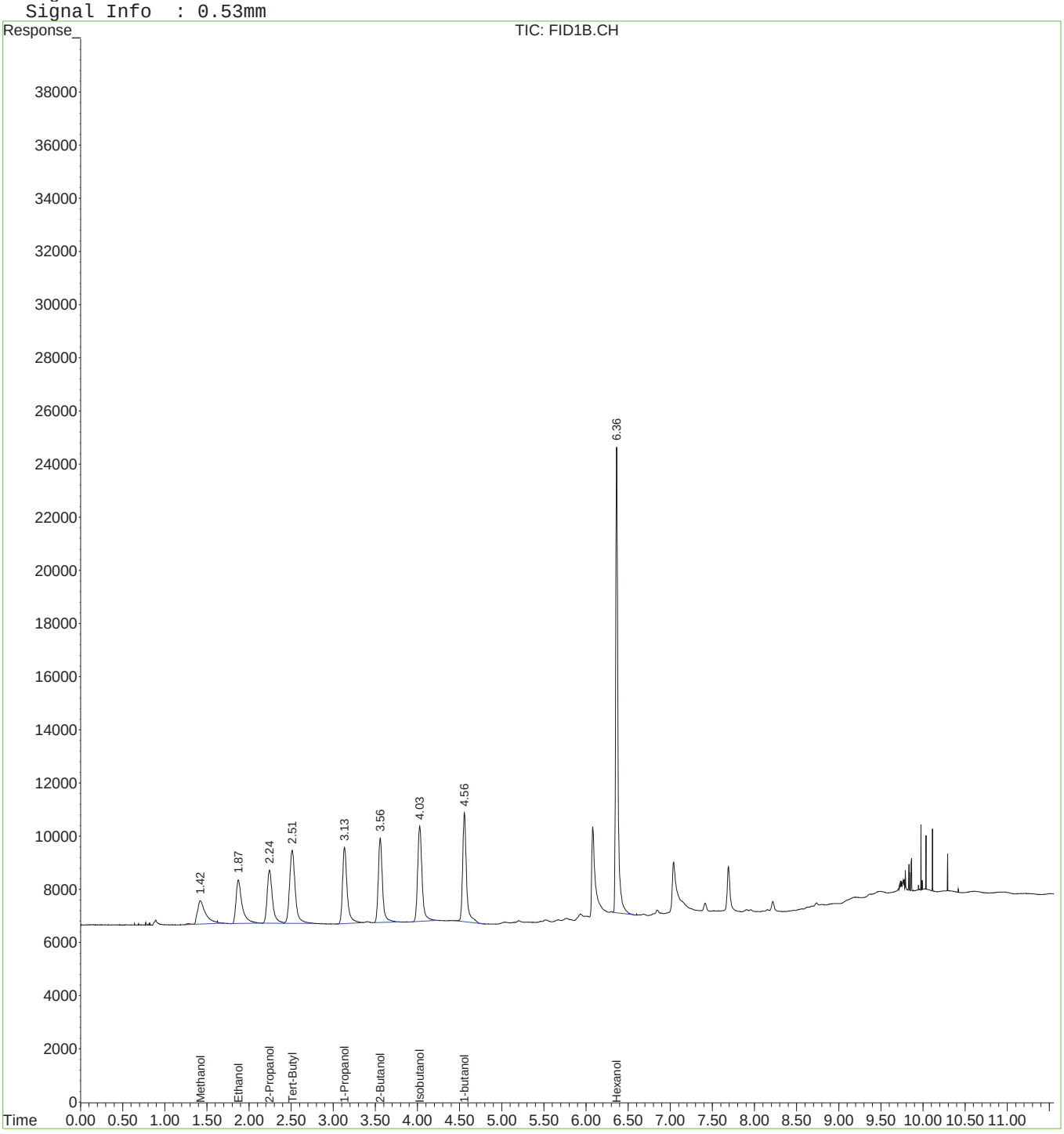
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124719.D MGH6650.M Wed Jun 02 16:36:46 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124719.D Vial: 5
Acq On : 01-Jun-2021, 10:00:39 Operator: RobertS
Sample : bs Inst : HP5890
Misc : GC58012,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124607.D Vial: 53
Acq On : 25-May-2021, 14:00:43 Operator: RobertS
Sample : jd25405-2ms Inst : HP5890
Misc : GC57993,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13:54 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	343591	4552.419 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 91.05%	
Target Compounds			
1) Methanol	1.42	57759	4206.093 ug/L
2) Ethanol	1.87	84603	4812.299 ug/L
3) 2-Propanol	2.25	1617331	83080.575 ug/L
4) Tert-Butyl Alcohol	2.51	170878	6197.037 ug/L
5) 1-Propanol	3.14	111222	4674.224 ug/L
6) 2-Butanol	3.56	111058	4528.864 ug/L
7) Isobutanol	4.03	129885	4584.291 ug/L
8) 1-butanol	4.56	129037	4508.074 ug/L

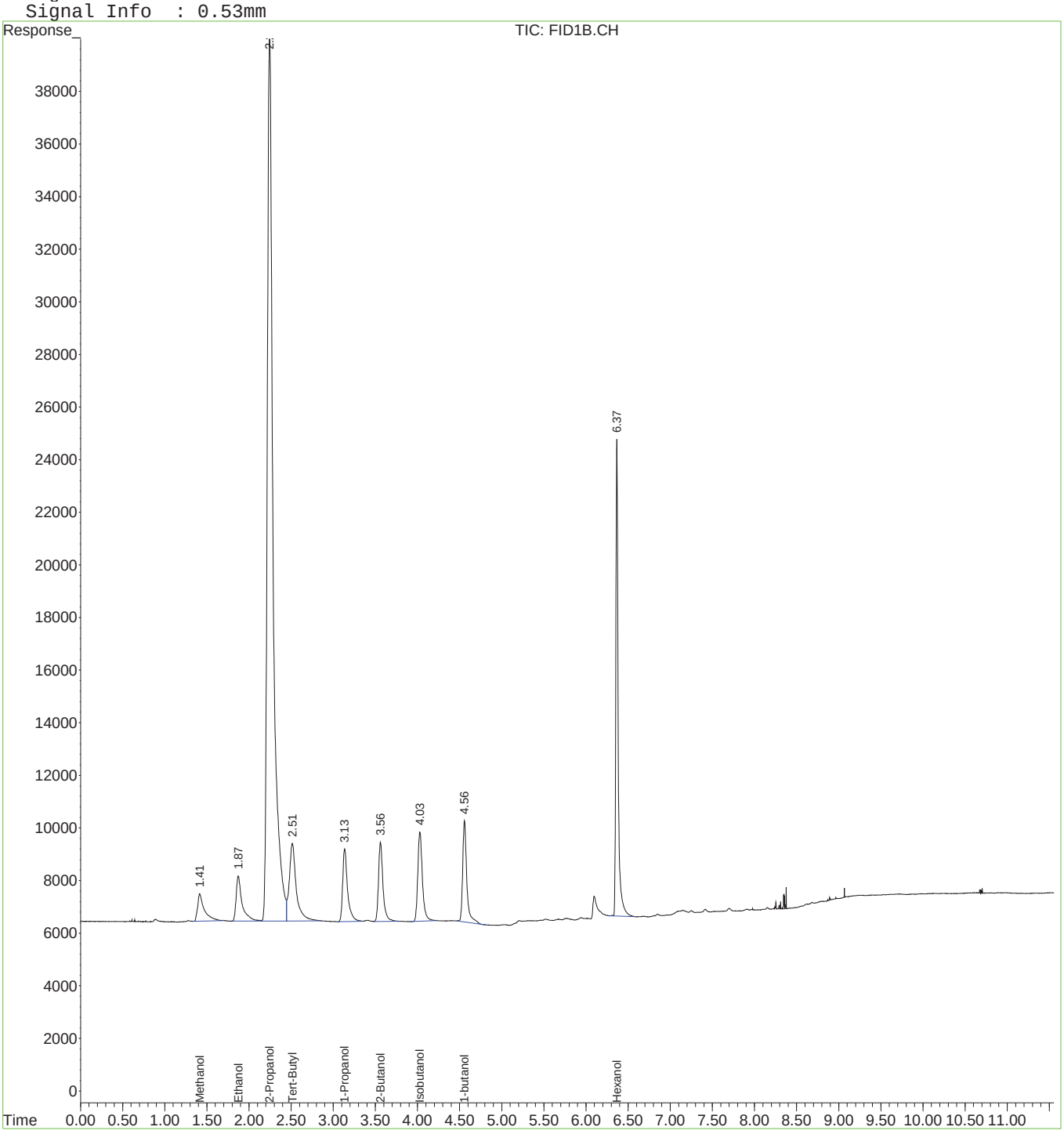
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124607.D MGH6650.M Tue May 25 16:18:48 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124607.D Vial: 53
Acq On : 25-May-2021, 14:00:43 Operator: RobertS
Sample : jd25405-2ms Inst : HP5890
Misc : GC57993,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124608.D Vial: 54
Acq On : 25-May-2021, 14:18:00 Operator: RobertS
Sample : jd25405-2msd Inst : HP5890
Misc : GC57993,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13:55 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	363445	4815.479 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 96.31%	
Target Compounds			
1) Methanol	1.40	59653	4344.012 ug/L
2) Ethanol	1.85	83954	4775.357 ug/L
3) 2-Propanol	2.23	1614774	82949.222 ug/L
4) Tert-Butyl Alcohol	2.50	154227	5593.188 ug/L
5) 1-Propanol	3.12	111516	4686.594 ug/L
6) 2-Butanol	3.55	109051	4447.006 ug/L
7) Isobutanol	4.02	128493	4535.153 ug/L
8) 1-butanol	4.55	128051	4473.630 ug/L

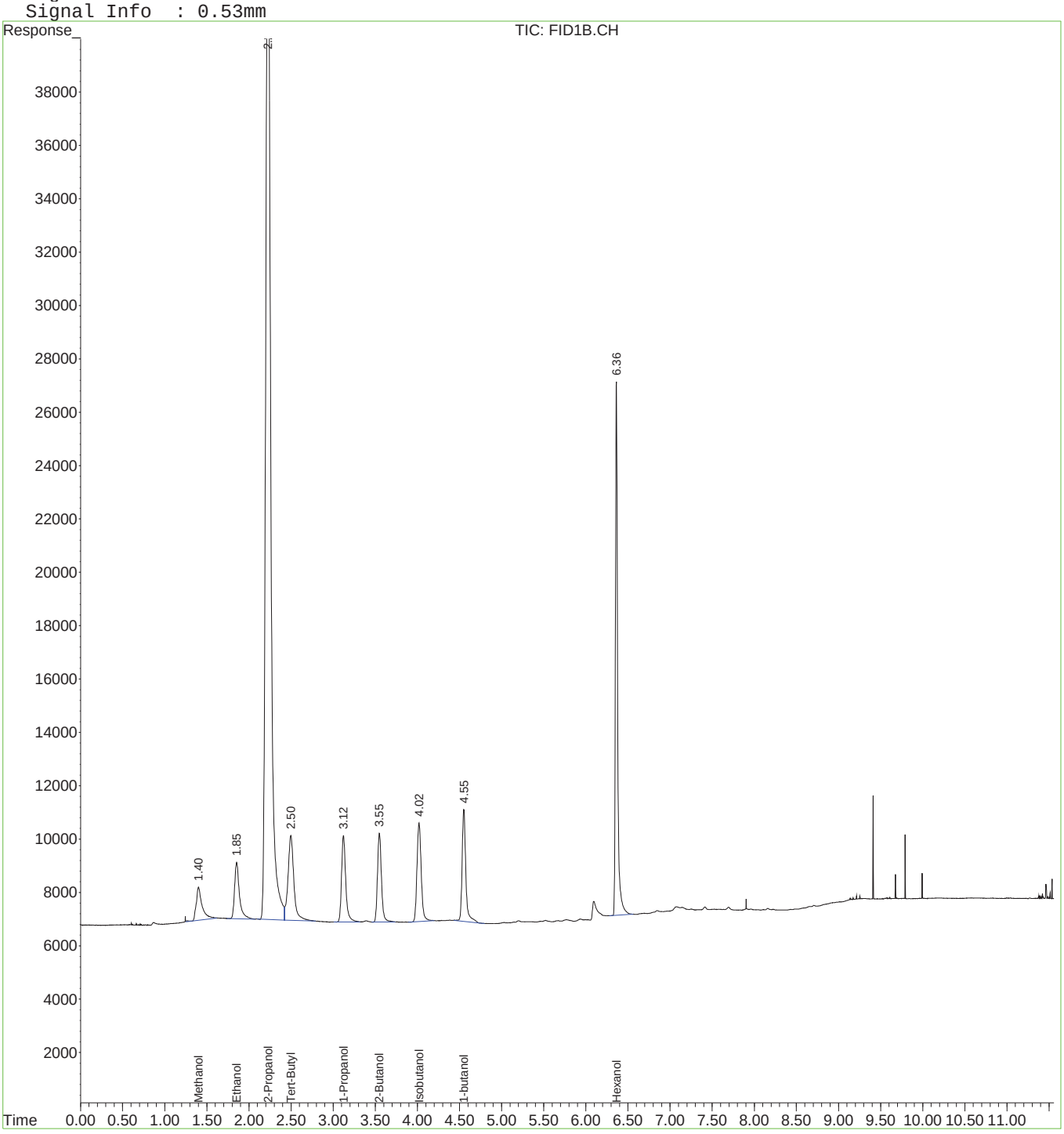
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124608.D MGH6650.M Tue May 25 16:18:56 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124608.D Vial: 54
Acq On : 25-May-2021, 14:18:00 Operator: RobertS
Sample : jd25405-2msd Inst : HP5890
Misc : GC57993,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124702.D Vial: 58
Acq On : 29-May-2021, 13:25:48 Operator: RobertS
Sample : jd25405-3ms Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:20 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	401379	5318.094 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 106.36%	
Target Compounds			
1) Methanol	1.42	56292	4099.197 ug/L
2) Ethanol	1.87	80007	4550.876 ug/L
3) 2-Propanol	2.24	348890	17922.110 ug/L
4) Tert-Butyl Alcohol	2.51	135523	4914.858 ug/L
5) 1-Propanol	3.13	106540	4477.489 ug/L
6) 2-Butanol	3.55	107685	4391.282 ug/L
7) Isobutanol	4.02	126048	4448.878 ug/L
8) 1-butanol	4.55	120823	4221.100 ug/L

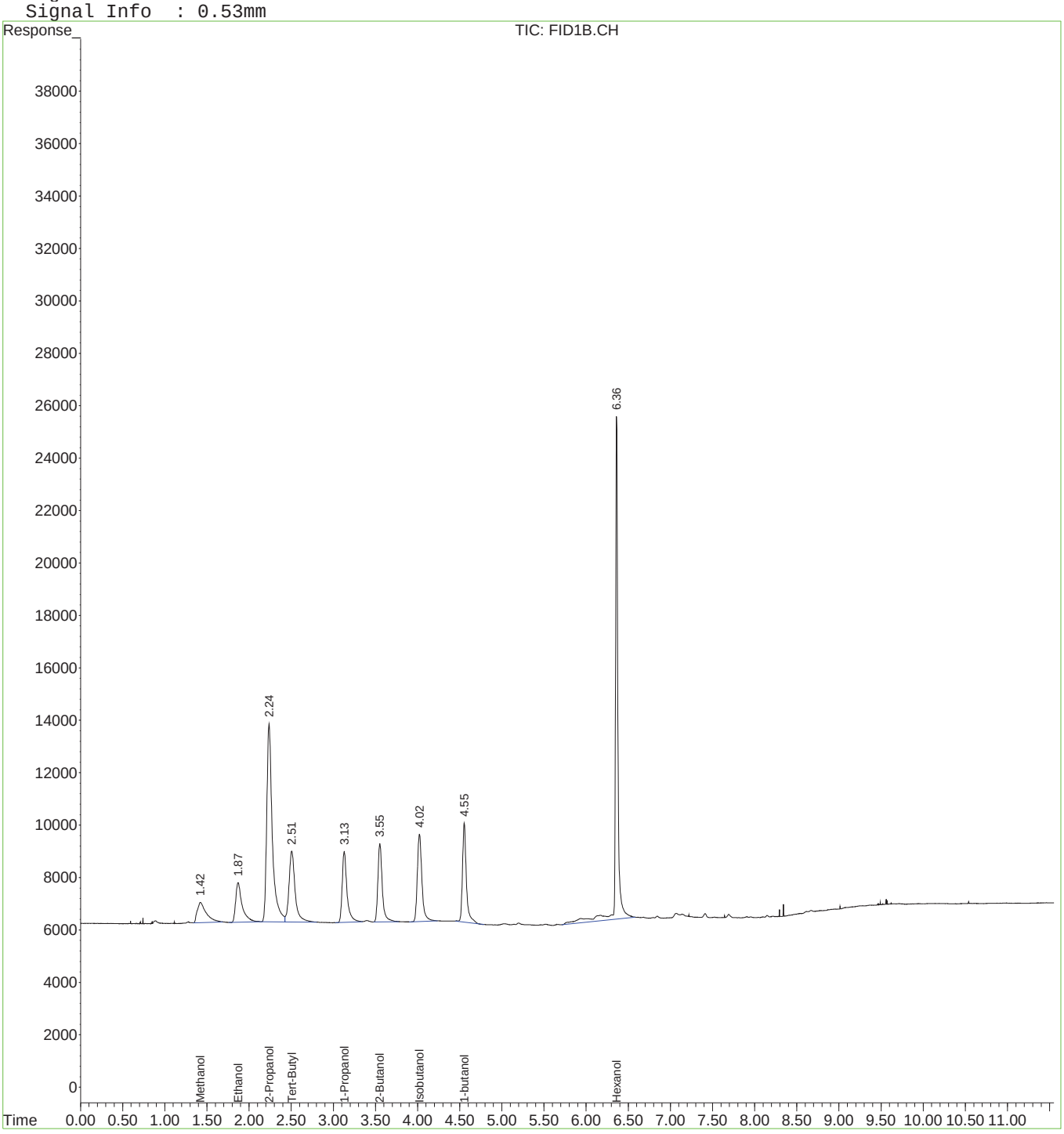
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124702.D MGH6650.M Wed Jun 02 09:38:06 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124702.D Vial: 58
Acq On : 29-May-2021, 13:25:48 Operator: RobertS
Sample : jd25405-3ms Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124703.D Vial: 59
Acq On : 29-May-2021, 13:43:16 Operator: RobertS
Sample : jd25405-3msd Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	302064	4002.209 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 80.04%	
Target Compounds			
1) Methanol	1.42	54660	3980.414 ug/L
2) Ethanol	1.87	77581	4412.843 ug/L
3) 2-Propanol	2.24	337843	17354.616 ug/L
4) Tert-Butyl Alcohol	2.51	138679	5029.307 ug/L
5) 1-Propanol	3.13	103602	4354.009 ug/L
6) 2-Butanol	3.55	106270	4333.618 ug/L
7) Isobutanol	4.02	124684	4400.727 ug/L
8) 1-butanol	4.55	119737	4183.169 ug/L

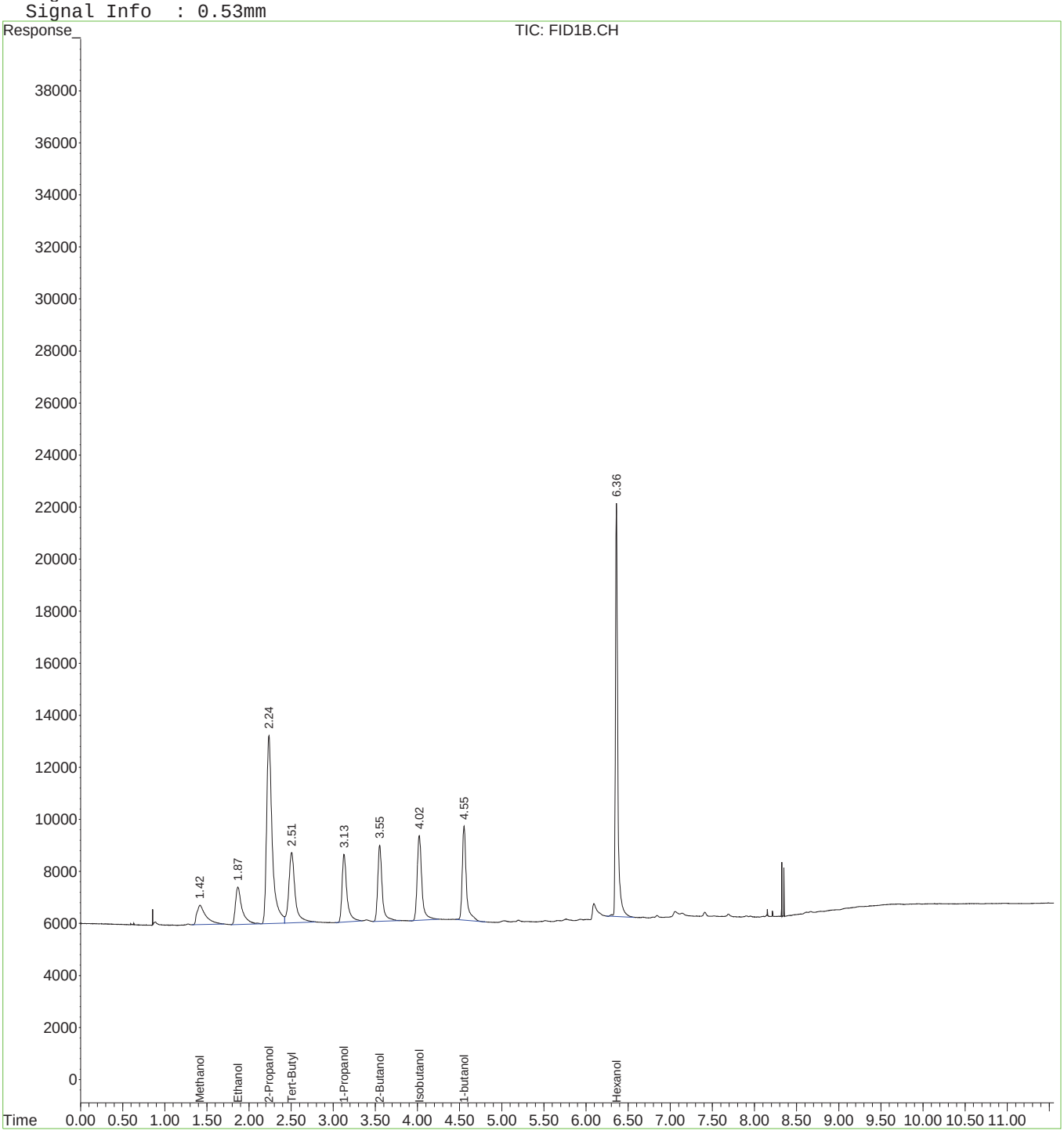
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124703.D MGH6650.M Wed Jun 02 09:38:12 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124703.D Vial: 59
Acq On : 29-May-2021, 13:43:16 Operator: RobertS
Sample : jd25405-3msd Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124731.D Vial: 17
Acq On : 01-Jun-2021, 15:54:58 Operator: RobertS
Sample : jd25706-2ms Inst : HP5890
Misc : GC58014,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:34 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.37	318343	4217.897	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 84.36%		
Target Compounds				
1) Methanol	1.43	66470	4840.398	ug/L
2) Ethanol	1.87	93723	5331.041	ug/L
3) 2-Propanol	2.24	84853	4358.794	ug/L
4) Tert-Butyl Alcohol	2.51	120107	4355.800	ug/L
5) 1-Propanol	3.14	114112	4795.695	ug/L
6) 2-Butanol	3.56	107156	4369.729	ug/L
7) Isobutanol	4.03	150137	5299.088	ug/L
8) 1-butanol	4.56	134520	4699.654	ug/L

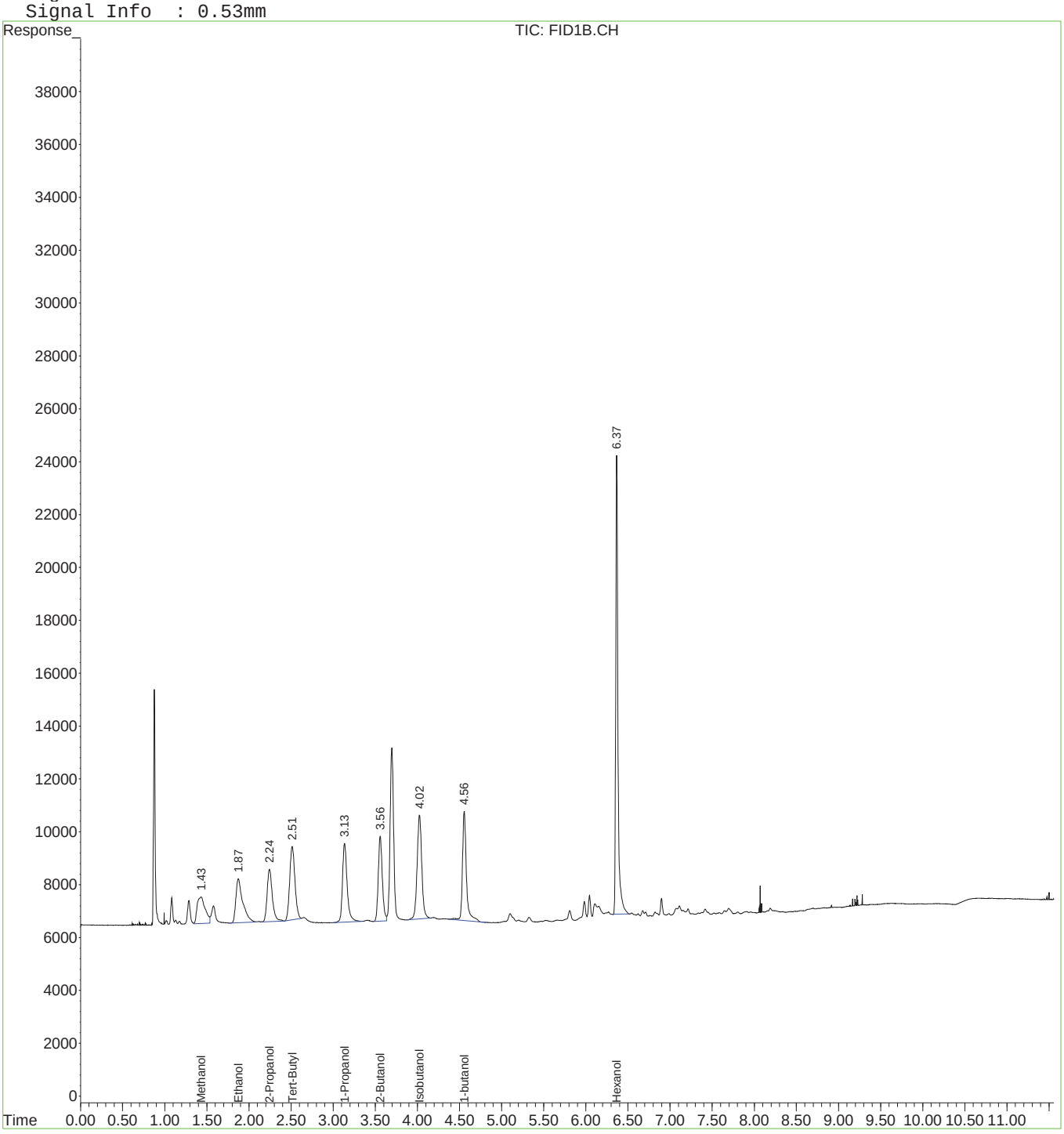
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124731.D MGH6650.M Wed Jun 02 16:39:59 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124731.D Vial: 17
Acq On : 01-Jun-2021, 15:54:58 Operator: RobertS
Sample : jd25706-2ms Inst : HP5890
Misc : GC58014,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124732.D Vial: 18
Acq On : 01-Jun-2021, 16:12:16 Operator: RobertS
Sample : jd25706-2msd Inst : HP5890
Misc : GC58014,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:35 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
9) S	Hexanol	6.37	273312	3621.261	ug/L
Spiked Amount	5000.000	Range 56 - 145	Recovery =	72.43%	
	Target Compounds				
1)	Methanol	1.43	63816	4647.134	ug/L
2)	Ethanol	1.88	89223	5075.047	ug/L
3)	2-Propanol	2.25	85894	4412.261	ug/L
4)	Tert-Butyl Alcohol	2.52	135373	4909.430	ug/L
5)	1-Propanol	3.14	104965	4411.304	ug/L
6)	2-Butanol	3.56	99557	4059.865	ug/L
7)	Isobutanol	4.03	148462	5239.980	ug/L
8)	1-butanol	4.56	117130	4092.096	ug/L

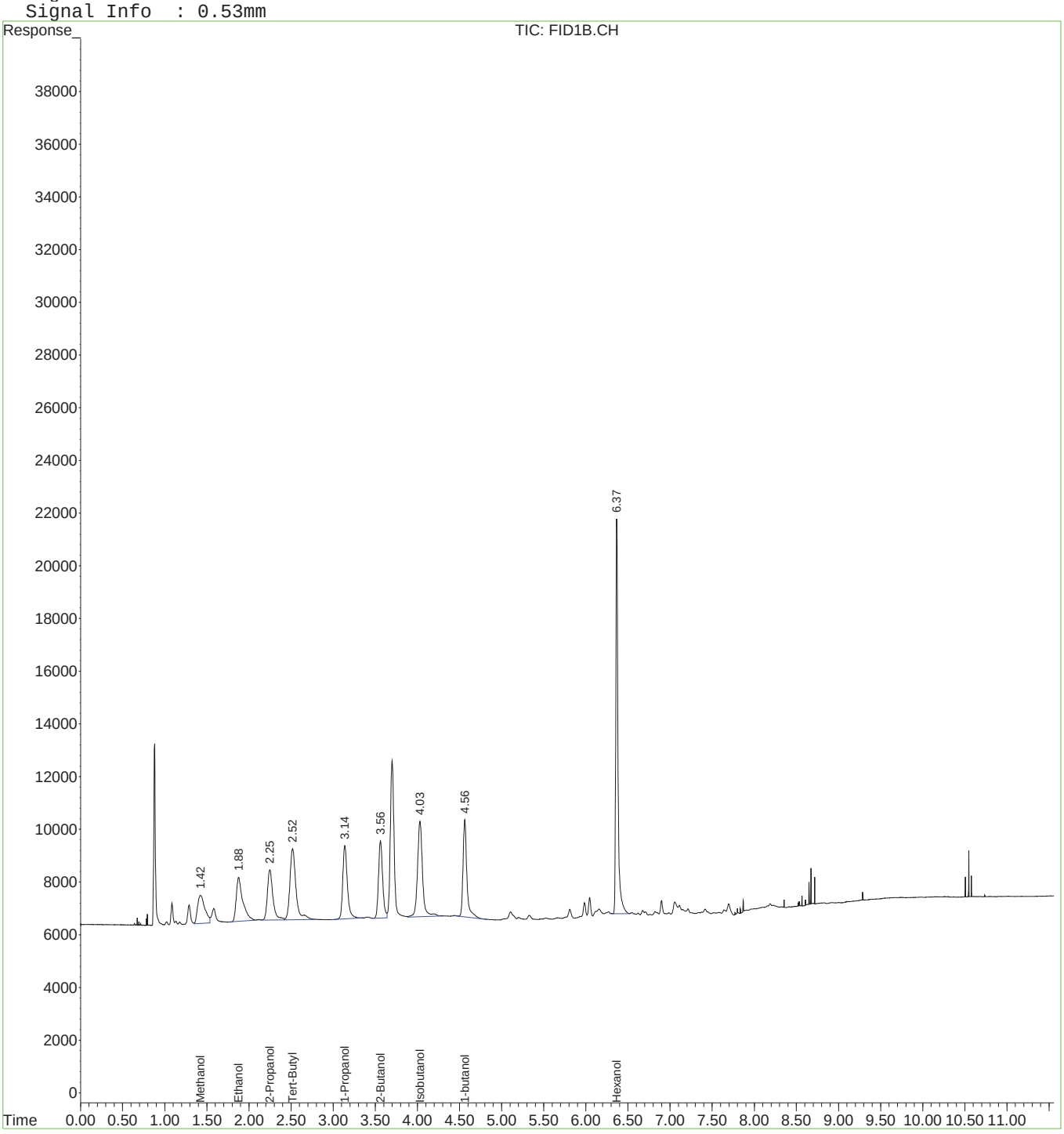
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124732.D MGH6650.M Wed Jun 02 16:40:05 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124732.D Vial: 18
Acq On : 01-Jun-2021, 16:12:16 Operator: RobertS
Sample : jd25706-2msd Inst : HP5890
Misc : GC58014,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:53 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.34	362785	4469.376	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 89.39%			
Target Compounds					
1) Methanol	1.37	3057	207.681	ug/L	
2) Ethanol	1.82	2731	153.906	ug/L	m
3) 2-Propanol	2.20	3951	200.505	ug/L	m
4) Tert-Butyl Alcohol	2.47	5876	198.400	ug/L	
5) 1-Propanol	3.09	4867	199.937	ug/L	
6) 2-Butanol	3.52	4972	191.683	ug/L	
7) Isobutanol	3.99	5889	197.827	ug/L	
8) 1-butanol	4.52	6991	232.719	ug/L	m

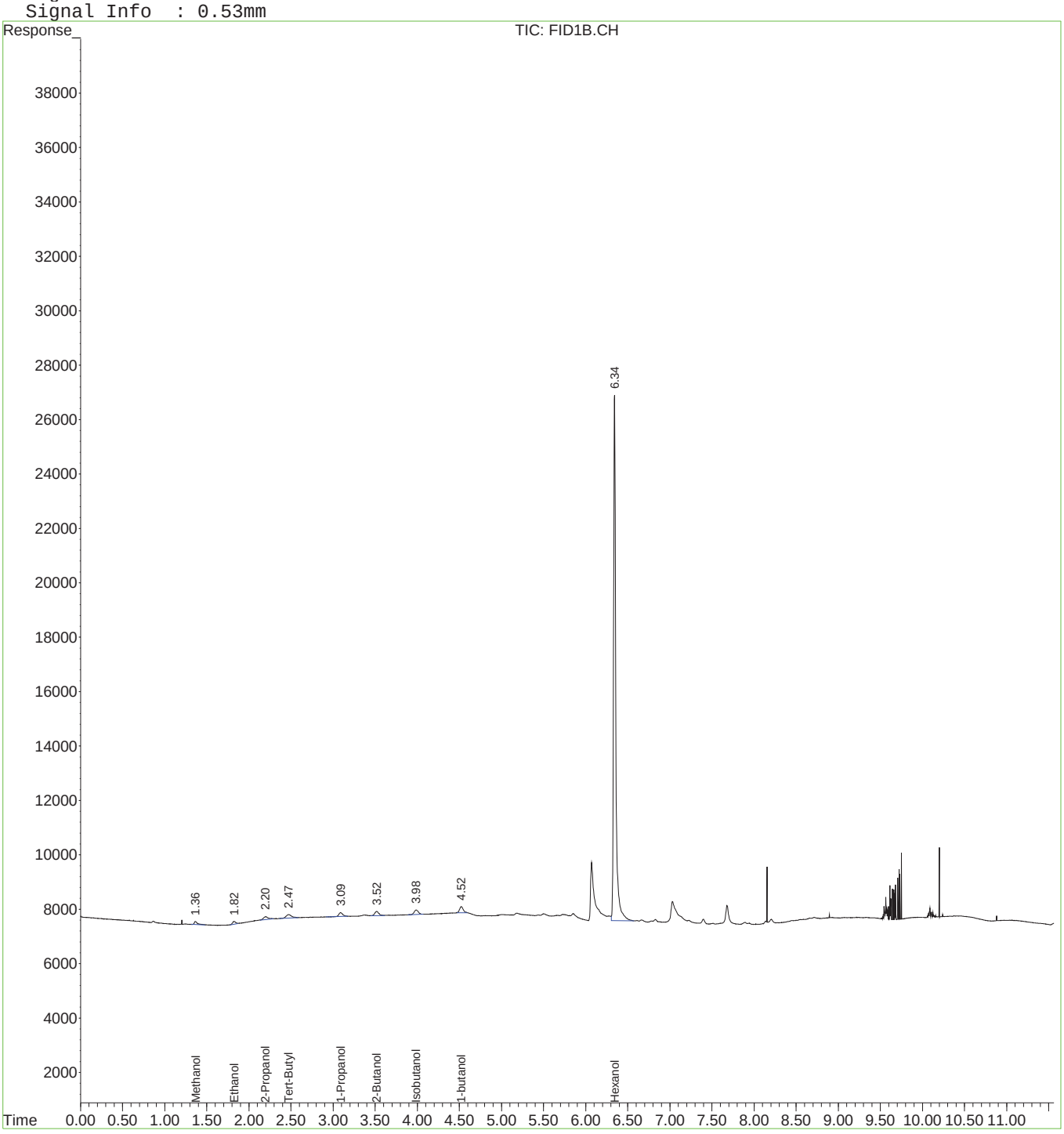
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123502.D MGH6650.M Thu Jan 28 11:49:02 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:24 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

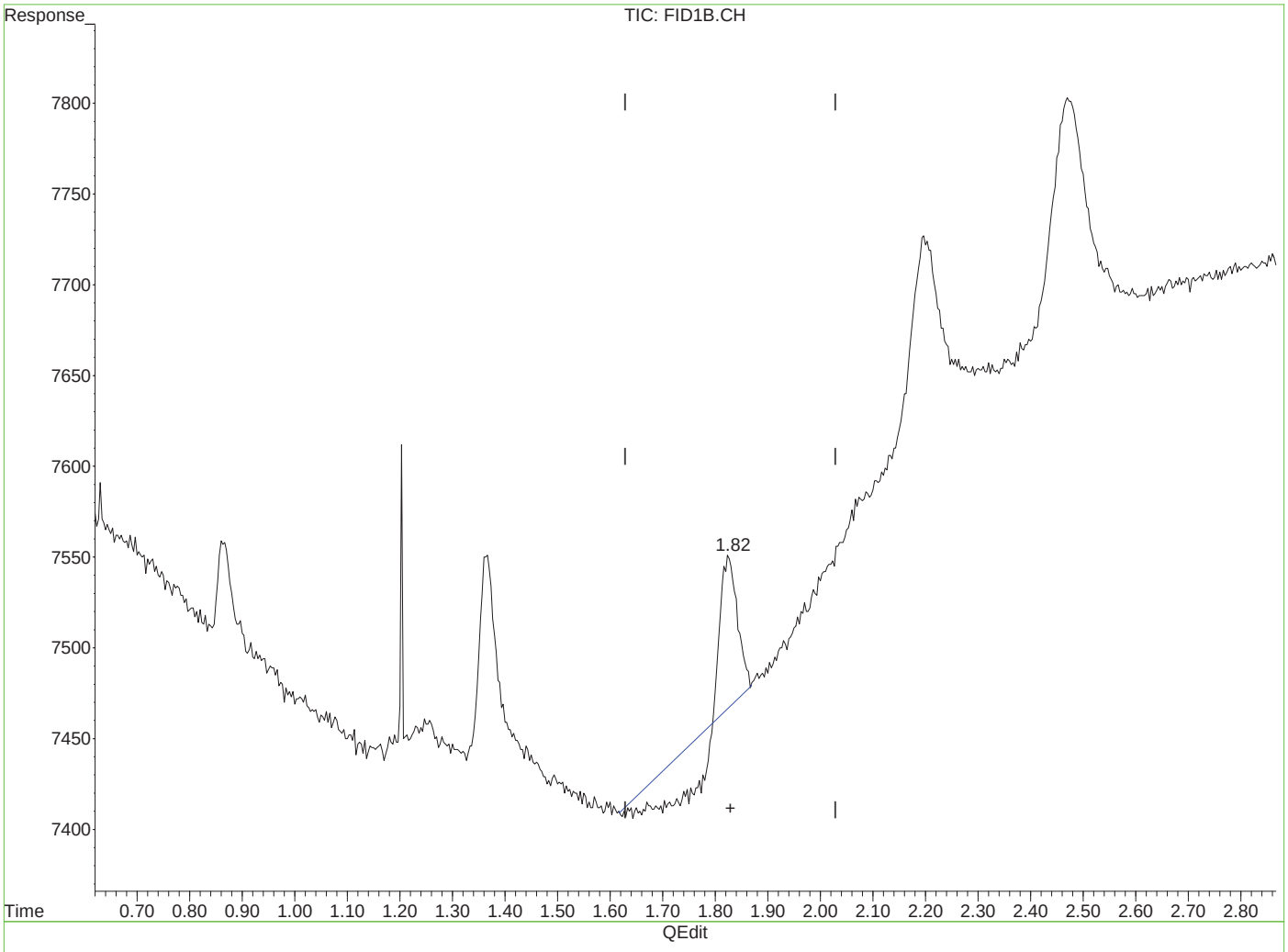
Sample Number: GGH6650-IC6650
Lab FileID: GH123502.D
Injection Time: 01/21/21 18:20
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethanol	64-17-5	1	1.82	Poorly defined baseline
Isopropyl Alcohol	67-63-0	1	2.20	Poorly defined baseline
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.83min 1.939ug/L

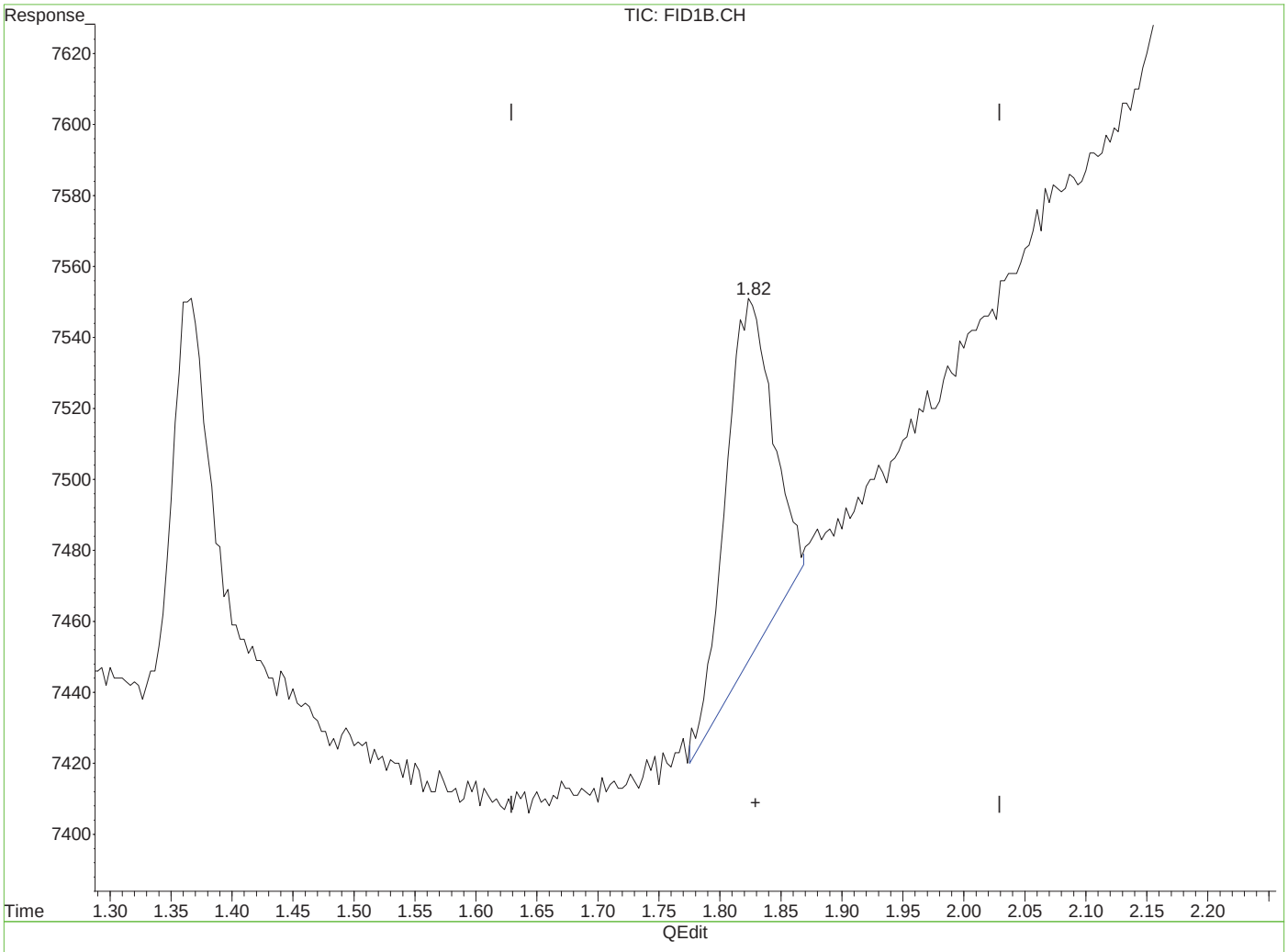
response 34

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:22:46 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(2) Ethanol

1.82min 153.906ug/L m

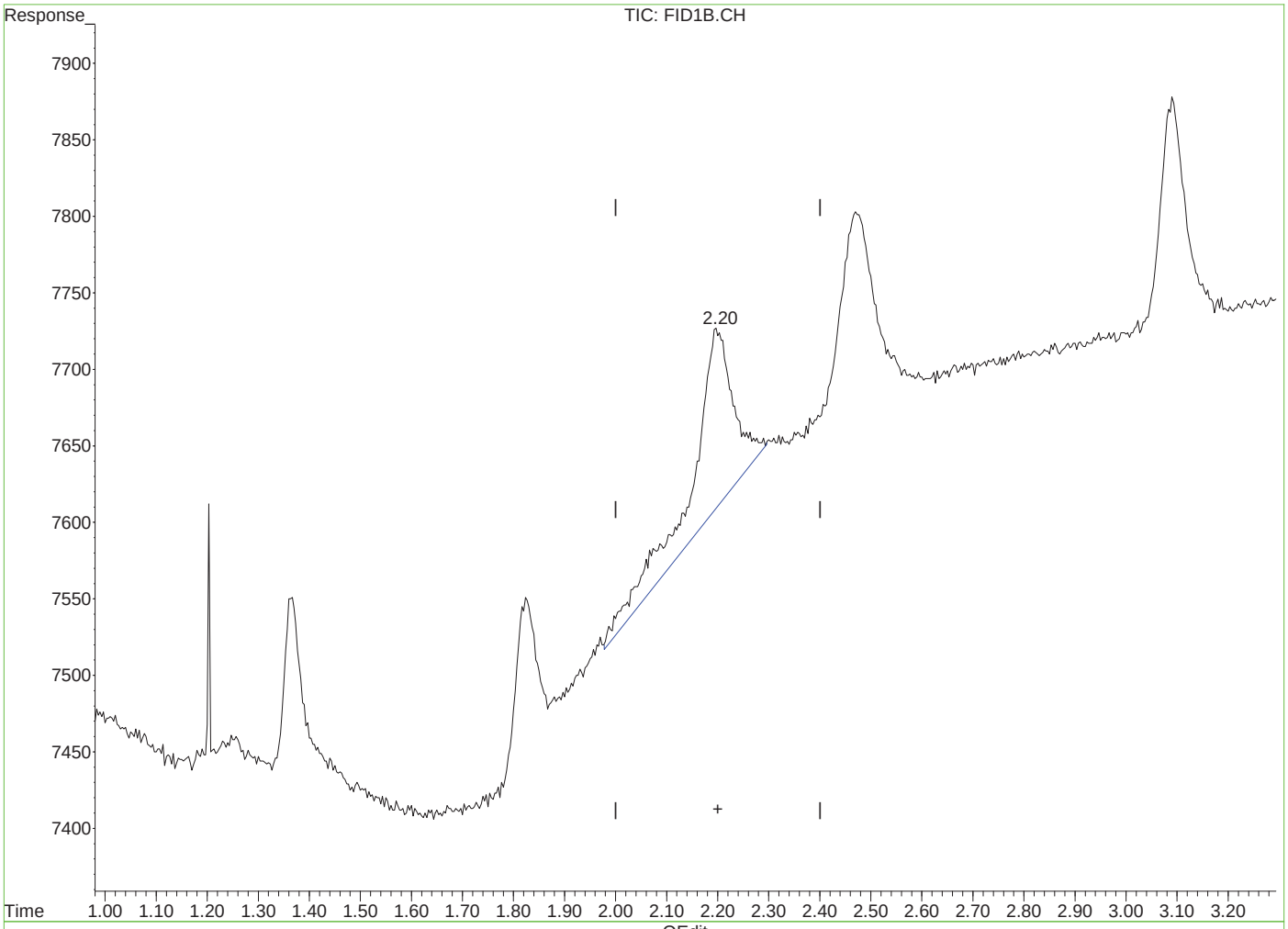
response 2731

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:05 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 324.750ug/L

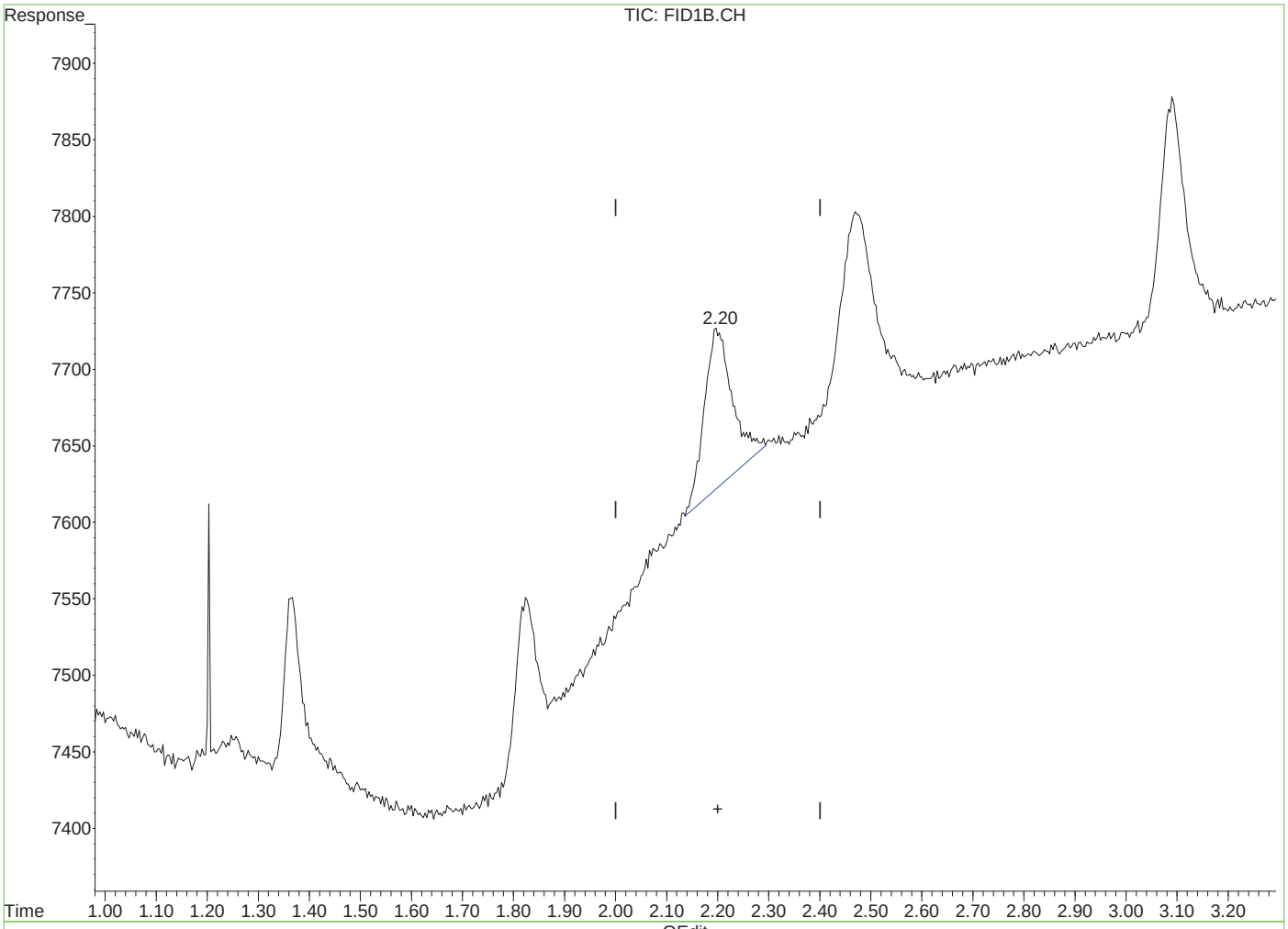
response 6399

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:11 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(3) 2-Propanol

2.20min 200.505ug/L m

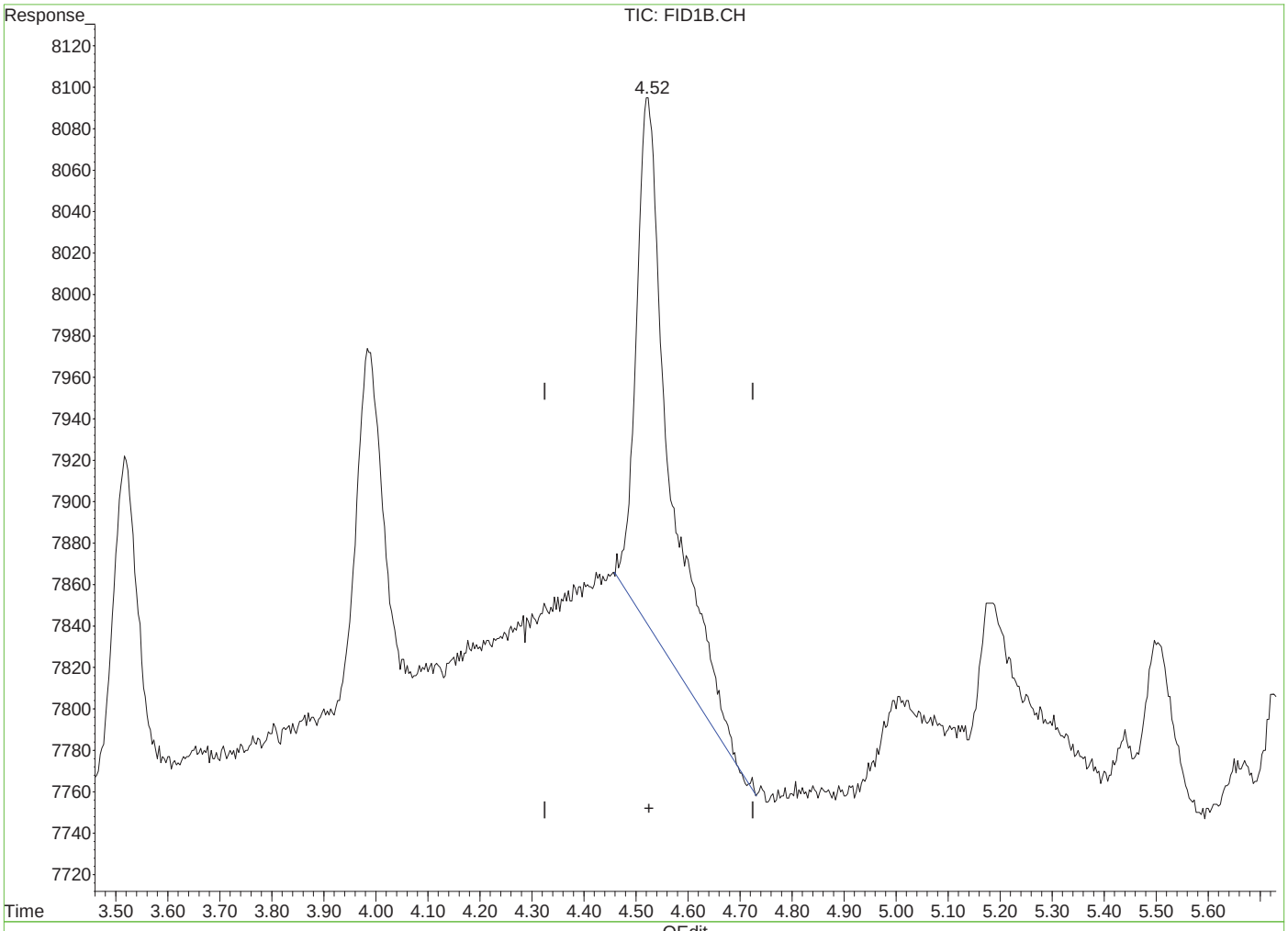
response 3951

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:29 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 375.523ug/L

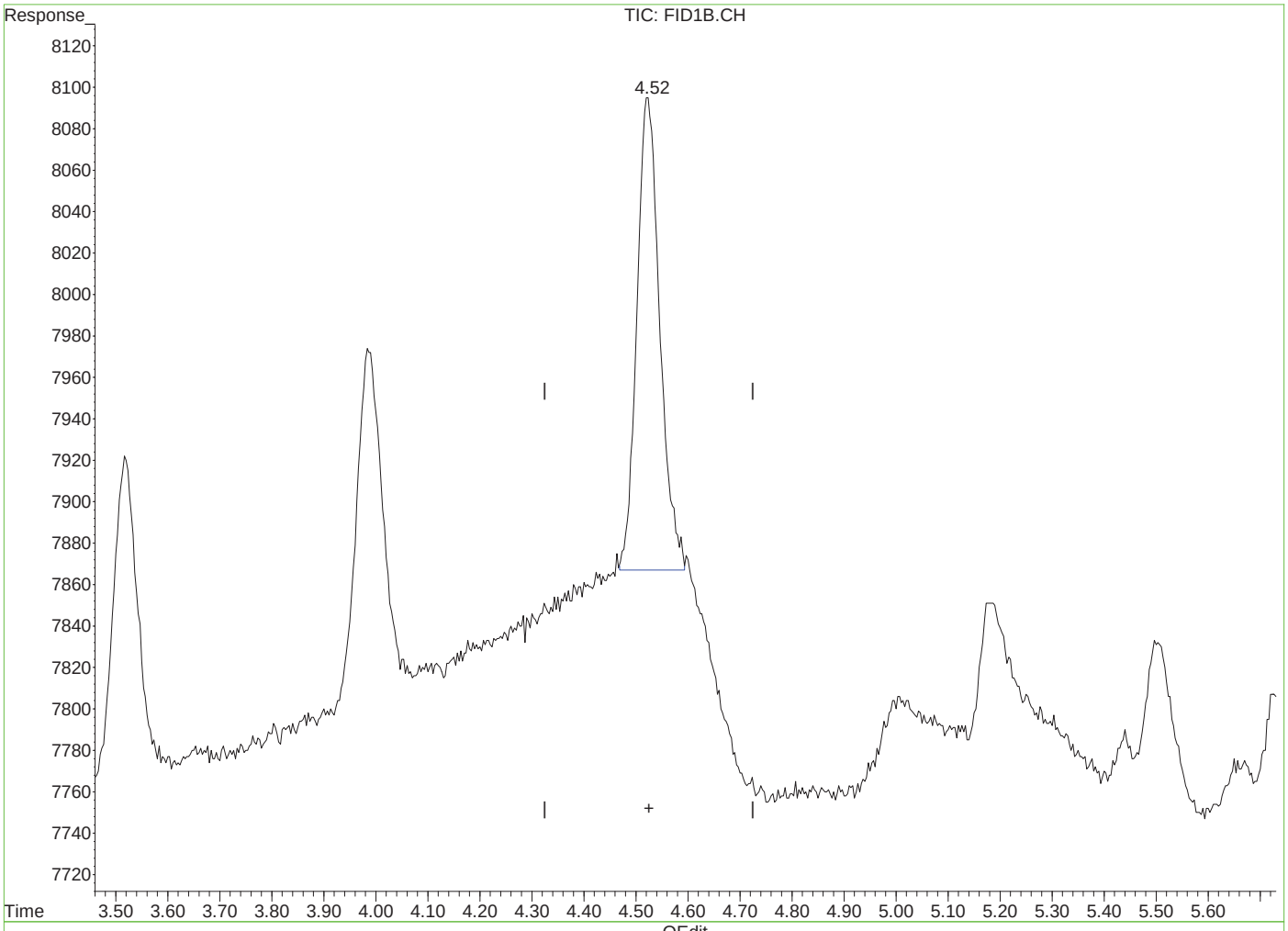
response 11280

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:23:46 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123502.D Vial: 2
Acq On : 21-Jan-2021, 18:20:24 Operator: RobertS
Sample : IC6650-200 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 232.719ug/L m

response 6991

(+) = Expected Retention Time
GH123502.D MGH6650.M Wed Jan 27 14:24:16 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27:02 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	372862	4593.521	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	91.87%		
	Target Compounds					
1)	Methanol	1.37	6575	446.750	ug/L	
2)	Ethanol	1.82	8858	499.112	ug/L	
3)	2-Propanol	2.20	9949	504.943	ug/L	
4)	Tert-Butyl Alcohol	2.47	13023	439.713	ug/L	
5)	1-Propanol	3.09	12081	496.301	ug/L	
6)	2-Butanol	3.52	12261	472.693	ug/L	
7)	Isobutanol	3.99	13995	470.095	ug/L	
8)	1-butanol	4.53	13839	460.691	ug/L	m

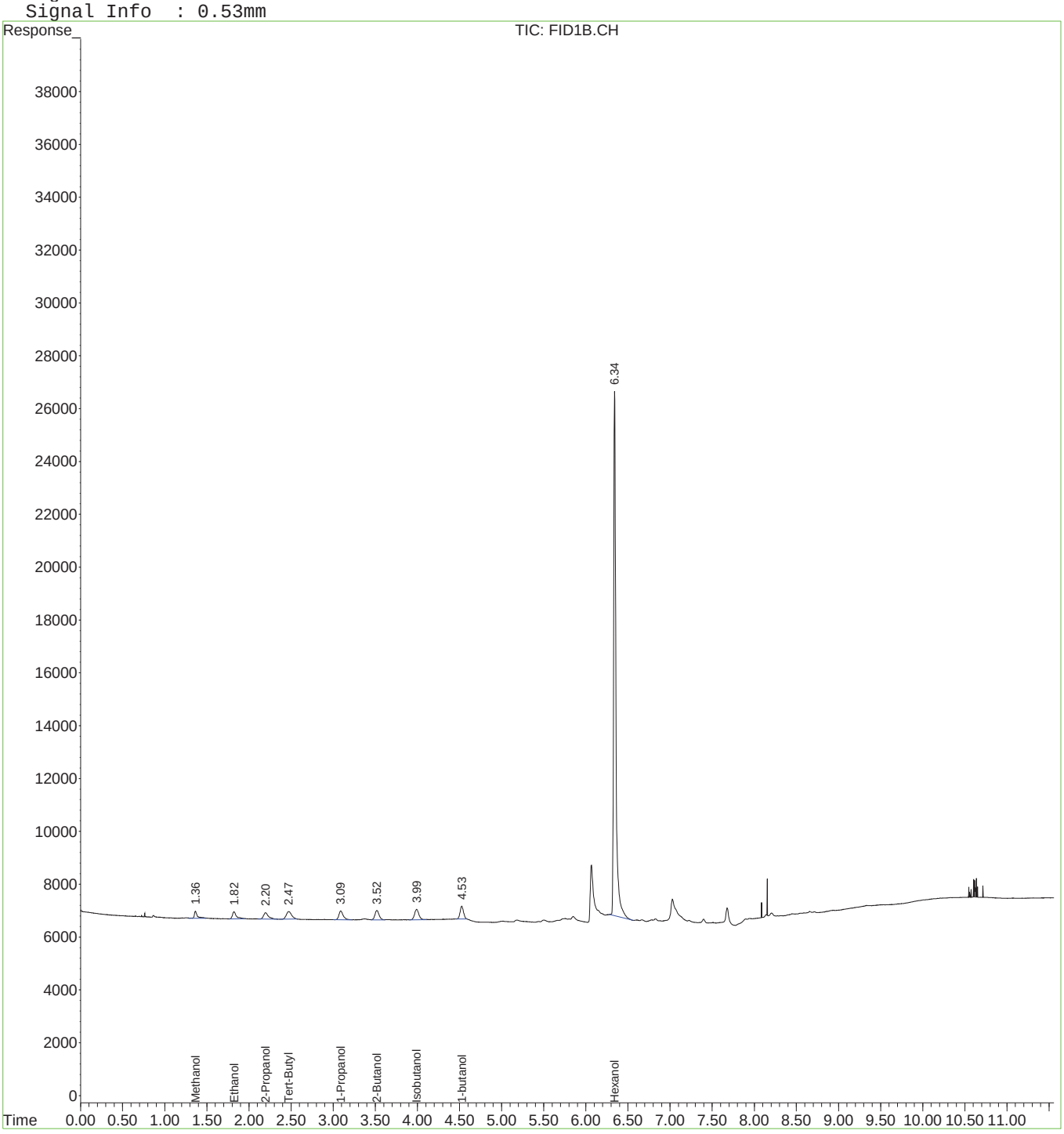
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123503.D MGH6650.M Thu Jan 28 11:49:03 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

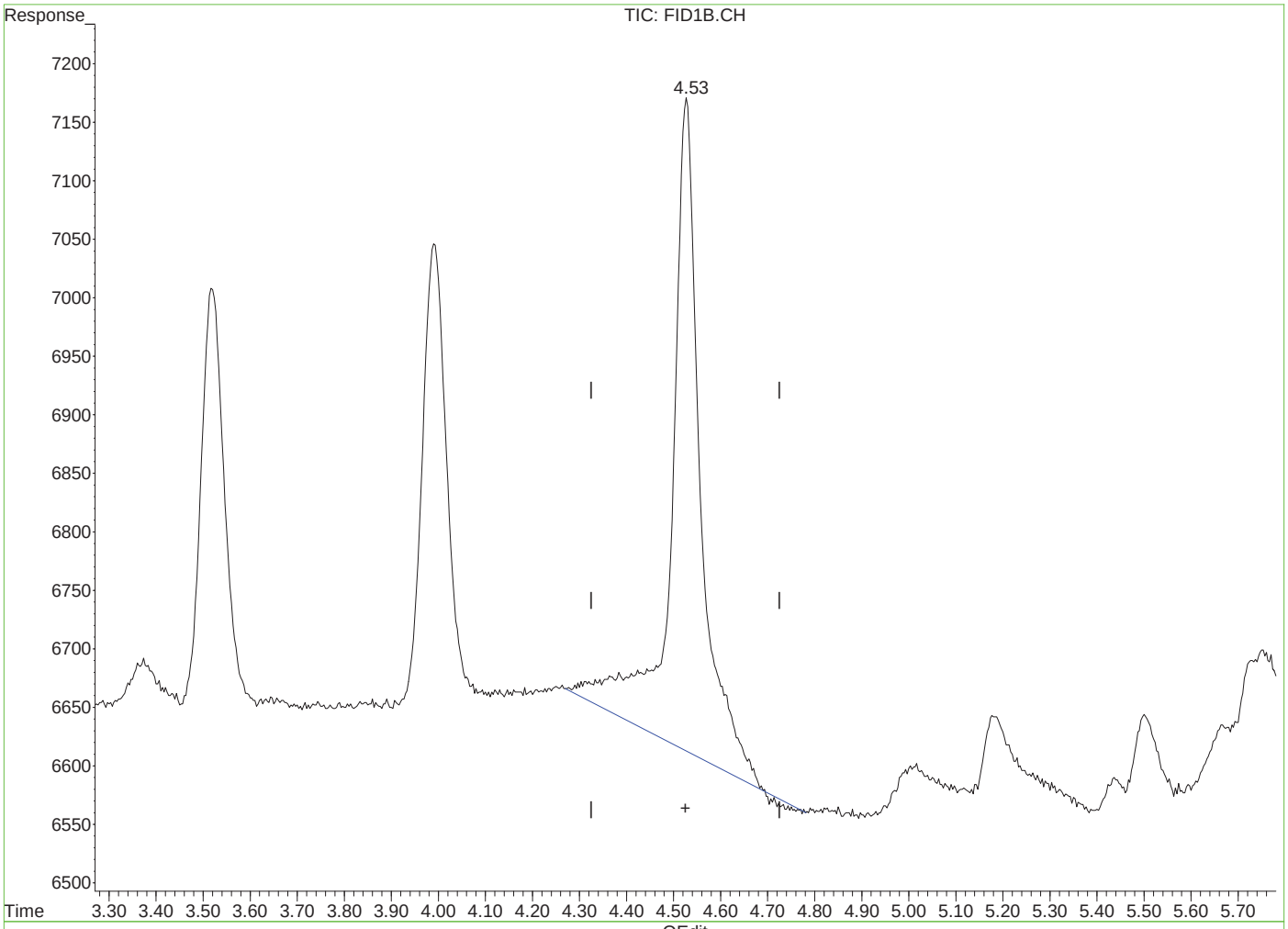
Sample Number: GGH6650-IC6650
Lab FileID: GH123503.D
Injection Time: 01/21/21 18:37
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.53	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:24 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.53min 814.009ug/L

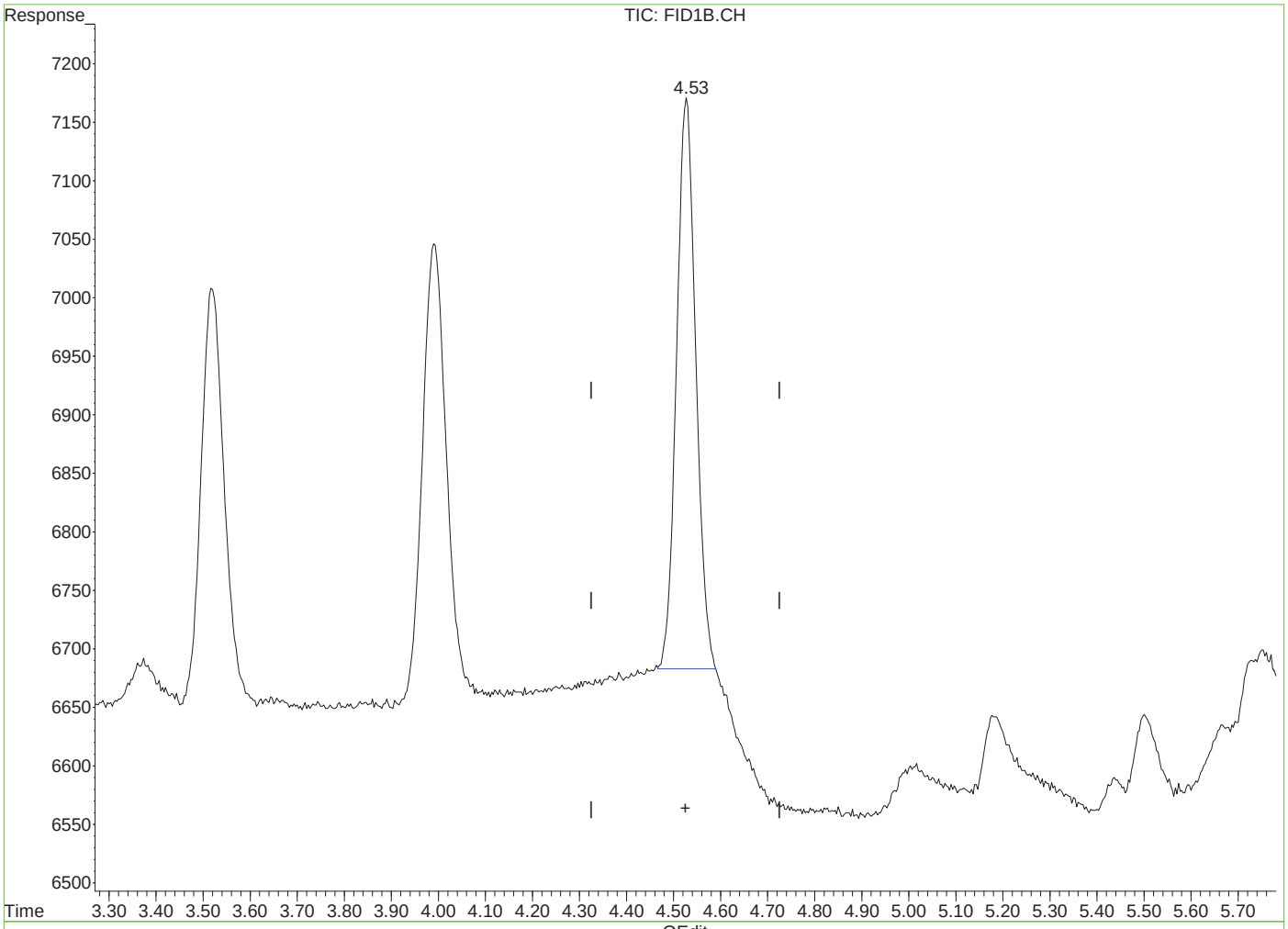
response 24452

(+) = Expected Retention Time
GH123503.D MGH6650.M Wed Jan 27 14:25:33 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123503.D Vial: 3
Acq On : 21-Jan-2021, 18:37:52 Operator: RobertS
Sample : IC6650-500 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:27 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.53min 460.691ug/L m

response 13839

(+) = Expected Retention Time
GH123503.D MGH6650.M Wed Jan 27 14:27:41 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28:40 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	381467	4699.533	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	93.99%		
	Target Compounds					
1)	Methanol	1.39	12476	847.660	ug/L	
2)	Ethanol	1.83	17879	1007.394	ug/L	
3)	2-Propanol	2.20	17361	881.107	ug/L	
4)	Tert-Butyl Alcohol	2.47	27162	917.115	ug/L	m
5)	1-Propanol	3.09	24031	987.222	ug/L	
6)	2-Butanol	3.52	25793	994.389	ug/L	
7)	Isobutanol	3.99	28536	958.548	ug/L	
8)	1-butanol	4.52	28463	947.542	ug/L	m

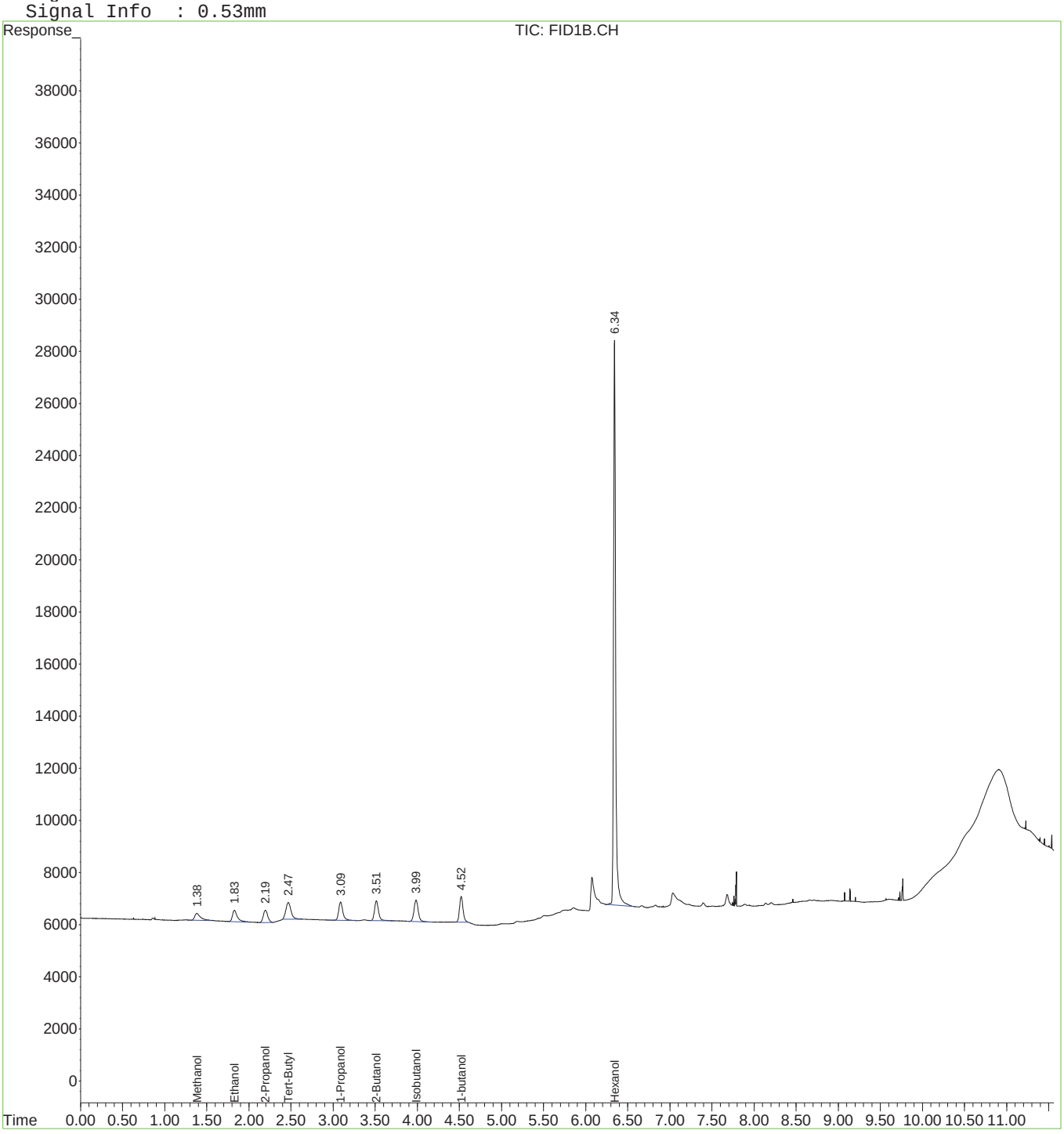
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123504.D MGH6650.M Thu Jan 28 11:49:04 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

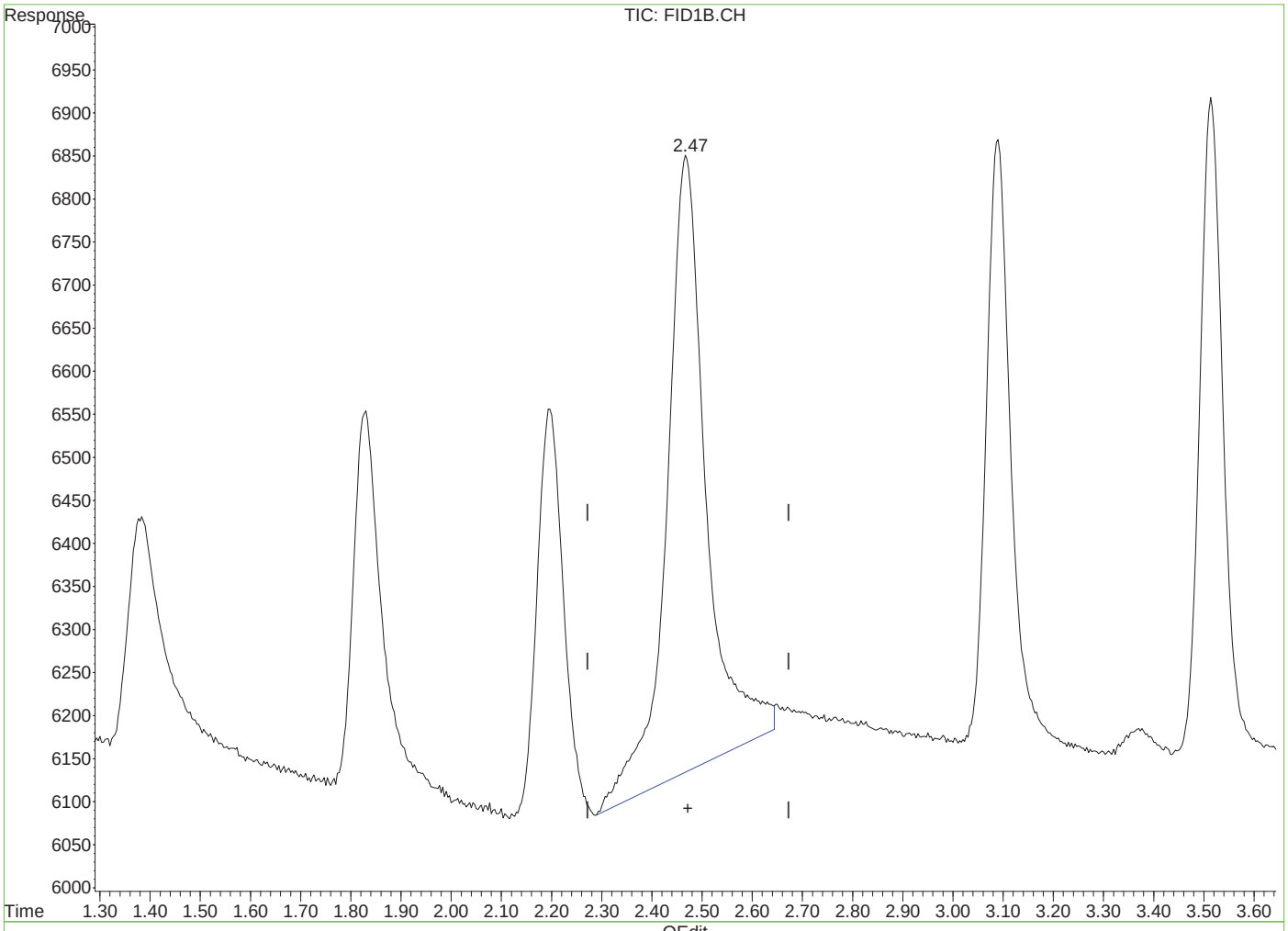
Sample Number: GGH6650-IC6650
Lab FileID: GH123504.D
Injection Time: 01/21/21 18:55
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tertiary Butyl Alcohol	75-65-0	1	2.47	Poorly defined baseline
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 1312.383ug/L

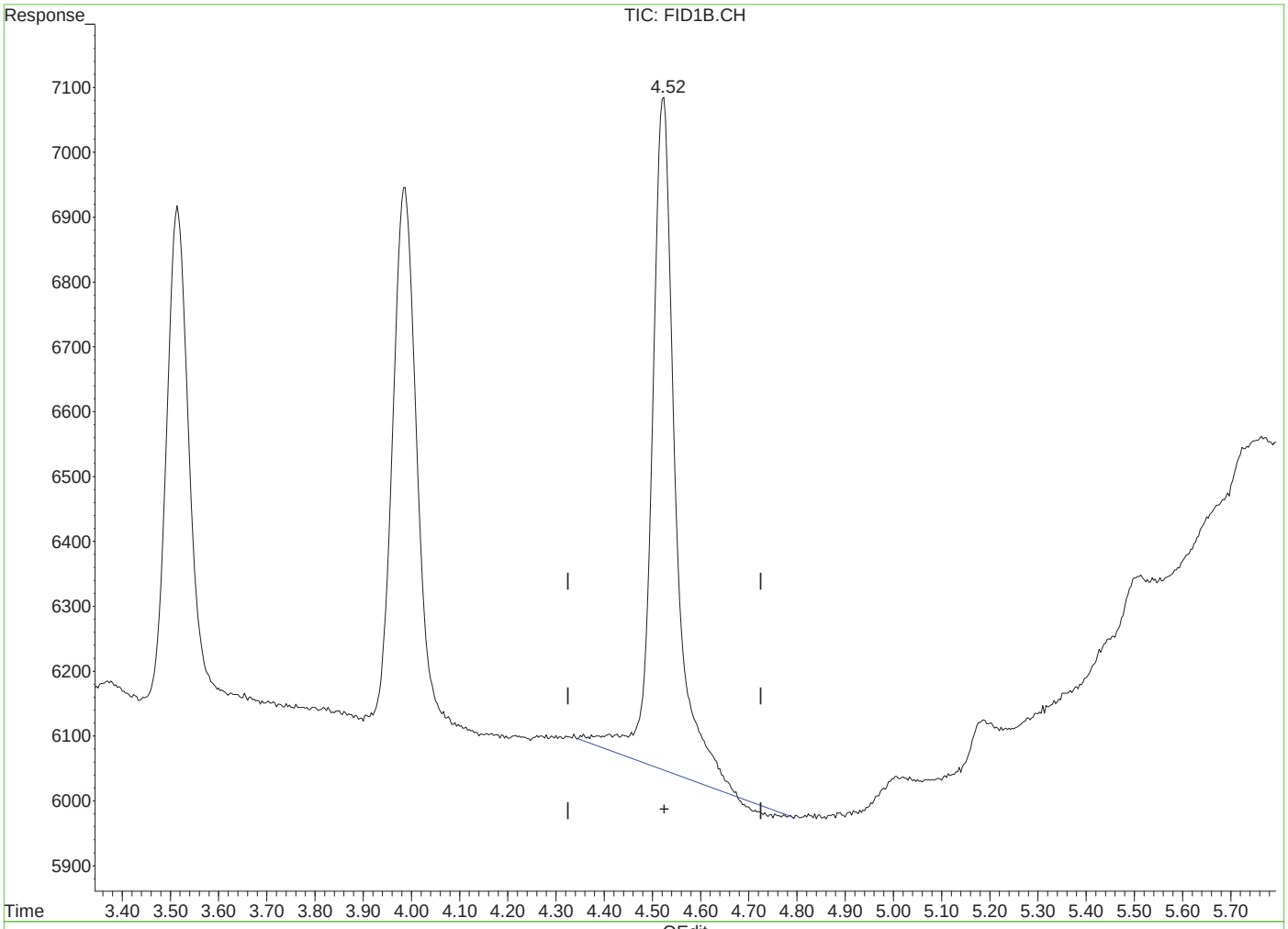
response 38868

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:28:50 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 1172.281ug/L

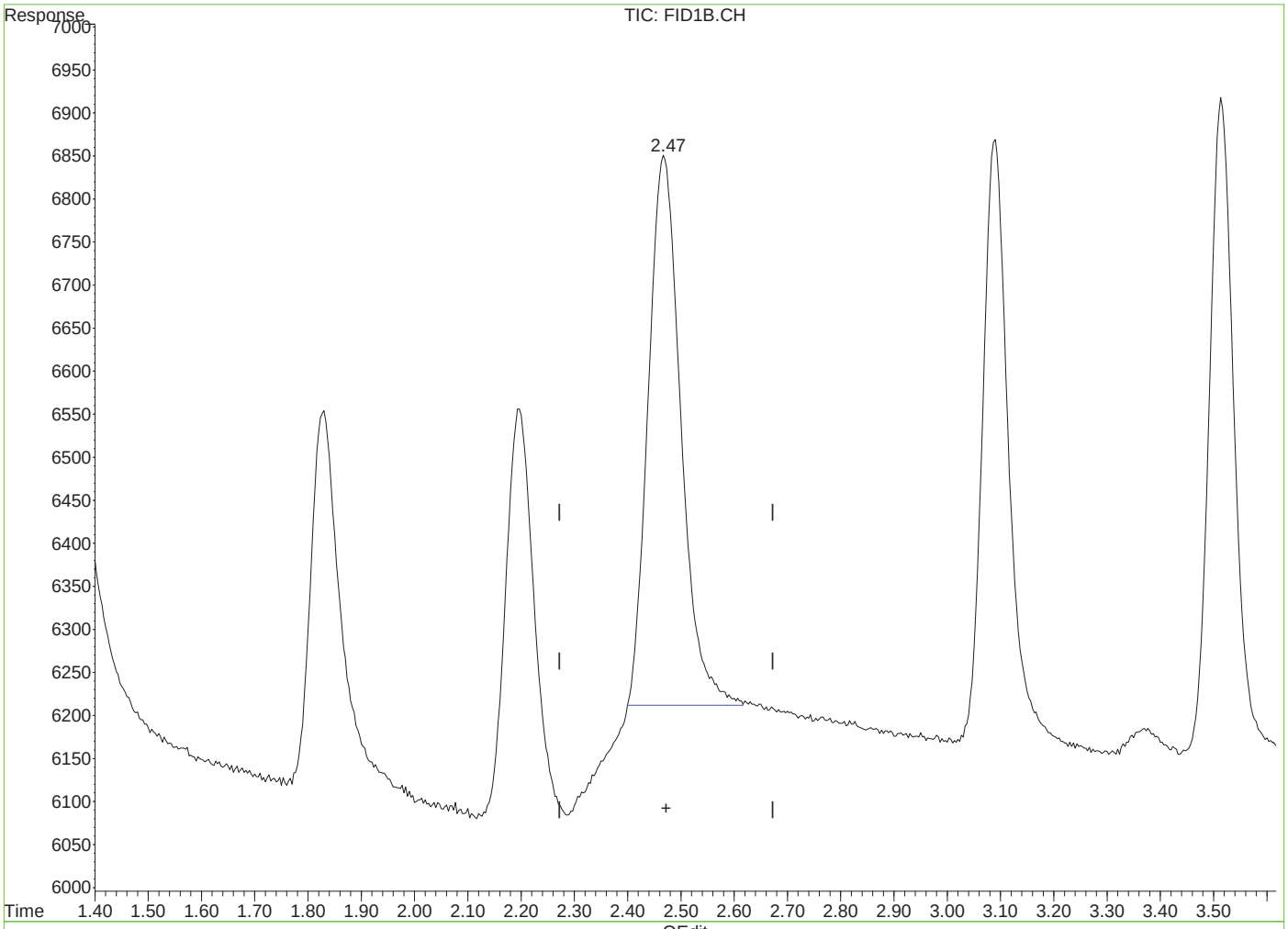
response 35214

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:15 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(4) Tert-Butyl Alcohol

2.47min 917.115ug/L m

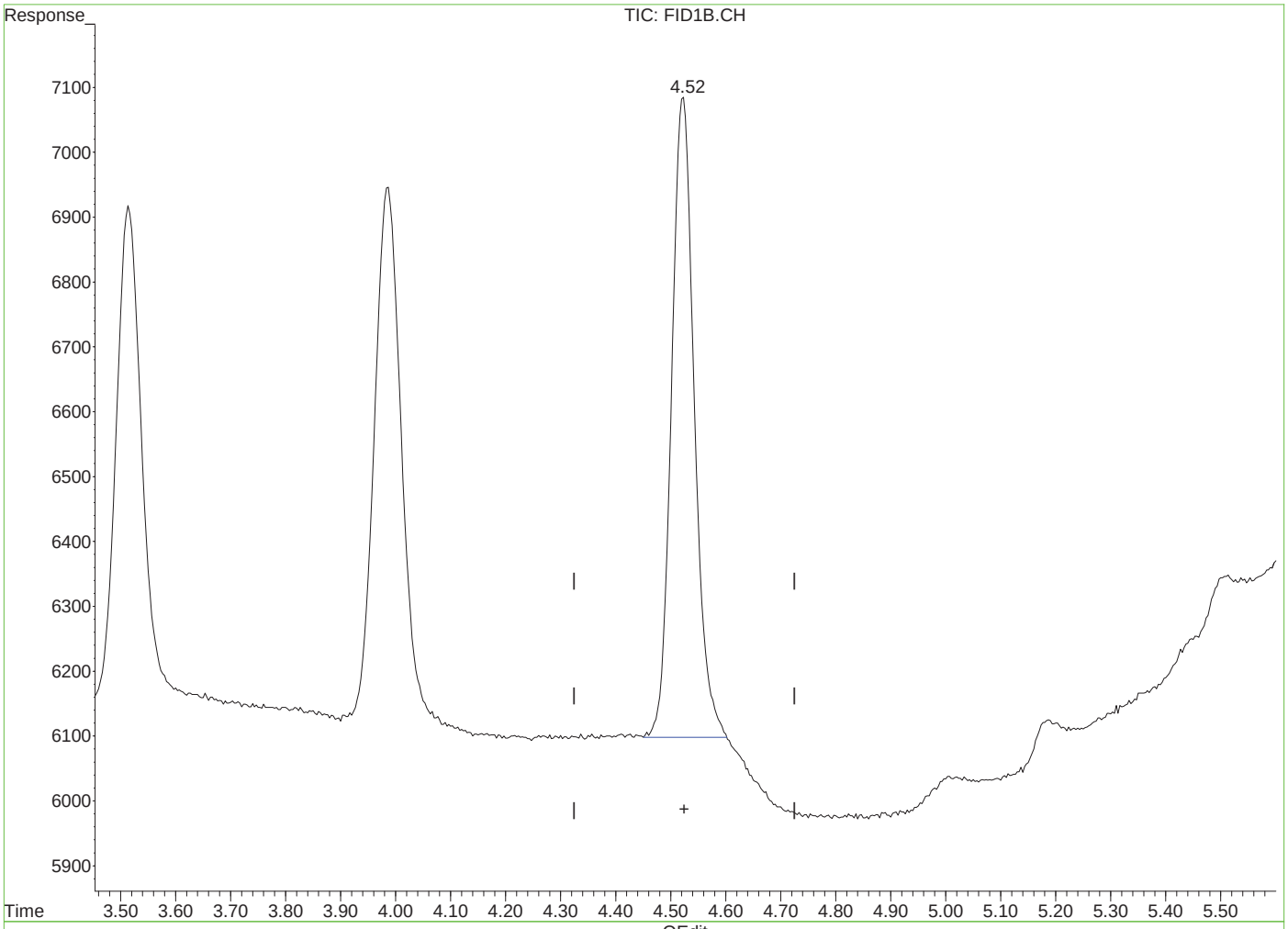
response 27162

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:33 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123504.D Vial: 4
Acq On : 21-Jan-2021, 18:55:23 Operator: RobertS
Sample : IC6650-1000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:28 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 947.542ug/L m

response 28463

(+) = Expected Retention Time
GH123504.D MGH6650.M Wed Jan 27 14:31:40 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : ICC6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34:25 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
9) S Hexanol	6.34	377342	4648.713	ug/L	
Spiked Amount 5000.000	Range 56 - 145	Recovery = 92.97%			
Target Compounds					
1) Methanol	1.37	74814	5083.278	ug/L	
2) Ethanol	1.83	96172	5418.810	ug/L	
3) 2-Propanol	2.20	99364	5042.983	ug/L	
4) Tert-Butyl Alcohol	2.47	139318	4704.098	ug/L	
5) 1-Propanol	3.09	117675	4834.321	ug/L	
6) 2-Butanol	3.52	120168	4632.822	ug/L	
7) Isobutanol	3.99	142497	4786.631	ug/L	
8) 1-butanol	4.52	138066	4596.184	ug/L	m

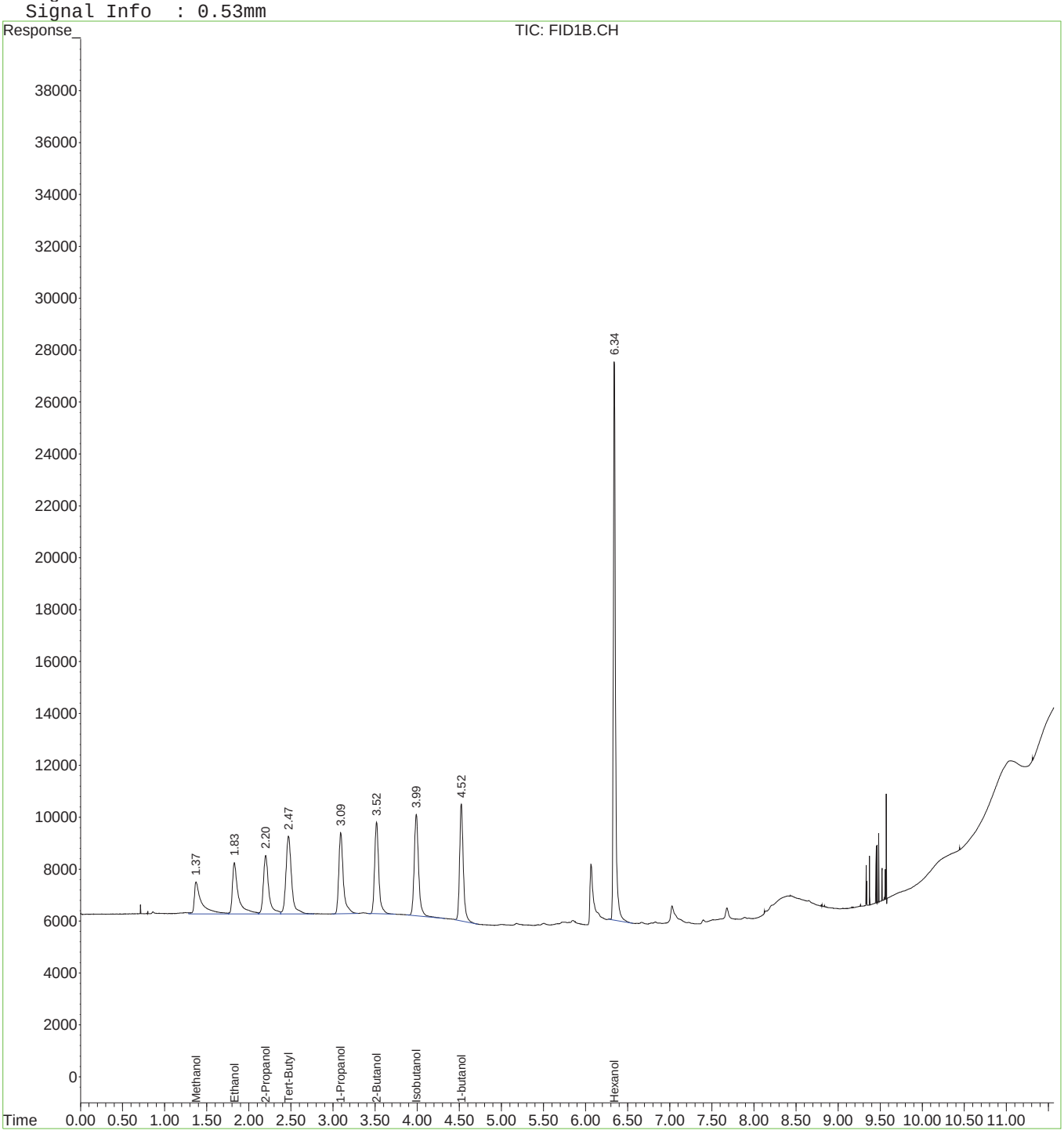
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123505.D MGH6650.M Thu Jan 28 11:49:05 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : ICC6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:35 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

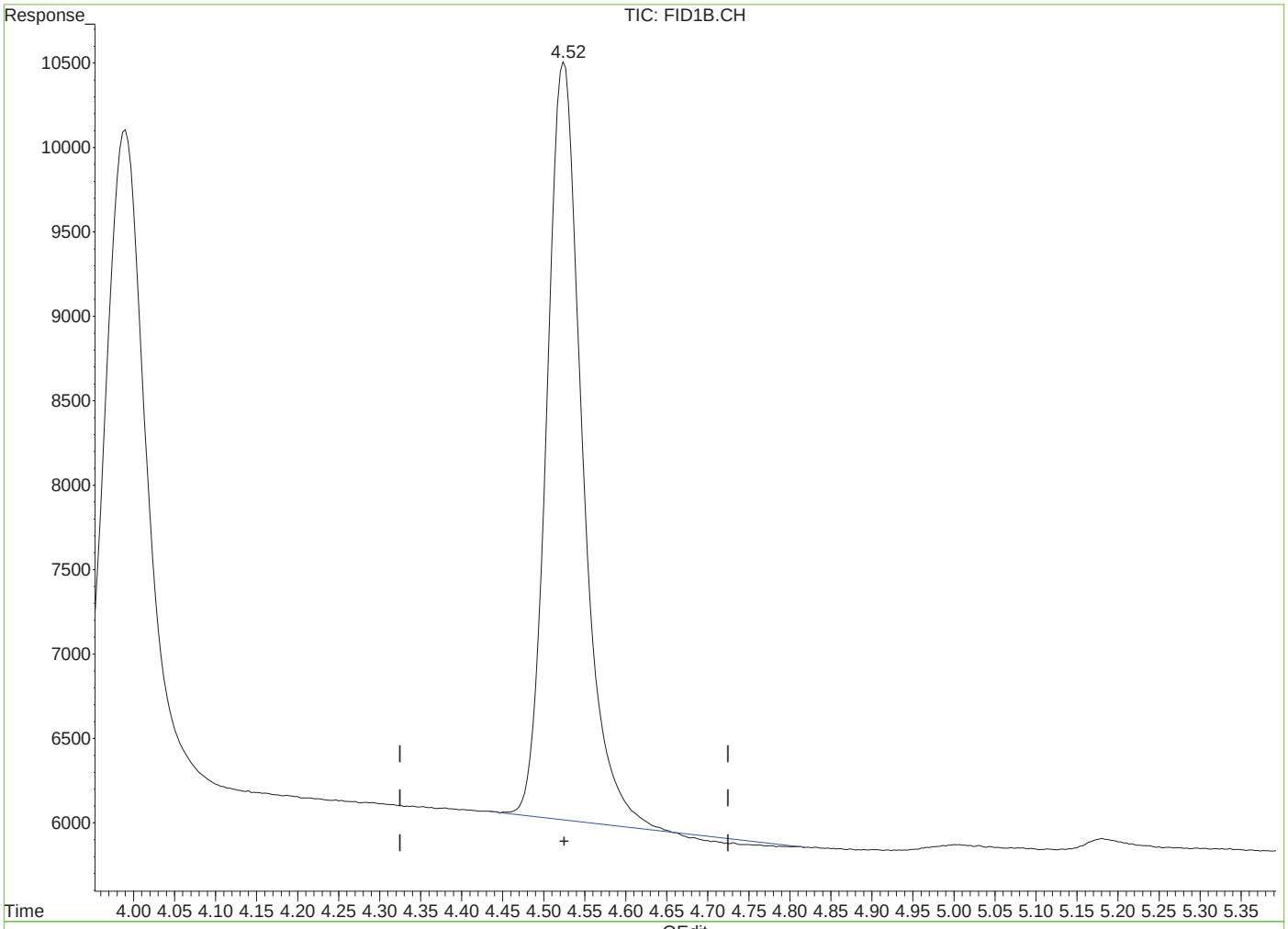
Sample Number: GGH6650-ICC6650
Lab FileID: GH123505.D
Injection Time: 01/21/21 19:12
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 17:03 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
n-Butyl Alcohol	71-36-3	1	4.52	Poorly defined baseline

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : IC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 4479.071ug/L

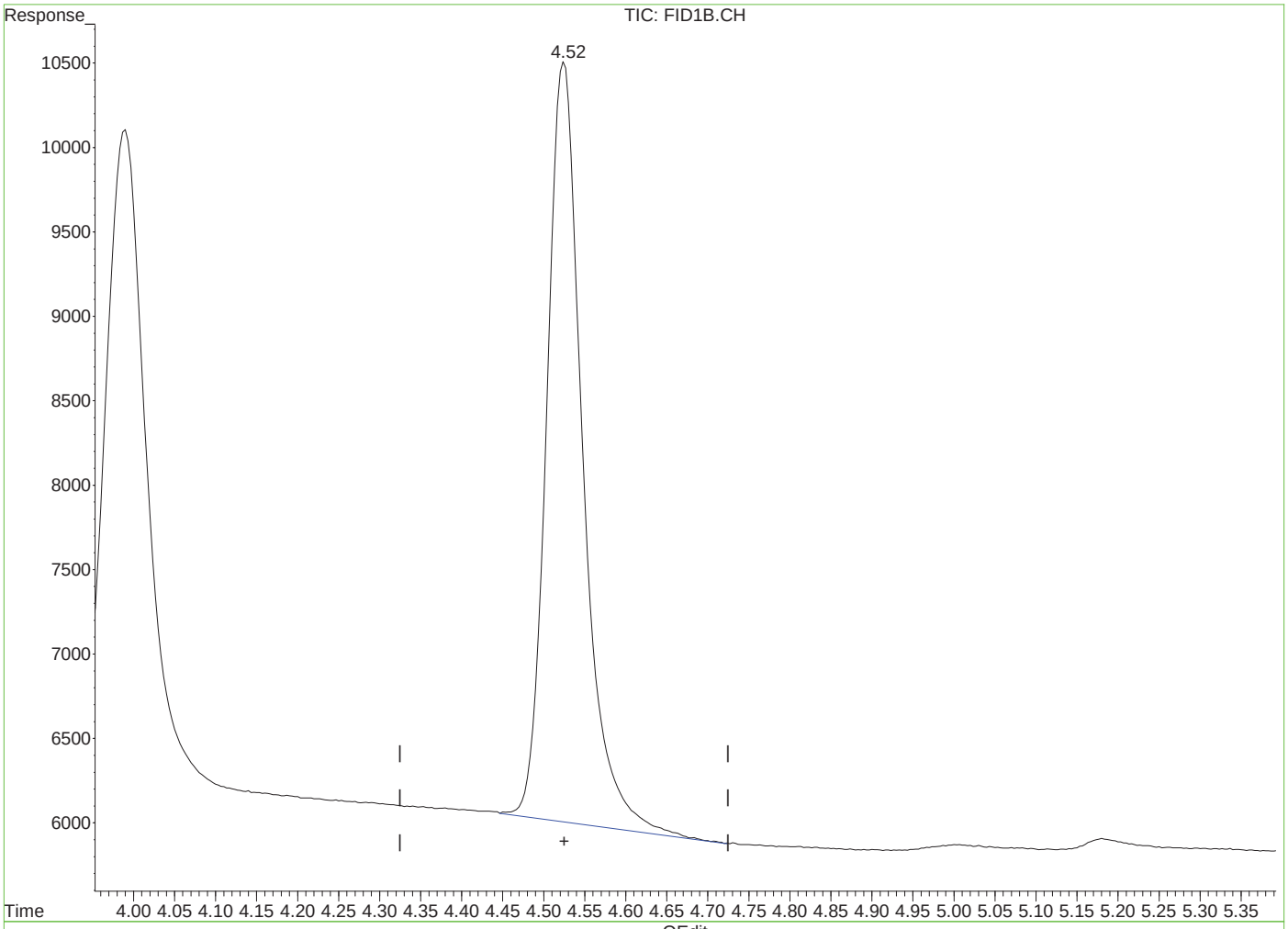
response 134548

(+) = Expected Retention Time
GH123505.D MGH6650.M Wed Jan 27 14:35:16 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123505.D Vial: 5
Acq On : 21-Jan-2021, 19:12:54 Operator: RobertS
Sample : IC6650-5000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:34 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(8) 1-butanol

4.52min 4596.184ug/L m

response 138066

(+) = Expected Retention Time
GH123505.D MGH6650.M Wed Jan 27 14:35:26 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Kanya Veerawat
01/28/21 11:10

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36:53 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units	
	System Monitoring Compounds					
9) S	Hexanol	6.34	374248	4610.600	ug/L	
Spiked Amount	5000.000	Range 56 - 145	Recovery =	92.21%		
	Target Compounds					
1)	Methanol	1.36	132883	9028.795	ug/L	m
2)	Ethanol	1.82	172505	9719.783	ug/L	
3)	2-Propanol	2.20	207197	10515.759	ug/L	
4)	Tert-Butyl Alcohol	2.48	279728	9445.053	ug/L	
5)	1-Propanol	3.09	234299	9625.417	ug/L	
6)	2-Butanol	3.52	240950	9289.334	ug/L	
7)	Isobutanol	3.99	278406	9351.981	ug/L	
8)	1-butanol	4.53	278773	9280.289	ug/L	

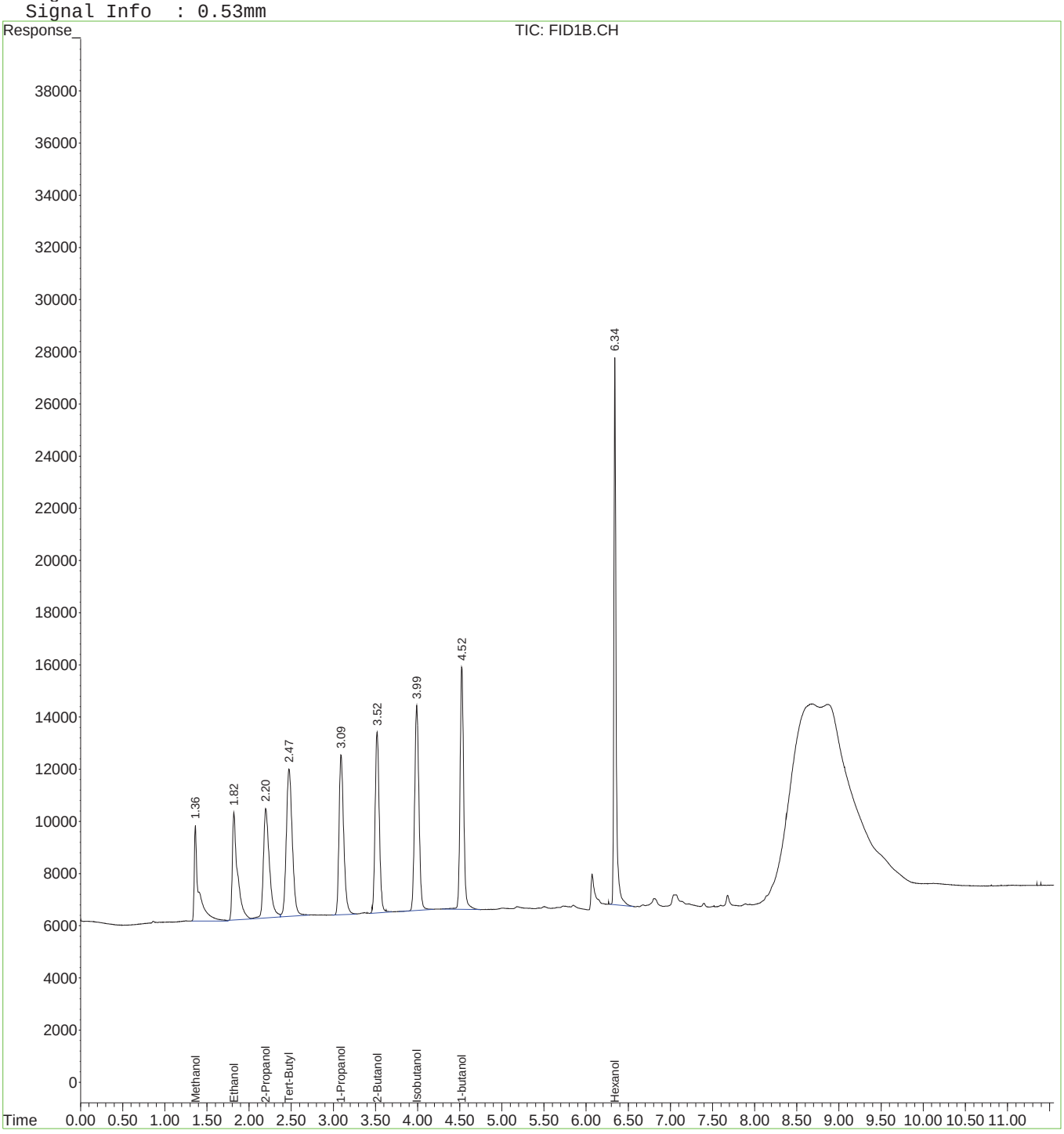
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123506.D MGH6650.M Thu Jan 28 11:49:06 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:37 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Manual Integration Approval Summary

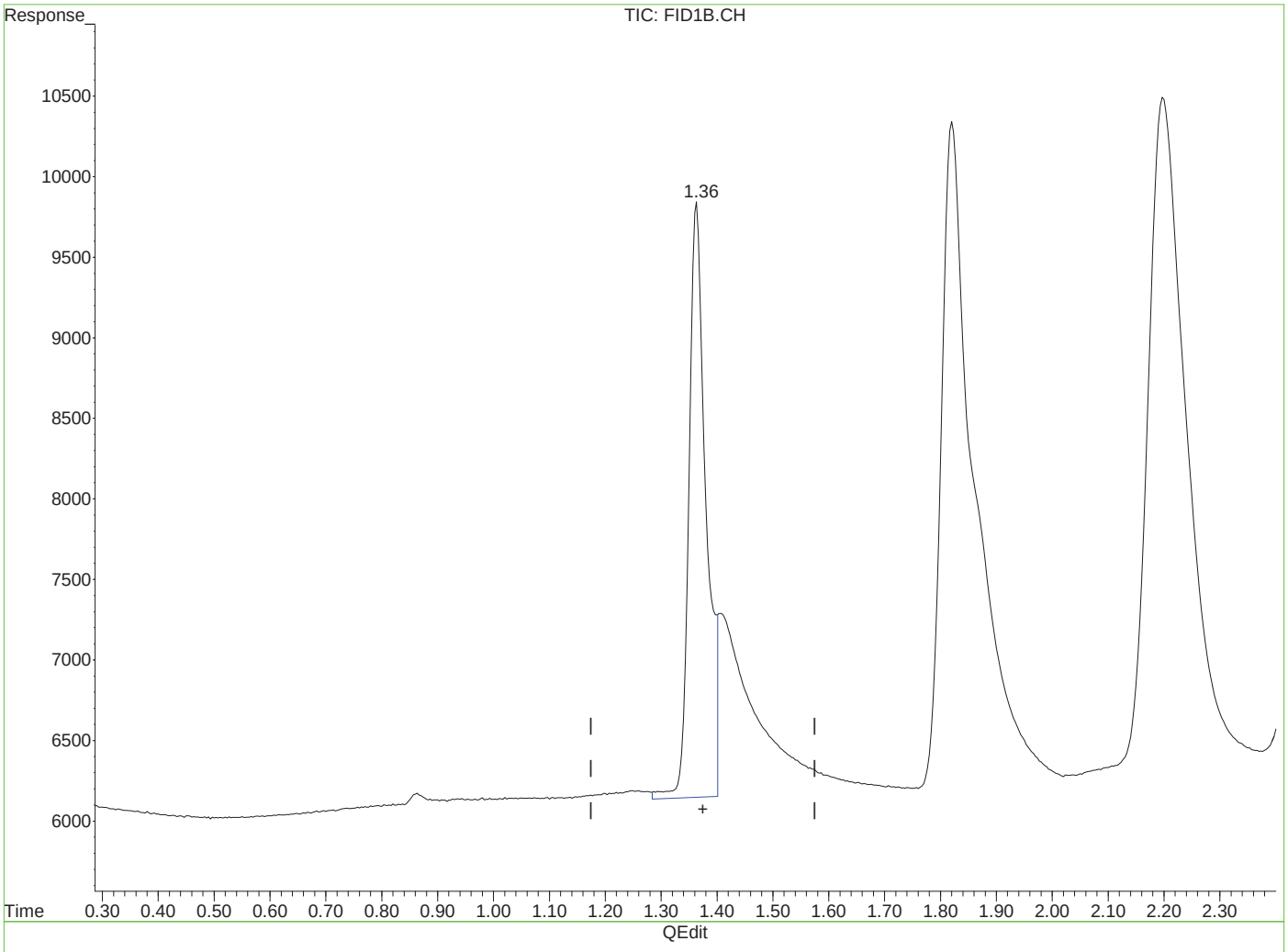
Sample Number: GGH6650-IC6650
Lab FileID: GH123506.D
Injection Time: 01/21/21 19:30
Method: SW846-8015D (DAI)
Analyst approved: 01/27/21 15:08 Robert Szot
Supervisor approved: 01/28/21 11:10 Kanya Veerawat

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methanol	67-56-1	1	1.36	Poor instrument integration

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(1) Methanol

1.36min 5330.881ug/L

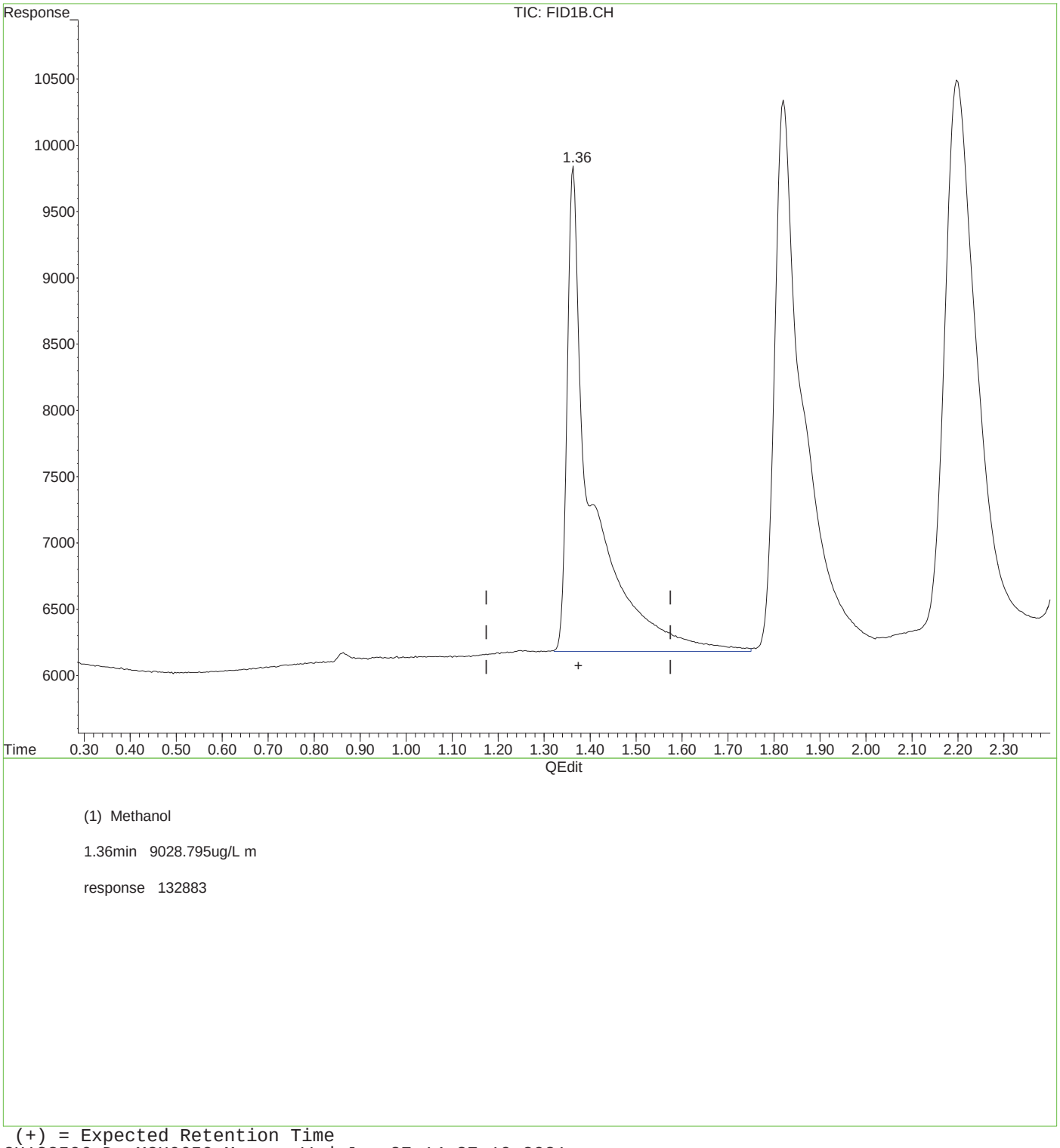
response 78458

(+) = Expected Retention Time
GH123506.D MGH6650.M Wed Jan 27 14:36:58 2021

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123506.D Vial: 6
Acq On : 21-Jan-2021, 19:30:24 Operator: RobertS
Sample : IC6650-10000 Inst : HP5890
Misc : Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:36 2021 Quant Results File: MGH6650.RES

Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration



(1) Methanol

1.36min 9028.795ug/L m

response 132883

(+) = Expected Retention Time
GH123506.D MGH6650.M Wed Jan 27 14:37:10 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123507.D Vial: 7
Acq On : 21-Jan-2021, 19:47:53 Operator: RobertS
Sample : IC6650-50000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:58 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	372684	4591.337 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 91.83%	
Target Compounds			
1) Methanol	1.36	690329	46904.730 ug/L
2) Ethanol	1.82	951912	53635.503 ug/L
3) 2-Propanol	2.19	969223	49190.370 ug/L
4) Tert-Butyl Alcohol	2.46	1351830	45644.672 ug/L
5) 1-Propanol	3.08	1180715	48505.957 ug/L
6) 2-Butanol	3.51	1205035	46457.625 ug/L
7) Isobutanol	3.98	1393365	46804.770 ug/L
8) 1-butanol	4.52	1348419	44888.565 ug/L

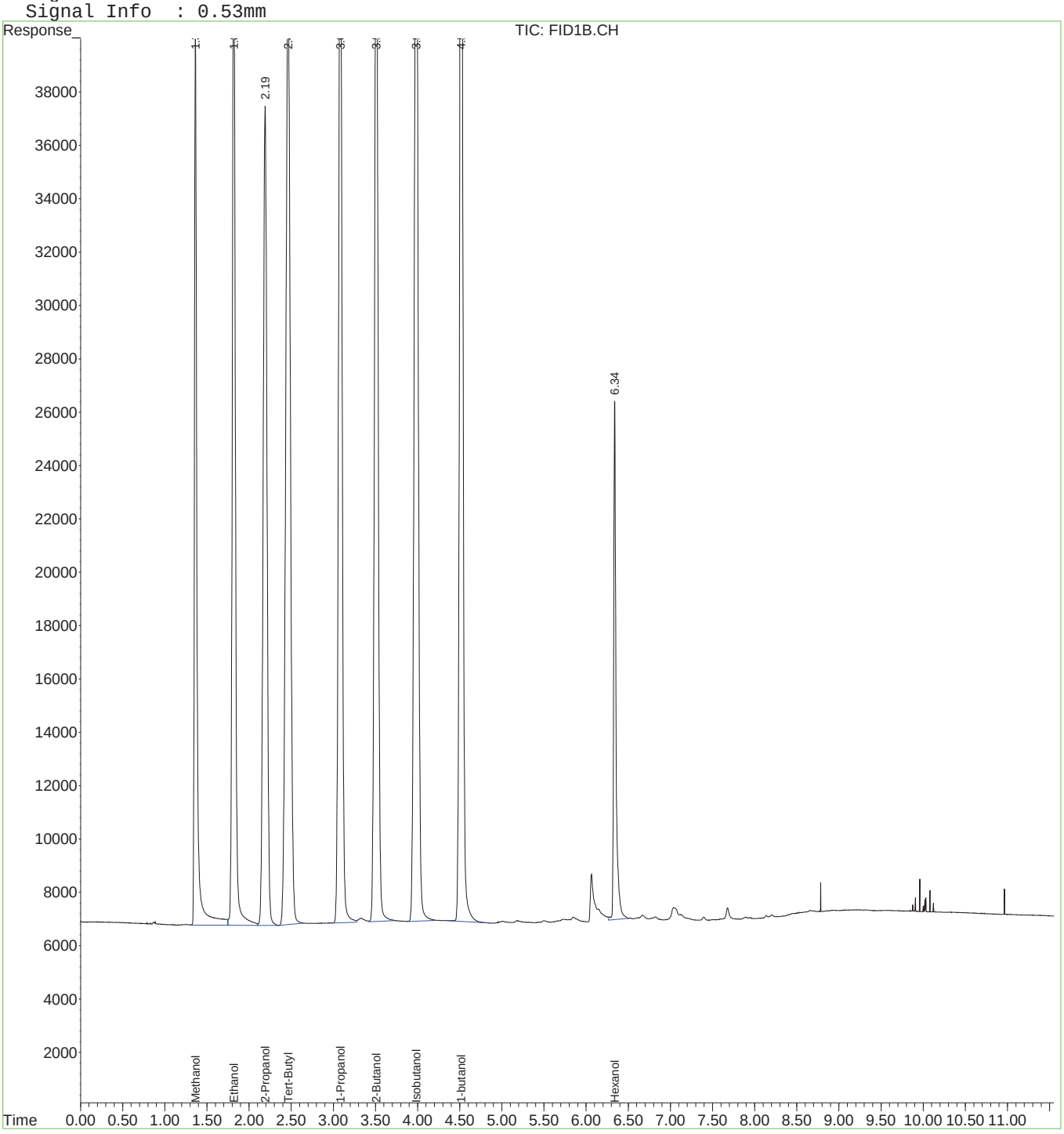
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123507.D MGH6650.M Thu Jan 28 11:49:07 2021 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123507.D Vial: 7
Acq On : 21-Jan-2021, 19:47:53 Operator: RobertS
Sample : IC6650-50000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123508.D Vial: 8
Acq On : 21-Jan-2021, 20:05:23 Operator: RobertS
Sample : IC6650-100000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21:59 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	400215	4930.502 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery =	98.61%
Target Compounds			
1) Methanol	1.39	1315982	89415.013 ug/L
2) Ethanol	1.83	1828883	103048.508 ug/L
3) 2-Propanol	2.20	1927951	97848.076 ug/L
4) Tert-Butyl Alcohol	2.47	2755902	93053.290 ug/L
5) 1-Propanol	3.09	2345722	96366.592 ug/L
6) 2-Butanol	3.51	2425281	93501.660 ug/L
7) Isobutanol	3.98	2815008	94559.395 ug/L
8) 1-butanol	4.52	2681081	89252.569 ug/L

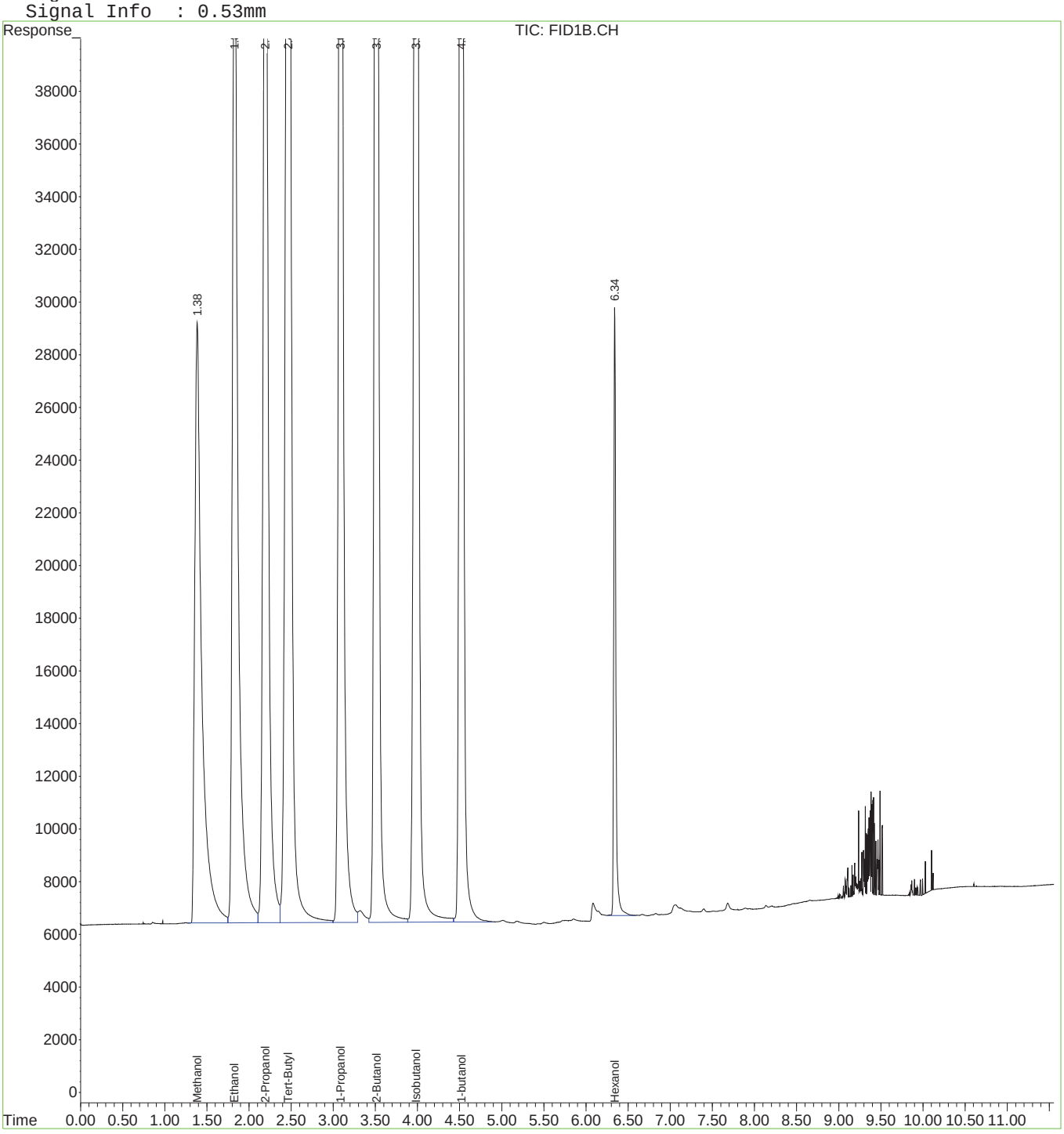
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123508.D MGH6650.M Thu Jan 28 11:49:09 2021 Page 1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123508.D Vial: 8
Acq On : 21-Jan-2021, 20:05:23 Operator: RobertS
Sample : IC6650-100000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:21 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Tue Jan 26 10:52:30 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:39:43 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.34	352796	4674.379 ug/L
Spiked Amount 5000.000 Range 56 - 145 Recovery = 93.49%			
Target Compounds			
1) Methanol	1.38	67223	4895.271 ug/L
2) Ethanol	1.83	86579	4924.696 ug/L
3) 2-Propanol	2.20	90803	4664.435 ug/L
4) Tert-Butyl Alcohol	2.47	129667	4702.482 ug/L
5) 1-Propanol	3.09	110258	4633.711 ug/L
6) 2-Butanol	3.51	112941	4605.631 ug/L
7) Isobutanol	3.99	131677	4647.551 ug/L
8) 1-butanol	4.52	131501	4594.175 ug/L

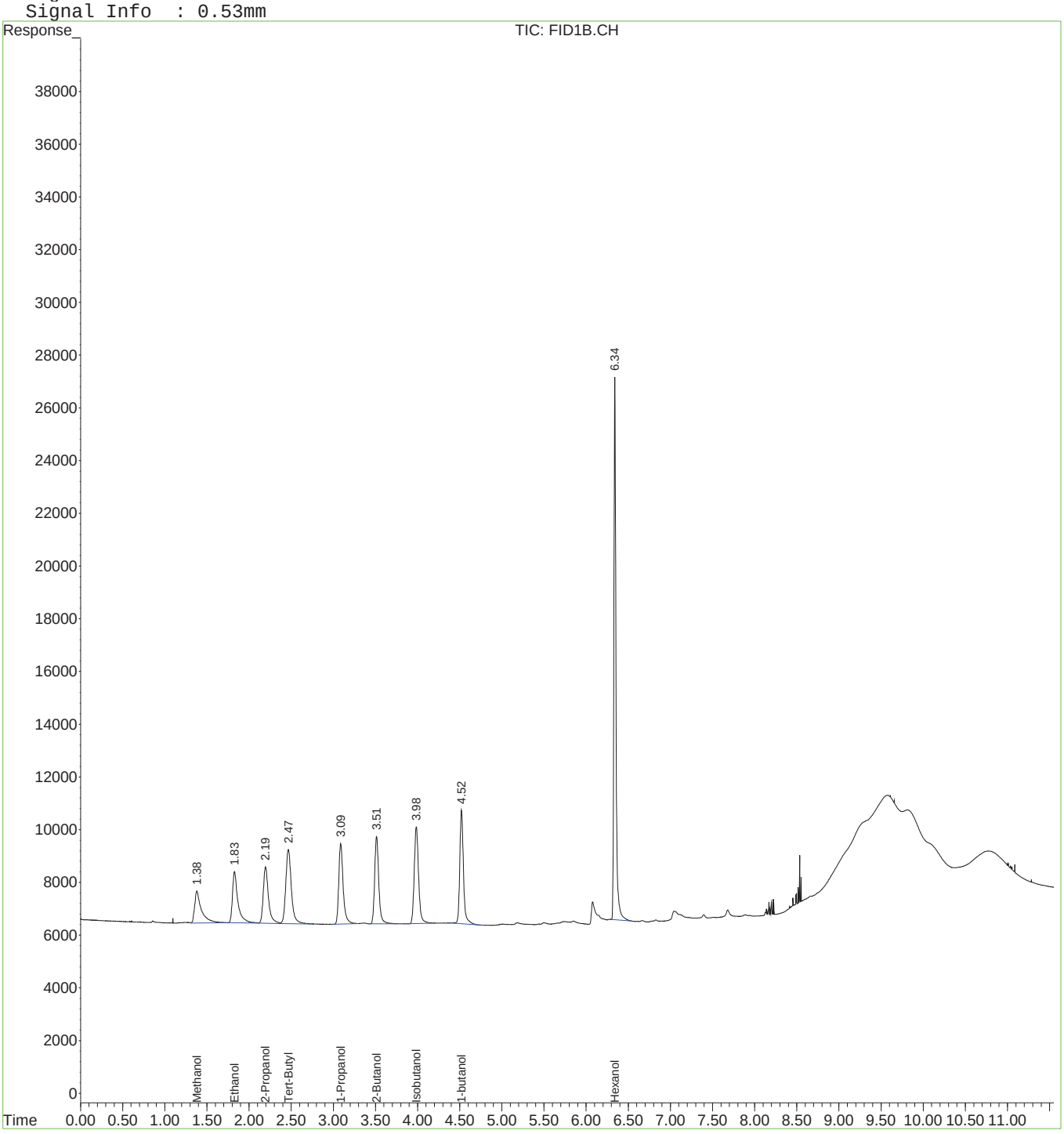
(f)=RT Delta > 1/2 Window (m)=manual int.
GH123511.D MGH6650.M Thu Jan 28 11:49:10 2021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6650\GH123511.D Vial: 9
Acq On : 21-Jan-2021, 20:57:48 Operator: RobertS
Sample : ICV6650-5000 Inst : HP5890
Misc : GC57409,GGH6650,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jan 27 14:39 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124592.D Vial: 38
Acq On : 25-May-2021, 09:06:55 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13:39 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	313964	4159.881 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 83.20%	
Target Compounds			
1) Methanol	1.43	65348	4758.707 ug/L
2) Ethanol	1.88	91086	5181.007 ug/L
3) 2-Propanol	2.25	105659	5427.607 ug/L
4) Tert-Butyl Alcohol	2.52	178158	6461.057 ug/L
5) 1-Propanol	3.14	113925	4787.850 ug/L
6) 2-Butanol	3.57	109842	4479.282 ug/L
7) Isobutanol	4.03	124695	4401.095 ug/L
8) 1-butanol	4.56	128206	4479.048 ug/L

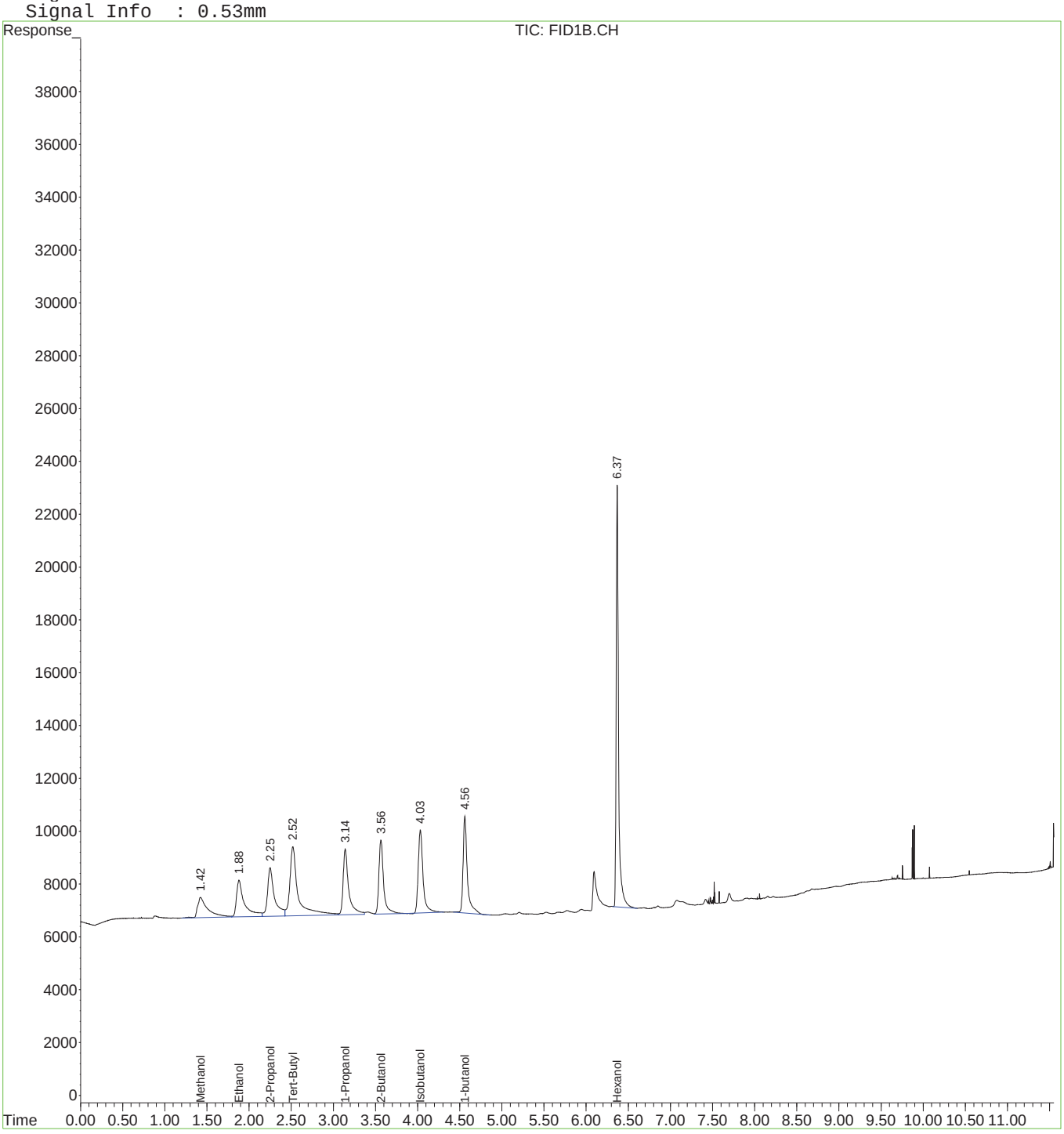
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124592.D MGH6650.M Tue May 25 16:14:53 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124592.D Vial: 38
Acq On : 25-May-2021, 09:06:55 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124602.D Vial: 48
Acq On : 25-May-2021, 12:00:20 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13:49 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.37	334734	4435.077	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 88.70%		
Target Compounds				
1) Methanol	1.41	124509	9066.848	ug/L
2) Ethanol	1.87	171244	9740.467	ug/L
3) 2-Propanol	2.25	178308	9159.472	ug/L
4) Tert-Butyl Alcohol	2.52	256407	9298.841	ug/L
5) 1-Propanol	3.14	215461	9055.019	ug/L
6) 2-Butanol	3.56	218251	8900.107	ug/L
7) Isobutanol	4.03	256259	9044.658	ug/L
8) 1-butanol	4.56	250354	8746.462	ug/L

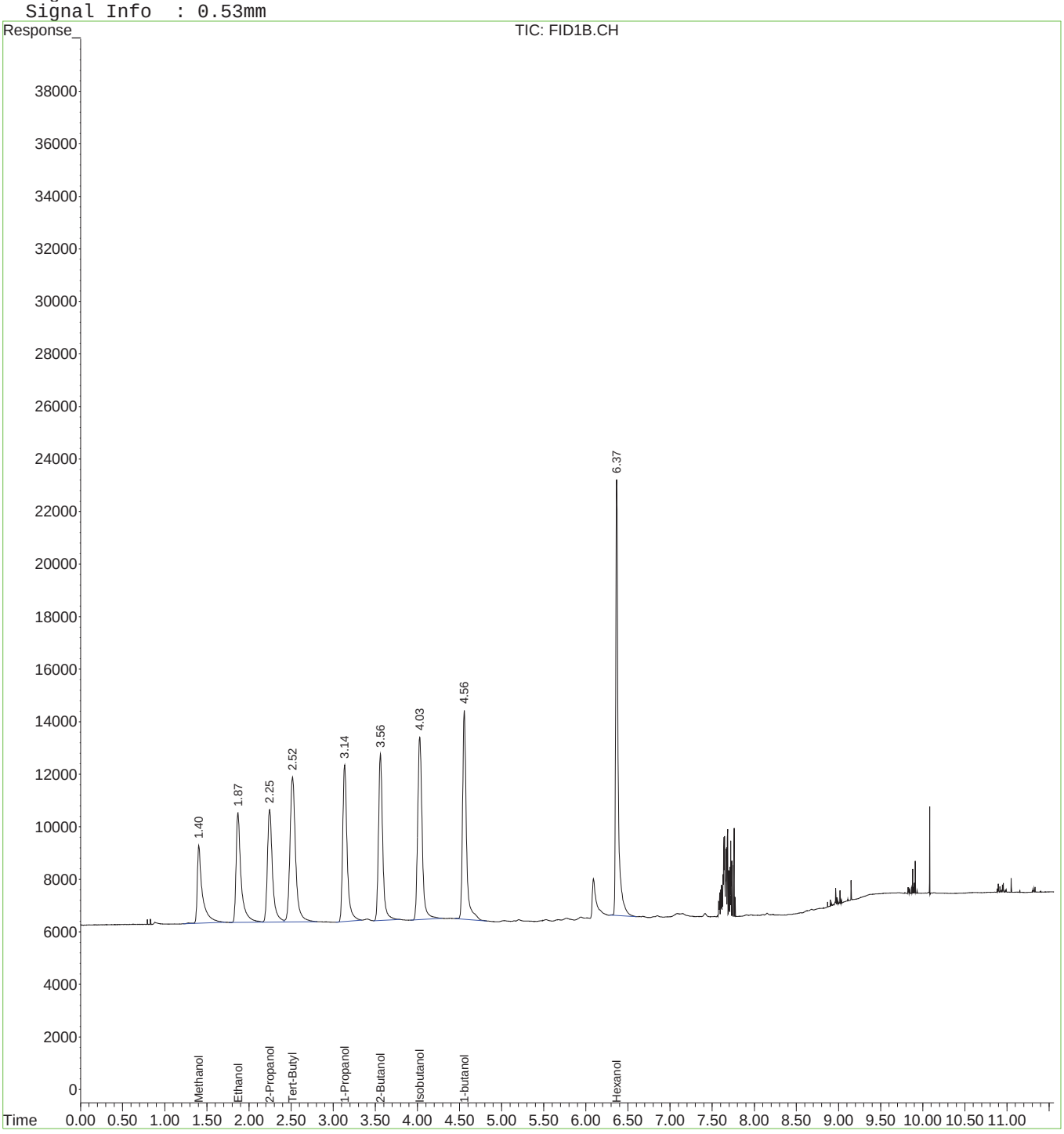
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124602.D MGH6650.M Tue May 25 16:16:01 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124602.D Vial: 48
Acq On : 25-May-2021, 12:00:20 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57971,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124610.D Vial: 56
Acq On : 25-May-2021, 15:05:24 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57954,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13:57 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	340514	4511.655 ug/L
Spiked Amount 5000.000 Range 56 - 145 Recovery = 90.23%			
Target Compounds			
1) Methanol	1.42	63779	4644.456 ug/L
2) Ethanol	1.87	86469	4918.404 ug/L
3) 2-Propanol	2.24	88254	4533.505 ug/L
4) Tert-Butyl Alcohol	2.51	126224	4577.620 ug/L
5) 1-Propanol	3.13	135123	5678.715 ug/L
6) 2-Butanol	3.55	115200	4697.761 ug/L
7) Isobutanol	4.02	125691	4436.249 ug/L
8) 1-butanol	4.55	130160	4547.318 ug/L

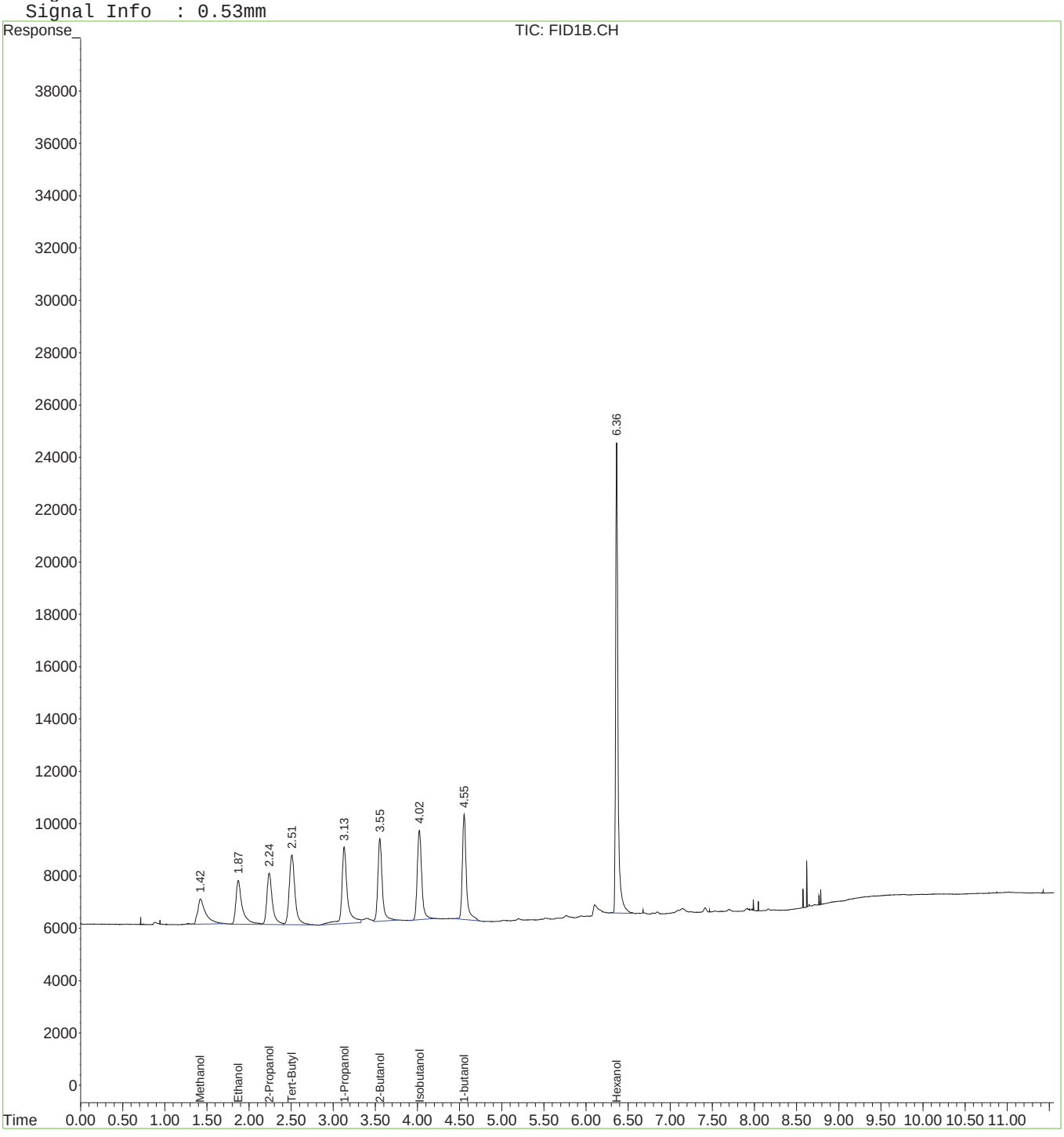
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124610.D MGH6650.M Tue May 25 16:14:39 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6696\GH124610.D Vial: 56
Acq On : 25-May-2021, 15:05:24 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57954,GGH6696,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 25 16:13 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124687.D Vial: 43
Acq On : 29-May-2021, 08:54:59 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC58012,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:05 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.36	345492	4577.616 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 91.55%	
Target Compounds			
1) Methanol	1.40	121436	8843.054 ug/L
2) Ethanol	1.86	173119	9847.141 ug/L
3) 2-Propanol	2.23	179971	9244.925 ug/L
4) Tert-Butyl Alcohol	2.50	261999	9501.638 ug/L
5) 1-Propanol	3.12	248454	10441.579 ug/L
6) 2-Butanol	3.55	230672	9406.621 ug/L
7) Isobutanol	4.01	261839	9241.604 ug/L
8) 1-butanol	4.55	249017	8699.733 ug/L

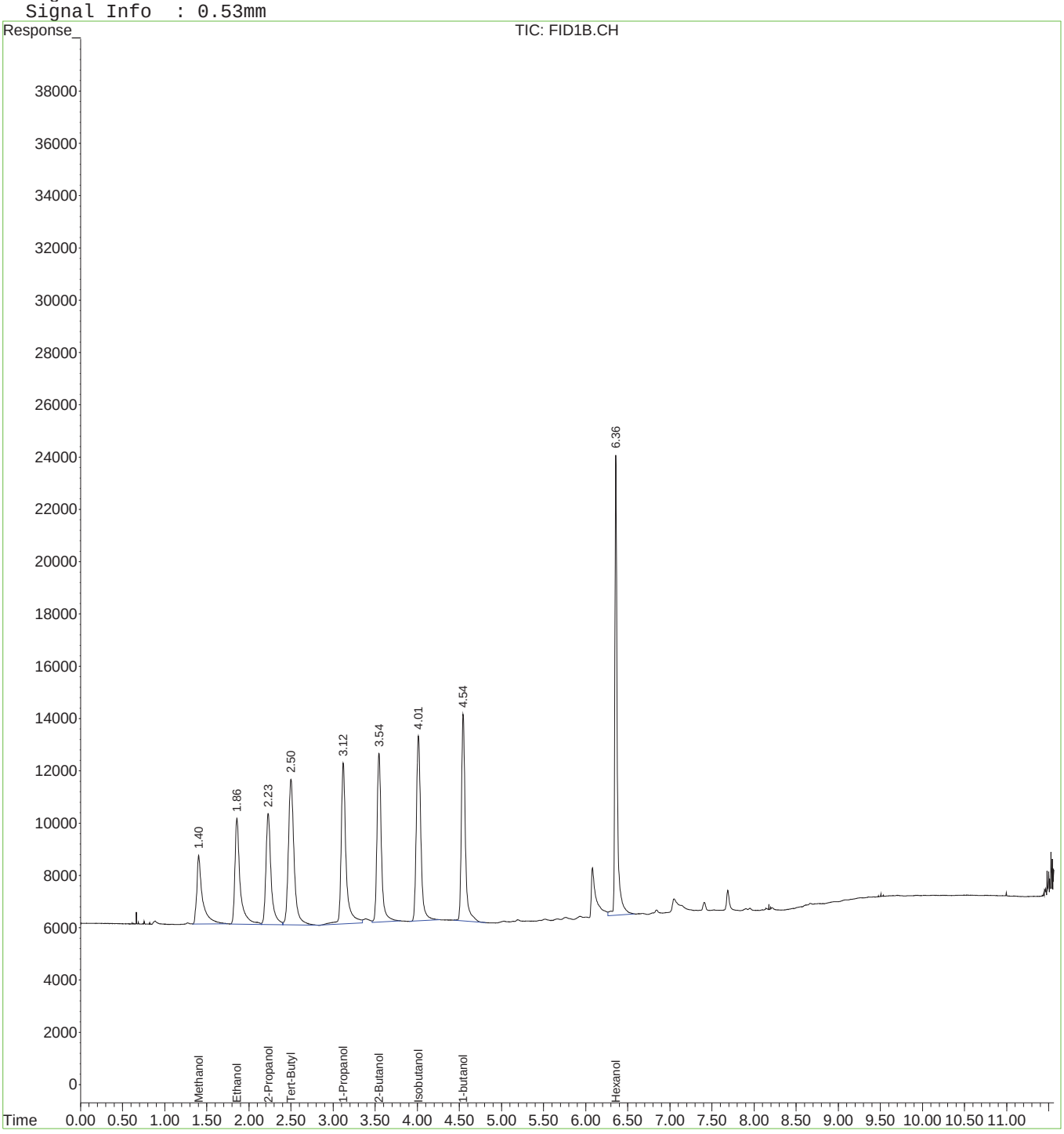
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124687.D MGH6650.M Wed Jun 02 09:30:59 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124687.D Vial: 43
Acq On : 29-May-2021, 08:54:59 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC58012,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124697.D Vial: 53
Acq On : 29-May-2021, 11:58:32 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:15 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
9) S	Hexanol	6.36	325558	4313.493	ug/L
Spiked Amount	5000.000	Range 56 - 145	Recovery =	86.27%	
	Target Compounds				
1)	Methanol	1.42	58122	4232.483	ug/L
2)	Ethanol	1.87	83614	4756.021	ug/L
3)	2-Propanol	2.24	87351	4487.119	ug/L
4)	Tert-Butyl Alcohol	2.50	128662	4666.047	ug/L
5)	1-Propanol	3.13	109797	4614.341	ug/L
6)	2-Butanol	3.55	110653	4512.349	ug/L
7)	Isobutanol	4.02	130113	4592.326	ug/L
8)	1-butanol	4.55	127896	4468.222	ug/L

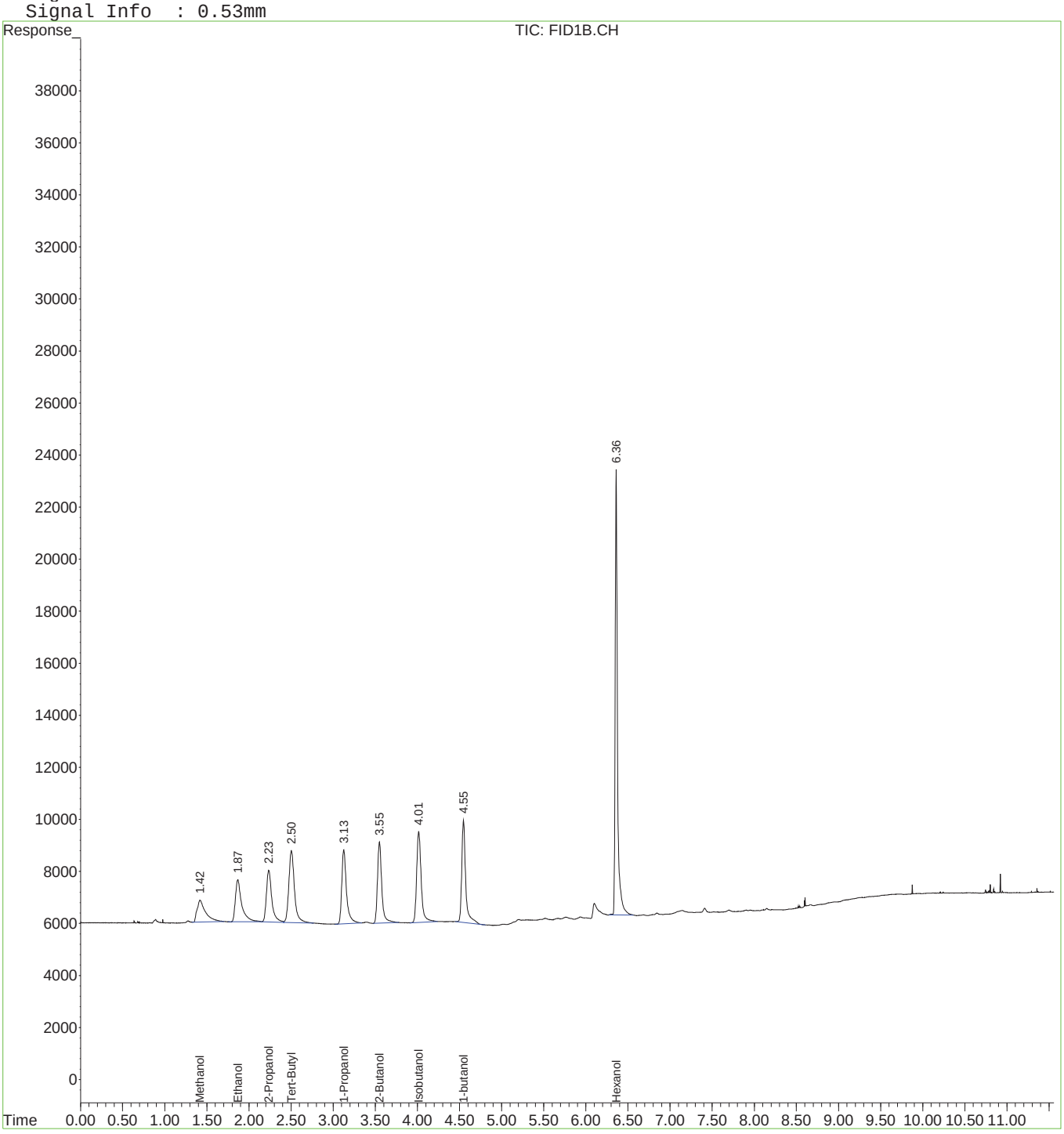
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124697.D MGH6650.M Wed Jun 02 09:31:00 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124697.D Vial: 53
Acq On : 29-May-2021, 11:58:32 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124704.D Vial: 60
Acq On : 29-May-2021, 14:00:37 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:22 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
9) S	Hexanol	6.36	342929	4543.658	ug/L
Spiked Amount	5000.000	Range 56 - 145	Recovery =	90.87%	
	Target Compounds				
1)	Methanol	1.42	120614	8783.252	ug/L
2)	Ethanol	1.87	170285	9685.930	ug/L
3)	2-Propanol	2.24	177037	9094.227	ug/L
4)	Tert-Butyl Alcohol	2.51	254888	9243.744	ug/L
5)	1-Propanol	3.13	211838	8902.759	ug/L
6)	2-Butanol	3.55	212629	8670.845	ug/L
7)	Isobutanol	4.02	246684	8706.713	ug/L
8)	1-butanol	4.55	229927	8032.810	ug/L

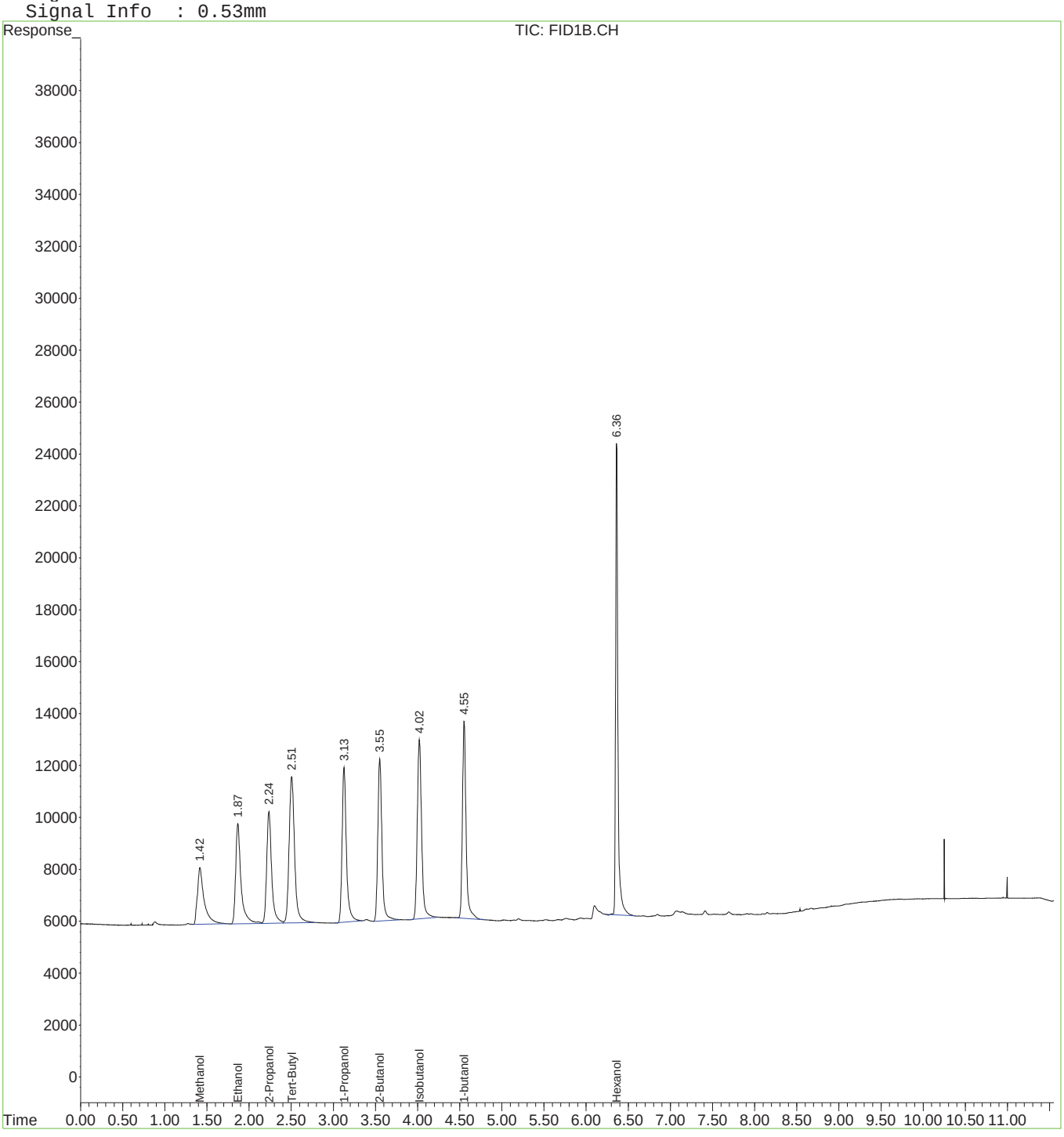
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124704.D MGH6650.M Wed Jun 02 09:31:01 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124704.D Vial: 60
Acq On : 29-May-2021, 14:00:37 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC57993,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124714.D Vial: 70
Acq On : 29-May-2021, 16:55:36 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC58019,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 09:28:32 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
9) S	Hexanol	6.36	353703	4686.407	ug/L
Spiked Amount	5000.000	Range 56 - 145	Recovery =	93.73%	
	Target Compounds				
1)	Methanol	1.42	58746	4277.905	ug/L
2)	Ethanol	1.87	80935	4603.651	ug/L
3)	2-Propanol	2.24	86751	4456.285	ug/L
4)	Tert-Butyl Alcohol	2.51	127325	4617.543	ug/L
5)	1-Propanol	3.13	109897	4618.554	ug/L
6)	2-Butanol	3.55	109922	4482.521	ug/L
7)	Isobutanol	4.02	127715	4507.694	ug/L
8)	1-butanol	4.55	125375	4380.163	ug/L

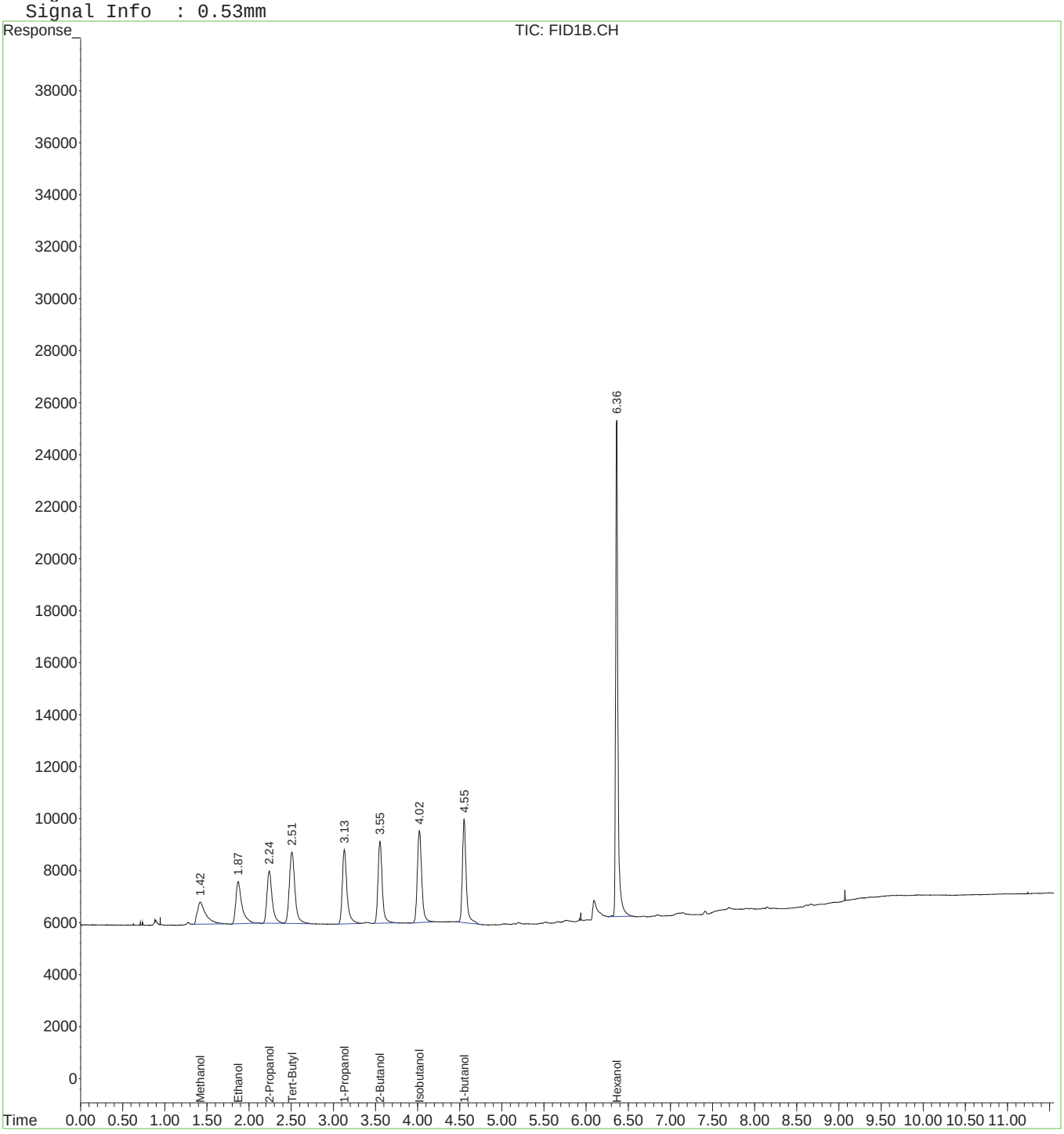
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124714.D MGH6650.M Wed Jun 02 09:31:02 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6699\GH124714.D Vial: 70
Acq On : 29-May-2021, 16:55:36 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC58019,GGH6699,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 9:28 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124717.D Vial: 3
Acq On : 01-Jun-2021, 09:14:54 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC58012,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:20 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	312632	4142.229 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 82.84%	
Target Compounds			
1) Methanol	1.42	123412	8986.985 ug/L
2) Ethanol	1.87	164941	9381.940 ug/L
3) 2-Propanol	2.24	172924	8882.942 ug/L
4) Tert-Butyl Alcohol	2.51	247771	8985.627 ug/L
5) 1-Propanol	3.14	209031	8784.790 ug/L
6) 2-Butanol	3.56	214793	8759.070 ug/L
7) Isobutanol	4.03	250333	8835.506 ug/L
8) 1-butanol	4.56	245914	8591.336 ug/L

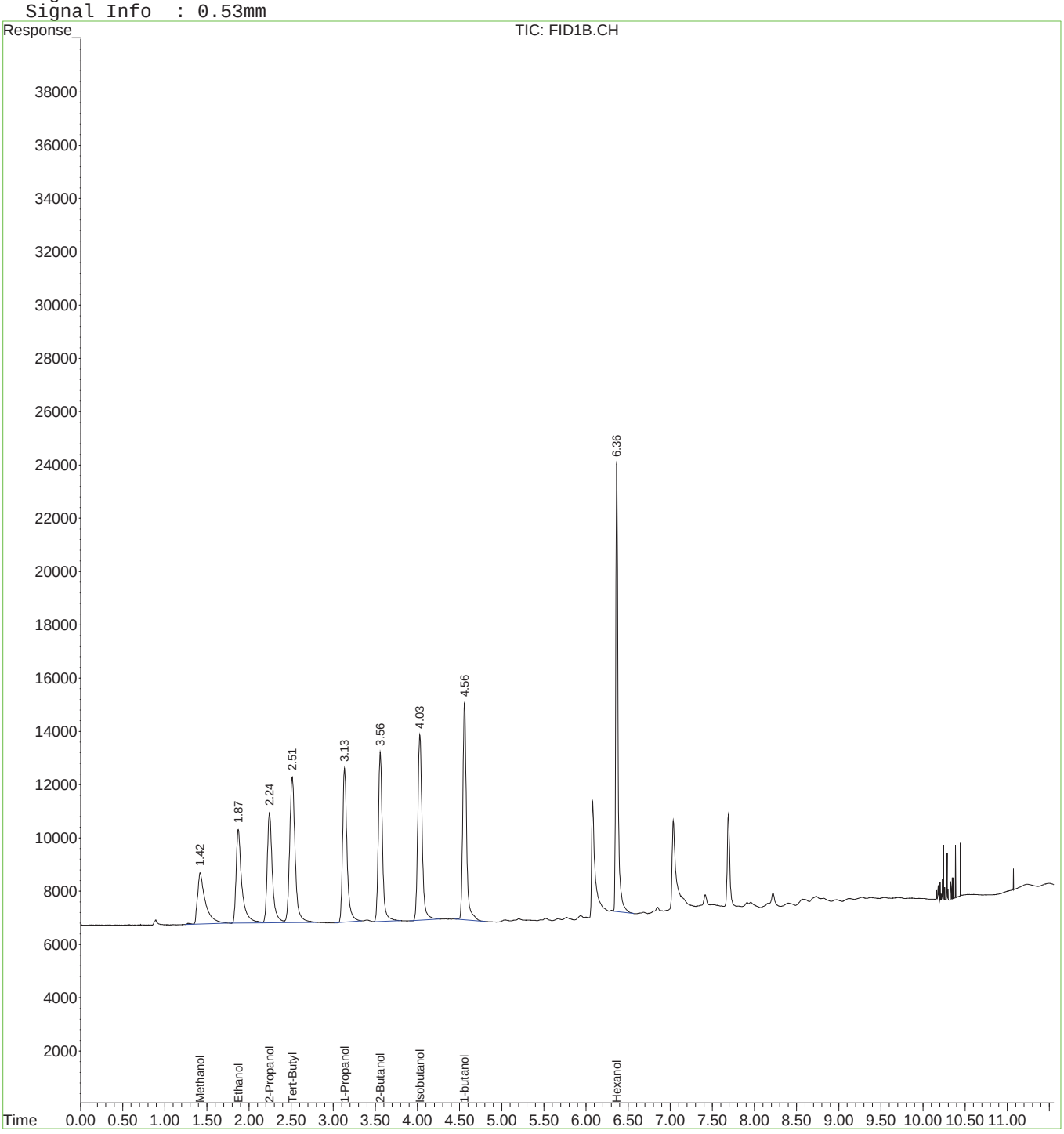
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124717.D MGH6650.M Wed Jun 02 16:35:45 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124717.D Vial: 3
Acq On : 01-Jun-2021, 09:14:54 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC58012,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124727.D Vial: 13
Acq On : 01-Jun-2021, 14:26:14 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:30 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
9) S Hexanol	6.37	313374	4152.059	ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 83.04%		
Target Compounds				
1) Methanol	1.42	61139	4452.203	ug/L
2) Ethanol	1.87	80685	4589.427	ug/L
3) 2-Propanol	2.24	84571	4344.344	ug/L
4) Tert-Butyl Alcohol	2.51	122827	4454.428	ug/L
5) 1-Propanol	3.13	105704	4442.329	ug/L
6) 2-Butanol	3.55	108591	4428.244	ug/L
7) Isobutanol	4.02	127126	4486.903	ug/L
8) 1-butanol	4.55	127167	4442.761	ug/L

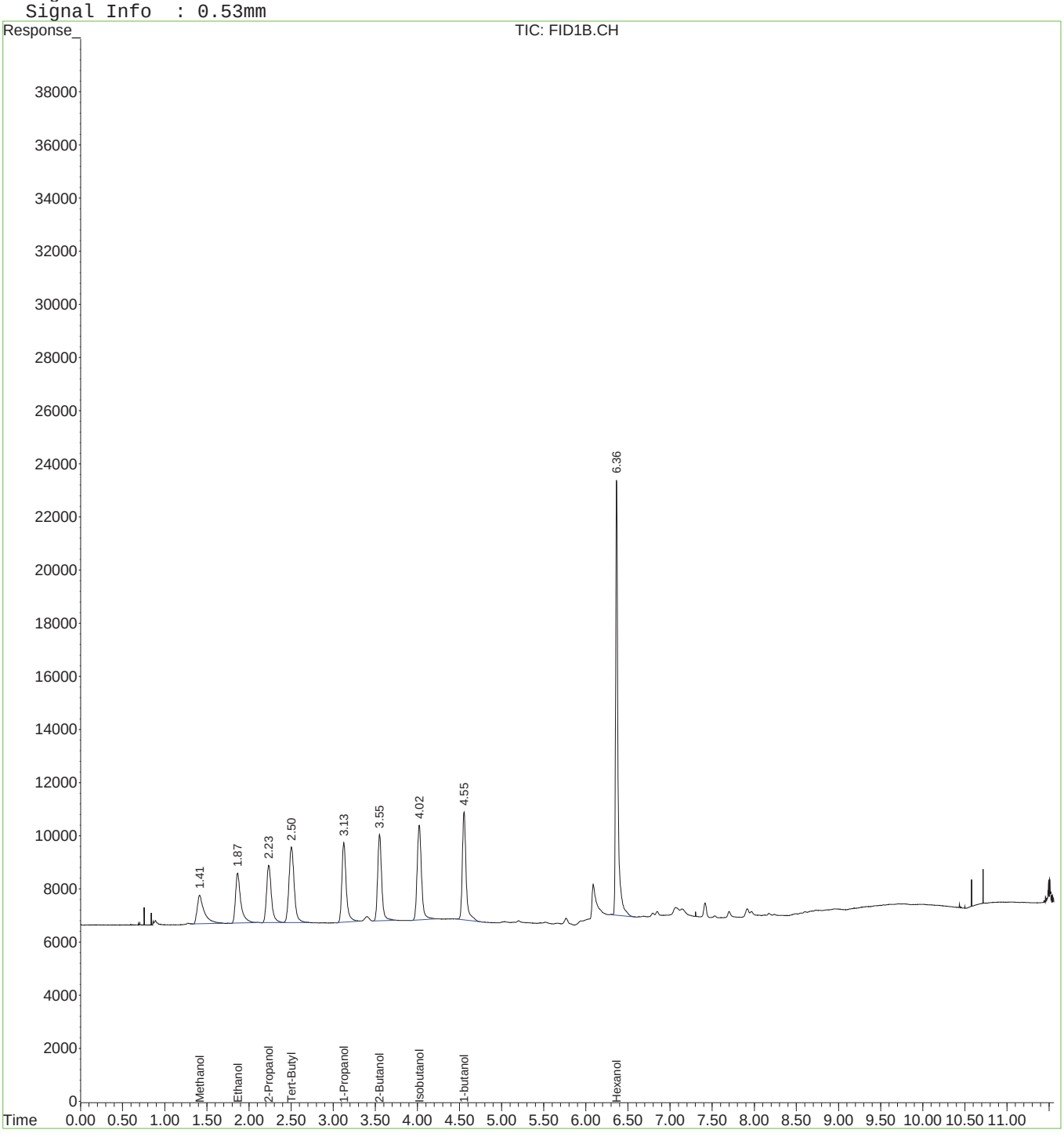
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124727.D MGH6650.M Wed Jun 02 16:35:09 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124727.D Vial: 13
Acq On : 01-Jun-2021, 14:26:14 Operator: RobertS
Sample : cc6650-5000 Inst : HP5890
Misc : GC57993,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124733.D Vial: 19
Acq On : 01-Jun-2021, 16:29:35 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC58014,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 02 16:31:36 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Initial Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
9) S Hexanol	6.37	311925	4132.861 ug/L
Spiked Amount 5000.000	Range 56 - 145	Recovery = 82.66%	
Target Compounds			
1) Methanol	1.43	122764	8939.816 ug/L
2) Ethanol	1.87	168785	9600.591 ug/L
3) 2-Propanol	2.24	176327	9057.748 ug/L
4) Tert-Butyl Alcohol	2.51	252602	9160.854 ug/L
5) 1-Propanol	3.13	208466	8761.030 ug/L
6) 2-Butanol	3.56	219931	8968.583 ug/L
7) Isobutanol	4.03	269571	9514.487 ug/L
8) 1-butanol	4.56	249152	8704.451 ug/L

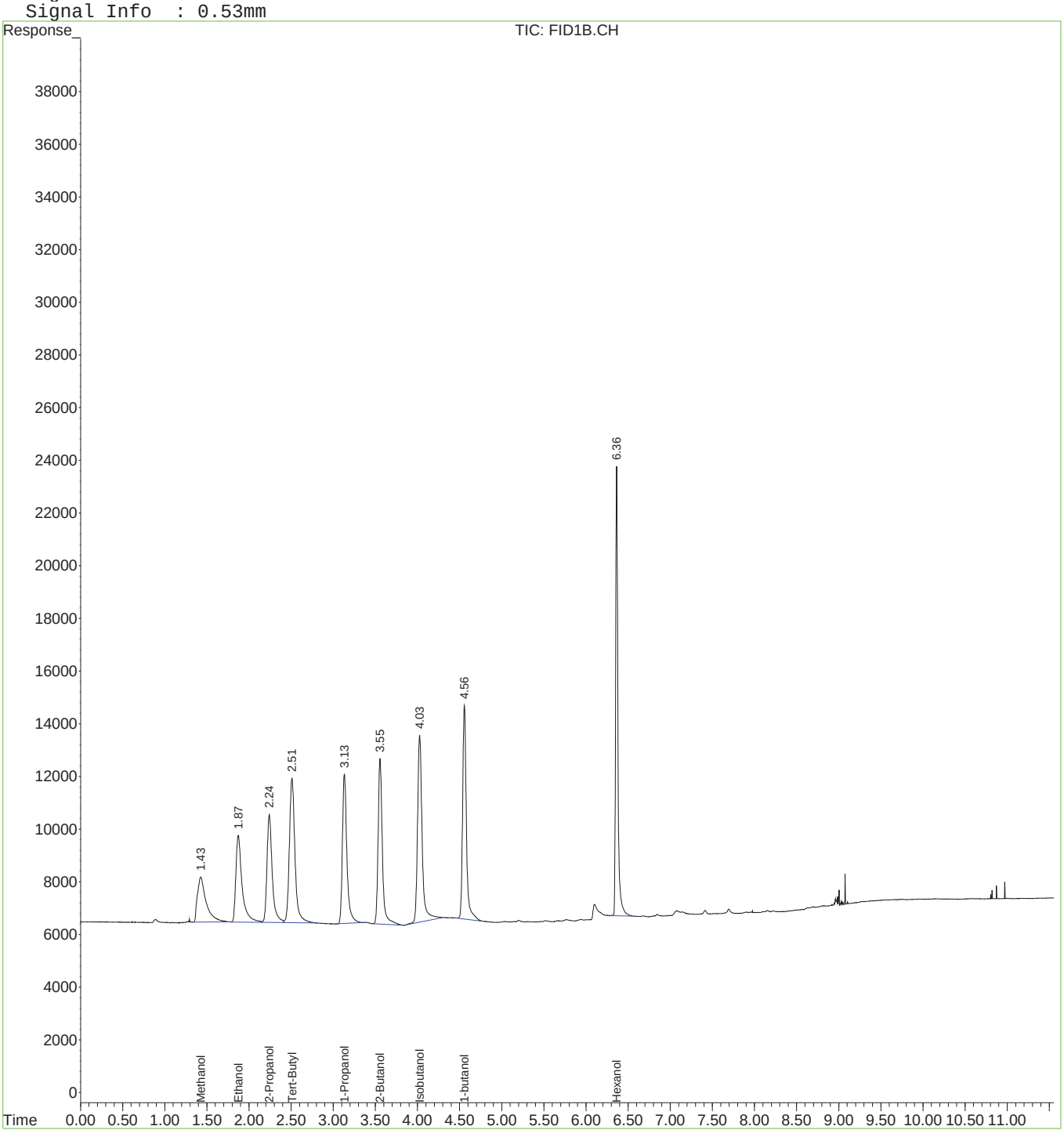
(f)=RT Delta > 1/2 Window (m)=manual int.
GH124733.D MGH6650.M Wed Jun 02 16:35:33 2021 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\GGH6700\GH124733.D Vial: 19
Acq On : 01-Jun-2021, 16:29:35 Operator: RobertS
Sample : cc6650-10000 Inst : HP5890
Misc : GC58014,GGH6700,5.0,,,,1 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: Jun 2 16:31 2021 Quant Results File: MGH6650.RES

Quant Method : C:\MSDCHEM\1\METHODS\MGH6650.M (Chemstation Integrator)
Title : Alcohols by Direct Injection
Last Update : Wed Jan 27 14:39:08 2021
Response via : Multiple Level Calibration
DataAcq Meth : BACK.M

Volume Inj. : 1uL
Signal Phase : Stabilwax
Signal Info : 0.53mm



GC Volatile Run Log

Standard / Reagents	Lot #					
ALC Surrogate	V020-2702-97				Column	RTX-1701 (30m x 0.53mm x 3um)
Concentration	2000 ppm				Method	8015D Alcohols
expiration date	2/21/21				Init Calib Date	1/21/2021
ALC STD	V020-2702-98				Analysis Date	1/21/2021
Concentration	100 ppm				Sequence loaded by	Robert Szot
expiration date	2/21/21				Data processed by	Robert Szot
					Batch ID	GGH6650
ALC (2) STD	V020-2702-99				Matrix	AQ
Concentration	100 ppm				Approved By:	KANYAV
expiration date	2/21/21		Calibration method	MGH6650	Approved Date:	1/28/2021 8:20:51 AM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Inj. Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123500	IB		NA			0.002			1	OK	
GH	123501	IB		NA			0.002			2	OK	
GH	123502	IC6650-200		NA		8015 ALC initial cal.	0.002			3	OK	2 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123503	IC6650-500		NA		8015 ALC initial cal.	0.002			4	OK	5 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123504	IC6650-1000		NA		8015 ALC initial cal.	0.002			5	OK	10 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123505	IC6650-5000		NA		8015 ALC initial cal.	0.002			6	OK	50 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123506	IC6650-10000		NA		8015 ALC initial cal.	0.002			7	OK	100 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123507	IC6650-50000		NA		8015 ALC initial cal.	0.002			8	OK	500 uL ALC, 2.5 uL surrogate / 1 mL DI H2O FV
GH	123508	IC6650-100000		NA		8015 ALC initial cal.	0.002			9	OK	1000 uL ALC + 2.5 uL surrogate
GH	123509	IB		NA			0.002			10	OK	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Inj. Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	123510	IB		NA			0.002			11	OK	
GH	123511	ICV6650-5000		NA		8015 ALC initial cal.	0.002			12	OK	50 uL ALC(2), 2.5 uL surrogate / 1 mL DI H2O FV

GC Volatile Run Log

Standard / Reagents	Lot #					
Standard	ALC STD: V020-2702-141	ALC STD(2): V020-2702-1142			Column	MXT(105MX0.53MMX0.3UM)
Standard Concentration	100ppm	100ppm			Method	8015D Alcohols
Expiration Date	5/27/2021	5/27/2021			Init Calib Date	12/29/2020
ALC Surrogate	V020-2702-149					
Surrogate Concentration	2000ppm				Analysis Date	5/25/2021
Expiration Date	6/3/2021				Sequence loaded by	Bridget Kelly
					Data processed by	Bridget Kelly
					Batch ID	GGH6696
					Matrix	AQ
					Approved By:	MOHUI
pH paper wide range lot#223120	Exp. 8/15/2023		Initial Calibration Method	MGH6650	Approved Date:	5/26/2021 1:58:54 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124590	IB		NA			0.002			1	ok	
GH	124591	IB		NA			0.002			2	ok	
GH	124592	CC6650-5000		NA			0.002			3	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124593	MB		NA			0.002			4	ok	
GH	124594	BS		NA			0.002			5	ok	50 uL STD(2), 2.5 uL surr / 1 mL FV
GH	124595	JD24021-1	7	2000x	GC57971		25uL/50 mL		9	6	ok	
GH	124596	JD24024-1	8	2000x	GC57971		25uL/50 mL		9	7	ok	
GH	124597	JD24026-1	7	2000x	GC57971		25uL/50 mL		5	8	ng	no surr
GH	124598	JD24025-1	8	10x	GC57971		5/50		5	9	ok	
GH	124599	JD24027-1	8	10x	GC57971		5/50		9	10	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124600	JD24026-1	7	2000x	GC57971		25uL/50 mL		5	11	ok	
GH	124601	IB		NA			0.002			12	ok	
GH	124602	CC6650-10000		NA			0.002			13	ok	100 uL STD, 2.5 uL surr / 1 mL FV
GH	124603	MB2		NA			0.002			14	ok	
GH	124604	JD25405-2	2	NA	GC57993	D8015IPA	0.002		1	15	ok	
GH	124605	JD25405-9	1	100x	GC57993	D8015IPA	0.5/50		5	16	ok	
GH	124606	FA85497-2	2	NA	GC57954	D8015LMA	0.002		6	17	ok/dl	
GH	124607	JD25405-2MS	2	NA	GC57993	D8015IPA	0.002		1	18	ok	50 uL STD(2), 2.5 uL surr, 950 uL sample
GH	124608	JD25405-2MSD	2	NA	GC57993	D8015IPA	0.002		1	19	ok	50 uL STD(2), 2.5 uL surr, 950 uL sample
GH	124609	FA85497-2	2	10x	GC57954	D8015LMA	5/50		6	20	ok	
GH	124610	CC6650-5000		NA			0.002			21	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124611	MB3		NA			0.002			22	ok	
GH	124612	JD25438-1	2	NA	GC57994	D8015MEIPA	0.002		1	23	ok	
GH	124613	JD25345-9	4	NA	GC57981		0.002		1	24	ok	
GH	124614	JD25345-6	5	NA	GC57981		0.002		1	25	ok	
GH	124615	JD25345-7	5	NA	GC57981		0.002		1	26	ok	
GH	124616	JD25345-8	5	NA	GC57981		0.002		1	27	ok	
GH	124617	JD25405-1	1	100x	GC57993	D8015IPA	0.5/50		5	28	ok/dl	f/d
GH	124618	JD25405-3	3	NA	GC57993	D8015IPA	0.002		1	29	rr	c/o?

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124619	CC6650-10000		NA			0.002			30	ok	100 uL STD, 2.5 uL surr / 1 mL FV
GH	124620	MB4		NA			0.002			31	RR	
GH	124621	JD25405-4	1	NA	GC57993	D8015IPA	0.002		1	32	RR	
GH	124622	JD25405-5	1	NA	GC57993	D8015IPA	0.002		1	33	RR	
GH	124623	JD25405-6	3	NA	GC57993	D8015IPA	0.002		1	34	RR	
GH	124624	JD25405-7	1	NA	GC57993	D8015IPA	0.002		1	35	RR	
GH	124625	JD25405-8	3	NA	GC57993	D8015IPA	0.002		1	36	NG	syringe error
GH	124626	CC6650-5000		NA			0.002			37	NG	50 uL STD, 2.5 uL surr / 1 mL FV

GC Volatile Run Log

Standard / Reagents	Lot #					
Standard	ALC STD: V020-2717-7	ALC STD(2): V020-2717-8			Column	MXT(105MX0.53MMX0.3UM)
Standard Concentration	100ppm	100ppm			Method	8015D Alcohols
Expiration Date	6/28/2021	6/28/2021			Init Calib Date	12/29/2020
ALC Surrogate	V020-2702-149					
Surrogate Concentration	2000ppm				Analysis Date	5/29/2021
Expiration Date	6/3/2021				Sequence loaded by	Bridget Kelly
					Data processed by	Bridget Kelly
					Batch ID	GGH6699
					Matrix	AQ
					Approved By:	KANYAV
pH paper wide range lot#223120	Exp. 8/15/2023		Initial Calibration Method	MGH6650	Approved Date:	6/2/2021 10:41:23 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124685	IB		NA			0.002			1	ok	
GH	124686	IB		NA			0.002			2	ok	
GH	124687	CC6650-10000		NA			0.002			3	ok	100 uL STD, 2.5 uL surr / 1 mL FV
GH	124688	MB		NA			0.002			4	ok	
GH	124689	BS		NA			0.002			5	ok	50 uL STD(2), 2.5 uL surr / 1 mL FV
GH	124690	JD25687-4	9	10x	GC58012	D8015METH, UNPR	0.002		4	6	ok	
GH	124691	JD25687-5	10	10x	GC58012	D8015METH, UNPR	0.002		4	7	ok	
GH	124692	JD25687-6	7	10x	GC58012	D8015METH, UNPR	0.002		4	8	ok	
GH	124693	JD25687-7	7	10x	GC58012	D8015METH, UNPR	0.002		4	9	ok	
GH	124694	JD25687-9	9	10x	GC58012	D8015METH, UNPR	0.002		4	10	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124695	JD25405-1	3	100000x	GC57993	D8015IPA	0.5uL/50 mL		4	11	ok	made a 10x of 10000x (5/50)
GH	124696	JD25405-1	3	10000x	GC57993	D8015IPA	5uL/50mL		4	12	ok	
GH	124697	CC6650-5000		NA			0.002			13	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124698	MB2		NA			0.002			14	ok	
GH	124699	JD25405-3	1	NA	GC57993	D8015IPA	0.002		1	15	ok	
GH	124700	JD25405-4	3	100x	GC57993	D8015IPA	0.5/50		1	16	ok	
GH	124701	JD25405-5	3	NA	GC57993	D8015IPA	0.002		1	17	ok	
GH	124702	JD25405-3MS	1	NA	GC57993	D8015IPA	0.002		1	18	ok	50 uL STD(2), 2.5 uL surr, 950 uL sample
GH	124703	JD25405-3MSD	1	NA	GC57993	D8015IPA	0.002		1	19	ok	50 uL STD(2), 2.5 uL surr, 950 uL sample
GH	124704	CC6650-10000		NA			0.002			20	ok	100 uL STD, 2.5 uL surr / 1 mL FV
GH	124705	MB3		NA			0.002			21	ok	
GH	124706	JD25747-1	9	10x	GC58019	D8015METH, UNPR	5/50		4	22	ok	
GH	124707	JD25747-2	8	10x	GC58019	D8015METH, UNPR	5/50		4	23	ok	
GH	124708	JD25747-3	7	10x	GC58019	D8015METH, UNPR	5/50		4	24	ok	
GH	124709	JD25747-4	6	10x	GC58019	D8015METH, UNPR	5/50		4	25	ok	
GH	124710	JD25747-5	5	10x	GC58019	D8015METH, UNPR	5/50		4	26	ok	
GH	124711	JD25747-6	9	10x	GC58019	D8015METH, UNPR	5/50		4	27	ok	
GH	124712	JD25747-7	8	10x	GC58019	D8015METH, UNPR	5/50		4	28	ok	
GH	124713	JD25405-1	3	1000x	GC57993	D8015IPA	50uL/50 mL		4	29	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124714	CC6650-5000		NA			0.002			30	ok	50 uL STD, 2.5 uL surr / 1 mL FV

GC Volatile Run Log

Standard / Reagents	Lot #					
Standard	ALC STD: V020-2717-7	ALC STD(2): V020-2717-8			Column	MXT(105MX0.53MMX0.3UM)
Standard Concentration	100ppm	100ppm			Method	8015D Alcohols
Expiration Date	6/28/2021	6/28/2021			Init Calib Date	12/29/2020
ALC Surrogate	V020-2702-149					
Surrogate Concentration	2000ppm				Analysis Date	6/1/2021
Expiration Date	6/3/2021				Sequence loaded by	Bridget Kelly
					Data processed by	Bridget Kelly
					Batch ID	GGH6700
					Matrix	AQ
					Approved By:	KANYAV
pH paper wide range lot#223120	Exp. 8/15/2023		Initial Calibration Method	MGH6650	Approved Date:	6/2/2021 11:04:09 PM

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124715	IB		NA			0.002			1	ok	
GH	124716	IB		NA			0.002			2	ok	
GH	124717	CC6650-10000		NA			0.002			3	ok	100 uL STD, 2.5 uL surr / 1 mL FV
GH	124718	MB		NA			0.002			4	ok	
GH	124719	BS		NA			0.002			5	ok	50 uL STD(2), 2.5 uL surr / 1 mL FV
GH	124720	JD25405-7	2	NA	GC57993	D8015IPA	0.002		1	6	ok	
GH	124721	JD25687-1	7	10x	GC58012	D8015METH, UNPR	5/50		5	7	ok	
GH	124722	JD25687-2	8	10x	GC58012	D8015METH, UNPR	5/50		5	8	ok	
GH	124723	JD25687-3	10	10x	GC58012	D8015METH, UNPR	5/50		5	9	ok	
GH	124724	JD25405-6	2	20x	GC57993	D8015IPA	2.5/50		1	10	ok	

Data File		Sample ID	Bot #	Dil	Workgroup #	Test	Injection Vol (ml)	urrogat	pH	ALS #	Status	Comments
GH	124725	JD25405-8	1	NA	GC57993	D8015IPA	0.002		1	11	ok	
GH	124726	CC6650-5000		NA			0.002			12	NG	prepped wrong 50 uL STD, 2.5 uL surr / 1 mL FV
GH	124727	CC6650-5000		NA			0.002			13	ok	50 uL STD, 2.5 uL surr / 1 mL FV
GH	124728	MB2		NA			0.002			14	ok	
GH	124729	JD25706-2	37	NA	GC58023	D8015ETHL	0.002		1	15	ok	
GH	124730	JD25706-3	10	NA	GC58023	D8015ETHL	0.002		1	16	ok	
GH	124731	JD25706-2MS	37	NA	GC58023		0.002		1	17	ok	50 uL STD(2), 2.5 uL surr, 950 uL sample
GH	124732	JD25706-2MSD	37	NA	GC58023		0.002		1	18	ok	50 uL STD(2), 2.5 uL surr, 950 uL sample
GH	124733	CC6650-10000		NA			0.002			19	ok	100 uL STD, 2.5 uL surr / 1 mL FV
GH	124734	MB3		NA			0.002			20	ok	
GH	124735	JD25574-7	1	NA	GC58006	D8015ETHL, IPA	0.002		1	21	ok	
GH	124736	JD25574-8	5	NA	GC58006	D8015ETHL, IPA	0.002		1	22	ok	
GH	124737	JD25706-4	18	NA	GC58023	D8015ETHL	0.002		1	23	ok	
GH	124738	JD25706-6	14	NA	GC58023	D8015ETHL	0.002		1	24	ok	
GH	124739	JD25706-1	12	NA	GC58023	D8015ETHL	0.002		1	25	ok	
GH	124740	JD25574-6	5	NA	GC58006	D8015ETHL, IPA	0.002		3	26	ok/dl	
GH	124741	IB		NA			0.002			27	ok	
GH	124742	CC6650-5000		NA			0.002			28	ok	50 uL STD, 2.5 uL surr / 1 mL FV

PFAS ANALYTICAL REPORTS

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
PFAS Results

Concentration (ng/mL)

Filename	Sample ID	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20201029_Sample_1	INF-SP1	ND	0.061	11.2	0.613	ND	ND	0.064	ND	ND	ND	0.713	0.319	ND	ND	ND
20201029_Sample_2	Pretreat-SP2	ND	0.049	10.4	0.557	ND	ND	0.087	ND	ND	ND	0.664	0.362	ND	ND	ND
20201029_Sample_3	LEAD EFF-SP3	ND	ND	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201029_Sample_4	SP1-GW-20201021	ND	0.064	12.8	0.636	ND	ND	0.079	ND	ND	ND	0.718	0.333	ND	ND	ND
20201029_Sample_5	SP2-GW-20201021	ND	0.04	10.3	0.635	ND	ND	0.07	ND	ND	ND	0.674	0.329	ND	ND	ND
20201029_Sample_6	SP3-GW-20201021	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.068	ND	ND	ND	ND
20201029_Sample_7	SP1-GW-20201023	ND	0.045	10.6	0.402	ND	ND	0.056	ND	ND	ND	0.68	0.344	ND	ND	ND
20201029_Sample_8	SP2-GW-20201023	ND	0.048	10.5	0.505	ND	ND	0.069	ND	ND	ND	0.66	0.314	ND	ND	ND
20201029_Sample_9	SP3-GW-20201023	ND	0.002	0.012	ND	ND	ND	ND	ND	ND	ND	0.053	ND	ND	ND	ND
20201029_Sample_10	Field Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20201029_Sample_1	INF-SP1	1.25	0.566	4.10	ND	8.94	0.075	ND	5.31	ND	22.5	2.43	0.572	ND	ND	ND
20201029_Sample_2	Pretreat-SP2	1.22	0.55	4.01	ND	8.78	0.089	ND	5.55	ND	23.5	2.40	0.517	ND	ND	ND
20201029_Sample_3	LEAD EFF-SP3	ND	ND	ND	ND	0.03	ND	ND	ND	ND	0.019	0.021	ND	ND	ND	ND
20201029_Sample_4	SP1-GW-20201021	1.22	0.552	4.10	ND	8.63	0.097	ND	5.65	ND	23.3	2.46	0.451	ND	ND	ND
20201029_Sample_5	SP2-GW-20201021	1.21	0.585	3.88	ND	8.62	0.072	ND	5.20	ND	20.1	2.34	0.469	ND	ND	ND
20201029_Sample_6	SP3-GW-20201021	ND	ND	ND	ND	0.02	ND	ND	ND	ND	0.028	0.016	ND	ND	ND	ND
20201029_Sample_7	SP1-GW-20201023	1.17	0.522	3.83	ND	9.41	0.075	ND	5.50	ND	21.1	2.38	0.501	ND	ND	ND
20201029_Sample_8	SP2-GW-20201023	1.20	0.59	3.82	ND	8.40	0.096	ND	5.57	ND	22.1	2.32	0.485	ND	ND	ND
20201029_Sample_9	SP3-GW-20201023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.057	ND	0.037	ND	ND
20201029_Sample_10	Field Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.021	ND	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 2 & 3 PFAS Results

Concentration (ng/mL)

Filename	Sample ID	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20201111_Sample_B3_2_Dup	SP3-GW-20201104 Duplicate	ND	0.058	3.66	ND	ND	ND	ND	ND	ND	ND	0.62	ND	ND	ND	ND
20201111_Sample_B3_2	SP3-GW-20201104	ND	0.053	3.95	ND	ND	ND	ND	ND	ND	ND	0.67	ND	ND	ND	ND
20201111_Sample_B3_1	SP1-GW-20201104	ND	0.062	10.9	0.79	ND	ND	0.066	ND	ND	ND	0.74	0.44	ND	ND	ND
20201111_Sample_B3_3	Trip Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201111_MethodBlk_1B	Method Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201111_Sample_B2_3_Dup	SP3-GW-20201028 Duplicate	ND	0.035	0.83	ND	ND	ND	ND	ND	ND	ND	0.41	ND	ND	ND	ND
20201111_Sample_B2_3	SP3-GW-20201028	ND	0.053	0.79	ND	ND	ND	ND	ND	ND	ND	0.39	ND	ND	ND	ND
20201111_Sample_B2_2	SP2-GW-20201028	ND	0.051	12.5	0.58	ND	ND	0.065	ND	ND	ND	0.70	0.32	ND	ND	ND
20201111_Sample_B2_1	SP1-GW-20201028	ND	0.059	13.5	0.61	ND	ND	0.07	ND	ND	ND	0.68	0.36	ND	ND	ND
20201111_Sample_B2_4	Trip Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201111_MethodBlk_1A	Method Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20201111_Sample_B3_2_Dup	SP3-GW-20201104 Duplicate	0.12	ND	0.98	ND	ND	ND	ND	0.15	ND	ND	1.38	ND	ND	ND	ND
20201111_Sample_B3_2	SP3-GW-20201104	0.12	ND	0.94	ND	ND	ND	ND	0.16	ND	ND	1.41	ND	ND	ND	ND
20201111_Sample_B3_1	SP1-GW-20201104	1.08	0.56	3.47	ND	8.18	0.12	ND	4.90	ND	21.7	2.22	0.497	ND	ND	ND
20201111_Sample_B3_3	Trip Blank	ND	ND	0.028	ND	ND	ND	ND	ND	ND	0.024	ND	ND	ND	ND	ND
20201111_MethodBlk_1B	Method Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201111_Sample_B2_3_Dup	SP3-GW-20201028 Duplicate	ND	ND	0.20	ND	0.032	ND	ND	0.068	ND	ND	0.47	ND	ND	ND	ND
20201111_Sample_B2_3	SP3-GW-20201028	ND	ND	0.20	ND	0.028	ND	ND	0.086	ND	ND	0.48	ND	ND	ND	ND
20201111_Sample_B2_2	SP2-GW-20201028	1.11	0.54	3.29	ND	7.79	0.10	ND	4.99	ND	22.1	2.22	0.462	ND	ND	0.057
20201111_Sample_B2_1	SP1-GW-20201028	1.27	0.61	3.96	ND	9.12	0.10	ND	5.42	ND	25.5	2.58	0.404	ND	ND	ND
20201111_Sample_B2_4	Trip Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201111_MethodBlk_1A	Method Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 4 & 5 PFAS Results

Concentration (ng/mL)

Filename	Sample ID	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20201208_36	BWT-Pre_20201123	ND	ND	17.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	BWT-Rinse-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_23	SP5-Supply-20201123	ND	5.67	373	40.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_24	SP6-RegenBV1-20201123	ND	214	26808	4664	ND	ND	581	ND	ND	ND	1771	1284	45.3	ND	159.6
20201207_25	SP6-RegenBV2-20201123	ND	55.5	11145	462	ND	ND	77.5	ND	ND	ND	1239	945	ND	ND	ND
20201207_26	SP6-RegenBV3-20201123	ND	22.2	2480	79.0	ND	ND	17.0	ND	ND	ND	833	769	ND	ND	ND
20201207_27	SP6-RegenBV4-20201123	ND	12.7	879	44.2	ND	ND	10.7	ND	ND	ND	373	446	ND	ND	ND
20201207_28	SP6-RegenBV5-20201123	ND	10.9	580	26.4	ND	ND	ND	ND	ND	ND	271	343	ND	ND	ND
20201207_29	SP7-RWBV1-20201123	ND	ND	15.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_30	SP7-RWBV2-20201123	ND	ND	11.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_31	SP7-RWBV5-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_32	SP7-RWBV10-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_33	SP7-RWBV15-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_34	SP6-RegenBV20-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_35	BWT-Rinse-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_36_Duplicate	BWT-Pre_20201123	ND	ND	24.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_Sample_B4_21	SP3-GW-20201117	ND	0.054	1.6	ND	ND	ND	ND	ND	ND	ND	0.501	ND	ND	ND	ND
20201207_Sample_B4_19	SP1-GW-20201117	ND	0.052	9.7	0.457	ND	ND	0.074	ND	ND	ND	0.521	0.256	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20201208_36	BWT-Pre_20201123	ND	ND	13.6	ND	15.0	ND	ND	29.4	ND	ND	12.4	ND	ND	ND	ND
	BWT-Rinse-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201207_23	SP5-Supply-20201123	39.2	28.2	109	ND	220	ND	ND	154	ND	806	56.3	27.7	ND	ND	ND
20201207_24	SP6-RegenBV1-20201123	12987	8105	33339	ND	73390	479	ND	48042	ND	360238	14876	3476	ND	ND	ND
20201207_25	SP6-RegenBV2-20201123	2305	993	9658	ND	21679	59.4	ND	6874	ND	44475	6580	1392	ND	ND	ND
20201207_26	SP6-RegenBV3-20201123	422	329	2538	ND	9970	ND	ND	787	ND	9151	2815	793	ND	ND	ND
20201207_27	SP6-RegenBV4-20201123	114	134	764	ND	3802	ND	ND	205	ND	2585	987	407	ND	ND	ND
20201207_28	SP6-RegenBV5-20201123	57.8	67.4	419	ND	2380	ND	ND	107	ND	1555	616	292	ND	ND	ND
20201207_29	SP7-RWBV1-20201123	ND	ND	ND	ND	81.9	ND	ND	ND	ND	74.2	12.9	29.1	ND	ND	ND
20201207_30	SP7-RWBV2-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.51	13.5	ND	ND	ND	ND
20201207_31	SP7-RWBV5-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.21	ND	ND	ND	ND	ND
20201207_32	SP7-RWBV10-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.29	ND	ND	ND	ND	ND
20201207_33	SP7-RWBV15-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.82	8.7	ND	ND	ND	ND
20201207_34	SP6-RegenBV20-20201123	ND	ND	ND	ND	12.0	ND	ND	ND	ND	3.86	ND	ND	ND	ND	ND
20201207_35	BWT-Rinse-20201123	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.99	11.3	ND	ND	ND	ND
20201207_36_Duplicate	BWT-Pre_20201123	ND	ND	15.3	ND	9.7	ND	ND	36.2	ND	ND	13.6	ND	ND	ND	ND
20201207_Sample_B4_21	SP3-GW-20201117	0.041	ND	0.537	ND	ND	ND	ND	0.062	ND	ND	1.067	ND	ND	ND	ND
20201207_Sample_B4_19	SP1-GW-20201117	0.929	0.462	2.99	ND	5.99	0.078	ND	3.50	ND	23.4	2.06	0.366	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 6 PFAS Results

Concentration (ng/mL)

Filename	Sample ID	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20201215_Sample_B6_39	SP10-C1B2_20201130	ND	ND	85	ND	ND	ND	ND	ND	ND	ND	ND	3.7	ND	ND	ND
20201215_Sample_B6_42	SP10-C1B3_20201201	ND	ND	10	13	ND	ND	17	ND	ND	ND	ND	5.6	ND	ND	ND
20201215_Sample_B6_47	SP10-C1B4_20201201	ND	ND	5.7	14	ND	ND	28	ND	ND	ND	ND	5.7	ND	ND	ND
20201215_Sample_B6_52	SP10-C1B5_20201202	ND	7.2	34	ND	ND	ND	27	ND	ND	ND	ND	6.4	ND	ND	ND
20201215_Sample_B6_56	SP10-C1B6_20201202	ND	ND	1.4	ND	ND	ND	65	ND	ND	ND	ND	7.6	ND	ND	ND
20201215_Sample_B6_37	SP11-C1B1_20201130	ND	266	14730	314	ND	ND	303	ND	ND	ND	3949	3010	ND	ND	ND
20201215_Sample_B6_40	SP11-C1B2_20201201	ND	280	18264	598	ND	ND	563	ND	ND	ND	4284	3388	16	ND	ND
20201215_Sample_B6_44	SP11-C1B3_20201201	ND	267	11366	71	ND	ND	382	ND	ND	ND	4329	3207	10	ND	ND
20201215_Sample_B6_48	SP11-C1B4_20201202	ND	321	12653	358	ND	26	614	ND	ND	ND	5181	3892	14	ND	ND
20201215_Sample_B6_53	SP11-C1B5_20201202	ND	462	17932	517	ND	ND	629	ND	ND	ND	7955	5731	13	ND	ND
20201215_Sample_B6_57	SP11-C1B6_20201202	ND	370	12325	436	ND	ND	710	ND	ND	ND	5916	4258	ND	ND	ND
20201215_Sample_B6_43	SP25-C1B3_20201201	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	7.8	ND	ND	ND
20201215_Sample_B6_58_DUP	SP25-C1B6_20201202	ND	396	18734	574	ND	ND	726	ND	ND	ND	6357	4823	18	ND	ND
20201215_Sample_B6_58	SP25-C1B6_20201202	ND	381	19257	519	ND	ND	707	ND	ND	ND	6305	4773	14	ND	ND
20201215_Sample_B6_38	SP8-C1B2_20201130	ND	69	16216	1465	ND	ND	143	ND	ND	ND	931	751	9.2	ND	ND
20201215_Sample_B6_41	SP8-C1B3_20201130	ND	60	16557	1534	ND	ND	201	ND	ND	ND	960	778	13	ND	ND
20201215_Sample_B6_45	SP8-C1B4_20201201	ND	73	17254	1667	ND	ND	176	ND	ND	ND	917	738	14	ND	ND
20201215_Sample_B6_50	SP8-C1B5_20201201	ND	69	18366	1550	ND	ND	191	ND	ND	ND	994	773	14	ND	ND
20201215_Sample_B6_54	SP8-C1B6_20201202	ND	90	16831	1614	ND	ND	196	ND	ND	ND	1030	894	ND	ND	ND
20201215_Sample_B6_46	SP9-C1B4_20201201	ND	ND	3355	3521	ND	ND	76	ND	ND	ND	ND	8.6	12	ND	ND
20201215_Sample_B6_51	SP9-C1B5_20201202	ND	7.5	13198	6599	ND	ND	290	ND	ND	ND	ND	8.9	39	ND	ND
20201215_Sample_B6_55	SP9-C1B6_20201202	ND	7.5	6929	4513	ND	ND	170	ND	ND	ND	ND	13	16	ND	ND

Concentration (ng/mL)

Filename	Sample ID	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20201215_Sample_B6_39	SP10-C1B2_20201130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND
20201215_Sample_B6_42	SP10-C1B3_20201201	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22	ND	ND	ND	ND
20201215_Sample_B6_47	SP10-C1B4_20201201	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	20	ND	ND	ND	ND
20201215_Sample_B6_52	SP10-C1B5_20201202	ND	ND	ND	ND	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201215_Sample_B6_56	SP10-C1B6_20201202	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20201215_Sample_B6_37	SP11-C1B1_20201130	14023	1668	39603	ND	93781	382	ND	52370	ND	45226	21404	6051	ND	ND	ND
20201215_Sample_B6_40	SP11-C1B2_20201201	17234	2031	39901	ND	100273	601	ND	62812	ND	69175	22183	6320	ND	ND	15
20201215_Sample_B6_44	SP11-C1B3_20201201	16574	1837	41869	ND	108884	479	ND	57356	ND	52530	23276	7475	ND	ND	19
20201215_Sample_B6_48	SP11-C1B4_20201202	18972	1477	50276	ND	104743	658	ND	69412	ND	55425	26721	7681	ND	ND	22
20201215_Sample_B6_53	SP11-C1B5_20201202	31338	2104	73373	ND	98043	593	ND	100269	ND	85251	40369	9942	ND	ND	11
20201215_Sample_B6_57	SP11-C1B6_20201202	22302	1846	58157	ND	105840	626	ND	81810	ND	67807	29687	8275	ND	ND	16
20201215_Sample_B6_43	SP25-C1B3_20201201	ND	ND	ND	ND	32	ND	ND	12	ND	22	22	ND	ND	ND	ND
20201215_Sample_B6_58_DUP	SP25-C1B6_20201202	24890	2845	58805	ND	111727	706	ND	86392	ND	104680	32867	9787	ND	ND	27
20201215_Sample_B6_58	SP25-C1B6_20201202	24783	2599	60895	ND	112214	669	ND	89241	ND	96813	32956	8882	ND	ND	30
20201215_Sample_B6_38	SP8-C1B2_20201130	3095	1440	9109	ND	21949	151	ND	13701	ND	69444	4703	1231	ND	ND	27
20201215_Sample_B6_41	SP8-C1B3_20201130	3167	1355	9147	ND	23881	143	ND	14061	ND	68218	4899	1101	ND	ND	28
20201215_Sample_B6_45	SP8-C1B4_20201201	2958	1479	9290	ND	22151	141	ND	13060	ND	68952	4809	1168	ND	ND	20
20201215_Sample_B6_50	SP8-C1B5_20201201	3299	1726	9673	ND	25459	168	ND	14969	ND	74502	5073	1295	ND	ND	32
20201215_Sample_B6_54	SP8-C1B6_20201202	3457	1690	10510	ND	26334	172	ND	15342	ND	79095	5478	1311	ND	ND	36
20201215_Sample_B6_46	SP9-C1B4_20201201	39	65	44	ND	178	65	ND	553	ND	21277	32	16	ND	ND	55
20201215_Sample_B6_51	SP9-C1B5_20201202	140	437	133	ND	763	272	ND	3306	ND	98354	70	23	ND	ND	88
20201215_Sample_B6_55	SP9-C1B6_20201202	69	182	76	ND	428	131	ND	1161	ND	43688	51	15	ND	ND	48

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 7 PFAS Results

Concentration (ng/mL)

Filename	Sample ID	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20201222_B7_SP25_GW_20201216	SP25_GW_20201216	ND	0.026	0.42	ND	ND	ND	ND	ND	ND	ND	0.334	ND	ND	ND	ND
20201222_B7_SP3_GW_20201216	SP3_GW_20201216	ND	0.025	0.42	ND	ND	ND	ND	ND	ND	ND	0.333	ND	ND	ND	ND
20201222_B7_SP1_GW_20201216	SP1_GW_20201216	ND	0.055	8.1	0.539	ND	ND	0.07	ND	ND	ND	0.628	0.305	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20201222_B7_SP25_GW_20201216	SP25_GW_20201216	0.029	ND	0.127	ND	ND	ND	ND	ND	ND	ND	0.344	ND	ND	ND	ND
20201222_B7_SP3_GW_20201216	SP3_GW_20201216	ND	ND	0.131	ND	ND	ND	ND	ND	ND	ND	0.358	ND	ND	ND	ND
20201222_B7_SP1_GW_20201216	SP1_GW_20201216	1.03	0.422	3.47	ND	7.94	0.066	ND	4.73	ND	22.2	2.31	0.458	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 8 PFAS Results

Concentration (ng/mL)

Filename	Sample ID	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
2020107_Sample_67_DUP	SP1_GW_20201229	ND	0.066	8.63	0.603	ND	ND	0.087	ND	ND	ND	0.642	0.337	ND	ND	ND
2020107_Sample_69	SP3_GW_20201229	ND	0.062	3.04	0.049	ND	ND	ND	ND	ND	ND	0.627	ND	ND	ND	ND
2020107_Sample_67	SP1_GW_20201229	ND	0.069	10.3	0.887	ND	ND	0.071	ND	ND	ND	0.64	0.328	ND	ND	ND
2020107_Sample_66	SP25_GW_20201223	ND	0.071	10.3	0.564	ND	ND	0.062	ND	ND	ND	0.671	0.391	0.031	0.018	ND
2020107_Sample_65	SP3_GW_20201223	ND	0.06	2.64	ND	ND	ND	ND	ND	ND	ND	0.594	ND	ND	ND	ND
2020107_Sample_63	SP1_GW_20201223	ND	0.074	13.4	0.805	ND	ND	0.072	ND	ND	ND	0.673	0.385	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
2020107_Sample_67_DUP	SP1_GW_20201229	1.10	0.404	3.43	ND	8.63	0.08	ND	5.71	ND	23.2	2.43	0.415	ND	ND	ND
2020107_Sample_69	SP3_GW_20201229	0.11	ND	0.84	ND	ND	ND	ND	0.12	ND	0.05	1.41	ND	ND	ND	ND
2020107_Sample_67	SP1_GW_20201229	1.13	0.452	3.56	ND	9.29	0.082	ND	5.81	ND	22.9	2.34	0.466	ND	ND	ND
2020107_Sample_66	SP25_GW_20201223	1.22	0.46	4.05	ND	9.30	0.071	ND	5.88	ND	25.1	2.58	0.473	ND	ND	ND
2020107_Sample_65	SP3_GW_20201223	0.08	ND	0.66	ND	ND	ND	ND	0.08	ND	0.03	1.16	ND	ND	ND	ND
2020107_Sample_63	SP1_GW_20201223	1.22	0.536	3.79	ND	9.02	0.086	ND	5.85	ND	26.5	2.53	0.466	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 9 PFAS Results

		Concentration (ng/mL)														
Filename	**Sample ID**	**10:2 FTS**	**4:2 FTS**	**6:2 FTS**	**8:2 FTS**	**EtFOSA**	**EtFOSAA**	**FOSA-1**	**FOSAA**	**MeFOSA**	**MeFOSAA**	**PFBA**	**PFBS**	**PFDA**	**PFDoA**	**PFDS**
20210118_Sample_74	FieldBlank_20210111	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210118_Sample_72_DUP	SP3_GW_20210111	ND	0.061	1.48	0.019	ND	ND	ND	ND	ND	ND	0.567	ND	ND	ND	ND
20210118_Sample_72	SP3_GW_20210111	ND	0.056	1.55	0.036	ND	ND	ND	ND	ND	ND	0.478	ND	ND	ND	ND
20210118_Sample_70	SP1_GW_20210111	ND	0.053	6.36	0.613	ND	ND	0.094	ND	ND	ND	0.455	0.218	ND	ND	ND

		Concentration (ng/mL)														
Filename	**Sample ID**	**PFHpA**	**PFHpS**	**PFHxA**	**PFHxDA**	**PFHxS**	**PFNA**	**PFNS**	**PFOA**	**PFODA**	**PFOS**	**PFPeA**	**PFPeS**	**PFTeDA**	**PFTrDA**	**PFuDA**
20210118_Sample_74	FieldBlank_20210111	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.018	ND	ND	ND	ND
20210118_Sample_72_DUP	SP3_GW_20210111	0.057	ND	0.524	ND	ND	ND	ND	0.086	ND	ND	0.935	ND	ND	ND	ND
20210118_Sample_72	SP3_GW_20210111	0.070	ND	0.494	ND	ND	ND	ND	0.095	ND	ND	0.929	ND	ND	ND	ND
20210118_Sample_70	SP1_GW_20210111	0.763	0.334	2.47	ND	5.69	0.091	0.062	3.20	ND	15.7	1.48	0.323	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 10 PFAS Results

Concentration (ng/mL)

Filename	Sample ID	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20210129_Sample_84	20210114-regencomp	ND	81	14908	1526	ND	ND	139	ND	ND	ND	542	460	ND	ND	ND
20210129_Sample_95	C2B1-DF-20210119	ND	60	14259	1199	ND	ND	129	ND	ND	ND	441	389	22	ND	ND
20210129_Sample_93	C2B1-DP-20210120	ND	ND	ND	ND	ND	ND	28	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_92	C2B1-SB-20210119	ND	227	10620	50	ND	ND	303	ND	ND	ND	1872	1451	ND	ND	ND
20210129_Sample_96	C2B1-SB-20210120	ND	320	4522	85	ND	ND	129	ND	ND	ND	2916	2342	ND	ND	ND
20210129_Sample_94	C2B2-DF-20210119	ND	63	12136	968	ND	ND	134	ND	ND	ND	461	426	27	ND	ND
20210129_Sample_97	C2B3-DF-20210120	ND	51	11996	1006	ND	ND	117	ND	ND	ND	437	384	26	ND	ND
20210129_Sample_75	SP1-GW-20210120	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_91	SP25-GW-20210114	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_76	SP2-GW-20210120	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_78	SP5-GW-20210114-supply	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_79	SP6-GW-20210114-regen 1	ND	286	34573	6619	ND	ND	550	ND	ND	ND	1561	794	39	ND	ND
20210129_Sample_80	SP6-GW-20210114-regen 2	ND	45	6150	375	ND	ND	66	ND	ND	ND	587	481	ND	ND	ND
20210129_Sample_81	SP6-GW-20210114-regen 3	ND	13	1379	55	ND	ND	20	ND	ND	ND	248	362	ND	ND	ND
20210129_Sample_82	SP6-GW-20210114-regen 4	ND	4	522	38	ND	ND	14	ND	ND	ND	132	275	ND	19	ND
20210129_Sample_83	SP6-GW-20210114-regen 5	ND	3	257	21	ND	ND	14	ND	ND	ND	79	238	ND	ND	ND
20210129_Sample_85	SP7-GW-20210114-rinse 1	ND	ND	22	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_86	SP7-GW-20210114-rinse 2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_87	SP7-GW-20210114-rinse 5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_88_dup	SP7-GW-20210114-rinse 10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_88	SP7-GW-20210114-rinse 10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_89	SP7-GW-20210114-rinse 15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_90	SP7-GW-20210114-rinse 20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20210129_Sample_84	20210114-regencomp	2241	1203	6515	ND	14447	115	ND	9375	ND	42147	3046	834	ND	ND	ND
20210129_Sample_95	C2B1-DF-20210119	1749	953	5089	ND	12266	108	ND	7791	ND	37658	2457	725	ND	ND	ND
20210129_Sample_93	C2B1-DP-20210120	ND	ND	ND	ND	15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210129_Sample_92	C2B1-SB-20210119	7507	1508	20890	ND	46573	293	ND	30102	ND	29192	10741	3172	ND	ND	ND
20210129_Sample_96	C2B1-SB-20210120	10814	792	30545	ND	34187	162	ND	33538	ND	14207	16243	4652	ND	ND	ND
20210129_Sample_94	C2B2-DF-20210119	1784	871	4980	ND	12232	116	ND	8042	ND	37753	2483	688	ND	ND	ND
20210129_Sample_97	C2B3-DF-20210120	1623	944	4507	ND	11925	96	ND	6979	ND	37332	2324	667	ND	ND	ND
20210129_Sample_75	SP1-GW-20210120	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	ND	ND	ND	ND	ND
20210129_Sample_91	SP25-GW-20210114	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	11	ND	ND	ND	ND
20210129_Sample_76	SP2-GW-20210120	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	ND	ND	ND	ND	ND
20210129_Sample_78	SP5-GW-20210114-supply	ND	ND	ND	ND	ND	ND	ND	ND	N/A	9	15	ND	ND	ND	ND
20210129_Sample_79	SP6-GW-20210114-regen 1	11300	4000	27614	ND	43316	516	ND	43287	ND	151175	11891	2077	ND	ND	ND
20210129_Sample_80	SP6-GW-20210114-regen 2	937	1179	3974	ND	14978	42	ND	3181	ND	41234	2682	869	ND	ND	ND
20210129_Sample_81	SP6-GW-20210114-regen 3	216	525	1097	ND	8542	16	ND	632	ND	17850	875	558	ND	ND	ND
20210129_Sample_82	SP6-GW-20210114-regen 4	79	271	408	ND	4898	ND	ND	244	ND	7003	365	425	ND	ND	ND
20210129_Sample_83	SP6-GW-20210114-regen 5	42	154	166	ND	2989	ND	ND	128	ND	3473	162	309	ND	ND	ND
20210129_Sample_85	SP7-GW-20210114-rinse 1	10	ND	ND	ND	47	ND	ND	ND	ND	64	10	ND	ND	ND	ND
20210129_Sample_86	SP7-GW-20210114-rinse 2	ND	ND	ND	ND	29	ND	ND	ND	ND	23	12	10	ND	ND	ND
20210129_Sample_87	SP7-GW-20210114-rinse 5	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	12	ND	ND	ND	ND
20210129_Sample_88_dup	SP7-GW-20210114-rinse 10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND
20210129_Sample_88	SP7-GW-20210114-rinse 10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND
20210129_Sample_89	SP7-GW-20210114-rinse 15	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	12	ND	ND	ND	ND
20210129_Sample_90	SP7-GW-20210114-rinse 20	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	11	ND	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory
Batch 11a PFAS Results

Concentration (ng/mL)

Filename	Sample ID	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20210203_Sample_131	C2B10-comp-20210125	ND	ND	11890	11012	ND	ND	276	ND	ND	ND	ND	ND	48	ND	ND
20210203_Sample_129	C2B10-DF-20210125	ND	74	15419	1377	ND	ND	130	ND	ND	ND	572	499	ND	ND	ND
20210203_Sample_130	C2B10-DP-20210126	ND	ND	64	ND	ND	ND	49	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_132	C2B10-SB-20210127	ND	276	9320	86	ND	ND	221	ND	ND	ND	2427	1857	ND	ND	ND
20210203_Sample_135	C2B11-comp-20210126	ND	ND	3150	2473	ND	ND	63	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_136	C2B11-DF-20210126	ND	80	14471	1263	ND	ND	121	ND	ND	ND	533	433	ND	ND	ND
20210203_Sample_133	C2B11-DP-20210126	ND	ND	20	43	ND	ND	57	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_134	C2B11-SB-20210126	ND	247	9620	78	ND	ND	327	ND	ND	ND	2341	1808	ND	5	ND
20210203_Sample_102	C2B2-DP-20210120	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_105	C2B3-comp-20210120	ND	ND	2908	2377	ND	ND	78	ND	ND	ND	ND	ND	9	ND	ND
20210203_Sample_103	C2B3-DP-20210121	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_104	C2B3-SB-20210120	ND	223	10571	80	ND	ND	252	ND	ND	ND	1908	1384	ND	ND	ND
20210203_Sample_108	C2B4-comp-20210121	ND	ND	1896	1736	ND	ND	56	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_106	C2B4-DF-20210120	ND	69	13027	1752	ND	ND	112	ND	ND	ND	497	407	12	ND	ND
20210203_Sample_136A	C2B4-DP-20210121	ND	ND	19	11	ND	ND	70	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_107	C2B4-SB-20210121	ND	263	10433	51	ND	ND	186	ND	ND	ND	2449	1868	ND	ND	ND
20210203_Sample_109	C2B5-comp-20210121	ND	ND	1379	1415	ND	ND	74	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_110	C2B5-DF-20210121	ND	71	16537	1419	ND	ND	116	ND	ND	ND	536	445	ND	ND	ND
20210203_Sample_112	C2B5-DP-20210121	ND	ND	ND	ND	ND	ND	66	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_111	C2B5-SB-20210121	ND	295	12002	135	ND	ND	381	ND	ND	ND	2572	1980	9	ND	ND
20210203_Sample_116	C2B6-comp-20210122	ND	7	3194	2411	ND	ND	87	ND	ND	ND	ND	ND	23	ND	ND
20210203_Sample_114	C2B6-DF-20210121	ND	71	15855	2189	ND	ND	165	ND	ND	ND	535	429	12	ND	ND
20210203_Sample_113	C2B6-DP-20210122	ND	ND	21	12	ND	ND	61	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_115	C2B6-SB-20210121	ND	264	10727	39	ND	ND	152	ND	ND	ND	2614	1887	ND	ND	ND
20210203_Sample_117	C2B7-comp-20210122	ND	ND	5608	4370	ND	ND	129	ND	ND	ND	ND	ND	22	ND	ND
20210203_Sample_120	C2B7-DF-20210122	ND	84	15129	1473	ND	ND	120	ND	ND	ND	541	540	9	ND	ND
20210203_Sample_119	C2B7-DP-20210122	ND	13	900	49	ND	ND	71	ND	ND	ND	ND	63	ND	ND	ND
20210203_Sample_118	C2B7-SB-20210122	ND	391	13270	60	ND	ND	408	ND	ND	ND	3688	2461	ND	ND	ND
20210203_Sample_121	C2B8-comp-20210125	ND	ND	13846	8346	ND	ND	269	ND	ND	ND	ND	11	42	ND	ND
20210203_Sample_122	C2B8-DF-20210122	ND	69	17085	1917	ND	ND	161	ND	ND	ND	564	493	10	ND	ND
20210203_Sample_123	C2B8-DP-20210125	ND	ND	85	6	ND	ND	53	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_124	C2B8-SB-20210125	ND	286	6331	64	ND	ND	110	ND	ND	ND	3032	2161	ND	ND	ND
20210203_Sample_125	C2B9-comp-20210125	ND	7	1654	749	ND	ND	40	ND	ND	ND	ND	33	ND	ND	15
20210203_Sample_128	C2B9-DF-20210125	ND	72	15297	1122	ND	ND	133	ND	ND	ND	540	436	8	ND	ND
20210203_Sample_126	C2B9-DP-20210125	ND	ND	80	32	ND	ND	47	ND	ND	ND	ND	13	ND	ND	ND
20210203_Sample_127	C2B9-SB-20210125	ND	455	14628	138	ND	ND	591	ND	ND	ND	4072	3300	11	ND	ND
20210203_Sample_98	SP1-GW-20210127	ND	6	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_100	SP3-GW-20210127	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_101	SP4-GW-20210127	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20210203_Sample_131	C2B10-comp-20210125	75	380	79	ND	563	260	ND	1998	ND	82872	37	ND	ND	ND	27
20210203_Sample_129	C2B10-DF-20210125	1889	971	5832	N/A	16388	117	N/A	8465	ND	41125	2934	916	ND	ND	ND
20210203_Sample_130	C2B10-DP-20210126	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_132	C2B10-SB-20210127	8563	1121	23849	ND	51218	237	ND	30810	ND	22907	13232	3986	ND	ND	ND
20210203_Sample_135	C2B11-comp-20210126	26	72	20	ND	109	66	ND	453	ND	16648	ND	ND	ND	ND	ND
20210203_Sample_136	C2B11-DF-20210126	1771	959	5354	ND	13801	110	ND	7728	ND	38753	2911	864	ND	ND	ND
20210203_Sample_133	C2B11-DP-20210126	ND	ND	ND	N/A	ND	ND	N/A	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_134	C2B11-SB-20210126	8235	946	23000	ND	50998	251	ND	31889	ND	26749	11908	3814	ND	ND	ND
20210203_Sample_102	C2B2-DP-20210120	ND	ND	ND	ND	ND	ND	ND	ND	ND	31	ND	ND	ND	ND	ND
20210203_Sample_105	C2B3-comp-20210120	ND	56	23	ND	99	65	ND	349	ND	14935	ND	ND	ND	ND	ND
20210203_Sample_103	C2B3-DP-20210121	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_104	C2B3-SB-20210120	7233	1184	19521	ND	46344	262	ND	30448	ND	27173	9849	3324	ND	ND	ND
20210203_Sample_108	C2B4-comp-20210121	ND	37	26	N/A	68	44	N/A	266	ND	10584	ND	ND	ND	ND	ND
20210203_Sample_106	C2B4-DF-20210120	1648	964	5146	ND	12359	107	ND	7154	ND	43146	2593	779	ND	ND	ND
20210203_Sample_136A	C2B4-DP-20210121	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_107	C2B4-SB-20210121	8439	1136	23508	ND	51120	211	ND	29735	ND	20315	12637	3864	ND	ND	ND
20210203_Sample_109	C2B5-comp-20210121	ND	39	14	ND	53	35	ND	179	ND	9556	ND	ND	ND	ND	ND
20210203_Sample_110	C2B5-DF-20210121	1807	1128	5440	ND	14084	122	ND	8100	ND	45490	2935	823	ND	ND	ND
20210203_Sample_112	C2B5-DP-20210121	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_111	C2B5-SB-20210121	9726	1658	26918	N/A	63973	400	N/A	37680	ND	38138	13862	4675	ND	ND	ND
20210203_Sample_116	C2B6-comp-20210122	ND	48	26	ND	89	60	ND	430	ND	18515	ND	ND	ND	ND	ND
20210203_Sample_114	C2B6-DF-20210121	1785	1022	5445	ND	13838	123	ND	8433	ND	48348	2860	820	ND	ND	ND
20210203_Sample_113	C2B6-DP-20210122	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_115	C2B6-SB-20210121	9093	1171	25519	ND	56470	207	ND	31421	ND	21343	13380	4309	ND	ND	ND
20210203_Sample_117	C2B7-comp-20210122	35	117	32	ND	205	109	ND	805	ND	39387	ND	ND	ND	ND	ND
20210203_Sample_120	C2B7-DF-20210122	1581	953	5144	ND	13007	113	ND	7641	ND	42154	2621	726	ND	ND	15
20210203_Sample_119	C2B7-DP-20210122	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_118	C2B7-SB-20210122	12974	1771	33395	ND	76805	420	ND	48453	ND	42531	18720	5538	ND	ND	ND
20210203_Sample_121	C2B8-comp-20210125	68	354	66	ND	529	268	ND	2323	ND	83984	29	17	ND	ND	ND
20210203_Sample_122	C2B8-DF-20210122	1895	1101	5699	ND	15435	135	ND	8616	ND	53393	3004	832	ND	ND	ND
20210203_Sample_123	C2B8-DP-20210125	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_124	C2B8-SB-20210125	10441	754	28824	ND	41496	154	ND	33512	ND	13148	15340	3992	ND	ND	ND
20210203_Sample_125	C2B9-comp-20210125	ND	24	ND	ND	41	33	ND	124	ND	4773	ND	ND	ND	ND	ND
20210203_Sample_128	C2B9-DF-20210125	1809	915	5587	ND	13440	107	ND	8374	ND	35634	2834	729	ND	ND	ND
20210203_Sample_126	C2B9-DP-20210125	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_127	C2B9-SB-20210125	17990	2797	42727	ND	122626	620	ND	66619	ND	67488	21328	8838	ND	ND	ND
20210203_Sample_98	SP1-GW-20210127	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND
20210203_Sample_100	SP3-GW-20210127	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210203_Sample_101	SP4-GW-20210127	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 12 PFAS Results — **Concentration (ng/mL)**

Filename	Sample ID	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20210210_Sample_153	C2B1-14-SBcomp-20210129	ND	212	6870	71	ND	ND	196	ND	ND	ND	1793	1387	ND	ND	ND
20210210_Sample_152	C2B14-DP-20210127	ND	ND	8	27	ND	ND	52	ND	ND	ND	ND	ND	ND	ND	ND
20210210_Sample_151	C2B14-comp-20210127	ND	7	6463	2234	ND	ND	139	ND	ND	ND	ND	ND	14	ND	ND
20210210_Sample_150	C2B25-SB-20210127	ND	269	3387	100	ND	ND	134	ND	ND	ND	2479	1901	10	ND	ND
20210210_Sample_149	C2B14-SB-20210127	ND	281	3810	143	ND	ND	120	ND	ND	ND	2384	1894	ND	ND	ND
20210210_Sample_148	C2B14-DF-20210127	ND	58	11512	1029	ND	ND	156	ND	ND	ND	425	308	17	ND	ND
20210210_Sample_147	C2B13-DF-20210127	ND	61	12300	959	ND	ND	123	ND	ND	ND	430	320	ND	ND	ND
20210210_Sample_146	C2B13-comp-20210127	ND	ND	4602	2083	ND	ND	90	ND	ND	ND	ND	ND	20	ND	ND
20210210_Sample_145_Dup	C2B13-DP-20210127	ND	ND	17	17	ND	ND	57	ND	ND	ND	ND	ND	ND	ND	ND
20210210_Sample_145	C2B13-DP-20210127	ND	ND	11	24	ND	ND	49	ND	ND	ND	ND	ND	ND	ND	ND
20210210_Sample_144	C2B13-SB-20210127	N/A	220	6750	61	ND	ND	350	ND	ND	ND	1980	1577	ND	ND	ND
20210210_Sample_143	C2B12-comp-20210126	ND	9	9823	4852	ND	ND	204	ND	ND	ND	39	8	35	ND	ND
20210210_Sample_142	C2B12-SB-20210126	ND	257	4856	24	ND	ND	132	ND	ND	ND	2107	1655	ND	ND	ND
20210210_Sample_141	C2B12-DF-20210126	ND	65	11332	1157	ND	ND	122	ND	ND	ND	440	333	ND	ND	ND
20210210_Sample_140	C2B12-DP-20210126	ND	7	3.1	21	ND	ND	53	ND	ND	ND	ND	ND	ND	ND	ND
20210210_Sample_139	SP3-GW-20210203	ND	0.07	2.40	0.04	ND	ND	ND	ND	ND	ND	0.577	ND	ND	ND	ND
20210210_Sample_137	SP1-GW-20210203	ND	0.09	9.09	0.63	ND	ND	0.10	ND	ND	ND	0.743	0	ND	ND	ND
Re-runs																
20210210_Sample_76	SP3-GW-20210120	ND	0.03	0.32	ND	ND	ND	ND	ND	ND	ND	0.184	ND	ND	ND	ND
20210210_Sample_75	SP1-GW-20210120	ND	0.14	14.0	1.30	ND	ND	0.17	ND	ND	ND	1.05	0	ND	ND	ND
20210210_Sample_11	SP3-GW-20201028	ND	0.06	1.77	ND	ND	ND	ND	ND	ND	ND	0.619	ND	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20210210_Sample_153	C2B1-14-SBcomp-20210129	9014	951	19293	ND	40396	209	ND	26976	ND	19104	10480	3193	ND	ND	ND
20210210_Sample_152	C2B14-DP-20210127	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210210_Sample_151	C2B14-comp-20210127	56	172	36	ND	265	99	ND	1037	ND	34528	13	21	ND	ND	ND
20210210_Sample_150	C2B25-SB-20210127	11037	631	25481	ND	29725	136	ND	27492	ND	12570	13627	3915	ND	ND	ND
20210210_Sample_149	C2B14-SB-20210127	10669	601	25969	ND	27501	144	ND	25648	ND	11165	13795	3621	ND	ND	ND
20210210_Sample_148	C2B14-DF-20210127	1651	1052	4209	ND	11207	89	ND	6599	ND	39739	2218	597	ND	ND	ND
20210210_Sample_147	C2B13-DF-20210127	1646	1045	4330	ND	11965	94	ND	6604	ND	35690	2272	589	ND	ND	ND
20210210_Sample_146	C2B13-comp-20210127	47	154	34	ND	238	85	ND	700	ND	26620	14	20	ND	ND	ND
20210210_Sample_145_Dup	C2B13-DP-20210127	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6	ND	ND	ND	ND
20210210_Sample_145	C2B13-DP-20210127	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210210_Sample_144	C2B13-SB-20210127	9965	1027	21428	ND	43264	274	ND	31896	ND	24427	11282	3601	ND	ND	ND
20210210_Sample_143	C2B12-comp-20210126	87	287	75	ND	500	200	ND	1847	ND	61744	31	ND	ND	ND	ND
20210210_Sample_142	C2B12-SB-20210126	10353	764	22500	ND	37407	144	ND	28532	ND	13922	11920	3498	ND	ND	ND
20210210_Sample_141	C2B12-DF-20210126	1714	922	4574	ND	11263	98	ND	6743	ND	35368	2326	579	ND	ND	ND
20210210_Sample_140	C2B12-DP-20210126	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	ND	ND
20210210_Sample_139	SP3-GW-20210203	0.151	ND	0.707	ND	ND	ND	ND	0.156	ND	ND	1.03	ND	ND	ND	ND
20210210_Sample_137	SP1-GW-20210203	1.48	0.64	3.65	ND	8.73	0.077	ND	6.92	ND	22.9	2.28	0.578	ND	ND	ND
Re-runs																
20210210_Sample_76	SP3-GW-20210120	ND	ND	0.075	ND	ND	ND	ND	0.054	ND	ND	0.094	ND	ND	ND	ND
20210210_Sample_75	SP1-GW-20210120	2.24	1.08	5.32	ND	14.4	0.116	ND	9.86	ND	32.5	3.33	0.913	ND	ND	ND
20210210_Sample_11	SP3-GW-20201028	ND	ND	0.31	ND	ND	ND	ND	ND	ND	ND	0.712	ND	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 13 PFAS Results — **Concentration (ng/mL)**

Filename	Sample ID	Dilution Factor	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS	PFHpA	PFHpS
20200218_Sample_156	SP3-GW-20210210	2	ND	0.069	1.76	ND	ND	ND	ND	0.008	ND	ND	0.582	ND	ND	ND	ND	0.219	ND
20200218_Sample_154	SP1-GW-20210210	2	ND	0.068	ND	ND	ND	ND	ND	ND	ND	ND	0.44	ND	ND	ND	ND	ND	ND
Re-runs																			
20200218_Sample_100	SP3-GW-20210127	2	ND	0.053	0.344	ND	ND	ND	ND	ND	ND	ND	0.424	ND	ND	ND	ND	ND	ND
20200218_Sample_98	SP1-GW-20210127	2	ND	0.069	7.1	0.571	ND	ND	0.075	ND	ND	ND	0.639	ND	ND	ND	ND	1.27	0.579
20200218_Sample_77	SP3-GW-20210120	2	ND	0.028	ND	ND	ND	ND	0.011	ND	ND	ND	0.18	ND	ND	ND	ND	ND	ND
20200218_Sample_70	SP1-GW-20210111	2	ND	0.082	7.4	0.793	ND	ND	0.085	ND	ND	ND	0.685	0.327	ND	ND	ND	1.33	0.449

Concentration (ng/mL)

Filename	Sample ID	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20200218_Sample_156	SP3-GW-20210210	0.928	ND	ND	ND	ND	0.25	ND	ND	1.363	ND	ND	ND	ND
20200218_Sample_154	SP1-GW-20210210	0.209	ND	ND	ND	ND	ND	ND	ND	0.641	ND	ND	ND	ND
Re-runs														
20200218_Sample_100	SP3-GW-20210127	0.348	ND	ND	ND	ND	0.093	ND	ND	0.58	ND	ND	ND	ND
20200218_Sample_98	SP1-GW-20210127	3.011	ND	6.98	0.076	ND	6.52	ND	17.7	2.03	0.503	ND	ND	ND
20200218_Sample_77	SP3-GW-20210120	ND	ND	ND	ND	ND	ND	ND	ND	0.113	ND	ND	ND	ND
20200218_Sample_70	SP1-GW-20210111	3.025	ND	6.93	ND	ND	4.81	ND	16.7	2.12	0.519	ND	ND	ND

Potential bad analytical result

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 14 PFAS Results

Concentration (ng/mL)

Filename	Sample ID	Dilution Factor	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20210301_Sample_159-Dup	SP3-GW-20210216	2	N/F	0.067	2.289	0.029	N/F	N/F	N/F	ND	N/F	N/F	0.47	N/F	N/F	N/F	N/F
20210301_Sample_159	SP3-GW-20210216	2	N/F	0.068	2.042	0.021	N/F	N/F	N/F	ND	N/F	N/F	0.46	N/F	N/F	N/F	N/F
20210301_Sample_157	SP1-GW-20210216	2	N/F	0.068	6.589	0.712	N/F	N/F	0.073	ND	N/F	N/F	0.412	0.268	N/F	N/F	N/F
20210301_Sample_154	SP1-GW-20210210	2	N/F	0.053	0.46	N/F	N/F	N/F	0.017	ND	N/F	N/F	0.31	N/F	N/F	N/F	N/F
re-runs																	
20210301_Sample_101	SP4-GW-20210127	2	N/F	0.042	0.303	N/F	N/F	N/F	N/F	ND	N/F	N/F	0.235	N/F	N/F	N/F	N/F

Concentration (ng/mL)

Filename	Sample ID	Dilution Factor	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20210301_Sample_159-Dup	SP3-GW-20210216	2	0.093	N/F	0.742	ND	N/F	N/F	N/F	0.152	ND	0.006	1.154	N/F	N/F	N/F	N/F
20210301_Sample_159	SP3-GW-20210216	2	0.111	N/F	0.743	ND	N/F	N/F	N/F	0.157	ND	ND	1.143	N/F	N/F	N/F	N/F
20210301_Sample_157	SP1-GW-20210216	2	0.783	0.347	2.195	ND	4.823	0.07	N/F	2.968	ND	14.887	1.629	0.287	N/F	N/F	N/F
20210301_Sample_154	SP1-GW-20210210	2	N/F	N/F	0.131	ND	N/F	N/F	N/F	N/F	ND	ND	0.525	N/F	N/F	N/F	N/F
re-runs																	
20210301_Sample_101	SP4-GW-20210127	2	N/F	N/F	0.103	ND	N/F	N/F	N/F	N/F	ND	ND	0.434	N/F	N/F	N/F	N/F

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 15 PFAS Results — **Concentration (ng/mL)**

Filename	Sample ID	Dilution Factor	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20210302_Sample_170	DUP_SP7_Rinse5_20210217	2	ND	ND	1.51	0.121	ND	ND	ND	ND	ND	ND	0.07	0.14	ND	ND	ND
20210302_Sample_176	SP1_GW_20210224	2	ND	0.051	6.247	0.708	ND	ND	0.065	ND	ND	ND	0.431	0.276	ND	ND	ND
20210302_Sample_178	SP3_GW_20210224	2	ND	ND	0.378	ND	ND	ND	ND	ND	ND	ND	0.151	ND	ND	ND	ND
20210302_Sample_175	SP4_GW_20210111	2	ND	0.045	0.073	ND	ND	ND	ND	ND	ND	ND	0.296	ND	ND	ND	ND
20210302_Sample_174	SP4_GW_20210216	2	ND	0.049	0.312	ND	ND	ND	ND	ND	ND	ND	0.324	ND	ND	ND	ND
20210302_Sample_179	SP4_GW_20210224	2	ND	ND	0.436	ND	ND	ND	ND	ND	ND	ND	0.247	ND	ND	ND	ND
20210302_Sample_160	SP5_RegenSupply_20210217	1000	ND	ND	8.22	8.64	ND	ND	26.9	ND	ND	ND	ND	ND	ND	ND	ND
20210302_Sample_165	SP6_RegenComposite_20210217	1000	ND	74.6	15419	2169	ND	ND	249	ND	ND	ND	597	596	23.8	ND	ND
20210302_Sample_161	SP6_RegenFlushBV1_20210217	1000	ND	315	35446	12103	ND	ND	1201	ND	ND	ND	1625	1305	73.5	ND	ND
20210302_Sample_162	SP6_RegenFlushBV2_20210217	1000	ND	82.5	11788	977	ND	ND	158	ND	ND	ND	1096	1042	ND	ND	ND
20210302_Sample_163_DUP	SP6_RegenFlushBV3_20210217	1000	ND	21.5	2273	125	ND	ND	47.5	ND	ND	ND	369	477	ND	ND	ND
20210302_Sample_163	SP6_RegenFlushBV3_20210217	1000	ND	20.1	2366	126	ND	ND	36.5	ND	ND	ND	355	497	ND	ND	ND
20210302_Sample_164	SP6_RegenFlushBV4_20210217	1000	ND	7.78	571	44.1	ND	ND	30.1	ND	ND	ND	153	280	ND	ND	ND
20210302_Sample_166	SP6_RegenFlushBV5_20210217	1000	ND	7.16	213	20.2	ND	ND	33.4	ND	ND	ND	73.3	195	ND	ND	ND
20210302_Sample_167	SP7_Rinse1_20210217	2	ND	ND	3.22	0.435	ND	ND	0.05	ND	ND	ND	0.133	0.238	ND	ND	ND
20210302_Sample_171	SP7_Rinse10_20210217	2	ND	ND	0.713	0.071	ND	ND	ND	ND	ND	ND	0.053	ND	ND	ND	ND
20210302_Sample_172	SP7_Rinse15_20210217	2	ND	ND	0.388	0.049	ND	ND	ND	ND	ND	ND	0.044	ND	ND	ND	ND
20210302_Sample_168	SP7_Rinse2_20210217	2	ND	ND	2.58	0.266	ND	ND	0.043	ND	ND	ND	0.097	0.207	ND	ND	ND
20210302_Sample_173	SP7_Rinse20_20210217	2	ND	ND	0.246	0.031	ND	ND	ND	ND	ND	ND	0.036	ND	ND	ND	ND
20210302_Sample_169	SP7_Rinse5_20210217	2	ND	ND	1.48	0.135	ND	ND	ND	ND	ND	ND	0.07	0.146	ND	ND	ND
Re-run																	
20210302_Sample_154	SP1_GW_20210210	2	ND	0.068	6.68	0.569	ND	ND	0.067	ND	ND	ND	0.432	0.248	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	Dilution Factor	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20210302_Sample_170	DUP_SP7_Rinse5_20210217	2	0.183	0.118	0.497	ND	1.34	ND	ND	1.05	ND	3.17	0.268	0.112	ND	ND	ND
20210302_Sample_176	SP1_GW_20210224	2	0.77	0.339	2.24	ND	5.29	0.051	ND	4.25	ND	14.1	1.59	0.281	ND	ND	ND
20210302_Sample_178	SP3_GW_20210224	2	0.018	ND	0.1	ND	ND	ND	ND	ND	ND	ND	0.185	ND	ND	ND	ND
20210302_Sample_175	SP4_GW_20210111	2	ND	ND	0.045	N/A	ND	ND	ND	ND	ND	ND	0.289	ND	ND	ND	ND
20210302_Sample_174	SP4_GW_20210216	2	0.01	ND	0.139	ND	ND	ND	ND	ND	ND	ND	0.516	ND	ND	ND	ND
20210302_Sample_179	SP4_GW_20210224	2	ND	ND	0.164	ND	ND	ND	ND	ND	ND	0.01	0.499	ND	ND	ND	ND
20210302_Sample_160	SP5_RegenSupply_20210217	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.42	5.34	ND	ND	ND	ND
20210302_Sample_165	SP6_RegenComposite_20210217	1000	2914	1572	7182	ND	19455	174	ND	15622	ND	58774	3601	1039	ND	ND	ND
20210302_Sample_161	SP6_RegenFlushBV1_20210217	1000	18462	10570	32887	ND	79790	970	ND	87236	ND	295955	13686	3971	ND	ND	ND
20210302_Sample_162	SP6_RegenFlushBV2_20210217	1000	2511	2084	8900	ND	30339	86	ND	9810	ND	67372	5806	2005	ND	ND	ND
20210302_Sample_163_DUP	SP6_RegenFlushBV3_20210217	1000	308	257	1529	N/A	6029	10.5	ND	1036	ND	5186	1301	512	ND	ND	ND
20210302_Sample_163	SP6_RegenFlushBV3_20210217	1000	319	248	1522	ND	6515	8.84	ND	1059	ND	5292	1326	460	ND	ND	ND
20210302_Sample_164	SP6_RegenFlushBV4_20210217	1000	74.9	55.3	384	N/A	2455	ND	ND	251	ND	1639	384	226	ND	ND	ND
20210302_Sample_166	SP6_RegenFlushBV5_20210217	1000	25.9	46.8	121	ND	1199	ND	ND	67.1	ND	780	135	138	ND	ND	ND
20210302_Sample_167	SP7_Rinse1_20210217	2	0.291	0.184	0.844	ND	3.01	0.032	ND	1.72	ND	9.14	0.538	0.175	ND	ND	ND
20210302_Sample_171	SP7_Rinse10_20210217	2	0.09	0.07	0.244	ND	0.556	ND	ND	0.479	ND	1.315	0.125	0.042	ND	ND	ND
20210302_Sample_172	SP7_Rinse15_20210217	2	0.048	0.033	0.1	ND	0.233	ND	ND	0.224	ND	0.699	0.057	0.037	ND	ND	ND
20210302_Sample_168	SP7_Rinse2_20210217	2	0.277	0.152	0.729	ND	2.37	0.027	ND	1.59	ND	6.41	0.415	0.186	ND	ND	ND
20210302_Sample_173	SP7_Rinse20_20210217	2	0.031	0.026	0.08	ND	0.166	ND	ND	0.182	ND	0.492	0.041	0.022	ND	ND	ND
20210302_Sample_169	SP7_Rinse5_20210217	2	0.197	0.102	0.511	ND	1.55	ND	ND	1.05	N/A	2.80	0.287	0.113	ND	ND	ND
Re-run																	
20210302_Sample_154	SP1_GW_20210210	2	0.767	0.348	2.28	ND	5.51	0.06	0.044	3.98	ND	15.6	1.62	0.31	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 16 PFAS Results

Concentration (ng/mL)

Filename	Sample ID	Dilution Factor	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20210310_Sample_184	SP51_GW_20210304	2	ND	0.153	0.471	0.341	ND	0.117	0.202	ND	ND	0.106	0.174	0.115	0.157	0.33	ND
20210310_Sample_183	SP50_GW_20210304	2	ND	0.078	0.177	0.158	ND	0.074	0.101	ND	ND	0.069	0.141	0.035	0.075	0.179	ND
20210310_Sample_182	SP3_GW_20210304	2	ND	0.051	1.40	0.026	ND	ND	ND	ND	ND	ND	0.368	ND	ND	ND	ND
20210310_Sample_180_Dup	SP1_GW_20210304	2	ND	0.053	6.20	0.566	ND	ND	0.073	ND	ND	ND	0.45	0.168	ND	ND	ND
20210310_Sample_180	SP1_GW_20210304	2	ND	0.047	7.07	0.536	ND	ND	0.065	ND	ND	ND	0.427	0.154	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	Dilution Factor	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20210310_Sample_184	SP51_GW_20210304	2	0.376	ND	0.202	ND	0.178	0.22	0.424	0.447	ND	0.367	0.437	0.453	0.106	0.315	0.282
20210310_Sample_183	SP50_GW_20210304	2	0.174	ND	0.104	ND	0.083	0.108	0.274	0.201	ND	0.195	0.215	0.211	0.077	0.166	0.154
20210310_Sample_182	SP3_GW_20210304	2	0.067	ND	0.486	ND	0	ND	ND	0.136	ND	0.027	0.724	ND	ND	ND	ND
20210310_Sample_180_Dup	SP1_GW_20210304	2	0.694	0.407	2.40	ND	7.37	0.063	ND	4.13	ND	17.2	1.53	0.321	ND	ND	ND
20210310_Sample_180	SP1_GW_20210304	2	0.715	0.403	2.22	ND	6.80	0.051	ND	4.29	ND	18.4	1.59	0.296	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 17 PFAS Results **Concentration (ng/mL)**

Filename	Sample ID	Dilution Factor	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
CA-0010	SP1-GW-20210319	4	ND	0.094	5.91	0.468	ND	0.016	0.081	ND	ND	ND	0.872	0.251	ND	ND	ND
CA-0011	SP3-GW-20210319	4	ND	0.096	2.13	0.086	ND	0.001	ND	ND	ND	0.107	1.00	0.027	ND	ND	ND
CA-0012	SP4-GW-20210319	4	ND	0.088	0.765	ND	ND	0.003	ND	ND	ND	ND	0.667	ND	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	Dilution Factor	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
CA-0010	SP1-GW-20210319	4	0.844	0.382	2.35	ND	4.38	0.146	ND	2.67	ND	12.5	1.79	0.331	0.021	ND	ND
CA-0011	SP3-GW-20210319	4	0.139	ND	0.842	ND	ND	ND	ND	0.162	ND	ND	1.48	ND	ND	ND	ND
CA-0012	SP4-GW-20210319	4	ND	ND	0.326	ND	ND	ND	ND	ND	ND	ND	0.865	ND	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 18 PFAS Results — **Concentration (ng/mL)**

Filename	Sample ID	Dilution Factor	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20210409_Sample_203	C3B3_Dist.Comp__20210401	1000	ND	ND	144	112	ND	ND	42	ND	ND	ND	ND	12	ND	ND	ND
20210409_Sample_204	C3B3_DistillerFeed_20210331	1000	ND	67	15423	1643	ND	ND	192	ND	ND	ND	589	547	26	ND	ND
20210409_Sample_205	C3B3_StillBottoms_20210401	1000	ND	611	32326	1905	ND	ND	1444	85	ND	ND	6861	5776	52	ND	ND
20210409_Sample_189	SP5_RegenSupply_20210324	2	ND	ND	2.061	1.352	ND	ND	2.207	ND	ND	ND	ND	0.039	ND	ND	ND
20210409_Sample_195	SP6_RegenComposite_20210324	1000	ND	81	13797	1728	ND	ND	277	ND	ND	ND	730	733	23	ND	ND
20210409_Sample_190	SP6_RegenFlushBV1_20210324	1000	ND	298	35197	7980	ND	ND	1019	ND	ND	ND	2324	1522	57	ND	ND
20210409_Sample_191	SP6_RegenFlushBV2_20210324	1000	ND	58	4854	242	ND	ND	53	ND	ND	ND	1001	1248	ND	ND	ND
20210409_Sample_192	SP6_RegenFlushBV3_20210324	1000	ND	17	728	43	ND	ND	35	ND	ND	ND	290	566	ND	ND	ND
20210409_Sample_193	SP6_RegenFlushBV4_20210324	1000	ND	ND	163	26	ND	ND	29	ND	ND	ND	103	307	ND	ND	ND
20210409_Sample_194	SP6_RegenFlushBV5_20210324	1000	ND	ND	66	14	ND	ND	28	ND	ND	ND	ND	173	ND	ND	ND
20210409_Sample_196	SP7_Rinse1_20210324	2	ND	ND	0.142	0.043	ND	ND	0.067	ND	ND	ND	ND	0.058	ND	ND	ND
20210409_Sample_197	SP7_Rinse2_20210324	2	ND	ND	0.13	0.045	ND	ND	ND	ND	ND	ND	ND	0.08	ND	ND	ND
20210409_Sample_198	SP7_Rinse5_20210324	2	ND	ND	0.075	0.031	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210409_Sample_200	SP7_Rinse10_20210324	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210409_Sample_201	SP7_Rinse15_20210324	2	ND	ND	0.095	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210409_Sample_202	SP7_Rinse20_20210324	2	ND	ND	0.067	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210409_Sample_197_dup	SP7_Rinse2_20210324	2	ND	ND	0.185	0.038	ND	ND	ND	ND	ND	ND	ND	0.076	ND	ND	ND
20210409_Sample_199	SP7_Rinse5_20210324_dup	2	ND	ND	0.042	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	Dilution Factor	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20210409_Sample_203	C3B3_Dist.Comp__20210401	1000	ND	ND	ND	ND	ND	ND	ND	53	ND	1019	ND	ND	ND	ND	ND
20210409_Sample_204	C3B3_DistillerFeed_20210331	1000	2063	1149	5827	ND	20673	128	140	11792	ND	57863	2915	861	ND	ND	ND
20210409_Sample_205	C3B3_StillBottoms_20210401	1000	23541	6154	67949	ND	197294	1295	348	124431	ND	148241	34473	11516	ND	10.227	ND
20210409_Sample_189	SP5_RegenSupply_20210324	2	0.131	0.095	0.303	ND	0.894	0.014	ND	0.634	ND	4.114	0.168	0.065	ND	ND	ND
20210409_Sample_195	SP6_RegenComposite_20210324	1000	2402	1533	6985	ND	24123	148	107	13885	ND	73672	3843	1037	ND	ND	ND
20210409_Sample_190	SP6_RegenFlushBV1_20210324	1000	11548	10144	30757	ND	95745	713	841	59985	ND	399931	15365	3637	ND	ND	ND
20210409_Sample_191	SP6_RegenFlushBV2_20210324	1000	871	469	4380	ND	17860	18	ND	2567	ND	11603	3722	1182	ND	ND	ND
20210409_Sample_192	SP6_RegenFlushBV3_20210324	1000	96	79	510	ND	3864	ND	ND	250	ND	1423	586	411	ND	ND	ND
20210409_Sample_193	SP6_RegenFlushBV4_20210324	1000	27	25	107	ND	1171	ND	ND	80	ND	409	142	189	ND	ND	ND
20210409_Sample_194	SP6_RegenFlushBV5_20210324	1000	20	ND	41	ND	543	ND	ND	47	ND	145	48	91	ND	ND	ND
20210409_Sample_196	SP7_Rinse1_20210324	2	ND	ND	0.089	ND	0.420	ND	ND	0.141	ND	0.482	0.208	0.065	ND	ND	ND
20210409_Sample_197	SP7_Rinse2_20210324	2	ND	ND	0.068	ND	0.213	ND	ND	0.132	ND	0.229	0.054	0.057	ND	ND	ND
20210409_Sample_198	SP7_Rinse5_20210324	2	ND	ND	ND	ND	0.121	ND	ND	0.081	ND	0.094	0.023	ND	ND	ND	ND
20210409_Sample_200	SP7_Rinse10_20210324	2	ND	ND	ND	ND	0.162	ND	ND	0.082	ND	0.000	0.039	ND	ND	ND	ND
20210409_Sample_201	SP7_Rinse15_20210324	2	ND	ND	ND	ND	0.152	ND	ND	0.079	ND	0.098	0.042	ND	ND	ND	ND
20210409_Sample_202	SP7_Rinse20_20210324	2	ND	ND	ND	ND	0.065	ND	ND	0.075	ND	0.053	0.034	ND	ND	ND	ND
20210409_Sample_197_dup	SP7_Rinse2_20210324	2	ND	ND	0.066	ND	0.206	ND	ND	0.133	ND	0.271	0.067	0.053	ND	ND	ND
20210409_Sample_199	SP7_Rinse5_20210324_dup	2	ND	ND	ND	ND	0.118	ND	ND	0.075	ND	0.071	0.028	ND	ND	ND	ND

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Batch 19_20 Results **Concentration (ng/mL)**

Filename	Sample ID	Dilution Factor	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20210421_Sample_215	SP10_C3B6_DP_20210409	2	ND	0.027	1.27	1.122	0.094	ND	7.029	ND	0.589	ND	ND	ND	ND	ND	ND
20210421_Sample_214	Fieldblank_20210414	2	ND	ND	0.085	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND	ND
20210421_Sample_213	SP3_GW_20210414	2	ND	0.028	0.464	ND	ND	ND	ND	ND	ND	ND	0.011	0.008	ND	ND	ND
20210421_Sample_211	SP1_GW_20210414	2	ND	0.04	4.82	0.572	ND	ND	0.045	ND	ND	ND	0.203	0.18	ND	ND	ND
20210421_Sample_210	SP4_GW_20210406	2	ND	ND	0.102	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210421_Sample_209	SP3_GW_20210406	2	ND	ND	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210421_Sample_207	SP1_GW_20210406	2	ND	0.047	4.90	0.578	ND	ND	0.05	ND	ND	ND	0.113	0.156	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	Dilution Factor	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20210421_Sample_215	SP10_C3B6_DP_20210409	2	ND	ND	ND	ND	ND	ND	ND	0.051	ND	0.2	ND	ND	ND	ND	ND
20210421_Sample_214	Fieldblank_20210414	2	ND	ND	0.051	ND	0.057	ND	ND	0.034	ND	0.196	ND	ND	ND	ND	ND
20210421_Sample_213	SP3_GW_20210414	2	ND	ND	0.165	ND	ND	ND	ND	0.027	ND	ND	0.484	ND	ND	ND	ND
20210421_Sample_211	SP1_GW_20210414	2	0.691	0.326	2.03	ND	6.05	0.051	ND	3.35	ND	14.6	1.48	0.297	ND	ND	ND
20210421_Sample_210	SP4_GW_20210406	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
20210421_Sample_209	SP3_GW_20210406	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.141	ND	ND	ND	ND
20210421_Sample_207	SP1_GW_20210406	2	0.7	0.363	1.88	ND	5.35	0.048	ND	2.51	ND	15.4	1.42	0.278	ND	ND	ND

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Batch 21 PFAS Results — **Concentration (ng/mL)**

Filename	Sample ID	Dilution Factor	10:2 FTS	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSA	EtFOSAA	FOSA-1	FOSAA	MeFOSA	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS
20210426_Sample_223dup	SP11_C3B10_SB_20210415	1000	ND	238	10076	278	ND	ND	456	ND	ND	ND	2539	2260	26.5	4.74	ND
20210426_Sample_223	SP11_C3B10_SB_20210415	1000	ND	238	10802	345	ND	ND	455	ND	ND	ND	2588	2264	23.3	10.8	ND
20210426_Sample_221dup	SP09_C3B10_DC_20210415	1000	ND	ND	62.1	220	ND	ND	11.8	ND	ND	ND	ND	14.0	ND	ND	ND
20210426_Sample_221	SP09_C3B10_DC_20210415	1000	ND	ND	64.6	222	ND	ND	11.6	ND	ND	ND	ND	14.5	ND	ND	ND
20210426_Sample_220	SP08_C3B10_DF_20210414	1000	ND	46.9	11790	1495	ND	ND	184	ND	ND	ND	520	514	ND	ND	ND
20210426_Sample_222	SP10_C3B10_DP_20210415	2	ND	0.011	0.566	0.65	0.314	ND	12.8	ND	1.41	ND	ND	ND	ND	ND	ND
20210426_Sample_219	SP4_GW_20210422	2	ND	0.008	0.012	ND	ND	ND	0.011	ND	ND	ND	0.155	ND	ND	ND	ND
20210426_Sample_218	SP3_GW_20210422	2	ND	0.054	1.37	0.01	ND	ND	0.012	ND	ND	ND	0.362	ND	ND	ND	ND
20210426_Sample_216	SP1_GW_20210422	2	ND	0.048	6.32	0.708	ND	ND	0.083	ND	ND	ND	0.403	0.230	ND	ND	ND

Concentration (ng/mL)

Filename	Sample ID	Dilution Factor	PFHpA	PFHpS	PFHxA	PFHxDA	PFHxS	PFNA	PFNS	PFOA	PFODA	PFOS	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
20210426_Sample_223dup	SP11_C3B10_SB_20210415	1000	8100	1301	23094	ND	74638	320	ND	40836	ND	35387	11569	4747	ND	ND	ND
20210426_Sample_223	SP11_C3B10_SB_20210415	1000	8097	1148	23241	ND	68425	345	ND	41754	ND	32517	11755	4279	ND	ND	ND
20210426_Sample_221dup	SP09_C3B10_DC_20210415	1000	ND	ND	ND	ND	ND	ND	ND	20	ND	769	ND	ND	ND	ND	ND
20210426_Sample_221	SP09_C3B10_DC_20210415	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	725	ND	ND	ND	ND	ND
20210426_Sample_220	SP08_C3B10_DF_20210414	1000	1729	1253	4847	ND	17781	125	ND	9866	ND	57338	2470	880	ND	ND	ND
20210426_Sample_222	SP10_C3B10_DP_20210415	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.121	ND	ND	ND	ND	ND
20210426_Sample_219	SP4_GW_20210422	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.070	ND	ND	ND	ND
20210426_Sample_218	SP3_GW_20210422	2	0.089	ND	0.529	ND	ND	ND	ND	0.072	ND	ND	0.909	ND	ND	ND	ND
20210426_Sample_216	SP1_GW_20210422	2	0.739	0.362	2.31	ND	6.60	0.058	ND	4.14	ND	16.48	1.63	0.332	ND	ND	ND

Batch 22			Concentration (ng/mL)																									
Filename	Sample ID	Dilution Factor	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSAA	FOSA-1	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS	PFHpA	PFHpS	PFHxA	PFHxS Branched	PFHxS Linear	PFNA	PFNS	PFOA	PFOS Branched	PFOS Linear	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
CA-0028	SP1-GW-20210514	4	0.06	5.44	0.567	ND	0.055	ND	0.352	0.325	ND	ND	ND	0.773	0.316	2.38	1.06	5.84	0.19	ND	4.44	5.08	10.4	1.68	0.286	ND	ND	ND
CA-0029	SP2-GW-20210514	4	ND	ND	ND	ND	0.022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CA-0030	SP4-GW-20210512	4	ND	ND	ND	ND	ND	ND	0.074	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.078	ND	ND	ND	ND
CA-0033	SP10-C4B7-DP-20210212	4	ND	0.272	0.472	ND	9.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.108	0.141	ND	ND	ND	ND	ND
CA-0035	SP7-Regen#5-Rinse10-20210505	4	ND	ND	ND	ND	0.022	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.136	ND	ND	ND	ND	ND	0.075	ND	ND	ND	ND
CA-0036	SP7-Regen#5-Rinse5Dup-20210505	4	ND	ND	ND	ND	0.024	ND	ND	0.117	ND	ND	ND	ND	ND	0.183	0.08	0.266	ND	ND	0.174	0.201	0.27	0.103	ND	ND	ND	ND
CA-0037	SP7-Regen#5-Rinse2-20210505	4	ND	0.068	ND	ND	ND	ND	ND	0.121	ND	ND	ND	0.041	0.034	0.199	0.083	0.27	ND	ND	0.228	0.22	0.248	0.114	0.018	ND	ND	ND
CA-0038	SP7-Regen#5-Rinse5-20210505	4	ND	0.013	ND	ND	ND	ND	ND	0.112	ND	ND	ND	0.041	ND	0.178	0.09	0.233	ND	ND	0.181	0.142	0.224	0.106	0.018	ND	ND	ND
CA-0039	SP7-Regen#5-Rinse1-20210505	4	ND	1.25	0.039	ND	0.042	ND	0.064	0.257	ND	ND	ND	0.288	0.079	1.02	0.44	2.22	ND	ND	0.977	1.03	1.68	0.700	0.203	ND	ND	ND
CA-0040	SP7-Regen#5-Rinse15-20210505	4	ND	ND	ND	ND	ND	ND	ND	0.138	ND	ND	ND	ND	ND	0.162	0.067	0.217	ND	ND	0.17	0.144	0.153	0.094	0.02	ND	ND	ND
CA-0041	SP7-Regen#5-Rinse20-20210505	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07	0.154	ND	ND	ND	0.12	0.132	0.077	ND	ND	ND	ND
CA-0042	SP7-Regen#5-RegenSupply-20210505	4	ND	0.783	1.23	ND	4.51	ND	ND	0.132	ND	ND	ND	0.047	0.035	0.188	0.102	0.339	ND	ND	0.291	0.41	1.05	0.084	0.031	ND	ND	ND
CA-0051	SP10-C4B3-DP-20210429	4	ND	0.343	0.35	ND	20.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.165	0.122	0.209	ND	ND	ND	ND	ND
CA-0031	SP08-C4B7-DF-20210512	1000	48.1	9131	1355	ND	81.0	ND	376	522	11.2	ND	ND	1504	751	3885	2023	11892	123	ND	7757	14891	31887	2205	676	ND	ND	ND
CA-0032	SP09-C4B7-DC-20210512	1000	ND	ND	46.6	ND	13.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39	116	ND	ND	ND	ND	ND
CA-0034	SP11-C4B7-SB-20210512	1000	220	5651	334	ND	174	ND	1908	2263	13.5	ND	ND	6912	145	18495	11668	37706	251	ND	31093	13556	2031	10575	3872	ND	ND	ND
CA-0043	SP6-Regen#5-RegenflushBV3-20210505	1000	6.41	537	31.6	ND	12.4	ND	71.7	109	ND	ND	ND	105	37.1	344	182	866	ND	ND	295	424	763	289	68.4	ND	ND	ND
CA-0044	SP6-Regen#5-RegenflushBV4-20210505	1000	6.20	250	3.90	ND	8.8	ND	22.3	50.4	ND	ND	ND	56.8	16.9	186	64.8	317	ND	ND	173	120	230	129	31.1	ND	ND	ND
CA-0045	SP6-Regen#5-RegenflushBV1-20210505	1000	106	14335	2236	ND	209	ND	876	432	26.6	ND	ND	3278	1434	8770	3731	19926	200	ND	14653	28155	53827	5493	899	ND	ND	ND
CA-0046	SP6-Regen#5-RegenflushBV5-20210505	1000	23.4	4528	481	ND	44.0	ND	212	135	ND	ND	ND	744	250	1911	751	4670	71.5	ND	3338	5291	11341	1210	211	ND	ND	ND
CA-0047	SP6-Regen#5-RegenflushBV2-20210505	1000	20.2	2288	157	ND	24.5	ND	344	336	ND	ND	ND	418	238	1497	1332	6798	49.6	ND	1581	3521	6899	1292	484	ND	ND	ND
CA-0048	SP6-Regen#5-Regencomposite-20210505	1000	37.3	4997	650	ND	62.1	ND	301	211	8.85	ND	ND	974	344	2567	1227	7071	87.5	ND	4325	7346	14392	1683	357	ND	ND	ND
CA-0049	SP08-C4B3-DF-20210422	1000	38.6	9361	1341	ND	77.8	ND	352	439	6.22	ND	ND	1290	728	3348	1818	10108	124	ND	6755	12946	32273	1906	543	ND	ND	ND
CA-0050	SP09-C4B3-DC-20210429	1000	ND	ND	22.4	ND	13.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	44.9	56.6	116	ND	ND	ND	ND	ND
CA-0052	SP11-C4B3-SB-20210429	1000	150	15935	3299	ND	320	ND	1355	1689	26.2	ND	ND	5071	809	13616	8017	30246	362	ND	26389	32740	8365	7625	2558	ND	ND	ND

Clarkson University Center for Air and Aquatic Resources Engineering and Science (CAARES) Laboratory

Batch 22 PFAS Results **Concentration (ng/mL)**

Filename	Sample ID	Dilution Factor	4:2 FTS	6:2 FTS	8:2 FTS	EtFOSAA	FOSA-1	MeFOSAA	PFBA	PFBS	PFDA	PFDoA	PFDS	PFHpA	PFHpS
Method Blank	Method Blank	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP1-GW_20210528	SP1-GW_20210528	4	0.071	5.74	0.487	ND	ND	ND	0.585	0.25	ND	ND	ND	0.775	0.395
SP3-GW_20210528	SP3-GW_20210528	4	ND	0.042	ND	ND	ND	ND	0.188	ND	ND	ND	ND	ND	ND
SP4-GW_20210528	SP4-GW_20210528	4	0.041	ND	ND	ND	ND	ND	0.213	ND	ND	ND	ND	ND	ND

Filename	Sample ID	Dilution Factor	PFHxA	PFHxS Branched	PFHxS Linear	PFNA	PFNS	PFOA	PFOS Branched	PFOS Linear	PFPeA	PFPeS	PFTeDA	PFTrDA	PFuDA
Method Blank	Method Blank	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SP1-GW_20210528	SP1-GW_20210528	4	2.53	1.07	5.85	0.082	0.064	4.24	5.49	10.96	1.69	0.343	ND	ND	ND
SP3-GW_20210528	SP3-GW_20210528	4	ND	ND	ND	ND	ND	ND	ND	ND	0.061	ND	ND	ND	ND
SP4-GW_20210528	SP4-GW_20210528	4	ND	ND	ND	ND	ND	ND	ND	ND	0.083	ND	ND	ND	ND

VOC ANALYTICAL REPORTS

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP18-5015 PFAS Removal; Pease AFB, NH

7311180270.6000

SGS Job Number: FA86620

Sampling Date: 06/11/21

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Ave Suite 1200
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Katherine Gross

Total number of pages in report: **137**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, UT, VT, WA, WV

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Test results relate only to samples analyzed.

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EHS.US.CustomerCare@sgs.com

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: FA86620

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FA86620-1	06/11/21	15:00	IS	06/22/21	AQ	Ground Water	SP1-GW_20210611

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Wood Environment & Infrastructure Solut. **Job No:** FA86620

Site: ESTCP18-5015 PFAS Removal; Pease AFB, NH **Report Date:** 6/28/2021 9:57:46

1 Sample(s) were collected on 06/11/2021 and were received at SGS North America Inc - Orlando on 06/22/2021 properly preserved, at 1.7 Deg. C and intact. These Samples received an SGS Orlando job number of FA86620. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Sample(s) FA86397-23MS, FA86397-23MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for Chloroethane, Methyl Bromide are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Ethylbenzene, Freon 113, Isopropylbenzene, Methyl Bromide, Tetrachloroethylene, Toluene, Trichloroethylene are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for Chloroethane are outside control limits for sample FA86397-23MSD. Probable cause is due to sample non-homogeneity.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Kim Benham, Client Services *(Signature on File)*

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
VI2216-IC2216	MSVOA	I69005.D	3,3-Dimethyl-1-Butanol, Acrolein, Carbon Tetrachloride, Methyl Acetate
VI2216-IC2216	MSVOA	I69006.D	Ethyl Alcohol
VI2216-IC2216	MSVOA	I69007.D	Ethyl Alcohol
VI2216-IC2216	MSVOA	I69011.D	3,3-Dimethyl-1-Butanol, Trichlorofluoromethane

4 Manual Integrations were found for FA86620

Summary of Hits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA86620-1	**SP1-GW_20210611**					
Chlorobenzene		0.29 J	1.0	0.50	ug/l	SW846 8260B

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP1-GW_20210611		
Lab Sample ID:	FA86620-1	**Date Sampled:**	06/11/21
Matrix:	AQ - Ground Water	**Date Received:**	06/22/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I69117.D	1	06/24/21 18:44	LR	n/a	n/a	VI2221
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.29	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP1-GW_20210611		
Lab Sample ID:	FA86620-1	**Date Sampled:**	06/11/21
Matrix:	AQ - Ground Water	**Date Received:**	06/22/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	4.0 U	5.0	4.0	2.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

GW

None

9304 4320 6443

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

SHIP TO: SGS
Clarkson University
CAARES Facility
8 Clarkson Avenue
Potsdam, New York 13699
Attn: Sujan Fernando

CHAIN OF CUSTODY

FA86620

~~FD26865~~

DATE: 6/17/21
COC #:
PAGE: 1 OF 1

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	~~FED EX~~ Courier
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

Sample Information						Methods for Analysis					RUSH					
No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	PFAS DoD-4°C	Alkalinity, TDS, Cl, SO4, NO3	Hardness, Fe, Mn	TOC	VOC	STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
~~1~~	~~SP1-GW_2020~~		~~WG~~	~~N~~	~~N~~	X	X	X	X						~~4~~	
~~2~~	~~SP2-GW_2020~~		~~WG~~	~~N~~	~~N~~		X	X	X						~~3~~	
~~3~~	~~SP3-GW_2020~~		~~WG~~	~~N~~	~~N~~	X									~~1~~	
4																
5	SP1-GW_20210611	6/11/21 15:00	WG	N	N					X	X				3	
6																
7																
8																
9																
10																
11																
12																

SGS-ACCUTEST MARLBOR
6/17

Sampler's Signature:		Date: 6/11/21	Time: 13:00
Relinquished By/Affiliation: Wood E&IS – Herrick		Date: 6/17/21	Time: 15:55
Received By: ~~Fed Ex~~	Scott Parsons	Date: 6/17/21	Time: 15:55
Relinquished By/Affiliation:	Scott Parsons	Date: 6/17/21	Time: 18:30
Received By:	FedEx	Date: 6/17/21	Time: 18:30
Relinquished By/Affiliation: FedEx		Date: 6/18/21	Time: 10:15
Received By (LAB):		Date:	Time:

For Lab Use

Does COC match samples:	Y or N	
Broken Container:	Y or N	
COC seal intact:	Y or N	
Other problems:	Y or N	
WSDOT contacted:	Y or N	
Date contacted:		
Cooler Temperature at receipt:	3.5 °C	

Comments:
X=Analyze H=Hold Analysis Request **PO # F013200721**
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT: 1

1938

on ice

IR-4 3.5°C IP

Rush 6/22/21 1000

INITIAL ASSESSMENT 3A
LABEL VERIFICATION

INITIAL ASSESSMENT
LABEL VERIFICATION

FA86620: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA86620 **Client:** WOOD **Project:** ESTCP SITE 8 PILOT

Date / Time Received: 6/22/2021 10:00:00 AM **Delivery Method:** FX **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** -1.8; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.5);

Cooler Temps (Corrected) °C: Cooler 1: (1.7);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 6/22/2021 10:00:00 A Reviewer: _____ Date: _____

5.1 5

FA86620: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VI2221	SW846 8260B						
VI2221-BS	67-64-1	Acetone	BSP	REC	87	%	39-160
VI2221-BS	71-43-2	Benzene	BSP	REC	99	%	79-120
VI2221-BS	74-97-5	Bromochloromethane	BSP	REC	93	%	78-123
VI2221-BS	75-27-4	Bromodichloromethane	BSP	REC	97	%	79-125
VI2221-BS	75-25-2	Bromoform	BSP	REC	89	%	66-130
VI2221-BS	78-93-3	2-Butanone (MEK)	BSP	REC	79	%	56-143
VI2221-BS	75-15-0	Carbon Disulfide	BSP	REC	95	%	64-133
VI2221-BS	56-23-5	Carbon Tetrachloride	BSP	REC	102	%	72-136
VI2221-BS	108-90-7	Chlorobenzene	BSP	REC	94	%	82-118
VI2221-BS	75-00-3	Chloroethane	BSP	REC	120	%	60-138
VI2221-BS	67-66-3	Chloroform	BSP	REC	94	%	79-124
VI2221-BS	110-82-7	Cyclohexane	BSP	REC	97	%	71-130
VI2221-BS	124-48-1	Dibromochloromethane	BSP	REC	88	%	74-126
VI2221-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	76	%	62-128
VI2221-BS	106-93-4	1,2-Dibromoethane	BSP	REC	87	%	77-121
VI2221-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	77	%	32-152
VI2221-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	90	%	80-119
VI2221-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	92	%	80-119
VI2221-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	90	%	79-118
VI2221-BS	75-34-3	1,1-Dichloroethane	BSP	REC	101	%	77-125
VI2221-BS	107-06-2	1,2-Dichloroethane	BSP	REC	93	%	73-128
VI2221-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	100	%	71-131
VI2221-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	98	%	78-123
VI2221-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	98	%	75-124
VI2221-BS	78-87-5	1,2-Dichloropropane	BSP	REC	94	%	78-122
VI2221-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	95	%	75-124
VI2221-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	97	%	73-127
VI2221-BS	100-41-4	Ethylbenzene	BSP	REC	93	%	79-121
VI2221-BS	76-13-1	Freon 113	BSP	REC	86	%	70-136
VI2221-BS	591-78-6	2-Hexanone	BSP	REC	79	%	57-139
VI2221-BS	98-82-8	Isopropylbenzene	BSP	REC	98	%	72-131
VI2221-BS	79-20-9	Methyl Acetate	BSP	REC	83	%	56-136
VI2221-BS	74-83-9	Methyl Bromide	BSP	REC	107	%	53-141
VI2221-BS	74-87-3	Methyl Chloride	BSP	REC	96	%	50-139
VI2221-BS	108-87-2	Methylcyclohexane	BSP	REC	104	%	72-132
VI2221-BS	75-09-2	Methylene Chloride	BSP	REC	88	%	74-124
VI2221-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	80	%	67-130
VI2221-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	89	%	71-124
VI2221-BS	100-42-5	Styrene	BSP	REC	94	%	78-123
VI2221-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	84	%	71-121
VI2221-BS	127-18-4	Tetrachloroethylene	BSP	REC	93	%	74-129
VI2221-BS	108-88-3	Toluene	BSP	REC	88	%	80-121

* Sample used for QC is not from job FA86620

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VI2221-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	81	%	69-129
VI2221-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	83	%	69-130
VI2221-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	98	%	74-131
VI2221-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	88	%	80-119
VI2221-BS	79-01-6	Trichloroethylene	BSP	REC	97	%	79-123
VI2221-BS	75-69-4	Trichlorofluoromethane	BSP	REC	107	%	65-141
VI2221-BS	75-01-4	Vinyl Chloride	BSP	REC	97	%	58-137
VI2221-BS		m,p-Xylene	BSP	REC	97	%	80-121
VI2221-BS	95-47-6	o-Xylene	BSP	REC	94	%	78-122
VI2221-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	100	%	80-119
VI2221-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	99	%	81-118
VI2221-BS	2037-26-5	Toluene-D8	BSP	SURR	97	%	89-112
VI2221-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	100	%	85-114
FA86397-23MS*	67-64-1	Acetone	MS	REC	81	%	39-160
FA86397-23MS*	71-43-2	Benzene	MS	REC	99	%	79-120
FA86397-23MS*	74-97-5	Bromochloromethane	MS	REC	96	%	78-123
FA86397-23MS*	75-27-4	Bromodichloromethane	MS	REC	98	%	79-125
FA86397-23MS*	75-25-2	Bromoform	MS	REC	90	%	66-130
FA86397-23MS*	78-93-3	2-Butanone (MEK)	MS	REC	86	%	56-143
FA86397-23MS*	75-15-0	Carbon Disulfide	MS	REC	93	%	64-133
FA86397-23MS*	56-23-5	Carbon Tetrachloride	MS	REC	93	%	72-136
FA86397-23MS*	108-90-7	Chlorobenzene	MS	REC	90	%	82-118
FA86397-23MS*	75-00-3	Chloroethane	MS	REC	151	%	60-138
FA86397-23MS*	67-66-3	Chloroform	MS	REC	95	%	79-124
FA86397-23MS*	110-82-7	Cyclohexane	MS	REC	87	%	71-130
FA86397-23MS*	124-48-1	Dibromochloromethane	MS	REC	90	%	74-126
FA86397-23MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	82	%	62-128
FA86397-23MS*	106-93-4	1,2-Dibromoethane	MS	REC	90	%	77-121
FA86397-23MS*	75-71-8	Dichlorodifluoromethane	MS	REC	71	%	32-152
FA86397-23MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	83	%	80-119
FA86397-23MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	84	%	80-119
FA86397-23MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	83	%	79-118
FA86397-23MS*	75-34-3	1,1-Dichloroethane	MS	REC	102	%	77-125
FA86397-23MS*	107-06-2	1,2-Dichloroethane	MS	REC	98	%	73-128
FA86397-23MS*	75-35-4	1,1-Dichloroethylene	MS	REC	95	%	71-131
FA86397-23MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	98	%	78-123
FA86397-23MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	97	%	75-124
FA86397-23MS*	78-87-5	1,2-Dichloropropane	MS	REC	98	%	78-122
FA86397-23MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	92	%	75-124
FA86397-23MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	96	%	73-127
FA86397-23MS*	100-41-4	Ethylbenzene	MS	REC	86	%	79-121
FA86397-23MS*	76-13-1	Freon 113	MS	REC	76	%	70-136
FA86397-23MS*	591-78-6	2-Hexanone	MS	REC	91	%	57-139
FA86397-23MS*	98-82-8	Isopropylbenzene	MS	REC	89	%	72-131
FA86397-23MS*	79-20-9	Methyl Acetate	MS	REC	93	%	56-136

* Sample used for QC is not from job FA86620

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA86397-23MS*	74-83-9	Methyl Bromide	MS	REC	46	%	53-141
FA86397-23MS*	74-87-3	Methyl Chloride	MS	REC	95	%	50-139
FA86397-23MS*	108-87-2	Methylcyclohexane	MS	REC	91	%	72-132
FA86397-23MS*	75-09-2	Methylene Chloride	MS	REC	95	%	74-124
FA86397-23MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	93	%	67-130
FA86397-23MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	95	%	71-124
FA86397-23MS*	100-42-5	Styrene	MS	REC	89	%	78-123
FA86397-23MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	87	%	71-121
FA86397-23MS*	127-18-4	Tetrachloroethylene	MS	REC	82	%	74-129
FA86397-23MS*	108-88-3	Toluene	MS	REC	82	%	80-121
FA86397-23MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	76	%	69-129
FA86397-23MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	77	%	69-130
FA86397-23MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	92	%	74-131
FA86397-23MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	91	%	80-119
FA86397-23MS*	79-01-6	Trichloroethylene	MS	REC	90	%	79-123
FA86397-23MS*	75-69-4	Trichlorofluoromethane	MS	REC	98	%	65-141
FA86397-23MS*	75-01-4	Vinyl Chloride	MS	REC	98	%	58-137
FA86397-23MS*		m,p-Xylene	MS	REC	89	%	80-121
FA86397-23MS*	95-47-6	o-Xylene	MS	REC	88	%	78-122
FA86397-23MS*	1868-53-7	Dibromofluoromethane	MS	SURR	99	%	80-119
FA86397-23MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	99	%	81-118
FA86397-23MS*	2037-26-5	Toluene-D8	MS	SURR	96	%	89-112
FA86397-23MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	98	%	85-114
FA86397-23MSD*	67-64-1	Acetone	MSD	REC	76	%	39-160
FA86397-23MSD*	67-64-1	Acetone	MSD	RPD	7	%	20
FA86397-23MSD*	71-43-2	Benzene	MSD	REC	90	%	79-120
FA86397-23MSD*	71-43-2	Benzene	MSD	RPD	10	%	20
FA86397-23MSD*	74-97-5	Bromochloromethane	MSD	REC	90	%	78-123
FA86397-23MSD*	74-97-5	Bromochloromethane	MSD	RPD	6	%	20
FA86397-23MSD*	75-27-4	Bromodichloromethane	MSD	REC	90	%	79-125
FA86397-23MSD*	75-27-4	Bromodichloromethane	MSD	RPD	9	%	20
FA86397-23MSD*	75-25-2	Bromoform	MSD	REC	82	%	66-130
FA86397-23MSD*	75-25-2	Bromoform	MSD	RPD	8	%	20
FA86397-23MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	80	%	56-143
FA86397-23MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	8	%	20
FA86397-23MSD*	75-15-0	Carbon Disulfide	MSD	REC	77	%	64-133
FA86397-23MSD*	75-15-0	Carbon Disulfide	MSD	RPD	19	%	20
FA86397-23MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	82	%	72-136
FA86397-23MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	13	%	20
FA86397-23MSD*	108-90-7	Chlorobenzene	MSD	REC	82	%	82-118
FA86397-23MSD*	108-90-7	Chlorobenzene	MSD	RPD	9	%	20
FA86397-23MSD*	75-00-3	Chloroethane	MSD	REC	110	%	60-138
FA86397-23MSD*	75-00-3	Chloroethane	MSD	RPD	32	%	20
FA86397-23MSD*	67-66-3	Chloroform	MSD	REC	86	%	79-124
FA86397-23MSD*	67-66-3	Chloroform	MSD	RPD	10	%	20

* Sample used for QC is not from job FA86620

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA86397-23MSD*	110-82-7	Cyclohexane	MSD	REC	78	%	71-130
FA86397-23MSD*	110-82-7	Cyclohexane	MSD	RPD	12	%	20
FA86397-23MSD*	124-48-1	Dibromochloromethane	MSD	REC	82	%	74-126
FA86397-23MSD*	124-48-1	Dibromochloromethane	MSD	RPD	8	%	20
FA86397-23MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	75	%	62-128
FA86397-23MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	9	%	20
FA86397-23MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	83	%	77-121
FA86397-23MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	7	%	20
FA86397-23MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	63	%	32-152
FA86397-23MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	12	%	20
FA86397-23MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	77	%	80-119
FA86397-23MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	8	%	20
FA86397-23MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	77	%	80-119
FA86397-23MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	9	%	20
FA86397-23MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	76	%	79-118
FA86397-23MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	10	%	20
FA86397-23MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	92	%	77-125
FA86397-23MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	11	%	20
FA86397-23MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	91	%	73-128
FA86397-23MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	8	%	20
FA86397-23MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	84	%	71-131
FA86397-23MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	13	%	20
FA86397-23MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	89	%	78-123
FA86397-23MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	10	%	20
FA86397-23MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	86	%	75-124
FA86397-23MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	12	%	20
FA86397-23MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	89	%	78-122
FA86397-23MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	9	%	20
FA86397-23MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	83	%	75-124
FA86397-23MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	10	%	20
FA86397-23MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	89	%	73-127
FA86397-23MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	8	%	20
FA86397-23MSD*	100-41-4	Ethylbenzene	MSD	REC	77	%	79-121
FA86397-23MSD*	100-41-4	Ethylbenzene	MSD	RPD	11	%	20
FA86397-23MSD*	76-13-1	Freon 113	MSD	REC	69	%	70-136
FA86397-23MSD*	76-13-1	Freon 113	MSD	RPD	9	%	20
FA86397-23MSD*	591-78-6	2-Hexanone	MSD	REC	82	%	57-139
FA86397-23MSD*	591-78-6	2-Hexanone	MSD	RPD	10	%	20
FA86397-23MSD*	98-82-8	Isopropylbenzene	MSD	REC	80	%	72-131
FA86397-23MSD*	98-82-8	Isopropylbenzene	MSD	RPD	11	%	20
FA86397-23MSD*	79-20-9	Methyl Acetate	MSD	REC	85	%	56-136
FA86397-23MSD*	79-20-9	Methyl Acetate	MSD	RPD	9	%	20
FA86397-23MSD*	74-83-9	Methyl Bromide	MSD	REC	51	%	53-141
FA86397-23MSD*	74-83-9	Methyl Bromide	MSD	RPD	11	%	20
FA86397-23MSD*	74-87-3	Methyl Chloride	MSD	REC	84	%	50-139

* Sample used for QC is not from job FA86620

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA86397-23MSD*	74-87-3	Methyl Chloride	MSD	RPD	13	%	20
FA86397-23MSD*	108-87-2	Methylcyclohexane	MSD	REC	81	%	72-132
FA86397-23MSD*	108-87-2	Methylcyclohexane	MSD	RPD	12	%	20
FA86397-23MSD*	75-09-2	Methylene Chloride	MSD	REC	86	%	74-124
FA86397-23MSD*	75-09-2	Methylene Chloride	MSD	RPD	10	%	20
FA86397-23MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	85	%	67-130
FA86397-23MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	10	%	20
FA86397-23MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	90	%	71-124
FA86397-23MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	6	%	20
FA86397-23MSD*	100-42-5	Styrene	MSD	REC	80	%	78-123
FA86397-23MSD*	100-42-5	Styrene	MSD	RPD	10	%	20
FA86397-23MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	82	%	71-121
FA86397-23MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	7	%	20
FA86397-23MSD*	127-18-4	Tetrachloroethylene	MSD	REC	74	%	74-129
FA86397-23MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	11	%	20
FA86397-23MSD*	108-88-3	Toluene	MSD	REC	75	%	80-121
FA86397-23MSD*	108-88-3	Toluene	MSD	RPD	10	%	20
FA86397-23MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	69	%	69-129
FA86397-23MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	10	%	20
FA86397-23MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	69	%	69-130
FA86397-23MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	10	%	20
FA86397-23MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	82	%	74-131
FA86397-23MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	11	%	20
FA86397-23MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	84	%	80-119
FA86397-23MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	8	%	20
FA86397-23MSD*	79-01-6	Trichloroethylene	MSD	REC	80	%	79-123
FA86397-23MSD*	79-01-6	Trichloroethylene	MSD	RPD	11	%	20
FA86397-23MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	86	%	65-141
FA86397-23MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	12	%	20
FA86397-23MSD*	75-01-4	Vinyl Chloride	MSD	REC	86	%	58-137
FA86397-23MSD*	75-01-4	Vinyl Chloride	MSD	RPD	14	%	20
FA86397-23MSD*		m,p-Xylene	MSD	REC	80	%	80-121
FA86397-23MSD*		m,p-Xylene	MSD	RPD	10	%	20
FA86397-23MSD*	95-47-6	o-Xylene	MSD	REC	80	%	78-122
FA86397-23MSD*	95-47-6	o-Xylene	MSD	RPD	10	%	20
FA86397-23MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	100	%	80-119
FA86397-23MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	99	%	81-118
FA86397-23MSD*	2037-26-5	Toluene-D8	MSD	SURR	97	%	89-112
FA86397-23MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	98	%	85-114
VI2221-MB	1868-53-7	Dibromofluoromethane	MB	SURR	97	%	80-119
VI2221-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	101	%	81-118
VI2221-MB	2037-26-5	Toluene-D8	MB	SURR	98	%	89-112
VI2221-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	100	%	85-114
FA86620-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	98	%	80-119
FA86620-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	101	%	81-118

* Sample used for QC is not from job FA86620

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA86620-1	2037-26-5	Toluene-D8	SAMP	SURR	98	%	89-112
FA86620-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	98	%	85-114

* Sample used for QC is not from job FA86620

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2221-MB	I69106.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	

Method Blank Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2221-MB	I69106.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	98%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

Blank Spike Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2221-BS	I69104.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	109	87	50-147
71-43-2	Benzene	25	24.8	99	81-122
74-97-5	Bromochloromethane	25	23.3	93	76-123
75-27-4	Bromodichloromethane	25	24.3	97	79-123
75-25-2	Bromoform	25	22.2	89	66-123
78-93-3	2-Butanone (MEK)	125	98.6	79	56-143
75-15-0	Carbon Disulfide	25	23.7	95	66-148
56-23-5	Carbon Tetrachloride	25	25.5	102	76-136
108-90-7	Chlorobenzene	25	23.6	94	82-124
75-00-3	Chloroethane	25	30.1	120	62-144
67-66-3	Chloroform	25	23.6	94	80-124
110-82-7	Cyclohexane	25	24.2	97	73-138
124-48-1	Dibromochloromethane	25	22.0	88	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	19.1	76	64-123
106-93-4	1,2-Dibromoethane	25	21.7	87	75-120
75-71-8	Dichlorodifluoromethane	25	19.3	77	42-167
95-50-1	1,2-Dichlorobenzene	25	22.5	90	82-124
541-73-1	1,3-Dichlorobenzene	25	23.0	92	84-125
106-46-7	1,4-Dichlorobenzene	25	22.5	90	78-120
75-34-3	1,1-Dichloroethane	25	25.3	101	81-122
107-06-2	1,2-Dichloroethane	25	23.2	93	75-125
75-35-4	1,1-Dichloroethylene	25	25.0	100	78-137
156-59-2	cis-1,2-Dichloroethylene	25	24.4	98	78-120
156-60-5	trans-1,2-Dichloroethylene	25	24.6	98	76-127
78-87-5	1,2-Dichloropropane	25	23.6	94	76-124
10061-01-5	cis-1,3-Dichloropropene	25	23.7	95	75-118
10061-02-6	trans-1,3-Dichloropropene	25	24.2	97	80-120
100-41-4	Ethylbenzene	25	23.3	93	81-121
76-13-1	Freon 113	25	21.5	86	72-134
591-78-6	2-Hexanone	125	98.4	79	61-129
98-82-8	Isopropylbenzene	25	24.4	98	83-132
79-20-9	Methyl Acetate	125	104	83	65-126
74-83-9	Methyl Bromide	25	26.8	107	59-143
74-87-3	Methyl Chloride	25	24.1	96	50-159
108-87-2	Methylcyclohexane	25	26.0	104	76-129
75-09-2	Methylene Chloride	25	22.0	88	69-135

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2221-BS	I69104.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
108-10-1	4-Methyl-2-pentanone (MIBK)	125	100	80	66-122
1634-04-4	Methyl Tert Butyl Ether	25	22.2	89	72-117
100-42-5	Styrene	25	23.6	94	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	20.9	84	72-120
127-18-4	Tetrachloroethylene	25	23.2	93	76-135
108-88-3	Toluene	25	21.9	88	80-120
87-61-6	1,2,3-Trichlorobenzene	25	20.3	81	68-131
120-82-1	1,2,4-Trichlorobenzene	25	20.8	83	73-129
71-55-6	1,1,1-Trichloroethane	25	24.5	98	75-130
79-00-5	1,1,2-Trichloroethane	25	22.0	88	76-119
79-01-6	Trichloroethylene	25	24.2	97	81-126
75-69-4	Trichlorofluoromethane	25	26.7	107	71-156
75-01-4	Vinyl Chloride	25	24.2	97	69-159
	m,p-Xylene	50	48.5	97	79-126
95-47-6	o-Xylene	25	23.6	94	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA86397-23MS	I69127.D	5	06/24/21	LR	n/a	n/a	VI2221
FA86397-23MSD	I69128.D	5	06/24/21	LR	n/a	n/a	VI2221
FA86397-23	I69108.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	FA86397-23 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	25 U		625	508	81	625	474	76	7	50-147/21
71-43-2	Benzene	1.0 U		125	124	99	125	112	90	10	81-122/14
74-97-5	Bromochloromethane	1.0 U		125	120	96	125	113	90	6	76-123/14
75-27-4	Bromodichloromethane	1.0 U		125	123	98	125	112	90	9	79-123/19
75-25-2	Bromoform	1.0 U		125	112	90	125	103	82	8	66-123/21
78-93-3	2-Butanone (MEK)	5.0 U		625	539	86	625	498	80	8	56-143/18
75-15-0	Carbon Disulfide	1.3	J	125	117	93	125	97.0	77	19	66-148/23
56-23-5	Carbon Tetrachloride	1.0 U		125	116	93	125	102	82	13	76-136/23
108-90-7	Chlorobenzene	1.0 U		125	112	90	125	102	82	9	82-124/14
75-00-3	Chloroethane	2.0 U		125	189	151*	125	137	110	32*	62-144/20
67-66-3	Chloroform	1.0 U		125	119	95	125	108	86	10	80-124/15
110-82-7	Cyclohexane	1.0 U		125	109	87	125	96.9	78	12	73-138/18
124-48-1	Dibromochloromethane	1.0 U		125	112	90	125	103	82	8	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		125	103	82	125	93.8	75	9	64-123/18
106-93-4	1,2-Dibromoethane	2.0 U		125	112	90	125	104	83	7	75-120/13
75-71-8	Dichlorodifluoromethane	2.0 U		125	88.7	71	125	78.7	63	12	42-167/19
95-50-1	1,2-Dichlorobenzene	1.0 U		125	104	83	125	96.1	77*	8	82-124/14
541-73-1	1,3-Dichlorobenzene	1.0 U		125	105	84	125	95.9	77*	9	84-125/14
106-46-7	1,4-Dichlorobenzene	1.0 U		125	104	83	125	94.4	76*	10	78-120/15
75-34-3	1,1-Dichloroethane	1.0 U		125	128	102	125	115	92	11	81-122/15
107-06-2	1,2-Dichloroethane	1.0 U		125	123	98	125	114	91	8	75-125/14
75-35-4	1,1-Dichloroethylene	1.0 U		125	119	95	125	105	84	13	78-137/18
156-59-2	cis-1,2-Dichloroethylene	1.0 U		125	123	98	125	111	89	10	78-120/15
156-60-5	trans-1,2-Dichloroethylene	1.0 U		125	121	97	125	107	86	12	76-127/17
78-87-5	1,2-Dichloropropane	1.0 U		125	122	98	125	111	89	9	76-124/14
10061-01-5	cis-1,3-Dichloropropene	1.0 U		125	115	92	125	104	83	10	75-118/23
10061-02-6	trans-1,3-Dichloropropene	1.0 U		125	120	96	125	111	89	8	80-120/22
100-41-4	Ethylbenzene	1.0 U		125	108	86	125	96.5	77*	11	81-121/14
76-13-1	Freon 113	1.0 U		125	95.0	76	125	86.6	69*	9	72-134/20
591-78-6	2-Hexanone	10 U		625	568	91	625	512	82	10	61-129/18
98-82-8	Isopropylbenzene	1.0 U		125	111	89	125	99.9	80*	11	83-132/15
79-20-9	Methyl Acetate	20 U		625	579	93	625	530	85	9	65-126/18
74-83-9	Methyl Bromide	5.0 U		125	57.2	46*	125	64.0	51*	11	59-143/19
74-87-3	Methyl Chloride	2.0 U		125	119	95	125	105	84	13	50-159/19
108-87-2	Methylcyclohexane	1.0 U		125	114	91	125	101	81	12	76-129/17
75-09-2	Methylene Chloride	5.0 U		125	119	95	125	108	86	10	69-135/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA86397-23MS	I69127.D	5	06/24/21	LR	n/a	n/a	VI2221
FA86397-23MSD	I69128.D	5	06/24/21	LR	n/a	n/a	VI2221
FA86397-23	I69108.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	FA86397-23 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		625	584	93	625	530	85	10	66-122/16
1634-04-4	Methyl Tert Butyl Ether	1.0 U		125	119	95	125	112	90	6	72-117/14
100-42-5	Styrene	1.0 U		125	111	89	125	100	80	10	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U		125	109	87	125	102	82	7	72-120/14
127-18-4	Tetrachloroethylene	1.0 U		125	103	82	125	92.7	74*	11	76-135/16
108-88-3	Toluene	1.0 U		125	103	82	125	93.2	75*	10	80-120/14
87-61-6	1,2,3-Trichlorobenzene	2.0 U		125	95.3	76	125	86.0	69	10	68-131/25
120-82-1	1,2,4-Trichlorobenzene	2.0 U		125	95.9	77	125	86.8	69*	10	73-129/20
71-55-6	1,1,1-Trichloroethane	1.0 U		125	115	92	125	103	82	11	75-130/16
79-00-5	1,1,2-Trichloroethane	1.0 U		125	114	91	125	105	84	8	76-119/14
79-01-6	Trichloroethylene	1.0 U		125	112	90	125	100	80*	11	81-126/15
75-69-4	Trichlorofluoromethane	2.0 U		125	122	98	125	108	86	12	71-156/21
75-01-4	Vinyl Chloride	1.0 U		125	123	98	125	107	86	14	69-159/18
	m,p-Xylene	2.0 U		250	223	89	250	201	80	10	79-126/15
95-47-6	o-Xylene	1.0 U		125	110	88	125	99.7	80	10	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA86397-23	Limits
1868-53-7	Dibromofluoromethane	99%	100%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	99%	101%	79-125%
2037-26-5	Toluene-D8	96%	97%	97%	85-112%
460-00-4	4-Bromofluorobenzene	98%	98%	99%	83-118%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VI2216-BFB	**Injection Date:**	06/21/21
Lab File ID:	I69004.D	**Injection Time:**	11:59
Instrument ID:	GCMSI		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	129403	17.1		Pass
75	30.0 - 60.0% of mass 95	371648	49.1		Pass
95	Base peak, 100% relative abundance	756181	100.0		Pass
96	5.0 - 9.0% of mass 95	51080	6.75		Pass
173	Less than 2.0% of mass 174	3331	0.44	(0.53) [a]	Pass
174	50.0 - 100.0% of mass 95	625600	82.7		Pass
175	5.0 - 9.0% of mass 174	43461	5.75	(6.95) [a]	Pass
176	95.0 - 101.0% of mass 174	600107	79.4	(95.9) [a]	Pass
177	5.0 - 9.0% of mass 176	39931	5.28	(6.65) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VI2216-IC2216	I69005.D	06/21/21	12:23	00:24	Initial cal 1
VI2216-IC2216	I69006.D	06/21/21	12:47	00:48	Initial cal 2
VI2216-IC2216	I69007.D	06/21/21	13:11	01:12	Initial cal 3
VI2216-IC2216	I69008.D	06/21/21	13:35	01:36	Initial cal 4
VI2216-ICC2216	I69009.D	06/21/21	14:00	02:01	Initial cal 5
VI2216-IC2216	I69010.D	06/21/21	14:24	02:25	Initial cal 6
VI2216-IC2216	I69011.D	06/21/21	14:48	02:49	Initial cal 7
VI2216-ICV2216	I69013.D	06/21/21	16:06	04:07	Initial cal verification 5
VI2216-ICV2216	I69014.D	06/21/21	16:30	04:31	Initial cal verification 4

Instrument Performance Check (BFB)

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VI2221-BFB	**Injection Date:**	06/24/21
Lab File ID:	I69103.D	**Injection Time:**	12:56
Instrument ID:	GCMSI		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	126453	17.1		Pass
75	30.0 - 60.0% of mass 95	364608	49.4		Pass
95	Base peak, 100% relative abundance	737877	100.0		Pass
96	5.0 - 9.0% of mass 95	48864	6.62		Pass
173	Less than 2.0% of mass 174	3142	0.43	(0.52) [a]	Pass
174	50.0 - 100.0% of mass 95	600491	81.4		Pass
175	5.0 - 9.0% of mass 174	42349	5.74	(7.05) [a]	Pass
176	95.0 - 101.0% of mass 174	579883	78.6	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	38299	5.19	(6.60) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VI2221-CC2216	I69103.D	06/24/21	12:56	00:00	Continuing cal 5
VI2221-BS	I69104.D	06/24/21	13:30	00:34	Blank Spike
VI2221-MB	I69106.D	06/24/21	14:18	01:22	Method Blank
ZZZZZZ	I69107.D	06/24/21	14:42	01:46	(unrelated sample)
FA86397-23	I69108.D	06/24/21	15:07	02:11	(used for QC only; not part of job FA86620)
ZZZZZZ	I69109.D	06/24/21	15:31	02:35	(unrelated sample)
ZZZZZZ	I69110.D	06/24/21	15:55	02:59	(unrelated sample)
ZZZZZZ	I69111.D	06/24/21	16:19	03:23	(unrelated sample)
ZZZZZZ	I69112.D	06/24/21	16:43	03:47	(unrelated sample)
ZZZZZZ	I69113.D	06/24/21	17:07	04:11	(unrelated sample)
ZZZZZZ	I69114.D	06/24/21	17:31	04:35	(unrelated sample)
ZZZZZZ	I69115.D	06/24/21	17:55	04:59	(unrelated sample)
ZZZZZZ	I69116.D	06/24/21	18:20	05:24	(unrelated sample)
FA86620-1	I69117.D	06/24/21	18:44	05:48	SP1-GW_20210611
ZZZZZZ	I69118.D	06/24/21	19:08	06:12	(unrelated sample)
ZZZZZZ	I69119.D	06/24/21	19:32	06:36	(unrelated sample)
ZZZZZZ	I69120.D	06/24/21	19:56	07:00	(unrelated sample)
ZZZZZZ	I69121.D	06/24/21	20:21	07:25	(unrelated sample)
ZZZZZZ	I69122.D	06/24/21	20:45	07:49	(unrelated sample)
ZZZZZZ	I69123.D	06/24/21	21:09	08:13	(unrelated sample)
ZZZZZZ	I69124.D	06/24/21	21:33	08:37	(unrelated sample)
FA86224-1MS	I69125.D	06/24/21	21:57	09:01	Matrix Spike
FA86224-1MSD	I69126.D	06/24/21	22:20	09:24	Matrix Spike Duplicate
FA86397-23MS	I69127.D	06/24/21	22:44	09:48	Matrix Spike

Instrument Performance Check (BFB)

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VI2221-BFB	**Injection Date:**	06/24/21
Lab File ID:	I69103.D	**Injection Time:**	12:56
Instrument ID:	GCMSI		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
FA86397-23MSD	I69128.D	06/24/21	23:08	10:12	Matrix Spike Duplicate
VI2221-ECC2216	I69129.D	06/24/21	23:32	10:36	Ending cal 5

Internal Standard Area Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VI2221-CC2216	**Injection Date:**	06/24/21
Lab File ID:	I69103.D	**Injection Time:**	12:56
Instrument ID:	GCMSI	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	3346753	8.64	2661620	11.78	1451811	14.13	874817	6.04
Check Std [b]	2879321	8.64	2438995	11.77	1367320	14.13	664288	6.03
Upper Limit [c]	5758642	8.81	4877990	11.94	2734640	14.30	1328576	6.20
Lower Limit [d]	1439661	8.47	1219498	11.60	683660	13.96	332144	5.86

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VI2221-BS	3192698	8.64	2697581	11.77	1484942	14.13	668263	6.02
VI2221-MB	3037869	8.64	2506071	11.78	1359932	14.13	672006	6.02
ZZZZZZ	2807576	8.64	2330972	11.78	1267061	14.13	588383	6.02
FA86397-23	2713619	8.64	2262309	11.78	1234904	14.13	612435	6.02
ZZZZZZ	2770804	8.64	2296016	11.78	1258292	14.13	624941	6.02
ZZZZZZ	2677502	8.64	2212541	11.78	1196258	14.13	604799	6.02
ZZZZZZ	2646817	8.64	2221502	11.78	1197304	14.13	592585	6.02
ZZZZZZ	2657942	8.64	2202931	11.78	1218144	14.13	594842	6.02
ZZZZZZ	2643035	8.64	2194026	11.78	1183719	14.13	570736	6.02
ZZZZZZ	2417789	8.64	2029049	11.78	1091118	14.13	531651	6.02
ZZZZZZ	2584933	8.64	2166250	11.78	1197277	14.13	564917	6.02
ZZZZZZ	2484235	8.64	2059828	11.78	1125410	14.13	534724	6.02
FA86620-1	2700765	8.64	2242376	11.78	1242514	14.13	595086	6.02
ZZZZZZ	2448872	8.64	2024815	11.78	1109307	14.13	532592	6.02
ZZZZZZ	2601594	8.64	2144964	11.78	1160909	14.13	567505	6.02
ZZZZZZ	2309486	8.64	1890012	11.78	1037425	14.13	485959	6.02
ZZZZZZ	2374830	8.64	1965517	11.78	1082623	14.13	502002	6.02
ZZZZZZ	2307706	8.64	1905327	11.78	1051127	14.13	470611	6.02
ZZZZZZ	2450266	8.64	2023616	11.78	1108121	14.13	505008	6.02
ZZZZZZ	2256229	8.64	1872391	11.78	1019304	14.13	462820	6.02
FA86224-1MS	2399755	8.64	2079876	11.78	1174752	14.13	613952	6.03
FA86224-1MSD	2699938	8.64	2313519	11.78	1304254	14.13	695582	6.03
FA86397-23MS	2712566	8.64	2307902	11.78	1290441	14.13	581859	6.02
FA86397-23MSD	2992401	8.64	2525864	11.78	1405759	14.13	651124	6.03
VI2221-ECC2216	3089528	8.64	2647244	11.78	1465383	14.13	651082	6.03

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VI2216-ICC2216 I69009.D 06/21/21 14:00
(b) Check Std Limit = -50 to + 100% of initial cal area.

Internal Standard Area Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VI2221-CC2216	**Injection Date:**	06/24/21
Lab File ID:	I69103.D	**Injection Time:**	12:56
Instrument ID:	GCMSI	**Method:**	SW846 8260B

Lab Sample ID	IS 1 AREA	IS 1 RT	IS 2 AREA	IS 2 RT	IS 3 AREA	IS 3 RT	IS 4 AREA	IS 4 RT

(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA86620-1	I69117.D	98	101	98	98
FA86397-23MS	I69127.D	99	99	96	98
FA86397-23MSD	I69128.D	100	99	97	98
VI2221-BS	I69104.D	100	99	97	100
VI2221-MB	I69106.D	97	101	98	100

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

Initial Calibration Summary

Job Number: FA86620 **Sample:** VI2216-ICC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69009.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Response Factor Report MSVOA16

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Calibration Files
1 =I69005.D 2 =I69006.D 3 =I69007.D 4 =I69008.D
5 =I69009.D 6 =I69010.D 7 =I69011.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.298	0.328	0.328	0.333	0.334	0.354	0.374	0.336	7.01
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
Response Ratio = 0.00000 + 0.31574 *A + 0.02840 *A^2									
3)P Chloromethane	0.308	0.285	0.289	0.285	0.285	0.293	0.308	0.293	3.52
4)C Vinyl Chloride	0.358	0.365	0.369	0.373	0.372	0.385	0.400	0.375	3.71
5) 1,3-Butadiene	0.292	0.222	0.215	0.203	0.190	0.178	0.188	0.213	17.98
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9983									
Response Ratio = 0.00000 + 0.20614 *A + -0.01212 *A^2									
6) Bromomethane	0.069	0.068	0.082	0.092	0.102	0.120	0.125	0.094	24.50
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9986									
Response Ratio = 0.00000 + 0.08198 *A + 0.02308 *A^2									
7) Chloroethane	0.221	0.210	0.183	0.106	0.089	0.086	0.083	0.140	44.53
---- Linear regr., Force(0,0) ---- Coefficient = 0.9909									
Response Ratio = 0.00000 + 0.08611 *A									
8) Trichlorofluorome	0.444	0.480	0.485	0.503	0.513	0.491		0.486	4.91
9) Ethyl Ether	0.223	0.229	0.242	0.237	0.235	0.248	0.250	0.238	4.14
10) 1,2-Dichlorotrifl	0.353	0.350	0.351	0.350	0.347	0.359	0.357	0.352	1.21
11)C 1,1-Dichloroethen	0.461	0.457	0.471	0.469	0.472	0.487	0.485	0.472	2.42
12) Freon 113	0.312	0.318	0.318	0.317	0.316	0.324	0.321	0.318	1.20
13) Carbon Disulfide	0.733	0.676	0.714	0.741	0.754	0.804	0.805	0.747	6.23
14) Iodomethane	0.126	0.117	0.130	0.156	0.172	0.202	0.198	0.157	22.09
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9966									
Response Ratio = 0.00000 + 0.14357 *A + 0.03107 *A^2									
15) Allyl chloride	0.345	0.335	0.355	0.364	0.366	0.378	0.376	0.360	4.42
16) Methylene Chlorid	0.471	0.386	0.403	0.383	0.372	0.390	0.384	0.398	8.32
17) Acetone	0.074	0.091	0.103	0.105	0.104	0.109	0.109	0.099	12.75
18) Methyl acetate	0.137	0.161	0.190	0.206	0.211	0.218	0.214	0.191	16.19
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9991									
Response Ratio = 0.00000 + 0.19746 *A + 0.00207 *A^2									
19) trans-1,2-Dichlor	0.399	0.401	0.432	0.427	0.429	0.444	0.437	0.424	4.12
20) Hexane	0.267	0.254	0.259	0.253	0.251	0.261	0.258	0.258	2.17
21) Methyl Tert Butyl	0.862	0.859	0.906	0.890	0.864	0.892	0.878	0.879	2.06
22) Acetonitrile	0.019	0.027	0.032	0.034	0.035	0.036	0.037	0.031	20.59
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995									
Response Ratio = 0.00000 + 0.03173 *A + 0.00029 *A^2									
23) Di-isopropyl ethe	0.821	0.830	0.881	0.868	0.860	0.886	0.869	0.859	2.89
24) Chloroprene	0.421	0.405	0.423	0.444	0.447	0.466	0.466	0.439	5.34
25)P 1,1-Dichloroethan	0.569	0.550	0.574	0.565	0.562	0.572	0.564	0.565	1.42

Initial Calibration Summary

Job Number: FA86620 **Sample:** VI2216-ICC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69009.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
26)  Acrylonitrile     0.058 0.098 0.109 0.118 0.118 0.118 0.120 0.106  21.05
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 0.11154 *A + 0.00094 *A^2

27)  ETBE              0.858 0.888 0.963 0.958 0.930 0.954 0.912 0.923   4.29
28)  Vinyl acetate     0.323 0.489 0.562 0.579 0.552 0.513 0.467 0.498  17.49
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9993
              Response Ratio = 0.00000 + 0.58547 *A + -0.01122 *A^2

29)  cis-1,2-Dichloroe 0.307 0.305 0.320 0.321 0.320 0.333 0.333 0.320   3.49
30)  2,2-Dichloropropa 0.485 0.478 0.499 0.506 0.499 0.511 0.503 0.497   2.34
31)  Bromochloromethan 0.136 0.135 0.145 0.142 0.140 0.146 0.144 0.141   3.16
32)  Cyclohexane       0.523 0.515 0.533 0.524 0.522 0.545 0.539 0.529   2.03
33)C Chloroform        0.635 0.587 0.602 0.588 0.577 0.591 0.581 0.595   3.29
34)  Ethyl acetate     0.212 0.268 0.296 0.298 0.293 0.278 0.272 0.274  10.89
35)  Tetrahydrofuran   0.116 0.092 0.096 0.094 0.092 0.093 0.093 0.097   9.15
36)S Dibromofluorometh 0.271 0.275 0.271 0.274 0.274 0.273 0.273 0.273   0.50
37)  Carbon Tetrachlor 0.410 0.404 0.421 0.429 0.429 0.448 0.448 0.427   3.95
38)  1,1,1-Trichloroet 0.517 0.513 0.523 0.510 0.507 0.518 0.513 0.515   1.04
39)  2-Butanone        0.100 0.134 0.150 0.155 0.154 0.164 0.164 0.146  15.45
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 0.14724 *A + 0.00187 *A^2

40)  1,1-Dichloroprope 0.436 0.437 0.448 0.441 0.439 0.453 0.454 0.444   1.70
41)  tert-Butyl Format 0.213 0.245 0.279 0.279 0.275 0.281 0.277 0.264   9.74
42)  Propionitrile     0.046 0.046 0.050 0.052 0.052 0.053 0.052 0.050   5.32
43)  Methacrylonitrile 0.187 0.169 0.183 0.181 0.171 0.159 0.143 0.170   9.09
44)  Benzene           1.251 1.220 1.289 1.266 1.228 1.207 1.132 1.228   4.12
45)  TAME              0.815 0.811 0.872 0.863 0.841 0.872 0.863 0.848   3.06
46)S 1,2-Dichloroethan 0.325 0.327 0.325 0.314 0.311 0.306 0.307 0.316   2.83
47)  1,2-Dichloroethan 0.406 0.392 0.411 0.397 0.384 0.398 0.393 0.397   2.21
48)  Trichloroethene   0.347 0.302 0.326 0.325 0.326 0.336 0.331 0.328   4.18
49)  Methylcyclohexane 0.488 0.486 0.506 0.508 0.507 0.534 0.526 0.508   3.51
50)  Dibromomethane    0.165 0.173 0.186 0.187 0.186 0.199 0.199 0.185   6.86
51)C 1,2-Dichloropropa 0.294 0.299 0.310 0.310 0.309 0.328 0.325 0.311   4.06
52)  Bromodichlorometh 0.314 0.349 0.390 0.394 0.397 0.427 0.422 0.385  10.43
53)  Methyl methacryla 0.181 0.192 0.217 0.236 0.235 0.248 0.246 0.222  11.99
54)  2-Chloroethyl vin 0.179 0.197 0.216 0.199 0.183 0.172 0.164 0.187   9.44
55)  cis-1,3-Dichlorop 0.398 0.441 0.482 0.504 0.504 0.534 0.527 0.484  10.14

56) I   Chlorobenzene-d5      ----------------ISTD--------------------
57)S Toluene-d8        1.267 1.280 1.260 1.278 1.280 1.291 1.307 1.281   1.22
58)C Toluene           1.783 1.601 1.635 1.638 1.611 1.648 1.617 1.648   3.75
59)  2-Nitropropane    0.055 0.071 0.087 0.098 0.100 0.103 0.104 0.088  21.33
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
              Response Ratio = 0.00000 + 0.09067 *A + 0.00151 *A^2

60)  4-Methyl-2-pentan 0.307 0.360 0.391 0.397 0.382 0.385 0.365 0.369   8.25
61)  trans-1,3-Dichlor 0.380 0.455 0.502 0.535 0.533 0.566 0.563 0.505  13.21
62)  Tetrachloroethene 0.408 0.382 0.397 0.392 0.391 0.405 0.407 0.397   2.48
63)  Ethyl methacrylat 0.399 0.421 0.471 0.498 0.487 0.510 0.516 0.472   9.53
64)  1,1,2-Trichloroet 0.296 0.275 0.291 0.288 0.284 0.297 0.298 0.290   2.80
65)  Dibromochlorometh 0.253 0.301 0.339 0.367 0.372 0.405 0.412 0.350  16.31
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
              Response Ratio = 0.00000 + 0.34050 *A + 0.03829 *A^2

66)  1,3-Dichloropropa 0.538 0.560 0.589 0.602 0.590 0.628 0.631 0.591   5.70
67)  1,2-Dibromoethane 0.305 0.321 0.349 0.358 0.357 0.382 0.387 0.351   8.51
68)  2-hexanone        0.213 0.273 0.297 0.300 0.290 0.295 0.277 0.278  10.87
69)  1-Chlorohexane    0.499 0.511 0.540 0.552 0.554 0.578 0.577 0.544   5.57
```

Initial Calibration Summary

Job Number: FA86620 **Sample:** VI2216-ICC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69009.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
 70)C Ethylbenzene      1.944 1.803 1.879 1.840 1.794 1.796 1.706 1.823   4.11
 71)P Chlorobenzene     0.959 0.952 1.005 0.983 0.959 0.978 0.945 0.969   2.16
 72)  1,1,1,2-Tetrachlo 0.284 0.317 0.341 0.354 0.349 0.368 0.372 0.341   9.07
 73)  m,p-Xylene        1.335 1.307 1.392 1.377 1.337 1.321 1.212 1.326   4.41
 74)  o-Xylene          1.312 1.301 1.389 1.386 1.365 1.415 1.390 1.366   3.13
 75)  Styrene           0.793 0.897 1.017 1.052 1.047 1.098 1.084 0.998  11.25
 76)P Bromoform         0.147 0.181 0.214 0.244 0.250 0.278 0.287 0.229  22.25
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.21880 *A + 0.03629 *A^2

 77)  Isopropylbenzene  1.672 1.617 1.702 1.705 1.682 1.730 1.681 1.684   2.10

 78) I   1,4-Dichlorobenzene-d ----------------ISTD--------------------
 79)S 4-Bromofluorobenz 0.784 0.786 0.777 0.789 0.788 0.787 0.801 0.788   0.90
 80)  cis-1,4-Dichloro- 0.227 0.220 0.243 0.269 0.270 0.281 0.290 0.257  10.57
 81)  n-Propylbenzene   3.604 3.433 3.653 3.691 3.596 3.617 3.479 3.582   2.59
 82)  Bromobenzene      0.681 0.698 0.751 0.731 0.718 0.742 0.736 0.723   3.49
 83)P 1,1,2,2-Tetrachlo 0.809 0.864 0.938 0.958 0.932 0.965 0.977 0.920   6.68
 84)  1,3,5-Trimethylbe 2.340 2.269 2.436 2.458 2.418 2.516 2.468 2.415   3.47
 85)  2-Chlorotoluene   2.429 2.312 2.484 2.461 2.407 2.404 2.333 2.404   2.62
 86)  trans-1,4-Dichlor 0.180 0.196 0.233 0.252 0.250 0.263 0.269 0.235  14.52
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 0.23328 *A + 0.01903 *A^2

 87)  1,2,3-Trichloropr 0.271 0.265 0.290 0.288 0.283 0.288 0.294 0.283   3.81
 88)  Cyclohexanone     0.026 0.031 0.035 0.036 0.034 0.033 0.031 0.032  10.31
 89)  4-Chlorotoluene   2.023 1.984 2.123 2.151 2.119 2.191 2.174 2.109   3.67
 90)  tert-Butylbenzene 1.399 1.356 1.454 1.433 1.412 1.453 1.456 1.423   2.59
 91)  1,2,4-Trimethylbe 2.094 2.112 2.245 2.251 2.240 2.358 2.359 2.237   4.69
 92)  Pentachloroethane 0.328 0.352 0.390 0.410 0.409 0.434 0.432 0.394  10.19
 93)  sec-Butylbenzene  2.930 2.824 3.030 2.990 2.970 3.041 2.992 2.968   2.47
 94)  4-Isopropyltoluen 2.188 2.223 2.412 2.400 2.377 2.471 2.450 2.360   4.68
 95)  1,3-Dichlorobenze 1.189 1.140 1.224 1.232 1.214 1.285 1.285 1.224   4.21
 96)  1,2,3-Trimethylbe 1.996 1.872 1.976 1.975 1.958 2.051 2.045 1.982   3.03
 97)  1,4-Dichlorobenze 1.301 1.224 1.274 1.254 1.223 1.275 1.251 1.257   2.27
 98)  n-Butylbenzene    1.097 1.144 1.242 1.299 1.301 1.386 1.397 1.266   9.00
 99)  Benzyl Chloride   0.164 0.223 0.280 0.335 0.334 0.365 0.370 0.296  26.26
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9984
               Response Ratio = 0.00000 + 0.29664 *A + 0.04018 *A^2

100)  1,2-Dichlorobenze 1.112 1.093 1.174 1.176 1.157 1.214 1.220 1.164   4.10
101)  1,2-Dibromo-3-Chl 0.110 0.135 0.164 0.183 0.193 0.206 0.218 0.173  22.56
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 0.16562 *A + 0.02713 *A^2

102)  Hexachlorobutadie 0.365 0.321 0.323 0.337 0.334 0.357 0.361 0.343   5.36
103)  1,2,4-Trichlorobe 0.506 0.528 0.571 0.600 0.616 0.660 0.676 0.594  10.71
104)  Naphthalene       1.404 1.401 1.572 1.696 1.750 1.803 1.827 1.636  10.99
105)  1,2,3-Trichlorobe 0.503 0.491 0.536 0.562 0.581 0.617 0.629 0.560   9.49

106) I   Tert Butyl Alcohol-d1 ----------------ISTD--------------------
107)  Ethanol                0.070 0.074 0.066 0.063 0.066 0.062 0.067   6.71
108)  Acrolein          0.897 0.981 1.192 1.196 1.174 1.230 1.249 1.131  12.02
109)  Tert butyl alcoho 1.066 0.988 1.045 1.033 1.011 1.064 1.045 1.036   2.73
110)  Isobutyl alcohol  0.114 0.126 0.151 0.163 0.153 0.161 0.158 0.147  12.80
111)  Tert Amyl Alcohol 0.661 0.674 0.736 0.756 0.749 0.799 0.791 0.738   7.22
112)  1,4-Dioxane       0.080 0.078 0.082 0.080 0.075 0.077 0.071 0.078   4.69
113)  3,3-dimethyl-1-bu 0.404 0.613 0.773 0.784 0.746 0.742 0.668 0.676  19.89
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9985
               Response Ratio = 0.00000 + 0.78308 *A + -0.00498 *A^2
```

Initial Calibration Summary

Job Number: FA86620 **Sample:** VI2216-ICC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69009.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

(#) = Out of Range

2021-06-21APP9-I.m Tue Jun 22 08:07:32 2021

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69013.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\2021-06-21\I69013.D Vial: 10
Acq On : 21 Jun 2021 4:06 pm Operator: LINDSAYR
Sample : ICV2216-5 Inst : MSVOA16
Misc : MS49159,VI2216,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jun 22 08:02:09 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	103	0.00	8.63
	---------- Amount	Calc.	%Drift	----------			
2	Dichlorodifluoromethane	----------	NA	----------			
	---------- AvgRF	CCRF	%Dev	----------			
3 P	Chloromethane	0.293	0.255	13.0	93	-0.01	3.10
4 C	Vinyl Chloride	0.375	0.329	12.3	91	0.00	3.18
	---------- Amount	Calc.	%Drift	----------			
5	1,3-Butadiene	40.000	57.650	-44.1#	151	0.00	3.21
6	Bromomethane	40.000	32.251	19.4	79	0.00	3.73
7	Chloroethane	40.000	37.396	6.5	94	0.00	3.93
	---------- AvgRF	CCRF	%Dev	----------			
8	Trichlorofluoromethane	0.486	0.489	-0.6	98	0.00	4.15
9	Ethyl Ether	0.238	0.236	0.8	104	0.00	4.63
10	1,2-Dichlorotrifluoroetha	0.352	0.381	-8.2	114	0.00	4.90
11 C	1,1-Dichloroethene	0.472	0.463	1.9	102	0.00	4.91
12	Freon 113	0.318	0.272	14.5	89	0.00	4.97
13	Carbon Disulfide	0.747	0.688	7.9	94	0.00	4.96
	---------- Amount	Calc.	%Drift	----------			
14	Iodomethane	40.000	38.406	4.0	97	0.00	5.11
	---------- AvgRF	CCRF	%Dev	----------			
15	Allyl chloride	0.360	0.395	-9.7	112	0.00	5.54
16	Methylene Chloride	0.398	0.352	11.6	98	0.00	5.68
17	Acetone	0.099	0.101	-2.0	100	0.00	5.73
	---------- Amount	Calc.	%Drift	----------			
18	Methyl acetate	200.000	189.446	5.3	95	0.00	5.88
	---------- AvgRF	CCRF	%Dev	----------			
19	trans-1,2-Dichloroethene	0.424	0.420	0.9	101	0.00	5.90
20	Hexane	0.258	0.223	13.6	92	0.00	6.00
21	Methyl Tert Butyl Ether	0.879	0.856	2.6	102	0.00	6.02
	---------- Amount	Calc.	%Drift	----------			
22	Acetonitrile	400.000	391.190	2.2	98	0.00	6.30
	---------- AvgRF	CCRF	%Dev	----------			

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69013.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

23		Di-isopropyl ether	0.859	0.842	2.0	101	0.00	6.47
24		Chloroprene	0.439	0.447	-1.8	103	0.00	6.62
25	P	1,1-Dichloroethane	0.565	0.582	-3.0	107	0.00	6.63
			Amount	Calc.	%Drift			
26		Acrylonitrile	200.000	200.576	-0.3	101	0.00	6.67
			AvgRF	CCRF	%Dev			
27		ETBE	0.923	0.888	3.8	99	0.00	6.90
			Amount	Calc.	%Drift			
28		Vinyl acetate	200.000	215.106	-7.6	108	0.00	6.90
			AvgRF	CCRF	%Dev			
29		cis-1,2-Dichloroethene	0.320	0.329	-2.8	107	0.00	7.27
30		2,2-Dichloropropane	0.497	0.514	-3.4	107	0.00	7.40
31		Bromochloromethane	0.141	0.142	-0.7	105	0.00	7.50
32		Cyclohexane	0.529	0.485	8.3	96	0.00	7.53
33	C	Chloroform	0.595	0.582	2.2	104	0.00	7.57
34		Ethyl acetate	0.274	0.287	-4.7	101	0.00	7.66
35		Tetrahydrofuran	0.097	0.089	8.2	100	0.00	7.76
36	S	Dibromofluoromethane	0.273	0.276	-1.1	104	0.00	7.77
37		Carbon Tetrachloride	0.427	0.428	-0.2	103	0.00	7.76
38		1,1,1-Trichloroethane	0.515	0.503	2.3	102	0.00	7.82
			Amount	Calc.	%Drift			
39		2-Butanone	200.000	184.147	7.9	96	0.00	7.88
			AvgRF	CCRF	%Dev			
40		1,1-Dichloropropene	0.444	0.421	5.2	99	0.00	7.95
41		tert-Butyl Formate	0.264	0.252	4.5	94	0.00	8.04
42		Propionitrile	0.050	0.049	2.0	97	0.00	8.20
43		Methacrylonitrile	0.170	0.162	4.7	98	0.00	8.22
44		Benzene	1.228	1.233	-0.4	104	0.00	8.21
45		TAME	0.848	0.835	1.5	103	0.00	8.30
46	S	1,2-Dichloroethane-d4	0.316	0.309	2.2	103	0.00	8.34
47		1,2-Dichloroethane	0.397	0.392	1.3	106	0.00	8.41
48		Trichloroethene	0.328	0.324	1.2	103	0.00	8.82
49		Methylcyclohexane	0.508	0.500	1.6	102	0.00	8.84
50		Dibromomethane	0.185	0.185	0.0	103	0.00	9.26
51	C	1,2-Dichloropropane	0.311	0.315	-1.3	105	0.00	9.35
52		Bromodichloromethane	0.385	0.410	-6.5	107	0.00	9.40
53		Methyl methacrylate	0.222	0.235	-5.9	103	0.00	9.51
54		2-Chloroethyl vinyl ether	0.187	0.130	30.5#	74	0.00	9.93
55		cis-1,3-Dichloropropene	0.484	0.504	-4.1	103	0.00	10.03
56	I	Chlorobenzene-d5	1.000	1.000	0.0	103	0.00	11.77
57	S	Toluene-d8	1.281	1.285	-0.3	104	0.00	10.22
58	C	Toluene	1.648	1.563	5.2	100	0.00	10.27
			Amount	Calc.	%Drift			
59		2-Nitropropane	200.000	196.471	1.8	98	0.00	10.48
			AvgRF	CCRF	%Dev			
60		4-Methyl-2-pentanone	0.369	0.356	3.5	96	0.00	10.60
61		trans-1,3-Dichloropropene	0.505	0.568	-12.5	110	0.00	10.66
62		Tetrachloroethene	0.397	0.386	2.8	102	0.00	10.68
63		Ethyl methacrylate	0.472	0.515	-9.1	109	0.00	10.77
64		1,1,2-Trichloroethane	0.290	0.291	-0.3	106	0.00	10.83

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69013.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
65		Dibromochloromethane	40.000	40.176	-0.4	103	0.00	11.03
			AvgRF	CCRF	%Dev			
66		1,3-Dichloropropane	0.591	0.590	0.2	103	0.00	11.11
67		1,2-Dibromoethane	0.351	0.363	-3.4	105	0.00	11.29
68		2-hexanone	0.278	0.264	5.0	94	0.00	11.42
69		1-Chlorohexane	0.544	0.544	0.0	101	0.00	11.73
70	C	Ethylbenzene	1.823	1.778	2.5	102	0.00	11.79
71	P	Chlorobenzene	0.969	0.987	-1.9	106	0.00	11.79
72		1,1,1,2-Tetrachloroethane	0.341	0.360	-5.6	106	0.00	11.84
73		m,p-Xylene	1.326	1.346	-1.5	104	0.00	11.93
74		o-Xylene	1.366	1.412	-3.4	107	0.00	12.37
75		Styrene	0.998	1.049	-5.1	103	0.00	12.42
			Amount	Calc.	%Drift			
76	P	Bromoform	40.000	40.788	-2.0	105	0.00	12.48
			AvgRF	CCRF	%Dev			
77		Isopropylbenzene	1.684	1.721	-2.2	106	0.00	12.68
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	102	0.00	14.13
79	S	4-Bromofluorobenzene	0.788	0.799	-1.4	104	0.00	12.99
80		cis-1,4-Dichloro-2-butene	0.257	0.260	-1.2	99	0.00	13.02
81		n-Propylbenzene	3.582	3.661	-2.2	104	0.00	13.09
82		Bromobenzene	0.723	0.730	-1.0	104	0.00	13.11
83	P	1,1,2,2-Tetrachloroethane	0.920	0.917	0.3	101	0.00	13.15
84		1,3,5-Trimethylbenzene	2.415	2.441	-1.1	103	0.00	13.27
85		2-Chlorotoluene	2.404	2.469	-2.7	105	0.00	13.28
			Amount	Calc.	%Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	39.073	2.3	99	0.00	13.33
			AvgRF	CCRF	%Dev			
87		1,2,3-Trichloropropane	0.283	0.276	2.5	100	0.00	13.31
88		Cyclohexanone	0.032	0.029	9.4	88	0.00	13.37
89		4-Chlorotoluene	2.109	2.189	-3.8	106	0.00	13.44
90		tert-Butylbenzene	1.423	1.430	-0.5	104	0.00	13.61
91		1,2,4-Trimethylbenzene	2.237	2.230	0.3	102	0.00	13.68
92		Pentachloroethane	0.394	0.461	-17.0	115	0.00	13.66
93		sec-Butylbenzene	2.968	3.064	-3.2	106	0.00	13.80
94		4-Isopropyltoluene	2.360	2.381	-0.9	102	0.00	13.93
95		1,3-Dichlorobenzene	1.224	1.278	-4.4	108	0.00	14.07
96		1,2,3-Trimethylbenzene	1.982	2.289	-15.5	120	0.00	14.15
97		1,4-Dichlorobenzene	1.257	1.256	0.1	105	0.00	14.15
98		n-Butylbenzene	1.266	1.232	2.7	97	0.00	14.36
			Amount	Calc.	%Drift			
99		Benzyl Chloride	40.000	41.273	-3.2	104	0.00	14.38
			AvgRF	CCRF	%Dev			
100		1,2-Dichlorobenzene	1.164	1.204	-3.4	106	0.00	14.58
			Amount	Calc.	%Drift			
101		1,2-Dibromo-3-Chloropropa	40.000	38.768	3.1	96	0.00	15.32
			AvgRF	CCRF	%Dev			
102		Hexachlorobutadiene	0.343	0.323	5.8	99	0.00	15.87
103		1,2,4-Trichlorobenzene	0.594	0.604	-1.7	100	0.00	15.91
104		Naphthalene	1.636	1.660	-1.5	97	0.00	16.19

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69013.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

105	1,2,3-Trichlorobenzene	0.560	0.564	-0.7	99	0.00	16.36
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	89	0.00	6.04
107	Ethanol	0.067	0.062	7.5	88	0.00	4.90
108	Acrolein	1.131	1.081	4.4	82	0.00	5.35
109	Tert butyl alcohol	1.036	0.933	9.9	82	0.00	6.12
110	Isobutyl alcohol	0.147	0.149	-1.4	87	0.00	8.37
111	Tert Amyl Alcohol	0.738	0.767	-3.9	91	0.00	8.48
112	1,4-Dioxane	0.078	0.084	-7.7	99	0.00	9.59

		Amount	Calc.	%Drift			
113	3,3-dimethyl-1-butanol	2000.000	2048.227	-2.4	91	0.00	11.38

(#) = Out of Range SPCC's out = 0 CCC's out = 0
I69009.D 2021-06-21APP9-I.m Tue Jun 22 08:06:01 2021

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69014.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\2021-06-21\I69014.D Vial: 11
Acq On : 21 Jun 2021 4:30 pm Operator: LINDSAYR
Sample : ICV2216-4 Inst : MSVOA16
Misc : MS49159,VI2216,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jun 22 08:02:09 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	108	0.00	8.64
		Amount	Calc.	%Drift			
2	Dichlorodifluoromethane	25.000	20.456	18.2	87	0.00	2.69
		AvgRF	CCRF	%Dev			
3 P	Chloromethane		NA				
4 C	Vinyl Chloride		NA				
		Amount	Calc.	%Drift			
5	1,3-Butadiene		NA				
6	Bromomethane		NA				
7	Chloroethane		NA				
		AvgRF	CCRF	%Dev			
8	Trichlorofluoromethane		NA				
9	Ethyl Ether		NA				
10	1,2-Dichlorotrifluoroetha		NA				
11 C	1,1-Dichloroethene		NA				
12	Freon 113		NA				
13	Carbon Disulfide		NA				
		Amount	Calc.	%Drift			
14	Iodomethane		NA				
		AvgRF	CCRF	%Dev			
15	Allyl chloride		NA				
16	Methylene Chloride		NA				
17	Acetone		NA				
		Amount	Calc.	%Drift			
18	Methyl acetate		NA				
		AvgRF	CCRF	%Dev			
19	trans-1,2-Dichloroethene		NA				
20	Hexane		NA				
21	Methyl Tert Butyl Ether		NA				
		Amount	Calc.	%Drift			
22	Acetonitrile		NA				
		AvgRF	CCRF	%Dev			

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69014.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

23		Di-isopropyl ether		----------NA----------				
24		Chloroprene		----------NA----------				
25	P	1,1-Dichloroethane		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
26		Acrylonitrile		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
27		ETBE		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
28		Vinyl acetate		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
29		cis-1,2-Dichloroethene		----------NA----------				
30		2,2-Dichloropropane		----------NA----------				
31		Bromochloromethane		----------NA----------				
32		Cyclohexane		----------NA----------				
33	C	Chloroform		----------NA----------				
34		Ethyl acetate		----------NA----------				
35		Tetrahydrofuran		----------NA----------				
36	S	Dibromofluoromethane	0.273	0.280	-2.6	110	0.00	7.77
37		Carbon Tetrachloride		----------NA----------				
38		1,1,1-Trichloroethane		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
39		2-Butanone		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
40		1,1-Dichloropropene		----------NA----------				
41		tert-Butyl Formate		----------NA----------				
42		Propionitrile		----------NA----------				
43		Methacrylonitrile		----------NA----------				
44		Benzene		----------NA----------				
45		TAME		----------NA----------				
46	S	1,2-Dichloroethane-d4	0.316	0.312	1.3	107	0.00	8.35
47		1,2-Dichloroethane		----------NA----------				
48		Trichloroethene		----------NA----------				
49		Methylcyclohexane		----------NA----------				
50		Dibromomethane		----------NA----------				
51	C	1,2-Dichloropropane		----------NA----------				
52		Bromodichloromethane		----------NA----------				
53		Methyl methacrylate		----------NA----------				
54		2-Chloroethyl vinyl ether		----------NA----------				
55		cis-1,3-Dichloropropene		----------NA----------				
56	I	Chlorobenzene-d5	1.000	1.000	0.0	107	0.00	11.78
57	S	Toluene-d8	1.281	1.288	-0.5	108	0.00	10.23
58	C	Toluene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
59		2-Nitropropane		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
60		4-Methyl-2-pentanone		----------NA----------				
61		trans-1,3-Dichloropropene		----------NA----------				
62		Tetrachloroethene		----------NA----------				
63		Ethyl methacrylate		----------NA----------				
64		1,1,2-Trichloroethane		----------NA----------				

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69014.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift		
65		Dibromochloromethane		NA			
			AvgRF	CCRF	%Dev		
66		1,3-Dichloropropane		NA			
67		1,2-Dibromoethane		NA			
68		2-hexanone		NA			
69		1-Chlorohexane		NA			
70	C	Ethylbenzene		NA			
71	P	Chlorobenzene		NA			
72		1,1,1,2-Tetrachloroethane		NA			
73		m,p-Xylene		NA			
74		o-Xylene		NA			
75		Styrene		NA			
			Amount	Calc.	%Drift		
76	P	Bromoform		NA			
			AvgRF	CCRF	%Dev		
77		Isopropylbenzene		NA			
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	107	0.00 14.13
79	S	4-Bromofluorobenzene	0.788	0.793	-0.6	108	0.00 12.99
80		cis-1,4-Dichloro-2-butene		NA			
81		n-Propylbenzene		NA			
82		Bromobenzene		NA			
83	P	1,1,2,2-Tetrachloroethane		NA			
84		1,3,5-Trimethylbenzene		NA			
85		2-Chlorotoluene		NA			
			Amount	Calc.	%Drift		
86		trans-1,4-Dichloro-2-Bute		NA			
			AvgRF	CCRF	%Dev		
87		1,2,3-Trichloropropane		NA			
88		Cyclohexanone		NA			
89		4-Chlorotoluene		NA			
90		tert-Butylbenzene		NA			
91		1,2,4-Trimethylbenzene		NA			
92		Pentachloroethane		NA			
93		sec-Butylbenzene		NA			
94		4-Isopropyltoluene		NA			
95		1,3-Dichlorobenzene		NA			
96		1,2,3-Trimethylbenzene		NA			
97		1,4-Dichlorobenzene		NA			
98		n-Butylbenzene		NA			
			Amount	Calc.	%Drift		
99		Benzyl Chloride		NA			
			AvgRF	CCRF	%Dev		
100		1,2-Dichlorobenzene		NA			
			Amount	Calc.	%Drift		
101		1,2-Dibromo-3-Chloropropa		NA			
			AvgRF	CCRF	%Dev		
102		Hexachlorobutadiene		NA			
103		1,2,4-Trichlorobenzene		NA			
104		Naphthalene		NA			

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69014.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

105		1,2,3-Trichlorobenzene		----------NA----------				
106	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	115	0.00	6.03
107		Ethanol		----------NA----------				
108		Acrolein		----------NA----------				
109		Tert butyl alcohol		----------NA----------				
110		Isobutyl alcohol		----------NA----------				
111		Tert Amyl Alcohol		----------NA----------				
112		1,4-Dioxane		----------NA----------				

			Amount	Calc.	%Drift			
113		3,3-dimethyl-1-butanol		----------NA----------				

(#) = Out of Range SPCC's out = 4 CCC's out = 6
I69008.D 2021-06-21APP9-I.m Tue Jun 22 08:07:17 2021

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-CC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69103.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\Je...-2021\VI2221\I69103.d Vial: 2
Acq On : 24 Jun 2021 12:56 pm Operator: LINDSAYR
Sample : cc2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jun 22 08:02:09 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	86	0.00	8.64
	----------	True	Calc.	% Drift	----------		
2	Dichlorodifluoromethane	40.000	37.263	6.8	81	0.00	2.69
	----------	AvgRF	CCRF	% Dev	----------		
3 P	Chloromethane	0.293	0.301	-2.7	91	0.00	3.10
4 C	Vinyl Chloride	0.375	0.383	-2.1	89	0.00	3.18
	----------	True	Calc.	% Drift	----------		
5	1,3-Butadiene	40.000	42.122	-5.3	93	0.00	3.21
6	Bromomethane	40.000	43.310	-8.3	93	0.00	3.74
7	Chloroethane	40.000	46.908	-17.3	98	0.00	3.93
	----------	AvgRF	CCRF	% Dev	----------		
8	Trichlorofluoromethane	0.486	0.516	-6.2	87	0.00	4.16
9	Ethyl Ether	0.238	0.243	-2.1	89	0.00	4.63
10	1,2-Dichlorotrifluoroetha	0.352	0.351	0.3	87	0.00	4.90
11 C	1,1-Dichloroethene	0.472	0.473	-0.2	86	0.00	4.92
12	Freon 113	0.318	0.309	2.8	84	0.00	4.98
13	Carbon Disulfide	0.747	0.752	-0.7	86	0.00	4.97
	----------	True	Calc.	% Drift	----------		
14	Iodomethane	40.000	53.896	-34.7#	119	0.00	5.12
	----------	AvgRF	CCRF	% Dev	----------		
15	Allyl chloride	0.360	0.357	0.8	84	0.00	5.54
16	Methylene Chloride	0.398	0.387	2.8	89	0.00	5.68
17	Acetone	0.099	0.098	1.0	81	0.00	5.73
	----------	True	Calc.	% Drift	----------		
18	Methyl acetate	200.000	203.995	-2.0	86	0.00	5.88
	----------	AvgRF	CCRF	% Dev	----------		
19	trans-1,2-Dichloroethene	0.424	0.439	-3.5	88	0.00	5.90
20	Hexane	0.258	0.249	3.5	85	0.00	6.01
21	Methyl Tert Butyl Ether	0.879	0.902	-2.6	90	0.00	6.02
	----------	True	Calc.	% Drift	----------		
22	Acetonitrile	400.000	397.348	0.7	83	0.00	6.31
	----------	AvgRF	CCRF	% Dev	----------		

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-CC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69103.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

23		Di-isopropyl ether	0.859	0.879	-2.3	88	0.00	6.48
24		Chloroprene	0.439	0.419	4.6	81	0.00	6.62
25	P	1,1-Dichloroethane	0.565	0.569	-0.7	87	0.00	6.64
			True	Calc.	% Drift			
26		Acrylonitrile	200.000	188.904	5.5	79	0.00	6.68
			AvgRF	CCRF	% Dev			
27		ETBE	0.923	0.979	-6.1	91	0.00	6.90
			True	Calc.	% Drift			
28		Vinyl acetate	200.000	196.742	1.6	83	0.00	6.90
			AvgRF	CCRF	% Dev			
29		cis-1,2-Dichloroethene	0.320	0.328	-2.5	88	0.00	7.27
30		2,2-Dichloropropane	0.497	0.496	0.2	86	0.00	7.40
31		Bromochloromethane	0.141	0.146	-3.5	90	0.00	7.50
32		Cyclohexane	0.529	0.520	1.7	86	0.00	7.54
33	C	Chloroform	0.595	0.593	0.3	88	0.00	7.57
34		Ethyl acetate	0.274	0.264	3.6	78	0.00	7.66
35		Tetrahydrofuran	0.097	0.087	10.3	82	0.00	7.76
36	S	Dibromofluoromethane	0.273	0.272	0.4	85	0.00	7.77
37		Carbon Tetrachloride	0.427	0.441	-3.3	88	0.00	7.76
38		1,1,1-Trichloroethane	0.515	0.512	0.6	87	0.00	7.82
			True	Calc.	% Drift			
39		2-Butanone	200.000	184.791	7.6	80	0.00	7.88
			AvgRF	CCRF	% Dev			
40		1,1-Dichloropropene	0.444	0.444	0.0	87	0.00	7.95
41		tert-Butyl Formate	0.264	0.262	0.8	82	0.00	8.04
42		Propionitrile	0.050	0.050	0.0	83	0.00	8.20
43		Methacrylonitrile	0.170	0.174	-2.4	88	0.00	8.22
44		Benzene	1.228	1.300	-5.9	91	0.00	8.21
45		TAME	0.848	0.878	-3.5	90	0.00	8.30
46	S	1,2-Dichloroethane-d4	0.316	0.310	1.9	86	0.00	8.34
47		1,2-Dichloroethane	0.397	0.410	-3.3	92	0.00	8.41
48		Trichloroethene	0.328	0.335	-2.1	88	0.00	8.83
49		Methylcyclohexane	0.508	0.514	-1.2	87	0.00	8.84
50		Dibromomethane	0.185	0.195	-5.4	90	0.00	9.26
51	C	1,2-Dichloropropane	0.311	0.318	-2.3	89	0.00	9.35
52		Bromodichloromethane	0.385	0.411	-6.8	89	0.00	9.40
53		Methyl methacrylate	0.222	0.230	-3.6	84	0.00	9.51
54		2-Chloroethyl vinyl ether	0.187	0.181	3.2	85	0.00	9.93
55		cis-1,3-Dichloropropene	0.484	0.523	-8.1	89	0.00	10.03
56	I	Chlorobenzene-d5	1.000	1.000	0.0	92	0.00	11.77
57	S	Toluene-d8	1.281	1.231	3.9	88	0.00	10.22
58	C	Toluene	1.648	1.576	4.4	90	0.00	10.27
			True	Calc.	% Drift			
59		2-Nitropropane	200.000	196.763	1.6	87	0.00	10.48
			AvgRF	CCRF	% Dev			
60		4-Methyl-2-pentanone	0.369	0.349	5.4	84	0.00	10.60
61		trans-1,3-Dichloropropene	0.505	0.532	-5.3	91	0.00	10.66
62		Tetrachloroethene	0.397	0.388	2.3	91	0.00	10.68
63		Ethyl methacrylate	0.472	0.456	3.4	86	0.00	10.77
64		1,1,2-Trichloroethane	0.290	0.283	2.4	91	0.00	10.83

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-CC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69103.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
65		Dibromochloromethane	40.000	39.751	0.6	91	0.00	11.03
			AvgRF	CCRF	% Dev			
66		1,3-Dichloropropane	0.591	0.585	1.0	91	0.00	11.11
67		1,2-Dibromoethane	0.351	0.350	0.3	90	0.00	11.29
68		2-hexanone	0.278	0.257	7.6	81	0.00	11.42
69		1-Chlorohexane	0.544	0.538	1.1	89	0.00	11.73
70	C	Ethylbenzene	1.823	1.798	1.4	92	0.00	11.79
71	P	Chlorobenzene	0.969	0.967	0.2	92	0.00	11.80
72		1,1,1,2-Tetrachloroethane	0.341	0.349	-2.3	92	0.00	11.85
73		m,p-Xylene	1.326	1.337	-0.8	92	0.00	11.93
74		o-Xylene	1.366	1.351	1.1	91	0.00	12.37
75		Styrene	0.998	1.042	-4.4	91	0.00	12.42
			True	Calc.	% Drift			
76	P	Bromoform	40.000	40.525	-1.3	92	0.00	12.48
			AvgRF	CCRF	% Dev			
77		Isopropylbenzene	1.684	1.674	0.6	91	0.00	12.68
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	94	0.00	14.13
79	S	4-Bromofluorobenzene	0.788	0.767	2.7	92	0.00	12.99
80		cis-1,4-Dichloro-2-butene	0.257	0.240	6.6	84	0.00	13.02
81		n-Propylbenzene	3.582	3.482	2.8	91	0.00	13.09
82		Bromobenzene	0.723	0.700	3.2	92	0.00	13.11
83	P	1,1,2,2-Tetrachloroethane	0.920	0.889	3.4	90	0.00	13.15
84		1,3,5-Trimethylbenzene	2.415	2.350	2.7	92	0.00	13.27
85		2-Chlorotoluene	2.404	2.351	2.2	92	0.00	13.28
			True	Calc.	% Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	37.786	5.5	88	0.00	13.33
			AvgRF	CCRF	% Dev			
87		1,2,3-Trichloropropane	0.283	0.270	4.6	90	0.00	13.31
88		Cyclohexanone	0.032	0.027	15.6	74	0.00	13.38
89		4-Chlorotoluene	2.109	2.044	3.1	91	0.00	13.44
90		tert-Butylbenzene	1.423	1.358	4.6	91	0.00	13.61
91		1,2,4-Trimethylbenzene	2.237	2.163	3.3	91	0.00	13.68
92		Pentachloroethane	0.394	0.377	4.3	87	0.00	13.66
93		sec-Butylbenzene	2.968	2.839	4.3	90	0.00	13.80
94		4-Isopropyltoluene	2.360	2.282	3.3	90	0.00	13.93
95		1,3-Dichlorobenzene	1.224	1.178	3.8	91	0.00	14.07
96		1,2,3-Trimethylbenzene	1.982	1.914	3.4	92	0.00	14.15
97		1,4-Dichlorobenzene	1.257	1.206	4.1	93	0.00	14.15
98		n-Butylbenzene	1.266	1.230	2.8	89	0.00	14.36
			True	Calc.	% Drift			
99		Benzyl Chloride	40.000	38.689	3.3	89	0.00	14.38
			AvgRF	CCRF	% Dev			
100		1,2-Dichlorobenzene	1.164	1.118	4.0	91	0.00	14.58
			True	Calc.	% Drift			
101		1,2-Dibromo-3-Chloropropa	40.000	37.047	7.4	84	0.00	15.32
			AvgRF	CCRF	% Dev			
102		Hexachlorobutadiene	0.343	0.295	14.0	83	0.00	15.87
103		1,2,4-Trichlorobenzene	0.594	0.562	5.4	86	0.00	15.91
104		Naphthalene	1.636	1.571	4.0	85	0.00	16.19

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-CC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69103.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

105	1,2,3-Trichlorobenzene	0.560	0.529	5.5	86	0.00	16.36
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	76	0.00	6.03
107	Ethanol	0.067	0.063	6.0	76	0.00	4.90
108	Acrolein	1.131	1.242	-9.8	80	0.00	5.35
109	Tert butyl alcohol	1.036	1.027	0.9	77	-0.01	6.12
110	Isobutyl alcohol	0.147	0.160	-8.8	79	0.00	8.37
111	Tert Amyl Alcohol	0.738	0.748	-1.4	76	0.00	8.48
112	1,4-Dioxane	0.078	0.080	-2.6	81	0.00	9.59
		True	Calc.	% Drift			
113	3,3-dimethyl-1-butanol	2000.000	2016.891	-0.8	76	0.00	11.37

(#) = Out of Range SPCC's out = 0 CCC's out = 0
I69009.D 2021-06-21APP9-I.m Fri Jun 25 01:21:52 2021

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-ECC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69129.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\Je...-2021\VI2221\I69129.d Vial: 28
Acq On : 24 Jun 2021 11:32 pm Operator: LINDSAYR
Sample : ECC2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jun 22 08:02:09 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	92	0.00	8.64
	----------	True	Calc.	% Drift	----------		
2	Dichlorodifluoromethane	40.000	36.279	9.3	84	0.00	2.69
	----------	AvgRF	CCRF	% Dev	----------		
3 P	Chloromethane	0.293	0.282	3.8	91	-0.02	3.09
4 C	Vinyl Chloride	0.375	0.378	-0.8	94	0.00	3.18
	----------	True	Calc.	% Drift	----------		
5	1,3-Butadiene	40.000	41.223	-3.1	98	0.00	3.21
6	Bromomethane	40.000	33.976	15.1	75	0.00	3.73
7	Chloroethane	40.000	45.168	-12.9	101	0.00	3.93
	----------	AvgRF	CCRF	% Dev	----------		
8	Trichlorofluoromethane	0.486	0.500	-2.9	90	0.00	4.16
9	Ethyl Ether	0.238	0.235	1.3	93	0.00	4.63
10	1,2-Dichlorotrifluoroetha	0.352	0.341	3.1	91	0.00	4.90
11 C	1,1-Dichloroethene	0.472	0.460	2.5	90	0.00	4.92
12	Freon 113	0.318	0.293	7.9	86	0.00	4.98
13	Carbon Disulfide	0.747	0.731	2.1	89	0.00	4.97
	----------	True	Calc.	% Drift	----------		
14	Iodomethane	40.000	46.329	-15.8	107	0.00	5.12
	----------	AvgRF	CCRF	% Dev	----------		
15	Allyl chloride	0.360	0.347	3.6	87	0.00	5.55
16	Methylene Chloride	0.398	0.382	4.0	95	0.00	5.69
17	Acetone	0.099	0.084	15.2	74	0.00	5.73
	----------	True	Calc.	% Drift	----------		
18	Methyl acetate	200.000	187.169	6.4	84	0.00	5.88
	----------	AvgRF	CCRF	% Dev	----------		
19	trans-1,2-Dichloroethene	0.424	0.425	-0.2	92	0.00	5.90
20	Hexane	0.258	0.220	14.7	81	0.00	6.01
21	Methyl Tert Butyl Ether	0.879	0.865	1.6	92	0.00	6.02
	----------	True	Calc.	% Drift	----------		
22	Acetonitrile	400.000	364.797	8.8	81	0.00	6.31
	----------	AvgRF	CCRF	% Dev	----------		

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-ECC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69129.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

23		Di-isopropyl ether	0.859	0.856	0.3	92	0.00	6.48
24		Chloroprene	0.439	0.419	4.6	87	0.00	6.62
25	P	1,1-Dichloroethane	0.565	0.560	0.9	92	0.00	6.64
			True	Calc.	% Drift			
26		Acrylonitrile	200.000	170.221	14.9	76	0.00	6.68
			AvgRF	CCRF	% Dev			
27		ETBE	0.923	0.948	-2.7	94	0.00	6.90
			True	Calc.	% Drift			
28		Vinyl acetate	200.000	180.070	10.0	82	0.00	6.90
			AvgRF	CCRF	% Dev			
29		cis-1,2-Dichloroethene	0.320	0.320	0.0	92	0.00	7.27
30		2,2-Dichloropropane	0.497	0.422	15.1	78	0.00	7.40
31		Bromochloromethane	0.141	0.145	-2.8	96	0.00	7.51
32		Cyclohexane	0.529	0.509	3.8	90	0.00	7.54
33	C	Chloroform	0.595	0.580	2.5	93	0.00	7.57
34		Ethyl acetate	0.274	0.242	11.7	76	0.00	7.66
35		Tetrahydrofuran	0.097	0.081	16.5	81	0.00	7.76
36	S	Dibromofluoromethane	0.273	0.273	0.0	92	0.00	7.77
37		Carbon Tetrachloride	0.427	0.424	0.7	91	0.00	7.76
38		1,1,1-Trichloroethane	0.515	0.499	3.1	91	0.00	7.82
			True	Calc.	% Drift			
39		2-Butanone	200.000	161.907	19.0	75	0.00	7.88
			AvgRF	CCRF	% Dev			
40		1,1-Dichloropropene	0.444	0.432	2.7	91	0.00	7.95
41		tert-Butyl Formate	0.264	0.246	6.8	82	0.00	8.04
42		Propionitrile	0.050	0.045	10.0	80	0.00	8.20
43		Methacrylonitrile	0.170	0.160	5.9	86	0.00	8.23
44		Benzene	1.228	1.256	-2.3	94	0.00	8.21
45		TAME	0.848	0.846	0.2	93	0.00	8.30
46	S	1,2-Dichloroethane-d4	0.316	0.313	0.9	93	0.00	8.35
47		1,2-Dichloroethane	0.397	0.396	0.3	95	0.00	8.41
48		Trichloroethene	0.328	0.322	1.8	91	0.00	8.83
49		Methylcyclohexane	0.508	0.497	2.2	90	0.00	8.84
50		Dibromomethane	0.185	0.189	-2.2	94	0.00	9.26
51	C	1,2-Dichloropropane	0.311	0.312	-0.3	93	0.00	9.35
52		Bromodichloromethane	0.385	0.400	-3.9	93	0.00	9.40
53		Methyl methacrylate	0.222	0.213	4.1	83	0.00	9.51
54		2-Chloroethyl vinyl ether	0.187	0.171	8.6	86	0.00	9.93
55		cis-1,3-Dichloropropene	0.484	0.499	-3.1	91	0.00	10.03
56	I	Chlorobenzene-d5	1.000	1.000	0.0	99	0.00	11.78
57	S	Toluene-d8	1.281	1.231	3.9	96	0.00	10.23
58	C	Toluene	1.648	1.523	7.6	94	0.00	10.27
			True	Calc.	% Drift			
59		2-Nitropropane	200.000	175.313	12.3	84	0.00	10.48
			AvgRF	CCRF	% Dev			
60		4-Methyl-2-pentanone	0.369	0.312	15.4	81	0.00	10.60
61		trans-1,3-Dichloropropene	0.505	0.497	1.6	93	0.00	10.66
62		Tetrachloroethene	0.397	0.391	1.5	100	0.00	10.68
63		Ethyl methacrylate	0.472	0.425	10.0	87	0.00	10.77
64		1,1,2-Trichloroethane	0.290	0.266	8.3	93	0.00	10.83

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-ECC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69129.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
65		Dibromochloromethane	40.000	38.364	4.1	95	0.00	11.03
			AvgRF	CCRF	% Dev			
66		1,3-Dichloropropane	0.591	0.563	4.7	95	0.00	11.11
67		1,2-Dibromoethane	0.351	0.333	5.1	93	0.00	11.29
68		2-hexanone	0.278	0.224	19.4	77	0.00	11.42
69		1-Chlorohexane	0.544	0.506	7.0	91	0.00	11.73
70	C	Ethylbenzene	1.823	1.725	5.4	96	0.00	11.79
71	P	Chlorobenzene	0.969	0.929	4.1	96	0.00	11.80
72		1,1,1,2-Tetrachloroethane	0.341	0.332	2.6	94	0.00	11.85
73		m,p-Xylene	1.326	1.279	3.5	95	0.00	11.93
74		o-Xylene	1.366	1.308	4.2	95	0.00	12.37
75		Styrene	0.998	1.007	-0.9	96	0.00	12.42
			True	Calc.	% Drift			
76	P	Bromoform	40.000	37.988	5.0	93	0.00	12.48
			AvgRF	CCRF	% Dev			
77		Isopropylbenzene	1.684	1.617	4.0	96	0.00	12.68
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	14.13
79	S	4-Bromofluorobenzene	0.788	0.782	0.8	100	0.00	12.99
80		cis-1,4-Dichloro-2-butene	0.257	0.210	18.3	79	0.00	13.02
81		n-Propylbenzene	3.582	3.342	6.7	94	0.00	13.09
82		Bromobenzene	0.723	0.690	4.6	97	0.00	13.11
83	P	1,1,2,2-Tetrachloroethane	0.920	0.836	9.1	91	0.00	13.15
84		1,3,5-Trimethylbenzene	2.415	2.243	7.1	94	0.00	13.27
85		2-Chlorotoluene	2.404	2.274	5.4	95	0.00	13.28
			True	Calc.	% Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	33.266	16.8	83	0.00	13.33
			AvgRF	CCRF	% Dev			
87		1,2,3-Trichloropropane	0.283	0.247	12.7	88	0.00	13.31
88		Cyclohexanone	0.032	0.024	25.0	69	0.00	13.38
89		4-Chlorotoluene	2.109	1.975	6.4	94	0.00	13.45
90		tert-Butylbenzene	1.423	1.312	7.8	94	0.00	13.61
91		1,2,4-Trimethylbenzene	2.237	2.053	8.2	92	0.00	13.68
92		Pentachloroethane	0.394	0.329	16.5	81	0.00	13.67
93		sec-Butylbenzene	2.968	2.734	7.9	93	0.00	13.80
94		4-Isopropyltoluene	2.360	2.143	9.2	91	0.00	13.93
95		1,3-Dichlorobenzene	1.224	1.125	8.1	94	0.00	14.07
96		1,2,3-Trimethylbenzene	1.982	1.818	8.3	94	0.00	14.15
97		1,4-Dichlorobenzene	1.257	1.143	9.1	94	0.00	14.15
98		n-Butylbenzene	1.266	1.094	13.6	85	0.00	14.36
			True	Calc.	% Drift			
99		Benzyl Chloride	40.000	27.911	30.2	67	0.00	14.38
			AvgRF	CCRF	% Dev			
100		1,2-Dichlorobenzene	1.164	1.072	7.9	94	0.00	14.58
			True	Calc.	% Drift			
101		1,2-Dibromo-3-Chloropropa	40.000	32.021	19.9	76	0.00	15.32
			AvgRF	CCRF	% Dev			
102		Hexachlorobutadiene	0.343	0.259	24.5	78	0.00	15.86
103		1,2,4-Trichlorobenzene	0.594	0.514	13.5	84	0.00	15.91
104		Naphthalene	1.636	1.393	14.9	80	0.00	16.19

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-ECC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69129.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

105	1,2,3-Trichlorobenzene	0.560	0.487	13.0	85	0.00	16.36
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	74	0.00	6.03
107	Ethanol	0.067	0.065	3.0	76	0.00	4.90
108	Acrolein	1.131	1.053	6.9	67	0.00	5.35
109	Tert butyl alcohol	1.036	0.989	4.5	73	-0.01	6.12
110	Isobutyl alcohol	0.147	0.159	-8.2	78	0.00	8.37
111	Tert Amyl Alcohol	0.738	0.717	2.8	71	0.00	8.48
112	1,4-Dioxane	0.078	0.079	-1.3	78	0.00	9.59
		True	Calc.	% Drift			
113	3,3-dimethyl-1-butanol	2000.000	1960.091	2.0	73	0.00	11.38

(#) = Out of Range SPCC's out = 0 CCC's out = 0
I69009.D 2021-06-21APP9-I.m Fri Jun 25 02:35:50 2021

Run Sequence Report

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VI2216 **Method:** SW846 8260B **Instrument ID:** GCMSI

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VI2216-BFB	I69004.D	06/21/21 11:59	n/a	BFB Tune
VI2216-IC2216	I69005.D	06/21/21 12:23	n/a	Initial cal 1
VI2216-IC2216	I69006.D	06/21/21 12:47	n/a	Initial cal 2
VI2216-IC2216	I69007.D	06/21/21 13:11	n/a	Initial cal 3
VI2216-IC2216	I69008.D	06/21/21 13:35	n/a	Initial cal 4
VI2216-ICC2216	I69009.D	06/21/21 14:00	n/a	Initial cal 5
VI2216-IC2216	I69010.D	06/21/21 14:24	n/a	Initial cal 6
VI2216-IC2216	I69011.D	06/21/21 14:48	n/a	Initial cal 7
VI2216-ICV2216	I69013.D	06/21/21 16:06	n/a	Initial cal verification 5
VI2216-ICV2216	I69014.D	06/21/21 16:30	n/a	Initial cal verification 4

Run Sequence Report

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VI2221 **Method:** SW846 8260B **Instrument ID:** GCMSI

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VI2221-BFB	I69103.D	06/24/21 12:56	n/a	BFB Tune
VI2221-CC2216	I69103.D	06/24/21 12:56	n/a	Continuing cal 5
VI2221-BS	I69104.D	06/24/21 13:30	n/a	Blank Spike
VI2221-MB	I69106.D	06/24/21 14:18	n/a	Method Blank
ZZZZZZ	I69107.D	06/24/21 14:42	n/a	(unrelated sample)
FA86397-23	I69108.D	06/24/21 15:07	n/a	(used for QC only; not part of job FA86620)
ZZZZZZ	I69109.D	06/24/21 15:31	n/a	(unrelated sample)
ZZZZZZ	I69110.D	06/24/21 15:55	n/a	(unrelated sample)
ZZZZZZ	I69111.D	06/24/21 16:19	n/a	(unrelated sample)
ZZZZZZ	I69112.D	06/24/21 16:43	n/a	(unrelated sample)
ZZZZZZ	I69113.D	06/24/21 17:07	n/a	(unrelated sample)
ZZZZZZ	I69114.D	06/24/21 17:31	n/a	(unrelated sample)
ZZZZZZ	I69115.D	06/24/21 17:55	n/a	(unrelated sample)
ZZZZZZ	I69116.D	06/24/21 18:20	n/a	(unrelated sample)
FA86620-1	I69117.D	06/24/21 18:44	n/a	SP1-GW_20210611
ZZZZZZ	I69118.D	06/24/21 19:08	n/a	(unrelated sample)
ZZZZZZ	I69119.D	06/24/21 19:32	n/a	(unrelated sample)
ZZZZZZ	I69120.D	06/24/21 19:56	n/a	(unrelated sample)
ZZZZZZ	I69121.D	06/24/21 20:21	n/a	(unrelated sample)
ZZZZZZ	I69122.D	06/24/21 20:45	n/a	(unrelated sample)
ZZZZZZ	I69123.D	06/24/21 21:09	n/a	(unrelated sample)
ZZZZZZ	I69124.D	06/24/21 21:33	n/a	(unrelated sample)
FA86397-23MS	I69127.D	06/24/21 22:44	n/a	Matrix Spike
FA86397-23MSD	I69128.D	06/24/21 23:08	n/a	Matrix Spike Duplicate
VI2221-ECC2216	I69129.D	06/24/21 23:32	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69117.d
Acq On : 24 Jun 2021 6:44 pm
Operator : LINDSAYR
Sample : FA86620-1 Inst : MSVOA16
Misc : MS49215,VI2221,,,,,
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 02:27:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

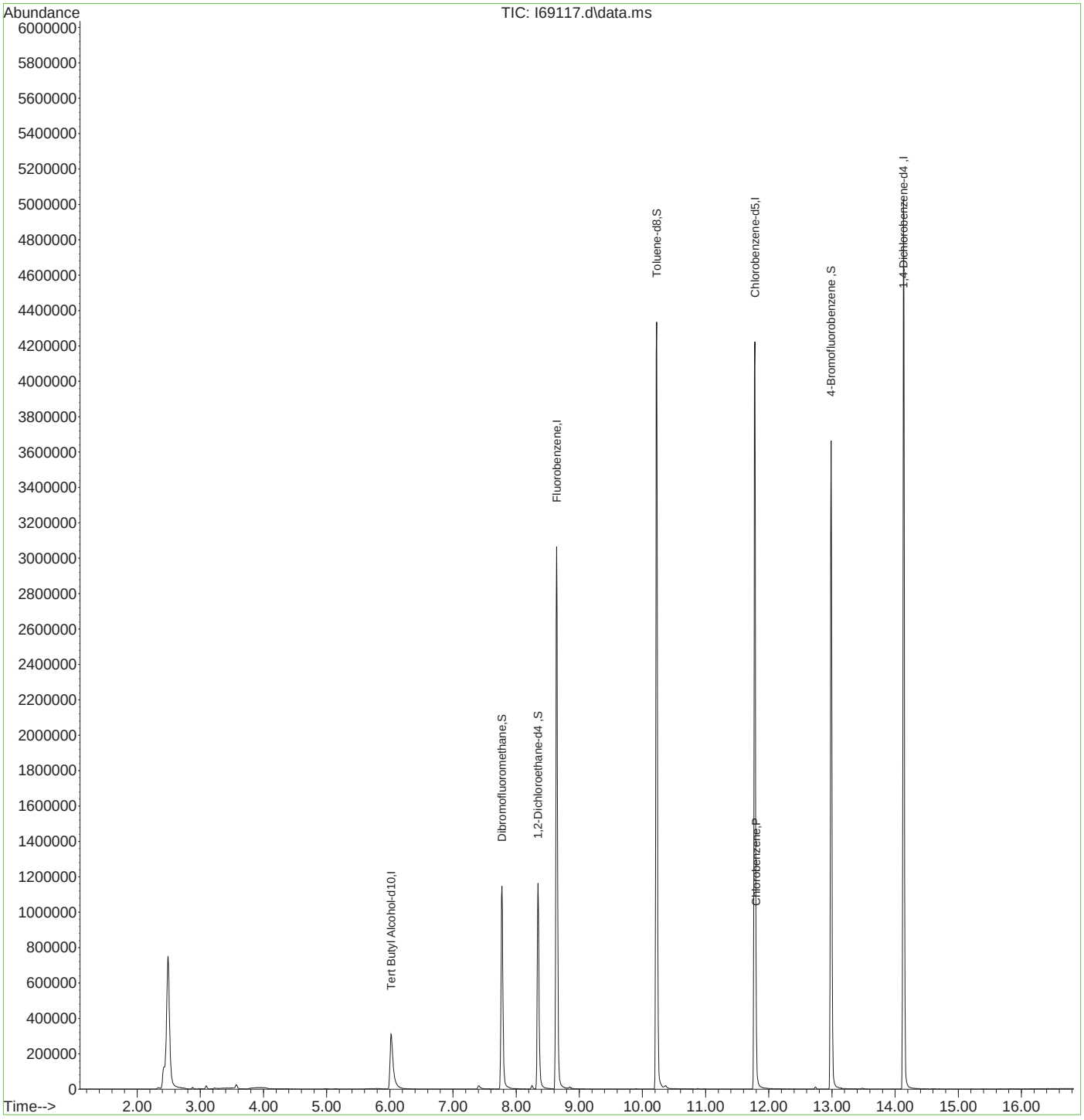
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	2700765	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2242376	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1242514	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.019	65	595086	250.00	ug/L	-0.02
System Monitoring Compounds						
36) Dibromofluoromethane	7.775	113	722032	48.94	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.88%			
46) 1,2-Dichloroethane-d4	8.348	65	863420	50.52	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 101.04%			
57) Toluene-d8	10.225	98	2805991	48.86	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.72%			
79) 4-Bromofluorobenzene	12.987	174	957240	48.91	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.82%			
Target Compounds						Qvalue
71) Chlorobenzene	11.798	112	12710	0.29	ug/L	86

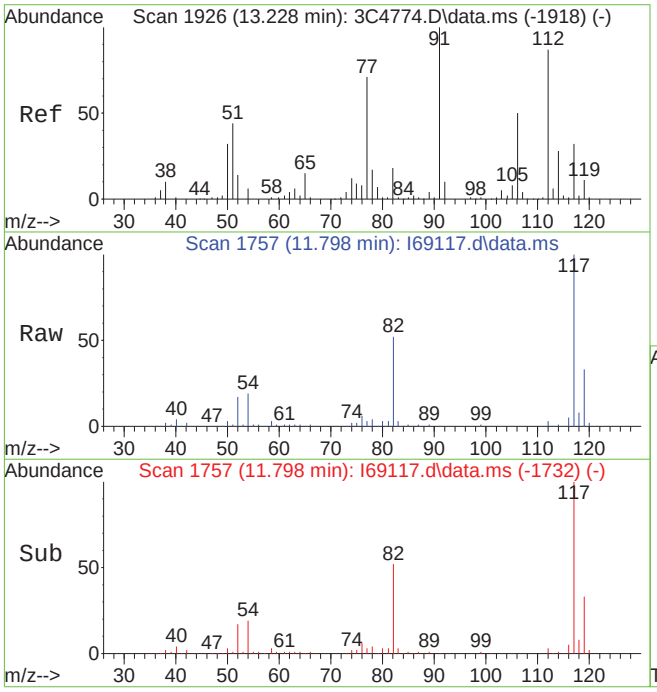
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69117.d
Acq On : 24 Jun 2021 6:44 pm
Operator : LINDSAYR
Sample : FA86620-1 Inst : MSVOA16
Misc : MS49215,VI2221,,,,,
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 02:27:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

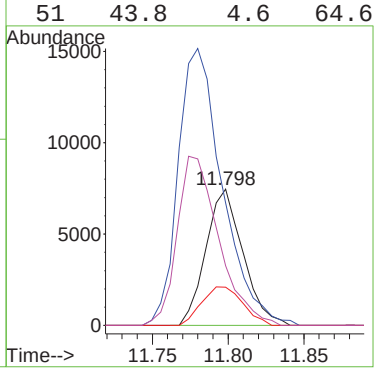




#71
Chlorobenzene
Concen: 0.29 ug/L
RT: 11.798 min Scan# 1757
Delta R.T. 0.000 min
Lab File: I69117.d
Acq: 24 Jun 2021 6:44 pm

Tgt Ion:112 Resp: 12710

Ion	Ratio	Lower	Upper
112	100		
77	89.9	45.5	105.5
114	28.0	2.1	62.1
51	43.8	4.6	64.6



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69106.d
Acq On : 24 Jun 2021 2:18 pm
Operator : LINDSAYR
Sample : MB Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 02:01:17 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3037869	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2506071	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1359932	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.019	65	672006	250.00	ug/L	-0.02
System Monitoring Compounds						
36) Dibromofluoromethane	7.775	113	805271	48.53	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.06%			
46) 1,2-Dichloroethane-d4	8.348	65	970027	50.46	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.92%			
57) Toluene-d8	10.225	98	3141395	48.94	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.88%			
79) 4-Bromofluorobenzene	12.987	174	1065981	49.76	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.52%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

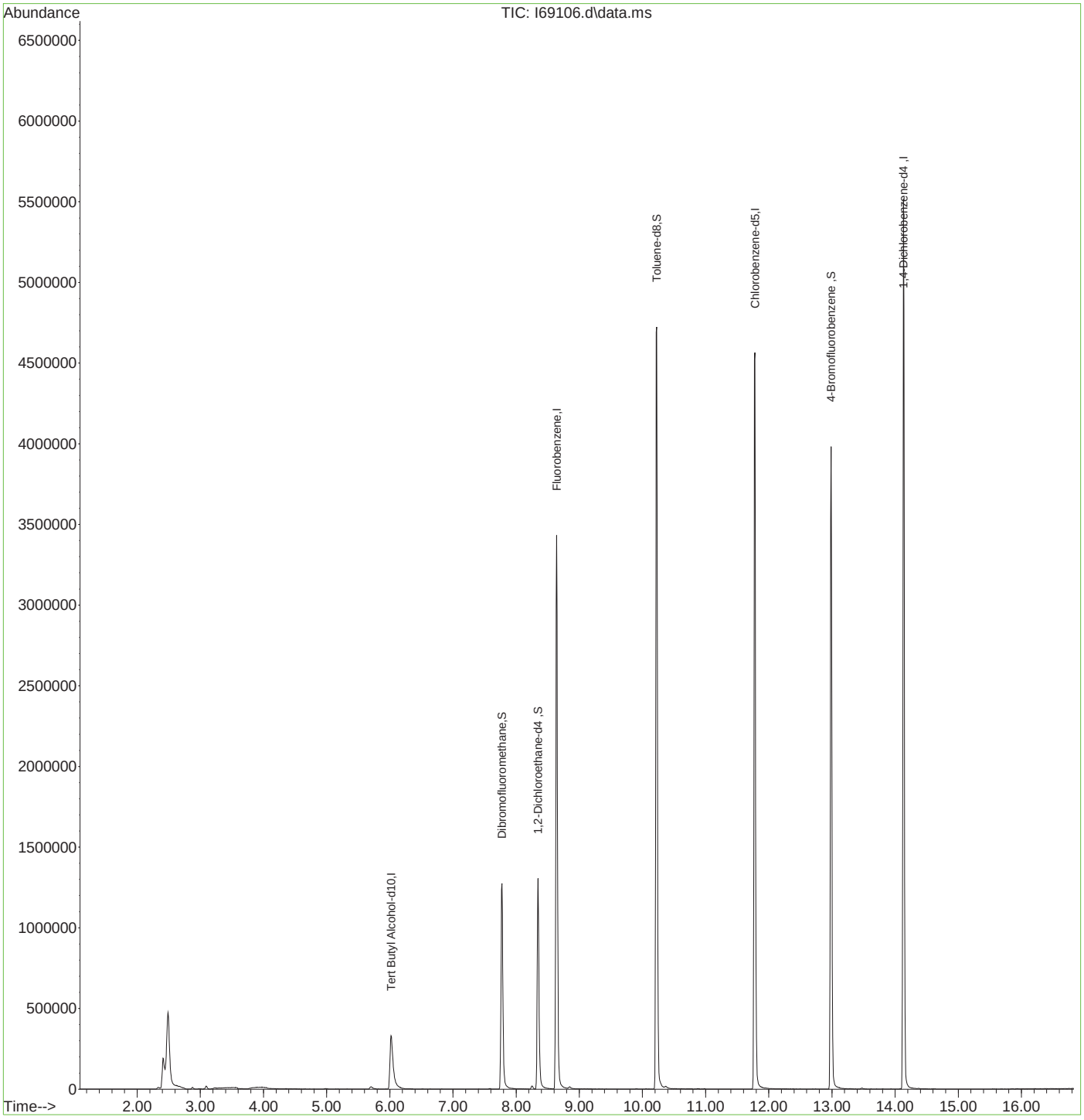
7.2.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69106.d
Acq On : 24 Jun 2021 2:18 pm
Operator : LINDSAYR
Sample : MB Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 02:01:17 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69104.d
Acq On : 24 Jun 2021 1:30 pm
Operator : LINDSAYR
Sample : BS Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3192698	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.774	117	2697581	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1484942	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.025	65	668263	250.00	ug/L	-0.01
System Monitoring Compounds						
36) Dibromofluoromethane	7.768	113	873055	50.06	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.12%			
46) 1,2-Dichloroethane-d4	8.342	65	999159	49.45	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.90%			
57) Toluene-d8	10.219	98	3336292	48.29	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.58%			
79) 4-Bromofluorobenzene	12.987	174	1167651	49.92	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	403385	19.34	ug/L	99
3) Chloromethane	3.099	50	451134	24.10	ug/L	96
4) Vinyl Chloride	3.190	62	579104	24.20	ug/L	98
5) 1,3-Butadiene	3.221	39	484864	38.59	ug/L	99
6) Bromomethane	3.739	94	161146	26.75	ug/L	99
7) Chloroethane	3.934	64	165670	30.13	ug/L	98
8) Trichlorofluoromethane	4.159	101	827331	26.66	ug/L	99
9) Ethyl Ether	4.635	59	340763	22.46	ug/L	99
10) 1,2-Dichlorotrifluoroe...	4.897	67	623247	27.70	ug/L	98
11) 1,1-Dichloroethene	4.915	61	752549	24.98	ug/L	99
12) Freon 113	4.976	101	437361	21.55	ug/L	99
13) Carbon Disulfide	4.970	76	1128571	23.67	ug/L	98
14) Iodomethane	5.117	142	340047	32.52	ug/L	97
15) Allyl chloride	5.549	41	607640	26.44	ug/L	100
16) Methylene Chloride	5.684	49	559077	21.97	ug/L	99
17) Acetone	5.732	43	689349	108.67	ug/L	99
18) Methyl acetate	5.885	43	1335144	103.64	ug/L	98
19) trans-1,2-Dichloroethene	5.903	61	665970	24.60	ug/L	99
20) Hexane	6.007	56	376391	22.89	ug/L	91
21) Methyl Tert Butyl Ether	6.019	73	1248478	22.25	ug/L	85
22) Acetonitrile	6.305	41	447076	212.34	ug/L	97
23) Di-isopropyl ether	6.476	45	1260575	22.97	ug/L	99
24) Chloroprene	6.616	53	705019	25.16	ug/L	99
25) 1,1-Dichloroethane	6.641	63	911751	25.27	ug/L	100
26) Acrylonitrile	6.677	53	795701	109.70	ug/L	99
27) ETBE	6.903	59	1320187	22.39	ug/L	98
28) Vinyl acetate	6.903	43	4309349	120.87	ug/L	99
29) cis-1,2-Dichloroethene	7.275	96	498276	24.40	ug/L	98
30) 2,2-Dichloropropane	7.397	77	814391	25.65	ug/L	100
31) Bromochloromethane	7.506	128	210741	23.34	ug/L	96
32) Cyclohexane	7.537	56	816142	24.18	ug/L	99
33) Chloroform	7.567	83	895638	23.59	ug/L	99
34) Ethyl acetate	7.665	43	1977774	113.12	ug/L	99
35) Tetrahydrofuran	7.762	42	122569	19.86	ug/L	97
37) Carbon Tetrachloride	7.756	117	695797	25.51	ug/L	98
38) 1,1,1-Trichloroethane	7.817	97	804190	24.48	ug/L	97
39) 2-Butanone	7.878	43	950685	98.64	ug/L	100
40) 1,1-Dichloropropene	7.951	75	688246	24.27	ug/L	99
41) tert-Butyl Formate	8.037	59	1761191	104.38	ug/L	97
42) Propionitrile	8.195	54	660070	206.11	ug/L	82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69104.d
Acq On : 24 Jun 2021 1:30 pm
Operator : LINDSAYR
Sample : BS Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43)	Methacrylonitrile	8.220	41	2392872	219.80	ug/L		97
44)	Benzene	8.213	78	1942428	24.78	ug/L		94
45)	TAME	8.305	73	1215217	22.44	ug/L		99
47)	1,2-Dichloroethane	8.415	62	587919	23.19	ug/L		99
48)	Trichloroethene	8.829	95	506126	24.20	ug/L		99
49)	Methylcyclohexane	8.835	83	841467	25.95	ug/L		98
50)	Dibromomethane	9.262	93	266716	22.56	ug/L		99
51)	1,2-Dichloropropane	9.347	63	467486	23.56	ug/L		99
52)	Bromodichloromethane	9.402	83	597309	24.31	ug/L		99
53)	Methyl methacrylate	9.512	41	319318	22.50	ug/L		97
54)	2-Chloroethyl vinyl ether	9.933	63	974254	81.50	ug/L		99
55)	cis-1,3-Dichloropropene	10.030	75	732290	23.67	ug/L		99
58)	Toluene	10.274	91	1943496	21.86	ug/L		99
59)	2-Nitropropane	10.475	41	516176	102.04	ug/L		99
60)	4-Methyl-2-pentanone	10.597	43	1995510	100.11	ug/L		98
61)	trans-1,3-Dichloropropene	10.664	75	658696	24.18	ug/L		98
62)	Tetrachloroethene	10.683	166	497093	23.18	ug/L		98
63)	Ethyl methacrylate	10.774	69	567253	22.29	ug/L		98
64)	1,1,2-Trichloroethane	10.829	83	343614	21.97	ug/L		98
65)	Dibromochloromethane	11.030	129	424857	22.03	ug/L		99
66)	1,3-Dichloropropane	11.109	76	680461	21.33	ug/L		99
67)	1,2-Dibromoethane	11.286	107	410304	21.65	ug/L		98
68)	2-hexanone	11.420	43	1474548	98.36	ug/L		100
69)	1-Chlorohexane	11.731	91	706010	24.04	ug/L		99
70)	Ethylbenzene	11.792	91	2295630	23.34	ug/L		98
71)	Chlorobenzene	11.792	112	1234976	23.63	ug/L		97
72)	1,1,1,2-Tetrachloroethane	11.841	131	427555	23.25	ug/L		99
73)	m,p-Xylene	11.932	91	3471572	48.54	ug/L		99
74)	o-Xylene	12.371	91	1741455	23.64	ug/L		99
75)	Styrene	12.420	104	1270123	23.59	ug/L		99
76)	Bromoform	12.481	173	281427	22.20	ug/L		98
77)	Isopropylbenzene	12.676	105	2219109	24.42	ug/L		99
80)	cis-1,4-Dichloro-2-butene	13.017	53	157190	20.60	ug/L		98
81)	n-Propylbenzene	13.091	91	2556750	24.03	ug/L		98
82)	Bromobenzene	13.115	156	481847	22.45	ug/L		100
83)	1,1,2,2-Tetrachloroethane	13.152	83	572565	20.95	ug/L		99
84)	1,3,5-Trimethylbenzene	13.274	105	1650777	23.02	ug/L		100
85)	2-Chlorotoluene	13.280	91	1673714	23.44	ug/L		97
86)	trans-1,4-Dichloro-2-B...	13.328	53	148325	20.71	ug/L		88
87)	1,2,3-Trichloropropane	13.310	110	173242	20.63	ug/L		95
88)	Cyclohexanone	13.371	55	84231	87.40	ug/L		96
89)	4-Chlorotoluene	13.444	91	1465540	23.40	ug/L		97
90)	tert-Butylbenzene	13.615	91	984055	23.28	ug/L		98
91)	1,2,4-Trimethylbenzene	13.682	105	1467040	22.08	ug/L		98
92)	Pentachloroethane	13.664	167	293463	25.10	ug/L		94
93)	sec-Butylbenzene	13.798	105	2156562	24.46	ug/L		100
94)	4-Isopropyltoluene	13.926	119	1630709	23.27	ug/L		99
95)	1,3-Dichlorobenzene	14.066	146	835776	22.99	ug/L		99
96)	1,2,3-Trimethylbenzene	14.145	105	1505853	25.58	ug/L		98
97)	1,4-Dichlorobenzene	14.151	146	838908	22.46	ug/L		99
98)	n-Butylbenzene	14.365	92	818427	21.76	ug/L		96
99)	Benzyl Chloride	14.377	126	199456	21.40	ug/L	#	88
100)	1,2-Dichlorobenzene	14.578	146	778587	22.53	ug/L		99
101)	1,2-Dibromo-3-Chloropr...	15.316	75	99770	19.09	ug/L		99
102)	Hexachlorobutadiene	15.871	225	213384	20.96	ug/L		99
103)	1,2,4-Trichlorobenzene	15.913	180	366178	20.76	ug/L		99
104)	Naphthalene	16.194	128	949905	19.55	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69104.d
Acq On : 24 Jun 2021 1:30 pm
Operator : LINDSAYR
Sample : BS Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

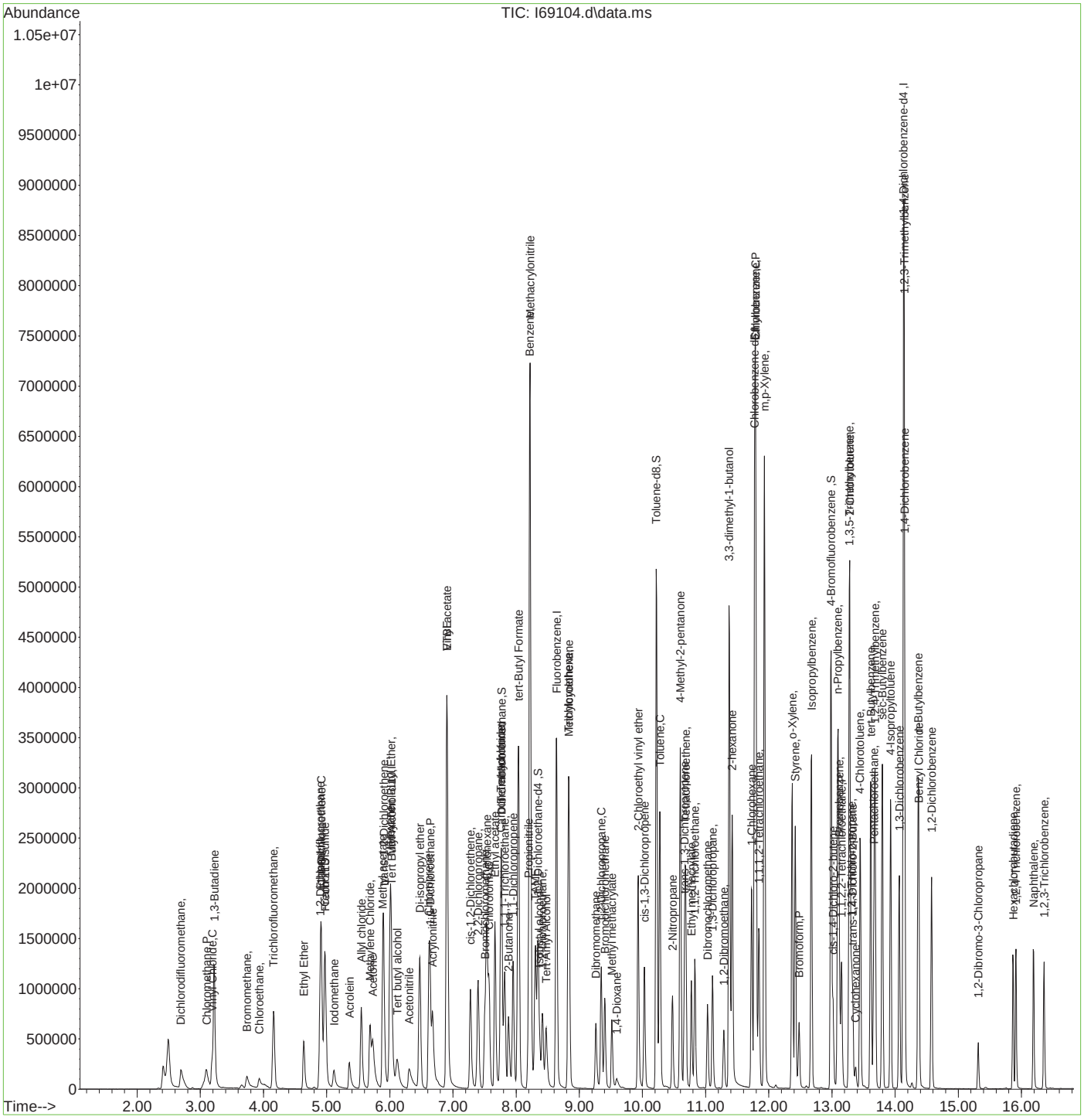
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,2,3-Trichlorobenzene	16.358	180	337201	20.28	ug/L	98
107) Ethanol	4.903	45	83478	466.94	ug/L	89
108) Acrolein	5.360	56	348133	115.14	ug/L	97
109) Tert butyl alcohol	6.116	59	542932	196.07	ug/L	94
110) Isobutyl alcohol	8.366	42	179123	456.97	ug/L	93
111) Tert Amyl Alcohol	8.476	59	422535	214.21	ug/L	98
112) 1,4-Dioxane	9.591	88	98678	474.63	ug/L	98
113) 3,3-dimethyl-1-butanol	11.371	57	2264784	1113.54	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69104.d
Acq On : 24 Jun 2021 1:30 pm
Operator : LINDSAYR
Sample : BS Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69127.d
Acq On : 24 Jun 2021 10:44 pm
Operator : LINDSAYR
Sample : FA86397-23MS,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:24 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	2712566	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2307902	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1290441	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.025	65	581859	250.00	ug/L	-0.01
System Monitoring Compounds						
36) Dibromofluoromethane	7.769	113	736209	49.69	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.38%			
46) 1,2-Dichloroethane-d4	8.348	65	852567	49.67	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.34%			
57) Toluene-d8	10.225	98	2840532	48.06	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.12%			
79) 4-Bromofluorobenzene	12.987	174	994074	48.90	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	313501	17.74	ug/L	100
3) Chloromethane	3.093	50	379960	23.89	ug/L	97
4) Vinyl Chloride	3.184	62	501438	24.66	ug/L	99
5) 1,3-Butadiene	3.215	39	413308	38.72	ug/L	100
6) Bromomethane	3.733	94	54163	11.44	ug/L	91
7) Chloroethane	3.928	64	176569	37.80	ug/L	98
8) Trichlorofluoromethane	4.160	101	642389	24.36	ug/L	100
9) Ethyl Ether	4.635	59	314543	24.40	ug/L	99
10) 1,2-Dichlorotrifluoroe...	4.897	67	516291	27.01	ug/L	98
11) 1,1-Dichloroethene	4.915	61	608354	23.77	ug/L	99
12) Freon 113	4.976	101	327775	19.01	ug/L	98
13) Carbon Disulfide	4.970	76	945118	23.33	ug/L	98
14) Iodomethane	5.117	142	242339	27.78	ug/L	96
15) Allyl chloride	5.549	41	517148	26.48	ug/L	98
16) Methylene Chloride	5.684	49	515392	23.84	ug/L	98
17) Acetone	5.732	43	547036	101.50	ug/L	99
18) Methyl acetate	5.885	43	1269875	115.74	ug/L	99
19) trans-1,2-Dichloroethene	5.903	61	557098	24.22	ug/L	99
20) Hexane	6.007	56	287125	20.55	ug/L	87
21) Methyl Tert Butyl Ether	6.019	73	1135529	23.82	ug/L	89
22) Acetonitrile	6.305	41	425665	236.92	ug/L	98
23) Di-isopropyl ether	6.476	45	1152627	24.73	ug/L	99
24) Chloroprene	6.622	53	563640	23.67	ug/L	99
25) 1,1-Dichloroethane	6.641	63	783109	25.55	ug/L	98
26) Acrylonitrile	6.677	53	748998	121.30	ug/L	99
27) ETBE	6.903	59	1204345	24.04	ug/L	98
28) Vinyl acetate	6.903	43	4077426	135.40	ug/L	99
29) cis-1,2-Dichloroethene	7.275	96	426694	24.60	ug/L	97
30) 2,2-Dichloropropane	7.397	77	593282	21.99	ug/L	100
31) Bromochloromethane	7.506	128	184428	24.04	ug/L	98
32) Cyclohexane	7.537	56	623965	21.75	ug/L	99
33) Chloroform	7.573	83	767367	23.79	ug/L	99
34) Ethyl acetate	7.665	43	1915711	128.97	ug/L	100
35) Tetrahydrofuran	7.756	42	118668	22.63	ug/L	97
37) Carbon Tetrachloride	7.756	117	538301	23.23	ug/L	99
38) 1,1,1-Trichloroethane	7.817	97	642553	23.02	ug/L	99
39) 2-Butanone	7.878	43	884300	107.75	ug/L	98
40) 1,1-Dichloropropene	7.951	75	537605	22.32	ug/L	99
41) tert-Butyl Formate	8.037	59	1261587	88.01	ug/L	94
42) Propionitrile	8.195	54	635919	233.71	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69127.d
Acq On : 24 Jun 2021 10:44 pm
Operator : LINDSAYR
Sample : FA86397-23MS,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:24 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	Methacrylonitrile	8.220	41	2357816	254.92	ug/L	99
44)	Benzene	8.214	78	1652059	24.81	ug/L	98
45)	TAME	8.305	73	1111150	24.15	ug/L	99
47)	1,2-Dichloroethane	8.415	62	531530	24.67	ug/L	99
48)	Trichloroethene	8.829	95	399232	22.47	ug/L	99
49)	Methylcyclohexane	8.835	83	628985	22.84	ug/L	99
50)	Dibromomethane	9.262	93	234657	23.37	ug/L	99
51)	1,2-Dichloropropane	9.348	63	412692	24.48	ug/L	99
52)	Bromodichloromethane	9.408	83	514447	24.65	ug/L	100
53)	Methyl methacrylate	9.518	41	304258	25.24	ug/L	97
54)	2-Chloroethyl vinyl ether	9.945	63	12932	1.27	ug/L	92
55)	cis-1,3-Dichloropropene	10.030	75	602115	22.91	ug/L	99
58)	Toluene	10.274	91	1568830	20.63	ug/L	99
59)	2-Nitropropane	10.475	41	493595	113.63	ug/L	97
60)	4-Methyl-2-pentanone	10.597	43	1991124	116.76	ug/L	98
61)	trans-1,3-Dichloropropene	10.664	75	558545	23.97	ug/L	98
62)	Tetrachloroethene	10.683	166	378262	20.62	ug/L	97
63)	Ethyl methacrylate	10.774	69	525240	24.13	ug/L	99
64)	1,1,2-Trichloroethane	10.829	83	303815	22.71	ug/L	97
65)	Dibromochloromethane	11.030	129	368987	22.35	ug/L	99
66)	1,3-Dichloropropane	11.109	76	606051	22.21	ug/L	99
67)	1,2-Dibromoethane	11.286	107	364768	22.50	ug/L	100
68)	2-hexanone	11.420	43	1455782	113.51	ug/L	99
69)	1-Chlorohexane	11.731	91	537332	21.38	ug/L	99
70)	Ethylbenzene	11.792	91	1809931	21.51	ug/L	98
71)	Chlorobenzene	11.798	112	1003140	22.44	ug/L	99
72)	1,1,1,2-Tetrachloroethane	11.847	131	355772	22.61	ug/L	99
73)	m,p-Xylene	11.932	91	2733000	44.66	ug/L	100
74)	o-Xylene	12.371	91	1390346	22.06	ug/L	99
75)	Styrene	12.420	104	1019587	22.13	ug/L	99
76)	Bromoform	12.481	173	242559	22.36	ug/L	99
77)	Isopropylbenzene	12.676	105	1728406	22.23	ug/L	99
80)	cis-1,4-Dichloro-2-butene	13.018	53	131742	19.87	ug/L	96
81)	n-Propylbenzene	13.091	91	1990859	21.53	ug/L	98
82)	Bromobenzene	13.115	156	392677	21.06	ug/L	99
83)	1,1,2,2-Tetrachloroethane	13.152	83	516005	21.72	ug/L	100
84)	1,3,5-Trimethylbenzene	13.274	105	1307552	20.98	ug/L	99
85)	2-Chlorotoluene	13.280	91	1318627	21.25	ug/L	97
86)	trans-1,4-Dichloro-2-B...	13.328	53	124156	19.97	ug/L	97
87)	1,2,3-Trichloropropane	13.310	110	158998	21.79	ug/L	98
88)	Cyclohexanone	13.377	55	77797	92.89	ug/L	97
89)	4-Chlorotoluene	13.450	91	1152911	21.18	ug/L	99
90)	tert-Butylbenzene	13.615	91	773714	21.06	ug/L	98
91)	1,2,4-Trimethylbenzene	13.682	105	1184118	20.51	ug/L	98
92)	Pentachloroethane	13.670	167	243840	24.00	ug/L	99
93)	sec-Butylbenzene	13.798	105	1681391	21.95	ug/L	100
94)	4-Isopropyltoluene	13.926	119	1281356	21.04	ug/L	99
95)	1,3-Dichlorobenzene	14.066	146	665578	21.07	ug/L	100
96)	1,2,3-Trimethylbenzene	14.145	105	1235160	24.15	ug/L	100
97)	1,4-Dichlorobenzene	14.151	146	676296	20.84	ug/L	98
98)	n-Butylbenzene	14.365	92	638544	19.54	ug/L	100
99)	Benzyl Chloride	14.377	126	139260	17.37	ug/L	97
100)	1,2-Dichlorobenzene	14.578	146	625886	20.84	ug/L	99
101)	1,2-Dibromo-3-Chloropr...	15.316	75	93722	20.54	ug/L	98
102)	Hexachlorobutadiene	15.865	225	164596	18.61	ug/L	95
103)	1,2,4-Trichlorobenzene	15.913	180	293953	19.18	ug/L	98
104)	Naphthalene	16.188	128	836319	19.80	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69127.d
Acq On : 24 Jun 2021 10:44 pm
Operator : LINDSAYR
Sample : FA86397-23MS,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:24 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

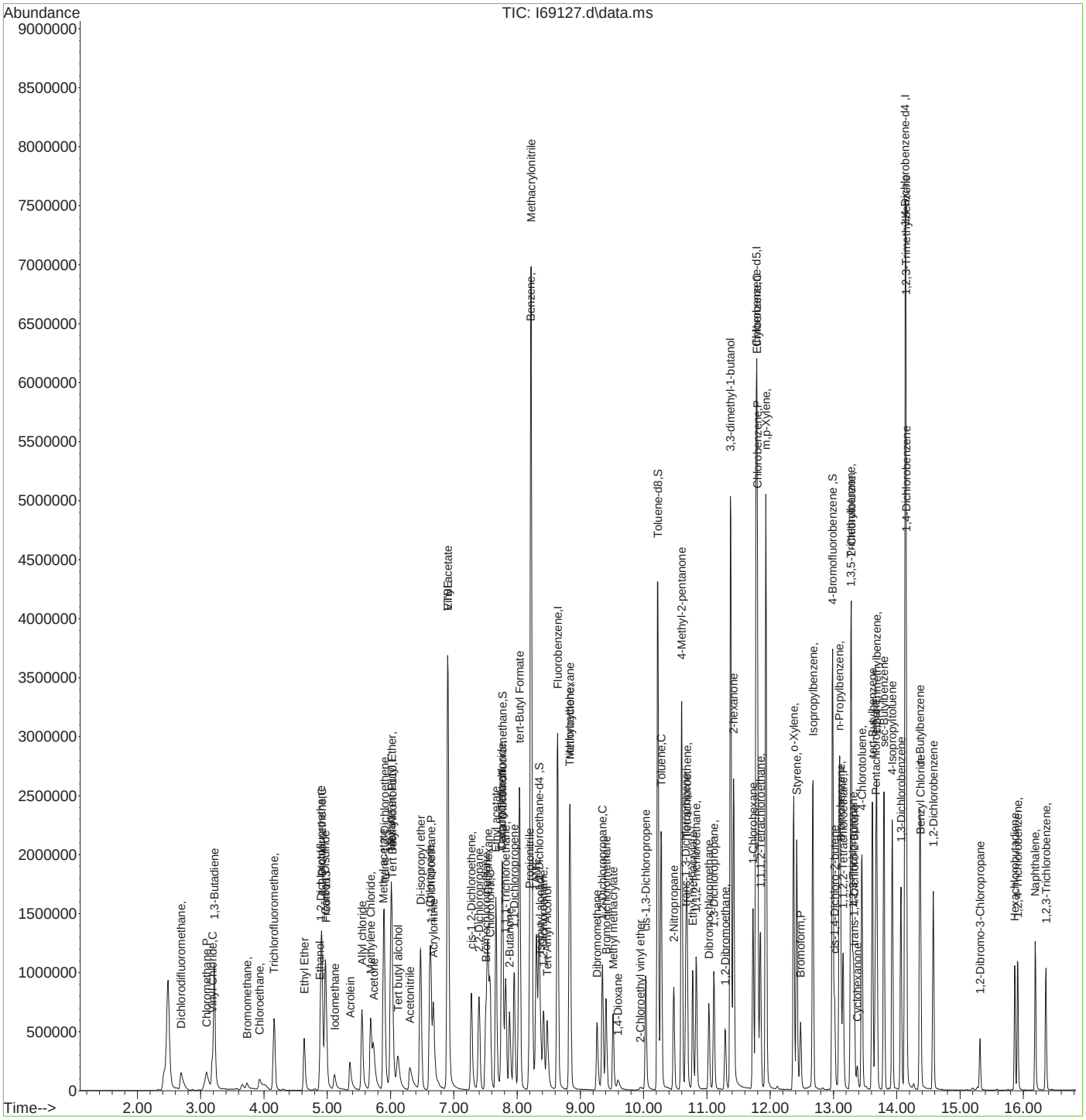
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,2,3-Trichlorobenzene	16.358	180	275361	19.06	ug/L	98
107) Ethanol	4.885	45	68687	441.26	ug/L	88
108) Acrolein	5.360	56	316428	120.19	ug/L	97
109) Tert butyl alcohol	6.116	59	528735	219.30	ug/L	94
110) Isobutyl alcohol	8.366	42	189416	554.99	ug/L	99
111) Tert Amyl Alcohol	8.476	59	408386	237.78	ug/L	96
112) 1,4-Dioxane	9.591	88	82766	457.21	ug/L	97
113) 3,3-dimethyl-1-butanol	11.371	57	2370779	1346.99	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69127.d
Acq On : 24 Jun 2021 10:44 pm
Operator : LINDSAYR
Sample : FA86397-23MS,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:24 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69128.d
Acq On : 24 Jun 2021 11:08 pm
Operator : LINDSAYR
Sample : FA86397-23MSD,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:29 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	2992401	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2525864	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1405759	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.031	65	651124	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.769	113	816033	49.92	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.84%			
46) 1,2-Dichloroethane-d4	8.348	65	934224	49.33	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.66%			
57) Toluene-d8	10.225	98	3127657	48.35	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.70%			
79) 4-Bromofluorobenzene	12.987	174	1083024	48.91	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.82%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	305861	15.74	ug/L	98
3) Chloromethane	3.105	50	368414	21.00	ug/L	97
4) Vinyl Chloride	3.184	62	479765	21.39	ug/L	98
5) 1,3-Butadiene	3.215	39	390766	32.95	ug/L	97
6) Bromomethane	3.733	94	67365	12.81	ug/L	99
7) Chloroethane	3.934	64	141304	27.42	ug/L	97
8) Trichlorofluoromethane	4.159	101	627681	21.58	ug/L	99
9) Ethyl Ether	4.641	59	324512	22.82	ug/L	97
10) 1,2-Dichlorotrifluoroe...	4.897	67	506407	24.02	ug/L	99
11) 1,1-Dichloroethene	4.915	61	595268	21.09	ug/L	98
12) Freon 113	4.976	101	329503	17.32	ug/L	99
13) Carbon Disulfide	4.970	76	867258	19.40	ug/L	99
14) Iodomethane	5.117	142	227102	23.95	ug/L	99
15) Allyl chloride	5.549	41	507123	23.54	ug/L	100
16) Methylene Chloride	5.690	49	517173	21.69	ug/L	98
17) Acetone	5.732	43	563144	94.72	ug/L	97
18) Methyl acetate	5.885	43	1280572	106.01	ug/L	98
19) trans-1,2-Dichloroethene	5.903	61	541477	21.34	ug/L	98
20) Hexane	6.007	56	282740	18.34	ug/L	87
21) Methyl Tert Butyl Ether	6.019	73	1177610	22.39	ug/L	90
22) Acetonitrile	6.311	41	444849	224.92	ug/L	99
23) Di-isopropyl ether	6.476	45	1159134	22.54	ug/L	100
24) Chloroprene	6.622	53	548263	20.87	ug/L	99
25) 1,1-Dichloroethane	6.641	63	775196	22.92	ug/L	100
26) Acrylonitrile	6.677	53	766276	112.66	ug/L	97
27) ETBE	6.903	59	1234282	22.34	ug/L	98
28) Vinyl acetate	6.903	43	4146664	124.26	ug/L	99
29) cis-1,2-Dichloroethene	7.275	96	426425	22.28	ug/L	96
30) 2,2-Dichloropropane	7.403	77	580969	19.52	ug/L	99
31) Bromochloromethane	7.506	128	190860	22.55	ug/L	95
32) Cyclohexane	7.537	56	612900	19.37	ug/L	99
33) Chloroform	7.573	83	766607	21.55	ug/L	99
34) Ethyl acetate	7.665	43	1941997	118.51	ug/L	100
35) Tetrahydrofuran	7.756	42	120993	20.92	ug/L	99
37) Carbon Tetrachloride	7.756	117	523512	20.47	ug/L	98
38) 1,1,1-Trichloroethane	7.817	97	636204	20.66	ug/L	98
39) 2-Butanone	7.878	43	898985	99.50	ug/L	98
40) 1,1-Dichloropropene	7.951	75	521624	19.63	ug/L	99
41) tert-Butyl Formate	8.037	59	1277454	80.78	ug/L	94
42) Propionitrile	8.195	54	655254	218.30	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69128.d
Acq On : 24 Jun 2021 11:08 pm
Operator : LINDSAYR
Sample : FA86397-23MSD,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:29 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methacrylonitrile	8.220	41	2374624	232.73	ug/L	99
44) Benzene	8.214	78	1639853	22.32	ug/L	97
45) TAME	8.305	73	1144996	22.55	ug/L	100
47) 1,2-Dichloroethane	8.421	62	542083	22.81	ug/L	100
48) Trichloroethene	8.829	95	392802	20.04	ug/L	100
49) Methylcyclohexane	8.835	83	616763	20.30	ug/L	100
50) Dibromomethane	9.262	93	242415	21.88	ug/L	96
51) 1,2-Dichloropropane	9.347	63	414109	22.27	ug/L	99
52) Bromodichloromethane	9.402	83	517739	22.49	ug/L	99
53) Methyl methacrylate	9.518	41	307938	23.15	ug/L	97
54) 2-Chloroethyl vinyl ether	9.945	63	9049	0.81	ug/L	93
55) cis-1,3-Dichloropropene	10.030	75	604844	20.86	ug/L	100
58) Toluene	10.274	91	1550626	18.63	ug/L	100
59) 2-Nitropropane	10.475	41	494652	104.36	ug/L	100
60) 4-Methyl-2-pentanone	10.597	43	1977026	105.92	ug/L	98
61) trans-1,3-Dichloropropene	10.664	75	568097	22.27	ug/L	96
62) Tetrachloroethene	10.683	166	372285	18.54	ug/L	97
63) Ethyl methacrylate	10.774	69	532572	22.35	ug/L	98
64) 1,1,2-Trichloroethane	10.829	83	308801	21.09	ug/L	98
65) Dibromochloromethane	11.030	129	370063	20.56	ug/L	99
66) 1,3-Dichloropropane	11.109	76	618860	20.72	ug/L	99
67) 1,2-Dibromoethane	11.292	107	369124	20.80	ug/L	100
68) 2-hexanone	11.420	43	1436105	102.31	ug/L	98
69) 1-Chlorohexane	11.731	91	523975	19.05	ug/L	100
70) Ethylbenzene	11.792	91	1778230	19.31	ug/L	97
71) Chlorobenzene	11.798	112	994605	20.33	ug/L	100
72) 1,1,1,2-Tetrachloroethane	11.847	131	359085	20.85	ug/L	99
73) m,p-Xylene	11.932	91	2687044	40.12	ug/L	99
74) o-Xylene	12.371	91	1375096	19.93	ug/L	99
75) Styrene	12.420	104	1010560	20.04	ug/L	99
76) Bromoform	12.481	173	243782	20.64	ug/L	99
77) Isopropylbenzene	12.676	105	1699292	19.97	ug/L	99
80) cis-1,4-Dichloro-2-butene	13.018	53	135155	18.71	ug/L	97
81) n-Propylbenzene	13.091	91	1950883	19.37	ug/L	98
82) Bromobenzene	13.115	156	393824	19.38	ug/L	99
83) 1,1,2,2-Tetrachloroethane	13.152	83	526942	20.36	ug/L	100
84) 1,3,5-Trimethylbenzene	13.274	105	1286205	18.94	ug/L	100
85) 2-Chlorotoluene	13.280	91	1309993	19.38	ug/L	98
86) trans-1,4-Dichloro-2-B...	13.328	53	126775	18.76	ug/L	96
87) 1,2,3-Trichloropropane	13.310	110	156400	19.67	ug/L	99
88) Cyclohexanone	13.377	55	80406	88.13	ug/L	98
89) 4-Chlorotoluene	13.450	91	1127850	19.02	ug/L	100
90) tert-Butylbenzene	13.615	91	757880	18.94	ug/L	98
91) 1,2,4-Trimethylbenzene	13.682	105	1156148	18.38	ug/L	99
92) Pentachloroethane	13.670	167	245574	22.19	ug/L	96
93) sec-Butylbenzene	13.798	105	1657817	19.87	ug/L	99
94) 4-Isopropyltoluene	13.932	119	1253731	18.89	ug/L	100
95) 1,3-Dichlorobenzene	14.066	146	660015	19.18	ug/L	99
96) 1,2,3-Trimethylbenzene	14.145	105	1210998	21.73	ug/L	98
97) 1,4-Dichlorobenzene	14.151	146	667414	18.88	ug/L	99
98) n-Butylbenzene	14.365	92	619220	17.39	ug/L	99
99) Benzyl Chloride	14.377	126	138035	15.87	ug/L	96
100) 1,2-Dichlorobenzene	14.578	146	628844	19.22	ug/L	99
101) 1,2-Dibromo-3-Chloropr...	15.316	75	92720	18.76	ug/L	93
102) Hexachlorobutadiene	15.865	225	158722	16.47	ug/L	93
103) 1,2,4-Trichlorobenzene	15.913	180	289783	17.35	ug/L	99
104) Naphthalene	16.188	128	812448	17.66	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69128.d
Acq On : 24 Jun 2021 11:08 pm
Operator : LINDSAYR
Sample : FA86397-23MSD,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:29 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

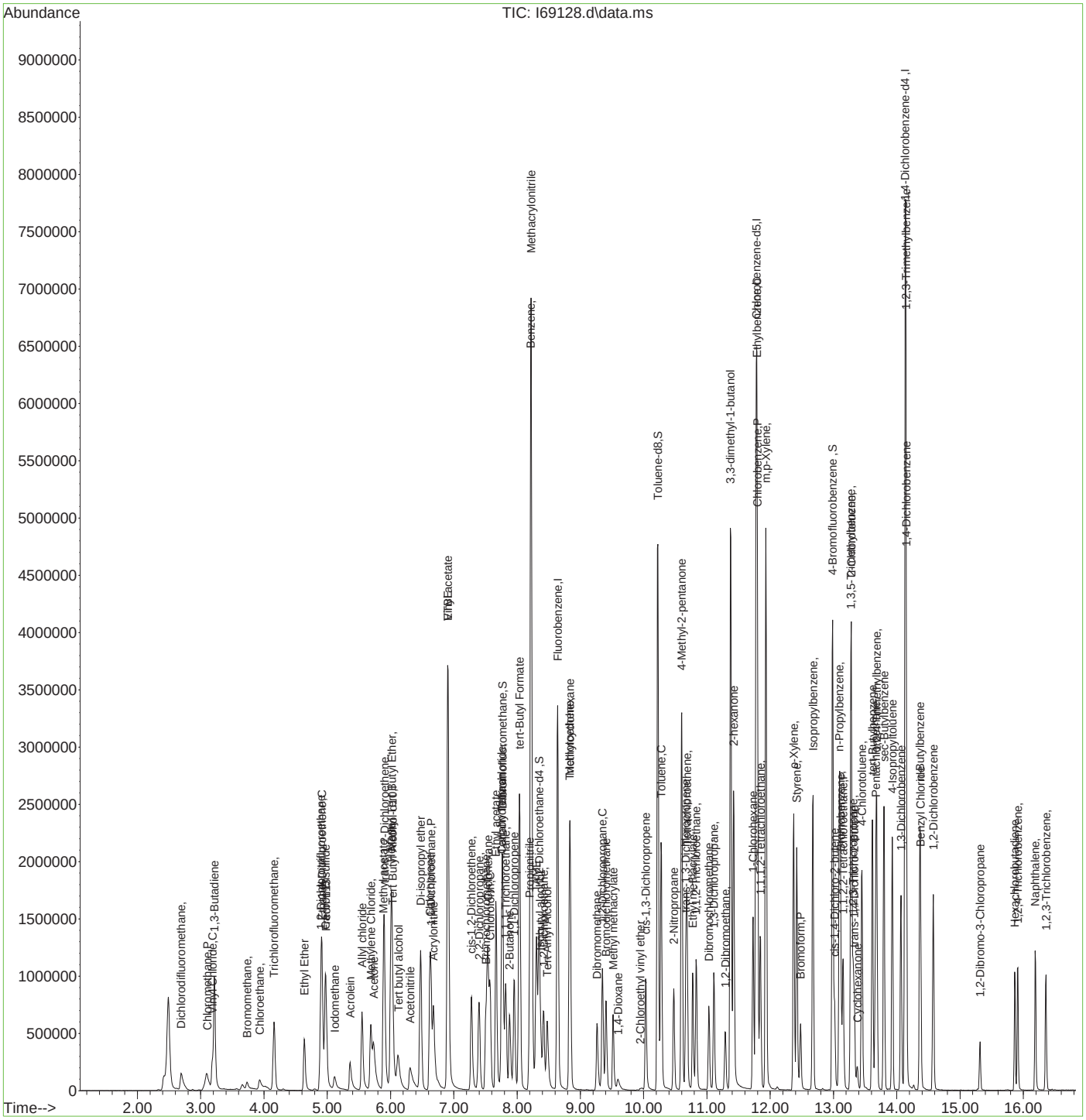
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,2,3-Trichlorobenzene	16.358	180	270776	17.21	ug/L	98
107) Ethanol	4.922	45	85019	488.08	ug/L	93
108) Acrolein	5.360	56	328961	111.66	ug/L	100
109) Tert butyl alcohol	6.122	59	564659	209.29	ug/L	86
110) Isobutyl alcohol	8.366	42	193204	505.87	ug/L	97
111) Tert Amyl Alcohol	8.476	59	424899	221.08	ug/L	97
112) 1,4-Dioxane	9.597	88	97380	480.72	ug/L	99
113) 3,3-dimethyl-1-butanol	11.371	57	2307788	1166.16	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69128.d
Acq On : 24 Jun 2021 11:08 pm
Operator : LINDSAYR
Sample : FA86397-23MSD,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 27 Sample Multiplier: 1

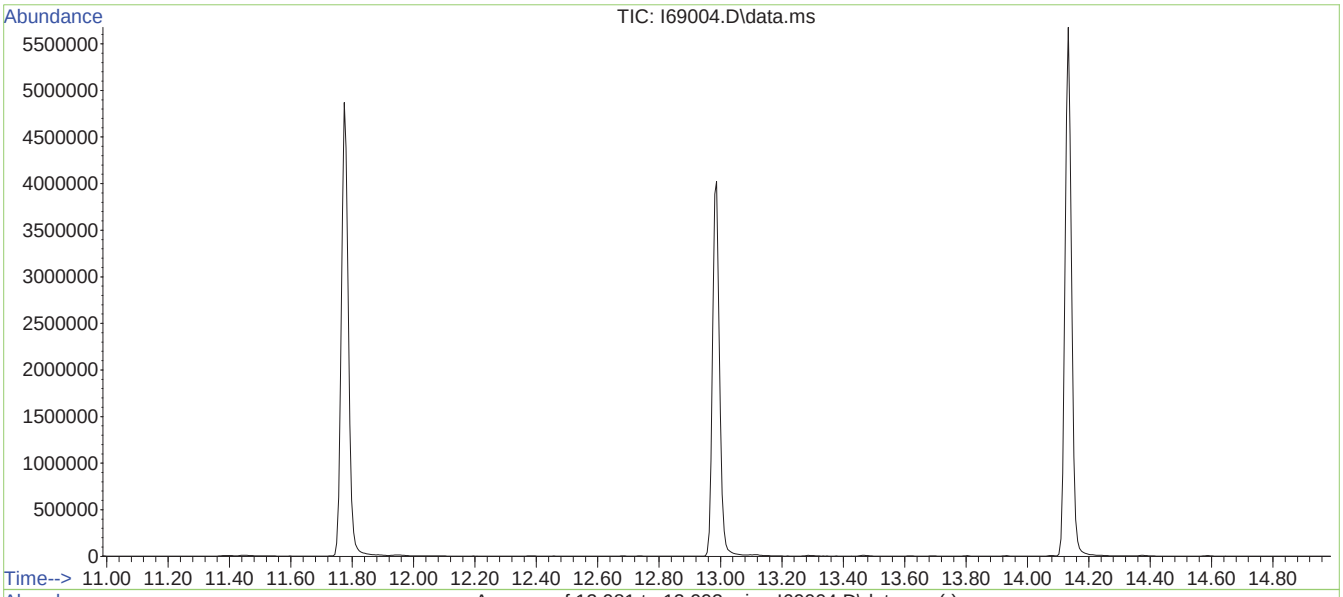
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:29 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

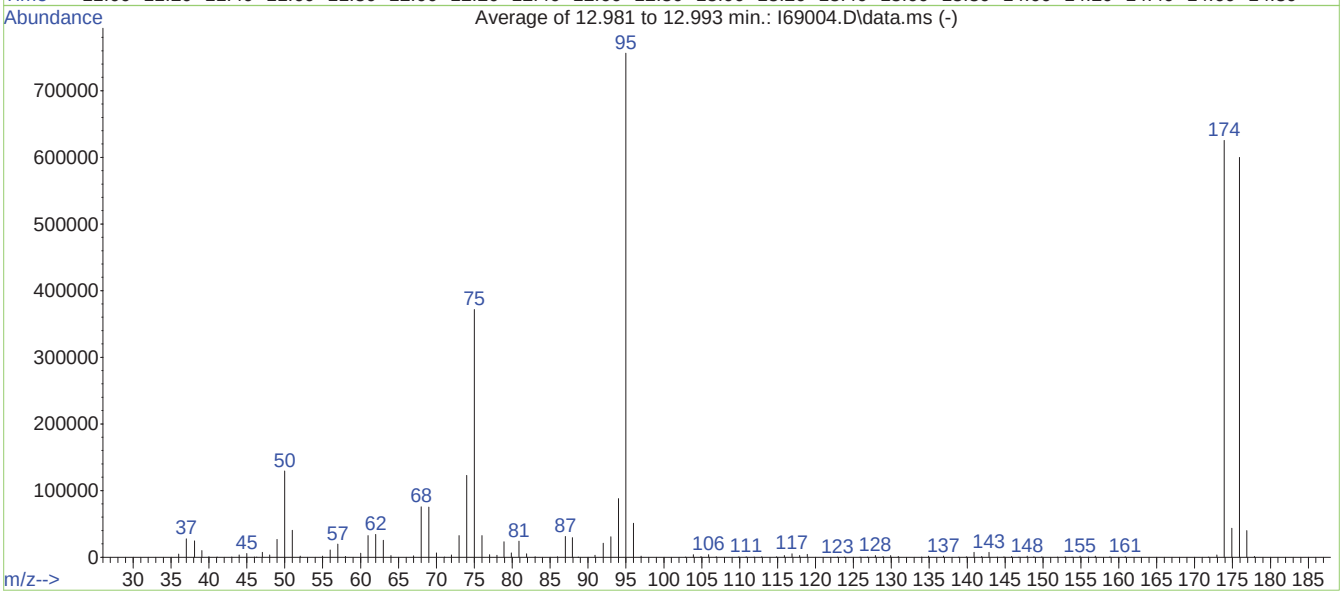


Methods: SW-846 8260B

Data File : C:\msdchem\1\data\2021-06-21\I69004.D Vial: 1
Acq On : 21 Jun 2021 11:59 am Operator: LINDSAYR
Sample : BFB Inst : MSVOA16
Misc : MS49159,VI2216,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B





AutoFind: Scans 1951, 1952, 1953; Background Corrected with Scan 1943

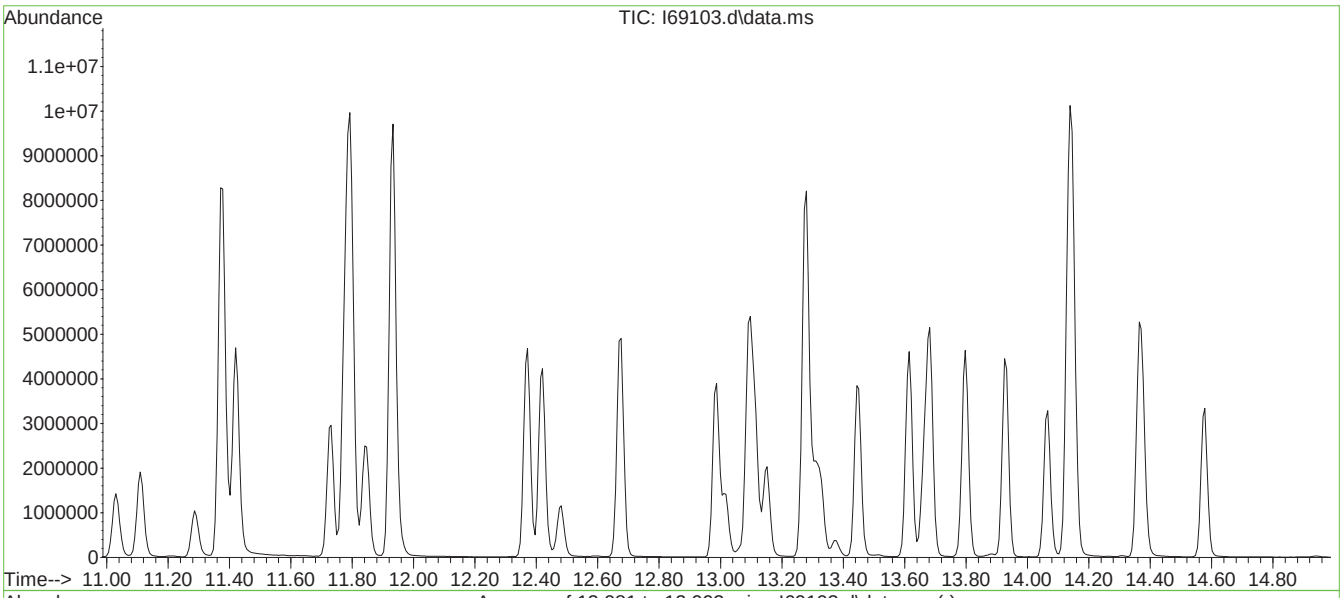
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.1	129403	PASS
75	95	30	60	49.1	371648	PASS
95	95	100	100	100.0	756181	PASS
96	95	5	9	6.8	51080	PASS
173	174	0.00	2	0.5	3331	PASS
174	95	50	100	82.7	625600	PASS
175	174	5	9	6.9	43461	PASS
176	174	95	101	95.9	600107	PASS
177	176	5	9	6.7	39931	PASS

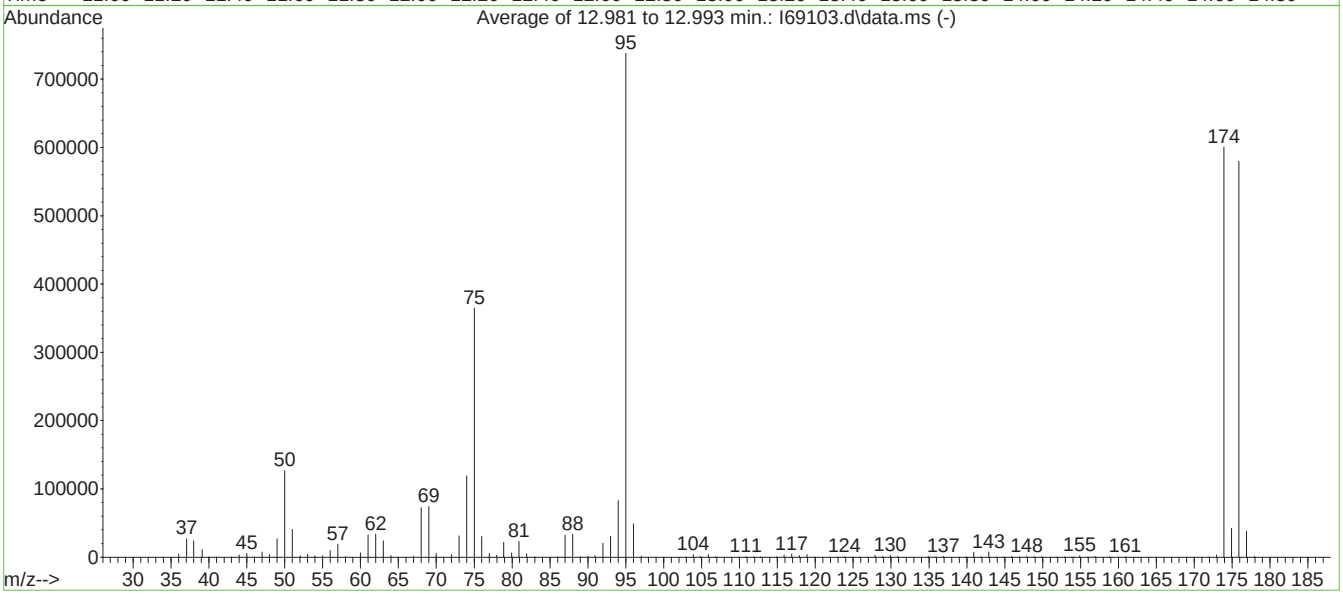
I69004.D 2021-06-21APP9-I.m Tue Jun 22 08:08:32 2021

Methods: SW-846 8260B

Data File : C:\msdchem\1\data\Je...-2021\VI2221\I69103.d Vial: 2
Acq On : 24 Jun 2021 12:56 pm Operator: LINDSAYR
Sample : BFB Inst : MSVOA16
Misc : MS49159,VI2221,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B





AutoFind: Scans 1951, 1952, 1953; Background Corrected with Scan 1943

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.1	126453	PASS
75	95	30	60	49.4	364608	PASS
95	95	100	100	100.0	737877	PASS
96	95	5	9	6.6	48864	PASS
173	174	0.00	2	0.5	3142	PASS
174	95	50	100	81.4	600491	PASS
175	174	5	9	7.1	42349	PASS
176	174	95	101	96.6	579883	PASS
177	176	5	9	6.6	38299	PASS

I69103.d 2021-06-21APP9-I.m Fri Jun 25 01:16:58 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Chelsea VanDenBurg
06/23/21 08:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:26:27 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3039144	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2435534	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1301349	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.019	65	689232	250.00	ug/L	-0.02
System Monitoring Compounds						
36) Dibromofluoromethane	7.774	113	824100	50.15	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery =	100.30%		
46) 1,2-Dichloroethane-d4	8.347	65	987771	49.86	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery =	99.72%		
57) Toluene-d8	10.225	98	3086284	46.29	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery =	92.58%		
79) 4-Bromofluorobenzene	12.987	174	1020110	47.72	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery =	95.44%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.702	85	18114	0.97	ug/L	91
3) Chloromethane	3.098	50	18698	0.86	ug/L	96
4) Vinyl Chloride	3.190	62	21785	1.11	ug/L	96
5) 1,3-Butadiene	3.220	39	17751	1.56	ug/L	96
6) Bromomethane	3.732	94	4174	0.34	ug/L	83
7) Chloroethane	3.934	64	13459	2.79	ug/L	93
8) Trichlorofluoromethane	4.171	101	26996	1.04	ug/L	97
9) Ethyl Ether	4.653	59	13562	1.07	ug/L	89
10) 1,2-Dichlorotrifluoroe...	4.903	67	21482	1.21	ug/L	99
11) 1,1-Dichloroethene	4.927	61	28026	1.22	ug/L	96
12) Freon 113	4.982	101	18935	1.23	ug/L	93
13) Carbon Disulfide	4.982	76	44551	1.07	ug/L	97
14) Iodomethane	5.122	142	7636	0.36	ug/L	98
15) Allyl chloride	5.568	41	20962	0.96	ug/L	86
16) Methylene Chloride	5.696	49	28613	1.36	ug/L	99
17) Acetone	5.769	43	22521	4.53	ug/L	86
18) Methyl acetate	5.921	43	41537m	3.73	ug/L	
19) trans-1,2-Dichloroethene	5.921	61	24240	1.17	ug/L	97
20) Hexane	6.013	56	16255	1.22	ug/L	93
21) Methyl Tert Butyl Ether	6.025	73	52385	1.14	ug/L	85
22) Acetonitrile	6.378	41	11553	5.95	ug/L	78
23) Di-isopropyl ether	6.482	45	49896	1.02	ug/L	98
24) Chloroprene	6.628	53	25592	1.13	ug/L	98
25) 1,1-Dichloroethane	6.647	63	34561	1.24	ug/L	98
26) Acrylonitrile	6.744	53	17766	2.87	ug/L	82
27) ETBE	6.909	59	52151	1.08	ug/L	95
28) Vinyl acetate	6.939	43	98068	3.53	ug/L	97
29) cis-1,2-Dichloroethene	7.287	96	18667	1.19	ug/L	93
30) 2,2-Dichloropropane	7.403	77	29505	1.18	ug/L	99
31) Bromochloromethane	7.518	128	8294	1.18	ug/L	93
32) Cyclohexane	7.543	56	31791	1.14	ug/L	97
33) Chloroform	7.579	83	38605	1.34	ug/L	99
34) Ethyl acetate	7.683	43	64390	4.18	ug/L	99
35) Tetrahydrofuran	7.768	42	7080	1.32	ug/L	92
37) Carbon Tetrachloride	7.762	117	24948m	1.21	ug/L	
38) 1,1,1-Trichloroethane	7.823	97	31421	1.26	ug/L	99
39) 2-Butanone	7.915	43	30440	4.01	ug/L	95
40) 1,1-Dichloropropene	7.963	75	26522	1.20	ug/L	96
41) tert-Butyl Formate	8.043	59	64743	4.30	ug/L #	69
42) Propionitrile	8.213	54	28262	11.13	ug/L #	21
43) Methacrylonitrile	8.232	41	113523	12.88	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:26:27 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Benzene	8.226	78	76043	1.33	ug/L		94
45) TAME	8.311	73	49568	1.12	ug/L		92
47) 1,2-Dichloroethane	8.427	62	24652	1.24	ug/L		98
48) Trichloroethene	8.841	95	21082	1.30	ug/L		97
49) Methylcyclohexane	8.841	83	29658	1.11	ug/L		99
50) Dibromomethane	9.280	93	10011	1.11	ug/L		92
51) 1,2-Dichloropropane	9.359	63	17840	1.09	ug/L		94
52) Bromodichloromethane	9.414	83	19074	0.98	ug/L		98
53) Methyl methacrylate	9.548	41	11016	0.86	ug/L		90
54) 2-Chloroethyl vinyl ether	9.945	63	54469	6.02	ug/L		98
55) cis-1,3-Dichloropropene	10.036	75	24182	0.95	ug/L		97
58) Toluene	10.280	91	86831	1.21	ug/L		98
59) 2-Nitropropane	10.481	41	13307	2.99	ug/L	#	76
60) 4-Methyl-2-pentanone	10.609	43	74851	4.27	ug/L		94
61) trans-1,3-Dichloropropene	10.682	75	18531	0.79	ug/L		92
62) Tetrachloroethene	10.688	166	19895	1.21	ug/L		94
63) Ethyl methacrylate	10.786	69	19435	0.87	ug/L		93
64) 1,1,2-Trichloroethane	10.835	83	14415	1.12	ug/L		98
65) Dibromochloromethane	11.036	129	12311	0.78	ug/L		98
66) 1,3-Dichloropropane	11.115	76	26205	0.97	ug/L		99
67) 1,2-Dibromoethane	11.298	107	14851	0.92	ug/L		99
68) 2-hexanone	11.432	43	51980	4.15	ug/L		95
69) 1-Chlorohexane	11.737	91	24307	0.99	ug/L		87
70) Ethylbenzene	11.798	91	94685	1.24	ug/L		97
71) Chlorobenzene	11.798	112	46691	1.12	ug/L		92
72) 1,1,1,2-Tetrachloroethane	11.847	131	13856	0.91	ug/L	#	81
73) m,p-Xylene	11.938	91	130038	2.21	ug/L		97
74) o-Xylene	12.371	91	63929	1.01	ug/L		96
75) Styrene	12.432	104	38612	0.85	ug/L		94
76) Bromoform	12.487	173	7178	0.69	ug/L		87
77) Isopropylbenzene	12.676	105	81433	1.07	ug/L		97
80) cis-1,4-Dichloro-2-butene	13.023	53	5900	0.85	ug/L	#	27
81) n-Propylbenzene	13.097	91	93800	1.04	ug/L		98
82) Bromobenzene	13.121	156	17725	1.02	ug/L		97
83) 1,1,2,2-Tetrachloroethane	13.151	83	21055	0.91	ug/L		98
84) 1,3,5-Trimethylbenzene	13.279	105	60910	1.04	ug/L		100
85) 2-Chlorotoluene	13.286	91	63225	1.05	ug/L		97
86) trans-1,4-Dichloro-2-B...	13.340	53	4697	0.70	ug/L	#	60
87) 1,2,3-Trichloropropane	13.316	110	7063	1.01	ug/L		96
88) Cyclohexanone	13.383	55	3429	3.74	ug/L		92
89) 4-Chlorotoluene	13.456	91	52651	0.97	ug/L		98
90) tert-Butylbenzene	13.615	91	36406	1.00	ug/L		96
91) 1,2,4-Trimethylbenzene	13.688	105	54509	0.94	ug/L		98
92) Pentachloroethane	13.670	167	8533	0.84	ug/L		86
93) sec-Butylbenzene	13.798	105	76269	1.02	ug/L		95
94) 4-Isopropyltoluene	13.932	119	56960	0.97	ug/L		99
95) 1,3-Dichlorobenzene	14.072	146	30944	1.00	ug/L		97
96) 1,2,3-Trimethylbenzene	14.145	105	51950	0.66	ug/L		100
97) 1,4-Dichlorobenzene	14.151	146	33864	1.14	ug/L		94
98) n-Butylbenzene	14.371	92	28548	0.93	ug/L		85
99) Benzyl Chloride	14.383	126	4266	0.50	ug/L	#	44
100) 1,2-Dichlorobenzene	14.584	146	28938	0.99	ug/L		97
101) 1,2-Dibromo-3-Chloropr...	15.316	75	2858	0.61	ug/L	#	77
102) Hexachlorobutadiene	15.870	225	9510	1.13	ug/L		93
103) 1,2,4-Trichlorobenzene	15.919	180	13170	0.92	ug/L		93
104) Naphthalene	16.193	128	36535	0.90	ug/L		95
105) 1,2,3-Trichlorobenzene	16.358	180	13100	0.99	ug/L		98
108) Acrolein	5.421	56	12359m	3.90	ug/L		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:26:27 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

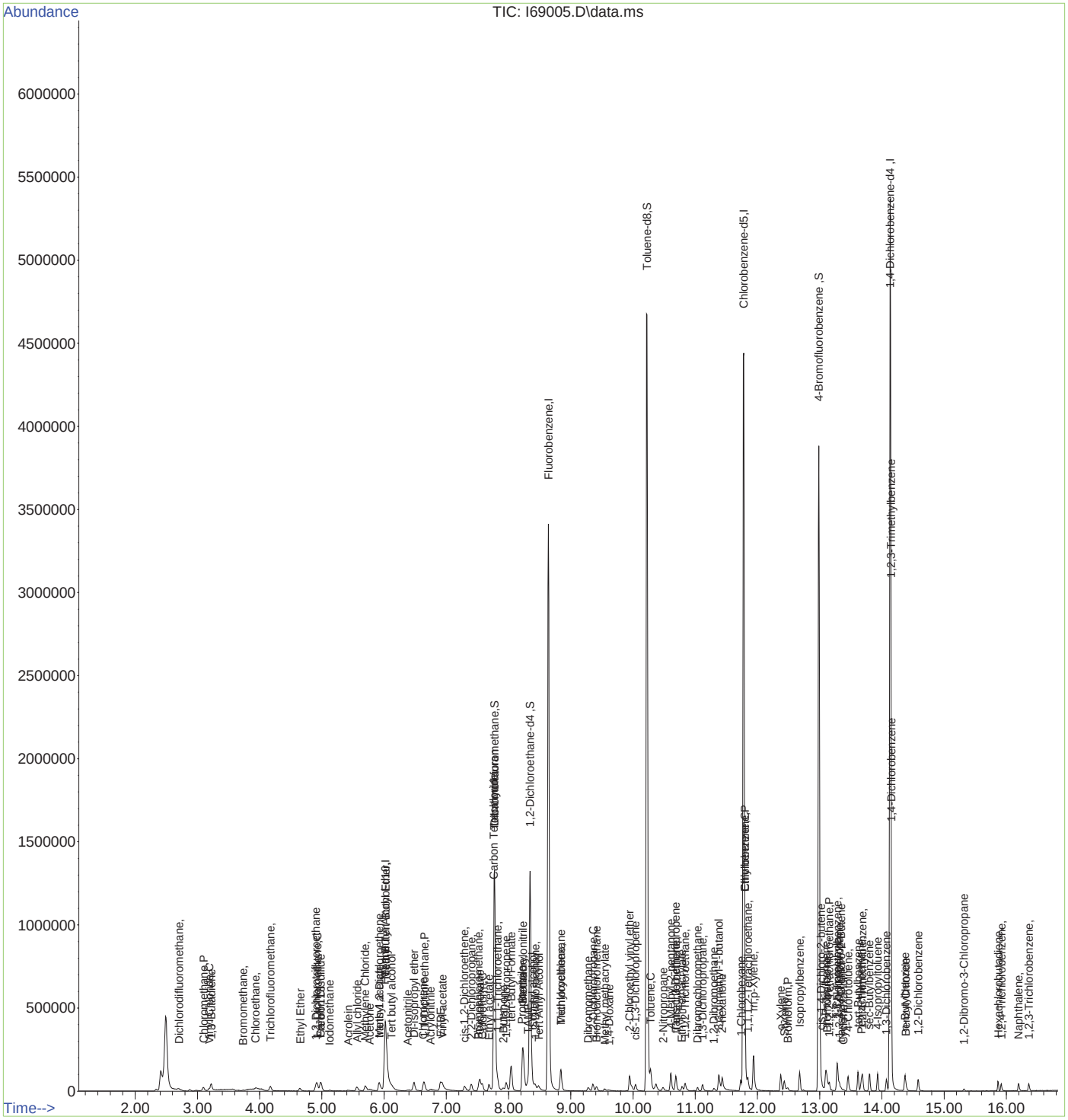
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
109) Tert butyl alcohol	6.116	59	29394	10.56 ug/L	85
110) Isobutyl alcohol	8.384	42	6306	12.81 ug/L	77
111) Tert Amyl Alcohol	8.488	59	18230	9.28 ug/L	91
112) 1,4-Dioxane	9.616	88	4433	22.41 ug/L	96
113) 3,3-dimethyl-1-butanol	11.377	57	55682m	28.59 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:26:27 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Manual Integration Approval Summary

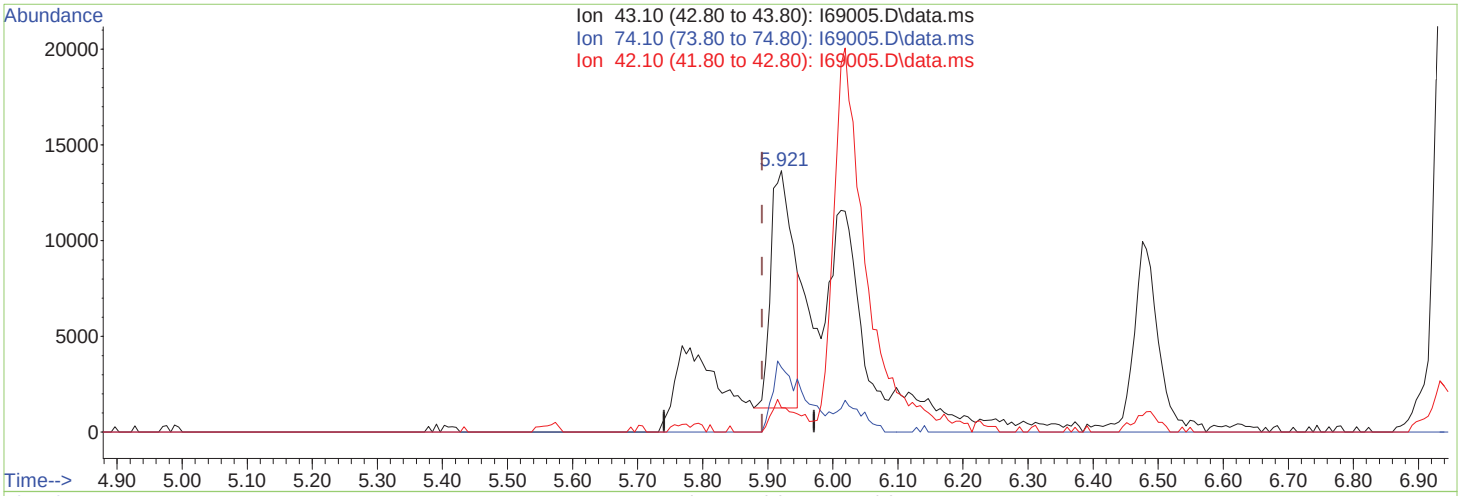
Sample Number: VI2216-IC2216
Lab FileID: I69005.D
Injection Time: 06/21/21 12:23
Method: SW846 8260B
Analyst approved: 06/22/21 08:21 Lindsay Ritner
Supervisor approved: 06/23/21 08:07 Chelsea VanDenBurg

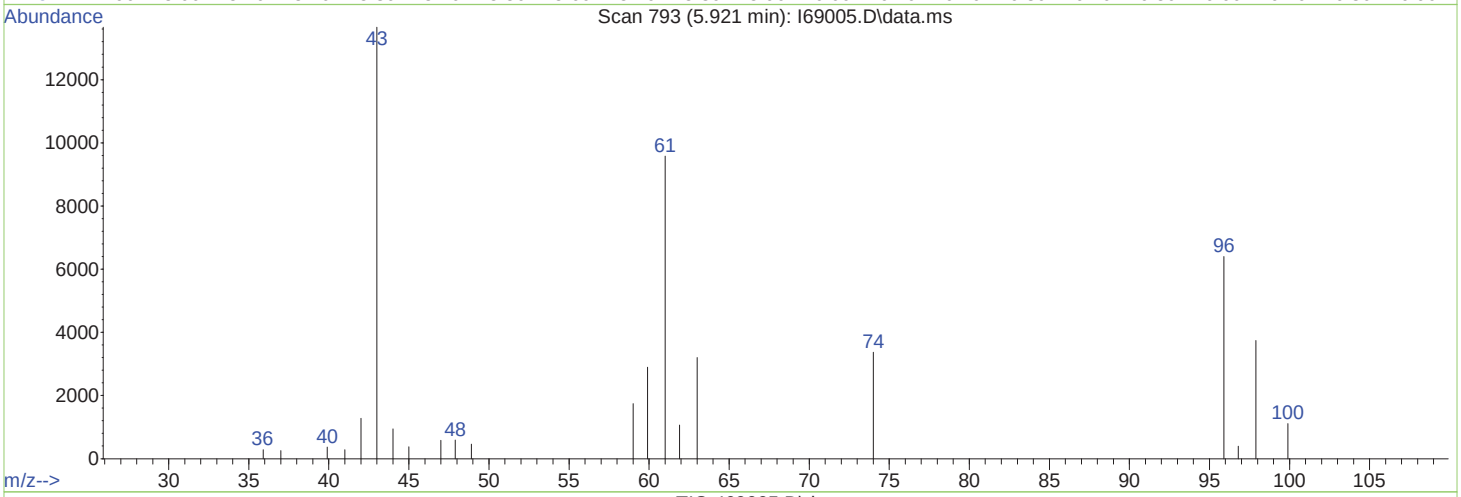
Parameter	CAS	Sig#	R.T. (min.)	Reason
Acrolein	107-02-8		5.42	Poor instrument integration
Methyl Acetate	79-20-9		5.92	Poor instrument integration
Carbon Tetrachloride	56-23-5		7.76	Missed peak
3,3-Dimethyl-1-Butanol	624-95-3		11.38	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69005.D\data.ms

(18) Methyl acetate

5.921min (+0.030) 2.63ug/L

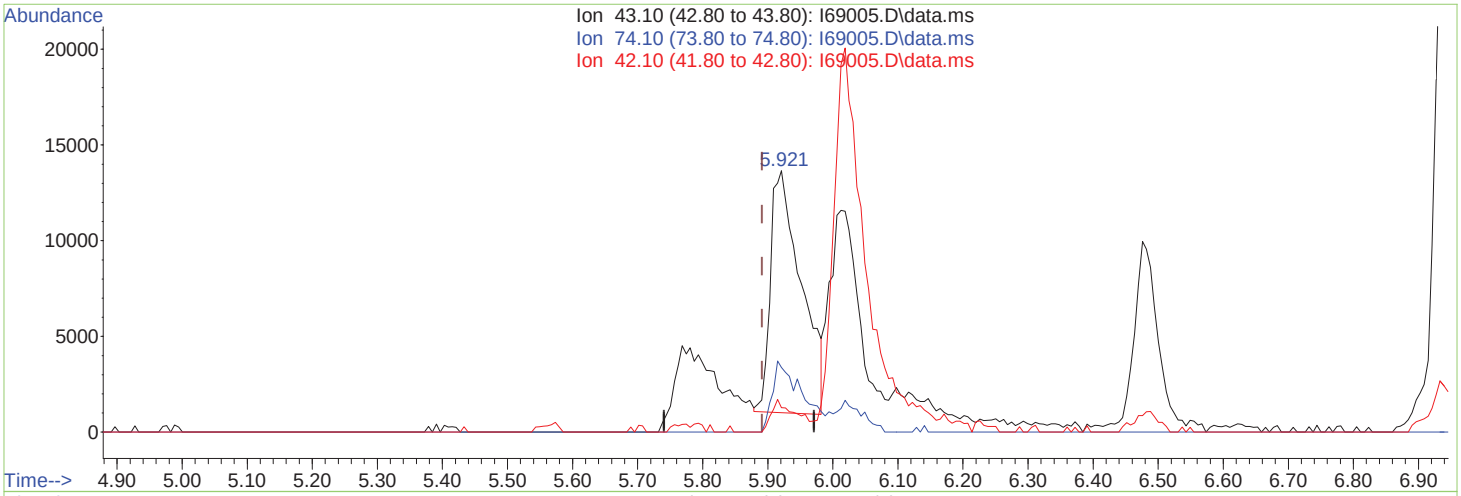
response 29225

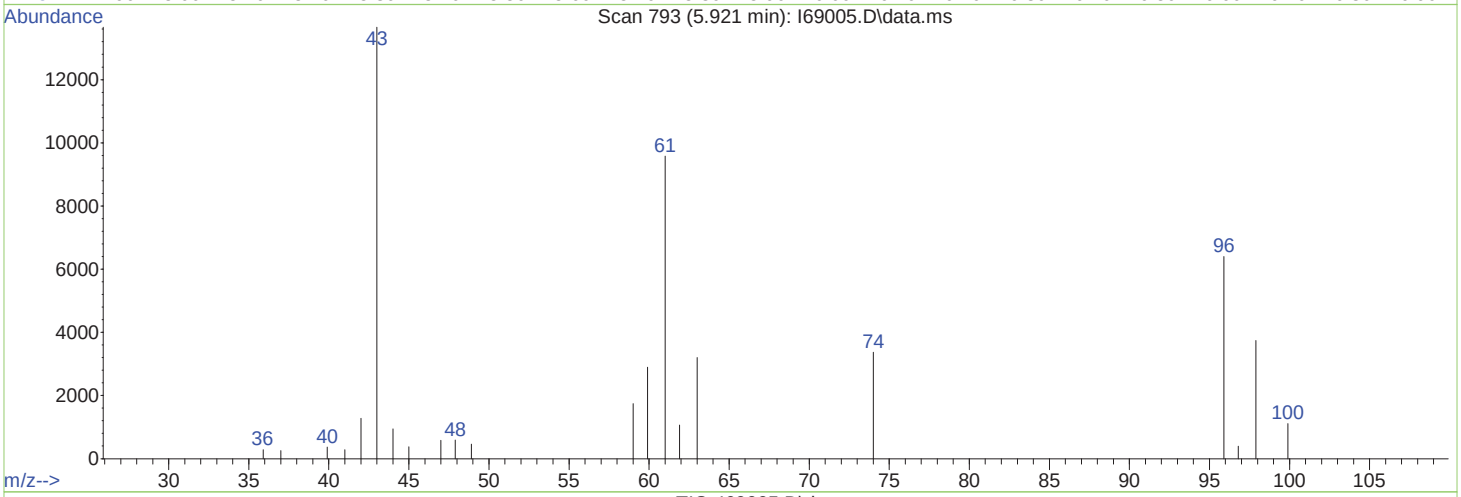
Ion	Exp%	Act%
43.10	100	100
74.10	25.40	27.21
42.10	10.30	10.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69005.D\data.ms

(18) Methyl acetate

5.921min (+0.030) 3.73ug/L m

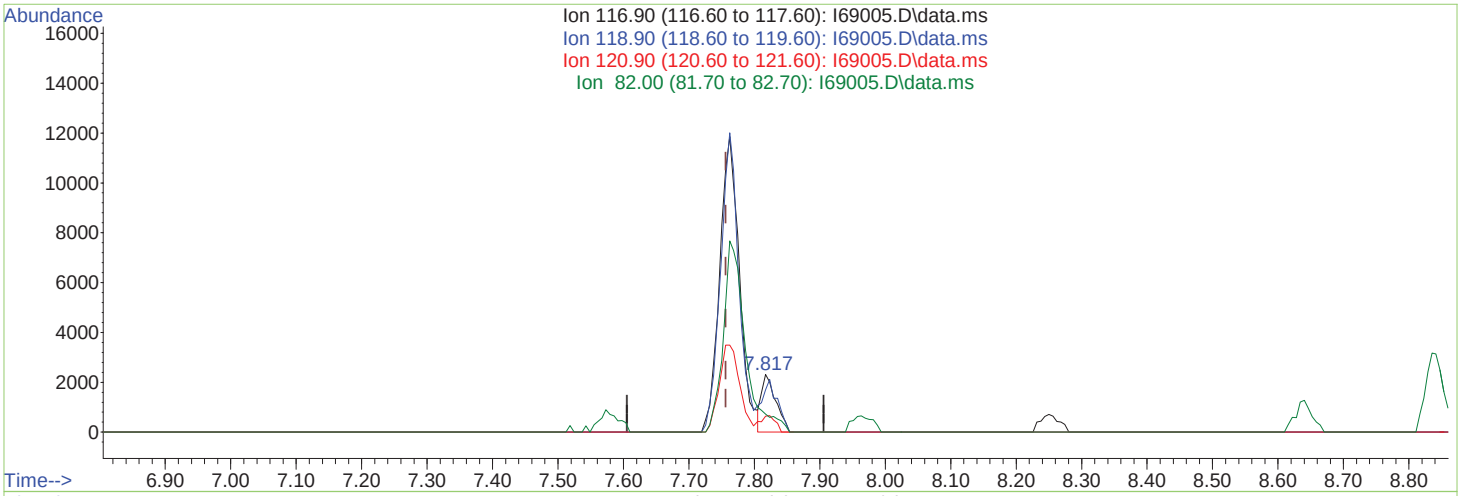
response 41537

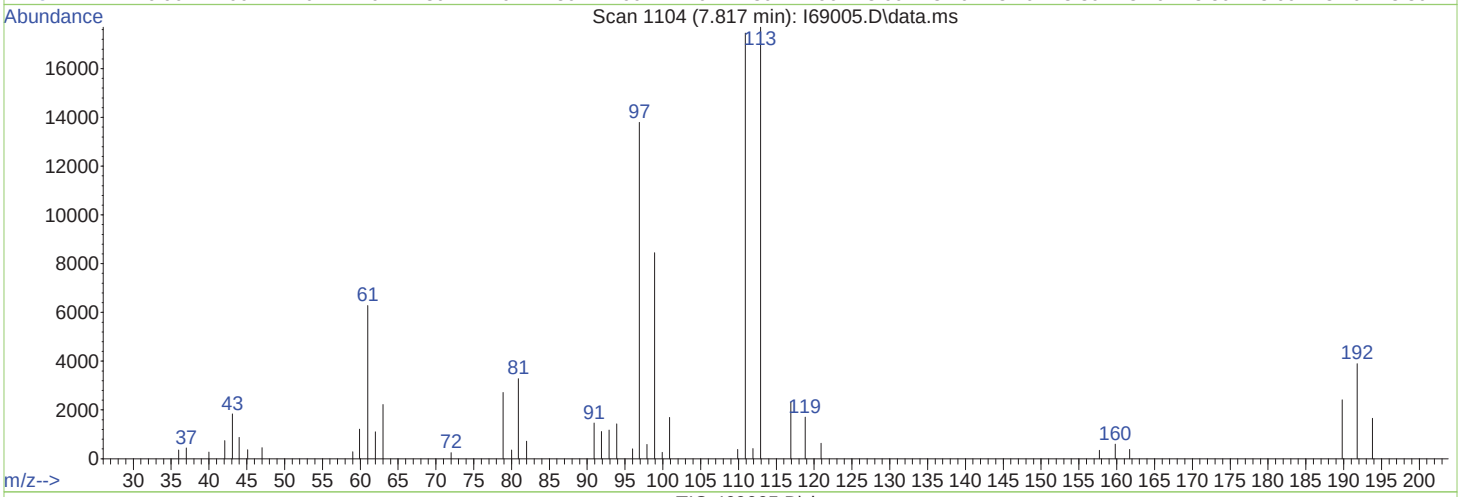
Ion	Exp%	Act%
43.10	100	100
74.10	25.40	24.69
42.10	10.30	9.34
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69005.D\data.ms

(37) Carbon Tetrachloride ( )

7.817min (+0.061) 0.17ug/L

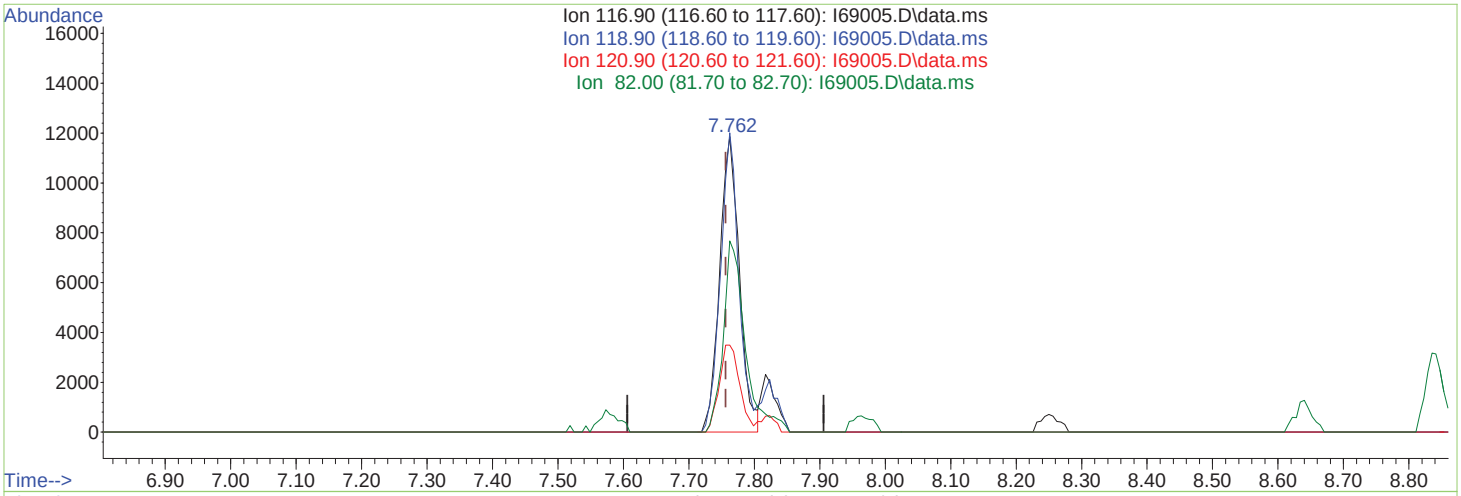
response 3492

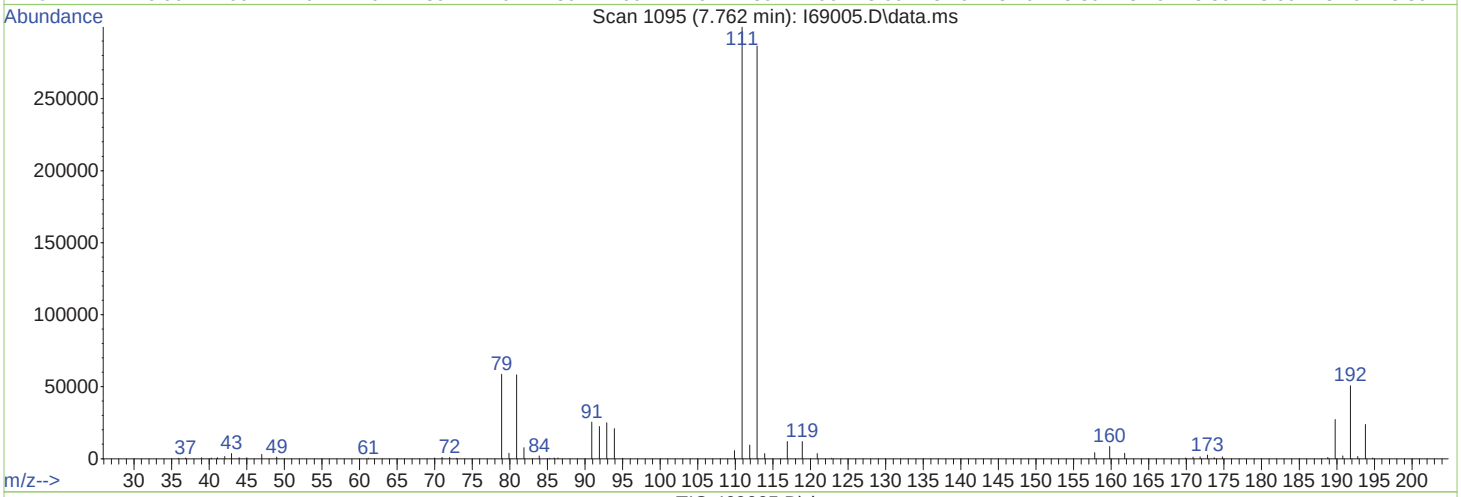
Ion	Exp%	Act%
116.90	100	100
118.90	95.70	73.46
120.90	30.50	27.54
82.00	24.70	31.16

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69005.D\data.ms

(37) Carbon Tetrachloride ( )

7.762min (+0.006) 1.21ug/L m

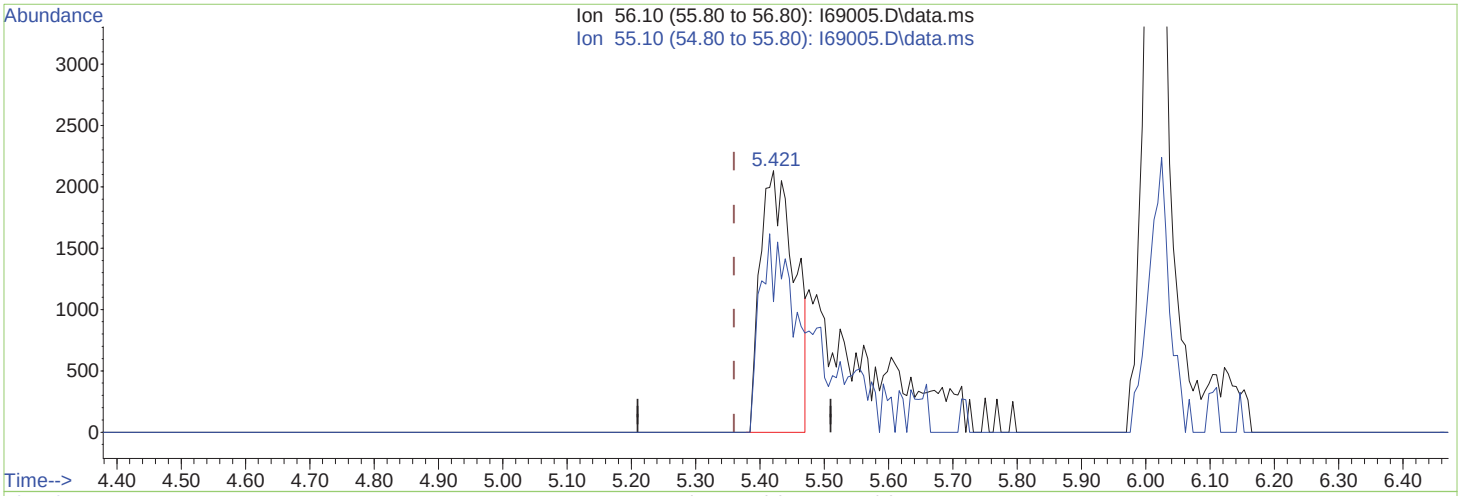
response 24948

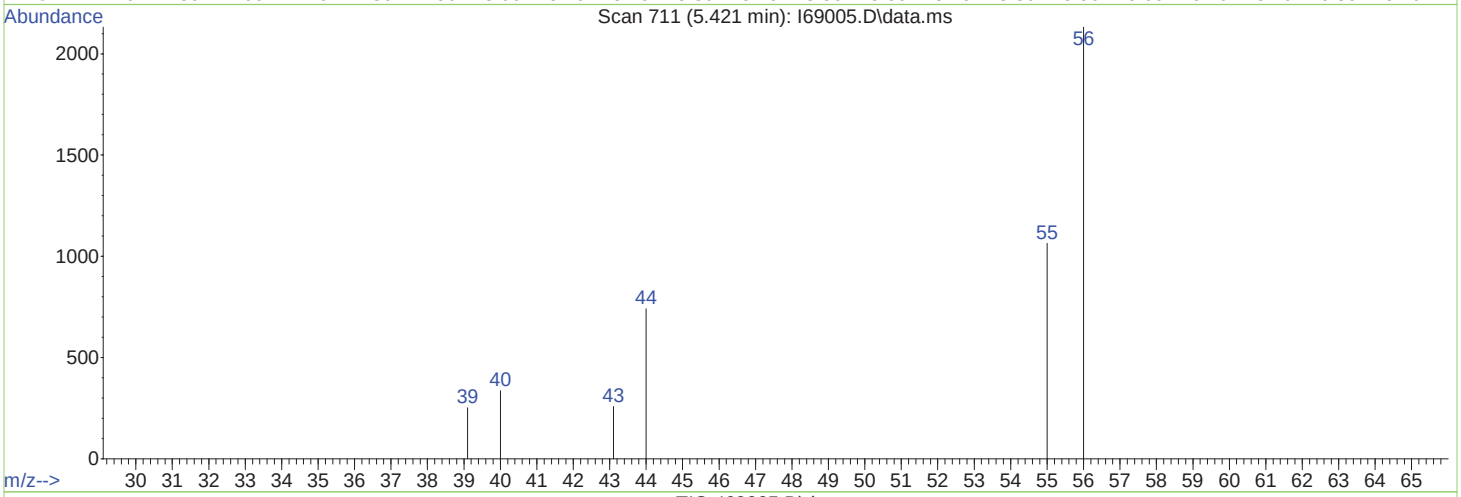
Ion	Exp%	Act%
116.90	100	100
118.90	95.70	101.29
120.90	30.50	29.48
82.00	24.70	64.76#

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69005.D\data.ms

(108) Acrolein

5.421min (+0.061) 2.49ug/L

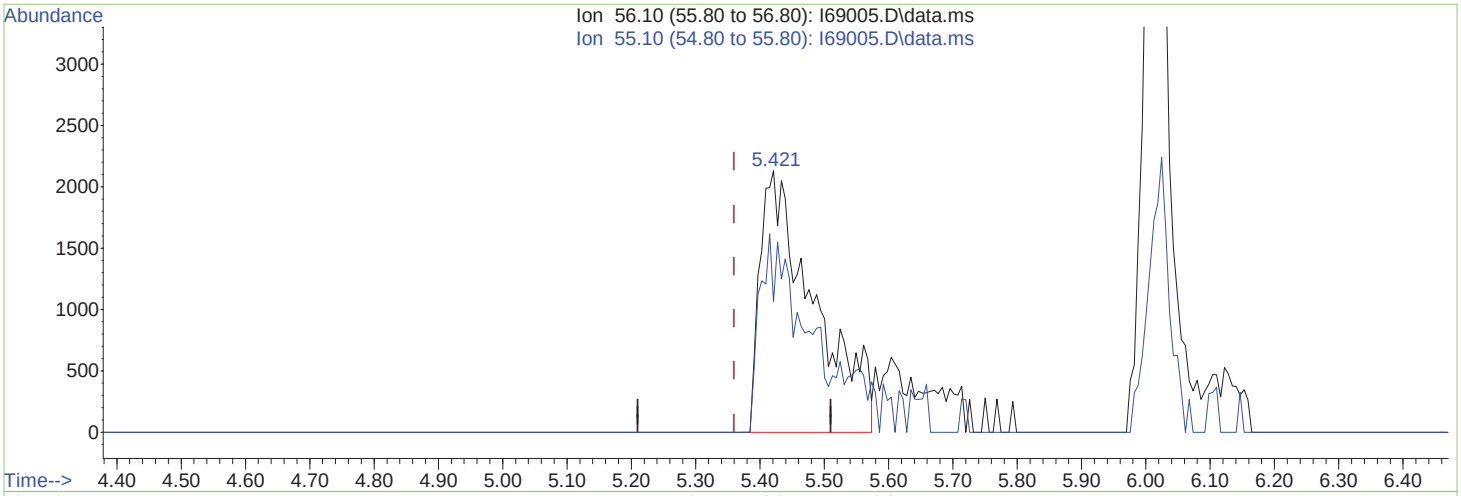
response 7892

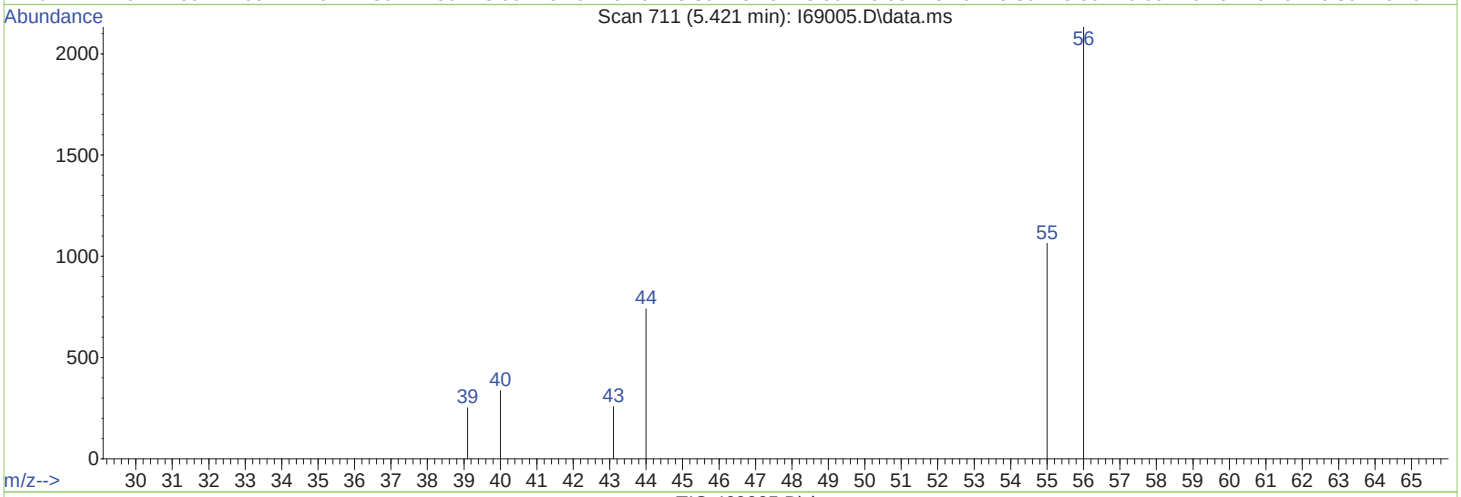
Ion	Exp%	Act%
56.10	100	100
55.10	71.30	49.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69005.D\data.ms

(108) Acrolein

5.421min (+0.061) 3.90ug/L m

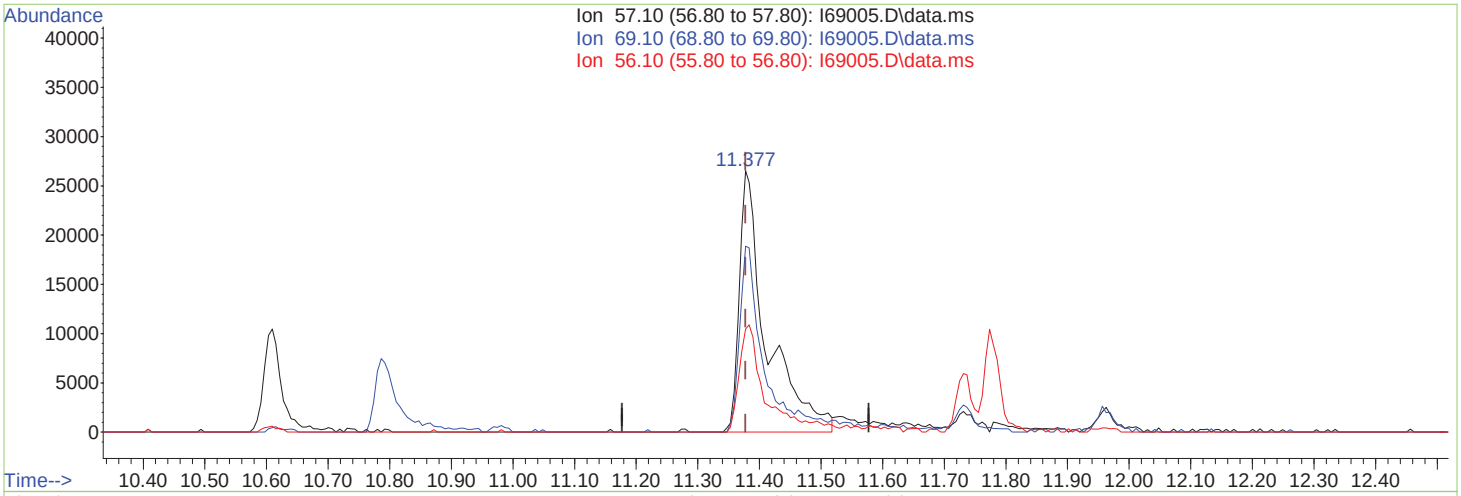
response 12359

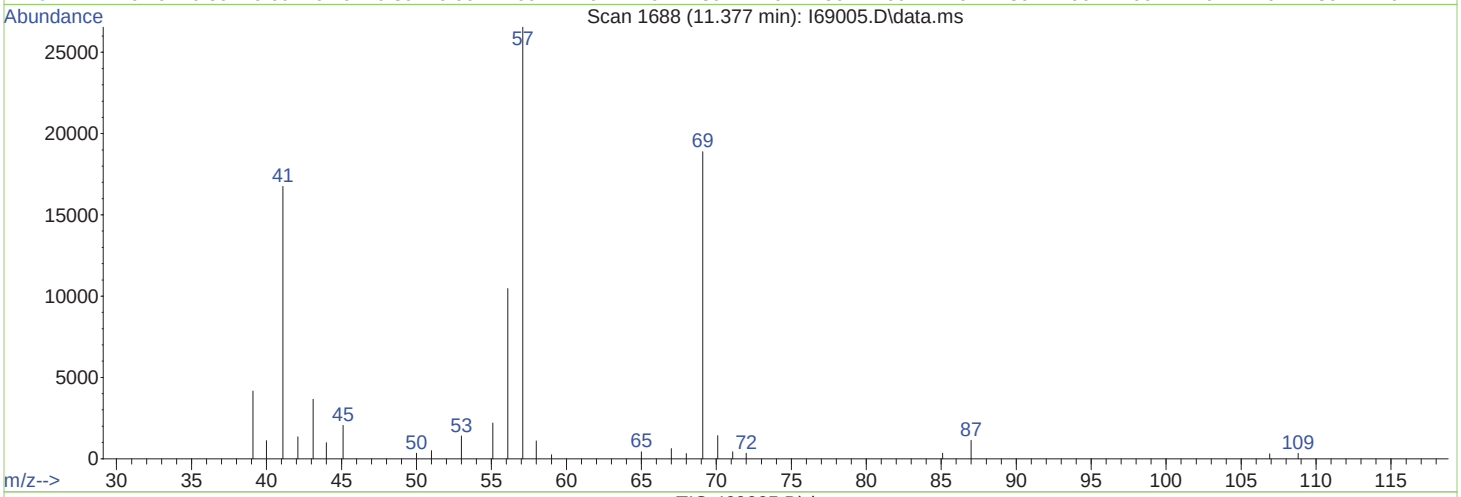
Ion	Exp%	Act%
56.10	100	100
55.10	71.30	49.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69005.D\data.ms

(113) 3,3-dimethyl-1-butanol

11.377min (+0.000) 42.06ug/L

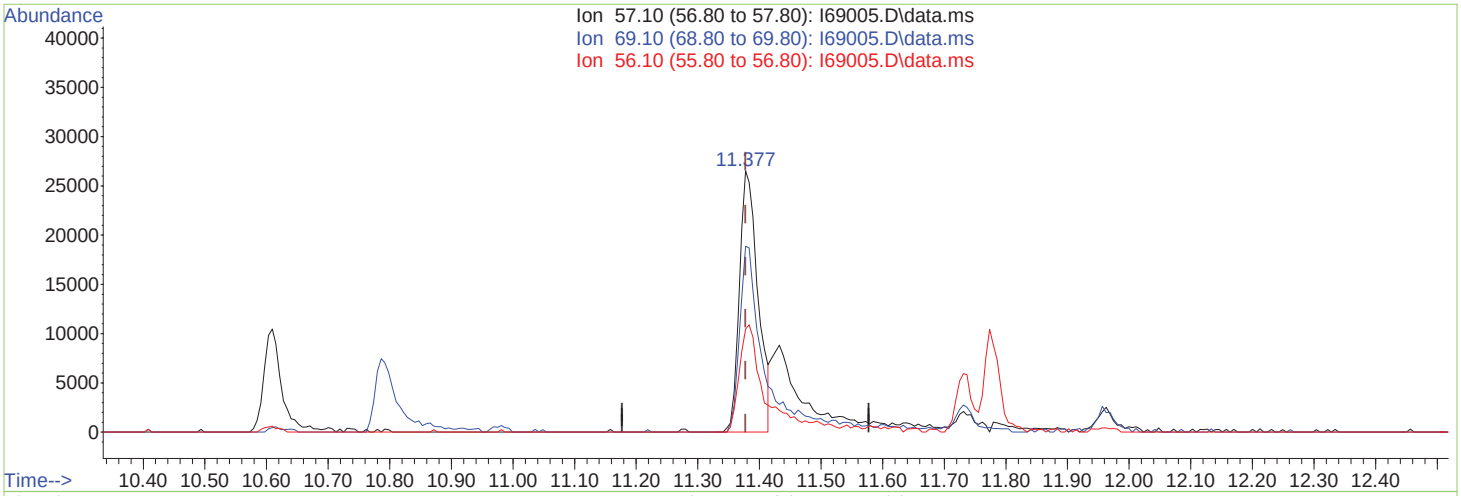
response 81922

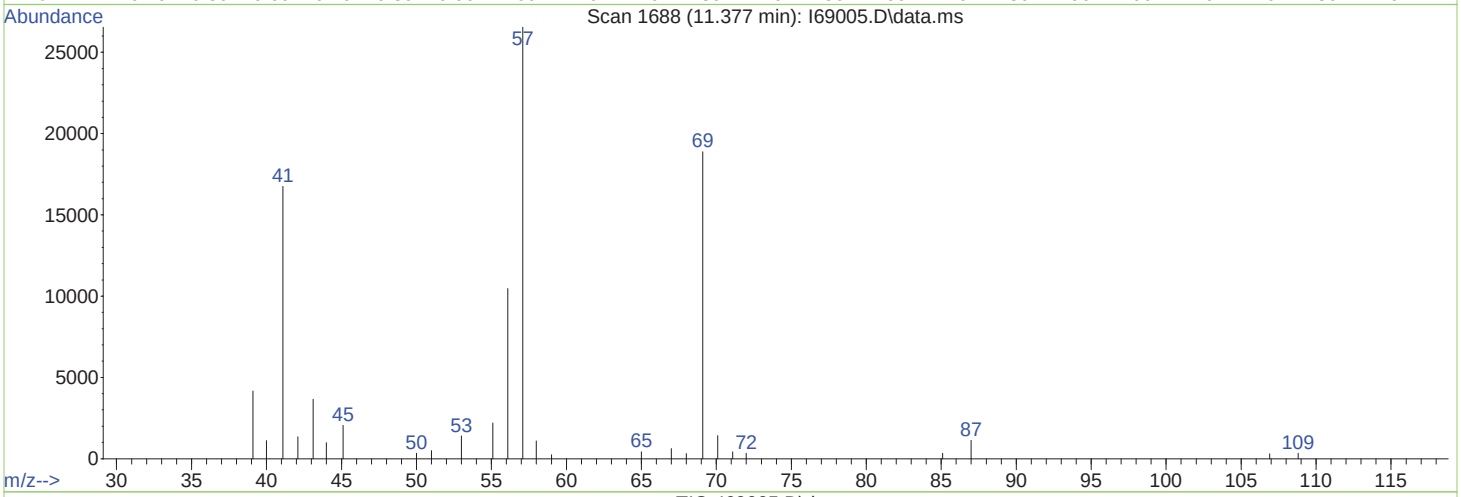
Ion	Exp%	Act%
57.10	100	100
69.10	72.90	71.11
56.10	44.60	39.40
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69005.D\data.ms

(113) 3,3-dimethyl-1-butanol

11.377min (+0.000) 28.59ug/L m

response 55682

Ion	Exp%	Act%
57.10	100	100
69.10	72.90	71.11
56.10	44.60	39.40
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Chelsea VanDenBurg
06/23/21 08:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:28:30 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3094176	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2487596	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1348252	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.025	65	731669	250.00	ug/L	-0.01
System Monitoring Compounds						
36) Dibromofluoromethane	7.775	113	850127	50.82	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.64%			
46) 1,2-Dichloroethane-d4	8.348	65	1011204	50.13	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.26%			
57) Toluene-d8	10.225	98	3184982	46.77	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 93.54%			
79) 4-Bromofluorobenzene	12.987	174	1060242	47.87	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.74%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	101599	5.36	ug/L	99
3) Chloromethane	3.099	50	88320	3.98	ug/L	94
4) Vinyl Chloride	3.184	62	112969	5.66	ug/L	98
5) 1,3-Butadiene	3.214	39	68760	5.92	ug/L	95
6) Bromomethane	3.733	94	21046	1.68	ug/L	87
7) Chloroethane	3.940	64	64942	13.44	ug/L	97
8) Trichlorofluoromethane	4.172	101	148519	5.62	ug/L	99
9) Ethyl Ether	4.641	59	70769	5.46	ug/L	97
10) 1,2-Dichlorotrifluoroe...	4.903	67	108302	5.97	ug/L	97
11) 1,1-Dichloroethene	4.921	61	141308	6.04	ug/L	97
12) Freon 113	4.982	101	98321	6.26	ug/L	96
13) Carbon Disulfide	4.976	76	209216	4.96	ug/L	99
14) Iodomethane	5.123	142	36150	1.67	ug/L	95
15) Allyl chloride	5.555	41	103694	4.65	ug/L	91
16) Methylene Chloride	5.696	49	119562	5.59	ug/L	98
17) Acetone	5.744	43	140877	27.86	ug/L	100
18) Methyl acetate	5.897	43	249414	22.07	ug/L	97
19) trans-1,2-Dichloroethene	5.909	61	124048	5.89	ug/L	95
20) Hexane	6.013	56	78729	5.80	ug/L	94
21) Methyl Tert Butyl Ether	6.025	73	265685	5.67	ug/L	95
22) Acetonitrile	6.342	41	82854	41.89	ug/L	95
23) Di-isopropyl ether	6.476	45	256830	5.18	ug/L	95
24) Chloroprene	6.628	53	125286	5.42	ug/L	96
25) 1,1-Dichloroethane	6.647	63	170148	6.01	ug/L	98
26) Acrylonitrile	6.695	53	151979	24.09	ug/L	98
27) ETBE	6.909	59	274692	5.57	ug/L	99
28) Vinyl acetate	6.915	43	756623	26.76	ug/L	99
29) cis-1,2-Dichloroethene	7.287	96	94326	5.92	ug/L	98
30) 2,2-Dichloropropane	7.403	77	147871	5.81	ug/L	99
31) Bromochloromethane	7.512	128	41672	5.82	ug/L	93
32) Cyclohexane	7.537	56	159368	5.59	ug/L	96
33) Chloroform	7.573	83	181590	6.21	ug/L	97
34) Ethyl acetate	7.671	43	414807	26.47	ug/L	97
35) Tetrahydrofuran	7.768	42	28500	5.26	ug/L	95
37) Carbon Tetrachloride	7.762	117	125151	5.95	ug/L	96
38) 1,1,1-Trichloroethane	7.823	97	158627	6.26	ug/L	97
39) 2-Butanone	7.890	43	207668	26.84	ug/L	98
40) 1,1-Dichloropropene	7.957	75	135297	6.00	ug/L	99
41) tert-Butyl Formate	8.043	59	379706	24.79	ug/L	82
42) Propionitrile	8.201	54	143246	55.40	ug/L	79
43) Methacrylonitrile	8.226	41	523844	58.38	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:28:30 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Benzene	8.220	78	377367	6.46	ug/L		100
45) TAME	8.305	73	251074	5.55	ug/L		97
47) 1,2-Dichloroethane	8.421	62	121256	5.98	ug/L		96
48) Trichloroethene	8.835	95	93433	5.64	ug/L		97
49) Methylcyclohexane	8.841	83	150261	5.54	ug/L		96
50) Dibromomethane	9.274	93	53511	5.84	ug/L		97
51) 1,2-Dichloropropane	9.354	63	92397	5.56	ug/L		96
52) Bromodichloromethane	9.408	83	108136	5.47	ug/L		98
53) Methyl methacrylate	9.524	41	59285	4.55	ug/L		99
54) 2-Chloroethyl vinyl ether	9.933	63	304443	33.06	ug/L		98
55) cis-1,3-Dichloropropene	10.036	75	136527	5.26	ug/L		98
58) Toluene	10.280	91	398338	5.41	ug/L		95
59) 2-Nitropropane	10.481	41	88475	19.44	ug/L		93
60) 4-Methyl-2-pentanone	10.603	43	447223	25.00	ug/L		97
61) trans-1,3-Dichloropropene	10.676	75	113232	4.75	ug/L		95
62) Tetrachloroethene	10.689	166	94967	5.67	ug/L		94
63) Ethyl methacrylate	10.780	69	104788	4.59	ug/L		96
64) 1,1,2-Trichloroethane	10.835	83	68444	5.22	ug/L		97
65) Dibromochloromethane	11.036	129	74906	4.67	ug/L		97
66) 1,3-Dichloropropane	11.115	76	139377	5.07	ug/L		98
67) 1,2-Dibromoethane	11.292	107	79780	4.86	ug/L		99
68) 2-hexanone	11.426	43	338991	26.47	ug/L		97
69) 1-Chlorohexane	11.731	91	127122	5.09	ug/L		94
70) Ethylbenzene	11.798	91	448456	5.75	ug/L		97
71) Chlorobenzene	11.798	112	236808	5.55	ug/L		99
72) 1,1,1,2-Tetrachloroethane	11.847	131	78836	5.05	ug/L		97
73) m,p-Xylene	11.932	91	650419	10.80	ug/L		98
74) o-Xylene	12.371	91	323670	5.01	ug/L		99
75) Styrene	12.420	104	223015	4.82	ug/L		98
76) Bromoform	12.481	173	45118	4.22	ug/L		95
77) Isopropylbenzene	12.676	105	402272	5.16	ug/L		99
80) cis-1,4-Dichloro-2-butene	13.024	53	29682	4.15	ug/L		90
81) n-Propylbenzene	13.097	91	462884	4.97	ug/L		100
82) Bromobenzene	13.115	156	94115	5.23	ug/L		99
83) 1,1,2,2-Tetrachloroethane	13.152	83	116441	4.88	ug/L		97
84) 1,3,5-Trimethylbenzene	13.273	105	305952	5.05	ug/L		98
85) 2-Chlorotoluene	13.286	91	311705	5.02	ug/L		96
86) trans-1,4-Dichloro-2-B...	13.334	53	26406	3.82	ug/L	#	76
87) 1,2,3-Trichloropropane	13.310	110	35672	4.94	ug/L		94
88) Cyclohexanone	13.377	55	20801	21.89	ug/L		93
89) 4-Chlorotoluene	13.450	91	267502	4.76	ug/L		100
90) tert-Butylbenzene	13.615	91	182848	4.86	ug/L		100
91) 1,2,4-Trimethylbenzene	13.688	105	284727	4.75	ug/L		98
92) Pentachloroethane	13.670	167	47479	4.50	ug/L		95
93) sec-Butylbenzene	13.798	105	380787	4.91	ug/L		100
94) 4-Isopropyltoluene	13.932	119	299683	4.95	ug/L		100
95) 1,3-Dichlorobenzene	14.072	146	153674	4.82	ug/L		97
96) 1,2,3-Trimethylbenzene	14.145	105	252431	3.10	ug/L		100
97) 1,4-Dichlorobenzene	14.151	146	164971	5.35	ug/L		98
98) n-Butylbenzene	14.365	92	154200	4.85	ug/L		86
99) Benzyl Chloride	14.383	126	30061	3.43	ug/L		96
100) 1,2-Dichlorobenzene	14.578	146	147322	4.87	ug/L		99
101) 1,2-Dibromo-3-Chloropr...	15.322	75	18231	3.76	ug/L		93
102) Hexachlorobutadiene	15.871	225	43246	4.96	ug/L		93
103) 1,2,4-Trichlorobenzene	15.913	180	71181	4.81	ug/L		98
104) Naphthalene	16.194	128	188953	4.48	ug/L		98
105) 1,2,3-Trichlorobenzene	16.358	180	66138	4.83	ug/L		98
107) Ethanol	4.989	45	20570m	90.61	ug/L		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:28:30 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

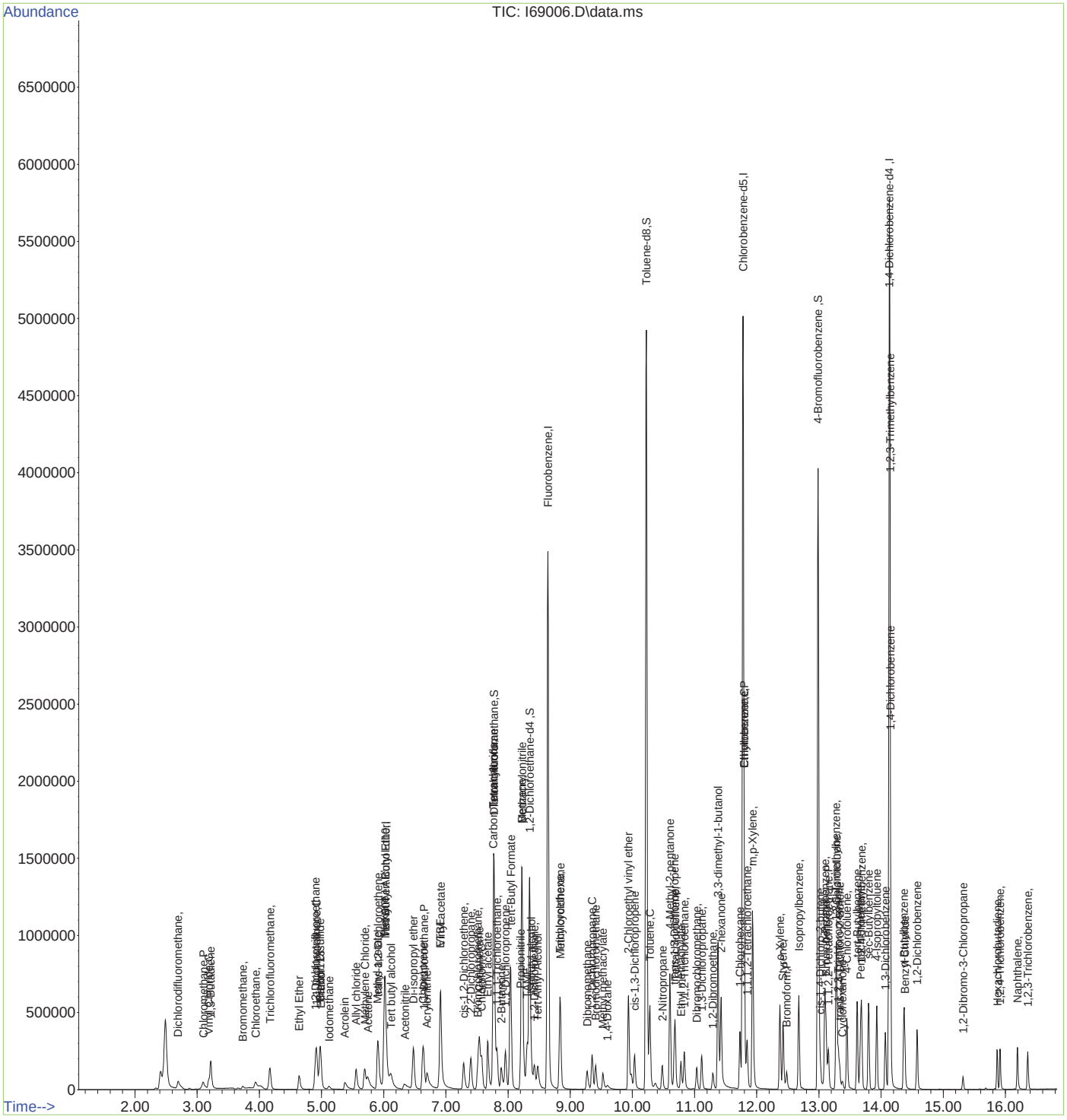
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.373	56	71767	21.14	ug/L	90
109) Tert butyl alcohol	6.116	59	144554	48.91	ug/L	86
110) Isobutyl alcohol	8.372	42	36979	70.75	ug/L	87
111) Tert Amyl Alcohol	8.476	59	98568	47.24	ug/L	89
112) 1,4-Dioxane	9.597	88	22853	108.82	ug/L	94
113) 3,3-dimethyl-1-butanol	11.378	57	448706	217.03	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:28:30 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Manual Integration Approval Summary

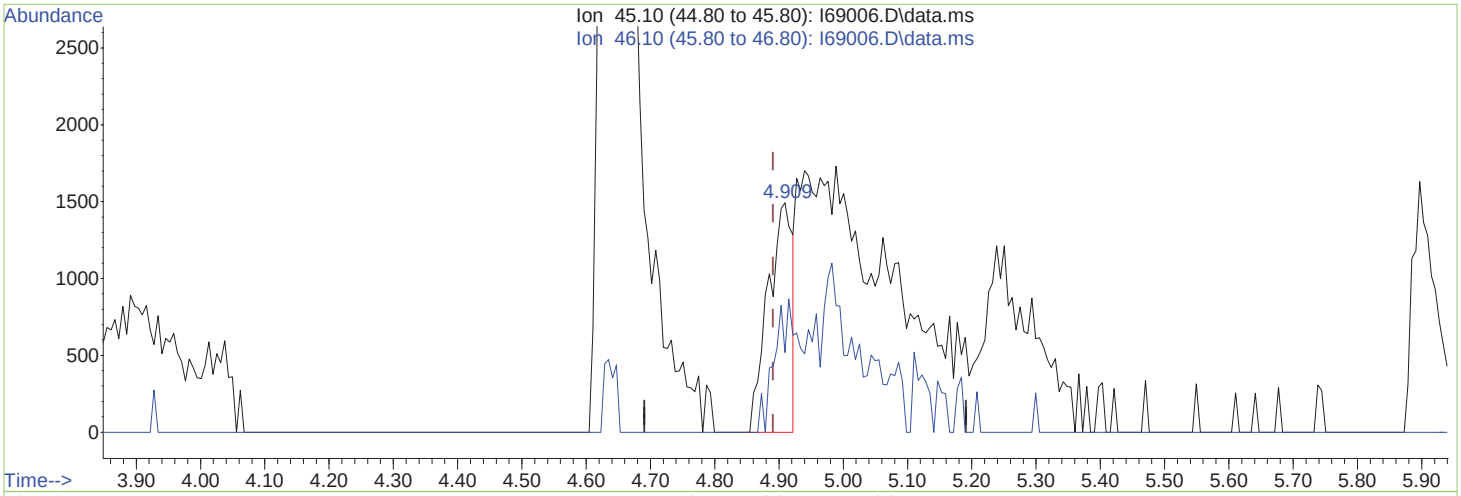
Sample Number: VI2216-IC2216
Lab FileID: I69006.D
Injection Time: 06/21/21 12:47
Method: SW846 8260B
Analyst approved: 06/22/21 08:21 Lindsay Ritner
Supervisor approved: 06/23/21 08:07 Chelsea VanDenBurg

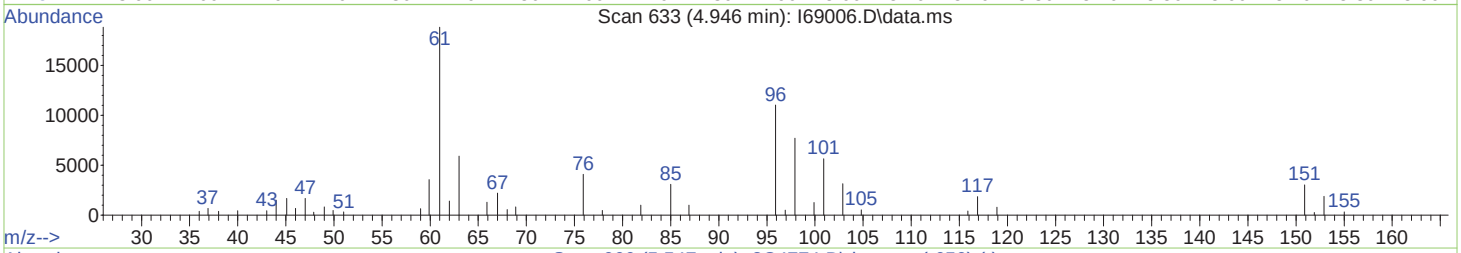
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		4.99	Poor instrument integration

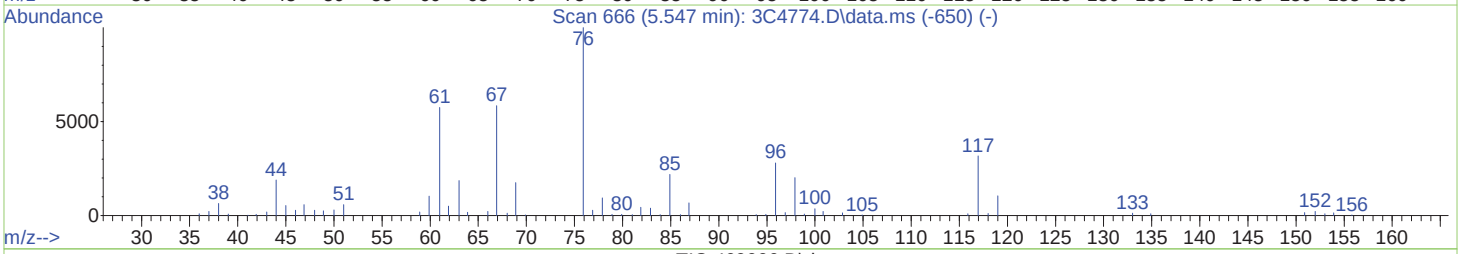
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:20:09 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration







TIC: I69006.D\data.ms

(107) Ethanol

4.909min (+0.018) 17.23ug/L

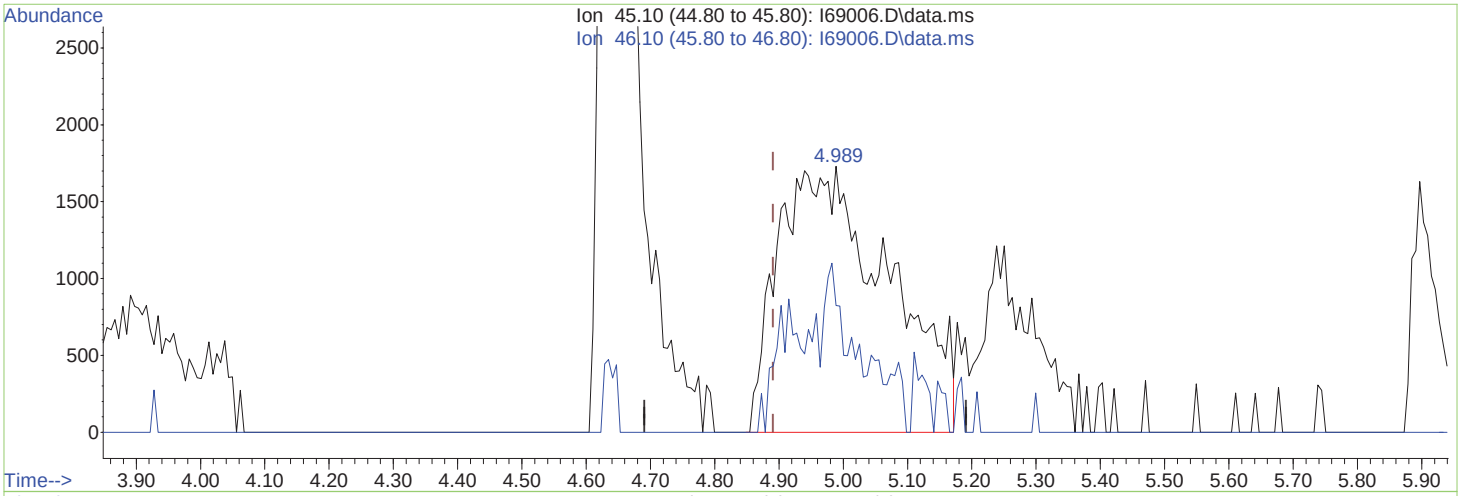
response 3912

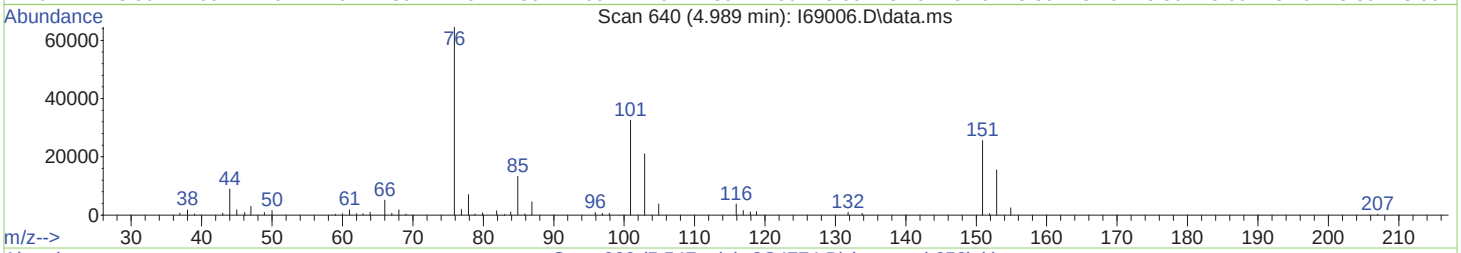
Ion	Exp%	Act%
45.10	100	100
46.10	39.20	34.79
0.00	0.00	0.00
0.00	0.00	0.00

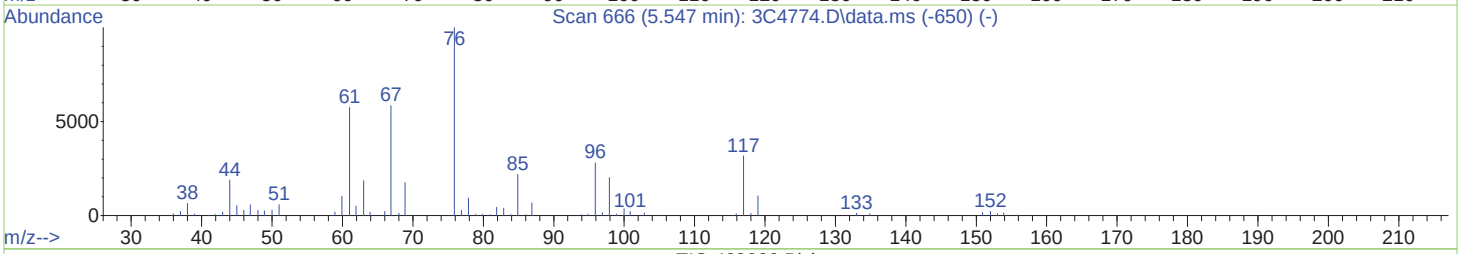
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:20:09 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration







TIC: I69006.D\data.ms

(107) Ethanol

4.989min (+0.098) 90.61ug/L m

response 20570

Ion	Exp%	Act%
45.10	100	100
46.10	39.20	47.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Chelsea VanDenBurg 06/23/21 08:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:29:31 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	2981482	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2417158	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1314665	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.025	65	722330	250.00	ug/L	-0.01
System Monitoring Compounds						
36) Dibromofluoromethane	7.775	113	808917	50.18	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.36%			
46) 1,2-Dichloroethane-d4	8.348	65	968806	49.85	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.70%			
57) Toluene-d8	10.225	98	3044561	46.01	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 92.02%			
79) 4-Bromofluorobenzene	12.987	174	1022127	47.33	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 94.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.696	85	195484	10.70	ug/L	98
3) Chloromethane	3.099	50	172267	8.06	ug/L	97
4) Vinyl Chloride	3.184	62	220134	11.45	ug/L	97
5) 1,3-Butadiene	3.214	39	128125	11.44	ug/L	99
6) Bromomethane	3.733	94	48899	4.06	ug/L	100
7) Chloroethane	3.934	64	108981	23.80	ug/L	96
8) Trichlorofluoromethane	4.166	101	289178	11.35	ug/L	100
9) Ethyl Ether	4.641	59	144076	11.54	ug/L	97
10) 1,2-Dichlorotrifluoroe...	4.903	67	209120	11.96	ug/L	98
11) 1,1-Dichloroethene	4.921	61	281062	12.48	ug/L	97
12) Freon 113	4.976	101	189475	12.51	ug/L	98
13) Carbon Disulfide	4.976	76	425960	10.48	ug/L	96
14) Iodomethane	5.117	142	77802	3.74	ug/L	98
15) Allyl chloride	5.556	41	211953	9.86	ug/L	92
16) Methylene Chloride	5.690	49	240178	11.73	ug/L	99
17) Acetone	5.738	43	307499	63.11	ug/L	95
18) Methyl acetate	5.891	43	567388	52.28	ug/L	99
19) trans-1,2-Dichloroethene	5.903	61	257399	12.68	ug/L	99
20) Hexane	6.007	56	154178	11.79	ug/L	94
21) Methyl Tert Butyl Ether	6.019	73	540381	11.98	ug/L	81
22) Acetonitrile	6.324	41	190418	99.76	ug/L	98
23) Di-isopropyl ether	6.476	45	525283	10.99	ug/L	98
24) Chloroprene	6.622	53	252116	11.31	ug/L	97
25) 1,1-Dichloroethane	6.641	63	342425	12.55	ug/L	100
26) Acrylonitrile	6.689	53	325725	53.57	ug/L	98
27) ETBE	6.903	59	574387	12.09	ug/L	99
28) Vinyl acetate	6.909	43	1675441	61.49	ug/L	99
29) cis-1,2-Dichloroethene	7.281	96	190558	12.41	ug/L	99
30) 2,2-Dichloropropane	7.403	77	297633	12.14	ug/L	100
31) Bromochloromethane	7.512	128	86709	12.56	ug/L	96
32) Cyclohexane	7.537	56	317697	11.56	ug/L	98
33) Chloroform	7.573	83	358803	12.74	ug/L	99
34) Ethyl acetate	7.671	43	882766	58.47	ug/L	98
35) Tetrahydrofuran	7.762	42	57032	11.01	ug/L	99
37) Carbon Tetrachloride	7.762	117	251135	12.39	ug/L	97
38) 1,1,1-Trichloroethane	7.823	97	311997	12.77	ug/L	98
39) 2-Butanone	7.884	43	446356	59.88	ug/L	99
40) 1,1-Dichloropropene	7.957	75	267041	12.28	ug/L	99
41) tert-Butyl Formate	8.037	59	831289	56.34	ug/L	86
42) Propionitrile	8.195	54	299248	120.11	ug/L	98
43) Methacrylonitrile	8.226	41	1091669	126.27	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:29:31 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Benzene	8.220	78	768608	13.66	ug/L		95
45) TAME	8.305	73	519923	11.93	ug/L		98
47) 1,2-Dichloroethane	8.421	62	244780	12.53	ug/L		99
48) Trichloroethene	8.829	95	194215	12.17	ug/L		99
49) Methylcyclohexane	8.841	83	301604	11.54	ug/L		97
50) Dibromomethane	9.268	93	110808	12.55	ug/L		98
51) 1,2-Dichloropropane	9.354	63	185010	11.55	ug/L		97
52) Bromodichloromethane	9.408	83	232741	12.22	ug/L		99
53) Methyl methacrylate	9.518	41	129355	10.28	ug/L		97
54) 2-Chloroethyl vinyl ether	9.933	63	642579	72.41	ug/L		98
55) cis-1,3-Dichloropropene	10.030	75	287455	11.49	ug/L		98
58) Toluene	10.280	91	790542	11.06	ug/L		96
59) 2-Nitropropane	10.475	41	210928	47.71	ug/L		98
60) 4-Methyl-2-pentanone	10.603	43	944415	54.33	ug/L		98
61) trans-1,3-Dichloropropene	10.670	75	242795	10.47	ug/L		98
62) Tetrachloroethene	10.689	166	192112	11.81	ug/L		99
63) Ethyl methacrylate	10.780	69	227743	10.27	ug/L		96
64) 1,1,2-Trichloroethane	10.835	83	140751	11.05	ug/L		99
65) Dibromochloromethane	11.036	129	163811	10.51	ug/L		99
66) 1,3-Dichloropropane	11.115	76	284768	10.66	ug/L		97
67) 1,2-Dibromoethane	11.292	107	168695	10.58	ug/L		99
68) 2-hexanone	11.426	43	717810	57.69	ug/L		97
69) 1-Chlorohexane	11.731	91	261052	10.76	ug/L		97
70) Ethylbenzene	11.798	91	908352	11.99	ug/L		98
71) Chlorobenzene	11.798	112	485769	11.71	ug/L		98
72) 1,1,1,2-Tetrachloroethane	11.847	131	164888	10.86	ug/L		96
73) m,p-Xylene	11.932	91	1345694	23.00	ug/L		97
74) o-Xylene	12.371	91	671609	10.70	ug/L		99
75) Styrene	12.420	104	491441	10.93	ug/L		99
76) Bromoform	12.481	173	103590	9.84	ug/L		99
77) Isopropylbenzene	12.676	105	822862	10.86	ug/L		99
80) cis-1,4-Dichloro-2-butene	13.017	53	63839	9.15	ug/L		87
81) n-Propylbenzene	13.097	91	960419	10.57	ug/L		99
82) Bromobenzene	13.115	156	197536	11.25	ug/L		96
83) 1,1,2,2-Tetrachloroethane	13.152	83	246739	10.60	ug/L		98
84) 1,3,5-Trimethylbenzene	13.274	105	640460	10.84	ug/L		99
85) 2-Chlorotoluene	13.286	91	653009	10.78	ug/L		96
86) trans-1,4-Dichloro-2-B...	13.334	53	61219	9.08	ug/L	#	84
87) 1,2,3-Trichloropropane	13.310	110	76376	10.84	ug/L		98
88) Cyclohexanone	13.377	55	46489	50.18	ug/L		92
89) 4-Chlorotoluene	13.450	91	558227	10.18	ug/L		100
90) tert-Butylbenzene	13.615	91	382174	10.41	ug/L		99
91) 1,2,4-Trimethylbenzene	13.682	105	590174	10.10	ug/L		99
92) Pentachloroethane	13.670	167	102642	9.99	ug/L		99
93) sec-Butylbenzene	13.798	105	796692	10.53	ug/L		99
94) 4-Isopropyltoluene	13.932	119	634179	10.74	ug/L		98
95) 1,3-Dichlorobenzene	14.066	146	321942	10.35	ug/L		99
96) 1,2,3-Trimethylbenzene	14.145	105	519636	6.55	ug/L		99
97) 1,4-Dichlorobenzene	14.151	146	335093	11.15	ug/L		99
98) n-Butylbenzene	14.365	92	326585	10.53	ug/L		87
99) Benzyl Chloride	14.383	126	73555	8.61	ug/L	#	81
100) 1,2-Dichlorobenzene	14.578	146	308800	10.48	ug/L		99
101) 1,2-Dibromo-3-Chloropr...	15.316	75	43055	9.10	ug/L		90
102) Hexachlorobutadiene	15.864	225	85006	10.00	ug/L		98
103) 1,2,4-Trichlorobenzene	15.913	180	150154	10.40	ug/L		99
104) Naphthalene	16.194	128	413301	10.04	ug/L		99
105) 1,2,3-Trichlorobenzene	16.358	180	141063	10.57	ug/L		97
107) Ethanol	4.891	45	42812m	191.02	ug/L		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:29:31 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

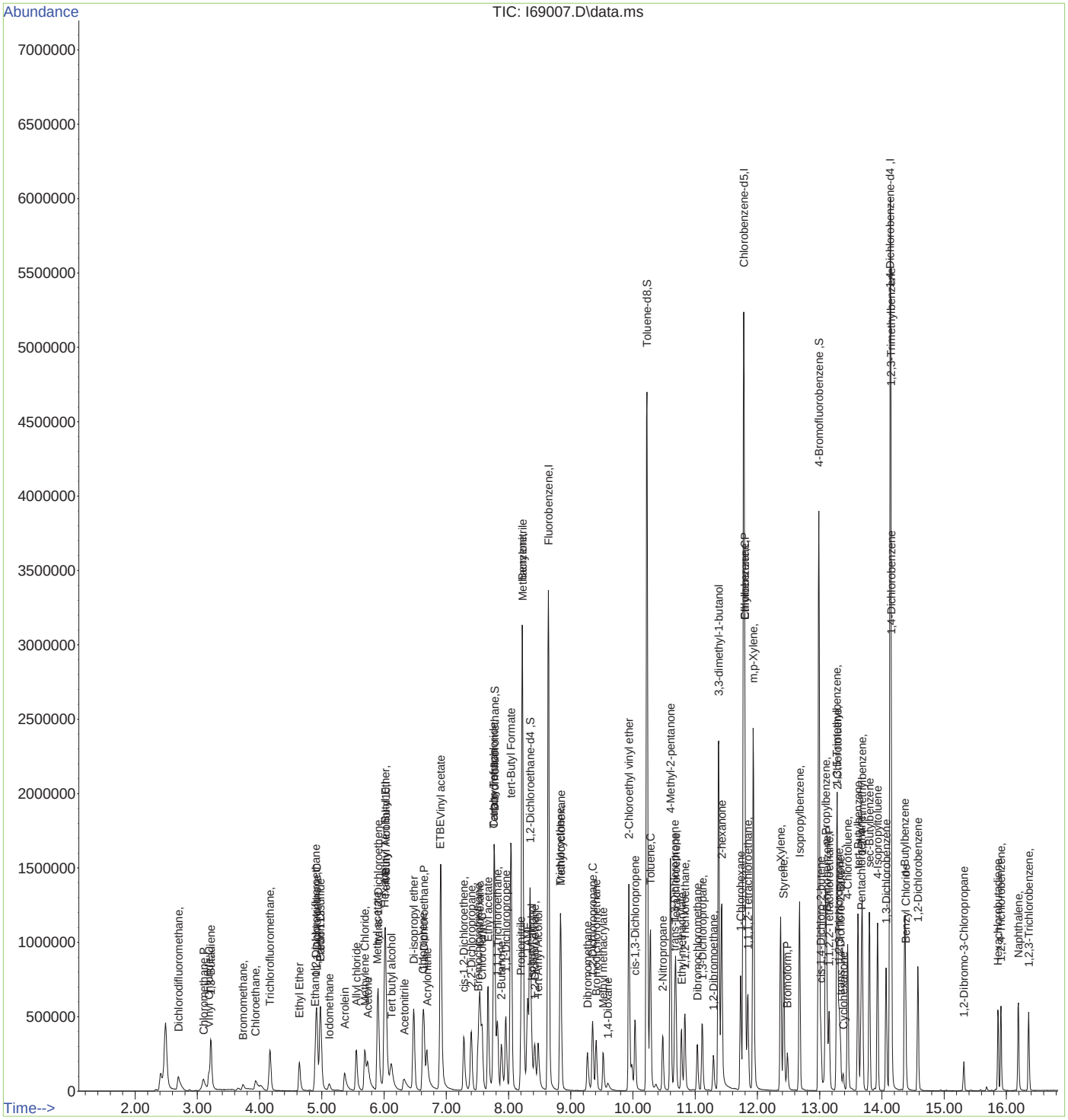
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.367	56	172168	50.64	ug/L	99
109) Tert butyl alcohol	6.116	59	301894	103.48	ug/L	89
110) Isobutyl alcohol	8.372	42	87178	168.96	ug/L	93
111) Tert Amyl Alcohol	8.476	59	212532	103.18	ug/L	95
112) 1,4-Dioxane	9.597	88	47557	229.39	ug/L	90
113) 3,3-dimethyl-1-butanol	11.378	57	1117056	547.29	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:29:31 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Manual Integration Approval Summary

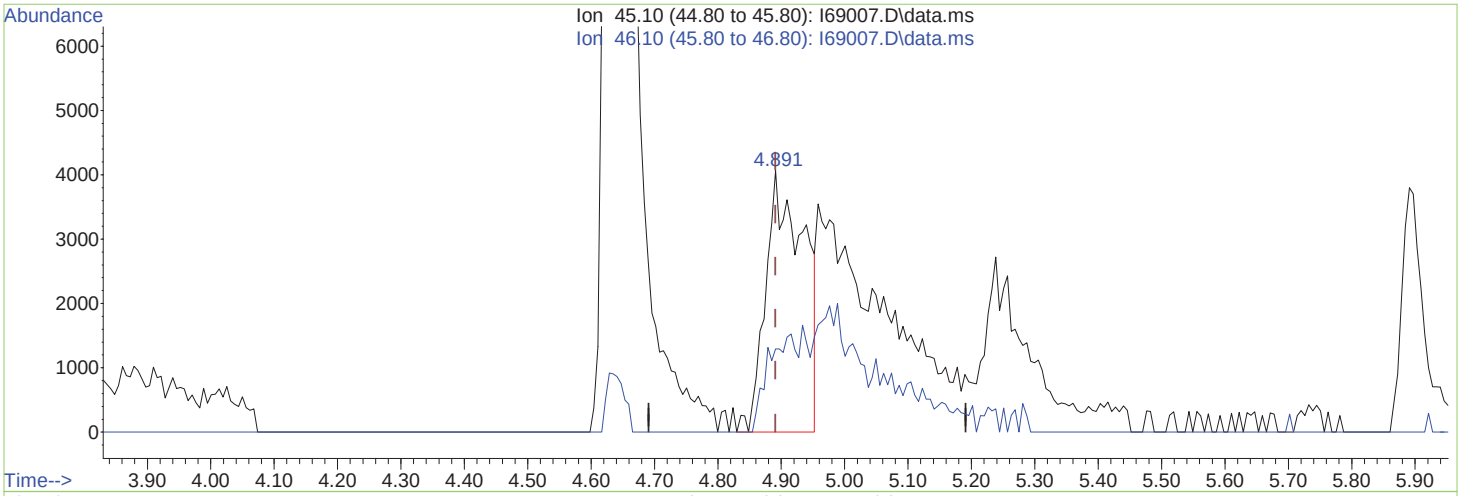
Sample Number: VI2216-IC2216
Lab FileID: I69007.D
Injection Time: 06/21/21 13:11
Method: SW846 8260B
Analyst approved: 06/22/21 08:21 Lindsay Ritner
Supervisor approved: 06/23/21 08:07 Chelsea VanDenBurg

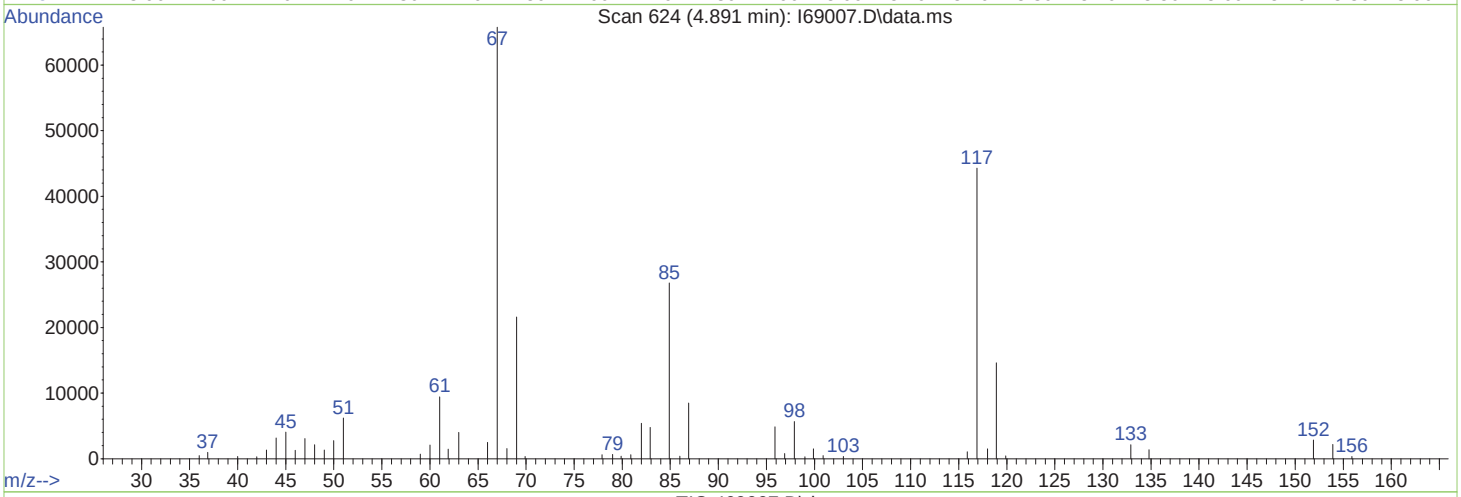
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		4.89	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:20:12 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69007.D\data.ms

(107) Ethanol

4.891min (-0.000) 75.52ug/L

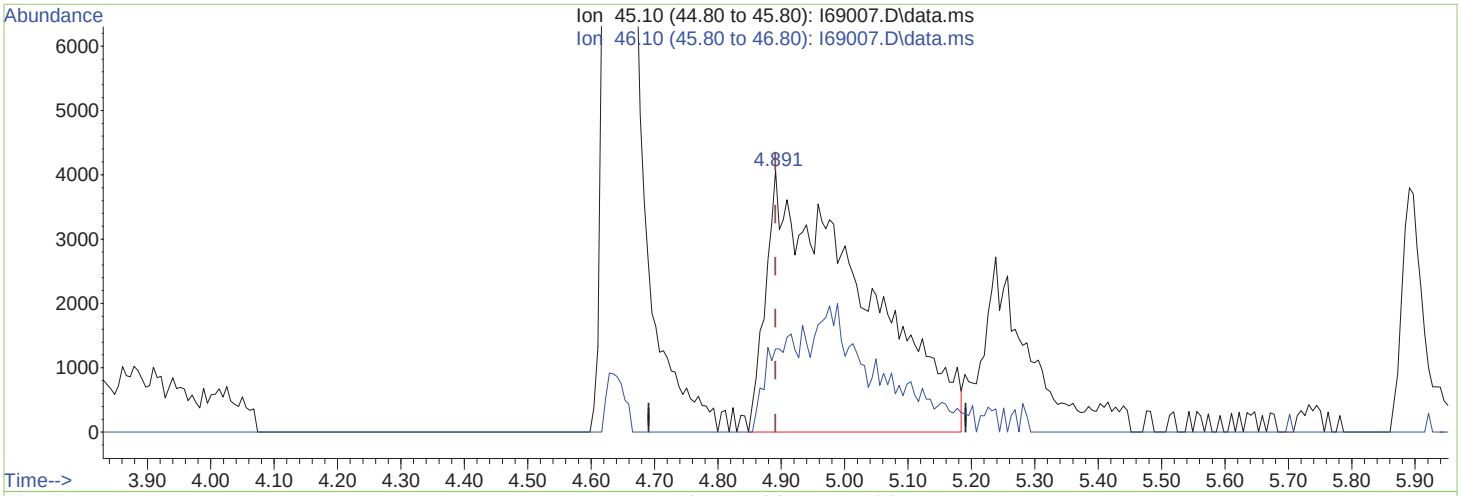
response 16926

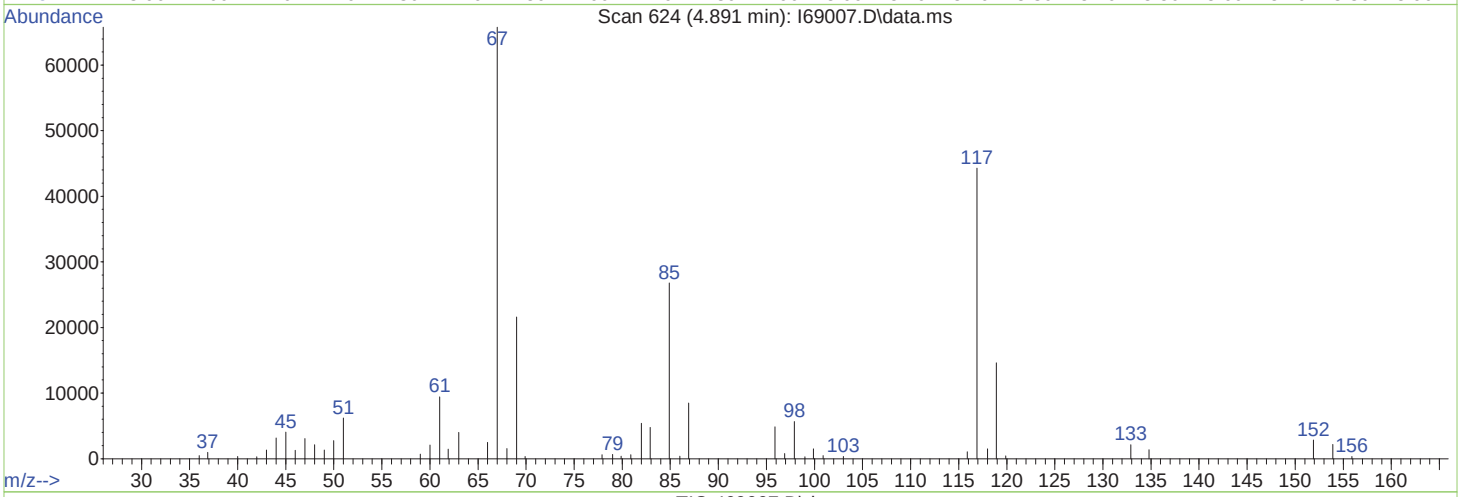
Ion	Exp%	Act%
45.10	100	100
46.10	39.20	31.82
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:20:12 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69007.D\data.ms

(107) Ethanol

4.891min (-0.000) 191.02ug/L m

response 42812

Ion	Exp%	Act%
45.10	100	100
46.10	39.20	31.82
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69008.D
Acq On : 21 Jun 2021 1:35 pm
Operator : LINDSAYR
Sample : IC2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 21 15:20:15 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3183221	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2552000	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1380849	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.031	65	804741	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.774	113	871634	50.64	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.28%			
46) 1,2-Dichloroethane-d4	8.348	65	998689	48.13	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 96.26%			
57) Toluene-d8	10.225	98	3262156	46.69	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 93.38%			
79) 4-Bromofluorobenzene	12.987	174	1089483	48.03	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.696	85	529363	27.15	ug/L	99
3) Chloromethane	3.105	50	453691	19.88	ug/L	99
4) Vinyl Chloride	3.190	62	593791	28.92	ug/L	99
5) 1,3-Butadiene	3.214	39	323812	27.09	ug/L	97
6) Bromomethane	3.733	94	146223	11.36	ug/L	96
7) Chloroethane	3.934	64	168571	35.13	ug/L	98
8) Trichlorofluoromethane	4.159	101	800180	29.41	ug/L	99
9) Ethyl Ether	4.641	59	377642	28.32	ug/L	96
10) 1,2-Dichlorotrifluoroe...	4.903	67	556543	29.81	ug/L	98
11) 1,1-Dichloroethene	4.921	61	745715	31.01	ug/L	97
12) Freon 113	4.976	101	504956	31.23	ug/L	98
13) Carbon Disulfide	4.970	76	1179035	27.16	ug/L	99
14) Iodomethane	5.116	142	248028	11.19	ug/L	97
15) Allyl chloride	5.549	41	578880	25.23	ug/L	92
16) Methylene Chloride	5.690	49	609625	28.41	ug/L	96
17) Acetone	5.732	43	835759	160.67	ug/L	99
18) Methyl acetate	5.891	43	1639528	143.01	ug/L	98
19) trans-1,2-Dichloroethene	5.903	61	679072	31.33	ug/L	98
20) Hexane	6.007	56	402286	28.82	ug/L	96
21) Methyl Tert Butyl Ether	6.019	73	1417304	29.42	ug/L	84
22) Acetonitrile	6.305	41	536025	261.95	ug/L	99
23) Di-isopropyl ether	6.476	45	1381111	27.06	ug/L	97
24) Chloroprene	6.622	53	707469	29.73	ug/L	97
25) 1,1-Dichloroethane	6.641	63	899683	30.87	ug/L	100
26) Acrylonitrile	6.677	53	940527	144.89	ug/L	99
27) ETBE	6.909	59	1524321	30.04	ug/L	99
28) Vinyl acetate	6.909	43	4607092	158.36	ug/L	99
29) cis-1,2-Dichloroethene	7.281	96	510652	31.15	ug/L	99
30) 2,2-Dichloropropane	7.403	77	804836	30.74	ug/L	100
31) Bromochloromethane	7.506	128	226453	30.73	ug/L	96
32) Cyclohexane	7.537	56	833434	28.42	ug/L	98
33) Chloroform	7.573	83	936485	31.14	ug/L	100
34) Ethyl acetate	7.665	43	2372896	147.20	ug/L	98
35) Tetrahydrofuran	7.762	42	149799	27.74	ug/L	95
37) Carbon Tetrachloride	7.762	117	683062	31.55	ug/L	99
38) 1,1,1-Trichloroethane	7.823	97	811518	31.12	ug/L	100
39) 2-Butanone	7.884	43	1231515	154.74	ug/L	96
40) 1,1-Dichloropropene	7.957	75	701680	30.23	ug/L	99
41) tert-Butyl Formate	8.037	59	2222486	141.07	ug/L	91
42) Propionitrile	8.195	54	824677	310.03	ug/L	100
43) Methacrylonitrile	8.226	41	2887772	312.84	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69008.D
Acq On : 21 Jun 2021 1:35 pm
Operator : LINDSAYR
Sample : IC2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 21 15:20:15 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Benzene	8.220	78	2014310	33.54	ug/L		95
45) TAME	8.305	73	1373498	29.52	ug/L		99
47) 1,2-Dichloroethane	8.421	62	631308	30.26	ug/L		100
48) Trichloroethene	8.829	95	517595	30.38	ug/L		98
49) Methylcyclohexane	8.841	83	808153	28.95	ug/L		96
50) Dibromomethane	9.262	93	298399	31.65	ug/L		96
51) 1,2-Dichloropropane	9.347	63	493518	28.85	ug/L		99
52) Bromodichloromethane	9.408	83	627839	30.89	ug/L		100
53) Methyl methacrylate	9.518	41	375511	27.79	ug/L		92
54) 2-Chloroethyl vinyl ether	9.933	63	1587504	167.55	ug/L		98
55) cis-1,3-Dichloropropene	10.030	75	802717	30.06	ug/L		100
58) Toluene	10.280	91	2089757	27.68	ug/L		97
59) 2-Nitropropane	10.475	41	624551	133.80	ug/L		99
60) 4-Methyl-2-pentanone	10.603	43	2531364	137.93	ug/L		99
61) trans-1,3-Dichloropropene	10.670	75	682810	27.89	ug/L		98
62) Tetrachloroethene	10.689	166	499808	29.09	ug/L		99
63) Ethyl methacrylate	10.774	69	635007	27.11	ug/L		97
64) 1,1,2-Trichloroethane	10.835	83	367640	27.34	ug/L		98
65) Dibromochloromethane	11.030	129	467870	28.42	ug/L		99
66) 1,3-Dichloropropane	11.109	76	768764	27.27	ug/L		98
67) 1,2-Dibromoethane	11.292	107	457440	27.18	ug/L		100
68) 2-hexanone	11.420	43	1915364	145.81	ug/L		98
69) 1-Chlorohexane	11.731	91	704927	27.52	ug/L		96
70) Ethylbenzene	11.792	91	2348359	29.37	ug/L		98
71) Chlorobenzene	11.798	112	1254653	28.65	ug/L		100
72) 1,1,1,2-Tetrachloroethane	11.847	131	451583	28.18	ug/L		99
73) m,p-Xylene	11.932	91	3512839	56.86	ug/L		99
74) o-Xylene	12.371	91	1768944	26.69	ug/L		99
75) Styrene	12.420	104	1341995	28.27	ug/L		100
76) Bromoform	12.481	173	311707	26.98	ug/L		99
77) Isopropylbenzene	12.676	105	2175461	27.19	ug/L		99
80) cis-1,4-Dichloro-2-butene	13.017	53	185583	25.32	ug/L		94
81) n-Propylbenzene	13.097	91	2548457	26.70	ug/L		100
82) Bromobenzene	13.115	156	504981	27.39	ug/L		100
83) 1,1,2,2-Tetrachloroethane	13.151	83	661450	27.06	ug/L		97
84) 1,3,5-Trimethylbenzene	13.273	105	1697277	27.36	ug/L		99
85) 2-Chlorotoluene	13.286	91	1698955	26.69	ug/L		96
86) trans-1,4-Dichloro-2-B...	13.328	53	173799	24.53	ug/L		91
87) 1,2,3-Trichloropropane	13.310	110	199042	26.89	ug/L		98
88) Cyclohexanone	13.377	55	125057	128.52	ug/L		97
89) 4-Chlorotoluene	13.450	91	1484884	25.77	ug/L		99
90) tert-Butylbenzene	13.615	91	989545	25.66	ug/L		99
91) 1,2,4-Trimethylbenzene	13.682	105	1554117	25.32	ug/L		99
92) Pentachloroethane	13.670	167	283352	26.25	ug/L		95
93) sec-Butylbenzene	13.798	105	2064168	25.97	ug/L		98
94) 4-Isopropyltoluene	13.932	119	1657015	26.71	ug/L		99
95) 1,3-Dichlorobenzene	14.066	146	850693	26.03	ug/L		99
96) 1,2,3-Trimethylbenzene	14.145	105	1363448	16.36	ug/L		100
97) 1,4-Dichlorobenzene	14.151	146	866010	27.43	ug/L		98
98) n-Butylbenzene	14.365	92	897085	27.55	ug/L		92
99) Benzyl Chloride	14.377	126	231250	25.78	ug/L	#	75
100) 1,2-Dichlorobenzene	14.578	146	811845	26.23	ug/L		99
101) 1,2-Dibromo-3-Chloropr...	15.316	75	126626	25.49	ug/L		96
102) Hexachlorobutadiene	15.870	225	232508	26.05	ug/L		94
103) 1,2,4-Trichlorobenzene	15.913	180	414044	27.30	ug/L		99
104) Naphthalene	16.194	128	1171188	27.09	ug/L		100
105) 1,2,3-Trichlorobenzene	16.358	180	387979	27.69	ug/L		98
107) Ethanol	4.885	45	105908	424.15	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69008.D
Acq On : 21 Jun 2021 1:35 pm
Operator : LINDSAYR
Sample : IC2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 21 15:20:15 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

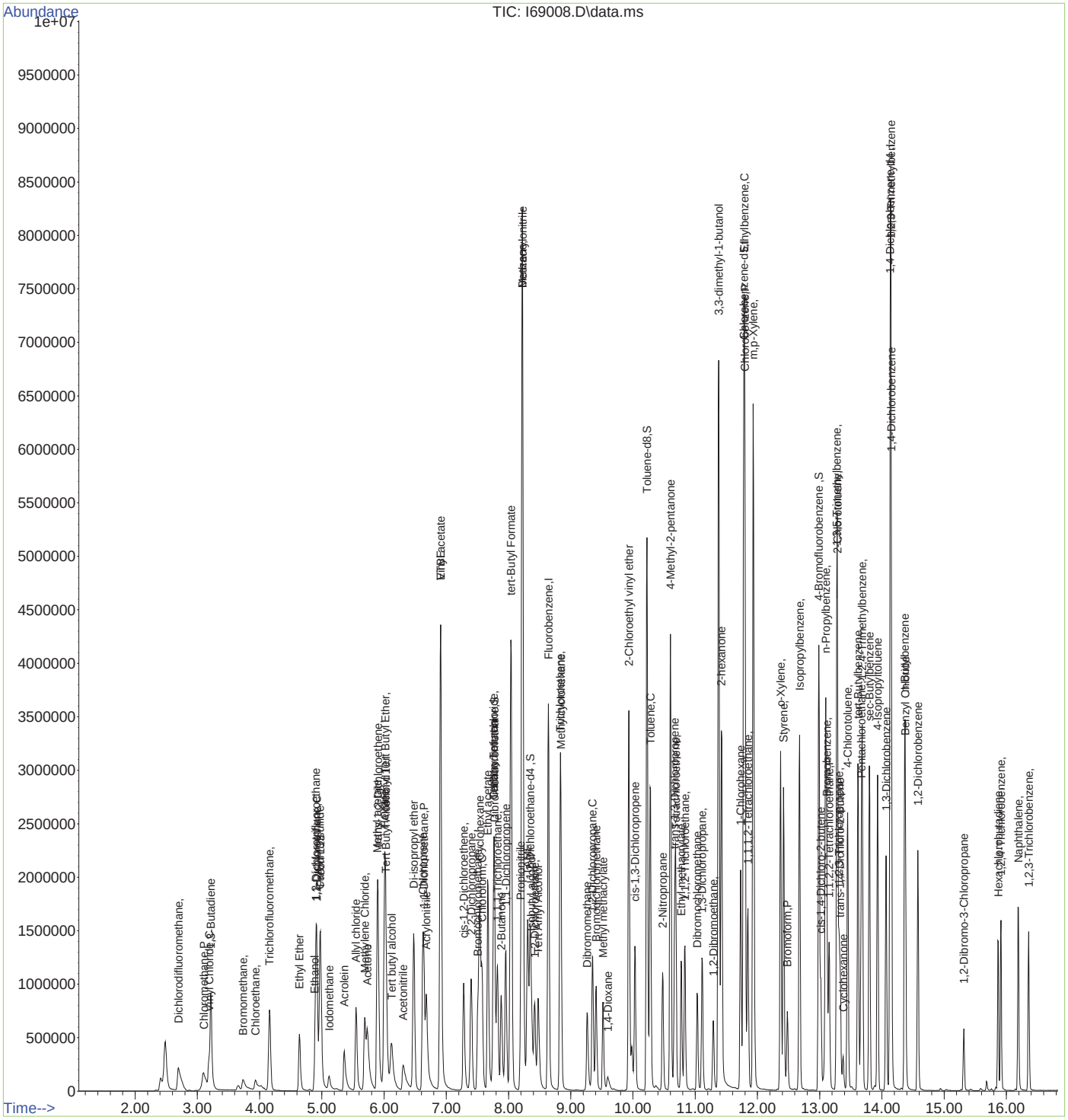
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.360	56	481325	122.84	ug/L	97
109) Tert butyl alcohol	6.122	59	831233	255.74	ug/L	98
110) Isobutyl alcohol	8.366	42	262142	456.03	ug/L	98
111) Tert Amyl Alcohol	8.476	59	608448	265.14	ug/L	97
112) 1,4-Dioxane	9.597	88	128522	556.44	ug/L	90
113) 3,3-dimethyl-1-butanol	11.377	57	3154945	1387.44	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69008.D
Acq On : 21 Jun 2021 1:35 pm
Operator : LINDSAYR
Sample : IC2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 21 15:20:15 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69009.D
Acq On : 21 Jun 2021 2:00 pm
Operator : LINDSAYR
Sample : ICC2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 21 15:20:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3346753	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2661620	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1451811	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.037	65	874817	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.774	113	917368	50.70	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.40%			
46) 1,2-Dichloroethane-d4	8.348	65	1041497	47.74	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 95.48%			
57) Toluene-d8	10.225	98	3406608	46.75	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 93.50%			
79) 4-Bromofluorobenzene	12.987	174	1144667	47.99	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.98%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.696	85	895581	43.68	ug/L	100
3) Chloromethane	3.111	50	761725	31.75	ug/L	98
4) Vinyl Chloride	3.190	62	996730	46.17	ug/L	99
5) 1,3-Butadiene	3.214	39	509386	40.53	ug/L	99
6) Bromomethane	3.739	94	274125	20.25	ug/L	96
7) Chloroethane	3.934	64	238335	48.29	ug/L	98
8) Trichlorofluoromethane	4.153	101	1374755	48.06	ug/L	99
9) Ethyl Ether	4.641	59	627864	44.79	ug/L	96
10) 1,2-Dichlorotrifluoroe...	4.903	67	928414	47.29	ug/L	99
11) 1,1-Dichloroethene	4.915	61	1262498	49.93	ug/L	98
12) Freon 113	4.976	101	845932	49.76	ug/L	99
13) Carbon Disulfide	4.970	76	2019959	44.26	ug/L	100
14) Iodomethane	5.116	142	460621	19.82	ug/L	96
15) Allyl chloride	5.549	41	980036	40.63	ug/L	95
16) Methylene Chloride	5.690	49	996554	44.99	ug/L	95
17) Acetone	5.732	43	1391584	254.45	ug/L	98
18) Methyl acetate	5.891	43	2826414	237.12	ug/L	96
19) trans-1,2-Dichloroethene	5.903	61	1148318	50.39	ug/L	97
20) Hexane	6.007	56	671408	45.75	ug/L	98
21) Methyl Tert Butyl Ether	6.025	73	2313962	45.69	ug/L	95
22) Acetonitrile	6.305	41	937753	433.99	ug/L	99
23) Di-isopropyl ether	6.476	45	2302500	42.92	ug/L	98
24) Chloroprene	6.622	53	1196543	47.83	ug/L	97
25) 1,1-Dichloroethane	6.641	63	1504860	49.12	ug/L	100
26) Acrylonitrile	6.677	53	1580757	231.61	ug/L	99
27) ETBE	6.909	59	2490058	46.68	ug/L	98
28) Vinyl acetate	6.909	43	7384076	241.41	ug/L	99
29) cis-1,2-Dichloroethene	7.281	96	855919	49.67	ug/L	97
30) 2,2-Dichloropropane	7.397	77	1334890	48.50	ug/L	99
31) Bromochloromethane	7.506	128	376119	48.55	ug/L	97
32) Cyclohexane	7.537	56	1397071	45.31	ug/L	97
33) Chloroform	7.573	83	1546134	48.89	ug/L	100
34) Ethyl acetate	7.665	43	3916053	231.05	ug/L	99
35) Tetrahydrofuran	7.762	42	245204	44.26	ug/L	98
37) Carbon Tetrachloride	7.756	117	1149443	50.50	ug/L	99
38) 1,1,1-Trichloroethane	7.823	97	1358710	49.56	ug/L	98
39) 2-Butanone	7.878	43	2057046	245.84	ug/L	96
40) 1,1-Dichloropropene	7.957	75	1174652	48.13	ug/L	98
41) tert-Butyl Formate	8.037	59	3687322	222.61	ug/L	94
42) Propionitrile	8.195	54	1384419	495.03	ug/L	98
43) Methacrylonitrile	8.226	41	4576443	471.55	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69009.D
Acq On : 21 Jun 2021 2:00 pm
Operator : LINDSAYR
Sample : ICC2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 21 15:20:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Benzene	8.220	78	3288830	52.08	ug/L		98
45)	TAME	8.305	73	2252140	46.04	ug/L		98
47)	1,2-Dichloroethane	8.421	62	1028978	46.91	ug/L		99
48)	Trichloroethene	8.829	95	872840	48.73	ug/L		99
49)	Methylcyclohexane	8.835	83	1357610	46.26	ug/L		96
50)	Dibromomethane	9.262	93	499311	50.37	ug/L		98
51)	1,2-Dichloropropane	9.347	63	827983	46.04	ug/L		99
52)	Bromodichloromethane	9.408	83	1062582	49.72	ug/L		99
53)	Methyl methacrylate	9.518	41	630306	44.15	ug/L		92
54)	2-Chloroethyl vinyl ether	9.933	63	2448067	245.75	ug/L		98
55)	cis-1,3-Dichloropropene	10.030	75	1349406	48.07	ug/L		99
58)	Toluene	10.274	91	3429912	43.56	ug/L		99
59)	2-Nitropropane	10.475	41	1061787	218.10	ug/L		99
60)	4-Methyl-2-pentanone	10.603	43	4067488	212.51	ug/L		99
61)	trans-1,3-Dichloropropene	10.664	75	1134695	44.44	ug/L		98
62)	Tetrachloroethene	10.689	166	832723	46.47	ug/L		98
63)	Ethyl methacrylate	10.774	69	1037517	42.47	ug/L		97
64)	1,1,2-Trichloroethane	10.835	83	605261	43.15	ug/L		98
65)	Dibromochloromethane	11.030	129	792504	46.15	ug/L		99
66)	1,3-Dichloropropane	11.109	76	1257309	42.76	ug/L		97
67)	1,2-Dibromoethane	11.286	107	760974	43.36	ug/L		99
68)	2-hexanone	11.420	43	3085108	225.18	ug/L		98
69)	1-Chlorohexane	11.731	91	1179549	44.15	ug/L		95
70)	Ethylbenzene	11.798	91	3819414	45.80	ug/L		99
71)	Chlorobenzene	11.798	112	2041552	44.70	ug/L		99
72)	1,1,1,2-Tetrachloroethane	11.847	131	744049	44.52	ug/L		98
73)	m,p-Xylene	11.932	91	5693943	88.37	ug/L		99
74)	o-Xylene	12.371	91	2906948	42.06	ug/L		99
75)	Styrene	12.420	104	2229541	45.03	ug/L		99
76)	Bromoform	12.481	173	532551	42.69	ug/L		99
77)	Isopropylbenzene	12.676	105	3582176	42.92	ug/L		98
80)	cis-1,4-Dichloro-2-butene	13.017	53	313059	40.63	ug/L		99
81)	n-Propylbenzene	13.097	91	4176977	41.62	ug/L		99
82)	Bromobenzene	13.115	156	834044	43.02	ug/L		100
83)	1,1,2,2-Tetrachloroethane	13.152	83	1082883	42.14	ug/L		98
84)	1,3,5-Trimethylbenzene	13.273	105	2808853	43.06	ug/L		100
85)	2-Chlorotoluene	13.286	91	2795865	41.78	ug/L		96
86)	trans-1,4-Dichloro-2-B...	13.328	53	290635	39.02	ug/L		92
87)	1,2,3-Trichloropropane	13.310	110	329028	42.27	ug/L		99
88)	Cyclohexanone	13.377	55	199423	194.93	ug/L		97
89)	4-Chlorotoluene	13.450	91	2460773	40.63	ug/L		99
90)	tert-Butylbenzene	13.615	91	1640028	40.45	ug/L		100
91)	1,2,4-Trimethylbenzene	13.682	105	2602173	40.33	ug/L		99
92)	Pentachloroethane	13.670	167	475122	41.86	ug/L		97
93)	sec-Butylbenzene	13.798	105	3449656	41.28	ug/L		99
94)	4-Isopropyltoluene	13.932	119	2761265	42.33	ug/L		99
95)	1,3-Dichlorobenzene	14.066	146	1410116	41.04	ug/L		99
96)	1,2,3-Trimethylbenzene	14.145	105	2274635	25.96	ug/L		99
97)	1,4-Dichlorobenzene	14.151	146	1420326	42.78	ug/L		99
98)	n-Butylbenzene	14.365	92	1510523	44.12	ug/L		92
99)	Benzyl Chloride	14.377	126	388388	41.19	ug/L	#	78
100)	1,2-Dichlorobenzene	14.578	146	1344183	41.30	ug/L		99
101)	1,2-Dibromo-3-Chloropr...	15.316	75	224510	42.98	ug/L		98
102)	Hexachlorobutadiene	15.870	225	388502	41.40	ug/L		93
103)	1,2,4-Trichlorobenzene	15.913	180	716028	44.90	ug/L		99
104)	Naphthalene	16.194	128	2032816	44.72	ug/L		100
105)	1,2,3-Trichlorobenzene	16.358	180	674320	45.77	ug/L		99
107)	Ethanol	4.897	45	177187	652.77	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69009.D
Acq On : 21 Jun 2021 2:00 pm
Operator : LINDSAYR
Sample : ICC2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 21 15:20:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.360	56	821780	187.35	ug/L	99
109) Tert butyl alcohol	6.128	59	1414885	400.43	ug/L	97
110) Isobutyl alcohol	8.372	42	428275	685.35	ug/L	99
111) Tert Amyl Alcohol	8.476	59	1048079	420.13	ug/L	97
112) 1,4-Dioxane	9.591	88	210759	839.40	ug/L	95
113) 3,3-dimethyl-1-butanol	11.377	57	5221240	2112.20	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

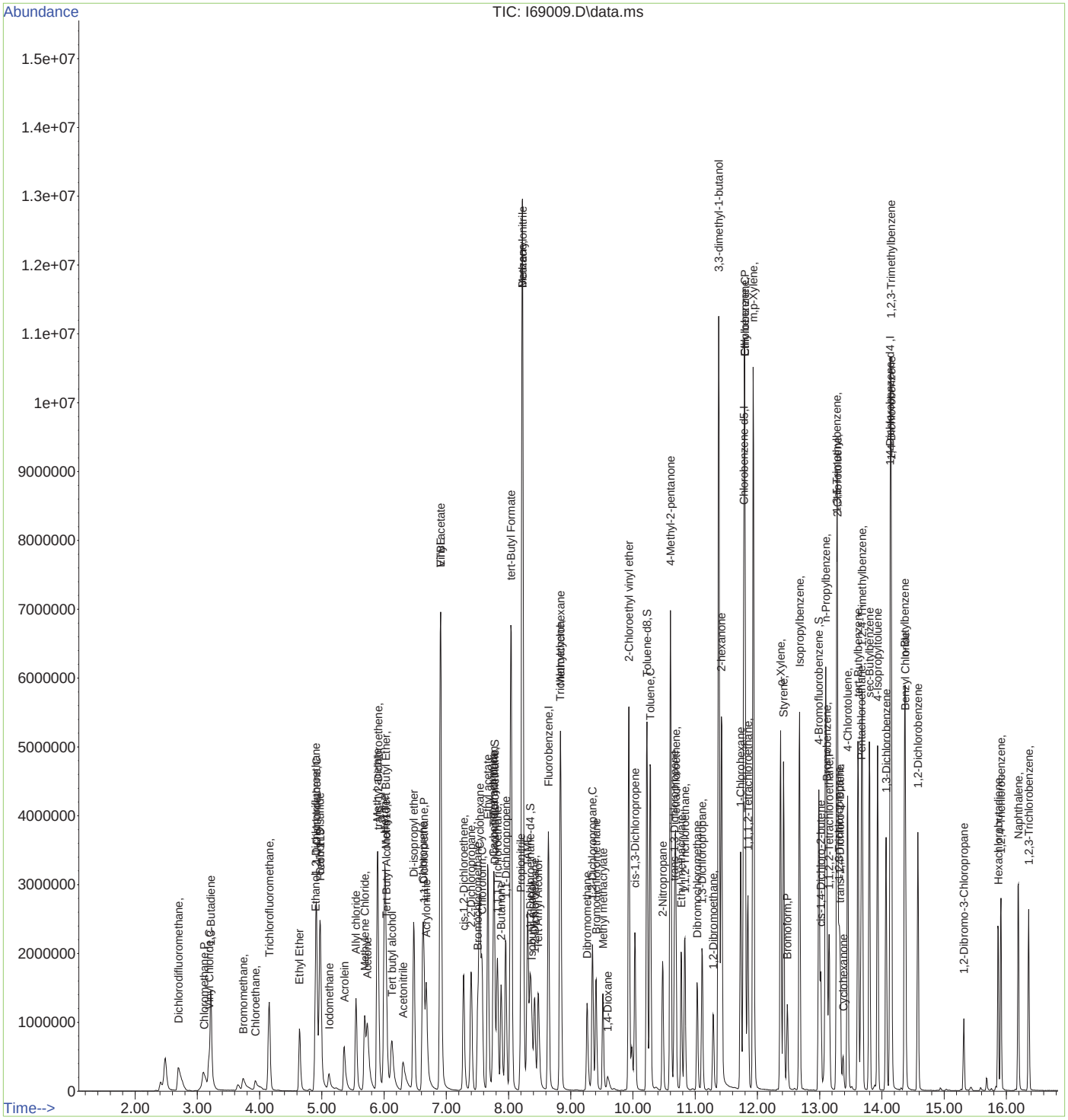
7.6.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69009.D
Acq On : 21 Jun 2021 2:00 pm
Operator : LINDSAYR
Sample : ICC2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 21 15:20:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69010.D
Acq On : 21 Jun 2021 2:24 pm
Operator : LINDSAYR
Sample : IC2216-6
Misc : MS49159,VI2216,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 21 15:20:21 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3391190	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2691600	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.139	152	1495622	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.049	65	874997	250.00	ug/L	0.01
System Monitoring Compounds						
36) Dibromofluoromethane	7.775	113	926854	50.55	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.10%			
46) 1,2-Dichloroethane-d4	8.348	65	1038798	46.99	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 93.98%			
57) Toluene-d8	10.225	98	3475530	47.17	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 94.34%			
79) 4-Bromofluorobenzene	12.987	174	1177347	47.92	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	1678640	80.81	ug/L	99
3) Chloromethane	3.117	50	1391206	57.23	ug/L	99
4) Vinyl Chloride	3.190	62	1827161	83.52	ug/L	100
5) 1,3-Butadiene	3.214	39	906649	71.19	ug/L	98
6) Bromomethane	3.739	94	569002	41.49	ug/L	99
7) Chloroethane	3.928	64	409333	87.70	ug/L	98
8) Trichlorofluoromethane	4.141	101	2331441	80.44	ug/L	100
9) Ethyl Ether	4.647	59	1179155	83.01	ug/L	96
10) 1,2-Dichlorotrifluoroe...	4.903	67	1702198	85.57	ug/L	98
11) 1,1-Dichloroethene	4.909	61	2313896	90.31	ug/L	97
12) Freon 113	4.970	101	1536887	89.23	ug/L	99
13) Carbon Disulfide	4.964	76	3816836	82.53	ug/L	99
14) Iodomethane	5.110	142	957782	40.94	ug/L	100
15) Allyl chloride	5.543	41	1795794	73.47	ug/L	96
16) Methylene Chloride	5.690	49	1849730	86.44	ug/L	94
17) Acetone	5.732	43	2599046	469.01	ug/L	99
18) Methyl acetate	5.891	43	5174473	438.97	ug/L	96
19) trans-1,2-Dichloroethene	5.897	61	2107202	91.26	ug/L	98
20) Hexane	6.000	56	1237716	83.23	ug/L	87
21) Methyl Tert Butyl Ether	6.025	73	4234913	82.53	ug/L	88
22) Acetonitrile	6.305	41	1721861	779.67	ug/L	99
23) Di-isopropyl ether	6.482	45	4207900	77.40	ug/L	97
24) Chloroprene	6.616	53	2214437	87.36	ug/L	97
25) 1,1-Dichloroethane	6.641	63	2714813	87.45	ug/L	100
26) Acrylonitrile	6.677	53	2802981	405.31	ug/L	98
27) ETBE	6.909	59	4528033	83.77	ug/L	98
28) Vinyl acetate	6.909	43	12186481	393.20	ug/L	96
29) cis-1,2-Dichloroethene	7.275	96	1582835	90.64	ug/L	99
30) 2,2-Dichloropropane	7.397	77	2426107	86.99	ug/L	98
31) Bromochloromethane	7.506	128	695284	88.57	ug/L	94
32) Cyclohexane	7.537	56	2587517	82.81	ug/L	97
33) Chloroform	7.573	83	2807794	87.63	ug/L	99
34) Ethyl acetate	7.665	43	6606404	384.68	ug/L	100
35) Tetrahydrofuran	7.762	42	442914	83.86	ug/L	99
37) Carbon Tetrachloride	7.756	117	2126356	92.20	ug/L	99
38) 1,1,1-Trichloroethane	7.823	97	2460695	88.58	ug/L	99
39) 2-Butanone	7.884	43	3897036	459.64	ug/L	95
40) 1,1-Dichloropropene	7.951	75	2151581	87.00	ug/L	98
41) tert-Butyl Formate	8.043	59	6660987	396.87	ug/L	97
42) Propionitrile	8.201	54	2496606	881.02	ug/L	79
43) Methacrylonitrile	8.226	41	7556918	768.45	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69010.D
Acq On : 21 Jun 2021 2:24 pm
Operator : LINDSAYR
Sample : IC2216-6
Misc : MS49159,VI2216,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 21 15:20:21 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Benzene	8.220	78	5728436	89.52	ug/L		100
45) TAME	8.311	73	4140806	83.54	ug/L		96
47) 1,2-Dichloroethane	8.421	62	1888309	84.96	ug/L		99
48) Trichloroethene	8.829	95	1597041	88.00	ug/L		99
49) Methylcyclohexane	8.835	83	2535056	85.25	ug/L		96
50) Dibromomethane	9.262	93	946080	94.19	ug/L		99
51) 1,2-Dichloropropane	9.347	63	1559161	85.57	ug/L		98
52) Bromodichloromethane	9.408	83	2025067	93.51	ug/L		98
53) Methyl methacrylate	9.512	41	1179795	80.64	ug/L		94
54) 2-Chloroethyl vinyl ether	9.933	63	4090958	405.29	ug/L		97
55) cis-1,3-Dichloropropene	10.030	75	2536955	89.19	ug/L		99
58) Toluene	10.274	91	6211260	78.01	ug/L		100
59) 2-Nitropropane	10.475	41	1943545	394.77	ug/L		100
60) 4-Methyl-2-pentanone	10.603	43	7250447	374.59	ug/L		95
61) trans-1,3-Dichloropropene	10.664	75	2131490	82.55	ug/L		98
62) Tetrachloroethene	10.682	166	1527152	84.28	ug/L		98
63) Ethyl methacrylate	10.774	69	1920079	77.73	ug/L		96
64) 1,1,2-Trichloroethane	10.829	83	1118038	78.83	ug/L		100
65) Dibromochloromethane	11.030	129	1524513	87.80	ug/L		99
66) 1,3-Dichloropropane	11.109	76	2365338	79.54	ug/L		96
67) 1,2-Dibromoethane	11.286	107	1438544	81.05	ug/L		100
68) 2-hexanone	11.420	43	5555269	400.97	ug/L		95
69) 1-Chlorohexane	11.731	91	2177116	80.59	ug/L		96
70) Ethylbenzene	11.798	91	6767744	80.25	ug/L		97
71) Chlorobenzene	11.798	112	3683708	79.75	ug/L		99
72) 1,1,1,2-Tetrachloroethane	11.847	131	1388314	82.15	ug/L		98
73) m,p-Xylene	11.932	91	9953428	152.76	ug/L		96
74) o-Xylene	12.371	91	5331970	76.28	ug/L		98
75) Styrene	12.420	104	4139303	82.67	ug/L		99
76) Bromoform	12.481	173	1048352	77.30	ug/L		99
77) Isopropylbenzene	12.676	105	6518073	77.23	ug/L		98
80) cis-1,4-Dichloro-2-butene	13.017	53	587705	74.04	ug/L		99
81) n-Propylbenzene	13.097	91	7574455	73.26	ug/L		97
82) Bromobenzene	13.115	156	1554355	77.83	ug/L		100
83) 1,1,2,2-Tetrachloroethane	13.152	83	2020489	76.31	ug/L		99
84) 1,3,5-Trimethylbenzene	13.280	105	5267763	78.39	ug/L		99
85) 2-Chlorotoluene	13.286	91	5033268	73.01	ug/L		96
86) trans-1,4-Dichloro-2-B...	13.328	53	551039	71.81	ug/L		93
87) 1,2,3-Trichloropropane	13.310	110	602720	75.17	ug/L		97
88) Cyclohexanone	13.377	55	341555	324.08	ug/L		98
89) 4-Chlorotoluene	13.450	91	4587473	73.52	ug/L		99
90) tert-Butylbenzene	13.615	91	3042163	72.84	ug/L		99
91) 1,2,4-Trimethylbenzene	13.682	105	4937986	74.29	ug/L		99
92) Pentachloroethane	13.670	167	908038	77.66	ug/L		99
93) sec-Butylbenzene	13.798	105	6367121	73.97	ug/L		100
94) 4-Isopropyltoluene	13.932	119	5172955	76.98	ug/L		99
95) 1,3-Dichlorobenzene	14.066	146	2691049	76.02	ug/L		98
96) 1,2,3-Trimethylbenzene	14.145	105	4293523	47.57	ug/L		99
97) 1,4-Dichlorobenzene	14.151	146	2669859	78.06	ug/L		99
98) n-Butylbenzene	14.365	92	2901685	82.26	ug/L		89
99) Benzyl Chloride	14.377	126	763789	78.63	ug/L	#	86
100) 1,2-Dichlorobenzene	14.578	146	2541054	75.79	ug/L		100
101) 1,2-Dibromo-3-Chloropr...	15.316	75	431897	80.26	ug/L		97
102) Hexachlorobutadiene	15.871	225	748152	77.39	ug/L		94
103) 1,2,4-Trichlorobenzene	15.913	180	1382965	84.18	ug/L		100
104) Naphthalene	16.194	128	3774799	80.61	ug/L		99
105) 1,2,3-Trichlorobenzene	16.358	180	1291127	85.07	ug/L		100
107) Ethanol	4.903	45	321298	1183.44	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69010.D
Acq On : 21 Jun 2021 2:24 pm
Operator : LINDSAYR
Sample : IC2216-6
Misc : MS49159,VI2216,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 21 15:20:21 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

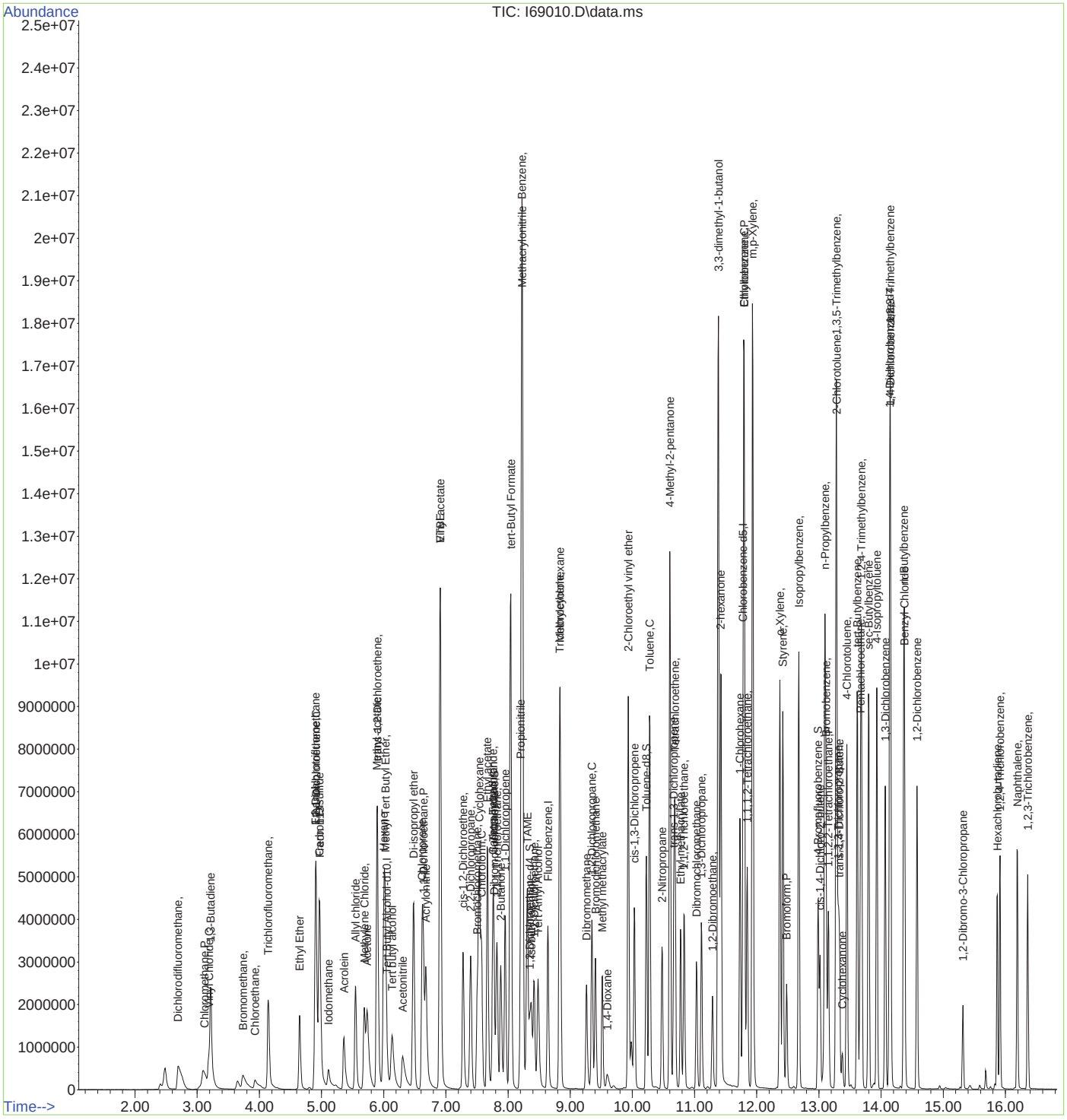
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.360	56	1506347	323.59	ug/L	98
109) Tert butyl alcohol	6.135	59	2606710	737.58	ug/L	96
110) Isobutyl alcohol	8.372	42	790837	1265.29	ug/L	97
111) Tert Amyl Alcohol	8.482	59	1957469	784.50	ug/L	99
112) 1,4-Dioxane	9.597	88	378314	1506.42	ug/L	93
113) 3,3-dimethyl-1-butanol	11.384	57	9088703	3675.98	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69010.D
Acq On : 21 Jun 2021 2:24 pm
Operator : LINDSAYR
Sample : IC2216-6
Misc : MS49159,VI2216,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 21 15:20:21 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



I69011.D

Manual Integrations APPROVED (compounds with "m" flag)

Chelsea VanDenBurg 06/23/21 08:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:33:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3535652	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2751408	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.139	152	1518424	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.061	65	939756	250.00	ug/L	0.02
System Monitoring Compounds						
36) Dibromofluoromethane	7.774	113	966724	50.57	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery =	101.14%		
46) 1,2-Dichloroethane-d4	8.348	65	1085170	47.08	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery =	94.16%		
57) Toluene-d8	10.225	98	3597452	47.76	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery =	95.52%		
79) 4-Bromofluorobenzene	12.987	174	1216302	48.76	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery =	97.52%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.696	85	2643801	122.07	ug/L	99
3) Chloromethane	3.123	50	2176102	85.87	ug/L	99
4) Vinyl Chloride	3.190	62	2830932	124.12	ug/L	100
5) 1,3-Butadiene	3.214	39	1329271	100.11	ug/L	97
6) Bromomethane	3.733	94	885990	61.96	ug/L	97
7) Chloroethane	3.928	64	587332	130.98	ug/L	98
8) Trichlorofluoromethane	4.141	101	1826428m	60.44	ug/L	
9) Ethyl Ether	4.653	59	1767284	119.33	ug/L	95
10) 1,2-Dichlorotrifluoroe...	4.903	67	2525185	121.76	ug/L	98
11) 1,1-Dichloroethene	4.909	61	3432228	128.48	ug/L	95
12) Freon 113	4.964	101	2269332	126.37	ug/L	100
13) Carbon Disulfide	4.958	76	5692733	118.06	ug/L	98
14) Iodomethane	5.110	142	1402990	57.82	ug/L	100
15) Allyl chloride	5.543	41	2661575	104.44	ug/L	97
16) Methylene Chloride	5.690	49	2718085	128.13	ug/L	93
17) Acetone	5.738	43	3840505	664.72	ug/L	98
18) Methyl acetate	5.891	43	7576041	631.25	ug/L	94
19) trans-1,2-Dichloroethene	5.897	61	3091948	128.44	ug/L	98
20) Hexane	6.000	56	1825322	117.73	ug/L	84
21) Methyl Tert Butyl Ether	6.031	73	6210892	116.09	ug/L	76
22) Acetonitrile	6.305	41	2631833	1133.06	ug/L	100
23) Di-isopropyl ether	6.482	45	6145654	108.43	ug/L	97
24) Chloroprene	6.616	53	3291699	124.56	ug/L	96
25) 1,1-Dichloroethane	6.641	63	3985293	123.12	ug/L	99
26) Acrylonitrile	6.677	53	4252735	589.82	ug/L	99
27) ETBE	6.909	59	6452071	114.49	ug/L	97
28) Vinyl acetate	6.909	43	16527249	511.46	ug/L	93
29) cis-1,2-Dichloroethene	7.275	96	2355072	129.35	ug/L	98
30) 2,2-Dichloropropane	7.396	77	3555898	122.30	ug/L	98
31) Bromochloromethane	7.506	128	1018320	124.42	ug/L	94
32) Cyclohexane	7.537	56	3814498	117.09	ug/L	96
33) Chloroform	7.573	83	4105574	122.89	ug/L	100
34) Ethyl acetate	7.671	43	9599950	536.15	ug/L	97
35) Tetrahydrofuran	7.762	42	660038	129.15	ug/L	97
37) Carbon Tetrachloride	7.756	117	3168931	131.79	ug/L	99
38) 1,1,1-Trichloroethane	7.823	97	3629639	125.32	ug/L	99
39) 2-Butanone	7.884	43	5802866	656.46	ug/L	94
40) 1,1-Dichloropropene	7.951	75	3210802	124.52	ug/L	98
41) tert-Butyl Formate	8.043	59	9794540	559.72	ug/L	97
42) Propionitrile	8.201	54	3676729	1244.46	ug/L	83
43) Methacrylonitrile	8.232	41	10094475	984.55	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:33:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	Benzene	8.213	78	8007305	120.03	ug/L	89
45)	TAME	8.311	73	6100327	118.05	ug/L	97
47)	1,2-Dichloroethane	8.421	62	2777723	119.86	ug/L	99
48)	Trichloroethene	8.829	95	2338340	123.58	ug/L	99
49)	Methylcyclohexane	8.835	83	3719095	119.95	ug/L	96
50)	Dibromomethane	9.262	93	1407689	134.42	ug/L	98
51)	1,2-Dichloropropane	9.347	63	2296066	120.86	ug/L	98
52)	Bromodichloromethane	9.402	83	2981950	132.07	ug/L	98
53)	Methyl methacrylate	9.512	41	1739299	112.90	ug/L	93
54)	2-Chloroethyl vinyl ether	9.933	63	5808678	551.95	ug/L	96
55)	cis-1,3-Dichloropropene	10.030	75	3729738	125.76	ug/L	98
58)	Toluene	10.274	91	8895805	109.30	ug/L	98
59)	2-Nitropropane	10.481	41	2869058	570.10	ug/L	100
60)	4-Methyl-2-pentanone	10.603	43	10043356	507.60	ug/L	92
61)	trans-1,3-Dichloropropene	10.670	75	3096998	117.34	ug/L	95
62)	Tetrachloroethene	10.682	166	2237076	120.78	ug/L	99
63)	Ethyl methacrylate	10.774	69	2838042	112.39	ug/L	95
64)	1,1,2-Trichloroethane	10.829	83	1637238	112.92	ug/L	99
65)	Dibromochloromethane	11.030	129	2264736	127.59	ug/L	100
66)	1,3-Dichloropropane	11.109	76	3469913	114.15	ug/L	96
67)	1,2-Dibromoethane	11.286	107	2127632	117.27	ug/L	99
68)	2-hexanone	11.426	43	7629228	538.69	ug/L	90
69)	1-Chlorohexane	11.731	91	3174513	114.95	ug/L	96
70)	Ethylbenzene	11.798	91	9389835	108.93	ug/L	94
71)	Chlorobenzene	11.798	112	5201522	110.16	ug/L	98
72)	1,1,1,2-Tetrachloroethane	11.847	131	2048248	118.56	ug/L	98
73)	m,p-Xylene	11.932	91	13336632	200.23	ug/L	91
74)	o-Xylene	12.371	91	7647720	107.03	ug/L	97
75)	Styrene	12.420	104	5965851	116.57	ug/L	99
76)	Bromoform	12.481	173	1577004	107.27	ug/L	99
77)	Isopropylbenzene	12.676	105	9250559	107.22	ug/L	95
80)	cis-1,4-Dichloro-2-butene	13.017	53	880857	109.30	ug/L	96
81)	n-Propylbenzene	13.097	91	10566550	100.66	ug/L	94
82)	Bromobenzene	13.115	156	2235554	110.25	ug/L	99
83)	1,1,2,2-Tetrachloroethane	13.151	83	2966510	110.36	ug/L	99
84)	1,3,5-Trimethylbenzene	13.280	105	7494649	109.85	ug/L	98
85)	2-Chlorotoluene	13.286	91	7084677	101.22	ug/L	95
86)	trans-1,4-Dichloro-2-B...	13.328	53	817041	104.88	ug/L	87
87)	1,2,3-Trichloropropane	13.310	110	891719	109.54	ug/L	99
88)	Cyclohexanone	13.377	55	476782	445.59	ug/L	98
89)	4-Chlorotoluene	13.450	91	6601110	104.20	ug/L	98
90)	tert-Butylbenzene	13.615	91	4420365	104.25	ug/L	99
91)	1,2,4-Trimethylbenzene	13.682	105	7164417	106.17	ug/L	97
92)	Pentachloroethane	13.670	167	1311902	110.51	ug/L	98
93)	sec-Butylbenzene	13.798	105	9085390	103.96	ug/L	98
94)	4-Isopropyltoluene	13.932	119	7439117	109.04	ug/L	98
95)	1,3-Dichlorobenzene	14.066	146	3902269	108.58	ug/L	98
96)	1,2,3-Trimethylbenzene	14.145	105	6211094	67.78	ug/L	99
97)	1,4-Dichlorobenzene	14.151	146	3798321	109.39	ug/L	99
98)	n-Butylbenzene	14.365	92	4242768	118.48	ug/L	86
99)	Benzyl Chloride	14.377	126	1122407	113.81	ug/L	92
100)	1,2-Dichlorobenzene	14.578	146	3703757	108.81	ug/L	100
101)	1,2-Dibromo-3-Chloropr...	15.316	75	660554	120.91	ug/L	99
102)	Hexachlorobutadiene	15.870	225	1096642	111.74	ug/L	95
103)	1,2,4-Trichlorobenzene	15.913	180	2051833	123.02	ug/L	99
104)	Naphthalene	16.187	128	5549221	116.72	ug/L	99
105)	1,2,3-Trichlorobenzene	16.358	180	1909022	123.89	ug/L	100
107)	Ethanol	4.927	45	467990	1604.97	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:33:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

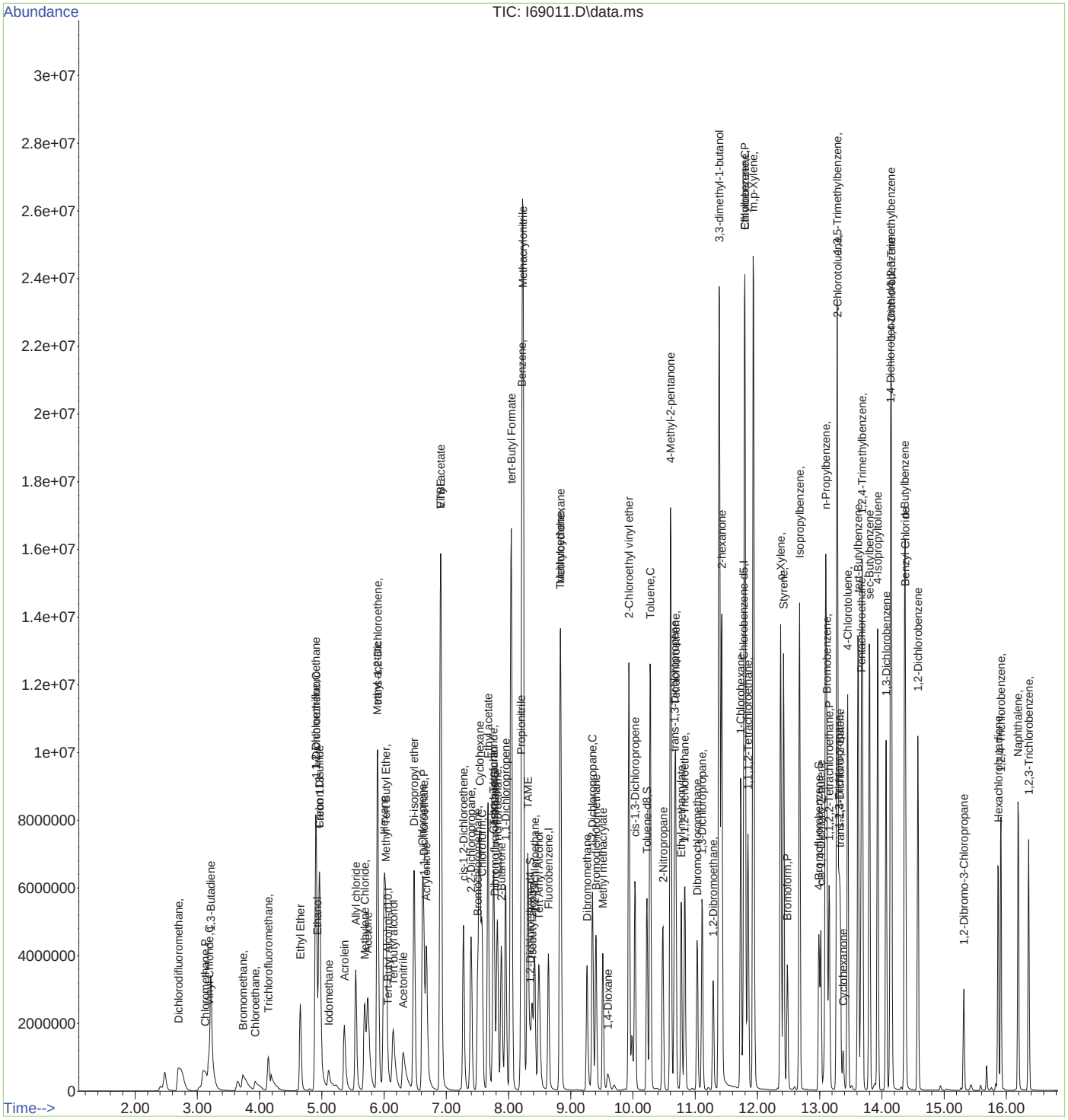
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.360	56	2347215	446.34	ug/L	97
109) Tert butyl alcohol	6.147	59	3927402	1034.70	ug/L	94
110) Isobutyl alcohol	8.378	42	1185234	1765.63	ug/L	96
111) Tert Amyl Alcohol	8.488	59	2974167	1109.82	ug/L	98
112) 1,4-Dioxane	9.597	88	536180	1987.90	ug/L	95
113) 3,3-dimethyl-1-butanol	11.384	57	12549902m	4726.10	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:33:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Manual Integration Approval Summary

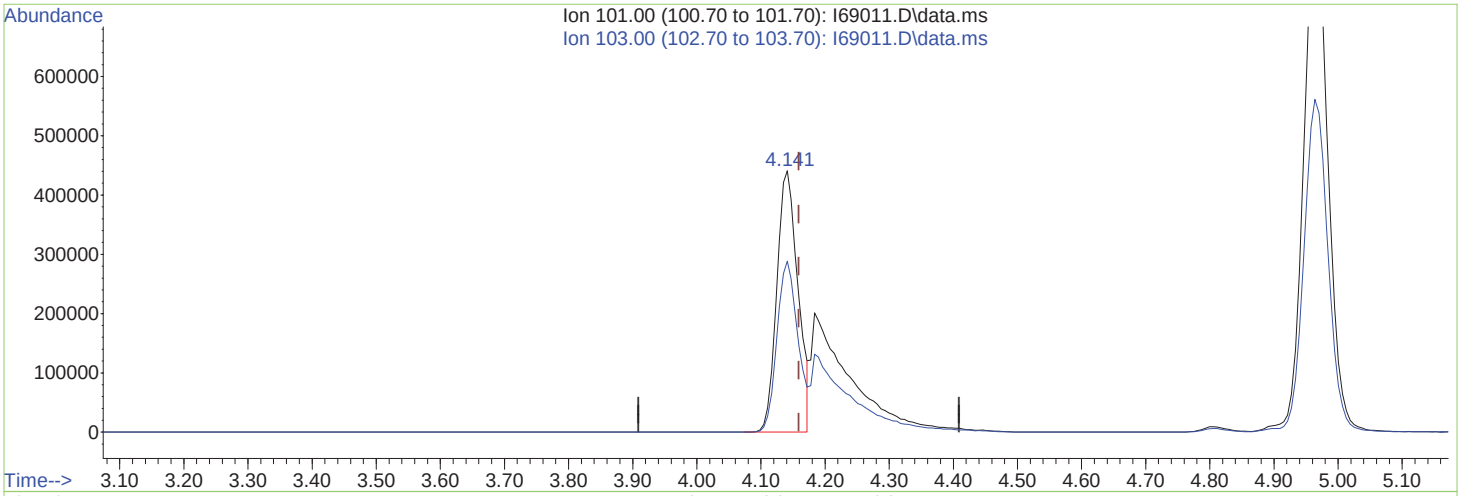
Sample Number: VI2216-IC2216
Lab FileID: I69011.D
Injection Time: 06/21/21 14:48
Method: SW846 8260B
Analyst approved: 06/22/21 08:21 Lindsay Ritner
Supervisor approved: 06/23/21 08:07 Chelsea VanDenBurg

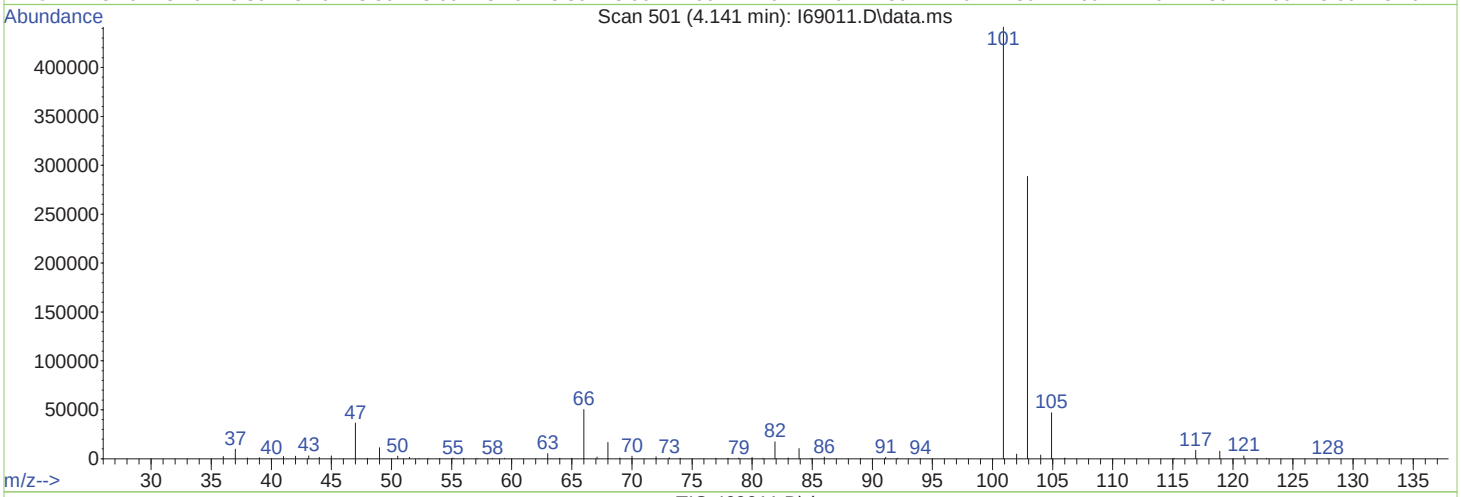
Parameter	CAS	Sig#	R.T. (min.)	Reason
Trichlorofluoromethane	75-69-4		4.14	Split peak
3,3-Dimethyl-1-Butanol	624-95-3		11.38	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:20:24 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69011.D\data.ms

(8) Trichlorofluoromethane ( )

4.141min (-0.018) 33.38ug/L

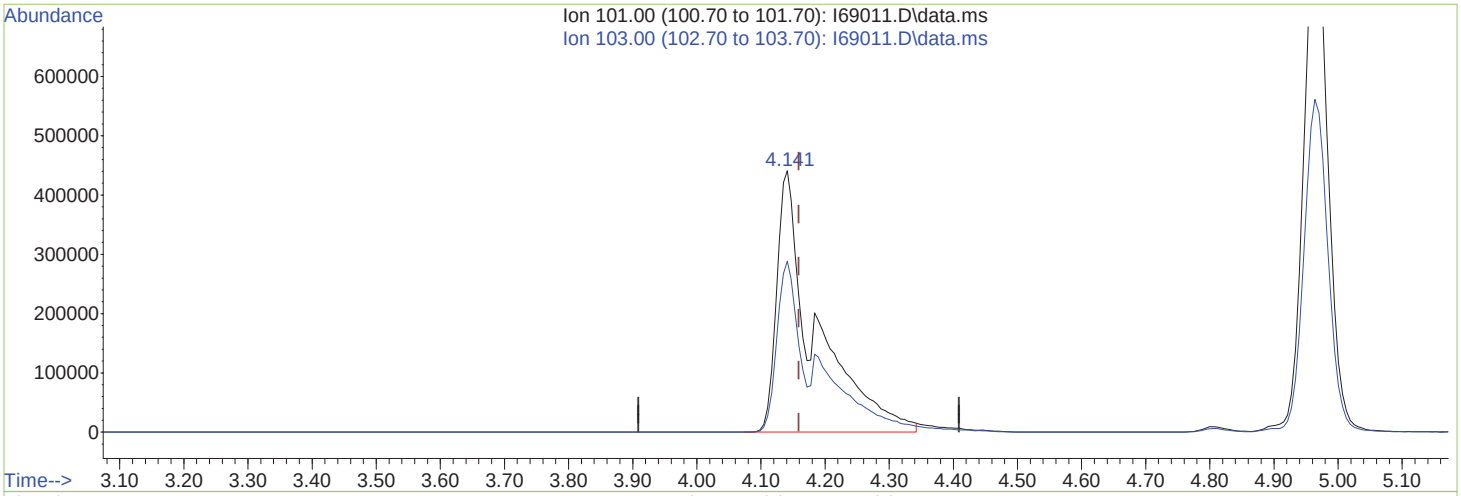
response 1008571

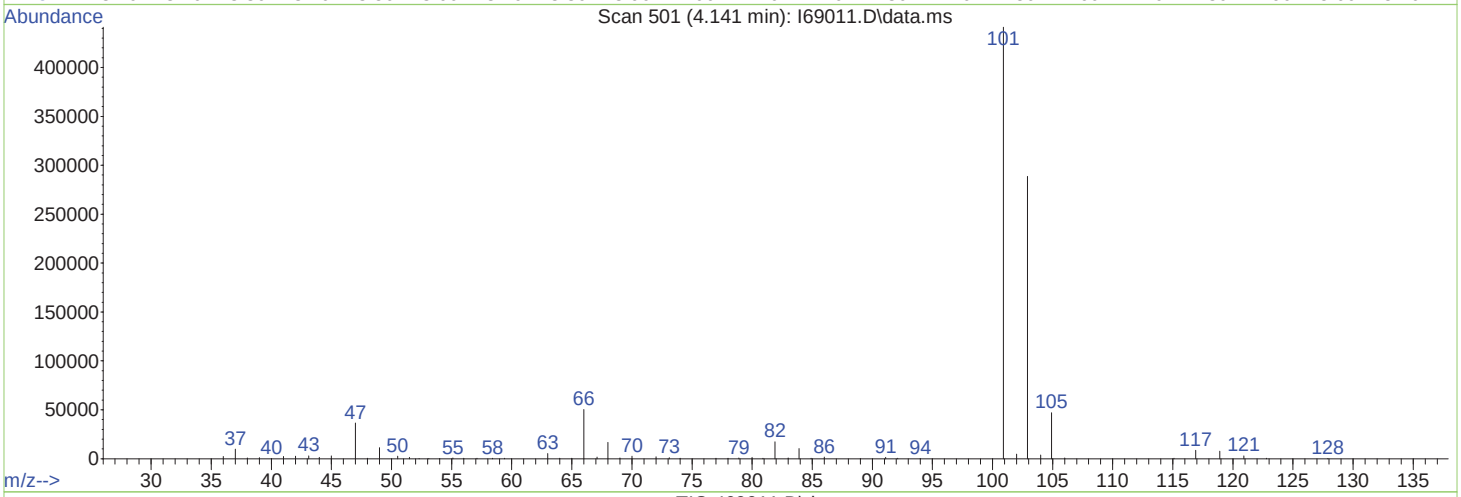
Ion	Exp%	Act%
101.00	100	100
103.00	64.80	65.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:20:24 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69011.D\data.ms

(8) Trichlorofluoromethane ( )

4.141min (-0.018) 60.44ug/L m

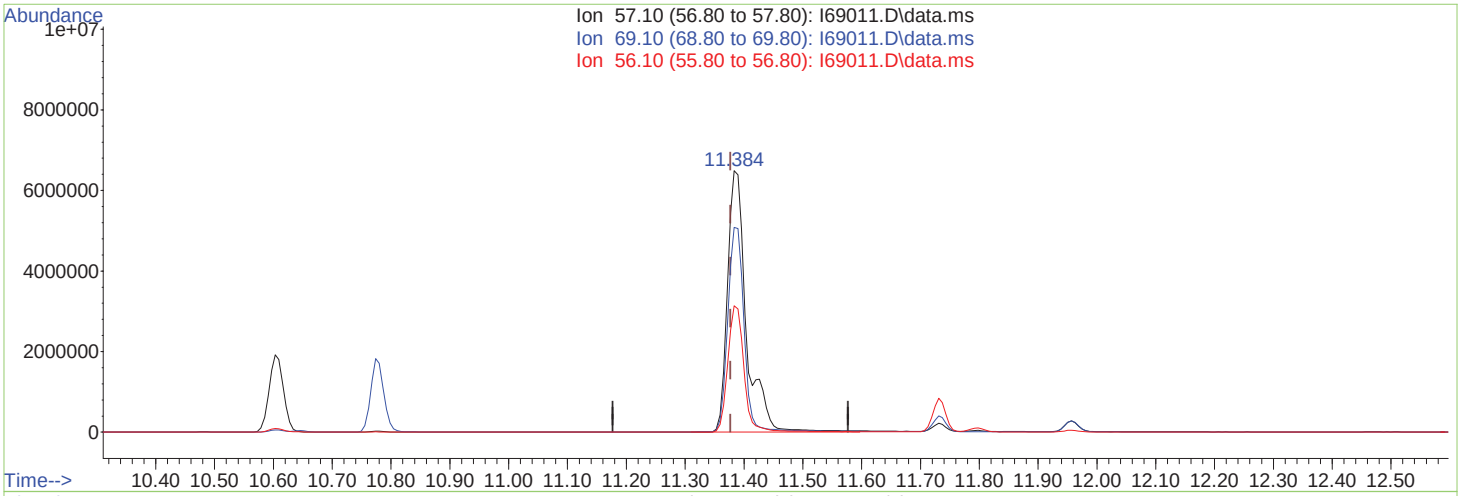
response 1826428

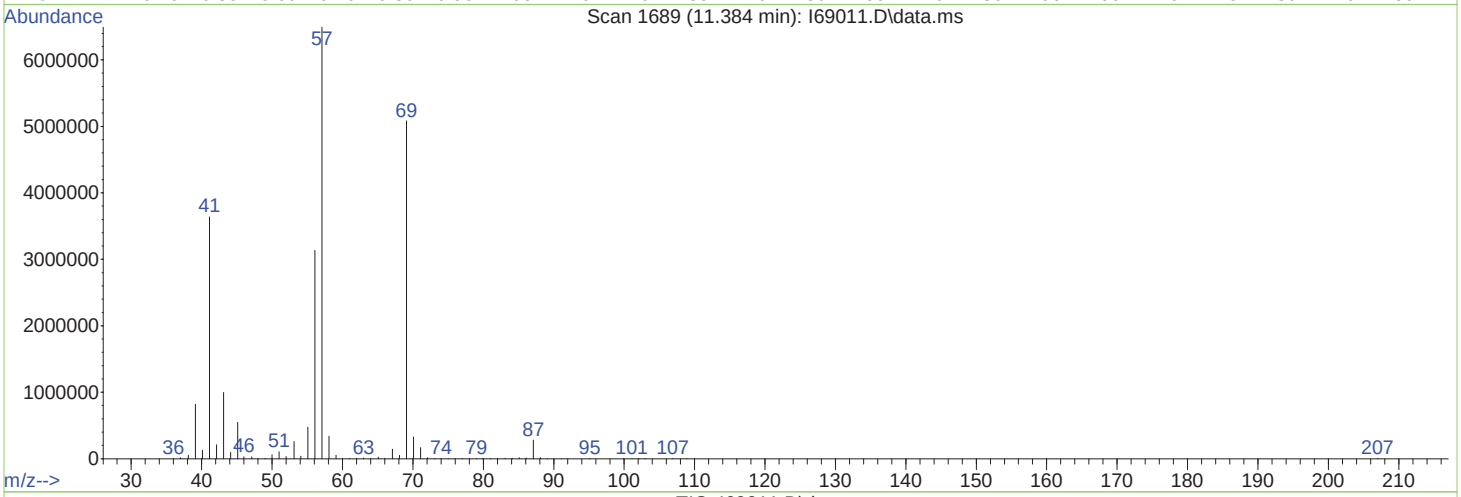
Ion	Exp%	Act%
101.00	100	100
103.00	64.80	65.38
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:20:24 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69011.D\data.ms

(113) 3,3-dimethyl-1-butanol

11.384min (+0.007) 5535.98ug/L

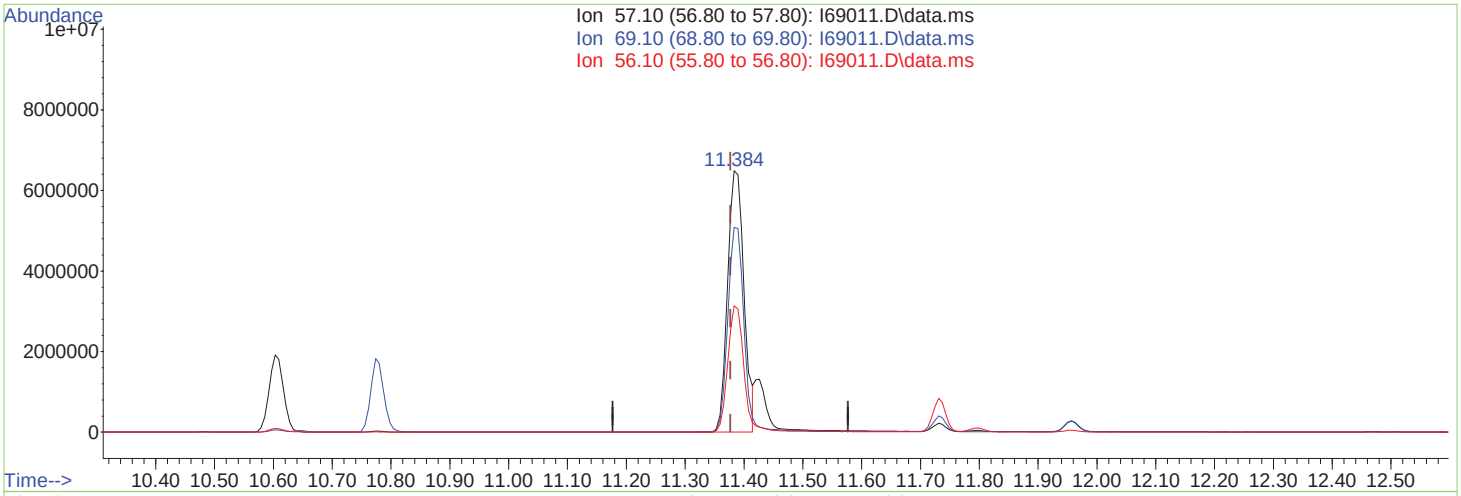
response 14700488

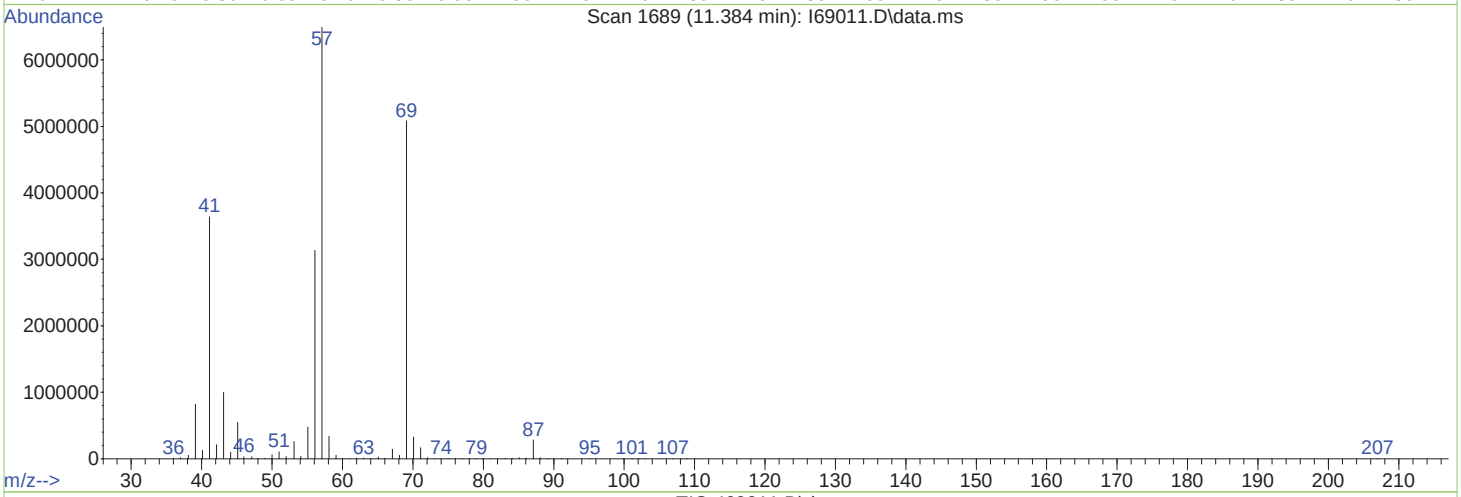
Ion	Exp%	Act%
57.10	100	100
69.10	72.90	78.23
56.10	44.60	48.27
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:20:24 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69011.D\data.ms

(113) 3,3-dimethyl-1-butanol

11.384min (+0.007) 4726.10ug/L m

response 12549902

Ion	Exp%	Act%
57.10	100	100
69.10	72.90	78.25
56.10	44.60	48.27
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69013.D
Acq On : 21 Jun 2021 4:06 pm
Operator : LINDSAYR
Sample : ICV2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 22 08:03:46 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.634	96	3462493	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.774	117	2748150	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1484896	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.037	65	778380	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.768	113	954853	50.48	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.96%			
46) 1,2-Dichloroethane-d4	8.341	65	1068943	48.78	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.56%			
57) Toluene-d8	10.219	98	3530425	50.16	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.32%			
79) 4-Bromofluorobenzene	12.987	174	1186552	50.73	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.46%			
Target Compounds						Qvalue
3) Chloromethane	3.099	50	704984	34.72	ug/L	100
4) Vinyl Chloride	3.184	62	910090	35.07	ug/L	99
5) 1,3-Butadiene	3.214	39	767174	57.65	ug/L	99
6) Bromomethane	3.733	94	216347	32.25	ug/L	96
7) Chloroethane	3.928	64	222985	37.40	ug/L	98
8) Trichlorofluoromethane	4.147	101	1353171	40.20	ug/L	98
9) Ethyl Ether	4.635	59	654102	39.75	ug/L	99
10) 1,2-Dichlorotrifluoroe...	4.897	67	1055675	43.27	ug/L	96
11) 1,1-Dichloroethene	4.909	61	1282088	39.25	ug/L	99
12) Freon 113	4.970	101	754435	34.28	ug/L	99
13) Carbon Disulfide	4.964	76	1904813	36.83	ug/L	100
14) Iodomethane	5.110	142	445297	38.41	ug/L	96
15) Allyl chloride	5.543	41	1093003	43.85	ug/L	99
16) Methylene Chloride	5.683	49	975494	35.35	ug/L	99
17) Acetone	5.726	43	1397586	203.16	ug/L	99
18) Methyl acetate	5.885	43	2693231	189.45	ug/L	99
19) trans-1,2-Dichloroethene	5.897	61	1163352	39.62	ug/L	98
20) Hexane	6.000	56	618592	34.68	ug/L	98
21) Methyl Tert Butyl Ether	6.019	73	2370005	38.94	ug/L	97
22) Acetonitrile	6.299	41	921667	391.19	ug/L	99
23) Di-isopropyl ether	6.470	45	2331231	39.18	ug/L	99
24) Chloroprene	6.616	53	1238229	40.74	ug/L	100
25) 1,1-Dichloroethane	6.634	63	1612846	41.22	ug/L	99
26) Acrylonitrile	6.671	53	1601514	200.58	ug/L	99
27) ETBE	6.903	59	2459680	38.47	ug/L	99
28) Vinyl acetate	6.903	43	8002425	215.11	ug/L	99
29) cis-1,2-Dichloroethene	7.274	96	911614	41.17	ug/L	99
30) 2,2-Dichloropropane	7.396	77	1423650	41.35	ug/L	100
31) Bromochloromethane	7.500	128	394046	40.24	ug/L	96
32) Cyclohexane	7.531	56	1343575	36.70	ug/L	98
33) Chloroform	7.567	83	1611194	39.14	ug/L	100
34) Ethyl acetate	7.665	43	3970935	209.43	ug/L	100
35) Tetrahydrofuran	7.756	42	245676	36.71	ug/L	97
37) Carbon Tetrachloride	7.756	117	1186436	40.10	ug/L	98
38) 1,1,1-Trichloroethane	7.817	97	1392612	39.08	ug/L	99
39) 2-Butanone	7.878	43	1965554	184.15	ug/L	98
40) 1,1-Dichloropropene	7.951	75	1165481	37.90	ug/L	99
41) tert-Butyl Formate	8.037	59	3484243	190.42	ug/L	98
42) Propionitrile	8.195	54	1344644	387.15	ug/L	78
43) Methacrylonitrile	8.219	41	4499895	381.14	ug/L	99
44) Benzene	8.213	78	3416575	40.19	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69013.D
Acq On : 21 Jun 2021 4:06 pm
Operator : LINDSAYR
Sample : ICV2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 22 08:03:46 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45)	TAME	8.305	73	2312226	39.36	ug/L		98
47)	1,2-Dichloroethane	8.415	62	1086199	39.50	ug/L		100
48)	Trichloroethene	8.823	95	898637	39.62	ug/L		99
49)	Methylcyclohexane	8.835	83	1386115	39.42	ug/L		98
50)	Dibromomethane	9.256	93	512345	39.97	ug/L		97
51)	1,2-Dichloropropane	9.347	63	872508	40.55	ug/L		98
52)	Bromodichloromethane	9.402	83	1136068	42.64	ug/L		99
53)	Methyl methacrylate	9.512	41	651774	42.35	ug/L		97
54)	2-Chloroethyl vinyl ether	9.926	63	1804156	139.16	ug/L		99
55)	cis-1,3-Dichloropropene	10.030	75	1395956	41.61	ug/L		99
58)	Toluene	10.274	91	3435810	37.94	ug/L		100
59)	2-Nitropropane	10.475	41	1043308	196.47	ug/L		99
60)	4-Methyl-2-pentanone	10.597	43	3912040	192.65	ug/L		100
61)	trans-1,3-Dichloropropene	10.664	75	1248391	44.99	ug/L		97
62)	Tetrachloroethene	10.682	166	849306	38.88	ug/L		96
63)	Ethyl methacrylate	10.774	69	1133335	43.72	ug/L		97
64)	1,1,2-Trichloroethane	10.829	83	639325	40.13	ug/L		98
65)	Dibromochloromethane	11.030	129	819830	40.18	ug/L		98
66)	1,3-Dichloropropane	11.109	76	1297483	39.93	ug/L		99
67)	1,2-Dibromoethane	11.286	107	797221	41.29	ug/L		99
68)	2-hexanone	11.420	43	2906876	190.34	ug/L		98
69)	1-Chlorohexane	11.731	91	1196062	39.97	ug/L		96
70)	Ethylbenzene	11.792	91	3908500	39.00	ug/L		99
71)	Chlorobenzene	11.792	112	2168993	40.74	ug/L		97
72)	1,1,1,2-Tetrachloroethane	11.841	131	791587	42.25	ug/L		99
73)	m,p-Xylene	11.932	91	5918012	81.22	ug/L		99
74)	o-Xylene	12.371	91	3105154	41.37	ug/L		100
75)	Styrene	12.420	104	2306965	42.05	ug/L		99
76)	Bromoform	12.481	173	556895	40.79	ug/L		99
77)	Isopropylbenzene	12.676	105	3782989	40.87	ug/L		99
80)	cis-1,4-Dichloro-2-butene	13.017	53	309132	40.51	ug/L		97
81)	n-Propylbenzene	13.090	91	4349443	40.89	ug/L		99
82)	Bromobenzene	13.115	156	867594	40.43	ug/L		98
83)	1,1,2,2-Tetrachloroethane	13.151	83	1089645	39.86	ug/L		98
84)	1,3,5-Trimethylbenzene	13.273	105	2900155	40.44	ug/L		99
85)	2-Chlorotoluene	13.279	91	2932990	41.08	ug/L		98
86)	trans-1,4-Dichloro-2-B...	13.328	53	287946	39.07	ug/L		88
87)	1,2,3-Trichloropropane	13.310	110	327972	39.05	ug/L		95
88)	Cyclohexanone	13.371	55	174957	181.54	ug/L		98
89)	4-Chlorotoluene	13.444	91	2600881	41.52	ug/L		97
90)	tert-Butylbenzene	13.615	91	1698220	40.18	ug/L		97
91)	1,2,4-Trimethylbenzene	13.682	105	2648547	39.87	ug/L		100
92)	Pentachloroethane	13.664	167	547805	46.86	ug/L		95
93)	sec-Butylbenzene	13.798	105	3639798	41.29	ug/L		99
94)	4-Isopropyltoluene	13.926	119	2828980	40.36	ug/L		99
95)	1,3-Dichlorobenzene	14.066	146	1517796	41.75	ug/L		99
96)	1,2,3-Trimethylbenzene	14.145	105	2718925	46.19	ug/L		99
97)	1,4-Dichlorobenzene	14.151	146	1491906	39.95	ug/L		98
98)	n-Butylbenzene	14.365	92	1463815	38.92	ug/L		93
99)	Benzyl Chloride	14.377	126	404248	41.27	ug/L	#	75
100)	1,2-Dichlorobenzene	14.578	146	1430316	41.39	ug/L		99
101)	1,2-Dibromo-3-Chloropr...	15.316	75	214900	38.77	ug/L		98
102)	Hexachlorobutadiene	15.870	225	383794	37.71	ug/L		99
103)	1,2,4-Trichlorobenzene	15.913	180	717871	40.70	ug/L		99
104)	Naphthalene	16.187	128	1971748	40.58	ug/L		100
105)	1,2,3-Trichlorobenzene	16.358	180	669447	40.27	ug/L		99
107)	Ethanol	4.897	45	155555	747.01	ug/L		99
108)	Acrolein	5.354	56	672847	191.05	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69013.D
Acq On : 21 Jun 2021 4:06 pm
Operator : LINDSAYR
Sample : ICV2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 22 08:03:46 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

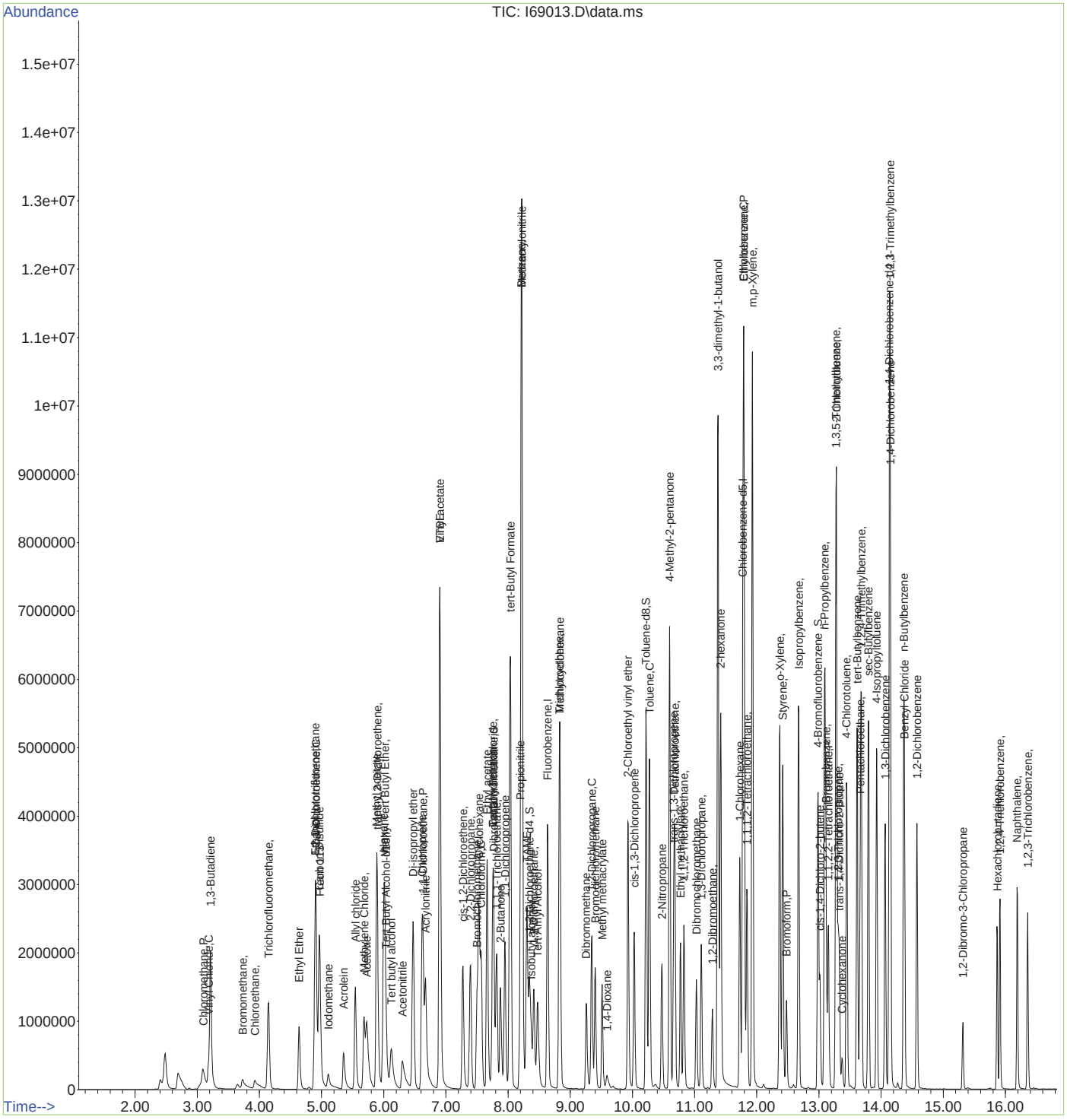
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Tert butyl alcohol	6.122	59	1161386	360.08	ug/L	97
110) Isobutyl alcohol	8.372	42	371206	813.03	ug/L	92
111) Tert Amyl Alcohol	8.476	59	955684	415.96	ug/L	99
112) 1,4-Dioxane	9.591	88	208316	860.23	ug/L	99
113) 3,3-dimethyl-1-butanol	11.377	57	4733399	2048.23	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69013.D
Acq On : 21 Jun 2021 4:06 pm
Operator : LINDSAYR
Sample : ICV2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 22 08:03:46 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69014.D
Acq On : 21 Jun 2021 4:30 pm
Operator : LINDSAYR
Sample : ICV2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 22 08:04:44 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

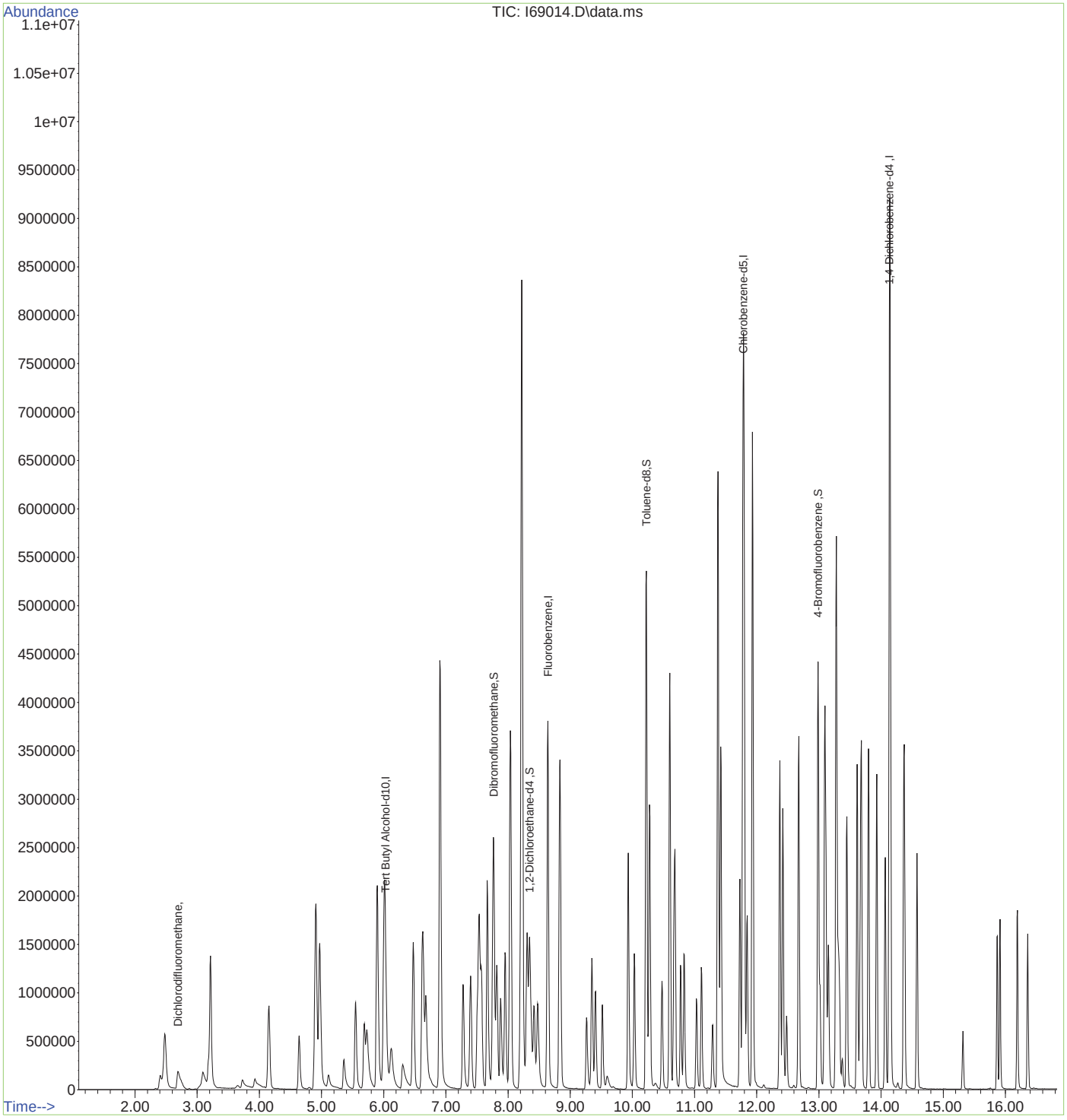
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3437518	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2737390	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1480461	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.031	65	927022	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.768	113	960997	51.18	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.36%			
46) 1,2-Dichloroethane-d4	8.348	65	1072716	49.31	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.62%			
57) Toluene-d8	10.225	98	3525839	50.29	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.58%			
79) 4-Bromofluorobenzene	12.987	174	1173274	50.31	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.62%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	460387	20.46	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69014.D
Acq On : 21 Jun 2021 4:30 pm
Operator : LINDSAYR
Sample : ICV2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 22 08:04:44 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69103.d
Acq On : 24 Jun 2021 12:56 pm
Operator : LINDSAYR
Sample : cc2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:16 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	2879321	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.774	117	2438995	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1367320	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.031	65	664288	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.768	113	781955	49.72	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.44%			
46) 1,2-Dichloroethane-d4	8.341	65	893232	49.02	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.04%			
57) Toluene-d8	10.219	98	3002803	48.07	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.14%			
79) 4-Bromofluorobenzene	12.987	174	1048211	48.67	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	722960	37.26	ug/L	98
3) Chloromethane	3.105	50	693601	41.08	ug/L	97
4) Vinyl Chloride	3.184	62	883123	40.92	ug/L	99
5) 1,3-Butadiene	3.214	39	475260	42.12	ug/L	98
6) Bromomethane	3.739	94	254329	43.31	ug/L	94
7) Chloroethane	3.928	64	232596	46.91	ug/L	99
8) Trichlorofluoromethane	4.159	101	1189658	42.50	ug/L	98
9) Ethyl Ether	4.635	59	559040	40.85	ug/L	98
10) 1,2-Dichlorotrifluoroe...	4.897	67	808955	39.87	ug/L	99
11) 1,1-Dichloroethene	4.915	61	1089742	40.12	ug/L	99
12) Freon 113	4.976	101	712890	38.95	ug/L	99
13) Carbon Disulfide	4.970	76	1731631	40.26	ug/L	99
14) Iodomethane	5.116	142	549518	53.90	ug/L	99
15) Allyl chloride	5.543	41	823270	39.71	ug/L	99
16) Methylene Chloride	5.683	49	891279	38.84	ug/L	100
17) Acetone	5.726	43	1127671	197.12	ug/L	100
18) Methyl acetate	5.885	43	2418688	204.00	ug/L	99
19) trans-1,2-Dichloroethene	5.897	61	1012181	41.45	ug/L	98
20) Hexane	6.007	56	572763	38.62	ug/L	94
21) Methyl Tert Butyl Ether	6.019	73	2076895	41.04	ug/L	91
22) Acetonitrile	6.305	41	779325	397.35	ug/L	99
23) Di-isopropyl ether	6.476	45	2024098	40.90	ug/L	99
24) Chloroprene	6.616	53	964750	38.17	ug/L	98
25) 1,1-Dichloroethane	6.641	63	1311057	40.29	ug/L	100
26) Acrylonitrile	6.677	53	1251903	188.90	ug/L	100
27) ETBE	6.903	59	2256182	42.43	ug/L	99
28) Vinyl acetate	6.903	43	6133165	196.74	ug/L	99
29) cis-1,2-Dichloroethene	7.275	96	754632	40.98	ug/L	97
30) 2,2-Dichloropropane	7.397	77	1143188	39.92	ug/L	99
31) Bromochloromethane	7.500	128	336973	41.39	ug/L	98
32) Cyclohexane	7.537	56	1198227	39.36	ug/L	99
33) Chloroform	7.567	83	1365926	39.90	ug/L	99
34) Ethyl acetate	7.665	43	3044233	193.07	ug/L	100
35) Tetrahydrofuran	7.756	42	200678	36.06	ug/L	99
37) Carbon Tetrachloride	7.756	117	1015371	41.27	ug/L	98
38) 1,1,1-Trichloroethane	7.817	97	1179318	39.80	ug/L	97
39) 2-Butanone	7.878	43	1640473	184.79	ug/L	99
40) 1,1-Dichloropropene	7.951	75	1023846	40.04	ug/L	99
41) tert-Butyl Formate	8.037	59	3019122	198.42	ug/L	99
42) Propionitrile	8.195	54	1155550	400.09	ug/L	87

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69103.d
Acq On : 24 Jun 2021 12:56 pm
Operator : LINDSAYR
Sample : cc2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:16 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Methacrylonitrile	8.220	41	4013558	408.80	ug/L		99
44) Benzene	8.213	78	2994160	42.36	ug/L		96
45) TAME	8.305	73	2022726	41.41	ug/L		99
47) 1,2-Dichloroethane	8.415	62	944903	41.32	ug/L		99
48) Trichloroethene	8.829	95	771194	40.89	ug/L		100
49) Methylcyclohexane	8.835	83	1182893	40.46	ug/L		98
50) Dibromomethane	9.262	93	450002	42.21	ug/L		98
51) 1,2-Dichloropropane	9.347	63	732854	40.96	ug/L		99
52) Bromodichloromethane	9.402	83	946957	42.74	ug/L		99
53) Methyl methacrylate	9.512	41	530167	41.43	ug/L		98
54) 2-Chloroethyl vinyl ether	9.933	63	2086019	193.49	ug/L		98
55) cis-1,3-Dichloropropene	10.030	75	1204264	43.17	ug/L		99
58) Toluene	10.274	91	3074140	38.25	ug/L		100
59) 2-Nitropropane	10.475	41	927400	196.76	ug/L		99
60) 4-Methyl-2-pentanone	10.597	43	3400699	188.69	ug/L		99
61) trans-1,3-Dichloropropene	10.664	75	1037278	42.12	ug/L		99
62) Tetrachloroethene	10.682	166	757144	39.05	ug/L		97
63) Ethyl methacrylate	10.774	69	889362	38.66	ug/L		99
64) 1,1,2-Trichloroethane	10.829	83	551315	39.00	ug/L		99
65) Dibromochloromethane	11.030	129	719283	39.75	ug/L		100
66) 1,3-Dichloropropane	11.109	76	1141563	39.58	ug/L		99
67) 1,2-Dibromoethane	11.286	107	682758	39.85	ug/L		100
68) 2-hexanone	11.420	43	2505982	184.89	ug/L		99
69) 1-Chlorohexane	11.731	91	1050100	39.54	ug/L		99
70) Ethylbenzene	11.792	91	3507452	39.44	ug/L		99
71) Chlorobenzene	11.798	112	1886932	39.94	ug/L		99
72) 1,1,1,2-Tetrachloroethane	11.847	131	681625	40.99	ug/L		99
73) m,p-Xylene	11.932	91	5218324	80.69	ug/L		99
74) o-Xylene	12.371	91	2635990	39.57	ug/L		99
75) Styrene	12.420	104	2032605	41.75	ug/L		99
76) Bromoform	12.481	173	490674	40.52	ug/L		100
77) Isopropylbenzene	12.676	105	3265583	39.75	ug/L		99
80) cis-1,4-Dichloro-2-butene	13.017	53	262963	37.42	ug/L		97
81) n-Propylbenzene	13.091	91	3808792	38.88	ug/L		99
82) Bromobenzene	13.115	156	765583	38.74	ug/L		100
83) 1,1,2,2-Tetrachloroethane	13.152	83	972504	38.64	ug/L		100
84) 1,3,5-Trimethylbenzene	13.273	105	2570823	38.93	ug/L		99
85) 2-Chlorotoluene	13.280	91	2571850	39.12	ug/L		97
86) trans-1,4-Dichloro-2-B...	13.328	53	255907	37.79	ug/L		91
87) 1,2,3-Trichloropropane	13.310	110	295864	38.26	ug/L		97
88) Cyclohexanone	13.377	55	147427	166.13	ug/L		97
89) 4-Chlorotoluene	13.444	91	2236189	38.77	ug/L		98
90) tert-Butylbenzene	13.615	91	1485571	38.17	ug/L		99
91) 1,2,4-Trimethylbenzene	13.682	105	2366447	38.68	ug/L		98
92) Pentachloroethane	13.664	167	412749	38.34	ug/L		95
93) sec-Butylbenzene	13.798	105	3105466	38.26	ug/L		100
94) 4-Isopropyltoluene	13.926	119	2496112	38.68	ug/L		99
95) 1,3-Dichlorobenzene	14.066	146	1289008	38.50	ug/L		99
96) 1,2,3-Trimethylbenzene	14.145	105	2093915	38.63	ug/L		100
97) 1,4-Dichlorobenzene	14.151	146	1319101	38.36	ug/L		98
98) n-Butylbenzene	14.365	92	1345597	38.85	ug/L		94
99) Benzyl Chloride	14.377	126	346745	38.69	ug/L	#	84
100) 1,2-Dichlorobenzene	14.578	146	1223183	38.44	ug/L		99
101) 1,2-Dibromo-3-Chloropr...	15.316	75	188152	37.05	ug/L		95
102) Hexachlorobutadiene	15.870	225	323107	34.47	ug/L		98
103) 1,2,4-Trichlorobenzene	15.913	180	614430	37.83	ug/L		99
104) Naphthalene	16.188	128	1718739	38.41	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69103.d
Acq On : 24 Jun 2021 12:56 pm
Operator : LINDSAYR
Sample : cc2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:16 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,2,3-Trichlorobenzene	16.358	180	578688	37.81	ug/L	100
107) Ethanol	4.897	45	133940	753.68	ug/L	93
108) Acrolein	5.354	56	660060	219.60	ug/L	99
109) Tert butyl alcohol	6.116	59	1091373	396.49	ug/L	97
110) Isobutyl alcohol	8.366	42	339658	871.70	ug/L	98
111) Tert Amyl Alcohol	8.476	59	794856	405.38	ug/L	99
112) 1,4-Dioxane	9.591	88	169984	822.50	ug/L	99
113) 3,3-dimethyl-1-butanol	11.371	57	3981143	2016.89	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
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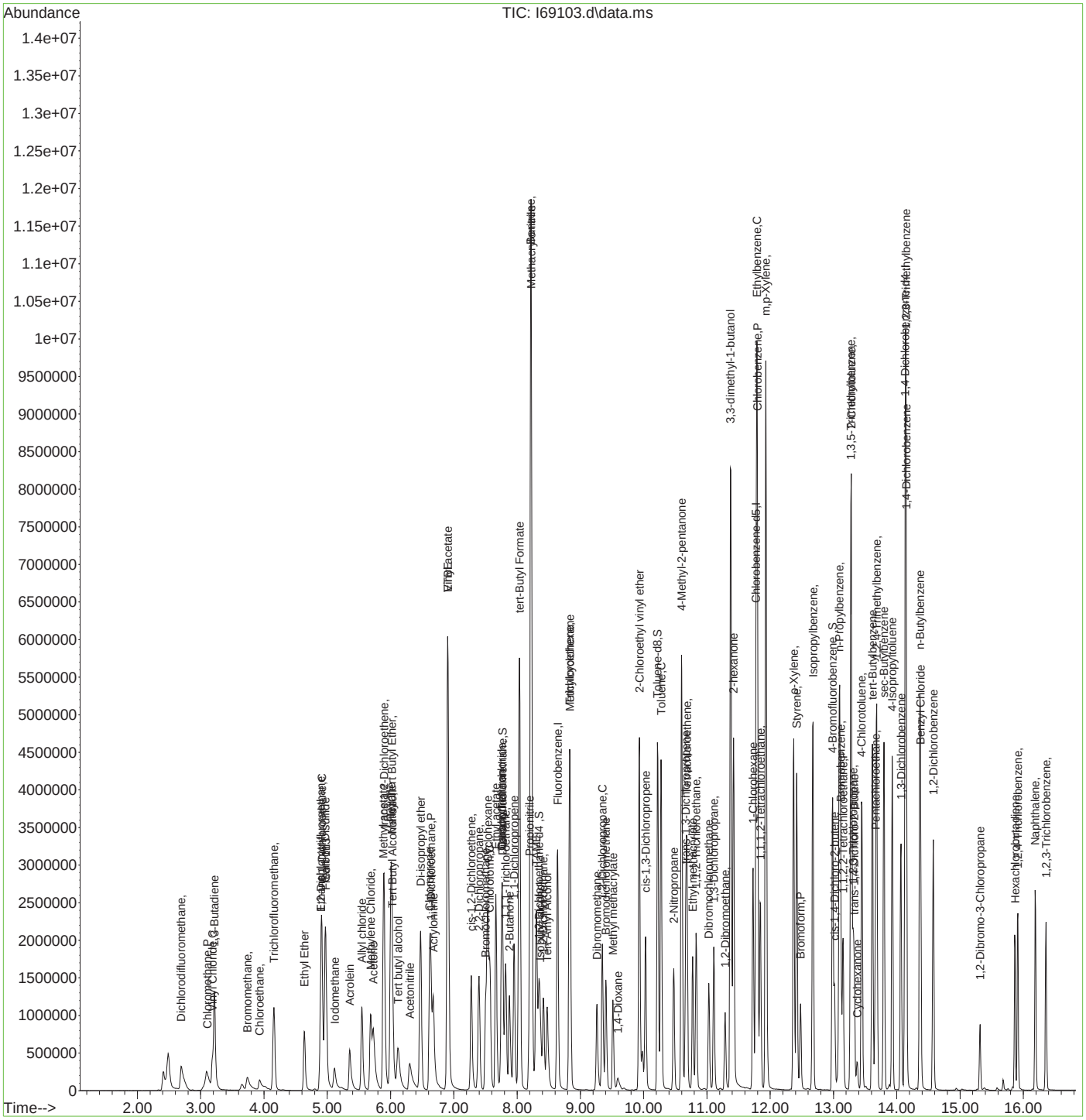

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69129.d
Acq On : 24 Jun 2021 11:32 pm
Operator : LINDSAYR
Sample : ECC2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:34 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3089528	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2647244	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1465383	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.031	65	651082	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.768	113	842183	49.90	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.80%			
46) 1,2-Dichloroethane-d4	8.348	65	966543	49.44	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.88%			
57) Toluene-d8	10.225	98	3259367	48.07	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.14%			
79) 4-Bromofluorobenzene	12.987	174	1146649	49.67	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	753987	36.28	ug/L	99
3) Chloromethane	3.093	50	695933	38.42	ug/L	100
4) Vinyl Chloride	3.184	62	935268	40.39	ug/L	98
5) 1,3-Butadiene	3.214	39	499623	41.22	ug/L	98
6) Bromomethane	3.733	94	205040	33.98	ug/L	95
7) Chloroethane	3.934	64	240319	45.17	ug/L	99
8) Trichlorofluoromethane	4.159	101	1236917	41.18	ug/L	98
9) Ethyl Ether	4.635	59	581584	39.61	ug/L	98
10) 1,2-Dichlorotrifluoroe...	4.897	67	843543	38.75	ug/L	99
11) 1,1-Dichloroethene	4.915	61	1138061	39.05	ug/L	99
12) Freon 113	4.976	101	724668	36.90	ug/L	98
13) Carbon Disulfide	4.970	76	1806464	39.15	ug/L	99
14) Iodomethane	5.117	142	493396	46.33	ug/L	97
15) Allyl chloride	5.549	41	857135	38.53	ug/L	99
16) Methylene Chloride	5.690	49	944185	38.35	ug/L	99
17) Acetone	5.732	43	1031986	168.12	ug/L	100
18) Methyl acetate	5.885	43	2373153	187.17	ug/L	99
19) trans-1,2-Dichloroethene	5.897	61	1051141	40.12	ug/L	98
20) Hexane	6.007	56	543542	34.16	ug/L	90
21) Methyl Tert Butyl Ether	6.019	73	2137472	39.36	ug/L	89
22) Acetonitrile	6.305	41	763411	364.80	ug/L	99
23) Di-isopropyl ether	6.476	45	2115789	39.85	ug/L	100
24) Chloroprene	6.622	53	1036748	38.23	ug/L	99
25) 1,1-Dichloroethane	6.641	63	1384550	39.65	ug/L	100
26) Acrylonitrile	6.677	53	1206758	170.22	ug/L	99
27) ETBE	6.903	59	2343500	41.08	ug/L	98
28) Vinyl acetate	6.903	43	6064871	180.07	ug/L	99
29) cis-1,2-Dichloroethene	7.275	96	791296	40.05	ug/L	97
30) 2,2-Dichloropropane	7.397	77	1044140	33.98	ug/L	99
31) Bromochloromethane	7.506	128	359451	41.14	ug/L	97
32) Cyclohexane	7.537	56	1257597	38.50	ug/L	99
33) Chloroform	7.573	83	1434639	39.05	ug/L	99
34) Ethyl acetate	7.665	43	2994049	176.97	ug/L	100
35) Tetrahydrofuran	7.756	42	199167	33.35	ug/L	99
37) Carbon Tetrachloride	7.756	117	1048618	39.72	ug/L	99
38) 1,1,1-Trichloroethane	7.817	97	1233483	38.80	ug/L	99
39) 2-Butanone	7.878	43	1533680	161.91	ug/L	100
40) 1,1-Dichloropropene	7.951	75	1066845	38.88	ug/L	100
41) tert-Butyl Formate	8.037	59	3037088	186.02	ug/L	98
42) Propionitrile	8.195	54	1109874	358.13	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69129.d
Acq On : 24 Jun 2021 11:32 pm
Operator : LINDSAYR
Sample : ECC2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:34 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	Methacrylonitrile	8.226	41	3945663	374.54	ug/L	100
44)	Benzene	8.213	78	3104976	40.94	ug/L	94
45)	TAME	8.305	73	2090613	39.89	ug/L	100
47)	1,2-Dichloroethane	8.415	62	978330	39.87	ug/L	99
48)	Trichloroethene	8.829	95	796948	39.38	ug/L	98
49)	Methylcyclohexane	8.835	83	1227268	39.12	ug/L	99
50)	Dibromomethane	9.262	93	467958	40.91	ug/L	99
51)	1,2-Dichloropropane	9.347	63	769961	40.11	ug/L	100
52)	Bromodichloromethane	9.402	83	989018	41.60	ug/L	99
53)	Methyl methacrylate	9.512	41	526220	38.32	ug/L	98
54)	2-Chloroethyl vinyl ether	9.933	63	2114752	182.81	ug/L	98
55)	cis-1,3-Dichloropropene	10.030	75	1233342	41.20	ug/L	99
58)	Toluene	10.274	91	3224554	36.97	ug/L	99
59)	2-Nitropropane	10.475	41	890828	175.31	ug/L	100
60)	4-Methyl-2-pentanone	10.603	43	3304352	168.92	ug/L	99
61)	trans-1,3-Dichloropropene	10.664	75	1053157	39.40	ug/L	99
62)	Tetrachloroethene	10.683	166	828791	39.39	ug/L	95
63)	Ethyl methacrylate	10.774	69	899774	36.03	ug/L	99
64)	1,1,2-Trichloroethane	10.829	83	564124	36.76	ug/L	98
65)	Dibromochloromethane	11.030	129	751290	38.36	ug/L	100
66)	1,3-Dichloropropane	11.109	76	1193222	38.12	ug/L	99
67)	1,2-Dibromoethane	11.286	107	704760	37.90	ug/L	99
68)	2-hexanone	11.420	43	2375778	161.49	ug/L	99
69)	1-Chlorohexane	11.731	91	1071687	37.18	ug/L	99
70)	Ethylbenzene	11.792	91	3653913	37.85	ug/L	98
71)	Chlorobenzene	11.798	112	1967054	38.36	ug/L	99
72)	1,1,1,2-Tetrachloroethane	11.847	131	702609	38.93	ug/L	99
73)	m,p-Xylene	11.932	91	5418895	77.20	ug/L	99
74)	o-Xylene	12.371	91	2769495	38.31	ug/L	100
75)	Styrene	12.420	104	2132290	40.35	ug/L	99
76)	Bromoform	12.481	173	495524	37.99	ug/L	100
77)	Isopropylbenzene	12.676	105	3424573	38.41	ug/L	98
80)	cis-1,4-Dichloro-2-butene	13.017	53	246386	32.72	ug/L	98
81)	n-Propylbenzene	13.091	91	3918356	37.32	ug/L	98
82)	Bromobenzene	13.115	156	809057	38.20	ug/L	98
83)	1,1,2,2-Tetrachloroethane	13.152	83	980290	36.34	ug/L	100
84)	1,3,5-Trimethylbenzene	13.273	105	2629462	37.15	ug/L	100
85)	2-Chlorotoluene	13.280	91	2665557	37.83	ug/L	97
86)	trans-1,4-Dichloro-2-B...	13.328	53	239775	33.27	ug/L	95
87)	1,2,3-Trichloropropane	13.310	110	289285	34.91	ug/L	99
88)	Cyclohexanone	13.377	55	138221	145.33	ug/L	97
89)	4-Chlorotoluene	13.450	91	2315716	37.46	ug/L	100
90)	tert-Butylbenzene	13.615	91	1537504	36.86	ug/L	98
91)	1,2,4-Trimethylbenzene	13.682	105	2406562	36.71	ug/L	98
92)	Pentachloroethane	13.670	167	385418	33.41	ug/L	99
93)	sec-Butylbenzene	13.798	105	3205570	36.85	ug/L	100
94)	4-Isopropyltoluene	13.932	119	2511753	36.31	ug/L	100
95)	1,3-Dichlorobenzene	14.066	146	1319028	36.76	ug/L	99
96)	1,2,3-Trimethylbenzene	14.145	105	2131698	36.70	ug/L	100
97)	1,4-Dichlorobenzene	14.151	146	1340520	36.37	ug/L	98
98)	n-Butylbenzene	14.365	92	1282319	34.55	ug/L	98
99)	Benzyl Chloride	14.377	126	260998	27.91	ug/L	96
100)	1,2-Dichlorobenzene	14.578	146	1257277	36.87	ug/L	99
101)	1,2-Dibromo-3-Chloropr...	15.316	75	171732	32.02	ug/L	94
102)	Hexachlorobutadiene	15.864	225	303967	30.26	ug/L	94
103)	1,2,4-Trichlorobenzene	15.913	180	603010	34.64	ug/L	99
104)	Naphthalene	16.188	128	1633406	34.06	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69129.d
Acq On : 24 Jun 2021 11:32 pm
Operator : LINDSAYR
Sample : ECC2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:34 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,2,3-Trichlorobenzene	16.358	180	570434	34.77	ug/L	98
107) Ethanol	4.897	45	134695	773.30	ug/L	99
108) Acrolein	5.354	56	548606	186.23	ug/L	98
109) Tert butyl alcohol	6.116	59	1030198	381.86	ug/L	95
110) Isobutyl alcohol	8.366	42	332033	869.42	ug/L	98
111) Tert Amyl Alcohol	8.476	59	746873	388.63	ug/L	98
112) 1,4-Dioxane	9.591	88	163625	807.79	ug/L	97
113) 3,3-dimethyl-1-butanol	11.378	57	3797890	1960.09	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69129.d
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Sample : ECC2216-5 Inst : MSVOA16
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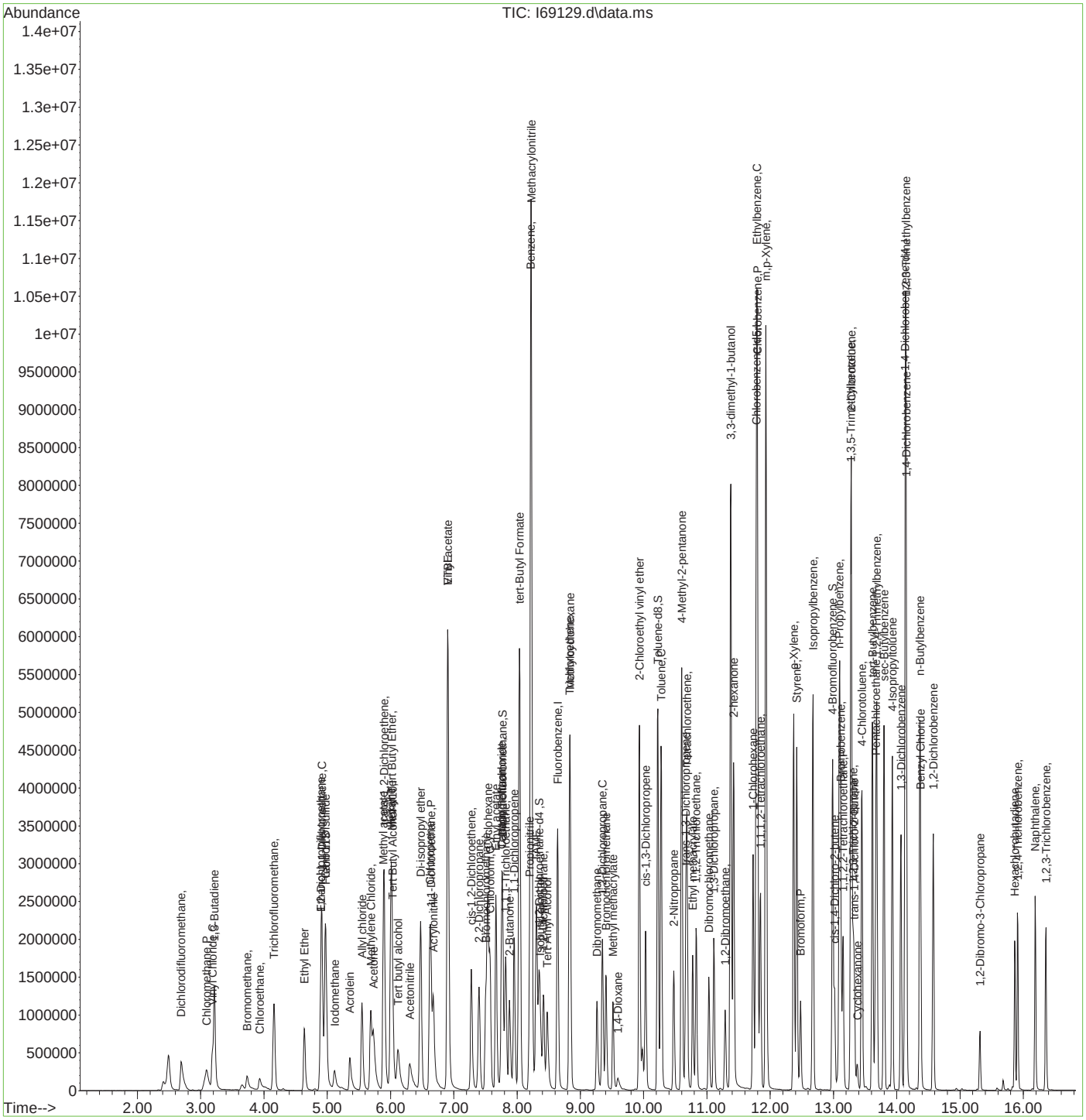

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 06/21/2021	**METHODS:*** 8260	**BFB:** VS1269	**pH Lot#:** (1-12 pH paper): 220814
COLUMN TYPE: RTX-VMS	**METHOD FILE:** 2021-06-21APP9-I.M	**ICAL/CC:** VS1298, VS1299, VS1317,	(0-3 pH paper): 220416
DETECTOR: 5975C MSD	**CALIB. DATE:** 06/21/2021	VS1293, VS1304, VS1318	**KI Paper Lot#:** 102916
INSTRUMENT: MSVOA16-I	**EM VOLTAGE:** 1282V	**ICV/QC:** VS1320, VS1321, VS1322,	**AFA:** V26039C
PURGE PRESSURE: 1.3 psi	**BFB RESPONSE:** 6485391	VS1323, VS1300, VS1319, VS1255	**Sample ID Verified by:**
		ISTD/SUR: VS1269	
ANALYST: Lindsay R	**RUN ID:** VI2216	**DATA PROCESSED BY:** Lindsay R	**DATE VERIFIED:**

Data File	Sample ID	DIL	VIAL #	MATRIX	ALS POS	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
I69003	BLANK	-	-	W	1	8260		-	-	-	✓
I69004	BFB	-	-	W	2	8260		-	-	-	✓
I69005	IC2216-1	-	-	W	3	8260	#18,108(PII), #37(MP), #113(OP)	-	-	-	1uL (-) 100mL ✓
I69006	IC2216-2	-	-	W	4	8260	#107(PII)	-	-	-	5uL (-) 100mL ✓
I69007	IC2216-3	-	-	W	5	8260	#107(PII)	-	-	-	5uL (-) 50mL ✓
I69008	IC2216-4	-	-	W	6	8260		-	-	-	12.5uL (-) 50mL ✓
I69009	ICC2216-5	-	-	W	7	8260		-	-	-	20mL (-) 50mL ✓
I69010	IC2216-6	-	-	W	8	8260		-	-	-	35mL (-) 50mL ✓
I69011	IC2216-7	-	-	W	9	8260	#8(SP), #113(OP)	-	-	-	50mL (-) 50mL ✓
I69012	BLANK	-	-	W	10	8260		-	-	-	✓
I69013	ICV2216-5	-	-	W	11	8260		-	-	-	25mL (-) 50mL ✓
I69014	ICV2216-4	-	-	W	12	8260	DCDFM only	-	-	-	12.5uL (-) 40mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: LR

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 06/24/2021	**METHODS:*** 8260	**BFB:** VS1269	**pH Lot#:** (1-12 pH paper): 220814
COLUMN TYPE: RTX-VMS	**METHOD FILE:** 2021-06-21APP9-I.M	**ICAL/CC:** VS1298, VS1299, VS1317,	(0-3 pH paper): 220416
DETECTOR: 5975C MSD	**CALIB. DATE:** 06/21/2021	VS1293, VS1304, VS1318	**KI Paper Lot#:** 102916
INSTRUMENT: MSVOA16-I	**EM VOLTAGE:** 1282V	**ICV/QC:** VS1320, VS1321, VS1322,	**AFA:** V26039C
PURGE PRESSURE: 1.3 psi	**BFB RESPONSE:** 7496572	VS1323, VS1300, VS1319, VS1325	**Sample ID Verified by:** LR
		ISTD/SUR: VS1269	
ANALYST: Lindsay R	**RUN ID:** VI2221	**DATA PROCESSED BY:** Jennifer	**DATE VERIFIED:** 06/24/21

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
I69102	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
I69103	BFB/CC2216-5	-	-	W	2	8260		-	-	-	Passed autofind; 20mL (-) 50mL ✓
I69104	BS	-	-	W	3	8260		-	-	-	12.5uL (-) 40mL ✓
I69105	CC2216-1	-	-	W	4	8260		-	-	-	1uL (-) 100mL ✓
I69106	MB	-	-	W	5	8260		-	-	-	ND ✓
I69107	FA86397-31	1X	1	W	6	8260		1	N		✓
I69108	FA86397-23	1X	2	W	7	8260		1	N		✓
I69109	FA86397-24	1X	2	W	8	8260		1	N		✓
I69110	FA86397-25	1X	2	W	9	8260		1	N		✓
I69111	FA86397-26	1X	2	W	10	8260		1	N		✓
I69112	FA86397-27	1X	2	W	11	8260		1	N		✓
I69113	FA86397-28	1X	2	W	12	8260		1	N		✓
I69114	FA86397-29	1X	2	W	13	8260		1	N		✓
I69115	FA86397-30	1X	2	W	14	8260		1	N		✓
I69116	FA86548-1	1X	2	W	15	8260		1	N		✓
I69117	FA86620-1	1X	1	W	16	8260		1	N		✓
I69118	FA86387-1	1X	2	W	17	8260		1	N		✓
I69119	FA86387-2	20X	2	W	18	8260	2.5mL (-) 50mL	1	N		✓ HS; CE only
I69120	FA86239-3	100X	3	W	19	8260	500uL (-) 50mL	1	N		✓ E-combine
I69121	FA86239-5	1X	3	W	20	8260		1	N		✓ OOH; CF
I69122	FA86239-6	20X	3	W	21	8260	2.5mL (-) 50mL	1	N		✓ OOH; CF
I69123	FA86239-7	20X	3	W	22	8260	2.5mL (-) 50mL	1	N		✓ OOH; CF
I69124	FA86239-8	10X	3	W	22	8260	5mL (-) 50mL	1	N		✓ OOH; CF
I69125	FA86224-1MS	1X	2	W	23	8260	For VI2217	1	N		12.5uL (-) 40mL ✓
I69126	FA86224-1MSD	1X	2	W	23	8260	For VI2217	1	N		12.5uL (-) 40mL ✓
I69127	FA86397-23MS	5X	2	W	24	8260	10mL (-) 50mL	1	N		12.5uL (-) 40mL ✓
I69128	FA86397-23MSD	5X	2	W	24	8260	10mL (-) 50mL	1	N		12.5uL (-) 40mL ✓
I69129	ECC2216-5	-	-	W	25	8260		-	-	-	20mL (-) 50mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: LR

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP18-5015 PFAS Removal; Pease AFB, NH

7311180270

SGS Job Number: FA80110

Sampling Dates: 10/20/20 - 10/21/20

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Ave Suite 1200
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Emma Driver

Total number of pages in report: **209**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: FA80110

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FA80110-1	10/20/20	13:00	ET	10/23/20	AQ	Ground Water	INF-SP1
FA80110-2	10/20/20	13:00	ET	10/23/20	AQ	Ground Water	PRETREATMENT-SP2
FA80110-3	10/20/20	13:00	ET	10/23/20	AQ	Ground Water	LEAD EFF-SP3
FA80110-4	10/21/20	13:00	ET	10/23/20	AQ	Trip Blank Water	TRIP BLANK
FA80110-5	10/21/20	13:00	ET	10/23/20	AQ	Ground Water	SP1-GW-20201021
FA80110-6	10/21/20	13:00	ET	10/23/20	AQ	Ground Water	SP2-GW-20201021
FA80110-7	10/21/20	13:00	ET	10/23/20	AQ	Ground Water	SP3-GW-20201021

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Wood Environment & Infrastructure Solut. **Job No:** FA80110

Site: ESTCP18-5015 PFAS Removal; Pease AFB, NH **Report Date:** 11/10/2020 5:39:07 PM

6 Samples and 1 Trip Blank were collected on between 10/20/2020 and 10/21/2020 and were received at SGS North America Inc - Orlando on 10/23/2020 properly preserved, at 0.4 Deg. C and intact. These Samples received an SGS Orlando job number of FA80110. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** VY2232

All samples were analyzed within the recommended method holding time.

Sample(s) FA80030-3MS, FA80030-3MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual
FA80030-3MS	MSVOA	Y53801.D	2-Hexanone, Methyl Chloride
FA80030-3MSD	MSVOA	Y53802.D	2-Hexanone, Methyl Chloride
VY2229-IC2229	MSVOA	Y53719.D	1,2-Dibromo-3-chloropropane, 1,4-Dichlorobenzene, 2-Hexanone
VY2229-IC2229	MSVOA	Y53720.D	2-Hexanone, Ethyl Alcohol
VY2229-IC2229	MSVOA	Y53721.D	2-Hexanone, Ethyl Alcohol
VY2229-IC2229	MSVOA	Y53722.D	2-Hexanone, Ethyl Alcohol, Hexane, Methyl Chloride
VY2229-IC2229	MSVOA	Y53724.D	2-Hexanone, Methyl Chloride
VY2229-IC2229	MSVOA	Y53725.D	2-Hexanone, Methyl Chloride
VY2229-ICC2229	MSVOA	Y53723.D	2-Hexanone, Methyl Chloride
VY2229-ICV2229	MSVOA	Y53727.D	2-Hexanone, Methyl Chloride
VY2232-BS	MSVOA	Y53779.D	2-Hexanone, Methyl Chloride
VY2232-CC2229	MSVOA	Y53778.D	2-Hexanone, Methyl Chloride

12 Manual Integrations were found for FA80110

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Jenna Kravitz, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA80110
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 10/20/20 thru 10/21/20

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA80110-1	**INF-SP1**					
Chlorobenzene		0.46 J	1.0	0.50	ug/l	SW846 8260B
FA80110-2	**PRETREATMENT-SP2**					
Chlorobenzene		0.34 J	1.0	0.50	ug/l	SW846 8260B
FA80110-3	**LEAD EFF-SP3**					
Chlorobenzene		0.20 J	1.0	0.50	ug/l	SW846 8260B
FA80110-4	**TRIP BLANK**					
No hits reported in this sample.						
FA80110-5	**SP1-GW-20201021**					
Chlorobenzene		0.44 J	1.0	0.50	ug/l	SW846 8260B
FA80110-6	**SP2-GW-20201021**					
Chlorobenzene		0.26 J	1.0	0.50	ug/l	SW846 8260B
FA80110-7	**SP3-GW-20201021**					
Chlorobenzene		0.28 J	1.0	0.50	ug/l	SW846 8260B

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	INF-SP1		
Lab Sample ID:	FA80110-1	**Date Sampled:**	10/20/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y53794.D	1	11/03/20 17:12	CV	n/a	n/a	VY2232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.46	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	INF-SP1		
Lab Sample ID:	FA80110-1	**Date Sampled:**	10/20/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	94%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	PRETREATMENT-SP2		
Lab Sample ID:	FA80110-2	**Date Sampled:**	10/20/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y53795.D	1	11/03/20 17:39	CV	n/a	n/a	VY2232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.34	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PRETREATMENT-SP2		
Lab Sample ID:	FA80110-2	**Date Sampled:**	10/20/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	93%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	LEAD EFF-SP3		
Lab Sample ID:	FA80110-3	**Date Sampled:**	10/20/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y53796.D	1	11/03/20 18:06	CV	n/a	n/a	VY2232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.20	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	LEAD EFF-SP3		
Lab Sample ID:	FA80110-3	**Date Sampled:**	10/20/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	93%		85-112%
460-00-4	4-Bromofluorobenzene	94%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: FA80110-4
Matrix: AQ - Trip Blank Water
Method: SW846 8260B
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Date Sampled: 10/21/20
Date Received: 10/23/20
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y53784.D	1	11/03/20 12:41	CV	n/a	n/a	VY2232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	0.20	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: FA80110-4
Matrix: AQ - Trip Blank Water
Method: SW846 8260B
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Date Sampled: 10/21/20
Date Received: 10/23/20
Percent Solids: n/a

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP1-GW-20201021		
Lab Sample ID:	FA80110-5	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y53797.D	1	11/03/20 18:33	CV	n/a	n/a	VY2232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.44	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP1-GW-20201021		
Lab Sample ID:	FA80110-5	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP2-GW-20201021		
Lab Sample ID:	FA80110-6	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y53798.D	1	11/03/20 19:00	CV	n/a	n/a	VY2232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.26	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP2-GW-20201021		
Lab Sample ID:	FA80110-6	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	92%		85-112%
460-00-4	4-Bromofluorobenzene	94%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP3-GW-20201021		
Lab Sample ID:	FA80110-7	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y53799.D	1	11/03/20 19:27	CV	n/a	n/a	VY2232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.28	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP3-GW-20201021		
Lab Sample ID:	FA80110-7	**Date Sampled:**	10/21/20
Matrix:	AQ - Ground Water	**Date Received:**	10/23/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	0.59	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	93%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

SGS North America Inc - Orlando

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL: 407-425-6700 FAX: 407-425-0707
www.sgs.com

FA80110

SGS - ORLANDO JOB # : PAGE_____OF_____

SGS - ORLANDO Quote #	SKIFF #

Client / Reporting Information

Company Name: WOOD PLC
Address: 511 CONGRESS ST, SUITE 200
City: PORTLAND State: ME Zip: 04101
Project Contact: ERIC THOMPSON Email: ERIC.THOMPSON2@WOODPLC.COM
Phone #: 207 747 7386
Sampler(s) Name(s) (Printed) Sampler 1: ERIC THOMPSON Sampler 2:

Project Information

Project Name: ESTCP SITE 8 PILOT
Street 20 SHORT ST.
City NEWINTON State NH
Project #
Fax #
Client Purchase Order #

Analytical Information

VOC 8260

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NACH+ZNAC	DI WATER	MEOH	VOC	LAB USE ONLY
1	INF - SP1	10/21/20	13:00	EWT	GW	3			X							X	
2	PRETREAT - SP2	↓	↓	↓	↓	3			X							X	
3	LEAD EFF - SP3	↓	↓	↓	↓	3			X							X	
4	Trip Blanks	10/21/20	13:00	EWT	GW	2			X							X	
5	SP1-GW-20201021	10/21/20	13:00	EWT	GW	3			X							X	
6	SP2-GW-20201021	↓	↓	↓	↓	3			X							X	
7	SP3-GW-20201021	↓	↓	↓	↓	3			X							X	

WWW.ABCLABS.COM
ABC VERIFICATION COV

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULLT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

10/22 SGS-ACCUTEST MARLBOR

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1		10/21 2:00	2 Wood	3	10/22/20 1349	
5		10.22.20 17:00	6 FedEx	7 Fedex	10/23/20	8 915

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 0.4 CS# 137167

http://www.sgs.com/en/terms-and-conditions

ORLD-SMT-0001-03-FORM-COC (1) Rev 031318

5.1 5

FA80110: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA80110 **Client:** WOOD **Project:** ESTEP SITE 8 PILOT

Date / Time Received: 10/23/2020 9:15:00 AM **Delivery Method:** FEDEX **Airbill #'s:** 930443693391

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (0.2);

Cooler Temps (Corrected) °C: Cooler 1: (0.4);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: BRYANG Date: 10/23/2020 9:15:00 A Reviewer: _____ Date: _____

FA80110: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80110
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 10/20/20 thru 10/21/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VY2232	SW846 8260B						
VY2232-BS	67-64-1	Acetone	BSP	REC	94	%	39-160
VY2232-BS	71-43-2	Benzene	BSP	REC	99	%	79-120
VY2232-BS	74-97-5	Bromochloromethane	BSP	REC	92	%	78-123
VY2232-BS	75-27-4	Bromodichloromethane	BSP	REC	101	%	79-125
VY2232-BS	75-25-2	Bromoform	BSP	REC	96	%	66-130
VY2232-BS	78-93-3	2-Butanone (MEK)	BSP	REC	94	%	56-143
VY2232-BS	75-15-0	Carbon Disulfide	BSP	REC	97	%	64-133
VY2232-BS	56-23-5	Carbon Tetrachloride	BSP	REC	109	%	72-136
VY2232-BS	108-90-7	Chlorobenzene	BSP	REC	90	%	82-118
VY2232-BS	75-00-3	Chloroethane	BSP	REC	93	%	60-138
VY2232-BS	67-66-3	Chloroform	BSP	REC	100	%	79-124
VY2232-BS	110-82-7	Cyclohexane	BSP	REC	107	%	71-130
VY2232-BS	124-48-1	Dibromochloromethane	BSP	REC	96	%	74-126
VY2232-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	91	%	62-128
VY2232-BS	106-93-4	1,2-Dibromoethane	BSP	REC	90	%	77-121
VY2232-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	90	%	32-152
VY2232-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	91	%	80-119
VY2232-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	92	%	80-119
VY2232-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	88	%	79-118
VY2232-BS	75-34-3	1,1-Dichloroethane	BSP	REC	105	%	77-125
VY2232-BS	107-06-2	1,2-Dichloroethane	BSP	REC	92	%	73-128
VY2232-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	109	%	71-131
VY2232-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	99	%	78-123
VY2232-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	104	%	75-124
VY2232-BS	78-87-5	1,2-Dichloropropane	BSP	REC	98	%	78-122
VY2232-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	99	%	75-124
VY2232-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	98	%	73-127
VY2232-BS	100-41-4	Ethylbenzene	BSP	REC	97	%	79-121
VY2232-BS	76-13-1	Freon 113	BSP	REC	79	%	70-136
VY2232-BS	591-78-6	2-Hexanone	BSP	REC	94	%	57-139
VY2232-BS	98-82-8	Isopropylbenzene	BSP	REC	97	%	72-131
VY2232-BS	79-20-9	Methyl Acetate	BSP	REC	93	%	56-136
VY2232-BS	74-83-9	Methyl Bromide	BSP	REC	85	%	53-141
VY2232-BS	74-87-3	Methyl Chloride	BSP	REC	96	%	50-139
VY2232-BS	108-87-2	Methylcyclohexane	BSP	REC	109	%	72-132
VY2232-BS	75-09-2	Methylene Chloride	BSP	REC	92	%	74-124
VY2232-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	91	%	67-130
VY2232-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	96	%	71-124
VY2232-BS	100-42-5	Styrene	BSP	REC	95	%	78-123
VY2232-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	86	%	71-121
VY2232-BS	127-18-4	Tetrachloroethylene	BSP	REC	97	%	74-129
VY2232-BS	108-88-3	Toluene	BSP	REC	93	%	80-121

* Sample used for QC is not from job FA80110

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80110
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 10/20/20 thru 10/21/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VY2232-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	96	%	69-129
VY2232-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	97	%	69-130
VY2232-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	105	%	74-131
VY2232-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	90	%	80-119
VY2232-BS	79-01-6	Trichloroethylene	BSP	REC	101	%	79-123
VY2232-BS	75-69-4	Trichlorofluoromethane	BSP	REC	114	%	65-141
VY2232-BS	75-01-4	Vinyl Chloride	BSP	REC	101	%	58-137
VY2232-BS		m,p-Xylene	BSP	REC	93	%	80-121
VY2232-BS	95-47-6	o-Xylene	BSP	REC	94	%	78-122
VY2232-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	102	%	80-119
VY2232-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	98	%	81-118
VY2232-BS	2037-26-5	Toluene-D8	BSP	SURR	97	%	89-112
VY2232-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	98	%	85-114
FA80030-3MS*	67-64-1	Acetone	MS	REC	95	%	39-160
FA80030-3MS*	71-43-2	Benzene	MS	REC	103	%	79-120
FA80030-3MS*	74-97-5	Bromochloromethane	MS	REC	97	%	78-123
FA80030-3MS*	75-27-4	Bromodichloromethane	MS	REC	106	%	79-125
FA80030-3MS*	75-25-2	Bromoform	MS	REC	98	%	66-130
FA80030-3MS*	78-93-3	2-Butanone (MEK)	MS	REC	97	%	56-143
FA80030-3MS*	75-15-0	Carbon Disulfide	MS	REC	98	%	64-133
FA80030-3MS*	56-23-5	Carbon Tetrachloride	MS	REC	115	%	72-136
FA80030-3MS*	108-90-7	Chlorobenzene	MS	REC	94	%	82-118
FA80030-3MS*	75-00-3	Chloroethane	MS	REC	109	%	60-138
FA80030-3MS*	67-66-3	Chloroform	MS	REC	105	%	79-124
FA80030-3MS*	110-82-7	Cyclohexane	MS	REC	110	%	71-130
FA80030-3MS*	124-48-1	Dibromochloromethane	MS	REC	98	%	74-126
FA80030-3MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	90	%	62-128
FA80030-3MS*	106-93-4	1,2-Dibromoethane	MS	REC	94	%	77-121
FA80030-3MS*	75-71-8	Dichlorodifluoromethane	MS	REC	94	%	32-152
FA80030-3MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	91	%	80-119
FA80030-3MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	92	%	80-119
FA80030-3MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	90	%	79-118
FA80030-3MS*	75-34-3	1,1-Dichloroethane	MS	REC	111	%	77-125
FA80030-3MS*	107-06-2	1,2-Dichloroethane	MS	REC	98	%	73-128
FA80030-3MS*	75-35-4	1,1-Dichloroethylene	MS	REC	112	%	71-131
FA80030-3MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	106	%	78-123
FA80030-3MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	108	%	75-124
FA80030-3MS*	78-87-5	1,2-Dichloropropane	MS	REC	101	%	78-122
FA80030-3MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	94	%	75-124
FA80030-3MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	98	%	73-127
FA80030-3MS*	100-41-4	Ethylbenzene	MS	REC	100	%	79-121
FA80030-3MS*	76-13-1	Freon 113	MS	REC	88	%	70-136
FA80030-3MS*	591-78-6	2-Hexanone	MS	REC	95	%	57-139
FA80030-3MS*	98-82-8	Isopropylbenzene	MS	REC	98	%	72-131
FA80030-3MS*	79-20-9	Methyl Acetate	MS	REC	99	%	56-136

* Sample used for QC is not from job FA80110

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80110
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 10/20/20 thru 10/21/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA80030-3MS*	74-83-9	Methyl Bromide	MS	REC	79	%	53-141
FA80030-3MS*	74-87-3	Methyl Chloride	MS	REC	99	%	50-139
FA80030-3MS*	108-87-2	Methylcyclohexane	MS	REC	109	%	72-132
FA80030-3MS*	75-09-2	Methylene Chloride	MS	REC	106	%	74-124
FA80030-3MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	98	%	67-130
FA80030-3MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	99	%	71-124
FA80030-3MS*	100-42-5	Styrene	MS	REC	98	%	78-123
FA80030-3MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	93	%	71-121
FA80030-3MS*	127-18-4	Tetrachloroethylene	MS	REC	100	%	74-129
FA80030-3MS*	108-88-3	Toluene	MS	REC	96	%	80-121
FA80030-3MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	88	%	69-129
FA80030-3MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	89	%	69-130
FA80030-3MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	110	%	74-131
FA80030-3MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	96	%	80-119
FA80030-3MS*	79-01-6	Trichloroethylene	MS	REC	102	%	79-123
FA80030-3MS*	75-69-4	Trichlorofluoromethane	MS	REC	122	%	65-141
FA80030-3MS*	75-01-4	Vinyl Chloride	MS	REC	105	%	58-137
FA80030-3MS*		m,p-Xylene	MS	REC	96	%	80-121
FA80030-3MS*	95-47-6	o-Xylene	MS	REC	96	%	78-122
FA80030-3MS*	1868-53-7	Dibromofluoromethane	MS	SURR	102	%	80-119
FA80030-3MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	100	%	81-118
FA80030-3MS*	2037-26-5	Toluene-D8	MS	SURR	95	%	89-112
FA80030-3MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	96	%	85-114
FA80030-3MSD*	67-64-1	Acetone	MSD	REC	96	%	39-160
FA80030-3MSD*	67-64-1	Acetone	MSD	RPD	1	%	20
FA80030-3MSD*	71-43-2	Benzene	MSD	REC	102	%	79-120
FA80030-3MSD*	71-43-2	Benzene	MSD	RPD	2	%	20
FA80030-3MSD*	74-97-5	Bromochloromethane	MSD	REC	98	%	78-123
FA80030-3MSD*	74-97-5	Bromochloromethane	MSD	RPD	2	%	20
FA80030-3MSD*	75-27-4	Bromodichloromethane	MSD	REC	106	%	79-125
FA80030-3MSD*	75-27-4	Bromodichloromethane	MSD	RPD	0	%	20
FA80030-3MSD*	75-25-2	Bromoform	MSD	REC	99	%	66-130
FA80030-3MSD*	75-25-2	Bromoform	MSD	RPD	1	%	20
FA80030-3MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	99	%	56-143
FA80030-3MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	2	%	20
FA80030-3MSD*	75-15-0	Carbon Disulfide	MSD	REC	96	%	64-133
FA80030-3MSD*	75-15-0	Carbon Disulfide	MSD	RPD	2	%	20
FA80030-3MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	114	%	72-136
FA80030-3MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	1	%	20
FA80030-3MSD*	108-90-7	Chlorobenzene	MSD	REC	94	%	82-118
FA80030-3MSD*	108-90-7	Chlorobenzene	MSD	RPD	1	%	20
FA80030-3MSD*	75-00-3	Chloroethane	MSD	REC	102	%	60-138
FA80030-3MSD*	75-00-3	Chloroethane	MSD	RPD	6	%	20
FA80030-3MSD*	67-66-3	Chloroform	MSD	REC	104	%	79-124
FA80030-3MSD*	67-66-3	Chloroform	MSD	RPD	2	%	20

* Sample used for QC is not from job FA80110

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80110
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 10/20/20 thru 10/21/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA80030-3MSD*	110-82-7	Cyclohexane	MSD	REC	108	%	71-130
FA80030-3MSD*	110-82-7	Cyclohexane	MSD	RPD	1	%	20
FA80030-3MSD*	124-48-1	Dibromochloromethane	MSD	REC	100	%	74-126
FA80030-3MSD*	124-48-1	Dibromochloromethane	MSD	RPD	2	%	20
FA80030-3MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	93	%	62-128
FA80030-3MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	3	%	20
FA80030-3MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	93	%	77-121
FA80030-3MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	1	%	20
FA80030-3MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	93	%	32-152
FA80030-3MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	2	%	20
FA80030-3MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	92	%	80-119
FA80030-3MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	1	%	20
FA80030-3MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	93	%	80-119
FA80030-3MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	1	%	20
FA80030-3MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	90	%	79-118
FA80030-3MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	1	%	20
FA80030-3MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	110	%	77-125
FA80030-3MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	1	%	20
FA80030-3MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	98	%	73-128
FA80030-3MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	0	%	20
FA80030-3MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	110	%	71-131
FA80030-3MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	1	%	20
FA80030-3MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	104	%	78-123
FA80030-3MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	2	%	20
FA80030-3MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	108	%	75-124
FA80030-3MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	0	%	20
FA80030-3MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	100	%	78-122
FA80030-3MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	1	%	20
FA80030-3MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	97	%	75-124
FA80030-3MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	3	%	20
FA80030-3MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	98	%	73-127
FA80030-3MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	1	%	20
FA80030-3MSD*	100-41-4	Ethylbenzene	MSD	REC	99	%	79-121
FA80030-3MSD*	100-41-4	Ethylbenzene	MSD	RPD	1	%	20
FA80030-3MSD*	76-13-1	Freon 113	MSD	REC	86	%	70-136
FA80030-3MSD*	76-13-1	Freon 113	MSD	RPD	3	%	20
FA80030-3MSD*	591-78-6	2-Hexanone	MSD	REC	91	%	57-139
FA80030-3MSD*	591-78-6	2-Hexanone	MSD	RPD	4	%	20
FA80030-3MSD*	98-82-8	Isopropylbenzene	MSD	REC	98	%	72-131
FA80030-3MSD*	98-82-8	Isopropylbenzene	MSD	RPD	0	%	20
FA80030-3MSD*	79-20-9	Methyl Acetate	MSD	REC	98	%	56-136
FA80030-3MSD*	79-20-9	Methyl Acetate	MSD	RPD	0	%	20
FA80030-3MSD*	74-83-9	Methyl Bromide	MSD	REC	90	%	53-141
FA80030-3MSD*	74-83-9	Methyl Bromide	MSD	RPD	13	%	20
FA80030-3MSD*	74-87-3	Methyl Chloride	MSD	REC	96	%	50-139

* Sample used for QC is not from job FA80110

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80110
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 10/20/20 thru 10/21/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA80030-3MSD*	74-87-3	Methyl Chloride	MSD	RPD	3	%	20
FA80030-3MSD*	108-87-2	Methylcyclohexane	MSD	REC	108	%	72-132
FA80030-3MSD*	108-87-2	Methylcyclohexane	MSD	RPD	1	%	20
FA80030-3MSD*	75-09-2	Methylene Chloride	MSD	REC	105	%	74-124
FA80030-3MSD*	75-09-2	Methylene Chloride	MSD	RPD	2	%	20
FA80030-3MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	98	%	67-130
FA80030-3MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	0	%	20
FA80030-3MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	102	%	71-124
FA80030-3MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	2	%	20
FA80030-3MSD*	100-42-5	Styrene	MSD	REC	98	%	78-123
FA80030-3MSD*	100-42-5	Styrene	MSD	RPD	0	%	20
FA80030-3MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	90	%	71-121
FA80030-3MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	3	%	20
FA80030-3MSD*	127-18-4	Tetrachloroethylene	MSD	REC	98	%	74-129
FA80030-3MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	2	%	20
FA80030-3MSD*	108-88-3	Toluene	MSD	REC	95	%	80-121
FA80030-3MSD*	108-88-3	Toluene	MSD	RPD	1	%	20
FA80030-3MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	92	%	69-129
FA80030-3MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	4	%	20
FA80030-3MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	91	%	69-130
FA80030-3MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	3	%	20
FA80030-3MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	109	%	74-131
FA80030-3MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	1	%	20
FA80030-3MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	94	%	80-119
FA80030-3MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	3	%	20
FA80030-3MSD*	79-01-6	Trichloroethylene	MSD	REC	101	%	79-123
FA80030-3MSD*	79-01-6	Trichloroethylene	MSD	RPD	1	%	20
FA80030-3MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	120	%	65-141
FA80030-3MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	1	%	20
FA80030-3MSD*	75-01-4	Vinyl Chloride	MSD	REC	106	%	58-137
FA80030-3MSD*	75-01-4	Vinyl Chloride	MSD	RPD	1	%	20
FA80030-3MSD*		m,p-Xylene	MSD	REC	95	%	80-121
FA80030-3MSD*		m,p-Xylene	MSD	RPD	1	%	20
FA80030-3MSD*	95-47-6	o-Xylene	MSD	REC	96	%	78-122
FA80030-3MSD*	95-47-6	o-Xylene	MSD	RPD	0	%	20
FA80030-3MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	102	%	80-119
FA80030-3MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	101	%	81-118
FA80030-3MSD*	2037-26-5	Toluene-D8	MSD	SURR	96	%	89-112
FA80030-3MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	96	%	85-114
VY2232-MB	1868-53-7	Dibromofluoromethane	MB	SURR	97	%	80-119
VY2232-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	103	%	81-118
VY2232-MB	2037-26-5	Toluene-D8	MB	SURR	94	%	89-112
VY2232-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	95	%	85-114
FA80110-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
FA80110-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	103	%	81-118

* Sample used for QC is not from job FA80110

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80110
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 10/20/20 thru 10/21/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA80110-1	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
FA80110-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
FA80110-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
FA80110-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	103	%	81-118
FA80110-2	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
FA80110-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
FA80110-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	100	%	80-119
FA80110-3	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	104	%	81-118
FA80110-3	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
FA80110-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
FA80110-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	97	%	80-119
FA80110-4	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	102	%	81-118
FA80110-4	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
FA80110-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
FA80110-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
FA80110-5	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	103	%	81-118
FA80110-5	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
FA80110-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
FA80110-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
FA80110-6	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	103	%	81-118
FA80110-6	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
FA80110-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
FA80110-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
FA80110-7	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	104	%	81-118
FA80110-7	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
FA80110-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114

* Sample used for QC is not from job FA80110

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2232-MB	Y53782.D	1	11/03/20	CV	n/a	n/a	VY2232

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80110-1, FA80110-2, FA80110-3, FA80110-4, FA80110-5, FA80110-6, FA80110-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.59	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	

Method Blank Summary

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2232-MB	Y53782.D	1	11/03/20	CV	n/a	n/a	VY2232

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80110-1, FA80110-2, FA80110-3, FA80110-4, FA80110-5, FA80110-6, FA80110-7

CAS No.	Compound	Result	RL	MDL	Units	Q
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	79-125%
2037-26-5	Toluene-D8	94%	85-112%
460-00-4	4-Bromofluorobenzene	95%	83-118%

Blank Spike Summary

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2232-BS	Y53779.D	1	11/03/20	CV	n/a	n/a	VY2232

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80110-1, FA80110-2, FA80110-3, FA80110-4, FA80110-5, FA80110-6, FA80110-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	118	94	50-147
71-43-2	Benzene	25	24.7	99	81-122
74-97-5	Bromochloromethane	25	23.1	92	76-123
75-27-4	Bromodichloromethane	25	25.3	101	79-123
75-25-2	Bromoform	25	23.9	96	66-123
78-93-3	2-Butanone (MEK)	125	117	94	56-143
75-15-0	Carbon Disulfide	25	24.3	97	66-148
56-23-5	Carbon Tetrachloride	25	27.3	109	76-136
108-90-7	Chlorobenzene	25	22.6	90	82-124
75-00-3	Chloroethane	25	23.2	93	62-144
67-66-3	Chloroform	25	24.9	100	80-124
110-82-7	Cyclohexane	25	26.8	107	73-138
124-48-1	Dibromochloromethane	25	23.9	96	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	22.7	91	64-123
106-93-4	1,2-Dibromoethane	25	22.4	90	75-120
75-71-8	Dichlorodifluoromethane	25	22.5	90	42-167
95-50-1	1,2-Dichlorobenzene	25	22.8	91	82-124
541-73-1	1,3-Dichlorobenzene	25	23.0	92	84-125
106-46-7	1,4-Dichlorobenzene	25	22.1	88	78-120
75-34-3	1,1-Dichloroethane	25	26.2	105	81-122
107-06-2	1,2-Dichloroethane	25	23.0	92	75-125
75-35-4	1,1-Dichloroethylene	25	27.3	109	78-137
156-59-2	cis-1,2-Dichloroethylene	25	24.8	99	78-120
156-60-5	trans-1,2-Dichloroethylene	25	26.1	104	76-127
78-87-5	1,2-Dichloropropane	25	24.4	98	76-124
10061-01-5	cis-1,3-Dichloropropene	25	24.7	99	75-118
10061-02-6	trans-1,3-Dichloropropene	25	24.6	98	80-120
100-41-4	Ethylbenzene	25	24.2	97	81-121
76-13-1	Freon 113	25	19.7	79	72-134
591-78-6	2-Hexanone	125	117	94	61-129
98-82-8	Isopropylbenzene	25	24.2	97	83-132
79-20-9	Methyl Acetate	125	116	93	65-126
74-83-9	Methyl Bromide	25	21.3	85	59-143
74-87-3	Methyl Chloride	25	23.9	96	50-159
108-87-2	Methylcyclohexane	25	27.2	109	76-129
75-09-2	Methylene Chloride	25	23.0	92	69-135

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2232-BS	Y53779.D	1	11/03/20	CV	n/a	n/a	VY2232

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80110-1, FA80110-2, FA80110-3, FA80110-4, FA80110-5, FA80110-6, FA80110-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
108-10-1	4-Methyl-2-pentanone (MIBK)	125	114	91	66-122
1634-04-4	Methyl Tert Butyl Ether	25	23.9	96	72-117
100-42-5	Styrene	25	23.8	95	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	21.5	86	72-120
127-18-4	Tetrachloroethylene	25	24.3	97	76-135
108-88-3	Toluene	25	23.2	93	80-120
87-61-6	1,2,3-Trichlorobenzene	25	24.0	96	68-131
120-82-1	1,2,4-Trichlorobenzene	25	24.3	97	73-129
71-55-6	1,1,1-Trichloroethane	25	26.2	105	75-130
79-00-5	1,1,2-Trichloroethane	25	22.4	90	76-119
79-01-6	Trichloroethylene	25	25.2	101	81-126
75-69-4	Trichlorofluoromethane	25	28.4	114	71-156
75-01-4	Vinyl Chloride	25	25.2	101	69-159
	m,p-Xylene	50	46.7	93	79-126
95-47-6	o-Xylene	25	23.6	94	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA80030-3MS	Y53801.D	5	11/03/20	CV	n/a	n/a	VY2232
FA80030-3MSD	Y53802.D	5	11/03/20	CV	n/a	n/a	VY2232
FA80030-3	Y53788.D	1	11/03/20	CV	n/a	n/a	VY2232

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80110-1, FA80110-2, FA80110-3, FA80110-4, FA80110-5, FA80110-6, FA80110-7

CAS No.	Compound	FA80030-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	25 U		625	594	95	625	597	96	1	50-147/21
71-43-2	Benzene	1.0 U		125	129	103	125	127	102	2	81-122/14
74-97-5	Bromochloromethane	1.0 U		125	121	97	125	123	98	2	76-123/14
75-27-4	Bromodichloromethane	1.0 U		125	132	106	125	132	106	0	79-123/19
75-25-2	Bromoform	1.0 U		125	123	98	125	124	99	1	66-123/21
78-93-3	2-Butanone (MEK)	5.0 U		625	606	97	625	621	99	2	56-143/18
75-15-0	Carbon Disulfide	2.0 U		125	123	98	125	120	96	2	66-148/23
56-23-5	Carbon Tetrachloride	1.0 U		125	144	115	125	143	114	1	76-136/23
108-90-7	Chlorobenzene	1.0 U		125	118	94	125	117	94	1	82-124/14
75-00-3	Chloroethane	2.0 U		125	136	109	125	128	102	6	62-144/20
67-66-3	Chloroform	0.34	J	125	132	105	125	130	104	2	80-124/15
110-82-7	Cyclohexane	1.0 U		125	137	110	125	135	108	1	73-138/18
124-48-1	Dibromochloromethane	1.0 U		125	123	98	125	125	100	2	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		125	113	90	125	116	93	3	64-123/18
106-93-4	1,2-Dibromoethane	2.0 U		125	117	94	125	116	93	1	75-120/13
75-71-8	Dichlorodifluoromethane	2.0 U		125	118	94	125	116	93	2	42-167/19
95-50-1	1,2-Dichlorobenzene	1.0 U		125	114	91	125	115	92	1	82-124/14
541-73-1	1,3-Dichlorobenzene	1.0 U		125	115	92	125	116	93	1	84-125/14
106-46-7	1,4-Dichlorobenzene	1.0 U		125	112	90	125	113	90	1	78-120/15
75-34-3	1,1-Dichloroethane	1.0 U		125	139	111	125	137	110	1	81-122/15
107-06-2	1,2-Dichloroethane	1.0 U		125	123	98	125	123	98	0	75-125/14
75-35-4	1,1-Dichloroethylene	1.0 U		125	140	112	125	138	110	1	78-137/18
156-59-2	cis-1,2-Dichloroethylene	1.0 U		125	132	106	125	130	104	2	78-120/15
156-60-5	trans-1,2-Dichloroethylene	1.0 U		125	135	108	125	135	108	0	76-127/17
78-87-5	1,2-Dichloropropane	1.0 U		125	126	101	125	125	100	1	76-124/14
10061-01-5	cis-1,3-Dichloropropene	1.0 U		125	118	94	125	121	97	3	75-118/23
10061-02-6	trans-1,3-Dichloropropene	1.0 U		125	122	98	125	123	98	1	80-120/22
100-41-4	Ethylbenzene	1.0 U		125	125	100	125	124	99	1	81-121/14
76-13-1	Freon 113	1.0 U		125	110	88	125	107	86	3	72-134/20
591-78-6	2-Hexanone	10 U		625	591	95	625	570	91	4	61-129/18
98-82-8	Isopropylbenzene	1.0 U		125	123	98	125	123	98	0	83-132/15
79-20-9	Methyl Acetate	20 U		625	617	99	625	615	98	0	65-126/18
74-83-9	Methyl Bromide	2.0 U		125	99.1	79	125	113	90	13	59-143/19
74-87-3	Methyl Chloride	2.0 U		125	124	99	125	120	96	3	50-159/19
108-87-2	Methylcyclohexane	1.0 U		125	136	109	125	135	108	1	76-129/17
75-09-2	Methylene Chloride	5.0 U		125	133	106	125	131	105	2	69-135/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA80030-3MS	Y53801.D	5	11/03/20	CV	n/a	n/a	VY2232
FA80030-3MSD	Y53802.D	5	11/03/20	CV	n/a	n/a	VY2232
FA80030-3	Y53788.D	1	11/03/20	CV	n/a	n/a	VY2232

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80110-1, FA80110-2, FA80110-3, FA80110-4, FA80110-5, FA80110-6, FA80110-7

CAS No.	Compound	FA80030-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		625	610	98	625	613	98	0	66-122/16
1634-04-4	Methyl Tert Butyl Ether	1.0 U		125	124	99	125	127	102	2	72-117/14
100-42-5	Styrene	1.0 U		125	123	98	125	123	98	0	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U		125	116	93	125	113	90	3	72-120/14
127-18-4	Tetrachloroethylene	1.0 U		125	125	100	125	122	98	2	76-135/16
108-88-3	Toluene	1.0 U		125	120	96	125	119	95	1	80-120/14
87-61-6	1,2,3-Trichlorobenzene	2.0 U		125	110	88	125	115	92	4	68-131/25
120-82-1	1,2,4-Trichlorobenzene	2.0 U		125	111	89	125	114	91	3	73-129/20
71-55-6	1,1,1-Trichloroethane	1.0 U		125	138	110	125	136	109	1	75-130/16
79-00-5	1,1,2-Trichloroethane	1.0 U		125	120	96	125	117	94	3	76-119/14
79-01-6	Trichloroethylene	20.7		125	148	102	125	147	101	1	81-126/15
75-69-4	Trichlorofluoromethane	2.0 U		125	152	122	125	150	120	1	71-156/21
75-01-4	Vinyl Chloride	1.0 U		125	131	105	125	132	106	1	69-159/18
	m,p-Xylene	2.0 U		250	240	96	250	237	95	1	79-126/15
95-47-6	o-Xylene	1.0 U		125	120	96	125	120	96	0	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA80030-3	Limits
1868-53-7	Dibromofluoromethane	102%	102%	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	101%	103%	79-125%
2037-26-5	Toluene-D8	95%	96%	93%	85-112%
460-00-4	4-Bromofluorobenzene	96%	96%	94%	83-118%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VY2229-BFB	**Injection Date:**	10/31/20
Lab File ID:	Y53718.D	**Injection Time:**	10:49
Instrument ID:	GCMSY		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	86312	16.6		Pass
75	30.0 - 60.0% of mass 95	223381	43.0		Pass
95	Base peak, 100% relative abundance	519466	100.0		Pass
96	5.0 - 9.0% of mass 95	35456	6.83		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	499946	96.2		Pass
175	5.0 - 9.0% of mass 174	34866	6.71	(6.97) [a]	Pass
176	95.0 - 101.0% of mass 174	486997	93.7	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	31562	6.08	(6.48) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY2229-IC2229	Y53719.D	10/31/20	11:27	00:38	Initial cal 1
VY2229-IC2229	Y53720.D	10/31/20	11:54	01:05	Initial cal 2
VY2229-IC2229	Y53721.D	10/31/20	12:21	01:32	Initial cal 3
VY2229-IC2229	Y53722.D	10/31/20	12:47	01:58	Initial cal 4
VY2229-ICC2229	Y53723.D	10/31/20	13:15	02:26	Initial cal 5
VY2229-IC2229	Y53724.D	10/31/20	13:42	02:53	Initial cal 6
VY2229-IC2229	Y53725.D	10/31/20	14:09	03:20	Initial cal 7
VY2229-ICV2229	Y53727.D	10/31/20	15:03	04:14	Initial cal verification 5
VY2229-ICV2229	Y53728.D	10/31/20	15:30	04:41	Initial cal verification 4

Instrument Performance Check (BFB)

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VY2232-BFB	**Injection Date:**	11/03/20
Lab File ID:	Y53778.D	**Injection Time:**	09:51
Instrument ID:	GCMSY		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	88850	16.5		Pass
75	30.0 - 60.0% of mass 95	232533	43.1		Pass
95	Base peak, 100% relative abundance	539093	100.0		Pass
96	5.0 - 9.0% of mass 95	35760	6.63		Pass
173	Less than 2.0% of mass 174	2021	0.37	(0.39) [a]	Pass
174	50.0 - 100.0% of mass 95	519530	96.4		Pass
175	5.0 - 9.0% of mass 174	36922	6.85	(7.11) [a]	Pass
176	95.0 - 101.0% of mass 174	503018	93.3	(96.8) [a]	Pass
177	5.0 - 9.0% of mass 176	32909	6.10	(6.54) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY2232-CC2229	Y53778.D	11/03/20	09:52	00:01	Continuing cal 5
VY2232-BS	Y53779.D	11/03/20	10:26	00:35	Blank Spike
VY2232-MB	Y53782.D	11/03/20	11:47	01:56	Method Blank
ZZZZZZ	Y53783.D	11/03/20	12:14	02:23	(unrelated sample)
FA80110-4	Y53784.D	11/03/20	12:41	02:50	TRIP BLANK
ZZZZZZ	Y53785.D	11/03/20	13:08	03:17	(unrelated sample)
ZZZZZZ	Y53786.D	11/03/20	13:35	03:44	(unrelated sample)
FA80030-3	Y53788.D	11/03/20	14:29	04:38	(used for QC only; not part of job FA80110)
ZZZZZZ	Y53789.D	11/03/20	14:56	05:05	(unrelated sample)
ZZZZZZ	Y53791.D	11/03/20	15:51	06:00	(unrelated sample)
ZZZZZZ	Y53792.D	11/03/20	16:18	06:27	(unrelated sample)
ZZZZZZ	Y53793.D	11/03/20	16:45	06:54	(unrelated sample)
FA80110-1	Y53794.D	11/03/20	17:12	07:21	INF-SP1
FA80110-2	Y53795.D	11/03/20	17:39	07:48	PRETREATMENT-SP2
FA80110-3	Y53796.D	11/03/20	18:06	08:15	LEAD EFF-SP3
FA80110-5	Y53797.D	11/03/20	18:33	08:42	SP1-GW-20201021
FA80110-6	Y53798.D	11/03/20	19:00	09:09	SP2-GW-20201021
FA80110-7	Y53799.D	11/03/20	19:27	09:36	SP3-GW-20201021
ZZZZZZ	Y53800.D	11/03/20	19:54	10:03	(unrelated sample)
FA80030-3MS	Y53801.D	11/03/20	20:21	10:30	Matrix Spike
FA80030-3MSD	Y53802.D	11/03/20	20:48	10:57	Matrix Spike Duplicate
VY2232-ECC2229	Y53803.D	11/03/20	21:16	11:25	Ending cal 5

Internal Standard Area Summary

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VY2232-CC2229	**Injection Date:**	11/03/20
Lab File ID:	Y53778.D	**Injection Time:**	09:52
Instrument ID:	GCMSY	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1772131	11.52	1686182	14.58	942140	16.28	126222	7.42
Check Std [b]	1728048	11.52	1725574	14.58	990956	16.27	115371	7.42
Upper Limit [c]	3456096	11.69	3451148	14.75	1981912	16.44	230742	7.59
Lower Limit [d]	864024	11.35	862787	14.41	495478	16.10	57686	7.25

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VY2232-BS	1801232	11.52	1811749	14.58	1037368	16.27	123465	7.42
VY2232-MB	1675163	11.52	1727934	14.58	987055	16.28	116456	7.41
ZZZZZZ	1702894	11.53	1753829	14.58	984668	16.28	102978	7.41
FA80110-4	1683596	11.52	1734350	14.58	979091	16.27	105592	7.40
ZZZZZZ	1649666	11.52	1710903	14.58	966013	16.28	96031	7.41
ZZZZZZ	1663578	11.52	1725683	14.58	972566	16.27	107810	7.41
FA80030-3	1628059	11.52	1700789	14.58	965978	16.28	101084	7.41
ZZZZZZ	1649394	11.52	1722702	14.58	957630	16.27	97919	7.41
ZZZZZZ	1626549	11.52	1697577	14.58	963308	16.27	106837	7.41
ZZZZZZ	1635219	11.52	1706844	14.58	964599	16.27	99704	7.41
ZZZZZZ	1646486	11.52	1723674	14.58	964004	16.28	98112	7.41
FA80110-1	1604650	11.52	1673606	14.58	944807	16.27	90393	7.40
FA80110-2	1595157	11.53	1667920	14.58	940671	16.27	96757	7.41
FA80110-3	1567382	11.52	1661208	14.58	942107	16.27	87465	7.41
FA80110-5	1595908	11.52	1652954	14.58	934068	16.27	92735	7.42
FA80110-6	1589032	11.52	1672591	14.58	948907	16.27	92169	7.41
FA80110-7	1587593	11.52	1675835	14.58	948559	16.27	96628	7.40
ZZZZZZ	1614046	11.52	1669302	14.58	948922	16.27	106345	7.41
FA80030-3MS	1687799	11.52	1720459	14.58	986289	16.28	100513	7.42
FA80030-3MSD	1684164	11.52	1721118	14.58	992078	16.27	118668	7.42
VY2232-ECC2229	1657251	11.52	1700121	14.58	982441	16.27	129240	7.42

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VY2229-ICC2229 Y53723.D 10/31/20 13:15
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA80110-1	Y53794.D	99	103	94	94
FA80110-2	Y53795.D	99	103	93	95
FA80110-3	Y53796.D	100	104	93	94
FA80110-4	Y53784.D	97	102	94	95
FA80110-5	Y53797.D	99	103	94	95
FA80110-6	Y53798.D	99	103	92	94
FA80110-7	Y53799.D	99	104	93	95
FA80030-3MS	Y53801.D	102	100	95	96
FA80030-3MSD	Y53802.D	102	101	96	96
VY2232-BS	Y53779.D	102	98	97	98
VY2232-MB	Y53782.D	97	103	94	95

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

Initial Calibration Summary

Job Number: FA80110 **Sample:** VY2229-ICC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53723.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Response Factor Report MSVOA14-Y

Method : C:\msdchem\1\MET...\RESTEK103120w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Calibration Files
1 =Y53719.D 2 =Y53720.D 3 =Y53721.D 4 =Y53722.D
5 =Y53723.D 6 =Y53724.D 7 =Y53725.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.236	0.253	0.247	0.265	0.267	0.261	0.266	0.257	4.50
3) Acrolein	0.027	0.027	0.032	0.032	0.032	0.034	0.034	0.031	9.09
4)P Chloromethane	0.283	0.249	0.244	0.264	0.258	0.277	0.257	0.262	5.42
5) 1,3-butadiene	0.232	0.186	0.164	0.167	0.174	0.171	0.165	0.180	13.55
6)C Vinyl Chloride	0.236	0.225	0.227	0.240	0.249	0.243	0.241	0.237	3.70
7) Bromomethane	0.109	0.089	0.098	0.091	0.101	0.107	0.110	0.101	8.31
8) Chloroethane	0.117	0.098	0.096	0.065	0.062	0.059	0.058	0.079	29.77
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9969									
Response Ratio = 0.00000 + 0.06706 *A + -0.00458 *A^2									
9) Trichlorofluorome	0.299	0.314	0.306	0.335	0.334	0.317	0.317	0.318	4.21
10) Ethyl Ether	0.162	0.150	0.154	0.157	0.165	0.169	0.168	0.161	4.48
11) 1,2-Dichlorotrifl	0.235	0.212	0.199	0.203	0.203	0.200	0.198	0.207	6.37
12)C 1,1-Dichloroethen	0.298	0.272	0.275	0.278	0.283	0.285	0.285	0.282	3.03
13) Freon 113	0.266	0.276	0.266	0.268	0.272	0.261	0.261	0.267	2.12
14) Carbon Disulfide	0.538	0.484	0.484	0.518	0.537	0.548	0.558	0.524	5.68
15) Iodomethane	0.107	0.105	0.134	0.189	0.256	0.279	0.296	0.195	42.10
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9938									
Response Ratio = 0.00000 + 0.16775 *A + 0.06919 *A^2									
16) Allyl chloride	0.265	0.262	0.263	0.292	0.316	0.321	0.322	0.292	9.69
17) Methylene Chlorid	0.685	0.349	0.307	0.283	0.275	0.267	0.262	0.347	43.91
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9981									
Response Ratio = 0.00000 + 0.30756 *A + -0.02543 *A^2									
18) Acetone	0.047	0.040	0.041	0.039	0.042	0.040	0.040	0.041	7.05
19) Methyl acetate	0.117	0.101	0.104	0.104	0.109	0.107	0.107	0.107	4.96
20) trans-1,2-Dichlor	0.287	0.260	0.260	0.265	0.272	0.266	0.271	0.269	3.43
21) Hexane	0.178	0.186	0.174	0.180	0.176	0.169	0.173	0.177	3.02
22) Methyl Tert Butyl	0.417	0.374	0.391	0.419	0.440	0.451	0.460	0.422	7.42
23) Acetonitrile	0.008	0.019	0.018	0.017	0.019	0.019	0.019	0.017	24.29
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9989									
Response Ratio = 0.00000 + 0.01763 *A + 0.00007 *A^2									
24) Di-isopropyl ethe	0.707	0.601	0.631	0.654	0.672	0.676	0.678	0.660	5.29
25) Chloroprene	0.273	0.272	0.265	0.285	0.304	0.307	0.311	0.288	6.60
26)P 1,1-Dichloroethan	0.374	0.313	0.323	0.324	0.327	0.324	0.319	0.329	6.25
27) Acrylonitrile	0.045	0.052	0.052	0.054	0.056	0.055	0.057	0.053	7.74
28) ETBE	0.577	0.494	0.535	0.558	0.584	0.595	0.597	0.563	6.63
29) Vinyl acetate	0.178	0.295	0.331	0.360	0.371	0.361	0.356	0.322	21.28
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9992									
Response Ratio = 0.00000 + 0.35005 *A + 0.00103 *A^2									
30) cis-1,2-Dichloroe	0.274	0.232	0.233	0.235	0.239	0.238	0.237	0.241	6.15
31) 2,2-Dichloropropa	0.156	0.158	0.187	0.227	0.246	0.269	0.273	0.217	22.98

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            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9980
              Response Ratio = 0.00000 + 0.20615 *A + 0.03676 *A^2

 32)  Bromochloromethan 0.154 0.130 0.132 0.133 0.134 0.131 0.130 0.135   6.43
 33)  Cyclohexane       0.363 0.396 0.393 0.402 0.405 0.398 0.405 0.395   3.69
 34)C Chloroform        0.420 0.335 0.335 0.330 0.333 0.334 0.333 0.346   9.53
 35)  Ethyl acetate     0.095 0.121 0.130 0.138 0.143 0.141 0.142 0.130  13.39
 36)  Tetrahydrofuran         0.030 0.034 0.039 0.041 0.038 0.039 0.037  11.36
 37)S Dibromofluorometh 0.251 0.258 0.260 0.264 0.261 0.262 0.260 0.259   1.56
 38)  Carbon Tetrachlor 0.288 0.267 0.276 0.294 0.307 0.317 0.323 0.296   7.00
 39)  1,1,1-Trichloroet 0.376 0.325 0.334 0.334 0.342 0.343 0.345 0.343   4.77
 40)  2-Butanone        0.038 0.056 0.056 0.057 0.063 0.061 0.061 0.056  14.84
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9993
              Response Ratio = 0.00000 + 0.05805 *A + 0.00039 *A^2

 41)  1,1-Dichloroprope 0.305 0.271 0.267 0.281 0.281 0.282 0.282 0.281   4.23
 42)  tert-Butyl format 0.015 0.017 0.021 0.028 0.039 0.072 0.085 0.040  71.06
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9960
              Response Ratio = 0.00000 + 0.01263 *A + 0.00750 *A^2

 43)  Propionitrile     0.018 0.019 0.020 0.019 0.021 0.020 0.020 0.020   3.49
 44)  Methacrylonitrile 0.089 0.091 0.092 0.090 0.093 0.087 0.085 0.090   3.03
 45)  Benzene           0.997 0.821 0.811 0.805 0.808 0.798 0.794 0.833   8.74
 46)  TAME              0.472 0.395 0.411 0.420 0.442 0.458 0.466 0.438   6.73
 47)S 1,2-Dichloroethan 0.235 0.235 0.237 0.230 0.230 0.226 0.225 0.231   2.09
 48)  1,2-Dichloroethan 0.314 0.252 0.247 0.243 0.246 0.245 0.244 0.256  10.01
 49)  Trichloroethene   0.340 0.245 0.239 0.237 0.237 0.233 0.229 0.252  15.63
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 0.24401 *A + -0.00767 *A^2

 50)  Methylcyclohexane 0.365 0.387 0.380 0.383 0.394 0.384 0.395 0.384   2.63
 51)  Dibromomethane    0.139 0.105 0.106 0.105 0.107 0.108 0.108 0.111  11.15
 52)C 1,2-Dichloropropa 0.237 0.193 0.193 0.191 0.199 0.197 0.196 0.201   8.08
 53)  Bromodichlorometh 0.247 0.202 0.211 0.218 0.232 0.238 0.240 0.227   7.37
 54)  Methyl methacryla 0.080 0.097 0.110 0.114 0.137 0.138 0.143 0.117  20.26
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9981
              Response Ratio = 0.00000 + 0.11348 *A + 0.01582 *A^2

 55)  2-Chloroethyl vin 0.045 0.046 0.052 0.056 0.061 0.071 0.075 0.058  20.47
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 0.05054 *A + 0.00257 *A^2

 56)  cis-1,3-Dichlorop 0.281 0.252 0.280 0.300 0.317 0.325 0.326 0.298   9.24

 57) I   Chlorobenzene-d5      ----------------ISTD--------------------
 58)S Toluene-d8        1.066 1.072 1.086 1.099 1.114 1.131 1.152 1.103   2.85
 59)C Toluene           1.520 1.073 1.070 1.048 1.064 1.066 1.079 1.132  15.17
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 1.06359 *A + 0.00563 *A^2

 60)  2-Nitropropane    0.032 0.026 0.031 0.037 0.040 0.042 0.044 0.036  18.21
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9982
              Response Ratio = 0.00000 + 0.03388 *A + 0.00106 *A^2

 61)  4-Methyl-2-pentan 0.115 0.136 0.137 0.141 0.153 0.147 0.148 0.140   8.88
 62)  trans-1,3-Dichlor 0.188 0.191 0.220 0.243 0.263 0.276 0.284 0.238  16.53
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9991
              Response Ratio = 0.00000 + 0.22910 *A + 0.02953 *A^2

 63)  Tetrachloroethene 0.411 0.324 0.323 0.317 0.322 0.318 0.319 0.334  10.33
```

Initial Calibration Summary

Job Number: FA80110 **Sample:** VY2229-ICC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53723.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
 64)  Ethyl methacrylat 0.115 0.157 0.164 0.179 0.200 0.209 0.217 0.177  20.04
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.17107 *A + 0.02448 *A^2

 65)  1,1,2-Trichloroet 0.170 0.135 0.137 0.136 0.136 0.138 0.136 0.141   8.96
 66)  Dibromochlorometh 0.209 0.191 0.208 0.221 0.238 0.251 0.259 0.225  11.06
 67)  1,3-Dichloropropa 0.362 0.288 0.291 0.292 0.299 0.305 0.309 0.307   8.31
 68)  1,2-Dibromoethane 0.207 0.177 0.180 0.186 0.196 0.202 0.205 0.193   6.31
 69)  2-hexanone        0.077 0.098 0.101 0.105 0.108 0.108 0.110 0.101  11.07
 70)  1-Chlorohexane    0.375 0.337 0.341 0.349 0.369 0.371 0.379 0.360   4.82
 71)C Ethylbenzene      1.618 1.173 1.158 1.131 1.130 1.128 1.129 1.209  14.95
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
               Response Ratio = 0.00000 + 1.15223 *A + -0.01396 *A^2

 72)P Chlorobenzene     1.019 0.777 0.759 0.732 0.742 0.733 0.723 0.784  13.46
 73)  1,1,1,2-Tetrachlo 0.300 0.244 0.248 0.260 0.272 0.280 0.284 0.270   7.60
 74)  m,p-Xylene        1.135 0.887 0.912 0.895 0.915 0.909 0.907 0.937   9.38
 75)  o-Xylene          1.063 0.865 0.886 0.909 0.944 0.960 0.967 0.942   6.93
 76)  Styrene           0.718 0.662 0.700 0.733 0.761 0.774 0.777 0.732   5.76
 77)P Bromoform         0.104 0.093 0.103 0.115 0.125 0.135 0.142 0.117  15.49
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.10643 *A + 0.01855 *A^2

 78)  Isopropylbenzene  1.448 1.192 1.227 1.251 1.289 1.303 1.317 1.290   6.40

 79) I   1,4-Dichlorobenzene-d ----------------ISTD--------------------
 80)S 4-Bromofluorobenz 0.736 0.737 0.746 0.757 0.768 0.781 0.803 0.761   3.27
 81)  cis-1,4-Dichloro- 0.078 0.066 0.077 0.092 0.109 0.117 0.123 0.095  23.27
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9977
               Response Ratio = 0.00000 + 0.08434 *A + 0.02075 *A^2

 82)  n-Propylbenzene   3.046 2.446 2.430 2.448 2.510 2.532 2.568 2.569   8.43
 83)  Bromobenzene      0.794 0.603 0.605 0.584 0.596 0.587 0.588 0.622  12.23
 84)P 1,1,2,2-Tetrachlo 0.436 0.344 0.346 0.346 0.353 0.350 0.356 0.362   9.19
 85)  1,3,5-Trimethylbe 1.996 1.675 1.741 1.754 1.811 1.830 1.856 1.809   5.67
 86)  2-Chlorotoluene   2.034 1.617 1.599 1.533 1.555 1.547 1.567 1.636  10.88
 87)  trans-1,4-Dichlor 0.079 0.078 0.088 0.095 0.108 0.112 0.116 0.096  16.25
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9988
               Response Ratio = 0.00000 + 0.09156 *A + 0.01296 *A^2

 88)  1,2,3-Trichloropr 0.165 0.132 0.136 0.129 0.133 0.134 0.136 0.138   8.96
 89)  Cyclohexanone           0.008 0.008 0.009 0.009 0.010 0.010 0.009  11.71
 90)  4-Chlorotoluene   1.823 1.444 1.433 1.432 1.484 1.500 1.532 1.521   9.10
 91)  tert-Butylbenzene 1.117 0.900 0.912 0.921 0.949 0.963 0.989 0.964   7.66
 92)  1,2,4-Trimethylbe 2.026 1.749 1.766 1.766 1.815 1.813 1.836 1.824   5.18
 93)  Pentachloroethane 0.267 0.268 0.275 0.290 0.316 0.320 0.325 0.294   8.64
 94)  sec-Butylbenzene  2.491 2.105 2.101 2.124 2.211 2.253 2.334 2.231   6.42
 95)  4-Isopropyltoluen 2.185 1.916 1.970 2.002 2.093 2.141 2.216 2.075   5.50
 96)  1,3-Dichlorobenze 1.405 1.102 1.097 1.097 1.123 1.154 1.178 1.165   9.44
 97)  1,2,3-Trimethylbe 2.421 1.929 1.950 1.936 1.997 2.017 2.032 2.040   8.47
 98)  1,4-Dichlorobenze 1.494 1.127 1.105 1.070 1.092 1.103 1.114 1.158  12.89
 99)  n-Butylbenzene    0.894 0.773 0.802 0.824 0.870 0.846 0.872 0.840   5.11
100)  Benzyl Chloride   0.100 0.108 0.135 0.170 0.197 0.215 0.224 0.164  30.81
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9973
               Response Ratio = 0.00000 + 0.15114 *A + 0.03953 *A^2

101)  1,2-Dichlorobenze 1.257 1.007 1.002 1.004 1.044 1.069 1.088 1.067   8.44
102)  1,2-Dibromo-3-Chl 0.053 0.040 0.043 0.050 0.057 0.061 0.064 0.053  16.79
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9985
               Response Ratio = 0.00000 + 0.04661 *A + 0.00920 *A^2
```

Initial Calibration Summary

Job Number: FA80110 **Sample:** VY2229-ICC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53723.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

103)	Hexachlorobutadie	0.227	0.194	0.190	0.193	0.206	0.216	0.220	0.207	7.22
104)	1,2,4-Trichlorobe	0.616	0.523	0.543	0.570	0.611	0.637	0.647	0.592	8.05
105)	Naphthalene	1.275	1.176	1.293	1.432	1.562	1.664	1.692	1.442	14.07
106)	1,2,3-Trichlorobe	0.540	0.475	0.487	0.504	0.538	0.562	0.573	0.526	7.17
107)	I Tert Butyl Alcohol-d1	ISTD								
108)	Ethanol	0.139	0.136	0.134	0.135	0.119	0.118	0.130		6.90
109)	Tert Butyl Alcoho	1.251	1.114	1.032	0.966	0.971	1.004	0.993	1.047	9.84
110)	Isobutyl alcohol	0.190	0.214	0.196	0.214	0.224	0.236	0.233	0.215	8.10
111)	Tert Amyl Alcohol	0.620	0.576	0.564	0.585	0.624	0.660	0.662	0.613	6.45
112)	1,4-Dioxane	0.126	0.125	0.122	0.124	0.122	0.120	0.123		1.82
113)	3,3-dimethyl-1-bu	0.718	0.859	0.917	0.952	0.936	0.999	0.993	0.911	10.68

(#) = Out of Range

RESTEK103120w.M Mon Nov 02 07:57:14 2020

Initial Calibration Verification

Job Number: FA80110 **Sample:** VY2229-ICV2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53727.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\103120\Y53727.D Vial: 9
Acq On : 31 Oct 2020 3:03 pm Operator: chelseav
Sample : ICV2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK103120w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Mon Nov 02 07:51:18 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	106	0.00	11.52
2	Dichlorodifluoromethane		----------NA----------				
3	Acrolein	0.031	0.025	19.4	82	0.00	6.31
4 P	Chloromethane	0.262	0.233	11.1	96	0.00	3.39
5	1,3-butadiene	0.180	0.195	-8.3	118	0.00	3.58
6 C	Vinyl Chloride	0.237	0.222	6.3	94	0.00	3.55
7	Bromomethane	0.101	0.096	5.0	100	0.00	4.16
	----------	Amount	Calc.	%Drift			
8	Chloroethane	40.000	34.770	13.1	95	0.00	4.40
	----------	AvgRF	CCRF	%Dev			
9	Trichlorofluoromethane	0.318	0.307	3.5	97	0.00	4.66
10	Ethyl Ether	0.161	0.172	-6.8	110	0.00	5.29
11	1,2-Dichlorotrifluoroetha	0.207	0.225	-8.7	117	0.00	5.68
12 C	1,1-Dichloroethene	0.282	0.308	-9.2	115	0.00	5.64
13	Freon 113		----------NA----------				
14	Carbon Disulfide	0.524	0.515	1.7	102	0.00	5.67
	----------	Amount	Calc.	%Drift			
15	Iodomethane	40.000	33.236	16.9	73	0.00	5.91
	----------	AvgRF	CCRF	%Dev			
16	Allyl chloride	0.292	0.307	-5.1	103	0.00	6.56
	----------	Amount	Calc.	%Drift			
17	Methylene Chloride	40.000	39.534	1.2	109	0.00	6.78
	----------	AvgRF	CCRF	%Dev			
18	Acetone	0.041	0.044	-7.3	112	0.00	6.89
19	Methyl acetate	0.107	0.117	-9.3	114	0.00	7.14
20	trans-1,2-Dichloroethene	0.269	0.288	-7.1	112	0.00	7.09
21	Hexane	0.177	0.159	10.2	96	0.00	7.25
22	Methyl Tert Butyl Ether	0.422	0.469	-11.1	113	0.00	7.32
	----------	Amount	Calc.	%Drift			
23	Acetonitrile	400.000	406.834	-1.7	105	0.00	7.80
	----------	AvgRF	CCRF	%Dev			
24	Di-isopropyl ether	0.660	0.697	-5.6	110	0.00	8.09
25	Chloroprene	0.288	0.334	-16.0	116	0.00	8.27
26 P	1,1-Dichloroethane	0.329	0.359	-9.1	116	0.00	8.32

Initial Calibration Verification

Job Number: FA80110 **Sample:** VY2229-ICV2229
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Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

27		Acrylonitrile	0.053	0.059	-11.3	110	0.00	8.43
28		ETBE	0.563	0.567	-0.7	103	0.00	8.83
			Amount	Calc.	%Drift			
29		Vinyl acetate	200.000	188.895	5.6	95	0.00	8.86
			AvgRF	CCRF	%Dev			
30		cis-1,2-Dichloroethene	0.241	0.255	-5.8	113	0.00	9.43
			Amount	Calc.	%Drift			
31		2,2-Dichloropropane	40.000	44.552	-11.4	114	0.00	9.64
			AvgRF	CCRF	%Dev			
32		Bromochloromethane	0.135	0.132	2.2	104	0.00	9.84
33		Cyclohexane	0.395	0.398	-0.8	104	0.00	9.82
34	C	Chloroform	0.346	0.358	-3.5	114	0.00	10.01
35		Ethyl acetate	0.130	0.141	-8.5	104	0.00	10.26
36		Tetrahydrofuran	0.037	0.036	2.7	94	0.00	10.26
37	S	Dibromofluoromethane	0.259	0.259	0.0	105	0.00	10.34
38		Carbon Tetrachloride	0.296	0.329	-11.1	114	0.00	10.23
39		1,1,1-Trichloroethane	0.343	0.364	-6.1	112	0.00	10.35
			Amount	Calc.	%Drift			
40		2-Butanone	200.000	214.835	-7.4	108	0.00	10.55
			AvgRF	CCRF	%Dev			
41		1,1-Dichloropropene	0.281	0.289	-2.8	109	0.00	10.57
			Amount	Calc.	%Drift			
42		tert-Butyl formate	200.000	181.017	9.5	98	0.00	10.76
			AvgRF	CCRF	%Dev			
43		Propionitrile	0.020	0.020	0.0	104	0.00	10.99
44		Methacrylonitrile	0.090	0.089	1.1	101	0.00	11.02
45		Benzene	0.833	0.844	-1.3	111	0.00	10.94
46		TAME	0.438	0.458	-4.6	110	0.00	11.13
47	S	1,2-Dichloroethane-d4	0.231	0.228	1.3	105	0.00	11.14
48		1,2-Dichloroethane	0.256	0.252	1.6	108	0.00	11.24
			Amount	Calc.	%Drift			
49		Trichloroethene	40.000	40.329	-0.8	107	0.00	11.74
			AvgRF	CCRF	%Dev			
50		Methylcyclohexane	0.384	0.381	0.8	102	0.00	11.72
51		Dibromomethane	0.111	0.115	-3.6	113	0.00	12.24
52	C	1,2-Dichloropropane	0.201	0.206	-2.5	109	0.00	12.34
53		Bromodichloromethane	0.227	0.249	-9.7	114	0.00	12.42
			Amount	Calc.	%Drift			
54		Methyl methacrylate	40.000	42.474	-6.2	104	0.00	12.59
55		2-Chloroethyl vinyl ether	200.000	166.204	16.9	85	0.00	13.01
			AvgRF	CCRF	%Dev			
56		cis-1,3-Dichloropropene	0.298	0.321	-7.7	107	0.00	13.07
57	I	Chlorobenzene-d5	1.000	1.000	0.0	105	0.00	14.58
58	S	Toluene-d8	1.103	1.120	-1.5	105	0.00	13.24
			Amount	Calc.	%Drift			
59	C	Toluene	40.000	40.522	-1.3	106	0.00	13.29

Initial Calibration Verification

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Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53727.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

60		2-Nitropropane	200.000	214.315	-7.2	107	0.00	13.51
		----------	AvgRF	CCRF	%Dev	----------		
61		4-Methyl-2-pentanone	0.140	0.154	-10.0	105	0.00	13.63
		----------	Amount	Calc.	%Drift	----------		
62		trans-1,3-Dichloropropene	40.000	44.218	-10.5	112	0.00	13.68
		----------	AvgRF	CCRF	%Dev	----------		
63		Tetrachloroethene	0.334	0.361	-8.1	117	0.00	13.65
		----------	Amount	Calc.	%Drift	----------		
64		Ethyl methacrylate	40.000	43.110	-7.8	108	0.00	13.79
		----------	AvgRF	CCRF	%Dev	----------		
65		1,1,2-Trichloroethane	0.141	0.144	-2.1	110	0.00	13.82
66		Dibromochloromethane	0.225	0.261	-16.0	115	0.00	13.97
67		1,3-Dichloropropane	0.307	0.307	0.0	107	0.00	14.05
68		1,2-Dibromoethane	0.193	0.204	-5.7	109	0.00	14.18
69		2-hexanone	0.101	0.113	-11.9	110	0.00	14.33
70		1-Chlorohexane	0.360	0.356	1.1	101	0.00	14.55
		----------	Amount	Calc.	%Drift	----------		
71	C	Ethylbenzene	40.000	41.487	-3.7	109	0.00	14.59
		----------	AvgRF	CCRF	%Dev	----------		
72	P	Chlorobenzene	0.784	0.759	3.2	107	0.00	14.59
73		1,1,1,2-Tetrachloroethane	0.270	0.286	-5.9	110	0.00	14.64
74		m,p-Xylene	0.937	0.938	-0.1	107	0.00	14.70
75		o-Xylene	0.942	0.977	-3.7	108	0.00	15.04
76		Styrene	0.732	0.779	-6.4	107	0.00	15.07
		----------	Amount	Calc.	%Drift	----------		
77	P	Bromoform	40.000	45.474	-13.7	117	0.00	15.12
		----------	AvgRF	CCRF	%Dev	----------		
78		Isopropylbenzene	1.290	1.331	-3.2	108	0.00	15.26
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	104	0.00	16.27
80	S	4-Bromofluorobenzene	0.761	0.770	-1.2	104	0.00	15.49
		----------	Amount	Calc.	%Drift	----------		
81		cis-1,4-Dichloro-2-butene	40.000	42.559	-6.4	104	0.00	15.52
		----------	AvgRF	CCRF	%Dev	----------		
82		n-Propylbenzene	2.569	2.592	-0.9	107	0.00	15.56
83		Bromobenzene	0.622	0.617	0.8	108	0.00	15.58
84	P	1,1,2,2-Tetrachloroethane	0.362	0.368	-1.7	108	0.00	15.61
85		1,3,5-Trimethylbenzene	1.809	1.891	-4.5	109	0.00	15.68
86		2-Chlorotoluene	1.636	1.601	2.1	107	0.00	15.69
		----------	Amount	Calc.	%Drift	----------		
87		trans-1,4-Dichloro-2-Bute	40.000	41.434	-3.6	102	0.00	15.73
		----------	AvgRF	CCRF	%Dev	----------		
88		1,2,3-Trichloropropane	0.138	0.138	0.0	108	0.00	15.73
89		Cyclohexanone	0.009	0.009	0.0	98	0.00	15.78
90		4-Chlorotoluene	1.521	1.525	-0.3	107	0.00	15.80
91		tert-Butylbenzene	0.964	0.976	-1.2	107	0.00	15.91
92		1,2,4-Trimethylbenzene	1.824	1.830	-0.3	105	0.00	15.96

Initial Calibration Verification

Job Number: FA80110 **Sample:** VY2229-ICV2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53727.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

93	Pentachloroethane	0.294	0.296	-0.7	97	0.00	15.96
94	sec-Butylbenzene	2.231	2.324	-4.2	109	0.00	16.04
95	4-Isopropyltoluene	2.075	2.225	-7.2	111	0.00	16.11
96	1,3-Dichlorobenzene	1.165	1.180	-1.3	109	0.00	16.22
97	1,2,3-Trimethylbenzene	2.040	1.745	14.5	91	0.00	16.27
98	1,4-Dichlorobenzene	1.158	1.116	3.6	106	0.00	16.29
99	n-Butylbenzene	0.840	0.902	-7.4	108	0.00	16.41
	----------	Amount	Calc.	%Drift	----------		
100	Benzyl Chloride	40.000	41.385	-3.5	101	0.00	16.44
	----------	AvgRF	CCRF	%Dev	----------		
101	1,2-Dichlorobenzene	1.067	1.066	0.1	106	0.00	16.58
	----------	Amount	Calc.	%Drift	----------		
102	1,2-Dibromo-3-Chloropropa	40.000	43.243	-8.1	108	0.00	17.12
	----------	AvgRF	CCRF	%Dev	----------		
103	Hexachlorobutadiene	0.207	0.212	-2.4	107	0.00	17.53
104	1,2,4-Trichlorobenzene	0.592	0.625	-5.6	106	0.00	17.59
105	Naphthalene	1.442	1.589	-10.2	106	0.00	17.84
106	1,2,3-Trichlorobenzene	0.526	0.548	-4.2	106	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	108	0.00	7.42
108	Ethanol	0.130	0.123	5.4	99	0.01	5.66
109	Tert Butyl Alcohol	1.047	0.966	7.7	108	0.00	7.57
110	Isobutyl alcohol	0.215	0.226	-5.1	109	0.00	11.31
111	Tert Amyl Alcohol	0.613	0.623	-1.6	108	0.00	11.42
112	1,4-Dioxane	0.123	0.119	3.3	105	0.00	12.64
113	3,3-dimethyl-1-butanol	0.911	0.973	-6.8	112	0.00	14.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y53723.D RESTEK103120w.M Mon Nov 02 07:57:36 2020

Initial Calibration Verification

Job Number: FA80110 **Sample:** VY2229-ICV2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53728.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\103120\Y53728.D Vial: 10
Acq On : 31 Oct 2020 3:30 pm Operator: chelseav
Sample : ICV2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK103120w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Mon Nov 02 07:51:18 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	104	0.00	11.52
2		Dichlorodifluoromethane	0.257	0.208	19.1	82	0.00	3.04
3		Acrolein		----------NA----------				
4	P	Chloromethane		----------NA----------				
5		1,3-butadiene		----------NA----------				
6	C	Vinyl Chloride		----------NA----------				
7		Bromomethane		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
8		Chloroethane		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
9		Trichlorofluoromethane		----------NA----------				
10		Ethyl Ether		----------NA----------				
11		1,2-Dichlorotrifluoroetha		----------NA----------				
12	C	1,1-Dichloroethene		----------NA----------				
13		Freon 113	0.267	0.223	16.5	87	0.00	5.74
14		Carbon Disulfide		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
15		Iodomethane		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
16		Allyl chloride		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
17		Methylene Chloride		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
18		Acetone		----------NA----------				
19		Methyl acetate		----------NA----------				
20		trans-1,2-Dichloroethene		----------NA----------				
21		Hexane		----------NA----------				
22		Methyl Tert Butyl Ether		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
23		Acetonitrile		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
24		Di-isopropyl ether		----------NA----------				
25		Chloroprene		----------NA----------				
26	P	1,1-Dichloroethane		----------NA----------				

27		Acrylonitrile		----------NA----------					
28		ETBE		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
29		Vinyl acetate		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
30		cis-1,2-Dichloroethene		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
31		2,2-Dichloropropane		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
32		Bromochloromethane		----------NA----------					
33		Cyclohexane		----------NA----------					
34	C	Chloroform		----------NA----------					
35		Ethyl acetate		----------NA----------					
36		Tetrahydrofuran		----------NA----------					
37	S	Dibromofluoromethane	0.259	0.260	-0.4	103	0.00	10.33	
38		Carbon Tetrachloride		----------NA----------					
39		1,1,1-Trichloroethane		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
40		2-Butanone		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
41		1,1-Dichloropropene		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
42		tert-Butyl formate		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
43		Propionitrile		----------NA----------					
44		Methacrylonitrile		----------NA----------					
45		Benzene		----------NA----------					
46		TAME		----------NA----------					
47	S	1,2-Dichloroethane-d4	0.231	0.228	1.3	104	0.00	11.15	
48		1,2-Dichloroethane		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
49		Trichloroethene		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
50		Methylcyclohexane		----------NA----------					
51		Dibromomethane		----------NA----------					
52	C	1,2-Dichloropropane		----------NA----------					
53		Bromodichloromethane		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
54		Methyl methacrylate		----------NA----------					
55		2-Chloroethyl vinyl ether		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
56		cis-1,3-Dichloropropene		----------NA----------					
57	I	Chlorobenzene-d5	1.000	1.000	0.0	104	0.00	14.58	
58	S	Toluene-d8	1.103	1.097	0.5	104	0.00	13.24	
		----------	Amount	Calc.	%Drift	----------			
59	C	Toluene		----------NA----------					

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Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

60		2-Nitropropane		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
61		4-Methyl-2-pentanone		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
62		trans-1,3-Dichloropropene		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
63		Tetrachloroethene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
64		Ethyl methacrylate		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
65		1,1,2-Trichloroethane		----------NA----------				
66		Dibromochloromethane		----------NA----------				
67		1,3-Dichloropropane		----------NA----------				
68		1,2-Dibromoethane		----------NA----------				
69		2-hexanone		----------NA----------				
70		1-Chlorohexane		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
71	C	Ethylbenzene		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
72	P	Chlorobenzene		----------NA----------				
73		1,1,1,2-Tetrachloroethane		----------NA----------				
74		m,p-Xylene		----------NA----------				
75		o-Xylene		----------NA----------				
76		Styrene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
77	P	Bromoform		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
78		Isopropylbenzene		----------NA----------				
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	106	0.00	16.27
80	S	4-Bromofluorobenzene	0.761	0.756	0.7	106	0.00	15.49
		----------	Amount	Calc.	%Drift	----------		
81		cis-1,4-Dichloro-2-butene		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
82		n-Propylbenzene		----------NA----------				
83		Bromobenzene		----------NA----------				
84	P	1,1,2,2-Tetrachloroethane		----------NA----------				
85		1,3,5-Trimethylbenzene		----------NA----------				
86		2-Chlorotoluene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
87		trans-1,4-Dichloro-2-Bute		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
88		1,2,3-Trichloropropane		----------NA----------				
89		Cyclohexanone		----------NA----------				
90		4-Chlorotoluene		----------NA----------				
91		tert-Butylbenzene		----------NA----------				
92		1,2,4-Trimethylbenzene		----------NA----------				

Initial Calibration Verification

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Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53728.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

93	Pentachloroethane		----------NA----------				
94	sec-Butylbenzene		----------NA----------				
95	4-Isopropyltoluene		----------NA----------				
96	1,3-Dichlorobenzene		----------NA----------				
97	1,2,3-Trimethylbenzene		----------NA----------				
98	1,4-Dichlorobenzene		----------NA----------				
99	n-Butylbenzene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
100	Benzyl Chloride		----------NA----------				
	----------	AvgRF	CCRF	%Dev	----------		
101	1,2-Dichlorobenzene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
102	1,2-Dibromo-3-Chloropropa		----------NA----------				
	----------	AvgRF	CCRF	%Dev	----------		
103	Hexachlorobutadiene		----------NA----------				
104	1,2,4-Trichlorobenzene		----------NA----------				
105	Naphthalene		----------NA----------				
106	1,2,3-Trichlorobenzene		----------NA----------				
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	117	0.00	7.42
108	Ethanol		----------NA----------				
109	Tert Butyl Alcohol		----------NA----------				
110	Isobutyl alcohol		----------NA----------				
111	Tert Amyl Alcohol		----------NA----------				
112	1,4-Dioxane		----------NA----------				
113	3,3-dimethyl-1-butanol		----------NA----------				

(#) = Out of Range SPCC's out = 4 CCC's out = 6
Y53722.D RESTEK103120w.M Mon Nov 02 07:57:21 2020

Continuing Calibration Summary

Job Number: FA80110 **Sample:** VY2232-CC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53778.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\110320\Y53778.D Vial: 2
Acq On : 3 Nov 2020 9:52 am Operator: chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK103120w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Mon Nov 02 07:51:18 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	98	0.00	11.52
2	Dichlorodifluoromethane	0.257	0.270	-5.1	99	0.00	3.04
3	Acrolein	0.031	0.034	-9.7	104	0.00	6.31
4 P	Chloromethane	0.262	0.239	8.8	90	0.00	3.39
5	1,3-butadiene	0.180	0.136	24.4#	76	0.00	3.58
6 C	Vinyl Chloride	0.237	0.238	-0.4	93	0.00	3.55
7	Bromomethane	0.101	0.084	16.8	81	0.00	4.16
		Amount	Calc.	%Drift			
8	Chloroethane	40.000	35.603	11.0	89	0.00	4.40
		AvgRF	CCRF	%Dev			
9	Trichlorofluoromethane	0.318	0.340	-6.9	99	0.00	4.67
10	Ethyl Ether	0.161	0.169	-5.0	100	0.00	5.29
11	1,2-Dichlorotrifluoroetha	0.207	0.200	3.4	96	0.00	5.68
12 C	1,1-Dichloroethene	0.282	0.275	2.5	95	0.00	5.64
13	Freon 113	0.267	0.263	1.5	94	0.00	5.73
14	Carbon Disulfide	0.524	0.515	1.7	94	0.00	5.68
		Amount	Calc.	%Drift			
15	Iodomethane	40.000	31.554	21.1#	64	0.00	5.91
		AvgRF	CCRF	%Dev			
16	Allyl chloride	0.292	0.293	-0.3	90	0.00	6.56
		Amount	Calc.	%Drift			
17	Methylene Chloride	40.000	38.478	3.8	98	0.00	6.78
		AvgRF	CCRF	%Dev			
18	Acetone	0.041	0.043	-4.9	101	0.00	6.89
19	Methyl acetate	0.107	0.113	-5.6	102	0.00	7.14
20	trans-1,2-Dichloroethene	0.269	0.269	0.0	97	0.00	7.09
21	Hexane	0.177	0.180	-1.7	99	0.00	7.25
22	Methyl Tert Butyl Ether	0.422	0.442	-4.7	98	0.00	7.32
		Amount	Calc.	%Drift			
23	Acetonitrile	400.000	427.028	-6.8	101	0.00	7.81
		AvgRF	CCRF	%Dev			
24	Di-isopropyl ether	0.660	0.686	-3.9	100	0.00	8.09
25	Chloroprene	0.288	0.291	-1.0	93	0.00	8.27
26 P	1,1-Dichloroethane	0.329	0.328	0.3	98	0.00	8.32

Continuing Calibration Summary

Job Number: FA80110 **Sample:** VY2232-CC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53778.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

27		Acrylonitrile	0.053	0.058	-9.4	100	0.00	8.43
28		ETBE	0.563	0.588	-4.4	98	0.00	8.83
			Amount	Calc.	%Drift			
29		Vinyl acetate	200.000	210.208	-5.1	98	0.00	8.86
			AvgRF	CCRF	%Dev			
30		cis-1,2-Dichloroethene	0.241	0.241	0.0	98	0.00	9.43
			Amount	Calc.	%Drift			
31		2,2-Dichloropropane	40.000	38.519	3.7	89	0.00	9.64
			AvgRF	CCRF	%Dev			
32		Bromochloromethane	0.135	0.138	-2.2	101	0.00	9.84
33		Cyclohexane	0.395	0.394	0.3	95	0.00	9.82
34	C	Chloroform	0.346	0.343	0.9	100	0.00	10.01
35		Ethyl acetate	0.130	0.143	-10.0	97	0.00	10.25
36		Tetrahydrofuran	0.037	0.038	-2.7	91	0.00	10.25
37	S	Dibromofluoromethane	0.259	0.263	-1.5	98	0.00	10.33
38		Carbon Tetrachloride	0.296	0.290	2.0	92	0.00	10.23
39		1,1,1-Trichloroethane	0.343	0.335	2.3	96	0.00	10.35
			Amount	Calc.	%Drift			
40		2-Butanone	200.000	210.545	-5.3	98	0.00	10.55
			AvgRF	CCRF	%Dev			
41		1,1-Dichloropropene	0.281	0.276	1.8	96	0.00	10.57
			Amount	Calc.	%Drift			
42		tert-Butyl formate	200.000	168.083	16.0	80	0.00	10.76
			AvgRF	CCRF	%Dev			
43		Propionitrile	0.020	0.021	-5.0	99	0.00	10.99
44		Methacrylonitrile	0.090	0.094	-4.4	99	0.00	11.02
45		Benzene	0.833	0.822	1.3	99	0.00	10.94
46		TAME	0.438	0.450	-2.7	99	0.00	11.13
47	S	1,2-Dichloroethane-d4	0.231	0.226	2.2	96	0.00	11.14
48		1,2-Dichloroethane	0.256	0.254	0.8	101	0.00	11.24
			Amount	Calc.	%Drift			
49		Trichloroethene	40.000	40.545	-1.4	99	0.00	11.74
			AvgRF	CCRF	%Dev			
50		Methylcyclohexane	0.384	0.389	-1.3	96	0.00	11.72
51		Dibromomethane	0.111	0.114	-2.7	103	0.00	12.23
52	C	1,2-Dichloropropane	0.201	0.204	-1.5	100	0.00	12.34
53		Bromodichloromethane	0.227	0.238	-4.8	100	0.00	12.42
			Amount	Calc.	%Drift			
54		Methyl methacrylate	40.000	41.958	-4.9	95	0.00	12.59
55		2-Chloroethyl vinyl ether	200.000	157.816	21.1#	74	0.00	13.00
			AvgRF	CCRF	%Dev			
56		cis-1,3-Dichloropropene	0.298	0.333	-11.7	102	0.00	13.07
57	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00	14.58
58	S	Toluene-d8	1.103	1.083	1.8	100	0.00	13.24
			Amount	Calc.	%Drift			
59	C	Toluene	40.000	38.797	3.0	100	0.00	13.29

Continuing Calibration Summary

Job Number: FA80110 **Sample:** VY2232-CC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53778.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

60		2-Nitropropane	200.000	204.562	-2.3	99	0.00	13.51
			AvgRF	CCRF	%Dev			
61		4-Methyl-2-pentanone	0.140	0.148	-5.7	99	0.00	13.63
			Amount	Calc.	%Drift			
62		trans-1,3-Dichloropropene	40.000	40.938	-2.3	101	0.00	13.67
			AvgRF	CCRF	%Dev			
63		Tetrachloroethene	0.334	0.308	7.8	98	0.00	13.65
			Amount	Calc.	%Drift			
64		Ethyl methacrylate	40.000	40.884	-2.2	100	0.00	13.79
			AvgRF	CCRF	%Dev			
65		1,1,2-Trichloroethane	0.141	0.139	1.4	104	0.00	13.82
66		Dibromochloromethane	0.225	0.236	-4.9	102	0.00	13.97
67		1,3-Dichloropropane	0.307	0.300	2.3	103	0.00	14.05
68		1,2-Dibromoethane	0.193	0.195	-1.0	102	0.00	14.18
69		2-hexanone	0.101	0.108	-6.9	102	0.00	14.33
70		1-Chlorohexane	0.360	0.347	3.6	96	0.00	14.55
			Amount	Calc.	%Drift			
71	C	Ethylbenzene	40.000	39.013	2.5	101	0.00	14.59
			AvgRF	CCRF	%Dev			
72	P	Chlorobenzene	0.784	0.741	5.5	102	0.00	14.59
73		1,1,1,2-Tetrachloroethane	0.270	0.269	0.4	101	0.00	14.64
74		m,p-Xylene	0.937	0.899	4.1	100	0.00	14.70
75		o-Xylene	0.942	0.934	0.8	101	0.00	15.03
76		Styrene	0.732	0.757	-3.4	102	0.00	15.07
			Amount	Calc.	%Drift			
77	P	Bromoform	40.000	40.747	-1.9	101	0.00	15.12
			AvgRF	CCRF	%Dev			
78		Isopropylbenzene	1.290	1.261	2.2	100	0.00	15.26
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	105	0.00	16.27
80	S	4-Bromofluorobenzene	0.761	0.750	1.4	103	0.00	15.49
			Amount	Calc.	%Drift			
81		cis-1,4-Dichloro-2-butene	40.000	37.398	6.5	90	0.00	15.52
			AvgRF	CCRF	%Dev			
82		n-Propylbenzene	2.569	2.406	6.3	101	0.00	15.56
83		Bromobenzene	0.622	0.580	6.8	103	0.00	15.57
84	P	1,1,2,2-Tetrachloroethane	0.362	0.346	4.4	103	0.00	15.61
85		1,3,5-Trimethylbenzene	1.809	1.754	3.0	102	0.00	15.68
86		2-Chlorotoluene	1.636	1.515	7.4	103	0.00	15.69
			Amount	Calc.	%Drift			
87		trans-1,4-Dichloro-2-Bute	40.000	37.941	5.1	94	0.00	15.73
			AvgRF	CCRF	%Dev			
88		1,2,3-Trichloropropane	0.138	0.131	5.1	104	0.00	15.73
89		Cyclohexanone	0.009	0.008	11.1	91	0.00	15.78
90		4-Chlorotoluene	1.521	1.456	4.3	103	0.00	15.80
91		tert-Butylbenzene	0.964	0.915	5.1	101	0.00	15.91
92		1,2,4-Trimethylbenzene	1.824	1.781	2.4	103	0.00	15.96

Continuing Calibration Summary

Job Number: FA80110 **Sample:** VY2232-CC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53778.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

93	Pentachloroethane	0.294	0.301	-2.4	100	0.00	15.96
94	sec-Butylbenzene	2.231	2.129	4.6	101	0.00	16.04
95	4-Isopropyltoluene	2.075	2.034	2.0	102	0.00	16.12
96	1,3-Dichlorobenzene	1.165	1.120	3.9	105	0.00	16.22
97	1,2,3-Trimethylbenzene	2.040	1.969	3.5	104	0.00	16.27
98	1,4-Dichlorobenzene	1.158	1.093	5.6	105	0.00	16.29
99	n-Butylbenzene	0.840	0.793	5.6	96	0.00	16.41
	----------	Amount	Calc.	%Drift	----------		
100	Benzyl Chloride	40.000	40.617	-1.5	100	0.00	16.44
	----------	AvgRF	CCRF	%Dev	----------		
101	1,2-Dichlorobenzene	1.067	1.050	1.6	106	0.00	16.58
	----------	Amount	Calc.	%Drift	----------		
102	1,2-Dibromo-3-Chloropropa	40.000	39.036	2.4	98	0.00	17.12
	----------	AvgRF	CCRF	%Dev	----------		
103	Hexachlorobutadiene	0.207	0.190	8.2	97	0.00	17.53
104	1,2,4-Trichlorobenzene	0.592	0.603	-1.9	104	0.00	17.59
105	Naphthalene	1.442	1.494	-3.6	101	0.00	17.84
106	1,2,3-Trichlorobenzene	0.526	0.523	0.6	102	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	91	0.00	7.42
108	Ethanol	0.130	0.147	-13.1	100	0.01	5.66
109	Tert Butyl Alcohol	1.047	1.070	-2.2	101	0.00	7.56
110	Isobutyl alcohol	0.215	0.233	-8.4	95	0.00	11.31
111	Tert Amyl Alcohol	0.613	0.636	-3.8	93	0.00	11.42
112	1,4-Dioxane	0.123	0.129	-4.9	96	0.00	12.64
113	3,3-dimethyl-1-butanol	0.911	0.998	-9.5	97	0.00	14.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y53723.D RESTEK103120w.M Tue Nov 03 10:25:46 2020

Continuing Calibration Summary

Job Number: FA80110 **Sample:** VY2232-ECC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53803.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jo...-2020\vy2232\Y53803.D Vial: 27
Acq On : 3 Nov 2020 9:16 pm Operator: chelseav
Sample : ECC2229-5 Inst : MSVOA14-Y
Misc : MS47611,VY2232,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\met...\RESTEK103120w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Sep 14 08:38:11 2018
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	94	0.00	11.52
2	Dichlorodifluoromethane	0.257	0.303	-17.9	106	0.00	3.04
3	Acrolein	0.031	0.035	-12.9	101	0.00	6.32
4 P	Chloromethane	0.262	0.284	-8.4	103	0.00	3.40
5	1,3-butadiene	0.180	0.151	16.1	81	0.00	3.58
6 C	Vinyl Chloride	0.237	0.271	-14.3	102	0.00	3.55
7	Bromomethane	0.101	0.099	2.0	91	0.00	4.16
	----------	True	Calc.	% Drift			
8	Chloroethane	40.000	40.907	-2.3	98	0.00	4.40
	----------	AvgRF	CCRF	% Dev			
9	Trichlorofluoromethane	0.318	0.382	-20.1	107	0.00	4.66
10	Ethyl Ether	0.161	0.173	-7.5	98	0.00	5.29
11	1,2-Dichlorotrifluoroetha	0.207	0.230	-11.1	106	0.00	5.67
12 C	1,1-Dichloroethene	0.282	0.306	-8.5	101	0.00	5.64
13	Freon 113	0.267	0.264	1.1	91	0.00	5.73
14	Carbon Disulfide	0.524	0.585	-11.6	102	0.00	5.67
	----------	True	Calc.	% Drift			
15	Iodomethane	40.000	41.128	-2.8	85	0.00	5.91
	----------	AvgRF	CCRF	% Dev			
16	Allyl chloride	0.292	0.314	-7.5	93	0.00	6.56
	----------	True	Calc.	% Drift			
17	Methylene Chloride	40.000	42.601	-6.5	104	0.00	6.78
	----------	AvgRF	CCRF	% Dev			
18	Acetone	0.041	0.045	-9.8	101	0.00	6.89
19	Methyl acetate	0.107	0.120	-12.1	103	0.00	7.14
20	trans-1,2-Dichloroethene	0.269	0.289	-7.4	99	0.00	7.09
21	Hexane	0.177	0.191	-7.9	101	0.00	7.25
22	Methyl Tert Butyl Ether	0.422	0.498	-18.0	106	0.00	7.32
	----------	True	Calc.	% Drift			
23	Acetonitrile	400.000	453.976	-13.5	104	0.00	7.81
	----------	AvgRF	CCRF	% Dev			
24	Di-isopropyl ether	0.660	0.732	-10.9	102	0.00	8.09
25	Chloroprene	0.288	0.316	-9.7	97	0.00	8.27
26 P	1,1-Dichloroethane	0.329	0.356	-8.2	102	0.00	8.32

Continuing Calibration Summary

Job Number: FA80110 **Sample:** VY2232-ECC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53803.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

27		Acrylonitrile	0.053	0.061	-15.1	101	0.00	8.43
28		ETBE	0.563	0.623	-10.7	100	0.00	8.83
		----------	True	Calc.	% Drift	----------		
29		Vinyl acetate	200.000	219.395	-9.7	98	0.00	8.86
		----------	AvgRF	CCRF	% Dev	----------		
30		cis-1,2-Dichloroethene	0.241	0.256	-6.2	100	0.00	9.43
		----------	True	Calc.	% Drift	----------		
31		2,2-Dichloropropane	40.000	41.698	-4.2	94	0.00	9.64
		----------	AvgRF	CCRF	% Dev	----------		
32		Bromochloromethane	0.135	0.145	-7.4	102	0.00	9.84
33		Cyclohexane	0.395	0.454	-14.9	105	0.00	9.82
34	C	Chloroform	0.346	0.366	-5.8	103	0.00	10.01
35		Ethyl acetate	0.130	0.156	-20.0	102	0.00	10.26
36		Tetrahydrofuran	0.037	0.047	-27.0	107	0.00	10.26
37	S	Dibromofluoromethane	0.259	0.267	-3.1	95	0.00	10.33
38		Carbon Tetrachloride	0.296	0.337	-13.9	103	0.00	10.23
39		1,1,1-Trichloroethane	0.343	0.375	-9.3	102	0.00	10.35
		----------	True	Calc.	% Drift	----------		
40		2-Butanone	200.000	224.321	-12.2	100	0.00	10.55
		----------	AvgRF	CCRF	% Dev	----------		
41		1,1-Dichloropropene	0.281	0.309	-10.0	103	0.00	10.57
		----------	True	Calc.	% Drift	----------		
42		tert-Butyl formate	200.000	191.035	4.5	95	0.00	10.76
		----------	AvgRF	CCRF	% Dev	----------		
43		Propionitrile	0.020	0.022	-10.0	102	0.00	10.99
44		Methacrylonitrile	0.090	0.101	-12.2	101	0.00	11.02
45		Benzene	0.833	0.883	-6.0	102	0.00	10.94
46		TAME	0.438	0.485	-10.7	103	0.00	11.13
47	S	1,2-Dichloroethane-d4	0.231	0.233	-0.9	95	0.00	11.15
48		1,2-Dichloroethane	0.256	0.270	-5.5	103	0.00	11.24
		----------	True	Calc.	% Drift	----------		
49		Trichloroethene	40.000	44.199	-10.5	103	0.00	11.74
		----------	AvgRF	CCRF	% Dev	----------		
50		Methylcyclohexane	0.384	0.424	-10.4	101	0.00	11.72
51		Dibromomethane	0.111	0.120	-8.1	104	0.00	12.23
52	C	1,2-Dichloropropane	0.201	0.216	-7.5	102	0.00	12.34
53		Bromodichloromethane	0.227	0.251	-10.6	101	0.00	12.42
		----------	True	Calc.	% Drift	----------		
54		Methyl methacrylate	40.000	44.679	-11.7	97	0.00	12.59
55		2-Chloroethyl vinyl ether	200.000	195.373	2.3	91	0.00	13.00
		----------	AvgRF	CCRF	% Dev	----------		
56		cis-1,3-Dichloropropene	0.298	0.345	-15.8	102	0.00	13.07
57	I	Chlorobenzene-d5	1.000	1.000	0.0	101	0.00	14.58
58	S	Toluene-d8	1.103	1.062	3.7	96	0.00	13.24
		----------	True	Calc.	% Drift	----------		
59	C	Toluene	40.000	40.527	-1.3	103	0.00	13.29

Continuing Calibration Summary

Job Number: FA80110 **Sample:** VY2232-ECC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53803.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

60	2-Nitropropane	200.000	210.644	-5.3	101	0.00	13.51
	----------	AvgRF	CCRF	% Dev	----------		
61	4-Methyl-2-pentanone	0.140	0.155	-10.7	102	0.00	13.63
	----------	True	Calc.	% Drift	----------		
62	trans-1,3-Dichloropropene	40.000	41.918	-4.8	102	0.00	13.67
	----------	AvgRF	CCRF	% Dev	----------		
63	Tetrachloroethene	0.334	0.353	-5.7	111	0.00	13.65
	----------	True	Calc.	% Drift	----------		
64	Ethyl methacrylate	40.000	41.964	-4.9	101	0.00	13.79
	----------	AvgRF	CCRF	% Dev	----------		
65	1,1,2-Trichloroethane	0.141	0.143	-1.4	106	0.00	13.82
66	Dibromochloromethane	0.225	0.242	-7.6	103	0.00	13.97
67	1,3-Dichloropropane	0.307	0.310	-1.0	104	0.00	14.05
68	1,2-Dibromoethane	0.193	0.203	-5.2	105	0.00	14.18
69	2-hexanone	0.101	0.114	-12.9	107	0.00	14.33
70	1-Chlorohexane	0.360	0.362	-0.6	99	0.00	14.55
	----------	True	Calc.	% Drift	----------		
71 C	Ethylbenzene	40.000	41.285	-3.2	105	0.00	14.59
	----------	AvgRF	CCRF	% Dev	----------		
72 P	Chlorobenzene	0.784	0.767	2.2	104	0.00	14.59
73	1,1,1,2-Tetrachloroethane	0.270	0.276	-2.2	102	0.00	14.64
74	m,p-Xylene	0.937	0.944	-0.7	104	0.00	14.70
75	o-Xylene	0.942	0.971	-3.1	104	0.00	15.03
76	Styrene	0.732	0.781	-6.7	104	0.00	15.08
	----------	True	Calc.	% Drift	----------		
77 P	Bromoform	40.000	42.259	-5.6	104	0.00	15.12
	----------	AvgRF	CCRF	% Dev	----------		
78	Isopropylbenzene	1.290	1.347	-4.4	105	0.00	15.26
79 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	104	0.00	16.27
80 S	4-Bromofluorobenzene	0.761	0.745	2.1	101	0.00	15.49
	----------	True	Calc.	% Drift	----------		
81	cis-1,4-Dichloro-2-butene	40.000	41.190	-3.0	100	0.00	15.52
	----------	AvgRF	CCRF	% Dev	----------		
82	n-Propylbenzene	2.569	2.543	1.0	106	0.00	15.56
83	Bromobenzene	0.622	0.595	4.3	104	0.00	15.57
84 P	1,1,2,2-Tetrachloroethane	0.362	0.360	0.6	106	0.00	15.61
85	1,3,5-Trimethylbenzene	1.809	1.837	-1.5	106	0.00	15.68
86	2-Chlorotoluene	1.636	1.576	3.7	106	0.00	15.69
	----------	True	Calc.	% Drift	----------		
87	trans-1,4-Dichloro-2-Bute	40.000	39.097	2.3	96	0.00	15.73
	----------	AvgRF	CCRF	% Dev	----------		
88	1,2,3-Trichloropropane	0.138	0.138	0.0	108	0.00	15.73
89	Cyclohexanone	0.009	0.009	0.0	104	0.00	15.78
90	4-Chlorotoluene	1.521	1.499	1.4	105	0.00	15.81
91	tert-Butylbenzene	0.964	0.970	-0.6	107	0.00	15.91
92	1,2,4-Trimethylbenzene	1.824	1.841	-0.9	106	0.00	15.96

Continuing Calibration Summary

Job Number: FA80110 **Sample:** VY2232-ECC2229
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y53803.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

93	Pentachloroethane	0.294	0.274	6.8	90	0.00	15.96
94	sec-Butylbenzene	2.231	2.284	-2.4	108	0.00	16.04
95	4-Isopropyltoluene	2.075	2.149	-3.6	107	0.00	16.12
96	1,3-Dichlorobenzene	1.165	1.151	1.2	107	0.00	16.23
97	1,2,3-Trimethylbenzene	2.040	2.110	-3.4	110	0.00	16.27
98	1,4-Dichlorobenzene	1.158	1.113	3.9	106	0.00	16.29
99	n-Butylbenzene	0.840	0.883	-5.1	106	0.00	16.41
	----------	True	Calc.	% Drift	----------		
100	Benzyl Chloride	40.000	37.085	7.3	89	0.00	16.44
	----------	AvgRF	CCRF	% Dev	----------		
101	1,2-Dichlorobenzene	1.067	1.061	0.6	106	0.00	16.58
	----------	True	Calc.	% Drift	----------		
102	1,2-Dibromo-3-Chloropropa	40.000	41.225	-3.1	103	0.00	17.12
	----------	AvgRF	CCRF	% Dev	----------		
103	Hexachlorobutadiene	0.207	0.206	0.5	104	0.00	17.53
104	1,2,4-Trichlorobenzene	0.592	0.602	-1.7	103	0.00	17.59
105	Naphthalene	1.442	1.582	-9.7	106	0.00	17.84
106	1,2,3-Trichlorobenzene	0.526	0.547	-4.0	106	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	102	0.00	7.42
108	Ethanol	0.130	0.137	-5.4	104	0.02	5.66
109	Tert Butyl Alcohol	1.047	1.105	-5.5	117	0.00	7.57
110	Isobutyl alcohol	0.215	0.229	-6.5	105	0.00	11.31
111	Tert Amyl Alcohol	0.613	0.608	0.8	100	0.00	11.43
112	1,4-Dioxane	0.123	0.117	4.9	97	0.00	12.64
113	3,3-dimethyl-1-butanol	0.911	1.008	-10.6	110	0.00	14.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y53723.D RESTEK103120w.M Wed Nov 04 02:48:46 2020

Run Sequence Report

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VY2229 **Method:** SW846 8260B **Instrument ID:** GCMSY

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VY2229-BFB	Y53718.D	10/31/20 10:49	n/a	BFB Tune
VY2229-IC2229	Y53719.D	10/31/20 11:27	n/a	Initial cal 1
VY2229-IC2229	Y53720.D	10/31/20 11:54	n/a	Initial cal 2
VY2229-IC2229	Y53721.D	10/31/20 12:21	n/a	Initial cal 3
VY2229-IC2229	Y53722.D	10/31/20 12:47	n/a	Initial cal 4
VY2229-ICC2229	Y53723.D	10/31/20 13:15	n/a	Initial cal 5
VY2229-IC2229	Y53724.D	10/31/20 13:42	n/a	Initial cal 6
VY2229-IC2229	Y53725.D	10/31/20 14:09	n/a	Initial cal 7
VY2229-ICV2229	Y53727.D	10/31/20 15:03	n/a	Initial cal verification 5
VY2229-ICV2229	Y53728.D	10/31/20 15:30	n/a	Initial cal verification 4

Run Sequence Report

Job Number: FA80110
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VY2232	**Method:** SW846 8260B	**Instrument ID:** GCMSY

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VY2232-BFB	Y53778.D	11/03/20 09:51	n/a	BFB Tune
VY2232-CC2229	Y53778.D	11/03/20 09:52	n/a	Continuing cal 5
VY2232-BS	Y53779.D	11/03/20 10:26	n/a	Blank Spike
VY2232-MB	Y53782.D	11/03/20 11:47	n/a	Method Blank
ZZZZZZ	Y53783.D	11/03/20 12:14	n/a	(unrelated sample)
FA80110-4	Y53784.D	11/03/20 12:41	n/a	TRIP BLANK
ZZZZZZ	Y53785.D	11/03/20 13:08	n/a	(unrelated sample)
ZZZZZZ	Y53786.D	11/03/20 13:35	n/a	(unrelated sample)
FA80030-3	Y53788.D	11/03/20 14:29	n/a	(used for QC only; not part of job FA80110)
ZZZZZZ	Y53789.D	11/03/20 14:56	n/a	(unrelated sample)
ZZZZZZ	Y53791.D	11/03/20 15:51	n/a	(unrelated sample)
ZZZZZZ	Y53792.D	11/03/20 16:18	n/a	(unrelated sample)
ZZZZZZ	Y53793.D	11/03/20 16:45	n/a	(unrelated sample)
FA80110-1	Y53794.D	11/03/20 17:12	n/a	INF-SP1
FA80110-2	Y53795.D	11/03/20 17:39	n/a	PRETREATMENT-SP2
FA80110-3	Y53796.D	11/03/20 18:06	n/a	LEAD EFF-SP3
FA80110-5	Y53797.D	11/03/20 18:33	n/a	SP1-GW-20201021
FA80110-6	Y53798.D	11/03/20 19:00	n/a	SP2-GW-20201021
FA80110-7	Y53799.D	11/03/20 19:27	n/a	SP3-GW-20201021
ZZZZZZ	Y53800.D	11/03/20 19:54	n/a	(unrelated sample)
FA80030-3MS	Y53801.D	11/03/20 20:21	n/a	Matrix Spike
FA80030-3MSD	Y53802.D	11/03/20 20:48	n/a	Matrix Spike Duplicate
VY2232-ECC2229	Y53803.D	11/03/20 21:16	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53794.D
Acq On : 3 Nov 2020 5:12 pm
Operator : chelseav
Sample : FA80110-1
Misc : MS47611,VY2232,,,,,
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 04 02:36:07 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

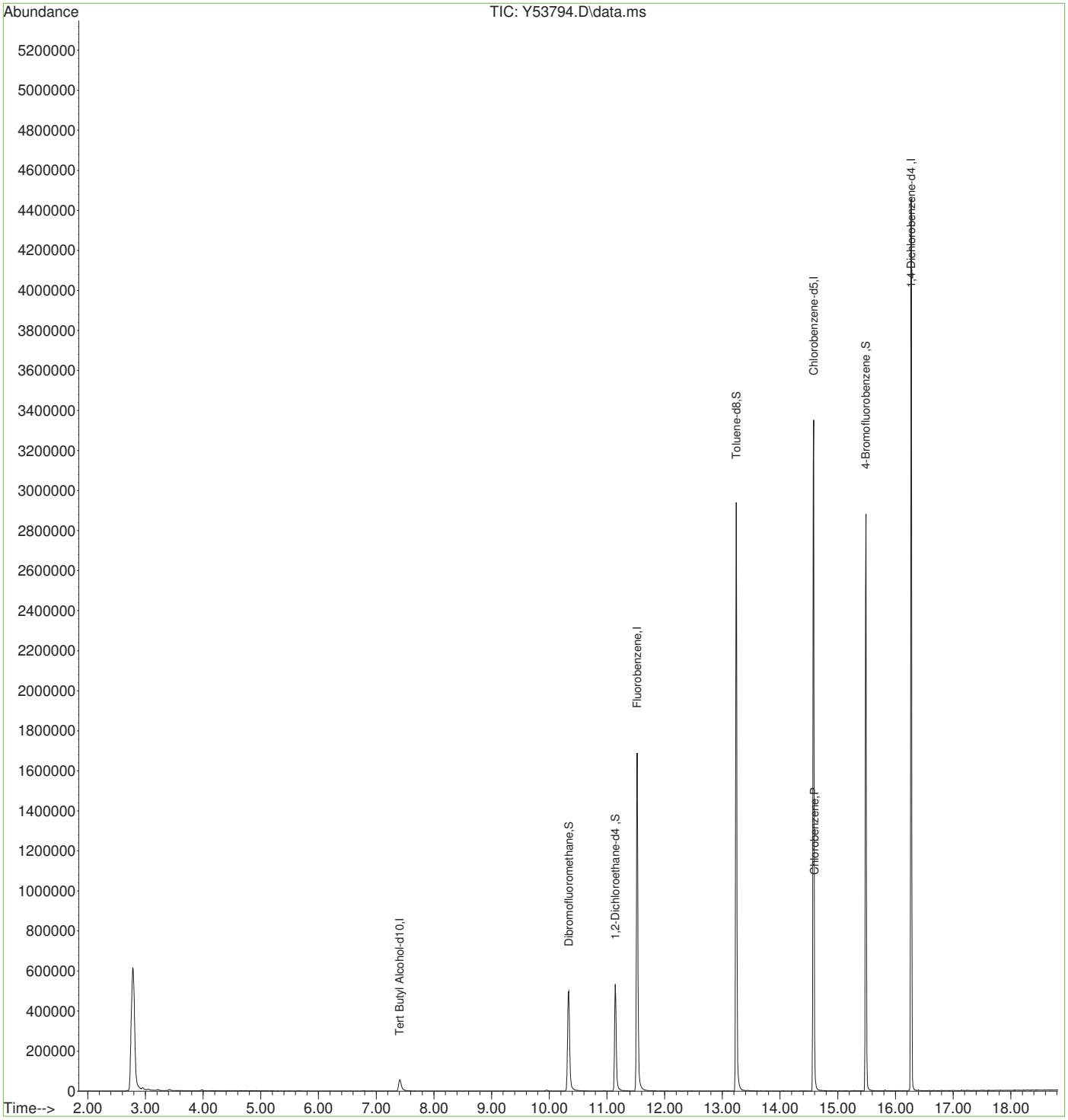
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.522	96	1604650	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.582	117	1673606	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	944807	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.403	65	90393	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	10.336	113	411585	49.43	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.86%			
47) 1,2-Dichloroethane-d4	11.145	65	380388	51.30	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 102.60%			
58) Toluene-d8	13.244	98	1726827	46.78	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 93.56%			
80) 4-Bromofluorobenzene	15.488	174	678825	47.21	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 94.42%			
Target Compounds						Qvalue
72) Chlorobenzene	14.594	112	12046	0.46	ug/L	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

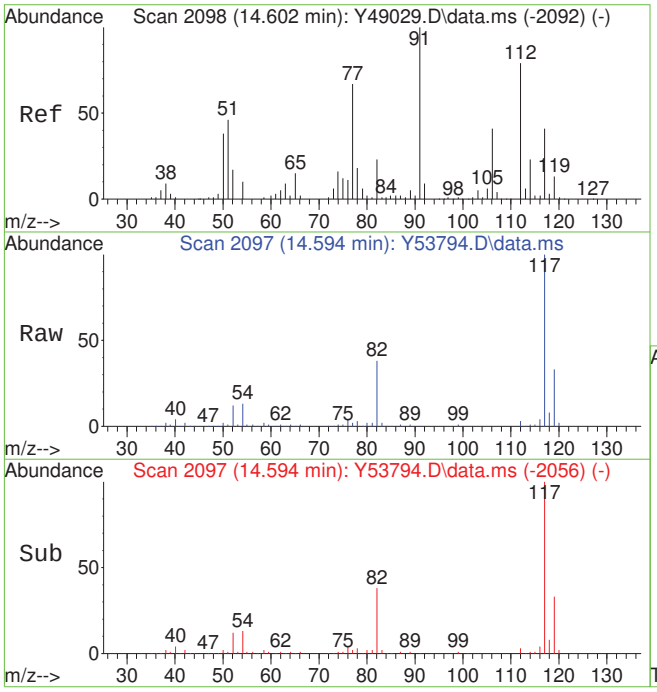
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53794.D
Acq On : 3 Nov 2020 5:12 pm
Operator : chelseav
Sample : FA80110-1
Misc : MS47611,VY2232,,,,,
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 04 02:36:07 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



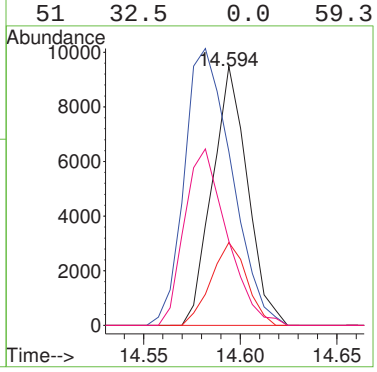
RESTEK103120w.M Wed Nov 04 02:51:44 2020 Page: 2



#72
Chlorobenzene
Concen: 0.46 ug/L
RT: 14.594 min Scan# 2097
Delta R.T. 0.002 min
Lab File: Y53794.D
Acq: 3 Nov 2020 5:12 pm

Tgt Ion:112 Resp: 12046

Ion	Ratio	Lower	Upper
112	100		
77	67.0	25.2	85.2
114	31.9	1.8	61.8
51	32.5	0.0	59.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53795.D
Acq On : 3 Nov 2020 5:39 pm
Operator : chelseav
Sample : FA80110-2
Misc : MS47611,VY2232,,,,,
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Nov 04 02:36:21 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

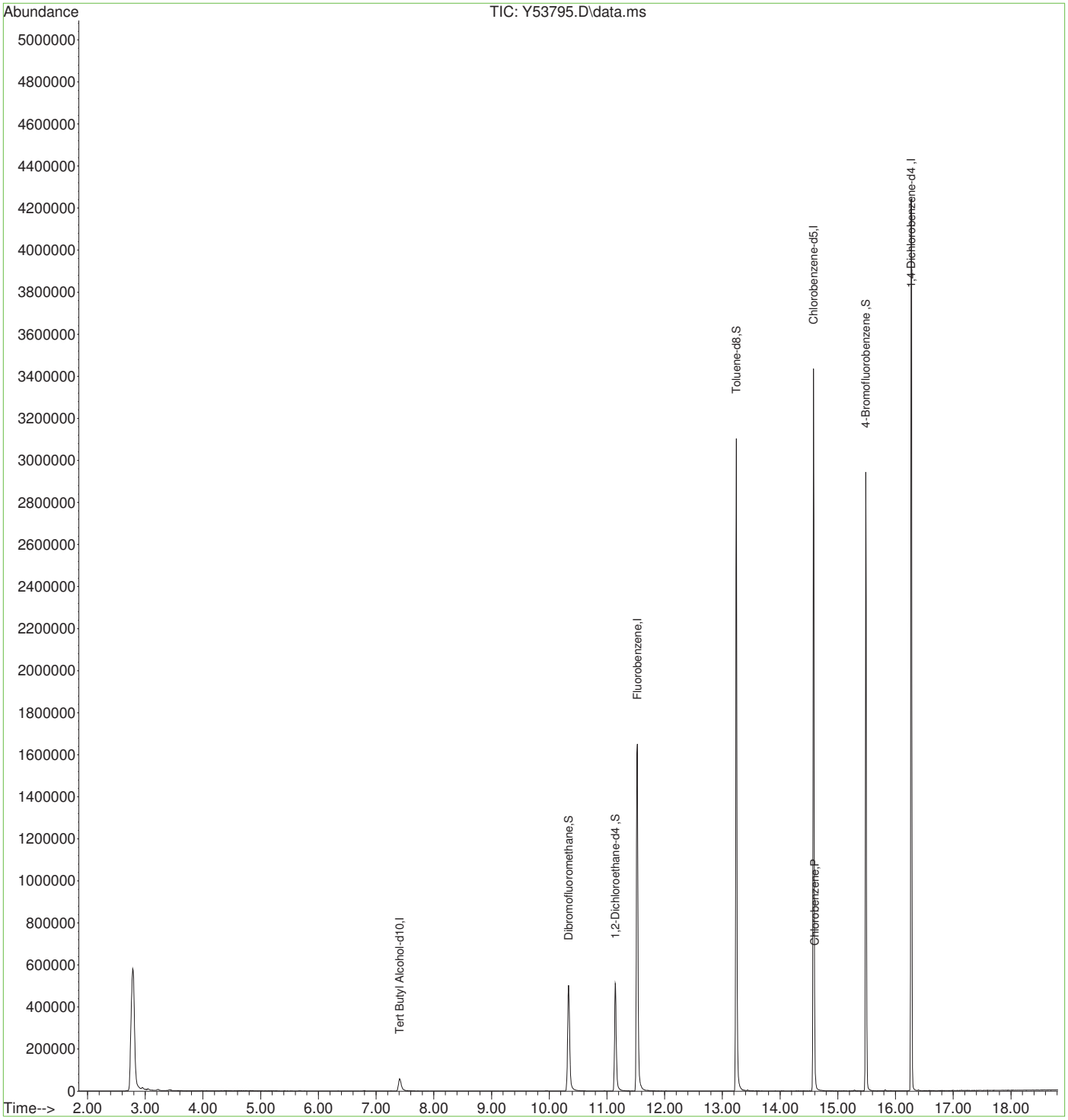
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.525	96	1595157	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	1667920	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.271	152	940671	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.407	65	96757	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.333	113	408996	49.41	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.82%			
47) 1,2-Dichloroethane-d4	11.142	65	381443	51.74	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 103.48%			
58) Toluene-d8	13.241	98	1714817	46.61	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 93.22%			
80) 4-Bromofluorobenzene	15.486	174	677039	47.29	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 94.58%			
Target Compounds						Qvalue
72) Chlorobenzene	14.598	112	8777	0.34	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

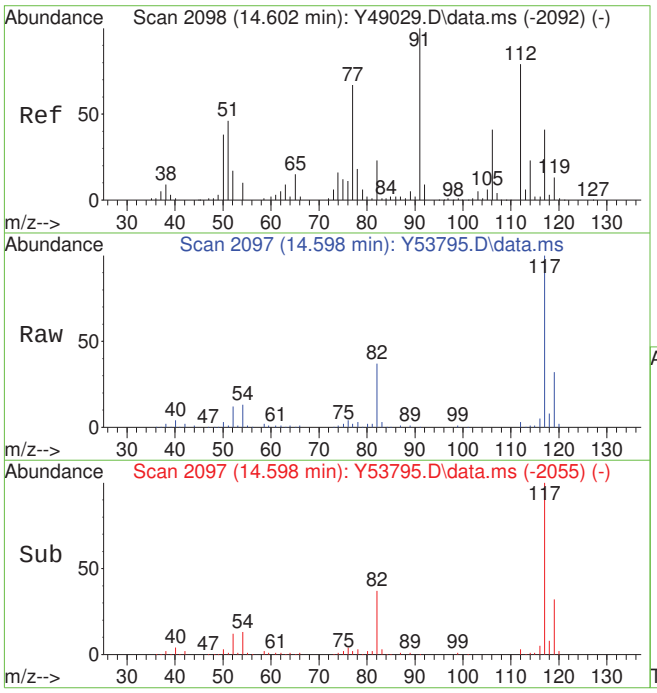
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53795.D
Acq On : 3 Nov 2020 5:39 pm
Operator : chelseav
Sample : FA80110-2
Misc : MS47611,VY2232,,,,,
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Nov 04 02:36:21 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



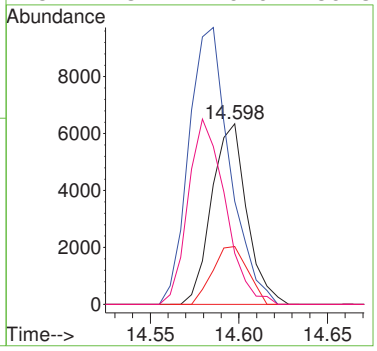
RESTEK103120w.M Wed Nov 04 02:51:47 2020 Page: 2



#72
Chlorobenzene
Concen: 0.34 ug/L
RT: 14.598 min Scan# 2097
Delta R.T. 0.006 min
Lab File: Y53795.D
Acq: 3 Nov 2020 5:39 pm

Tgt Ion:112 Resp: 8777

Ion	Ratio	Lower	Upper
112	100		
77	57.0	25.2	85.2
114	32.1	1.8	61.8
51	28.4	0.0	59.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53796.D
Acq On : 3 Nov 2020 6:06 pm
Operator : chelseav
Sample : FA80110-3
Misc : MS47611,VY2232,,,,,
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Nov 04 02:36:34 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

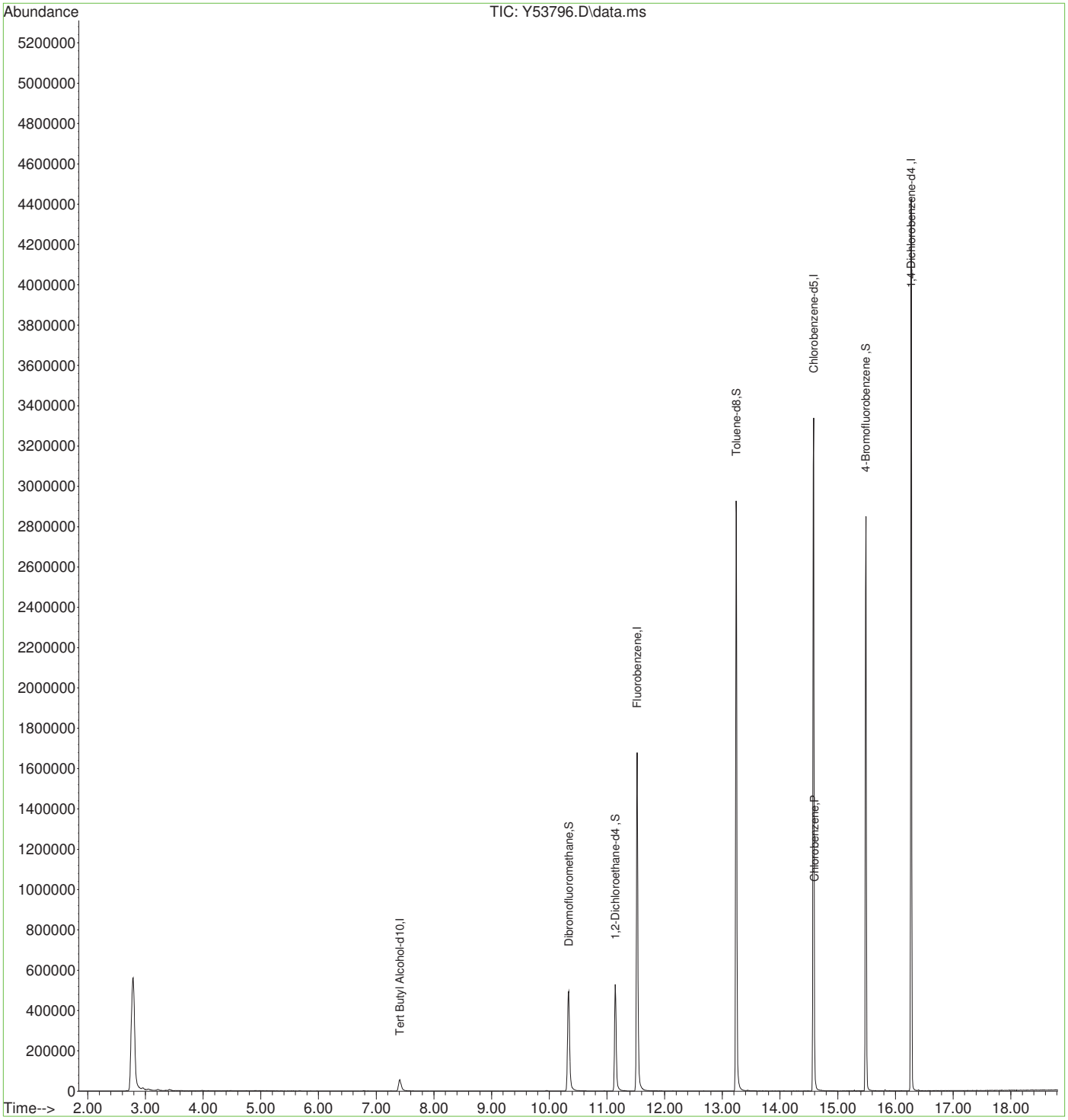
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.522	96	1567382	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.582	117	1661208	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	942107	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.409	65	87465	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.336	113	407610	50.12	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.24%			
47) 1,2-Dichloroethane-d4	11.145	65	375936	51.90	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 103.80%			
58) Toluene-d8	13.237	98	1699275	46.38	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 92.76%			
80) 4-Bromofluorobenzene	15.488	174	674142	47.01	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 94.02%			
Target Compounds						Qvalue
72) Chlorobenzene	14.594	112	5308	0.20	ug/L	# 52

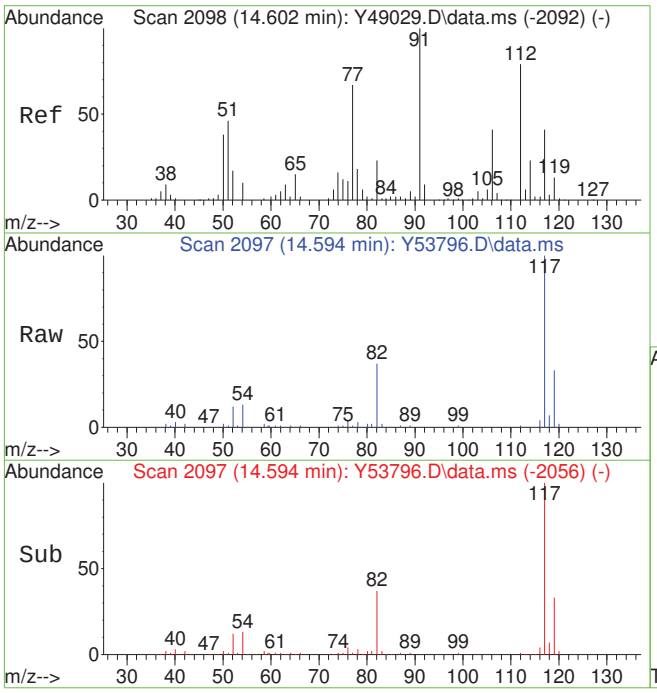
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53796.D
Acq On : 3 Nov 2020 6:06 pm
Operator : chelseav
Sample : FA80110-3
Misc : MS47611,VY2232,,,,,
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Nov 04 02:36:34 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

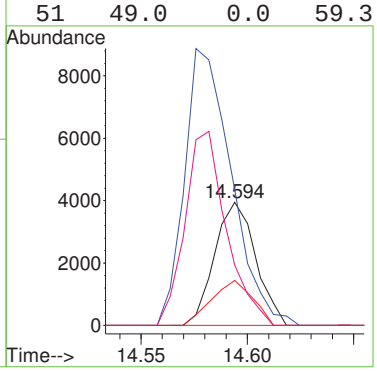




#72
Chlorobenzene
Concen: 0.20 ug/L
RT: 14.594 min Scan# 2097
Delta R.T. 0.002 min
Lab File: Y53796.D
Acq: 3 Nov 2020 6:06 pm

Tgt Ion:112 Resp: 5308

Ion	Ratio	Lower	Upper
112	100		
77	110.3	25.2	85.2#
114	36.6	1.8	61.8
51	49.0	0.0	59.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53784.D
Acq On : 3 Nov 2020 12:41 pm
Operator : chelseav
Sample : FA80110-4 Inst : MSVOA14-Y
Misc : MS47611,VY2232,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 03 13:33:01 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	1683596	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.583	117	1734350	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	979091	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.404	65	105592	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	10.337	113	424750	48.62	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.24%			
47) 1,2-Dichloroethane-d4	11.146	65	397888	51.14	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 102.28%			
58) Toluene-d8	13.238	98	1801410	47.09	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 94.18%			
80) 4-Bromofluorobenzene	15.489	174	710008	47.65	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.30%			

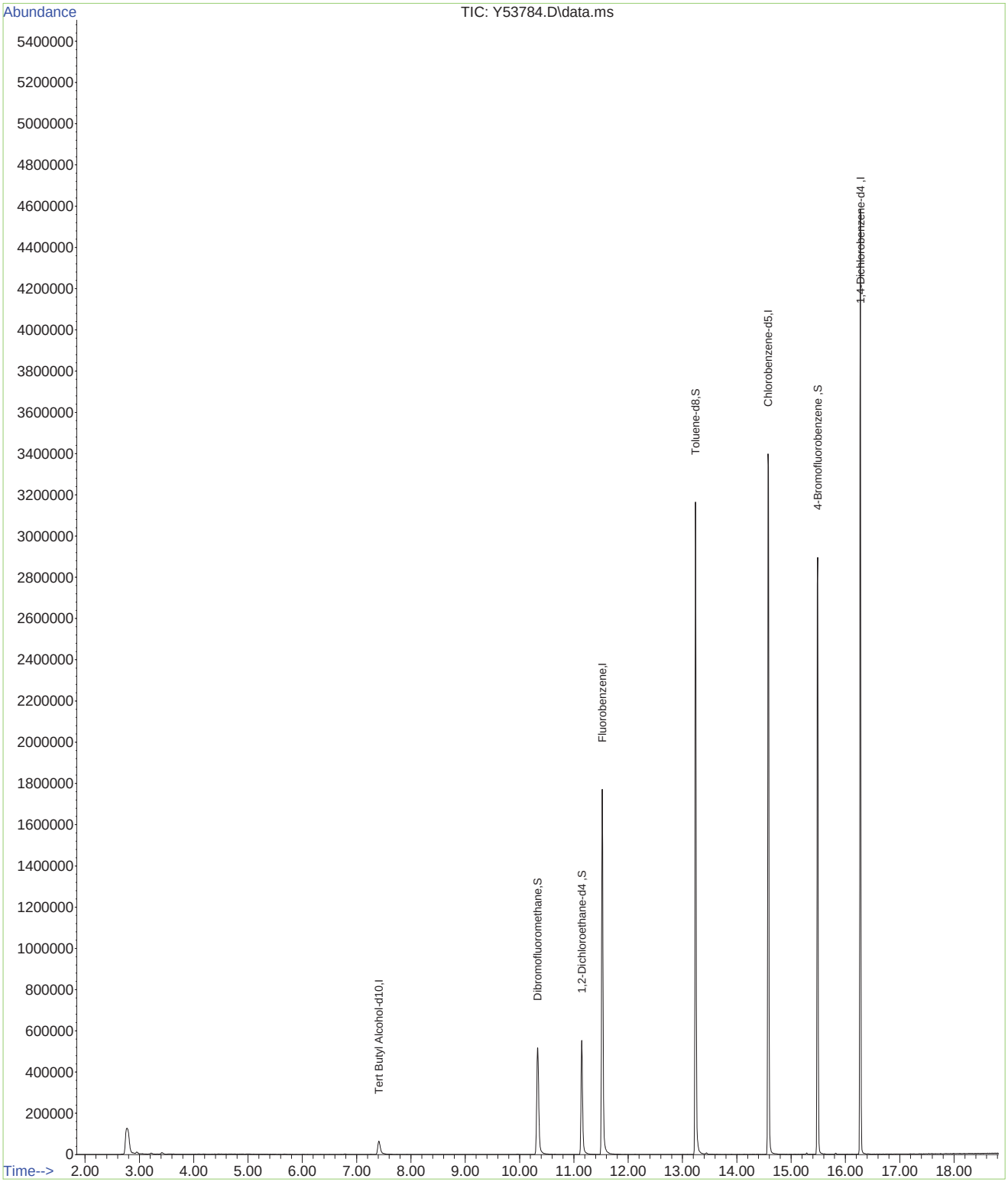
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53784.D
Acq On : 3 Nov 2020 12:41 pm
Operator : chelseav
Sample : FA80110-4 Inst : MSVOA14-Y
Misc : MS47611,VY2232,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 03 13:33:01 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



RESTEK103120w.M Tue Nov 03 13:33:41 2020 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53797.D
Acq On : 3 Nov 2020 6:33 pm
Operator : chelseav
Sample : FA80110-5
Misc : MS47611,VY2232,,,,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 04 02:36:52 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

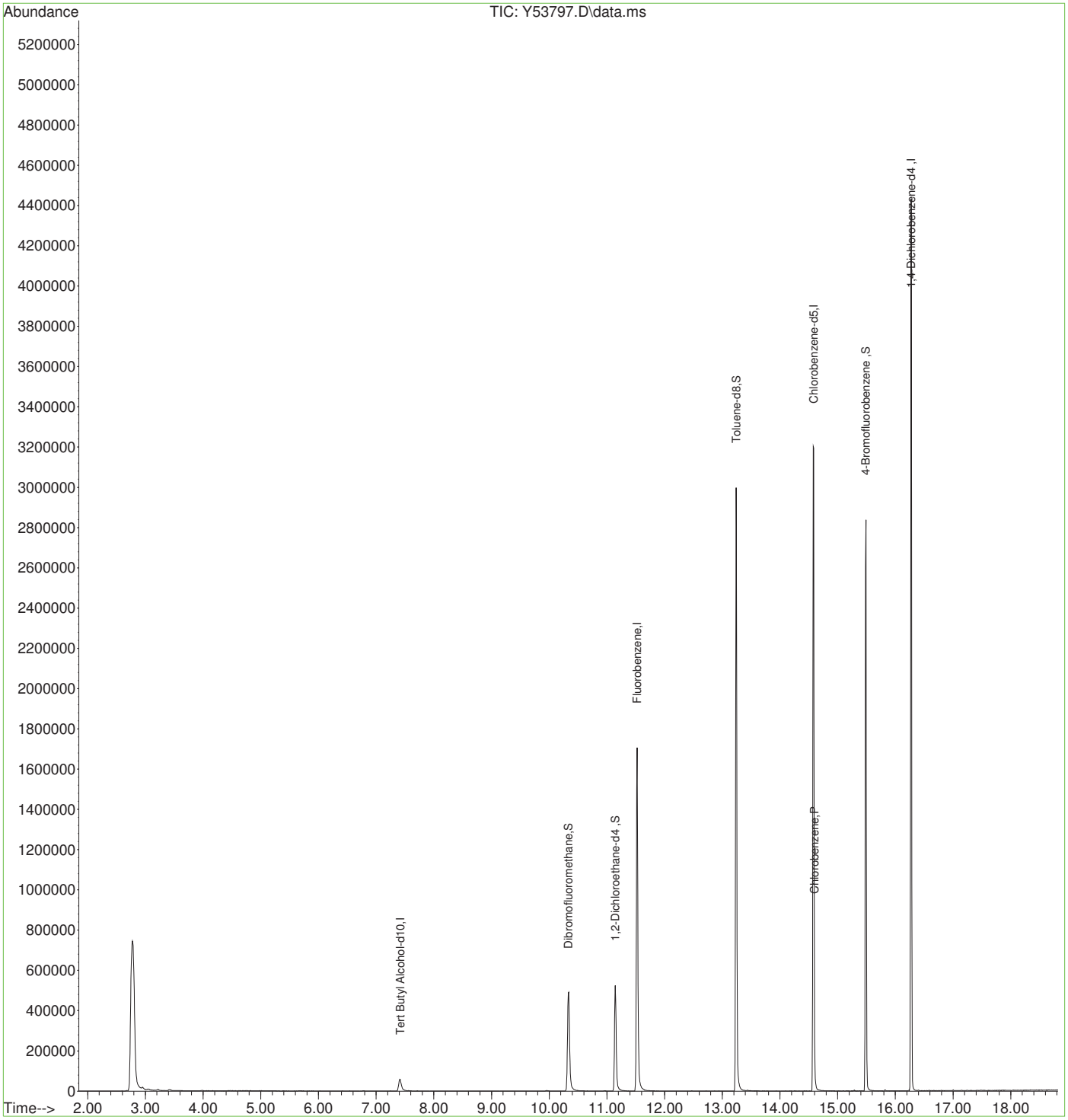
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.523	96	1595908	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.583	117	1652954	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	934068	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.416	65	92735	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	409451	49.44	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.88%			
47) 1,2-Dichloroethane-d4	11.146	65	380456	51.59	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 103.18%			
58) Toluene-d8	13.238	98	1717284	47.10	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 94.20%			
80) 4-Bromofluorobenzene	15.489	174	676900	47.61	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.22%			
Target Compounds						Qvalue
72) Chlorobenzene	14.595	112	11342	0.44	ug/L	89

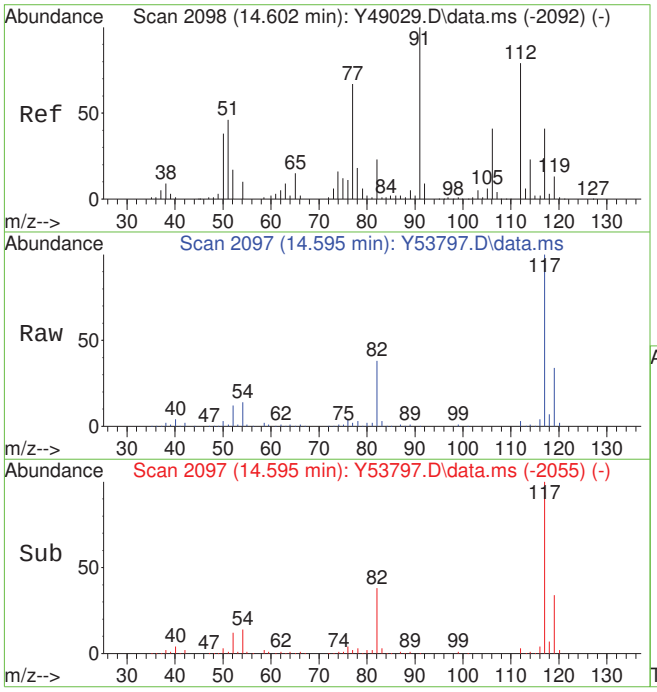
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53797.D
Acq On : 3 Nov 2020 6:33 pm
Operator : chelseav
Sample : FA80110-5
Misc : MS47611,VY2232,,,,,
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 04 02:36:52 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

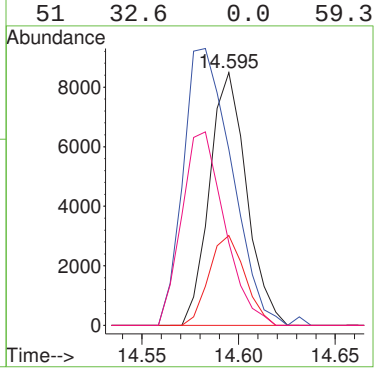




#72
Chlorobenzene
Concen: 0.44 ug/L
RT: 14.595 min Scan# 2097
Delta R.T. 0.003 min
Lab File: Y53797.D
Acq: 3 Nov 2020 6:33 pm

Tgt Ion:112 Resp: 11342

Ion	Ratio	Lower	Upper
112	100		
77	66.1	25.2	85.2
114	35.5	1.8	61.8
51	32.6	0.0	59.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53798.D
Acq On : 3 Nov 2020 7:00 pm
Operator : chelseav
Sample : FA80110-6
Misc : MS47611,VY2232,,,,,
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 02:37:05 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

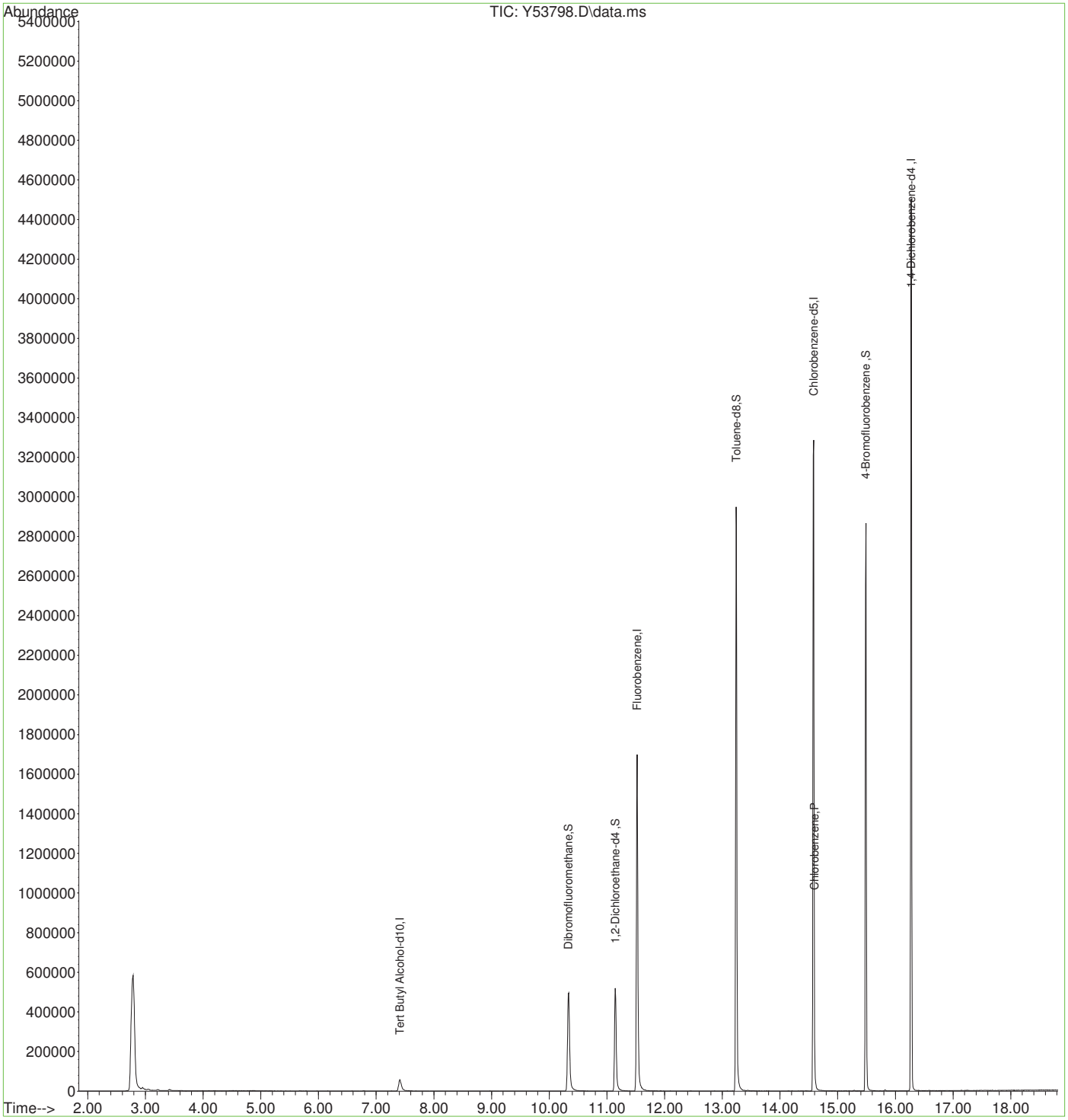
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.522	96	1589032	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.582	117	1672591	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	948907	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.410	65	92169	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	408041	49.48	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.96%			
47) 1,2-Dichloroethane-d4	11.145	65	378958	51.60	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 103.20%			
58) Toluene-d8	13.238	98	1705979	46.24	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 92.48%			
80) 4-Bromofluorobenzene	15.489	174	677392	46.90	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 93.80%			
Target Compounds						Qvalue
72) Chlorobenzene	14.594	112	6859	0.26	ug/L	73

(#) = qualifier out of range (m) = manual integration (+) = signals summed

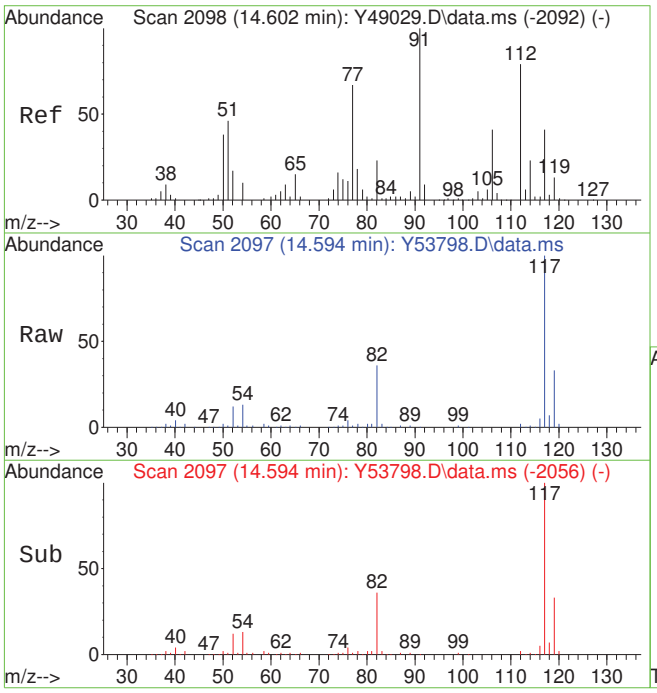
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53798.D
Acq On : 3 Nov 2020 7:00 pm
Operator : chelseav
Sample : FA80110-6
Misc : MS47611,VY2232,,,,,
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 04 02:37:05 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



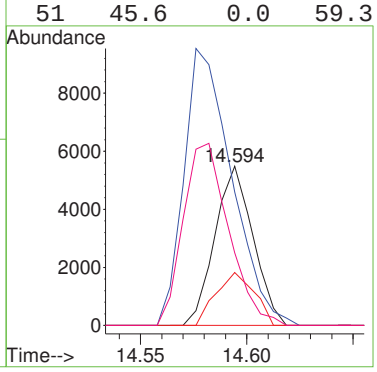
RESTEK103120w.M Wed Nov 04 02:51:56 2020 Page: 2



#72
Chlorobenzene
Concen: 0.26 ug/L
RT: 14.594 min Scan# 2097
Delta R.T. 0.002 min
Lab File: Y53798.D
Acq: 3 Nov 2020 7:00 pm

Tgt Ion:112 Resp: 6859

Ion	Ratio	Lower	Upper
112	100		
77	83.7	25.2	85.2
114	33.3	1.8	61.8
51	45.6	0.0	59.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53799.D
Acq On : 3 Nov 2020 7:27 pm
Operator : chelseav
Sample : FA80110-7
Misc : MS47611,VY2232,,,,,
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 02:37:18 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

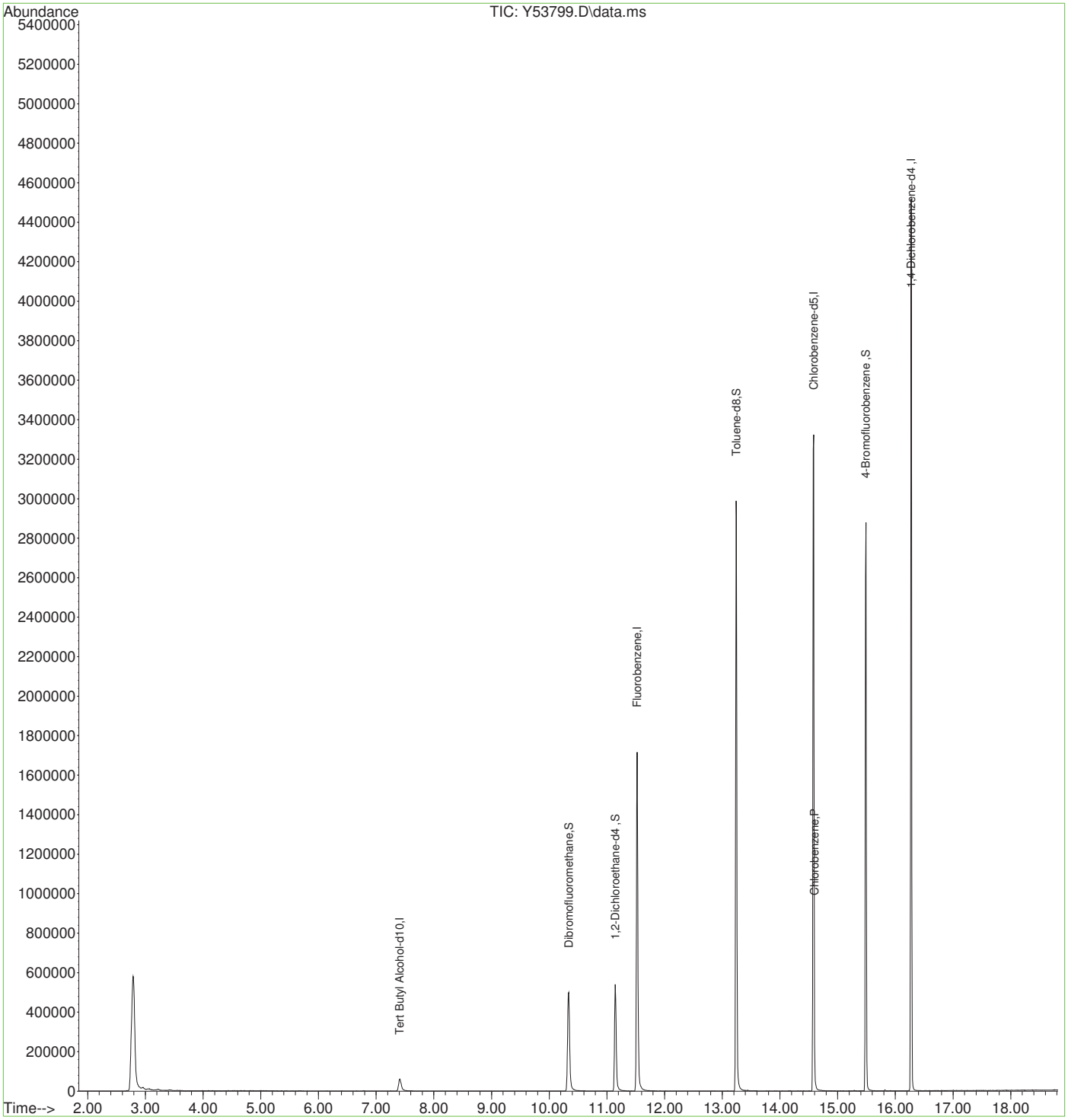
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.523	96	1587593	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.583	117	1675835	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	948559	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.404	65	96628	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	10.336	113	407858	49.51	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.02%			
47) 1,2-Dichloroethane-d4	11.145	65	380477	51.86	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 103.72%			
58) Toluene-d8	13.238	98	1713745	46.36	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 92.72%			
80) 4-Bromofluorobenzene	15.489	174	686816	47.57	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.14%			
Target Compounds						Qvalue
72) Chlorobenzene	14.595	112	7396	0.28	ug/L	83

(#) = qualifier out of range (m) = manual integration (+) = signals summed

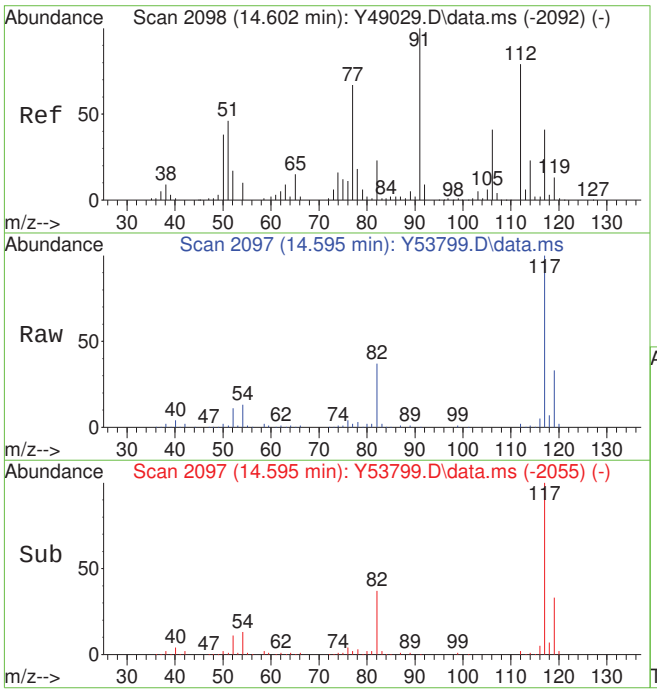
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53799.D
Acq On : 3 Nov 2020 7:27 pm
Operator : chelseav
Sample : FA80110-7
Misc : MS47611,VY2232,,,,,
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 04 02:37:18 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



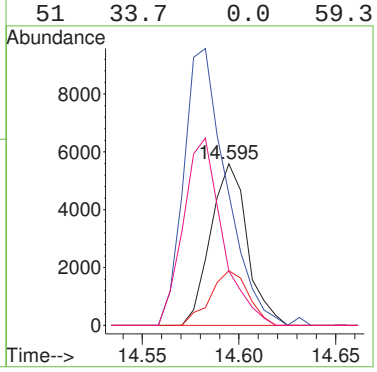
RESTEK103120w.M Wed Nov 04 02:52:00 2020 Page: 2



#72
Chlorobenzene
Concen: 0.28 ug/L
RT: 14.595 min Scan# 2097
Delta R.T. 0.003 min
Lab File: Y53799.D
Acq: 3 Nov 2020 7:27 pm

Tgt Ion:112 Resp: 7396

Ion	Ratio	Lower	Upper
112	100		
77	76.7	25.2	85.2
114	33.9	1.8	61.8
51	33.7	0.0	59.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53782.D
Acq On : 3 Nov 2020 11:47 am
Operator : chelseav
Sample : MB Inst : MSVOA14-Y
Misc : MS47611,VY2232,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 03 12:22:07 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

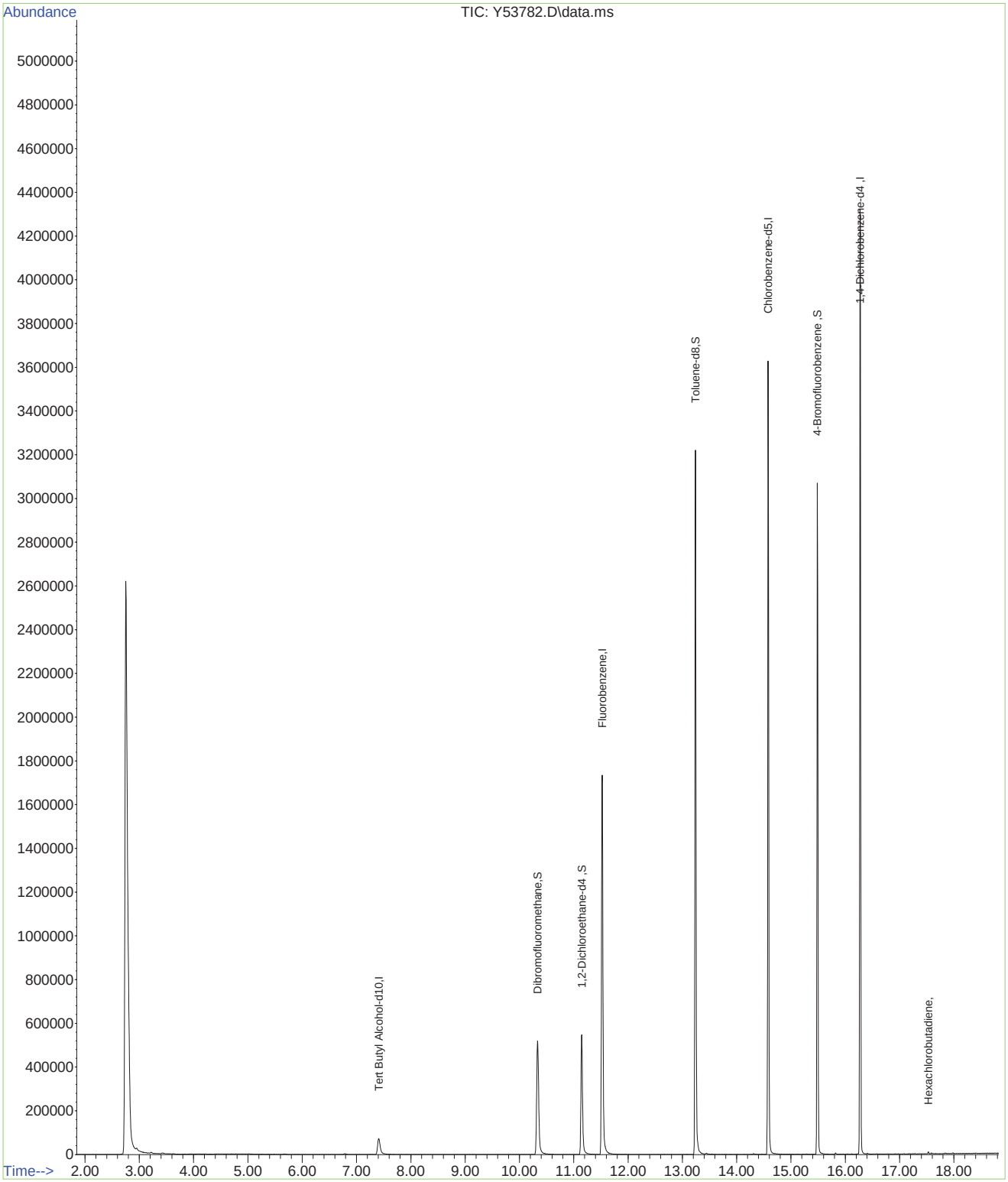
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.525	96	1675163	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	1727934	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.276	152	987055	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.406	65	116456	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.333	113	423587	48.73	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.46%			
47) 1,2-Dichloroethane-d4	11.142	65	399074	51.55	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 103.10%			
58) Toluene-d8	13.240	98	1791623	47.01	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 94.02%			
80) 4-Bromofluorobenzene	15.485	174	711262	47.34	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 94.68%			
Target Compounds						Qvalue
103) Hexachlorobutadiene	17.529	225	1395	0.34	ug/L	88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

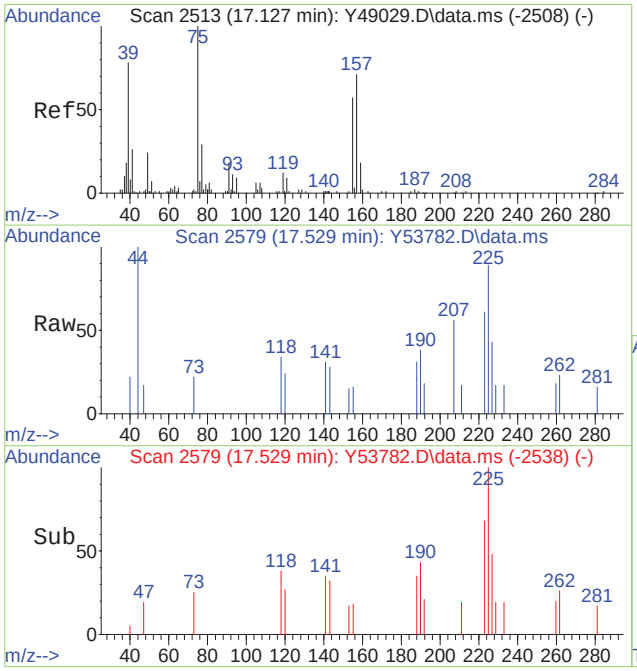
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53782.D
Acq On : 3 Nov 2020 11:47 am
Operator : chelseav
Sample : MB Inst : MSVOA14-Y
Misc : MS47611,VY2232,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 03 12:22:07 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



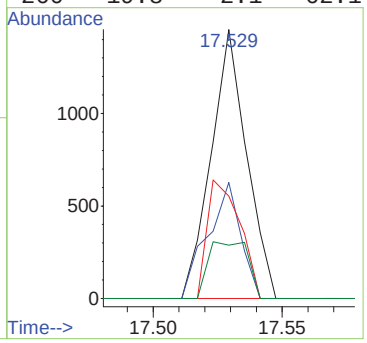
RESTEK103120w.M Tue Nov 03 12:22:25 2020 Page: 2



#103
Hexachlorobutadiene
Concen: 0.34 ug/L
RT: 17.529 min Scan# 2579
Delta R.T. -0.001 min
Lab File: Y53782.D
Acq: 3 Nov 2020 11:47 am

Tgt Ion:225 Resp: 1395

Ion	Ratio	Lower	Upper
225	100		
190	43.1	19.7	79.7
118	38.1	12.5	72.5
260	19.8	2.1	62.1



7.2.1

7

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/04/20 13:05

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53779.D
Acq On : 3 Nov 2020 10:26 am
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 03 10:54:15 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	1801232	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1811749	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1037368	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.416	65	123465	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	476845	51.02	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.04%			
47) 1,2-Dichloroethane-d4	11.146	65	409454	49.19	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.38%			
58) Toluene-d8	13.238	98	1941139	48.57	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.14%			
80) 4-Bromofluorobenzene	15.489	174	774189	49.03	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	207910	22.50	ug/L	99
3) Acrolein	6.315	56	93727	83.43	ug/L	93
4) Chloromethane	3.395	50	225226m	23.90	ug/L	
5) 1,3-butadiene	3.584	39	190895	29.49	ug/L	97
6) Vinyl Chloride	3.553	62	215251	25.20	ug/L	97
7) Bromomethane	4.162	94	77296	21.28	ug/L	99
8) Chloroethane	4.405	64	54273	23.20	ug/L	97
9) Trichlorofluoromethane	4.661	101	324763	28.39	ug/L	98
10) Ethyl Ether	5.293	59	135068	23.32	ug/L	99
11) 1,2-Dichlorotrifluoroe...	5.670	67	205740	27.58	ug/L	99
12) 1,1-Dichloroethene	5.634	61	277989	27.33	ug/L	99
13) Freon 113	5.731	101	189219	19.67	ug/L	98
14) Carbon Disulfide	5.670	76	457904	24.27	ug/L	99
15) Iodomethane	5.908	142	138523	19.72	ug/L	99
16) Allyl chloride	6.565	41	265193	25.25	ug/L	99
17) Methylene Chloride	6.778	49	245326	23.02	ug/L	99
18) Acetone	6.893	43	175717	118.23	ug/L	96
19) Methyl acetate	7.143	43	446129	115.74	ug/L	99
20) trans-1,2-Dichloroethene	7.094	61	252285	26.07	ug/L	97
21) Hexane	7.246	56	165123	25.94	ug/L	98
22) Methyl Tert Butyl Ether	7.325	73	363499	23.93	ug/L	98
23) Acetonitrile	7.806	41	155453	240.17	ug/L	96
24) Di-isopropyl ether	8.092	45	567442	23.87	ug/L	100
25) Chloroprene	8.268	53	301254	29.03	ug/L	98
26) 1,1-Dichloroethane	8.311	63	310889	26.23	ug/L	100
27) Acrylonitrile	8.426	53	232749	122.04	ug/L	98
28) ETBE	8.828	59	448530	22.11	ug/L	100
29) Vinyl acetate	8.858	43	1405497	110.73	ug/L	100
30) cis-1,2-Dichloroethene	9.430	96	215850	24.85	ug/L	99
31) 2,2-Dichloropropane	9.637	77	220753	27.10	ug/L	99
32) Bromochloromethane	9.844	128	111956	23.06	ug/L	100
33) Cyclohexane	9.819	56	381156	26.81	ug/L	99
34) Chloroform	10.008	83	310550	24.93	ug/L	98
35) Ethyl acetate	10.251	43	556679	118.89	ug/L	99
36) Tetrahydrofuran	10.251	42	27406	20.65	ug/L	95
38) Carbon Tetrachloride	10.227	117	290570	27.25	ug/L	98
39) 1,1,1-Trichloroethane	10.349	97	323823	26.23	ug/L	100
40) 2-Butanone	10.549	43	247637	116.57	ug/L	100
41) 1,1-Dichloropropene	10.562	75	262912	25.93	ug/L	97
42) tert-Butyl formate	10.756	59	102416	101.84	ug/L	97
43) Propionitrile	10.994	54	164743	234.08	ug/L	94
44) Methacrylonitrile	11.024	41	749802	232.10	ug/L	99
45) Benzene	10.945	78	741297	24.69	ug/L	98
46) TAME	11.127	73	357879	22.70	ug/L	99
48) 1,2-Dichloroethane	11.237	62	212238	23.03	ug/L	98
49) Trichloroethene	11.742	95	218213	25.22	ug/L	98
50) Methylcyclohexane	11.717	83	376819	27.24	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53779.D
Acq On : 3 Nov 2020 10:26 am
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 03 10:54:15 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

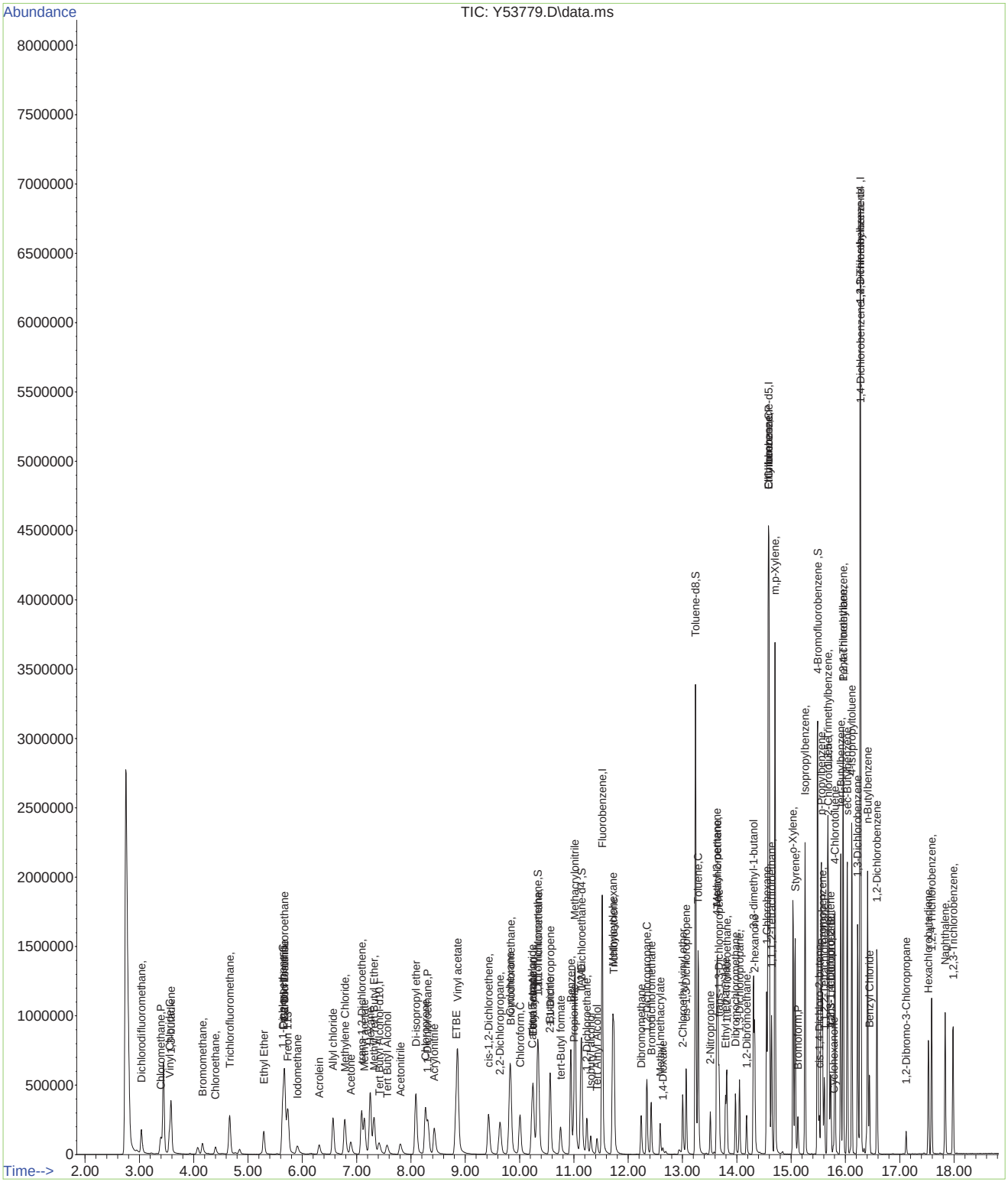
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.235	93	97124	24.20	ug/L		96
52) 1,2-Dichloropropane	12.344	63	176191	24.36	ug/L		98
53) Bromodichloromethane	12.423	83	206939	25.33	ug/L		100
54) Methyl methacrylate	12.587	41	99285	22.83	ug/L		97
55) 2-Chloroethyl vinyl ether	13.001	63	147161	75.10	ug/L		98
56) cis-1,3-Dichloropropene	13.068	75	265199	24.74	ug/L		99
59) Toluene	13.287	91	897680	23.24	ug/L		100
60) 2-Nitropropane	13.512	41	143757	109.57	ug/L		98
61) 4-Methyl-2-pentanone	13.628	43	578001	114.22	ug/L		99
62) trans-1,3-Dichloropropene	13.670	75	216834	24.56	ug/L		98
63) Tetrachloroethene	13.646	166	293168	24.26	ug/L		99
64) Ethyl methacrylate	13.792	69	151840	22.98	ug/L		97
65) 1,1,2-Trichloroethane	13.816	83	114486	22.39	ug/L		97
66) Dibromochloromethane	13.974	129	194960	23.91	ug/L		99
67) 1,3-Dichloropropane	14.047	76	237026	21.33	ug/L		97
68) 1,2-Dibromoethane	14.181	107	156998	22.43	ug/L		100
69) 2-hexanone	14.327	43	429018m	117.23	ug/L		
70) 1-Chlorohexane	14.552	91	314146	24.07	ug/L		95
71) Ethylbenzene	14.595	91	1003923	24.19	ug/L		100
72) Chlorobenzene	14.595	112	641151	22.58	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.638	131	226885	23.21	ug/L		99
74) m,p-Xylene	14.704	91	1585955	46.70	ug/L		99
75) o-Xylene	15.033	91	807039	23.64	ug/L		99
76) Styrene	15.076	104	632046	23.82	ug/L		98
77) Bromoform	15.124	173	99976	23.93	ug/L		98
78) Isopropylbenzene	15.258	105	1131989	24.23	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.520	53	42932	22.13	ug/L		94
82) n-Propylbenzene	15.556	91	1232237	23.12	ug/L		98
83) Bromobenzene	15.574	156	289147	22.40	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.611	83	161481	21.52	ug/L		98
85) 1,3,5-Trimethylbenzene	15.678	105	894887	23.84	ug/L		98
86) 2-Chlorotoluene	15.690	91	765421	22.55	ug/L		97
87) trans-1,4-Dichloro-2-B...	15.733	53	41437	20.61	ug/L	#	75
88) 1,2,3-Trichloropropane	15.726	110	60885	21.27	ug/L		97
89) Cyclohexanone	15.781	55	19724	108.00	ug/L		96
90) 4-Chlorotoluene	15.806	91	715763	22.68	ug/L		99
91) tert-Butylbenzene	15.915	91	468803	23.43	ug/L		96
92) 1,2,4-Trimethylbenzene	15.958	105	874203	23.10	ug/L		98
93) Pentachloroethane	15.964	167	144899	23.73	ug/L		89
94) sec-Butylbenzene	16.037	105	1145593	24.75	ug/L		97
95) 4-Isopropyltoluene	16.116	119	1070372	24.87	ug/L		100
96) 1,3-Dichlorobenzene	16.225	146	556394	23.02	ug/L		99
97) 1,2,3-Trimethylbenzene	16.268	105	822570	19.43	ug/L		99
98) 1,4-Dichlorobenzene	16.286	146	531158	22.11	ug/L		98
99) n-Butylbenzene	16.408	92	446309	25.61	ug/L		98
100) Benzyl Chloride	16.444	126	77667	22.19	ug/L		95
101) 1,2-Dichlorobenzene	16.578	146	504783	22.80	ug/L		98
102) 1,2-Dibromo-3-Chloropr...	17.120	75	23864	22.65	ug/L		96
103) Hexachlorobutadiene	17.527	225	110020	25.66	ug/L		97
104) 1,2,4-Trichlorobenzene	17.588	180	299095	24.33	ug/L		98
105) Naphthalene	17.837	128	689934	23.06	ug/L		100
106) 1,2,3-Trichlorobenzene	17.983	180	261639	23.99	ug/L		99
108) Ethanol	5.652	45	31774	494.63	ug/L		98
109) Tert Butyl Alcohol	7.562	59	112950	218.41	ug/L		98
110) Isobutyl alcohol	11.310	42	49077	461.91	ug/L		97
111) Tert Amyl Alcohol	11.425	59	64222	212.13	ug/L		92
112) 1,4-Dioxane	12.636	88	28454	467.97	ug/L		92
113) 3,3-dimethyl-1-butanol	14.309	57	539584	1199.83	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53779.D
Acq On : 3 Nov 2020 10:26 am
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 03 10:54:15 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



RESTEK103120w.M Tue Nov 03 10:54:30 2020 Page: 3

Manual Integration Approval Summary

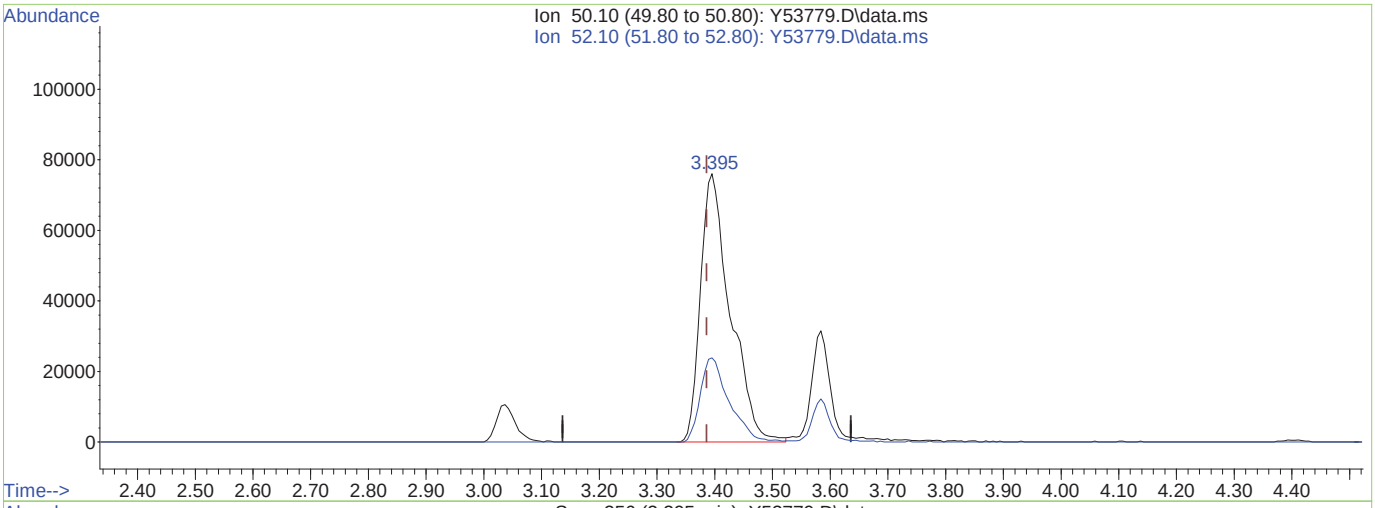
Sample Number: VY2232-BS
Lab FileID: Y53779.D
Injection Time: 11/03/20 10:26
Method: SW846 8260B
Analyst approved: 11/03/20 10:54 Chelsea VanDenBurg
Supervisor approved: 11/04/20 13:05 Melissa Mangual

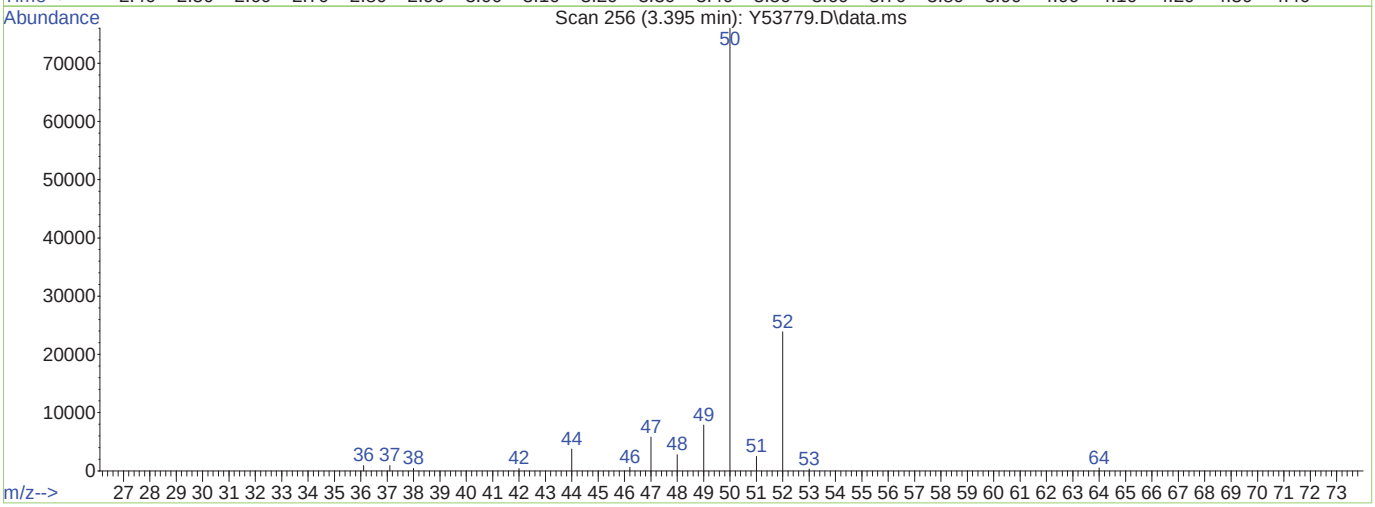
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.40	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53779.D
Acq On : 3 Nov 2020 10:26 am
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 03 10:53:58 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53779.D\data.ms

(4) Chloromethane (P)

3.395min (+0.009) 28.98ug/L

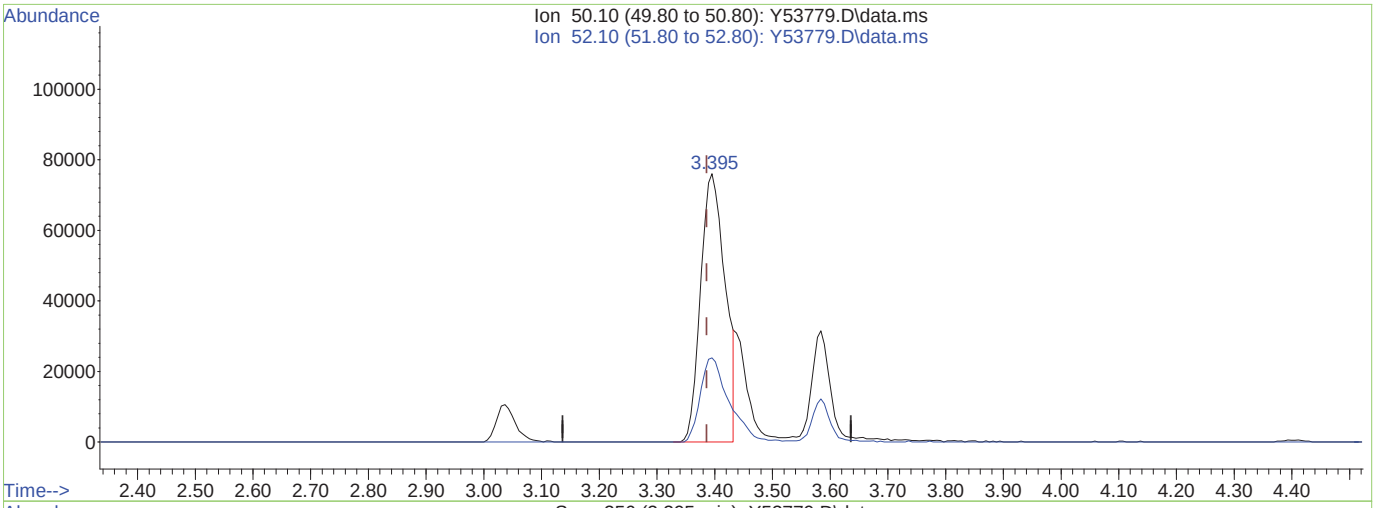
response 273092

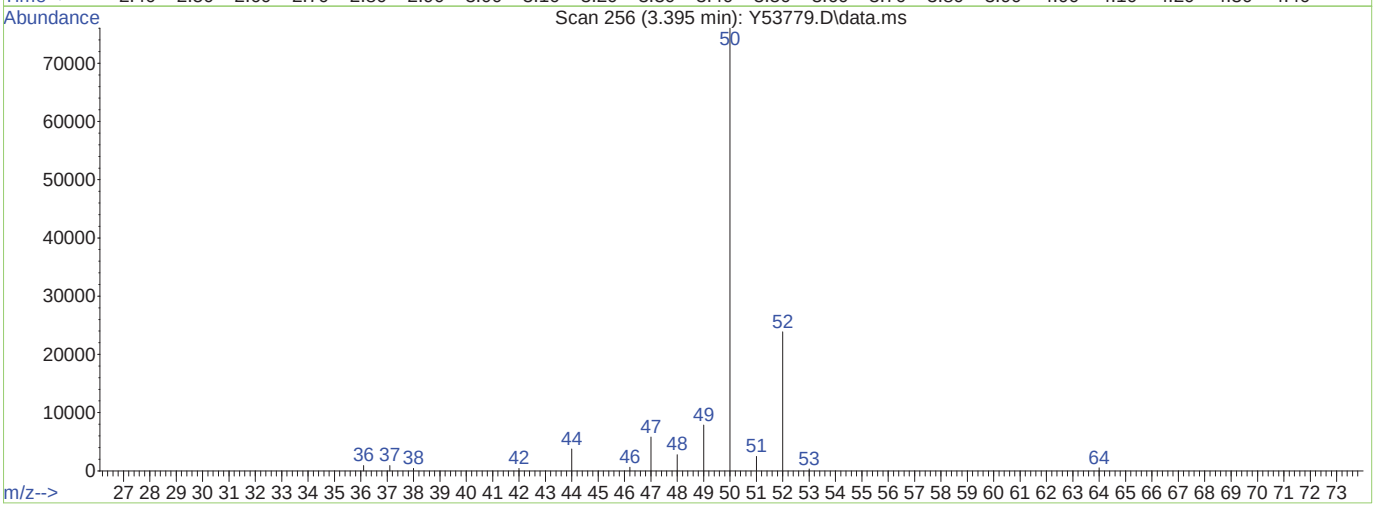
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53779.D
Acq On : 3 Nov 2020 10:26 am
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 03 10:53:58 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53779.D\data.ms

(4) Chloromethane (P)

3.395min (+0.009) 23.90ug/L m

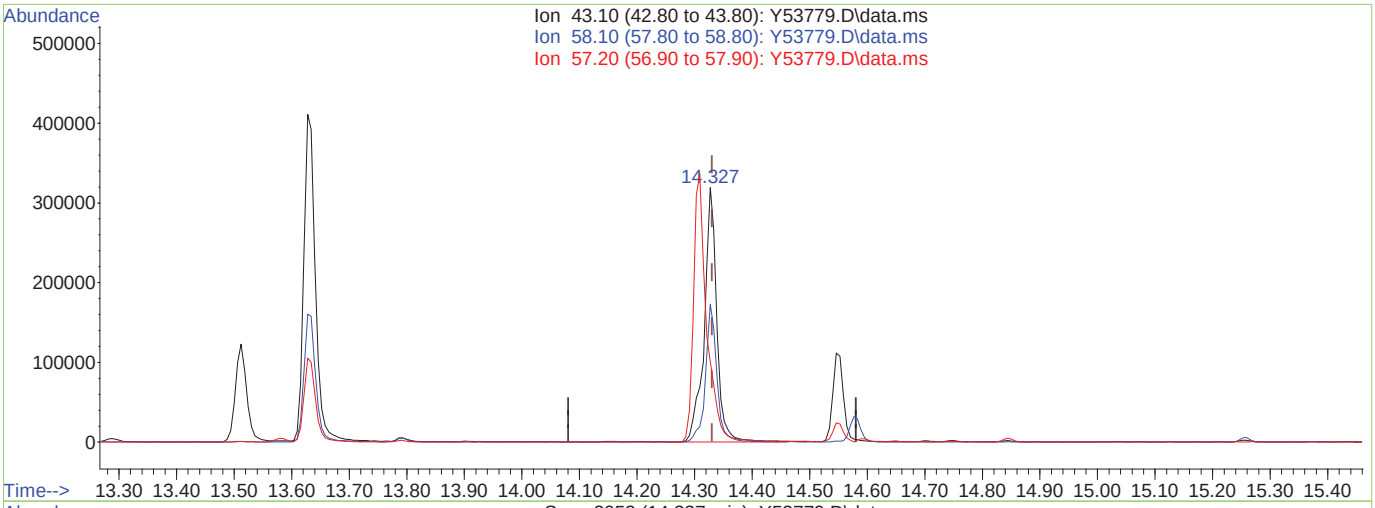
response 225226

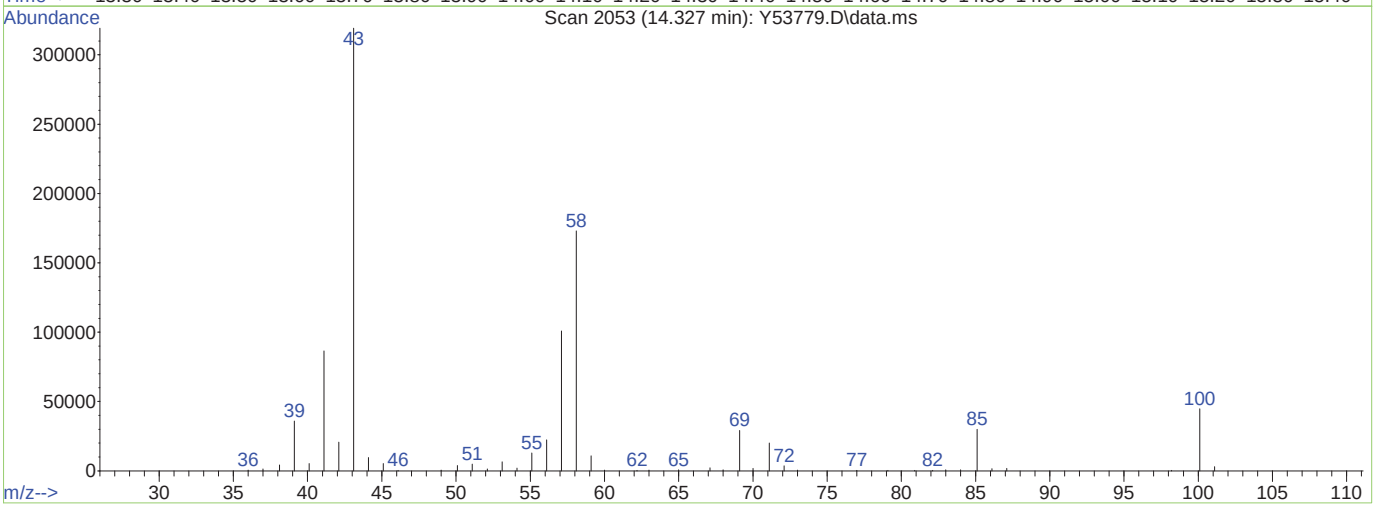
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53779.D
Acq On : 3 Nov 2020 10:26 am
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 03 10:53:58 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53779.D\data.ms

(69) 2-hexanone

14.327min (-0.003) 134.01ug/L

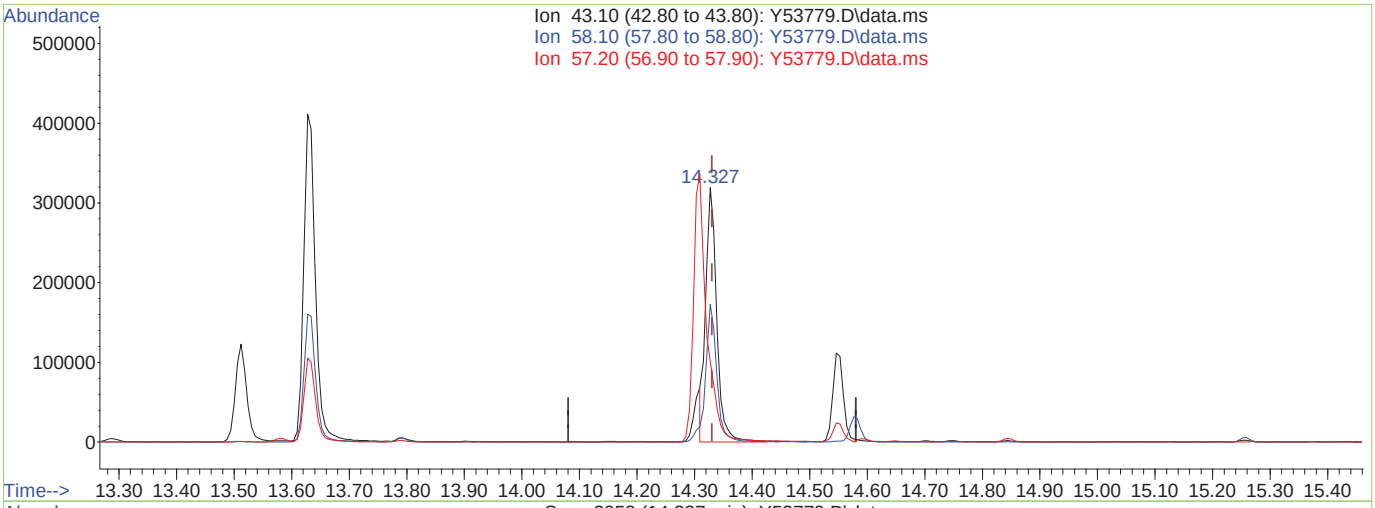
response 490428

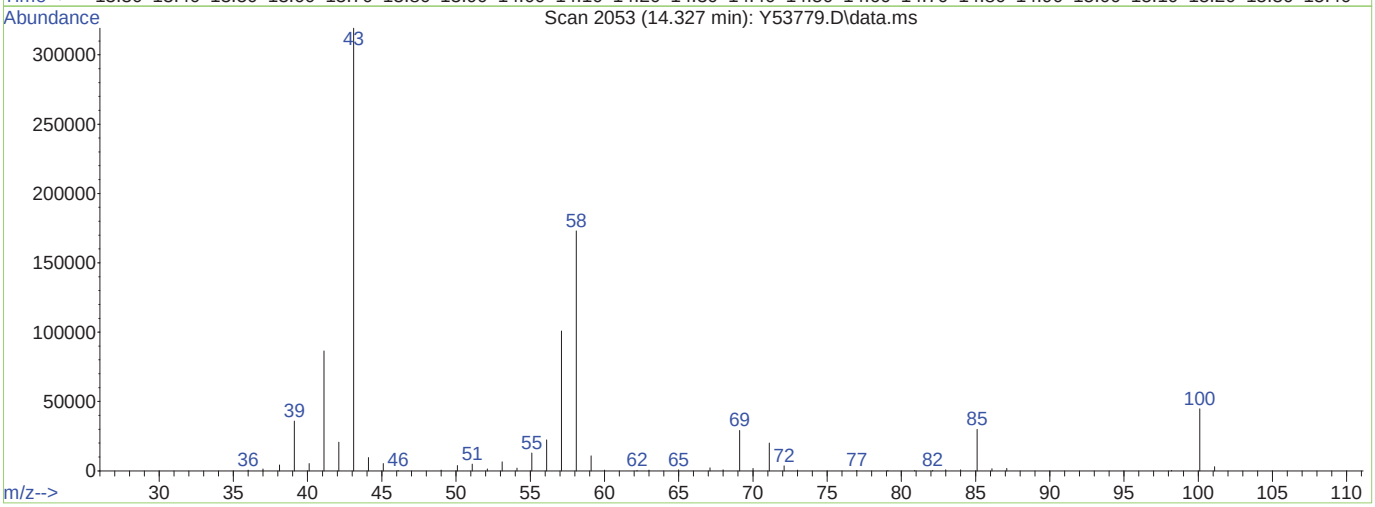
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	54.20
57.20	27.10	31.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53779.D
Acq On : 3 Nov 2020 10:26 am
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 03 10:53:58 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53779.D\data.ms

(69) 2-hexanone

14.327min (-0.003) 117.23ug/L m

response 429018

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	54.20
57.20	27.10	31.62
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
11/04/20 13:10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53801.D
Acq On : 3 Nov 2020 8:21 pm
Operator : chelseav
Sample : FA80030-3MS,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 02:42:28 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.519	96	1687799	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	1720459	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.277	152	986289	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.419	65	100513	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.333	113	448576	51.22	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.44%			
47) 1,2-Dichloroethane-d4	11.142	65	389273	49.91	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.82%			
58) Toluene-d8	13.241	98	1805537	47.58	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 95.16%			
80) 4-Bromofluorobenzene	15.486	174	724264	48.25	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.033	85	204163	23.58	ug/L	99
3) Acrolein	6.312	56	87791	83.40	ug/L	96
4) Chloromethane	3.392	50	218726m	24.77	ug/L	
5) 1,3-butadiene	3.580	39	174409	28.75	ug/L	95
6) Vinyl Chloride	3.550	62	210252	26.27	ug/L	99
7) Bromomethane	4.158	94	67491	19.83	ug/L	97
8) Chloroethane	4.396	64	59088	27.11	ug/L	98
9) Trichlorofluoromethane	4.663	101	325615	30.37	ug/L	99
10) Ethyl Ether	5.290	59	128615	23.70	ug/L	99
11) 1,2-Dichlorotrifluoroe...	5.673	67	208645	29.85	ug/L	97
12) 1,1-Dichloroethene	5.637	61	266789	27.99	ug/L	99
13) Freon 113	5.734	101	197804	21.94	ug/L	98
14) Carbon Disulfide	5.667	76	435212	24.62	ug/L	98
15) Iodomethane	5.904	142	127483	19.41	ug/L	98
16) Allyl chloride	6.567	41	249203	25.32	ug/L	98
17) Methylene Chloride	6.780	49	263333	26.53	ug/L	98
18) Acetone	6.890	43	165469	118.82	ug/L	99
19) Methyl acetate	7.145	43	445853	123.44	ug/L	98
20) trans-1,2-Dichloroethene	7.097	61	245132	27.03	ug/L	96
21) Hexane	7.249	56	144948	24.30	ug/L	99
22) Methyl Tert Butyl Ether	7.322	73	353912	24.86	ug/L	96
23) Acetonitrile	7.802	41	142238	234.62	ug/L	96
24) Di-isopropyl ether	8.094	45	541341	24.30	ug/L	98
25) Chloroprene	8.271	53	284751	29.28	ug/L	100
26) 1,1-Dichloroethane	8.313	63	308168	27.75	ug/L	98
27) Acrylonitrile	8.429	53	222710	124.62	ug/L	97
28) ETBE	8.837	59	430460	22.65	ug/L	99
29) Vinyl acetate	8.861	43	1379988	115.99	ug/L	99
30) cis-1,2-Dichloroethene	9.433	96	214179	26.31	ug/L	96
31) 2,2-Dichloropropane	9.640	77	198043	26.04	ug/L	99
32) Bromochloromethane	9.840	128	110526	24.29	ug/L	93
33) Cyclohexane	9.822	56	364936	27.40	ug/L	99
34) Chloroform	10.005	83	308610	26.44	ug/L	99
35) Ethyl acetate	10.254	43	554370	126.35	ug/L	100
36) Tetrahydrofuran	10.254	42	28448	22.87	ug/L	97
38) Carbon Tetrachloride	10.230	117	288717	28.90	ug/L	100
39) 1,1,1-Trichloroethane	10.357	97	319416	27.61	ug/L	96
40) 2-Butanone	10.552	43	241323	121.16	ug/L	99
41) 1,1-Dichloropropene	10.564	75	252073	26.53	ug/L	99
42) tert-Butyl formate	10.753	59	93106	99.87	ug/L	91
43) Propionitrile	10.996	54	155838	236.31	ug/L	89

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53801.D
Acq On : 3 Nov 2020 8:21 pm
Operator : chelseav
Sample : FA80030-3MS,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 02:42:28 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Methacrylonitrile	11.021	41	747077	246.80	ug/L		99
45)	Benzene	10.941	78	728220	25.88	ug/L		100
46)	TAME	11.124	73	353644	23.94	ug/L		96
48)	1,2-Dichloroethane	11.240	62	212489	24.60	ug/L		99
49)	Trichloroethene	11.738	95	239395	29.62	ug/L		99
50)	Methylcyclohexane	11.714	83	351543	27.12	ug/L		97
51)	Dibromomethane	12.237	93	95673	25.44	ug/L		98
52)	1,2-Dichloropropane	12.347	63	171229	25.26	ug/L		99
53)	Bromodichloromethane	12.420	83	202051	26.39	ug/L		100
54)	Methyl methacrylate	12.590	41	99502	24.32	ug/L		94
55)	2-Chloroethyl vinyl ether	13.010	63	7035	4.11	ug/L		90
56)	cis-1,3-Dichloropropene	13.071	75	238027	23.70	ug/L		99
59)	Toluene	13.290	91	881124	24.02	ug/L		98
60)	2-Nitropropane	13.509	41	140294	112.41	ug/L		93
61)	4-Methyl-2-pentanone	13.630	43	586045	121.96	ug/L		99
62)	trans-1,3-Dichloropropene	13.673	75	205316	24.50	ug/L		96
63)	Tetrachloroethene	13.649	166	287893	25.08	ug/L		98
64)	Ethyl methacrylate	13.795	69	146139	23.28	ug/L		96
65)	1,1,2-Trichloroethane	13.813	83	116438	23.98	ug/L		98
66)	Dibromochloromethane	13.977	129	191103	24.68	ug/L		99
67)	1,3-Dichloropropane	14.050	76	236311	22.40	ug/L		99
68)	1,2-Dibromoethane	14.178	107	155049	23.32	ug/L		98
69)	2-hexanone	14.330	43	410785m	118.21	ug/L		
70)	1-Chlorohexane	14.549	91	297791	24.03	ug/L		97
71)	Ethylbenzene	14.598	91	987774	25.07	ug/L		99
72)	Chlorobenzene	14.592	112	636945	23.62	ug/L		99
73)	1,1,1,2-Tetrachloroethane	14.640	131	228064	24.57	ug/L		99
74)	m,p-Xylene	14.701	91	1547835	47.99	ug/L		100
75)	o-Xylene	15.036	91	778711	24.02	ug/L		99
76)	Styrene	15.072	104	619868	24.60	ug/L		99
77)	Bromoform	15.127	173	97983	24.64	ug/L		99
78)	Isopropylbenzene	15.255	105	1095942	24.70	ug/L		100
81)	cis-1,4-Dichloro-2-butene	15.522	53	38194	20.82	ug/L		91
82)	n-Propylbenzene	15.553	91	1191252	23.51	ug/L		99
83)	Bromobenzene	15.577	156	283493	23.10	ug/L		100
84)	1,1,2,2-Tetrachloroethane	15.614	83	164882	23.12	ug/L		99
85)	1,3,5-Trimethylbenzene	15.674	105	855407	23.97	ug/L		100
86)	2-Chlorotoluene	15.693	91	741396	22.97	ug/L		100
87)	trans-1,4-Dichloro-2-B...	15.735	53	42147	21.97	ug/L		93
88)	1,2,3-Trichloropropane	15.723	110	60973	22.40	ug/L		97
89)	Cyclohexanone	15.778	55	13792	79.43	ug/L		99
90)	4-Chlorotoluene	15.808	91	687349	22.91	ug/L		99
91)	tert-Butylbenzene	15.912	91	445143	23.40	ug/L		99
92)	1,2,4-Trimethylbenzene	15.954	105	841032	23.37	ug/L		99
93)	Pentachloroethane	15.960	167	141831	24.43	ug/L		93
94)	sec-Butylbenzene	16.033	105	1074999	24.42	ug/L		99
95)	4-Isopropyltoluene	16.118	119	1004170	24.54	ug/L		100
96)	1,3-Dichlorobenzene	16.228	146	528800	23.01	ug/L		100
97)	1,2,3-Trimethylbenzene	16.271	105	795079	19.76	ug/L		99
98)	1,4-Dichlorobenzene	16.283	146	510915	22.37	ug/L		99
99)	n-Butylbenzene	16.410	92	396862	23.95	ug/L		99
100)	Benzyl Chloride	16.441	126	63052	19.22	ug/L	#	92
101)	1,2-Dichlorobenzene	16.581	146	478414	22.73	ug/L		99
102)	1,2-Dibromo-3-Chloropr...	17.116	75	22568	22.54	ug/L		91
103)	Hexachlorobutadiene	17.530	225	88312	21.66	ug/L		99
104)	1,2,4-Trichlorobenzene	17.585	180	258630	22.13	ug/L		98
105)	Naphthalene	17.834	128	630394	22.16	ug/L		100
106)	1,2,3-Trichlorobenzene	17.980	180	227257	21.92	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53801.D
Acq On : 3 Nov 2020 8:21 pm
Operator : chelseav
Sample : FA80030-3MS,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 02:42:28 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

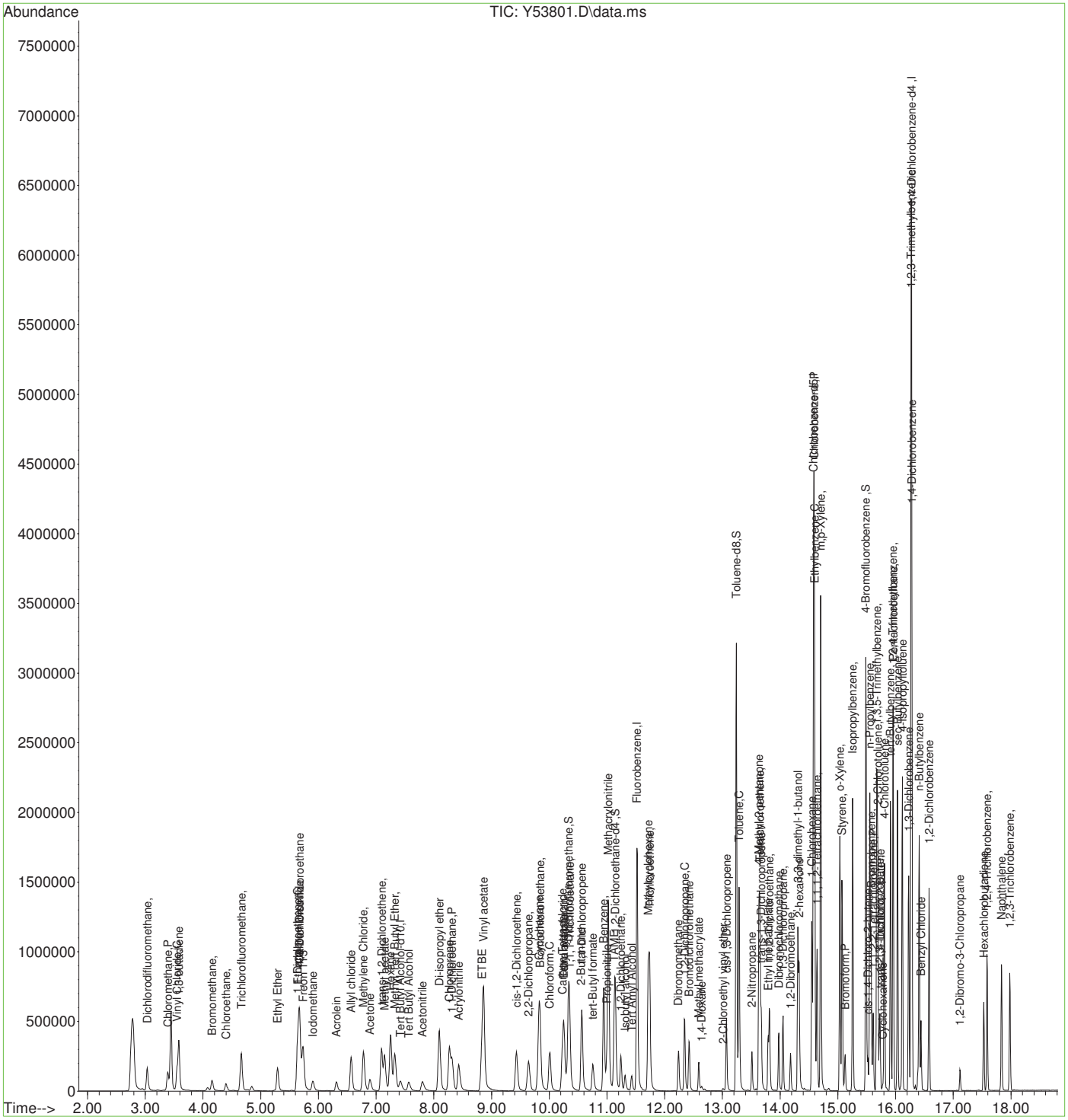
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.643	45	23161	442.88	ug/L	94
109) Tert Butyl Alcohol	7.565	59	100775	239.36	ug/L	96
110) Isobutyl alcohol	11.313	42	40879	472.61	ug/L	95
111) Tert Amyl Alcohol	11.428	59	56667	229.91	ug/L	84
112) 1,4-Dioxane	12.639	88	19529	394.53	ug/L	97
113) 3,3-dimethyl-1-butanol	14.306	57	493042	1346.69	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53801.D
Acq On : 3 Nov 2020 8:21 pm
Operator : chelseav
Sample : FA80030-3MS,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 02:42:28 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



RESTEK103120w.M Wed Nov 04 02:49:09 2020 Page: 4

Manual Integration Approval Summary

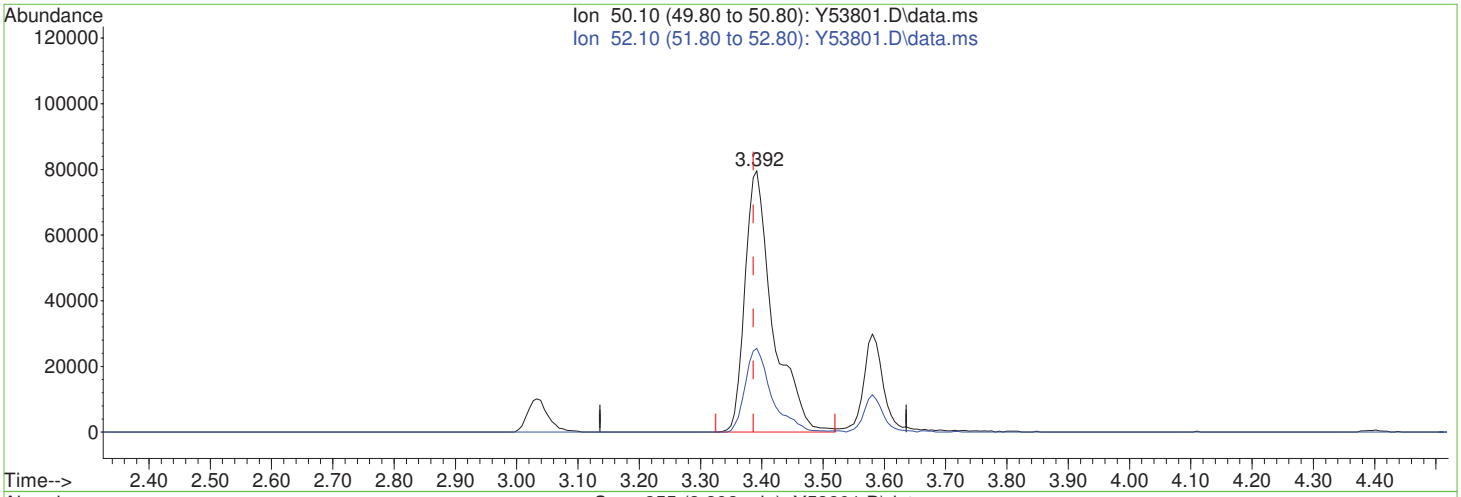
Sample Number: FA80030-3MS
Lab FileID: Y53801.D
Injection Time: 11/03/20 20:21
Method: SW846 8260B
Analyst approved: 11/04/20 03:06 John Matthew de Guzman
Supervisor approved: 11/04/20 13:10 Melissa Mangual

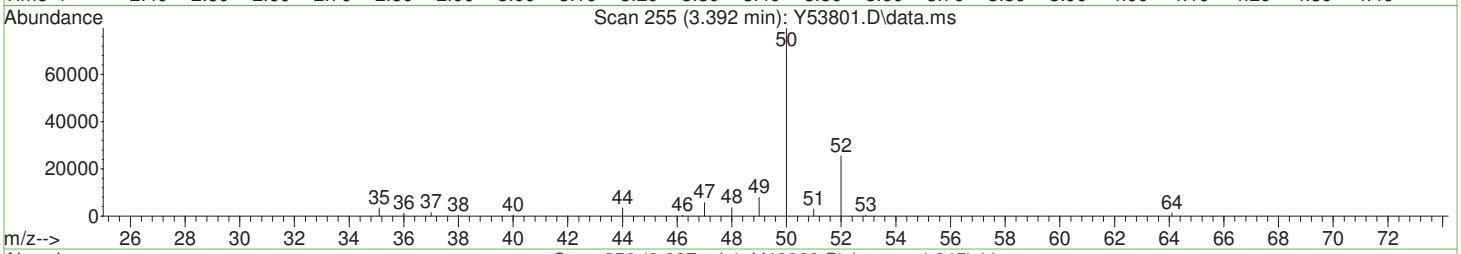
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

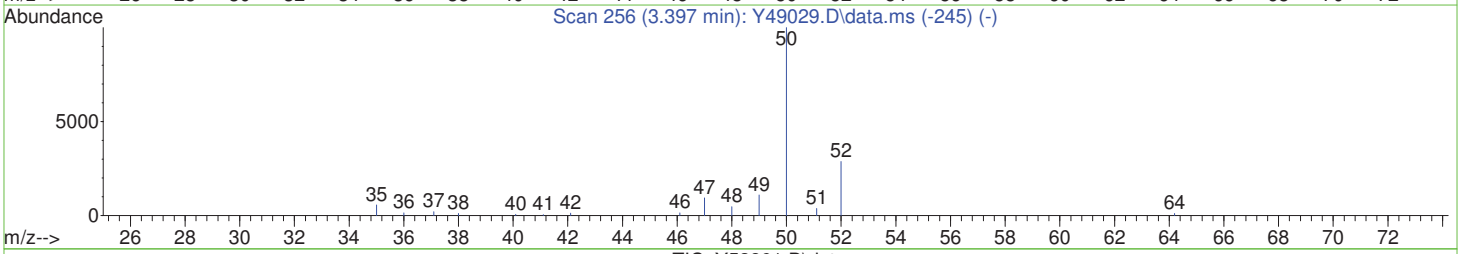
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53801.D
Acq On : 3 Nov 2020 8:21 pm
Operator : chelseav
Sample : FA80030-3MS,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 02:20:32 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y53801.D\data.ms

(4) Chloromethane (P)

3.392min (+0.006) 28.58ug/L

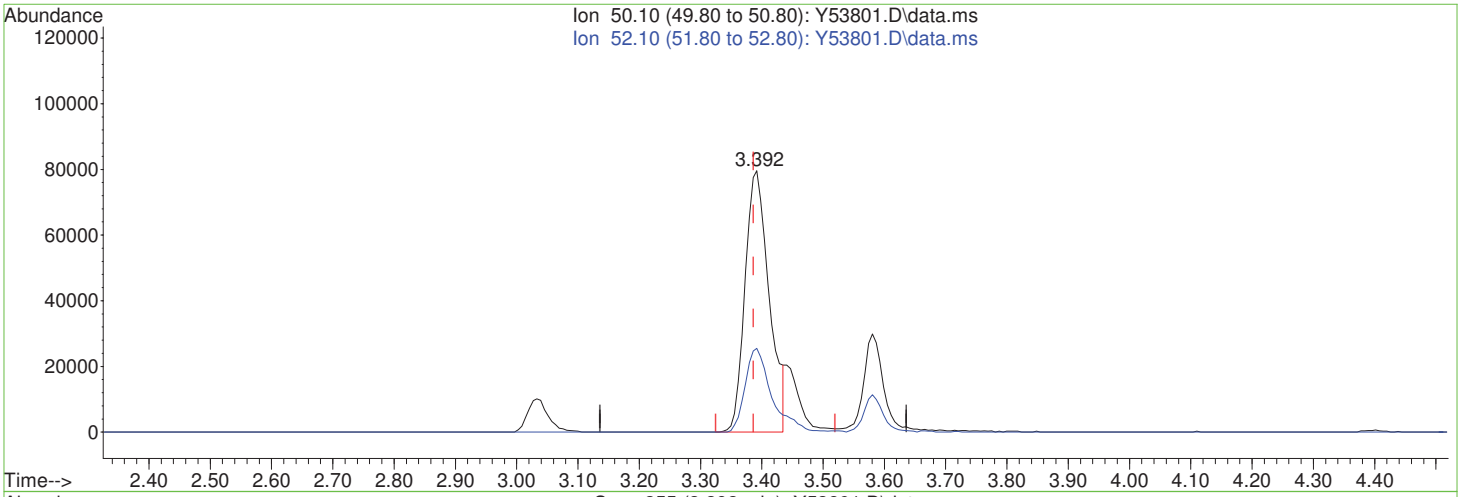
response 252315

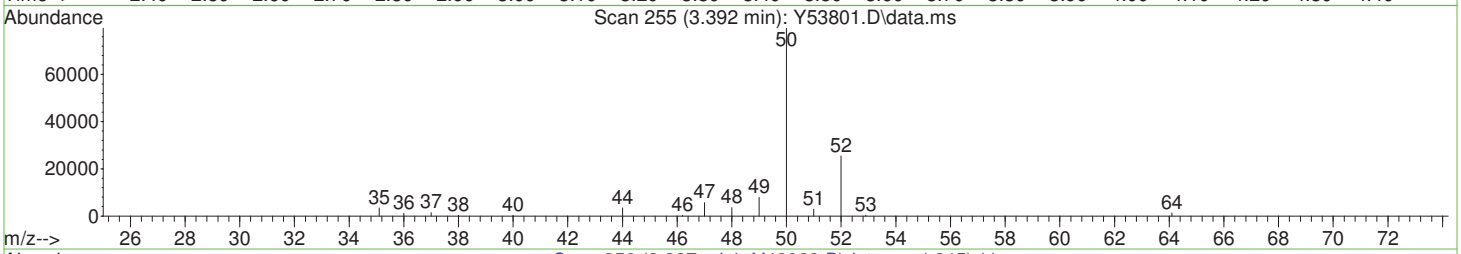
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	32.00
0.00	0.00	0.00
0.00	0.00	0.00

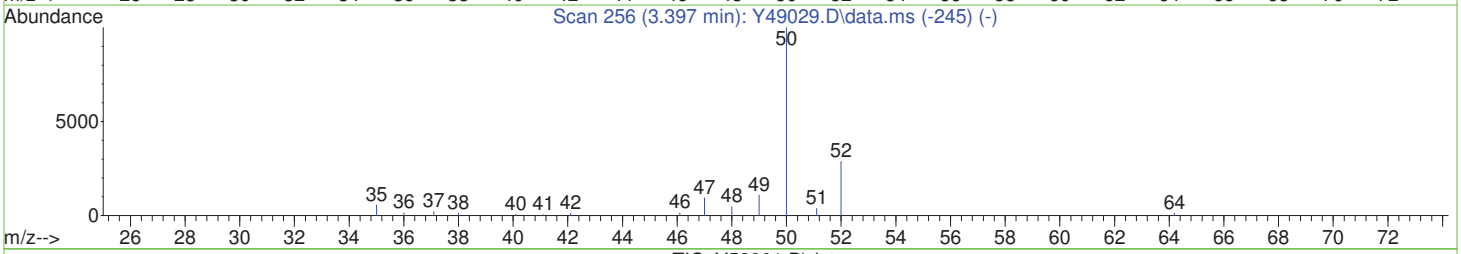
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53801.D
Acq On : 3 Nov 2020 8:21 pm
Operator : chelseav
Sample : FA80030-3MS,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 02:20:32 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y53801.D\data.ms

(4) Chloromethane (P)

3.392min (+0.006) 24.77ug/L m

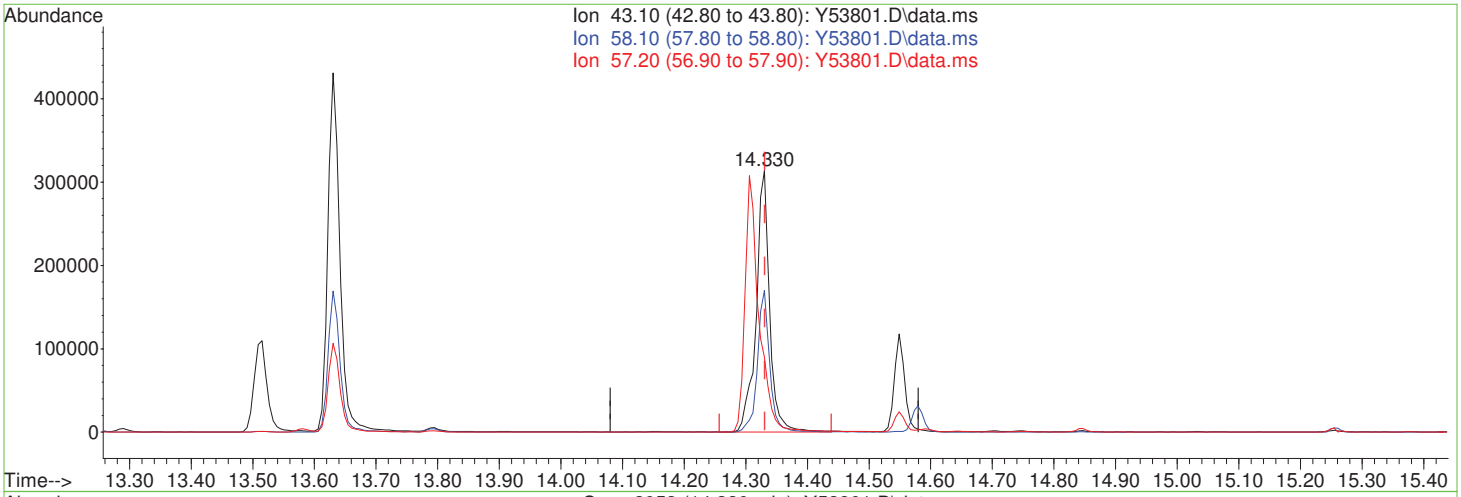
response 218726

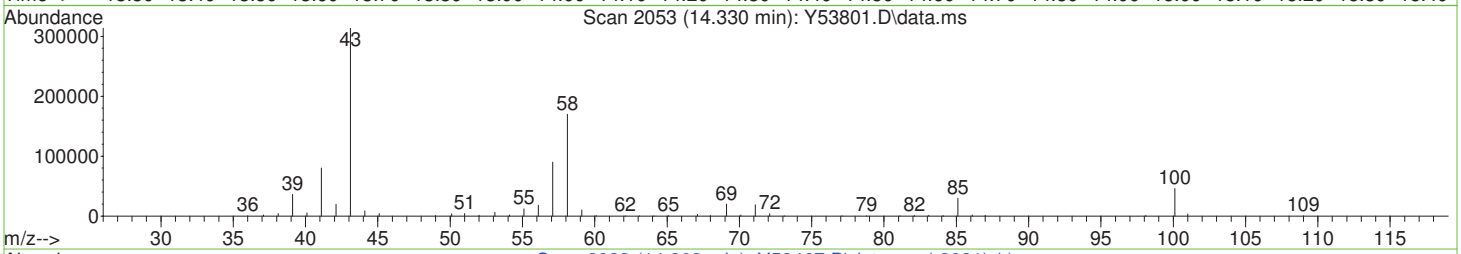
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	32.00
0.00	0.00	0.00
0.00	0.00	0.00

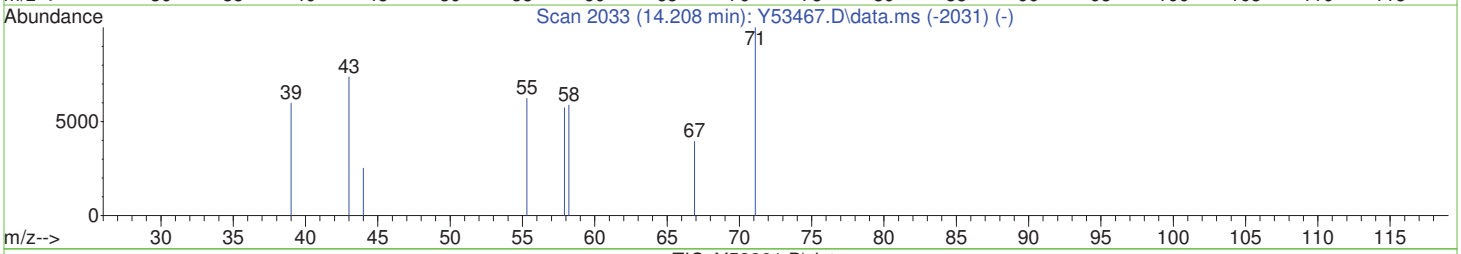
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53801.D
Acq On : 3 Nov 2020 8:21 pm
Operator : chelseav
Sample : FA80030-3MS,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 02:20:32 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y53801.D\data.ms

(69) 2-hexanone

14.330min (-0.000) 138.50ug/L

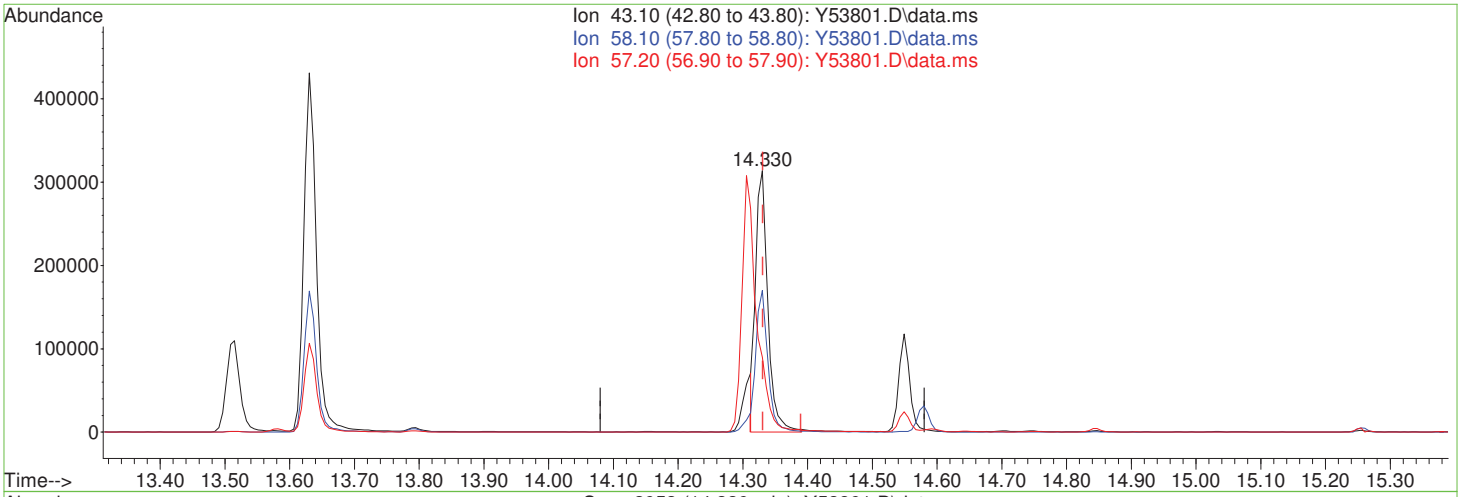
response 481323

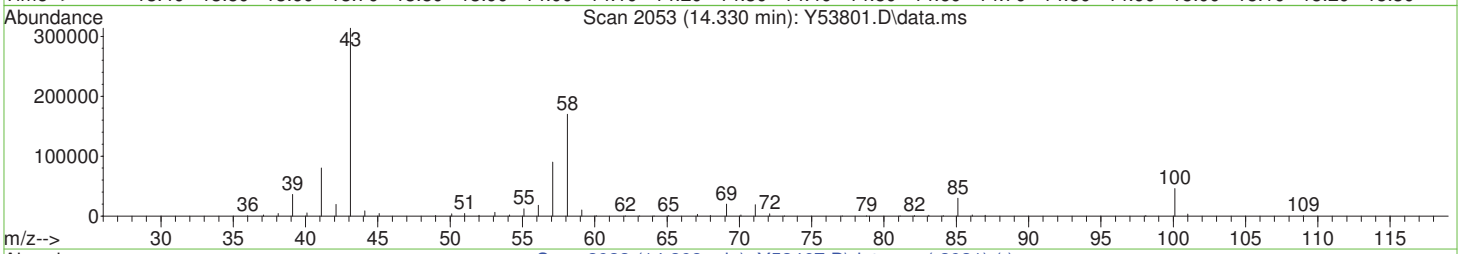
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	54.13
57.20	27.10	28.68
0.00	0.00	0.00

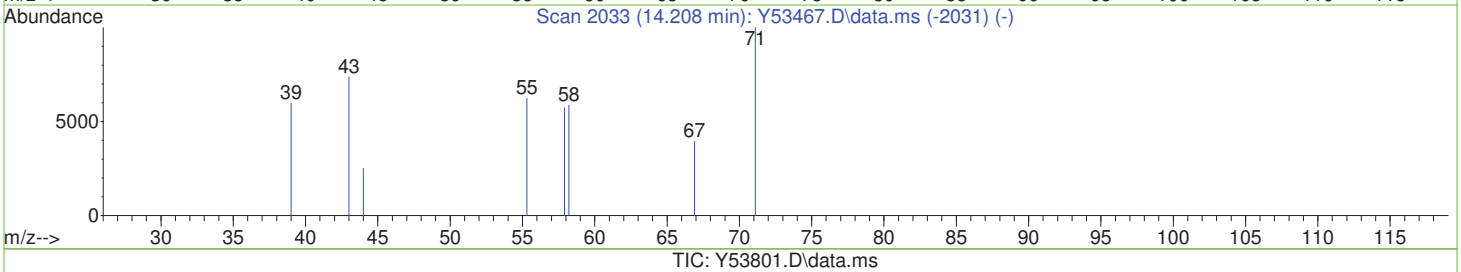
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53801.D
Acq On : 3 Nov 2020 8:21 pm
Operator : chelseav
Sample : FA80030-3MS,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 04 02:20:32 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y53801.D\data.ms

(69) 2-hexanone

14.330min (-0.000) 118.21ug/L m

response 410785

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	54.13
57.20	27.10	28.68
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/04/20 13:10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53802.D
Acq On : 3 Nov 2020 8:48 pm
Operator : chelseav
Sample : FA80030-3MSD,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 02:47:37 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.522	96	1684164	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.582	117	1721118	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	992078	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.422	65	118668	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	446299	51.07	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.14%			
47) 1,2-Dichloroethane-d4	11.145	65	394314	50.66	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 101.32%			
58) Toluene-d8	13.244	98	1823655	48.04	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.08%			
80) 4-Bromofluorobenzene	15.489	174	723557	47.92	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.030	85	201136	23.28	ug/L	100
3) Acrolein	6.309	56	89052	84.78	ug/L	96
4) Chloromethane	3.389	50	211228m	23.98	ug/L	
5) 1,3-butadiene	3.577	39	182387	30.13	ug/L	98
6) Vinyl Chloride	3.547	62	211654	26.50	ug/L	99
7) Bromomethane	4.155	94	76501	22.52	ug/L	98
8) Chloroethane	4.398	64	55854	25.62	ug/L	96
9) Trichlorofluoromethane	4.660	101	321087	30.02	ug/L	98
10) Ethyl Ether	5.293	59	131750	24.33	ug/L	96
11) 1,2-Dichlorotrifluoroe...	5.676	67	197606	28.33	ug/L	97
12) 1,1-Dichloroethene	5.639	61	262244	27.57	ug/L	97
13) Freon 113	5.737	101	191781	21.32	ug/L	98
14) Carbon Disulfide	5.670	76	422608	23.96	ug/L	96
15) Iodomethane	5.901	142	156061	23.18	ug/L	99
16) Allyl chloride	6.564	41	250700	25.53	ug/L	100
17) Methylene Chloride	6.777	49	260012	26.24	ug/L	99
18) Acetone	6.893	43	166006	119.46	ug/L	93
19) Methyl acetate	7.148	43	443635	123.09	ug/L	99
20) trans-1,2-Dichloroethene	7.093	61	243417	26.90	ug/L	95
21) Hexane	7.252	56	142651	23.96	ug/L	98
22) Methyl Tert Butyl Ether	7.325	73	361294	25.44	ug/L	96
23) Acetonitrile	7.805	41	146669	242.31	ug/L	96
24) Di-isopropyl ether	8.091	45	551480	24.81	ug/L	99
25) Chloroprene	8.267	53	284661	29.34	ug/L	98
26) 1,1-Dichloroethane	8.316	63	304225	27.45	ug/L	98
27) Acrylonitrile	8.432	53	232795	130.54	ug/L	96
28) ETBE	8.833	59	441584	23.28	ug/L	100
29) Vinyl acetate	8.864	43	1388501	116.95	ug/L	100
30) cis-1,2-Dichloroethene	9.429	96	210935	25.97	ug/L	99
31) 2,2-Dichloropropane	9.642	77	198074	26.10	ug/L	98
32) Bromochloromethane	9.837	128	111222	24.50	ug/L	97
33) Cyclohexane	9.825	56	360103	27.09	ug/L	99
34) Chloroform	10.007	83	303875	26.09	ug/L	99
35) Ethyl acetate	10.257	43	561369	128.22	ug/L	100
36) Tetrahydrofuran	10.257	42	30693	24.73	ug/L	97
38) Carbon Tetrachloride	10.232	117	284778	28.57	ug/L	97
39) 1,1,1-Trichloroethane	10.354	97	314992	27.29	ug/L	98
40) 2-Butanone	10.555	43	247014	124.23	ug/L	98
41) 1,1-Dichloropropene	10.567	75	249363	26.31	ug/L	99
42) tert-Butyl formate	10.756	59	96339	102.24	ug/L	94
43) Propionitrile	10.993	54	162778	247.36	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53802.D
Acq On : 3 Nov 2020 8:48 pm
Operator : chelseav
Sample : FA80030-3MSD,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 02:47:37 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Methacrylonitrile	11.023	41	755911	250.26	ug/L		99
45)	Benzene	10.944	78	712806	25.39	ug/L		99
46)	TAME	11.127	73	355316	24.10	ug/L		98
48)	1,2-Dichloroethane	11.242	62	211191	24.51	ug/L		99
49)	Trichloroethene	11.741	95	237219	29.41	ug/L		99
50)	Methylcyclohexane	11.717	83	349969	27.06	ug/L		99
51)	Dibromomethane	12.240	93	95448	25.44	ug/L		98
52)	1,2-Dichloropropane	12.343	63	169013	24.99	ug/L		99
53)	Bromodichloromethane	12.422	83	202191	26.47	ug/L		99
54)	Methyl methacrylate	12.587	41	99053	24.27	ug/L		98
55)	2-Chloroethyl vinyl ether	13.006	63	4707	2.76	ug/L		95
56)	cis-1,3-Dichloropropene	13.067	75	241635	24.11	ug/L		98
59)	Toluene	13.286	91	870475	23.72	ug/L		99
60)	2-Nitropropane	13.511	41	143340	114.66	ug/L		98
61)	4-Methyl-2-pentanone	13.633	43	589725	122.67	ug/L		99
62)	trans-1,3-Dichloropropene	13.676	75	207105	24.69	ug/L		95
63)	Tetrachloroethene	13.651	166	281022	24.48	ug/L		97
64)	Ethyl methacrylate	13.791	69	147585	23.48	ug/L		97
65)	1,1,2-Trichloroethane	13.816	83	113951	23.46	ug/L		96
66)	Dibromochloromethane	13.974	129	194069	25.05	ug/L		99
67)	1,3-Dichloropropane	14.053	76	238054	22.55	ug/L		99
68)	1,2-Dibromoethane	14.181	107	154667	23.26	ug/L		97
69)	2-hexanone	14.327	43	396401m	114.02	ug/L		
70)	1-Chlorohexane	14.552	91	294158	23.72	ug/L		98
71)	Ethylbenzene	14.594	91	974703	24.72	ug/L		99
72)	Chlorobenzene	14.594	112	630177	23.36	ug/L		99
73)	1,1,1,2-Tetrachloroethane	14.643	131	226268	24.37	ug/L		100
74)	m,p-Xylene	14.704	91	1527878	47.36	ug/L		99
75)	o-Xylene	15.032	91	775395	23.91	ug/L		99
76)	Styrene	15.075	104	618087	24.52	ug/L		99
77)	Bromoform	15.124	173	98568	24.77	ug/L		98
78)	Isopropylbenzene	15.257	105	1088311	24.52	ug/L		99
81)	cis-1,4-Dichloro-2-butene	15.519	53	40527	21.86	ug/L		94
82)	n-Propylbenzene	15.555	91	1183495	23.22	ug/L		99
83)	Bromobenzene	15.580	156	283565	22.97	ug/L		99
84)	1,1,2,2-Tetrachloroethane	15.610	83	162653	22.67	ug/L		98
85)	1,3,5-Trimethylbenzene	15.677	105	859266	23.94	ug/L		97
86)	2-Chlorotoluene	15.689	91	737350	22.71	ug/L		97
87)	trans-1,4-Dichloro-2-B...	15.732	53	41173	21.37	ug/L	#	55
88)	1,2,3-Trichloropropane	15.726	110	60098	21.95	ug/L		97
89)	Cyclohexanone	15.781	55	17439	99.85	ug/L		99
90)	4-Chlorotoluene	15.805	91	690246	22.87	ug/L		97
91)	tert-Butylbenzene	15.914	91	448362	23.43	ug/L		96
92)	1,2,4-Trimethylbenzene	15.957	105	837683	23.14	ug/L		97
93)	Pentachloroethane	15.963	167	143623	24.59	ug/L		95
94)	sec-Butylbenzene	16.036	105	1084041	24.49	ug/L		98
95)	4-Isopropyltoluene	16.115	119	1017164	24.71	ug/L		99
96)	1,3-Dichlorobenzene	16.225	146	537177	23.24	ug/L		98
97)	1,2,3-Trimethylbenzene	16.267	105	794470	19.63	ug/L		99
98)	1,4-Dichlorobenzene	16.285	146	518487	22.57	ug/L		99
99)	n-Butylbenzene	16.407	92	410925	24.65	ug/L		97
100)	Benzyl Chloride	16.444	126	64879	19.62	ug/L		96
101)	1,2-Dichlorobenzene	16.584	146	488130	23.05	ug/L		99
102)	1,2-Dibromo-3-Chloropr...	17.119	75	23407	23.19	ug/L		84
103)	Hexachlorobutadiene	17.526	225	94787	23.11	ug/L		92
104)	1,2,4-Trichlorobenzene	17.587	180	267717	22.77	ug/L		99
105)	Naphthalene	17.837	128	653006	22.82	ug/L		99
106)	1,2,3-Trichlorobenzene	17.983	180	240852	23.10	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53802.D
Acq On : 3 Nov 2020 8:48 pm
Operator : chelseav
Sample : FA80030-3MSD,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 02:47:37 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

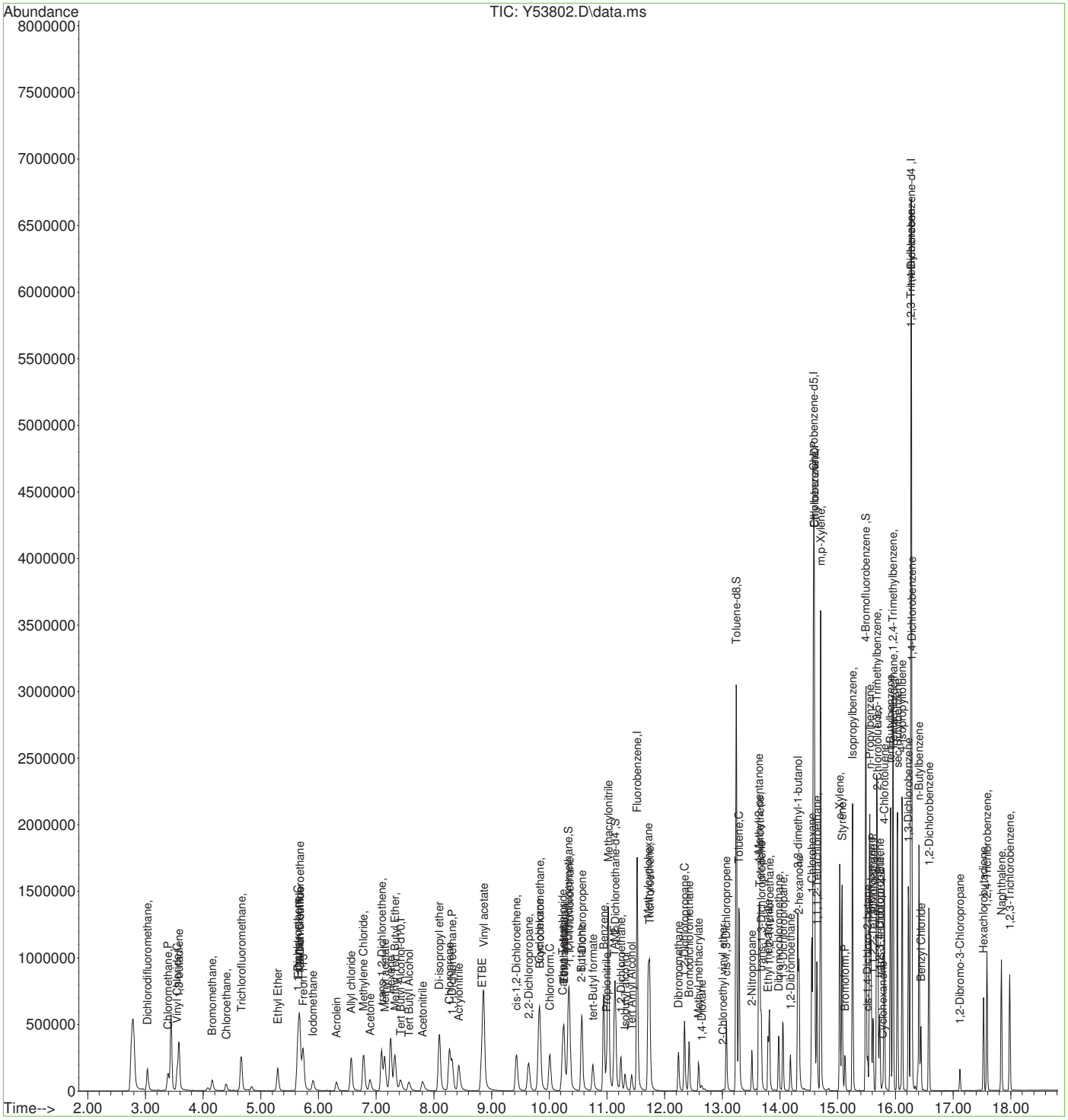
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.652	45	26352	426.81	ug/L	96
109) Tert Butyl Alcohol	7.568	59	110392	222.09	ug/L	97
110) Isobutyl alcohol	11.315	42	48015	470.18	ug/L	95
111) Tert Amyl Alcohol	11.425	59	65959	226.67	ug/L	93
112) 1,4-Dioxane	12.641	88	25791	441.32	ug/L	96
113) 3,3-dimethyl-1-butanol	14.308	57	544037	1258.64	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53802.D
Acq On : 3 Nov 2020 8:48 pm
Operator : chelseav
Sample : FA80030-3MSD,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 02:47:37 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



RESTEK103120w.M Wed Nov 04 02:49:13 2020 Page: 4

Manual Integration Approval Summary

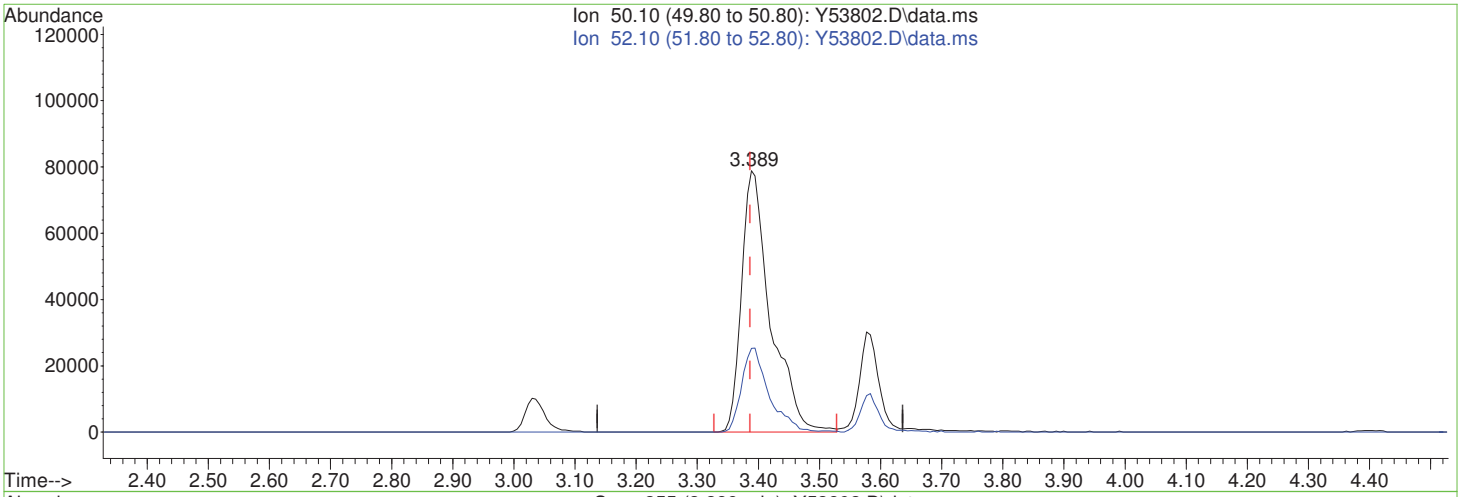
Sample Number: FA80030-3MSD
Lab FileID: Y53802.D
Injection Time: 11/03/20 20:48
Method: SW846 8260B
Analyst approved: 11/04/20 03:06 John Matthew de Guzman
Supervisor approved: 11/04/20 13:10 Melissa Mangual

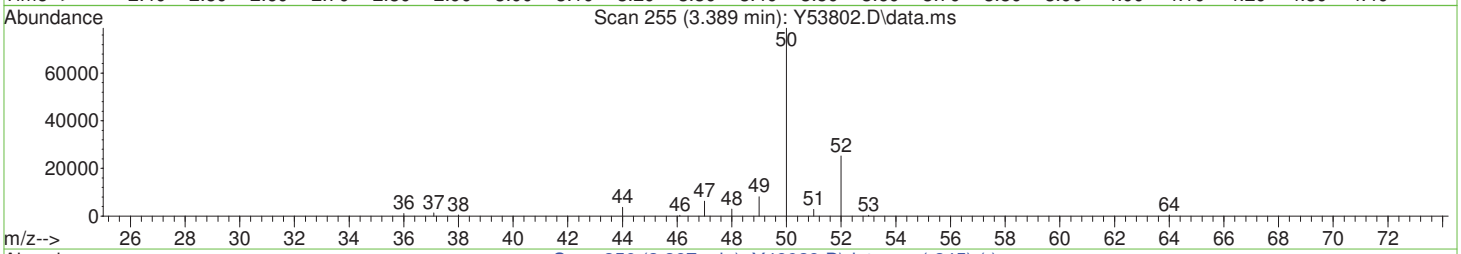
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

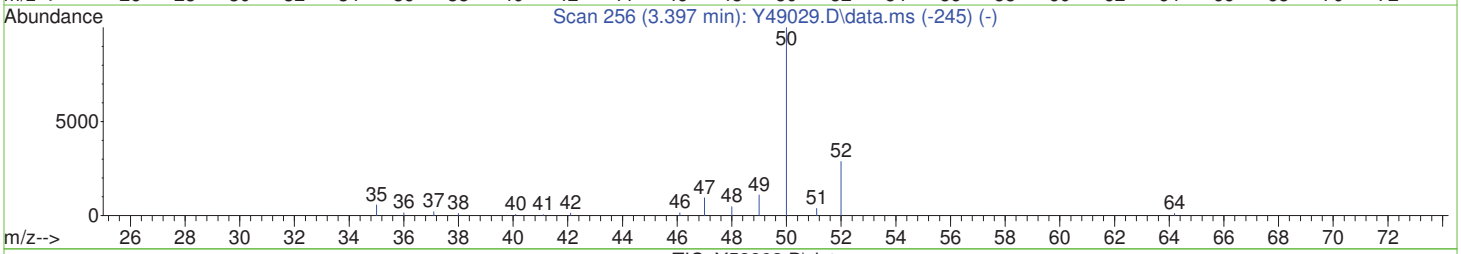
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53802.D
Acq On : 3 Nov 2020 8:48 pm
Operator : chelseav
Sample : FA80030-3MSD,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 02:20:35 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y53802.D\data.ms

(4) Chloromethane (P)

3.389min (+0.002) 29.49ug/L

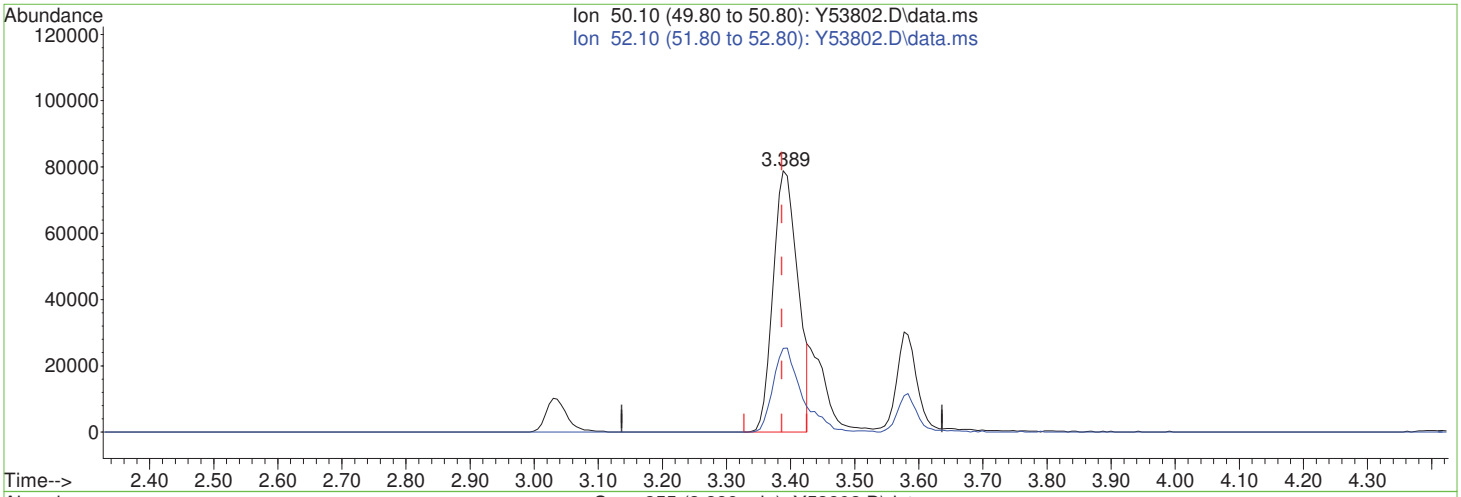
response 259800

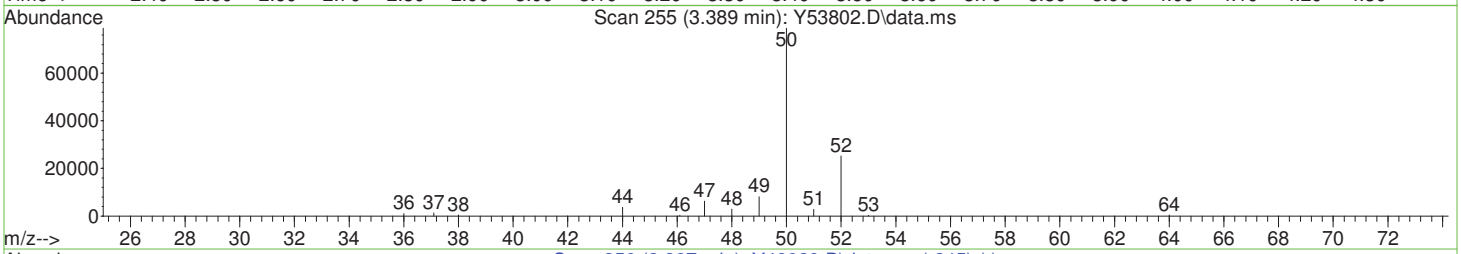
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.99
0.00	0.00	0.00
0.00	0.00	0.00

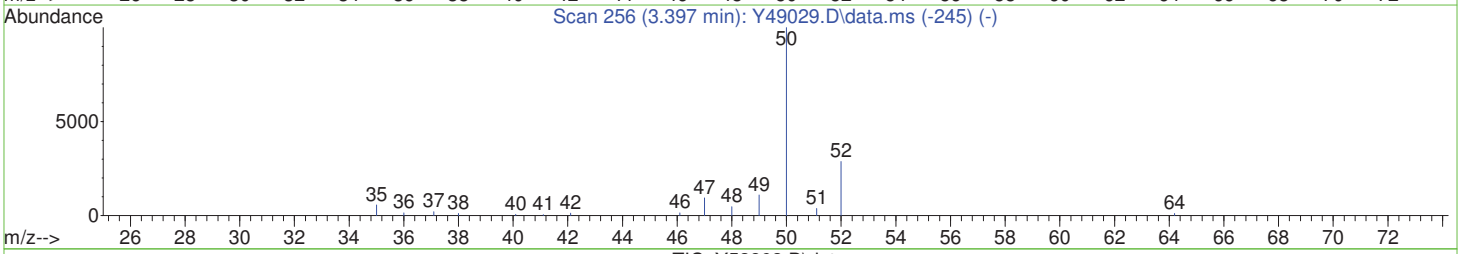
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53802.D
Acq On : 3 Nov 2020 8:48 pm
Operator : chelseav
Sample : FA80030-3MSD,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 02:20:35 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y53802.D\data.ms

(4) Chloromethane (P)

3.389min (+0.002) 23.98ug/L m

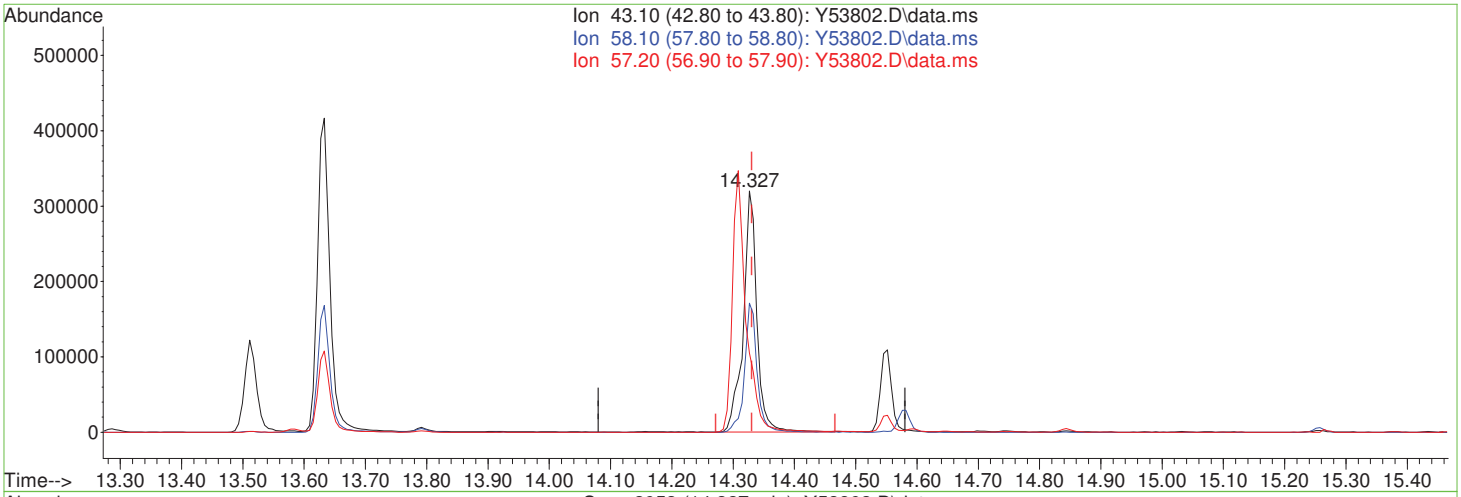
response 211228

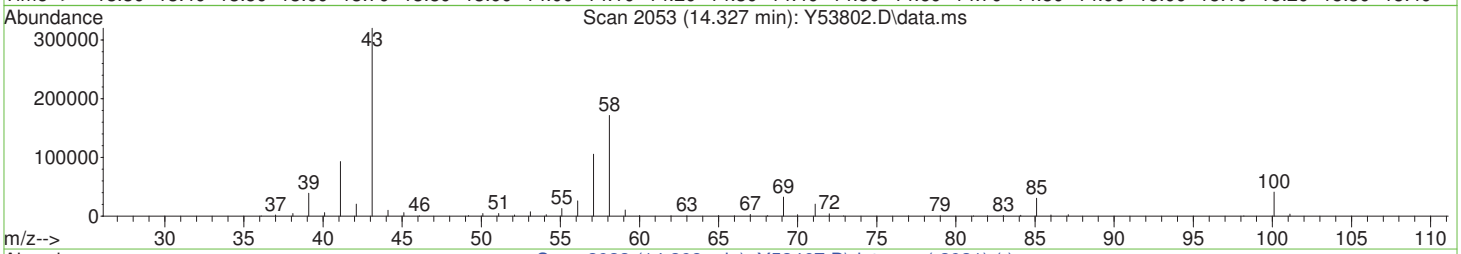
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.99
0.00	0.00	0.00
0.00	0.00	0.00

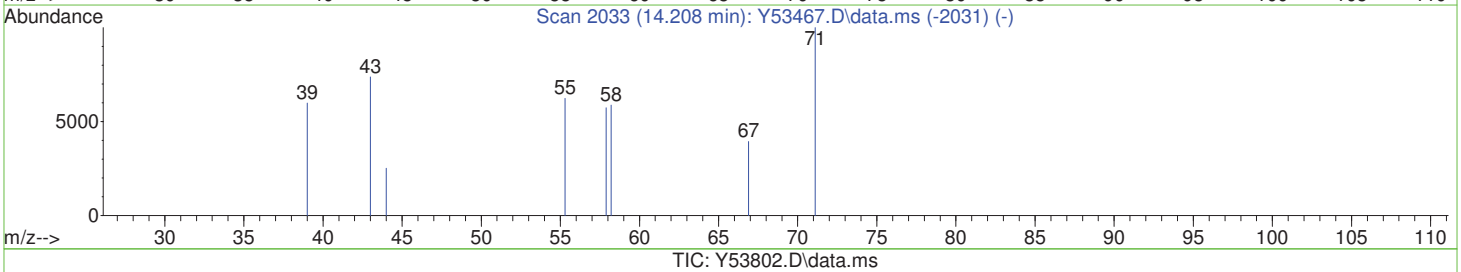
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53802.D
Acq On : 3 Nov 2020 8:48 pm
Operator : chelseav
Sample : FA80030-3MSD,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 02:20:35 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y53802.D\data.ms

(69) 2-hexanone

14.327min (-0.004) 142.68ug/L

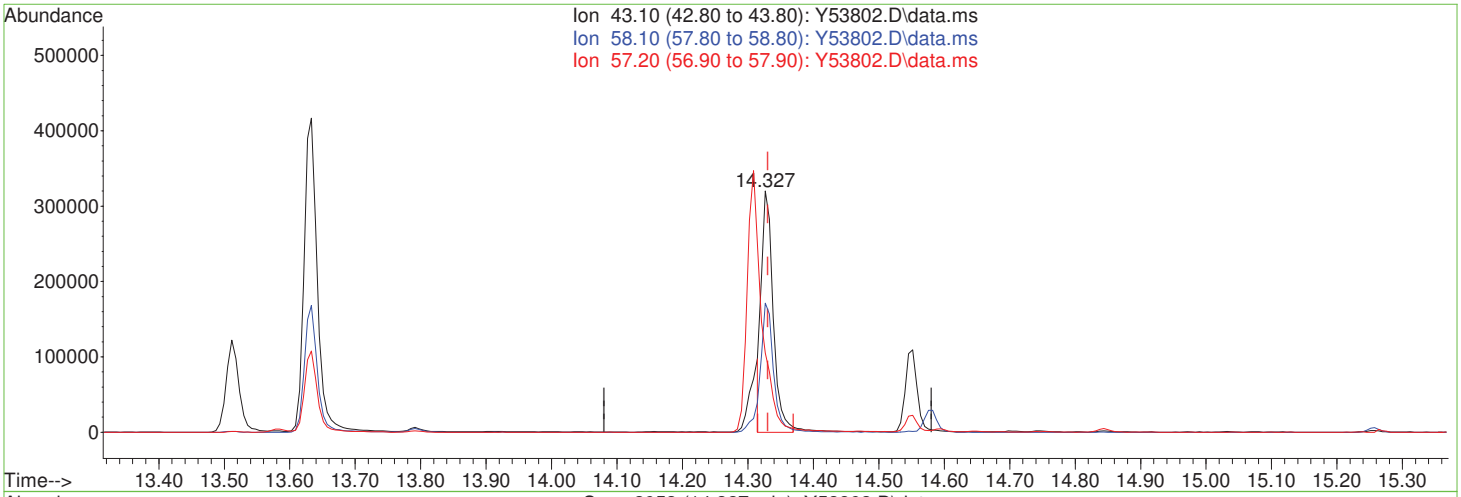
response 496024

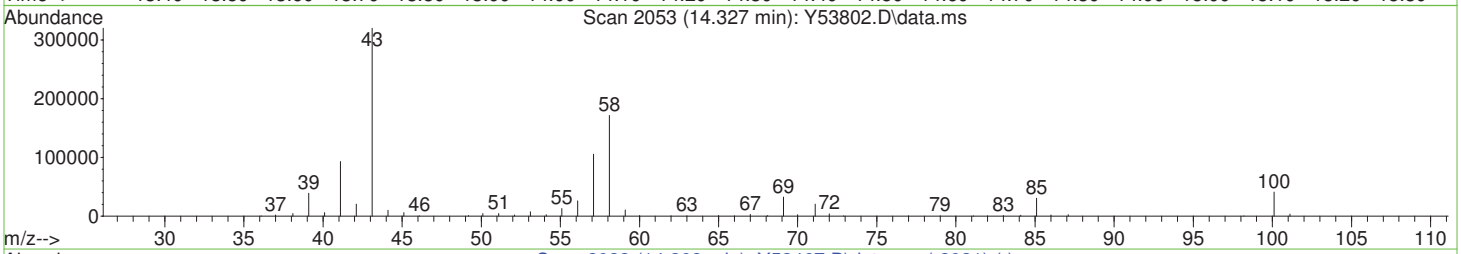
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	53.61
57.20	27.10	32.87
0.00	0.00	0.00

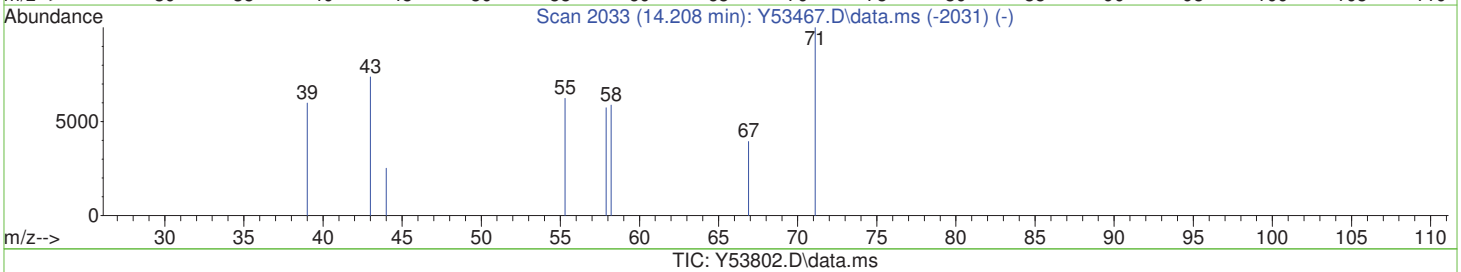
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53802.D
Acq On : 3 Nov 2020 8:48 pm
Operator : chelseav
Sample : FA80030-3MSD,5X
Misc : MS47611,VY2232,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 04 02:20:35 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y53802.D\data.ms

(69) 2-hexanone

14.327min (-0.004) 114.02ug/L m

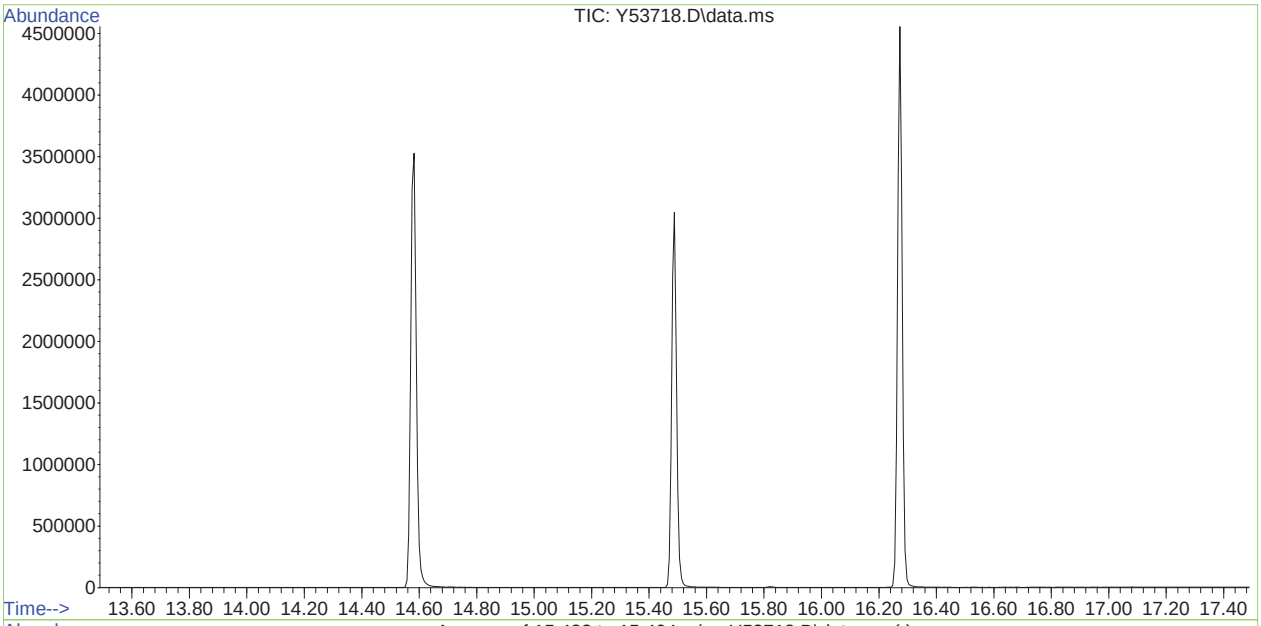
response 396401

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	53.56
57.20	27.10	32.84
0.00	0.00	0.00

Methods: SW-846 8260B

Data File : C:\msdchem\1\DATA\103120\Y53718.D Vial: 2
Acq On : 31 Oct 2020 10:49 am Operator: chelseav
Sample : BFB Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK103120w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B



AutoFind: Scans 2243, 2244, 2245; Background Corrected with Scan 2236

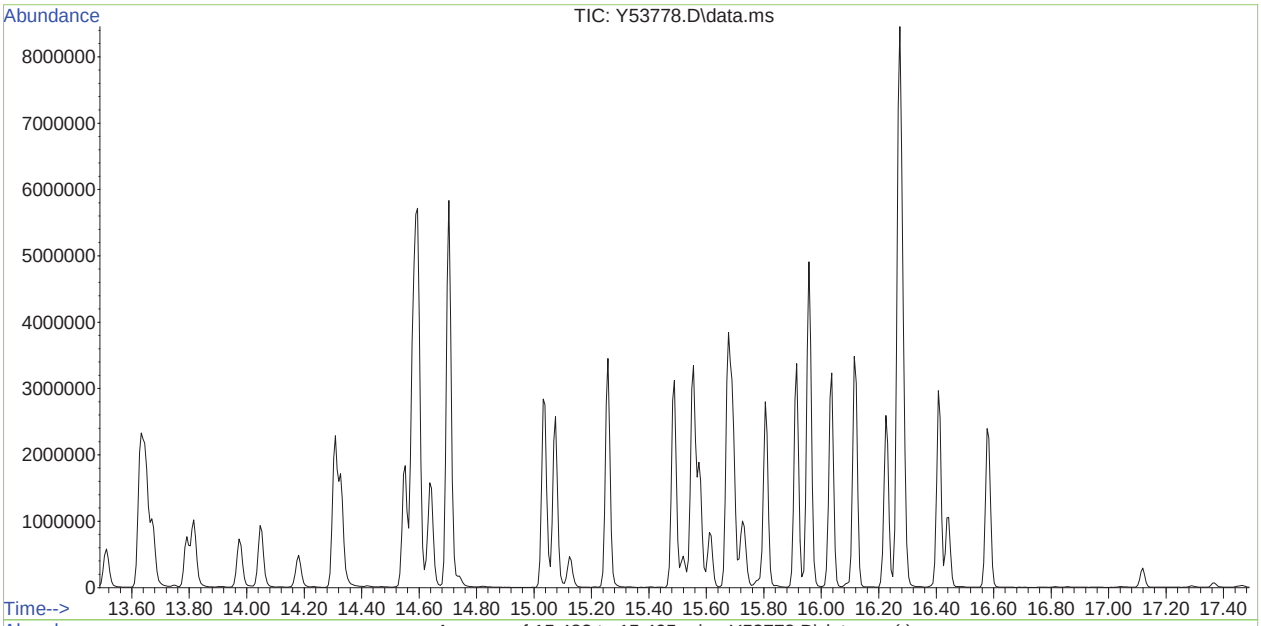
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.6	86312	PASS
75	95	30	60	43.0	223381	PASS
95	95	100	100	100.0	519466	PASS
96	95	5	9	6.8	35456	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.2	499946	PASS
175	174	5	9	7.0	34866	PASS
176	174	95	101	97.4	486997	PASS
177	176	5	9	6.5	31562	PASS

Y53718.D RESTEK103120w.M Mon Nov 02 07:56:52 2020

Methods: SW-846 8260B

Data File : C:\msdchem\1\DATA\110320\Y53778.D Vial: 2
Acq On : 3 Nov 2020 9:52 am Operator: chelseav
Sample : BFB Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK103120w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B



AutoFind: Scans 2243, 2244, 2245; Background Corrected with Scan 2236

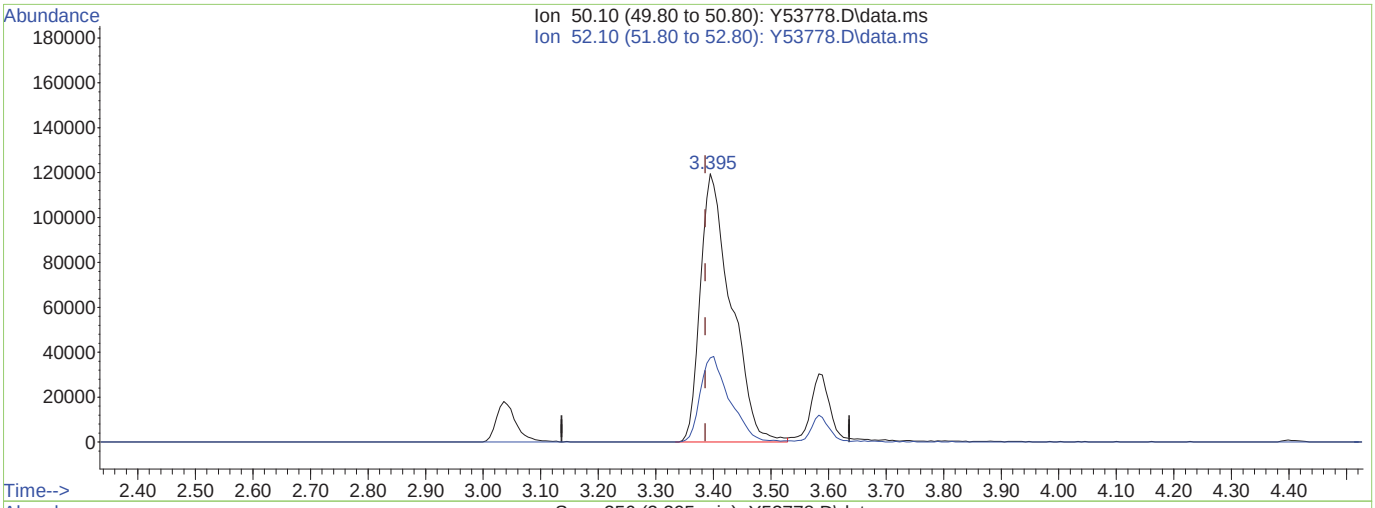
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	88850	PASS
75	95	30	60	43.1	232533	PASS
95	95	100	100	100.0	539093	PASS
96	95	5	9	6.6	35760	PASS
173	174	0.00	2	0.4	2021	PASS
174	95	50	100	96.4	519530	PASS
175	174	5	9	7.1	36922	PASS
176	174	95	101	96.8	503018	PASS
177	176	5	9	6.5	32909	PASS

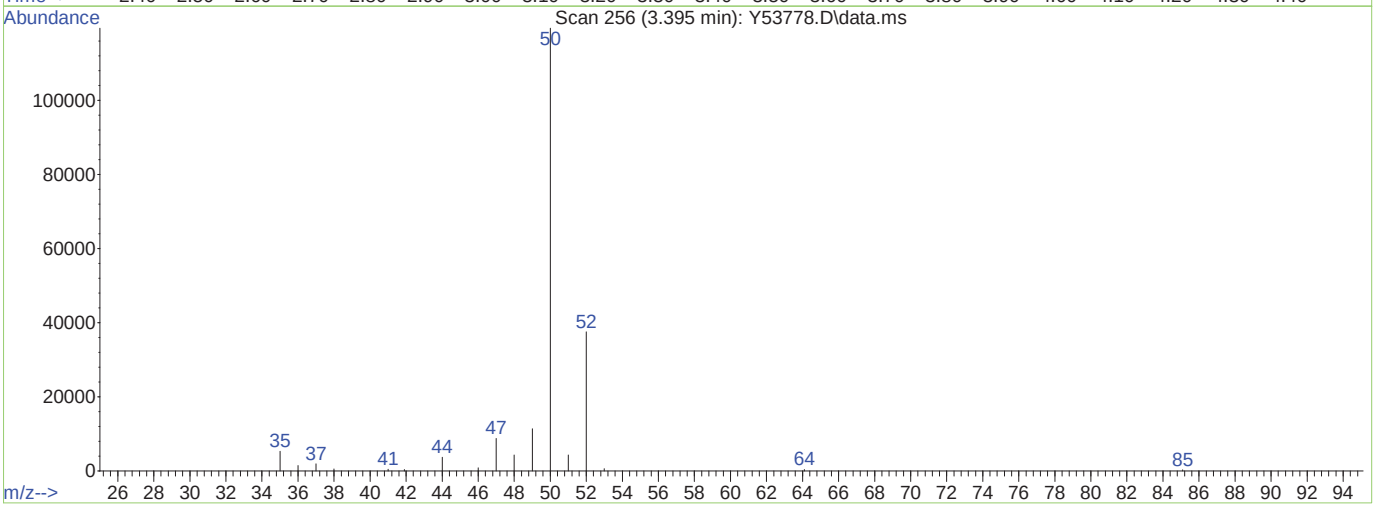
Y53778.D RESTEK103120w.M Tue Nov 03 10:26:13 2020

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:11:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53778.D\data.ms

(4) Chloromethane (P)

3.395min (+0.008) 49.12ug/L

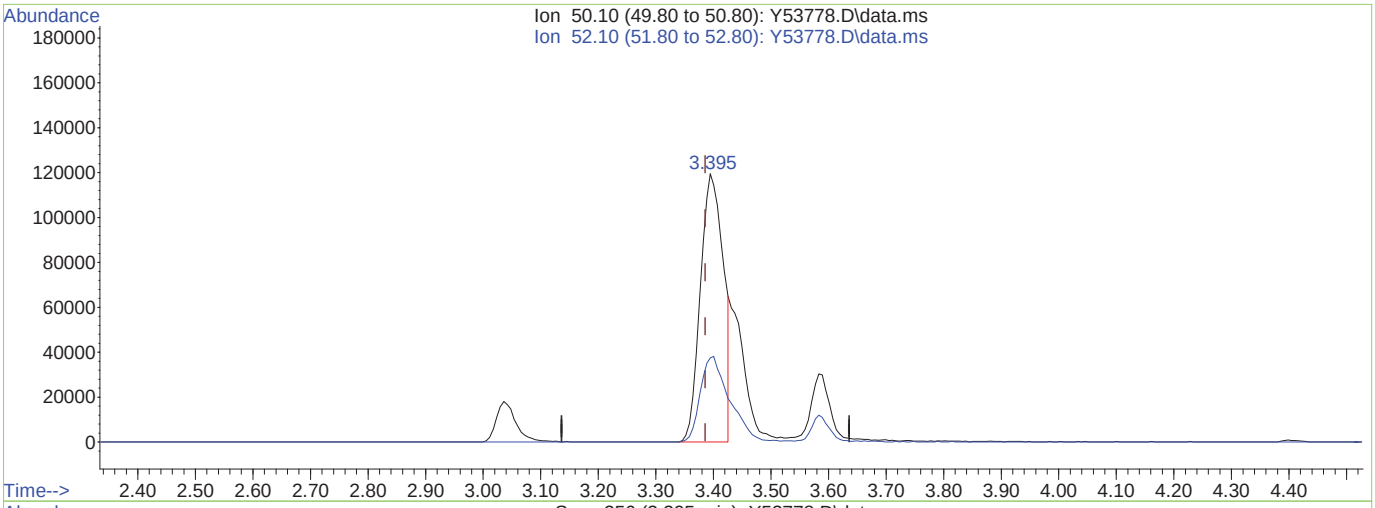
response 444041

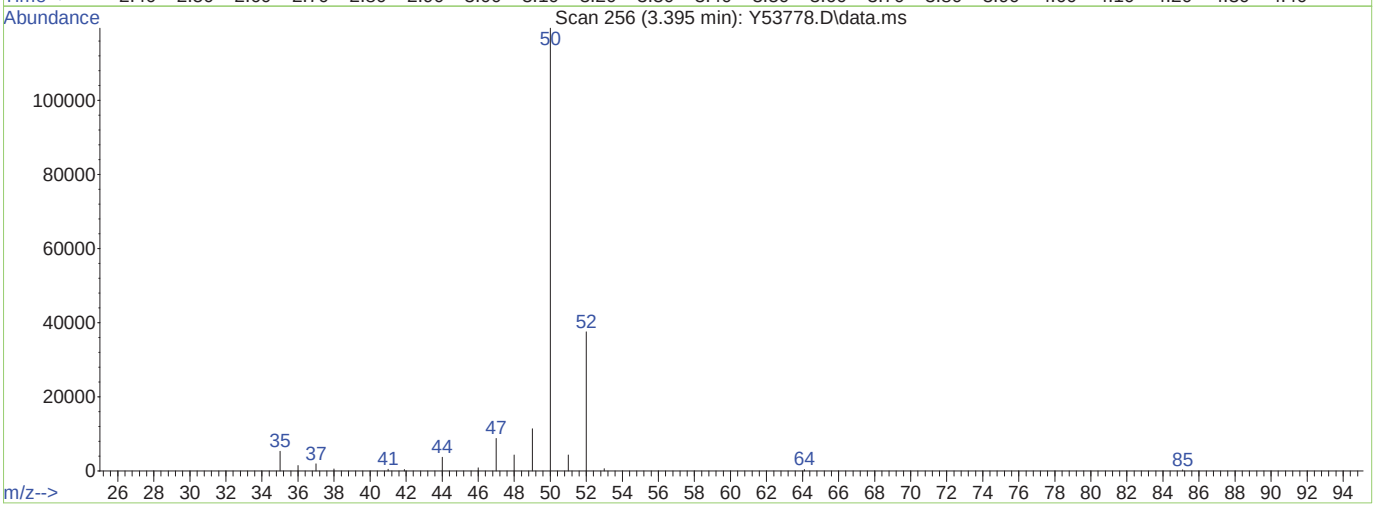
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.39
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:11:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53778.D\data.ms

(4) Chloromethane (P)

3.395min (+0.008) 36.60ug/L m

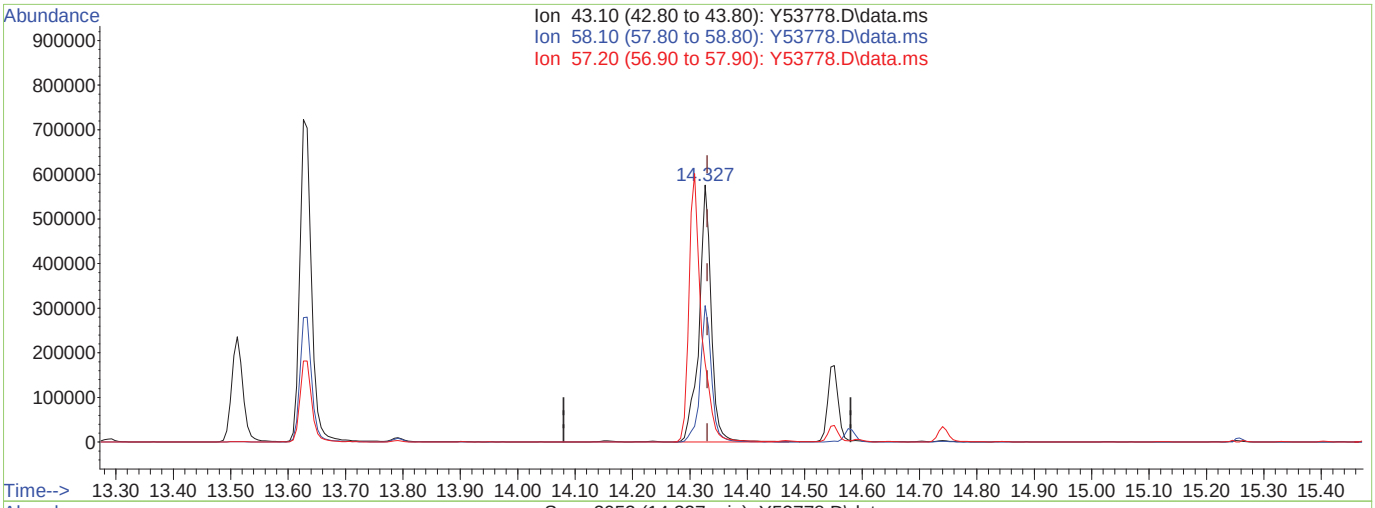
response 330825

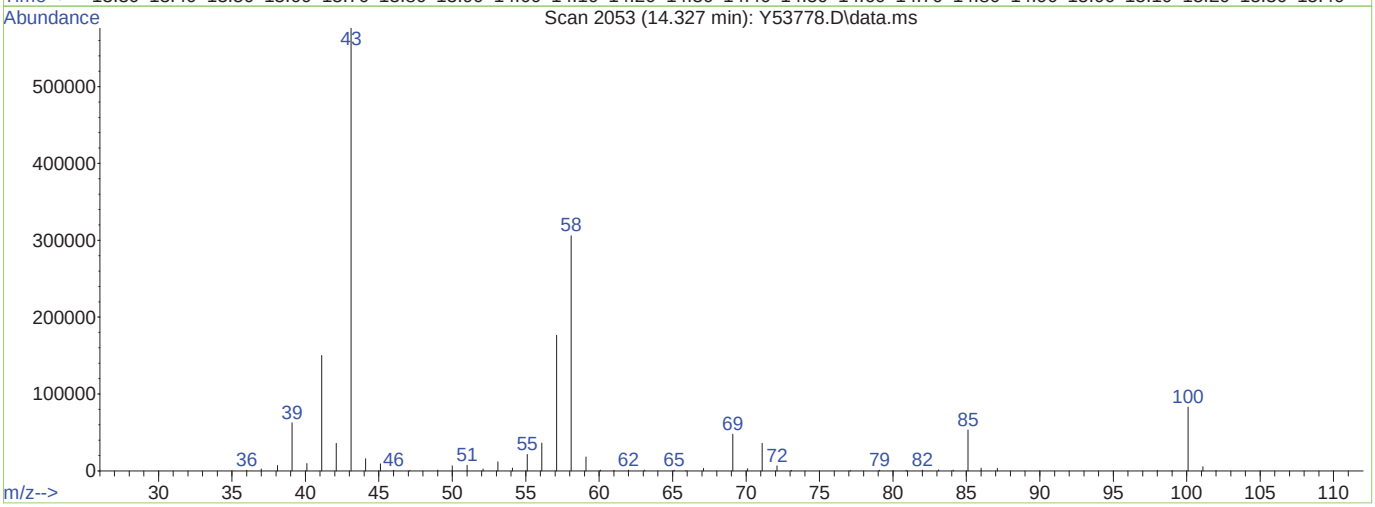
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.39
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:11:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53778.D\data.ms

(69) 2-hexanone

14.327min (-0.004) 243.34ug/L

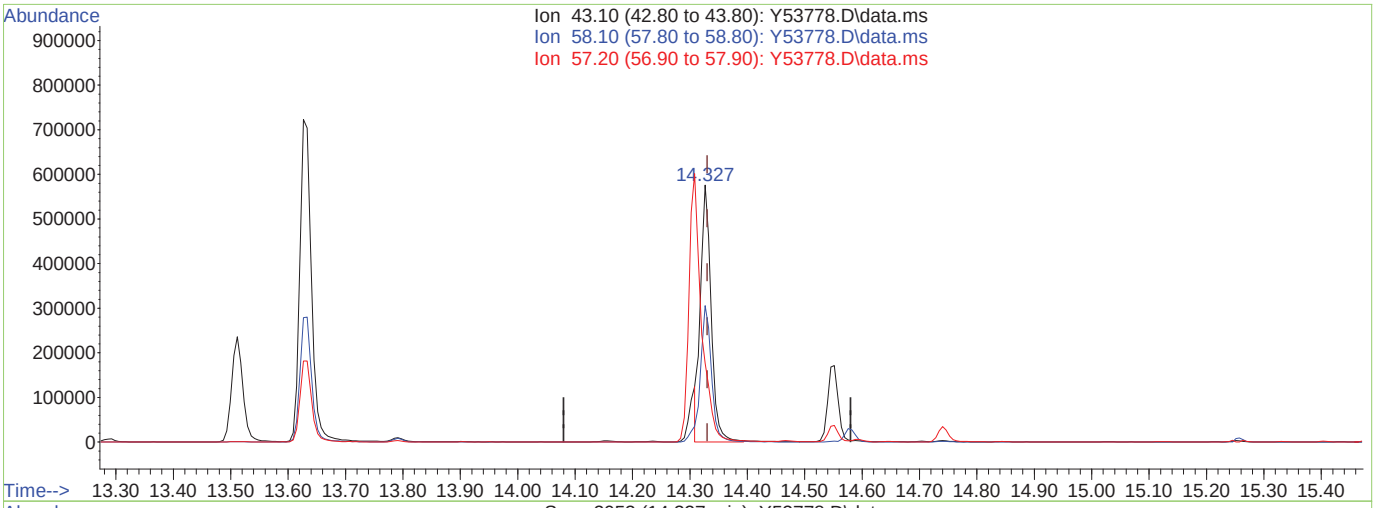
response 848146

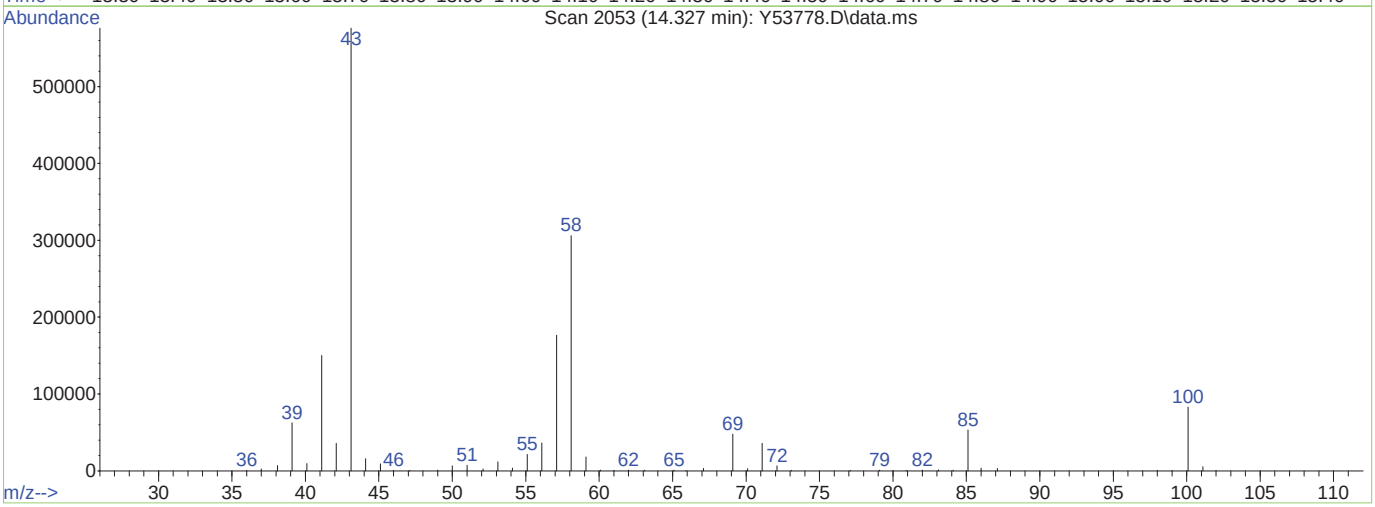
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	53.13
57.20	27.10	30.67
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:11:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53778.D\data.ms

(69) 2-hexanone

14.327min (-0.004) 213.60ug/L m

response 744520

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	53.10
57.20	27.10	30.65
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
11/02/20 11:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53719.D
Acq On : 31 Oct 2020 11:27 am
Operator : chelseav
Sample : IC2229-1 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:36:31 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	1855604	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1820834	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.275	152	992220	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.405	65	109829	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	466246	50.52	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.04%			
47) 1,2-Dichloroethane-d4	11.146	65	436027	52.17	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 104.34%			
58) Toluene-d8	13.239	98	1940819	47.76	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 95.52%			
80) 4-Bromofluorobenzene	15.490	174	730029	54.92	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 109.84%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.031	85	8765	0.86	ug/L	99
3) Acrolein	6.328	56	5033	6.40	ug/L	76
4) Chloromethane	3.384	50	10496	1.17	ug/L	97
5) 1,3-butadiene	3.585	39	8619	1.13	ug/L	91
6) Vinyl Chloride	3.548	62	8742	0.96	ug/L	84
7) Bromomethane	4.150	94	4043	0.77	ug/L	95
8) Chloroethane	4.400	64	4324	0.83	ug/L	83
9) Trichlorofluoromethane	4.667	101	11095	0.76	ug/L	92
10) Ethyl Ether	5.294	59	6027	1.26	ug/L	87
11) 1,2-Dichlorotrifluoroe...	5.677	67	8728	1.11	ug/L	90
12) 1,1-Dichloroethene	5.641	61	11065	1.06	ug/L	95
13) Freon 113	5.732	101	9864	1.03	ug/L	93
14) Carbon Disulfide	5.671	76	19959	1.00	ug/L	98
15) Iodomethane	5.902	142	3956	0.62	ug/L	95
16) Allyl chloride	6.565	41	9825	0.89	ug/L	95
17) Methylene Chloride	6.778	49	25439	2.29	ug/L	92
18) Acetone	6.912	43	8810	7.49	ug/L	96
19) Methyl acetate	7.162	43	21788	7.87	ug/L	94
20) trans-1,2-Dichloroethene	7.101	61	10644	1.06	ug/L	89
21) Hexane	7.247	56	6613	1.07	ug/L #	68
22) Methyl Tert Butyl Ether	7.326	73	15485	1.20	ug/L	97
23) Acetonitrile	7.819	41	2869	5.66	ug/L	81
24) Di-isopropyl ether	8.092	45	26250	1.14	ug/L	92
25) Chloroprene	8.275	53	10120	1.01	ug/L	91
26) 1,1-Dichloroethane	8.324	63	13897	1.11	ug/L	91
27) Acrylonitrile	8.463	53	8294	5.95	ug/L	88
28) ETBE	8.841	59	21421	1.22	ug/L	92
29) Vinyl acetate	8.883	43	32989	2.93	ug/L	96
30) cis-1,2-Dichloroethene	9.437	96	10177	1.18	ug/L	95
31) 2,2-Dichloropropane	9.650	77	5787	0.70	ug/L	98
32) Bromochloromethane	9.844	128	5721	1.29	ug/L	84
33) Cyclohexane	9.832	56	13477	1.00	ug/L	94
34) Chloroform	10.009	83	15604	1.18	ug/L	89
35) Ethyl acetate	10.270	43	17547	4.51	ug/L	98
38) Carbon Tetrachloride	10.234	117	10704	1.01	ug/L	92
39) 1,1,1-Trichloroethane	10.355	97	13970	1.10	ug/L	94
40) 2-Butanone	10.581	43	7106	4.72	ug/L	94
41) 1,1-Dichloropropene	10.574	75	11305	1.08	ug/L	94
42) tert-Butyl formate	10.763	59	2727	4.31	ug/L #	86
43) Propionitrile	11.006	54	6804	13.78	ug/L	92
44) Methacrylonitrile	11.025	41	33135	12.35	ug/L	94
45) Benzene	10.945	78	37017	1.16	ug/L	95
46) TAME	11.134	73	17517	1.24	ug/L	90
48) 1,2-Dichloroethane	11.244	62	11635	1.32	ug/L	87
49) Trichloroethene	11.742	95	12619	1.40	ug/L	86
50) Methylcyclohexane	11.724	83	13540	0.93	ug/L	96
51) Dibromomethane	12.241	93	5174	1.49	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53719.D
Acq On : 31 Oct 2020 11:27 am
Operator : chelseav
Sample : IC2229-1 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:36:31 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

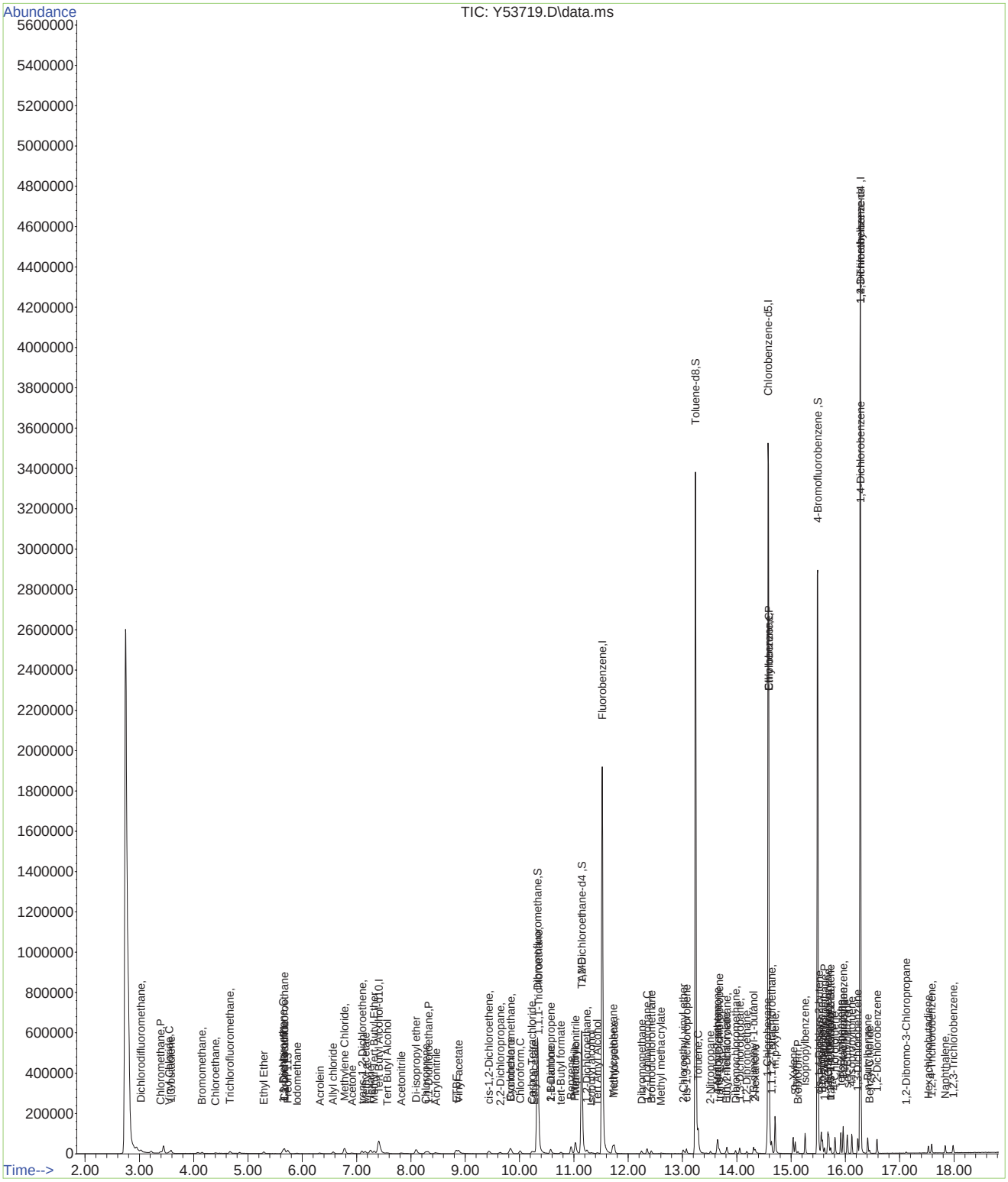
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
52) 1,2-Dichloropropane	12.345	63	8798	1.21 ug/L	97
53) Bromodichloromethane	12.424	83	9153	1.12 ug/L	96
54) Methyl methacrylate	12.594	41	2961	0.84 ug/L #	68
55) 2-Chloroethyl vinyl ether	13.008	63	8303	6.62 ug/L	95
56) cis-1,3-Dichloropropene	13.075	75	10445	1.00 ug/L	99
59) Toluene	13.288	91	55364	1.40 ug/L	95
60) 2-Nitropropane	13.513	41	5790	5.99 ug/L	90
61) 4-Methyl-2-pentanone	13.634	43	20990	5.52 ug/L	94
62) trans-1,3-Dichloropropene	13.683	75	6838	0.86 ug/L	87
63) Tetrachloroethene	13.653	166	14985	1.44 ug/L	91
64) Ethyl methacrylate	13.799	69	4185	0.77 ug/L	91
65) 1,1,2-Trichloroethane	13.817	83	6182	1.40 ug/L	87
66) Dibromochloromethane	13.981	129	7598	1.16 ug/L	95
67) 1,3-Dichloropropane	14.054	76	13172	1.39 ug/L	97
68) 1,2-Dibromoethane	14.188	107	7521	1.42 ug/L	95
69) 2-hexanone	14.340	43	14089m	5.15 ug/L	
70) 1-Chlorohexane	14.553	91	13670	1.12 ug/L	86
71) Ethylbenzene	14.596	91	58904	1.36 ug/L	100
72) Chlorobenzene	14.596	112	37115	1.32 ug/L	93
73) 1,1,1,2-Tetrachloroethane	14.644	131	10942	1.23 ug/L	89
74) m,p-Xylene	14.705	91	82694	2.47 ug/L	97
75) o-Xylene	15.040	91	38697	1.19 ug/L	98
76) Styrene	15.076	104	26160	1.05 ug/L	95
77) Bromoform	15.125	173	3795	1.39 ug/L	94
78) Isopropylbenzene	15.259	105	52724	1.16 ug/L	100
81) cis-1,4-Dichloro-2-butene	15.520	53	1555	1.09 ug/L #	33
82) n-Propylbenzene	15.557	91	60437	1.21 ug/L	99
83) Bromobenzene	15.575	156	15754	1.49 ug/L	92
84) 1,1,2,2-Tetrachloroethane	15.612	83	8660	1.54 ug/L	92
85) 1,3,5-Trimethylbenzene	15.678	105	39608	1.10 ug/L	95
86) 2-Chlorotoluene	15.691	91	40368	1.27 ug/L	99
87) trans-1,4-Dichloro-2-B...	15.733	53	1563	1.16 ug/L #	58
88) 1,2,3-Trichloropropane	15.727	110	3284	1.57 ug/L	90
90) 4-Chlorotoluene	15.806	91	36178	1.24 ug/L	100
91) tert-Butylbenzene	15.916	91	22160	1.20 ug/L	99
92) 1,2,4-Trimethylbenzene	15.958	105	40207	1.11 ug/L	98
93) Pentachloroethane	15.958	167	5296	1.04 ug/L	91
94) sec-Butylbenzene	16.037	105	49431	1.12 ug/L	99
95) 4-Isopropyltoluene	16.116	119	43355	1.10 ug/L	96
96) 1,3-Dichlorobenzene	16.232	146	27876	1.27 ug/L	97
97) 1,2,3-Trimethylbenzene	16.269	105	48045	1.13 ug/L	98
98) 1,4-Dichlorobenzene	16.287	146	29647m	1.30 ug/L	
99) n-Butylbenzene	16.408	92	17749	1.06 ug/L	98
100) Benzyl Chloride	16.439	126	1993	0.93 ug/L	94
101) 1,2-Dichlorobenzene	16.585	146	24935	1.29 ug/L	96
102) 1,2-Dibromo-3-Chloropr...	17.114	75	1049m	1.44 ug/L	
103) Hexachlorobutadiene	17.528	225	4512	1.60 ug/L	78
104) 1,2,4-Trichlorobenzene	17.589	180	12234	1.45 ug/L	99
105) Naphthalene	17.838	128	25305	1.35 ug/L	98
106) 1,2,3-Trichlorobenzene	17.984	180	10707	1.52 ug/L	88
109) Tert Butyl Alcohol	7.569	59	5497	12.04 ug/L	85
110) Isobutyl alcohol	11.317	42	1669	16.49 ug/L #	69
111) Tert Amyl Alcohol	11.432	59	2722	10.34 ug/L	82
113) 3,3-dimethyl-1-butanol	14.310	57	15773	37.33 ug/L	88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53719.D
Acq On : 31 Oct 2020 11:27 am
Operator : chelseav
Sample : IC2229-1 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:36:31 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration



Manual Integration Approval Summary

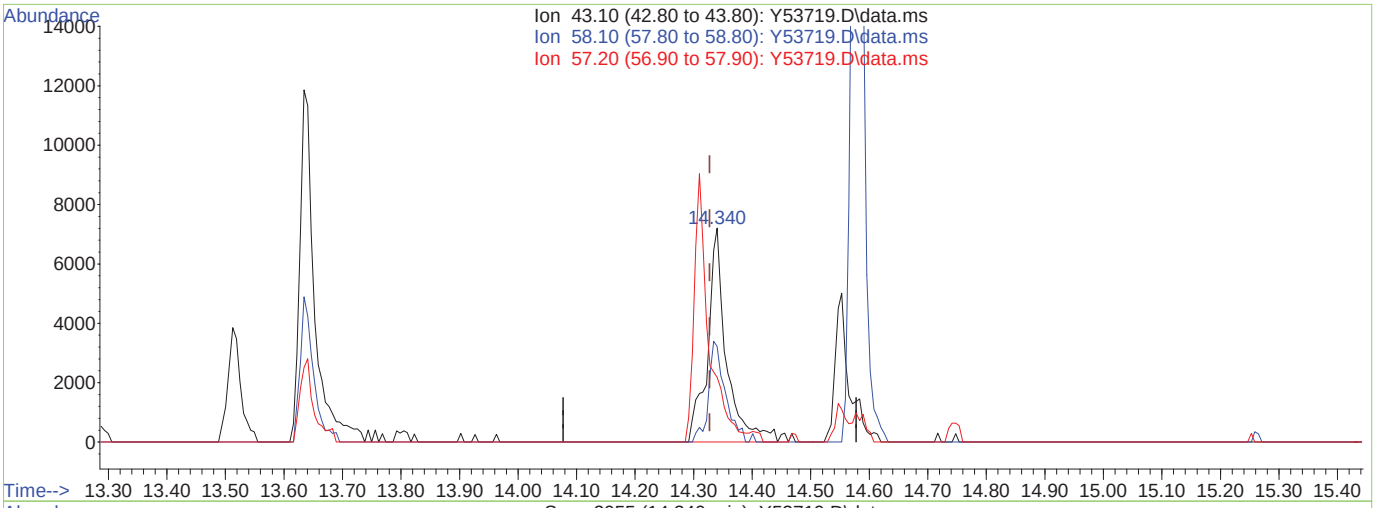
Sample Number: VY2229-IC2229
Lab FileID: Y53719.D
Injection Time: 10/31/20 11:27
Method: SW846 8260B
Analyst approved: 11/02/20 08:01 Chelsea VanDenBurg
Supervisor approved: 11/02/20 11:36 Melissa Mangual

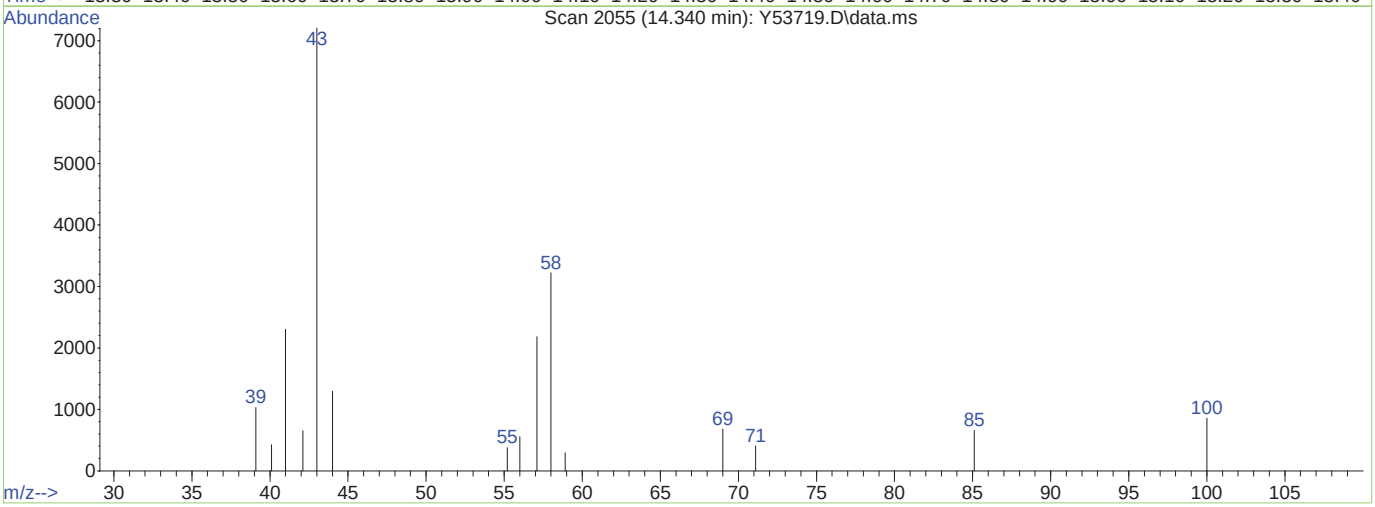
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.34	Overlapping peak
1,4-Dichlorobenzene	106-46-7		16.29	Missed peak
1,2-Dibromo-3-chloropropane	96-12-8		17.11	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53719.D
Acq On : 31 Oct 2020 11:27 am
Operator : chelseav
Sample : IC2229-1 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 12:34:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53719.D\data.ms

(69) 2-hexanone

14.340min (+0.012) 5.89ug/L

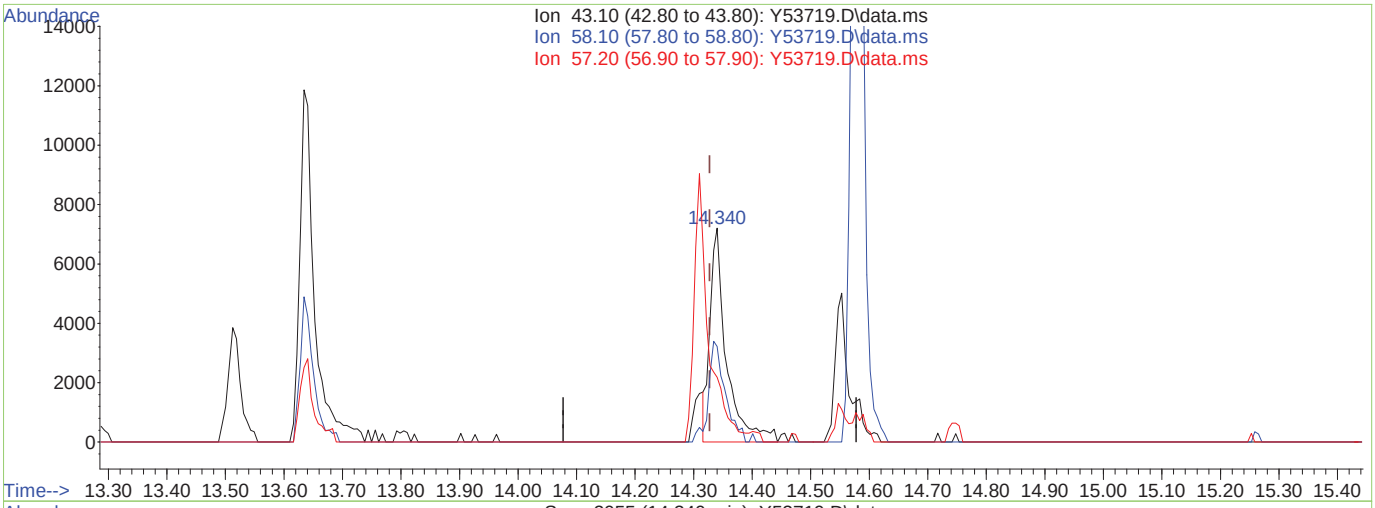
response 16102

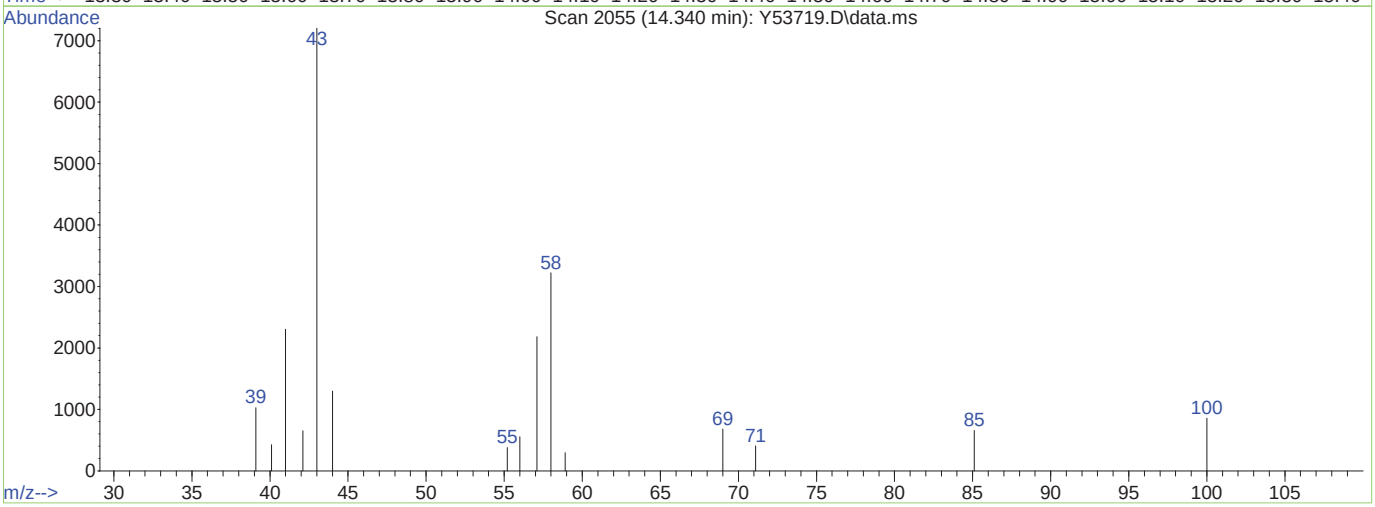
Ion	Exp%	Act%
43.10	100	100
58.10	49.00	44.70
57.20	29.00	30.28
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53719.D
Acq On : 31 Oct 2020 11:27 am
Operator : chelseav
Sample : IC2229-1 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 12:34:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53719.D\data.ms

(69) 2-hexanone

14.340min (+0.012) 5.15ug/L m

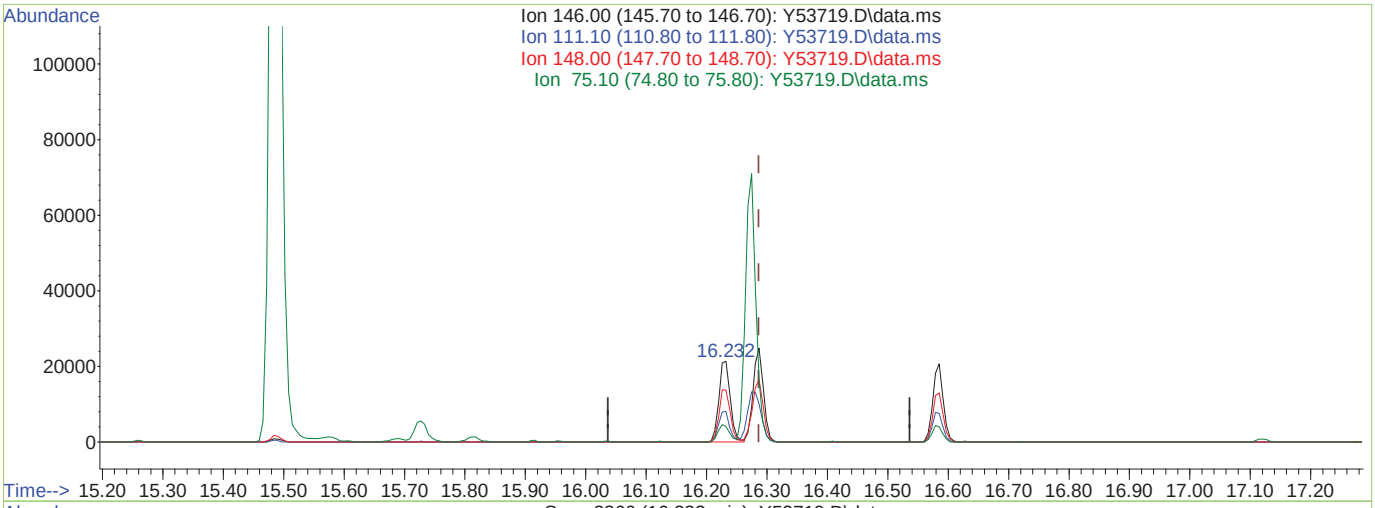
response 14089

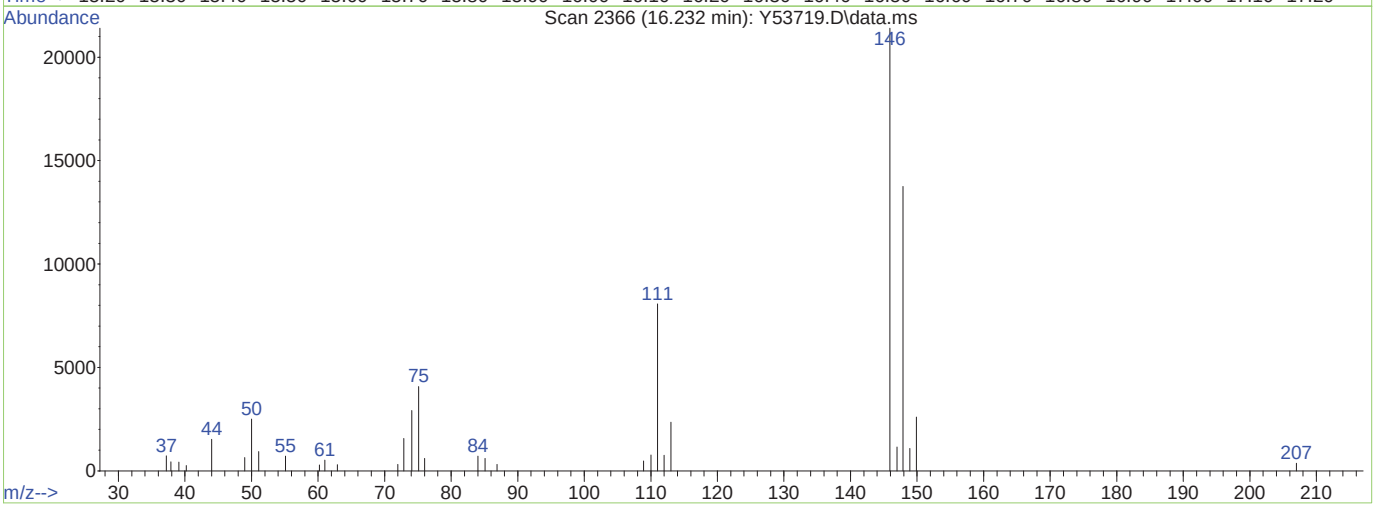
Ion	Exp%	Act%
43.10	100	100
58.10	49.00	44.70
57.20	29.00	30.28
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53719.D
Acq On : 31 Oct 2020 11:27 am
Operator : chelseav
Sample : IC2229-1 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 12:34:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53719.D\data.ms

(98) 1,4-Dichlorobenzene

16.232min (-0.055) 1.22ug/L

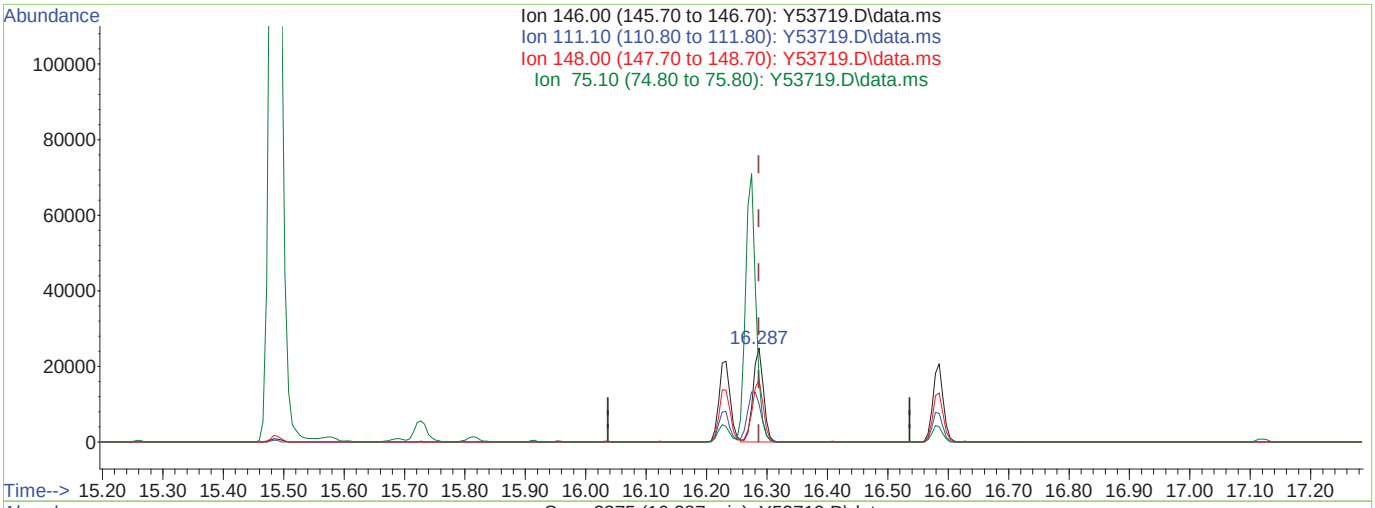
response 27876

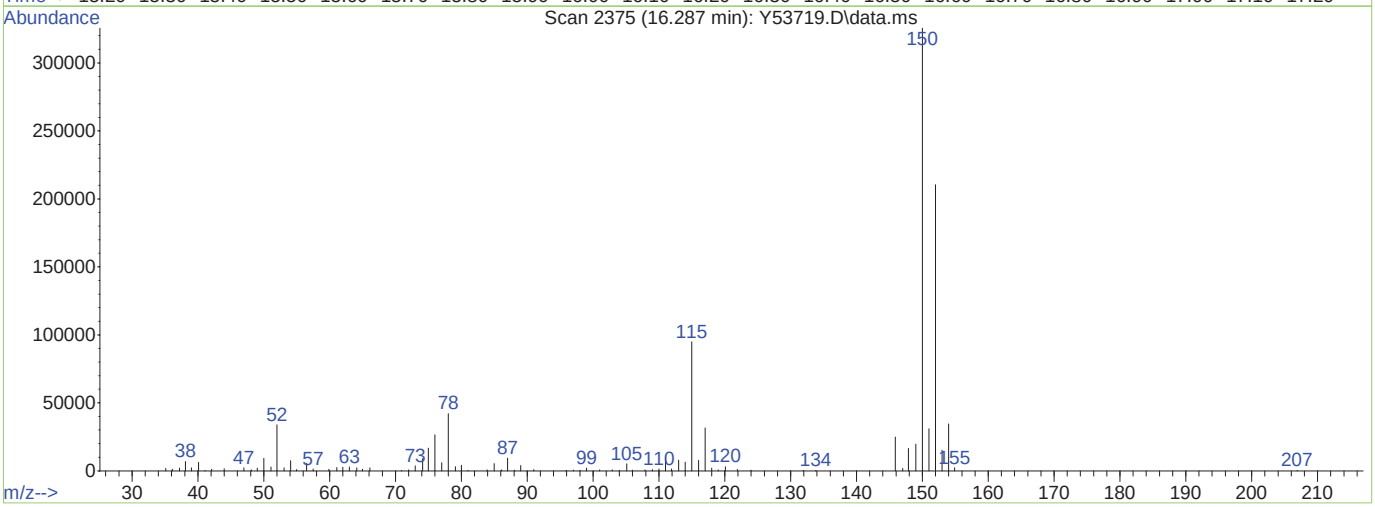
Ion	Exp%	Act%
146.00	100	100
111.10	33.70	37.69
148.00	62.30	64.26
75.10	23.10	19.01

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53719.D
Acq On : 31 Oct 2020 11:27 am
Operator : chelseav
Sample : IC2229-1 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 12:34:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53719.D\data.ms

(98) 1,4-Dichlorobenzene

16.287min (+0.000) 1.30ug/L m

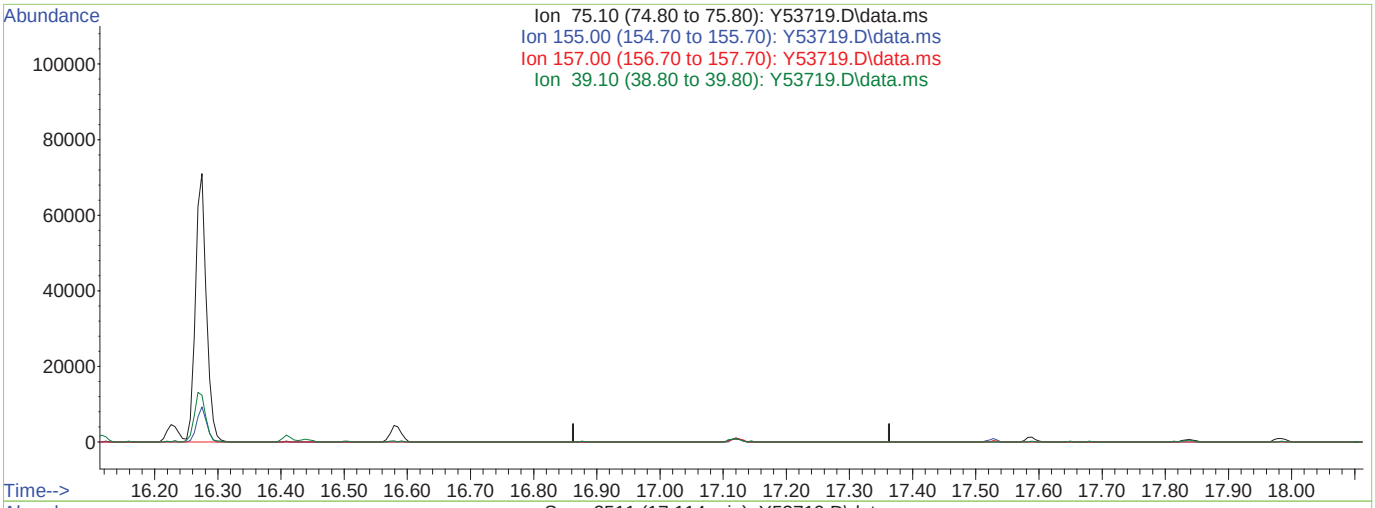
response 29647

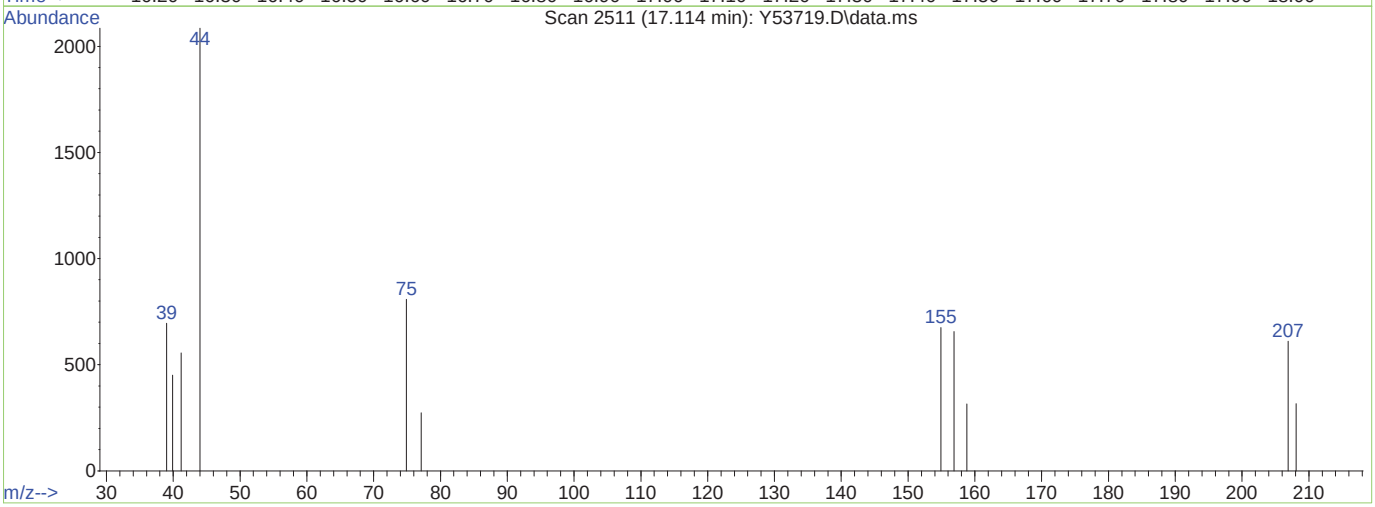
Ion	Exp%	Act%
146.00	100	100
111.10	33.70	40.85
148.00	62.30	66.48
75.10	23.10	67.00#

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53719.D
Acq On : 31 Oct 2020 11:27 am
Operator : chelseav
Sample : IC2229-1 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 12:34:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53719.D\data.ms

(102) 1,2-Dibromo-3-Chloropropane

17.113min (-17.113) 0.00ug/L

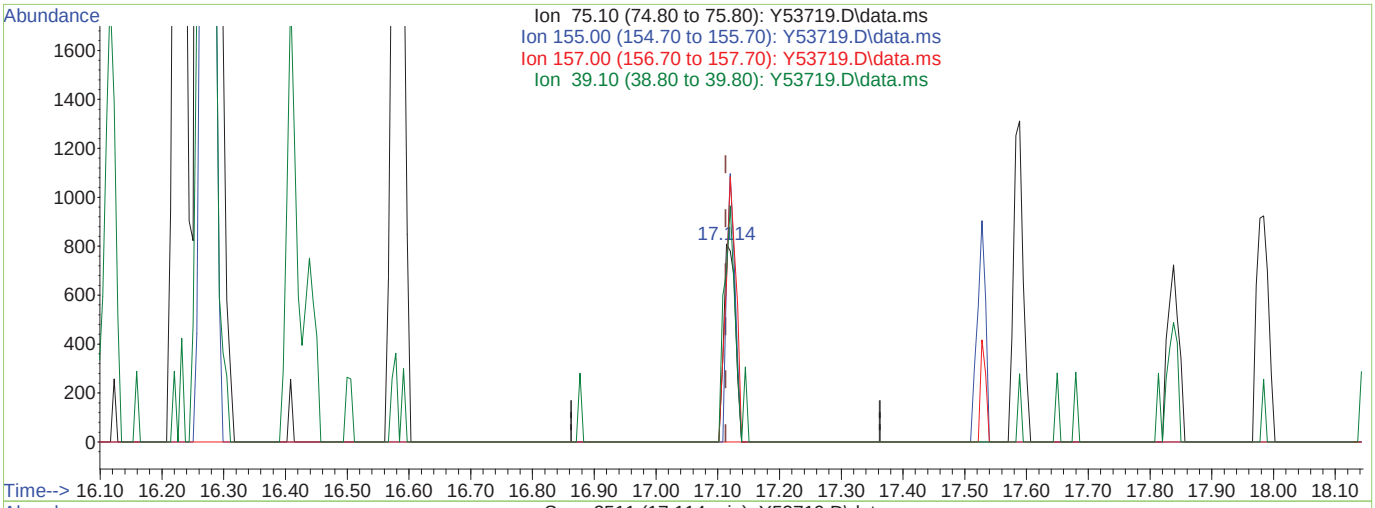
response 0

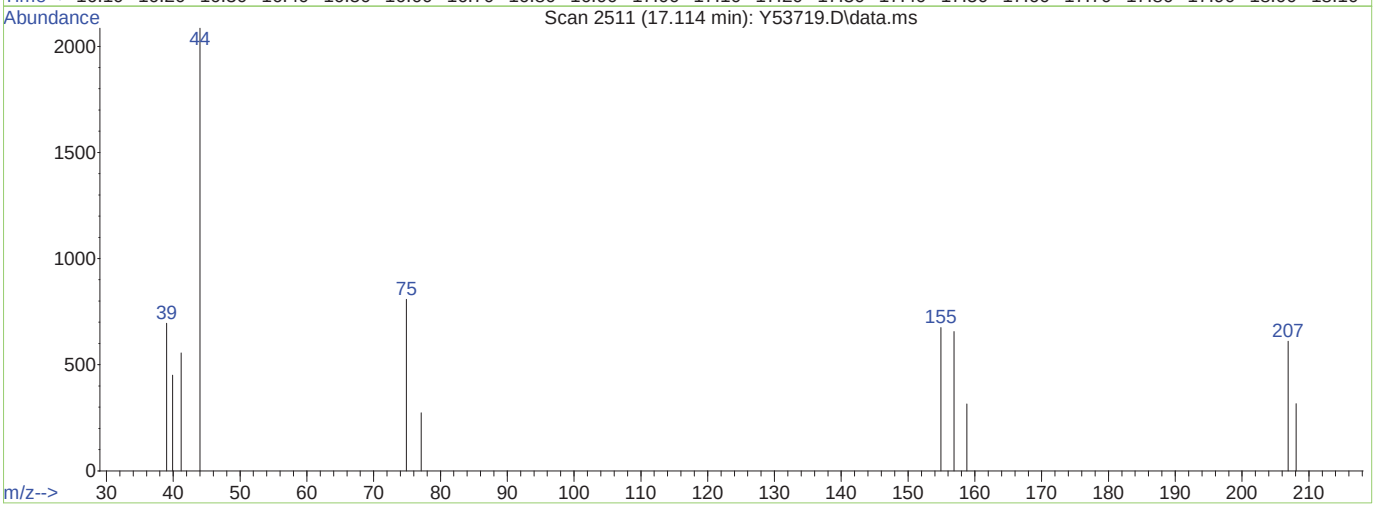
Ion	Exp%	Act%
75.10	100	0.00
155.00	81.20	0.00#
157.00	107.30	0.00#
39.10	88.30	0.00#

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53719.D
Acq On : 31 Oct 2020 11:27 am
Operator : chelseav
Sample : IC2229-1 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 12:34:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53719.D\data.ms

(102) 1,2-Dibromo-3-Chloropropane

17.114min (+0.001) 1.44ug/L m

response 1049

Ion	Exp%	Act%
75.10	100	100
155.00	81.20	83.54
157.00	107.30	81.19
39.10	88.30	86.01

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/02/20 11:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53720.D
Acq On : 31 Oct 2020 11:54 am
Operator : chelseav
Sample : IC2229-2 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 11:38:17 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.526	96	1807390	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	1768374	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.271	152	971352	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.413	65	104570	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.333	113	466698	51.92	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 103.84%			
47) 1,2-Dichloroethane-d4	11.142	65	424919	52.19	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 104.38%			
58) Toluene-d8	13.241	98	1896179	48.05	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.10%			
80) 4-Bromofluorobenzene	15.486	174	715669	54.99	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 109.98%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.033	85	45762	4.62	ug/L	97
3) Acrolein	6.312	56	24671	32.16	ug/L	99
4) Chloromethane	3.386	50	44984	5.13	ug/L	96
5) 1,3-butadiene	3.581	39	33584	4.52	ug/L	86
6) Vinyl Chloride	3.550	62	40601	4.60	ug/L	99
7) Bromomethane	4.152	94	16170	3.19	ug/L	92
8) Chloroethane	4.396	64	17767	3.55	ug/L	94
9) Trichlorofluoromethane	4.670	101	56802	3.99	ug/L	97
10) Ethyl Ether	5.290	59	27151	5.81	ug/L	94
11) 1,2-Dichlorotrifluoroe...	5.667	67	38244	5.00	ug/L	96
12) 1,1-Dichloroethene	5.643	61	49251	4.86	ug/L	97
13) Freon 113	5.734	101	49891	5.36	ug/L	95
14) Carbon Disulfide	5.673	76	87403	4.48	ug/L	98
15) Iodomethane	5.898	142	19039	3.01	ug/L	93
16) Allyl chloride	6.568	41	47421	4.39	ug/L	97
17) Methylene Chloride	6.780	49	63073	5.84	ug/L	91
18) Acetone	6.896	43	36540	32.13	ug/L	100
19) Methyl acetate	7.152	43	91054	33.77	ug/L	97
20) trans-1,2-Dichloroethene	7.097	61	47052	4.81	ug/L	94
21) Hexane	7.255	56	33609	5.58	ug/L	90
22) Methyl Tert Butyl Ether	7.328	73	67641	5.36	ug/L	96
23) Acetonitrile	7.809	41	34570	70.02	ug/L	95
24) Di-isopropyl ether	8.095	45	108697	4.85	ug/L	99
25) Chloroprene	8.271	53	49128	5.04	ug/L	94
26) 1,1-Dichloroethane	8.320	63	56538	4.64	ug/L	98
27) Acrylonitrile	8.435	53	46867	34.57	ug/L	96
28) ETBE	8.837	59	89375	5.21	ug/L	96
29) Vinyl acetate	8.867	43	266711	24.27	ug/L	97
30) cis-1,2-Dichloroethene	9.439	96	41881	5.00	ug/L	95
31) 2,2-Dichloropropane	9.646	77	28576	3.54	ug/L	97
32) Bromochloromethane	9.847	128	23438	5.41	ug/L	96
33) Cyclohexane	9.822	56	71641	5.43	ug/L	89
34) Chloroform	10.011	83	60556	4.69	ug/L	98
35) Ethyl acetate	10.260	43	109736	29.02	ug/L	98
36) Tetrahydrofuran	10.260	42	5382	5.29	ug/L	91
38) Carbon Tetrachloride	10.236	117	48232	4.67	ug/L	96
39) 1,1,1-Trichloroethane	10.351	97	58786	4.76	ug/L	99
40) 2-Butanone	10.564	43	50697	34.57	ug/L	91
41) 1,1-Dichloropropene	10.570	75	49004	4.79	ug/L	96
42) tert-Butyl formate	10.753	59	15263	23.53	ug/L	92
43) Propionitrile	10.996	54	34864	72.47	ug/L	97
44) Methacrylonitrile	11.027	41	164853	63.07	ug/L	98
45) Benzene	10.948	78	148429	4.79	ug/L	99
46) TAME	11.130	73	71407	5.19	ug/L	87
48) 1,2-Dichloroethane	11.240	62	45603	5.33	ug/L	98
49) Trichloroethene	11.739	95	44310	5.04	ug/L	99
50) Methylcyclohexane	11.714	83	70009	4.91	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53720.D
Acq On : 31 Oct 2020 11:54 am
Operator : chelseav
Sample : IC2229-2 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 11:38:17 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

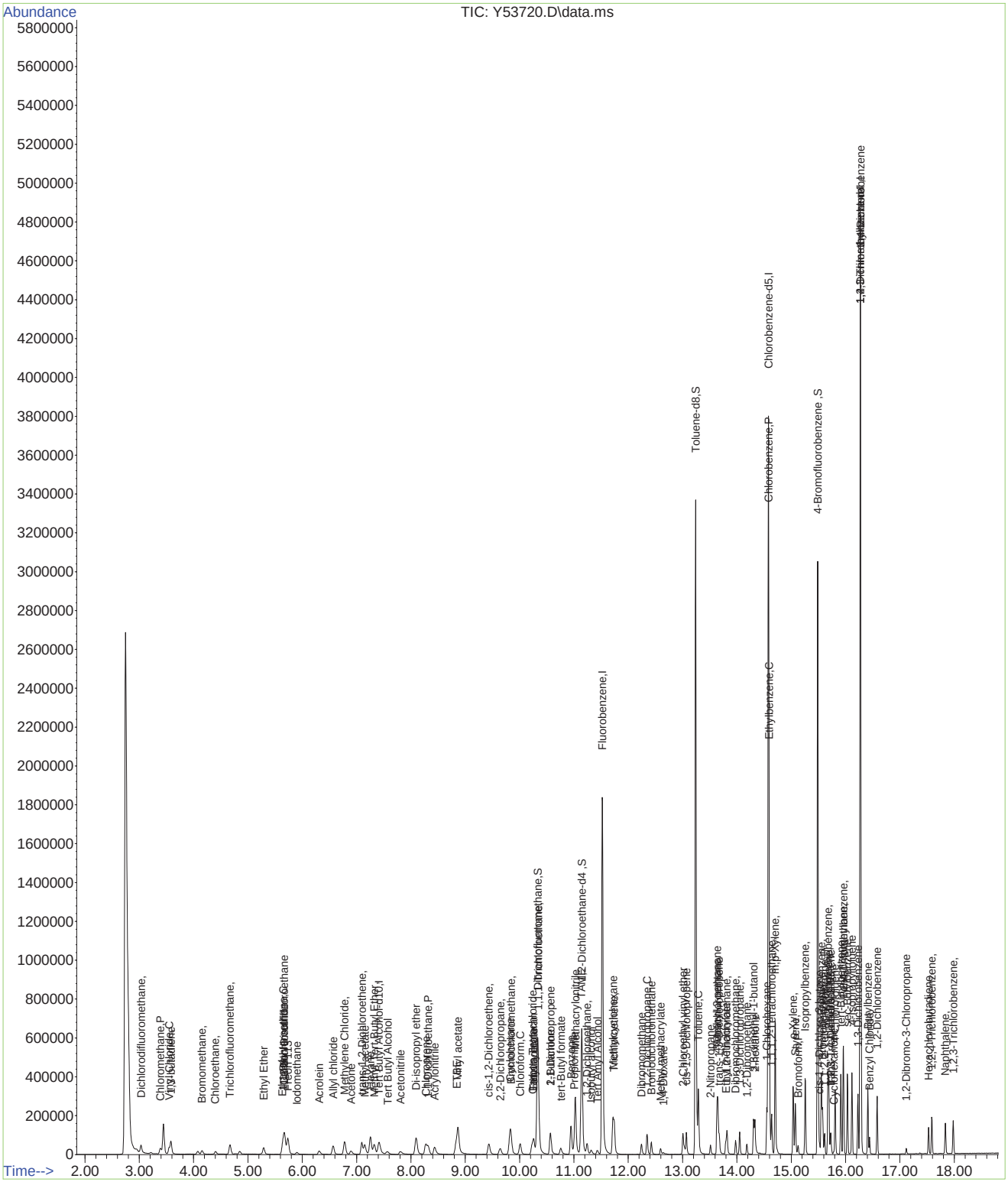
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.243	93	19004	5.61	ug/L		89
52) 1,2-Dichloropropane	12.347	63	34811	4.93	ug/L		96
53) Bromodichloromethane	12.426	83	36457	4.56	ug/L		94
54) Methyl methacrylate	12.596	41	17482	5.05	ug/L		92
55) 2-Chloroethyl vinyl ether	13.004	63	41338	32.87	ug/L		98
56) cis-1,3-Dichloropropene	13.071	75	45629	4.48	ug/L		98
59) Toluene	13.290	91	189778	4.95	ug/L		97
60) 2-Nitropropane	13.515	41	23064	24.44	ug/L		96
61) 4-Methyl-2-pentanone	13.630	43	120324	32.57	ug/L		98
62) trans-1,3-Dichloropropene	13.673	75	33791	4.39	ug/L		93
63) Tetrachloroethene	13.649	166	57372	5.69	ug/L		95
64) Ethyl methacrylate	13.795	69	27795	5.21	ug/L		98
65) 1,1,2-Trichloroethane	13.819	83	23886	5.59	ug/L		93
66) Dibromochloromethane	13.977	129	33715	5.28	ug/L		91
67) 1,3-Dichloropropane	14.050	76	50998	5.54	ug/L		99
68) 1,2-Dibromoethane	14.184	107	31328	6.09	ug/L		93
69) 2-hexanone	14.330	43	86901m	32.72	ug/L		
70) 1-Chlorohexane	14.549	91	59632	5.02	ug/L		94
71) Ethylbenzene	14.598	91	207453	4.93	ug/L		99
72) Chlorobenzene	14.592	112	137396	5.02	ug/L		96
73) 1,1,1,2-Tetrachloroethane	14.640	131	43074	4.98	ug/L		96
74) m,p-Xylene	14.701	91	313757	9.66	ug/L		98
75) o-Xylene	15.036	91	153024	4.86	ug/L		99
76) Styrene	15.072	104	117122	4.84	ug/L		96
77) Bromoform	15.127	173	16425	6.13	ug/L		97
78) Isopropylbenzene	15.255	105	210851	4.76	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.522	53	6427	4.60	ug/L	#	77
82) n-Propylbenzene	15.553	91	237589	4.86	ug/L		96
83) Bromobenzene	15.577	156	58533	5.65	ug/L		93
84) 1,1,2,2-Tetrachloroethane	15.614	83	33401	6.09	ug/L		96
85) 1,3,5-Trimethylbenzene	15.675	105	162679	4.64	ug/L		99
86) 2-Chlorotoluene	15.693	91	157079	5.06	ug/L		97
87) trans-1,4-Dichloro-2-B...	15.735	53	7566	5.76	ug/L	#	72
88) 1,2,3-Trichloropropane	15.723	110	12791	6.24	ug/L		97
89) Cyclohexanone	15.778	55	3707	32.66	ug/L		88
90) 4-Chlorotoluene	15.808	91	140224	4.91	ug/L		98
91) tert-Butylbenzene	15.912	91	87434	4.83	ug/L		96
92) 1,2,4-Trimethylbenzene	15.954	105	169874	4.78	ug/L		98
93) Pentachloroethane	15.960	167	26054	5.25	ug/L		97
94) sec-Butylbenzene	16.033	105	204452	4.74	ug/L		99
95) 4-Isopropyltoluene	16.119	119	186146	4.82	ug/L		98
96) 1,3-Dichlorobenzene	16.228	146	107021	4.99	ug/L		99
97) 1,2,3-Trimethylbenzene	16.271	105	187352	4.49	ug/L		95
98) 1,4-Dichlorobenzene	16.283	146	109477	4.89	ug/L		84
99) n-Butylbenzene	16.411	92	75082	4.60	ug/L		96
100) Benzyl Chloride	16.441	126	10492	4.90	ug/L	#	87
101) 1,2-Dichlorobenzene	16.581	146	97836	5.17	ug/L		97
102) 1,2-Dibromo-3-Chloropr...	17.116	75	3923	5.50	ug/L	#	75
103) Hexachlorobutadiene	17.530	225	18831	6.84	ug/L		83
104) 1,2,4-Trichlorobenzene	17.585	180	50783	6.12	ug/L		96
105) Naphthalene	17.840	128	114276	6.20	ug/L		97
106) 1,2,3-Trichlorobenzene	17.980	180	46099	6.70	ug/L		96
108) Ethanol	5.625	45	5798m	94.34	ug/L		
109) Tert Butyl Alcohol	7.577	59	23298	53.80	ug/L		95
110) Isobutyl alcohol	11.319	42	8933	92.72	ug/L		98
111) Tert Amyl Alcohol	11.428	59	12053	48.10	ug/L		96
112) 1,4-Dioxane	12.645	88	5285	101.94	ug/L		75
113) 3,3-dimethyl-1-butanol	14.306	57	89836	223.32	ug/L		92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53720.D
Acq On : 31 Oct 2020 11:54 am
Operator : chelseav
Sample : IC2229-2 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 11:38:17 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration



RESTEK103120w.M Mon Nov 02 07:57:46 2020 Page: 3

Manual Integration Approval Summary

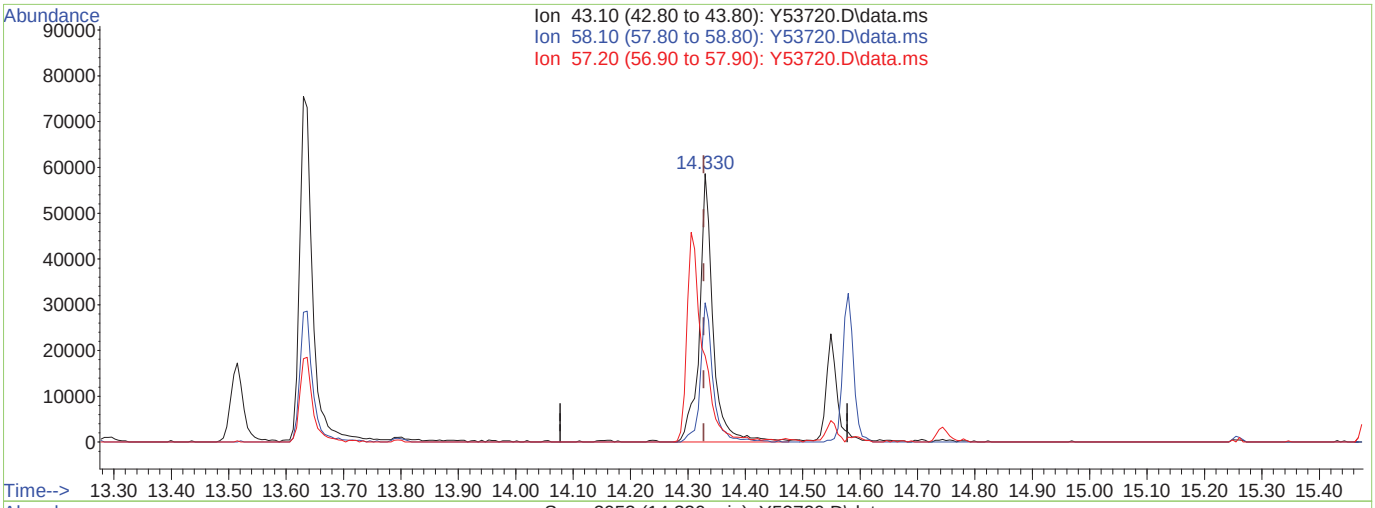
Sample Number: VY2229-IC2229
Lab FileID: Y53720.D
Injection Time: 10/31/20 11:54
Method: SW846 8260B
Analyst approved: 11/02/20 08:01 Chelsea VanDenBurg
Supervisor approved: 11/02/20 11:36 Melissa Mangual

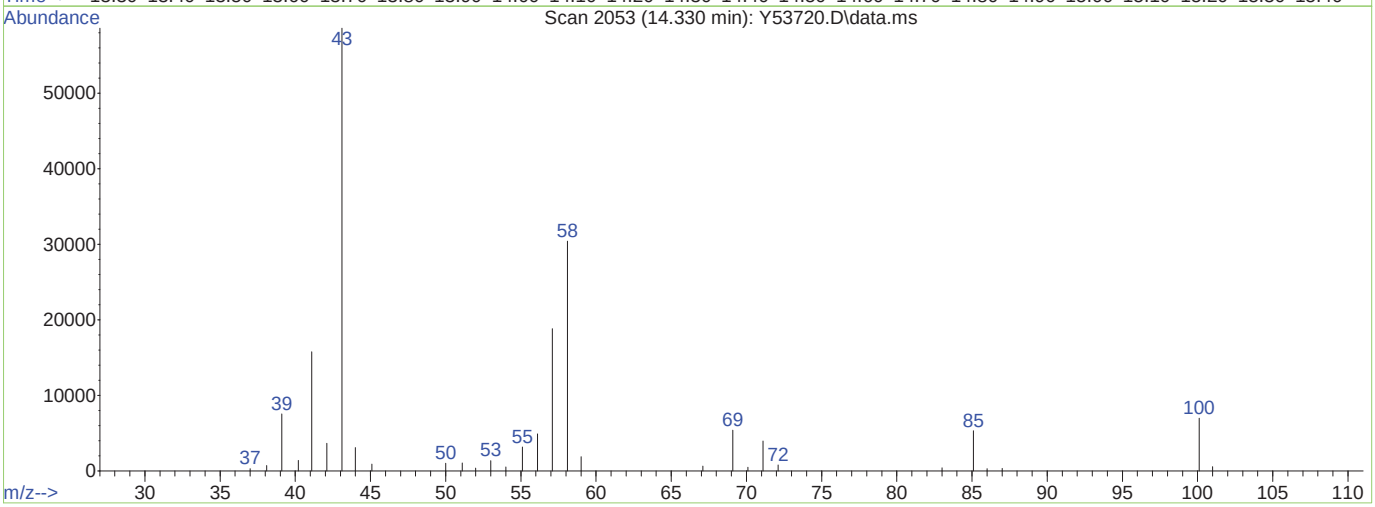
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.62	Poor instrument integration
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53720.D
Acq On : 31 Oct 2020 11:54 am
Operator : chelseav
Sample : IC2229-2 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 12:37:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53720.D\data.ms

(69) 2-hexanone

14.330min (+0.002) 36.73ug/L

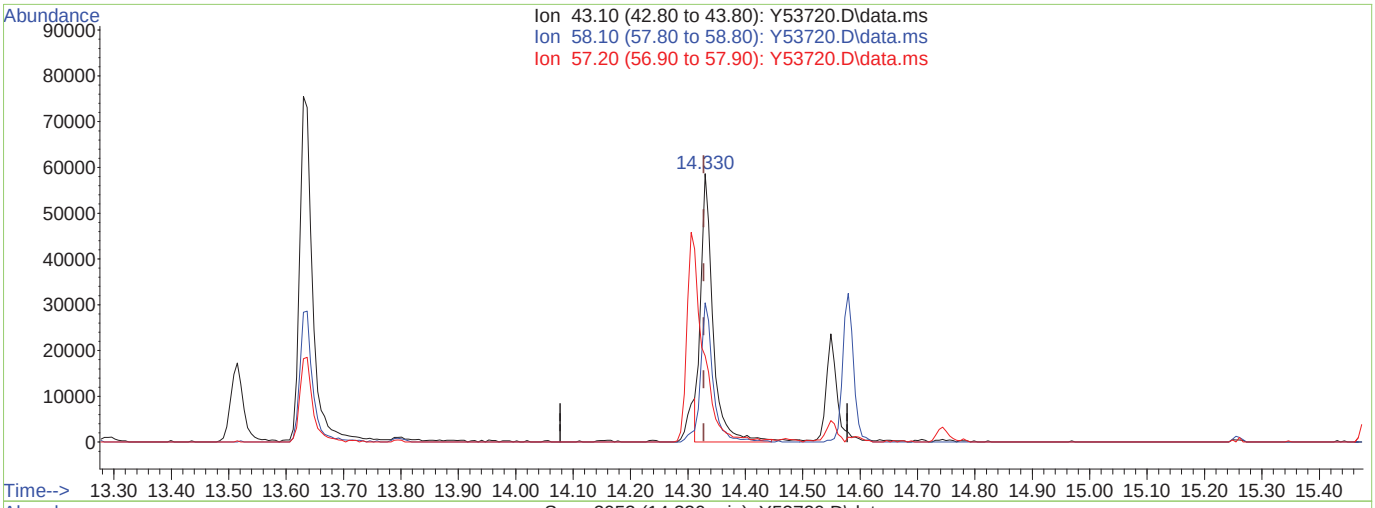
response 97547

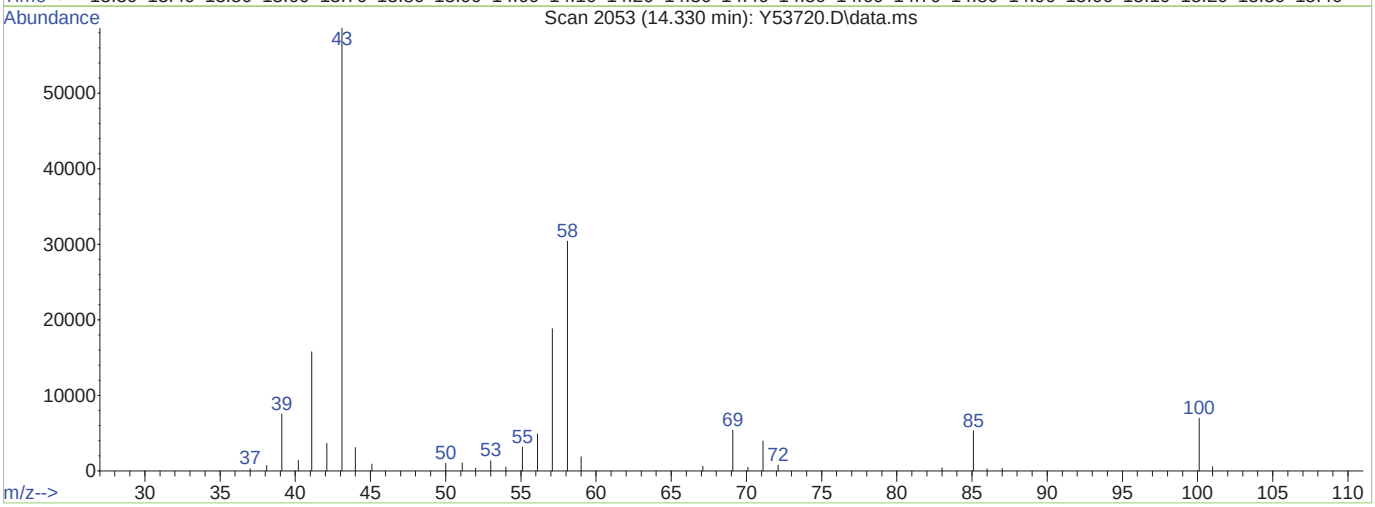
Ion	Exp%	Act%
43.10	100	100
58.10	49.00	51.85
57.20	29.00	32.09
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53720.D
Acq On : 31 Oct 2020 11:54 am
Operator : chelseav
Sample : IC2229-2 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 12:37:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53720.D\data.ms

(69) 2-hexanone

14.330min (+0.002) 32.72ug/L m

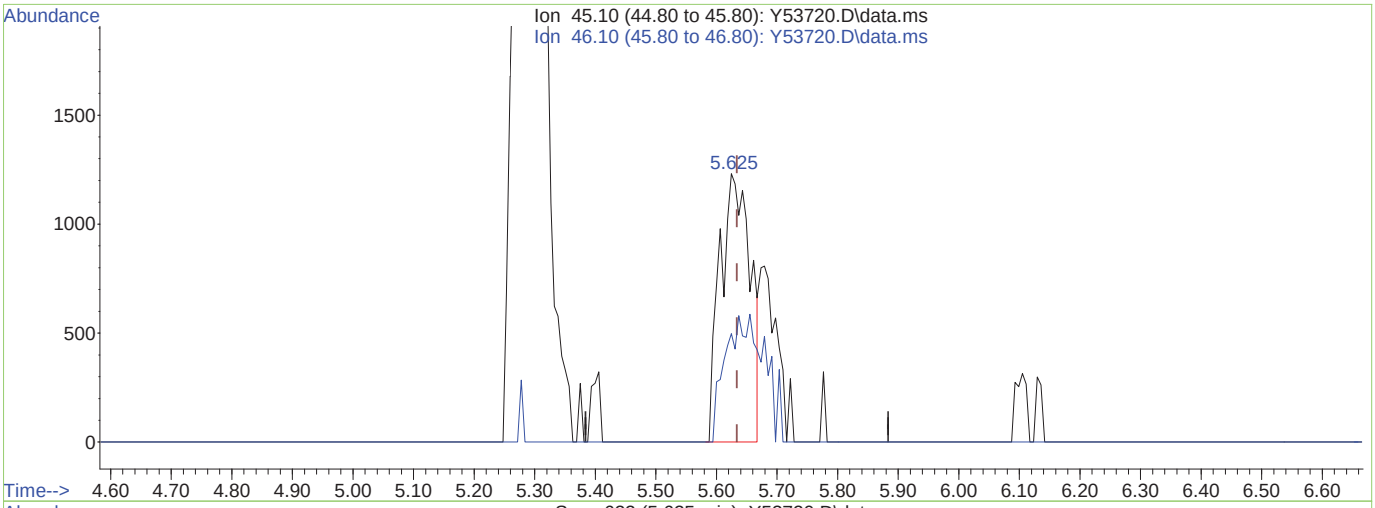
response 86901

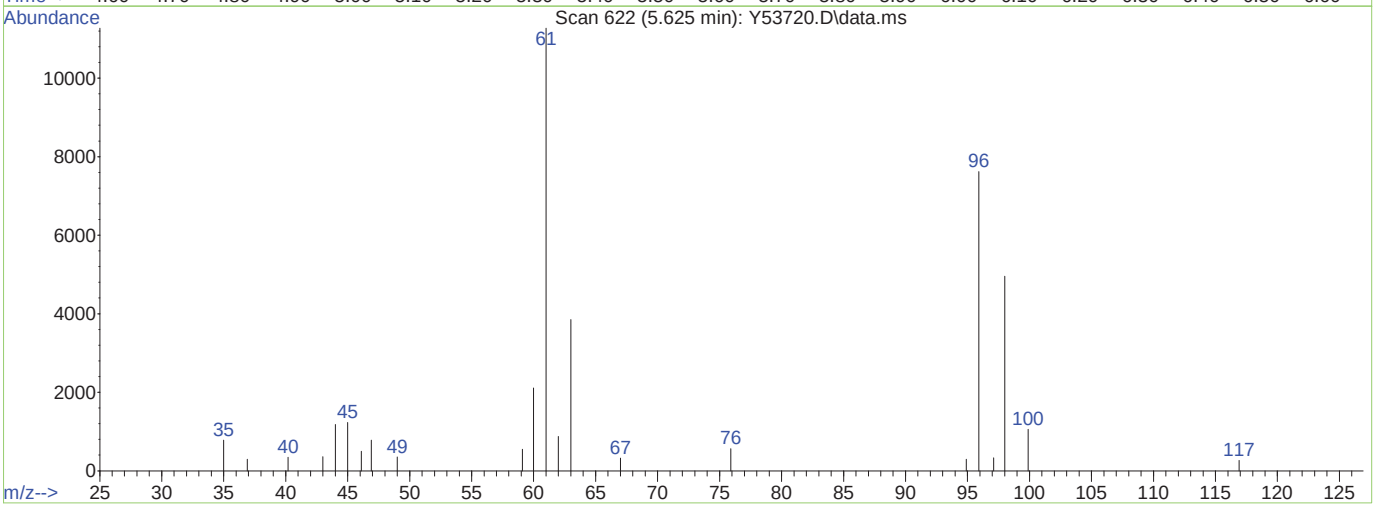
Ion	Exp%	Act%
43.10	100	100
58.10	49.00	51.85
57.20	29.00	32.09
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53720.D
Acq On : 31 Oct 2020 11:54 am
Operator : chelseav
Sample : IC2229-2 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 12:37:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53720.D\data.ms

(108) Ethanol

5.625min (-0.009) 69.32ug/L

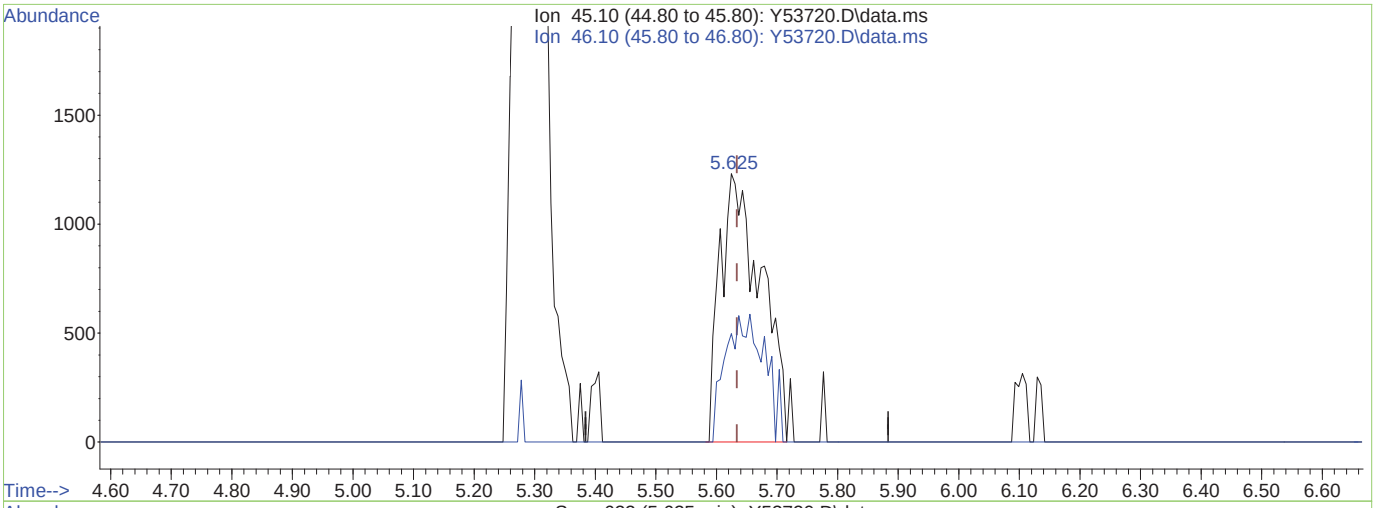
response 4270

Ion	Exp%	Act%
45.10	100	100
46.10	39.50	40.45
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53720.D
Acq On : 31 Oct 2020 11:54 am
Operator : chelseav
Sample : IC2229-2 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 12:37:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration



TIC: Y53720.D\data.ms

(108) Ethanol

5.625min (-0.009) 94.34ug/L m

response 5798

Ion	Exp%	Act%
45.10	100	100
46.10	39.50	40.45
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/02/20 11:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53721.D
Acq On : 31 Oct 2020 12:21 pm
Operator : chelseav
Sample : IC2229-3 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 02 07:44:18 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.520	96	1802940	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.580	117	1742951	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.271	152	959701	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.413	65	113565	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.333	113	468584	52.26	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 104.52%			
47) 1,2-Dichloroethane-d4	11.142	65	427727	52.67	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 105.34%			
58) Toluene-d8	13.241	98	1893154	48.67	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.34%			
80) 4-Bromofluorobenzene	15.486	174	715814	55.67	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 111.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.033	85	89207	9.07	ug/L	100
3) Acrolein	6.312	56	57361	74.79	ug/L	99
4) Chloromethane	3.386	50	87878	10.05	ug/L	97
5) 1,3-butadiene	3.581	39	59091	7.97	ug/L	87
6) Vinyl Chloride	3.544	62	81819	9.28	ug/L	98
7) Bromomethane	4.152	94	35397	7.01	ug/L	99
8) Chloroethane	4.402	64	34462	7.08	ug/L	96
9) Trichlorofluoromethane	4.670	101	110484	7.78	ug/L	99
10) Ethyl Ether	5.290	59	55389	11.88	ug/L	91
11) 1,2-Dichlorotrifluoroe...	5.667	67	71743	9.40	ug/L	91
12) 1,1-Dichloroethene	5.637	61	99225	9.81	ug/L	95
13) Freon 113	5.734	101	95737	10.37	ug/L	97
14) Carbon Disulfide	5.673	76	174596	8.98	ug/L	97
15) Iodomethane	5.904	142	48300	7.52	ug/L	99
16) Allyl chloride	6.568	41	94727	8.80	ug/L	97
17) Methylene Chloride	6.781	49	110543	10.26	ug/L	95
18) Acetone	6.890	43	73574	65.53	ug/L	95
19) Methyl acetate	7.146	43	186649	69.39	ug/L	97
20) trans-1,2-Dichloroethene	7.097	61	93766	9.62	ug/L	95
21) Hexane	7.255	56	62907	10.47	ug/L	93
22) Methyl Tert Butyl Ether	7.322	73	141004	11.20	ug/L	97
23) Acetonitrile	7.803	41	65990	133.99	ug/L	99
24) Di-isopropyl ether	8.095	45	227382	10.17	ug/L	99
25) Chloroprene	8.271	53	95664	9.84	ug/L	96
26) 1,1-Dichloroethane	8.314	63	116372	9.56	ug/L	98
27) Acrylonitrile	8.435	53	93775	69.50	ug/L	98
28) ETBE	8.837	59	192992	11.28	ug/L	98
29) Vinyl acetate	8.867	43	596745	54.32	ug/L	99
30) cis-1,2-Dichloroethene	9.433	96	84010	10.06	ug/L	94
31) 2,2-Dichloropropane	9.640	77	67335	8.27	ug/L	98
32) Bromochloromethane	9.841	128	47723	11.04	ug/L	97
33) Cyclohexane	9.828	56	141716	10.77	ug/L	92
34) Chloroform	10.011	83	120871	9.39	ug/L	96
35) Ethyl acetate	10.260	43	234817	62.34	ug/L	99
36) Tetrahydrofuran	10.260	42	12214	12.03	ug/L	92
38) Carbon Tetrachloride	10.230	117	99502	9.65	ug/L	97
39) 1,1,1-Trichloroethane	10.352	97	120340	9.78	ug/L	97
40) 2-Butanone	10.558	43	101283	69.23	ug/L	97
41) 1,1-Dichloropropene	10.564	75	96310	9.43	ug/L	97
42) tert-Butyl formate	10.753	59	37671	54.01	ug/L	95
43) Propionitrile	10.996	54	70884	147.70	ug/L	97
44) Methacrylonitrile	11.021	41	330070	126.59	ug/L	96
45) Benzene	10.948	78	292395	9.45	ug/L	97
46) TAME	11.130	73	148187	10.80	ug/L	95
48) 1,2-Dichloroethane	11.240	62	89161	10.45	ug/L	97
49) Trichloroethene	11.739	95	86225	9.84	ug/L	98
50) Methylcyclohexane	11.720	83	136944	9.63	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53721.D
Acq On : 31 Oct 2020 12:21 pm
Operator : chelseav
Sample : IC2229-3 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 02 07:44:18 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

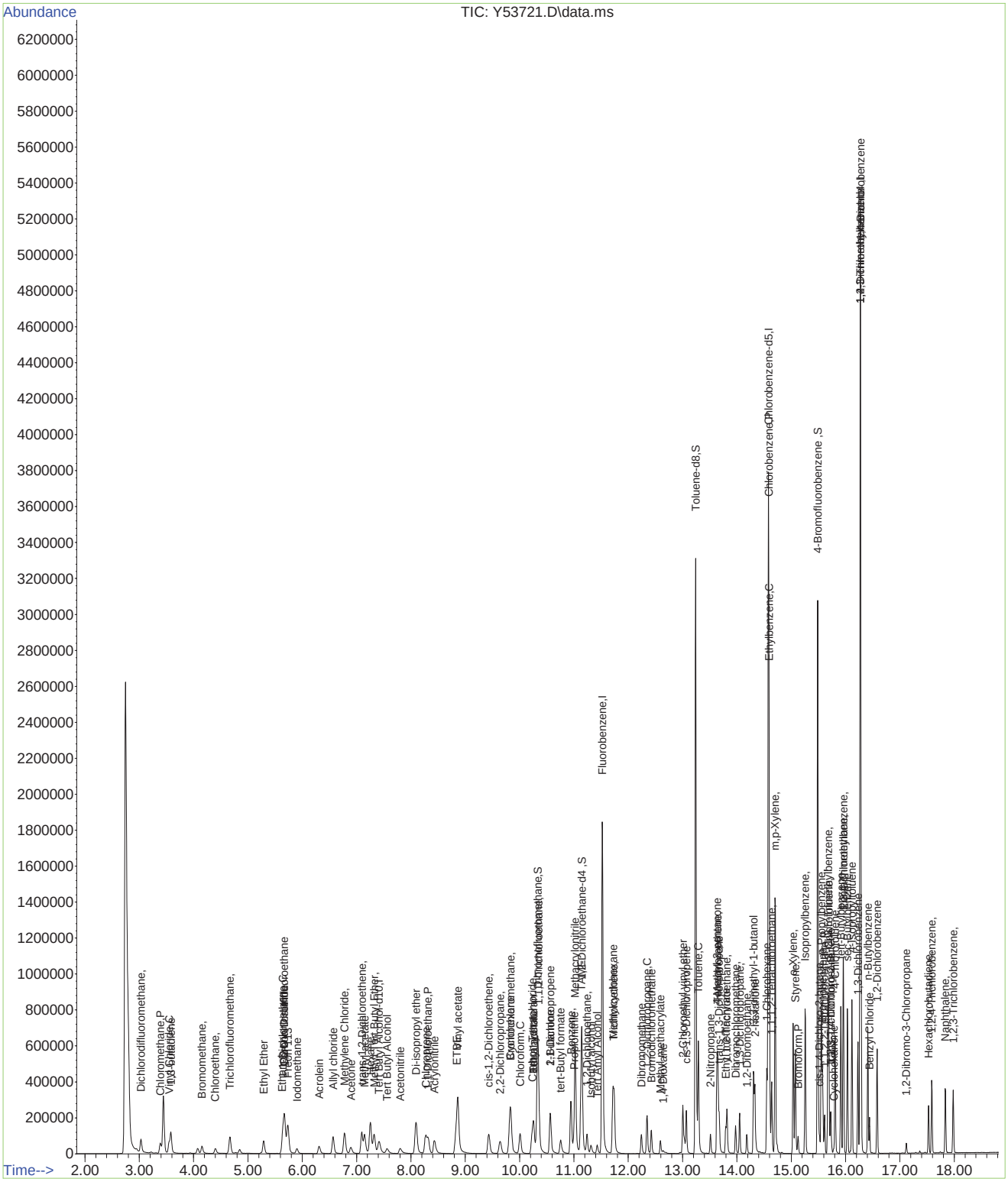
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) Dibromomethane	12.237	93	38176	11.30 ug/L	92
52) 1,2-Dichloropropane	12.347	63	69695	9.90 ug/L	97
53) Bromodichloromethane	12.426	83	76173	9.56 ug/L	96
54) Methyl methacrylate	12.590	41	39528	11.36 ug/L	96
55) 2-Chloroethyl vinyl ether	13.004	63	93189	71.29 ug/L	98
56) cis-1,3-Dichloropropene	13.071	75	101097	9.95 ug/L	98
59) Toluene	13.290	91	373101	9.88 ug/L	98
60) 2-Nitropropane	13.515	41	54379	57.93 ug/L	96
61) 4-Methyl-2-pentanone	13.631	43	238430	65.49 ug/L	96
62) trans-1,3-Dichloropropene	13.673	75	76770	10.13 ug/L	96
63) Tetrachloroethene	13.649	166	112617	11.33 ug/L	95
64) Ethyl methacrylate	13.795	69	57343	10.84 ug/L	97
65) 1,1,2-Trichloroethane	13.819	83	47767	11.34 ug/L	91
66) Dibromochloromethane	13.977	129	72469	11.51 ug/L	98
67) 1,3-Dichloropropane	14.050	76	101388	11.18 ug/L	98
68) 1,2-Dibromoethane	14.184	107	62671	12.36 ug/L	99
69) 2-hexanone	14.330	43	175898m	67.19 ug/L	
70) 1-Chlorohexane	14.549	91	118910	10.16 ug/L	95
71) Ethylbenzene	14.598	91	403730	9.73 ug/L	98
72) Chlorobenzene	14.592	112	264647	9.80 ug/L	97
73) 1,1,1,2-Tetrachloroethane	14.640	131	86496	10.15 ug/L	97
74) m,p-Xylene	14.701	91	635748	19.87 ug/L	99
75) o-Xylene	15.036	91	308936	9.96 ug/L	99
76) Styrene	15.072	104	244140	10.23 ug/L	99
77) Bromoform	15.127	173	35843	13.30 ug/L	95
78) Isopropylbenzene	15.255	105	427600	9.80 ug/L	100
81) cis-1,4-Dichloro-2-butene	15.522	53	14775	10.64 ug/L #	76
82) n-Propylbenzene	15.553	91	466472	9.65 ug/L	98
83) Bromobenzene	15.577	156	116070	11.33 ug/L	94
84) 1,1,2,2-Tetrachloroethane	15.614	83	66487	12.26 ug/L	91
85) 1,3,5-Trimethylbenzene	15.675	105	334260	9.64 ug/L	100
86) 2-Chlorotoluene	15.693	91	306845	10.00 ug/L	97
87) trans-1,4-Dichloro-2-B...	15.735	53	16884	13.00 ug/L #	74
88) 1,2,3-Trichloropropane	15.723	110	26173	12.92 ug/L	93
89) Cyclohexanone	15.778	55	7275	64.87 ug/L	98
90) 4-Chlorotoluene	15.808	91	274956	9.74 ug/L	98
91) tert-Butylbenzene	15.912	91	175118	9.80 ug/L	98
92) 1,2,4-Trimethylbenzene	15.954	105	338914	9.65 ug/L	98
93) Pentachloroethane	15.960	167	52815	10.77 ug/L	94
94) sec-Butylbenzene	16.033	105	403349	9.46 ug/L	97
95) 4-Isopropyltoluene	16.119	119	378062	9.91 ug/L	99
96) 1,3-Dichlorobenzene	16.228	146	210654	9.94 ug/L	97
97) 1,2,3-Trimethylbenzene	16.271	105	374236	9.09 ug/L	97
98) 1,4-Dichlorobenzene	16.283	146	212073	9.58 ug/L	91
99) n-Butylbenzene	16.411	92	153975	9.54 ug/L	96
100) Benzyl Chloride	16.441	126	25902	11.88 ug/L	99
101) 1,2-Dichlorobenzene	16.581	146	192295	10.29 ug/L	96
102) 1,2-Dibromo-3-Chloropr...	17.116	75	8201	11.59 ug/L #	70
103) Hexachlorobutadiene	17.530	225	36496	13.45 ug/L	82
104) 1,2,4-Trichlorobenzene	17.585	180	104218	12.68 ug/L	96
105) Naphthalene	17.834	128	248170	13.52 ug/L	97
106) 1,2,3-Trichlorobenzene	17.980	180	93435	13.75 ug/L	97
108) Ethanol	5.619	45	12347m	186.58 ug/L	
109) Tert Butyl Alcohol	7.565	59	46878	100.13 ug/L	89
110) Isobutyl alcohol	11.307	42	17775	169.89 ug/L	95
111) Tert Amyl Alcohol	11.428	59	25618	94.13 ug/L	93
112) 1,4-Dioxane	12.645	88	11319	201.24 ug/L	96
113) 3,3-dimethyl-1-butanol	14.306	57	208214	476.59 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53721.D
Acq On : 31 Oct 2020 12:21 pm
Operator : chelseav
Sample : IC2229-3 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 02 07:44:18 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration



RESTEK103120w.M Mon Nov 02 07:57:48 2020 Page: 3

Manual Integration Approval Summary

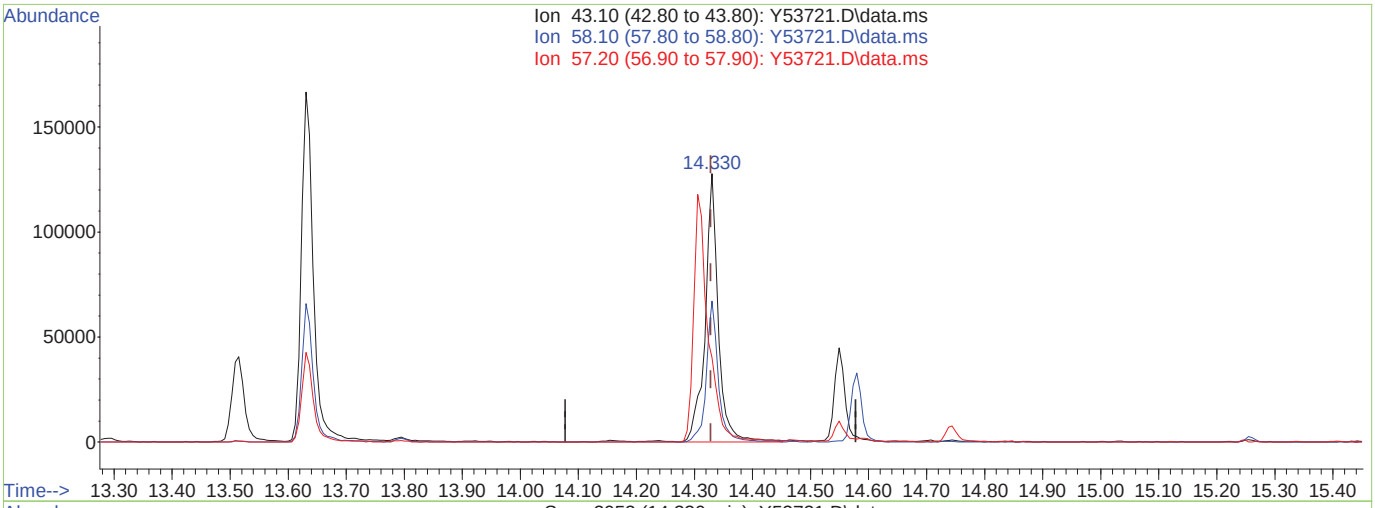
Sample Number: VY2229-IC2229
Lab FileID: Y53721.D
Injection Time: 10/31/20 12:21
Method: SW846 8260B
Analyst approved: 11/02/20 08:01 Chelsea VanDenBurg
Supervisor approved: 11/02/20 11:36 Melissa Mangual

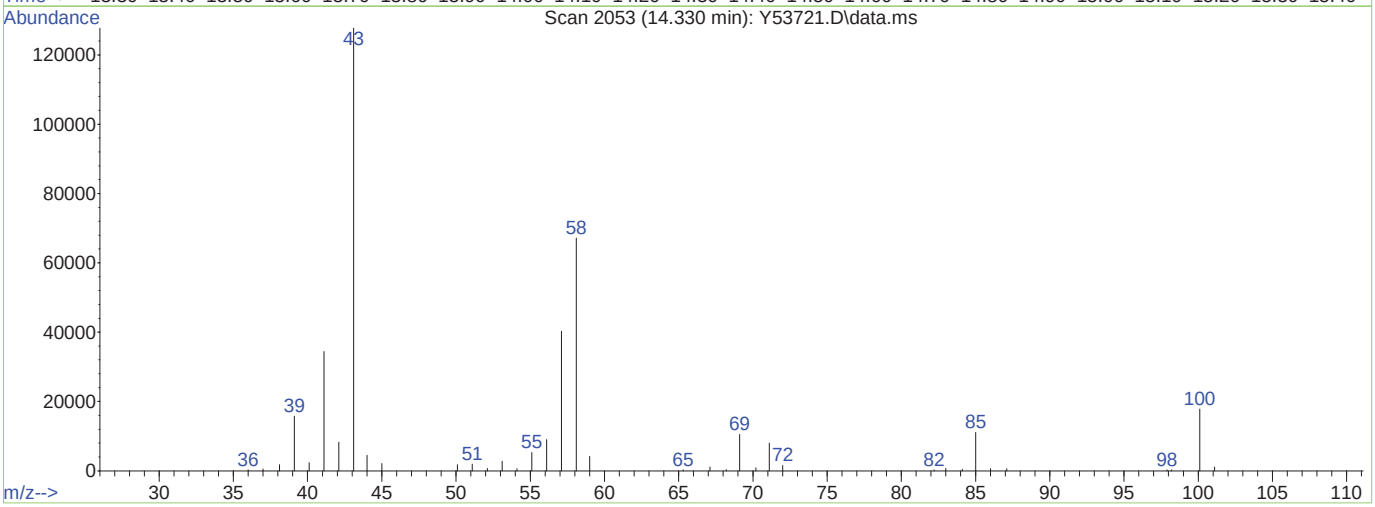
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.62	Poor instrument integration
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53721.D
Acq On : 31 Oct 2020 12:21 pm
Operator : chelseav
Sample : IC2229-3 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 02 07:43:01 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53721.D\data.ms

(69) 2-hexanone

14.330min (+0.002) 77.44ug/L

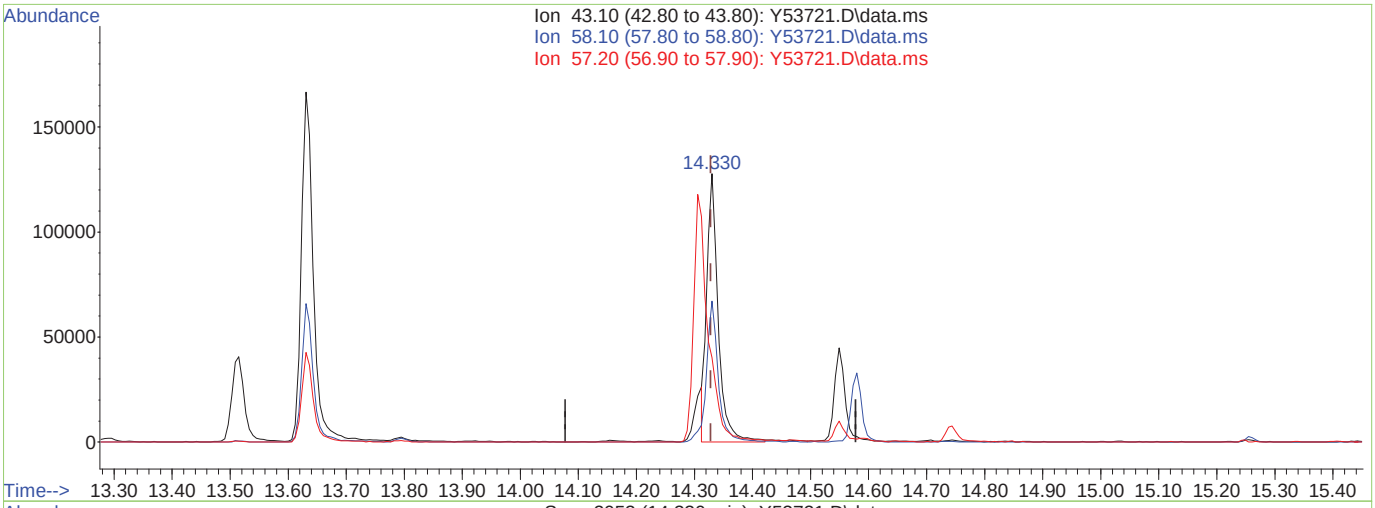
response 202719

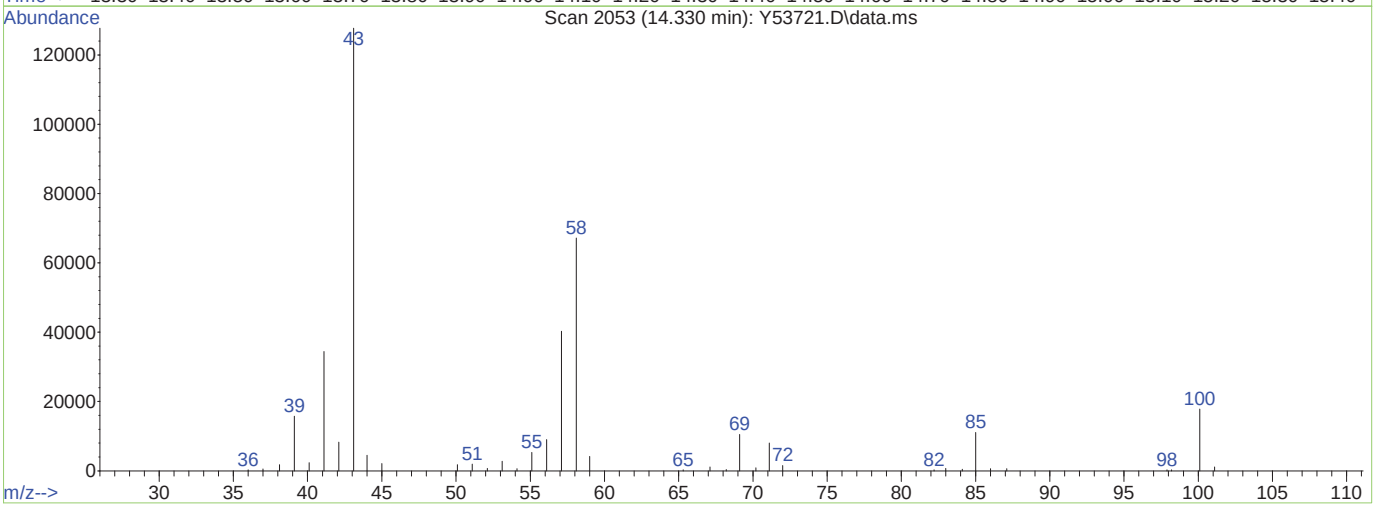
Ion	Exp%	Act%
43.10	100	100
58.10	49.00	52.55
57.20	29.00	31.55
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53721.D
Acq On : 31 Oct 2020 12:21 pm
Operator : chelseav
Sample : IC2229-3 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 02 07:43:01 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53721.D\data.ms

(69) 2-hexanone

14.330min (+0.002) 67.19ug/L m

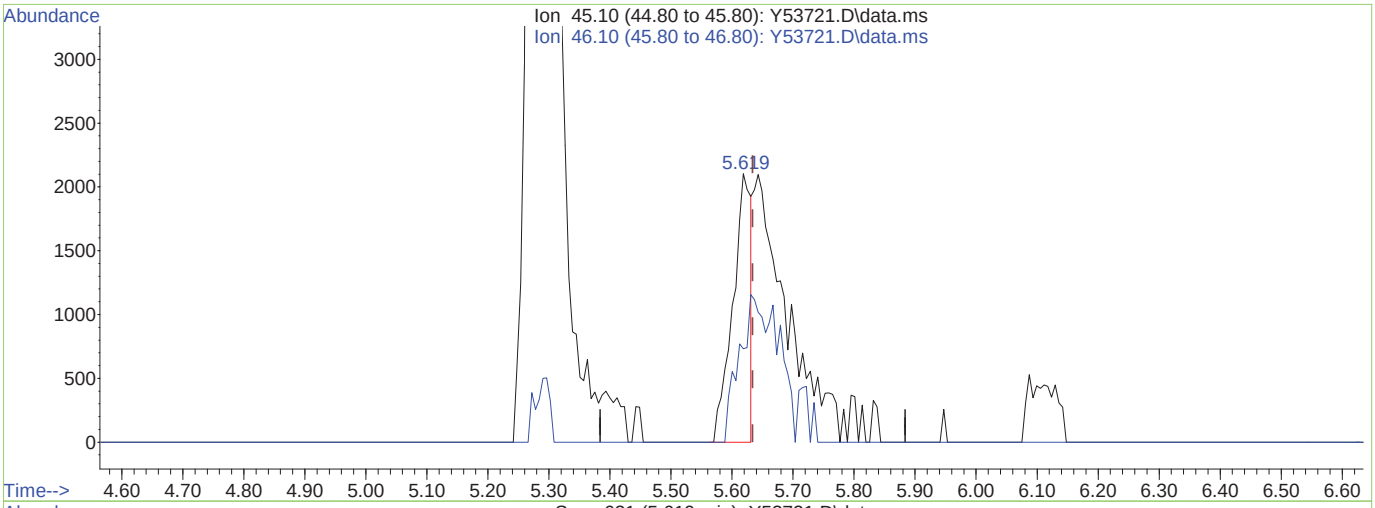
response 175898

Ion	Exp%	Act%
43.10	100	100
58.10	49.00	52.55
57.20	29.00	31.55
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53721.D
Acq On : 31 Oct 2020 12:21 pm
Operator : chelseav
Sample : IC2229-3 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 02 07:43:01 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration



TIC: Y53721.D\data.ms

(108) Ethanol

5.619min (-0.015) 65.09ug/L

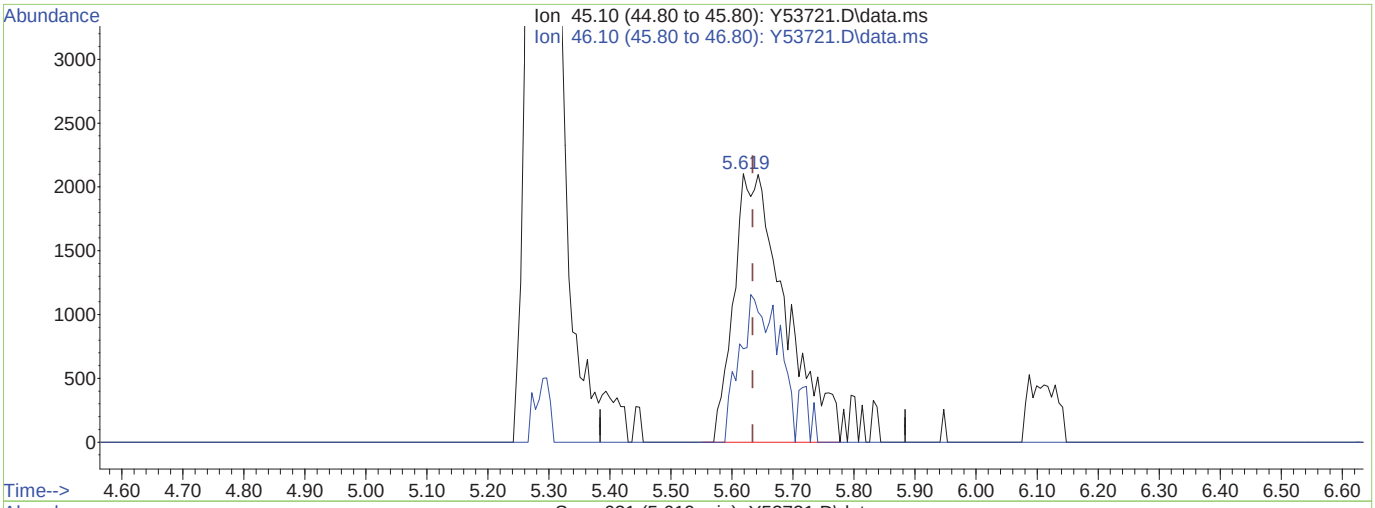
response 4356

Ion	Exp%	Act%
45.10	100	100
46.10	39.50	34.81
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53721.D
Acq On : 31 Oct 2020 12:21 pm
Operator : chelseav
Sample : IC2229-3 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 02 07:43:01 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration



TIC: Y53721.D\data.ms

(108) Ethanol

5.619min (-0.015) 186.58ug/L m

response 12347

Ion	Exp%	Act%
45.10	100	100
46.10	39.50	34.81
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/02/20 11:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:46:35 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.522	96	1803375	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.582	117	1731626	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	960503	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.416	65	118331	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	475568	53.02	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 106.04%			
47) 1,2-Dichloroethane-d4	11.145	65	414876	51.07	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 102.14%			
58) Toluene-d8	13.244	98	1903020	49.24	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 98.48%			
80) 4-Bromofluorobenzene	15.488	174	726737	56.47	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 112.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	238555	24.58	ug/L	100
3) Acrolein	6.308	56	145150	188.01	ug/L	97
4) Chloromethane	3.388	50	238184m	27.24	ug/L	
5) 1,3-butadiene	3.583	39	150172	20.24	ug/L	84
6) Vinyl Chloride	3.547	62	216231	24.53	ug/L	99
7) Bromomethane	4.155	94	82153	16.33	ug/L	98
8) Chloroethane	4.398	64	59008	12.60	ug/L	97
9) Trichlorofluoromethane	4.666	101	302353	21.28	ug/L	99
10) Ethyl Ether	5.286	59	141825	30.41	ug/L	94
11) 1,2-Dichlorotrifluoroe...	5.676	67	183111	23.98	ug/L	93
12) 1,1-Dichloroethene	5.639	61	250220	24.73	ug/L	92
13) Freon 113	5.737	101	241839	26.61	ug/L	97
14) Carbon Disulfide	5.670	76	467190	24.01	ug/L	98
15) Iodomethane	5.901	142	170146	24.69	ug/L	98
16) Allyl chloride	6.564	41	263622	24.48	ug/L	98
17) Methylene Chloride	6.777	49	255432	23.70	ug/L	97
18) Acetone	6.886	43	174299	159.89	ug/L	94
19) Methyl acetate	7.142	43	470414	174.85	ug/L	99
20) trans-1,2-Dichloroethene	7.093	61	238832	24.49	ug/L	95
21) Hexane	7.251	56	161952m	26.95	ug/L	
22) Methyl Tert Butyl Ether	7.318	73	377387	29.98	ug/L	98
23) Acetonitrile	7.799	41	154706	314.05	ug/L	99
24) Di-isopropyl ether	8.091	45	589865	26.38	ug/L	98
25) Chloroprene	8.267	53	256848	26.40	ug/L	96
26) 1,1-Dichloroethane	8.316	63	291742	23.97	ug/L	99
27) Acrylonitrile	8.425	53	245049	182.99	ug/L	99
28) ETBE	8.833	59	502992	29.38	ug/L	98
29) Vinyl acetate	8.863	43	1624551	146.92	ug/L	100
30) cis-1,2-Dichloroethene	9.429	96	211943	25.38	ug/L	95
31) 2,2-Dichloropropane	9.642	77	204850	24.30	ug/L	98
32) Bromochloromethane	9.843	128	119593	27.67	ug/L	94
33) Cyclohexane	9.825	56	362427	27.54	ug/L	94
34) Chloroform	10.007	83	297727	23.11	ug/L	97
35) Ethyl acetate	10.257	43	621978	165.85	ug/L	99
36) Tetrahydrofuran	10.257	42	35062	34.52	ug/L	95
38) Carbon Tetrachloride	10.232	117	265206	25.71	ug/L	98
39) 1,1,1-Trichloroethane	10.354	97	301055	24.45	ug/L	97
40) 2-Butanone	10.555	43	258081	176.37	ug/L	99
41) 1,1-Dichloropropene	10.567	75	253698	24.83	ug/L	94
42) tert-Butyl formate	10.755	59	127358	148.98	ug/L	96
43) Propionitrile	10.993	54	173678	361.81	ug/L	97
44) Methacrylonitrile	11.023	41	814432	312.27	ug/L	97
45) Benzene	10.944	78	725828	23.46	ug/L	97
46) TAME	11.127	73	378974	27.62	ug/L	98
48) 1,2-Dichloroethane	11.242	62	219363	25.70	ug/L	98
49) Trichloroethene	11.741	95	213961	24.40	ug/L	97
50) Methylcyclohexane	11.717	83	345271	24.28	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:46:35 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

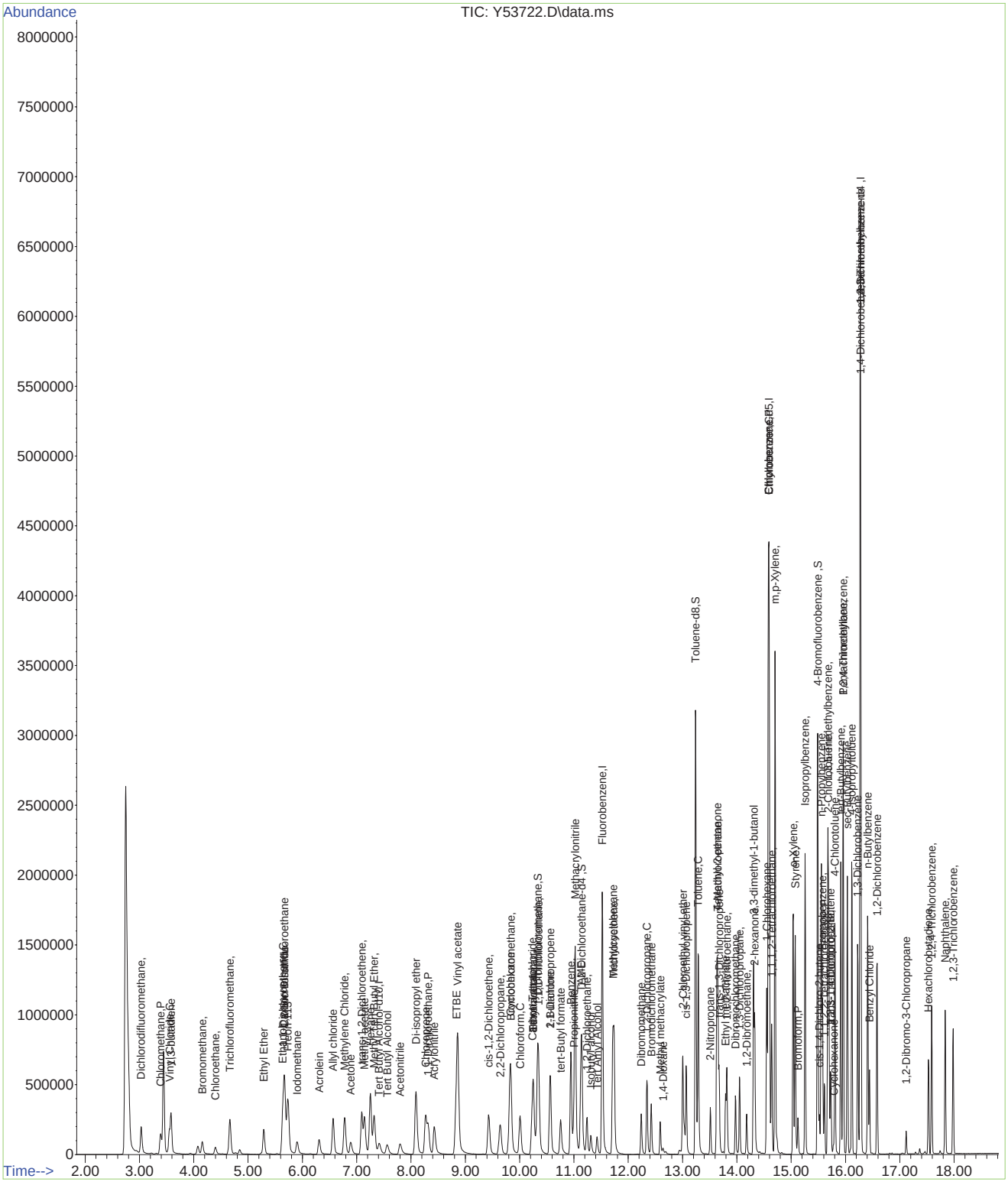
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.240	93	94886	28.07	ug/L		86
52) 1,2-Dichloropropane	12.343	63	172074	24.44	ug/L		97
53) Bromodichloromethane	12.422	83	196524	24.66	ug/L		98
54) Methyl methacrylate	12.587	41	103100	28.99	ug/L		95
55) 2-Chloroethyl vinyl ether	13.006	63	252900	174.51	ug/L		99
56) cis-1,3-Dichloropropene	13.067	75	270946	26.67	ug/L		99
59) Toluene	13.292	91	907301	24.18	ug/L		98
60) 2-Nitropropane	13.511	41	158459	165.15	ug/L		99
61) 4-Methyl-2-pentanone	13.633	43	611532	169.07	ug/L		96
62) trans-1,3-Dichloropropene	13.676	75	210600	27.97	ug/L		96
63) Tetrachloroethene	13.651	166	274883	27.83	ug/L		93
64) Ethyl methacrylate	13.791	69	155043	28.90	ug/L		99
65) 1,1,2-Trichloroethane	13.815	83	117408	28.05	ug/L		95
66) Dibromochloromethane	13.974	129	191155	30.57	ug/L		100
67) 1,3-Dichloropropane	14.047	76	252633	28.04	ug/L		99
68) 1,2-Dibromoethane	14.180	107	161121	31.99	ug/L		100
69) 2-hexanone	14.326	43	455058m	174.97	ug/L		
70) 1-Chlorohexane	14.552	91	301894	25.98	ug/L		97
71) Ethylbenzene	14.594	91	979234	23.77	ug/L		100
72) Chlorobenzene	14.594	112	633918	23.63	ug/L		98
73) 1,1,1,2-Tetrachloroethane	14.643	131	224776	26.54	ug/L		99
74) m,p-Xylene	14.704	91	1549443	48.74	ug/L		99
75) o-Xylene	15.038	91	787119	25.53	ug/L		97
76) Styrene	15.075	104	634331	26.74	ug/L		98
77) Bromoform	15.123	173	99465	35.07	ug/L		97
78) Isopropylbenzene	15.257	105	1082946	24.99	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.519	53	44103	31.27	ug/L		90
82) n-Propylbenzene	15.555	91	1175579	24.30	ug/L		99
83) Bromobenzene	15.580	156	280693	27.38	ug/L		96
84) 1,1,2,2-Tetrachloroethane	15.610	83	166129	30.61	ug/L		100
85) 1,3,5-Trimethylbenzene	15.677	105	842435	24.28	ug/L		98
86) 2-Chlorotoluene	15.689	91	736398	23.98	ug/L		99
87) trans-1,4-Dichloro-2-B...	15.732	53	45712	35.18	ug/L		91
88) 1,2,3-Trichloropropane	15.726	110	62145	30.66	ug/L		98
89) Cyclohexanone	15.780	55	20599	183.54	ug/L		97
90) 4-Chlorotoluene	15.805	91	687788	24.35	ug/L		100
91) tert-Butylbenzene	15.914	91	442303	24.73	ug/L		99
92) 1,2,4-Trimethylbenzene	15.957	105	848050	24.12	ug/L		99
93) Pentachloroethane	15.963	167	139076	28.32	ug/L	#	83
94) sec-Butylbenzene	16.036	105	1020240	23.91	ug/L		97
95) 4-Isopropyltoluene	16.115	119	961561	25.19	ug/L		100
96) 1,3-Dichlorobenzene	16.224	146	526900	24.85	ug/L		99
97) 1,2,3-Trimethylbenzene	16.267	105	929576	22.55	ug/L		98
98) 1,4-Dichlorobenzene	16.285	146	513934	23.19	ug/L		98
99) n-Butylbenzene	16.407	92	395905	24.52	ug/L		98
100) Benzyl Chloride	16.443	126	81569	34.17	ug/L		97
101) 1,2-Dichlorobenzene	16.583	146	481996	25.77	ug/L		95
102) 1,2-Dibromo-3-Chloropr...	17.119	75	24187	33.78	ug/L	#	70
103) Hexachlorobutadiene	17.526	225	92538	34.35	ug/L		87
104) 1,2,4-Trichlorobenzene	17.587	180	273927	33.08	ug/L		94
105) Naphthalene	17.837	128	687824	36.49	ug/L		99
106) 1,2,3-Trichlorobenzene	17.983	180	242280	35.59	ug/L		96
108) Ethanol	5.627	45	31698m	472.30	ug/L		
109) Tert Butyl Alcohol	7.562	59	114287	237.43	ug/L		93
110) Isobutyl alcohol	11.309	42	50763	465.63	ug/L		93
111) Tert Amyl Alcohol	11.425	59	69179	243.96	ug/L		95
112) 1,4-Dioxane	12.641	88	28932	495.07	ug/L		97
113) 3,3-dimethyl-1-butanol	14.308	57	563326	1237.48	ug/L		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:46:35 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration



Manual Integration Approval Summary

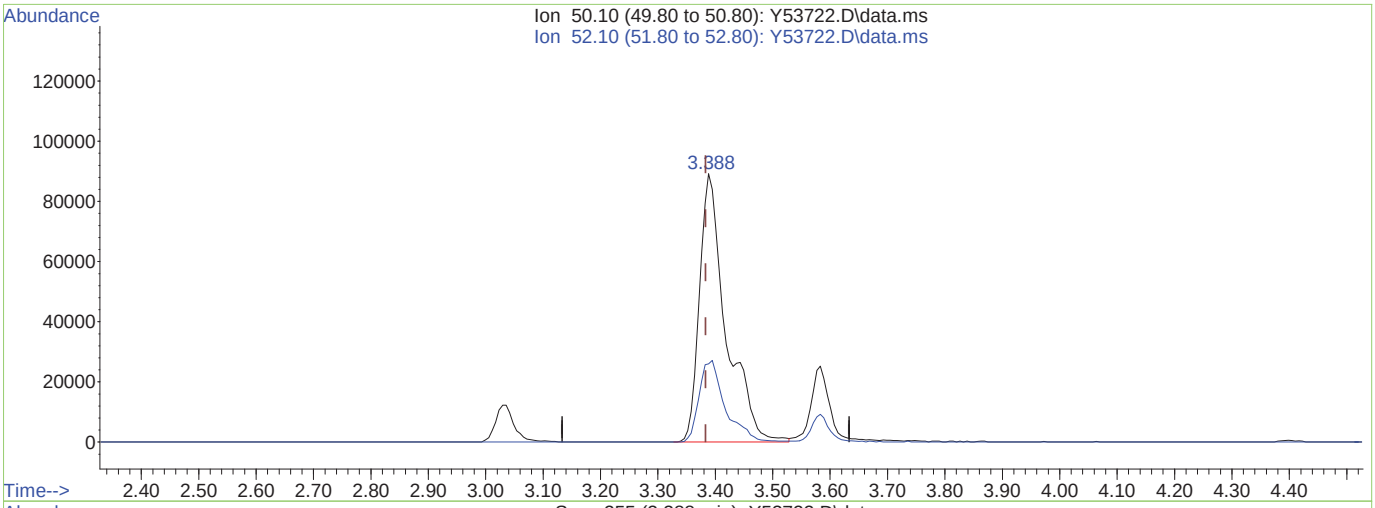
Sample Number: VY2229-IC2229
Lab FileID: Y53722.D
Injection Time: 10/31/20 12:47
Method: SW846 8260B
Analyst approved: 11/02/20 08:01 Chelsea VanDenBurg
Supervisor approved: 11/02/20 11:36 Melissa Mangual

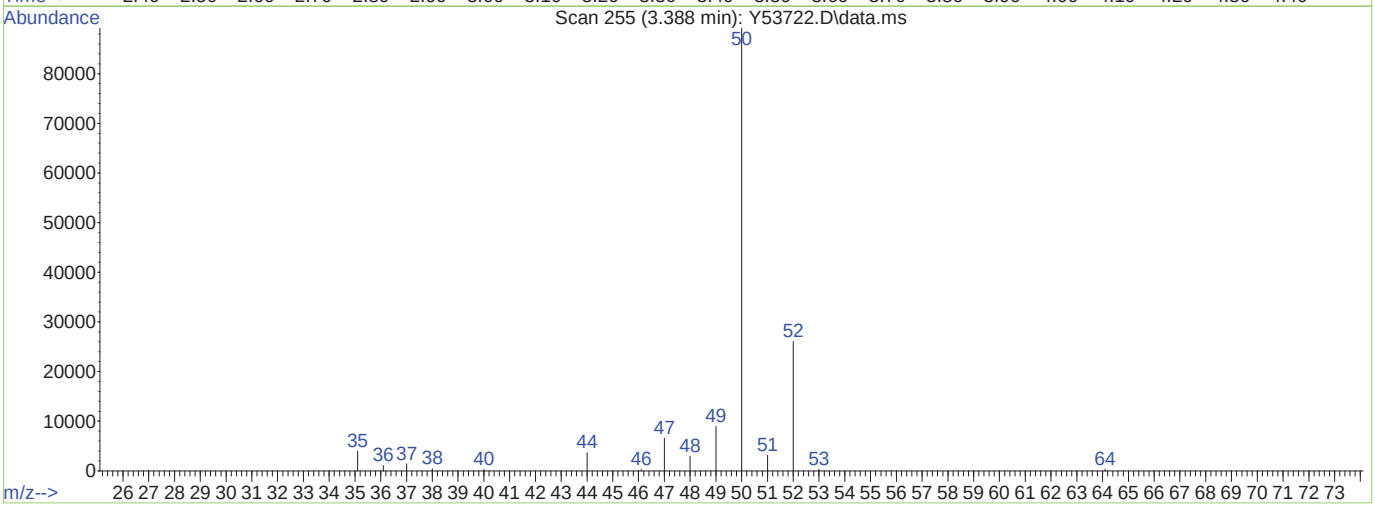
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
Ethyl Alcohol	64-17-5		5.63	Poor instrument integration
Hexane	110-54-3		7.25	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:43:03 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53722.D\data.ms

(4) Chloromethane (P)

3.388min (+0.005) 32.84ug/L

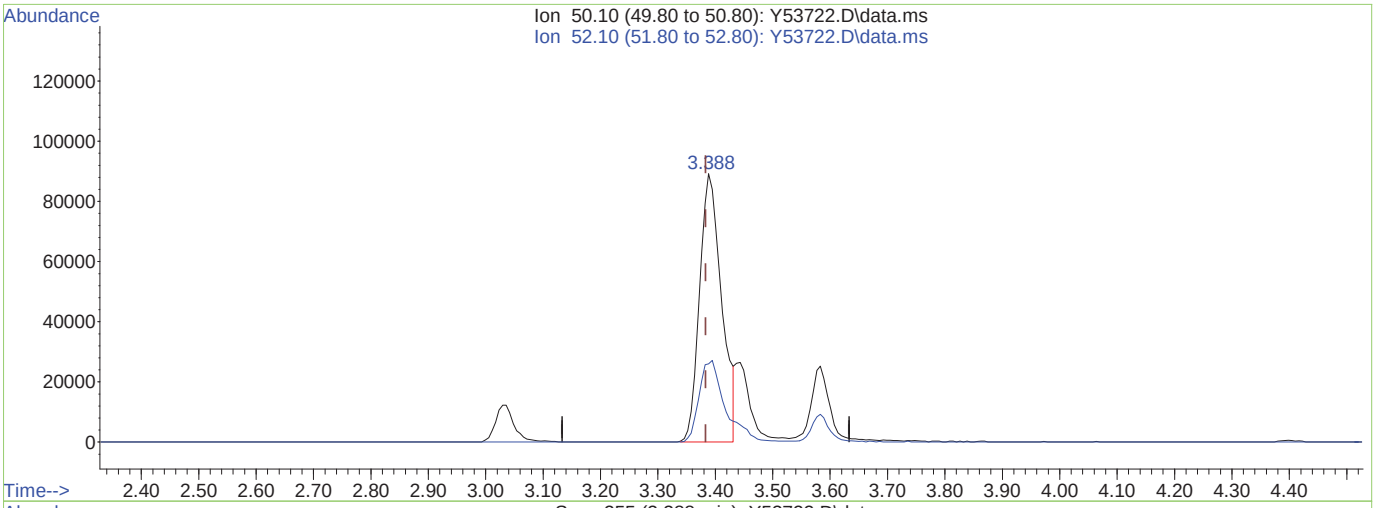
response 287202

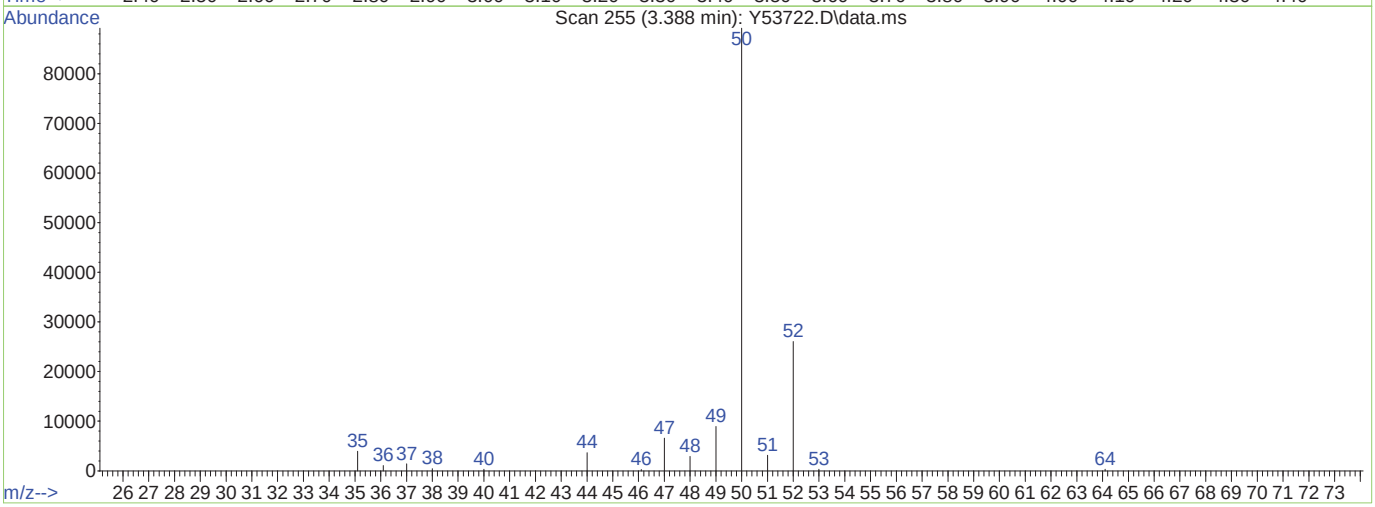
Ion	Exp%	Act%
50.10	100	100
52.10	31.70	29.21
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:43:03 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53722.D\data.ms

(4) Chloromethane (P)

3.388min (+0.005) 27.24ug/L m

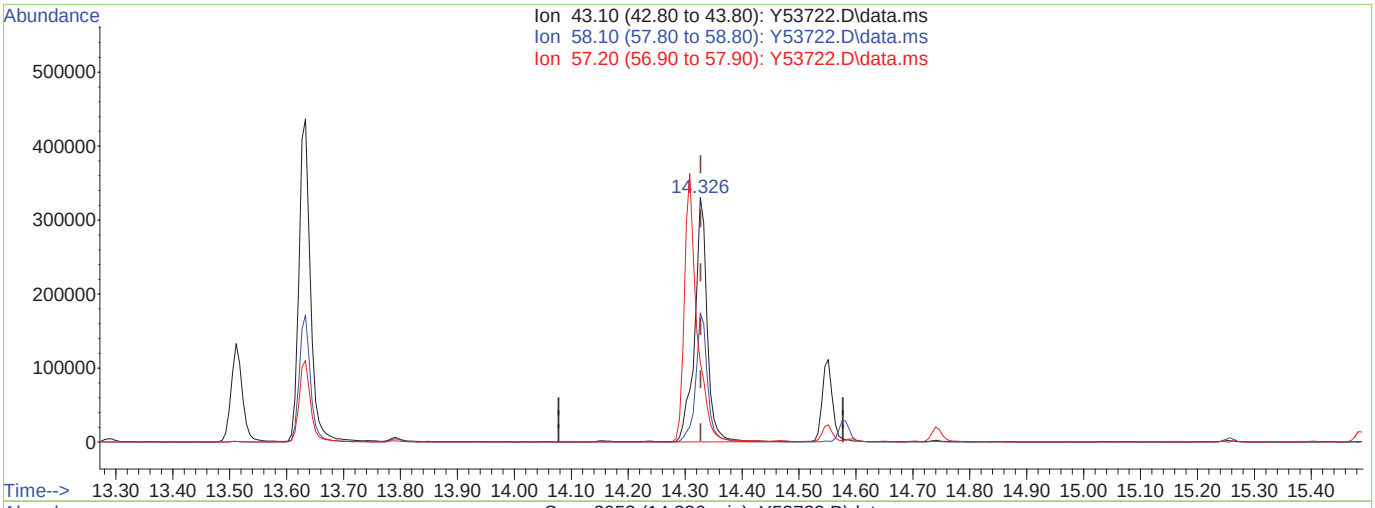
response 238184

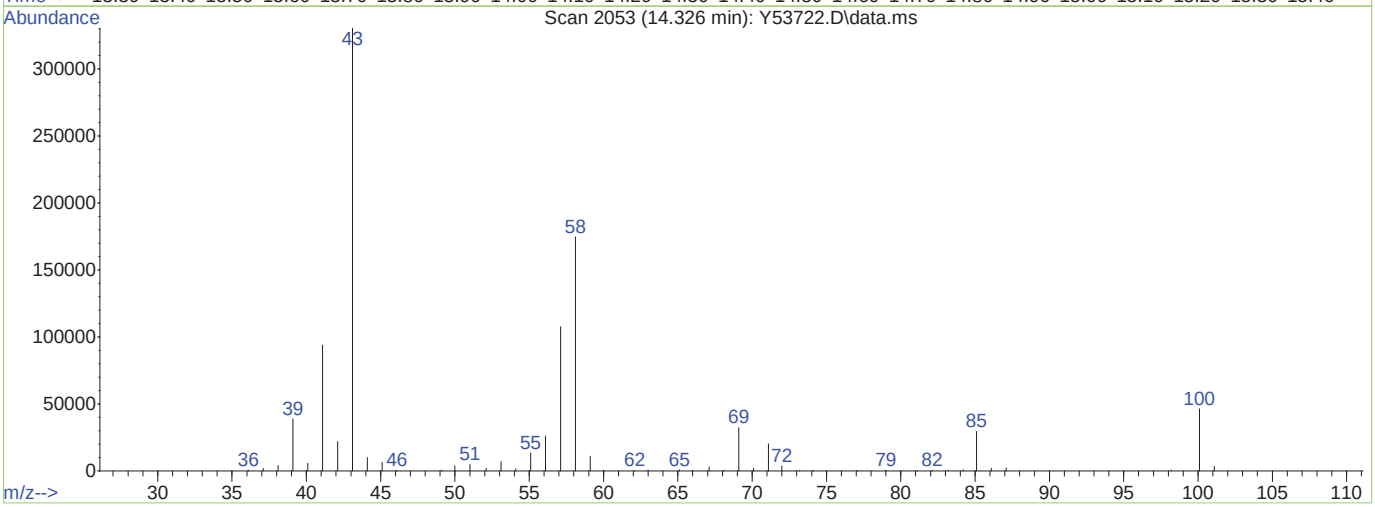
Ion	Exp%	Act%
50.10	100	100
52.10	31.70	29.21
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:43:03 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53722.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 196.77ug/L

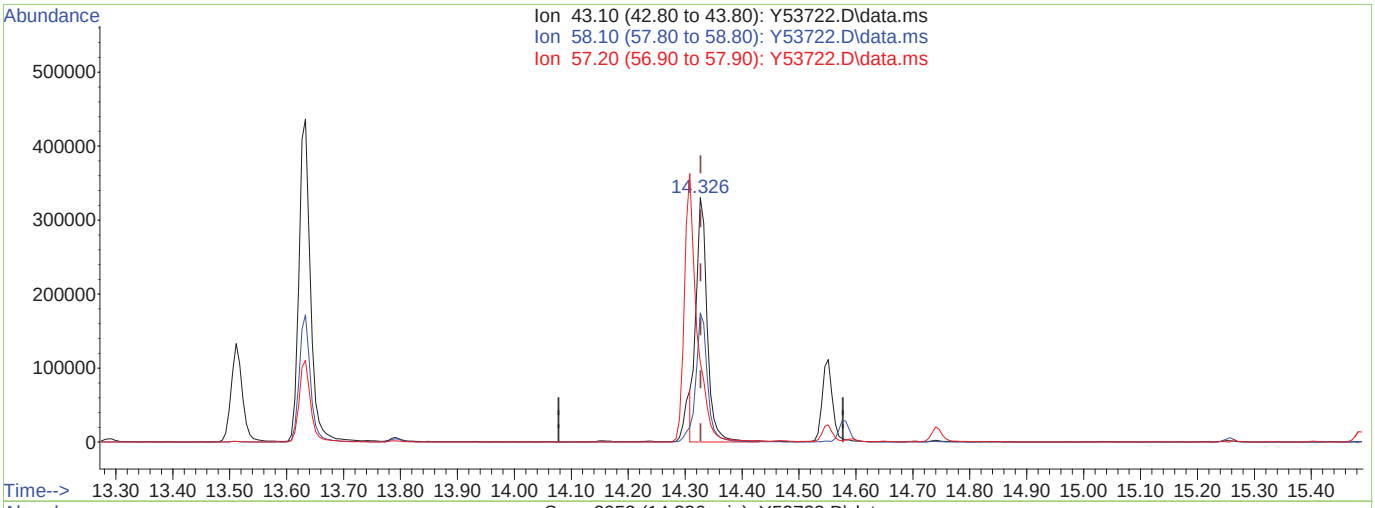
response 511769

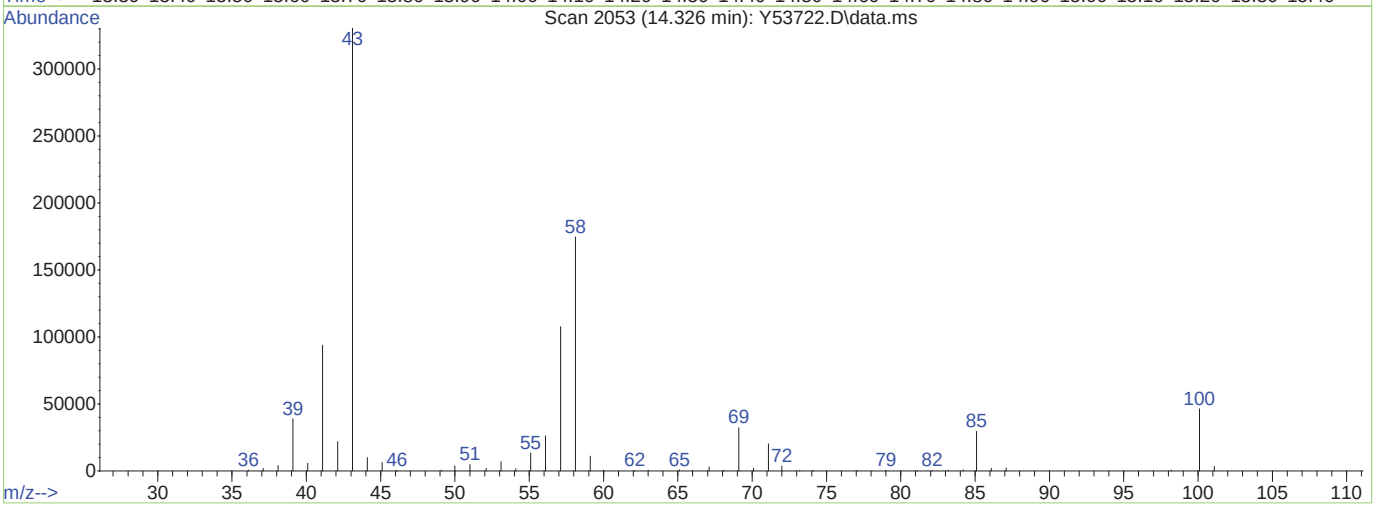
Ion	Exp%	Act%
43.10	100	100
58.10	49.00	52.90
57.20	29.00	32.61
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:43:03 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53722.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 174.97ug/L m

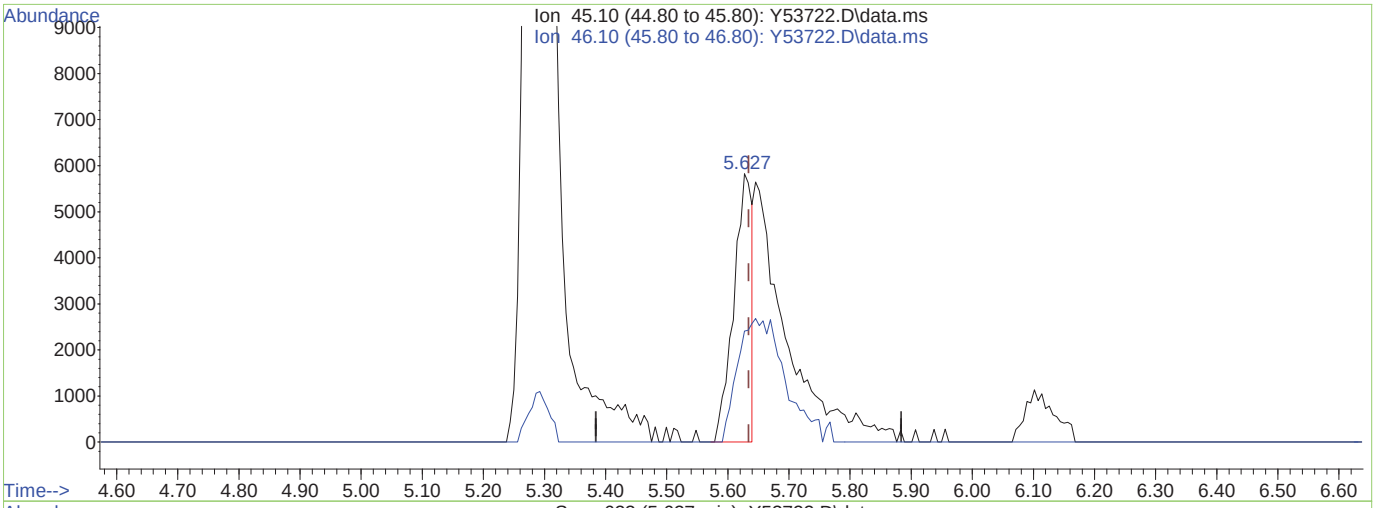
response 455058

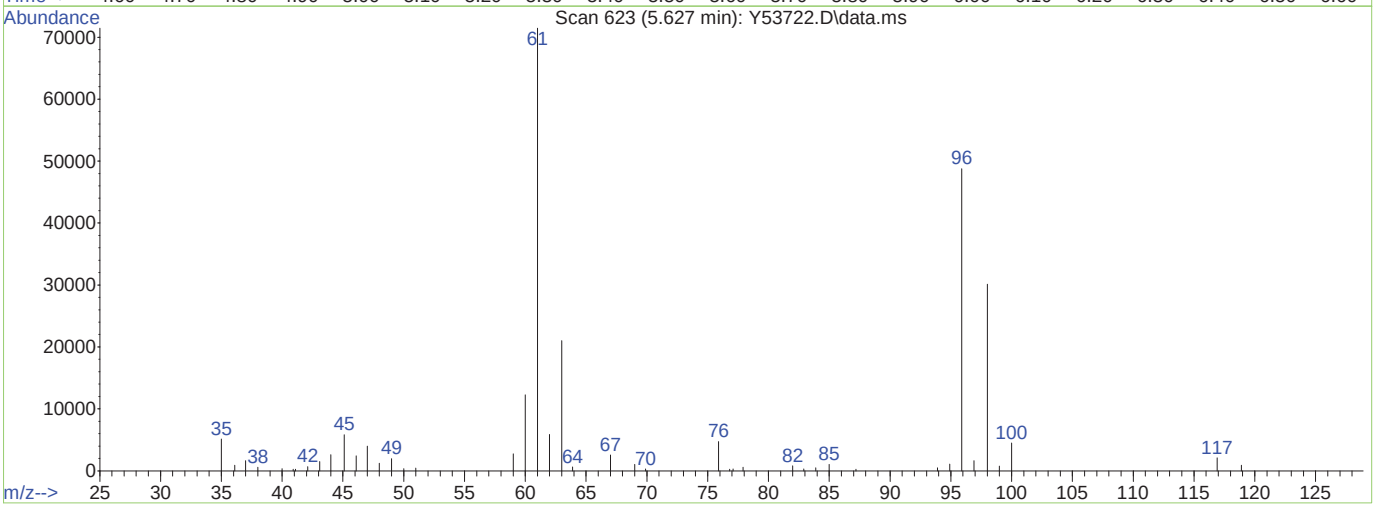
Ion	Exp%	Act%
43.10	100	100
58.10	49.00	52.84
57.20	29.00	32.57
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:43:03 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53722.D\data.ms

(108) Ethanol

5.627min (-0.007) 176.11ug/L

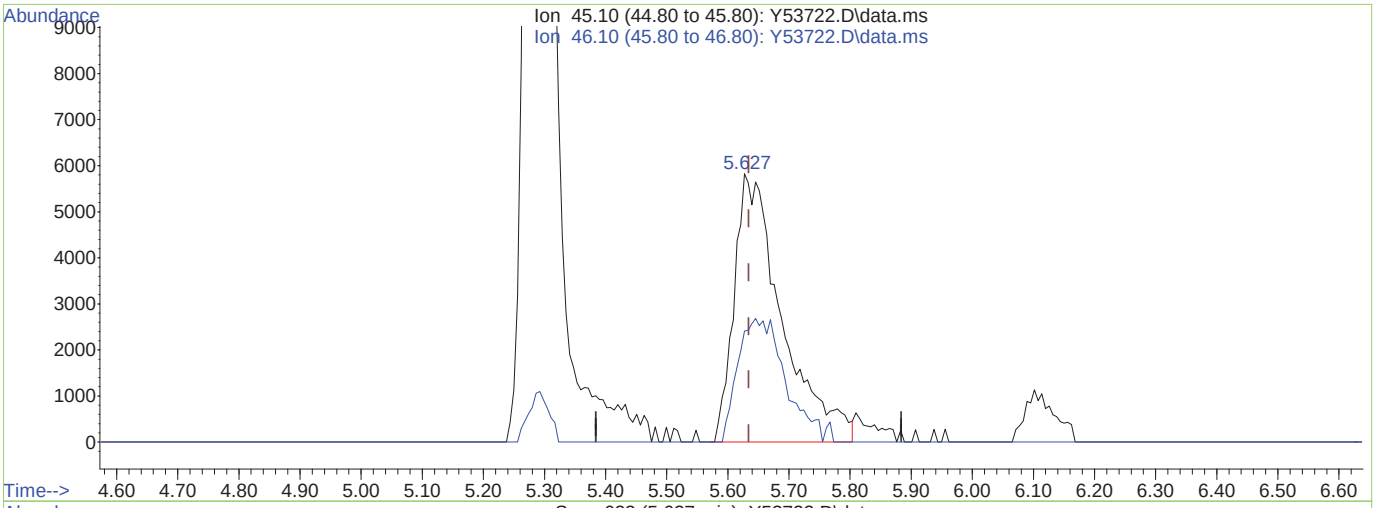
response 12155

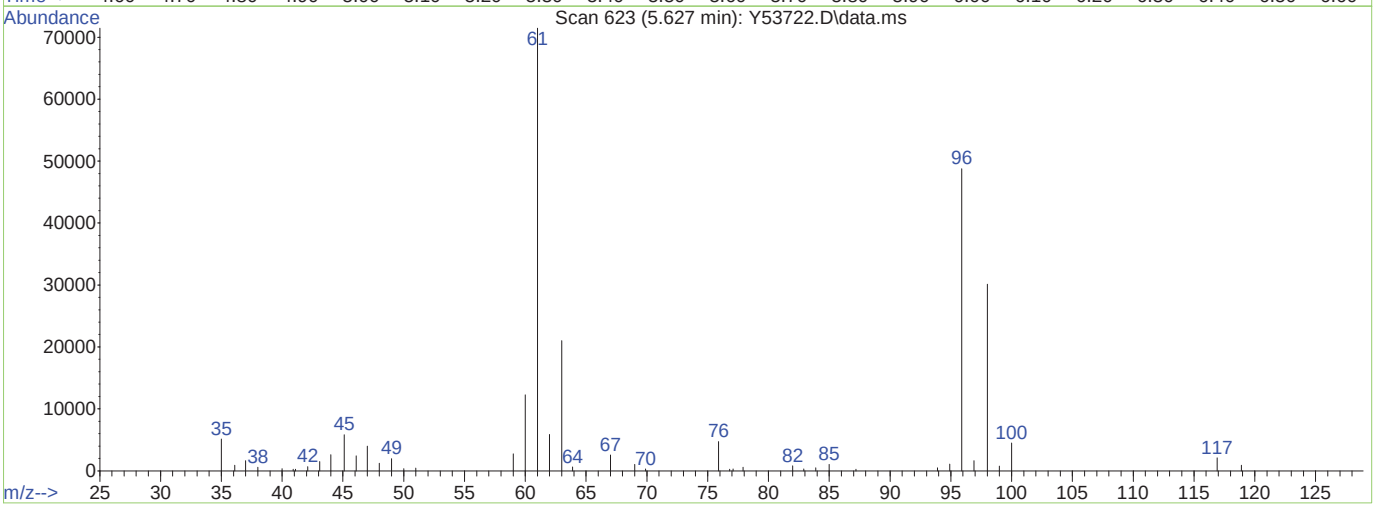
Ion	Exp%	Act%
45.10	100	100
46.10	39.50	41.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:43:03 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53722.D\data.ms

(108) Ethanol

5.627min (-0.007) 472.30ug/L m

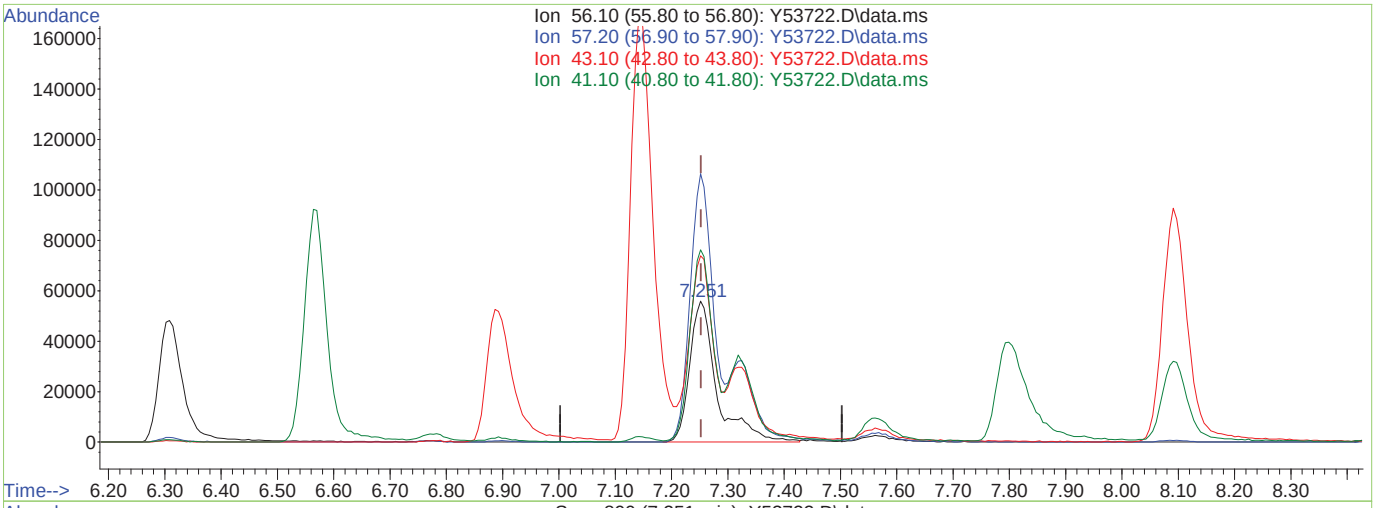
response 31698

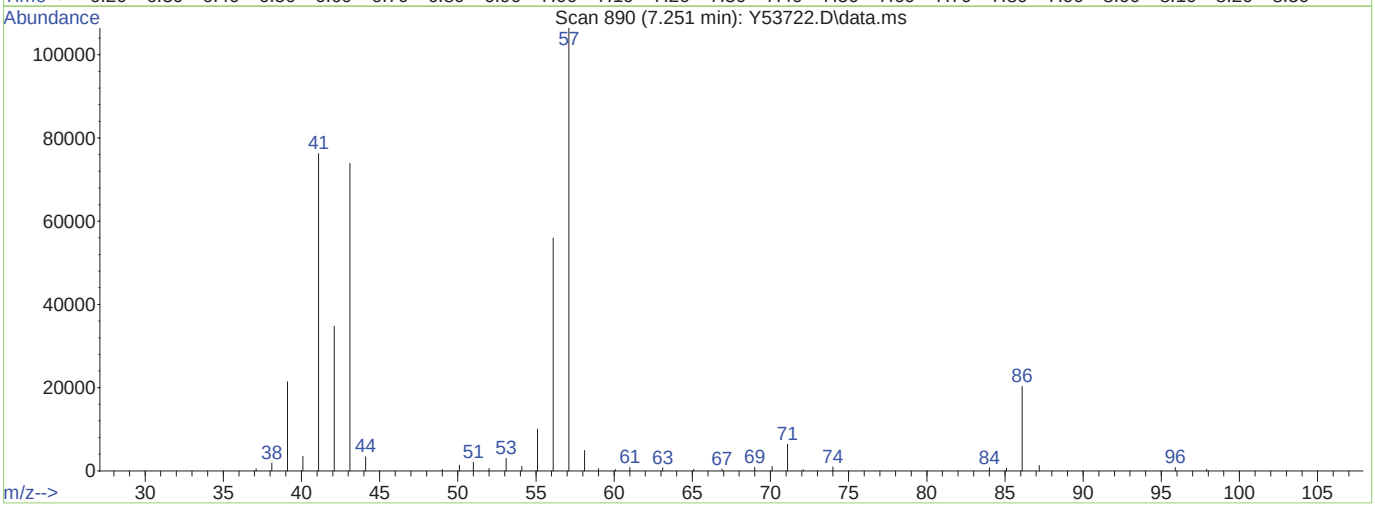
Ion	Exp%	Act%
45.10	100	100
46.10	39.50	41.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:45:15 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53722.D\data.ms

(21) Hexane

7.251min (-0.001) 31.34ug/L

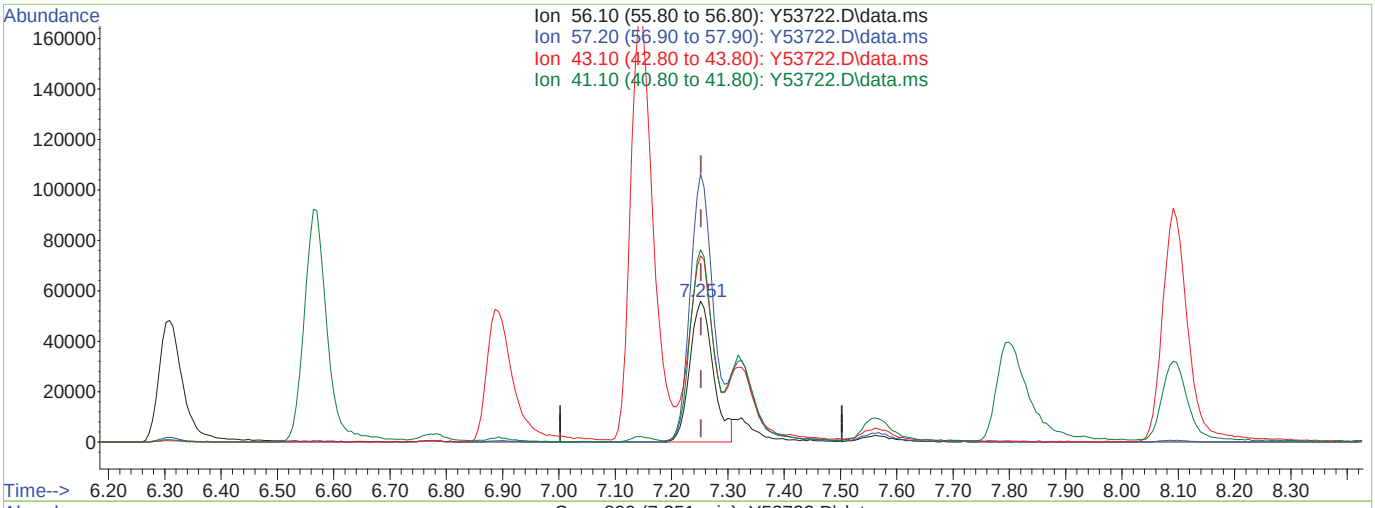
response 188300

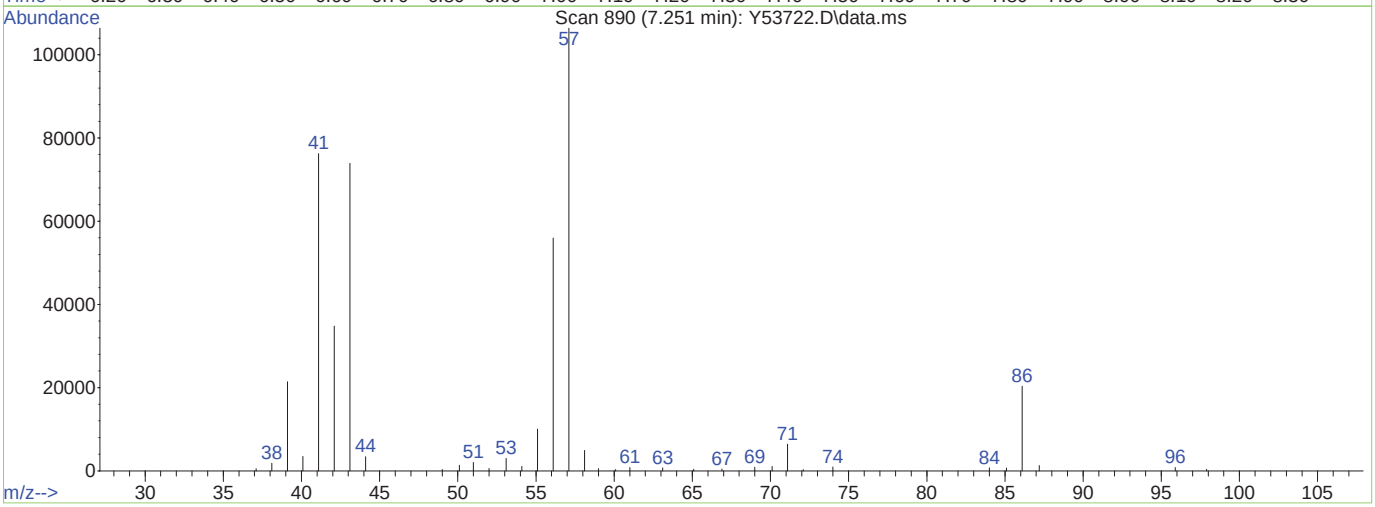
Ion	Exp%	Act%
56.10	100	100
57.20	193.00	190.23
43.10	94.30	128.38#
41.10	151.90	135.43

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53722.D
Acq On : 31 Oct 2020 12:47 pm
Operator : chelseav
Sample : IC2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 02 07:45:15 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53722.D\data.ms

(21) Hexane

7.251min (-0.001) 26.95ug/L m

response 161952

Ion	Exp%	Act%
56.10	100	100
57.20	193.00	190.23
43.10	94.30	132.10#
41.10	151.90	136.34

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/02/20 11:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53723.D
Acq On : 31 Oct 2020 1:15 pm
Operator : chelseav
Sample : ICC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 02 07:45:58 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.520	96	1772131	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.580	117	1686182	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.277	152	942140	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.420	65	126222	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.334	113	463230	52.56	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 105.12%			
47) 1,2-Dichloroethane-d4	11.143	65	406834	50.97	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 101.94%			
58) Toluene-d8	13.241	98	1877876	49.90	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.80%			
80) 4-Bromofluorobenzene	15.486	174	723289	57.30	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 114.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.027	85	378411	40.23	ug/L	99
3) Acrolein	6.306	56	227971	298.68	ug/L	97
4) Chloromethane	3.386	50	365575m	42.54	ug/L	
5) 1,3-butadiene	3.581	39	246368	33.79	ug/L	87
6) Vinyl Chloride	3.544	62	353032	40.75	ug/L	97
7) Bromomethane	4.153	94	143511	29.23	ug/L	98
8) Chloroethane	4.396	64	87852	20.20	ug/L	96
9) Trichlorofluoromethane	4.664	101	473794	33.93	ug/L	98
10) Ethyl Ether	5.290	59	234269	51.11	ug/L	92
11) 1,2-Dichlorotrifluoroe...	5.674	67	287450	38.31	ug/L	89
12) 1,1-Dichloroethene	5.637	61	400943	40.33	ug/L	97
13) Freon 113	5.734	101	385872	43.99	ug/L	96
14) Carbon Disulfide	5.668	76	760637	39.79	ug/L	98
15) Iodomethane	5.905	142	362373	48.89	ug/L	97
16) Allyl chloride	6.562	41	447843	42.33	ug/L	95
17) Methylene Chloride	6.775	49	389470	36.77	ug/L	97
18) Acetone	6.890	43	296167	288.31	ug/L	98
19) Methyl acetate	7.146	43	769294	290.99	ug/L	99
20) trans-1,2-Dichloroethene	7.091	61	385555	40.24	ug/L	97
21) Hexane	7.249	56	250152	42.37	ug/L	92
22) Methyl Tert Butyl Ether	7.322	73	623227	50.38	ug/L	96
23) Acetonitrile	7.797	41	265508	548.48	ug/L	96
24) Di-isopropyl ether	8.089	45	952926	43.38	ug/L	97
25) Chloroprene	8.265	53	430830	45.07	ug/L	96
26) 1,1-Dichloroethane	8.314	63	463405	38.75	ug/L	100
27) Acrylonitrile	8.429	53	399819	306.44	ug/L	97
28) ETBE	8.831	59	828225	49.24	ug/L	98
29) Vinyl acetate	8.861	43	2629213	240.44	ug/L	100
30) cis-1,2-Dichloroethene	9.427	96	338491	41.24	ug/L	96
31) 2,2-Dichloropropane	9.640	77	349102	40.70	ug/L	97
32) Bromochloromethane	9.841	128	189422	44.60	ug/L	94
33) Cyclohexane	9.823	56	573533	44.35	ug/L	95
34) Chloroform	10.005	83	472319	37.31	ug/L	99
35) Ethyl acetate	10.254	43	1012354	276.08	ug/L	98
36) Tetrahydrofuran	10.254	42	58018	58.13	ug/L	99
38) Carbon Tetrachloride	10.230	117	435110	42.92	ug/L	98
39) 1,1,1-Trichloroethane	10.352	97	485284	40.11	ug/L	99
40) 2-Butanone	10.553	43	444928	309.42	ug/L	97
41) 1,1-Dichloropropene	10.565	75	398195	39.66	ug/L	96
42) tert-Butyl formate	10.753	59	275623	267.05	ug/L	97
43) Propionitrile	10.991	54	291167	617.26	ug/L	93
44) Methacrylonitrile	11.021	41	1318995	514.64	ug/L	97
45) Benzene	10.942	78	1145570	37.69	ug/L	97
46) TAME	11.124	73	626447	46.46	ug/L	99
48) 1,2-Dichloroethane	11.240	62	348096	41.50	ug/L	98
49) Trichloroethene	11.739	95	336069	39.00	ug/L	94
50) Methylcyclohexane	11.714	83	558488	39.97	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53723.D
Acq On : 31 Oct 2020 1:15 pm
Operator : chelseav
Sample : ICC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 02 07:45:58 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

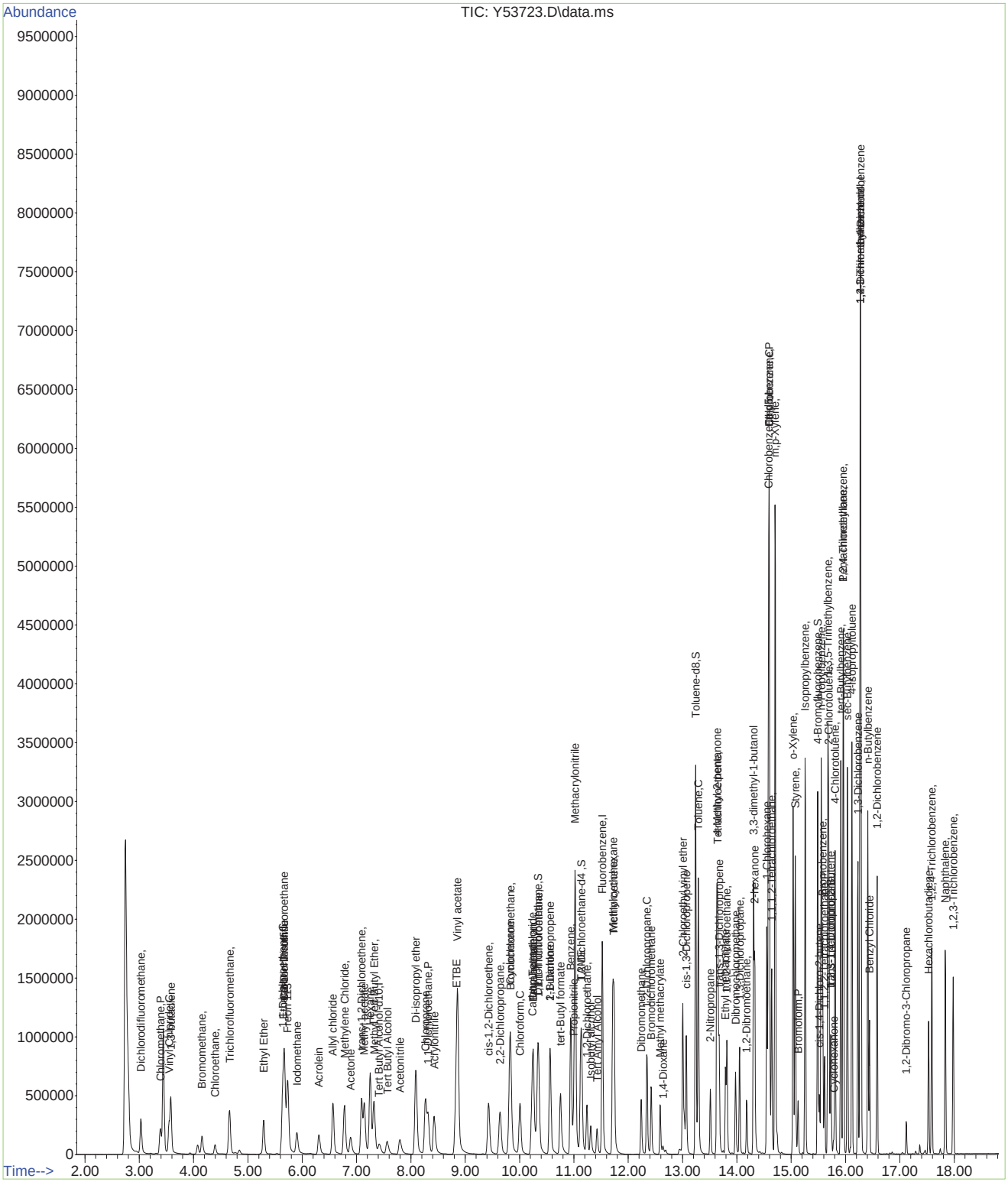
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.238	93	152317	45.86	ug/L		87
52) 1,2-Dichloropropane	12.341	63	281797	40.74	ug/L		97
53) Bromodichloromethane	12.420	83	328546	41.95	ug/L		98
54) Methyl methacrylate	12.584	41	194113	53.88	ug/L		96
55) 2-Chloroethyl vinyl ether	13.004	63	432112	276.66	ug/L		99
56) cis-1,3-Dichloropropene	13.071	75	450011	45.08	ug/L		96
59) Toluene	13.290	91	1435570	39.28	ug/L		99
60) 2-Nitropropane	13.509	41	272545	282.99	ug/L		98
61) 4-Methyl-2-pentanone	13.631	43	1032537	293.15	ug/L		96
62) trans-1,3-Dichloropropene	13.673	75	355310	48.46	ug/L		97
63) Tetrachloroethene	13.649	166	433832	45.10	ug/L		94
64) Ethyl methacrylate	13.789	69	270309	50.51	ug/L		99
65) 1,1,2-Trichloroethane	13.813	83	184121	45.18	ug/L		96
66) Dibromochloromethane	13.978	129	321328	52.78	ug/L		100
67) 1,3-Dichloropropane	14.051	76	403987	46.04	ug/L		97
68) 1,2-Dibromoethane	14.178	107	263875	53.81	ug/L		99
69) 2-hexanone	14.330	43	726440m	286.84	ug/L		
70) 1-Chlorohexane	14.549	91	497876	43.99	ug/L		97
71) Ethylbenzene	14.598	91	1523677	37.98	ug/L		98
72) Chlorobenzene	14.592	112	1001324	38.33	ug/L		98
73) 1,1,1,2-Tetrachloroethane	14.641	131	367008	44.50	ug/L		99
74) m,p-Xylene	14.701	91	2469549	79.78	ug/L		98
75) o-Xylene	15.036	91	1272956	42.41	ug/L		99
76) Styrene	15.073	104	1026562	44.45	ug/L		98
77) Bromoform	15.127	173	169000	57.80	ug/L		96
78) Isopropylbenzene	15.255	105	1739300	41.21	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.517	53	81957	58.10	ug/L		90
82) n-Propylbenzene	15.553	91	1891685	39.86	ug/L		98
83) Bromobenzene	15.578	156	448865	44.63	ug/L		96
84) 1,1,2,2-Tetrachloroethane	15.614	83	265844	49.94	ug/L		97
85) 1,3,5-Trimethylbenzene	15.675	105	1365237	40.11	ug/L		100
86) 2-Chlorotoluene	15.693	91	1171767	38.89	ug/L		96
87) trans-1,4-Dichloro-2-B...	15.736	53	81222	63.73	ug/L	#	73
88) 1,2,3-Trichloropropane	15.724	110	100228	50.42	ug/L		98
89) Cyclohexanone	15.778	55	35481	322.29	ug/L		98
90) 4-Chlorotoluene	15.809	91	1118859	40.39	ug/L		96
91) tert-Butylbenzene	15.912	91	715491	40.78	ug/L		97
92) 1,2,4-Trimethylbenzene	15.955	105	1367981	39.67	ug/L		99
93) Pentachloroethane	15.961	167	237984	49.41	ug/L		86
94) sec-Butylbenzene	16.034	105	1666160	39.82	ug/L		99
95) 4-Isopropyltoluene	16.119	119	1577891	42.15	ug/L		99
96) 1,3-Dichlorobenzene	16.228	146	846732	40.71	ug/L		97
97) 1,2,3-Trimethylbenzene	16.271	105	1504863	37.22	ug/L		97
98) 1,4-Dichlorobenzene	16.283	146	822836	37.86	ug/L		96
99) n-Butylbenzene	16.411	92	655392	41.38	ug/L		98
100) Benzyl Chloride	16.441	126	148162	57.96	ug/L		98
101) 1,2-Dichlorobenzene	16.581	146	787195	42.91	ug/L		96
102) 1,2-Dibromo-3-Chloropr...	17.117	75	42671	59.96	ug/L	#	73
103) Hexachlorobutadiene	17.530	225	155395	59.37	ug/L		82
104) 1,2,4-Trichlorobenzene	17.585	180	460446	56.24	ug/L		95
105) Naphthalene	17.834	128	1177658	61.92	ug/L		98
106) 1,2,3-Trichlorobenzene	17.980	180	405364	60.65	ug/L		95
108) Ethanol	5.643	45	54380	782.91	ug/L		87
109) Tert Butyl Alcohol	7.566	59	196042	387.52	ug/L		94
110) Isobutyl alcohol	11.313	42	90476	778.02	ug/L		96
111) Tert Amyl Alcohol	11.429	59	126121	416.96	ug/L		96
112) 1,4-Dioxane	12.639	88	49886	802.67	ug/L		94
113) 3,3-dimethyl-1-butanol	14.306	57	945184	1946.52	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53723.D
Acq On : 31 Oct 2020 1:15 pm
Operator : chelseav
Sample : ICC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 02 07:45:58 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration



RESTEK103120w.M Mon Nov 02 07:57:51 2020 Page: 3

Manual Integration Approval Summary

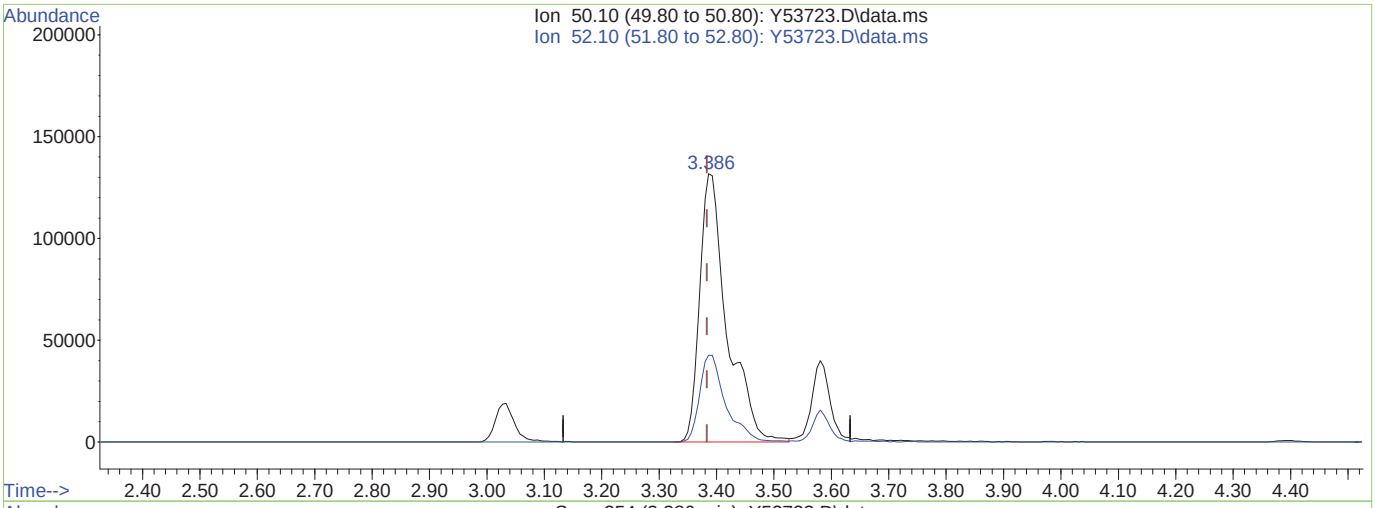
Sample Number: VY2229-ICC2229
Lab FileID: Y53723.D
Injection Time: 10/31/20 13:15
Method: SW846 8260B
Analyst approved: 11/02/20 08:01 Chelsea VanDenBurg
Supervisor approved: 11/02/20 11:36 Melissa Mangual

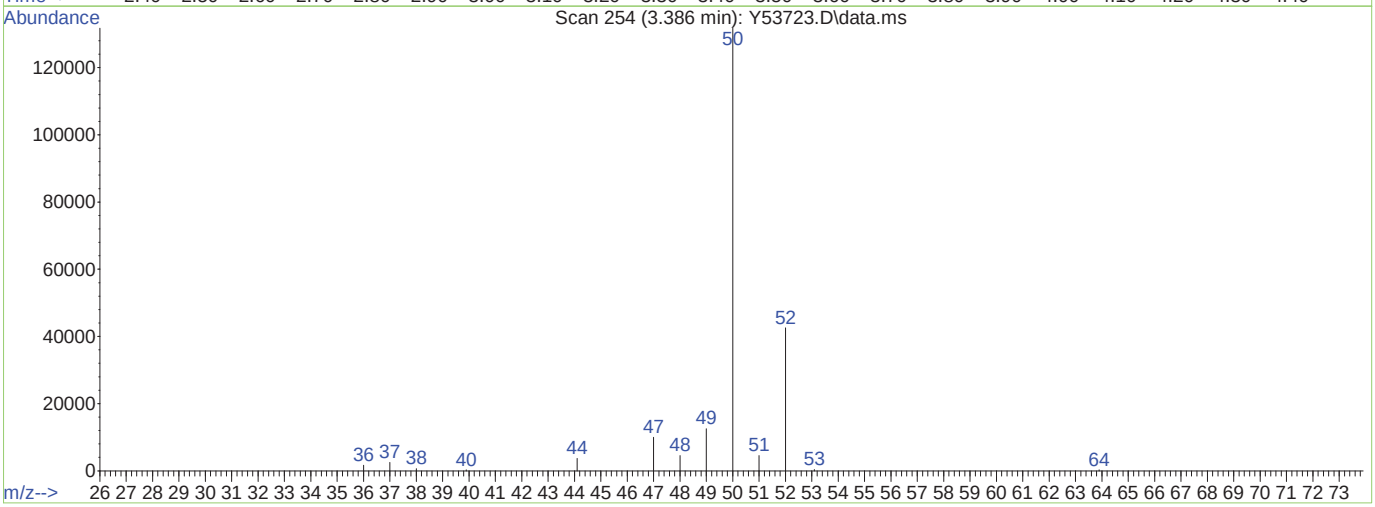
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53723.D
Acq On : 31 Oct 2020 1:15 pm
Operator : chelseav
Sample : ICC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 02 07:43:05 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53723.D\data.ms

(4) Chloromethane (P)

3.386min (+0.003) 51.01ug/L

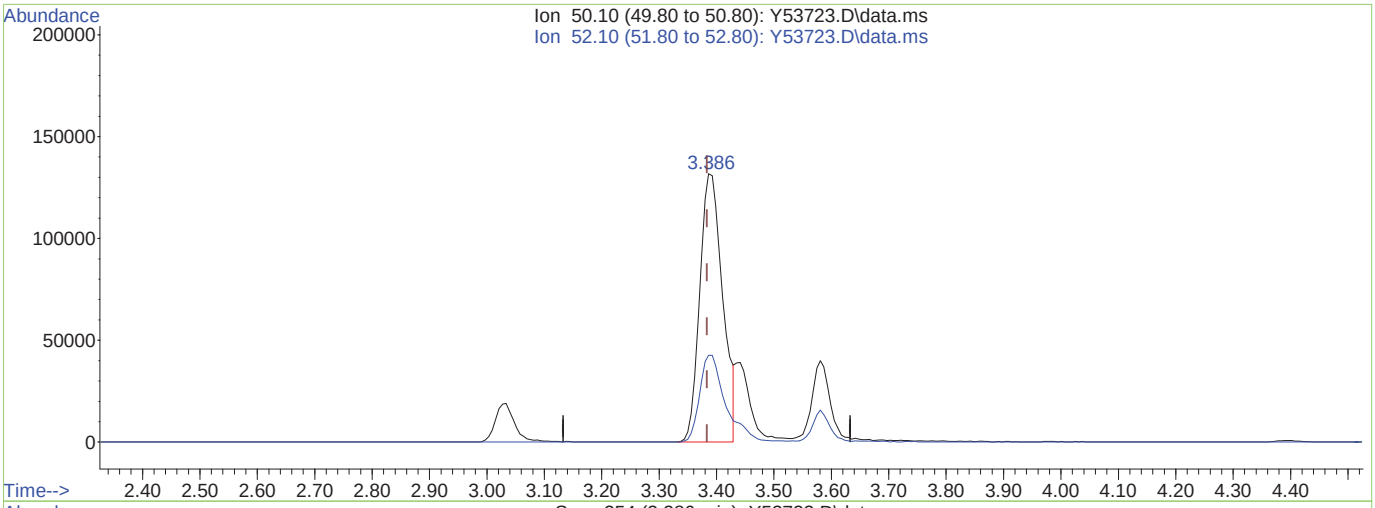
response 438367

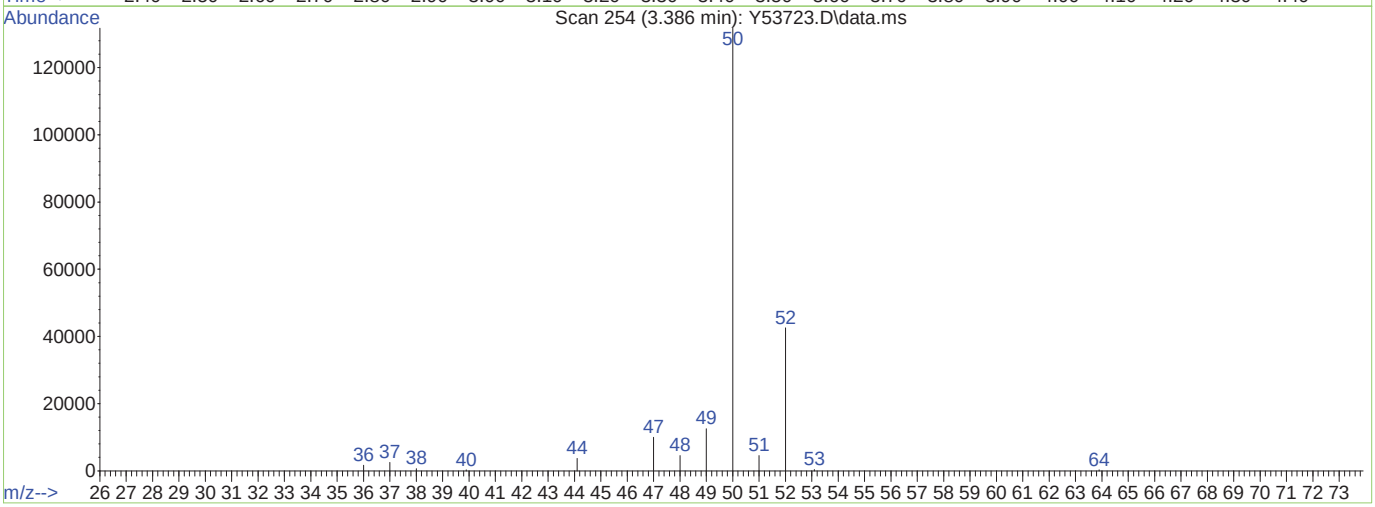
Ion	Exp%	Act%
50.10	100	100
52.10	31.70	32.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53723.D
Acq On : 31 Oct 2020 1:15 pm
Operator : chelseav
Sample : ICC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 02 07:43:05 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53723.D\data.ms

(4) Chloromethane (P)

3.386min (+0.003) 42.54ug/L m

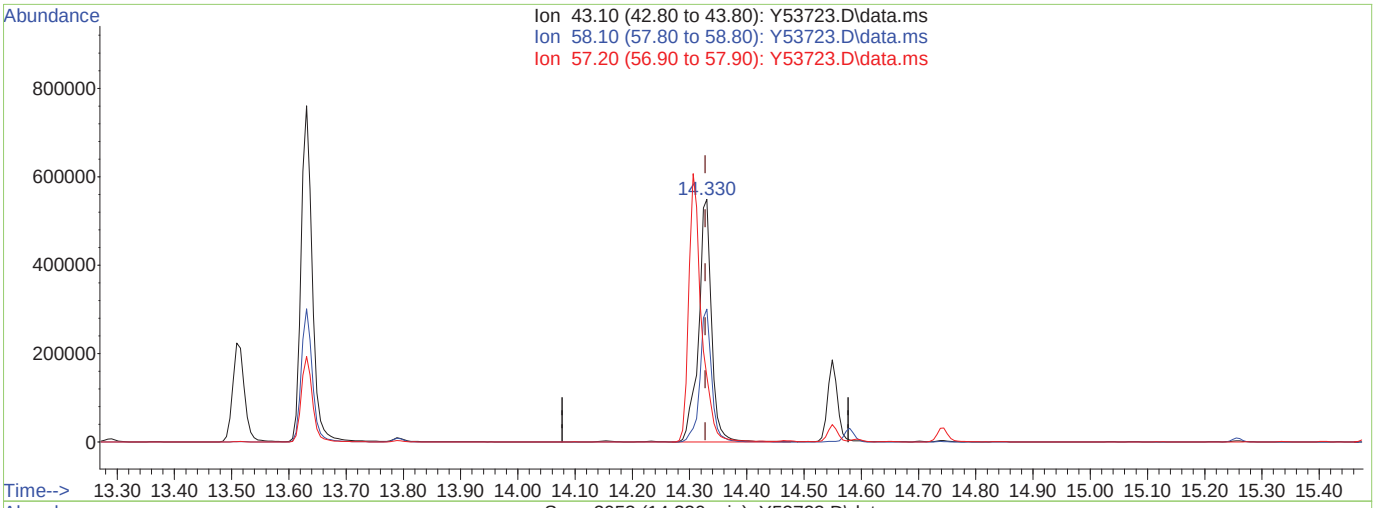
response 365575

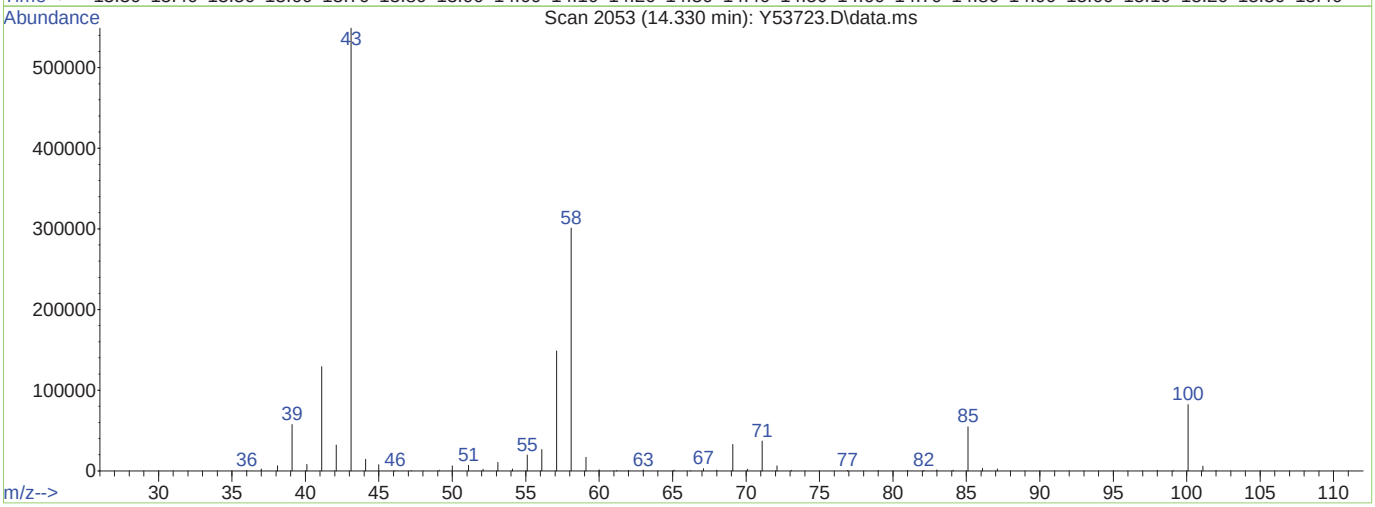
Ion	Exp%	Act%
50.10	100	100
52.10	31.70	32.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53723.D
Acq On : 31 Oct 2020 1:15 pm
Operator : chelseav
Sample : ICC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 02 07:43:05 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53723.D\data.ms

(69) 2-hexanone

14.330min (+0.003) 341.04ug/L

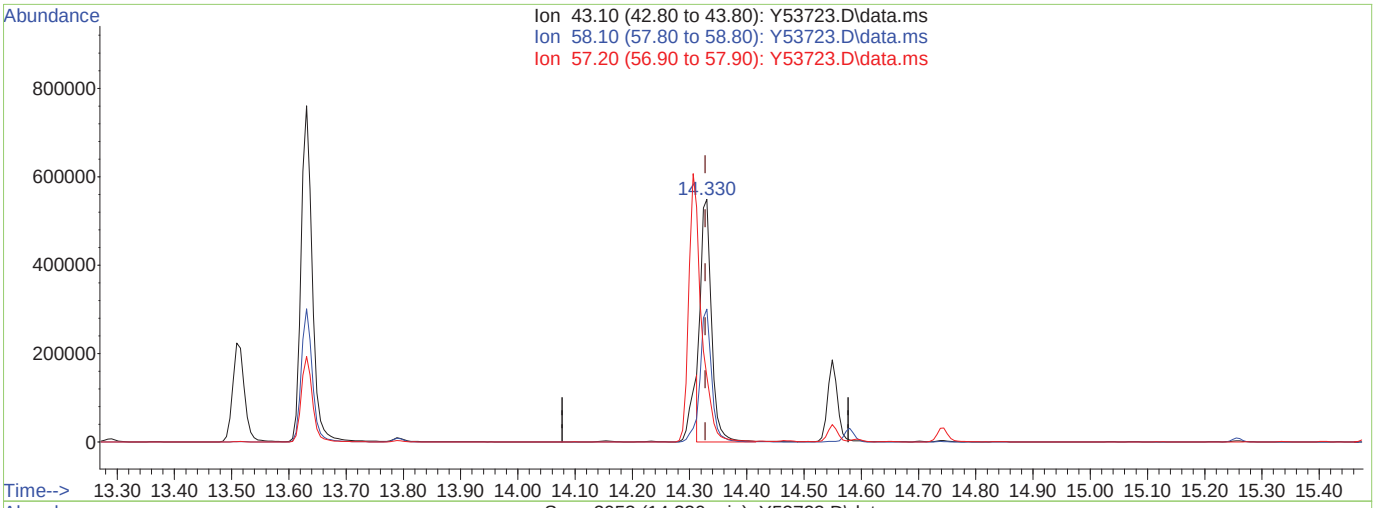
response 863690

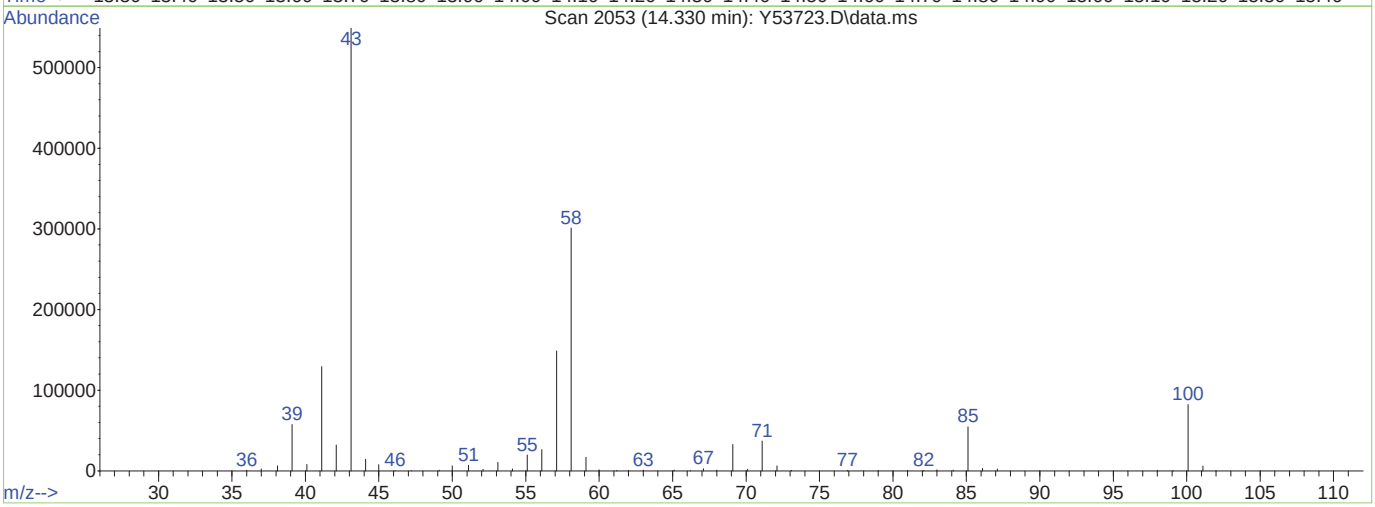
Ion	Exp%	Act%
43.10	100	100
58.10	49.00	54.86
57.20	29.00	27.09
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53723.D
Acq On : 31 Oct 2020 1:15 pm
Operator : chelseav
Sample : ICC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 02 07:43:05 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53723.D\data.ms

(69) 2-hexanone

14.330min (+0.003) 286.84ug/L m

response 726440

Ion	Exp%	Act%
43.10	100	100
58.10	49.00	54.81
57.20	29.00	27.07
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/02/20 11:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53724.D
Acq On : 31 Oct 2020 1:42 pm
Operator : chelseav
Sample : IC2229-6 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 02 07:47:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	1776494	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1660512	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	936423	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.429	65	126500	250.00	ug/L	0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.337	113	465652	52.70	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 105.40%			
47) 1,2-Dichloroethane-d4	11.146	65	400724	50.08	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.16%			
58) Toluene-d8	13.239	98	1877332	50.66	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 101.32%			
80) 4-Bromofluorobenzene	15.490	174	731222	58.28	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 116.56%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.031	85	648794	70.73	ug/L	99
3) Acrolein	6.310	56	420228	541.99	ug/L	95
4) Chloromethane	3.396	50	688364m	79.90	ug/L	
5) 1,3-butadiene	3.584	39	425624	58.24	ug/L	84
6) Vinyl Chloride	3.548	62	605362	69.70	ug/L	97
7) Bromomethane	4.156	94	265036	54.59	ug/L	98
8) Chloroethane	4.393	64	146768	39.55	ug/L	96
9) Trichlorofluoromethane	4.655	101	789304	56.39	ug/L	98
10) Ethyl Ether	5.294	59	419182	91.23	ug/L	92
11) 1,2-Dichlorotrifluoroe...	5.671	67	496355	65.99	ug/L	92
12) 1,1-Dichloroethene	5.634	61	708952	71.14	ug/L	96
13) Freon 113	5.732	101	648760	76.33	ug/L	96
14) Carbon Disulfide	5.671	76	1362574	71.10	ug/L	97
15) Iodomethane	5.902	142	693207	83.13	ug/L	96
16) Allyl chloride	6.565	41	798885	75.32	ug/L	97
17) Methylene Chloride	6.778	49	664144	62.55	ug/L	99
18) Acetone	6.894	43	494346	520.26	ug/L	96
19) Methyl acetate	7.143	43	1329913	501.81	ug/L	99
20) trans-1,2-Dichloroethene	7.088	61	661284	68.84	ug/L	97
21) Hexane	7.253	56	420474	71.04	ug/L	93
22) Methyl Tert Butyl Ether	7.320	73	1122340	90.51	ug/L	95
23) Acetonitrile	7.800	41	463842	955.84	ug/L	99
24) Di-isopropyl ether	8.092	45	1681798	76.36	ug/L	96
25) Chloroprene	8.269	53	763440	79.66	ug/L	96
26) 1,1-Dichloroethane	8.317	63	804727	67.13	ug/L	100
27) Acrylonitrile	8.427	53	678453	526.77	ug/L	98
28) ETBE	8.834	59	1479890	87.76	ug/L	99
29) Vinyl acetate	8.859	43	4484098	404.60	ug/L	100
30) cis-1,2-Dichloroethene	9.431	96	591608	71.91	ug/L	95
31) 2,2-Dichloropropane	9.643	77	668050	72.85	ug/L	96
32) Bromochloromethane	9.838	128	326049	76.58	ug/L	93
33) Cyclohexane	9.820	56	990215	76.39	ug/L	94
34) Chloroform	10.008	83	830736	65.47	ug/L	98
35) Ethyl acetate	10.252	43	1750957	480.80	ug/L	98
36) Tetrahydrofuran	10.252	42	95381	95.33	ug/L	95
38) Carbon Tetrachloride	10.234	117	788366	77.58	ug/L	97
39) 1,1,1-Trichloroethane	10.355	97	852543	70.28	ug/L	96
40) 2-Butanone	10.550	43	761103	528.00	ug/L	99
41) 1,1-Dichloropropene	10.562	75	702533	69.80	ug/L	95
42) tert-Butyl formate	10.757	59	892220	578.44	ug/L	95
43) Propionitrile	10.994	54	493586	1043.81	ug/L	98
44) Methacrylonitrile	11.024	41	2168323	843.95	ug/L	97
45) Benzene	10.945	78	1983955	65.11	ug/L	97
46) TAME	11.128	73	1138247	84.21	ug/L	99
48) 1,2-Dichloroethane	11.237	62	609991	72.54	ug/L	98
49) Trichloroethene	11.742	95	580131	67.16	ug/L	94
50) Methylcyclohexane	11.718	83	956277	68.27	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53724.D
Acq On : 31 Oct 2020 1:42 pm
Operator : chelseav
Sample : IC2229-6 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 02 07:47:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

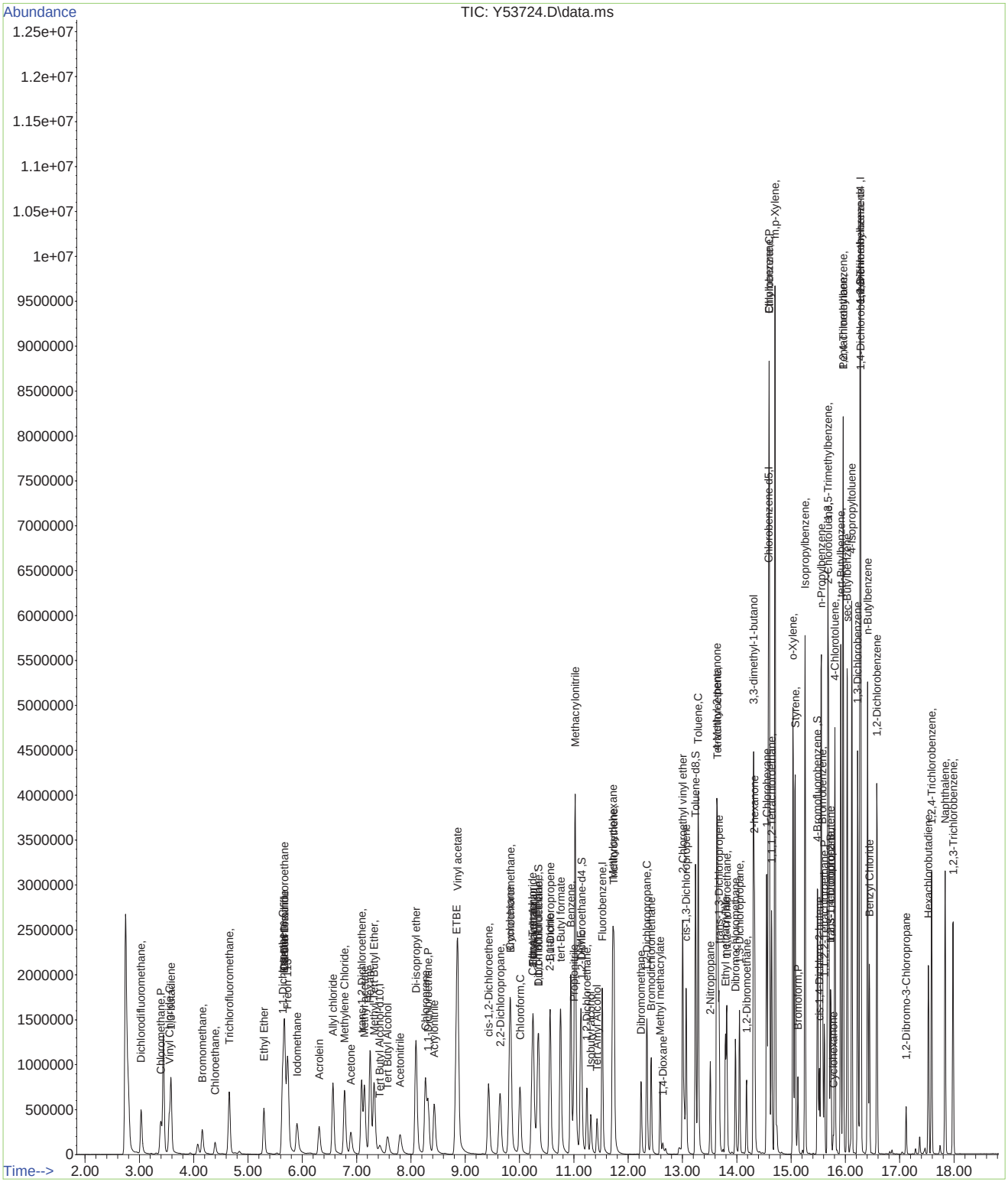
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) Dibromomethane	12.235	93	269421	80.91 ug/L	88
52) 1,2-Dichloropropane	12.345	63	489535	70.59 ug/L	96
53) Bromodichloromethane	12.424	83	591735	75.38 ug/L	98
54) Methyl methacrylate	12.588	41	344149	91.22 ug/L	93
55) 2-Chloroethyl vinyl ether	13.002	63	888145	481.85 ug/L	98
56) cis-1,3-Dichloropropene	13.068	75	807342	80.68 ug/L	97
59) Toluene	13.287	91	2479169	68.89 ug/L	99
60) 2-Nitropropane	13.513	41	491133	491.82 ug/L	96
61) 4-Methyl-2-pentanone	13.628	43	1712037	493.59 ug/L	97
62) trans-1,3-Dichloropropene	13.671	75	642459	88.98 ug/L	98
63) Tetrachloroethene	13.646	166	738650	77.97 ug/L	94
64) Ethyl methacrylate	13.792	69	486527	88.58 ug/L	95
65) 1,1,2-Trichloroethane	13.817	83	320199	79.78 ug/L	92
66) Dibromochloromethane	13.975	129	582411	97.14 ug/L	99
67) 1,3-Dichloropropane	14.048	76	709494	82.11 ug/L	98
68) 1,2-Dibromoethane	14.182	107	469402	97.20 ug/L	99
69) 2-hexanone	14.328	43	1254441m	502.99 ug/L	
70) 1-Chlorohexane	14.553	91	862084	77.35 ug/L	95
71) Ethylbenzene	14.595	91	2621917	66.36 ug/L	99
72) Chlorobenzene	14.595	112	1703454	66.22 ug/L	97
73) 1,1,1,2-Tetrachloroethane	14.638	131	651267	80.19 ug/L	99
74) m,p-Xylene	14.705	91	4228431	138.71 ug/L	99
75) o-Xylene	15.033	91	2231913	75.50 ug/L	100
76) Styrene	15.076	104	1798292	79.06 ug/L	99
77) Bromoform	15.125	173	314565	99.23 ug/L	97
78) Isopropylbenzene	15.259	105	3029127	72.88 ug/L	99
81) cis-1,4-Dichloro-2-butene	15.520	53	153228	105.69 ug/L	97
82) n-Propylbenzene	15.557	91	3320072	70.39 ug/L	99
83) Bromobenzene	15.575	156	769186	76.95 ug/L	96
84) 1,1,2,2-Tetrachloroethane	15.611	83	458884	86.73 ug/L	98
85) 1,3,5-Trimethylbenzene	15.678	105	2399532	70.92 ug/L	99
86) 2-Chlorotoluene	15.690	91	2028297	67.74 ug/L	99
87) trans-1,4-Dichloro-2-B...	15.733	53	147140	116.15 ug/L #	83
88) 1,2,3-Trichloropropane	15.727	110	175479	88.81 ug/L	98
89) Cyclohexanone	15.776	55	63686	582.03 ug/L	93
90) 4-Chlorotoluene	15.806	91	1966441	71.42 ug/L	99
91) tert-Butylbenzene	15.916	91	1261922	72.36 ug/L	98
92) 1,2,4-Trimethylbenzene	15.958	105	2376339	69.33 ug/L	99
93) Pentachloroethane	15.958	167	419393	87.61 ug/L	92
94) sec-Butylbenzene	16.031	105	2953387	71.01 ug/L	100
95) 4-Isopropyltoluene	16.116	119	2807007	75.44 ug/L	100
96) 1,3-Dichlorobenzene	16.226	146	1512597	73.17 ug/L	98
97) 1,2,3-Trimethylbenzene	16.268	105	2643751	65.79 ug/L	99
98) 1,4-Dichlorobenzene	16.287	146	1446464	66.96 ug/L	97
99) n-Butylbenzene	16.408	92	1108700	70.43 ug/L	98
100) Benzyl Chloride	16.439	126	281947	97.41 ug/L	93
101) 1,2-Dichlorobenzene	16.579	146	1401462	76.86 ug/L	97
102) 1,2-Dibromo-3-Chloropr...	17.120	75	79954	110.27 ug/L #	57
103) Hexachlorobutadiene	17.528	225	283559	111.19 ug/L	84
104) 1,2,4-Trichlorobenzene	17.588	180	834972	101.06 ug/L	94
105) Naphthalene	17.838	128	2181773	109.71 ug/L	100
106) 1,2,3-Trichlorobenzene	17.984	180	737109	110.76 ug/L	96
108) Ethanol	5.659	45	84515	1276.29 ug/L	80
109) Tert Butyl Alcohol	7.569	59	355555	725.76 ug/L	92
110) Isobutyl alcohol	11.310	42	166922	1432.24 ug/L	96
111) Tert Amyl Alcohol	11.426	59	233695	770.91 ug/L	93
112) 1,4-Dioxane	12.637	88	86545	1397.62 ug/L	94
113) 3,3-dimethyl-1-butanol	14.310	57	1768836	3634.74 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53724.D
Acq On : 31 Oct 2020 1:42 pm
Operator : chelseav
Sample : IC2229-6 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 02 07:47:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration



RESTEK103120w.M Mon Nov 02 07:57:52 2020 Page: 3

Manual Integration Approval Summary

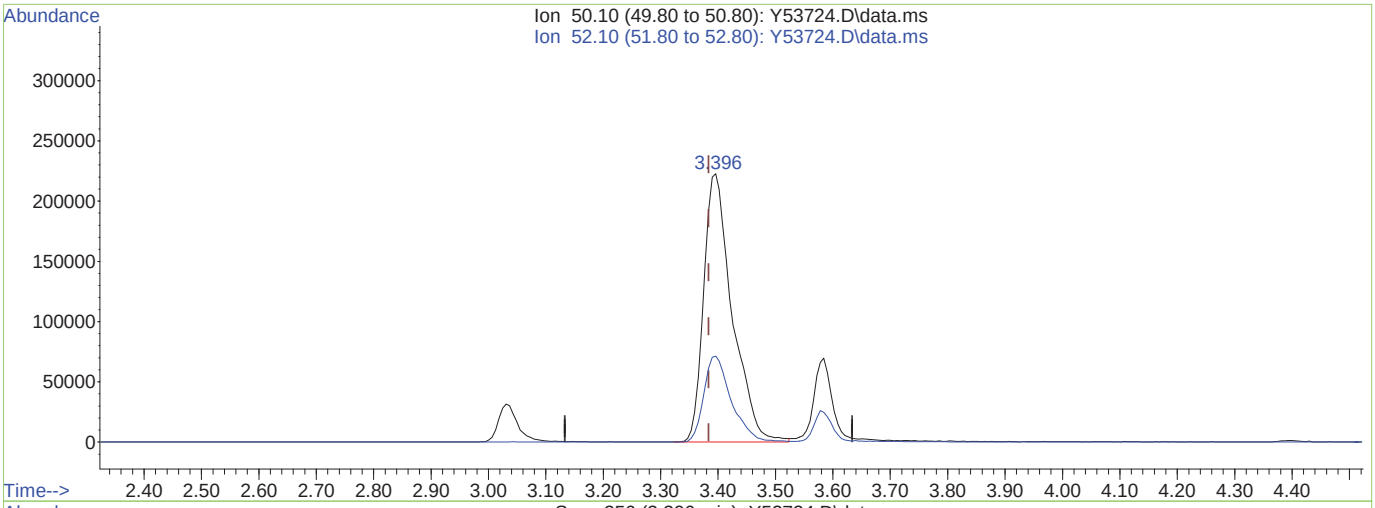
Sample Number: VY2229-IC2229
Lab FileID: Y53724.D
Injection Time: 10/31/20 13:42
Method: SW846 8260B
Analyst approved: 11/02/20 08:01 Chelsea VanDenBurg
Supervisor approved: 11/02/20 11:36 Melissa Mangual

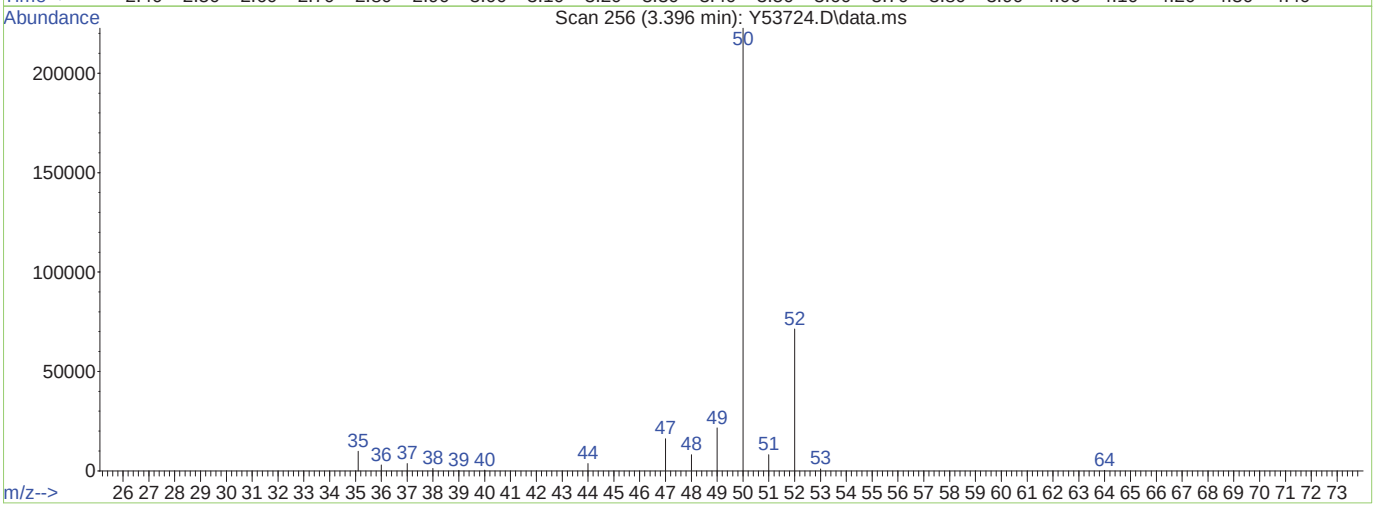
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.40	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53724.D
Acq On : 31 Oct 2020 1:42 pm
Operator : chelseav
Sample : IC2229-6 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 02 07:43:08 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53724.D\data.ms

(4) Chloromethane (P)

3.396min (+0.012) 89.31ug/L

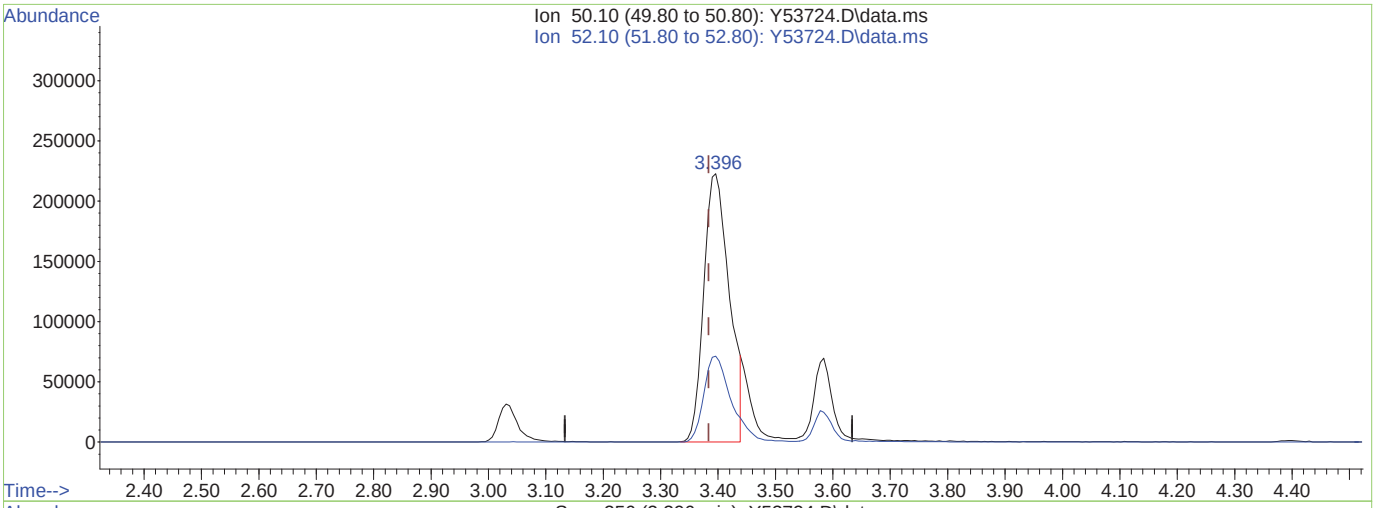
response 769381

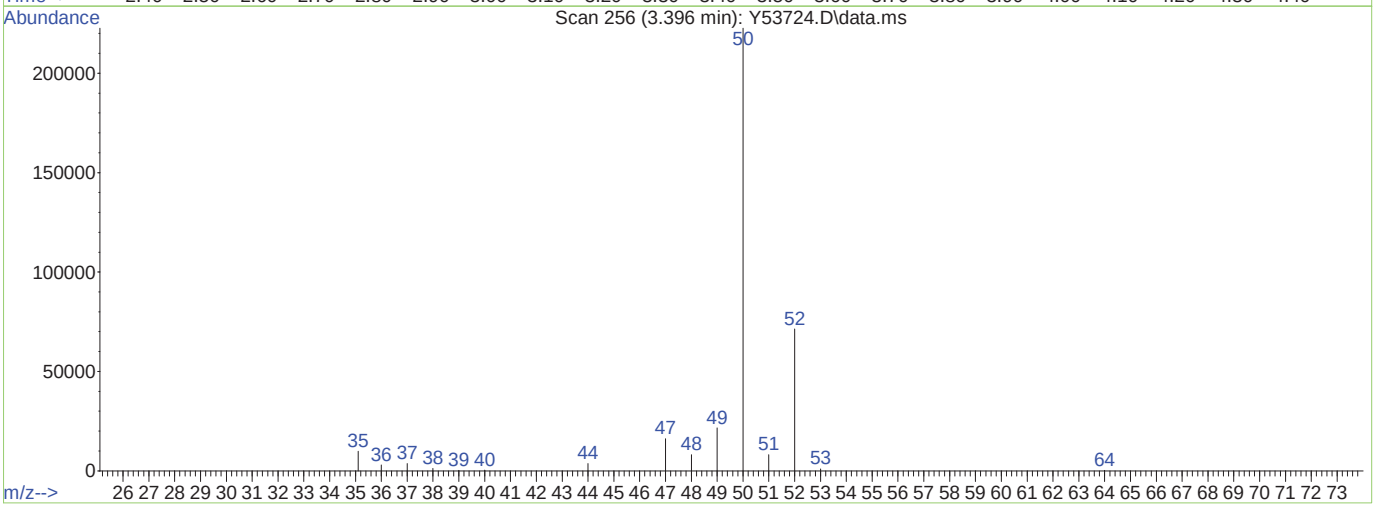
Ion	Exp%	Act%
50.10	100	100
52.10	31.70	32.01
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53724.D
Acq On : 31 Oct 2020 1:42 pm
Operator : chelseav
Sample : IC2229-6 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 02 07:43:08 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53724.D\data.ms

(4) Chloromethane (P)

3.396min (+0.012) 79.90ug/L m

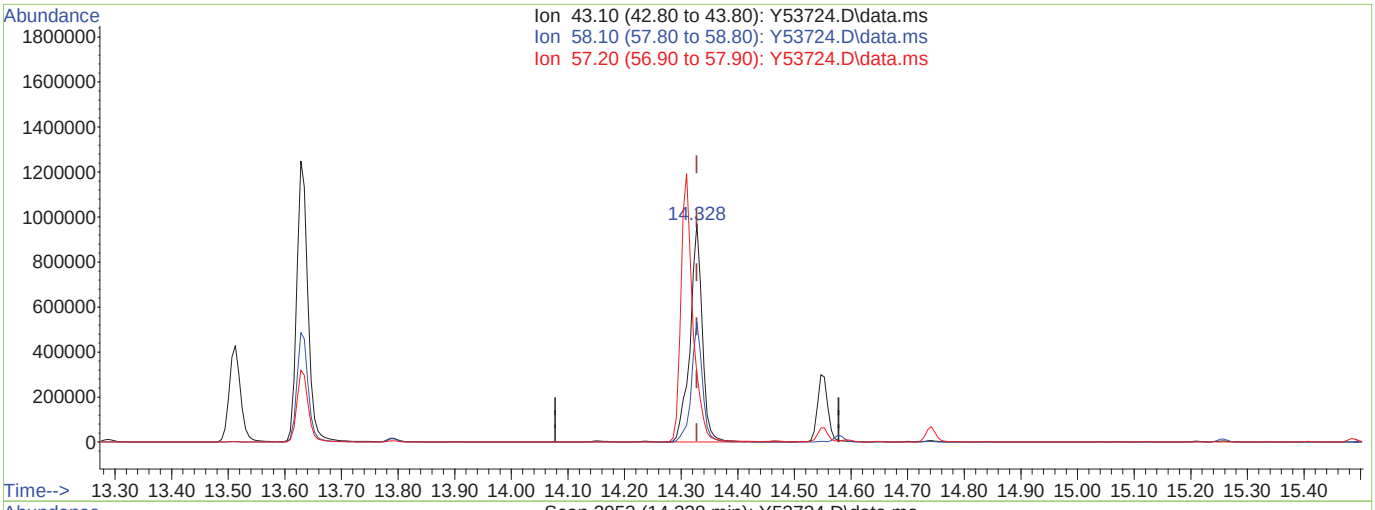
response 688364

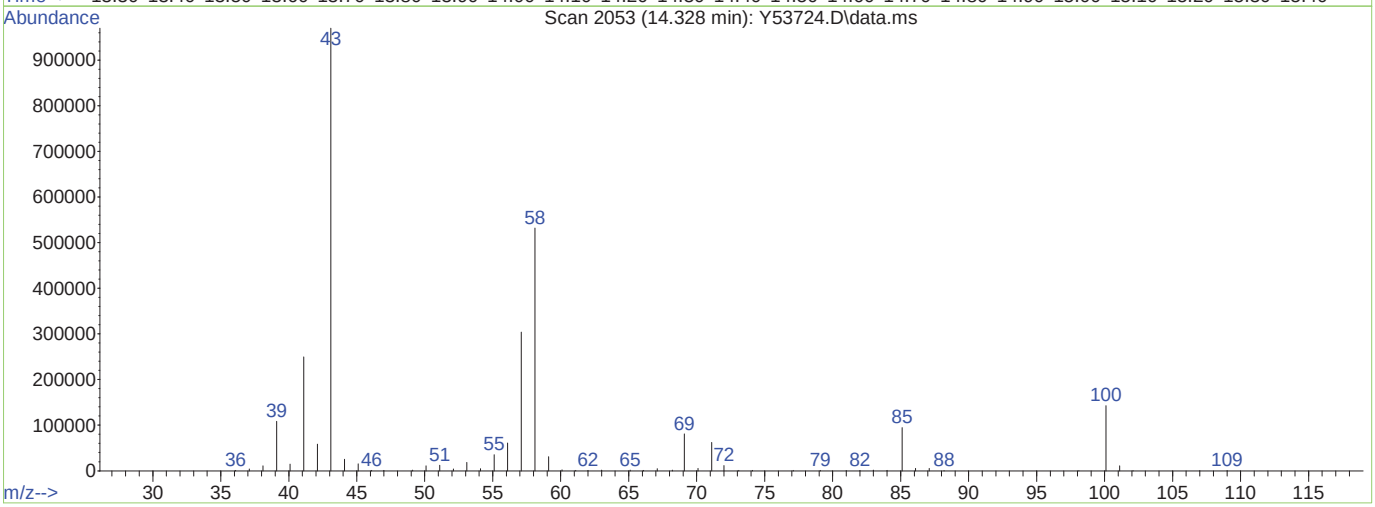
Ion	Exp%	Act%
50.10	100	100
52.10	31.70	32.01
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53724.D
Acq On : 31 Oct 2020 1:42 pm
Operator : chelseav
Sample : IC2229-6 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 02 07:43:08 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53724.D\data.ms

(69) 2-hexanone

14.328min (+0.000) 586.42ug/L

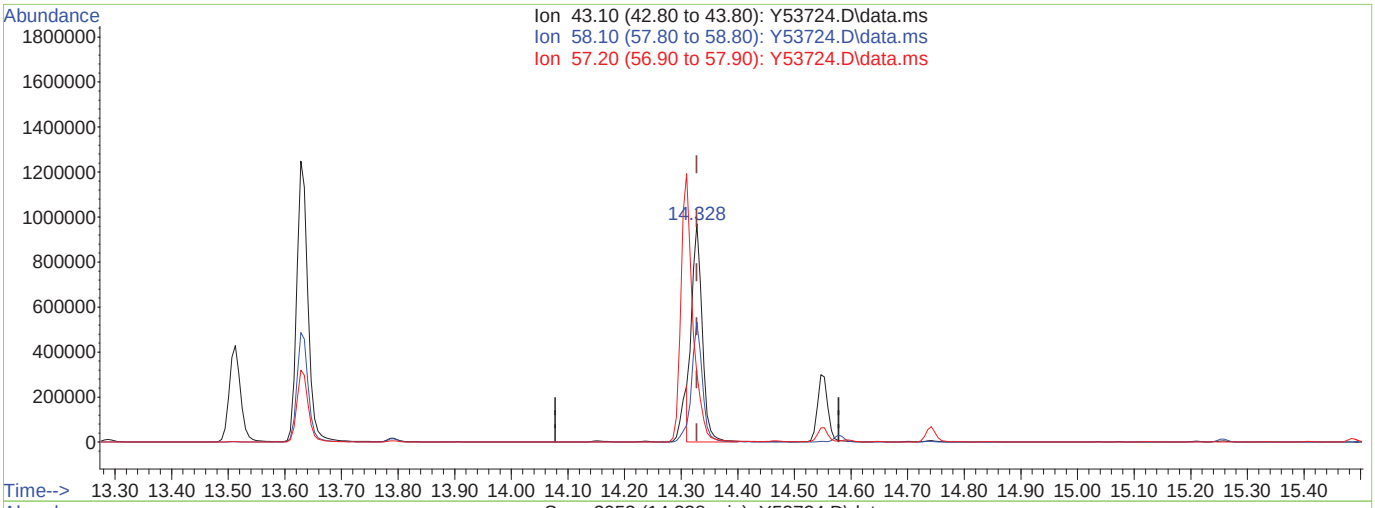
response 1462533

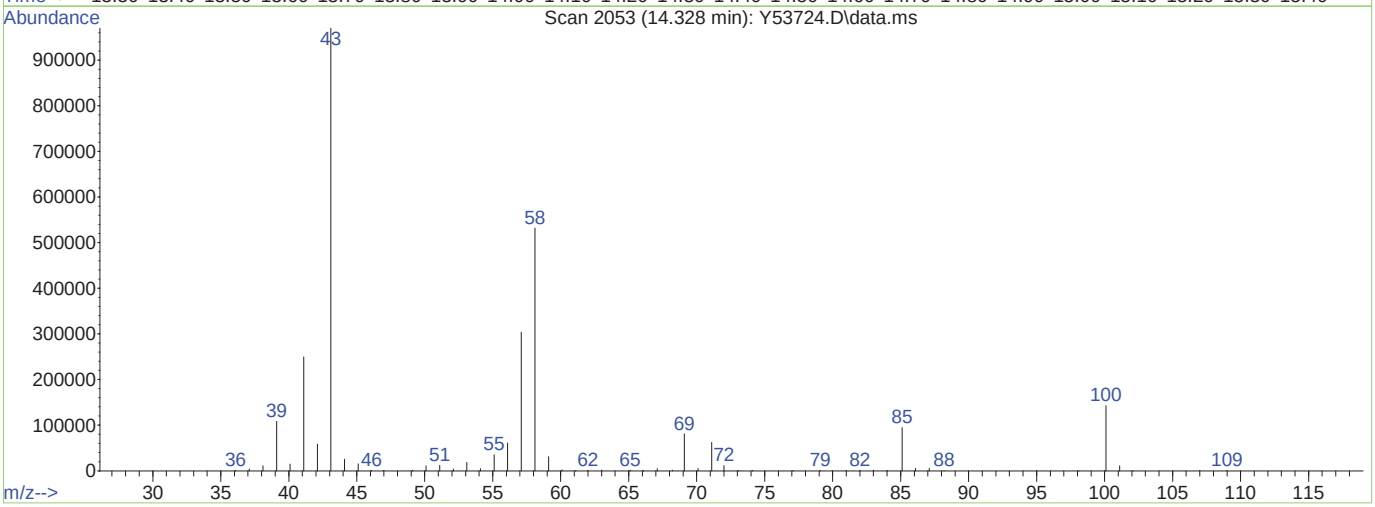
Ion	Exp%	Act%
43.10	100	100
58.10	49.00	54.87
57.20	29.00	31.36
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53724.D
Acq On : 31 Oct 2020 1:42 pm
Operator : chelseav
Sample : IC2229-6 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 02 07:43:08 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53724.D\data.ms

(69) 2-hexanone

14.328min (+0.000) 502.99ug/L m

response 1254441

Ion	Exp%	Act%
43.10	100	100
58.10	49.00	54.84
57.20	29.00	31.34
0.00	0.00	0.00

Y53725.D

Manual Integrations APPROVED (compounds with "m" flag)

Melissa Mangual 11/02/20 11:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53725.D
Acq On : 31 Oct 2020 2:09 pm
Operator : chelseav
Sample : IC2229-7 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 02 07:48:37 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	1818106	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.583	117	1668426	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	937752	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.435	65	134368	250.00	ug/L	0.02
System Monitoring Compounds						
37) Dibromofluoromethane	10.337	113	471987	52.20	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 104.40%			
47) 1,2-Dichloroethane-d4	11.146	65	408990	49.94	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.88%			
58) Toluene-d8	13.238	98	1922782	51.64	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 103.28%			
80) 4-Bromofluorobenzene	15.489	174	753428	59.97	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 119.94%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.030	85	968781	106.70	ug/L	99
3) Acrolein	6.309	56	616453	767.52	ug/L	96
4) Chloromethane	3.395	50	932972m	105.82	ug/L	
5) 1,3-butadiene	3.578	39	598537	80.02	ug/L	85
6) Vinyl Chloride	3.547	62	874863	98.43	ug/L	98
7) Bromomethane	4.156	94	401498	82.01	ug/L	99
8) Chloroethane	4.393	64	212714	Below Cal		95
9) Trichlorofluoromethane	4.648	101	1150906	80.34	ug/L	99
10) Ethyl Ether	5.299	59	611141	129.97	ug/L	91
11) 1,2-Dichlorotrifluoroe...	5.671	67	720830	93.64	ug/L	89
12) 1,1-Dichloroethene	5.634	61	1037579	101.74	ug/L	95
13) Freon 113	5.725	101	947891	113.49	ug/L	96
14) Carbon Disulfide	5.671	76	2028322	103.42	ug/L	97
15) Iodomethane	5.902	142	1074647	114.49	ug/L	98
16) Allyl chloride	6.565	41	1169968	107.78	ug/L	96
17) Methylene Chloride	6.778	49	951419	87.55	ug/L	99
18) Acetone	6.893	43	724806	844.01	ug/L	96
19) Methyl acetate	7.143	43	1954331	720.54	ug/L	99
20) trans-1,2-Dichloroethene	7.088	61	984003	100.10	ug/L	97
21) Hexane	7.246	56	630276	104.05	ug/L	95
22) Methyl Tert Butyl Ether	7.325	73	1672571	131.80	ug/L	93
23) Acetonitrile	7.806	41	689747	1388.83	ug/L	97
24) Di-isopropyl ether	8.092	45	2465113	109.37	ug/L	95
25) Chloroprene	8.262	53	1131135	115.33	ug/L	94
26) 1,1-Dichloroethane	8.317	63	1159345	94.50	ug/L	99
27) Acrylonitrile	8.432	53	1030998	797.37	ug/L	98
28) ETBE	8.834	59	2172352	125.88	ug/L	98
29) Vinyl acetate	8.864	43	6472035	564.61	ug/L	100
30) cis-1,2-Dichloroethene	9.430	96	862645	102.45	ug/L	97
31) 2,2-Dichloropropane	9.643	77	992015	100.33	ug/L	96
32) Bromochloromethane	9.838	128	472311	108.39	ug/L	93
33) Cyclohexane	9.826	56	1473415	111.06	ug/L	94
34) Chloroform	10.008	83	1209090	93.10	ug/L	99
35) Ethyl acetate	10.251	43	2582449	699.90	ug/L	99
36) Tetrahydrofuran	10.251	42	142731	139.39	ug/L	96
38) Carbon Tetrachloride	10.227	117	1172889	112.78	ug/L	98
39) 1,1,1-Trichloroethane	10.355	97	1252738	100.91	ug/L	97
40) 2-Butanone	10.549	43	1116729	756.98	ug/L	98
41) 1,1-Dichloropropene	10.568	75	1026886	99.69	ug/L	94
42) tert-Butyl formate	10.756	59	1549176	797.09	ug/L	93
43) Propionitrile	10.994	54	721037	1489.92	ug/L	95
44) Methacrylonitrile	11.024	41	3096169	1177.51	ug/L	97
45) Benzene	10.945	78	2886277	92.55	ug/L	98
46) TAME	11.127	73	1693451	122.42	ug/L	97
48) 1,2-Dichloroethane	11.237	62	886516	103.01	ug/L	99
49) Trichloroethene	11.742	95	832742	94.20	ug/L	93
50) Methylcyclohexane	11.717	83	1435301	100.12	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53725.D
Acq On : 31 Oct 2020 2:09 pm
Operator : chelseav
Sample : IC2229-7 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 02 07:48:37 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration

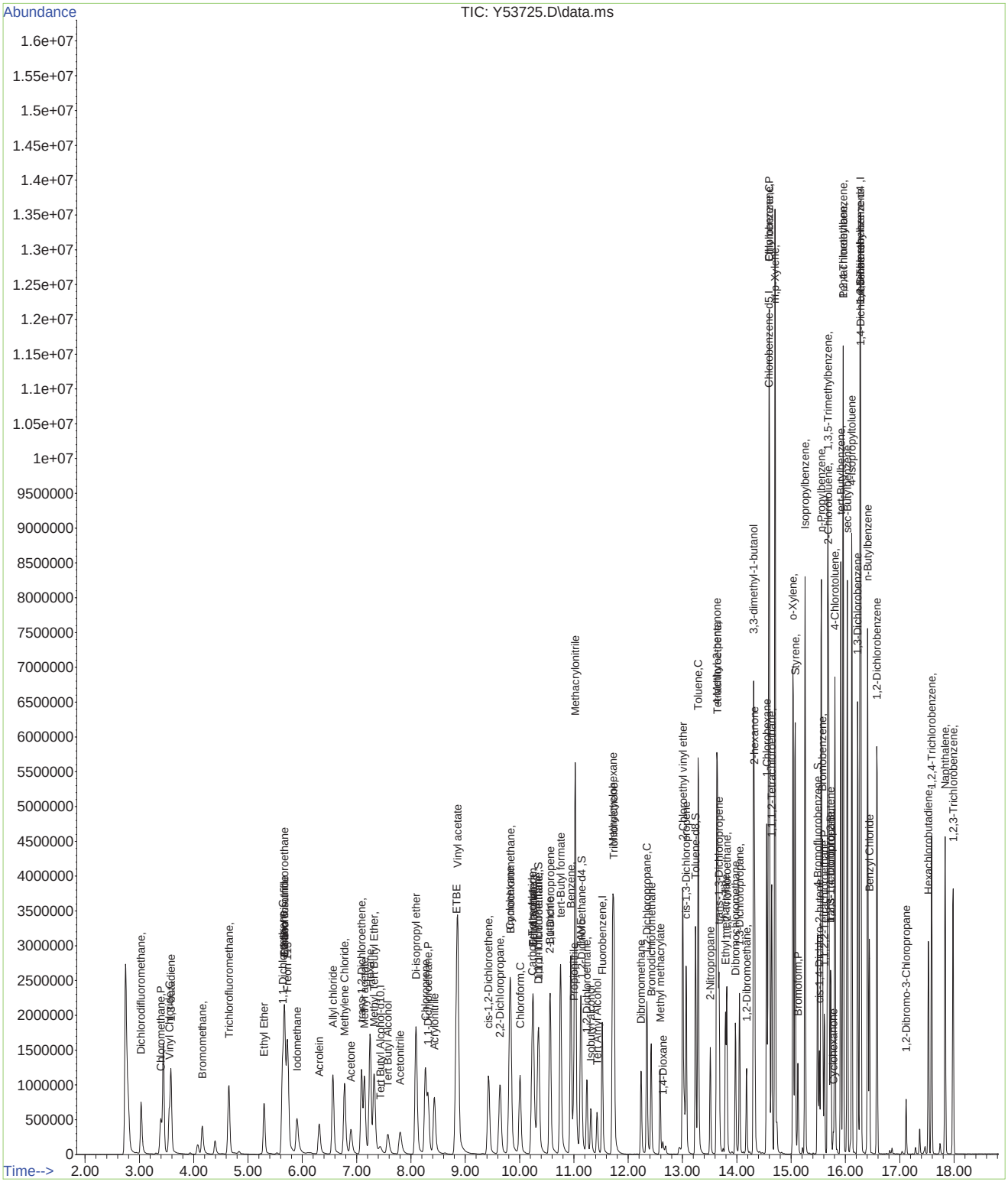
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.235	93	394226	115.69	ug/L		88
52) 1,2-Dichloropropane	12.344	63	713728	100.56	ug/L		96
53) Bromodichloromethane	12.423	83	874496	108.84	ug/L		98
54) Methyl methacrylate	12.587	41	518589	128.76	ug/L		93
55) 2-Chloroethyl vinyl ether	13.001	63	1361685	644.79	ug/L		98
56) cis-1,3-Dichloropropene	13.068	75	1185256	115.73	ug/L		97
59) Toluene	13.287	91	3600371	99.57	ug/L		99
60) 2-Nitropropane	13.512	41	729906	693.76	ug/L		96
61) 4-Methyl-2-pentanone	13.628	43	2465663	707.49	ug/L		96
62) trans-1,3-Dichloropropene	13.670	75	947110	130.55	ug/L		97
63) Tetrachloroethene	13.646	166	1064844	111.88	ug/L		94
64) Ethyl methacrylate	13.792	69	723992	126.16	ug/L		95
65) 1,1,2-Trichloroethane	13.816	83	454606	112.73	ug/L		93
66) Dibromochloromethane	13.974	129	863298	143.30	ug/L		99
67) 1,3-Dichloropropane	14.047	76	1031133	118.77	ug/L		97
68) 1,2-Dibromoethane	14.181	107	684923	141.15	ug/L		100
69) 2-hexanone	14.327	43	1829344m	730.02	ug/L		
70) 1-Chlorohexane	14.552	91	1265446	113.00	ug/L		96
71) Ethylbenzene	14.595	91	3768055	94.91	ug/L		99
72) Chlorobenzene	14.595	112	2411485	93.30	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.644	131	948144	116.19	ug/L		98
74) m,p-Xylene	14.704	91	6051218	197.56	ug/L		97
75) o-Xylene	15.033	91	3227440	108.66	ug/L		99
76) Styrene	15.076	104	2594207	113.51	ug/L		98
77) Bromoform	15.124	173	472634	136.94	ug/L		97
78) Isopropylbenzene	15.258	105	4393440	105.21	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.520	53	231135	154.04	ug/L		90
82) n-Propylbenzene	15.556	91	4816144	101.96	ug/L		99
83) Bromobenzene	15.574	156	1102513	110.14	ug/L		97
84) 1,1,2,2-Tetrachloroethane	15.611	83	667375	125.96	ug/L		99
85) 1,3,5-Trimethylbenzene	15.678	105	3480248	102.72	ug/L		98
86) 2-Chlorotoluene	15.690	91	2939045	98.01	ug/L		98
87) trans-1,4-Dichloro-2-B...	15.733	53	216776	170.88	ug/L	#	86
88) 1,2,3-Trichloropropane	15.726	110	255344	129.05	ug/L		95
89) Cyclohexanone	15.775	55	92765	846.58	ug/L		97
90) 4-Chlorotoluene	15.806	91	2873412	104.21	ug/L		99
91) tert-Butylbenzene	15.915	91	1855508	106.24	ug/L		97
92) 1,2,4-Trimethylbenzene	15.958	105	3443570	100.32	ug/L		100
93) Pentachloroethane	15.964	167	609609	127.16	ug/L	#	78
94) sec-Butylbenzene	16.037	105	4377095	105.09	ug/L		98
95) 4-Isopropyltoluene	16.116	119	4155738	111.52	ug/L		99
96) 1,3-Dichlorobenzene	16.225	146	2209315	106.72	ug/L		98
97) 1,2,3-Trimethylbenzene	16.268	105	3810340	94.69	ug/L		100
98) 1,4-Dichlorobenzene	16.286	146	2089473	96.59	ug/L		97
99) n-Butylbenzene	16.408	92	1634853	103.71	ug/L		99
100) Benzyl Chloride	16.444	126	420538	131.30	ug/L		94
101) 1,2-Dichlorobenzene	16.578	146	2040098	111.73	ug/L		98
102) 1,2-Dibromo-3-Chloropr...	17.120	75	119970	161.23	ug/L	#	57
103) Hexachlorobutadiene	17.527	225	413015	165.18	ug/L		86
104) 1,2,4-Trichlorobenzene	17.588	180	1213235	144.53	ug/L		95
105) Naphthalene	17.837	128	3172969	152.56	ug/L		100
106) 1,2,3-Trichlorobenzene	17.983	180	1075447	161.09	ug/L		95
108) Ethanol	5.664	45	126892	1936.87	ug/L		72
109) Tert Butyl Alcohol	7.575	59	533474	1061.99	ug/L		89
110) Isobutyl alcohol	11.310	42	250115	2020.40	ug/L		96
111) Tert Amyl Alcohol	11.425	59	356058	1105.78	ug/L		93
112) 1,4-Dioxane	12.636	88	128826	1969.71	ug/L		95
113) 3,3-dimethyl-1-butanol	14.309	57	2669821	5164.91	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53725.D
Acq On : 31 Oct 2020 2:09 pm
Operator : chelseav
Sample : IC2229-7 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 02 07:48:37 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration



RESTEK103120w.M Mon Nov 02 07:57:54 2020 Page: 3

Manual Integration Approval Summary

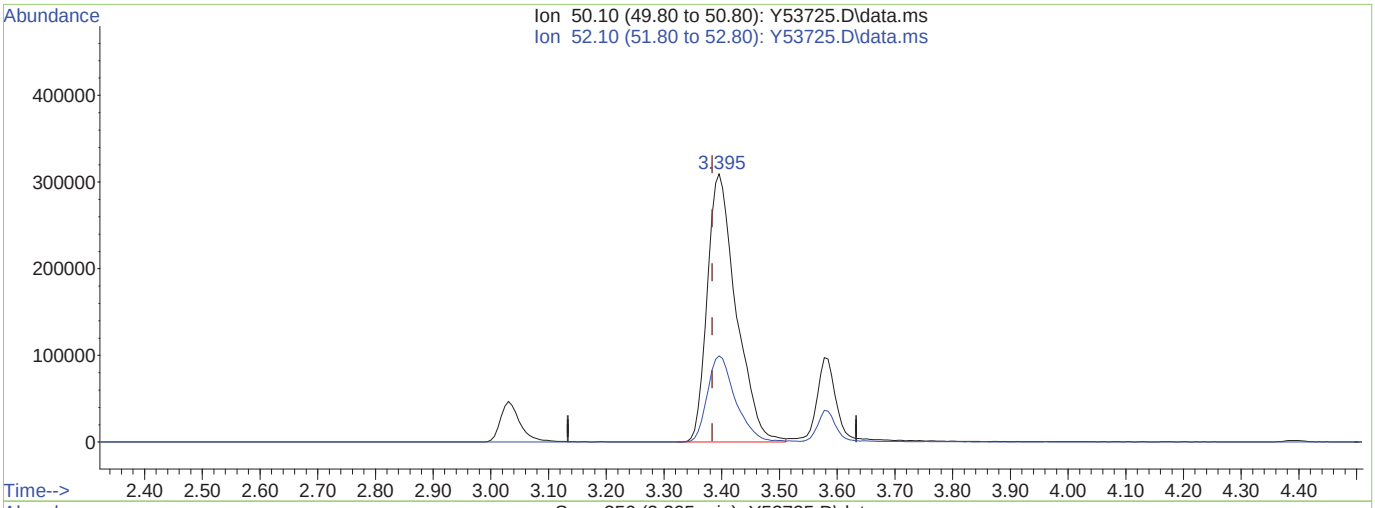
Sample Number: VY2229-IC2229
Lab FileID: Y53725.D
Injection Time: 10/31/20 14:09
Method: SW846 8260B
Analyst approved: 11/02/20 08:01 Chelsea VanDenBurg
Supervisor approved: 11/02/20 11:36 Melissa Mangual

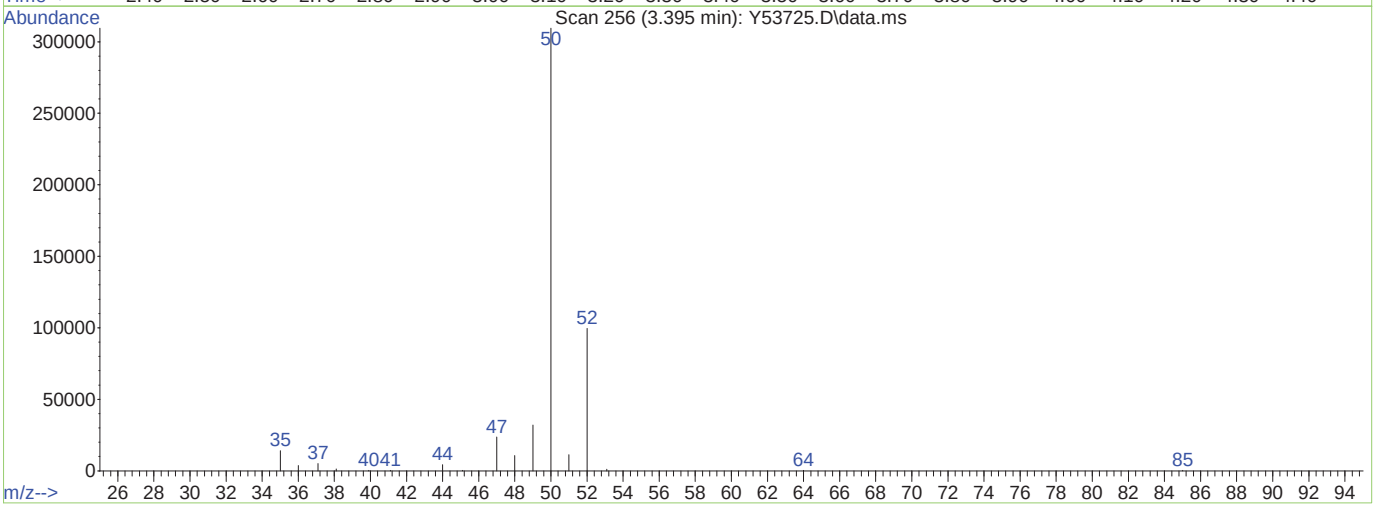
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.40	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53725.D
Acq On : 31 Oct 2020 2:09 pm
Operator : chelseav
Sample : IC2229-7 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 02 07:43:10 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53725.D\data.ms

(4) Chloromethane (P)

3.395min (+0.012) 121.97ug/L

response 1075432

Ion	Exp%	Act%
50.10	100	100
52.10	31.70	32.17
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53725.D
Acq On : 31 Oct 2020 2:09 pm
Operator : chelseav
Sample : IC2229-7 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
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Quant Time: Nov 02 07:43:10 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
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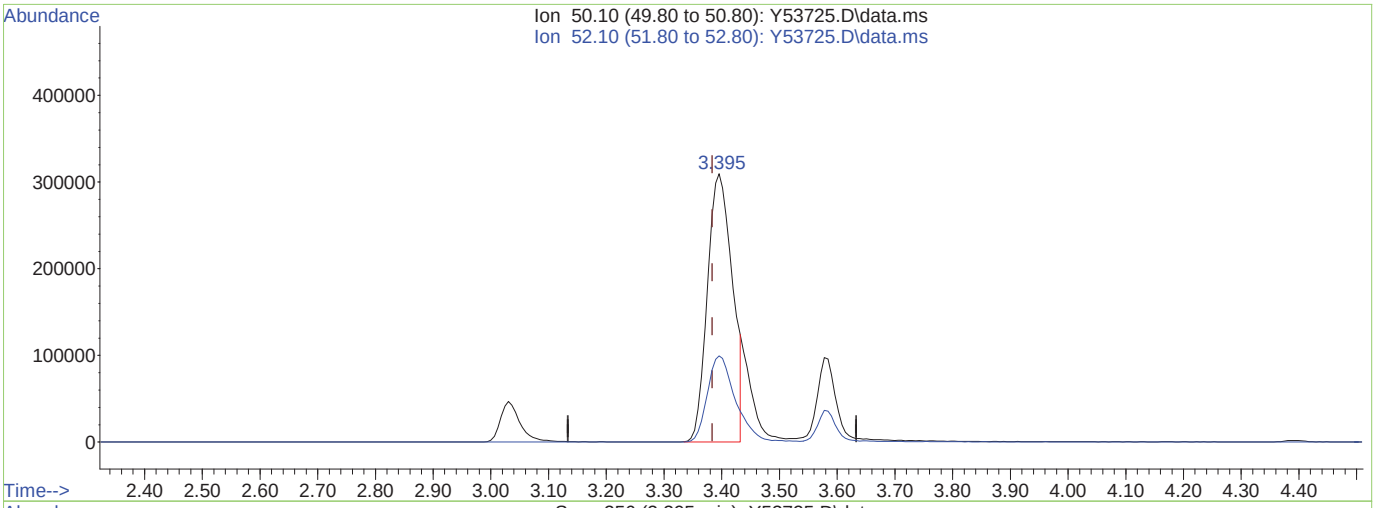
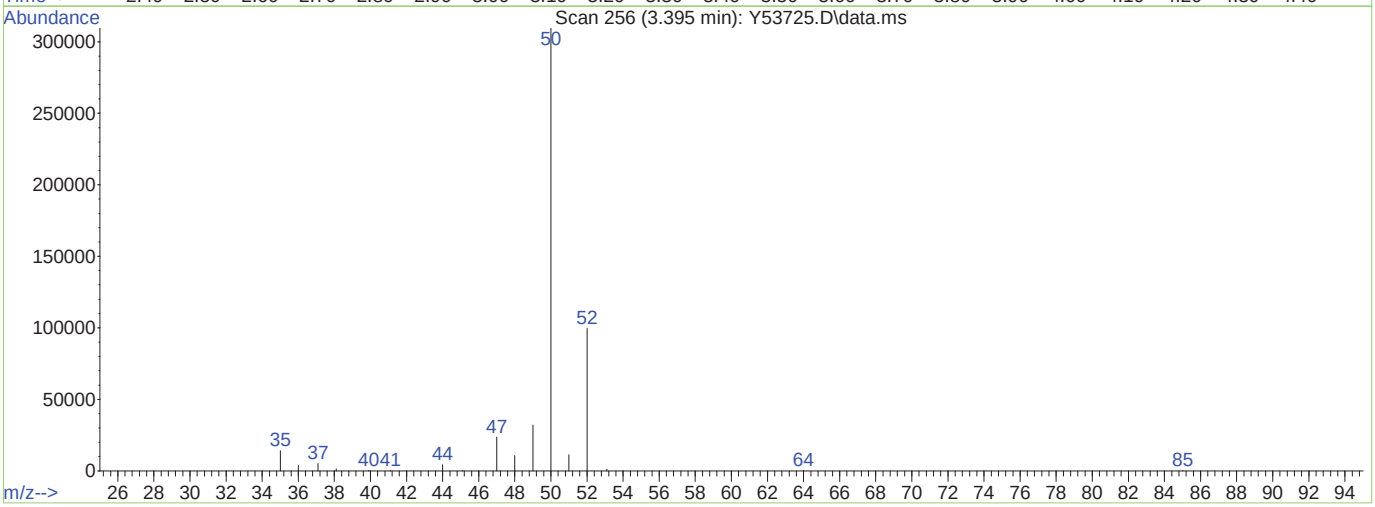




TIC: Y53725.D\data.ms

(4) Chloromethane (P)

3.395min (+0.012) 105.82ug/L m

response 932972

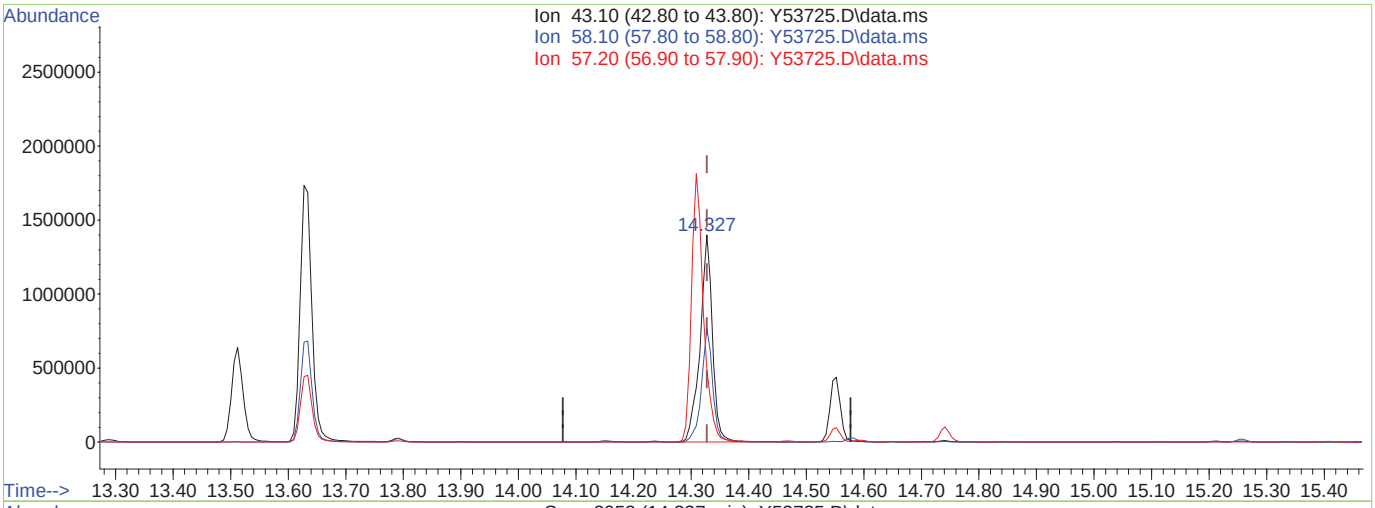
Ion	Exp%	Act%
50.10	100	100
52.10	31.70	32.17
0.00	0.00	0.00
0.00	0.00	0.00

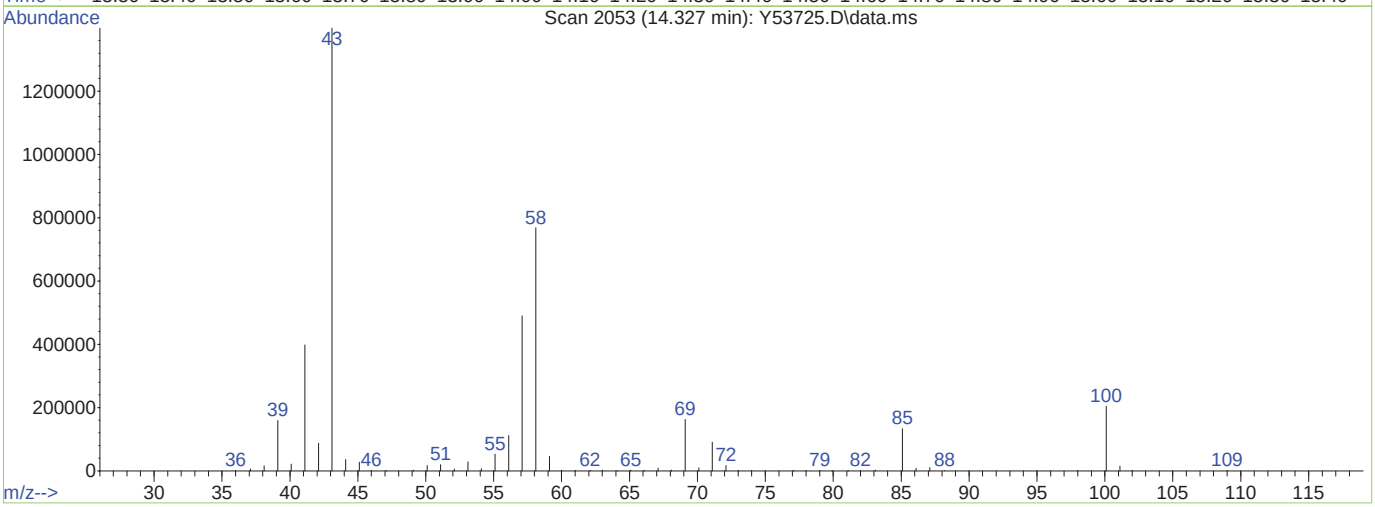
Y53725.D edits: Chloromethane

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53725.D
Acq On : 31 Oct 2020 2:09 pm
Operator : chelseav
Sample : IC2229-7 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 02 07:43:10 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53725.D\data.ms

(69) 2-hexanone

14.327min (-0.000) 840.27ug/L

response 2105607

Ion	Exp%	Act%
43.10	100	100
58.10	49.00	54.95
57.20	29.00	35.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53725.D
Acq On : 31 Oct 2020 2:09 pm
Operator : chelseav
Sample : IC2229-7 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 02 07:43:10 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
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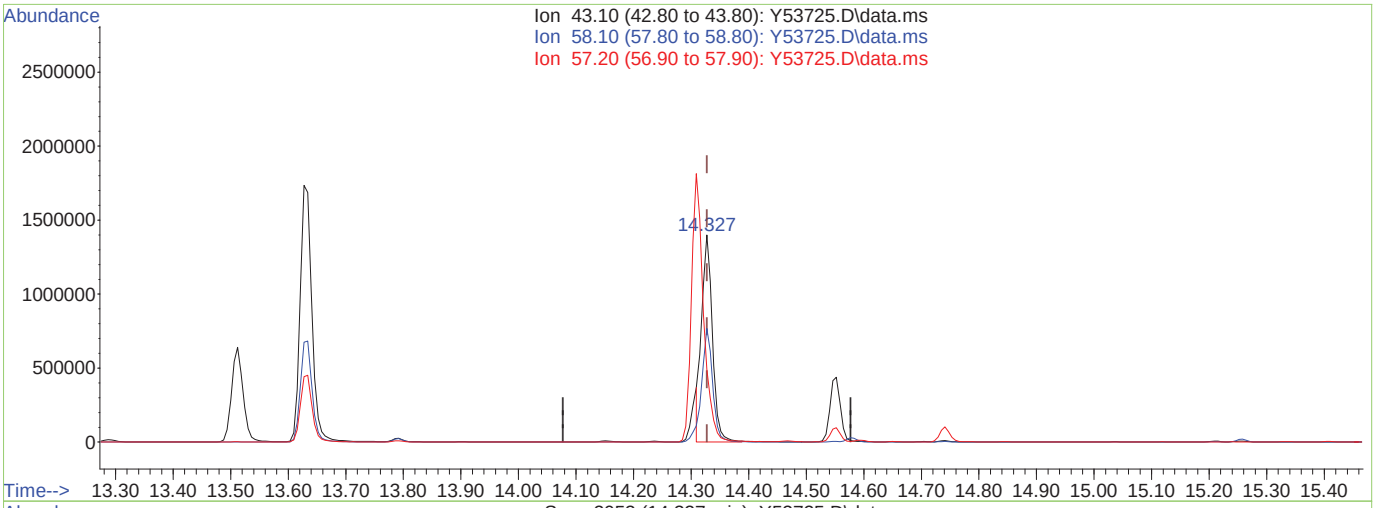
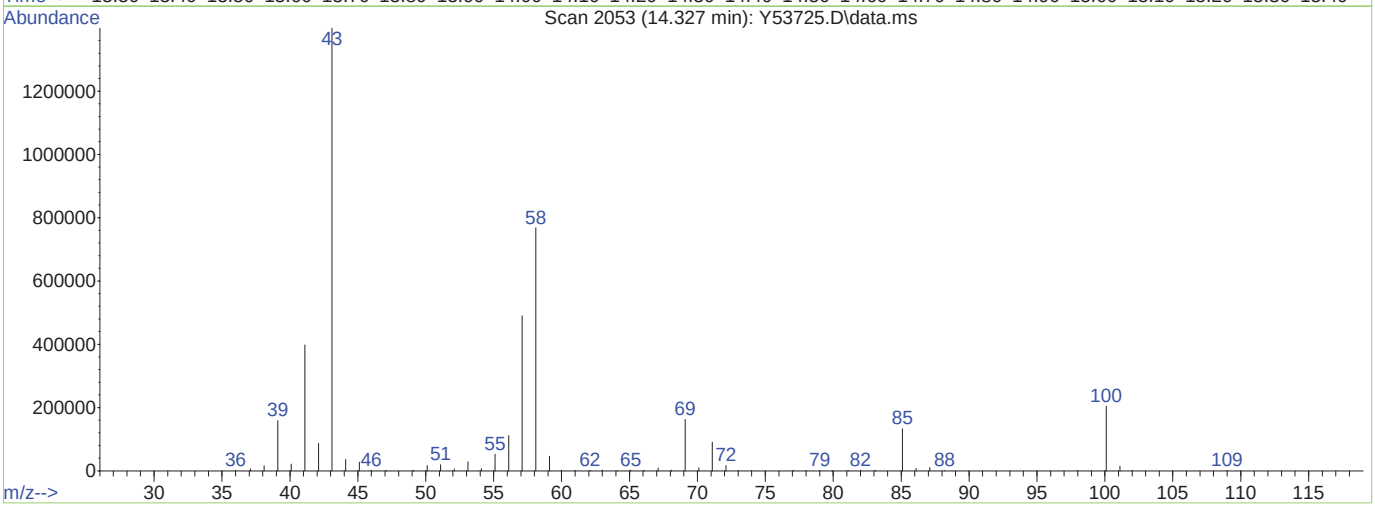
QLast Update : Fri Oct 30 14:38:33 2020
Response via : Initial Calibration





TIC: Y53725.D\data.ms

(69) 2-hexanone

14.327min (-0.000) 730.02ug/L m

response 1829344

Ion	Exp%	Act%
43.10	100	100
58.10	49.00	54.92
57.20	29.00	35.02
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/02/20 11:36

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53727.D
Acq On : 31 Oct 2020 3:03 pm
Operator : chelseav
Sample : ICV2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 02 07:54:01 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.522	96	1873812	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.582	117	1762302	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	980397	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.421	65	136544	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.335	113	486140	50.00	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.00%			
47) 1,2-Dichloroethane-d4	11.145	65	426844	49.29	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.58%			
58) Toluene-d8	13.243	98	1974298	50.79	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 101.58%			
80) 4-Bromofluorobenzene	15.488	174	754528	50.57	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.14%			
Target Compounds						Qvalue
3) Acrolein	6.308	56	185818	159.00	ug/L	99
4) Chloromethane	3.388	50	349770m	35.69	ug/L	
5) 1,3-butadiene	3.583	39	291605	43.30	ug/L	98
6) Vinyl Chloride	3.546	62	333284	37.50	ug/L	99
7) Bromomethane	4.161	94	143731	38.03	ug/L	99
8) Chloroethane	4.398	64	83229	34.77	ug/L	99
9) Trichlorofluoromethane	4.660	101	460630	38.70	ug/L	97
10) Ethyl Ether	5.292	59	257526	42.74	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.675	67	336662	43.39	ug/L	97
12) 1,1-Dichloroethene	5.639	61	461746	43.64	ug/L	98
14) Carbon Disulfide	5.669	76	772048	39.34	ug/L	100
15) Iodomethane	5.907	142	266238	33.24	ug/L	98
16) Allyl chloride	6.564	41	460569	42.15	ug/L	99
17) Methylene Chloride	6.777	49	425891	39.53	ug/L	99
18) Acetone	6.892	43	331872	214.66	ug/L	97
19) Methyl acetate	7.142	43	878942	219.19	ug/L	99
20) trans-1,2-Dichloroethene	7.093	61	431811	42.89	ug/L	98
21) Hexane	7.251	56	239040	36.09	ug/L	96
22) Methyl Tert Butyl Ether	7.318	73	703179	44.49	ug/L	95
23) Acetonitrile	7.799	41	277495	406.83	ug/L	98
24) Di-isopropyl ether	8.091	45	1044108	42.21	ug/L	98
25) Chloroprene	8.267	53	501227	46.43	ug/L	99
26) 1,1-Dichloroethane	8.316	63	538239	43.66	ug/L	99
27) Acrylonitrile	8.425	53	439537	221.53	ug/L	96
28) ETBE	8.833	59	850514	40.31	ug/L	99
29) Vinyl acetate	8.863	43	2505711	188.90	ug/L	100
30) cis-1,2-Dichloroethene	9.429	96	381543	42.22	ug/L	97
31) 2,2-Dichloropropane	9.642	77	398886	44.55	ug/L	98
32) Bromochloromethane	9.837	128	197454	39.09	ug/L	97
33) Cyclohexane	9.824	56	595919	40.29	ug/L	97
34) Chloroform	10.007	83	537348	41.46	ug/L	98
35) Ethyl acetate	10.256	43	1053658	216.31	ug/L	100
36) Tetrahydrofuran	10.256	42	54266	39.30	ug/L	93
38) Carbon Tetrachloride	10.232	117	493910	44.53	ug/L	99
39) 1,1,1-Trichloroethane	10.354	97	545149	42.45	ug/L	97
40) 2-Butanone	10.548	43	480991	214.84	ug/L	96
41) 1,1-Dichloropropene	10.567	75	433853	41.14	ug/L	99
42) tert-Butyl formate	10.755	59	269956	181.02	ug/L	98
43) Propionitrile	10.992	54	303886	415.06	ug/L	97
44) Methacrylonitrile	11.023	41	1333374	396.76	ug/L	99
45) Benzene	10.944	78	1265874	40.53	ug/L	100
46) TAME	11.126	73	686592	41.86	ug/L	98
48) 1,2-Dichloroethane	11.242	62	377042	39.32	ug/L	98
49) Trichloroethene	11.741	95	359443	40.33	ug/L	99
50) Methylcyclohexane	11.716	83	571221	39.69	ug/L	100
51) Dibromomethane	12.240	93	172232	41.25	ug/L	97
52) 1,2-Dichloropropane	12.343	63	308090	40.94	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53727.D
Acq On : 31 Oct 2020 3:03 pm
Operator : chelseav
Sample : ICV2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 02 07:54:01 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

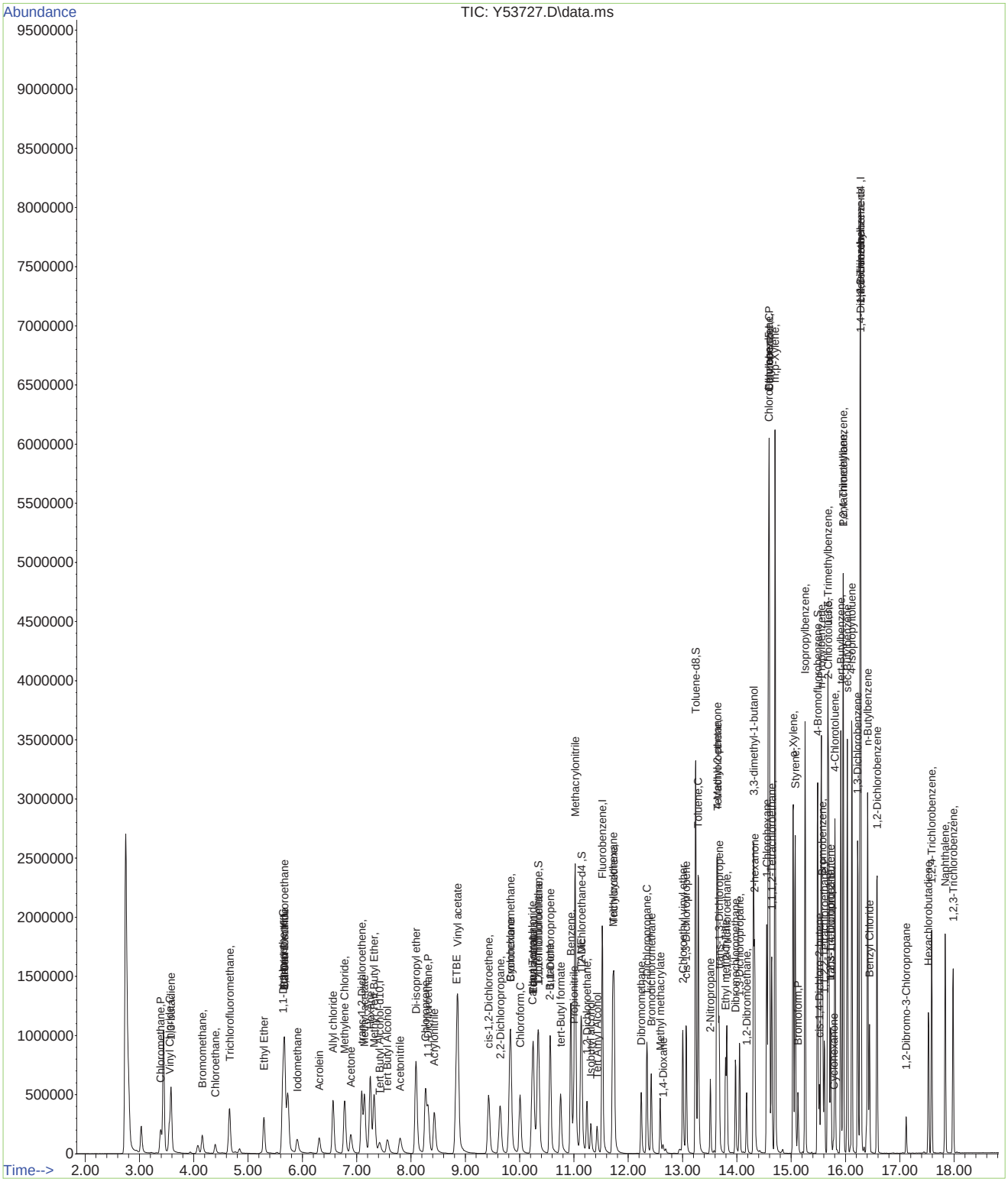
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) Bromodichloromethane	12.422	83	373693	43.96	ug/L		98
54) Methyl methacrylate	12.586	41	202032	42.47	ug/L		95
55) 2-Chloroethyl vinyl ether	13.006	63	368009	166.20	ug/L		99
56) cis-1,3-Dichloropropene	13.067	75	481024	43.14	ug/L		98
59) Toluene	13.292	91	1525586	40.52	ug/L		99
60) 2-Nitropropane	13.511	41	290344	214.31	ug/L		99
61) 4-Methyl-2-pentanone	13.633	43	1083359	220.09	ug/L		99
62) trans-1,3-Dichloropropene	13.675	75	397745	44.22	ug/L		92
63) Tetrachloroethene	13.651	166	509054	43.30	ug/L		97
64) Ethyl methacrylate	13.791	69	292004	43.11	ug/L		98
65) 1,1,2-Trichloroethane	13.815	83	202956	40.80	ug/L		96
66) Dibromochloromethane	13.973	129	368383	46.44	ug/L		100
67) 1,3-Dichloropropane	14.046	76	432172	39.99	ug/L		99
68) 1,2-Dibromoethane	14.180	107	287089	42.16	ug/L		99
69) 2-hexanone	14.326	43	798705m	224.37	ug/L		
70) 1-Chlorohexane	14.551	91	501795	39.52	ug/L		97
71) Ethylbenzene	14.594	91	1667907	41.49	ug/L		99
72) Chlorobenzene	14.594	112	1070234	38.75	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.643	131	403175	42.41	ug/L		99
74) m,p-Xylene	14.703	91	2646233	80.11	ug/L		99
75) o-Xylene	15.038	91	1377143	41.48	ug/L		99
76) Styrene	15.074	104	1098507	42.56	ug/L		98
77) Bromoform	15.123	173	197636	45.47	ug/L		98
78) Isopropylbenzene	15.257	105	1876349	41.28	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.519	53	85122	42.56	ug/L		90
82) n-Propylbenzene	15.555	91	2032824	40.36	ug/L		99
83) Bromobenzene	15.579	156	483922	39.66	ug/L		100
84) 1,1,2,2-Tetrachloroethane	15.610	83	288335	40.67	ug/L		99
85) 1,3,5-Trimethylbenzene	15.677	105	1483099	41.81	ug/L		98
86) 2-Chlorotoluene	15.689	91	1255792	39.15	ug/L		97
87) trans-1,4-Dichloro-2-B...	15.731	53	83112	41.43	ug/L	#	67
88) 1,2,3-Trichloropropane	15.725	110	107924	39.89	ug/L		95
89) Cyclohexanone	15.780	55	34632	200.65	ug/L		97
90) 4-Chlorotoluene	15.804	91	1196461	40.11	ug/L		96
91) tert-Butylbenzene	15.914	91	765197	40.46	ug/L		98
92) 1,2,4-Trimethylbenzene	15.957	105	1435326	40.13	ug/L		99
93) Pentachloroethane	15.963	167	231877	40.17	ug/L		97
94) sec-Butylbenzene	16.036	105	1822867	41.67	ug/L		98
95) 4-Isopropyltoluene	16.115	119	1745317	42.90	ug/L		99
96) 1,3-Dichlorobenzene	16.224	146	925787	40.52	ug/L		98
97) 1,2,3-Trimethylbenzene	16.267	105	1368951	34.22	ug/L		98
98) 1,4-Dichlorobenzene	16.285	146	875193	38.55	ug/L		98
99) n-Butylbenzene	16.407	92	707500	42.95	ug/L		98
100) Benzyl Chloride	16.443	126	149199	41.38	ug/L		99
101) 1,2-Dichlorobenzene	16.583	146	836337	39.97	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.118	75	46263	43.24	ug/L		93
103) Hexachlorobutadiene	17.526	225	166360	41.05	ug/L		95
104) 1,2,4-Trichlorobenzene	17.587	180	490124	42.19	ug/L		98
105) Naphthalene	17.836	128	1246243	44.07	ug/L		99
106) 1,2,3-Trichlorobenzene	17.982	180	430180	41.74	ug/L		98
108) Ethanol	5.657	45	53832	757.74	ug/L		93
109) Tert Butyl Alcohol	7.567	59	211118	369.13	ug/L		96
110) Isobutyl alcohol	11.309	42	98863	841.36	ug/L		98
111) Tert Amyl Alcohol	11.424	59	136085	406.44	ug/L		97
112) 1,4-Dioxane	12.641	88	52147	775.49	ug/L		93
113) 3,3-dimethyl-1-butanol	14.308	57	1063289	2137.89	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53727.D
Acq On : 31 Oct 2020 3:03 pm
Operator : chelseav
Sample : ICV2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 02 07:54:01 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



RESTEK103120w.M Mon Nov 02 07:57:56 2020 Page: 3

Manual Integration Approval Summary

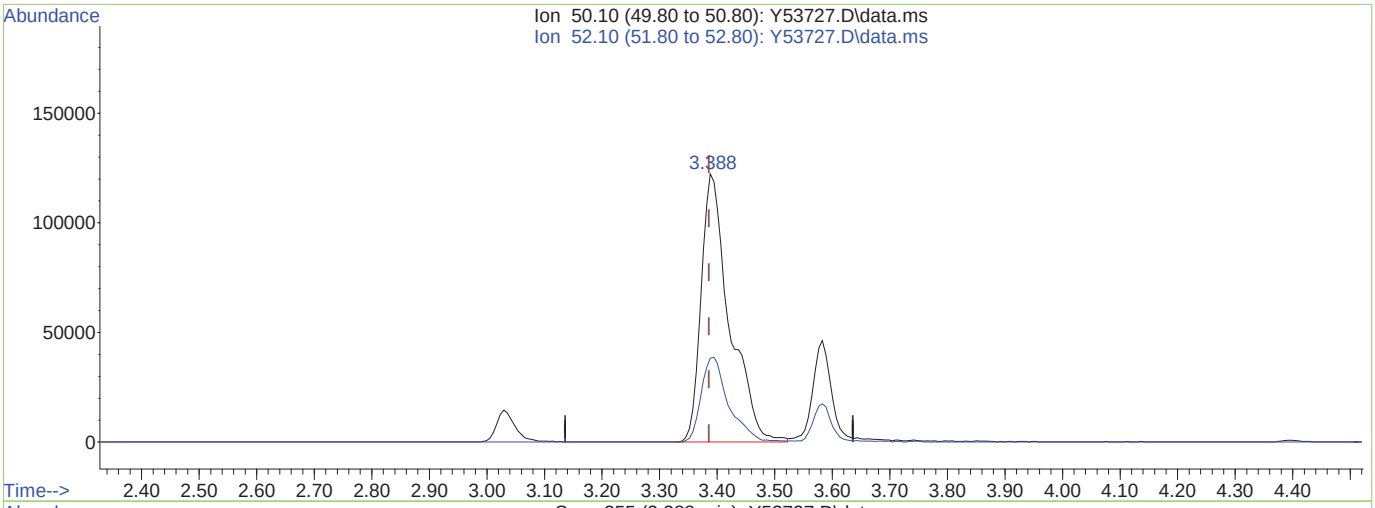
Sample Number: VY2229-ICV2229
Lab FileID: Y53727.D
Injection Time: 10/31/20 15:03
Method: SW846 8260B
Analyst approved: 11/02/20 08:01 Chelsea VanDenBurg
Supervisor approved: 11/02/20 11:36 Melissa Mangual

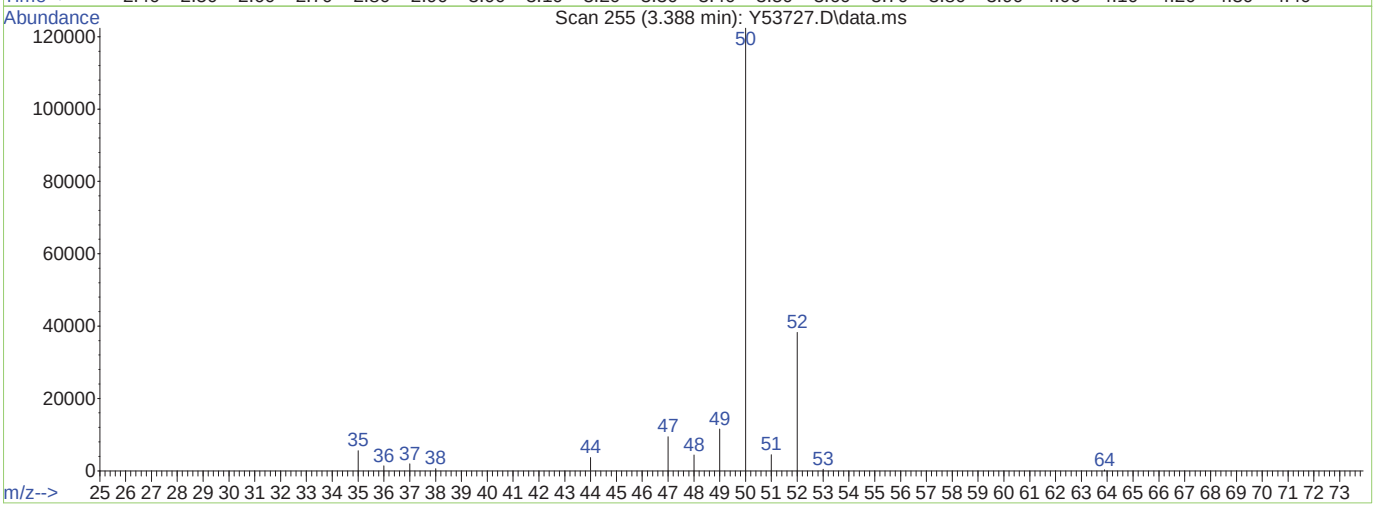
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53727.D
Acq On : 31 Oct 2020 3:03 pm
Operator : chelseav
Sample : ICV2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 02 07:53:38 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53727.D\data.ms

(4) Chloromethane (P)

3.388min (+0.002) 42.87ug/L

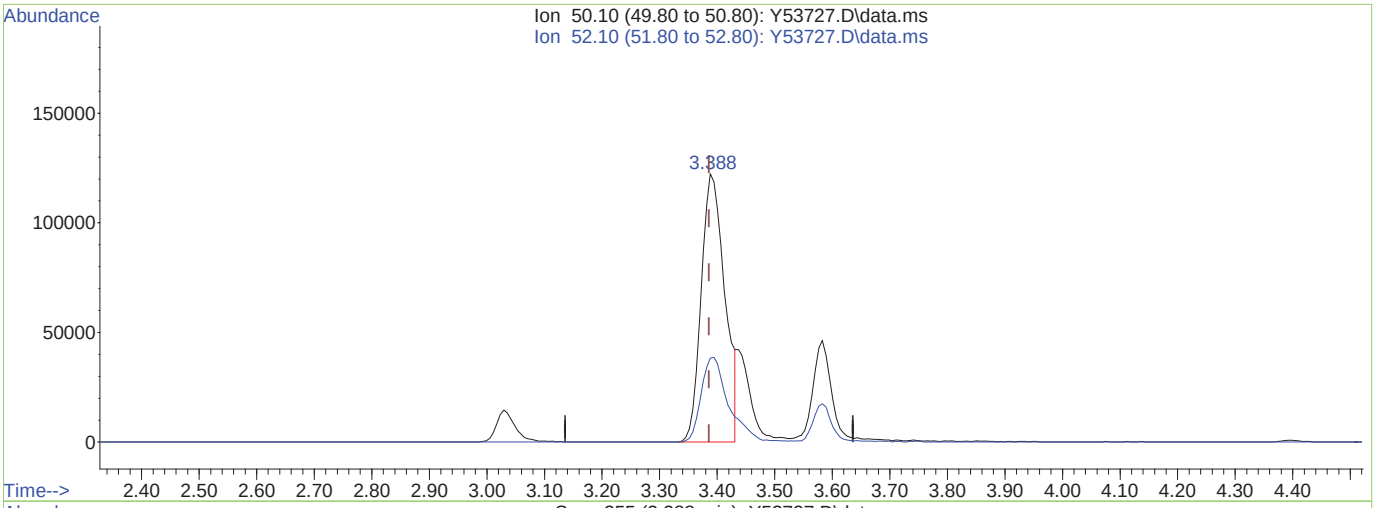
response 420169

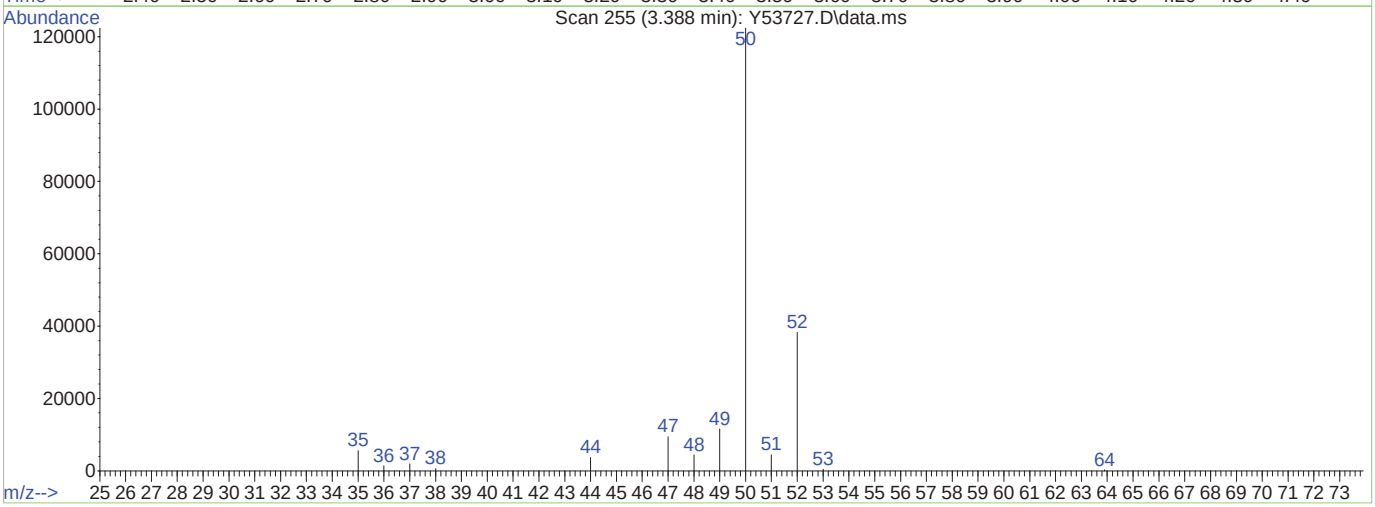
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.29
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53727.D
Acq On : 31 Oct 2020 3:03 pm
Operator : chelseav
Sample : ICV2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 02 07:53:38 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53727.D\data.ms

(4) Chloromethane (P)

3.388min (+0.002) 35.69ug/L m

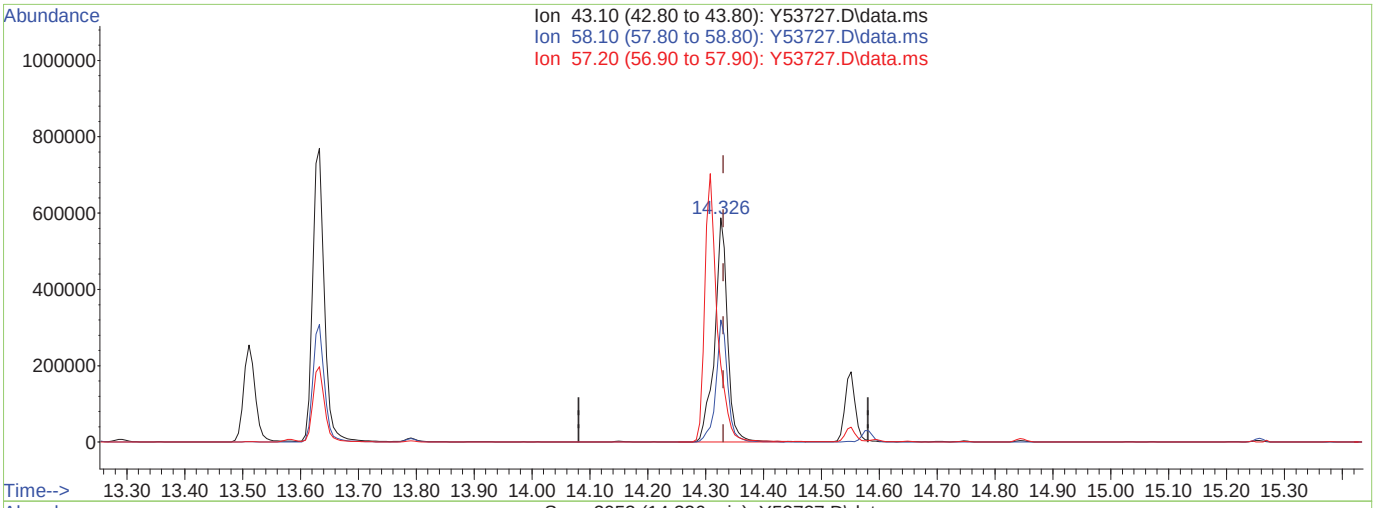
response 349770

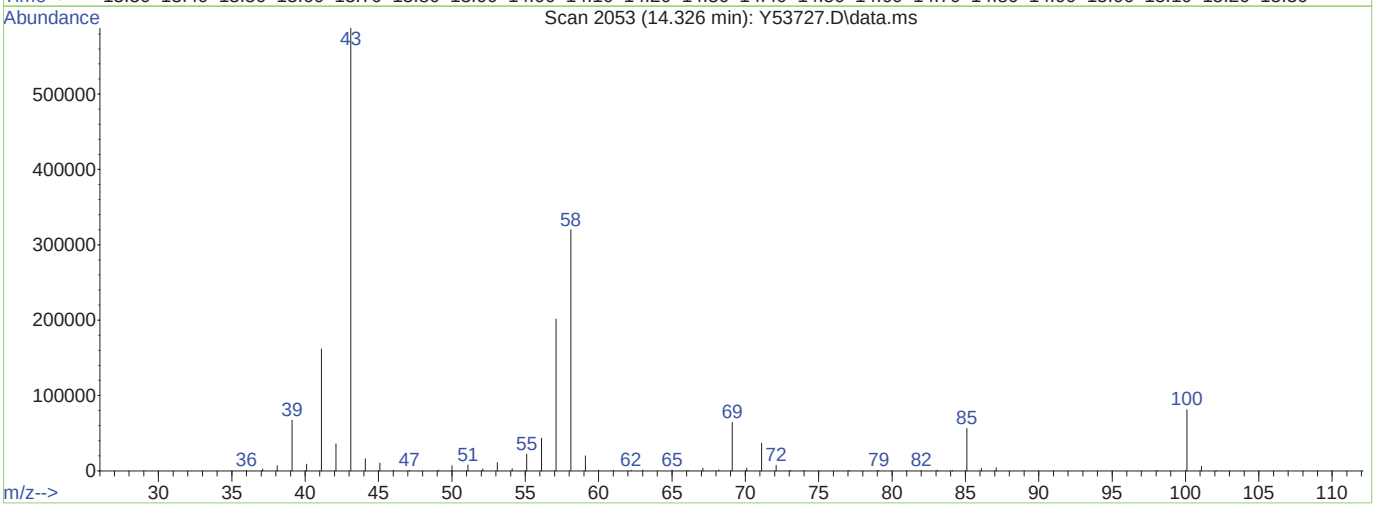
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.29
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53727.D
Acq On : 31 Oct 2020 3:03 pm
Operator : chelseav
Sample : ICV2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 02 07:53:38 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53727.D\data.ms

(69) 2-hexanone

14.326min (-0.004) 254.22ug/L

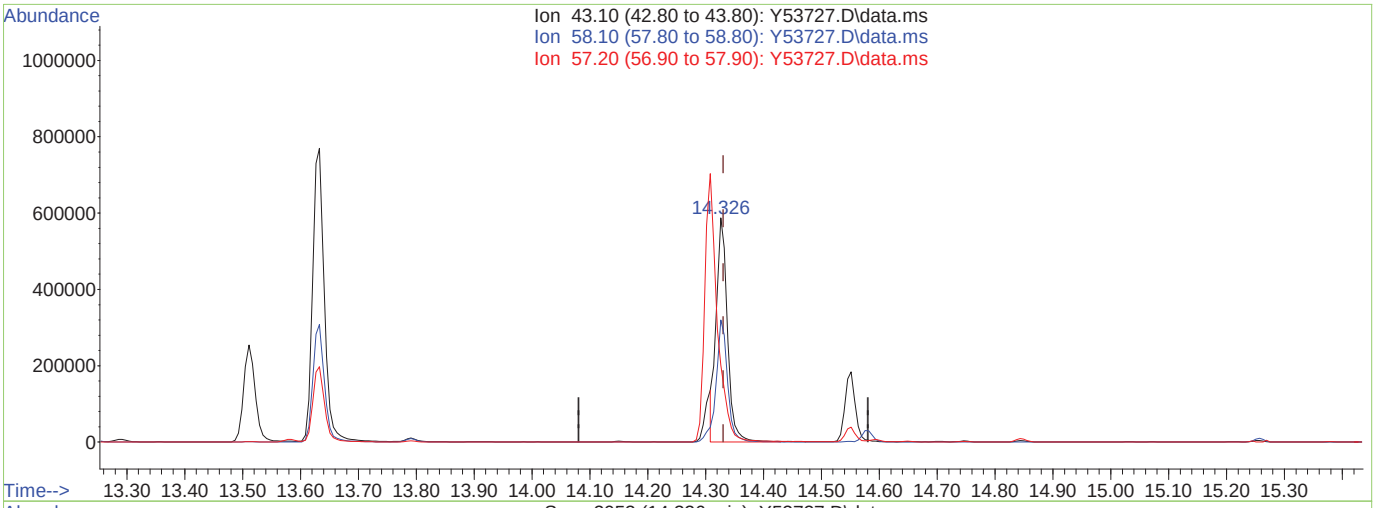
response 904958

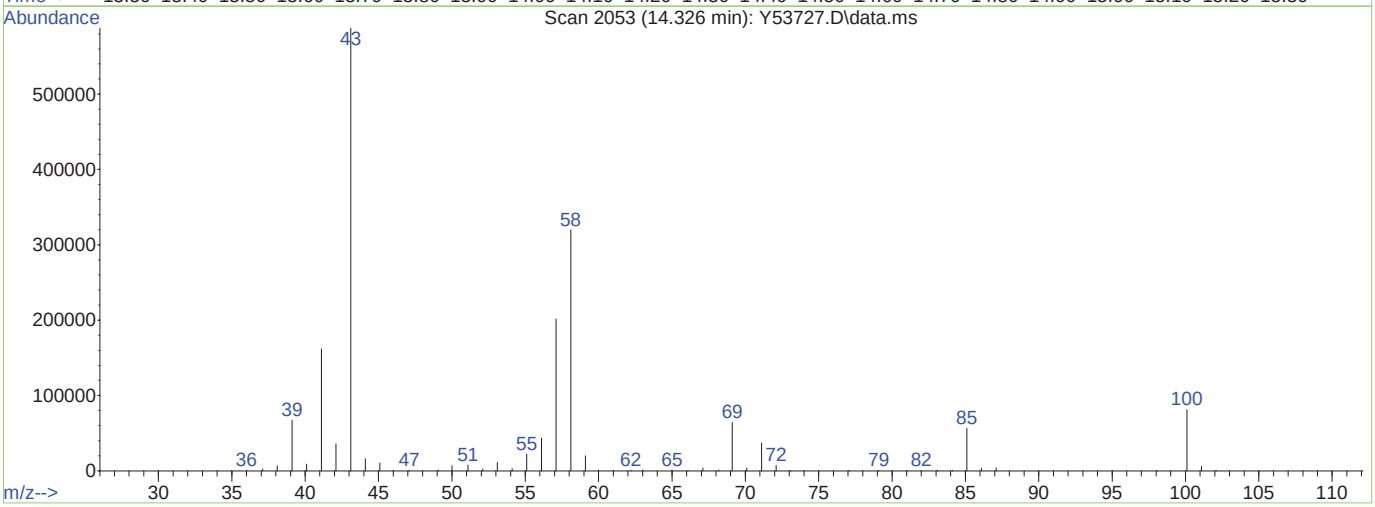
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	54.48
57.20	27.10	34.32
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53727.D
Acq On : 31 Oct 2020 3:03 pm
Operator : chelseav
Sample : ICV2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 02 07:53:38 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53727.D\data.ms

(69) 2-hexanone

14.326min (-0.004) 224.37ug/L m

response 798705

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	54.45
57.20	27.10	34.31
0.00	0.00	0.00

7.6.8.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53728.D
Acq On : 31 Oct 2020 3:30 pm
Operator : chelseav
Sample : ICV2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 02 07:55:06 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

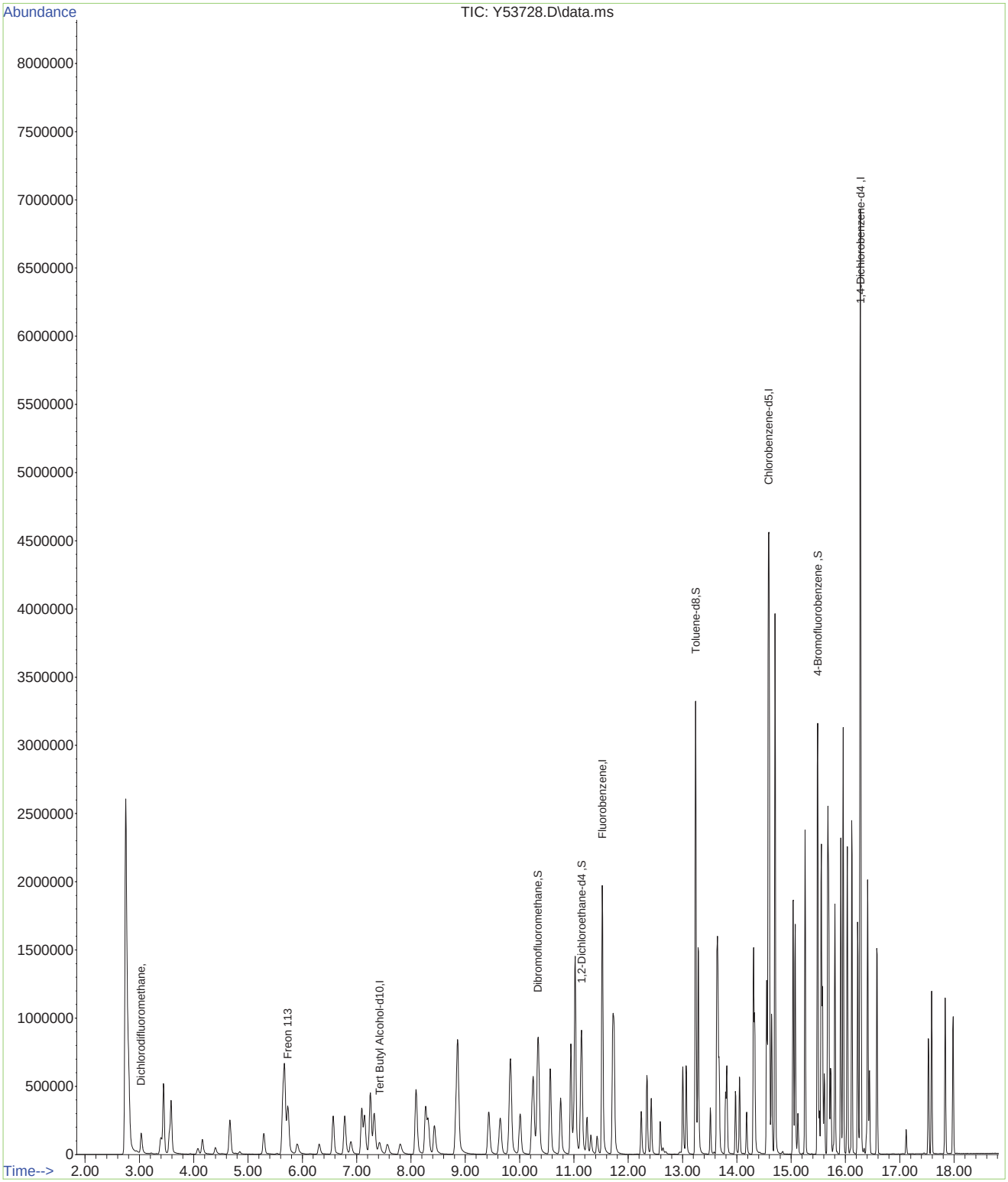
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.522	96	1883036	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.582	117	1802041	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	1015500	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.416	65	138083	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	489729	50.12	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.24%			
47) 1,2-Dichloroethane-d4	11.145	65	430035	49.42	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.84%			
58) Toluene-d8	13.244	98	1977639	49.75	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.50%			
80) 4-Bromofluorobenzene	15.489	174	767700	49.67	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	195616	20.25	ug/L	99
13) Freon 113	5.737	101	210391	20.92	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\103120\
Data File : Y53728.D
Acq On : 31 Oct 2020 3:30 pm
Operator : chelseav
Sample : ICV2229-4 Inst : MSVOA14-Y
Misc : MS47522,VY2229,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 02 07:55:06 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



RESTEK103120w.M Mon Nov 02 07:57:58 2020 Page: 2

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/04/20 13:05

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:24:09 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.522	96	1728048	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.582	117	1725574	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	990956	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.416	65	115371	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	455071	50.75	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.50%			
47) 1,2-Dichloroethane-d4	11.145	65	389753	48.81	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.62%			
58) Toluene-d8	13.238	98	1868508	49.09	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 98.18%			
80) 4-Bromofluorobenzene	15.489	174	742866	49.25	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	373065	42.08	ug/L	99
3) Acrolein	6.309	56	237984	220.81	ug/L	99
4) Chloromethane	3.395	50	330825m	36.60	ug/L	
5) 1,3-butadiene	3.583	39	188216	30.30	ug/L	99
6) Vinyl Chloride	3.553	62	328501	40.08	ug/L	99
7) Bromomethane	4.161	94	116580	33.45	ug/L	97
8) Chloroethane	4.404	64	78500	35.60	ug/L	96
9) Trichlorofluoromethane	4.666	101	470068	42.83	ug/L	97
10) Ethyl Ether	5.293	59	233228	41.98	ug/L	97
11) 1,2-Dichlorotrifluoroe...	5.676	67	277006	38.71	ug/L	98
12) 1,1-Dichloroethene	5.639	61	380352	38.98	ug/L	98
13) Freon 113	5.731	101	363364	39.37	ug/L	99
14) Carbon Disulfide	5.676	76	711509	39.31	ug/L	99
15) Iodomethane	5.907	142	230563	31.55	ug/L	99
16) Allyl chloride	6.564	41	404442	40.13	ug/L	98
17) Methylene Chloride	6.783	49	382980	38.48	ug/L	98
18) Acetone	6.893	43	299419	210.00	ug/L	97
19) Methyl acetate	7.142	43	781915	211.44	ug/L	98
20) trans-1,2-Dichloroethene	7.093	61	372154	40.08	ug/L	98
21) Hexane	7.252	56	248422	40.67	ug/L	96
22) Methyl Tert Butyl Ether	7.324	73	610384	41.88	ug/L	92
23) Acetonitrile	7.805	41	269028	427.03	ug/L	97
24) Di-isopropyl ether	8.091	45	948576	41.59	ug/L	99
25) Chloroprene	8.267	53	402469	40.42	ug/L	99
26) 1,1-Dichloroethane	8.316	63	454033	39.93	ug/L	99
27) Acrylonitrile	8.432	53	398374	217.72	ug/L	98
28) ETBE	8.833	59	812213	41.74	ug/L	99
29) Vinyl acetate	8.858	43	2574715	210.21	ug/L	100
30) cis-1,2-Dichloroethene	9.429	96	333256	39.99	ug/L	99
31) 2,2-Dichloropropane	9.636	77	312140	38.52	ug/L	97
32) Bromochloromethane	9.837	128	191393	41.09	ug/L	98
33) Cyclohexane	9.825	56	544879	39.95	ug/L	99
34) Chloroform	10.007	83	474138	39.67	ug/L	99
35) Ethyl acetate	10.251	43	986664	219.64	ug/L	99
36) Tetrahydrofuran	10.251	42	52811	41.47	ug/L	98
38) Carbon Tetrachloride	10.226	117	400462	39.15	ug/L	98
39) 1,1,1-Trichloroethane	10.354	97	463523	39.14	ug/L	97
40) 2-Butanone	10.549	43	434470	210.54	ug/L	97
41) 1,1-Dichloropropene	10.567	75	380910	39.16	ug/L	98
42) tert-Butyl formate	10.756	59	219895	168.08	ug/L	98
43) Propionitrile	10.993	54	286899	424.91	ug/L	96
44) Methacrylonitrile	11.023	41	1305693	421.29	ug/L	99
45) Benzene	10.944	78	1135849	39.43	ug/L	99
46) TAME	11.127	73	622050	41.13	ug/L	99
48) 1,2-Dichloroethane	11.236	62	351740	39.78	ug/L	100
49) Trichloroethene	11.741	95	333211	40.55	ug/L	99
50) Methylcyclohexane	11.717	83	537979	40.54	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:24:09 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

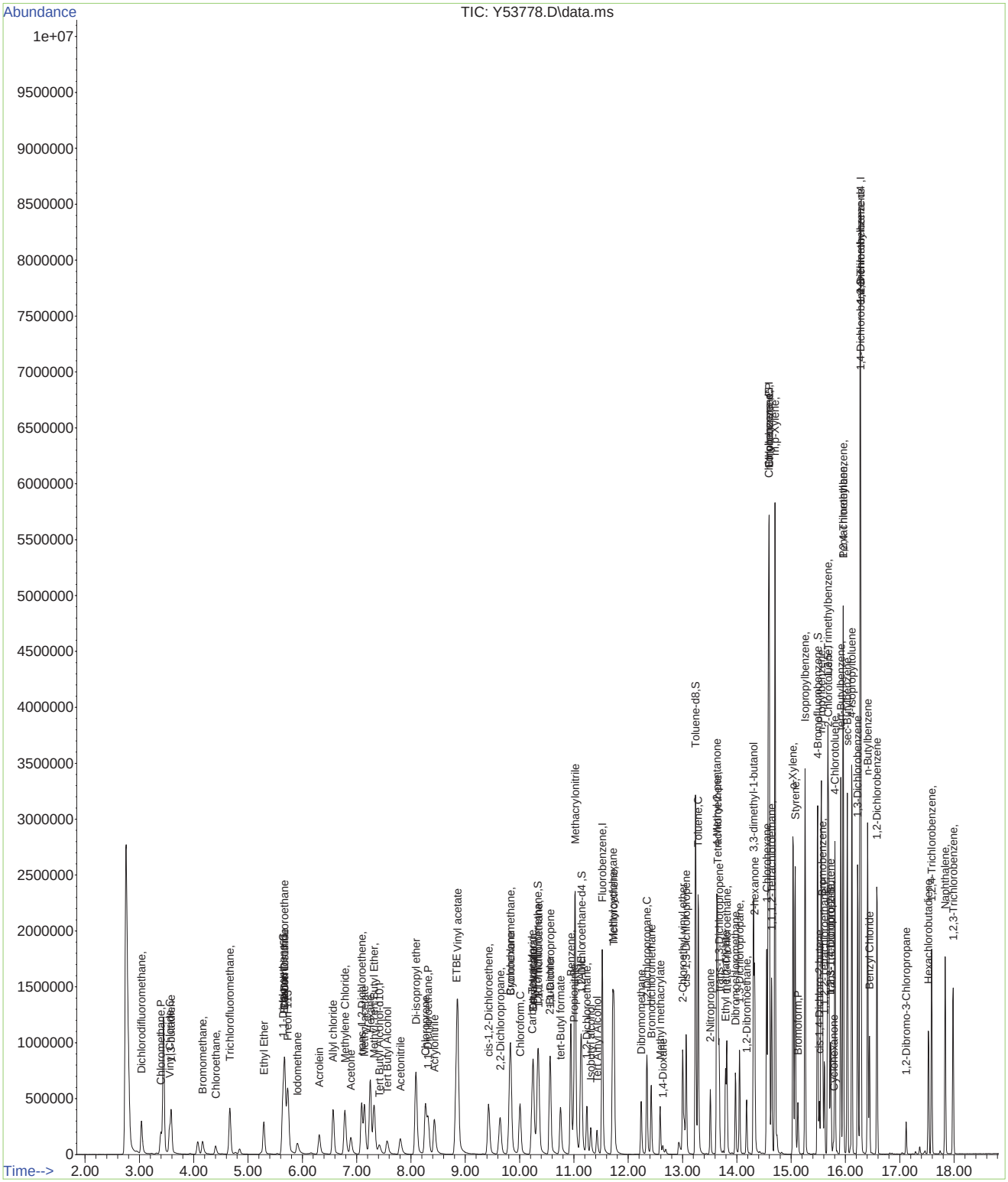
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.234	93	157289	40.85	ug/L		97
52) 1,2-Dichloropropane	12.343	63	282285	40.67	ug/L		99
53) Bromodichloromethane	12.422	83	329541	42.04	ug/L		98
54) Methyl methacrylate	12.587	41	183815	41.96	ug/L		96
55) 2-Chloroethyl vinyl ether	13.000	63	319902	157.82	ug/L		98
56) cis-1,3-Dichloropropene	13.067	75	459913	44.73	ug/L		99
59) Toluene	13.286	91	1429927	38.80	ug/L		99
60) 2-Nitropropane	13.511	41	269891	204.56	ug/L		98
61) 4-Methyl-2-pentanone	13.627	43	1019536	211.54	ug/L		99
62) trans-1,3-Dichloropropene	13.670	75	357835	40.94	ug/L		97
63) Tetrachloroethene	13.651	166	424889	36.91	ug/L		97
64) Ethyl methacrylate	13.791	69	269619	40.88	ug/L		97
65) 1,1,2-Trichloroethane	13.816	83	192111	39.44	ug/L		95
66) Dibromochloromethane	13.974	129	326377	42.02	ug/L		99
67) 1,3-Dichloropropane	14.047	76	414525	39.17	ug/L		99
68) 1,2-Dibromoethane	14.181	107	268591	40.28	ug/L		98
69) 2-hexanone	14.327	43	744520m	213.60	ug/L		
70) 1-Chlorohexane	14.552	91	479280	38.55	ug/L		97
71) Ethylbenzene	14.594	91	1536689	39.01	ug/L		99
72) Chlorobenzene	14.594	112	1023366	37.84	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.643	131	371725	39.93	ug/L		99
74) m,p-Xylene	14.704	91	2481762	76.73	ug/L		99
75) o-Xylene	15.032	91	1288689	39.64	ug/L		100
76) Styrene	15.075	104	1045314	41.36	ug/L		98
77) Bromoform	15.124	173	170931	40.75	ug/L		98
78) Isopropylbenzene	15.257	105	1740630	39.11	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.519	53	74018	37.40	ug/L		99
82) n-Propylbenzene	15.555	91	1907684	37.47	ug/L		99
83) Bromobenzene	15.574	156	460139	37.31	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.610	83	273910	38.22	ug/L		98
85) 1,3,5-Trimethylbenzene	15.677	105	1390744	38.79	ug/L		97
86) 2-Chlorotoluene	15.689	91	1201074	37.04	ug/L		97
87) trans-1,4-Dichloro-2-B...	15.732	53	76244	37.94	ug/L	#	71
88) 1,2,3-Trichloropropane	15.726	110	104137	38.08	ug/L		96
89) Cyclohexanone	15.781	55	32429	185.89	ug/L		98
90) 4-Chlorotoluene	15.805	91	1154210	38.29	ug/L		97
91) tert-Butylbenzene	15.914	91	725321	37.94	ug/L		97
92) 1,2,4-Trimethylbenzene	15.957	105	1411798	39.05	ug/L		98
93) Pentachloroethane	15.963	167	238491	40.88	ug/L		92
94) sec-Butylbenzene	16.036	105	1688120	38.17	ug/L		98
95) 4-Isopropyltoluene	16.115	119	1612688	39.22	ug/L		99
96) 1,3-Dichlorobenzene	16.225	146	888123	38.46	ug/L		98
97) 1,2,3-Trimethylbenzene	16.267	105	1561270	38.62	ug/L		99
98) 1,4-Dichlorobenzene	16.285	146	866213	37.75	ug/L		98
99) n-Butylbenzene	16.407	92	628668	37.76	ug/L		98
100) Benzyl Chloride	16.444	126	147522	40.62	ug/L		92
101) 1,2-Dichlorobenzene	16.584	146	832494	39.36	ug/L		98
102) 1,2-Dibromo-3-Chloropr...	17.119	75	41613	39.04	ug/L		91
103) Hexachlorobutadiene	17.526	225	150529	36.75	ug/L		94
104) 1,2,4-Trichlorobenzene	17.587	180	478398	40.74	ug/L		98
105) Naphthalene	17.837	128	1184413	41.44	ug/L		99
106) 1,2,3-Trichlorobenzene	17.983	180	414882	39.83	ug/L		98
108) Ethanol	5.658	45	54338	905.23	ug/L		100
109) Tert Butyl Alcohol	7.562	59	197575	408.85	ug/L		96
110) Isobutyl alcohol	11.309	42	86012	866.33	ug/L		96
111) Tert Amyl Alcohol	11.425	59	117424	415.06	ug/L		98
112) 1,4-Dioxane	12.635	88	47776	840.87	ug/L		97
113) 3,3-dimethyl-1-butanol	14.308	57	921504	2192.84	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:24:09 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



RESTEK103120w.M Tue Nov 03 10:25:52 2020 Page: 3

Manual Integration Approval Summary

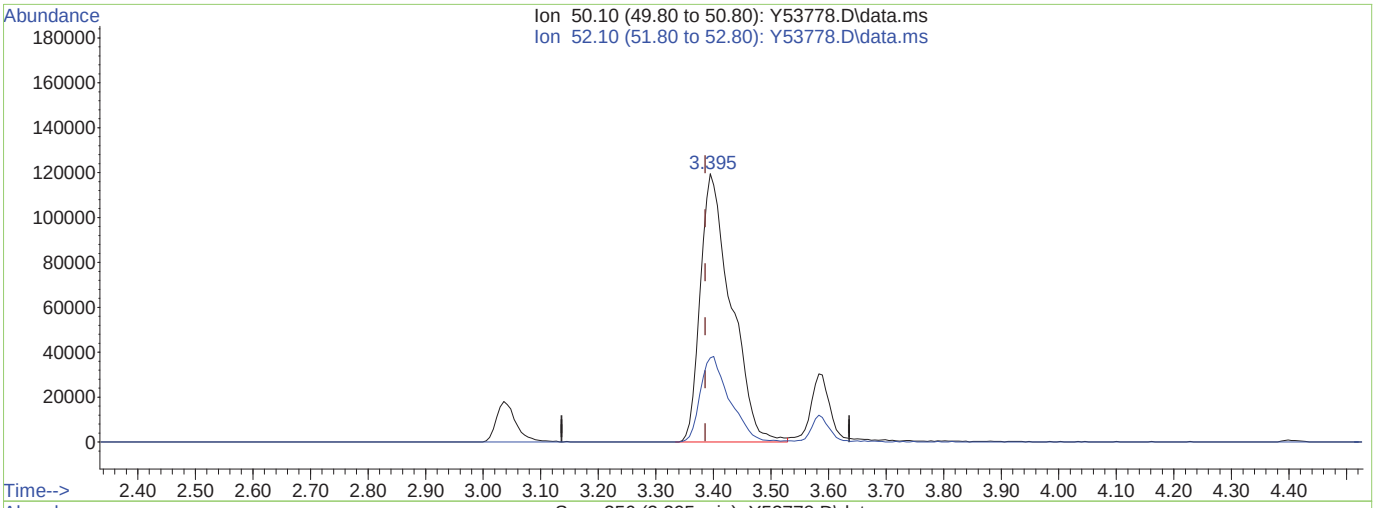
Sample Number: VY2232-CC2229
Lab FileID: Y53778.D
Injection Time: 11/03/20 09:52
Method: SW846 8260B
Analyst approved: 11/04/20 03:06 John Matthew de Guzman
Supervisor approved: 11/04/20 13:05 Melissa Mangual

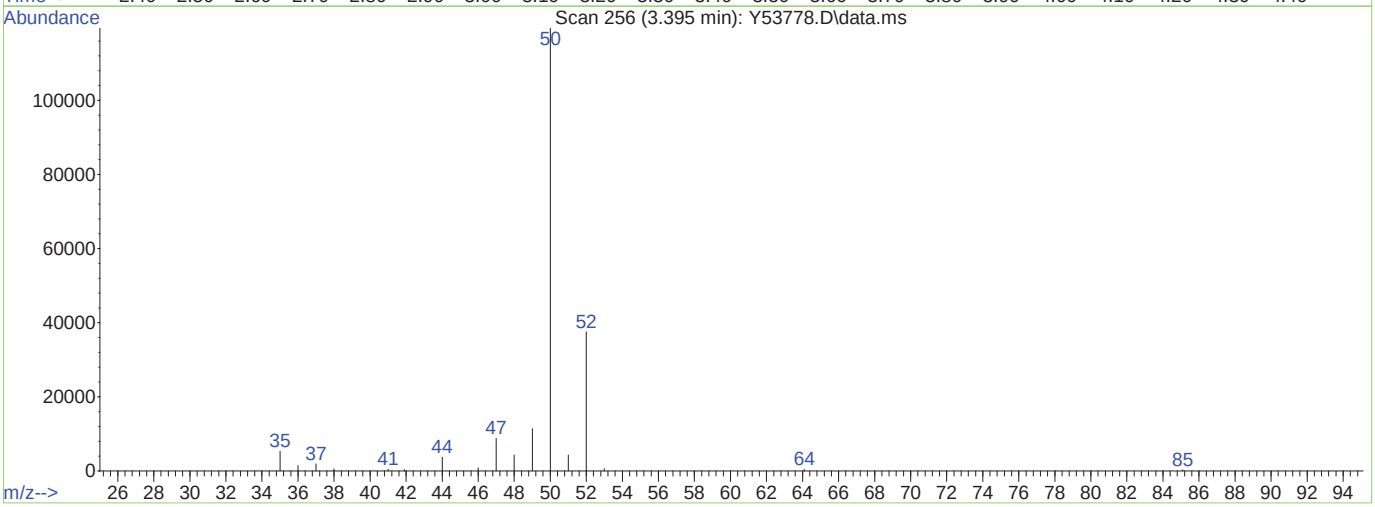
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:11:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53778.D\data.ms

(4) Chloromethane (P)

3.395min (+0.008) 49.12ug/L

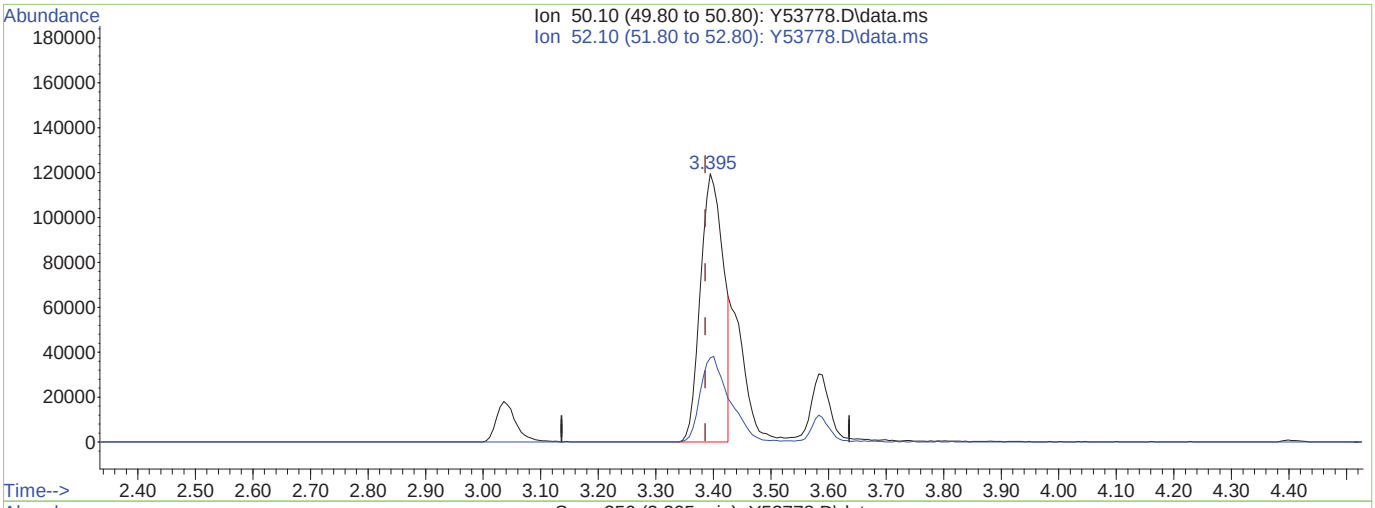
response 444041

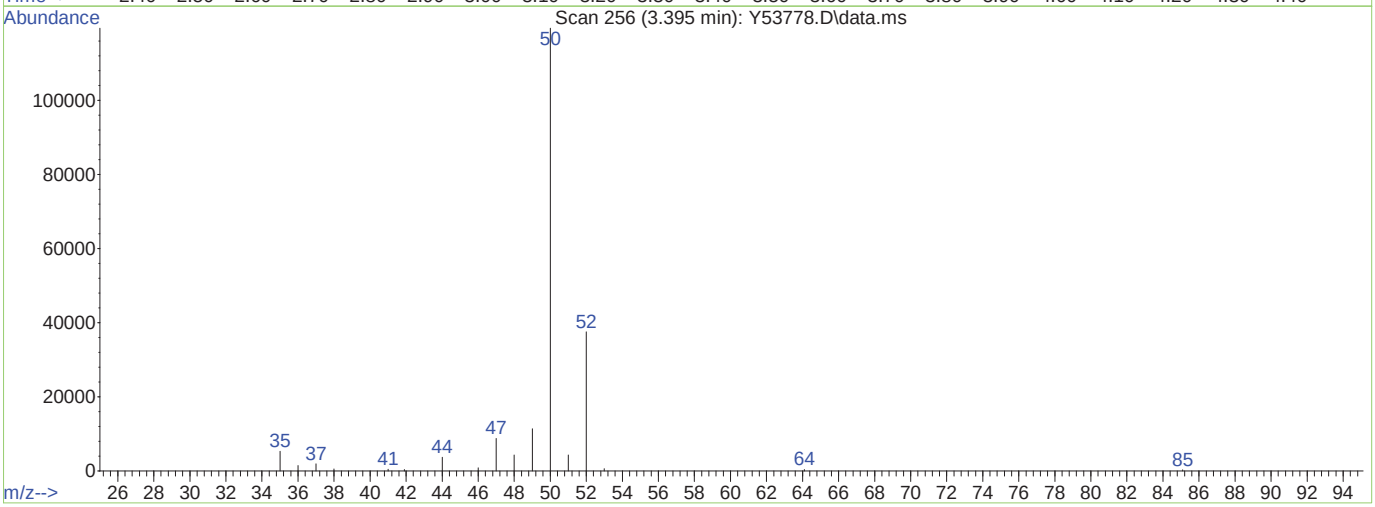
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.39
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:11:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53778.D\data.ms

(4) Chloromethane (P)

3.395min (+0.008) 36.60ug/L m

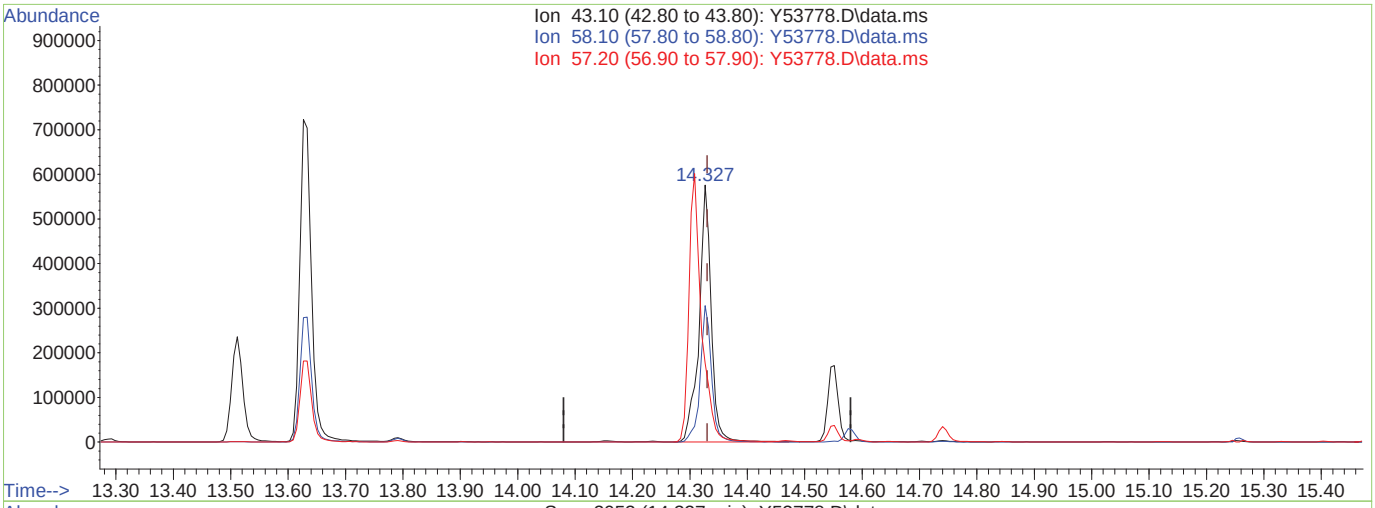
response 330825

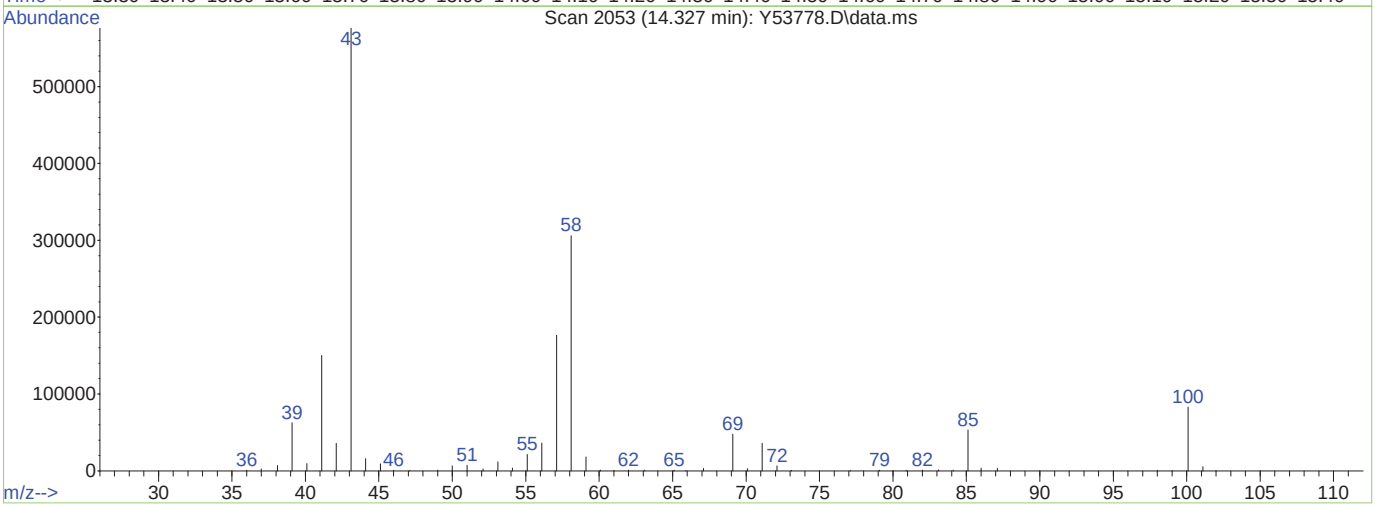
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.39
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:11:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53778.D\data.ms

(69) 2-hexanone

14.327min (-0.004) 243.34ug/L

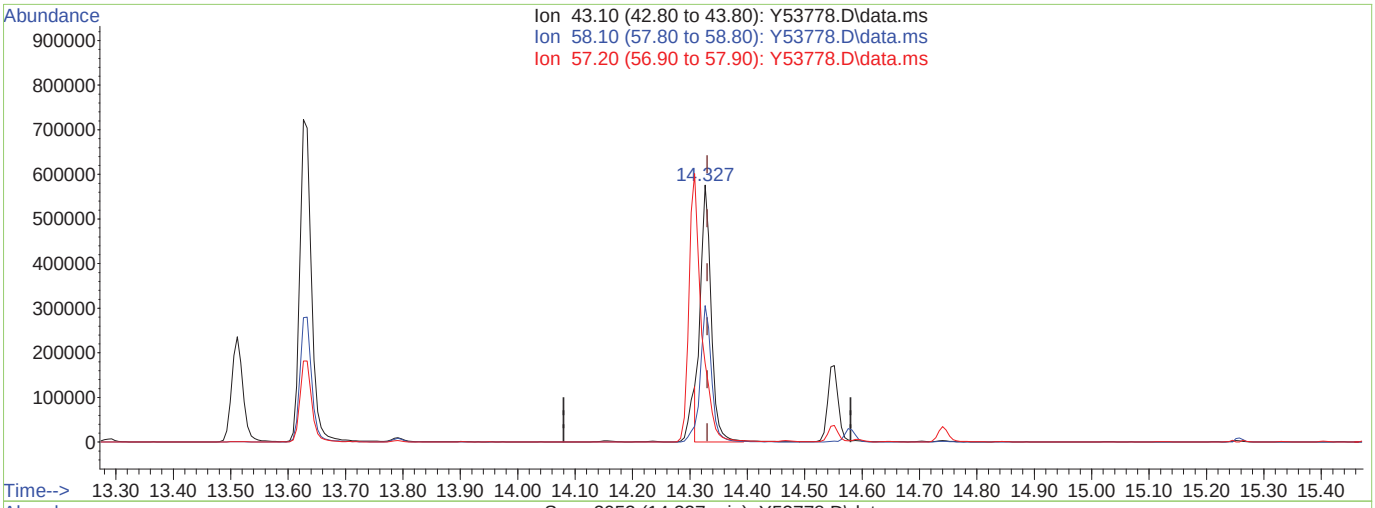
response 848146

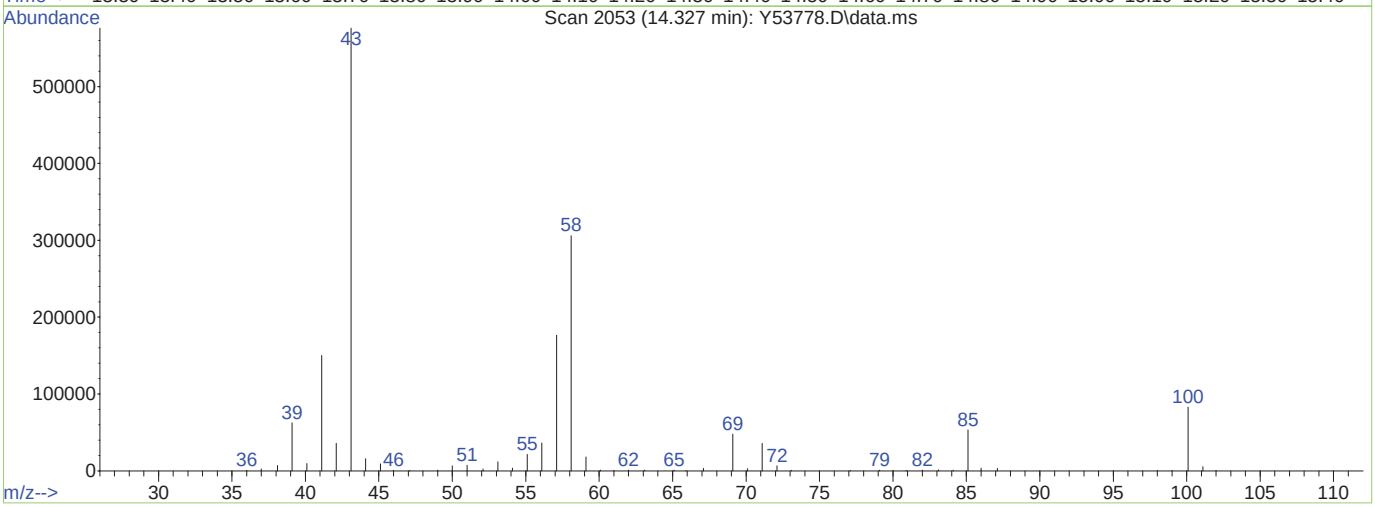
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	53.13
57.20	27.10	30.67
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\110320\
Data File : Y53778.D
Acq On : 3 Nov 2020 9:52 am
Operator : chelseav
Sample : CC2229-5 Inst : MSVOA14-Y
Misc : MS47522,VY2232,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 03 10:11:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y53778.D\data.ms

(69) 2-hexanone

14.327min (-0.004) 213.60ug/L m

response 744520

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	53.10
57.20	27.10	30.65
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
11/04/20 13:10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53803.D
Acq On : 3 Nov 2020 9:16 pm
Operator : chelseav
Sample : ECC2229-5
Misc : MS47611,VY2232,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 04 02:48:05 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.523	96	1657251	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.583	117	1700121	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	982441	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.422	65	129240	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	441905	51.39	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.78%			
47) 1,2-Dichloroethane-d4	11.146	65	385898	50.39	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.78%			
58) Toluene-d8	13.238	98	1804733	48.13	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.26%			
80) 4-Bromofluorobenzene	15.489	174	731648	48.93	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.86%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	401647	47.24	ug/L	100
3) Acrolein	6.315	56	230548	223.05	ug/L	96
4) Chloromethane	3.395	50	376354m	43.41	ug/L	
5) 1,3-butadiene	3.584	39	200787	33.71	ug/L	96
6) Vinyl Chloride	3.553	62	358867	45.66	ug/L	99
7) Bromomethane	4.162	94	130979	39.19	ug/L	98
8) Chloroethane	4.399	64	85840	40.91	ug/L	96
9) Trichlorofluoromethane	4.661	101	506025	48.07	ug/L	98
10) Ethyl Ether	5.293	59	229559	43.08	ug/L	99
11) 1,2-Dichlorotrifluoroe...	5.670	67	305275	44.48	ug/L	99
12) 1,1-Dichloroethene	5.640	61	405463	43.32	ug/L	96
13) Freon 113	5.731	101	350366	39.59	ug/L	98
14) Carbon Disulfide	5.670	76	775890	44.70	ug/L	99
15) Iodomethane	5.908	142	306270	41.13	ug/L	97
16) Allyl chloride	6.565	41	416605	43.11	ug/L	98
17) Methylene Chloride	6.784	49	403691	42.60	ug/L	98
18) Acetone	6.893	43	300356	219.66	ug/L	98
19) Methyl acetate	7.143	43	793949	223.87	ug/L	98
20) trans-1,2-Dichloroethene	7.094	61	383443	43.06	ug/L	98
21) Hexane	7.252	56	253624	43.30	ug/L	97
22) Methyl Tert Butyl Ether	7.319	73	660523	47.26	ug/L	98
23) Acetonitrile	7.806	41	274855	453.98	ug/L	98
24) Di-isopropyl ether	8.092	45	970919	44.39	ug/L	99
25) Chloroprene	8.268	53	419513	43.93	ug/L	98
26) 1,1-Dichloroethane	8.317	63	472031	43.29	ug/L	99
27) Acrylonitrile	8.432	53	405293	230.97	ug/L	99
28) ETBE	8.834	59	825830	44.25	ug/L	98
29) Vinyl acetate	8.858	43	2578534	219.40	ug/L	100
30) cis-1,2-Dichloroethene	9.430	96	339801	42.52	ug/L	99
31) 2,2-Dichloropropane	9.643	77	327292	41.70	ug/L	98
32) Bromochloromethane	9.838	128	192721	43.14	ug/L	95
33) Cyclohexane	9.819	56	602519	46.06	ug/L	98
34) Chloroform	10.008	83	485872	42.39	ug/L	99
35) Ethyl acetate	10.257	43	1033595	239.92	ug/L	100
36) Tetrahydrofuran	10.257	42	62080	50.84	ug/L	96
38) Carbon Tetrachloride	10.233	117	446541	45.52	ug/L	100
39) 1,1,1-Trichloroethane	10.355	97	497076	43.76	ug/L	98
40) 2-Butanone	10.549	43	444738	224.32	ug/L	96
41) 1,1-Dichloropropene	10.568	75	409796	43.93	ug/L	98
42) tert-Butyl formate	10.756	59	261489	191.04	ug/L	98
43) Propionitrile	10.993	54	296676	458.16	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53803.D
Acq On : 3 Nov 2020 9:16 pm
Operator : chelseav
Sample : ECC2229-5
Misc : MS47611,VY2232,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 04 02:48:05 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Methacrylonitrile	11.024	41	1335079	449.18	ug/L		99
45)	Benzene	10.945	78	1170970	42.39	ug/L		98
46)	TAME	11.127	73	643040	44.33	ug/L		100
48)	1,2-Dichloroethane	11.237	62	357921	42.21	ug/L		99
49)	Trichloroethene	11.736	95	347537	44.20	ug/L		97
50)	Methylcyclohexane	11.717	83	561765	44.14	ug/L		98
51)	Dibromomethane	12.235	93	158619	42.96	ug/L		96
52)	1,2-Dichloropropane	12.344	63	286064	42.98	ug/L		99
53)	Bromodichloromethane	12.423	83	332652	44.25	ug/L		100
54)	Methyl methacrylate	12.587	41	188991	44.68	ug/L		96
55)	2-Chloroethyl vinyl ether	13.001	63	392312	195.37	ug/L		99
56)	cis-1,3-Dichloropropene	13.068	75	457152	46.36	ug/L		99
59)	Toluene	13.287	91	1471934	40.53	ug/L		99
60)	2-Nitropropane	13.512	41	274743	210.64	ug/L		98
61)	4-Methyl-2-pentanone	13.628	43	1051564	221.45	ug/L		99
62)	trans-1,3-Dichloropropene	13.670	75	361819	41.92	ug/L		96
63)	Tetrachloroethene	13.646	166	480778	42.39	ug/L		98
64)	Ethyl methacrylate	13.792	69	273412	41.96	ug/L		98
65)	1,1,2-Trichloroethane	13.816	83	194603	40.55	ug/L		97
66)	Dibromochloromethane	13.974	129	329408	43.05	ug/L		98
67)	1,3-Dichloropropane	14.047	76	421473	40.42	ug/L		99
68)	1,2-Dibromoethane	14.181	107	276132	42.04	ug/L		98
69)	2-hexanone	14.327	43	778595m	226.73	ug/L		
70)	1-Chlorohexane	14.552	91	492190	40.18	ug/L		96
71)	Ethylbenzene	14.595	91	1601294	41.28	ug/L		99
72)	Chlorobenzene	14.595	112	1043313	39.16	ug/L		99
73)	1,1,1,2-Tetrachloroethane	14.637	131	375275	40.92	ug/L		99
74)	m,p-Xylene	14.704	91	2566820	80.54	ug/L		99
75)	o-Xylene	15.033	91	1321015	41.24	ug/L		99
76)	Styrene	15.075	104	1062643	42.68	ug/L		98
77)	Bromoform	15.124	173	175466	42.26	ug/L		98
78)	Isopropylbenzene	15.258	105	1832153	41.79	ug/L		99
81)	cis-1,4-Dichloro-2-butene	15.520	53	82097	41.19	ug/L		98
82)	n-Propylbenzene	15.556	91	1998289	39.59	ug/L		98
83)	Bromobenzene	15.574	156	467790	38.26	ug/L		99
84)	1,1,2,2-Tetrachloroethane	15.611	83	282681	39.79	ug/L		99
85)	1,3,5-Trimethylbenzene	15.678	105	1443920	40.62	ug/L		98
86)	2-Chlorotoluene	15.690	91	1238778	38.54	ug/L		98
87)	trans-1,4-Dichloro-2-B...	15.732	53	78121	39.10	ug/L	#	75
88)	1,2,3-Trichloropropane	15.726	110	108448	40.00	ug/L		94
89)	Cyclohexanone	15.775	55	36799	212.76	ug/L		98
90)	4-Chlorotoluene	15.806	91	1177753	39.41	ug/L		98
91)	tert-Butylbenzene	15.915	91	762725	40.25	ug/L		96
92)	1,2,4-Trimethylbenzene	15.958	105	1447218	40.37	ug/L		99
93)	Pentachloroethane	15.964	167	215339	37.23	ug/L		91
94)	sec-Butylbenzene	16.037	105	1795481	40.95	ug/L		98
95)	4-Isopropyltoluene	16.116	119	1689346	41.44	ug/L		99
96)	1,3-Dichlorobenzene	16.225	146	904713	39.52	ug/L		98
97)	1,2,3-Trimethylbenzene	16.268	105	1658717	41.38	ug/L		99
98)	1,4-Dichlorobenzene	16.286	146	874986	38.46	ug/L		97
99)	n-Butylbenzene	16.408	92	693773	42.03	ug/L		98
100)	Benzyl Chloride	16.444	126	131502	37.09	ug/L		94
101)	1,2-Dichlorobenzene	16.578	146	833980	39.77	ug/L		98
102)	1,2-Dibromo-3-Chloropr...	17.120	75	43895	41.22	ug/L		91
103)	Hexachlorobutadiene	17.527	225	161621	39.80	ug/L		97
104)	1,2,4-Trichlorobenzene	17.588	180	472814	40.61	ug/L		99
105)	Naphthalene	17.837	128	1243411	43.88	ug/L		99
106)	1,2,3-Trichlorobenzene	17.983	180	430266	41.67	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53803.D
Acq On : 3 Nov 2020 9:16 pm
Operator : chelseav
Sample : ECC2229-5
Misc : MS47611,VY2232,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 04 02:48:05 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.658	45	56640	842.32	ug/L	89
109) Tert Butyl Alcohol	7.568	59	228587	422.26	ug/L	98
110) Isobutyl alcohol	11.310	42	94581	850.41	ug/L	98
111) Tert Amyl Alcohol	11.425	59	125715	396.69	ug/L	98
112) 1,4-Dioxane	12.636	88	48321	759.20	ug/L	98
113) 3,3-dimethyl-1-butanol	14.309	57	1042086	2213.67	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53803.D
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QLast Update : Fri Sep 14 08:38:11 2018
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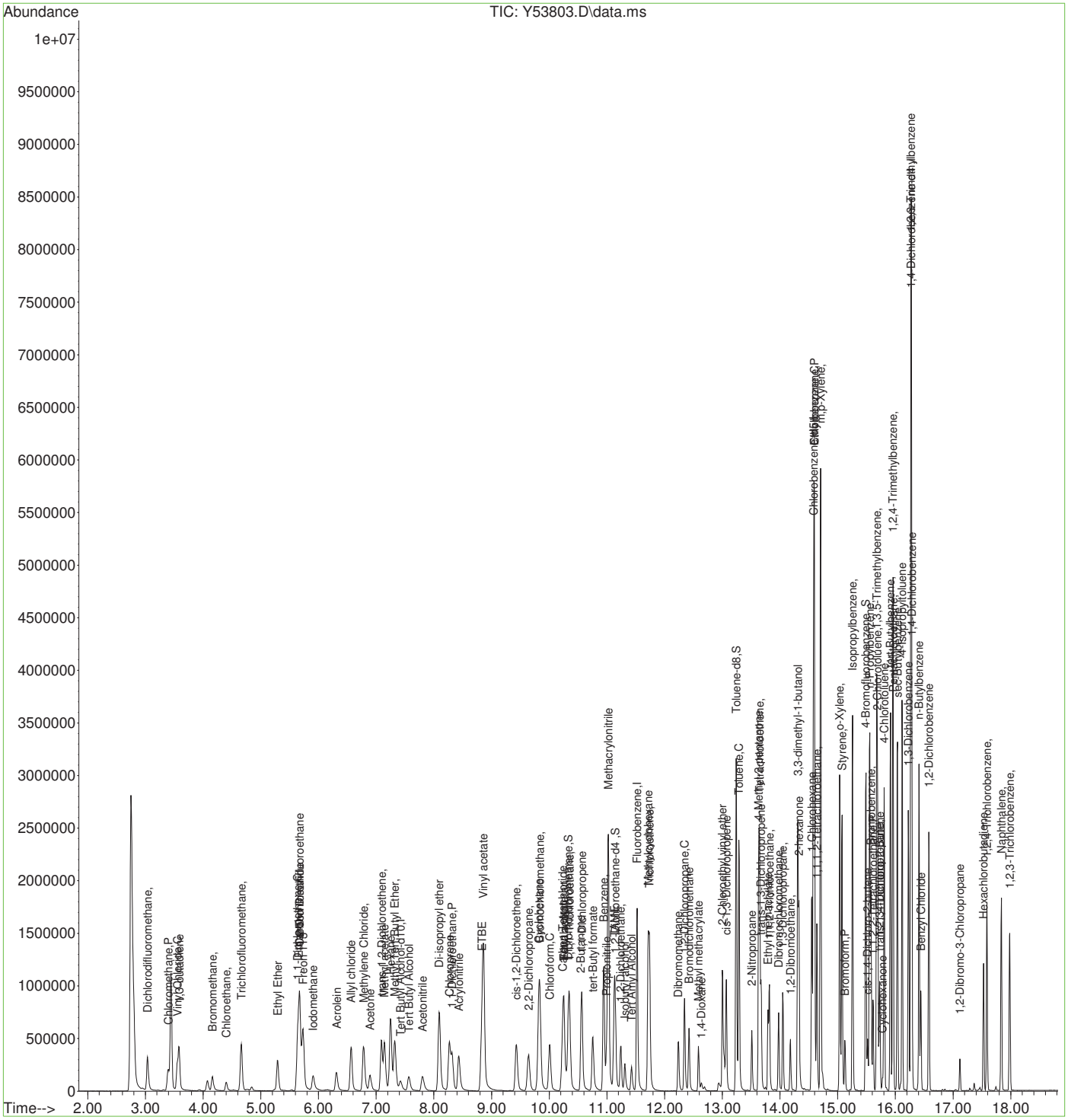

Manual Integration Approval Summary

Sample Number: VY2232-ECC2229
Lab FileID: Y53803.D
Injection Time: 11/03/20 21:16
Method: SW846 8260B
Analyst approved: 11/04/20 03:06 John Matthew de Guzman
Supervisor approved: 11/04/20 13:10 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.40	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53803.D
Acq On : 3 Nov 2020 9:16 pm
Operator : chelseav
Sample : ECC2229-5
Misc : MS47611,VY2232,,,,,
ALS Vial : 27 Sample Multiplier: 1

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Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
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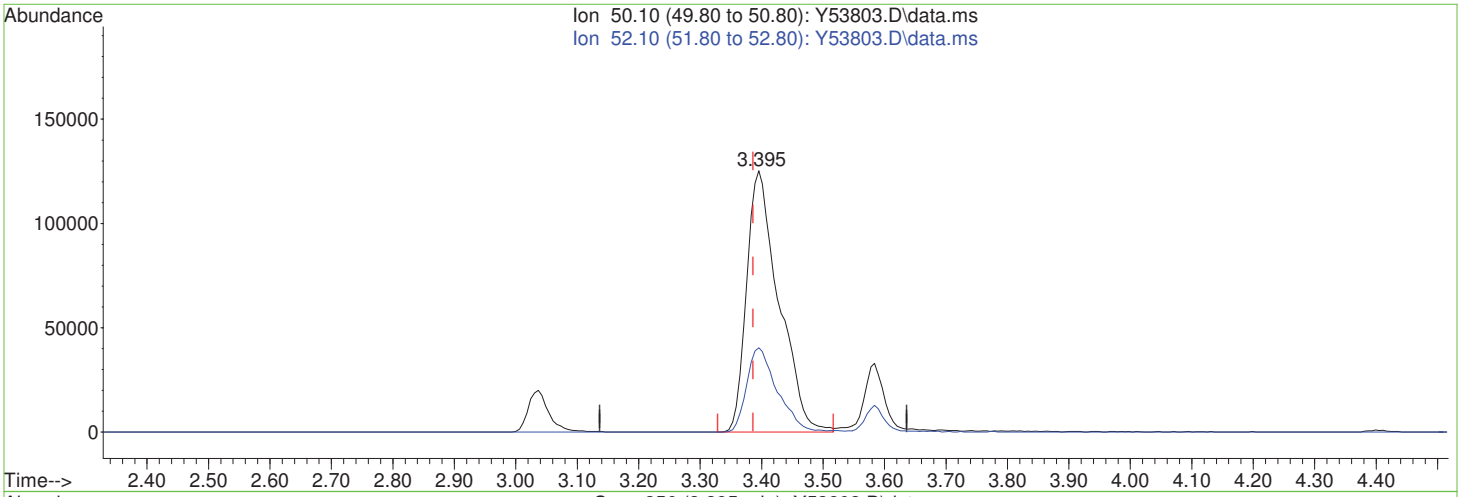

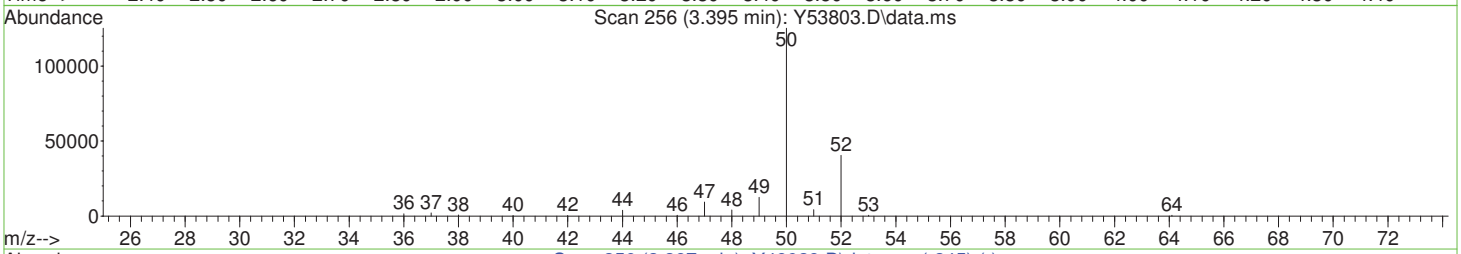

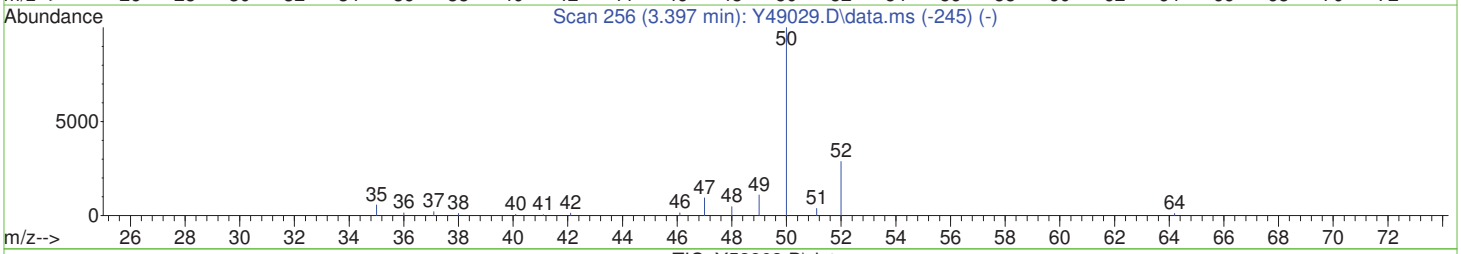

TIC: Y53803.D\data.ms

(4) Chloromethane (P)

3.395min (+0.009) 52.70ug/L

response 456842

Ion	Exp%	Act%
50.10	100	100
52.10	32.30	32.25
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53803.D
Acq On : 3 Nov 2020 9:16 pm
Operator : chelseav
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Misc : MS47611,VY2232,,,,,
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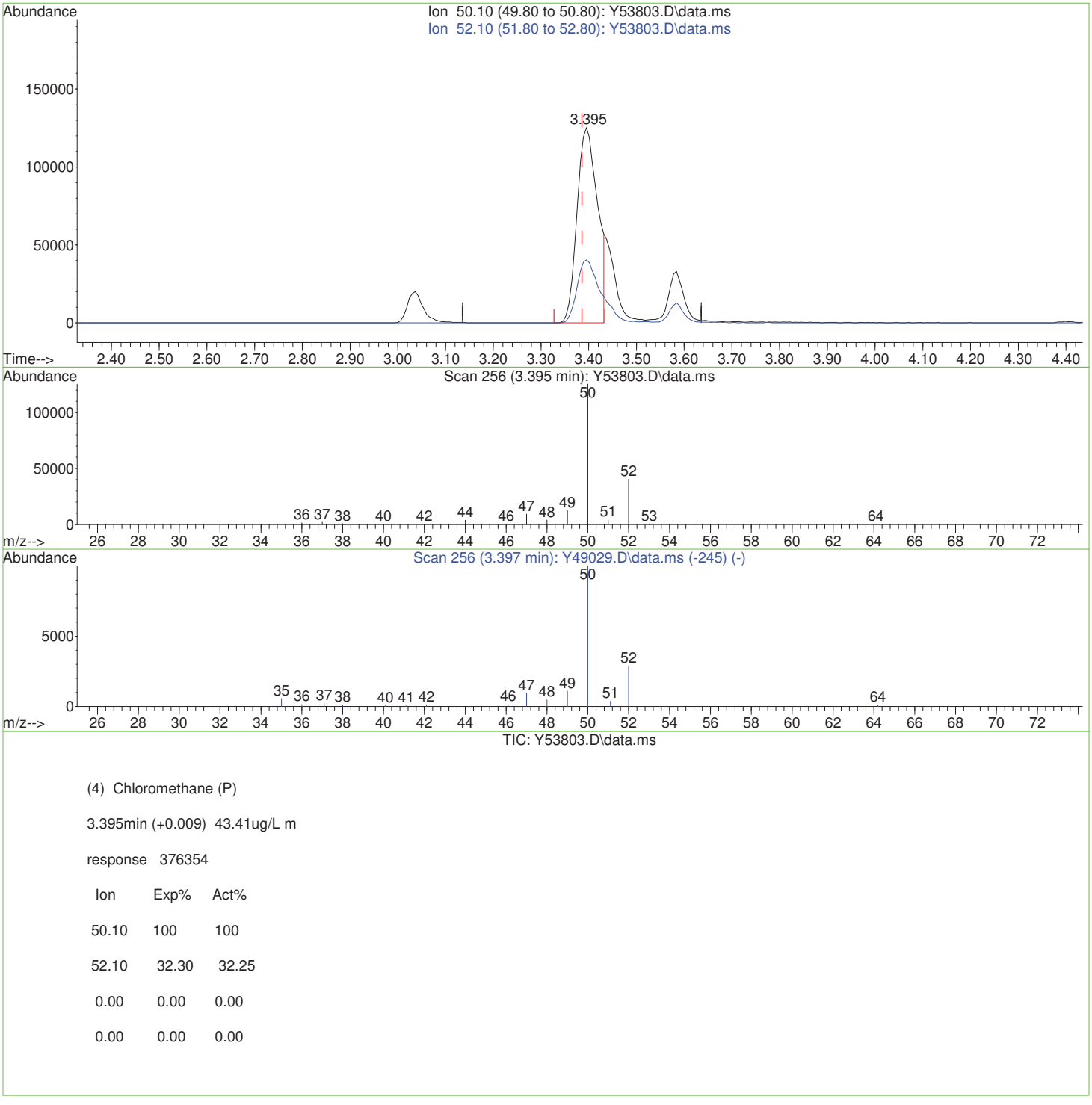
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y53803.D\data.ms

(4) Chloromethane (P)

3.395min (+0.009) 43.41ug/L m

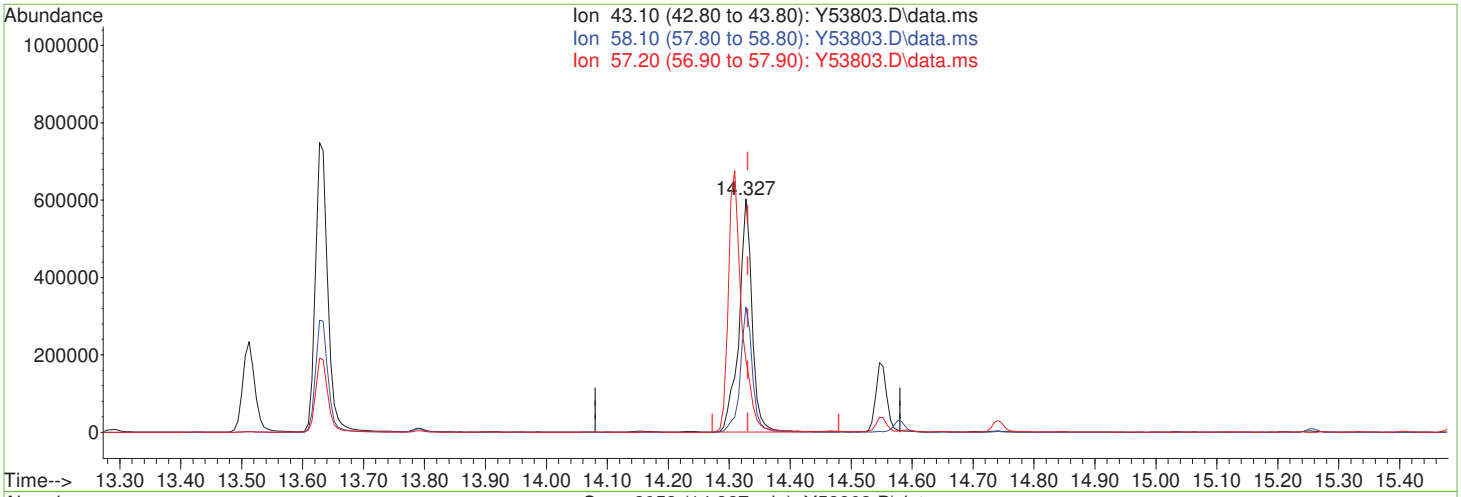
response 376354

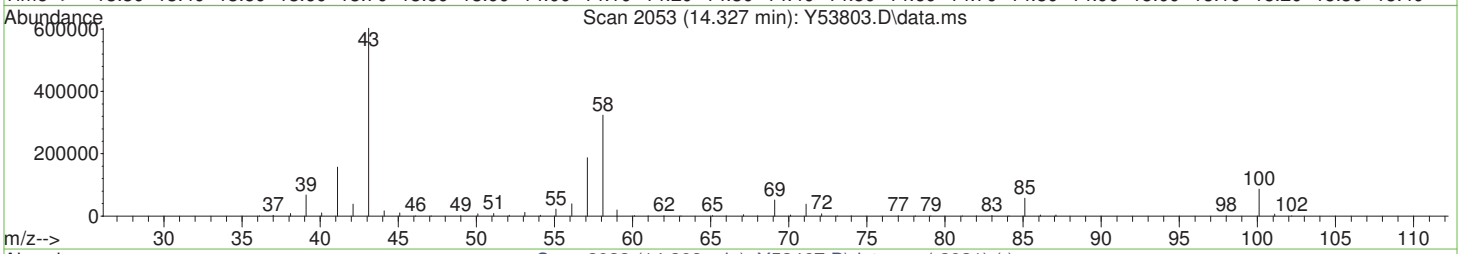
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	32.25
0.00	0.00	0.00
0.00	0.00	0.00

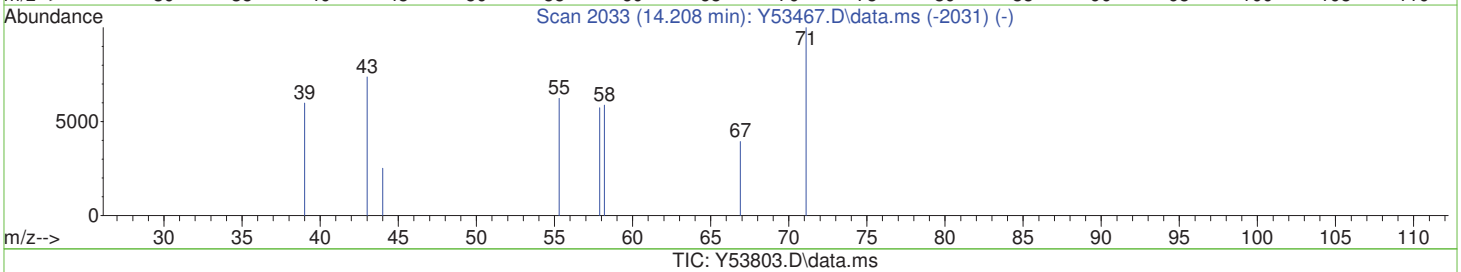
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53803.D
Acq On : 3 Nov 2020 9:16 pm
Operator : chelseav
Sample : ECC2229-5
Misc : MS47611,VY2232,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 04 02:20:38 2020
Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y53803.D\data.ms

(69) 2-hexanone

14.327min (-0.003) 262.92ug/L

response 902892

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	53.73
57.20	27.10	31.08
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-04-2020\vy2232\
Data File : Y53803.D
Acq On : 3 Nov 2020 9:16 pm
Operator : chelseav
Sample : ECC2229-5
Misc : MS47611,VY2232,,,,,
ALS Vial : 27 Sample Multiplier: 1

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Quant Method : C:\msdchem\1\methods\RESTEK103120w.M
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QLast Update : Fri Sep 14 08:38:11 2018
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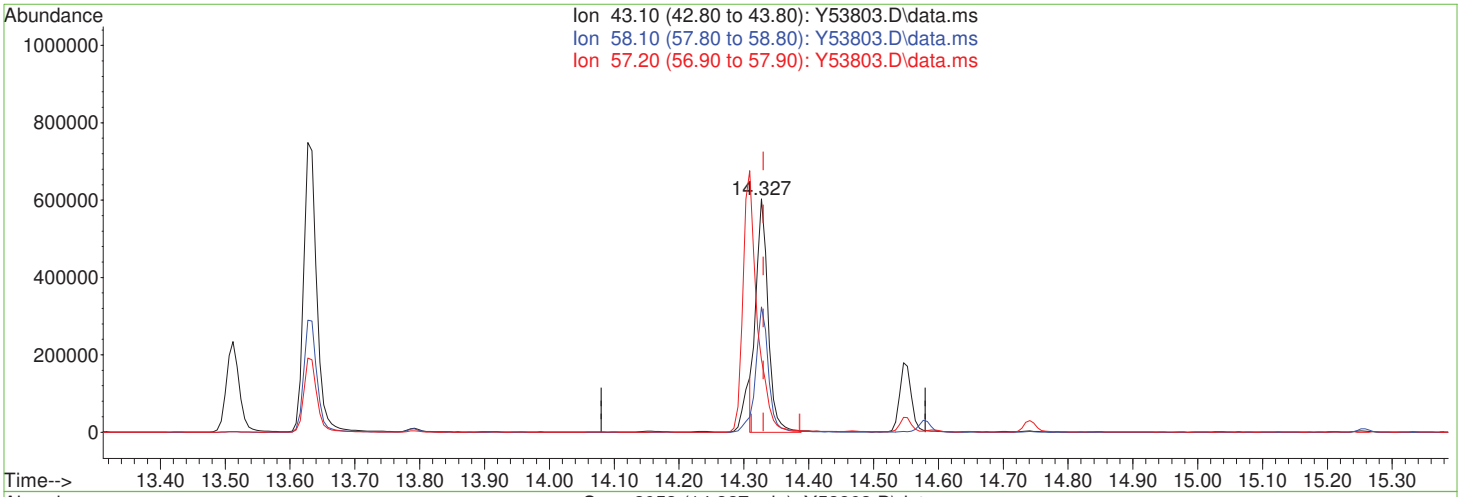

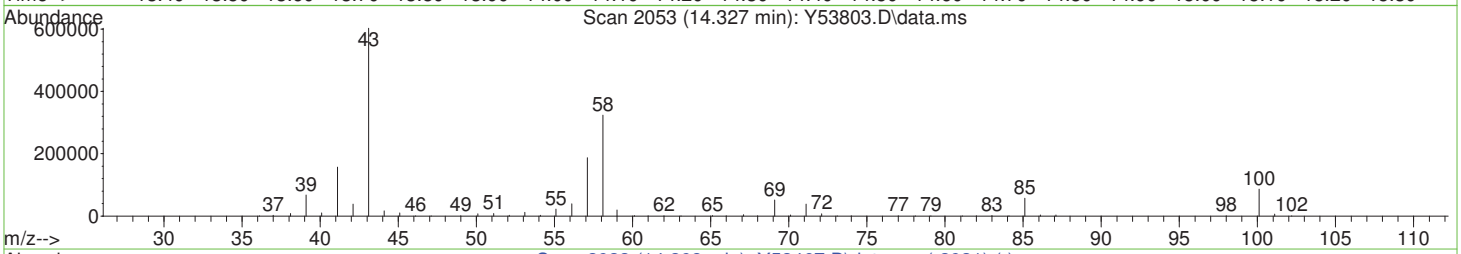

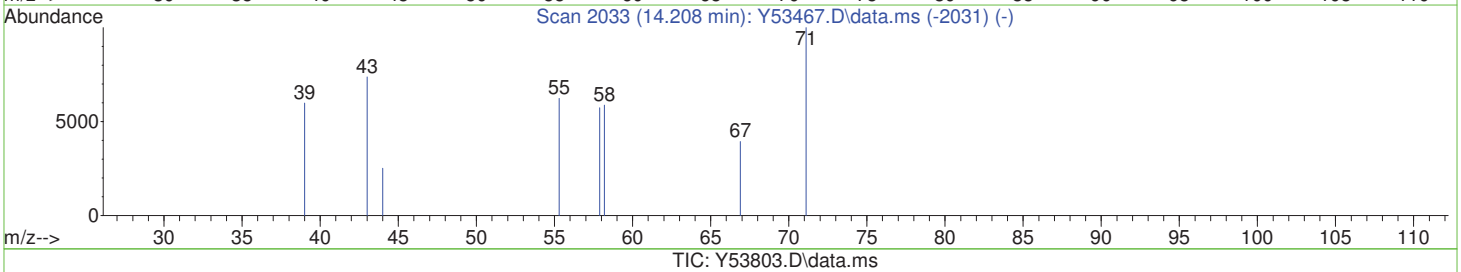

TIC: Y53803.D\data.ms

(69) 2-hexanone

14.327min (-0.003) 226.73ug/L m

response 778595

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	53.70
57.20	27.10	31.07
0.00	0.00	0.00

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 10/31/2020	METHODS: 8260	BFB: VS0869	PH LOT: 1 to 12 pH lot #: 200814
COLUMN TYPE: RTX-VMS	METHOD FILE: RESTEK103120W.m	ICAL/CC: VS0880, VS0886, VS0885,	0 to 3 pH lot#: 220416
DETECTOR: 5973 MSD	CALIB. DATE: 10/31/2020	VS0881, VS0879, VS0883	KI PAPER LOT: 102916
INSTRUMENT: MSVOA14-Y	EM VOLTAGE: 2071V	ISTD/SURR: VS0869	AFA: VS0841A
PURGE PRESSURE: 9.0 psi	BFB RESPONSE: 3683366	ICV/QC: VS0865, VS0863, VS0862,	SAMPLE ID VERIFIED BY:
PURGE VOLUME: 5 mL		VS0864, VS0872, VS0884, VS0873	CV
ANALYST: Chelsea V	RUN ID: VY2229	DATA PROCESSED BY: Chelsea V	Date: 10/31/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Y53714	BLANK	-	-	W	1	8260		-	-	-	✓
Y53715	BLANK	-	-	W	2	8260		-	-	-	✓
Y53716	BLANK	-	-	W	1	8260		-	-	-	✓
Y53717	BLANK	-	-	W	2	8260		-	-	-	Passed autofind ✓
Y53718	BFB	-	-	W	2	8260		-	-	-	Passed autofind ✓
Y53719	IC2229-1	-	-	W	1	8260	#69(OP) #98,102(MP)	-	-	-	1uL→ 100mL ✓
Y53720	IC2229-2	-	-	W	2	8260	#69(OP) #108(PII)	-	-	-	5uL→ 100mL ✓
Y53721	IC2229-3	-	-	W	3	8260	#69(OP) #108(PII)	-	-	-	5uL→ 50mL ✓
Y53722	IC2229-4	-	-	W	4	8260	#4,21,69(OP) #108(PII)	-	-	-	12.5uL→ 50mL ✓
Y53723	ICC2229-5	-	-	W	5	8260	#4,69(OP)	-	-	-	20uL→ 50mL ✓
Y53724	IC2229-6	-	-	W	6	8260	#4,69(OP)	-	-	-	35uL→ 50mL ✓
Y53725	IC2229-7	-	-	W	7	8260	#4,69(OP)	-	-	-	50uL→ 50mL ✓
Y53726	BLANK	-	-	W	8	8260		-	-	-	✓
Y53727	ICV2229-5	-	-	W	9	8260	#4,69(OP)	-	-	-	25uL→ 50mL ✓
Y53728	ICV2229-4	-	-	W	10	8260	DCDFM & freon only	-	-	-	12.5uL→ 40mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: Chelsea V

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 11/03/2020	METHODS: 8260	BFB: VS0869	PH LOT: 1 to 12 pH lot #: 200814
COLUMN TYPE: RTX-VMS	METHOD FILE: RESTEK103120W.m	ICAL/CC: VS0880, VS0886, VS0885,	0 to 3 pH lot#: 220416
DETECTOR: 5973 MSD	CALIB. DATE: 10/31/2020	VS0881, VS0899, VS0896	KI PAPER LOT: 102916
INSTRUMENT: MSVOA14-Y	EM VOLTAGE: 2071V	ISTD/SURR: VS0869	AFA: VS0841A
PURGE PRESSURE: 9.0 psi	BFB RESPONSE: 3962986	ICV/QC: VS0892, VS0891, VS0890,	SAMPLE ID VERIFIED BY:
PURGE VOLUME: 5 mL		VS0889, VS0894, VS0897, VS0893	CV
ANALYST: Chelsea V	RUN ID: VY2232	DATA PROCESSED BY: Chelsea V/johnm	Date: 11/03/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Y53777	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y53778	BFB/CC2229-5	-	-	W	2	8260	#4,69(OP)	-	-	-	Passed autofind; 20uL→ 50mL ✓
Y53779	BS	-	-	W	3	8260		-	-	-	12.5uL→ 40mL ✓
Y53780	BLANK	-	-	W	4	8260		-	-	-	✓
Y53781	CC2229-1	-	-	W	5	8260	#15(SP) Peaks present	-	-	-	1uL→ 100mL ✓
Y53782	MB	-	-	W	6	8260		-	-	-	HCB hit ✓
Y53783	FA80030-2	1x	1	W	7	8260		1	N		ND ✓
Y53784	FA80110-4	1x	1	W	8	8260		1	N		ND ✓
Y53785	FA80030-1	1x	1	W	9	8260		1	N		ND ✓
Y53786	FA80068-7	10x	2	W	10	8260	Last vial, sig. HS 5mL-->50mL	1	N		✓
Y53787	FA80068-9	5x	5	W	11	8260	10mL-->50mL	1	N		Not used
Y53788	FA80030-3	1x	1	W	12	8260		1	N		✓
Y53789	FA80030-4	1x	4	W	13	8260		1	N		✓
Y53790	**FA80030-5**	1x	1	W	14	8260		6	N	**1x**	RR preserved vial
Y53791	FA80030-6	1x	1	W	15	8260		1	N		✓
Y53792	FA80030-7	1x	1	W	16	8260		1	N		✓
Y53793	FA80030-8	1x	1	W	17	8260		1	N		✓
Y53794	FA80110-1	1x	2	W	18	8260		1	N		✓
Y53795	FA80110-2	1x	2	W	19	8260		1	N		✓
Y53796	FA80110-3	1x	2	W	20	8260		1	N		✓
Y53797	FA80110-5	1x	2	W	21	8260		1	N		✓
Y53798	FA80110-6	1x	2	W	22	8260		1	N		✓
Y53799	FA80110-7	1x	2	W	23	8260		1	N		✓
Y53800	FA80144-24	1x	2	W	24	8260		1	N		✓
Y53801	FA80030-3MS	5x	1	W	25	8260	20mL-->100mL #4,69(OP)	1	N		12.5uL→ 40mL ✓
Y53802	FA80030-3MSD	5x	1	W	26	8260	20mL-->100mL #4,69(OP)	1	N		12.5uL→ 40mL ✓
Y53803	ECC2229-5	-	-	W	27	8260	#4,69(OP)	-	-	-	20uL→ 50mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: Chelsea V.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP18-5015 PFAS Removal; Pease AFB, NH

7311180270

SGS Job Number: FA80565

Sampling Date: 11/04/20

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Ave Suite 1200
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Emma Driver

Total number of pages in report: **385**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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EHS.US.CustomerCare@sgs.com

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: FA80565

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FA80565-1	11/04/20	14:00	KC	11/06/20	AQ	Ground Water	SP1-GW-20201104

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Wood Environment & Infrastructure Solut.	**Job No:**	FA80565
Site:	ESTCP18-5015 PFAS Removal; Pease AFB, NH	**Report Date**	11/18/2020 10:53:33

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 11/04/2020 and were received at SGS North America Inc - Orlando on 11/06/2020 properly preserved, at 1.8 Deg. C and intact. These Samples received an SGS Orlando job number of FA80565. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** VC5817

All samples were analyzed within the recommended method holding time.

Sample(s) FA80462-3MS, FA80462-3MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for 4-Methyl-2-pentanone (MIBK), cis-1,2-Dichloroethylene are outside control limits. Probable cause is due to matrix interference.

Matrix: AQ **Batch ID:** VY2246

All samples were analyzed within the recommended method holding time.

Sample(s) FA80463-1MS, FA80463-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Ariel Hartney, Client Services *(Signature on File)*

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
FA80462-3MS	MSVOA	C0144927.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
FA80462-3MSD	MSVOA	C0144928.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
FA80463-1MS	MSVOA	Y54123.D	2-Hexanone
FA80463-1MSD	MSVOA	Y54124.D	2-Hexanone
VC5797-IC5797	MSVOA	C0144496.D	1,4-Dichlorobenzene, 2-Butanone (MEK), 2-Hexanone, 3,3-Dimethyl-1-Butanol, Acetonitrile, Acrolein, Chloroethane, Dichlorodifluoromethane, Freon 113, Methyl Bromide, Methyl Chloride, Methyl Iodide, Tetrahydrofuran
VC5797-IC5797	MSVOA	C0144497.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Acetonitrile, Ethyl Alcohol, Methyl Bromide, Tert-Butyl Alcohol
VC5797-IC5797	MSVOA	C0144498.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5797-IC5797	MSVOA	C0144499.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol, trans-1,3-Dichloropropene
VC5797-IC5797	MSVOA	C0144501.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5797-IC5797	MSVOA	C0144502.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol, Isobutyl Alcohol
VC5797-ICC5797	MSVOA	C0144500.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5797-ICV5797	MSVOA	C0144504A.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VC5817-BS	MSVOA	C0144902.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VC5817-CC5797	MSVOA	C0144901.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VC5817-MB	MSVOA	C0144905.D	Methyl Bromide, Methyl Iodide
VY2245-IC2245	MSVOA	Y54097.D	2-Hexanone, Ethyl Alcohol
VY2245-IC2245	MSVOA	Y54098.D	2-Hexanone
VY2245-IC2245	MSVOA	Y54099.D	2-Hexanone, Ethyl Alcohol, Methyl Chloride
VY2245-IC2245	MSVOA	Y54101.D	2-Hexanone, Methyl Chloride
VY2245-IC2245	MSVOA	Y54102.D	2-Hexanone
VY2245-IC2245	MSVOA	Y54104.D	1,2-Dibromo-3-chloropropane, 1,4-Dichlorobenzene, 2-Hexanone
VY2245-ICC2245	MSVOA	Y54100.D	2-Hexanone
VY2245-ICV2245	MSVOA	Y54105.D	2-Hexanone
VY2246-BS	MSVOA	Y54109.D	2-Hexanone
VY2246-CC2245	MSVOA	Y54108.D	2-Hexanone

Summary of Hits

Job Number: FA80565
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/04/20

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA80565-1	**SP1-GW-20201104**					
Chlorobenzene		0.47 J	1.0	0.50	ug/l	SW846 8260B

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP1-GW-20201104		
Lab Sample ID:	FA80565-1	**Date Sampled:**	11/04/20
Matrix:	AQ - Ground Water	**Date Received:**	11/06/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0144922.D	1	11/13/20 19:04	SO	n/a	n/a	VC5817
Run #2	Y54127.D	1	11/17/20 22:42	CV	n/a	n/a	VY2246

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.47	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP1-GW-20201104		
Lab Sample ID:	FA80565-1	**Date Sampled:**	11/04/20
Matrix:	AQ - Ground Water	**Date Received:**	11/06/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	4.0 U [a]	5.0	4.0	2.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	79-125%
2037-26-5	Toluene-D8	99%	97%	85-112%
460-00-4	4-Bromofluorobenzene	99%	101%	83-118%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

SGS North America Inc - Orlando
Chain of Custody

FA80565

SGS - ORLANDO JOB # : PAGE_____OF_____

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO Quote # | SKIFF #

Client / Reporting Information

Company Name: Wood PLC
Address: 511 Congress St Suite 200
City: Portland State: ME Zip: 04101
Project Contact: Eric Thompson Email: eric.thompson2@woodplc.com
Phone #: 207 747 7386
Sampler(s) Name(s) (Printed)
Sampler 1: Kaitlyn Chick Sampler 2:

Project Information

Project Name: ESTCP Site 8 Pilot
Street 20 Shert St
City Newington State NH
Project #
Fax #
Client Purchase Order #

Analytical Information

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH+ZNAc	DI WATER	MEOH	VOC 8260	LAB USE ONLY
	SPI-GW_20201104	11/4/20	14:00	KSC	GW	3			X							X	

[redacted] CDL
[redacted] GSF

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULLT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

SGS-ACCUTEST MARLBOR 11/5

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Kaitlyn Chick Wood PLC	11/4/20 15:00	2	11/5/20 1350 3	11/5/20 1620	4
5		11/6/2020	6 Fedex	7 Fedex	11/6/20	8 9:15

Lab Use Only : ~~Cooler~~ Temperature (s) Celsius (corrected): 1.8 CSH-14721

http://www.sgs.com/en/terms-and-conditions

ORLD-SMT-0001-03-FORM-COC (1) Rev 031318

5.1 5

FA80565: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA80565 **Client:** WOOD **Project:** ESTCP SITE 8 PILOT

Date / Time Received: 11/6/2020 9:15:00 AM **Delivery Method:** FEDEX **Airbill #'s:** 930443694273

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.6);

Cooler Temps (Corrected) °C: Cooler 1: (1.8);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: BRYANG Date: 11/6/2020 9:15:00 AM Reviewer: _____ Date: _____

FA80565: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80565
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/04/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC5817	SW846 8260B						
VC5817-BS	67-64-1	Acetone	BSP	REC	92	%	39-160
VC5817-BS	71-43-2	Benzene	BSP	REC	103	%	79-120
VC5817-BS	74-97-5	Bromochloromethane	BSP	REC	98	%	78-123
VC5817-BS	75-27-4	Bromodichloromethane	BSP	REC	104	%	79-125
VC5817-BS	75-25-2	Bromoform	BSP	REC	96	%	66-130
VC5817-BS	78-93-3	2-Butanone (MEK)	BSP	REC	86	%	56-143
VC5817-BS	75-15-0	Carbon Disulfide	BSP	REC	94	%	64-133
VC5817-BS	56-23-5	Carbon Tetrachloride	BSP	REC	112	%	72-136
VC5817-BS	108-90-7	Chlorobenzene	BSP	REC	98	%	82-118
VC5817-BS	75-00-3	Chloroethane	BSP	REC	84	%	60-138
VC5817-BS	67-66-3	Chloroform	BSP	REC	104	%	79-124
VC5817-BS	110-82-7	Cyclohexane	BSP	REC	107	%	71-130
VC5817-BS	124-48-1	Dibromochloromethane	BSP	REC	100	%	74-126
VC5817-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	75	%	62-128
VC5817-BS	106-93-4	1,2-Dibromoethane	BSP	REC	82	%	77-121
VC5817-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	63	%	32-152
VC5817-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	96	%	80-119
VC5817-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	96	%	80-119
VC5817-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	94	%	79-118
VC5817-BS	75-34-3	1,1-Dichloroethane	BSP	REC	105	%	77-125
VC5817-BS	107-06-2	1,2-Dichloroethane	BSP	REC	96	%	73-128
VC5817-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	114	%	71-131
VC5817-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	102	%	78-123
VC5817-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	104	%	75-124
VC5817-BS	78-87-5	1,2-Dichloropropane	BSP	REC	100	%	78-122
VC5817-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	91	%	75-124
VC5817-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	89	%	73-127
VC5817-BS	100-41-4	Ethylbenzene	BSP	REC	97	%	79-121
VC5817-BS	76-13-1	Freon 113	BSP	REC	89	%	70-136
VC5817-BS	591-78-6	2-Hexanone	BSP	REC	81	%	57-139
VC5817-BS	98-82-8	Isopropylbenzene	BSP	REC	100	%	72-131
VC5817-BS	79-20-9	Methyl Acetate	BSP	REC	90	%	56-136
VC5817-BS	74-87-3	Methyl Chloride	BSP	REC	100	%	50-139
VC5817-BS	108-87-2	Methylcyclohexane	BSP	REC	109	%	72-132
VC5817-BS	75-09-2	Methylene Chloride	BSP	REC	87	%	74-124
VC5817-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	86	%	67-130
VC5817-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	86	%	71-124
VC5817-BS	100-42-5	Styrene	BSP	REC	96	%	78-123
VC5817-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	88	%	71-121
VC5817-BS	127-18-4	Tetrachloroethylene	BSP	REC	103	%	74-129
VC5817-BS	108-88-3	Toluene	BSP	REC	95	%	80-121
VC5817-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	80	%	69-129

* Sample used for QC is not from job FA80565

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80565
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/04/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC5817-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	89	%	69-130
VC5817-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	104	%	74-131
VC5817-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	94	%	80-119
VC5817-BS	79-01-6	Trichloroethylene	BSP	REC	100	%	79-123
VC5817-BS	75-69-4	Trichlorofluoromethane	BSP	REC	98	%	65-141
VC5817-BS	75-01-4	Vinyl Chloride	BSP	REC	86	%	58-137
VC5817-BS		m,p-Xylene	BSP	REC	98	%	80-121
VC5817-BS	95-47-6	o-Xylene	BSP	REC	95	%	78-122
VC5817-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	104	%	80-119
VC5817-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	99	%	81-118
VC5817-BS	2037-26-5	Toluene-D8	BSP	SURR	96	%	89-112
VC5817-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	95	%	85-114
FA80462-3MS*	67-64-1	Acetone	MS	REC	107	%	39-160
FA80462-3MS*	71-43-2	Benzene	MS	REC	113	%	79-120
FA80462-3MS*	74-97-5	Bromochloromethane	MS	REC	111	%	78-123
FA80462-3MS*	75-27-4	Bromodichloromethane	MS	REC	113	%	79-125
FA80462-3MS*	75-25-2	Bromoform	MS	REC	109	%	66-130
FA80462-3MS*	78-93-3	2-Butanone (MEK)	MS	REC	118	%	56-143
FA80462-3MS*	75-15-0	Carbon Disulfide	MS	REC	100	%	64-133
FA80462-3MS*	56-23-5	Carbon Tetrachloride	MS	REC	126	%	72-136
FA80462-3MS*	108-90-7	Chlorobenzene	MS	REC	104	%	82-118
FA80462-3MS*	75-00-3	Chloroethane	MS	REC	105	%	60-138
FA80462-3MS*	67-66-3	Chloroform	MS	REC	114	%	79-124
FA80462-3MS*	110-82-7	Cyclohexane	MS	REC	111	%	71-130
FA80462-3MS*	124-48-1	Dibromochloromethane	MS	REC	112	%	74-126
FA80462-3MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	91	%	62-128
FA80462-3MS*	106-93-4	1,2-Dibromoethane	MS	REC	101	%	77-121
FA80462-3MS*	75-71-8	Dichlorodifluoromethane	MS	REC	71	%	32-152
FA80462-3MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	103	%	80-119
FA80462-3MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	100	%	80-119
FA80462-3MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	98	%	79-118
FA80462-3MS*	75-34-3	1,1-Dichloroethane	MS	REC	116	%	77-125
FA80462-3MS*	107-06-2	1,2-Dichloroethane	MS	REC	109	%	73-128
FA80462-3MS*	75-35-4	1,1-Dichloroethylene	MS	REC	118	%	71-131
FA80462-3MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	124	%	78-123
FA80462-3MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	113	%	75-124
FA80462-3MS*	78-87-5	1,2-Dichloropropane	MS	REC	110	%	78-122
FA80462-3MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	104	%	75-124
FA80462-3MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	104	%	73-127
FA80462-3MS*	100-41-4	Ethylbenzene	MS	REC	103	%	79-121
FA80462-3MS*	76-13-1	Freon 113	MS	REC	87	%	70-136
FA80462-3MS*	591-78-6	2-Hexanone	MS	REC	126	%	57-139
FA80462-3MS*	98-82-8	Isopropylbenzene	MS	REC	106	%	72-131
FA80462-3MS*	79-20-9	Methyl Acetate	MS	REC	116	%	56-136
FA80462-3MS*	74-87-3	Methyl Chloride	MS	REC	105	%	50-139

* Sample used for QC is not from job FA80565

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80565
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/04/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA80462-3MS*	108-87-2	Methylcyclohexane	MS	REC	114	%	72-132
FA80462-3MS*	75-09-2	Methylene Chloride	MS	REC	97	%	74-124
FA80462-3MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	128	%	67-130
FA80462-3MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	108	%	71-124
FA80462-3MS*	100-42-5	Styrene	MS	REC	104	%	78-123
FA80462-3MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	104	%	71-121
FA80462-3MS*	127-18-4	Tetrachloroethylene	MS	REC	104	%	74-129
FA80462-3MS*	108-88-3	Toluene	MS	REC	102	%	80-121
FA80462-3MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	97	%	69-129
FA80462-3MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	97	%	69-130
FA80462-3MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	115	%	74-131
FA80462-3MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	110	%	80-119
FA80462-3MS*	79-01-6	Trichloroethylene	MS	REC	105	%	79-123
FA80462-3MS*	75-69-4	Trichlorofluoromethane	MS	REC	111	%	65-141
FA80462-3MS*	75-01-4	Vinyl Chloride	MS	REC	98	%	58-137
FA80462-3MS*		m,p-Xylene	MS	REC	105	%	80-121
FA80462-3MS*	95-47-6	o-Xylene	MS	REC	102	%	78-122
FA80462-3MS*	1868-53-7	Dibromofluoromethane	MS	SURR	101	%	80-119
FA80462-3MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	101	%	81-118
FA80462-3MS*	2037-26-5	Toluene-D8	MS	SURR	96	%	89-112
FA80462-3MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	96	%	85-114
FA80462-3MSD*	67-64-1	Acetone	MSD	REC	102	%	39-160
FA80462-3MSD*	67-64-1	Acetone	MSD	RPD	5	%	20
FA80462-3MSD*	71-43-2	Benzene	MSD	REC	102	%	79-120
FA80462-3MSD*	71-43-2	Benzene	MSD	RPD	10	%	20
FA80462-3MSD*	74-97-5	Bromochloromethane	MSD	REC	102	%	78-123
FA80462-3MSD*	74-97-5	Bromochloromethane	MSD	RPD	9	%	20
FA80462-3MSD*	75-27-4	Bromodichloromethane	MSD	REC	106	%	79-125
FA80462-3MSD*	75-27-4	Bromodichloromethane	MSD	RPD	7	%	20
FA80462-3MSD*	75-25-2	Bromoform	MSD	REC	103	%	66-130
FA80462-3MSD*	75-25-2	Bromoform	MSD	RPD	5	%	20
FA80462-3MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	104	%	56-143
FA80462-3MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	13	%	20
FA80462-3MSD*	75-15-0	Carbon Disulfide	MSD	REC	88	%	64-133
FA80462-3MSD*	75-15-0	Carbon Disulfide	MSD	RPD	12	%	20
FA80462-3MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	112	%	72-136
FA80462-3MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	11	%	20
FA80462-3MSD*	108-90-7	Chlorobenzene	MSD	REC	96	%	82-118
FA80462-3MSD*	108-90-7	Chlorobenzene	MSD	RPD	8	%	20
FA80462-3MSD*	75-00-3	Chloroethane	MSD	REC	97	%	60-138
FA80462-3MSD*	75-00-3	Chloroethane	MSD	RPD	8	%	20
FA80462-3MSD*	67-66-3	Chloroform	MSD	REC	102	%	79-124
FA80462-3MSD*	67-66-3	Chloroform	MSD	RPD	10	%	20
FA80462-3MSD*	110-82-7	Cyclohexane	MSD	REC	100	%	71-130
FA80462-3MSD*	110-82-7	Cyclohexane	MSD	RPD	11	%	20

* Sample used for QC is not from job FA80565

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80565
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/04/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA80462-3MSD*	124-48-1	Dibromochloromethane	MSD	REC	104	%	74-126
FA80462-3MSD*	124-48-1	Dibromochloromethane	MSD	RPD	7	%	20
FA80462-3MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	89	%	62-128
FA80462-3MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	2	%	20
FA80462-3MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	94	%	77-121
FA80462-3MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	8	%	20
FA80462-3MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	62	%	32-152
FA80462-3MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	13	%	20
FA80462-3MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	95	%	80-119
FA80462-3MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	8	%	20
FA80462-3MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	94	%	80-119
FA80462-3MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	7	%	20
FA80462-3MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	92	%	79-118
FA80462-3MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	7	%	20
FA80462-3MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	106	%	77-125
FA80462-3MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	9	%	20
FA80462-3MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	100	%	73-128
FA80462-3MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	8	%	20
FA80462-3MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	109	%	71-131
FA80462-3MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	8	%	20
FA80462-3MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	99	%	78-123
FA80462-3MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	9	%	20
FA80462-3MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	102	%	75-124
FA80462-3MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	9	%	20
FA80462-3MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	101	%	78-122
FA80462-3MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	9	%	20
FA80462-3MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	94	%	75-124
FA80462-3MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	9	%	20
FA80462-3MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	95	%	73-127
FA80462-3MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	8	%	20
FA80462-3MSD*	100-41-4	Ethylbenzene	MSD	REC	96	%	79-121
FA80462-3MSD*	100-41-4	Ethylbenzene	MSD	RPD	8	%	20
FA80462-3MSD*	76-13-1	Freon 113	MSD	REC	84	%	70-136
FA80462-3MSD*	76-13-1	Freon 113	MSD	RPD	3	%	20
FA80462-3MSD*	591-78-6	2-Hexanone	MSD	REC	115	%	57-139
FA80462-3MSD*	591-78-6	2-Hexanone	MSD	RPD	9	%	20
FA80462-3MSD*	98-82-8	Isopropylbenzene	MSD	REC	98	%	72-131
FA80462-3MSD*	98-82-8	Isopropylbenzene	MSD	RPD	7	%	20
FA80462-3MSD*	79-20-9	Methyl Acetate	MSD	REC	106	%	56-136
FA80462-3MSD*	79-20-9	Methyl Acetate	MSD	RPD	9	%	20
FA80462-3MSD*	74-87-3	Methyl Chloride	MSD	REC	95	%	50-139
FA80462-3MSD*	74-87-3	Methyl Chloride	MSD	RPD	10	%	20
FA80462-3MSD*	108-87-2	Methylcyclohexane	MSD	REC	104	%	72-132
FA80462-3MSD*	108-87-2	Methylcyclohexane	MSD	RPD	9	%	20
FA80462-3MSD*	75-09-2	Methylene Chloride	MSD	REC	89	%	74-124

* Sample used for QC is not from job FA80565

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80565
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/04/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA80462-3MSD*	75-09-2	Methylene Chloride	MSD	RPD	9	%	20
FA80462-3MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	116	%	67-130
FA80462-3MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	10	%	20
FA80462-3MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	98	%	71-124
FA80462-3MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	10	%	20
FA80462-3MSD*	100-42-5	Styrene	MSD	REC	96	%	78-123
FA80462-3MSD*	100-42-5	Styrene	MSD	RPD	8	%	20
FA80462-3MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	97	%	71-121
FA80462-3MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	8	%	20
FA80462-3MSD*	127-18-4	Tetrachloroethylene	MSD	REC	88	%	74-129
FA80462-3MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	9	%	20
FA80462-3MSD*	108-88-3	Toluene	MSD	REC	93	%	80-121
FA80462-3MSD*	108-88-3	Toluene	MSD	RPD	9	%	20
FA80462-3MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	91	%	69-129
FA80462-3MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	6	%	20
FA80462-3MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	94	%	69-130
FA80462-3MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	3	%	20
FA80462-3MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	104	%	74-131
FA80462-3MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	10	%	20
FA80462-3MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	99	%	80-119
FA80462-3MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	10	%	20
FA80462-3MSD*	79-01-6	Trichloroethylene	MSD	REC	94	%	79-123
FA80462-3MSD*	79-01-6	Trichloroethylene	MSD	RPD	9	%	20
FA80462-3MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	102	%	65-141
FA80462-3MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	9	%	20
FA80462-3MSD*	75-01-4	Vinyl Chloride	MSD	REC	90	%	58-137
FA80462-3MSD*	75-01-4	Vinyl Chloride	MSD	RPD	9	%	20
FA80462-3MSD*		m,p-Xylene	MSD	REC	96	%	80-121
FA80462-3MSD*		m,p-Xylene	MSD	RPD	8	%	20
FA80462-3MSD*	95-47-6	o-Xylene	MSD	REC	94	%	78-122
FA80462-3MSD*	95-47-6	o-Xylene	MSD	RPD	9	%	20
FA80462-3MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	102	%	80-119
FA80462-3MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	99	%	81-118
FA80462-3MSD*	2037-26-5	Toluene-D8	MSD	SURR	95	%	89-112
FA80462-3MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	95	%	85-114
VC5817-MB	1868-53-7	Dibromofluoromethane	MB	SURR	102	%	80-119
VC5817-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	97	%	81-118
VC5817-MB	2037-26-5	Toluene-D8	MB	SURR	98	%	89-112
VC5817-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	98	%	85-114
FA80565-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	101	%	80-119
FA80565-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	98	%	81-118
FA80565-1	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
FA80565-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114

* Sample used for QC is not from job FA80565

QC Evaluation: DOD QSM5.x Limits

Job Number: FA80565
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/04/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VY2246	SW846 8260B						
VY2246-BS	74-83-9	Methyl Bromide	BSP	REC	100	%	53-141
VY2246-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	99	%	80-119
VY2246-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	98	%	81-118
VY2246-BS	2037-26-5	Toluene-D8	BSP	SURR	101	%	89-112
VY2246-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	100	%	85-114
FA80463-1MS*	74-83-9	Methyl Bromide	MS	REC	84	%	53-141
FA80463-1MS*	1868-53-7	Dibromofluoromethane	MS	SURR	101	%	80-119
FA80463-1MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	101	%	81-118
FA80463-1MS*	2037-26-5	Toluene-D8	MS	SURR	98	%	89-112
FA80463-1MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	97	%	85-114
FA80463-1MSD*	74-83-9	Methyl Bromide	MSD	REC	88	%	53-141
FA80463-1MSD*	74-83-9	Methyl Bromide	MSD	RPD	5	%	20
FA80463-1MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	101	%	80-119
FA80463-1MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	102	%	81-118
FA80463-1MSD*	2037-26-5	Toluene-D8	MSD	SURR	98	%	89-112
FA80463-1MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	98	%	85-114
VY2246-MB	1868-53-7	Dibromofluoromethane	MB	SURR	96	%	80-119
VY2246-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	101	%	81-118
VY2246-MB	2037-26-5	Toluene-D8	MB	SURR	98	%	89-112
VY2246-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	101	%	85-114
FA80565-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	96	%	80-119
FA80565-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	100	%	81-118
FA80565-1	2037-26-5	Toluene-D8	SAMP	SURR	97	%	89-112
FA80565-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114

* Sample used for QC is not from job FA80565

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5817-MB	C0144905.D	1	11/13/20	SO	n/a	n/a	VC5817

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80565-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5817-MB	C0144905.D	1	11/13/20	SO	n/a	n/a	VC5817

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80565-1

CAS No.	Compound	Result	RL	MDL	Units	Q
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	79-125%
2037-26-5	Toluene-D8	98%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
124-38-9	Carbon dioxide	2.62	15	ug/l	JN
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2246-MB	Y54112.D	1	11/17/20	CV	n/a	n/a	VY2246

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80565-1

CAS No.	Compound	Result	RL	MDL	Units	Q
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	98%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

Blank Spike Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5817-BS	C0144902.D	1	11/13/20	SO	n/a	n/a	VC5817

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80565-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	115	92	50-147
71-43-2	Benzene	25	25.8	103	81-122
74-97-5	Bromochloromethane	25	24.4	98	76-123
75-27-4	Bromodichloromethane	25	25.9	104	79-123
75-25-2	Bromoform	25	23.9	96	66-123
78-93-3	2-Butanone (MEK)	125	107	86	56-143
75-15-0	Carbon Disulfide	25	23.4	94	66-148
56-23-5	Carbon Tetrachloride	25	28.0	112	76-136
108-90-7	Chlorobenzene	25	24.6	98	82-124
75-00-3	Chloroethane	25	21.1	84	62-144
67-66-3	Chloroform	25	25.9	104	80-124
110-82-7	Cyclohexane	25	26.7	107	73-138
124-48-1	Dibromochloromethane	25	25.0	100	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	18.7	75	64-123
106-93-4	1,2-Dibromoethane	25	20.5	82	75-120
75-71-8	Dichlorodifluoromethane	25	15.7	63	42-167
95-50-1	1,2-Dichlorobenzene	25	23.9	96	82-124
541-73-1	1,3-Dichlorobenzene	25	24.1	96	84-125
106-46-7	1,4-Dichlorobenzene	25	23.4	94	78-120
75-34-3	1,1-Dichloroethane	25	26.2	105	81-122
107-06-2	1,2-Dichloroethane	25	23.9	96	75-125
75-35-4	1,1-Dichloroethylene	25	28.6	114	78-137
156-59-2	cis-1,2-Dichloroethylene	25	25.6	102	78-120
156-60-5	trans-1,2-Dichloroethylene	25	26.0	104	76-127
78-87-5	1,2-Dichloropropane	25	25.0	100	76-124
10061-01-5	cis-1,3-Dichloropropene	25	22.7	91	75-118
10061-02-6	trans-1,3-Dichloropropene	25	22.3	89	80-120
100-41-4	Ethylbenzene	25	24.3	97	81-121
76-13-1	Freon 113	25	22.2	89	72-134
591-78-6	2-Hexanone	125	101	81	61-129
98-82-8	Isopropylbenzene	25	24.9	100	83-132
79-20-9	Methyl Acetate	125	112	90	65-126
74-87-3	Methyl Chloride	25	24.9	100	50-159
108-87-2	Methylcyclohexane	25	27.3	109	76-129
75-09-2	Methylene Chloride	25	21.8	87	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	107	86	66-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5817-BS	C0144902.D	1	11/13/20	SO	n/a	n/a	VC5817

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80565-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1634-04-4	Methyl Tert Butyl Ether	25	21.5	86	72-117
100-42-5	Styrene	25	24.0	96	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	22.0	88	72-120
127-18-4	Tetrachloroethylene	25	25.8	103	76-135
108-88-3	Toluene	25	23.7	95	80-120
87-61-6	1,2,3-Trichlorobenzene	25	20.0	80	68-131
120-82-1	1,2,4-Trichlorobenzene	25	22.3	89	73-129
71-55-6	1,1,1-Trichloroethane	25	26.1	104	75-130
79-00-5	1,1,2-Trichloroethane	25	23.5	94	76-119
79-01-6	Trichloroethylene	25	25.0	100	81-126
75-69-4	Trichlorofluoromethane	25	24.6	98	71-156
75-01-4	Vinyl Chloride	25	21.4	86	69-159
	m,p-Xylene	50	49.0	98	79-126
95-47-6	o-Xylene	25	23.7	95	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	79-125%
2037-26-5	Toluene-D8	96%	85-112%
460-00-4	4-Bromofluorobenzene	95%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2246-BS	Y54109.D	1	11/17/20	CV	n/a	n/a	VY2246

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80565-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-83-9	Methyl Bromide	25	24.9	100	59-143

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	79-125%
2037-26-5	Toluene-D8	101%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA80462-3MS	C0144927.D	1	11/13/20	SO	n/a	n/a	VC5817
FA80462-3MSD	C0144928.D	1	11/13/20	SO	n/a	n/a	VC5817
FA80462-3 [a]	C0144914.D	1	11/13/20	SO	n/a	n/a	VC5817

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80565-1

CAS No.	Compound	FA80462-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	25 U		125	134	107	125	127	102	5	50-147/21
71-43-2	Benzene	1.0 U		25	28.2	113	25	25.4	102	10	81-122/14
74-97-5	Bromochloromethane	1.0 U		25	27.7	111	25	25.4	102	9	76-123/14
75-27-4	Bromodichloromethane	1.0 U		25	28.3	113	25	26.4	106	7	79-123/19
75-25-2	Bromoform	1.0 U		25	27.2	109	25	25.8	103	5	66-123/21
78-93-3	2-Butanone (MEK)	5.0 U		125	148	118	125	130	104	13	56-143/18
75-15-0	Carbon Disulfide	2.0 U		25	24.9	100	25	22.0	88	12	66-148/23
56-23-5	Carbon Tetrachloride	1.0 U		25	31.4	126	25	28.1	112	11	76-136/23
108-90-7	Chlorobenzene	1.0 U		25	25.9	104	25	23.9	96	8	82-124/14
75-00-3	Chloroethane	2.0 U		25	26.3	105	25	24.2	97	8	62-144/20
67-66-3	Chloroform	1.0 U		25	28.4	114	25	25.6	102	10	80-124/15
110-82-7	Cyclohexane	1.0 U		25	27.7	111	25	24.9	100	11	73-138/18
124-48-1	Dibromochloromethane	1.0 U		25	27.9	112	25	26.1	104	7	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		25	22.7	91	25	22.2	89	2	64-123/18
106-93-4	1,2-Dibromoethane	2.0 U		25	25.3	101	25	23.4	94	8	75-120/13
75-71-8	Dichlorodifluoromethane	2.0 U		25	17.7	71	25	15.6	62	13	42-167/19
95-50-1	1,2-Dichlorobenzene	1.0 U		25	25.8	103	25	23.7	95	8	82-124/14
541-73-1	1,3-Dichlorobenzene	1.0 U		25	25.1	100	25	23.4	94	7	84-125/14
106-46-7	1,4-Dichlorobenzene	1.0 U		25	24.6	98	25	22.9	92	7	78-120/15
75-34-3	1,1-Dichloroethane	1.0 U		25	29.0	116	25	26.6	106	9	81-122/15
107-06-2	1,2-Dichloroethane	1.0 U		25	27.2	109	25	25.1	100	8	75-125/14
75-35-4	1,1-Dichloroethylene	1.0 U		25	29.6	118	25	27.2	109	8	78-137/18
156-59-2	cis-1,2-Dichloroethylene	41.7		25	72.7	124*	25	66.4	99	9	78-120/15
156-60-5	trans-1,2-Dichloroethylene	3.9		25	32.2	113	25	29.3	102	9	76-127/17
78-87-5	1,2-Dichloropropane	1.0 U		25	27.6	110	25	25.3	101	9	76-124/14
10061-01-5	cis-1,3-Dichloropropene	1.0 U		25	25.9	104	25	23.6	94	9	75-118/23
10061-02-6	trans-1,3-Dichloropropene	1.0 U		25	25.9	104	25	23.8	95	8	80-120/22
100-41-4	Ethylbenzene	1.0 U		25	25.8	103	25	23.9	96	8	81-121/14
76-13-1	Freon 113	1.0 U		25	21.8	87	25	21.1	84	3	72-134/20
591-78-6	2-Hexanone	10 U		125	157	126	125	144	115	9	61-129/18
98-82-8	Isopropylbenzene	1.0 U		25	26.5	106	25	24.6	98	7	83-132/15
79-20-9	Methyl Acetate	20 U		125	145	116	125	132	106	9	65-126/18
74-87-3	Methyl Chloride	2.0 U		25	26.3	105	25	23.7	95	10	50-159/19
108-87-2	Methylcyclohexane	1.0 U		25	28.5	114	25	26.1	104	9	76-129/17
75-09-2	Methylene Chloride	5.0 U		25	24.2	97	25	22.2	89	9	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		125	160	128*	125	145	116	10	66-122/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA80462-3MS	C0144927.D	1	11/13/20	SO	n/a	n/a	VC5817
FA80462-3MSD	C0144928.D	1	11/13/20	SO	n/a	n/a	VC5817
FA80462-3 [a]	C0144914.D	1	11/13/20	SO	n/a	n/a	VC5817

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80565-1

CAS No.	Compound	FA80462-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1634-04-4	Methyl Tert Butyl Ether	1.0	U	25	27.1	108	25	24.4	98	10	72-117/14
100-42-5	Styrene	1.0	U	25	26.0	104	25	24.0	96	8	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	25	26.1	104	25	24.2	97	8	72-120/14
127-18-4	Tetrachloroethylene	19.2		25	45.1	104	25	41.2	88	9	76-135/16
108-88-3	Toluene	1.0	U	25	25.4	102	25	23.2	93	9	80-120/14
87-61-6	1,2,3-Trichlorobenzene	2.0	U	25	24.2	97	25	22.7	91	6	68-131/25
120-82-1	1,2,4-Trichlorobenzene	2.0	U	25	24.3	97	25	23.5	94	3	73-129/20
71-55-6	1,1,1-Trichloroethane	1.0	U	25	28.8	115	25	26.1	104	10	75-130/16
79-00-5	1,1,2-Trichloroethane	1.0	U	25	27.5	110	25	24.8	99	10	76-119/14
79-01-6	Trichloroethylene	5.9		25	32.1	105	25	29.4	94	9	81-126/15
75-69-4	Trichlorofluoromethane	2.0	U	25	27.8	111	25	25.4	102	9	71-156/21
75-01-4	Vinyl Chloride	1.0	U	25	24.5	98	25	22.4	90	9	69-159/18
	m,p-Xylene	2.0	U	50	52.3	105	50	48.2	96	8	79-126/15
95-47-6	o-Xylene	1.0	U	25	25.5	102	25	23.4	94	9	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA80462-3	Limits
1868-53-7	Dibromofluoromethane	101%	102%	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	99%	100%	79-125%
2037-26-5	Toluene-D8	96%	95%	98%	85-112%
460-00-4	4-Bromofluorobenzene	96%	95%	96%	83-118%

(a) QC sample

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA80463-1MS	Y54123.D	1	11/17/20	CV	n/a	n/a	VY2246
FA80463-1MSD	Y54124.D	1	11/17/20	CV	n/a	n/a	VY2246
FA80463-1	Y54116.D	1	11/17/20	CV	n/a	n/a	VY2246

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA80565-1

CAS No.	Compound	FA80463-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
74-83-9	Methyl Bromide	5.0	U	25	20.9	84	25	21.9	88	5	59-143/19

CAS No.	Surrogate Recoveries	MS	MSD	FA80463-1	Limits
1868-53-7	Dibromofluoromethane	101%	101%	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	102%	101%	79-125%
2037-26-5	Toluene-D8	98%	98%	98%	85-112%
460-00-4	4-Bromofluorobenzene	97%	98%	101%	83-118%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5797-BFB	**Injection Date:**	10/28/20
Lab File ID:	C0144495.D	**Injection Time:**	07:45
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	110328	21.4		Pass
75	30.0 - 60.0% of mass 95	279189	54.2		Pass
95	Base peak, 100% relative abundance	515157	100.0		Pass
96	5.0 - 9.0% of mass 95	35237	6.84		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	413653	80.3		Pass
175	5.0 - 9.0% of mass 174	32387	6.29	(7.83) [a]	Pass
176	95.0 - 101.0% of mass 174	405824	78.8	(98.1) [a]	Pass
177	5.0 - 9.0% of mass 176	26424	5.13	(6.51) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC5797-IC5797	C0144496.D	10/28/20	08:10	00:25	Initial cal 1
VC5797-IC5797	C0144497.D	10/28/20	08:35	00:50	Initial cal 2
VC5797-IC5797	C0144498.D	10/28/20	09:08	01:23	Initial cal 3
VC5797-IC5797	C0144499.D	10/28/20	09:33	01:48	Initial cal 4
VC5797-ICC5797	C0144500.D	10/28/20	09:59	02:14	Initial cal 5
VC5797-IC5797	C0144501.D	10/28/20	10:24	02:39	Initial cal 6
VC5797-IC5797	C0144502.D	10/28/20	10:50	03:05	Initial cal 7

Instrument Performance Check (BFB)

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5797-BFB	**Injection Date:**	10/28/20
Lab File ID:	C0144503.D	**Injection Time:**	11:15
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	128307	21.9		Pass
75	30.0 - 60.0% of mass 95	316651	54.0		Pass
95	Base peak, 100% relative abundance	586496	100.0		Pass
96	5.0 - 9.0% of mass 95	39264	6.69		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	469888	80.1		Pass
175	5.0 - 9.0% of mass 174	37157	6.34	(7.91) [a]	Pass
176	95.0 - 101.0% of mass 174	463339	79.0	(98.6) [a]	Pass
177	5.0 - 9.0% of mass 176	32528	5.55	(7.02) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC5797-CC5797	C0144504.D	10/28/20	11:41	00:26	Continuing cal 5
VC5797-ICV5797	C0144504A.D	10/28/20	11:41	00:26	Initial cal verification 5
VC5797-ICV5797	C0144505A.D	10/28/20	12:07	00:52	Initial cal verification 4
VC5797-BS	C0144505.D	10/28/20	12:07	00:52	Blank Spike
VC5798-BS	C0144505.D	10/28/20	12:07	00:52	Blank Spike
VC5798-MB	C0144508.D	10/28/20	13:25	02:10	Method Blank
VC5797-MB	C0144508.D	10/28/20	13:25	02:10	Method Blank
ZZZZZZ	C0144509.D	10/28/20	13:51	02:36	(unrelated sample)
ZZZZZZ	C0144510.D	10/28/20	14:18	03:03	(unrelated sample)
FA79935-4	C0144512.D	10/28/20	15:11	03:56	(used for QC only; not part of job FA80565)
ZZZZZZ	C0144516.D	10/28/20	16:58	05:43	(unrelated sample)
ZZZZZZ	C0144517.D	10/28/20	17:25	06:10	(unrelated sample)
ZZZZZZ	C0144519.D	10/28/20	18:18	07:03	(unrelated sample)
ZZZZZZ	C0144520.D	10/28/20	18:44	07:29	(unrelated sample)
ZZZZZZ	C0144522.D	10/28/20	19:37	08:22	(unrelated sample)
ZZZZZZ	C0144523.D	10/28/20	20:03	08:48	(unrelated sample)
ZZZZZZ	C0144524.D	10/28/20	20:29	09:14	(unrelated sample)
ZZZZZZ	C0144525.D	10/28/20	20:54	09:39	(unrelated sample)
ZZZZZZ	C0144526.D	10/28/20	21:20	10:05	(unrelated sample)
ZZZZZZ	C0144527.D	10/28/20	21:46	10:31	(unrelated sample)
FA79935-4MS	C0144528.D	10/28/20	22:12	10:57	Matrix Spike
FA79935-4MSD	C0144529.D	10/28/20	22:37	11:22	Matrix Spike Duplicate
VC5797-ECC5797	C0144530.D	10/28/20	23:03	11:48	Ending cal 5

Instrument Performance Check (BFB)

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5817-BFB	**Injection Date:**	11/13/20
Lab File ID:	C0144901.D	**Injection Time:**	10:00
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	141059	22.7		Pass
75	30.0 - 60.0% of mass 95	344576	55.5		Pass
95	Base peak, 100% relative abundance	620459	100.0		Pass
96	5.0 - 9.0% of mass 95	40672	6.56		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	504555	81.3		Pass
175	5.0 - 9.0% of mass 174	41304	6.66	(8.19) [a]	Pass
176	95.0 - 101.0% of mass 174	489472	78.9	(97.0) [a]	Pass
177	5.0 - 9.0% of mass 176	34691	5.59	(7.09) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC5817-CC5797	C0144901.D	11/13/20	10:00	00:00	Continuing cal 5
VC5818-BS	C0144902.D	11/13/20	10:33	00:33	Blank Spike
VC5817-BS	C0144902.D	11/13/20	10:33	00:33	Blank Spike
VC5817-MB	C0144905.D	11/13/20	11:48	01:48	Method Blank
VC5818-MB	C0144905.D	11/13/20	11:48	01:48	Method Blank
ZZZZZZ	C0144906.D	11/13/20	12:14	02:14	(unrelated sample)
ZZZZZZ	C0144907.D	11/13/20	12:39	02:39	(unrelated sample)
ZZZZZZ	C0144908.D	11/13/20	13:05	03:05	(unrelated sample)
ZZZZZZ	C0144909.D	11/13/20	13:30	03:30	(unrelated sample)
ZZZZZZ	C0144910.D	11/13/20	13:56	03:56	(unrelated sample)
FA80353-4	C0144911.D	11/13/20	14:21	04:21	(used for QC only; not part of job FA80565)
ZZZZZZ	C0144912.D	11/13/20	14:47	04:47	(unrelated sample)
ZZZZZZ	C0144913.D	11/13/20	15:12	05:12	(unrelated sample)
FA80462-3	C0144914.D	11/13/20	15:38	05:38	(used for QC only; not part of job FA80565)
ZZZZZZ	C0144915.D	11/13/20	16:04	06:04	(unrelated sample)
FA80463-1	C0144916.D	11/13/20	16:29	06:29	(used for QC only; not part of job FA80565)
ZZZZZZ	C0144917.D	11/13/20	16:55	06:55	(unrelated sample)
ZZZZZZ	C0144918.D	11/13/20	17:20	07:20	(unrelated sample)
ZZZZZZ	C0144919.D	11/13/20	17:46	07:46	(unrelated sample)
ZZZZZZ	C0144920.D	11/13/20	18:13	08:13	(unrelated sample)
ZZZZZZ	C0144921.D	11/13/20	18:38	08:38	(unrelated sample)
FA80565-1	C0144922.D	11/13/20	19:04	09:04	SP1-GW-20201104
FA80353-4MS	C0144923.D	11/13/20	19:30	09:30	Matrix Spike
FA80353-4MSD	C0144924.D	11/13/20	19:55	09:55	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5817-BFB	**Injection Date:**	11/13/20
Lab File ID:	C0144901.D	**Injection Time:**	10:00
Instrument ID:	GCMSC		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
FA80463-1MS	C0144925.D	11/13/20	20:21	10:21	Matrix Spike
FA80463-1MSD	C0144926.D	11/13/20	20:46	10:46	Matrix Spike Duplicate
FA80462-3MS	C0144927.D	11/13/20	21:11	11:11	Matrix Spike
FA80462-3MSD	C0144928.D	11/13/20	21:37	11:37	Matrix Spike Duplicate
VC5817-ECC5797	C0144929.D	11/13/20	22:02	12:02	Ending cal 5

Instrument Performance Check (BFB)

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VY2245-BFB	**Injection Date:**	11/17/20
Lab File ID:	Y54095.D	**Injection Time:**	07:51
Instrument ID:	GCMSY		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	116189	16.7		Pass
75	30.0 - 60.0% of mass 95	301162	43.2		Pass
95	Base peak, 100% relative abundance	697749	100.0		Pass
96	5.0 - 9.0% of mass 95	46728	6.70		Pass
173	Less than 2.0% of mass 174	3375	0.48	(0.53) [a]	Pass
174	50.0 - 100.0% of mass 95	635968	91.1		Pass
175	5.0 - 9.0% of mass 174	44978	6.45	(7.07) [a]	Pass
176	95.0 - 101.0% of mass 174	619690	88.8	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	40232	5.77	(6.49) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY2245-IC2245	Y54097.D	11/17/20	08:45	00:54	Initial cal 2
VY2245-IC2245	Y54098.D	11/17/20	09:12	01:21	Initial cal 3
VY2245-IC2245	Y54099.D	11/17/20	09:39	01:48	Initial cal 4
VY2245-ICC2245	Y54100.D	11/17/20	10:06	02:15	Initial cal 5
VY2245-IC2245	Y54101.D	11/17/20	10:33	02:42	Initial cal 6
VY2245-IC2245	Y54102.D	11/17/20	11:00	03:09	Initial cal 7
VY2245-IC2245	Y54104.D	11/17/20	11:54	04:03	Initial cal 1
VY2245-ICV2245	Y54105.D	11/17/20	12:32	04:41	Initial cal verification 5
VY2245-ICV2245	Y54106.D	11/17/20	12:59	05:08	Initial cal verification 4

Instrument Performance Check (BFB)

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VY2246-BFB	**Injection Date:**	11/17/20
Lab File ID:	Y54108.D	**Injection Time:**	13:52
Instrument ID:	GCMSY		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	122861	16.7		Pass
75	30.0 - 60.0% of mass 95	316885	43.2		Pass
95	Base peak, 100% relative abundance	733824	100.0		Pass
96	5.0 - 9.0% of mass 95	47650	6.49		Pass
173	Less than 2.0% of mass 174	3417	0.47	(0.54) [a]	Pass
174	50.0 - 100.0% of mass 95	634240	86.4		Pass
175	5.0 - 9.0% of mass 174	44840	6.11	(7.07) [a]	Pass
176	95.0 - 101.0% of mass 174	612949	83.5	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	41493	5.65	(6.77) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY2246-CC2245	Y54108.D	11/17/20	13:53	00:01	Continuing cal 5
VY2246-BS	Y54109.D	11/17/20	14:32	00:40	Blank Spike
VY2246-MB	Y54112.D	11/17/20	15:54	02:02	Method Blank
ZZZZZZ	Y54113.D	11/17/20	16:21	02:29	(unrelated sample)
ZZZZZZ	Y54114.D	11/17/20	16:48	02:56	(unrelated sample)
ZZZZZZ	Y54115.D	11/17/20	17:15	03:23	(unrelated sample)
FA80463-1	Y54116.D	11/17/20	17:43	03:51	(used for QC only; not part of job FA80565)
ZZZZZZ	Y54117.D	11/17/20	18:10	04:18	(unrelated sample)
ZZZZZZ	Y54118.D	11/17/20	18:37	04:45	(unrelated sample)
ZZZZZZ	Y54119.D	11/17/20	19:04	05:12	(unrelated sample)
ZZZZZZ	Y54120.D	11/17/20	19:31	05:39	(unrelated sample)
ZZZZZZ	Y54121.D	11/17/20	19:58	06:06	(unrelated sample)
ZZZZZZ	Y54122.D	11/17/20	20:25	06:33	(unrelated sample)
FA80463-1MS	Y54123.D	11/17/20	20:53	07:01	Matrix Spike
FA80463-1MSD	Y54124.D	11/17/20	21:20	07:28	Matrix Spike Duplicate
ZZZZZZ	Y54126.D	11/17/20	22:15	08:23	(unrelated sample)
FA80565-1	Y54127.D	11/17/20	22:42	08:50	SP1-GW-20201104
ZZZZZZ	Y54128.D	11/17/20	23:10	09:18	(unrelated sample)
ZZZZZZ	Y54129.D	11/17/20	23:37	09:45	(unrelated sample)
ZZZZZZ	Y54130.D	11/18/20	00:04	10:12	(unrelated sample)
ZZZZZZ	Y54131.D	11/18/20	00:32	10:40	(unrelated sample)
ZZZZZZ	Y54132.D	11/18/20	00:59	11:07	(unrelated sample)
ZZZZZZ	Y54133.D	11/18/20	01:27	11:35	(unrelated sample)
VY2246-ECC2245	Y54134.D	11/18/20	01:54	12:02	Ending cal 5

Internal Standard Area Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VC5817-CC5797	**Injection Date:**	11/13/20
Lab File ID:	C0144901.D	**Injection Time:**	10:00
Instrument ID:	GCMSC	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	2260245	10.52	1658885	13.42	871357	15.08	295092	6.79
Check Std [b]	2340573	10.52	1849664	13.42	996670	15.08	221327	6.79
Upper Limit [c]	4681146	10.69	3699328	13.59	1993340	15.25	442654	6.96
Lower Limit [d]	1170287	10.35	924832	13.25	498335	14.91	110664	6.62

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VC5817-BS	2470821	10.52	1903017	13.42	993525	15.08	175921	6.78
VC5818-BS	2470821	10.52	1903017	13.42	993525	15.08	175921	6.78
VC5818-MB	2216298	10.53	1735226	13.42	867091	15.08	238621	6.77
VC5817-MB	2216298	10.53	1735226	13.42	867091	15.08	238621	6.77
ZZZZZZ	2203165	10.53	1712838	13.42	853338	15.08	187201	6.77
ZZZZZZ	2118060	10.53	1673017	13.42	838848	15.08	234079	6.77
ZZZZZZ	2138716	10.53	1677729	13.42	835371	15.08	210518	6.77
ZZZZZZ	2184305	10.53	1673526	13.42	823483	15.08	247050	6.77
ZZZZZZ	2107844	10.53	1644787	13.42	838168	15.08	191306	6.77
FA80353-4	2127979	10.53	1654700	13.42	836251	15.08	225901	6.77
ZZZZZZ	2092088	10.53	1628394	13.42	819507	15.08	213737	6.77
ZZZZZZ	2074900	10.53	1641459	13.42	816875	15.08	229709	6.77
FA80462-3	2046753	10.53	1619496	13.42	836202	15.08	295818	6.77
ZZZZZZ	2052204	10.53	1620025	13.42	828777	15.08	248322	6.77
FA80463-1	2059953	10.53	1623350	13.42	813196	15.08	212573	6.77
ZZZZZZ	2117918	10.53	1641684	13.42	809072	15.08	217183	6.77
ZZZZZZ	2068001	10.53	1646874	13.42	815864	15.08	235083	6.77
ZZZZZZ	2042460	10.53	1614998	13.42	815836	15.08	223985	6.77
ZZZZZZ	2057389	10.53	1611611	13.42	819412	15.08	217716	6.77
ZZZZZZ	2092280	10.53	1636878	13.42	818556	15.08	229413	6.77
FA80565-1	2038493	10.53	1583337	13.42	791286	15.08	222201	6.77
FA80353-4MS	2045991	10.53	1597125	13.42	843944	15.08	212422	6.78
FA80353-4MSD	2150390	10.52	1687492	13.42	911704	15.08	209555	6.78
FA80463-1MS	2140629	10.53	1660707	13.42	864448	15.08	229398	6.78
FA80463-1MSD	2297095	10.53	1770993	13.42	928110	15.08	239930	6.79
FA80462-3MS	2211336	10.53	1717012	13.42	910256	15.08	321355	6.79
FA80462-3MSD	2393085	10.53	1855715	13.42	992063	15.08	332856	6.79
VC5817-ECC5797	2410617	10.53	1887656	13.42	1015023	15.08	256976	6.79

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

Internal Standard Area Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VC5817-CC5797	**Injection Date:**	11/13/20
Lab File ID:	C0144901.D	**Injection Time:**	10:00
Instrument ID:	GCMSC	**Method:**	SW846 8260B

Lab Sample ID	IS 1 AREA	IS 1 RT	IS 2 AREA	IS 2 RT	IS 3 AREA	IS 3 RT	IS 4 AREA	IS 4 RT

(a) Initial Cal is: VC5797-ICC5797 C0144500.D 10/28/20 09:59
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Internal Standard Area Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VY2246-CC2245	**Injection Date:**	11/17/20
Lab File ID:	Y54108.D	**Injection Time:**	13:53
Instrument ID:	GCMSY	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	2504535	11.52	2259089	14.58	1217216	16.27	105064	7.42
Check Std [b]	2774229	11.52	2473453	14.58	1315587	16.27	125228	7.42
Upper Limit [c]	5548458	11.69	4946906	14.75	2631174	16.44	250456	7.59
Lower Limit [d]	1387115	11.35	1236727	14.41	657794	16.10	62614	7.25

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VY2246-BS	2699199	11.52	2418660	14.58	1286370	16.27	124644	7.42
VY2246-MB	2734449	11.52	2486559	14.58	1246373	16.27	112682	7.41
ZZZZZZ	2619336	11.52	2398867	14.58	1206562	16.27	106939	7.41
ZZZZZZ	2644301	11.52	2403098	14.58	1229898	16.27	115800	7.42
ZZZZZZ	2660262	11.52	2407200	14.58	1202333	16.27	106722	7.42
FA80463-1	2618788	11.52	2395230	14.58	1197900	16.27	97231	7.41
ZZZZZZ	2584264	11.52	2365343	14.58	1199854	16.27	112347	7.42
ZZZZZZ	2553567	11.52	2347637	14.58	1175965	16.27	94932	7.42
ZZZZZZ	2515514	11.52	2302128	14.58	1139858	16.27	100075	7.42
ZZZZZZ	2533980	11.52	2310807	14.58	1163385	16.27	106697	7.41
ZZZZZZ	2498355	11.52	2296720	14.58	1166091	16.28	114388	7.42
ZZZZZZ	2508398	11.52	2299929	14.58	1164740	16.27	110741	7.42
FA80463-1MS	2424776	11.52	2225502	14.58	1209304	16.28	116466	7.42
FA80463-1MSD	2427201	11.52	2226624	14.58	1213347	16.27	128657	7.42
ZZZZZZ	2508136	11.52	2298984	14.58	1158797	16.28	111987	7.42
FA80565-1	2434001	11.52	2239894	14.58	1132701	16.27	99285	7.42
ZZZZZZ	2408032	11.52	2232267	14.58	1137726	16.27	93616	7.42
ZZZZZZ	2463758	11.52	2274270	14.58	1151458	16.27	98189	7.42
ZZZZZZ	2441786	11.52	2259885	14.58	1136448	16.27	114514	7.42
ZZZZZZ	2405981	11.52	2246062	14.58	1143935	16.27	93558	7.42
ZZZZZZ	2379643	11.52	2192531	14.58	1109641	16.27	88283	7.41
ZZZZZZ	2398831	11.52	2227448	14.58	1133475	16.27	110918	7.42
VY2246-ECC2245	2358073	11.52	2170266	14.58	1172074	16.27	104915	7.42

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VY2245-ICC2245 Y54100.D 11/17/20 10:06
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA80565-1	C0144922.D	101	98	99	99
FA80565-1	Y54127.D	96	100	97	101
FA80462-3MS	C0144927.D	101	101	96	96
FA80462-3MSD	C0144928.D	102	99	95	95
FA80463-1MS	Y54123.D	101	101	98	97
FA80463-1MSD	Y54124.D	101	102	98	98
VC5817-BS	C0144902.D	104	99	96	95
VC5817-MB	C0144905.D	102	97	98	98
VY2246-BS	Y54109.D	99	98	101	100
VY2246-MB	Y54112.D	96	101	98	101

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

Initial Calibration Summary

Job Number: FA80565 **Sample:** VC5797-ICC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144500.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Response Factor Report MSVOA5

Method : C:\msdchem\2\METHODS\RTXVMS102820.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Calibration Files
1 =C0144496.D 2 =C0144497.D 3 =C0144498.D 4 =C0144499.D
5 =C0144500.D 6 =C0144501.D 7 =C0144502.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.225	0.331	0.284	0.269	0.289	0.268	0.246	0.273	12.31
3)P Chloromethane	0.362	0.339	0.301	0.268	0.284	0.277	0.272	0.300	12.12
4) 1,3-butadiene	0.230	0.247	0.232	0.214	0.229	0.210	0.181	0.221	9.57
5)C Vinyl Chloride	0.179	0.300	0.254	0.259	0.271	0.270	0.249	0.254	14.70
6) Bromomethane	0.128	0.080	0.062	0.057	0.068	0.089	0.096	0.083	29.33
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9963									
Response Ratio = 0.00000 + 0.05615 *A + 0.02058 *A^2									
7) Chloroethane	0.152	0.179	0.151	0.158	0.165	0.169	0.152	0.161	6.48
8) Trichlorofluorome	0.284	0.387	0.347	0.344	0.357	0.321	0.280	0.331	11.79
9) Ethyl Ether	0.205	0.235	0.200	0.203	0.198	0.210	0.205	0.208	5.97
10) 1,2-Dichlorotrifl	0.199	0.270	0.238	0.235	0.241	0.236	0.223	0.235	9.16
11)C 1,1-Dichloroethen	0.246	0.366	0.322	0.328	0.333	0.324	0.306	0.318	11.49
12) Freon 113	0.157	0.255	0.229	0.222	0.233	0.225	0.214	0.219	13.85
13) Carbon Disulfide	0.571	0.776	0.648	0.644	0.677	0.676	0.640	0.662	9.27
14) Iodomethane	0.266	0.223	0.184	0.204	0.220	0.261	0.239	0.228	12.85
15) Acrolein	0.038	0.036	0.036	0.040	0.042	0.047	0.047	0.041	11.64
16) Allyl chloride	0.264	0.375	0.325	0.349	0.344	0.375	0.353	0.341	11.24
17) Methylene Chlorid	0.396	0.364	0.320	0.302	0.306	0.308	0.292	0.327	11.69
18) Acetone	0.052	0.073	0.072	0.075	0.079	0.079	0.077	0.072	12.92
19) Methyl acetate	0.102	0.173	0.134	0.168	0.162	0.181	0.176	0.157	18.18
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9977									
Response Ratio = 0.00000 + 0.15603 *A + 0.00237 *A^2									
20) trans-1,2-Dichlor	0.248	0.323	0.291	0.295	0.306	0.308	0.294	0.295	7.90
21) Hexane	0.195	0.227	0.189	0.185	0.204	0.198	0.186	0.198	7.34
22) Methyl Tert Butyl	0.561	0.774	0.655	0.695	0.693	0.707	0.691	0.682	9.45
23) Acetonitrile	0.019	0.028	0.027	0.031	0.032	0.034	0.033	0.029	17.49
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9991									
Response Ratio = 0.00000 + 0.02989 *A + 0.00019 *A^2									
24) Di-isopropyl ethe	0.666	0.900	0.765	0.814	0.815	0.818	0.774	0.793	8.96
25) Chloroprene	0.214	0.347	0.319	0.324	0.334	0.329	0.318	0.312	14.22
26)P 1,1-Dichloroethan	0.294	0.422	0.376	0.382	0.389	0.395	0.380	0.377	10.46
27) Acrylonitrile	0.023	0.064	0.059	0.068	0.069	0.073	0.072	0.061	28.61
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9991									
Response Ratio = 0.00000 + 0.06456 *A + 0.00090 *A^2									
28) ETBE	0.624	0.888	0.748	0.793	0.792	0.799	0.772	0.774	10.20
29) Vinyl acetate	0.294	0.519	0.503	0.561	0.547	0.534	0.486	0.492	18.47
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9990									
Response Ratio = 0.00000 + 0.56191 *A + -0.00648 *A^2									
30) cis-1,2-Dichloroe	0.192	0.234	0.211	0.216	0.212	0.220	0.212	0.214	5.88
31) 2,2-Dichloropropa	0.335	0.383	0.321	0.343	0.334	0.348	0.330	0.342	5.87

Initial Calibration Summary

Job Number: FA80565 **Sample:** VC5797-ICC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144500.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

32)	Bromochloromethan	0.086	0.121	0.103	0.108	0.108	0.099	0.090	0.102	11.55
33)	Cyclohexane	0.298	0.440	0.402	0.394	0.412	0.399	0.375	0.389	11.46
34)C	Chloroform	0.306	0.422	0.371	0.377	0.378	0.377	0.363	0.371	9.21
35)	Ethyl acetate	0.169	0.220	0.222	0.254	0.246	0.248	0.232	0.227	12.58
36)	Tetrahydrofuran	0.128	0.109	0.080	0.090	0.090	0.090	0.084	0.096	17.45

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9977
Response Ratio = 0.00000 + 0.09429 *A + -0.00478 *A^2

37)S	Dibromofluorometh	0.251	0.252	0.250	0.253	0.249	0.252	0.253	0.251	0.52
38)	Carbon Tetrachlor	0.205	0.284	0.246	0.260	0.255	0.264	0.250	0.252	9.51
39)	1,1,1-Trichloroet	0.264	0.371	0.318	0.328	0.333	0.335	0.317	0.324	9.89
40)	2-Butanone	0.097	0.104	0.099	0.115	0.115	0.120	0.114	0.109	8.19
41)	1,1-Dichloroprope	0.243	0.327	0.312	0.316	0.318	0.321	0.300	0.305	9.41
42)	tert-Butyl format	0.153	0.223	0.189	0.220	0.208	0.230	0.215	0.205	13.00
43)	Propionitrile	0.021	0.035	0.031	0.034	0.034	0.035	0.034	0.032	15.72

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9994
Response Ratio = 0.00000 + 0.03310 *A + 0.00008 *A^2

44)	Methacrylonitrile	0.121	0.169	0.147	0.159	0.154	0.150	0.138	0.148	10.38
45)	Benzene	0.700	0.972	0.850	0.870	0.866	0.859	0.805	0.846	9.66
46)	TAME	0.567	0.798	0.675	0.713	0.707	0.717	0.686	0.695	9.94
47)S	1,2-Dichloroethan	0.337	0.336	0.334	0.337	0.335	0.343	0.334	0.336	0.94
48)	1,2-Dichloroethan	0.260	0.368	0.309	0.324	0.323	0.329	0.314	0.318	10.05
49)	Trichloroethene	0.220	0.269	0.245	0.235	0.242	0.232	0.220	0.238	7.16
50)	Methylcyclohexane	0.275	0.418	0.385	0.376	0.393	0.381	0.356	0.369	12.31
51)	Dibromomethane	0.112	0.158	0.128	0.140	0.137	0.141	0.136	0.136	10.27
52)C	1,2-Dichloropropa	0.193	0.269	0.237	0.244	0.240	0.245	0.234	0.237	9.55
53)	Bromodichlorometh	0.226	0.330	0.279	0.292	0.292	0.299	0.287	0.286	10.93
54)	Methyl methacryla	0.145	0.235	0.212	0.240	0.248	0.254	0.245	0.226	16.79

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9989
Response Ratio = 0.00000 + 0.23674 *A + 0.00649 *A^2

55)	2-Chloroethyl vin	0.117	0.164	0.150	0.163	0.159	0.158	0.149	0.151	10.73
56)	cis-1,3-Dichlorop	0.299	0.452	0.384	0.402	0.395	0.411	0.394	0.391	11.82

57) I	Chlorobenzene-d5	----------ISTD----------								
58)S	Toluene-d8	1.331	1.338	1.337	1.355	1.337	1.323	1.336	1.337	0.72
59)C	Toluene	1.267	1.530	1.338	1.320	1.292	1.221	1.144	1.302	9.22
60)	2-Nitropropane	0.081	0.116	0.092	0.108	0.103	0.108	0.104	0.102	11.58
61)	4-Methyl-2-pentan	0.302	0.333	0.318	0.345	0.328	0.318	0.295	0.320	5.44
62)	trans-1,3-Dichlor	0.331	0.549	0.451	0.491	0.478	0.499	0.476	0.468	14.45
63)	Tetrachloroethene	0.224	0.344	0.300	0.306	0.307	0.307	0.292	0.297	12.17
64)	Ethyl methacrylat	0.334	0.432	0.388	0.439	0.433	0.448	0.430	0.415	9.72
65)	1,1,2-Trichloroet	0.185	0.275	0.219	0.238	0.239	0.243	0.239	0.234	11.66
66)	Dibromochlorometh	0.219	0.325	0.272	0.300	0.296	0.308	0.302	0.289	12.01
67)	1,3-Dichloropropa	0.403	0.562	0.493	0.515	0.511	0.514	0.498	0.499	9.63
68)	1,2-Dibromoethane	0.224	0.303	0.271	0.286	0.287	0.292	0.283	0.278	9.25
69)	2-hexanone	0.230	0.248	0.228	0.245	0.239	0.241	0.235	0.238	3.12
70)	1-Chlorohexane	0.345	0.458	0.419	0.441	0.442	0.434	0.411	0.422	8.77
71)C	Ethylbenzene	1.318	1.638	1.401	1.409	1.376	1.310	1.214	1.381	9.53
72)P	Chlorobenzene	0.649	0.885	0.779	0.787	0.773	0.761	0.729	0.766	9.23
73)	1,1,1,2-Tetrachlo	0.193	0.308	0.268	0.280	0.278	0.286	0.278	0.270	13.42
74)	m,p-Xylene	0.915	1.255	1.095	1.073	1.038	0.949	0.848	1.025	13.19
75)	o-Xylene	0.938	1.310	1.133	1.136	1.130	1.092	1.019	1.108	10.41
76)	Styrene	0.658	0.973	0.888	0.918	0.913	0.915	0.875	0.877	11.57
77)P	Bromoform	0.112	0.213	0.170	0.206	0.207	0.227	0.224	0.194	20.89

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9984
Response Ratio = 0.00000 + 0.19361 *A + 0.01731 *A^2

78)	Isopropylbenzene	1.035	1.506	1.330	1.351	1.322	1.265	1.170	1.283	11.61

Initial Calibration Summary

Job Number: FA80565 **Sample:** VC5797-ICC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144500.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
 79) I   1,4-Dichlorobenzene-d ----------------ISTD--------------------
 80)S 4-Bromofluorobenz 0.846 0.855 0.849 0.839 0.828 0.827 0.816 0.837   1.69
 81)  cis-1,4-Dichloro- 0.187 0.277 0.220 0.255 0.247 0.262 0.258 0.244  12.49
 82)  n-Propylbenzene   2.737 3.596 3.134 3.113 3.044 2.791 2.537 2.993  11.54
 83)  Bromobenzene      0.501 0.761 0.647 0.653 0.650 0.632 0.603 0.635  12.09
 84)P 1,1,2,2-Tetrachlo 0.624 0.846 0.709 0.755 0.727 0.714 0.696 0.724   9.25
 85)  1,3,5-Trimethylbe 1.724 2.358 2.034 2.064 2.019 1.910 1.771 1.983  10.67
 86)  2-Chlorotoluene   1.743 2.472 2.088 2.118 2.072 1.989 1.853 2.048  11.29
 87)  trans-1,4-Dichlor 0.216 0.266 0.196 0.227 0.219 0.244 0.232 0.229   9.65
 88)  1,2,3-Trichloropr 0.169 0.248 0.199 0.217 0.214 0.211 0.209 0.210  11.21
 89)  Cyclohexanone     0.046 0.027 0.025 0.027 0.026 0.026 0.024 0.029  27.51
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9981
               Response Ratio = 0.00000 + 0.02768 *A + -0.00034 *A^2

 90)  4-Chlorotoluene   1.535 2.152 1.938 1.950 1.893 1.812 1.709 1.856  10.58
 91)  tert-Butylbenzene 0.899 1.398 1.220 1.220 1.226 1.170 1.135 1.181  12.65
 92)  a-Methyl styrene                                              0.000  -1.00
 93)  1,2,4-Trimethylbe 1.663 2.292 1.946 2.019 1.964 1.900 1.785 1.938  10.17
 94)  Pentachloroethane 0.285 0.355 0.332 0.351 0.363 0.378 0.375 0.348   9.17
 95)  sec-Butylbenzene  2.075 2.836 2.467 2.453 2.422 2.270 2.120 2.378  10.81
 96)  4-Isopropyltoluen 1.734 2.302 2.050 2.022 2.018 1.950 1.825 1.986   9.12
 97)  1,3-Dichlorobenze 0.978 1.323 1.131 1.144 1.140 1.111 1.072 1.128   9.17
 98)  1,2,3-Trimethylbe 1.794 2.521 2.182 2.282 2.218 2.141 2.016 2.165  10.40
 99)  1,4-Dichlorobenze 1.069 1.318 1.149 1.141 1.152 1.113 1.068 1.144   7.38
100)  n-Butylbenzene    0.763 1.135 0.996 1.055 1.089 1.108 1.095 1.034  12.33
101)  Benzyl Chloride   0.207 0.265 0.225 0.258 0.274 0.294 0.299 0.260  12.98
102)  1,2-Dichlorobenze 0.813 1.200 1.094 1.079 1.094 1.074 1.042 1.057  11.16
103)  1,2-Dibromo-3-Chl 0.170 0.150 0.129 0.141 0.143 0.149 0.150 0.147   8.31
104)  Hexachlorobutadie 0.237 0.352 0.295 0.289 0.320 0.318 0.314 0.303  11.80
105)  1,2,4-Trichlorobe 0.419 0.596 0.495 0.561 0.584 0.610 0.617 0.554  13.06
106)  Naphthalene       0.788 1.137 0.893 1.113 1.136 1.230 1.253 1.079  16.07
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
               Response Ratio = 0.00000 + 1.03255 *A + 0.11866 *A^2

107)  1,2,3-Trichlorobe 0.343 0.440 0.414 0.479 0.504 0.518 0.538 0.462  14.75

108) I   Tert Butyl Alcohol-d1 ----------------ISTD--------------------
109)  Ethanol                0.109 0.121 0.113 0.107 0.109 0.113 0.112   4.39
110)  Tert Butyl Alcoho 0.780 1.313 1.270 1.263 1.225 1.182 1.226 1.180  15.36
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9991
               Response Ratio = 0.00000 + 1.23804 *A + -0.00694 *A^2

111)  Isobutyl alcohol  0.298 0.477 0.425 0.462 0.441 0.426 0.433 0.423  13.76
112)  Tert Amyl Alcohol 0.778 0.977 0.869 0.892 0.856 0.853 0.862 0.869   6.81
113)  1,4-Dioxane       0.069 0.126 0.114 0.114 0.110 0.103 0.106 0.106  16.89
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9984
               Response Ratio = 0.00000 + 0.11368 *A + -0.00120 *A^2

114)  3,3-dimethyl-1-bu 0.625 0.911 0.902 0.915 0.848 0.799 0.779 0.826  12.60
 ------------------------------------------------------------------------------
 (#) = Out of Range

          RTXVMS102820.M        Wed Oct 28 13:48:38 2020
```

Initial Calibration Verification

Job Number: FA80565 **Sample:** VC5797-ICV5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144504A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\DATA\102820\C0144504A.D Vial: 11
Acq On : 28 Oct 2020 11:41 am Operator: SHANICAO
Sample : ICV5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS102820.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Wed Oct 28 11:12:26 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	109	0.00	10.52
2	Dichlorodifluoromethane	0.273	0.220	19.4	83	0.00	2.86
3 P	Chloromethane	0.300	0.264	12.0	101	0.00	3.23
4	1,3-butadiene	0.221	0.246	-11.3	116	0.00	3.36
5 C	Vinyl Chloride	0.254	0.249	2.0	100	0.00	3.34
		Amount	Calc.	%Drift			
6	Bromomethane	40.000	52.012	-30.0#	160	0.00	3.90
		AvgRF	CCRF	%Dev			
7	Chloroethane	0.161	0.142	11.8	93	-0.01	4.11
8	Trichlorofluoromethane	0.331	0.319	3.6	97	-0.02	4.32
9	Ethyl Ether	0.208	0.185	11.1	101	0.00	4.91
10	1,2-Dichlorotrifluoroetha	0.235	0.258	-9.8	116	0.00	5.24
11 C	1,1-Dichloroethene	0.318	0.310	2.5	101	0.00	5.22
12	Freon 113		----------NA----------				
13	Carbon Disulfide	0.662	0.534	19.3	86	0.00	5.28
14	Iodomethane	0.228	0.198	13.2	98	0.00	5.48
15	Acrolein	0.041	0.023	43.9#	59	-0.01	5.82
16	Allyl chloride	0.341	0.366	-7.3	115	0.00	6.06
17	Methylene Chloride	0.327	0.286	12.5	101	-0.01	6.26
18	Acetone	0.072	0.080	-11.1	109	0.01	6.34
		Amount	Calc.	%Drift			
19	Methyl acetate	200.000	213.954	-7.0	119	0.00	6.56
		AvgRF	CCRF	%Dev			
20	trans-1,2-Dichloroethene	0.295	0.296	-0.3	105	0.00	6.54
21	Hexane	0.198	0.160	19.2	85	0.00	6.68
22	Methyl Tert Butyl Ether	0.682	0.672	1.5	105	0.00	6.73
		Amount	Calc.	%Drift			
23	Acetonitrile	400.000	399.890	0.0	106	0.00	7.17
		AvgRF	CCRF	%Dev			
24	Di-isopropyl ether	0.793	0.756	4.7	101	0.00	7.42
25	Chloroprene	0.312	0.370	-18.6	120	0.00	7.60
26 P	1,1-Dichloroethane	0.377	0.400	-6.1	112	0.00	7.64
		Amount	Calc.	%Drift			
27	Acrylonitrile	200.000	210.613	-5.3	112	0.00	7.74

Initial Calibration Verification

Job Number: FA80565 **Sample:** VC5797-ICV5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144504A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			AvgRF	CCRF	%Dev			
28		ETBE	0.774	0.689	11.0	94	0.00	8.09
			Amount	Calc.	%Drift			
29		Vinyl acetate	200.000	190.544	4.7	102	0.00	8.11
			AvgRF	CCRF	%Dev			
30		cis-1,2-Dichloroethene	0.214	0.213	0.5	109	0.00	8.66
31		2,2-Dichloropropane	0.342	0.352	-2.9	115	0.00	8.85
32		Bromochloromethane	0.102	0.097	4.9	97	0.00	9.02
33		Cyclohexane	0.389	0.349	10.3	92	0.00	9.02
34	C	Chloroform	0.371	0.376	-1.3	108	0.00	9.16
35		Ethyl acetate	0.227	0.247	-8.8	109	0.00	9.35
			Amount	Calc.	%Drift			
36		Tetrahydrofuran	40.000	39.365	1.6	107	0.00	9.40
			AvgRF	CCRF	%Dev			
37	S	Dibromofluoromethane	0.251	0.253	-0.8	110	0.00	9.45
38		Carbon Tetrachloride	0.252	0.268	-6.3	114	0.00	9.37
39		1,1,1-Trichloroethane	0.324	0.332	-2.5	108	0.00	9.48
40		2-Butanone	0.109	0.123	-12.8	116	0.00	9.62
41		1,1-Dichloropropene	0.305	0.301	1.3	103	0.00	9.66
42		tert-Butyl formate	0.205	0.213	-3.9	111	0.00	9.82
			Amount	Calc.	%Drift			
43		Propionitrile	400.000	410.254	-2.6	111	0.00	10.03
			AvgRF	CCRF	%Dev			
44		Methacrylonitrile	0.148	0.150	-1.4	106	0.00	10.06
45		Benzene	0.846	0.827	2.2	104	0.00	10.00
46		TAME	0.695	0.674	3.0	103	0.00	10.15
47	S	1,2-Dichloroethane-d4	0.336	0.338	-0.6	110	0.00	10.18
48		1,2-Dichloroethane	0.318	0.306	3.8	103	0.00	10.27
49		Trichloroethene	0.238	0.225	5.5	101	0.00	10.73
50		Methylcyclohexane	0.369	0.339	8.1	94	0.00	10.71
51		Dibromomethane	0.136	0.135	0.7	107	0.00	11.19
52	C	1,2-Dichloropropane	0.237	0.235	0.8	107	0.00	11.29
53		Bromodichloromethane	0.286	0.296	-3.5	110	0.00	11.36
			Amount	Calc.	%Drift			
54		Methyl methacrylate	40.000	41.085	-2.7	109	0.00	11.50
			AvgRF	CCRF	%Dev			
55		2-Chloroethyl vinyl ether	0.151	0.127	15.9	86	0.00	11.90
56		cis-1,3-Dichloropropene	0.391	0.382	2.3	105	0.00	11.96
57	I	Chlorobenzene-d5	1.000	1.000	0.0	106	0.00	13.42
58	S	Toluene-d8	1.337	1.350	-1.0	107	0.00	12.13
59	C	Toluene	1.302	1.233	5.3	101	0.00	12.18
60		2-Nitropropane	0.102	0.108	-5.9	111	0.00	12.38
61		4-Methyl-2-pentanone	0.320	0.347	-8.4	112	0.00	12.49
62		trans-1,3-Dichloropropene	0.468	0.505	-7.9	112	0.00	12.54
63		Tetrachloroethene	0.297	0.309	-4.0	107	0.00	12.52
64		Ethyl methacrylate	0.415	0.450	-8.4	110	0.00	12.64
65		1,1,2-Trichloroethane	0.234	0.242	-3.4	107	0.00	12.68
66		Dibromochloromethane	0.289	0.313	-8.3	112	0.00	12.83
67		1,3-Dichloropropane	0.499	0.492	1.4	102	0.00	12.90
68		1,2-Dibromoethane	0.278	0.281	-1.1	104	0.00	13.03
69		2-hexanone	0.238	0.254	-6.7	113	0.00	13.17

Initial Calibration Verification

Job Number: FA80565 **Sample:** VC5797-ICV5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144504A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

70		1-Chlorohexane	0.422	0.403	4.5	97	0.00	13.39
71	C	Ethylbenzene	1.381	1.355	1.9	104	0.00	13.44
72	P	Chlorobenzene	0.766	0.751	2.0	103	0.00	13.44
73		1,1,1,2-Tetrachloroethane	0.270	0.285	-5.6	108	0.00	13.48
74		m,p-Xylene	1.025	1.005	2.0	102	0.00	13.54
75		o-Xylene	1.108	1.106	0.2	104	0.00	13.86
76		Styrene	0.877	0.897	-2.3	104	0.00	13.90
			Amount	Calc.	%Drift			
77	P	Bromoform	40.000	43.042	-7.6	115	0.00	13.95
			AvgRF	CCRF	%Dev			
78		Isopropylbenzene	1.283	1.294	-0.9	104	0.00	14.08
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	106	0.00	15.08
80	S	4-Bromofluorobenzene	0.837	0.837	0.0	107	0.00	14.31
81		cis-1,4-Dichloro-2-butene	0.244	0.266	-9.0	114	0.00	14.34
82		n-Propylbenzene	2.993	2.946	1.6	103	0.00	14.37
83		Bromobenzene	0.635	0.636	-0.2	104	0.00	14.40
84	P	1,1,2,2-Tetrachloroethane	0.724	0.751	-3.7	110	0.00	14.43
85		1,3,5-Trimethylbenzene	1.983	1.991	-0.4	105	0.00	14.49
86		2-Chlorotoluene	2.048	2.023	1.2	104	0.00	14.51
87		trans-1,4-Dichloro-2-Bute	0.229	0.221	3.5	107	0.00	14.55
88		1,2,3-Trichloropropane	0.210	0.216	-2.9	107	0.00	14.54
			Amount	Calc.	%Drift			
89		Cyclohexanone	200.000	192.880	3.6	105	0.00	14.59
			AvgRF	CCRF	%Dev			
90		4-Chlorotoluene	1.856	1.866	-0.5	105	0.00	14.62
91		tert-Butylbenzene	1.181	1.172	0.8	101	0.00	14.73
92		a-Methyl styrene		NA				
93		1,2,4-Trimethylbenzene	1.938	1.913	1.3	103	0.00	14.77
94		Pentachloroethane	0.348	0.383	-10.1	112	0.00	14.77
95		sec-Butylbenzene	2.378	2.392	-0.6	105	0.00	14.85
96		4-Isopropyltoluene	1.986	2.028	-2.1	107	0.00	14.93
97		1,3-Dichlorobenzene	1.128	1.127	0.1	105	0.00	15.04
98		1,2,3-Trimethylbenzene	2.165	1.908	11.9	91	0.00	15.08
99		1,4-Dichlorobenzene	1.144	1.113	2.7	103	0.00	15.10
100		n-Butylbenzene	1.034	1.102	-6.6	107	0.00	15.22
101		Benzyl Chloride	0.260	0.271	-4.2	105	0.00	15.25
102		1,2-Dichlorobenzene	1.057	1.075	-1.7	104	0.00	15.39
103		1,2-Dibromo-3-Chloropropa	0.147	0.151	-2.7	113	0.00	15.92
104		Hexachlorobutadiene	0.303	0.305	-0.7	101	0.00	16.32
105		1,2,4-Trichlorobenzene	0.554	0.618	-11.6	112	0.00	16.37
			Amount	Calc.	%Drift			
106		Naphthalene	40.000	43.972	-9.9	117	0.00	16.62
			AvgRF	CCRF	%Dev			
107		1,2,3-Trichlorobenzene	0.462	0.531	-14.9	112	0.00	16.76
108	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	118	0.01	6.80
109		Ethanol	0.112	0.112	0.0	123	0.01	5.25
			Amount	Calc.	%Drift			
110		Tert Butyl Alcohol	400.000	360.735	9.8	107	0.02	6.94
			AvgRF	CCRF	%Dev			
111		Isobutyl alcohol	0.423	0.408	3.5	109	0.00	10.31

Initial Calibration Verification

Job Number: FA80565 **Sample:** VC5797-ICV5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144504A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

112	Tert Amyl Alcohol	0.869	0.826	4.9	114	0.00	10.42
		Amount	Calc.	%Drift			
113	1,4-Dioxane	800.000	728.916	8.9	108	0.00	11.56
		AvgRF	CCRF	%Dev			
114	3,3-dimethyl-1-butanol	0.826	0.873	-5.7	122	0.00	13.15

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0144500.D RTXVMS102820.M Wed Oct 28 13:49:04 2020

Initial Calibration Verification

Job Number: FA80565 **Sample:** VC5797-ICV5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144505A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\DATA\102820\C0144505A.D Vial: 12
Acq On : 28 Oct 2020 12:07 pm Operator: SHANICAO
Sample : ICV5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS102820.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Wed Oct 28 11:12:26 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	110	0.00	10.52
2		Dichlorodifluoromethane		NA				
3	P	Chloromethane		NA				
4		1,3-butadiene		NA				
5	C	Vinyl Chloride		NA				
		----------	Amount	Calc.	%Drift			
6		Bromomethane		NA				
		----------	AvgRF	CCRF	%Dev			
7		Chloroethane		NA				
8		Trichlorofluoromethane		NA				
9		Ethyl Ether		NA				
10		1,2-Dichlorotrifluoroetha		NA				
11	C	1,1-Dichloroethene		NA				
12		Freon 113	0.219	0.176	19.6	87	0.00	5.30
13		Carbon Disulfide		NA				
14		Iodomethane		NA				
15		Acrolein		NA				
16		Allyl chloride		NA				
17		Methylene Chloride		NA				
18		Acetone		NA				
		----------	Amount	Calc.	%Drift			
19		Methyl acetate		NA				
		----------	AvgRF	CCRF	%Dev			
20		trans-1,2-Dichloroethene		NA				
21		Hexane		NA				
22		Methyl Tert Butyl Ether		NA				
		----------	Amount	Calc.	%Drift			
23		Acetonitrile		NA				
		----------	AvgRF	CCRF	%Dev			
24		Di-isopropyl ether		NA				
25		Chloroprene		NA				
26	P	1,1-Dichloroethane		NA				
		----------	Amount	Calc.	%Drift			
27		Acrylonitrile		NA				

Initial Calibration Verification

Job Number: FA80565 **Sample:** VC5797-ICV5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144505A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			AvgRF	CCRF	%Dev			
28		ETBE		----------NA----------				
			Amount	Calc.	%Drift			
29		Vinyl acetate		----------NA----------				
			AvgRF	CCRF	%Dev			
30		cis-1,2-Dichloroethene		----------NA----------				
31		2,2-Dichloropropane		----------NA----------				
32		Bromochloromethane		----------NA----------				
33		Cyclohexane		----------NA----------				
34	C	Chloroform		----------NA----------				
35		Ethyl acetate		----------NA----------				
			Amount	Calc.	%Drift			
36		Tetrahydrofuran		----------NA----------				
			AvgRF	CCRF	%Dev			
37	S	Dibromofluoromethane	0.251	0.254	-1.2	110	0.00	9.45
38		Carbon Tetrachloride		----------NA----------				
39		1,1,1-Trichloroethane		----------NA----------				
40		2-Butanone		----------NA----------				
41		1,1-Dichloropropene		----------NA----------				
42		tert-Butyl formate		----------NA----------				
			Amount	Calc.	%Drift			
43		Propionitrile		----------NA----------				
			AvgRF	CCRF	%Dev			
44		Methacrylonitrile		----------NA----------				
45		Benzene		----------NA----------				
46		TAME		----------NA----------				
47	S	1,2-Dichloroethane-d4	0.336	0.338	-0.6	110	0.00	10.18
48		1,2-Dichloroethane		----------NA----------				
49		Trichloroethene		----------NA----------				
50		Methylcyclohexane		----------NA----------				
51		Dibromomethane		----------NA----------				
52	C	1,2-Dichloropropane		----------NA----------				
53		Bromodichloromethane		----------NA----------				
			Amount	Calc.	%Drift			
54		Methyl methacrylate		----------NA----------				
			AvgRF	CCRF	%Dev			
55		2-Chloroethyl vinyl ether		----------NA----------				
56		cis-1,3-Dichloropropene		----------NA----------				
57	I	Chlorobenzene-d5	1.000	1.000	0.0	109	0.00	13.42
58	S	Toluene-d8	1.337	1.337	0.0	108	0.00	12.13
59	C	Toluene		----------NA----------				
60		2-Nitropropane		----------NA----------				
61		4-Methyl-2-pentanone		----------NA----------				
62		trans-1,3-Dichloropropene		----------NA----------				
63		Tetrachloroethene		----------NA----------				
64		Ethyl methacrylate		----------NA----------				
65		1,1,2-Trichloroethane		----------NA----------				
66		Dibromochloromethane		----------NA----------				
67		1,3-Dichloropropane		----------NA----------				
68		1,2-Dibromoethane		----------NA----------				
69		2-hexanone		----------NA----------				

Initial Calibration Verification

Job Number: FA80565 **Sample:** VC5797-ICV5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144505A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

70		1-Chlorohexane		----------NA----------					
71	C	Ethylbenzene		----------NA----------					
72	P	Chlorobenzene		----------NA----------					
73		1,1,1,2-Tetrachloroethane		----------NA----------					
74		m,p-Xylene		----------NA----------					
75		o-Xylene		----------NA----------					
76		Styrene		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
77	P	Bromoform		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
78		Isopropylbenzene		----------NA----------					
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	110	0.00	15.08	
80	S	4-Bromofluorobenzene	0.837	0.841	-0.5	110	0.00	14.31	
81		cis-1,4-Dichloro-2-butene		----------NA----------					
82		n-Propylbenzene		----------NA----------					
83		Bromobenzene		----------NA----------					
84	P	1,1,2,2-Tetrachloroethane		----------NA----------					
85		1,3,5-Trimethylbenzene		----------NA----------					
86		2-Chlorotoluene		----------NA----------					
87		trans-1,4-Dichloro-2-Bute		----------NA----------					
88		1,2,3-Trichloropropane		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
89		Cyclohexanone		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
90		4-Chlorotoluene		----------NA----------					
91		tert-Butylbenzene		----------NA----------					
92		a-Methyl styrene		----------NA----------					
93		1,2,4-Trimethylbenzene		----------NA----------					
94		Pentachloroethane		----------NA----------					
95		sec-Butylbenzene		----------NA----------					
96		4-Isopropyltoluene		----------NA----------					
97		1,3-Dichlorobenzene		----------NA----------					
98		1,2,3-Trimethylbenzene		----------NA----------					
99		1,4-Dichlorobenzene		----------NA----------					
100		n-Butylbenzene		----------NA----------					
101		Benzyl Chloride		----------NA----------					
102		1,2-Dichlorobenzene		----------NA----------					
103		1,2-Dibromo-3-Chloropropa		----------NA----------					
104		Hexachlorobutadiene		----------NA----------					
105		1,2,4-Trichlorobenzene		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
106		Naphthalene		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
107		1,2,3-Trichlorobenzene		----------NA----------					
108	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	128	0.00	6.79	
109		Ethanol		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
110		Tert Butyl Alcohol		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
111		Isobutyl alcohol		----------NA----------					

Initial Calibration Verification

Job Number: FA80565 **Sample:** VC5797-ICV5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144505A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
112     Tert Amyl Alcohol                    ----------NA----------

            ----------------------- Amount  Calc.    %Drift   -------------
113     1,4-Dioxane                          ----------NA----------

            ----------------------- AvgRF   CCRF      %Dev   --------------
114     3,3-dimethyl-1-butanol               ----------NA----------
 ------------------------------------------------------------------------------
 ------------------------------------------------------------------------------

    (#) = Out of Range              SPCC's out = 4  CCC's out = 6
     C0144499.D RTXVMS102820.M      Wed Oct 28 13:49:45 2020
```

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VC5817-CC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144901.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ed...\vc5817-18\C0144901.D Vial: 3
Acq On : 13 Nov 2020 10:00 am Operator: SHANICAO
Sample : CC5797-5 Inst : MSVOA5
Misc : MS47702,VC5817,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\methods\RTXVMS102820.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Wed Oct 28 11:12:26 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	104	0.00	10.52
2	Dichlorodifluoromethane	0.273	0.237	13.2	85	0.00	2.86
3 P	Chloromethane	0.300	0.323	-7.7	118	0.00	3.22
4	1,3-butadiene	0.221	0.238	-7.7	107	0.01	3.37
5 C	Vinyl Chloride	0.254	0.257	-1.2	98	0.00	3.35
	----------	True	Calc.	% Drift	----------		
6	Bromomethane	40.000	47.834	-19.6	137	0.01	3.91
	----------	AvgRF	CCRF	% Dev	----------		
7	Chloroethane	0.161	0.167	-3.7	104	0.00	4.12
8	Trichlorofluoromethane	0.331	0.350	-5.7	101	0.00	4.34
9	Ethyl Ether	0.208	0.195	6.2	102	0.00	4.91
10	1,2-Dichlorotrifluoroetha	0.235	0.242	-3.0	104	0.00	5.25
11 C	1,1-Dichloroethene	0.318	0.328	-3.1	102	0.00	5.23
12	Freon 113	0.219	0.207	5.5	92	0.00	5.31
13	Carbon Disulfide	0.662	0.648	2.1	99	0.00	5.28
14	Iodomethane	0.228	0.151	33.8#	71	0.00	5.49
15	Acrolein	0.041	0.050	-22.0#	124	0.00	5.82
16	Allyl chloride	0.341	0.319	6.5	96	0.00	6.06
17	Methylene Chloride	0.327	0.298	8.9	101	0.00	6.27
18	Acetone	0.072	0.077	-6.9	100	0.00	6.34
	----------	True	Calc.	% Drift	----------		
19	Methyl acetate	200.000	197.876	1.1	105	0.00	6.56
	----------	AvgRF	CCRF	% Dev	----------		
20	trans-1,2-Dichloroethene	0.295	0.301	-2.0	102	0.00	6.54
21	Hexane	0.198	0.198	0.0	101	0.00	6.68
22	Methyl Tert Butyl Ether	0.682	0.666	2.3	99	0.00	6.73
	----------	True	Calc.	% Drift	----------		
23	Acetonitrile	400.000	406.447	-1.6	103	0.00	7.17
	----------	AvgRF	CCRF	% Dev	----------		
24	Di-isopropyl ether	0.793	0.830	-4.7	105	0.00	7.41
25	Chloroprene	0.312	0.326	-4.5	101	0.00	7.60
26 P	1,1-Dichloroethane	0.377	0.384	-1.9	102	0.00	7.64
	----------	True	Calc.	% Drift	----------		
27	Acrylonitrile	200.000	207.325	-3.7	105	0.00	7.74

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VC5817-CC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144901.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			AvgRF	CCRF	% Dev			
28		ETBE	0.774	0.750	3.1	98	0.00	8.09
			True	Calc.	% Drift			
29		Vinyl acetate	200.000	223.565	-11.8	113	0.00	8.12
			AvgRF	CCRF	% Dev			
30		cis-1,2-Dichloroethene	0.214	0.222	-3.7	108	0.00	8.66
31		2,2-Dichloropropane	0.342	0.271	20.8#	84	0.00	8.85
32		Bromochloromethane	0.102	0.110	-7.8	106	0.00	9.02
33		Cyclohexane	0.389	0.415	-6.7	104	0.00	9.02
34	C	Chloroform	0.371	0.376	-1.3	103	0.00	9.16
35		Ethyl acetate	0.227	0.257	-13.2	108	0.00	9.35
			True	Calc.	% Drift			
36		Tetrahydrofuran	40.000	31.272	21.8#	82	0.00	9.40
			AvgRF	CCRF	% Dev			
37	S	Dibromofluoromethane	0.251	0.251	0.0	104	0.00	9.45
38		Carbon Tetrachloride	0.252	0.273	-8.3	111	0.00	9.37
39		1,1,1-Trichloroethane	0.324	0.326	-0.6	101	0.00	9.47
40		2-Butanone	0.109	0.117	-7.3	106	0.00	9.62
41		1,1-Dichloropropene	0.305	0.322	-5.6	105	0.00	9.66
42		tert-Butyl formate	0.205	0.147	28.3#	73	0.00	9.82
			True	Calc.	% Drift			
43		Propionitrile	400.000	405.331	-1.3	104	0.00	10.03
			AvgRF	CCRF	% Dev			
44		Methacrylonitrile	0.148	0.159	-7.4	107	0.00	10.06
45		Benzene	0.846	0.883	-4.4	106	0.00	10.00
46		TAME	0.695	0.694	0.1	102	0.00	10.15
47	S	1,2-Dichloroethane-d4	0.336	0.335	0.3	104	0.00	10.18
48		1,2-Dichloroethane	0.318	0.329	-3.5	105	0.00	10.27
49		Trichloroethene	0.238	0.236	0.8	101	0.00	10.73
50		Methylcyclohexane	0.369	0.387	-4.9	102	0.00	10.71
51		Dibromomethane	0.136	0.139	-2.2	105	0.00	11.19
52	C	1,2-Dichloropropane	0.237	0.252	-6.3	109	0.00	11.29
53		Bromodichloromethane	0.286	0.298	-4.2	106	0.00	11.36
			True	Calc.	% Drift			
54		Methyl methacrylate	40.000	40.009	-0.0	101	0.00	11.50
			AvgRF	CCRF	% Dev			
55		2-Chloroethyl vinyl ether	0.151	0.113	25.2#	73	0.00	11.90
56		cis-1,3-Dichloropropene	0.391	0.405	-3.6	106	0.00	11.96
57	I	Chlorobenzene-d5	1.000	1.000	0.0	112	0.00	13.42
58	S	Toluene-d8	1.337	1.271	4.9	106	0.00	12.13
59	C	Toluene	1.302	1.227	5.8	106	0.00	12.18
60		2-Nitropropane	0.102	0.097	4.9	105	0.00	12.38
61		4-Methyl-2-pentanone	0.320	0.320	0.0	109	0.00	12.49
62		trans-1,3-Dichloropropene	0.468	0.449	4.1	105	0.00	12.54
63		Tetrachloroethene	0.297	0.292	1.7	106	0.00	12.52
64		Ethyl methacrylate	0.415	0.406	2.2	105	0.00	12.64
65		1,1,2-Trichloroethane	0.234	0.235	-0.4	110	0.00	12.68
66		Dibromochloromethane	0.289	0.296	-2.4	112	0.00	12.83
67		1,3-Dichloropropane	0.499	0.481	3.6	105	0.00	12.90
68		1,2-Dibromoethane	0.278	0.262	5.8	102	0.00	13.03
69		2-hexanone	0.238	0.231	2.9	107	0.00	13.17

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VC5817-CC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144901.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

70		1-Chlorohexane	0.422	0.408	3.3	103	0.00	13.39
71	C	Ethylbenzene	1.381	1.335	3.3	108	0.00	13.44
72	P	Chlorobenzene	0.766	0.769	-0.4	111	0.00	13.44
73		1,1,1,2-Tetrachloroethane	0.270	0.276	-2.2	111	0.00	13.48
74		m,p-Xylene	1.025	0.991	3.3	106	0.00	13.54
75		o-Xylene	1.108	1.070	3.4	106	0.00	13.86
76		Styrene	0.877	0.887	-1.1	108	0.00	13.90
		----------	True	Calc.	% Drift	----------		
77	P	Bromoform	40.000	39.359	1.6	110	0.00	13.95
		----------	AvgRF	CCRF	% Dev	----------		
78		Isopropylbenzene	1.283	1.283	0.0	108	0.00	14.08
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	0.00	15.08
80	S	4-Bromofluorobenzene	0.837	0.806	3.7	111	0.00	14.31
81		cis-1,4-Dichloro-2-butene	0.244	0.219	10.2	101	0.00	14.34
82		n-Propylbenzene	2.993	2.841	5.1	107	0.00	14.37
83		Bromobenzene	0.635	0.610	3.9	107	0.00	14.40
84	P	1,1,2,2-Tetrachloroethane	0.724	0.673	7.0	106	0.00	14.43
85		1,3,5-Trimethylbenzene	1.983	1.923	3.0	109	0.00	14.49
86		2-Chlorotoluene	2.048	1.937	5.4	107	0.00	14.51
87		trans-1,4-Dichloro-2-Bute	0.229	0.192	16.2	100	0.00	14.55
88		1,2,3-Trichloropropane	0.210	0.203	3.3	108	0.00	14.54
		----------	True	Calc.	% Drift	----------		
89		Cyclohexanone	200.000	176.249	11.9	104	0.00	14.59
		----------	AvgRF	CCRF	% Dev	----------		
90		4-Chlorotoluene	1.856	1.760	5.2	106	0.00	14.62
91		tert-Butylbenzene	1.181	1.128	4.5	105	0.00	14.73
92		a-Methyl styrene		----------NA----------				
93		1,2,4-Trimethylbenzene	1.938	1.929	0.5	112	0.00	14.77
94		Pentachloroethane	0.348	0.359	-3.2	113	0.00	14.77
95		sec-Butylbenzene	2.378	2.322	2.4	110	0.00	14.85
96		4-Isopropyltoluene	1.986	1.956	1.5	111	0.00	14.93
97		1,3-Dichlorobenzene	1.128	1.078	4.4	108	0.00	15.04
98		1,2,3-Trimethylbenzene	2.165	2.264	-4.6	117	0.00	15.08
99		1,4-Dichlorobenzene	1.144	1.106	3.3	110	0.00	15.10
100		n-Butylbenzene	1.034	1.069	-3.4	112	0.00	15.22
101		Benzyl Chloride	0.260	0.266	-2.3	111	0.00	15.25
102		1,2-Dichlorobenzene	1.057	1.043	1.3	109	0.00	15.39
103		1,2-Dibromo-3-Chloropropa	0.147	0.118	19.7	95	0.00	15.92
104		Hexachlorobutadiene	0.303	0.258	14.9	92	0.00	16.32
105		1,2,4-Trichlorobenzene	0.554	0.532	4.0	104	0.00	16.37
		----------	True	Calc.	% Drift	----------		
106		Naphthalene	40.000	36.869	7.8	104	0.00	16.62
		----------	AvgRF	CCRF	% Dev	----------		
107		1,2,3-Trichlorobenzene	0.462	0.412	10.8	93	0.00	16.76
108	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	75	0.00	6.79
109		Ethanol	0.112	0.157	-40.2#	110	0.01	5.25
		----------	True	Calc.	% Drift	----------		
110		Tert Butyl Alcohol	400.000	362.749	9.3	68	0.00	6.92
		----------	AvgRF	CCRF	% Dev	----------		
111		Isobutyl alcohol	0.423	0.566	-33.8#	96	0.00	10.30

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VC5817-CC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144901.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

112	Tert Amyl Alcohol	0.869	1.011	-16.3	89	0.00	10.41
	----------	True	Calc.	% Drift	----------		
113	1,4-Dioxane	800.000	996.929	-24.6#	92	0.00	11.55
	----------	AvgRF	CCRF	% Dev	----------		
114	3,3-dimethyl-1-butanol	0.826	1.171	-41.8#	104	0.00	13.14

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0144500.D RTXVMS102820.M Sun Nov 15 19:57:52 2020

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VC5817-ECC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144929.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ed...\vc5817-18\C0144929.D Vial: 31
Acq On : 13 Nov 2020 10:02 pm Operator: SHANICAO
Sample : ECC5797-5 Inst : MSVOA5
Misc : MS47712,VC5817,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\methods\RTXVMS102820.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Wed Oct 28 11:12:26 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	107	0.00	10.53
2	Dichlorodifluoromethane	0.273	0.237	13.2	87	0.00	2.86
3 P	Chloromethane	0.300	0.329	-9.7	123	-0.02	3.21
4	1,3-butadiene	0.221	0.243	-10.0	113	0.00	3.37
5 C	Vinyl Chloride	0.254	0.267	-5.1	105	0.00	3.34
		True	Calc.	% Drift			
6	Bromomethane	40.000	51.654	-29.1	156	0.02	3.91
		AvgRF	CCRF	% Dev			
7	Chloroethane	0.161	0.172	-6.8	111	0.00	4.12
8	Trichlorofluoromethane	0.331	0.348	-5.1	104	0.00	4.35
9	Ethyl Ether	0.208	0.200	3.8	108	0.00	4.91
10	1,2-Dichlorotrifluoroetha	0.235	0.242	-3.0	107	0.00	5.25
11 C	1,1-Dichloroethene	0.318	0.328	-3.1	105	0.00	5.23
12	Freon 113	0.219	0.203	7.3	93	0.00	5.31
13	Carbon Disulfide	0.662	0.642	3.0	101	0.00	5.28
14	Iodomethane	0.228	0.188	17.5	91	0.01	5.50
15	Acrolein	0.041	0.048	-17.1	122	0.00	5.82
16	Allyl chloride	0.341	0.319	6.5	99	0.00	6.06
17	Methylene Chloride	0.327	0.295	9.8	103	0.00	6.26
18	Acetone	0.072	0.078	-8.3	105	0.01	6.34
		True	Calc.	% Drift			
19	Methyl acetate	200.000	204.242	-2.1	111	0.00	6.56
		AvgRF	CCRF	% Dev			
20	trans-1,2-Dichloroethene	0.295	0.303	-2.7	105	0.00	6.54
21	Hexane	0.198	0.184	7.1	96	0.00	6.68
22	Methyl Tert Butyl Ether	0.682	0.682	0.0	105	0.00	6.73
		True	Calc.	% Drift			
23	Acetonitrile	400.000	421.604	-5.4	110	0.00	7.17
		AvgRF	CCRF	% Dev			
24	Di-isopropyl ether	0.793	0.831	-4.8	109	0.00	7.42
25	Chloroprene	0.312	0.325	-4.2	104	0.00	7.60
26 P	1,1-Dichloroethane	0.377	0.385	-2.1	106	0.00	7.64
		True	Calc.	% Drift			
27	Acrylonitrile	200.000	218.216	-9.1	115	0.00	7.74

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VC5817-ECC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144929.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			AvgRF	CCRF	% Dev			
28		ETBE	0.774	0.756	2.3	102	0.00	8.09
			True	Calc.	% Drift			
29		Vinyl acetate	200.000	221.689	-10.8	115	0.00	8.12
			AvgRF	CCRF	% Dev			
30		cis-1,2-Dichloroethene	0.214	0.221	-3.3	111	0.00	8.66
31		2,2-Dichloropropane	0.342	0.255	25.4	82	0.00	8.85
32		Bromochloromethane	0.102	0.109	-6.9	108	0.00	9.02
33		Cyclohexane	0.389	0.416	-6.9	108	0.00	9.02
34	C	Chloroform	0.371	0.376	-1.3	106	0.00	9.16
35		Ethyl acetate	0.227	0.266	-17.2	115	0.00	9.35
			True	Calc.	% Drift			
36		Tetrahydrofuran	40.000	36.103	9.7	97	0.01	9.41
			AvgRF	CCRF	% Dev			
37	S	Dibromofluoromethane	0.251	0.256	-2.0	110	0.00	9.46
38		Carbon Tetrachloride	0.252	0.270	-7.1	113	0.00	9.37
39		1,1,1-Trichloroethane	0.324	0.327	-0.9	105	0.00	9.48
40		2-Butanone	0.109	0.118	-8.3	110	0.00	9.63
41		1,1-Dichloropropene	0.305	0.313	-2.6	105	0.00	9.66
42		tert-Butyl formate	0.205	0.155	24.4	79	0.00	9.82
			True	Calc.	% Drift			
43		Propionitrile	400.000	416.976	-4.2	111	0.00	10.03
			AvgRF	CCRF	% Dev			
44		Methacrylonitrile	0.148	0.161	-8.8	111	0.00	10.06
45		Benzene	0.846	0.875	-3.4	108	0.00	10.00
46		TAME	0.695	0.704	-1.3	106	0.00	10.15
47	S	1,2-Dichloroethane-d4	0.336	0.331	1.5	105	0.00	10.18
48		1,2-Dichloroethane	0.318	0.324	-1.9	107	0.00	10.27
49		Trichloroethene	0.238	0.234	1.7	103	0.00	10.73
50		Methylcyclohexane	0.369	0.371	-0.5	101	0.00	10.71
51		Dibromomethane	0.136	0.139	-2.2	108	0.00	11.19
52	C	1,2-Dichloropropane	0.237	0.242	-2.1	108	0.00	11.29
53		Bromodichloromethane	0.286	0.298	-4.2	109	0.00	11.36
			True	Calc.	% Drift			
54		Methyl methacrylate	40.000	40.260	-0.6	105	0.00	11.50
			AvgRF	CCRF	% Dev			
55		2-Chloroethyl vinyl ether	0.151	0.119	21.2	80	0.00	11.90
56		cis-1,3-Dichloropropene	0.391	0.394	-0.8	107	0.00	11.96
57	I	Chlorobenzene-d5	1.000	1.000	0.0	114	0.00	13.42
58	S	Toluene-d8	1.337	1.283	4.0	109	0.00	12.13
59	C	Toluene	1.302	1.218	6.5	107	0.00	12.18
60		2-Nitropropane	0.102	0.099	2.9	109	0.00	12.38
61		4-Methyl-2-pentanone	0.320	0.330	-3.1	114	0.00	12.49
62		trans-1,3-Dichloropropene	0.468	0.431	7.9	103	0.00	12.54
63		Tetrachloroethene	0.297	0.317	-6.7	117	0.00	12.52
64		Ethyl methacrylate	0.415	0.409	1.4	108	0.00	12.64
65		1,1,2-Trichloroethane	0.234	0.235	-0.4	112	0.00	12.68
66		Dibromochloromethane	0.289	0.294	-1.7	113	0.00	12.83
67		1,3-Dichloropropane	0.499	0.485	2.8	108	0.00	12.90
68		1,2-Dibromoethane	0.278	0.261	6.1	104	0.00	13.03
69		2-hexanone	0.238	0.239	-0.4	114	0.00	13.17

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VC5817-ECC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144929.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

70		1-Chlorohexane	0.422	0.403	4.5	104	0.00	13.39
71	C	Ethylbenzene	1.381	1.322	4.3	109	0.00	13.44
72	P	Chlorobenzene	0.766	0.756	1.3	111	0.00	13.44
73		1,1,1,2-Tetrachloroethane	0.270	0.272	-0.7	111	0.00	13.48
74		m,p-Xylene	1.025	0.976	4.8	107	0.00	13.54
75		o-Xylene	1.108	1.060	4.3	107	0.00	13.86
76		Styrene	0.877	0.855	2.5	106	0.00	13.90
			True	Calc.	% Drift			
77	P	Bromoform	40.000	39.440	1.4	112	0.00	13.95
			AvgRF	CCRF	% Dev			
78		Isopropylbenzene	1.283	1.268	1.2	109	0.00	14.08
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	116	0.00	15.08
80	S	4-Bromofluorobenzene	0.837	0.813	2.9	114	0.00	14.31
81		cis-1,4-Dichloro-2-butene	0.244	0.208	14.8	98	0.00	14.34
82		n-Propylbenzene	2.993	2.796	6.6	107	0.00	14.37
83		Bromobenzene	0.635	0.603	5.0	108	0.00	14.40
84	P	1,1,2,2-Tetrachloroethane	0.724	0.686	5.2	110	0.00	14.43
85		1,3,5-Trimethylbenzene	1.983	1.878	5.3	108	0.00	14.49
86		2-Chlorotoluene	2.048	1.907	6.9	107	0.00	14.51
87		trans-1,4-Dichloro-2-Bute	0.229	0.182	20.5	97	0.00	14.55
88		1,2,3-Trichloropropane	0.210	0.198	5.7	108	0.00	14.54
			True	Calc.	% Drift			
89		Cyclohexanone	200.000	177.765	11.1	106	0.00	14.59
			AvgRF	CCRF	% Dev			
90		4-Chlorotoluene	1.856	1.745	6.0	107	0.00	14.62
91		tert-Butylbenzene	1.181	1.113	5.8	106	0.00	14.73
92		a-Methyl styrene		----------NA----------				
93		1,2,4-Trimethylbenzene	1.938	1.888	2.6	112	0.00	14.77
94		Pentachloroethane	0.348	0.320	8.0	103	0.00	14.77
95		sec-Butylbenzene	2.378	2.288	3.8	110	0.00	14.85
96		4-Isopropyltoluene	1.986	1.903	4.2	110	0.00	14.93
97		1,3-Dichlorobenzene	1.128	1.076	4.6	110	0.00	15.04
98		1,2,3-Trimethylbenzene	2.165	2.215	-2.3	116	0.00	15.08
99		1,4-Dichlorobenzene	1.144	1.077	5.9	109	0.00	15.10
100		n-Butylbenzene	1.034	1.004	2.9	107	0.00	15.22
101		Benzyl Chloride	0.260	0.219	15.8	93	0.00	15.25
102		1,2-Dichlorobenzene	1.057	1.026	2.9	109	0.00	15.39
103		1,2-Dibromo-3-Chloropropa	0.147	0.122	17.0	99	0.00	15.92
104		Hexachlorobutadiene	0.303	0.253	16.5	92	0.00	16.32
105		1,2,4-Trichlorobenzene	0.554	0.534	3.6	106	0.00	16.37
			True	Calc.	% Drift			
106		Naphthalene	40.000	38.169	4.6	110	0.00	16.62
			AvgRF	CCRF	% Dev			
107		1,2,3-Trichlorobenzene	0.462	0.424	8.2	98	0.00	16.76
108	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	87	0.00	6.79
109		Ethanol	0.112	0.158	-41.1	129	0.00	5.25
			True	Calc.	% Drift			
110		Tert Butyl Alcohol	400.000	354.965	11.3	77	0.00	6.92
			AvgRF	CCRF	% Dev			
111		Isobutyl alcohol	0.423	0.523	-23.6	103	0.00	10.30

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VC5817-ECC5797
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0144929.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

112	Tert Amyl Alcohol	0.869	0.937	-7.8	95	0.00	10.41
	----------	True	Calc.	% Drift	----------		
113	1,4-Dioxane	800.000	890.596	-11.3	96	0.00	11.55
	----------	AvgRF	CCRF	% Dev	----------		
114	3,3-dimethyl-1-butanol	0.826	1.016	-23.0	104	0.00	13.14

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0144500.D RTXVMS102820.M Sun Nov 15 19:58:14 2020

Initial Calibration Summary

Job Number: FA80565 **Sample:** VY2245-ICC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54100.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Response Factor Report MSVOA14-Y

Method : C:\msdchem\1\MET...\RESTEK111720w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration

Calibration Files
1 =Y54104.D 2 =Y54097.D 3 =Y54098.D 4 =Y54099.D
5 =Y54100.D 6 =Y54101.D 7 =Y54102.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.177	0.194	0.194	0.205	0.201	0.208	0.204	0.198	5.41
3) Acrolein	0.027	0.022	0.026	0.024	0.024	0.028	0.025	0.025	7.70
4)P Chloromethane	0.268	0.219	0.218	0.242	0.229	0.233	0.237	0.235	7.20
5) 1,3-butadiene	0.209	0.175	0.174	0.170	0.173	0.175	0.169	0.178	7.84
6)C Vinyl Chloride	0.196	0.189	0.193	0.211	0.209	0.212	0.210	0.203	4.78
7) Bromomethane	0.123	0.071	0.079	0.099	0.094	0.100	0.102	0.095	17.81
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9975									
Response Ratio = 0.00000 + 0.08821 *A + 0.00733 *A^2									
8) Chloroethane	0.117	0.099	0.095	0.089	0.072	0.068	0.067	0.087	21.58
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9947									
Response Ratio = 0.00000 + 0.08930 *A + -0.01238 *A^2									
9) Trichlorofluorome	0.293	0.311	0.309	0.325	0.328	0.325	0.331	0.317	4.36
10) Ethyl Ether	0.139	0.126	0.145	0.133	0.136	0.150	0.145	0.139	6.07
11) 1,2-Dichlorotrifl	0.209	0.206	0.210	0.206	0.202	0.203	0.203	0.206	1.59
12)C 1,1-Dichloroethen	0.287	0.250	0.265	0.267	0.267	0.276	0.277	0.270	4.42
13) Freon 113	0.231	0.229	0.239	0.237	0.228	0.234	0.230	0.233	1.84
14) Carbon Disulfide	0.629	0.469	0.494	0.517	0.515	0.541	0.547	0.530	9.65
15) Iodomethane	0.269	0.133	0.149	0.191	0.206	0.238	0.267	0.208	26.04
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9985									
Response Ratio = 0.00000 + 0.15822 *A + 0.05530 *A^2									
16) Allyl chloride	0.278	0.267	0.272	0.292	0.288	0.299	0.303	0.286	4.79
17) Methylene Chlorid	0.511	0.273	0.271	0.257	0.248	0.248	0.245	0.293	32.97
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9989									
Response Ratio = 0.00000 + 0.26737 *A + -0.01259 *A^2									
18) Acetone	0.034	0.028	0.032	0.030	0.031	0.036	0.032	0.032	7.72
19) Methyl acetate	0.076	0.076	0.092	0.084	0.083	0.098	0.090	0.086	9.57
20) trans-1,2-Dichlor	0.256	0.242	0.255	0.259	0.250	0.261	0.263	0.255	2.77
21) Hexane	0.173	0.159	0.171	0.173	0.164	0.170	0.163	0.167	3.34
22) Methyl Tert Butyl	0.313	0.313	0.368	0.371	0.367	0.423	0.410	0.366	11.56
23) Acetonitrile	0.016	0.015	0.016	0.015	0.014	0.017	0.015	0.015	5.06
24) Di-isopropyl ethe	0.552	0.540	0.604	0.626	0.636	0.676	0.677	0.616	8.86
25) Chloroprene	0.256	0.267	0.272	0.292	0.293	0.301	0.307	0.284	6.76
26)P 1,1-Dichloroethan	0.304	0.303	0.313	0.320	0.312	0.319	0.317	0.312	2.17
27) Acrylonitrile	0.052	0.037	0.043	0.042	0.042	0.048	0.044	0.044	10.58
28) ETBE	0.379	0.376	0.436	0.466	0.464	0.515	0.514	0.450	12.62
29) Vinyl acetate	0.253	0.216	0.260	0.291	0.285	0.331	0.313	0.279	13.94
30) cis-1,2-Dichloroe	0.218	0.215	0.226	0.230	0.227	0.235	0.237	0.227	3.61
31) 2,2-Dichloropropa	0.196	0.199	0.219	0.246	0.238	0.258	0.266	0.232	11.96
32) Bromochloromethan	0.135	0.118	0.126	0.125	0.123	0.129	0.128	0.126	4.15
33) Cyclohexane	0.356	0.355	0.390	0.387	0.381	0.392	0.391	0.379	4.33
34)C Chloroform	0.325	0.320	0.338	0.337	0.332	0.340	0.343	0.334	2.49

Initial Calibration Summary

Job Number: FA80565 **Sample:** VY2245-ICC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54100.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
35)  Ethyl acetate     0.120 0.092 0.110 0.108 0.109 0.131 0.119 0.113  10.92
36)  Tetrahydrofuran         0.028 0.032 0.033 0.034 0.037 0.034 0.033   8.79
37)S Dibromofluorometh 0.254 0.259 0.260 0.266 0.262 0.261 0.259 0.260   1.40
38)  Carbon Tetrachlor 0.247 0.259 0.286 0.304 0.302 0.320 0.324 0.292  10.02
39)  1,1,1-Trichloroet 0.359 0.306 0.335 0.337 0.331 0.345 0.350 0.338   4.99
40)  2-Butanone        0.030 0.035 0.044 0.043 0.045 0.054 0.049 0.043  18.87
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9948
              Response Ratio = 0.00000 + 0.04258 *A + 0.00085 *A^2

41)  1,1-Dichloroprope 0.249 0.245 0.272 0.271 0.272 0.282 0.285 0.268   5.72
42)  tert-Butyl format 0.020 0.015 0.020 0.041 0.032 0.050 0.053 0.033  45.86
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9924
              Response Ratio = 0.00000 + 0.02934 *A + 0.00241 *A^2

43)  Propionitrile     0.013 0.016 0.017 0.015 0.015 0.017 0.016 0.015   8.98
44)  Methacrylonitrile 0.073 0.078 0.084 0.078 0.075 0.083 0.076 0.078   5.28
45)  Benzene           0.799 0.778 0.824 0.813 0.807 0.830 0.840 0.813   2.54
46)  TAME              0.298 0.299 0.345 0.352 0.349 0.407 0.405 0.351  12.54
47)S 1,2-Dichloroethan 0.220 0.224 0.222 0.219 0.216 0.219 0.212 0.219   1.86
48)  1,2-Dichloroethan 0.231 0.212 0.231 0.222 0.219 0.235 0.227 0.225   3.59
49)  Trichloroethene   0.278 0.246 0.246 0.238 0.233 0.239 0.237 0.245   6.20
50)  Methylcyclohexane 0.376 0.348 0.371 0.373 0.369 0.388 0.386 0.373   3.52
51)  Dibromomethane    0.105 0.091 0.099 0.097 0.095 0.104 0.101 0.099   5.20
52)C 1,2-Dichloropropa 0.177 0.174 0.185 0.186 0.184 0.195 0.195 0.185   4.38
53)  Bromodichlorometh 0.190 0.191 0.211 0.221 0.223 0.242 0.246 0.218  10.19
54)  Methyl methacryla 0.065 0.088 0.088 0.099 0.105 0.127 0.120 0.099  21.09
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9960
              Response Ratio = 0.00000 + 0.09440 *A + 0.01510 *A^2

55)  2-Chloroethyl vin 0.041 0.038 0.050 0.055 0.057 0.071 0.067 0.054  22.76
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9952
              Response Ratio = 0.00000 + 0.05020 *A + 0.00199 *A^2

56)  cis-1,3-Dichlorop 0.223 0.217 0.252 0.282 0.276 0.301 0.301 0.265  13.04

57) I   Chlorobenzene-d5      ----------------ISTD---------------------
58)S Toluene-d8        1.115 1.122 1.133 1.144 1.156 1.170 1.182 1.146   2.16
59)C Toluene           1.183 1.065 1.103 1.089 1.097 1.148 1.180 1.124   4.15
60)  2-Nitropropane    0.022 0.023 0.028 0.030 0.031 0.039 0.037 0.030  21.80
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9955
              Response Ratio = 0.00000 + 0.02790 *A + 0.00109 *A^2

61)  4-Methyl-2-pentan 0.095 0.097 0.124 0.115 0.119 0.141 0.129 0.117  14.23
62)  trans-1,3-Dichlor 0.185 0.175 0.207 0.231 0.228 0.264 0.263 0.222  15.70
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9984
              Response Ratio = 0.00000 + 0.20947 *A + 0.02962 *A^2

63)  Tetrachloroethene 0.327 0.319 0.338 0.326 0.324 0.334 0.338 0.330   2.26
64)  Ethyl methacrylat 0.111 0.131 0.156 0.161 0.170 0.202 0.198 0.161  20.36
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9977
              Response Ratio = 0.00000 + 0.15151 *A + 0.02614 *A^2

65)  1,1,2-Trichloroet 0.127 0.128 0.139 0.132 0.127 0.140 0.136 0.133   4.34
66)  Dibromochlorometh 0.170 0.183 0.214 0.223 0.229 0.262 0.261 0.220  16.07
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
              Response Ratio = 0.00000 + 0.20897 *A + 0.02894 *A^2

67)  1,3-Dichloropropa 0.267 0.271 0.289 0.279 0.277 0.306 0.300 0.284   5.19
68)  1,2-Dibromoethane 0.167 0.161 0.181 0.179 0.176 0.203 0.196 0.180   8.24
69)  2-hexanone        0.069 0.072 0.090 0.079 0.084 0.101 0.093 0.084  13.84
```

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 70)  1-Chlorohexane    0.335 0.322 0.354 0.356 0.367 0.393 0.400 0.361   7.97
 71)C Ethylbenzene      1.270 1.169 1.224 1.202 1.183 1.242 1.261 1.222   3.17
 72)P Chlorobenzene     0.826 0.759 0.790 0.777 0.775 0.802 0.806 0.791   2.89
 73)  1,1,1,2-Tetrachlo 0.237 0.242 0.260 0.272 0.278 0.297 0.304 0.270   9.52
 74)  m,p-Xylene        0.923 0.890 0.944 0.952 0.953 1.001 1.018 0.954   4.56
 75)  o-Xylene          0.861 0.849 0.931 0.966 0.964 1.030 1.051 0.950   8.11
 76)  Styrene           0.584 0.648 0.725 0.772 0.784 0.849 0.869 0.747  13.83
 77)P Bromoform         0.075 0.083 0.102 0.107 0.111 0.134 0.132 0.106  21.24
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9975
              Response Ratio = 0.00000 + 0.09832 *A + 0.01908 *A^2

 78)  Isopropylbenzene  1.181 1.204 1.310 1.339 1.350 1.433 1.465 1.326   8.02

 79) I   1,4-Dichlorobenzene-d ----------------ISTD--------------------
 80)S 4-Bromofluorobenz 0.749 0.752 0.747 0.745 0.746 0.758 0.777 0.754   1.52
 81)  cis-1,4-Dichloro-       0.051 0.063 0.072 0.072 0.097 0.098 0.075  24.74
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9952
              Response Ratio = 0.00000 + 0.06103 *A + 0.01994 *A^2

 82)  n-Propylbenzene   2.773 2.529 2.619 2.620 2.663 2.804 2.925 2.705   5.01
 83)  Bromobenzene      0.672 0.615 0.622 0.605 0.595 0.625 0.637 0.624   4.03
 84)P 1,1,2,2-Tetrachlo 0.345 0.332 0.351 0.323 0.316 0.363 0.345 0.339   4.89
 85)  1,3,5-Trimethylbe 1.839 1.787 1.890 1.903 1.941 2.048 2.122 1.933   6.05
 86)  2-Chlorotoluene   1.828 1.667 1.701 1.653 1.670 1.719 1.775 1.716   3.73
 87)  trans-1,4-Dichlor 0.050 0.048 0.054 0.068 0.071 0.091 0.089 0.067  26.77
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9953
              Response Ratio = 0.00000 + 0.05869 *A + 0.01721 *A^2

 88)  1,2,3-Trichloropr 0.126 0.121 0.136 0.120 0.118 0.137 0.129 0.127   5.94
 89)  Cyclohexanone           0.006 0.007 0.006 0.007 0.009 0.008 0.007  17.53
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9921
              Response Ratio = 0.00000 + 0.00606 *A + 0.00026 *A^2

 90)  4-Chlorotoluene   1.629 1.472 1.524 1.535 1.551 1.641 1.712 1.581   5.25
 91)  tert-Butylbenzene 0.955 0.937 0.995 0.986 0.996 1.052 1.085 1.001   5.19
 92)  1,2,4-Trimethylbe 1.806 1.820 1.936 1.944 1.953 2.058 2.118 1.948   5.84
 93)  Pentachloroethane 0.264 0.301 0.302 0.318 0.321 0.344 0.354 0.315   9.50
 94)  sec-Butylbenzene  2.360 2.215 2.328 2.340 2.370 2.556 2.662 2.405   6.32
 95)  4-Isopropyltoluen 2.099 1.979 2.162 2.202 2.254 2.433 2.527 2.236   8.47
 96)  1,3-Dichlorobenze 1.308 1.133 1.171 1.160 1.171 1.241 1.288 1.210   5.66
 97)  1,2,3-Trimethylbe 2.703 2.523 2.641 2.642 2.636 2.786 2.869 2.686   4.21
 98)  1,4-Dichlorobenze 1.424 1.145 1.161 1.140 1.147 1.213 1.241 1.210   8.43
 99)  n-Butylbenzene    0.871 0.732 0.820 0.860 0.887 0.971 0.953 0.870   9.28
100)  Benzyl Chloride   0.077 0.072 0.103 0.131 0.138 0.195 0.201 0.131  39.77
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9952
              Response Ratio = 0.00000 + 0.10134 *A + 0.05400 *A^2

101)  1,2-Dichlorobenze 1.180 1.032 1.076 1.065 1.057 1.138 1.168 1.102   5.32
102)  1,2-Dibromo-3-Chl 0.044 0.036 0.043 0.044 0.045 0.056 0.055 0.046  15.19
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9964
              Response Ratio = 0.00000 + 0.04129 *A + 0.00751 *A^2

103)  Hexachlorobutadie 0.590 0.186 0.198 0.204 0.208 0.220 0.229 0.262  55.42
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9948
              Response Ratio = 0.00000 + 0.20302 *A + 0.01234 *A^2

104)  1,2,4-Trichlorobe 0.521 0.415 0.498 0.553 0.565 0.630 0.634 0.545  14.05
105)  Naphthalene       0.695 0.646 1.006 1.158 1.229 1.541 1.492 1.109  31.79
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9947
              Response Ratio = 0.00000 + 1.02147 *A + 0.26877 *A^2
```

Initial Calibration Summary

Job Number: FA80565 **Sample:** VY2245-ICC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54100.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
106)  1,2,3-Trichlorobe 0.516 0.355 0.433 0.460 0.466 0.528 0.525 0.469  13.28

107) I   Tert Butyl Alcohol-d1 ----------------ISTD--------------------
108)  Ethanol                  0.229 0.161 0.164 0.165 0.161 0.153 0.172  16.42
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9966
               Response Ratio = 0.00000 + 0.17640 *A + -0.00294 *A^2

109)  Tert Butyl Alcoho 1.555 1.643 1.519 1.604 1.470 1.463 1.417 1.525   5.33
110)  Isobutyl alcohol         0.249 0.238 0.252 0.258 0.282 0.280 0.260   6.79
111)  Tert Amyl Alcohol 0.452 0.487 0.528 0.570 0.598 0.671 0.691 0.571  15.69
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 0.52784 *A + 0.04339 *A^2

112)  1,4-Dioxane              0.120 0.132 0.137 0.144 0.149 0.149 0.138   8.31
113)  3,3-dimethyl-1-bu 1.296 0.884 0.945 1.025 1.061 1.160 1.163 1.076  13.13
 ------------------------------------------------------------------------------
 (#) = Out of Range

          RESTEK111720w.M        Tue Nov 17 13:24:37 2020
```

Initial Calibration Verification

Job Number: FA80565 **Sample:** VY2245-ICV2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54105.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\111720\Y54105.D Vial: 11
Acq On : 17 Nov 2020 12:32 pm Operator: chelseav
Sample : ICV2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK111720w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Nov 17 13:22:04 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	107	0.00	11.52
2	Dichlorodifluoromethane	0.198	0.150	24.2#	80	0.00	3.03
3	Acrolein		----------NA----------				
4 P	Chloromethane	0.235	0.213	9.4	100	0.00	3.38
5	1,3-butadiene	0.178	0.226	-27.0#	140	0.00	3.58
6 C	Vinyl Chloride	0.203	0.197	3.0	101	0.00	3.55
	----------	Amount	Calc.	%Drift			
7	Bromomethane	40.000	37.187	7.0	100	0.00	4.15
8	Chloroethane		----------NA----------				
	----------	AvgRF	CCRF	%Dev			
9	Trichlorofluoromethane	0.317	0.311	1.9	101	0.00	4.66
10	Ethyl Ether	0.139	0.135	2.9	106	0.00	5.29
11	1,2-Dichlorotrifluoroetha	0.206	0.208	-1.0	111	0.00	5.67
12 C	1,1-Dichloroethene	0.270	0.281	-4.1	112	0.00	5.63
13	Freon 113		----------NA----------				
14	Carbon Disulfide	0.530	0.479	9.6	100	0.00	5.66
	----------	Amount	Calc.	%Drift			
15	Iodomethane	40.000	40.595	-1.5	107	0.00	5.90
	----------	AvgRF	CCRF	%Dev			
16	Allyl chloride	0.286	0.304	-6.3	113	0.00	6.56
	----------	Amount	Calc.	%Drift			
17	Methylene Chloride	40.000	40.125	-0.3	111	0.00	6.77
	----------	AvgRF	CCRF	%Dev			
18	Acetone	0.032	0.034	-6.3	119	0.00	6.89
19	Methyl acetate	0.086	0.090	-4.7	116	0.00	7.14
20	trans-1,2-Dichloroethene	0.255	0.266	-4.3	114	0.00	7.09
21	Hexane	0.167	0.144	13.8	94	0.00	7.25
22	Methyl Tert Butyl Ether	0.366	0.365	0.3	107	0.00	7.32
23	Acetonitrile	0.015	0.015	0.0	112	0.00	7.79
24	Di-isopropyl ether	0.616	0.618	-0.3	104	0.00	8.09
25	Chloroprene	0.284	0.319	-12.3	117	0.00	8.26
26 P	1,1-Dichloroethane	0.312	0.333	-6.7	114	0.00	8.31
27	Acrylonitrile	0.044	0.046	-4.5	118	0.00	8.42
28	ETBE	0.450	0.434	3.6	100	0.00	8.83
29	Vinyl acetate	0.279	0.281	-0.7	106	0.00	8.86
30	cis-1,2-Dichloroethene	0.227	0.235	-3.5	111	0.00	9.42

Initial Calibration Verification

Job Number: FA80565 **Sample:** VY2245-ICV2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54105.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

31		2,2-Dichloropropane	0.232	0.252	-8.6	114	0.00	9.64
32		Bromochloromethane	0.126	0.116	7.9	101	0.00	9.83
33		Cyclohexane	0.379	0.354	6.6	100	0.00	9.82
34	C	Chloroform	0.334	0.339	-1.5	109	0.00	10.01
35		Ethyl acetate	0.113	0.115	-1.8	113	0.00	10.25
36		Tetrahydrofuran	0.033	0.035	-6.1	112	0.00	10.25
37	S	Dibromofluoromethane	0.260	0.261	-0.4	107	0.00	10.33
38		Carbon Tetrachloride	0.292	0.307	-5.1	109	0.00	10.23
39		1,1,1-Trichloroethane	0.338	0.336	0.6	109	0.00	10.35
			Amount	Calc.	%Drift			
40		2-Butanone	200.000	213.343	-6.7	118	0.00	10.55
			AvgRF	CCRF	%Dev			
41		1,1-Dichloropropene	0.268	0.269	-0.4	106	0.00	10.56
			Amount	Calc.	%Drift			
42		tert-Butyl formate	200.000	175.777	12.1	111	0.00	10.75
			AvgRF	CCRF	%Dev			
43		Propionitrile	0.015	0.016	-6.7	114	0.00	10.99
44		Methacrylonitrile	0.078	0.077	1.3	111	0.00	11.02
45		Benzene	0.813	0.807	0.7	107	0.00	10.94
46		TAME	0.351	0.348	0.9	107	0.00	11.13
47	S	1,2-Dichloroethane-d4	0.219	0.215	1.8	107	0.00	11.14
48		1,2-Dichloroethane	0.225	0.216	4.0	105	0.00	11.24
49		Trichloroethene	0.245	0.225	8.2	104	0.00	11.74
50		Methylcyclohexane	0.373	0.361	3.2	105	0.00	11.71
51		Dibromomethane	0.099	0.099	0.0	112	0.00	12.23
52	C	1,2-Dichloropropane	0.185	0.185	0.0	108	0.00	12.34
53		Bromodichloromethane	0.218	0.235	-7.8	113	0.00	12.42
			Amount	Calc.	%Drift			
54		Methyl methacrylate	40.000	41.889	-4.7	114	0.00	12.59
55		2-Chloroethyl vinyl ether	200.000	174.758	12.6	94	0.00	13.00
			AvgRF	CCRF	%Dev			
56		cis-1,3-Dichloropropene	0.265	0.268	-1.1	104	0.00	13.07
57	I	Chlorobenzene-d5	1.000	1.000	0.0	105	0.00	14.58
58	S	Toluene-d8	1.146	1.164	-1.6	106	0.00	13.24
59	C	Toluene	1.124	1.070	4.8	103	0.00	13.29
			Amount	Calc.	%Drift			
60		2-Nitropropane	200.000	199.398	0.3	110	0.00	13.51
			AvgRF	CCRF	%Dev			
61		4-Methyl-2-pentanone	0.117	0.130	-11.1	115	0.00	13.63
			Amount	Calc.	%Drift			
62		trans-1,3-Dichloropropene	40.000	41.620	-4.0	112	0.00	13.67
			AvgRF	CCRF	%Dev			
63		Tetrachloroethene	0.330	0.330	0.0	107	0.00	13.65
			Amount	Calc.	%Drift			
64		Ethyl methacrylate	40.000	43.167	-7.9	117	0.00	13.79
			AvgRF	CCRF	%Dev			
65		1,1,2-Trichloroethane	0.133	0.133	0.0	110	0.00	13.82

Initial Calibration Verification

Job Number: FA80565 **Sample:** VY2245-ICV2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54105.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
66		Dibromochloromethane	40.000	41.412	-3.5	111	0.00	13.97
			AvgRF	CCRF	%Dev			
67		1,3-Dichloropropane	0.284	0.273	3.9	104	0.00	14.05
68		1,2-Dibromoethane	0.180	0.181	-0.6	108	0.00	14.18
69		2-hexanone	0.084	0.091	-8.3	115	0.00	14.33
70		1-Chlorohexane	0.361	0.355	1.7	102	0.00	14.55
71	C	Ethylbenzene	1.222	1.186	2.9	106	0.00	14.59
72	P	Chlorobenzene	0.791	0.758	4.2	103	0.00	14.59
73		1,1,1,2-Tetrachloroethane	0.270	0.278	-3.0	105	0.00	14.64
74		m,p-Xylene	0.954	0.942	1.3	104	0.00	14.70
75		o-Xylene	0.950	0.962	-1.3	105	0.00	15.03
76		Styrene	0.747	0.777	-4.0	104	0.00	15.08
			Amount	Calc.	%Drift			
77	P	Bromoform	40.000	41.414	-3.5	112	0.00	15.12
			AvgRF	CCRF	%Dev			
78		Isopropylbenzene	1.326	1.327	-0.1	103	0.00	15.26
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	105	0.00	16.27
80	S	4-Bromofluorobenzene	0.754	0.750	0.5	106	0.00	15.49
			Amount	Calc.	%Drift			
81		cis-1,4-Dichloro-2-butene	40.000	41.024	-2.6	115	0.00	15.52
			AvgRF	CCRF	%Dev			
82		n-Propylbenzene	2.705	2.618	3.2	103	0.00	15.55
83		Bromobenzene	0.624	0.598	4.2	106	0.00	15.57
84	P	1,1,2,2-Tetrachloroethane	0.339	0.325	4.1	108	0.00	15.61
85		1,3,5-Trimethylbenzene	1.933	1.913	1.0	103	0.00	15.67
86		2-Chlorotoluene	1.716	1.619	5.7	102	0.00	15.69
			Amount	Calc.	%Drift			
87		trans-1,4-Dichloro-2-Bute	40.000	38.600	3.5	103	0.00	15.73
			AvgRF	CCRF	%Dev			
88		1,2,3-Trichloropropane	0.127	0.120	5.5	107	0.00	15.73
			Amount	Calc.	%Drift			
89		Cyclohexanone	200.000	190.555	4.7	101	0.00	15.78
			AvgRF	CCRF	%Dev			
90		4-Chlorotoluene	1.581	1.527	3.4	103	0.00	15.81
91		tert-Butylbenzene	1.001	0.968	3.3	102	0.00	15.91
92		1,2,4-Trimethylbenzene	1.948	1.861	4.5	100	0.00	15.96
93		Pentachloroethane	0.315	0.347	-10.2	114	0.00	15.96
94		sec-Butylbenzene	2.405	2.371	1.4	105	0.00	16.03
95		4-Isopropyltoluene	2.236	2.248	-0.5	105	0.00	16.12
96		1,3-Dichlorobenzene	1.210	1.166	3.6	105	0.00	16.23
97		1,2,3-Trimethylbenzene	2.686	1.785	33.5#	71	0.00	16.27
98		1,4-Dichlorobenzene	1.210	1.122	7.3	103	0.00	16.29
99		n-Butylbenzene	0.870	0.878	-0.9	104	0.00	16.41
			Amount	Calc.	%Drift			
100		Benzyl Chloride	40.000	41.140	-2.9	114	0.00	16.44
			AvgRF	CCRF	%Dev			

Initial Calibration Verification

Job Number: FA80565 **Sample:** VY2245-ICV2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54105.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

101	1,2-Dichlorobenzene	1.102	1.037	5.9	103	0.00	16.58
		Amount	Calc.	%Drift			
102	1,2-Dibromo-3-Chloropropa	40.000	38.846	2.9	107	0.00	17.12
103	Hexachlorobutadiene	40.000	37.270	6.8	100	0.00	17.53
		AvgRF	CCRF	%Dev			
104	1,2,4-Trichlorobenzene	0.545	0.554	-1.7	103	0.00	17.59
		Amount	Calc.	%Drift			
105	Naphthalene	40.000	39.078	2.3	103	0.00	17.84
		AvgRF	CCRF	%Dev			
106	1,2,3-Trichlorobenzene	0.469	0.457	2.6	103	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	114	0.00	7.42
		Amount	Calc.	%Drift			
108	Ethanol	800.000	814.245	-1.8	117	0.00	5.64
		AvgRF	CCRF	%Dev			
109	Tert Butyl Alcohol	1.525	1.301	14.7	101	0.00	7.56
110	Isobutyl alcohol	0.260	0.256	1.5	113	0.00	11.31
		Amount	Calc.	%Drift			
111	Tert Amyl Alcohol	400.000	385.114	3.7	109	0.00	11.43
		AvgRF	CCRF	%Dev			
112	1,4-Dioxane	0.138	0.145	-5.1	114	0.00	12.64
113	3,3-dimethyl-1-butanol	1.076	1.086	-0.9	117	0.00	14.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y54100.D RESTEK111720w.M Tue Nov 17 13:24:58 2020

Initial Calibration Verification

Job Number: FA80565 **Sample:** VY2245-ICV2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54106.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\111720\Y54106.D Vial: 12
Acq On : 17 Nov 2020 12:59 pm Operator: chelseav
Sample : ICV2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK111720w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Nov 17 13:22:04 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	112	0.00	11.52
2	Dichlorodifluoromethane		----------NA----------				
3	Acrolein	0.025	0.012	52.0#	58	0.00	6.31
4 P	Chloromethane		----------NA----------				
5	1,3-butadiene		----------NA----------				
6 C	Vinyl Chloride		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
7	Bromomethane		----------NA----------				
8	Chloroethane	25.000	20.227	19.1	86	0.00	4.39
	----------	AvgRF	CCRF	%Dev	----------		
9	Trichlorofluoromethane		----------NA----------				
10	Ethyl Ether		----------NA----------				
11	1,2-Dichlorotrifluoroetha		----------NA----------				
12 C	1,1-Dichloroethene		----------NA----------				
13	Freon 113	0.233	0.188	19.3	89	0.00	5.73
14	Carbon Disulfide		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
15	Iodomethane		----------NA----------				
	----------	AvgRF	CCRF	%Dev	----------		
16	Allyl chloride		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
17	Methylene Chloride		----------NA----------				
	----------	AvgRF	CCRF	%Dev	----------		
18	Acetone		----------NA----------				
19	Methyl acetate		----------NA----------				
20	trans-1,2-Dichloroethene		----------NA----------				
21	Hexane		----------NA----------				
22	Methyl Tert Butyl Ether		----------NA----------				
23	Acetonitrile		----------NA----------				
24	Di-isopropyl ether		----------NA----------				
25	Chloroprene		----------NA----------				
26 P	1,1-Dichloroethane		----------NA----------				
27	Acrylonitrile		----------NA----------				
28	ETBE		----------NA----------				
29	Vinyl acetate		----------NA----------				
30	cis-1,2-Dichloroethene		----------NA----------				

Initial Calibration Verification

Job Number: FA80565 **Sample:** VY2245-ICV2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54106.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

31		2,2-Dichloropropane		----------NA----------					
32		Bromochloromethane		----------NA----------					
33		Cyclohexane		----------NA----------					
34	C	Chloroform		----------NA----------					
35		Ethyl acetate		----------NA----------					
36		Tetrahydrofuran		----------NA----------					
37	S	Dibromofluoromethane	0.260	0.259	0.4	109	0.00	10.33	
38		Carbon Tetrachloride		----------NA----------					
39		1,1,1-Trichloroethane		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
40		2-Butanone		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
41		1,1-Dichloropropene		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
42		tert-Butyl formate		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
43		Propionitrile		----------NA----------					
44		Methacrylonitrile		----------NA----------					
45		Benzene		----------NA----------					
46		TAME		----------NA----------					
47	S	1,2-Dichloroethane-d4	0.219	0.215	1.8	110	0.00	11.14	
48		1,2-Dichloroethane		----------NA----------					
49		Trichloroethene		----------NA----------					
50		Methylcyclohexane		----------NA----------					
51		Dibromomethane		----------NA----------					
52	C	1,2-Dichloropropane		----------NA----------					
53		Bromodichloromethane		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
54		Methyl methacrylate		----------NA----------					
55		2-Chloroethyl vinyl ether		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
56		cis-1,3-Dichloropropene		----------NA----------					
57	I	Chlorobenzene-d5	1.000	1.000	0.0	111	0.00	14.58	
58	S	Toluene-d8	1.146	1.149	-0.3	111	0.00	13.24	
59	C	Toluene		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
60		2-Nitropropane		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
61		4-Methyl-2-pentanone		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
62		trans-1,3-Dichloropropene		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
63		Tetrachloroethene		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
64		Ethyl methacrylate		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
65		1,1,2-Trichloroethane		----------NA----------					

Initial Calibration Verification

Job Number: FA80565 **Sample:** VY2245-ICV2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54106.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
66		Dibromochloromethane		NA				
			AvgRF	CCRF	%Dev			
67		1,3-Dichloropropane		NA				
68		1,2-Dibromoethane		NA				
69		2-hexanone		NA				
70		1-Chlorohexane		NA				
71	C	Ethylbenzene		NA				
72	P	Chlorobenzene		NA				
73		1,1,1,2-Tetrachloroethane		NA				
74		m,p-Xylene		NA				
75		o-Xylene		NA				
76		Styrene		NA				
			Amount	Calc.	%Drift			
77	P	Bromoform		NA				
			AvgRF	CCRF	%Dev			
78		Isopropylbenzene		NA				
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	110	0.00	16.28
80	S	4-Bromofluorobenzene	0.754	0.749	0.7	110	0.00	15.48
			Amount	Calc.	%Drift			
81		cis-1,4-Dichloro-2-butene		NA				
			AvgRF	CCRF	%Dev			
82		n-Propylbenzene		NA				
83		Bromobenzene		NA				
84	P	1,1,2,2-Tetrachloroethane		NA				
85		1,3,5-Trimethylbenzene		NA				
86		2-Chlorotoluene		NA				
			Amount	Calc.	%Drift			
87		trans-1,4-Dichloro-2-Bute		NA				
			AvgRF	CCRF	%Dev			
88		1,2,3-Trichloropropane		NA				
			Amount	Calc.	%Drift			
89		Cyclohexanone		NA				
			AvgRF	CCRF	%Dev			
90		4-Chlorotoluene		NA				
91		tert-Butylbenzene		NA				
92		1,2,4-Trimethylbenzene		NA				
93		Pentachloroethane		NA				
94		sec-Butylbenzene		NA				
95		4-Isopropyltoluene		NA				
96		1,3-Dichlorobenzene		NA				
97		1,2,3-Trimethylbenzene		NA				
98		1,4-Dichlorobenzene		NA				
99		n-Butylbenzene		NA				
			Amount	Calc.	%Drift			
100		Benzyl Chloride		NA				
			AvgRF	CCRF	%Dev			

Initial Calibration Verification

Job Number: FA80565 **Sample:** VY2245-ICV2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54106.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

101	1,2-Dichlorobenzene			NA				
		Amount	Calc.	%Drift				
102	1,2-Dibromo-3-Chloropropa			NA				
103	Hexachlorobutadiene			NA				
		AvgRF	CCRF	%Dev				
104	1,2,4-Trichlorobenzene			NA				
		Amount	Calc.	%Drift				
105	Naphthalene			NA				
		AvgRF	CCRF	%Dev				
106	1,2,3-Trichlorobenzene			NA				
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	131	0.00	7.42	
		Amount	Calc.	%Drift				
108	Ethanol			NA				
		AvgRF	CCRF	%Dev				
109	Tert Butyl Alcohol			NA				
110	Isobutyl alcohol			NA				
		Amount	Calc.	%Drift				
111	Tert Amyl Alcohol			NA				
		AvgRF	CCRF	%Dev				
112	1,4-Dioxane			NA				
113	3,3-dimethyl-1-butanol			NA				

(#) = Out of Range SPCC's out = 4 CCC's out = 6
Y54099.D RESTEK111720w.M Tue Nov 17 13:24:44 2020

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VY2246-CC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54108.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\111720\Y54108.D Vial: 2
Acq On : 17 Nov 2020 1:53 pm Operator: chelseav
Sample : CC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2246 Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK111720w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Nov 17 13:22:04 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	111	0.00	11.52
2	Dichlorodifluoromethane	0.198	0.200	-1.0	110	0.00	3.03
3	Acrolein	0.025	0.024	4.0	108	0.00	6.31
4 P	Chloromethane	0.235	0.223	5.1	108	0.00	3.38
5	1,3-butadiene	0.178	0.169	5.1	108	0.00	3.58
6 C	Vinyl Chloride	0.203	0.203	0.0	108	0.00	3.55
		Amount	Calc.	%Drift			
7	Bromomethane	40.000	40.986	-2.5	114	0.00	4.16
8	Chloroethane	40.000	34.142	14.6	106	0.00	4.39
		AvgRF	CCRF	%Dev			
9	Trichlorofluoromethane	0.317	0.315	0.6	106	0.00	4.67
10	Ethyl Ether	0.139	0.138	0.7	112	0.00	5.29
11	1,2-Dichlorotrifluoroetha	0.206	0.199	3.4	109	0.00	5.67
12 C	1,1-Dichloroethene	0.270	0.264	2.2	109	0.00	5.63
13	Freon 113	0.233	0.229	1.7	111	0.00	5.73
14	Carbon Disulfide	0.530	0.514	3.0	111	0.00	5.67
		Amount	Calc.	%Drift			
15	Iodomethane	40.000	42.369	-5.9	117	0.00	5.90
		AvgRF	CCRF	%Dev			
16	Allyl chloride	0.286	0.281	1.7	108	0.00	6.56
		Amount	Calc.	%Drift			
17	Methylene Chloride	40.000	38.109	4.7	110	0.00	6.78
		AvgRF	CCRF	%Dev			
18	Acetone	0.032	0.031	3.1	113	0.00	6.89
19	Methyl acetate	0.086	0.086	0.0	115	0.00	7.14
20	trans-1,2-Dichloroethene	0.255	0.252	1.2	112	0.00	7.09
21	Hexane	0.167	0.174	-4.2	118	0.00	7.25
22	Methyl Tert Butyl Ether	0.366	0.373	-1.9	113	0.00	7.32
23	Acetonitrile	0.015	0.014	6.7	110	0.00	7.79
24	Di-isopropyl ether	0.616	0.641	-4.1	112	0.00	8.09
25	Chloroprene	0.284	0.281	1.1	106	0.00	8.27
26 P	1,1-Dichloroethane	0.312	0.309	1.0	110	0.00	8.31
27	Acrylonitrile	0.044	0.042	4.5	111	0.00	8.42
28	ETBE	0.450	0.471	-4.7	112	0.00	8.83
29	Vinyl acetate	0.279	0.291	-4.3	113	0.00	8.86
30	cis-1,2-Dichloroethene	0.227	0.223	1.8	109	0.00	9.43

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VY2246-CC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54108.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

31		2,2-Dichloropropane	0.232	0.235	-1.3	110	0.00	9.64
32		Bromochloromethane	0.126	0.120	4.8	108	0.00	9.84
33		Cyclohexane	0.379	0.390	-2.9	113	0.00	9.82
34	C	Chloroform	0.334	0.322	3.6	108	0.00	10.01
35		Ethyl acetate	0.113	0.112	0.9	114	0.00	10.25
36		Tetrahydrofuran	0.033	0.034	-3.0	112	0.00	10.25
37	S	Dibromofluoromethane	0.260	0.260	0.0	110	0.00	10.33
38		Carbon Tetrachloride	0.292	0.291	0.3	107	0.00	10.23
39		1,1,1-Trichloroethane	0.338	0.324	4.1	108	0.00	10.35
			Amount	Calc.	%Drift			
40		2-Butanone	200.000	197.102	1.4	112	0.00	10.55
			AvgRF	CCRF	%Dev			
41		1,1-Dichloropropene	0.268	0.269	-0.4	110	0.00	10.56
			Amount	Calc.	%Drift			
42		tert-Butyl formate	200.000	168.076	16.0	109	0.00	10.75
			AvgRF	CCRF	%Dev			
43		Propionitrile	0.015	0.015	0.0	110	0.00	10.99
44		Methacrylonitrile	0.078	0.074	5.1	109	0.00	11.02
45		Benzene	0.813	0.789	3.0	108	0.00	10.94
46		TAME	0.351	0.356	-1.4	113	0.00	11.13
47	S	1,2-Dichloroethane-d4	0.219	0.209	4.6	107	0.00	11.15
48		1,2-Dichloroethane	0.225	0.212	5.8	107	0.00	11.24
49		Trichloroethene	0.245	0.225	8.2	107	0.00	11.74
50		Methylcyclohexane	0.373	0.381	-2.1	114	0.00	11.72
51		Dibromomethane	0.099	0.093	6.1	109	0.00	12.23
52	C	1,2-Dichloropropane	0.185	0.183	1.1	110	0.00	12.34
53		Bromodichloromethane	0.218	0.221	-1.4	110	0.00	12.42
			Amount	Calc.	%Drift			
54		Methyl methacrylate	40.000	39.117	2.2	109	0.00	12.59
55		2-Chloroethyl vinyl ether	200.000	196.097	2.0	111	0.00	13.00
			AvgRF	CCRF	%Dev			
56		cis-1,3-Dichloropropene	0.265	0.273	-3.0	109	0.00	13.07
57	I	Chlorobenzene-d5	1.000	1.000	0.0	109	0.00	14.58
58	S	Toluene-d8	1.146	1.165	-1.7	110	0.00	13.24
59	C	Toluene	1.124	1.085	3.5	108	0.00	13.29
			Amount	Calc.	%Drift			
60		2-Nitropropane	200.000	191.862	4.1	109	0.00	13.51
			AvgRF	CCRF	%Dev			
61		4-Methyl-2-pentanone	0.117	0.121	-3.4	111	0.00	13.63
			Amount	Calc.	%Drift			
62		trans-1,3-Dichloropropene	40.000	39.153	2.1	109	0.00	13.67
			AvgRF	CCRF	%Dev			
63		Tetrachloroethene	0.330	0.314	4.8	106	0.00	13.65
			Amount	Calc.	%Drift			
64		Ethyl methacrylate	40.000	39.481	1.3	110	0.00	13.79
			AvgRF	CCRF	%Dev			
65		1,1,2-Trichloroethane	0.133	0.129	3.0	111	0.00	13.82

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VY2246-CC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54108.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
66		Dibromochloromethane	40.000	39.069	2.3	108	0.00	13.97
			AvgRF	CCRF	%Dev			
67		1,3-Dichloropropane	0.284	0.277	2.5	110	0.00	14.05
68		1,2-Dibromoethane	0.180	0.176	2.2	110	0.00	14.18
69		2-hexanone	0.084	0.085	-1.2	112	0.00	14.33
70		1-Chlorohexane	0.361	0.371	-2.8	111	0.00	14.55
71	C	Ethylbenzene	1.222	1.179	3.5	109	0.00	14.59
72	P	Chlorobenzene	0.791	0.756	4.4	107	0.00	14.59
73		1,1,1,2-Tetrachloroethane	0.270	0.270	0.0	106	0.00	14.64
74		m,p-Xylene	0.954	0.942	1.3	108	0.00	14.70
75		o-Xylene	0.950	0.956	-0.6	109	0.00	15.03
76		Styrene	0.747	0.774	-3.6	108	0.00	15.08
			Amount	Calc.	%Drift			
77	P	Bromoform	40.000	38.743	3.1	108	0.00	15.12
			AvgRF	CCRF	%Dev			
78		Isopropylbenzene	1.326	1.331	-0.4	108	0.00	15.26
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	108	0.00	16.27
80	S	4-Bromofluorobenzene	0.754	0.755	-0.1	109	0.00	15.49
			Amount	Calc.	%Drift			
81		cis-1,4-Dichloro-2-butene	40.000	39.315	1.7	113	0.00	15.52
			AvgRF	CCRF	%Dev			
82		n-Propylbenzene	2.705	2.654	1.9	108	0.00	15.55
83		Bromobenzene	0.624	0.587	5.9	107	0.00	15.57
84	P	1,1,2,2-Tetrachloroethane	0.339	0.319	5.9	109	0.00	15.61
85		1,3,5-Trimethylbenzene	1.933	1.939	-0.3	108	0.00	15.67
86		2-Chlorotoluene	1.716	1.643	4.3	106	0.00	15.69
			Amount	Calc.	%Drift			
87		trans-1,4-Dichloro-2-Bute	40.000	38.784	3.0	107	0.00	15.73
			AvgRF	CCRF	%Dev			
88		1,2,3-Trichloropropane	0.127	0.119	6.3	108	0.00	15.73
			Amount	Calc.	%Drift			
89		Cyclohexanone	200.000	205.319	-2.7	113	0.00	15.77
			AvgRF	CCRF	%Dev			
90		4-Chlorotoluene	1.581	1.552	1.8	108	0.00	15.81
91		tert-Butylbenzene	1.001	0.998	0.3	108	0.00	15.91
92		1,2,4-Trimethylbenzene	1.948	1.939	0.5	107	0.00	15.96
93		Pentachloroethane	0.315	0.310	1.6	104	0.00	15.96
94		sec-Butylbenzene	2.405	2.389	0.7	109	0.00	16.03
95		4-Isopropyltoluene	2.236	2.254	-0.8	108	0.00	16.12
96		1,3-Dichlorobenzene	1.210	1.159	4.2	107	0.00	16.22
97		1,2,3-Trimethylbenzene	2.686	2.617	2.6	107	0.00	16.27
98		1,4-Dichlorobenzene	1.210	1.134	6.3	107	0.00	16.29
99		n-Butylbenzene	0.870	0.893	-2.6	109	0.00	16.41
			Amount	Calc.	%Drift			
100		Benzyl Chloride	40.000	40.493	-1.2	115	0.00	16.44
			AvgRF	CCRF	%Dev			

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VY2246-CC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54108.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

101	1,2-Dichlorobenzene	1.102	1.044	5.3	107	0.00	16.58
		Amount	Calc.	%Drift			
102	1,2-Dibromo-3-Chloropropa	40.000	38.584	3.5	109	0.00	17.12
103	Hexachlorobutadiene	40.000	37.897	5.3	105	0.00	17.53
		AvgRF	CCRF	%Dev			
104	1,2,4-Trichlorobenzene	0.545	0.551	-1.1	106	0.00	17.59
		Amount	Calc.	%Drift			
105	Naphthalene	40.000	39.279	1.8	106	0.00	17.84
		AvgRF	CCRF	%Dev			
106	1,2,3-Trichlorobenzene	0.469	0.459	2.1	107	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	119	0.00	7.42
		Amount	Calc.	%Drift			
108	Ethanol	800.000	748.352	6.5	113	0.00	5.64
		AvgRF	CCRF	%Dev			
109	Tert Butyl Alcohol	1.525	1.351	11.4	109	0.00	7.56
110	Isobutyl alcohol	0.260	0.242	6.9	112	0.00	11.31
		Amount	Calc.	%Drift			
111	Tert Amyl Alcohol	400.000	388.002	3.0	115	0.00	11.42
		AvgRF	CCRF	%Dev			
112	1,4-Dioxane	0.138	0.134	2.9	111	0.00	12.64
113	3,3-dimethyl-1-butanol	1.076	0.956	11.2	107	0.00	14.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y54100.D RESTEK111720w.M Tue Nov 17 14:14:38 2020

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VY2246-ECC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54134.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ed...-2020\vy2246\Y54134.D Vial: 28
Acq On : 18 Nov 2020 1:54 am Operator: chelseav
Sample : ECC2245-5 Inst : MSVOA14-Y
Misc : MS47712,VY2246 Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\met...\RESTEK111720w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Sep 14 08:38:11 2018
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	94	0.00	11.52
2	Dichlorodifluoromethane	0.198	0.207	-4.5	97	0.00	3.04
3	Acrolein	0.025	0.023	8.0	91	0.00	6.31
4 P	Chloromethane	0.235	0.235	0.0	96	0.00	3.38
5	1,3-butadiene	0.178	0.183	-2.8	100	0.00	3.58
6 C	Vinyl Chloride	0.203	0.202	0.5	91	0.00	3.55
	----------	True	Calc.	% Drift	----------		
7	Bromomethane	40.000	35.576	11.1	84	0.00	4.16
8	Chloroethane	40.000	32.996	17.5	88	0.00	4.40
	----------	AvgRF	CCRF	% Dev	----------		
9	Trichlorofluoromethane	0.317	0.343	-8.2	98	0.00	4.66
10	Ethyl Ether	0.139	0.144	-3.6	100	0.00	5.29
11	1,2-Dichlorotrifluoroetha	0.206	0.212	-2.9	99	0.00	5.68
12 C	1,1-Dichloroethene	0.270	0.269	0.4	95	0.00	5.64
13	Freon 113	0.233	0.254	-9.0	105	0.00	5.73
14	Carbon Disulfide	0.530	0.513	3.2	94	0.00	5.67
	----------	True	Calc.	% Drift	----------		
15	Iodomethane	40.000	33.729	15.7	75	0.00	5.90
	----------	AvgRF	CCRF	% Dev	----------		
16	Allyl chloride	0.286	0.275	3.8	90	0.00	6.56
	----------	True	Calc.	% Drift	----------		
17	Methylene Chloride	40.000	40.413	-1.0	99	0.00	6.78
	----------	AvgRF	CCRF	% Dev	----------		
18	Acetone	0.032	0.033	-3.1	102	0.00	6.89
19	Methyl acetate	0.086	0.090	-4.7	102	0.00	7.14
20	trans-1,2-Dichloroethene	0.255	0.258	-1.2	97	0.00	7.09
21	Hexane	0.167	0.162	3.0	93	0.00	7.25
22	Methyl Tert Butyl Ether	0.366	0.393	-7.4	101	0.00	7.32
23	Acetonitrile	0.015	0.015	0.0	100	0.00	7.80
24	Di-isopropyl ether	0.616	0.667	-8.3	99	0.00	8.09
25	Chloroprene	0.284	0.288	-1.4	93	0.00	8.27
26 P	1,1-Dichloroethane	0.312	0.322	-3.2	97	0.00	8.32
27	Acrylonitrile	0.044	0.043	2.3	96	0.00	8.43
28	ETBE	0.450	0.486	-8.0	99	0.00	8.83
29	Vinyl acetate	0.279	0.294	-5.4	97	0.00	8.86
30	cis-1,2-Dichloroethene	0.227	0.235	-3.5	98	0.00	9.43

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VY2246-ECC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54134.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

31		2,2-Dichloropropane	0.232	0.197	15.1	78	0.00	9.64
32		Bromochloromethane	0.126	0.131	-4.0	101	0.00	9.84
33		Cyclohexane	0.379	0.400	-5.5	99	0.00	9.82
34	C	Chloroform	0.334	0.340	-1.8	96	0.00	10.01
35		Ethyl acetate	0.113	0.116	-2.7	100	0.00	10.26
36		Tetrahydrofuran	0.033	0.036	-9.1	99	0.00	10.25
37	S	Dibromofluoromethane	0.260	0.263	-1.2	94	0.00	10.33
38		Carbon Tetrachloride	0.292	0.303	-3.8	94	0.00	10.23
39		1,1,1-Trichloroethane	0.338	0.332	1.8	95	0.00	10.35
			True	Calc.	% Drift			
40		2-Butanone	200.000	205.882	-2.9	100	0.00	10.55
			AvgRF	CCRF	% Dev			
41		1,1-Dichloropropene	0.268	0.272	-1.5	94	0.00	10.56
			True	Calc.	% Drift			
42		tert-Butyl formate	200.000	157.624	21.2	86	0.00	10.76
			AvgRF	CCRF	% Dev			
43		Propionitrile	0.015	0.016	-6.7	102	0.00	10.99
44		Methacrylonitrile	0.078	0.080	-2.6	100	0.00	11.02
45		Benzene	0.813	0.831	-2.2	97	0.00	10.94
46		TAME	0.351	0.368	-4.8	99	0.00	11.13
47	S	1,2-Dichloroethane-d4	0.219	0.213	2.7	93	0.00	11.14
48		1,2-Dichloroethane	0.225	0.228	-1.3	98	0.00	11.24
49		Trichloroethene	0.245	0.240	2.0	97	0.00	11.74
50		Methylcyclohexane	0.373	0.387	-3.8	99	0.00	11.72
51		Dibromomethane	0.099	0.100	-1.0	99	0.00	12.23
52	C	1,2-Dichloropropane	0.185	0.194	-4.9	99	0.00	12.34
53		Bromodichloromethane	0.218	0.232	-6.4	98	0.00	12.42
			True	Calc.	% Drift			
54		Methyl methacrylate	40.000	39.460	1.3	94	0.00	12.59
55		2-Chloroethyl vinyl ether	200.000	177.063	11.5	84	0.00	13.00
			AvgRF	CCRF	% Dev			
56		cis-1,3-Dichloropropene	0.265	0.265	0.0	90	0.00	13.07
57	I	Chlorobenzene-d5	1.000	1.000	0.0	96	0.00	14.58
58	S	Toluene-d8	1.146	1.135	1.0	94	0.00	13.24
59	C	Toluene	1.124	1.110	1.2	97	0.00	13.29
			True	Calc.	% Drift			
60		2-Nitropropane	200.000	195.033	2.5	98	0.00	13.51
			AvgRF	CCRF	% Dev			
61		4-Methyl-2-pentanone	0.117	0.126	-7.7	102	0.00	13.63
			True	Calc.	% Drift			
62		trans-1,3-Dichloropropene	40.000	36.707	8.2	89	0.00	13.67
			AvgRF	CCRF	% Dev			
63		Tetrachloroethene	0.330	0.367	-11.2	109	0.00	13.65
			True	Calc.	% Drift			
64		Ethyl methacrylate	40.000	40.184	-0.5	98	0.00	13.79
			AvgRF	CCRF	% Dev			
65		1,1,2-Trichloroethane	0.133	0.136	-2.3	102	0.00	13.82

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VY2246-ECC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54134.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
66		Dibromochloromethane	40.000	40.072	-0.2	98	0.00	13.97
			AvgRF	CCRF	% Dev			
67		1,3-Dichloropropane	0.284	0.286	-0.7	99	0.00	14.05
68		1,2-Dibromoethane	0.180	0.181	-0.6	99	0.00	14.18
69		2-hexanone	0.084	0.091	-8.3	104	0.00	14.33
70		1-Chlorohexane	0.361	0.361	0.0	95	0.00	14.55
71	C	Ethylbenzene	1.222	1.206	1.3	98	0.00	14.59
72	P	Chlorobenzene	0.791	0.788	0.4	98	0.00	14.59
73		1,1,1,2-Tetrachloroethane	0.270	0.277	-2.6	96	0.00	14.64
74		m,p-Xylene	0.954	0.962	-0.8	97	0.00	14.70
75		o-Xylene	0.950	0.983	-3.5	98	0.00	15.03
76		Styrene	0.747	0.798	-6.8	98	0.00	15.07
			True	Calc.	% Drift			
77	P	Bromoform	40.000	39.460	1.3	97	0.00	15.12
			AvgRF	CCRF	% Dev			
78		Isopropylbenzene	1.326	1.366	-3.0	97	0.00	15.26
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	96	0.00	16.27
80	S	4-Bromofluorobenzene	0.754	0.739	2.0	95	0.00	15.49
			True	Calc.	% Drift			
81		cis-1,4-Dichloro-2-butene	40.000	29.608	26.0	72	0.00	15.52
			AvgRF	CCRF	% Dev			
82		n-Propylbenzene	2.705	2.674	1.1	97	0.00	15.56
83		Bromobenzene	0.624	0.612	1.9	99	0.00	15.57
84	P	1,1,2,2-Tetrachloroethane	0.339	0.333	1.8	102	0.00	15.61
85		1,3,5-Trimethylbenzene	1.933	1.958	-1.3	97	0.00	15.68
86		2-Chlorotoluene	1.716	1.693	1.3	98	0.00	15.69
			True	Calc.	% Drift			
87		trans-1,4-Dichloro-2-Bute	40.000	33.253	16.9	80	0.00	15.73
			AvgRF	CCRF	% Dev			
88		1,2,3-Trichloropropane	0.127	0.126	0.8	103	0.00	15.73
			True	Calc.	% Drift			
89		Cyclohexanone	200.000	199.766	0.1	98	0.00	15.78
			AvgRF	CCRF	% Dev			
90		4-Chlorotoluene	1.581	1.565	1.0	97	0.00	15.80
91		tert-Butylbenzene	1.001	1.010	-0.9	98	0.00	15.91
92		1,2,4-Trimethylbenzene	1.948	1.990	-2.2	98	0.00	15.96
93		Pentachloroethane	0.315	0.262	16.8	79	0.00	15.96
94		sec-Butylbenzene	2.405	2.403	0.1	98	0.00	16.04
95		4-Isopropyltoluene	2.236	2.256	-0.9	96	0.00	16.11
96		1,3-Dichlorobenzene	1.210	1.187	1.9	98	0.00	16.22
97		1,2,3-Trimethylbenzene	2.686	2.704	-0.7	99	0.00	16.27
98		1,4-Dichlorobenzene	1.210	1.162	4.0	98	0.00	16.29
99		n-Butylbenzene	0.870	0.851	2.2	92	0.00	16.41
			True	Calc.	% Drift			
100		Benzyl Chloride	40.000	28.172	29.6	65	0.00	16.44
			AvgRF	CCRF	% Dev			

Continuing Calibration Summary

Job Number: FA80565 **Sample:** VY2246-ECC2245
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54134.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

101	1,2-Dichlorobenzene	1.102	1.092	0.9	99	0.00	16.58
		True	Calc.	% Drift			
102	1,2-Dibromo-3-Chloropropa	40.000	38.216	4.5	96	0.00	17.12
103	Hexachlorobutadiene	40.000	35.170	12.1	86	0.00	17.53
		AvgRF	CCRF	% Dev			
104	1,2,4-Trichlorobenzene	0.545	0.552	-1.3	94	0.00	17.59
		True	Calc.	% Drift			
105	Naphthalene	40.000	40.155	-0.4	97	0.00	17.84
		AvgRF	CCRF	% Dev			
106	1,2,3-Trichlorobenzene	0.469	0.467	0.4	97	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	100	0.00	7.42
		True	Calc.	% Drift			
108	Ethanol	800.000	871.874	-9.0	110	0.01	5.65
		AvgRF	CCRF	% Dev			
109	Tert Butyl Alcohol	1.525	1.450	4.9	98	0.00	7.56
110	Isobutyl alcohol	0.260	0.263	-1.2	102	0.00	11.31
		True	Calc.	% Drift			
111	Tert Amyl Alcohol	400.000	407.888	-2.0	102	0.00	11.42
		AvgRF	CCRF	% Dev			
112	1,4-Dioxane	0.138	0.145	-5.1	101	0.00	12.64
113	3,3-dimethyl-1-butanol	1.076	1.077	-0.1	101	0.00	14.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y54100.D RESTEK111720w.M Wed Nov 18 02:47:04 2020

Run Sequence Report

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VC5797 **Method:** SW846 8260D **Instrument ID:** GCMSC

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VC5797-BFB	C0144495.D	10/28/20 07:45	n/a	BFB Tune
VC5797-IC5797	C0144496.D	10/28/20 08:10	n/a	Initial cal 1
VC5797-IC5797	C0144497.D	10/28/20 08:35	n/a	Initial cal 2
VC5797-IC5797	C0144498.D	10/28/20 09:08	n/a	Initial cal 3
VC5797-IC5797	C0144499.D	10/28/20 09:33	n/a	Initial cal 4
VC5797-ICC5797	C0144500.D	10/28/20 09:59	n/a	Initial cal 5
VC5797-IC5797	C0144501.D	10/28/20 10:24	n/a	Initial cal 6
VC5797-IC5797	C0144502.D	10/28/20 10:50	n/a	Initial cal 7
VC5797-BFB	C0144503.D	10/28/20 11:15	n/a	BFB Tune
VC5797-ICV5797	C0144504A.D	10/28/20 11:41	n/a	Initial cal verification 5
VC5797-CC5797	C0144504.D	10/28/20 11:41	n/a	Continuing cal 5
VC5797-ICV5797	C0144505A.D	10/28/20 12:07	n/a	Initial cal verification 4
VC5797-BS	C0144505.D	10/28/20 12:07	n/a	Blank Spike
VC5797-MB	C0144508.D	10/28/20 13:25	n/a	Method Blank
ZZZZZZ	C0144509.D	10/28/20 13:51	n/a	(unrelated sample)
FA79935-4	C0144512.D	10/28/20 15:11	n/a	(used for QC only; not part of job FA80565)
ZZZZZZ	C0144516.D	10/28/20 16:58	n/a	(unrelated sample)
ZZZZZZ	C0144517.D	10/28/20 17:25	n/a	(unrelated sample)
ZZZZZZ	C0144519.D	10/28/20 18:18	n/a	(unrelated sample)
ZZZZZZ	C0144520.D	10/28/20 18:44	n/a	(unrelated sample)
ZZZZZZ	C0144522.D	10/28/20 19:37	n/a	(unrelated sample)
ZZZZZZ	C0144523.D	10/28/20 20:03	n/a	(unrelated sample)
ZZZZZZ	C0144524.D	10/28/20 20:29	n/a	(unrelated sample)
ZZZZZZ	C0144525.D	10/28/20 20:54	n/a	(unrelated sample)
ZZZZZZ	C0144526.D	10/28/20 21:20	n/a	(unrelated sample)
ZZZZZZ	C0144527.D	10/28/20 21:46	n/a	(unrelated sample)
FA79935-4MS	C0144528.D	10/28/20 22:12	n/a	Matrix Spike
FA79935-4MSD	C0144529.D	10/28/20 22:37	n/a	Matrix Spike Duplicate
VC5797-ECC5797	C0144530.D	10/28/20 23:03	n/a	Ending cal 5

Run Sequence Report

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VC5817 **Method:** SW846 8260B **Instrument ID:** GCMSC

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VC5817-BFB	C0144901.D	11/13/20 10:00	n/a	BFB Tune
VC5817-CC5797	C0144901.D	11/13/20 10:00	n/a	Continuing cal 5
VC5817-BS	C0144902.D	11/13/20 10:33	n/a	Blank Spike
VC5817-MB	C0144905.D	11/13/20 11:48	n/a	Method Blank
ZZZZZZ	C0144906.D	11/13/20 12:14	n/a	(unrelated sample)
ZZZZZZ	C0144907.D	11/13/20 12:39	n/a	(unrelated sample)
ZZZZZZ	C0144908.D	11/13/20 13:05	n/a	(unrelated sample)
ZZZZZZ	C0144909.D	11/13/20 13:30	n/a	(unrelated sample)
ZZZZZZ	C0144910.D	11/13/20 13:56	n/a	(unrelated sample)
ZZZZZZ	C0144912.D	11/13/20 14:47	n/a	(unrelated sample)
ZZZZZZ	C0144913.D	11/13/20 15:12	n/a	(unrelated sample)
FA80462-3	C0144914.D	11/13/20 15:38	n/a	(used for QC only; not part of job FA80565)
ZZZZZZ	C0144915.D	11/13/20 16:04	n/a	(unrelated sample)
FA80463-1	C0144916.D	11/13/20 16:29	n/a	(used for QC only; not part of job FA80565)
ZZZZZZ	C0144917.D	11/13/20 16:55	n/a	(unrelated sample)
ZZZZZZ	C0144918.D	11/13/20 17:20	n/a	(unrelated sample)
ZZZZZZ	C0144919.D	11/13/20 17:46	n/a	(unrelated sample)
ZZZZZZ	C0144920.D	11/13/20 18:13	n/a	(unrelated sample)
ZZZZZZ	C0144921.D	11/13/20 18:38	n/a	(unrelated sample)
FA80565-1	C0144922.D	11/13/20 19:04	n/a	SP1-GW-20201104
FA80463-1MS	C0144925.D	11/13/20 20:21	n/a	Matrix Spike
FA80463-1MSD	C0144926.D	11/13/20 20:46	n/a	Matrix Spike Duplicate
FA80462-3MS	C0144927.D	11/13/20 21:11	n/a	Matrix Spike
FA80462-3MSD	C0144928.D	11/13/20 21:37	n/a	Matrix Spike Duplicate
VC5817-ECC5797	C0144929.D	11/13/20 22:02	n/a	Ending cal 5

Run Sequence Report

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VY2245 **Method:** SW846 8260B **Instrument ID:** GCMSY

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VY2245-BFB	Y54095.D	11/17/20 07:51	n/a	BFB Tune
VY2245-IC2245	Y54097.D	11/17/20 08:45	n/a	Initial cal 2
VY2245-IC2245	Y54098.D	11/17/20 09:12	n/a	Initial cal 3
VY2245-IC2245	Y54099.D	11/17/20 09:39	n/a	Initial cal 4
VY2245-ICC2245	Y54100.D	11/17/20 10:06	n/a	Initial cal 5
VY2245-IC2245	Y54101.D	11/17/20 10:33	n/a	Initial cal 6
VY2245-IC2245	Y54102.D	11/17/20 11:00	n/a	Initial cal 7
VY2245-IC2245	Y54104.D	11/17/20 11:54	n/a	Initial cal 1
VY2245-ICV2245	Y54105.D	11/17/20 12:32	n/a	Initial cal verification 5
VY2245-ICV2245	Y54106.D	11/17/20 12:59	n/a	Initial cal verification 4

Run Sequence Report

Job Number: FA80565
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VY2246 **Method:** SW846 8260B **Instrument ID:** GCMSY

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VY2246-BFB	Y54108.D	11/17/20 13:52	n/a	BFB Tune
VY2246-CC2245	Y54108.D	11/17/20 13:53	n/a	Continuing cal 5
VY2246-BS	Y54109.D	11/17/20 14:32	n/a	Blank Spike
VY2246-MB	Y54112.D	11/17/20 15:54	n/a	Method Blank
ZZZZZZ	Y54113.D	11/17/20 16:21	n/a	(unrelated sample)
ZZZZZZ	Y54114.D	11/17/20 16:48	n/a	(unrelated sample)
ZZZZZZ	Y54115.D	11/17/20 17:15	n/a	(unrelated sample)
FA80463-1	Y54116.D	11/17/20 17:43	n/a	(used for QC only; not part of job FA80565)
ZZZZZZ	Y54117.D	11/17/20 18:10	n/a	(unrelated sample)
ZZZZZZ	Y54118.D	11/17/20 18:37	n/a	(unrelated sample)
ZZZZZZ	Y54119.D	11/17/20 19:04	n/a	(unrelated sample)
ZZZZZZ	Y54120.D	11/17/20 19:31	n/a	(unrelated sample)
ZZZZZZ	Y54121.D	11/17/20 19:58	n/a	(unrelated sample)
ZZZZZZ	Y54122.D	11/17/20 20:25	n/a	(unrelated sample)
FA80463-1MS	Y54123.D	11/17/20 20:53	n/a	Matrix Spike
FA80463-1MSD	Y54124.D	11/17/20 21:20	n/a	Matrix Spike Duplicate
ZZZZZZ	Y54126.D	11/17/20 22:15	n/a	(unrelated sample)
FA80565-1	Y54127.D	11/17/20 22:42	n/a	SP1-GW-20201104
ZZZZZZ	Y54128.D	11/17/20 23:10	n/a	(unrelated sample)
ZZZZZZ	Y54129.D	11/17/20 23:37	n/a	(unrelated sample)
ZZZZZZ	Y54130.D	11/18/20 00:04	n/a	(unrelated sample)
ZZZZZZ	Y54131.D	11/18/20 00:32	n/a	(unrelated sample)
ZZZZZZ	Y54132.D	11/18/20 00:59	n/a	(unrelated sample)
ZZZZZZ	Y54133.D	11/18/20 01:27	n/a	(unrelated sample)
VY2246-ECC2245	Y54134.D	11/18/20 01:54	n/a	Ending cal 5

MS Volatiles

Raw Data

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
11/18/20 15:28

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144922.D
Acq On : 13 Nov 2020 7:04 pm
Operator : SHANICAO
Sample : FA80565-1
Misc : MS47712,VC5817,,,,,
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 15 19:45:24 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.528	96	2038493	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1583337	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	791286	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.768	65	222201	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.457	113	516000	50.34	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.68%			
47) 1,2-Dichloroethane-d4	10.181	65	670997	48.91	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.82%			
58) Toluene-d8	12.134	98	2097940	49.57	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.14%			
80) 4-Bromofluorobenzene	14.305	174	653733	49.34	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.68%			
Target Compounds						Qvalue
6) Bromomethane	3.909	94	5093m	2.19	ug/L	
72) Chlorobenzene	13.435	112	11283	0.47	ug/L	92

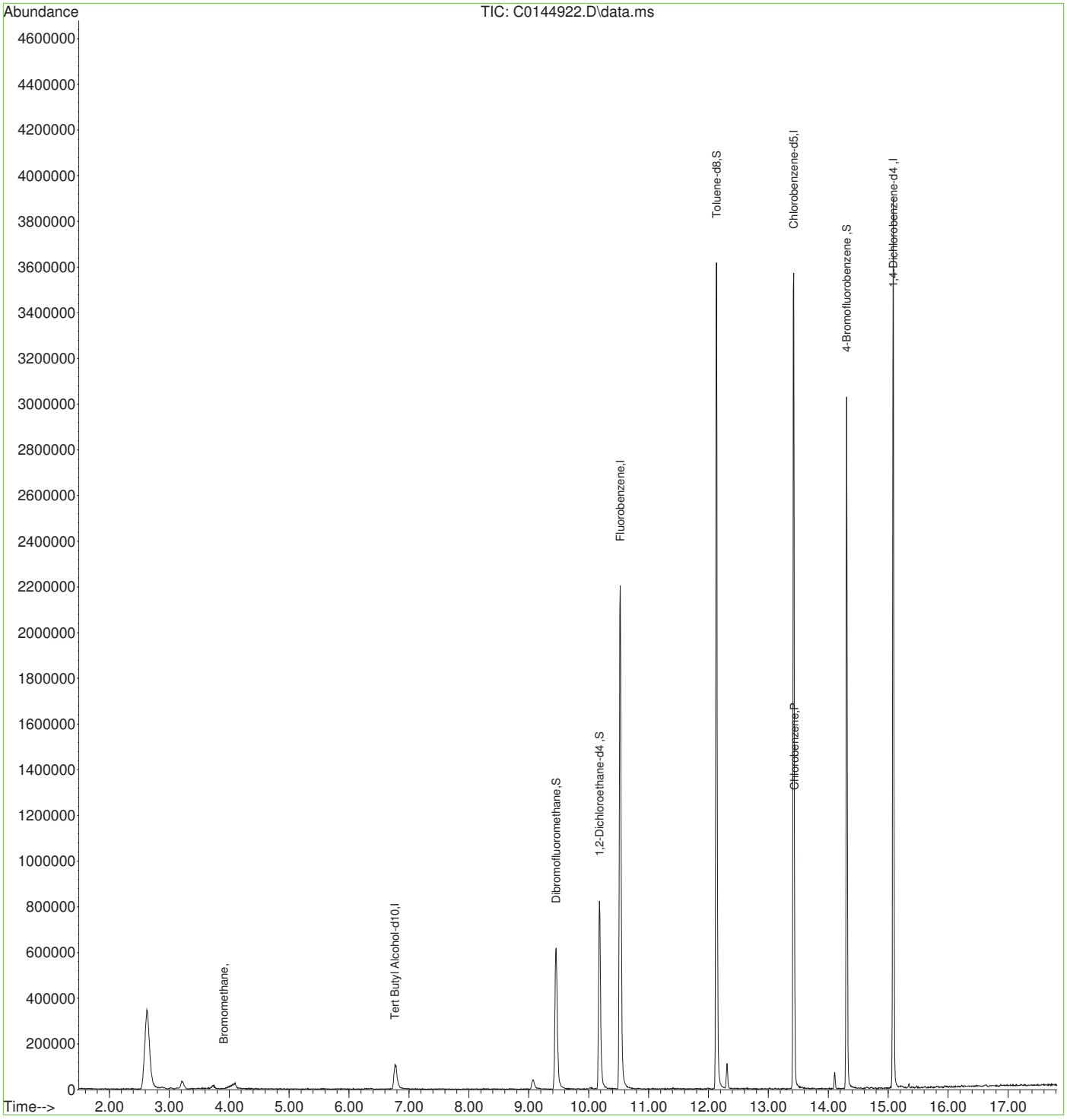
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.1
7

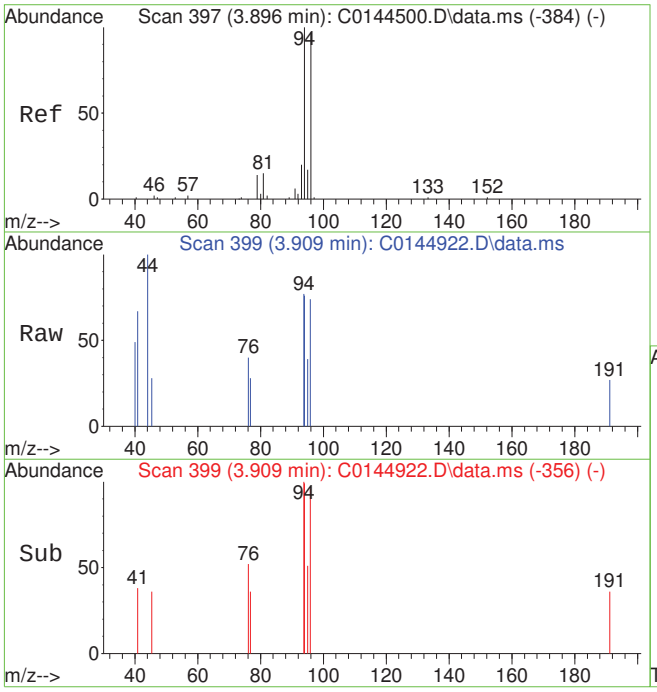
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144922.D
Acq On : 13 Nov 2020 7:04 pm
Operator : SHANICAO
Sample : FA80565-1
Misc : MS47712,VC5817,,,,,
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 15 19:45:24 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration



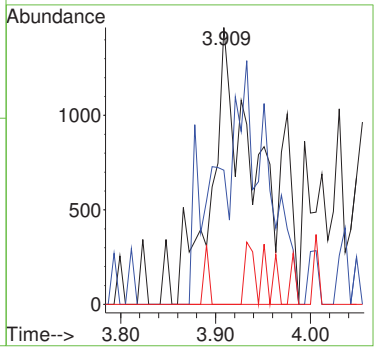
RTXVMS102820.M Sun Nov 15 20:00:59 2020 Page: 2

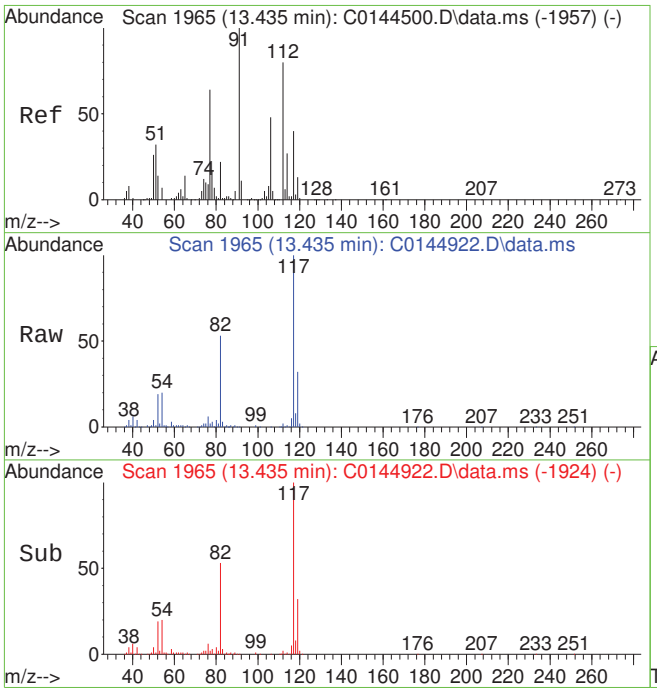


#6
Bromomethane
Concen: 2.19 ug/L m
RT: 3.909 min Scan# 399
Delta R.T. 0.013 min
Lab File: C0144922.D
Acq: 13 Nov 2020 7:04 pm

Tgt Ion: 94 Resp: 5093

Ion	Ratio	Lower	Upper
94	100		
96	96.3	67.0	127.0
93	0.0	0.0	49.7

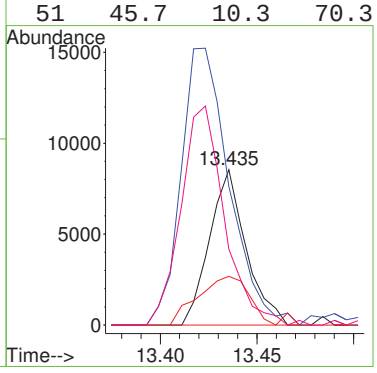




#72
Chlorobenzene
Concen: 0.47 ug/L
RT: 13.435 min Scan# 1965
Delta R.T. 0.000 min
Lab File: C0144922.D
Acq: 13 Nov 2020 7:04 pm

Tgt Ion:112 Resp: 11283

Ion	Ratio	Lower	Upper
112	100		
77	89.3	50.2	110.2
114	31.4	3.3	63.3
51	45.7	10.3	70.3



Manual Integration Approval Summary

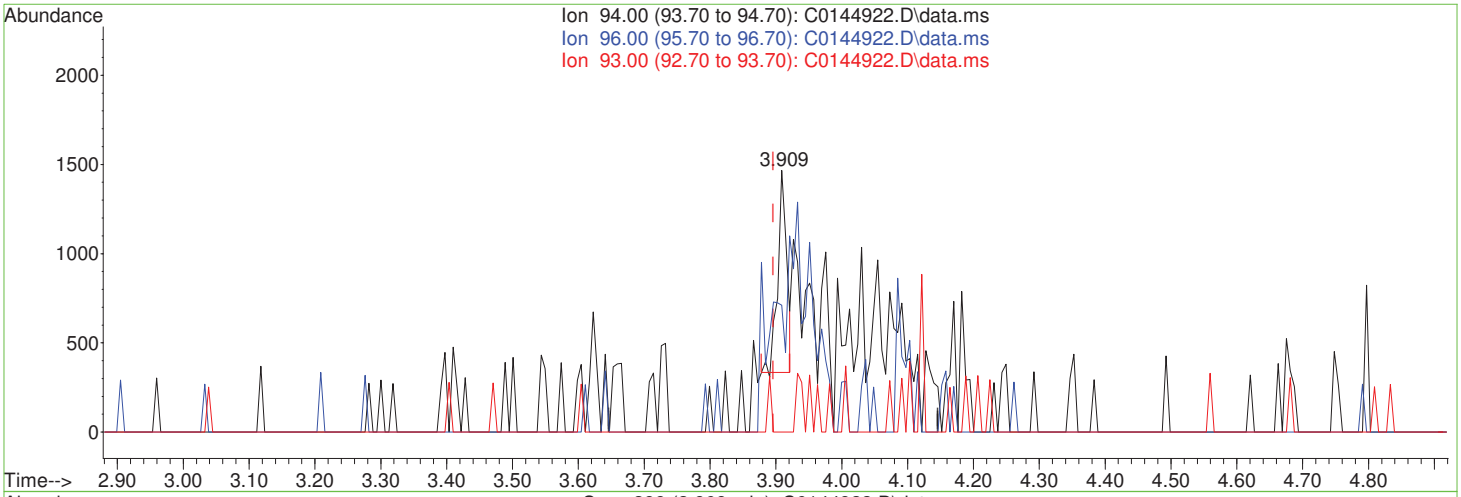
Sample Number: FA80565-1
Lab FileID: C0144922.D
Injection Time: 11/13/20 19:04
Method: SW846 8260B
Analyst approved: 11/18/20 04:22 Edessa Sumagaysay
Supervisor approved: 11/18/20 15:28 Melissa Mangual

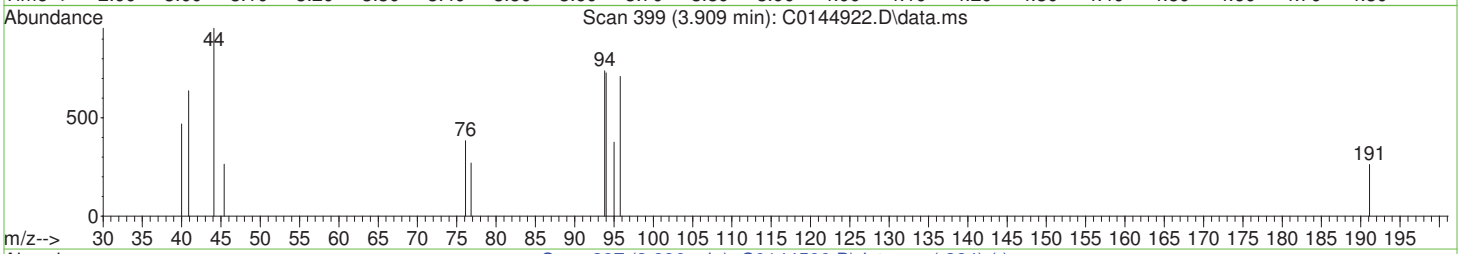
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Bromide	74-83-9		3.91	Poor instrument integration

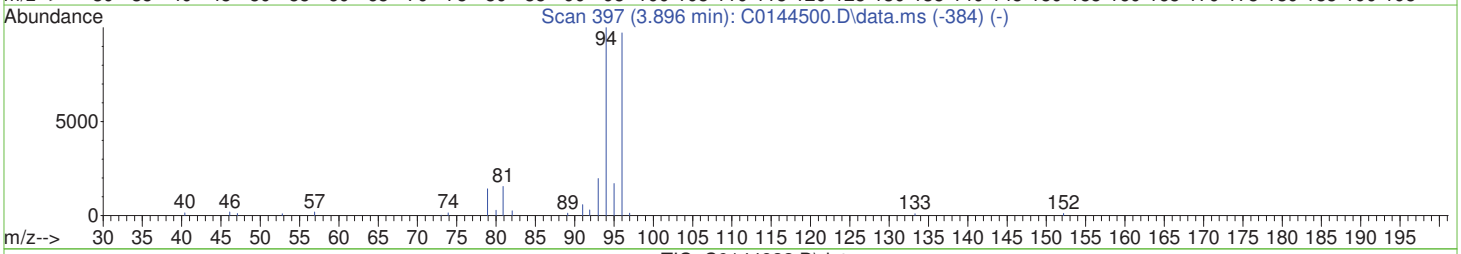
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144922.D
Acq On : 13 Nov 2020 7:04 pm
Operator : SHANICAO
Sample : FA80565-1
Misc : MS47712,VC5817,,,,,
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 15 19:19:51 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144922.D\data.ms

(6) Bromomethane ( )

3.909min (+0.013) 0.47ug/L

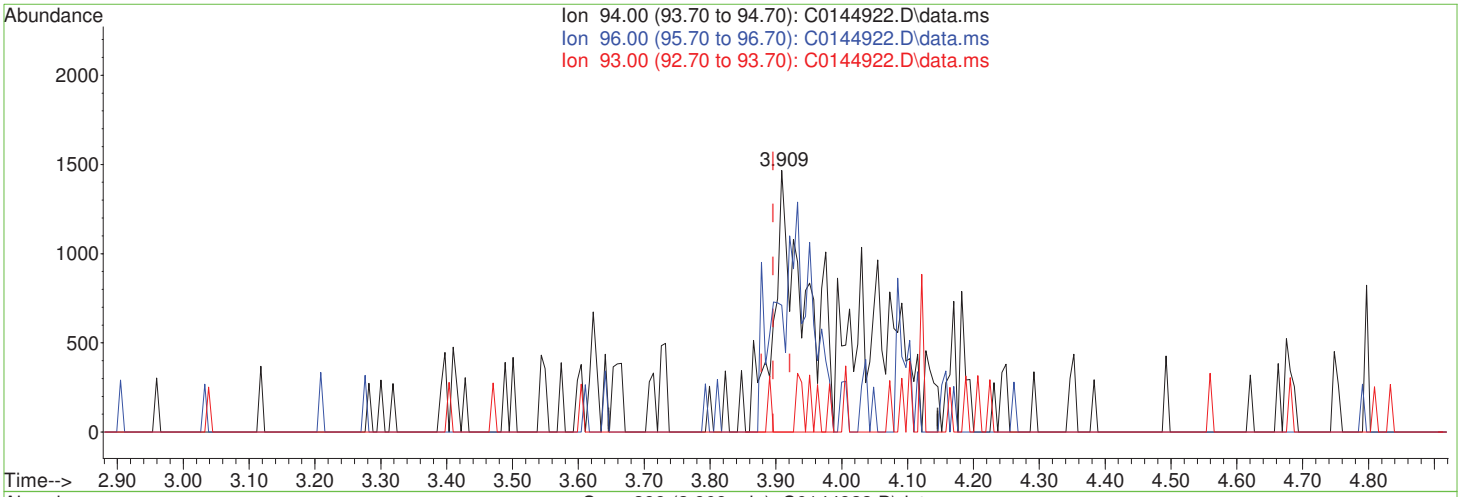
response 1088

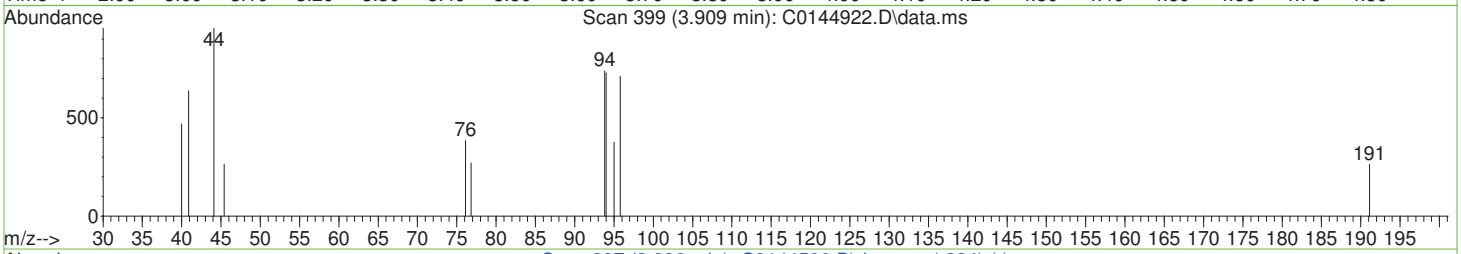
Ion	Exp%	Act%
94.00	100	100
96.00	97.00	0.00#
93.00	19.70	0.00
0.00	0.00	0.00

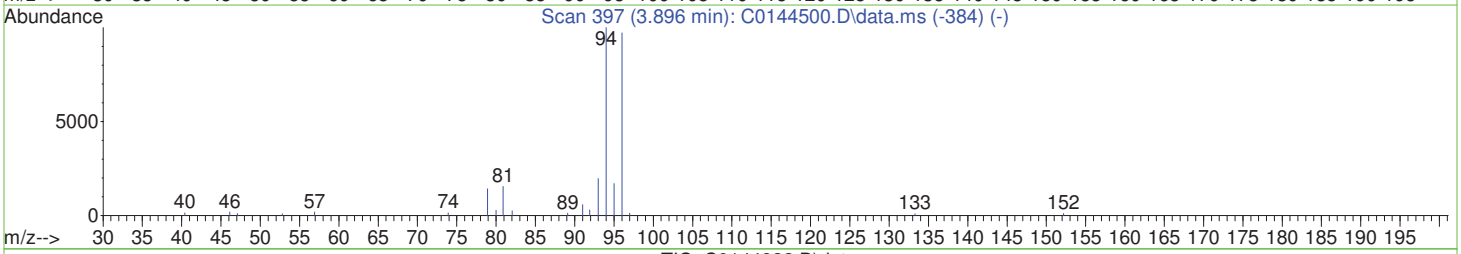
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144922.D
Acq On : 13 Nov 2020 7:04 pm
Operator : SHANICAO
Sample : FA80565-1
Misc : MS47712,VC5817,,,,,
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 15 19:19:51 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144922.D\data.ms

(6) Bromomethane ( )

3.909min (+0.013) 2.19ug/L m

response 5093

Ion	Exp%	Act%
94.00	100	100
96.00	97.00	96.34
93.00	19.70	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54127.D
Acq On : 17 Nov 2020 10:42 pm
Operator : chelseav
Sample : FA80565-1
Misc : MS47712,VY2246
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 18 02:38:38 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

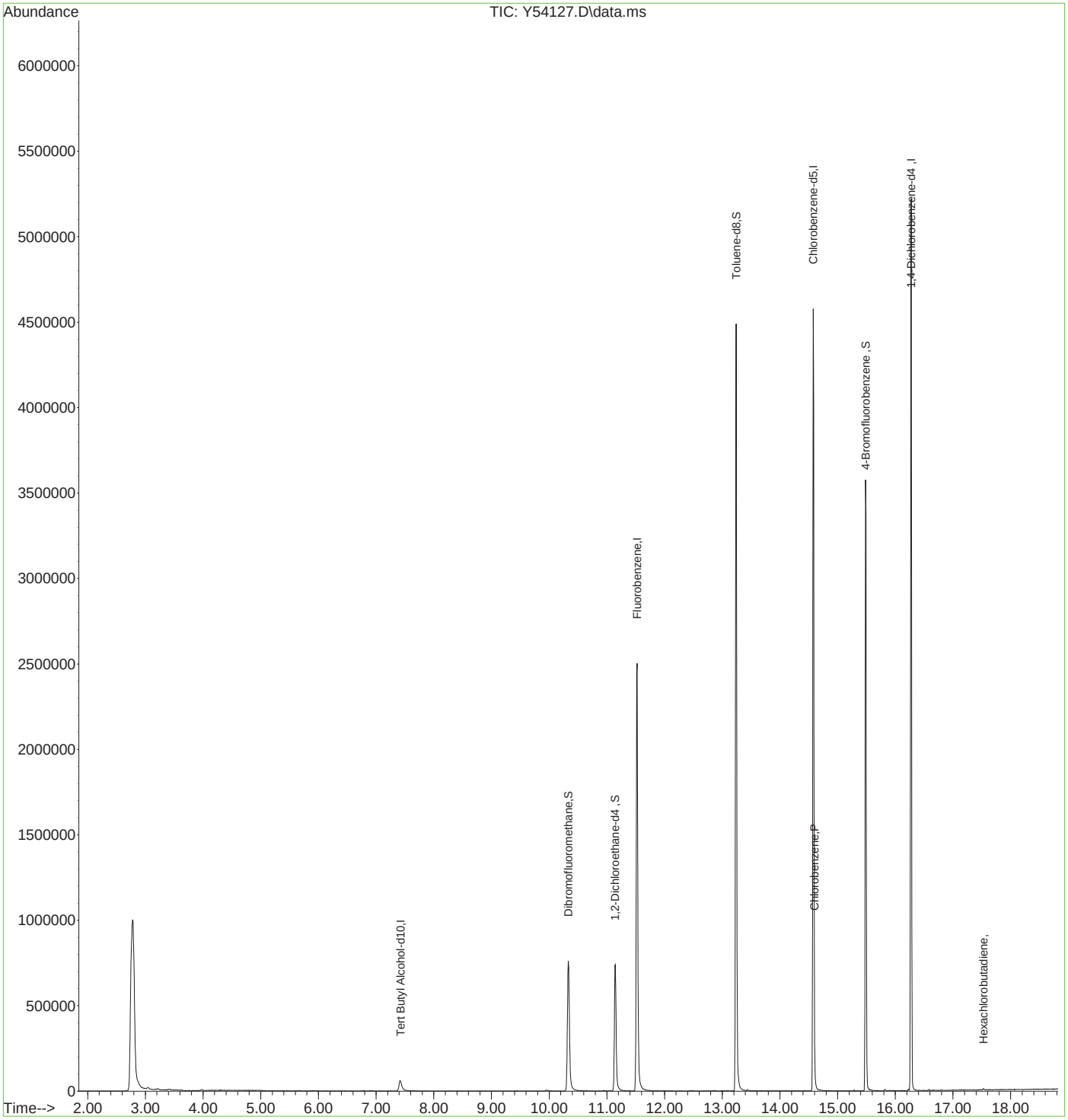
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.523	96	2434001	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	2239894	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.275	152	1132701	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.423	65	99285	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	609988	48.20	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.40%			
47) 1,2-Dichloroethane-d4	11.140	65	530763	49.83	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.66%			
58) Toluene-d8	13.239	98	2488227	48.45	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.90%			
80) 4-Bromofluorobenzene	15.490	174	857875	50.25	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.50%			
Target Compounds						Qvalue
72) Chlorobenzene	14.596	112	17329	0.49	ug/L	96
103) Hexachlorobutadiene	17.528	225	1120	0.24	ug/L	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

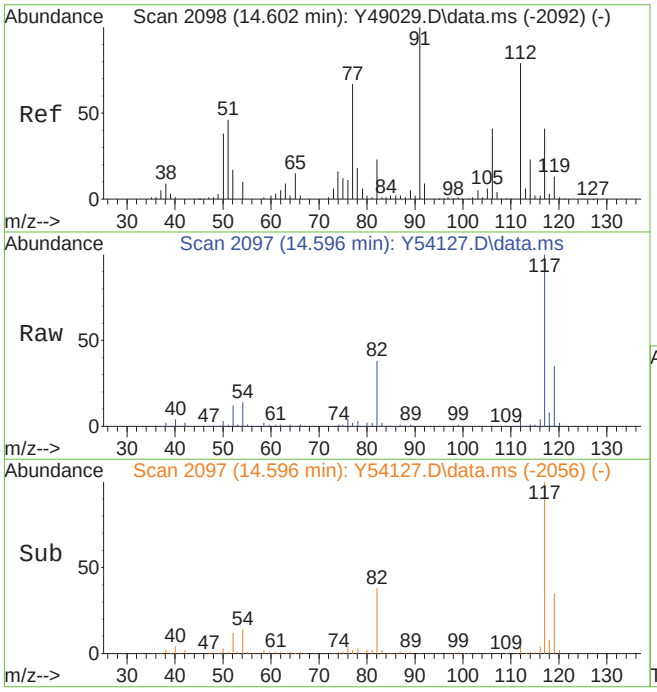
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54127.D
Acq On : 17 Nov 2020 10:42 pm
Operator : chelseav
Sample : FA80565-1
Misc : MS47712,VY2246
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 18 02:38:38 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



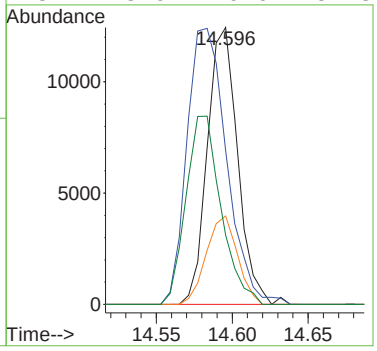
RESTEK111720w.M Wed Nov 18 02:48:47 2020 Page: 2

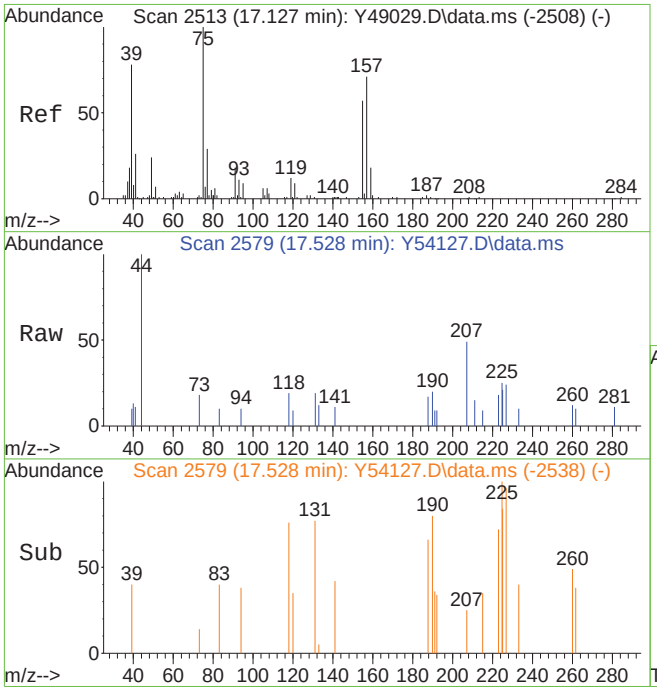


#72
Chlorobenzene
Concen: 0.49 ug/L
RT: 14.596 min Scan# 2097
Delta R.T. 0.000 min
Lab File: Y54127.D
Acq: 17 Nov 2020 10:42 pm

Tgt Ion:112 Resp: 17329

Ion	Ratio	Lower	Upper
112	100		
77	55.5	22.1	82.1
114	31.9	1.5	61.5
51	25.0	0.0	57.8

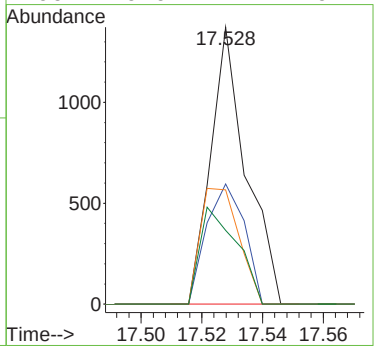




#103
Hexachlorobutadiene
Concen: 0.24 ug/L
RT: 17.528 min Scan# 2579
Delta R.T. 0.001 min
Lab File: Y54127.D
Acq: 17 Nov 2020 10:42 pm

Tgt Ion:225 Resp: 1120

Ion	Ratio	Lower	Upper
225	100		
190	43.3	23.1	83.1
118	41.2	13.3	73.3
260	26.6	1.1	61.1



Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
11/17/20 12:25

Quantitation Report (QT/LSC Reviewed)

Data Path : X:\voa-orlando\complete\2020\NOVEMBER\11-16-2020\vc5817-18\
Data File : C0144905.D
Acq On : 13 Nov 2020 11:48 am
Operator : SHANICAO
Sample : MB
Misc : MS47712,VC5817,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 15 19:30:13 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.528	96	2216298	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1735226	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	867091	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.774	65	238621	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	566516	50.83	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.66%			
47) 1,2-Dichloroethane-d4	10.181	65	722911	48.47	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 96.94%			
58) Toluene-d8	12.134	98	2266394	48.86	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.72%			
80) 4-Bromofluorobenzene	14.306	174	709263	48.85	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.70%			
Target Compounds						Qvalue
6) Bromomethane	3.927	94	9987m	3.90	ug/L	
14) Iodomethane	5.515	142	11698m	1.16	ug/L	

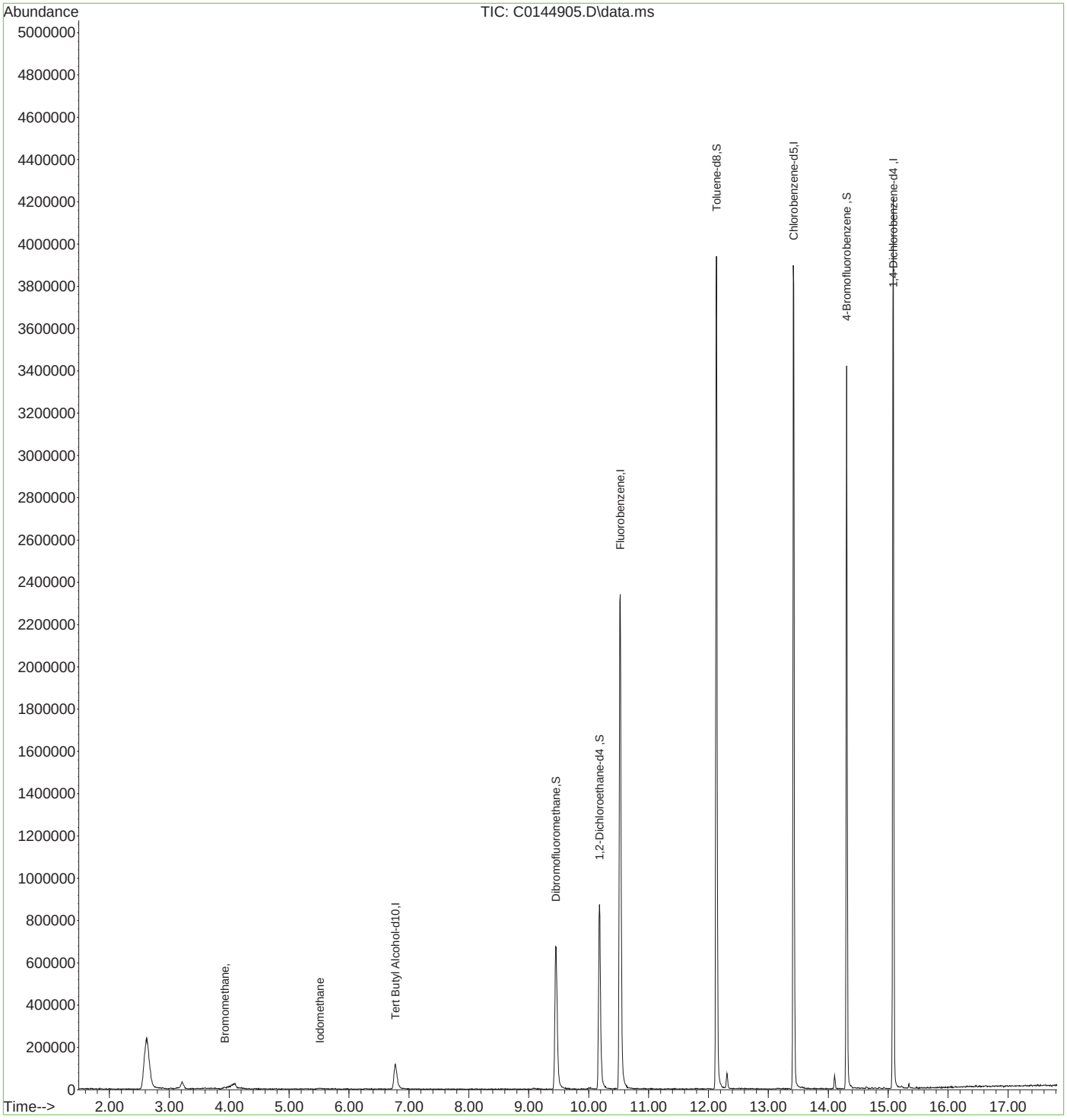
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.1
7

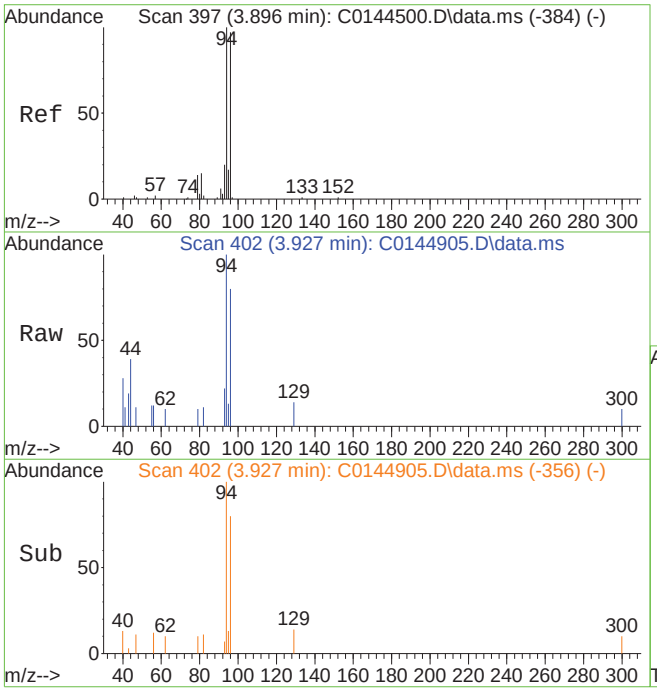
Quantitation Report (QT/LSC Reviewed)

Data Path : X:\voa-orlando\complete\2020\NOVEMBER\11-16-2020\vc5817-18\
Data File : C0144905.D
Acq On : 13 Nov 2020 11:48 am
Operator : SHANICAO
Sample : MB
Misc : MS47712,VC5817,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 15 19:30:13 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration



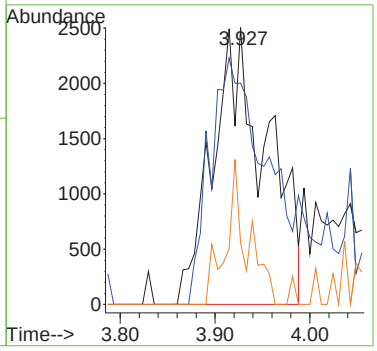
RTXVMS102820.M Mon Nov 16 01:01:10 2020 Page: 2

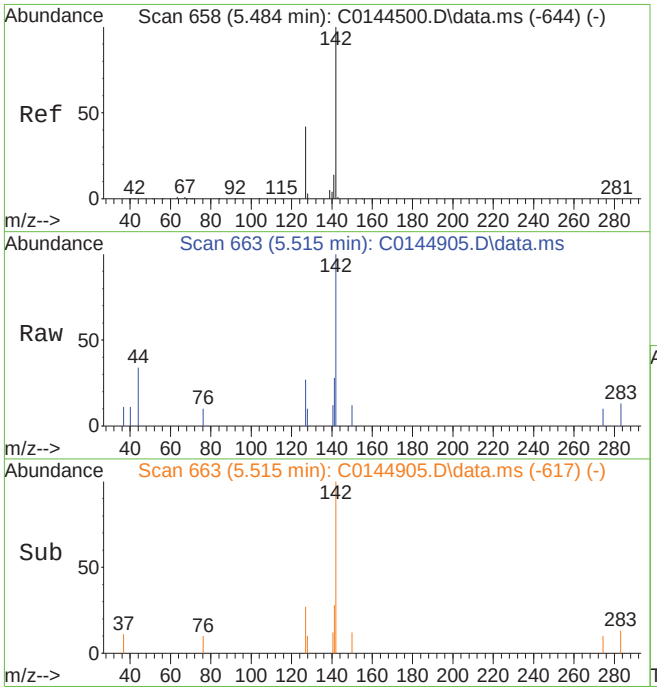


#6
Bromomethane
Concen: 3.90 ug/L m
RT: 3.927 min Scan# 402
Delta R.T. 0.031 min
Lab File: C0144905.D
Acq: 13 Nov 2020 11:48 am

Tgt Ion: 94 Resp: 9987

Ion	Ratio	Lower	Upper
94	100		
96	79.9	67.0	127.0
93	22.2	0.0	49.7

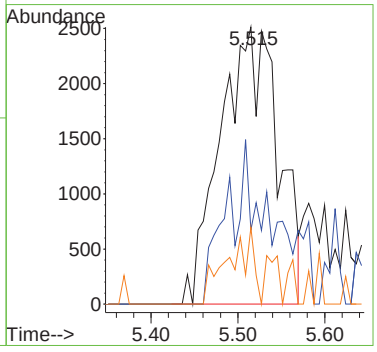




#14
Iodomethane
Concen: 1.16 ug/L m
RT: 5.515 min Scan# 663
Delta R.T. 0.031 min
Lab File: C0144905.D
Acq: 13 Nov 2020 11:48 am

Tgt Ion:142 Resp: 11698

Ion	Ratio	Lower	Upper
142	100		
127	26.8	21.3	61.3
141	27.7	0.0	33.8



Manual Integration Approval Summary

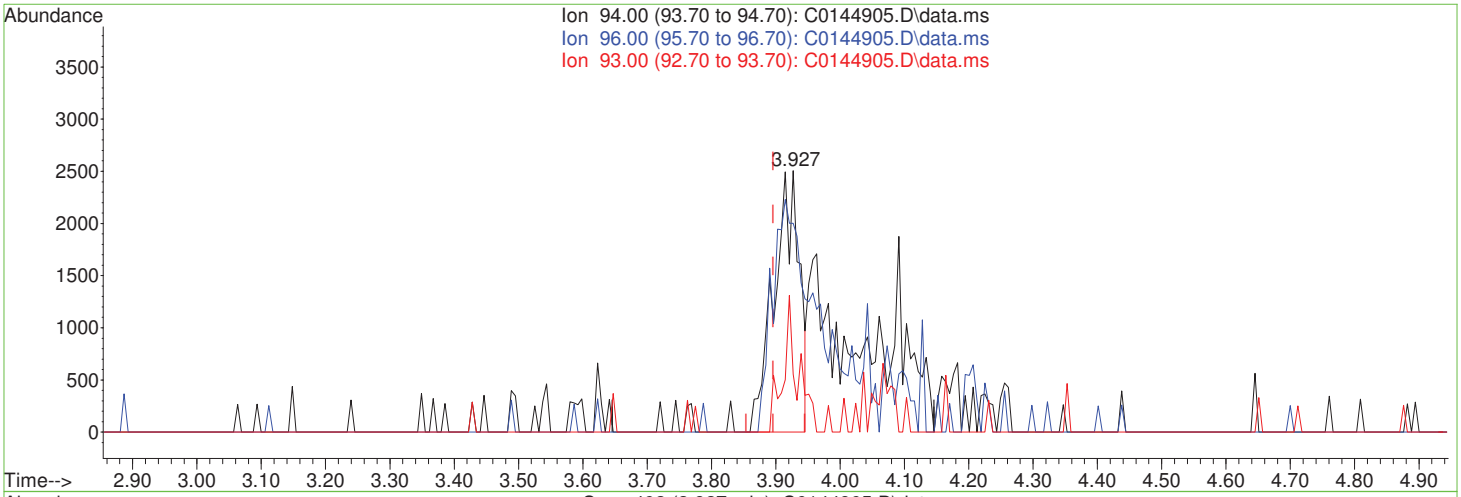
Sample Number: VC5817-MB
Lab FileID: C0144905.D
Injection Time: 11/13/20 11:48
Method: SW846 8260B
Analyst approved: 11/16/20 01:16 Edessa Sumagaysay
Supervisor approved: 11/17/20 12:25 Melissa Mangual

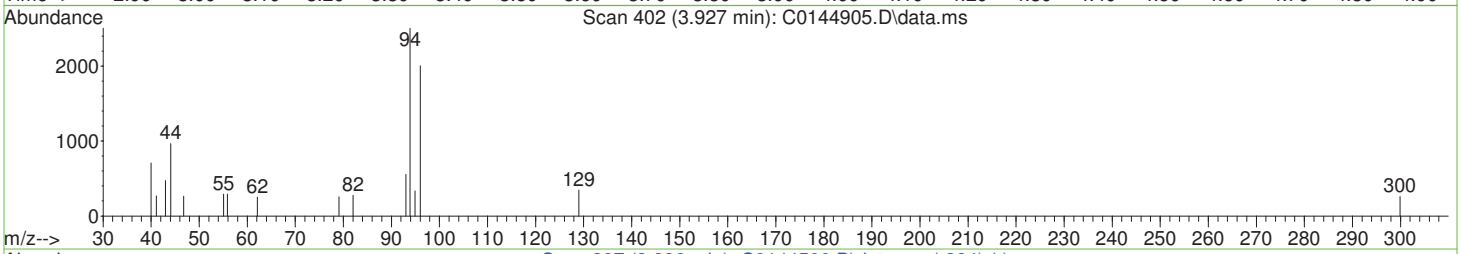
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Bromide	74-83-9		3.93	Poor instrument integration
Methyl Iodide	74-88-4		5.51	Poor instrument integration

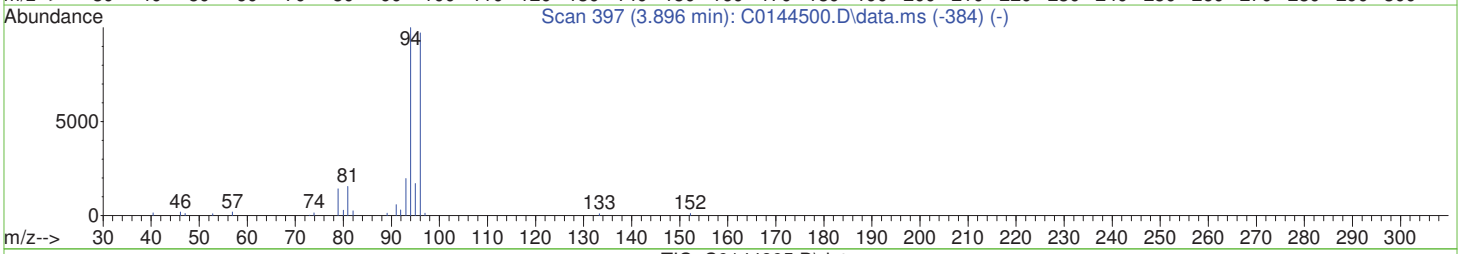
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144905.D
Acq On : 13 Nov 2020 11:48 am
Operator : SHANICAO
Sample : MB
Misc : MS47702,VC5817,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 15 19:18:52 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144905.D\data.ms

(6) Bromomethane ( )

3.927min (+0.031) 2.70ug/L

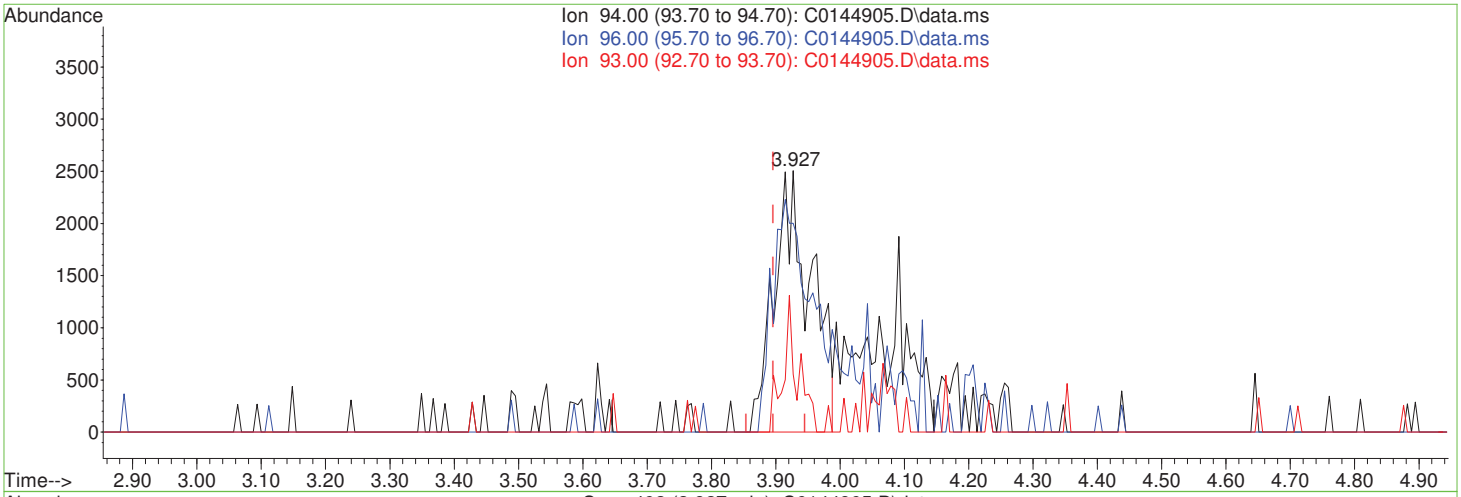
response 6846

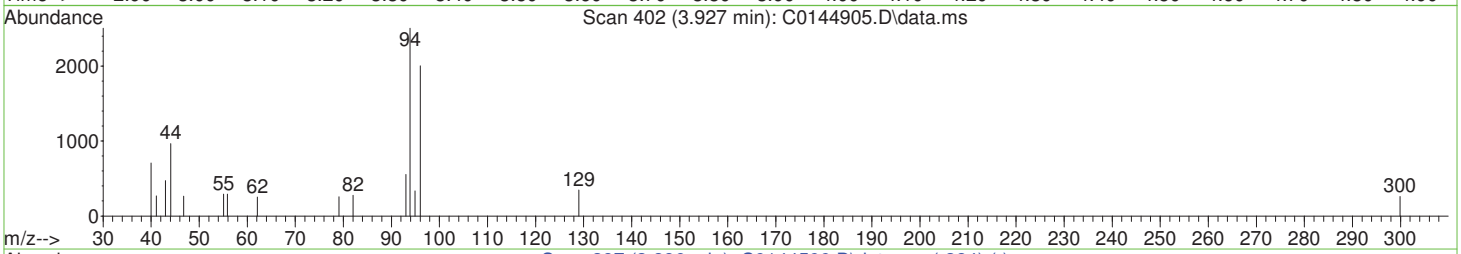
Ion	Exp%	Act%
94.00	100	100
96.00	97.00	79.86
93.00	19.70	22.18
0.00	0.00	0.00

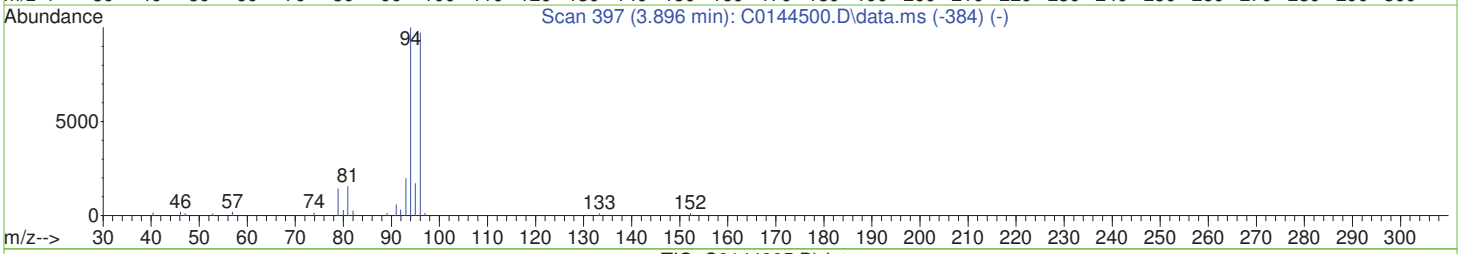
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144905.D
Acq On : 13 Nov 2020 11:48 am
Operator : SHANICAO
Sample : MB
Misc : MS47702,VC5817,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 15 19:18:52 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144905.D\data.ms

(6) Bromomethane ( )

3.927min (+0.031) 3.90ug/L m

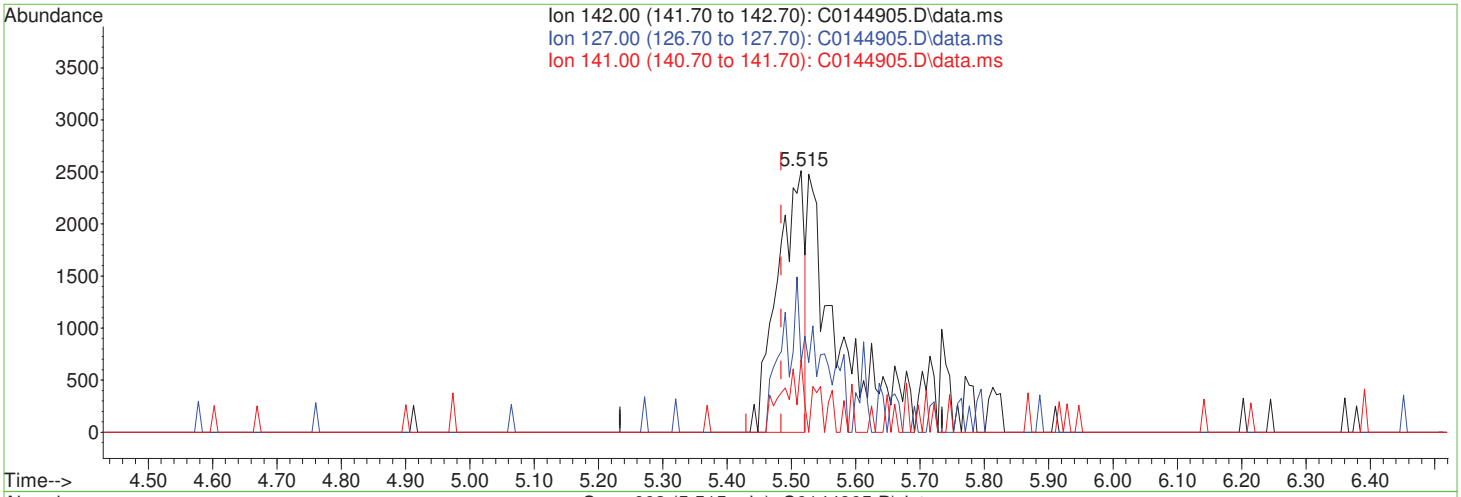
response 9987

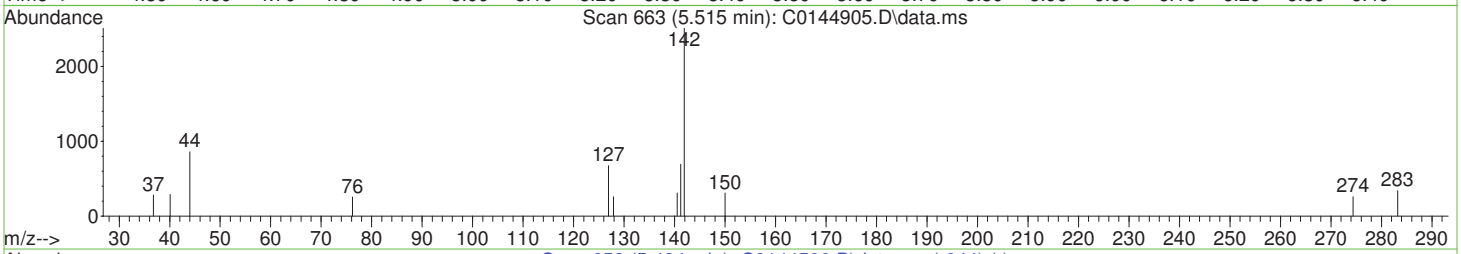
Ion	Exp%	Act%
94.00	100	100
96.00	97.00	79.86
93.00	19.70	22.18
0.00	0.00	0.00

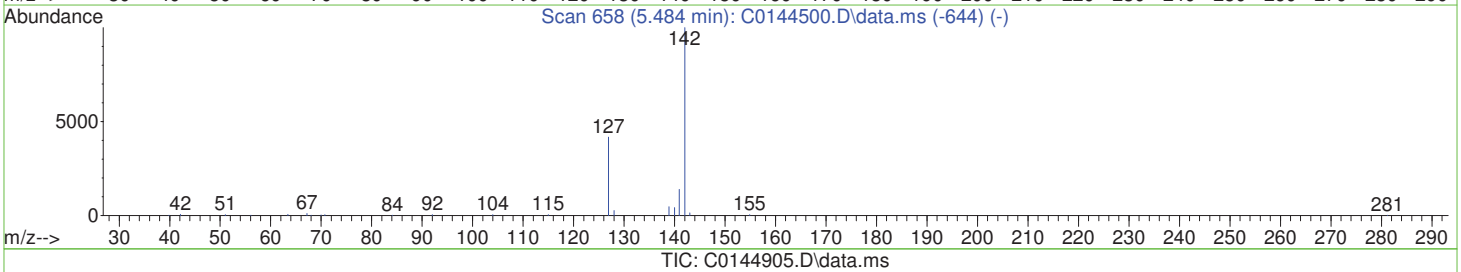
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144905.D
Acq On : 13 Nov 2020 11:48 am
Operator : SHANICAO
Sample : MB
Misc : MS47702,VC5817,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 15 19:18:52 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144905.D\data.ms

(14) Iodomethane

5.515min (+0.031) 0.72ug/L

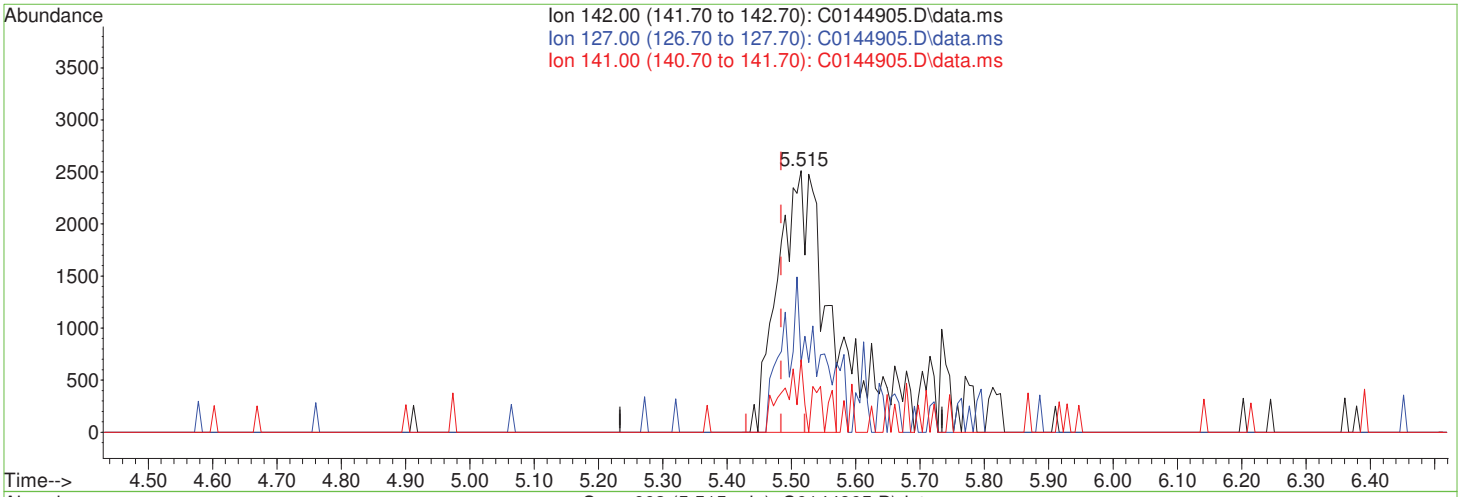
response 7237

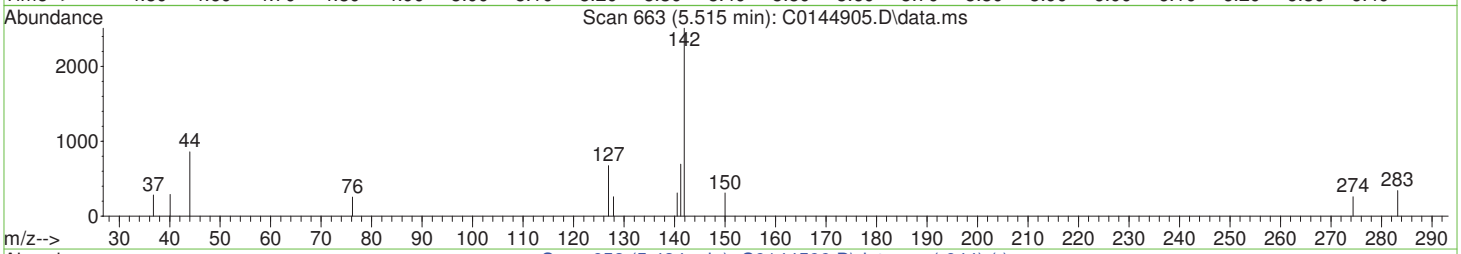
Ion	Exp%	Act%
142.00	100	100
127.00	41.30	26.78
141.00	13.80	27.66
0.00	0.00	0.00

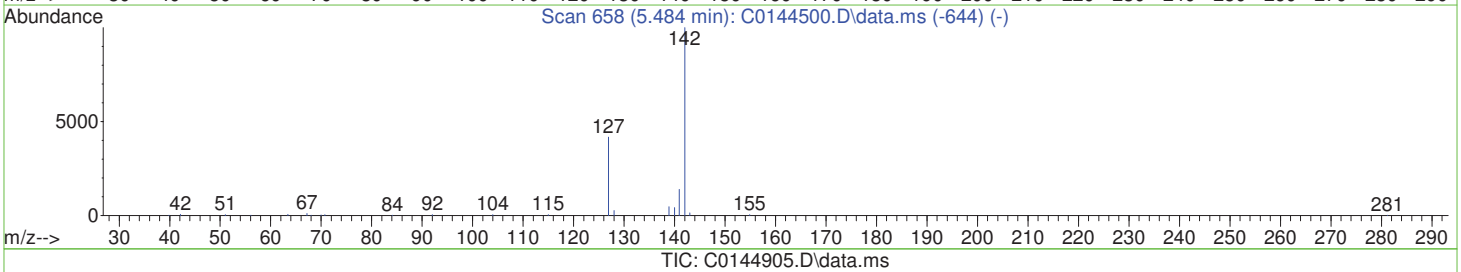
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144905.D
Acq On : 13 Nov 2020 11:48 am
Operator : SHANICAO
Sample : MB
Misc : MS47702,VC5817,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 15 19:18:52 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144905.D\data.ms

(14) Iodomethane

5.515min (+0.031) 1.16ug/L m

response 11698

Ion	Exp%	Act%
142.00	100	100
127.00	41.30	26.78
141.00	13.80	27.66
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54112.D
Acq On : 17 Nov 2020 3:54 pm
Operator : chelseav
Sample : MB
Misc : MS47712,VY2246
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 18 02:20:18 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

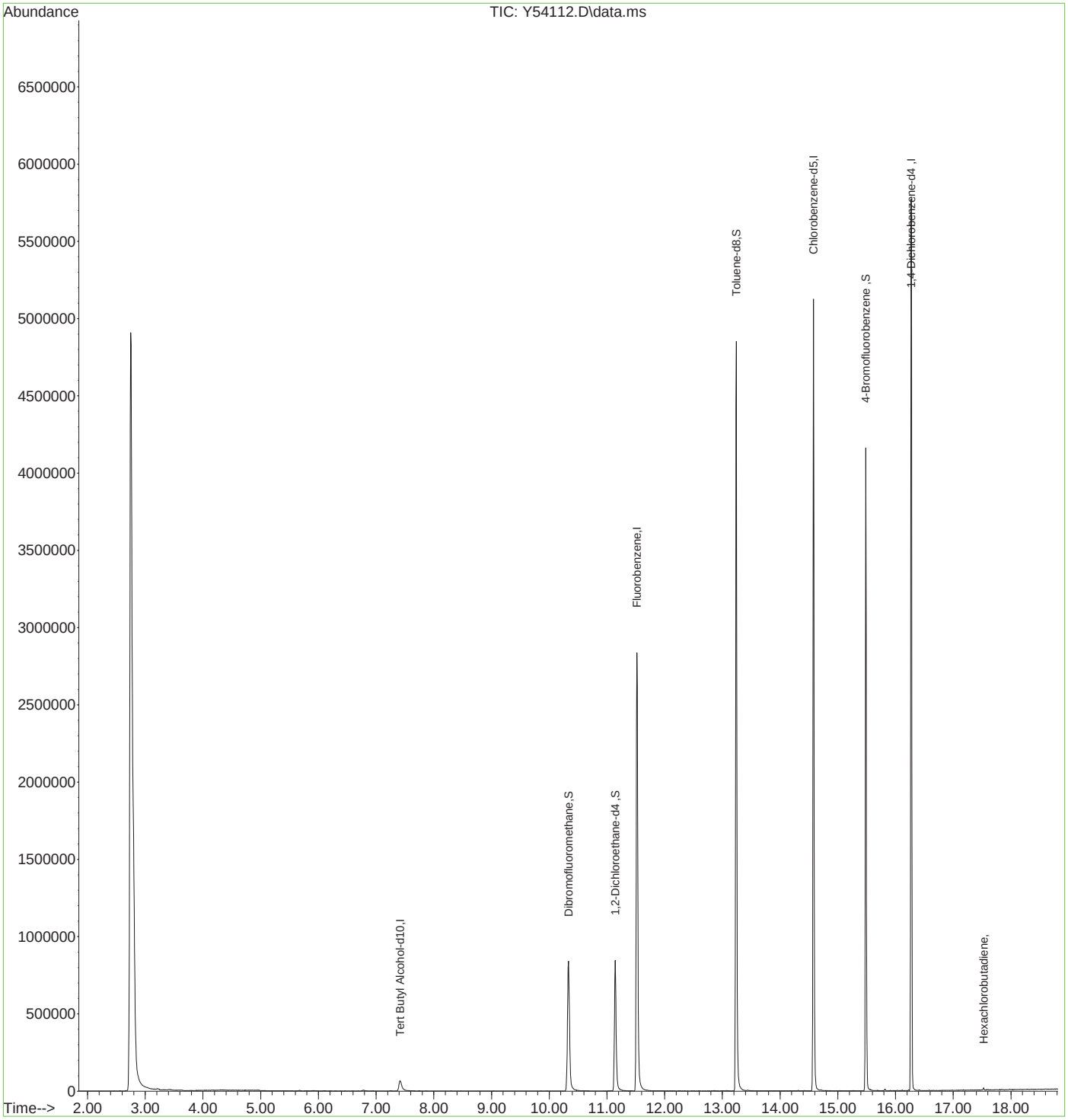
Compound		R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards							
1) Fluorobenzene		11.519	96	2734449	50.00	ug/L	0.00
57) Chlorobenzene-d5		14.579	117	2486559	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4		16.271	152	1246373	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10		7.413	65	112682	250.00	ug/L	0.00
System Monitoring Compounds							
37) Dibromofluoromethane		10.333	113	683395	48.07	ug/L	0.00
Spiked Amount	50.000	Range 83 - 118		Recovery =	96.14%		
47) 1,2-Dichloroethane-d4		11.142	65	601421	50.26	ug/L	0.00
Spiked Amount	50.000	Range 79 - 125		Recovery =	100.52%		
58) Toluene-d8		13.241	98	2790761	48.95	ug/L	0.00
Spiked Amount	50.000	Range 85 - 112		Recovery =	97.90%		
80) 4-Bromofluorobenzene		15.486	174	951996	50.68	ug/L	0.00
Spiked Amount	50.000	Range 83 - 118		Recovery =	101.36%		
Target Compounds							Qvalue
103) Hexachlorobutadiene		17.530	225	1776	0.35	ug/L	82

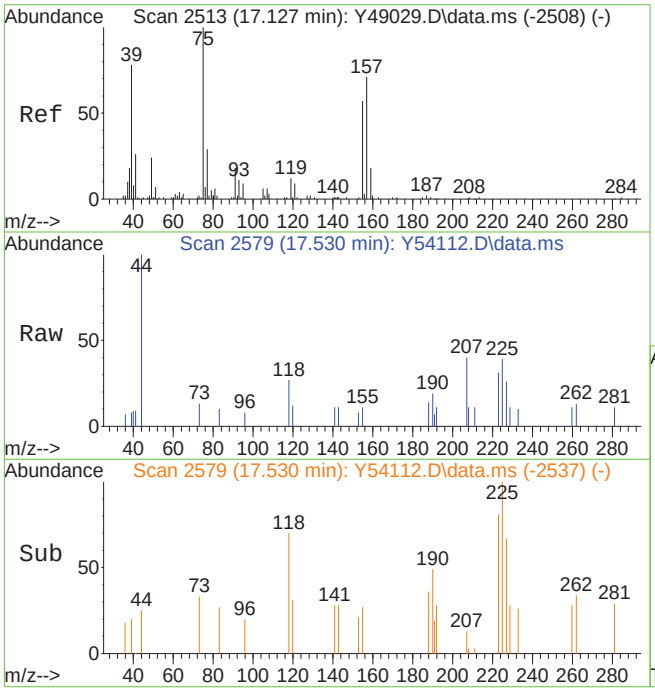
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54112.D
Acq On : 17 Nov 2020 3:54 pm
Operator : chelseav
Sample : MB
Misc : MS47712,VY2246
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 18 02:20:18 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

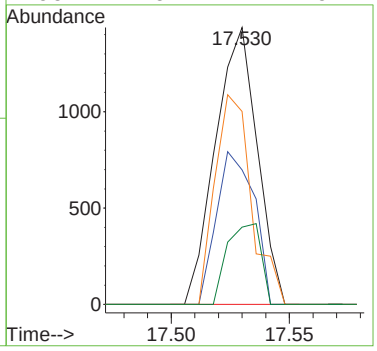




#103
Hexachlorobutadiene
Concen: 0.35 ug/L
RT: 17.530 min Scan# 2579
Delta R.T. 0.003 min
Lab File: Y54112.D
Acq: 17 Nov 2020 3:54 pm

Tgt Ion:225 Resp: 1776

Ion	Ratio	Lower	Upper
225	100		
190	48.5	23.1	83.1
118	69.6	13.3	73.3
260	27.9	1.1	61.1



Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
11/17/20 12:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144902.D
Acq On : 13 Nov 2020 10:33 am
Operator : SHANICAO
Sample : BS
Misc : MS47702,VC5817,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 15 19:28:00 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	2470821	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1903017	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	993525	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	175921	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	644285	51.86	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 103.72%			
47) 1,2-Dichloroethane-d4	10.175	65	823486	49.52	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.04%			
58) Toluene-d8	12.134	98	2451334	48.19	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.38%			
80) 4-Bromofluorobenzene	14.305	174	792504	47.64	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.28%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.868	85	212229	15.73	ug/L	98
3) Chloromethane	3.209	50	369817	24.91	ug/L	98
4) 1,3-butadiene	3.367	39	303419	27.84	ug/L	92
5) Vinyl Chloride	3.349	62	268518	21.35	ug/L	98
6) Bromomethane	3.915	94	114075	33.08	ug/L	87
7) Chloroethane	4.122	64	167912	21.13	ug/L	95
8) Trichlorofluoromethane	4.347	101	403048	24.61	ug/L	98
9) Ethyl Ether	4.900	59	225032	21.90	ug/L	94
10) 1,2-Dichlorotrifluoroe...	5.247	67	336015	28.99	ug/L	95
11) 1,1-Dichloroethene	5.235	61	449264	28.60	ug/L	97
12) Freon 113	5.320	101	240256	22.18	ug/L	94
13) Carbon Disulfide	5.277	76	763724	23.36	ug/L	99
14) Iodomethane	5.496	142	188330	16.69	ug/L	92
15) Acrolein	5.825	56	146539	72.64	ug/L	95
16) Allyl chloride	6.062	41	318522	18.91	ug/L	93
17) Methylene Chloride	6.275	49	352324	21.82	ug/L	99
18) Acetone	6.336	43	411086	114.84	ug/L	99
19) Methyl acetate	6.561	43	893566	112.08	ug/L	96
20) trans-1,2-Dichloroethene	6.543	61	379444	26.02	ug/L	97
21) Hexane	6.677	56	236518	24.21	ug/L	92
22) Methyl Tert Butyl Ether	6.719	73	724783	21.49	ug/L	84
23) Acetonitrile	7.169	41	295880	195.43	ug/L	91
24) Di-isopropyl ether	7.419	45	974377	24.86	ug/L	98
25) Chloroprene	7.601	53	409181	26.51	ug/L	98
26) 1,1-Dichloroethane	7.638	63	488000	26.21	ug/L	98
27) Acrylonitrile	7.735	52	376364	114.35	ug/L	96
28) ETBE	8.082	59	778226	20.36	ug/L	98
29) Vinyl acetate	8.112	43	2946290	108.84	ug/L	100
30) cis-1,2-Dichloroethene	8.660	96	270938	25.65	ug/L	94
31) 2,2-Dichloropropane	8.848	77	332848	19.70	ug/L	93
32) Bromochloromethane	9.025	128	123471	24.44	ug/L	95
33) Cyclohexane	9.019	56	512624	26.70	ug/L	99
34) Chloroform	9.165	83	475071	25.94	ug/L	99
35) Ethyl acetate	9.353	43	1298963	115.67	ug/L	99
36) Tetrahydrofuran	9.402	42	96471	21.16	ug/L	89
38) Carbon Tetrachloride	9.372	117	348261	27.97	ug/L	97
39) 1,1,1-Trichloroethane	9.469	97	417126	26.09	ug/L	96
40) 2-Butanone	9.627	43	579065	107.08	ug/L	100
41) 1,1-Dichloropropene	9.658	75	398044	26.39	ug/L	97
42) tert-Butyl formate	9.810	59	576186	56.76	ug/L	98
43) Propionitrile	10.023	54	321501	194.75	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144902.D
Acq On : 13 Nov 2020 10:33 am
Operator : SHANICAO
Sample : BS
Misc : MS47702,VC5817,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 15 19:28:00 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Methacrylonitrile	10.053	41	1540347	210.07	ug/L		99
45)	Benzene	10.004	78	1080082	25.83	ug/L		98
46)	TAME	10.150	73	763813	22.25	ug/L		99
48)	1,2-Dichloroethane	10.266	62	376382	23.94	ug/L		97
49)	Trichloroethene	10.728	95	293452	24.99	ug/L		98
50)	Methylcyclohexane	10.710	83	498506	27.33	ug/L		93
51)	Dibromomethane	11.191	93	154910	23.03	ug/L		95
52)	1,2-Dichloropropane	11.288	63	293212	25.00	ug/L		98
53)	Bromodichloromethane	11.361	83	366801	25.92	ug/L		97
54)	Methyl methacrylate	11.501	41	236078	19.96	ug/L		95
55)	2-Chloroethyl vinyl ether	11.896	63	415205	55.48	ug/L		98
56)	cis-1,3-Dichloropropene	11.963	75	438039	22.67	ug/L		98
59)	Toluene	12.176	91	1172188	23.66	ug/L		98
60)	2-Nitropropane	12.383	41	419250	108.38	ug/L		96
61)	4-Methyl-2-pentanone	12.493	43	1304496	107.13	ug/L		97
62)	trans-1,3-Dichloropropene	12.541	75	397668	22.33	ug/L		84
63)	Tetrachloroethene	12.523	166	291510	25.77	ug/L		98
64)	Ethyl methacrylate	12.645	69	314380	19.91	ug/L		93
65)	1,1,2-Trichloroethane	12.675	83	209462	23.54	ug/L		95
66)	Dibromochloromethane	12.833	129	274739	24.99	ug/L		97
67)	1,3-Dichloropropane	12.900	76	408872	21.52	ug/L		98
68)	1,2-Dibromoethane	13.034	107	216545	20.46	ug/L		96
69)	2-hexanone	13.168	43	919235m	101.41	ug/L		
70)	1-Chlorohexane	13.387	91	386393	24.09	ug/L		98
71)	Ethylbenzene	13.435	91	1277086	24.30	ug/L		99
72)	Chlorobenzene	13.435	112	716312	24.57	ug/L		96
73)	1,1,1,2-Tetrachloroethane	13.478	131	256363	24.95	ug/L		98
74)	m,p-Xylene	13.539	91	1910165	48.97	ug/L		100
75)	o-Xylene	13.861	91	1000692	23.72	ug/L		99
76)	Styrene	13.904	104	799918	23.96	ug/L		98
77)	Bromoform	13.953	173	184013	23.95	ug/L		98
78)	Isopropylbenzene	14.080	105	1216093	24.91	ug/L		98
81)	cis-1,4-Dichloro-2-butene	14.336	53	76123	15.71	ug/L		96
82)	n-Propylbenzene	14.372	91	1446196	24.32	ug/L		98
83)	Bromobenzene	14.397	156	300537	23.81	ug/L		99
84)	1,1,2,2-Tetrachloroethane	14.427	83	317225	22.04	ug/L		95
85)	1,3,5-Trimethylbenzene	14.494	105	961800	24.41	ug/L		98
86)	2-Chlorotoluene	14.506	91	958754	23.56	ug/L		99
87)	trans-1,4-Dichloro-2-B...	14.549	53	76825	16.91	ug/L	#	82
88)	1,2,3-Trichloropropane	14.537	110	93309	22.41	ug/L		97
89)	Cyclohexanone	14.585	55	49526	92.14	ug/L		93
90)	4-Chlorotoluene	14.622	91	880337	23.88	ug/L		96
91)	tert-Butylbenzene	14.725	91	559512	23.84	ug/L		99
93)	1,2,4-Trimethylbenzene	14.768	105	932617	24.21	ug/L		96
94)	Pentachloroethane	14.774	167	158065	22.83	ug/L		96
95)	sec-Butylbenzene	14.847	105	1201997	25.44	ug/L		99
96)	4-Isopropyltoluene	14.932	119	997410	25.28	ug/L		99
97)	1,3-Dichlorobenzene	15.035	146	540668	24.11	ug/L		99
98)	1,2,3-Trimethylbenzene	15.078	105	914097	21.25	ug/L		99
99)	1,4-Dichlorobenzene	15.096	146	532038	23.40	ug/L		98
100)	n-Butylbenzene	15.218	92	511499	24.89	ug/L		97
101)	Benzyl Chloride	15.248	126	112651	21.78	ug/L	#	93
102)	1,2-Dichlorobenzene	15.388	146	501839	23.90	ug/L		96
103)	1,2-Dibromo-3-Chloropr...	15.918	75	54663	18.66	ug/L		95
104)	Hexachlorobutadiene	16.319	225	130986	21.73	ug/L		98
105)	1,2,4-Trichlorobenzene	16.374	180	245375	22.27	ug/L		95
106)	Naphthalene	16.617	128	442884	20.61	ug/L		97
107)	1,2,3-Trichlorobenzene	16.757	180	183410	19.98	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144902.D
Acq On : 13 Nov 2020 10:33 am
Operator : SHANICAO
Sample : BS
Misc : MS47702,VC5817,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 15 19:28:00 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

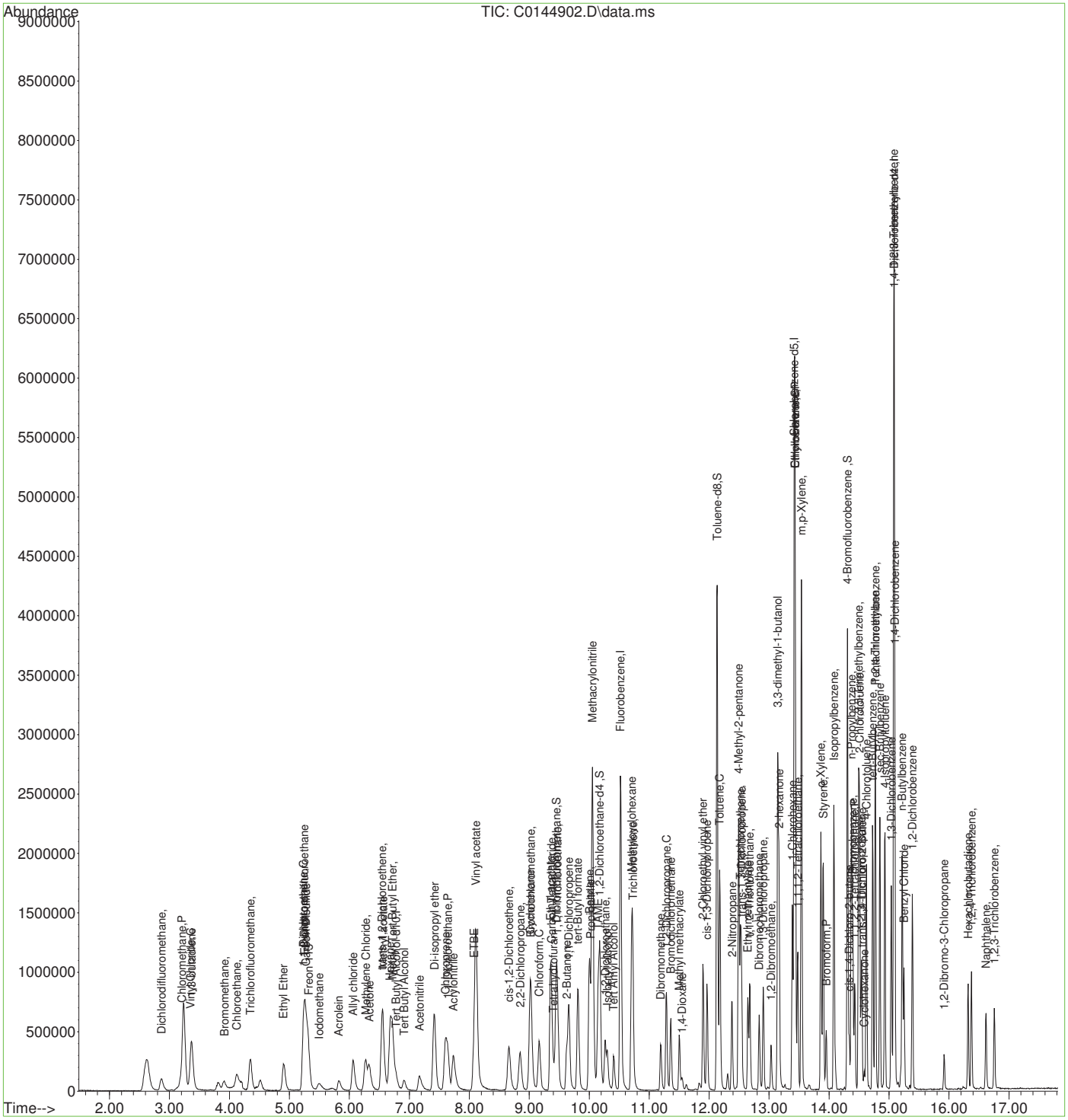
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
109) Ethanol	5.253	45	64668	819.47 ug/L	93
110) Tert Butyl Alcohol	6.914	59	166488	191.93 ug/L	97
111) Isobutyl alcohol	10.302	43	196239	659.26 ug/L	98
112) Tert Amyl Alcohol	10.406	59	192133	314.03 ug/L	98
113) 1,4-Dioxane	11.550	88	59449	768.09 ug/L	91
114) 3,3-dimethyl-1-butanol	13.143	57	1111367m	1913.06 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144902.D
Acq On : 13 Nov 2020 10:33 am
Operator : SHANICAO
Sample : BS
Misc : MS47702,VC5817,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 15 19:28:00 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration



Manual Integration Approval Summary

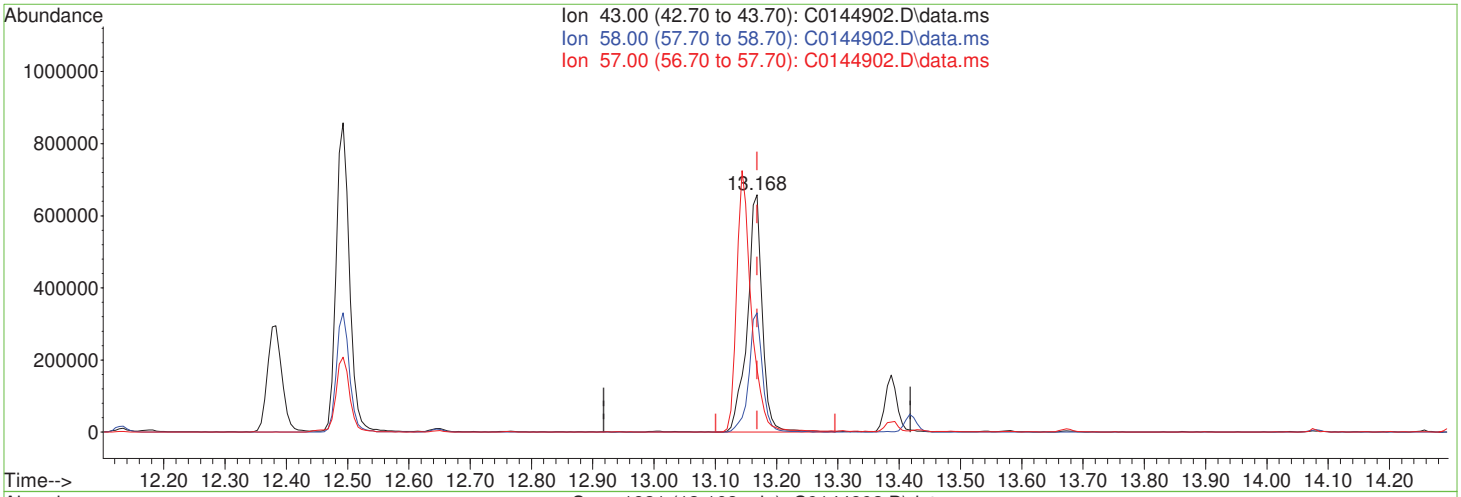
Sample Number: VC5817-BS
Lab FileID: C0144902.D
Injection Time: 11/13/20 10:33
Method: SW846 8260B
Analyst approved: 11/16/20 01:07 Edessa Sumagaysay
Supervisor approved: 11/17/20 12:25 Melissa Mangual

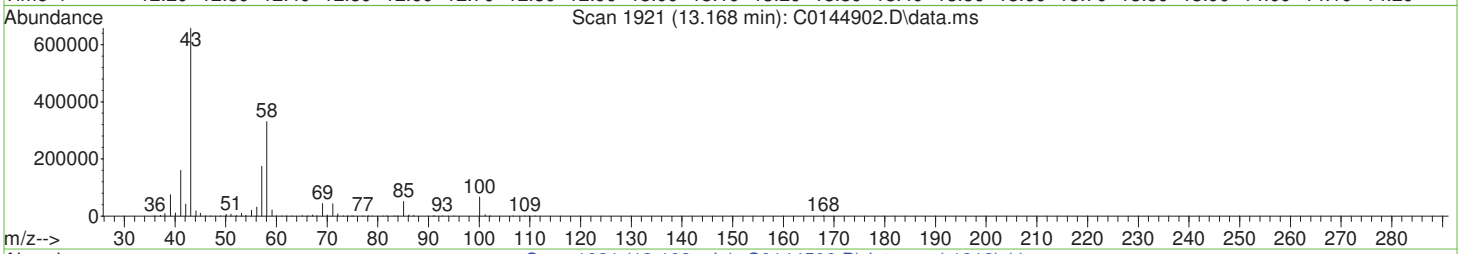
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

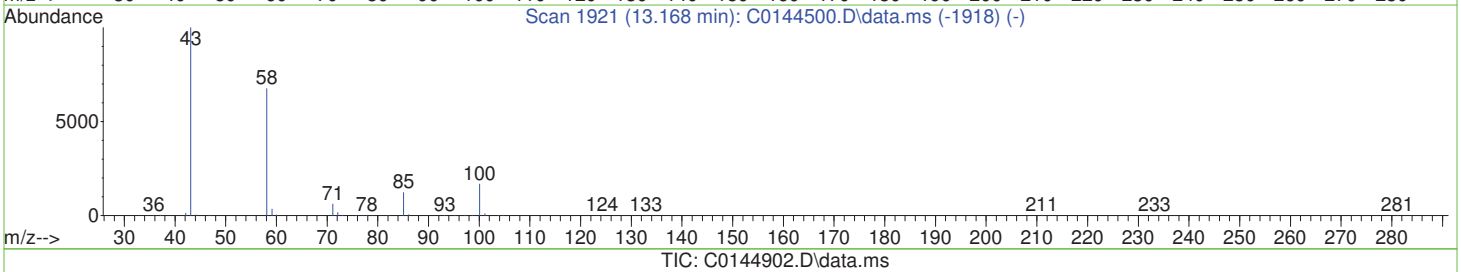
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144902.D
Acq On : 13 Nov 2020 10:33 am
Operator : SHANICAO
Sample : BS
Misc : MS47702,VC5817,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 15 19:18:42 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144902.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 124.41ug/L

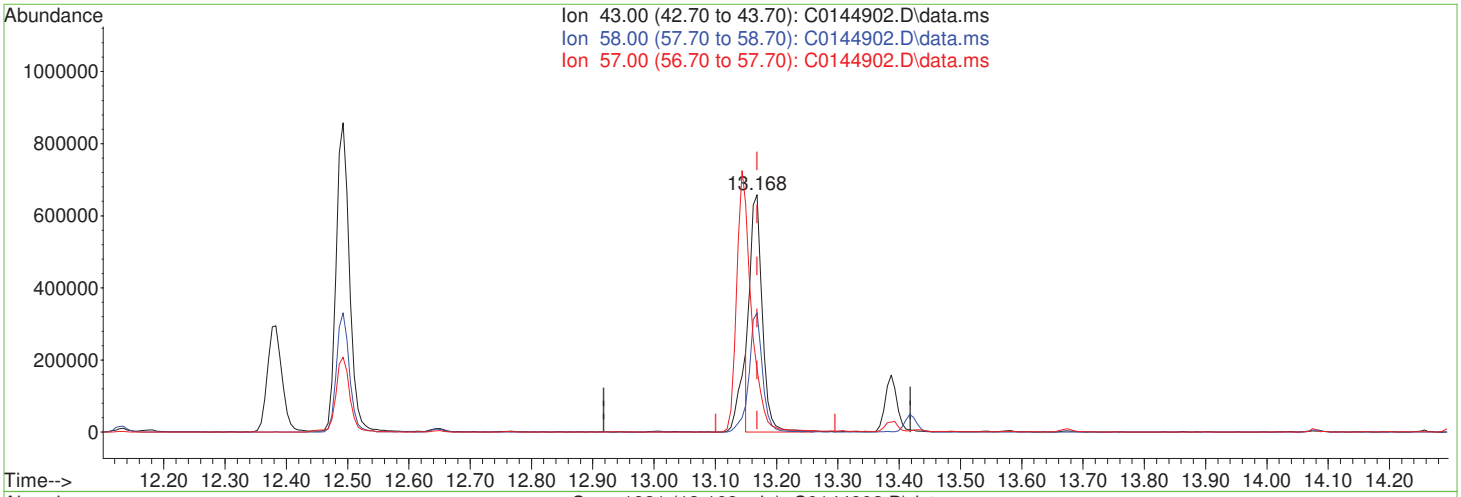
response 1127722

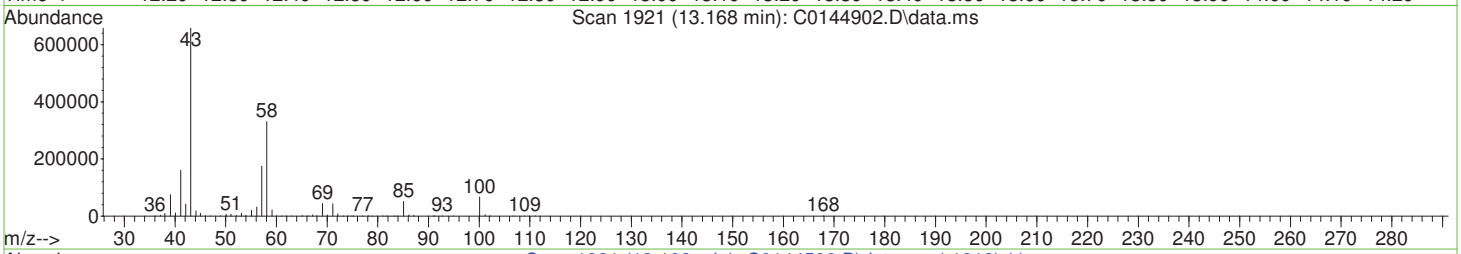
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	50.29
57.00	29.20	26.44
0.00	0.00	0.00

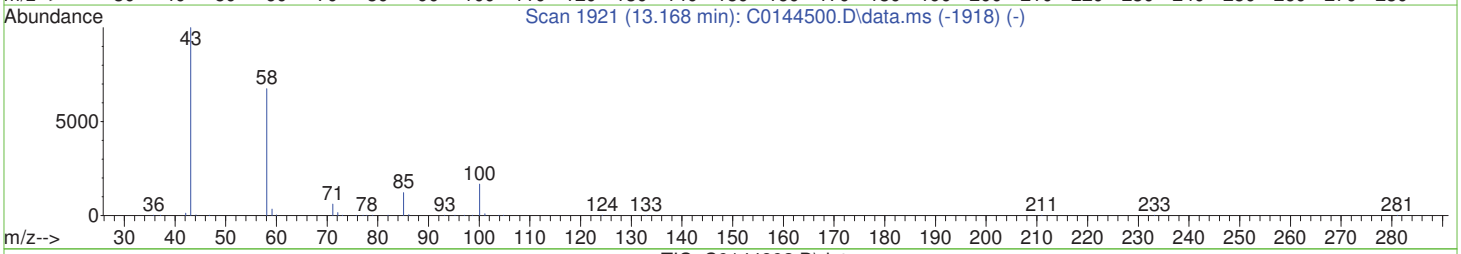
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144902.D
Acq On : 13 Nov 2020 10:33 am
Operator : SHANICAO
Sample : BS
Misc : MS47702,VC5817,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 15 19:18:42 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144902.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 101.41ug/L m

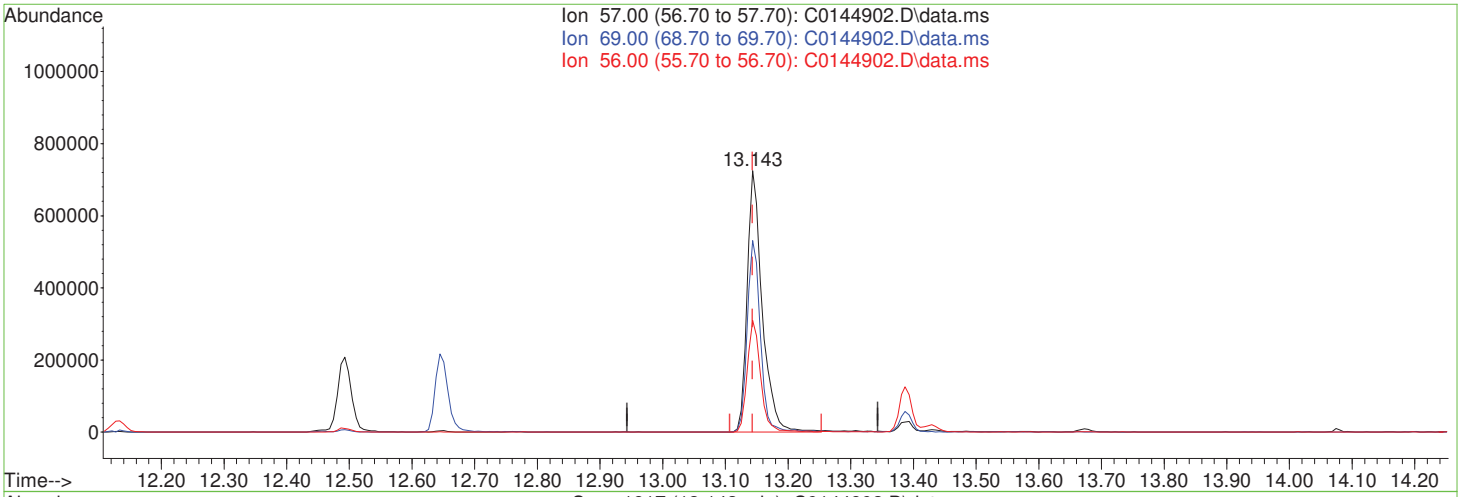
response 919235

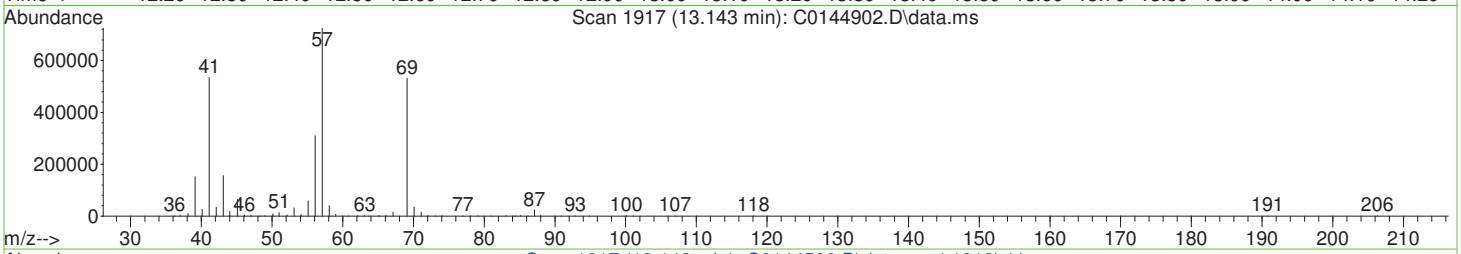
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	50.29
57.00	29.20	26.44
0.00	0.00	0.00

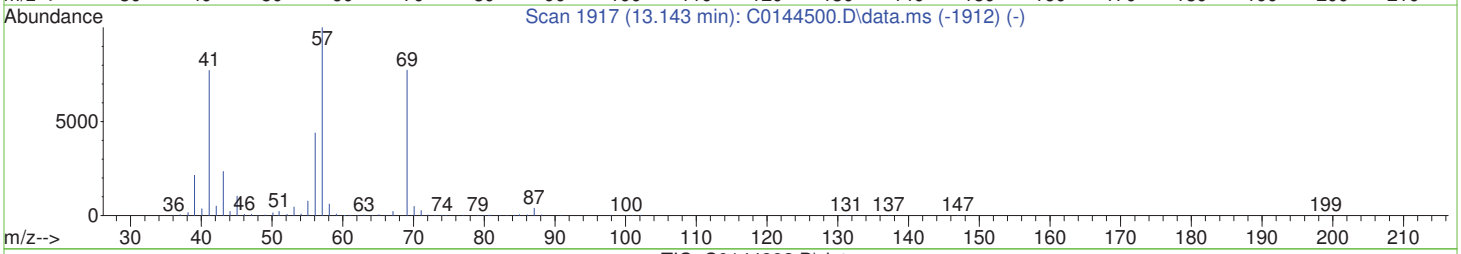
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144902.D
Acq On : 13 Nov 2020 10:33 am
Operator : SHANICAO
Sample : BS
Misc : MS47702,VC5817,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 15 19:18:42 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144902.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (+0.000) 2089.77ug/L

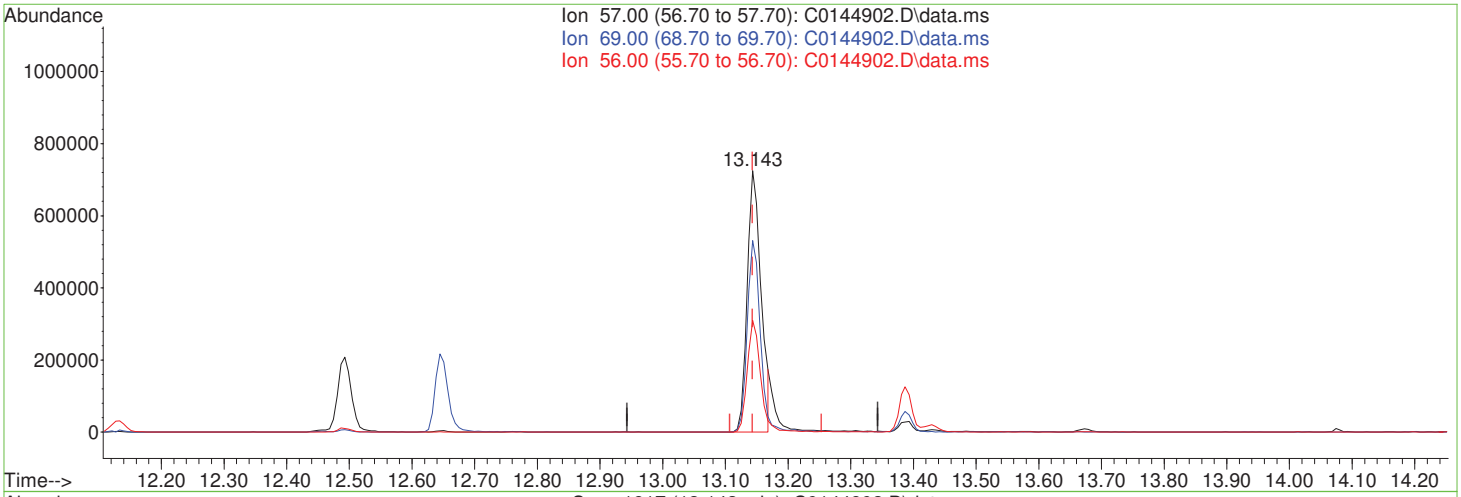
response 1214027

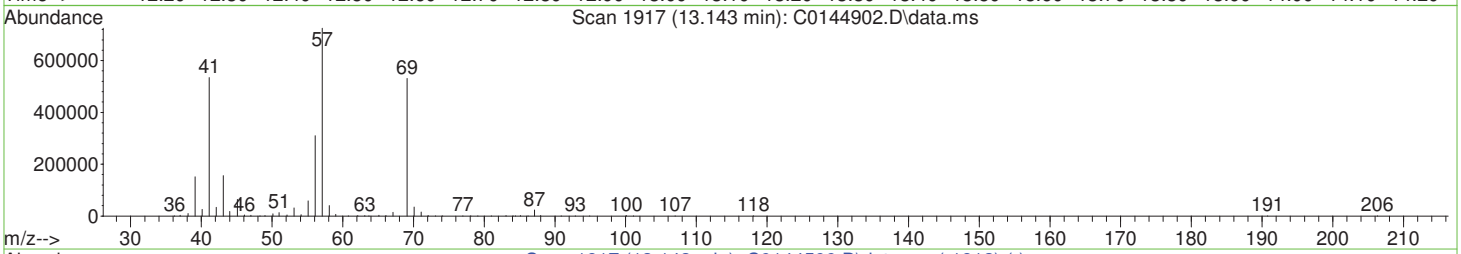
Ion	Exp%	Act%
57.00	100	100
69.00	76.50	64.16
56.00	43.50	37.89
0.00	0.00	0.00

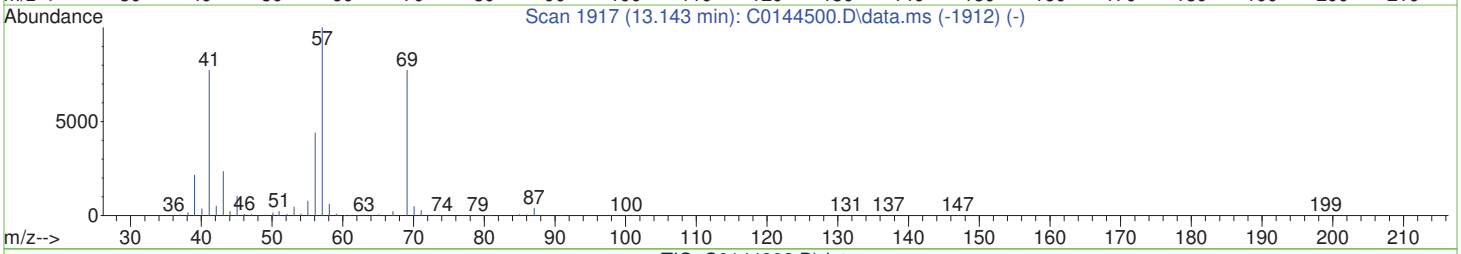
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144902.D
Acq On : 13 Nov 2020 10:33 am
Operator : SHANICAO
Sample : BS
Misc : MS47702,VC5817,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 15 19:18:42 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144902.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (+0.000) 1913.06ug/L m

response 1111367

Ion	Exp%	Act%
57.00	100	100
69.00	76.50	70.09
56.00	43.50	41.39
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/18/20 15:22

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54109.D
Acq On : 17 Nov 2020 2:32 pm
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 15:07:49 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.519	96	2699199	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	2418660	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.270	152	1286370	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.419	65	124644	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.333	113	696768	49.65	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.30%			
47) 1,2-Dichloroethane-d4	11.142	65	577831	48.92	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.84%			
58) Toluene-d8	13.241	98	2790019	50.31	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.62%			
80) 4-Bromofluorobenzene	15.485	174	968746	49.97	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.033	85	216375	20.29	ug/L	98
3) Acrolein	6.312	56	79304	58.56	ug/L	97
4) Chloromethane	3.385	50	291541	22.95	ug/L	98
5) 1,3-butadiene	3.580	39	319122	33.22	ug/L	100
6) Vinyl Chloride	3.544	62	277801	25.38	ug/L	99
7) Bromomethane	4.152	94	123535	24.91	ug/L	98
8) Chloroethane	4.395	64	95077	20.94	ug/L	97
9) Trichlorofluoromethane	4.663	101	438556	25.59	ug/L	100
10) Ethyl Ether	5.290	59	164692	21.94	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.673	67	290931	26.20	ug/L	99
12) 1,1-Dichloroethene	5.636	61	382194	26.22	ug/L	98
13) Freon 113	5.734	101	267961	21.34	ug/L	98
14) Carbon Disulfide	5.667	76	642185	22.43	ug/L	100
15) Iodomethane	5.898	142	282935	27.74	ug/L	99
16) Allyl chloride	6.567	41	397349	25.77	ug/L	98
17) Methylene Chloride	6.774	49	324239	22.96	ug/L	96
18) Acetone	6.890	43	204908	119.82	ug/L	96
19) Methyl acetate	7.145	43	544405	117.85	ug/L	98
20) trans-1,2-Dichloroethene	7.090	61	350550	25.44	ug/L	95
21) Hexane	7.248	56	209448	23.18	ug/L	96
22) Methyl Tert Butyl Ether	7.315	73	454022	22.95	ug/L	99
23) Acetonitrile	7.796	41	188644	227.01	ug/L	98
24) Di-isopropyl ether	8.088	45	779864	23.46	ug/L	100
25) Chloroprene	8.264	53	429530	28.02	ug/L	98
26) 1,1-Dichloroethane	8.313	63	439996	26.08	ug/L	97
27) Acrylonitrile	8.429	53	265906	111.78	ug/L	97
28) ETBE	8.830	59	547698	22.55	ug/L	99
29) Vinyl acetate	8.861	43	1669954	111.06	ug/L	100
30) cis-1,2-Dichloroethene	9.426	96	306016	25.00	ug/L	96
31) 2,2-Dichloropropane	9.639	77	335051	26.81	ug/L	98
32) Bromochloromethane	9.834	128	149953	21.99	ug/L	98
33) Cyclohexane	9.822	56	507430	24.80	ug/L	99
34) Chloroform	10.004	83	442376	24.57	ug/L	99
35) Ethyl acetate	10.254	43	679502	111.74	ug/L	99
36) Tetrahydrofuran	10.254	42	36432	20.43	ug/L	99
38) Carbon Tetrachloride	10.229	117	412802	26.21	ug/L	99
39) 1,1,1-Trichloroethane	10.351	97	456171	25.03	ug/L	98
40) 2-Butanone	10.552	43	296793	123.08	ug/L	100
41) 1,1-Dichloropropene	10.564	75	367915	25.44	ug/L	98
42) tert-Butyl formate	10.753	59	177808	96.83	ug/L	97
43) Propionitrile	10.990	54	199043	238.57	ug/L	96
44) Methacrylonitrile	11.020	41	975317	230.81	ug/L	99
45) Benzene	10.941	78	1062929	24.22	ug/L	99
46) TAME	11.124	73	433885	22.91	ug/L	98
48) 1,2-Dichloroethane	11.239	62	275258	22.63	ug/L	99
49) Trichloroethene	11.738	95	302816	22.87	ug/L	99
50) Methylcyclohexane	11.714	83	520747	25.85	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54109.D
Acq On : 17 Nov 2020 2:32 pm
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 15:07:49 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration

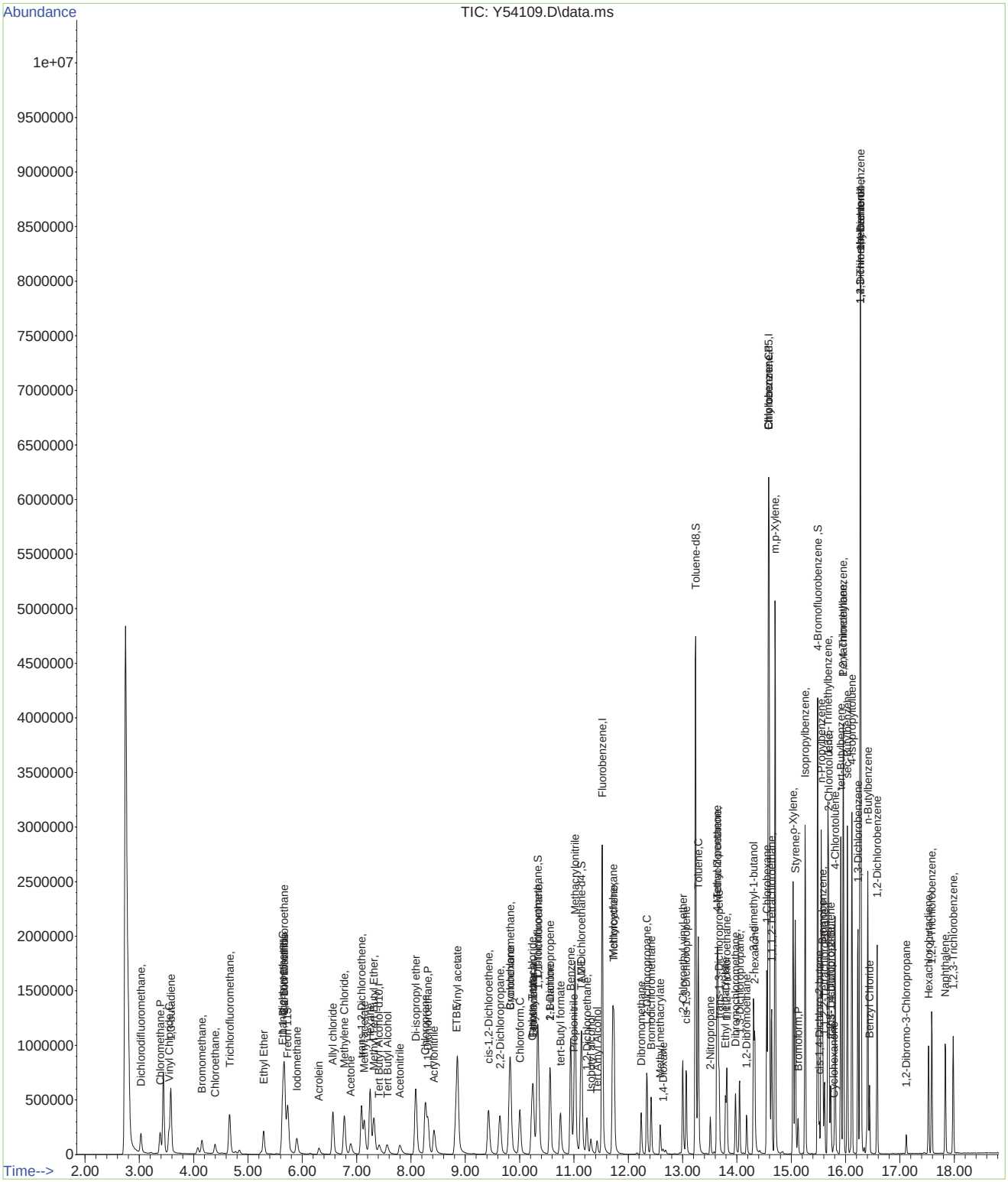
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) Dibromomethane	12.237	93	124227	23.30	ug/L	99
52) 1,2-Dichloropropane	12.340	63	242414	24.26	ug/L	99
53) Bromodichloromethane	12.419	83	294375	25.03	ug/L	98
54) Methyl methacrylate	12.584	41	129170	23.57	ug/L	96
55) 2-Chloroethyl vinyl ether	13.003	63	298163	101.82	ug/L	99
56) cis-1,3-Dichloropropene	13.064	75	335970	23.52	ug/L	99
59) Toluene	13.289	91	1243143	22.87	ug/L	99
60) 2-Nitropropane	13.508	41	166937	113.60	ug/L	98
61) 4-Methyl-2-pentanone	13.630	43	705621	124.63	ug/L	99
62) trans-1,3-Dichloropropene	13.673	75	265639	24.52	ug/L	96
63) Tetrachloroethene	13.648	166	399399	25.04	ug/L	98
64) Ethyl methacrylate	13.788	69	201622	25.30	ug/L	97
65) 1,1,2-Trichloroethane	13.813	83	151662	23.60	ug/L	99
66) Dibromochloromethane	13.977	129	263044	24.38	ug/L	98
67) 1,3-Dichloropropane	14.050	76	308374	22.43	ug/L	98
68) 1,2-Dibromoethane	14.178	107	200668	22.98	ug/L	97
69) 2-hexanone	14.330	43	486882m	119.76	ug/L	
70) 1-Chlorohexane	14.549	91	423128	24.24	ug/L	98
71) Ethylbenzene	14.591	91	1406480	23.80	ug/L	99
72) Chlorobenzene	14.591	112	881627	23.04	ug/L	96
73) 1,1,1,2-Tetrachloroethane	14.640	131	311003	23.81	ug/L	99
74) m,p-Xylene	14.701	91	2216526	48.01	ug/L	98
75) o-Xylene	15.035	91	1112586	24.20	ug/L	99
76) Styrene	15.072	104	876620	24.25	ug/L	99
77) Bromoform	15.127	173	124774	24.00	ug/L	99
78) Isopropylbenzene	15.254	105	1567798	24.44	ug/L	99
81) cis-1,4-Dichloro-2-butene	15.516	53	44424	24.40	ug/L	95
82) n-Propylbenzene	15.552	91	1664161	23.92	ug/L	100
83) Bromobenzene	15.577	156	371675	23.14	ug/L	100
84) 1,1,2,2-Tetrachloroethane	15.613	83	197740	22.65	ug/L	98
85) 1,3,5-Trimethylbenzene	15.674	105	1207584	24.28	ug/L	99
86) 2-Chlorotoluene	15.692	91	1035851	23.46	ug/L	98
87) trans-1,4-Dichloro-2-B...	15.735	53	40481	23.56	ug/L	92
88) 1,2,3-Trichloropropane	15.723	110	72395	22.18	ug/L	98
89) Cyclohexanone	15.777	55	21386	123.96	ug/L	96
90) 4-Chlorotoluene	15.808	91	957419	23.54	ug/L	99
91) tert-Butylbenzene	15.911	91	613589	23.83	ug/L	98
92) 1,2,4-Trimethylbenzene	15.954	105	1171199	23.37	ug/L	99
93) Pentachloroethane	15.960	167	203691	25.13	ug/L	93
94) sec-Butylbenzene	16.033	105	1521188	24.59	ug/L	98
95) 4-Isopropyltoluene	16.118	119	1432709	24.90	ug/L	100
96) 1,3-Dichlorobenzene	16.228	146	715346	22.97	ug/L	99
97) 1,2,3-Trimethylbenzene	16.270	105	1102598	15.96	ug/L	100
98) 1,4-Dichlorobenzene	16.282	146	695530	22.34	ug/L	95
99) n-Butylbenzene	16.410	92	568519	25.39	ug/L	99
100) Benzyl Chloride	16.441	126	79482	24.23	ug/L	92
101) 1,2-Dichlorobenzene	16.580	146	636473	22.44	ug/L	99
102) 1,2-Dibromo-3-Chloropr...	17.116	75	26053	22.66	ug/L	94
103) Hexachlorobutadiene	17.529	225	136637	25.38	ug/L	99
104) 1,2,4-Trichlorobenzene	17.584	180	337717	24.07	ug/L	99
105) Naphthalene	17.834	128	692389	23.45	ug/L	98
106) 1,2,3-Trichlorobenzene	17.980	180	283399	23.49	ug/L	99
108) Ethanol	5.630	45	38295	448.86	ug/L	98
109) Tert Butyl Alcohol	7.559	59	148993	196.02	ug/L	94
110) Isobutyl alcohol	11.312	42	57654	444.94	ug/L	94
111) Tert Amyl Alcohol	11.428	59	66556	234.78	ug/L	95
112) 1,4-Dioxane	12.644	88	34023	493.19	ug/L	97
113) 3,3-dimethyl-1-butanol	14.305	57	605194	1127.77	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54109.D
Acq On : 17 Nov 2020 2:32 pm
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 15:07:49 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration



Manual Integration Approval Summary

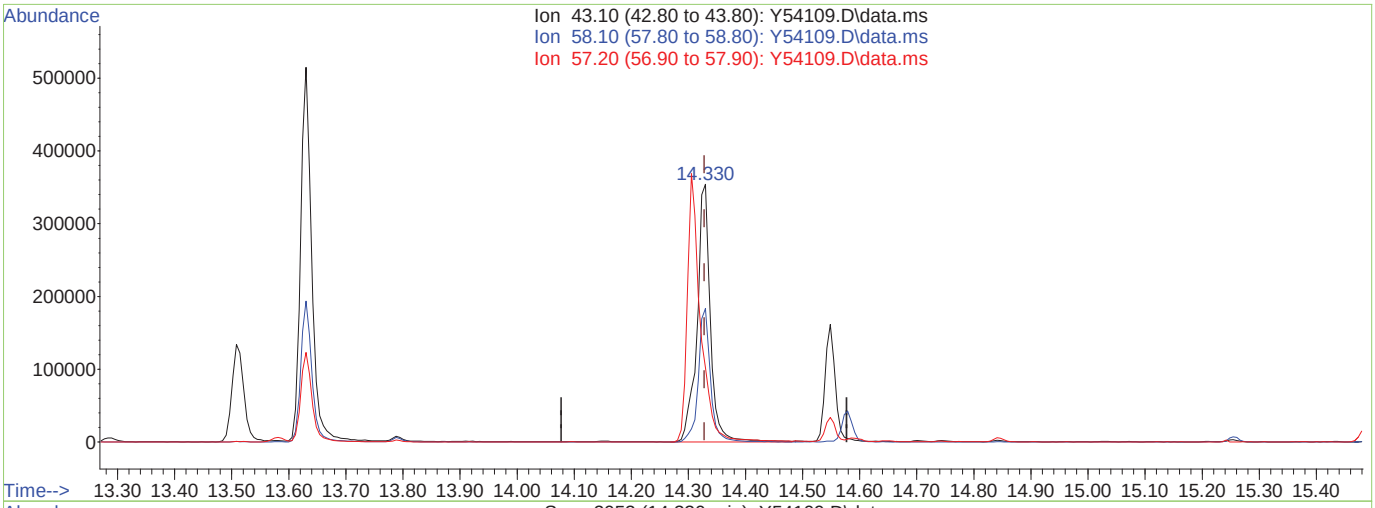
Sample Number: VY2246-BS
Lab FileID: Y54109.D
Injection Time: 11/17/20 14:32
Method: SW846 8260B
Analyst approved: 11/17/20 15:08 Chelsea VanDenBurg
Supervisor approved: 11/18/20 15:22 Melissa Mangual

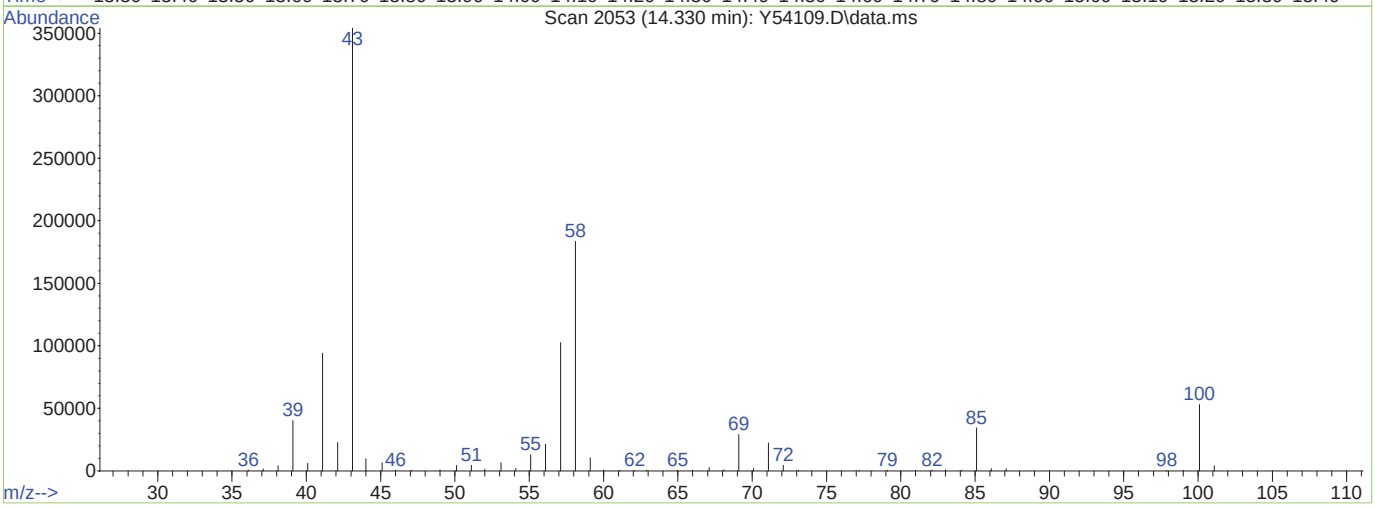
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54109.D
Acq On : 17 Nov 2020 2:32 pm
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 15:07:38 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration





TIC: Y54109.D\data.ms

(69) 2-hexanone

14.330min (+0.002) 141.18ug/L

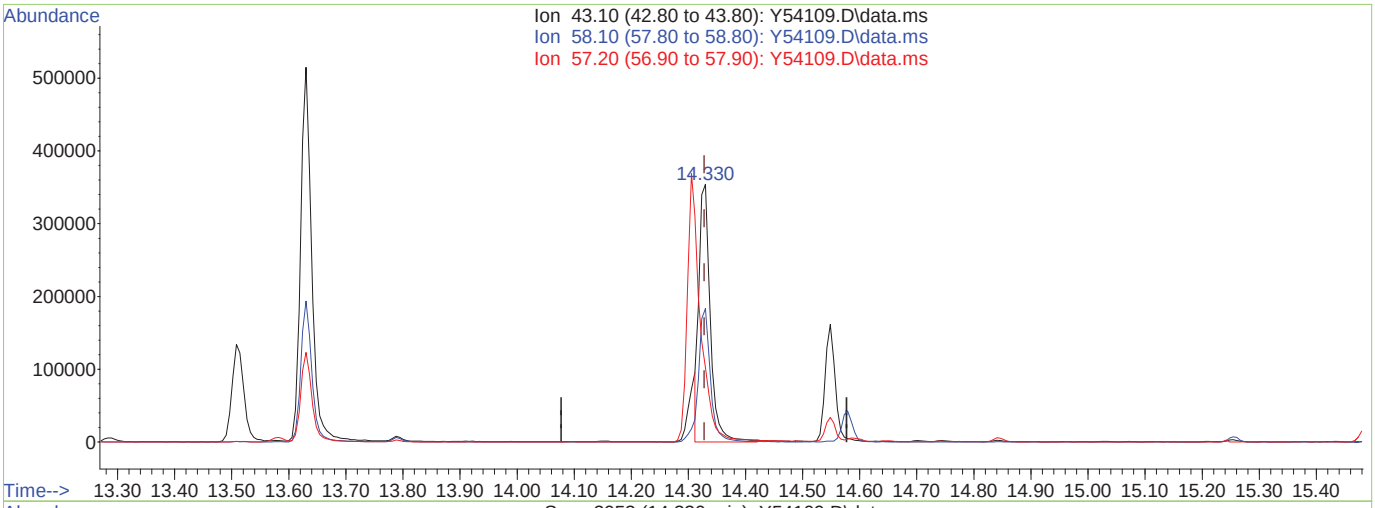
response 573975

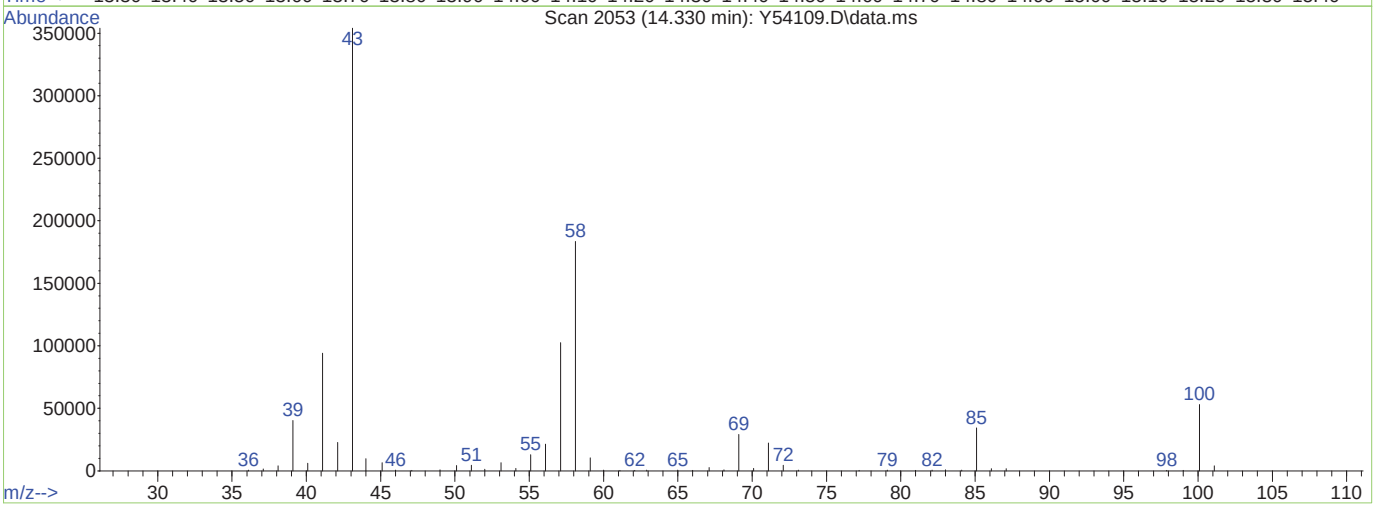
Ion	Exp%	Act%
43.10	100	100
58.10	51.30	51.89
57.20	28.20	28.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54109.D
Acq On : 17 Nov 2020 2:32 pm
Operator : chelseav
Sample : BS Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 15:07:38 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration





TIC: Y54109.D\data.ms

(69) 2-hexanone

14.330min (+0.002) 119.76ug/L m

response 486882

Ion	Exp%	Act%
43.10	100	100
58.10	51.30	51.83
57.20	28.20	28.92
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Ariel Hartney 11/17/20 16:50

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144927.D
Acq On : 13 Nov 2020 9:11 pm
Operator : SHANICAO
Sample : FA80462-3MS
Misc : MS47712,VC5817,,,,,
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 15 19:55:24 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.528	96	2211336	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1717012	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	910256	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.786	65	321355	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	562177	50.56	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.12%			
47) 1,2-Dichloroethane-d4	10.181	65	750841	50.45	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.90%			
58) Toluene-d8	12.134	98	2211205	48.18	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.36%			
80) 4-Bromofluorobenzene	14.305	174	729191	47.84	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.68%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.868	85	213976	17.72	ug/L	95
3) Chloromethane	3.215	50	348882	26.26	ug/L	97
4) 1,3-butadiene	3.367	39	338599	34.71	ug/L	89
5) Vinyl Chloride	3.343	62	275847	24.51	ug/L	94
6) Bromomethane	3.915	94	104466	33.73	ug/L	97
7) Chloroethane	4.122	64	187034	26.29	ug/L	98
8) Trichlorofluoromethane	4.341	101	408217	27.85	ug/L	99
9) Ethyl Ether	4.912	59	228685	24.87	ug/L	96
10) 1,2-Dichlorotrifluoroe...	5.253	67	315244	30.39	ug/L	98
11) 1,1-Dichloroethene	5.241	61	415984	29.59	ug/L	94
12) Freon 113	5.314	101	211694	21.84	ug/L	97
13) Carbon Disulfide	5.283	76	727703	24.87	ug/L	99
14) Iodomethane	5.496	142	194573	19.27	ug/L	97
15) Acrolein	5.825	56	153503	85.02	ug/L	97
16) Allyl chloride	6.062	41	382609	25.38	ug/L	95
17) Methylene Chloride	6.269	49	349737	24.20	ug/L	98
18) Acetone	6.330	43	430417	134.34	ug/L	98
19) Methyl acetate	6.561	43	1045347	145.10	ug/L	98
20) trans-1,2-Dichloroethene	6.543	61	419843	32.17	ug/L	97
21) Hexane	6.683	56	213709	24.44	ug/L	95
22) Methyl Tert Butyl Ether	6.731	73	817565	27.09	ug/L	96
23) Acetonitrile	7.175	41	359302	262.95	ug/L	96
24) Di-isopropyl ether	7.419	45	953912	27.20	ug/L	98
25) Chloroprene	7.601	53	441456	31.96	ug/L	98
26) 1,1-Dichloroethane	7.644	63	483491	29.01	ug/L	97
27) Acrylonitrile	7.741	52	419134	141.26	ug/L	98
28) ETBE	8.094	59	831723	24.31	ug/L	98
29) Vinyl acetate	8.118	43	3270601	135.87	ug/L	99
30) cis-1,2-Dichloroethene	8.660	96	687782	72.75	ug/L	98
31) 2,2-Dichloropropane	8.855	77	358694	23.72	ug/L	96
32) Bromochloromethane	9.031	128	125139	27.68	ug/L	87
33) Cyclohexane	9.025	56	476778	27.74	ug/L	97
34) Chloroform	9.171	83	465725	28.42	ug/L	98
35) Ethyl acetate	9.359	43	1567987	156.00	ug/L	97
36) Tetrahydrofuran	9.402	42	103763	25.54	ug/L	96
38) Carbon Tetrachloride	9.372	117	349364	31.36	ug/L	93
39) 1,1,1-Trichloroethane	9.475	97	411580	28.76	ug/L	99
40) 2-Butanone	9.627	43	716183	147.97	ug/L	100
41) 1,1-Dichloropropene	9.664	75	379209	28.09	ug/L	96
42) tert-Butyl formate	9.816	59	931962	102.59	ug/L	95
43) Propionitrile	10.029	54	398077	268.50	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144927.D
Acq On : 13 Nov 2020 9:11 pm
Operator : SHANICAO
Sample : FA80462-3MS
Misc : MS47712,VC5817,,,,,
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 15 19:55:24 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
44) Methacrylonitrile	10.053	41	1914328	291.71 ug/L		99
45) Benzene	10.004	78	1054331	28.17 ug/L		99
46) TAME	10.150	73	827546	26.93 ug/L		99
48) 1,2-Dichloroethane	10.266	62	382826	27.21 ug/L		99
49) Trichloroethene	10.728	95	336844	32.06 ug/L		92
50) Methylcyclohexane	10.710	83	465339	28.51 ug/L		95
51) Dibromomethane	11.197	93	164494	27.32 ug/L		98
52) 1,2-Dichloropropane	11.288	63	289903	27.62 ug/L		96
53) Bromodichloromethane	11.361	83	358173	28.28 ug/L		99
54) Methyl methacrylate	11.501	41	302509	28.45 ug/L		97
55) 2-Chloroethyl vinyl ether	11.902	63	607937	90.77 ug/L		98
56) cis-1,3-Dichloropropene	11.963	75	448248	25.92 ug/L		99
59) Toluene	12.176	91	1134724	25.38 ug/L		96
60) 2-Nitropropane	12.383	41	482203	138.16 ug/L		99
61) 4-Methyl-2-pentanone	12.493	43	1755769	159.80 ug/L		98
62) trans-1,3-Dichloropropene	12.541	75	415746	25.88 ug/L		87
63) Tetrachloroethene	12.523	166	460178	45.08 ug/L		98
64) Ethyl methacrylate	12.645	69	404392	28.39 ug/L		96
65) 1,1,2-Trichloroethane	12.681	83	221037	27.53 ug/L		99
66) Dibromochloromethane	12.833	129	277207	27.94 ug/L		98
67) 1,3-Dichloropropane	12.900	76	434084	25.32 ug/L		96
68) 1,2-Dibromoethane	13.034	107	241104	25.25 ug/L		97
69) 2-hexanone	13.168	43	1282062m	156.76 ug/L		
70) 1-Chlorohexane	13.387	91	361935	25.00 ug/L		98
71) Ethylbenzene	13.435	91	1223955	25.82 ug/L		99
72) Chlorobenzene	13.435	112	682096	25.93 ug/L		97
73) 1,1,1,2-Tetrachloroethane	13.478	131	253874	27.38 ug/L		98
74) m,p-Xylene	13.539	91	1841653	52.33 ug/L		99
75) o-Xylene	13.861	91	969092	25.46 ug/L		98
76) Styrene	13.904	104	782486	25.98 ug/L		98
77) Bromoform	13.953	173	189516	27.18 ug/L		98
78) Isopropylbenzene	14.080	105	1167849	26.52 ug/L		98
81) cis-1,4-Dichloro-2-butene	14.336	53	90073	20.29 ug/L		87
82) n-Propylbenzene	14.372	91	1380932	25.34 ug/L		98
83) Bromobenzene	14.397	156	289388	25.02 ug/L		97
84) 1,1,2,2-Tetrachloroethane	14.433	83	343622	26.05 ug/L		100
85) 1,3,5-Trimethylbenzene	14.494	105	915222	25.35 ug/L		98
86) 2-Chlorotoluene	14.506	91	920521	24.69 ug/L		99
87) trans-1,4-Dichloro-2-B...	14.549	53	84031	20.18 ug/L	#	84
88) 1,2,3-Trichloropropane	14.537	110	96873	25.39 ug/L		99
89) Cyclohexanone	14.585	55	56190	114.75 ug/L		85
90) 4-Chlorotoluene	14.622	91	828902	24.54 ug/L		99
91) tert-Butylbenzene	14.725	91	533238	24.80 ug/L		98
93) 1,2,4-Trimethylbenzene	14.768	105	899279	25.48 ug/L		95
94) Pentachloroethane	14.774	167	172083	27.13 ug/L		88
95) sec-Butylbenzene	14.847	105	1136926	26.27 ug/L		98
96) 4-Isopropyltoluene	14.932	119	939865	26.00 ug/L		97
97) 1,3-Dichlorobenzene	15.035	146	516413	25.14 ug/L		98
98) 1,2,3-Trimethylbenzene	15.078	105	896178	22.74 ug/L		99
99) 1,4-Dichlorobenzene	15.096	146	513284	24.64 ug/L		98
100) n-Butylbenzene	15.218	92	489652	26.00 ug/L		98
101) Benzyl Chloride	15.248	126	109776	23.16 ug/L	#	91
102) 1,2-Dichlorobenzene	15.388	146	496910	25.83 ug/L		97
103) 1,2-Dibromo-3-Chloropr...	15.918	75	61027	22.74 ug/L		96
104) Hexachlorobutadiene	16.319	225	123598	22.38 ug/L		95
105) 1,2,4-Trichlorobenzene	16.374	180	244930	24.26 ug/L		98
106) Naphthalene	16.617	128	542100	27.15 ug/L		99
107) 1,2,3-Trichlorobenzene	16.757	180	203182	24.15 ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144927.D
Acq On : 13 Nov 2020 9:11 pm
Operator : SHANICAO
Sample : FA80462-3MS
Misc : MS47712,VC5817,,,,,
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 15 19:55:24 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Ethanol	5.277	45	71050m	492.88	ug/L	
110) Tert Butyl Alcohol	6.920	59	292026	184.26	ug/L	97
111) Isobutyl alcohol	10.302	43	273462	502.92	ug/L	99
112) Tert Amyl Alcohol	10.412	59	282872	253.10	ug/L	98
113) 1,4-Dioxane	11.550	88	62841	438.15	ug/L	90
114) 3,3-dimethyl-1-butanol	13.143	57	1902595m	1792.87	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

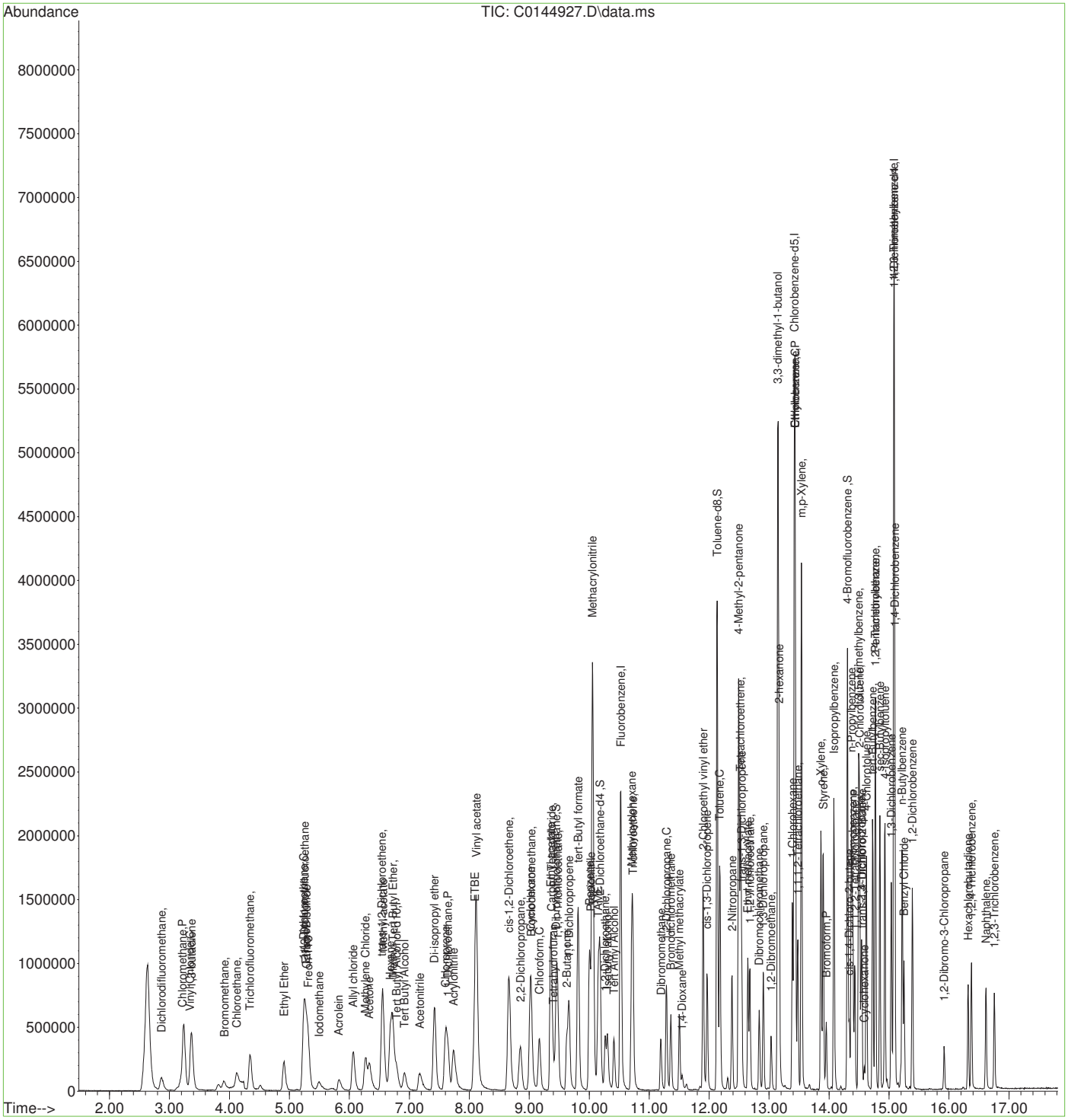
7.4.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144927.D
Acq On : 13 Nov 2020 9:11 pm
Operator : SHANICAO
Sample : FA80462-3MS
Misc : MS47712,VC5817,,,,,
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 15 19:55:24 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration



RTXVMS102820.M Sun Nov 15 19:59:00 2020 Page: 4

Manual Integration Approval Summary

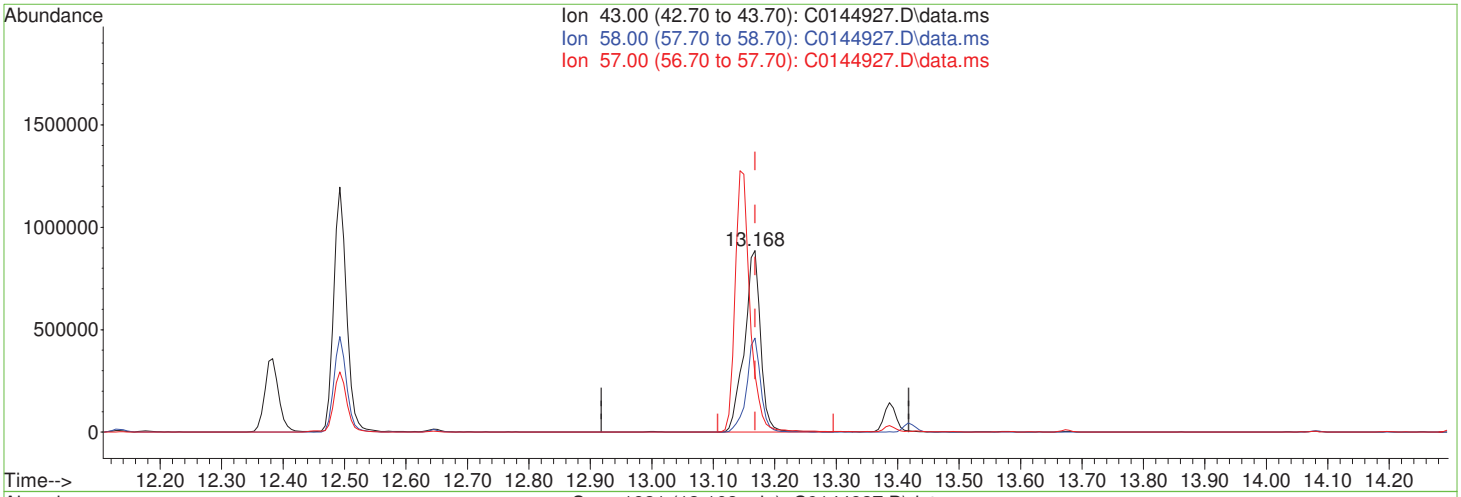
Sample Number: FA80462-3MS
Lab FileID: C0144927.D
Injection Time: 11/13/20 21:11
Method: SW846 8260B
Analyst approved: 11/17/20 16:50 Ariel Hartney
Supervisor approved: 11/17/20 16:50 Ariel Hartney

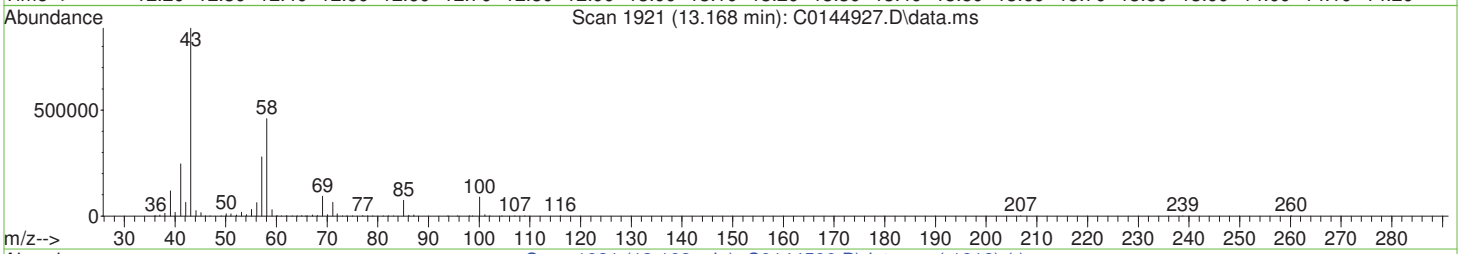
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.28	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

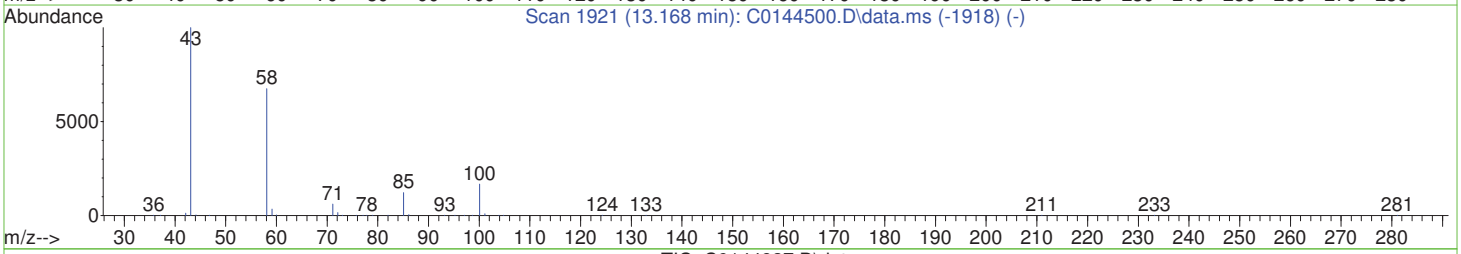
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144927.D
Acq On : 13 Nov 2020 9:11 pm
Operator : SHANICAO
Sample : FA80462-3MS
Misc : MS47712,VC5817,,,,,
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 15 19:20:09 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144927.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 199.13ug/L

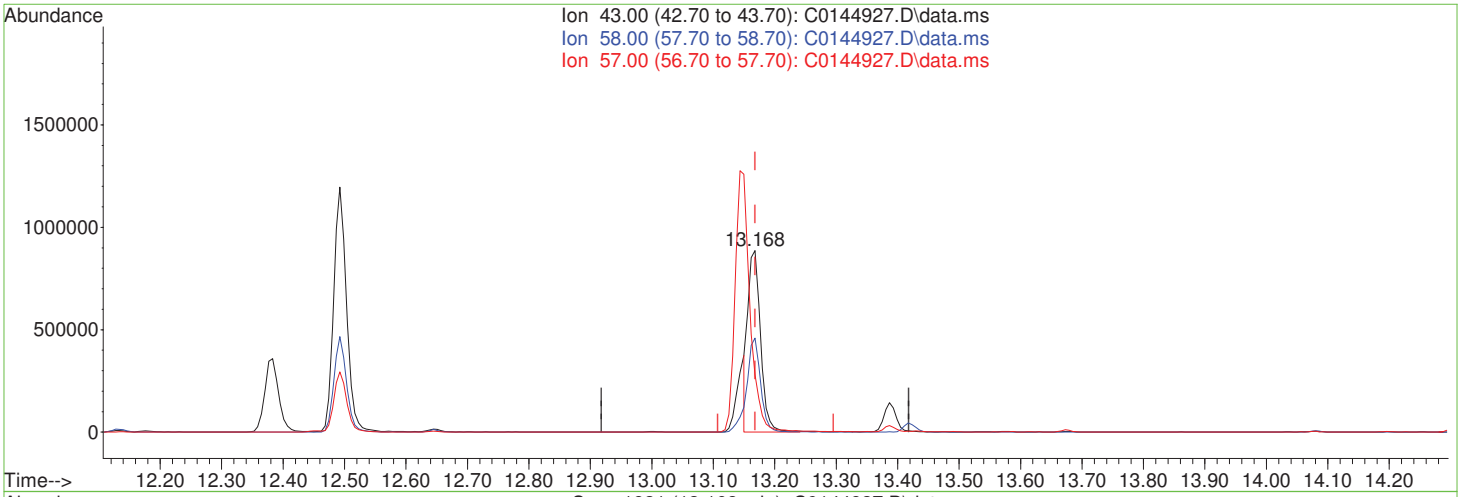
response 1628587

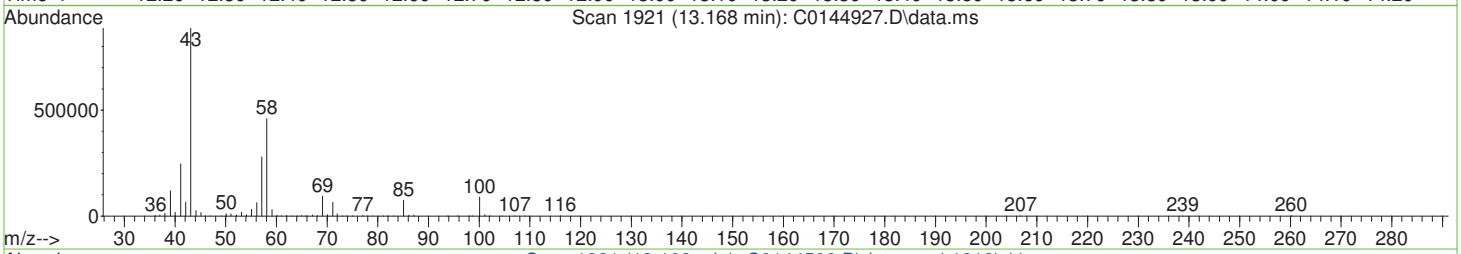
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	51.74
57.00	29.20	31.52
0.00	0.00	0.00

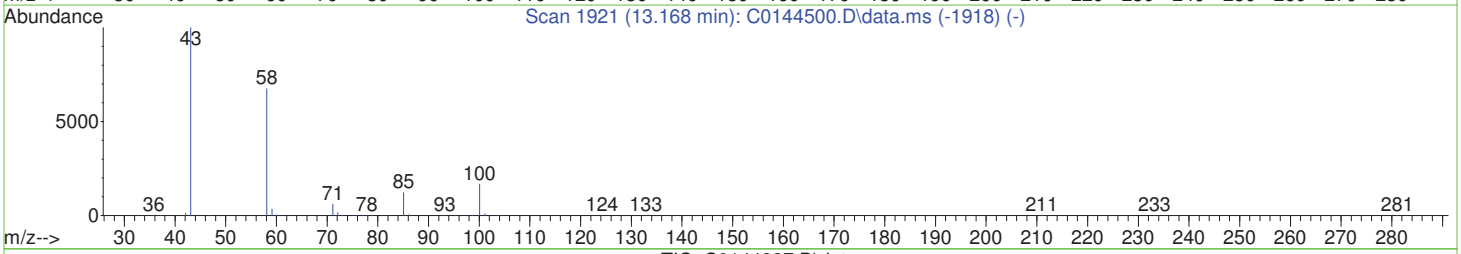
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144927.D
Acq On : 13 Nov 2020 9:11 pm
Operator : SHANICAO
Sample : FA80462-3MS
Misc : MS47712,VC5817,,,,,
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 15 19:20:09 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144927.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 156.76ug/L m

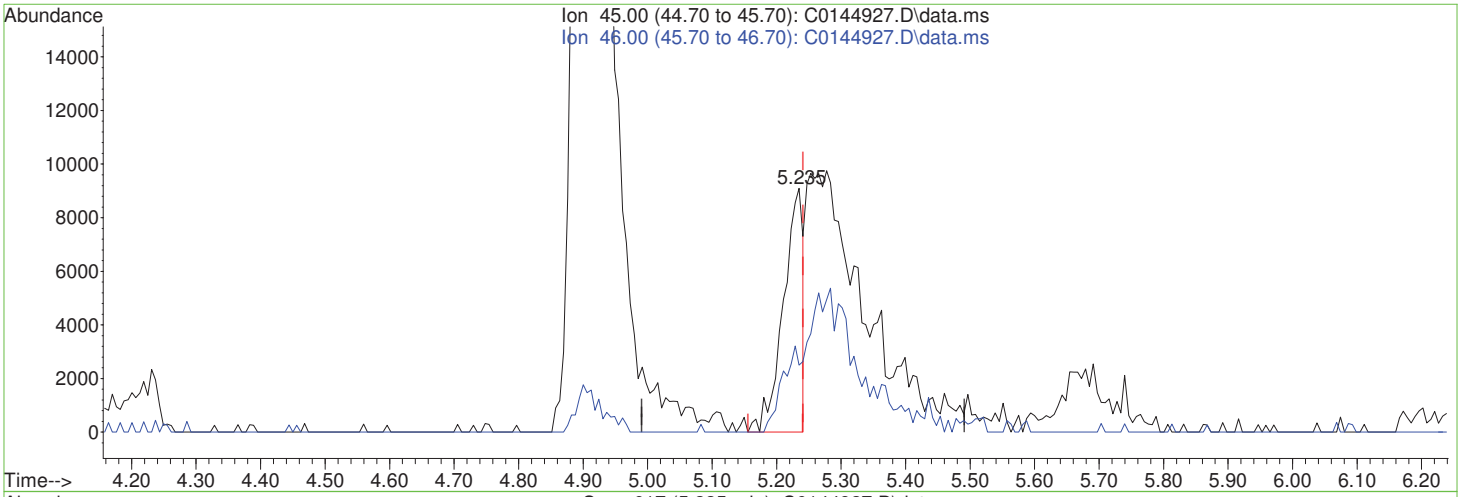
response 1282062

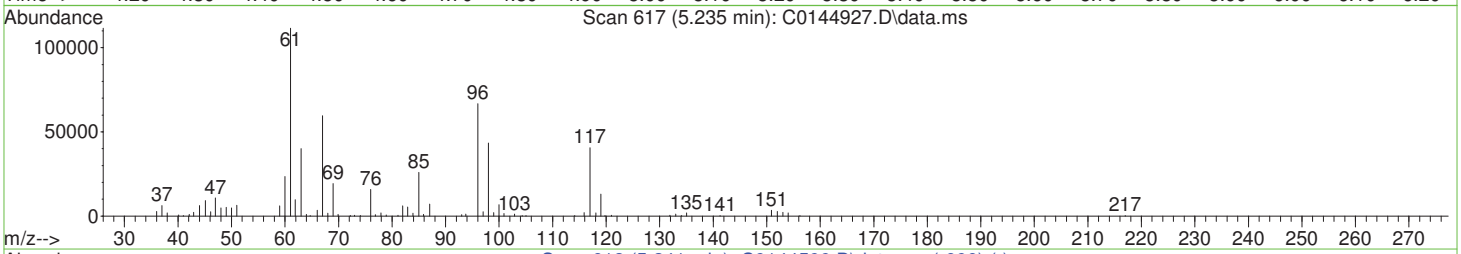
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	51.73
57.00	29.20	31.52
0.00	0.00	0.00

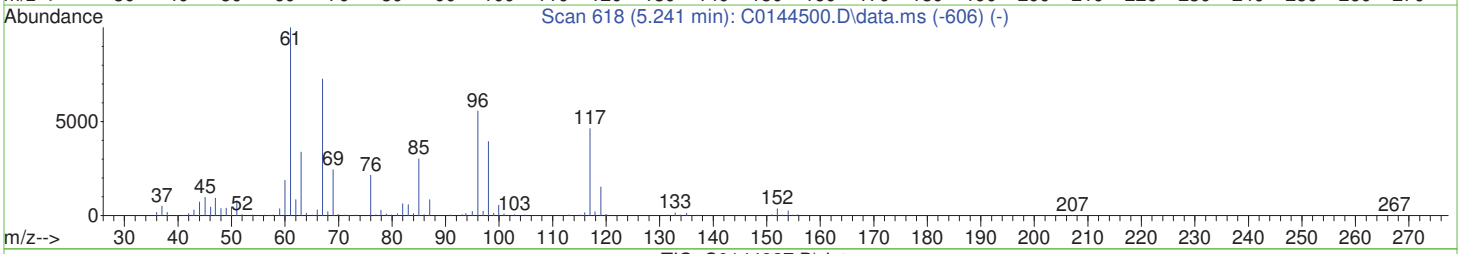
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144927.D
Acq On : 13 Nov 2020 9:11 pm
Operator : SHANICAO
Sample : FA80462-3MS
Misc : MS47712,VC5817,,,,,
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 15 19:20:09 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144927.D\data.ms

(109) Ethanol

5.235min (-0.006) 134.38ug/L

response 19372

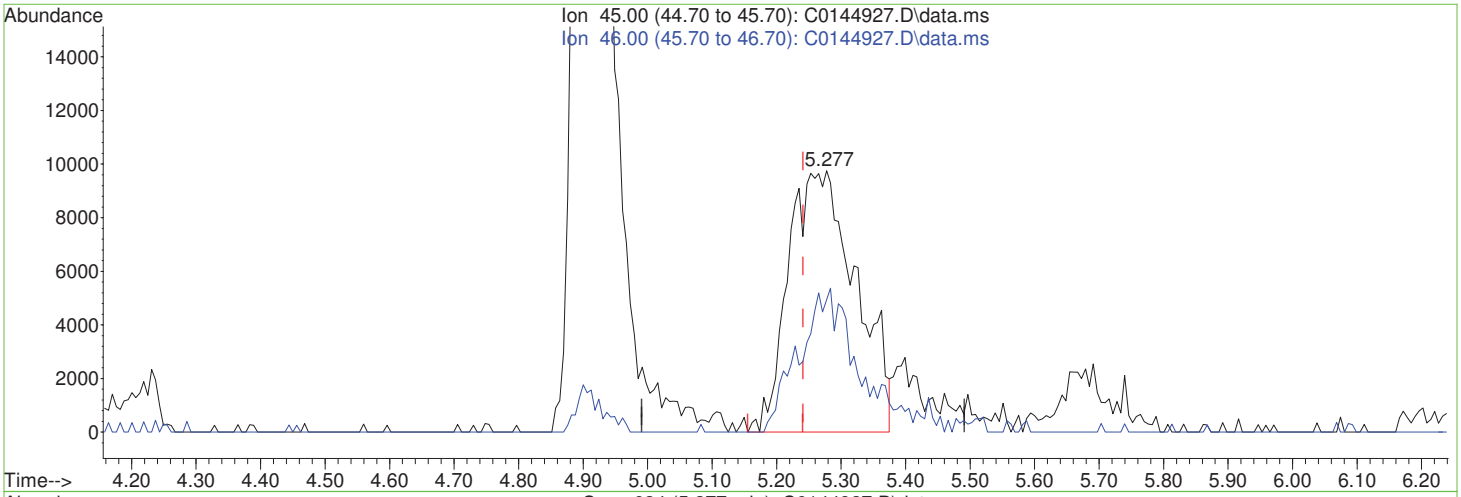
Ion	Exp%	Act%
45.00	100	100
46.00	45.60	27.54
0.00	0.00	0.00
0.00	0.00	0.00

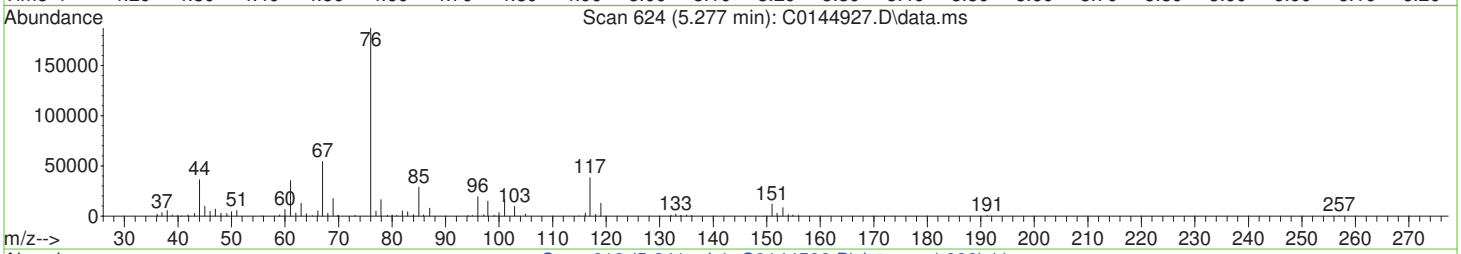
C0144927.D edits: Ethanol

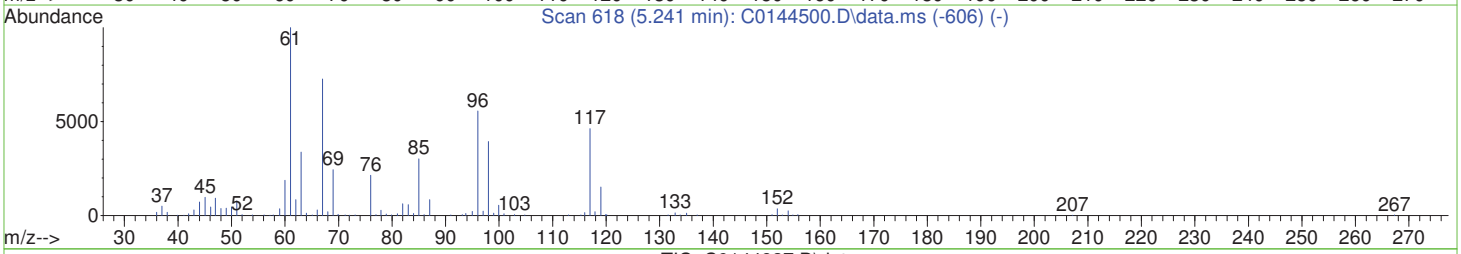
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144927.D
Acq On : 13 Nov 2020 9:11 pm
Operator : SHANICAO
Sample : FA80462-3MS
Misc : MS47712,VC5817,,,,,
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 15 19:20:09 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144927.D\data.ms

(109) Ethanol

5.277min (+0.036) 492.88ug/L m

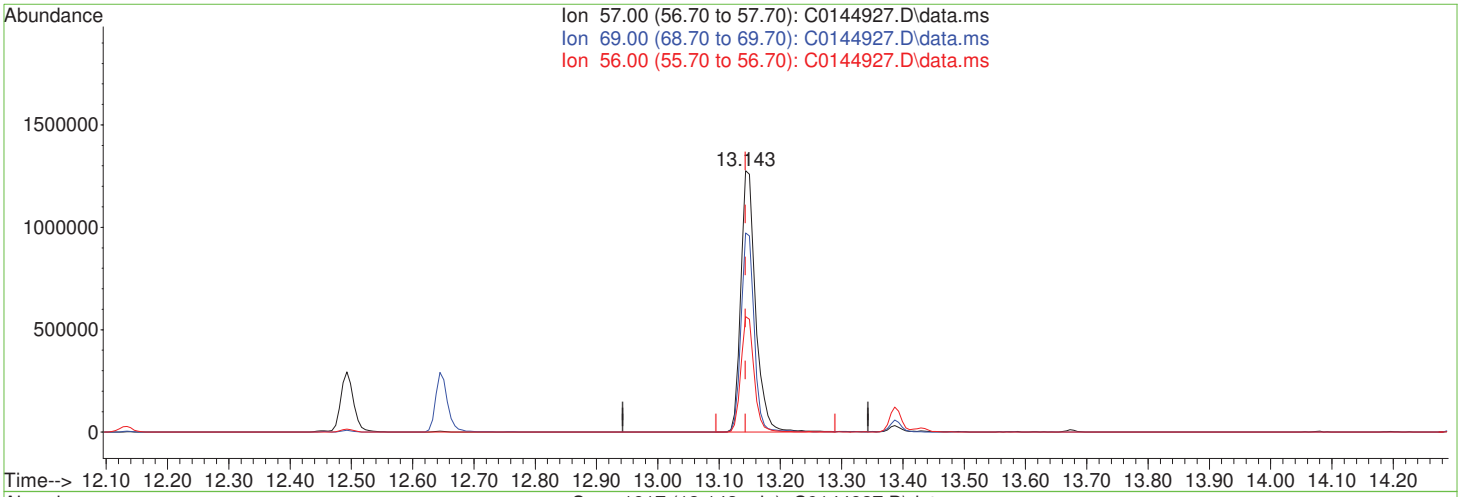
response 71050

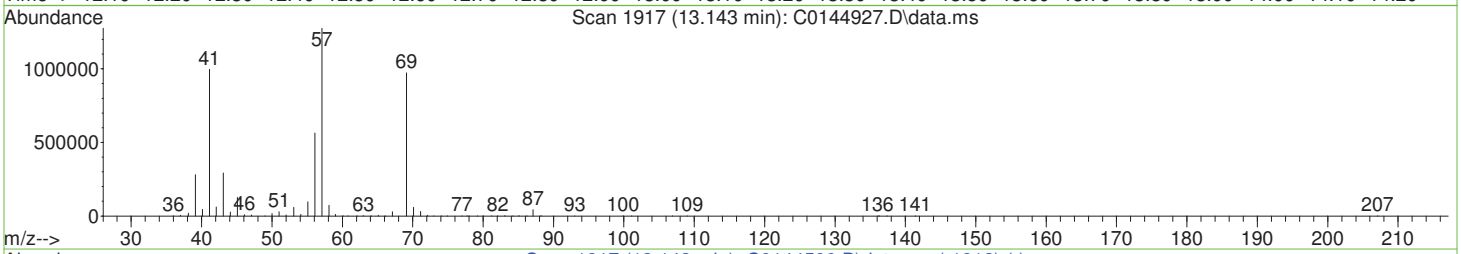
Ion	Exp%	Act%
45.00	100	100
46.00	45.60	50.64
0.00	0.00	0.00
0.00	0.00	0.00

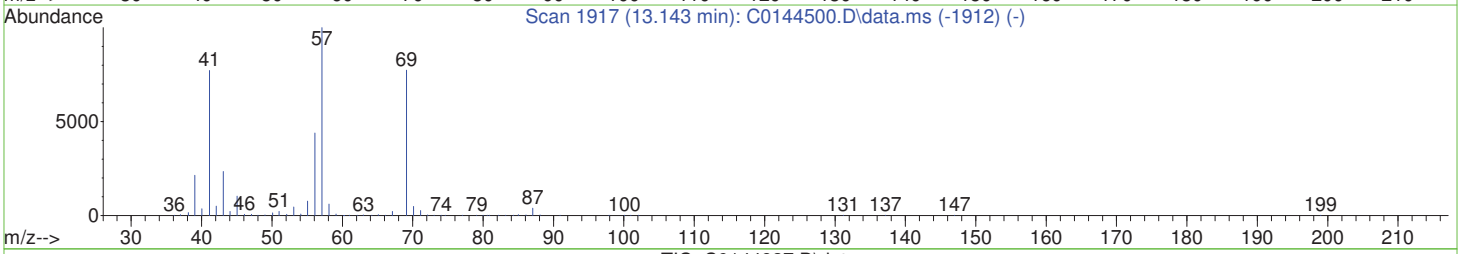
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144927.D
Acq On : 13 Nov 2020 9:11 pm
Operator : SHANICAO
Sample : FA80462-3MS
Misc : MS47712,VC5817,,,,,
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 15 19:20:09 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144927.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (+0.000) 2029.67ug/L

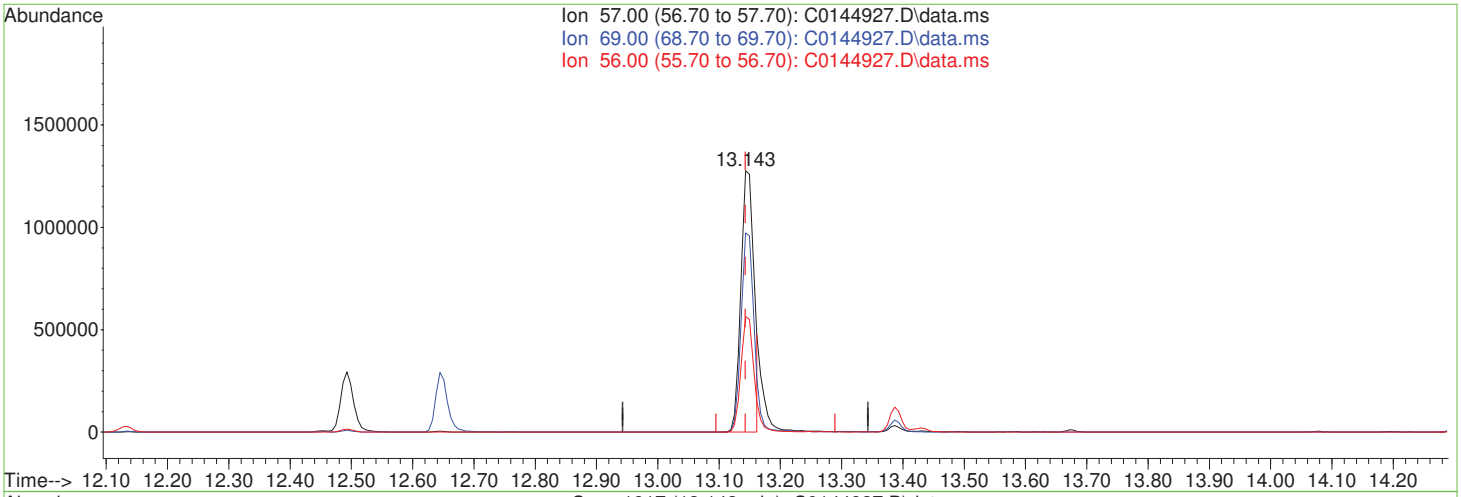
response 2153880

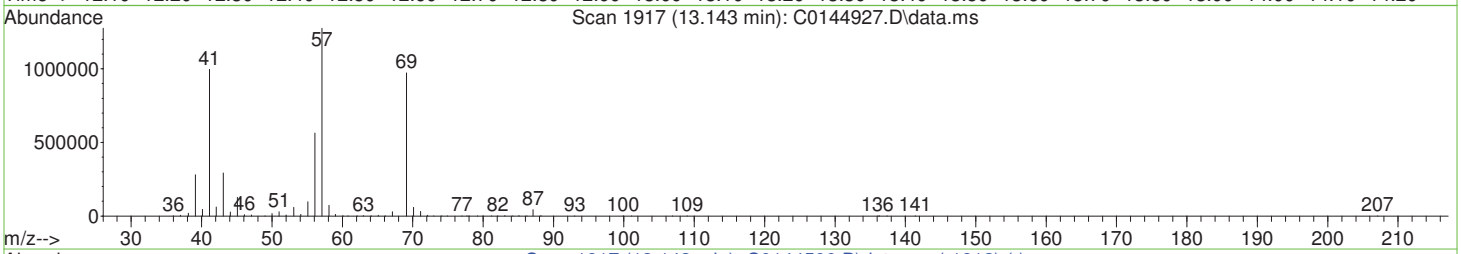
Ion	Exp%	Act%
57.00	100	100
69.00	76.50	67.70
56.00	43.50	39.35
0.00	0.00	0.00

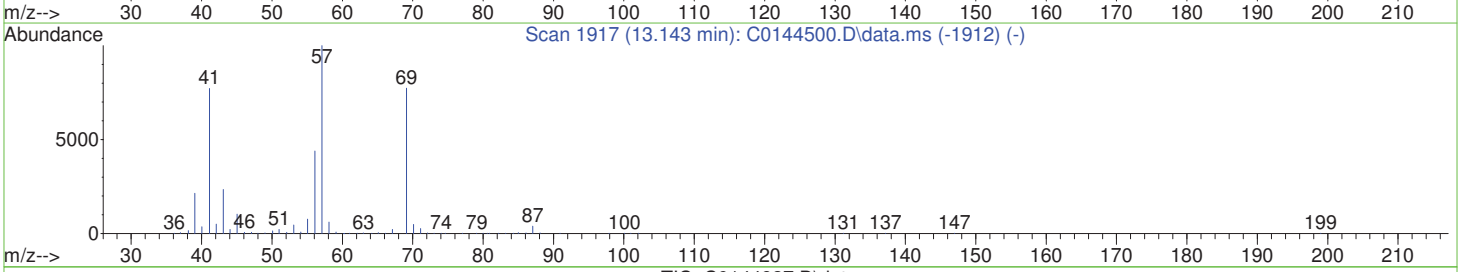
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144927.D
Acq On : 13 Nov 2020 9:11 pm
Operator : SHANICAO
Sample : FA80462-3MS
Misc : MS47712,VC5817,,,,,
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 15 19:20:09 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144927.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (+0.000) 1792.87ug/L m

response 1902595

Ion	Exp%	Act%
57.00	100	100
69.00	76.50	76.64
56.00	43.50	44.54
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Ariel Hartney 11/17/20 16:50

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144928.D
Acq On : 13 Nov 2020 9:37 pm
Operator : SHANICAO
Sample : FA80462-3MSD
Misc : MS47712,VC5817,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 15 19:56:30 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.528	96	2393085	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1855715	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	992063	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.786	65	332856	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	614215	51.04	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.08%			
47) 1,2-Dichloroethane-d4	10.181	65	795139	49.37	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.74%			
58) Toluene-d8	12.134	98	2368473	47.75	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 95.50%			
80) 4-Bromofluorobenzene	14.306	174	793040	47.74	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.48%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	203664	15.58	ug/L	96
3) Chloromethane	3.209	50	340642	23.69	ug/L	94
4) 1,3-butadiene	3.373	39	325518	30.84	ug/L	97
5) Vinyl Chloride	3.349	62	273217	22.43	ug/L	98
6) Bromomethane	3.915	94	115095	34.23	ug/L	94
7) Chloroethane	4.128	64	186606	24.24	ug/L	98
8) Trichlorofluoromethane	4.347	101	402966	25.40	ug/L	94
9) Ethyl Ether	4.906	59	227639	22.88	ug/L	94
10) 1,2-Dichlorotrifluoroe...	5.253	67	312872	27.87	ug/L	93
11) 1,1-Dichloroethene	5.241	61	413558	27.18	ug/L	95
12) Freon 113	5.308	101	221278	21.09	ug/L	95
13) Carbon Disulfide	5.278	76	696174	21.98	ug/L	99
14) Iodomethane	5.490	142	200043	18.31	ug/L	95
15) Acrolein	5.819	56	152893	78.25	ug/L	98
16) Allyl chloride	6.062	41	379075	23.24	ug/L	96
17) Methylene Chloride	6.263	49	347895	22.24	ug/L	93
18) Acetone	6.336	43	439945	126.89	ug/L	95
19) Methyl acetate	6.561	43	1026114	132.11	ug/L	99
20) trans-1,2-Dichloroethene	6.537	61	413806	29.30	ug/L	95
21) Hexane	6.689	56	220365	23.29	ug/L	96
22) Methyl Tert Butyl Ether	6.725	73	798607	24.45	ug/L	96
23) Acetonitrile	7.182	41	363505	246.33	ug/L	99
24) Di-isopropyl ether	7.419	45	955434	25.17	ug/L	95
25) Chloroprene	7.608	53	425752	28.48	ug/L	97
26) 1,1-Dichloroethane	7.644	63	479624	26.59	ug/L	97
27) Acrylonitrile	7.741	52	418172	130.60	ug/L	95
28) ETBE	8.094	59	825261	22.29	ug/L	99
29) Vinyl acetate	8.119	43	3226884	123.51	ug/L	100
30) cis-1,2-Dichloroethene	8.660	96	679001	66.36	ug/L	99
31) 2,2-Dichloropropane	8.849	77	347325	21.22	ug/L	97
32) Bromochloromethane	9.031	128	124039	25.35	ug/L	96
33) Cyclohexane	9.019	56	463537	24.92	ug/L	98
34) Chloroform	9.171	83	453303	25.56	ug/L	97
35) Ethyl acetate	9.354	43	1537959	141.39	ug/L	98
36) Tetrahydrofuran	9.402	42	103452	23.48	ug/L	95
38) Carbon Tetrachloride	9.372	117	339416	28.15	ug/L	97
39) 1,1,1-Trichloroethane	9.475	97	403915	26.08	ug/L	95
40) 2-Butanone	9.621	43	680955	130.01	ug/L	98
41) 1,1-Dichloropropene	9.664	75	372440	25.49	ug/L	94
42) tert-Butyl formate	9.816	59	910460	92.61	ug/L	98
43) Propionitrile	10.029	54	393736	245.66	ug/L	90

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144928.D
Acq On : 13 Nov 2020 9:37 pm
Operator : SHANICAO
Sample : FA80462-3MSD
Misc : MS47712,VC5817,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 15 19:56:30 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Methacrylonitrile	10.059	41	1901814	267.79	ug/L		98
45)	Benzene	10.004	78	1028485	25.40	ug/L		99
46)	TAME	10.150	73	818307	24.61	ug/L		99
48)	1,2-Dichloroethane	10.266	62	381924	25.08	ug/L		98
49)	Trichloroethene	10.728	95	334259	29.39	ug/L		97
50)	Methylcyclohexane	10.710	83	460805	26.09	ug/L		97
51)	Dibromomethane	11.197	93	166584	25.57	ug/L		97
52)	1,2-Dichloropropane	11.288	63	287090	25.27	ug/L		94
53)	Bromodichloromethane	11.361	83	362341	26.44	ug/L		95
54)	Methyl methacrylate	11.501	41	301634	26.24	ug/L		96
55)	2-Chloroethyl vinyl ether	11.896	63	604382	83.39	ug/L		99
56)	cis-1,3-Dichloropropene	11.963	75	442363	23.64	ug/L		97
59)	Toluene	12.176	91	1121712	23.21	ug/L		98
60)	2-Nitropropane	12.383	41	477839	126.68	ug/L		97
61)	4-Methyl-2-pentanone	12.493	43	1719176	144.78	ug/L		99
62)	trans-1,3-Dichloropropene	12.541	75	412746	23.77	ug/L		94
63)	Tetrachloroethene	12.523	166	454793	41.22	ug/L		99
64)	Ethyl methacrylate	12.645	69	409917	26.63	ug/L		98
65)	1,1,2-Trichloroethane	12.675	83	214875	24.77	ug/L		96
66)	Dibromochloromethane	12.833	129	279595	26.08	ug/L		99
67)	1,3-Dichloropropane	12.906	76	436981	23.58	ug/L		95
68)	1,2-Dibromoethane	13.034	107	240989	23.35	ug/L		98
69)	2-hexanone	13.168	43	1274991m	144.24	ug/L		
70)	1-Chlorohexane	13.387	91	370418	23.68	ug/L		97
71)	Ethylbenzene	13.436	91	1224035	23.89	ug/L		99
72)	Chlorobenzene	13.436	112	680574	23.93	ug/L		98
73)	1,1,1,2-Tetrachloroethane	13.478	131	252735	25.22	ug/L		96
74)	m,p-Xylene	13.539	91	1832796	48.19	ug/L		98
75)	o-Xylene	13.861	91	963210	23.42	ug/L		99
76)	Styrene	13.904	104	780290	23.97	ug/L		99
77)	Bromoform	13.953	173	193685	25.77	ug/L		98
78)	Isopropylbenzene	14.080	105	1173377	24.65	ug/L		98
81)	cis-1,4-Dichloro-2-butene	14.336	53	98684	20.39	ug/L		91
82)	n-Propylbenzene	14.373	91	1384190	23.31	ug/L		99
83)	Bromobenzene	14.397	156	294326	23.35	ug/L		95
84)	1,1,2,2-Tetrachloroethane	14.427	83	347176	24.15	ug/L		98
85)	1,3,5-Trimethylbenzene	14.494	105	947517	24.08	ug/L		100
86)	2-Chlorotoluene	14.506	91	935006	23.01	ug/L		99
87)	trans-1,4-Dichloro-2-B...	14.549	53	86990	19.17	ug/L	#	88
88)	1,2,3-Trichloropropane	14.537	110	95751	23.03	ug/L		94
89)	Cyclohexanone	14.585	55	59028	110.49	ug/L		95
90)	4-Chlorotoluene	14.622	91	834271	22.66	ug/L		100
91)	tert-Butylbenzene	14.725	91	551198	23.52	ug/L		98
93)	1,2,4-Trimethylbenzene	14.768	105	924472	24.04	ug/L		95
94)	Pentachloroethane	14.774	167	176128	25.48	ug/L		94
95)	sec-Butylbenzene	14.847	105	1185496	25.13	ug/L		97
96)	4-Isopropyltoluene	14.932	119	984621	24.99	ug/L		97
97)	1,3-Dichlorobenzene	15.036	146	524224	23.41	ug/L		97
98)	1,2,3-Trimethylbenzene	15.078	105	896483	20.87	ug/L		99
99)	1,4-Dichlorobenzene	15.096	146	520694	22.93	ug/L		97
100)	n-Butylbenzene	15.218	92	504391	24.58	ug/L		96
101)	Benzyl Chloride	15.249	126	108447	21.00	ug/L		96
102)	1,2-Dichlorobenzene	15.388	146	497075	23.71	ug/L		98
103)	1,2-Dibromo-3-Chloropr...	15.918	75	64873	22.18	ug/L		96
104)	Hexachlorobutadiene	16.319	225	120803	20.07	ug/L		94
105)	1,2,4-Trichlorobenzene	16.374	180	258488	23.50	ug/L		99
106)	Naphthalene	16.617	128	544337	25.12	ug/L		100
107)	1,2,3-Trichlorobenzene	16.757	180	207675	22.65	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144928.D
Acq On : 13 Nov 2020 9:37 pm
Operator : SHANICAO
Sample : FA80462-3MSD
Misc : MS47712,VC5817,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 15 19:56:30 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

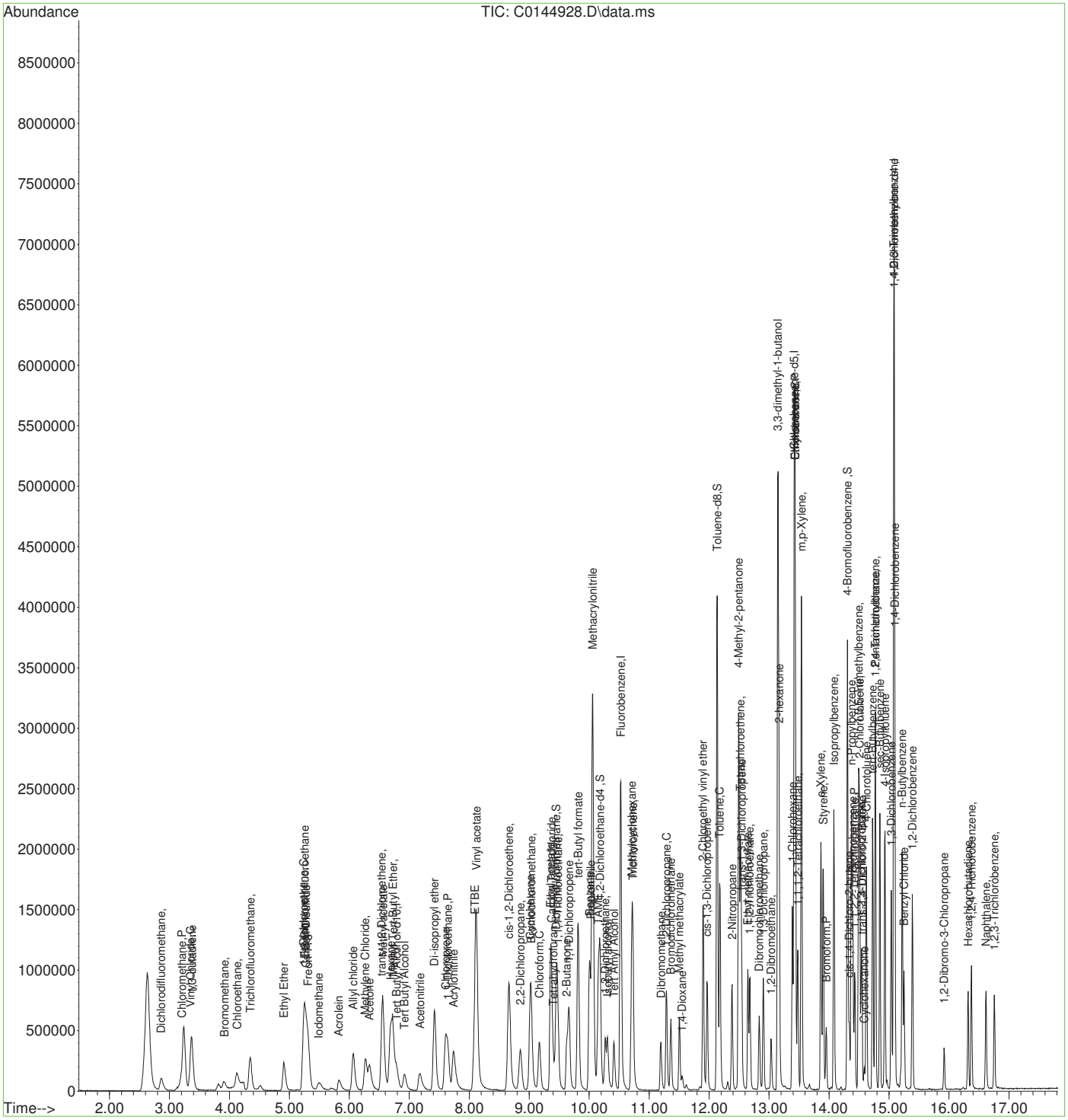
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Ethanol	5.253	45	68300m	457.43	ug/L	
110) Tert Butyl Alcohol	6.920	59	286083	174.24	ug/L	94
111) Isobutyl alcohol	10.309	43	267283	474.58	ug/L	99
112) Tert Amyl Alcohol	10.412	59	271848	234.83	ug/L	98
113) 1,4-Dioxane	11.550	88	65070	438.01	ug/L	96
114) 3,3-dimethyl-1-butanol	13.144	57	1870438m	1701.67	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144928.D
Acq On : 13 Nov 2020 9:37 pm
Operator : SHANICAO
Sample : FA80462-3MSD
Misc : MS47712,VC5817,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 15 19:56:30 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration



RTXVMS102820.M Sun Nov 15 19:59:03 2020 Page: 4

Manual Integration Approval Summary

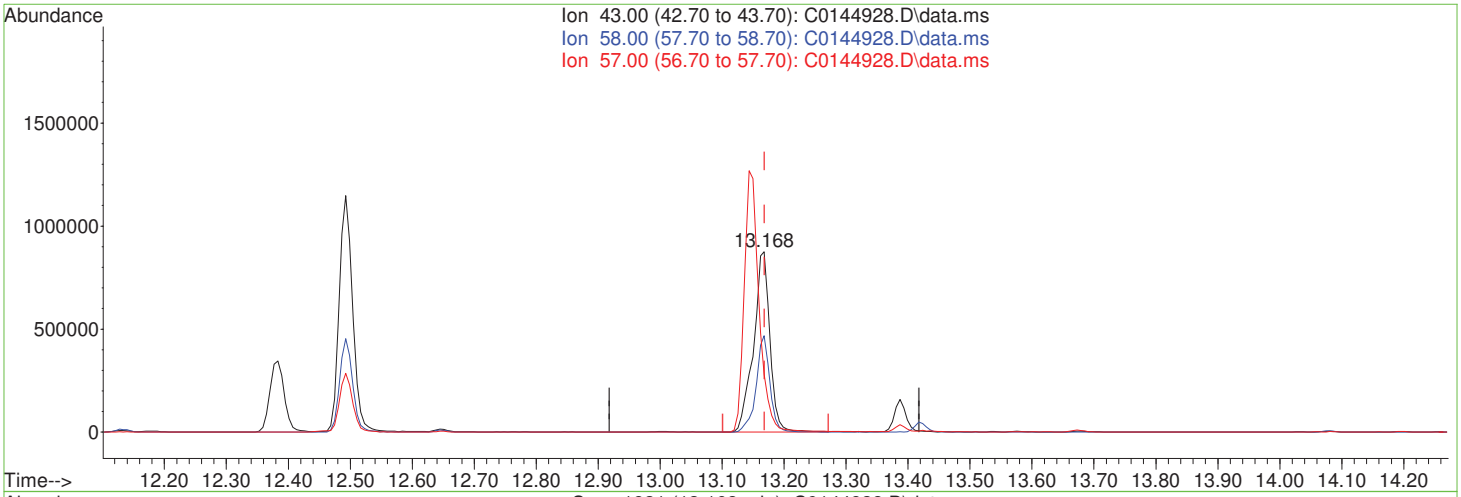
Sample Number: FA80462-3MSD
Lab FileID: C0144928.D
Injection Time: 11/13/20 21:37
Method: SW846 8260B
Analyst approved: 11/17/20 16:50 Ariel Hartney
Supervisor approved: 11/17/20 16:50 Ariel Hartney

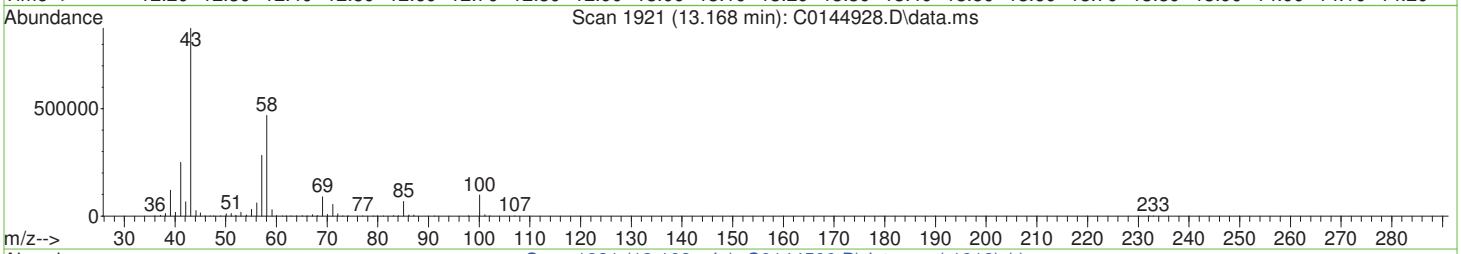
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.25	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

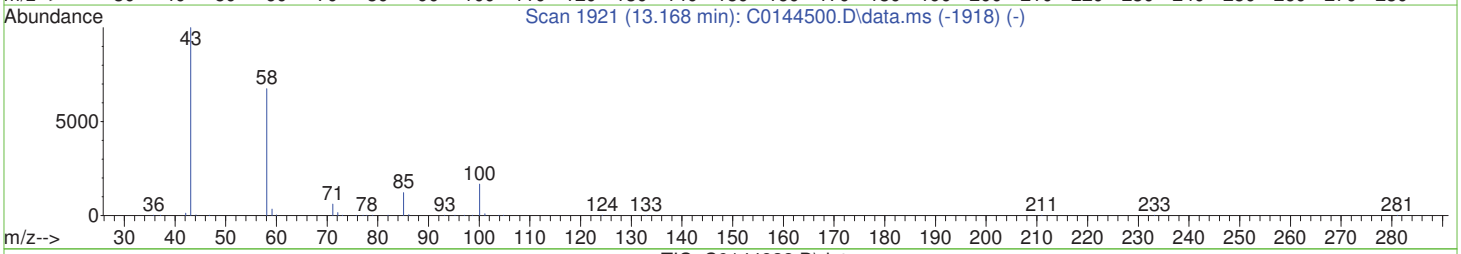
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144928.D
Acq On : 13 Nov 2020 9:37 pm
Operator : SHANICAO
Sample : FA80462-3MSD
Misc : MS47712,VC5817,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 15 19:20:13 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144928.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 182.99ug/L

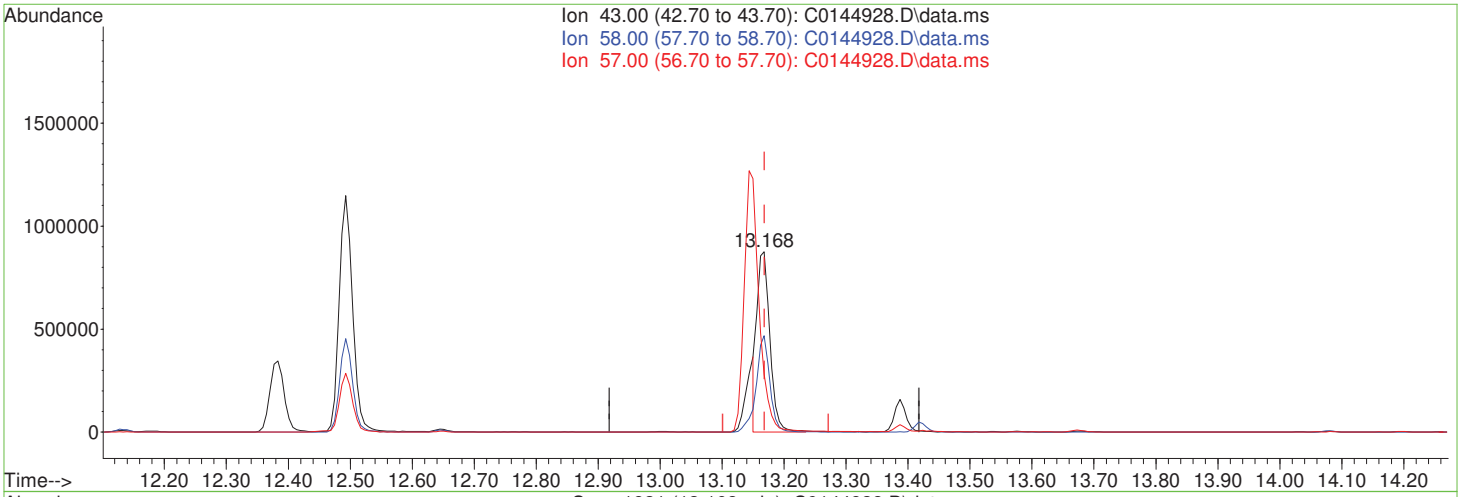
response 1617449

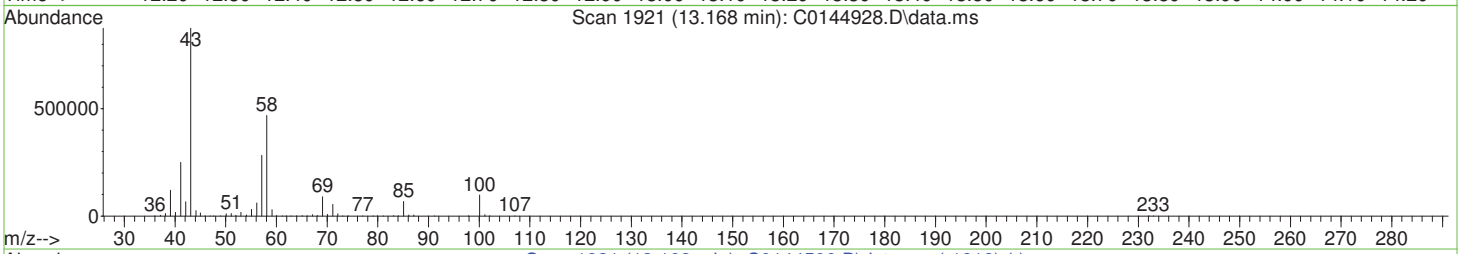
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	53.52
57.00	29.20	32.18
0.00	0.00	0.00

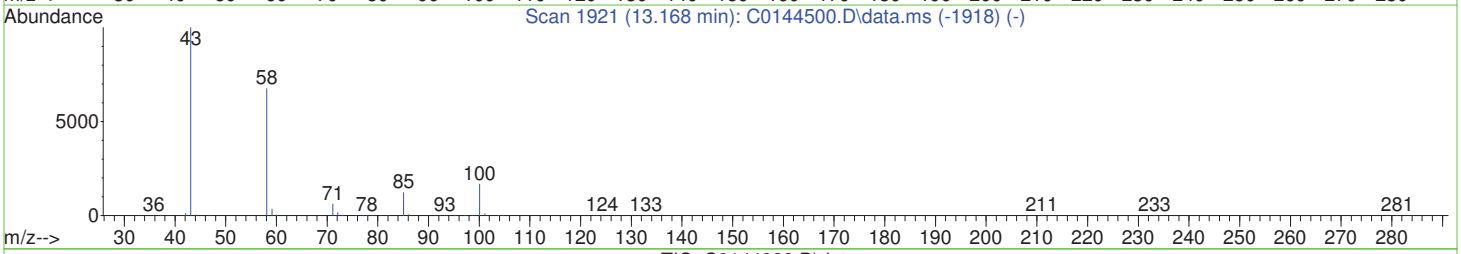
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144928.D
Acq On : 13 Nov 2020 9:37 pm
Operator : SHANICAO
Sample : FA80462-3MSD
Misc : MS47712,VC5817,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 15 19:20:13 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144928.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 144.24ug/L m

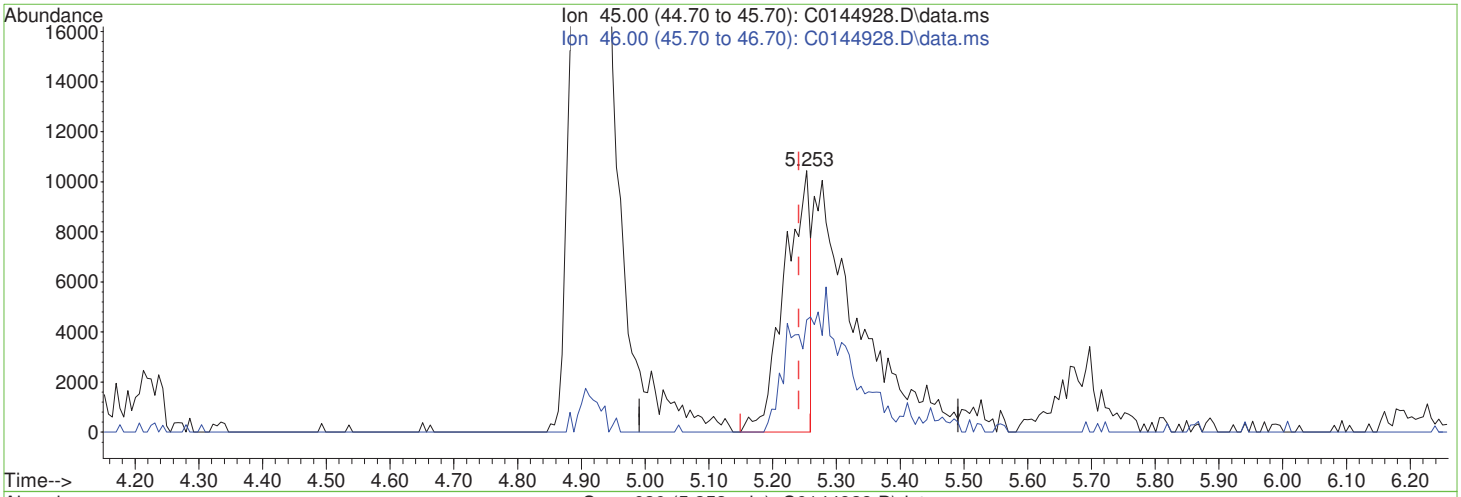
response 1274991

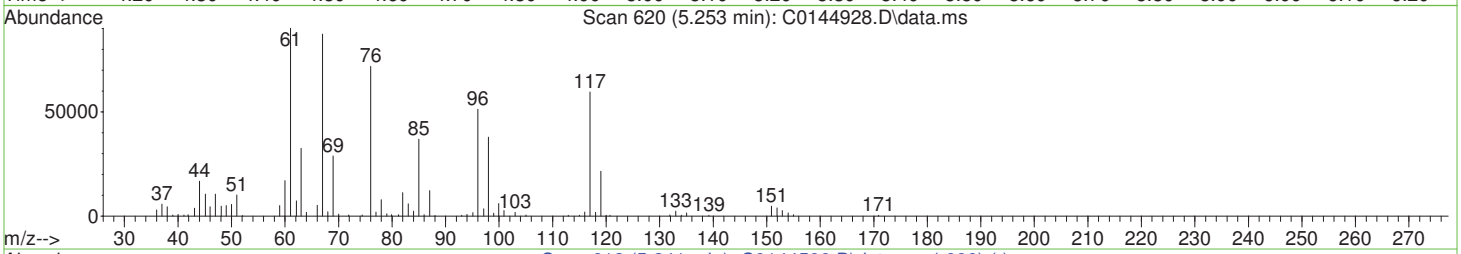
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	53.49
57.00	29.20	32.21
0.00	0.00	0.00

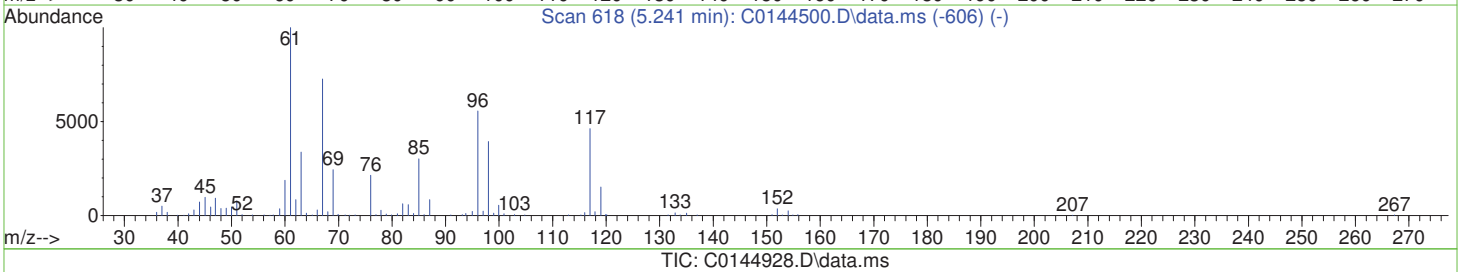
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144928.D
Acq On : 13 Nov 2020 9:37 pm
Operator : SHANICAO
Sample : FA80462-3MSD
Misc : MS47712,VC5817,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 15 19:20:13 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144928.D\data.ms

(109) Ethanol

5.253min (+0.012) 195.80ug/L

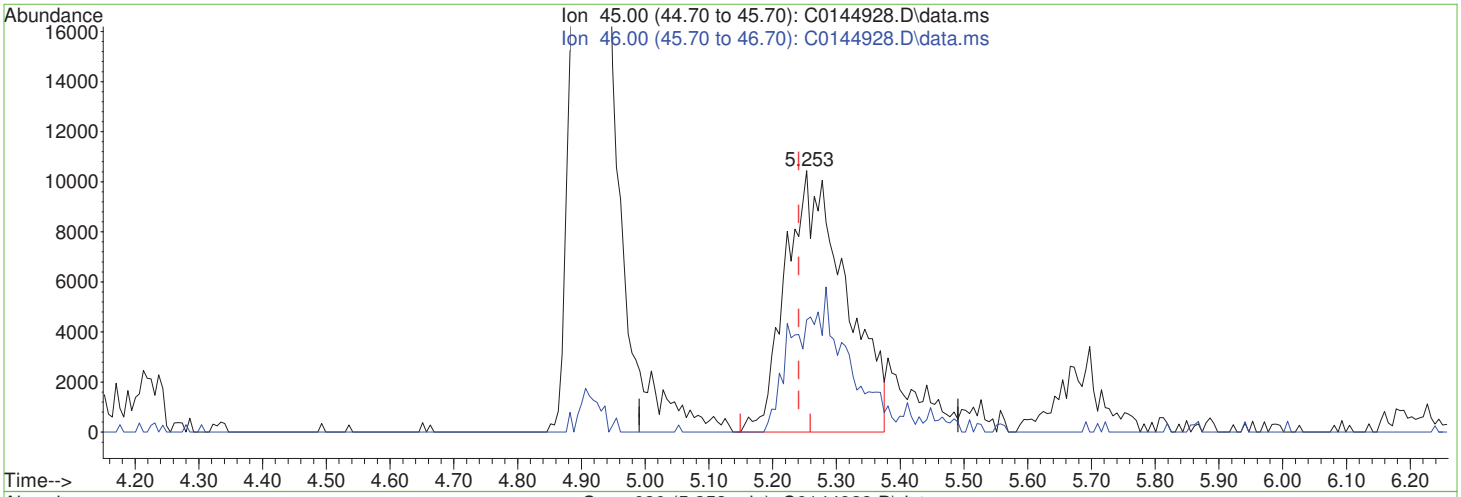
response 29236

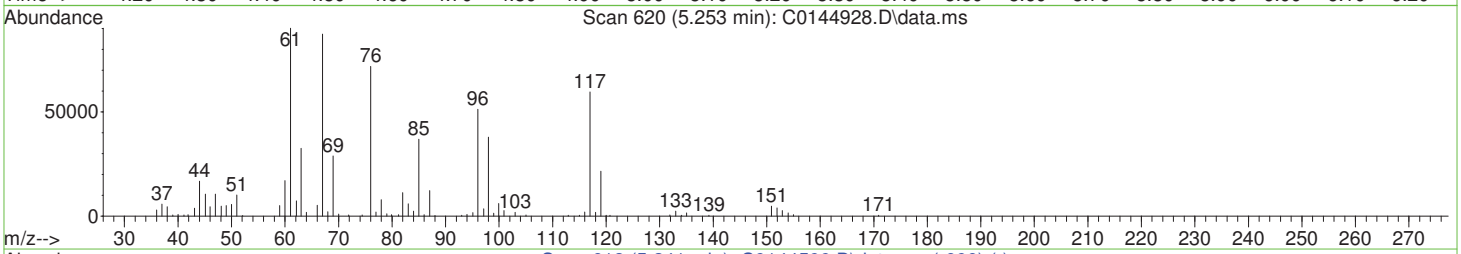
Ion	Exp%	Act%
45.00	100	100
46.00	45.60	42.96
0.00	0.00	0.00
0.00	0.00	0.00

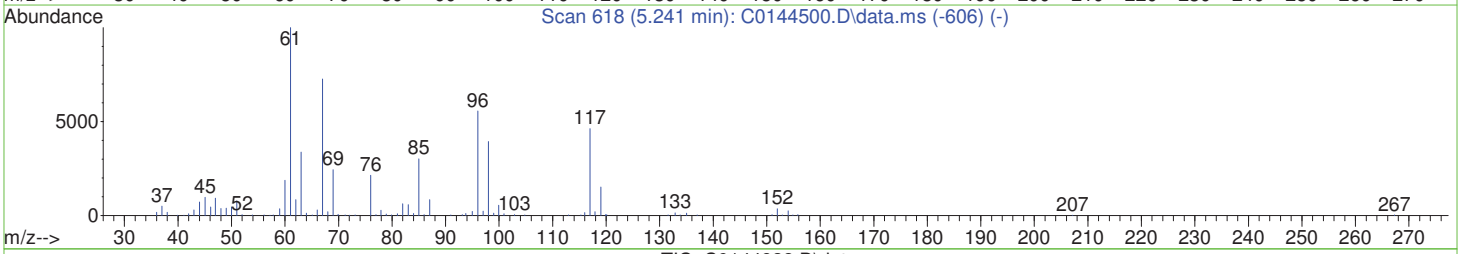
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144928.D
Acq On : 13 Nov 2020 9:37 pm
Operator : SHANICAO
Sample : FA80462-3MSD
Misc : MS47712,VC5817,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 15 19:20:13 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144928.D\data.ms

(109) Ethanol

5.253min (+0.012) 457.43ug/L m

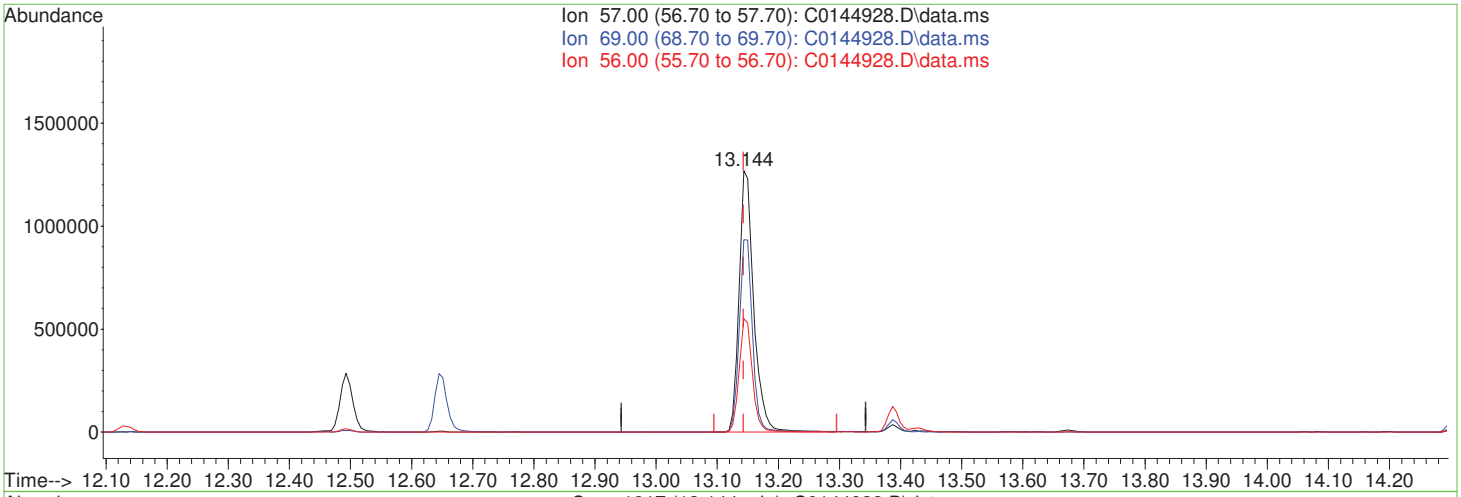
response 68300

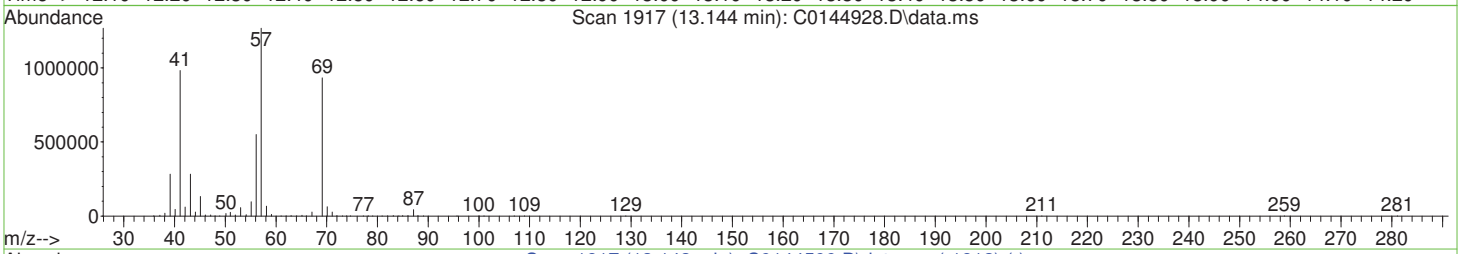
Ion	Exp%	Act%
45.00	100	100
46.00	45.60	42.96
0.00	0.00	0.00
0.00	0.00	0.00

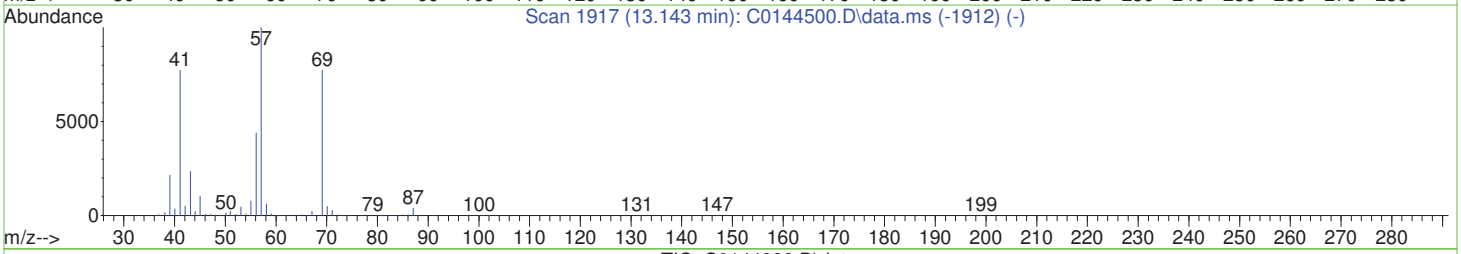
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144928.D
Acq On : 13 Nov 2020 9:37 pm
Operator : SHANICAO
Sample : FA80462-3MSD
Misc : MS47712,VC5817,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 15 19:20:13 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144928.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.001) 1932.44ug/L

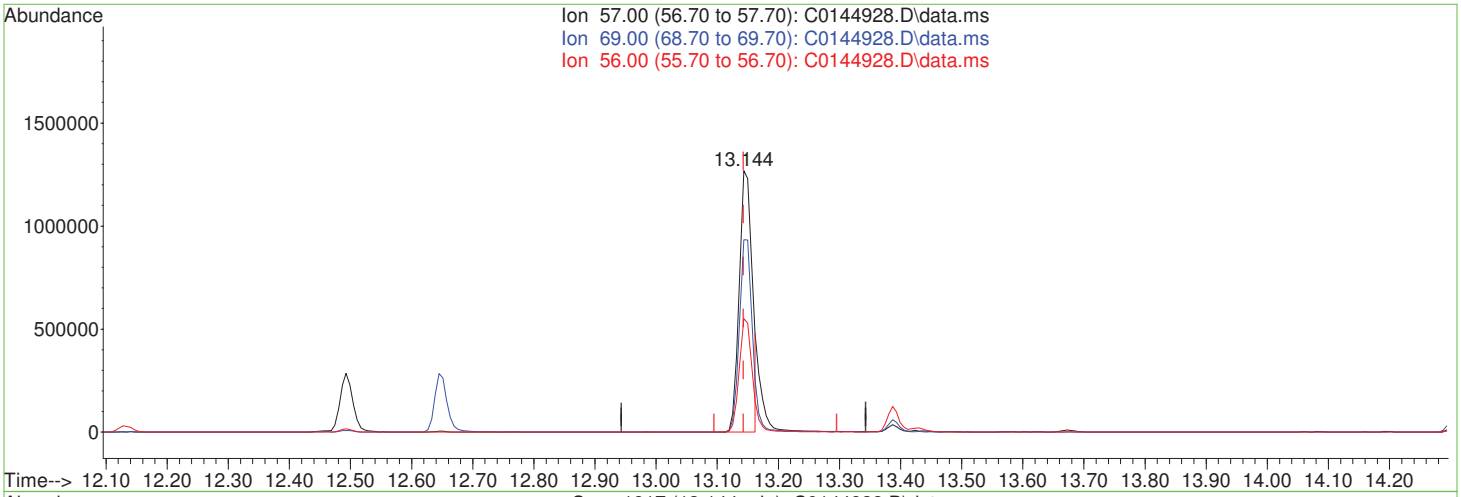
response 2124092

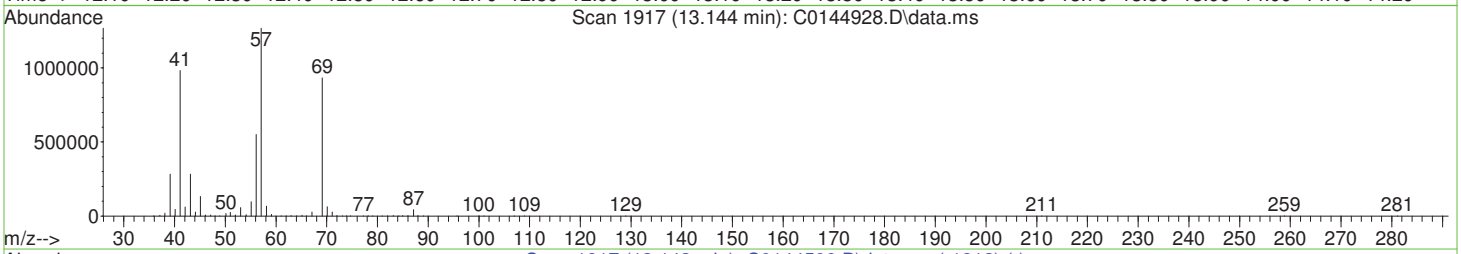
Ion	Exp%	Act%
57.00	100	100
69.00	76.50	65.72
56.00	43.50	39.11
0.00	0.00	0.00

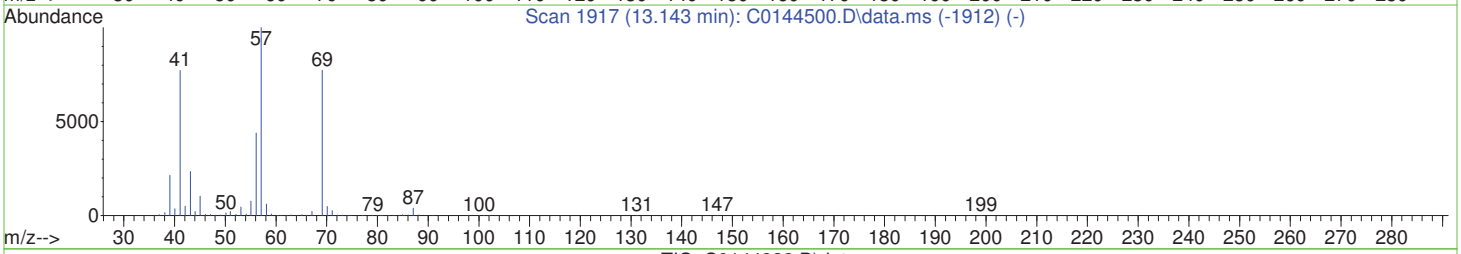
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144928.D
Acq On : 13 Nov 2020 9:37 pm
Operator : SHANICAO
Sample : FA80462-3MSD
Misc : MS47712,VC5817,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 15 19:20:13 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144928.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.001) 1701.67ug/L m

response 1870438

Ion	Exp%	Act%
57.00	100	100
69.00	76.50	74.63
56.00	43.50	44.42
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
11/18/20 15:28

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54123.D
Acq On : 17 Nov 2020 8:53 pm
Operator : chelseav
Sample : FA80463-1MS
Misc : MS47712,VY2246
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 18 02:31:22 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	11.518	96	2424776	50.00	ug/L		0.00
57) Chlorobenzene-d5	14.578	117	2225502	50.00	ug/L		0.00
79) 1,4-Dichlorobenzene-d4	16.275	152	1209304	50.00	ug/L		0.00
107) Tert Butyl Alcohol-d10	7.424	65	116466	250.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	10.332	113	637778	50.59	ug/L		0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.18%				
47) 1,2-Dichloroethane-d4	11.141	65	533923	50.32	ug/L		0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.64%				
58) Toluene-d8	13.240	98	2512695	49.25	ug/L		0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 98.50%				
80) 4-Bromofluorobenzene	15.485	174	888357	48.74	ug/L		0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.48%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.032	85	202951	21.18	ug/L		100
3) Acrolein	6.311	56	77582	63.78	ug/L		97
4) Chloromethane	3.385	50	286288	25.09	ug/L		98
5) 1,3-butadiene	3.579	39	289073	33.50	ug/L		99
6) Vinyl Chloride	3.549	62	252221	25.65	ug/L		99
7) Bromomethane	4.151	94	92453	20.89	ug/L		98
8) Chloroethane	4.394	64	82595	20.20	ug/L		98
9) Trichlorofluoromethane	4.662	101	409760	26.62	ug/L		97
10) Ethyl Ether	5.289	59	159315	23.62	ug/L		98
11) 1,2-Dichlorotrifluoroe...	5.672	67	266644	26.74	ug/L		99
12) 1,1-Dichloroethene	5.635	61	345985	26.43	ug/L		99
13) Freon 113	5.733	101	247041	21.90	ug/L		99
14) Carbon Disulfide	5.672	76	559053	21.74	ug/L		99
15) Iodomethane	5.903	142	202857	22.80	ug/L		99
16) Allyl chloride	6.566	41	346962	25.05	ug/L		98
17) Methylene Chloride	6.773	49	312667	24.69	ug/L		99
18) Acetone	6.889	43	199625	129.94	ug/L		98
19) Methyl acetate	7.144	43	516007	124.35	ug/L		97
20) trans-1,2-Dichloroethene	7.089	61	317579	25.66	ug/L		97
21) Hexane	7.248	56	185293	22.83	ug/L		96
22) Methyl Tert Butyl Ether	7.321	73	427302	24.05	ug/L		98
23) Acetonitrile	7.801	41	178137	238.63	ug/L		98
24) Di-isopropyl ether	8.093	45	723122	24.21	ug/L		99
25) Chloroprene	8.270	53	382434	27.77	ug/L		98
26) 1,1-Dichloroethane	8.312	63	406002	26.79	ug/L		98
27) Acrylonitrile	8.428	53	255276	119.45	ug/L		98
28) ETBE	8.835	59	502105	23.01	ug/L		98
29) Vinyl acetate	8.860	43	1418545	105.02	ug/L		100
30) cis-1,2-Dichloroethene	9.425	96	323990	29.46	ug/L		97
31) 2,2-Dichloropropane	9.638	77	272893	24.30	ug/L		99
32) Bromochloromethane	9.839	128	142166	23.21	ug/L		96
33) Cyclohexane	9.821	56	465460	25.33	ug/L		99
34) Chloroform	10.009	83	420149	25.98	ug/L		100
35) Ethyl acetate	10.253	43	647544	118.54	ug/L		100
36) Tetrahydrofuran	10.259	42	33218	20.74	ug/L		96
38) Carbon Tetrachloride	10.229	117	378108	26.73	ug/L		99
39) 1,1,1-Trichloroethane	10.350	97	413057	25.23	ug/L		99
40) 2-Butanone	10.551	43	283291	130.41	ug/L		100
41) 1,1-Dichloropropene	10.563	75	331600	25.53	ug/L		99
42) tert-Butyl formate	10.758	59	16490	11.38	ug/L	#	82
43) Propionitrile	10.995	54	190903	254.71	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54123.D
Acq On : 17 Nov 2020 8:53 pm
Operator : chelseav
Sample : FA80463-1MS
Misc : MS47712,VY2246
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 18 02:31:22 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Methacrylonitrile	11.019	41	933946	246.03	ug/L		99
45) Benzene	10.940	78	992519	25.18	ug/L		99
46) TAME	11.129	73	399527	23.48	ug/L		95
48) 1,2-Dichloroethane	11.238	62	261774	23.96	ug/L		98
49) Trichloroethene	11.737	95	321622	27.04	ug/L		99
50) Methylcyclohexane	11.713	83	473712	26.18	ug/L		99
51) Dibromomethane	12.236	93	118126	24.67	ug/L		97
52) 1,2-Dichloropropane	12.346	63	225632	25.13	ug/L		99
53) Bromodichloromethane	12.419	83	276421	26.17	ug/L		97
54) Methyl methacrylate	12.589	41	123735	25.03	ug/L		99
55) 2-Chloroethyl vinyl ether	12.923	63	2262	0.93	ug/L	#	48
56) cis-1,3-Dichloropropene	13.069	75	286110	22.30	ug/L		99
59) Toluene	13.288	91	1162776	23.25	ug/L		100
60) 2-Nitropropane	13.514	41	150410	111.41	ug/L		98
61) 4-Methyl-2-pentanone	13.629	43	707752	135.86	ug/L		100
62) trans-1,3-Dichloropropene	13.672	75	236406	23.76	ug/L		96
63) Tetrachloroethene	13.647	166	368388	25.10	ug/L		99
64) Ethyl methacrylate	13.793	69	188924	25.73	ug/L		99
65) 1,1,2-Trichloroethane	13.812	83	144669	24.46	ug/L		99
66) Dibromochloromethane	13.976	129	248692	25.01	ug/L		97
67) 1,3-Dichloropropane	14.049	76	292698	23.14	ug/L		99
68) 1,2-Dibromoethane	14.177	107	187674	23.36	ug/L		100
69) 2-hexanone	14.329	43	498467m	133.25	ug/L		
70) 1-Chlorohexane	14.548	91	387407	24.12	ug/L		99
71) Ethylbenzene	14.596	91	1300183	23.91	ug/L		100
72) Chlorobenzene	14.590	112	842518	23.93	ug/L		96
73) 1,1,1,2-Tetrachloroethane	14.639	131	295540	24.59	ug/L		98
74) m,p-Xylene	14.700	91	2060031	48.49	ug/L		98
75) o-Xylene	15.034	91	1041594	24.63	ug/L		99
76) Styrene	15.071	104	818308	24.60	ug/L		99
77) Bromoform	15.126	173	116897	24.40	ug/L		99
78) Isopropylbenzene	15.253	105	1468460	24.88	ug/L		97
81) cis-1,4-Dichloro-2-butene	15.515	53	37016	21.93	ug/L	#	89
82) n-Propylbenzene	15.552	91	1555483	23.78	ug/L		99
83) Bromobenzene	15.576	156	356070	23.58	ug/L		98
84) 1,1,2,2-Tetrachloroethane	15.612	83	191493	23.33	ug/L		99
85) 1,3,5-Trimethylbenzene	15.673	105	1144307	24.48	ug/L		97
86) 2-Chlorotoluene	15.691	91	980899	23.63	ug/L		99
87) trans-1,4-Dichloro-2-B...	15.734	53	35558	22.17	ug/L		97
88) 1,2,3-Trichloropropane	15.722	110	72132	23.51	ug/L		97
89) Cyclohexanone	15.777	55	19765	122.05	ug/L		95
90) 4-Chlorotoluene	15.807	91	899295	23.52	ug/L		99
91) tert-Butylbenzene	15.910	91	583209	24.09	ug/L		99
92) 1,2,4-Trimethylbenzene	15.953	105	1113364	23.63	ug/L		99
93) Pentachloroethane	15.959	167	196093	25.73	ug/L		91
94) sec-Butylbenzene	16.032	105	1432796	24.64	ug/L		99
95) 4-Isopropyltoluene	16.117	119	1344189	24.85	ug/L		99
96) 1,3-Dichlorobenzene	16.227	146	693595	23.69	ug/L		99
97) 1,2,3-Trimethylbenzene	16.269	105	1059246	16.31	ug/L		100
98) 1,4-Dichlorobenzene	16.282	146	668200	22.83	ug/L		95
99) n-Butylbenzene	16.409	92	509645	24.21	ug/L		99
100) Benzyl Chloride	16.440	126	61134	20.48	ug/L		92
101) 1,2-Dichlorobenzene	16.580	146	635272	23.83	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.115	75	24688	22.83	ug/L		98
103) Hexachlorobutadiene	17.529	225	107884	21.41	ug/L		97
104) 1,2,4-Trichlorobenzene	17.583	180	299411	22.70	ug/L		100
105) Naphthalene	17.833	128	631228	22.81	ug/L		99
106) 1,2,3-Trichlorobenzene	17.979	180	254703	22.45	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54123.D
Acq On : 17 Nov 2020 8:53 pm
Operator : chelseav
Sample : FA80463-1MS
Misc : MS47712,VY2246
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 18 02:31:22 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.648	45	37032	465.05	ug/L	99
109) Tert Butyl Alcohol	7.570	59	129862	182.85	ug/L	98
110) Isobutyl alcohol	11.317	42	54288	448.38	ug/L	97
111) Tert Amyl Alcohol	11.427	59	63418	239.10	ug/L	98
112) 1,4-Dioxane	12.644	88	30361	471.01	ug/L	98
113) 3,3-dimethyl-1-butanol	14.304	57	614876	1226.27	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54123.D
Acq On : 17 Nov 2020 8:53 pm
Operator : chelseav
Sample : FA80463-1MS
Misc : MS47712,VY2246
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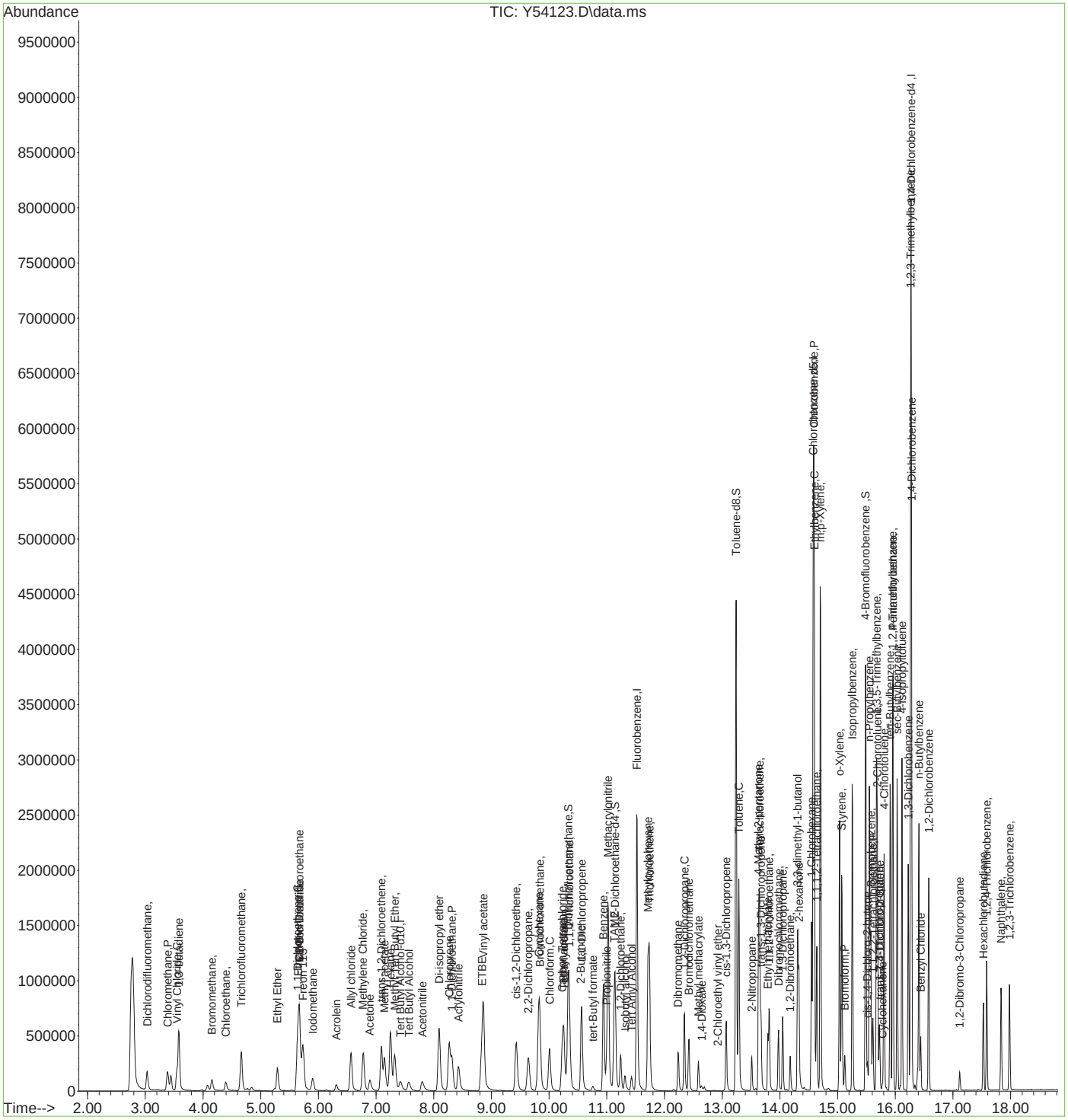
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



RESTEK111720w.M Wed Nov 18 02:47:32 2020 Page: 4

Manual Integration Approval Summary

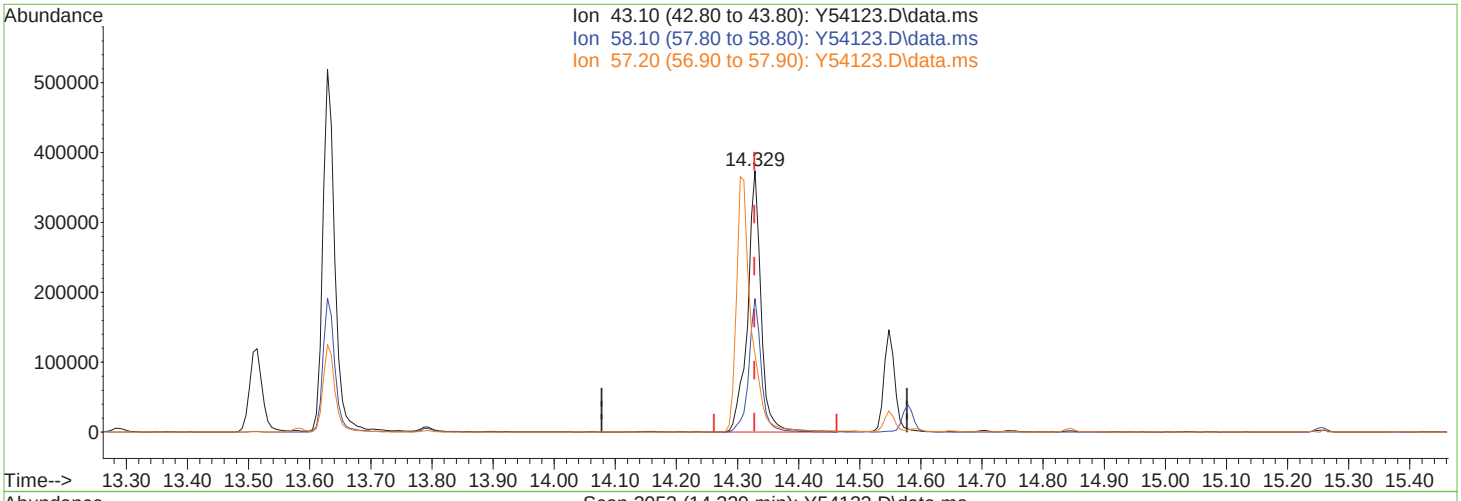
Sample Number: FA80463-1MS
Lab FileID: Y54123.D
Injection Time: 11/17/20 20:53
Method: SW846 8260B
Analyst approved: 11/18/20 04:39 Edessa Sumagaysay
Supervisor approved: 11/18/20 15:28 Melissa Mangual

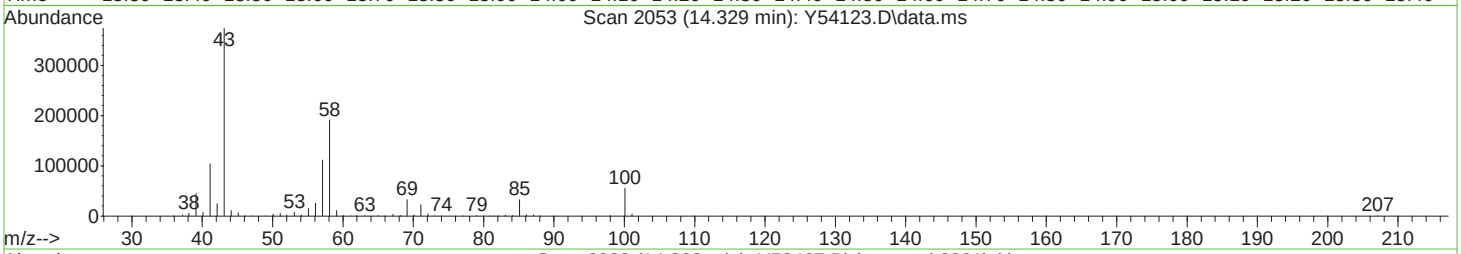
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

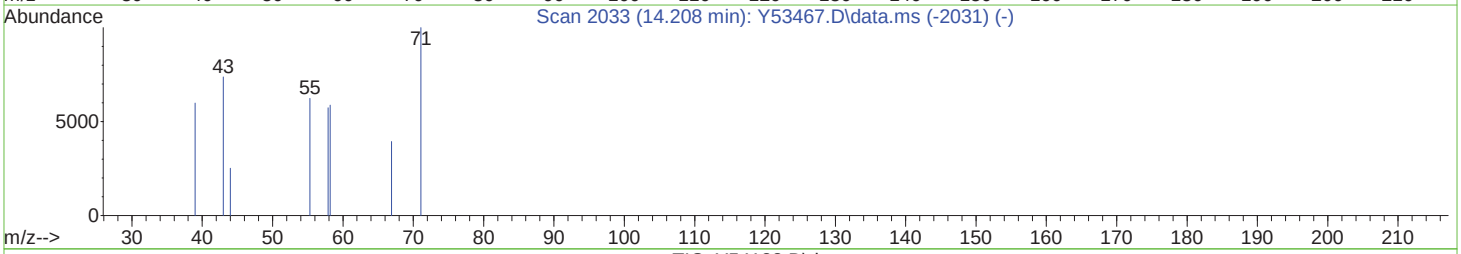
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54123.D
Acq On : 17 Nov 2020 8:53 pm
Operator : chelseav
Sample : FA80463-1MS
Misc : MS47712,VY2246
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 18 02:06:54 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y54123.D\data.ms

(69) 2-hexanone

14.329min (+0.001) 154.09ug/L

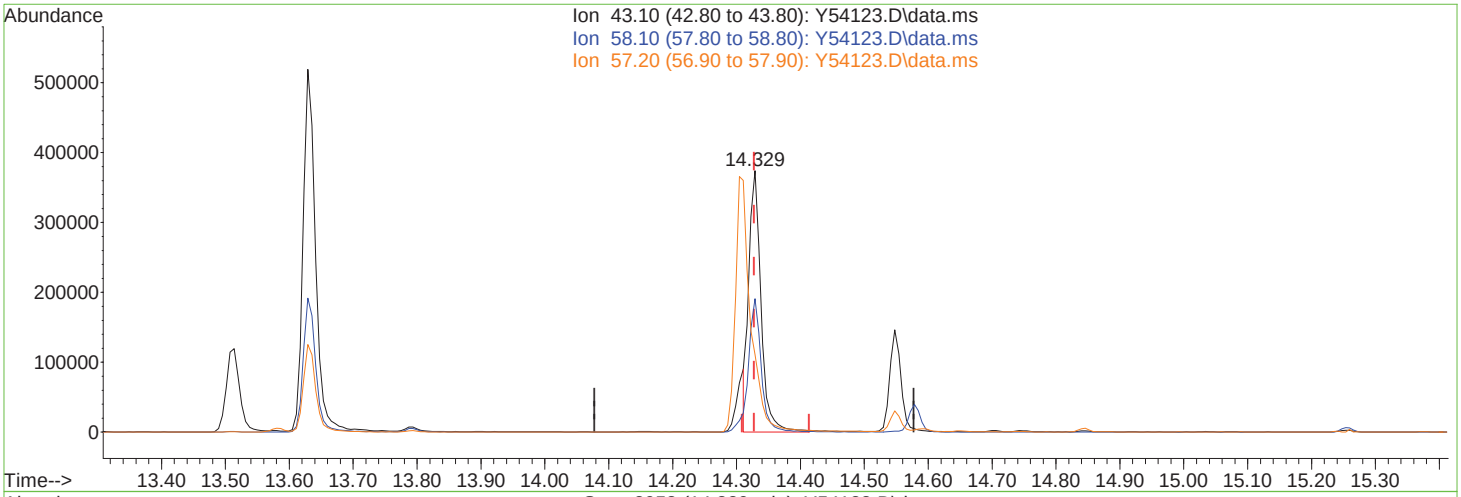
response 576439

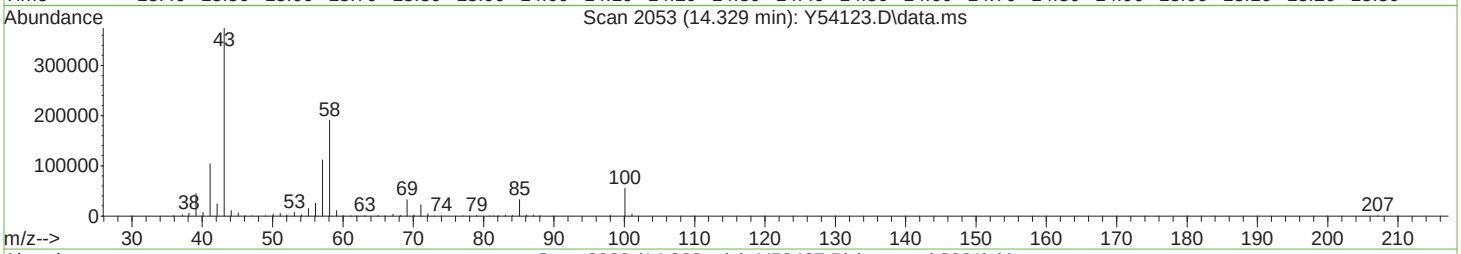
Ion	Exp%	Act%
43.10	100	100
58.10	51.30	51.03
57.20	28.20	29.75
0.00	0.00	0.00

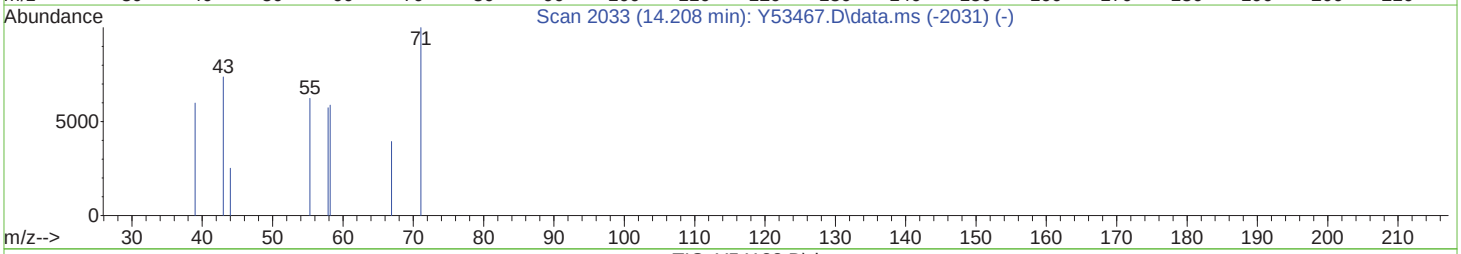
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54123.D
Acq On : 17 Nov 2020 8:53 pm
Operator : chelseav
Sample : FA80463-1MS
Misc : MS47712,VY2246
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 18 02:06:54 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y54123.D\data.ms

(69) 2-hexanone

14.329min (+0.001) 133.25ug/L m

response 498467

Ion	Exp%	Act%
43.10	100	100
58.10	51.30	50.98
57.20	28.20	29.72
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/18/20 15:28

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54124.D
Acq On : 17 Nov 2020 9:20 pm
Operator : chelseav
Sample : FA80463-1MSD
Misc : MS47712,VY2246
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 18 02:33:33 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.522	96	2427201	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.582	117	2226624	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	1213347	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.422	65	128657	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.329	113	635392	50.35	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.70%			
47) 1,2-Dichloroethane-d4	11.145	65	542953	51.12	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 102.24%			
58) Toluene-d8	13.237	98	2507826	49.13	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 98.26%			
80) 4-Bromofluorobenzene	15.488	174	892326	48.80	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.029	85	199878	20.84	ug/L	98
3) Acrolein	6.308	56	82816	68.01	ug/L	99
4) Chloromethane	3.388	50	282720	24.75	ug/L	96
5) 1,3-butadiene	3.583	39	286951	33.22	ug/L	97
6) Vinyl Chloride	3.546	62	251410	25.55	ug/L	98
7) Bromomethane	4.155	94	97033	21.87	ug/L	100
8) Chloroethane	4.398	64	80508	19.64	ug/L	95
9) Trichlorofluoromethane	4.660	101	396427	25.73	ug/L	99
10) Ethyl Ether	5.292	59	157177	23.28	ug/L	97
11) 1,2-Dichlorotrifluoroe...	5.669	67	265051	26.55	ug/L	98
12) 1,1-Dichloroethene	5.639	61	343647	26.22	ug/L	99
13) Freon 113	5.730	101	239288	21.19	ug/L	98
14) Carbon Disulfide	5.669	76	555971	21.59	ug/L	99
15) Iodomethane	5.901	142	219581	24.42	ug/L	97
16) Allyl chloride	6.564	41	345488	24.92	ug/L	96
17) Methylene Chloride	6.777	49	302099	23.81	ug/L	94
18) Acetone	6.898	43	209886	136.48	ug/L	98
19) Methyl acetate	7.148	43	527702	127.04	ug/L	99
20) trans-1,2-Dichloroethene	7.093	61	317442	25.62	ug/L	98
21) Hexane	7.251	56	182189	22.43	ug/L	95
22) Methyl Tert Butyl Ether	7.324	73	433594	24.38	ug/L	98
23) Acetonitrile	7.805	41	186927	250.16	ug/L	97
24) Di-isopropyl ether	8.091	45	708747	23.71	ug/L	99
25) Chloroprene	8.267	53	381006	27.64	ug/L	98
26) 1,1-Dichloroethane	8.316	63	403468	26.60	ug/L	98
27) Acrylonitrile	8.431	53	268620	125.57	ug/L	99
28) ETBE	8.833	59	514265	23.55	ug/L	98
29) Vinyl acetate	8.863	43	1463146	108.21	ug/L	99
30) cis-1,2-Dichloroethene	9.429	96	321301	29.19	ug/L	99
31) 2,2-Dichloropropane	9.642	77	269146	23.95	ug/L	100
32) Bromochloromethane	9.837	128	139559	22.76	ug/L	98
33) Cyclohexane	9.825	56	461408	25.08	ug/L	99
34) Chloroform	10.007	83	411360	25.41	ug/L	99
35) Ethyl acetate	10.256	43	678219	124.03	ug/L	99
36) Tetrahydrofuran	10.256	42	37156	23.17	ug/L	97
38) Carbon Tetrachloride	10.232	117	377205	26.64	ug/L	99
39) 1,1,1-Trichloroethane	10.354	97	412084	25.14	ug/L	99
40) 2-Butanone	10.555	43	301098	138.07	ug/L	98
41) 1,1-Dichloropropene	10.567	75	329368	25.33	ug/L	99
42) tert-Butyl formate	10.761	59	14865	10.26	ug/L	95
43) Propionitrile	10.993	54	198437	264.49	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54124.D
Acq On : 17 Nov 2020 9:20 pm
Operator : chelseav
Sample : FA80463-1MSD
Misc : MS47712,VY2246
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 18 02:33:33 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Methacrylonitrile	11.023	41	971400	255.64	ug/L		99
45) Benzene	10.944	78	977142	24.76	ug/L		100
46) TAME	11.126	73	403642	23.70	ug/L		95
48) 1,2-Dichloroethane	11.236	62	261045	23.87	ug/L		98
49) Trichloroethene	11.741	95	318606	26.76	ug/L		97
50) Methylcyclohexane	11.716	83	474872	26.22	ug/L		99
51) Dibromomethane	12.240	93	118326	24.69	ug/L		98
52) 1,2-Dichloropropane	12.343	63	221471	24.65	ug/L		98
53) Bromodichloromethane	12.422	83	275050	26.01	ug/L		98
54) Methyl methacrylate	12.586	41	125486	25.33	ug/L		99
55) 2-Chloroethyl vinyl ether	13.067	63	1384	0.57	ug/L	#	31
56) cis-1,3-Dichloropropene	13.067	75	287730	22.40	ug/L		98
59) Toluene	13.286	91	1135343	22.69	ug/L		99
60) 2-Nitropropane	13.511	41	159624	117.64	ug/L		99
61) 4-Methyl-2-pentanone	13.633	43	722074	138.54	ug/L		99
62) trans-1,3-Dichloropropene	13.669	75	236282	23.74	ug/L		97
63) Tetrachloroethene	13.645	166	361343	24.61	ug/L		98
64) Ethyl methacrylate	13.791	69	194821	26.46	ug/L		97
65) 1,1,2-Trichloroethane	13.815	83	145650	24.62	ug/L		98
66) Dibromochloromethane	13.973	129	249267	25.05	ug/L		98
67) 1,3-Dichloropropane	14.046	76	293003	23.15	ug/L		99
68) 1,2-Dibromoethane	14.180	107	188323	23.43	ug/L		98
69) 2-hexanone	14.326	43	486617m	130.02	ug/L		
70) 1-Chlorohexane	14.551	91	381545	23.74	ug/L		96
71) Ethylbenzene	14.594	91	1291376	23.74	ug/L		100
72) Chlorobenzene	14.594	112	824428	23.41	ug/L		98
73) 1,1,1,2-Tetrachloroethane	14.637	131	289945	24.11	ug/L		99
74) m,p-Xylene	14.703	91	2031889	47.80	ug/L		99
75) o-Xylene	15.032	91	1024002	24.20	ug/L		99
76) Styrene	15.075	104	793755	23.85	ug/L		98
77) Bromoform	15.123	173	118379	24.67	ug/L		99
78) Isopropylbenzene	15.257	105	1445329	24.48	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.519	53	39648	23.24	ug/L		92
82) n-Propylbenzene	15.555	91	1533858	23.37	ug/L		97
83) Bromobenzene	15.573	156	349003	23.04	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.610	83	198054	24.05	ug/L		99
85) 1,3,5-Trimethylbenzene	15.677	105	1124724	23.98	ug/L		98
86) 2-Chlorotoluene	15.689	91	969065	23.27	ug/L		99
87) trans-1,4-Dichloro-2-B...	15.732	53	36741	22.76	ug/L	#	63
88) 1,2,3-Trichloropropane	15.725	110	74148	24.09	ug/L		97
89) Cyclohexanone	15.780	55	21243	129.94	ug/L		93
90) 4-Chlorotoluene	15.805	91	881704	22.99	ug/L		97
91) tert-Butylbenzene	15.914	91	575793	23.71	ug/L		94
92) 1,2,4-Trimethylbenzene	15.957	105	1092103	23.10	ug/L		97
93) Pentachloroethane	15.963	167	195143	25.52	ug/L	#	83
94) sec-Butylbenzene	16.036	105	1403358	24.05	ug/L		97
95) 4-Isopropyltoluene	16.115	119	1323570	24.39	ug/L		100
96) 1,3-Dichlorobenzene	16.224	146	675284	22.99	ug/L		98
97) 1,2,3-Trimethylbenzene	16.267	105	1033991	15.87	ug/L		99
98) 1,4-Dichlorobenzene	16.285	146	662193	22.55	ug/L		98
99) n-Butylbenzene	16.407	92	507199	24.01	ug/L		99
100) Benzyl Chloride	16.443	126	62472	20.80	ug/L	#	87
101) 1,2-Dichlorobenzene	16.577	146	624684	23.35	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.119	75	27555	25.19	ug/L		91
103) Hexachlorobutadiene	17.526	225	113682	22.46	ug/L		96
104) 1,2,4-Trichlorobenzene	17.587	180	307459	23.23	ug/L		98
105) Naphthalene	17.836	128	683081	24.42	ug/L		100
106) 1,2,3-Trichlorobenzene	17.982	180	266881	23.45	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54124.D
Acq On : 17 Nov 2020 9:20 pm
Operator : chelseav
Sample : FA80463-1MSD
Misc : MS47712,VY2246
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 18 02:33:33 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

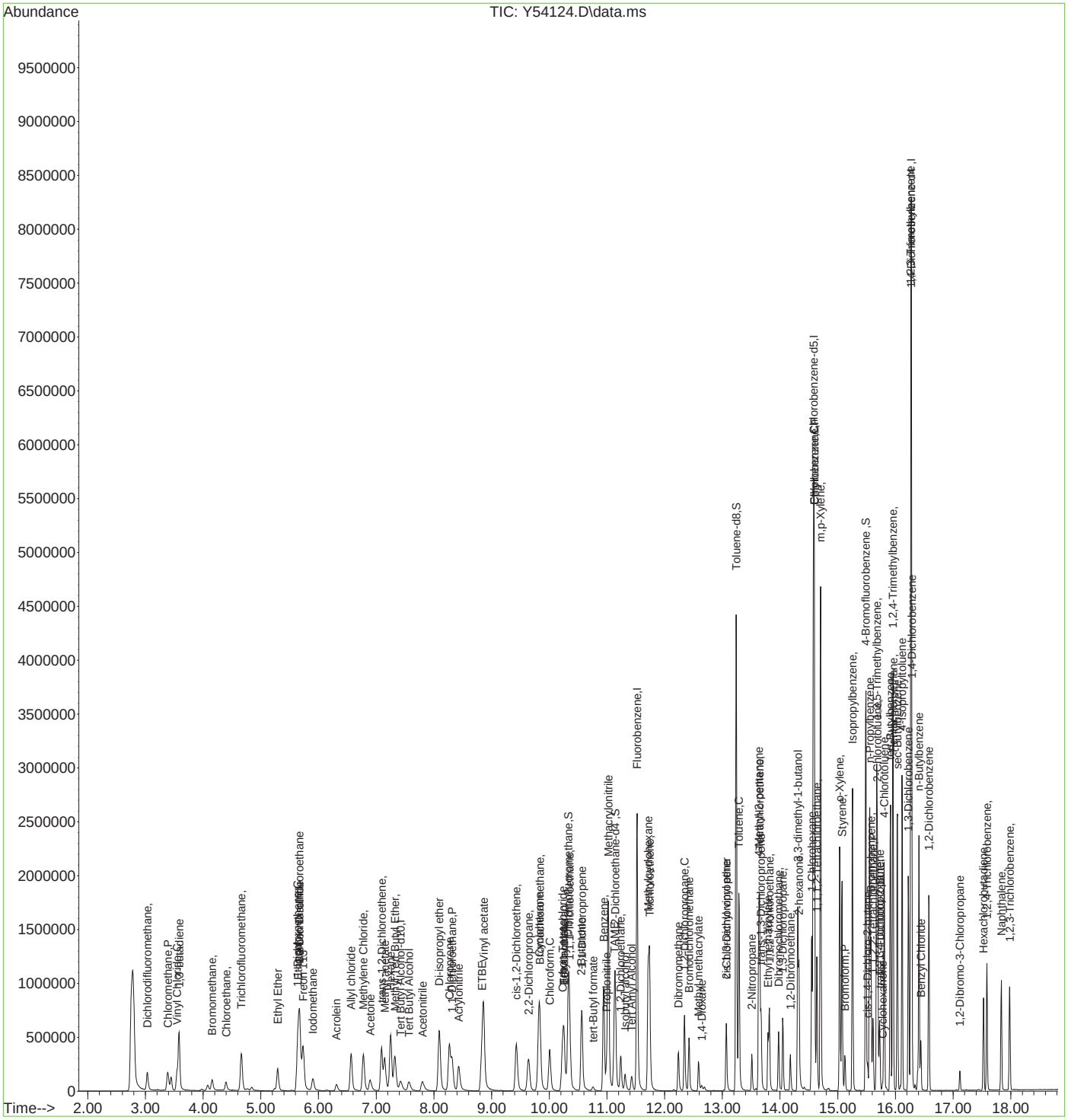
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.645	45	41139	467.76	ug/L	99
109) Tert Butyl Alcohol	7.568	59	138085	176.00	ug/L	99
110) Isobutyl alcohol	11.315	42	58881	440.24	ug/L	98
111) Tert Amyl Alcohol	11.424	59	68978	235.67	ug/L	97
112) 1,4-Dioxane	12.641	88	33977	477.16	ug/L	96
113) 3,3-dimethyl-1-butanol	14.308	57	668664	1207.18	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54124.D
Acq On : 17 Nov 2020 9:20 pm
Operator : chelseav
Sample : FA80463-1MSD
Misc : MS47712,VY2246
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 18 02:33:33 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



Manual Integration Approval Summary

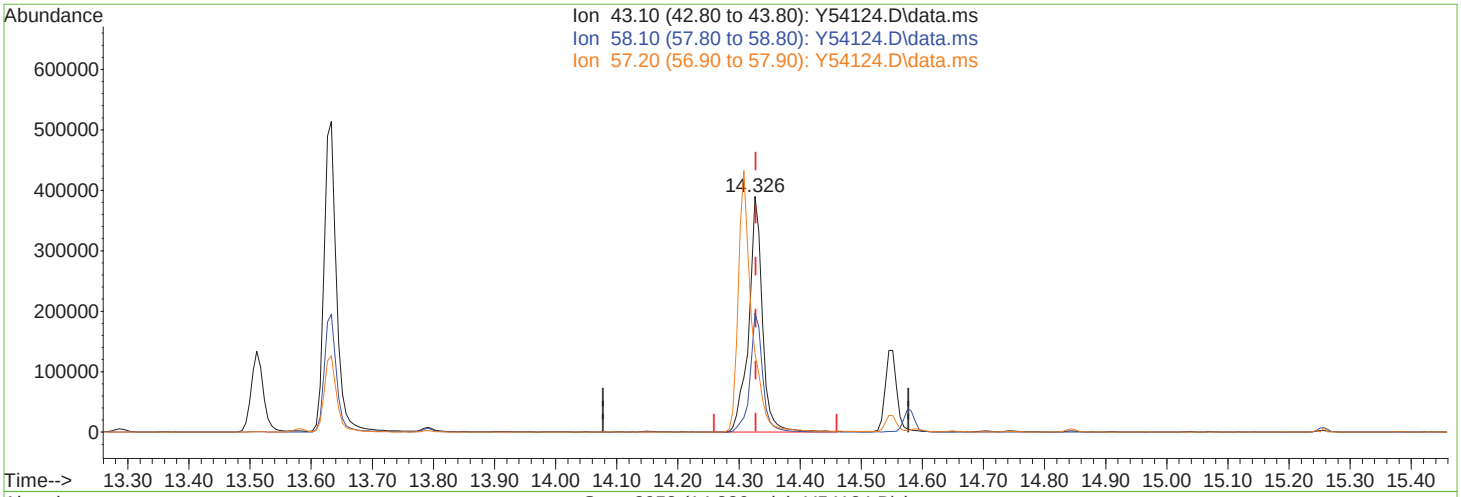
Sample Number: FA80463-1MSD
Lab FileID: Y54124.D
Injection Time: 11/17/20 21:20
Method: SW846 8260B
Analyst approved: 11/18/20 04:39 Edessa Sumagaysay
Supervisor approved: 11/18/20 15:28 Melissa Mangual

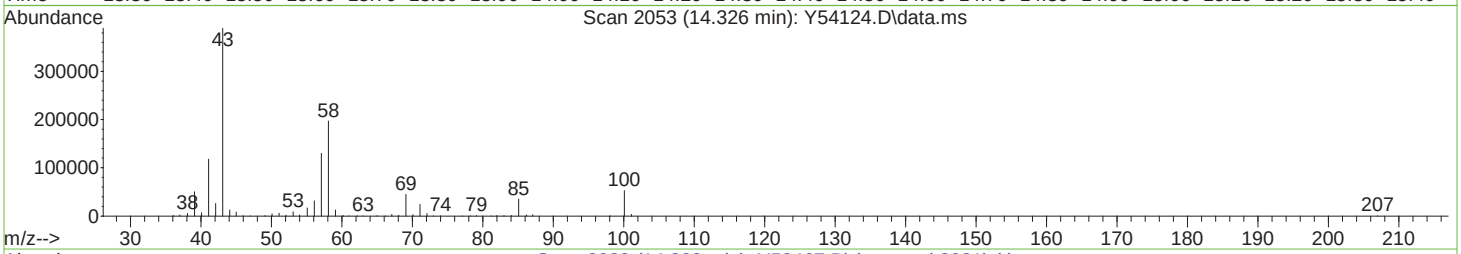
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

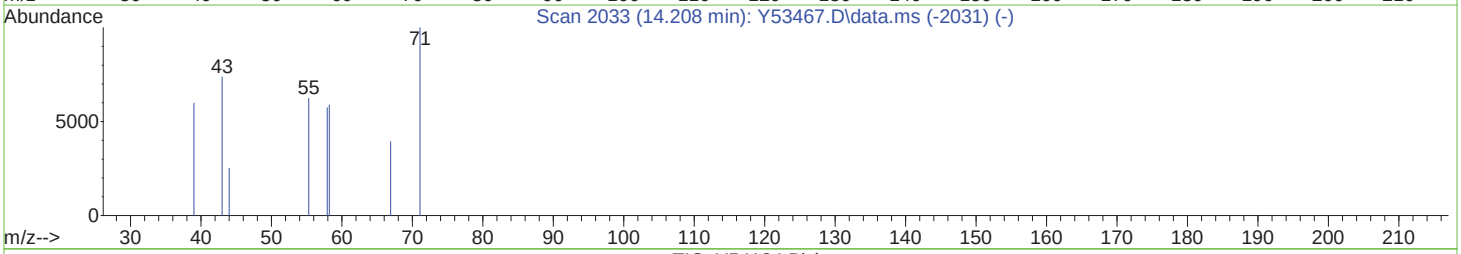
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54124.D
Acq On : 17 Nov 2020 9:20 pm
Operator : chelseav
Sample : FA80463-1MSD
Misc : MS47712,VY2246
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 18 02:06:57 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y54124.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 162.53ug/L

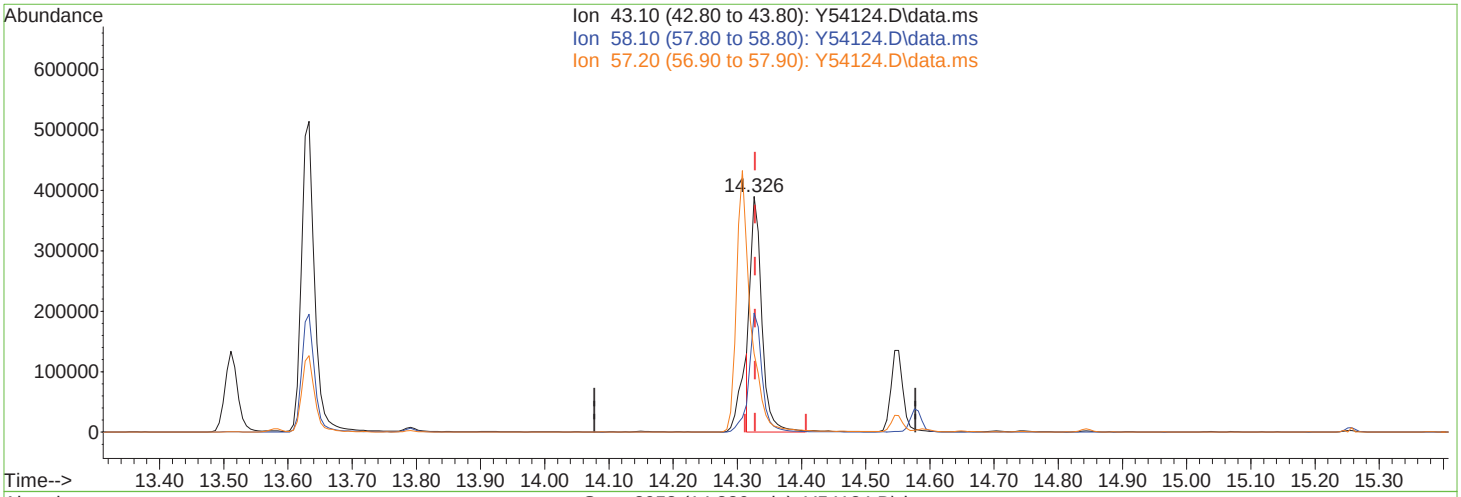
response 608300

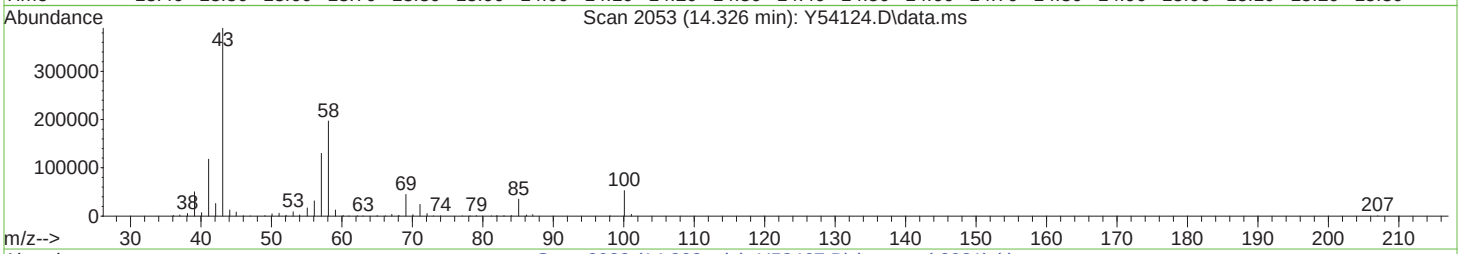
Ion	Exp%	Act%
43.10	100	100
58.10	51.30	50.56
57.20	28.20	33.38
0.00	0.00	0.00

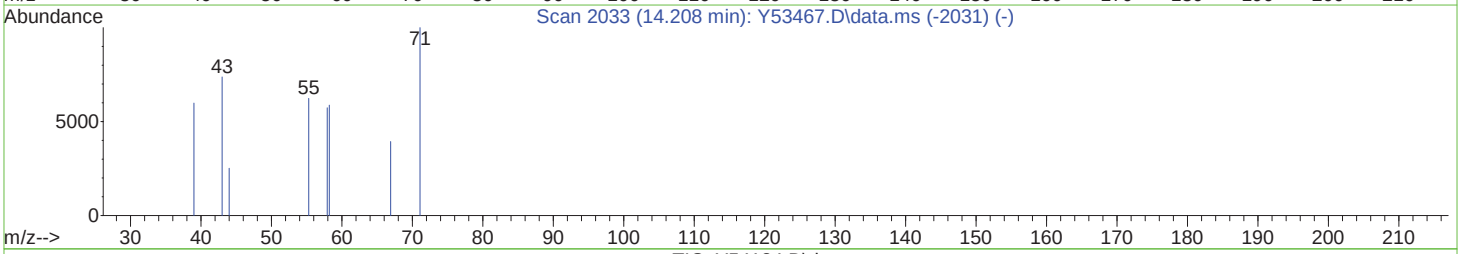
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54124.D
Acq On : 17 Nov 2020 9:20 pm
Operator : chelseav
Sample : FA80463-1MSD
Misc : MS47712,VY2246
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 18 02:06:57 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y54124.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 130.02ug/L m

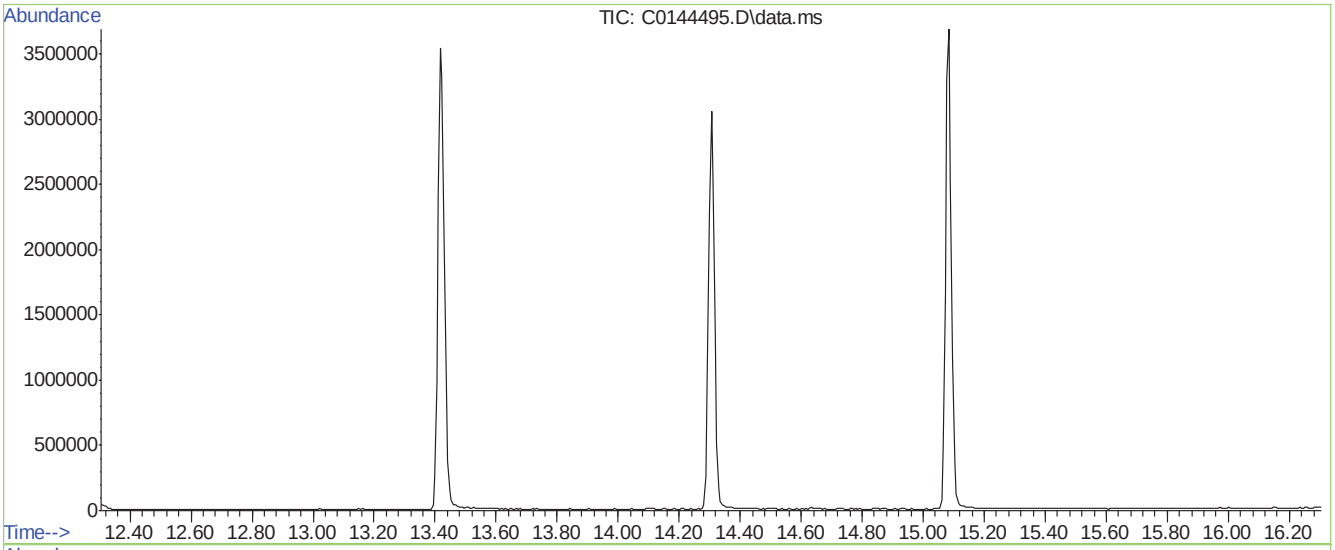
response 486617

Ion	Exp%	Act%
43.10	100	100
58.10	51.30	50.53
57.20	28.20	33.36
0.00	0.00	0.00

Methods: SW-846 8260B

Data File : C:\msdchem\2\DATA\102820\C0144495.D Vial: 2
Acq On : 28 Oct 2020 7:45 am Operator: SHANICAO
Sample : BFB Inst : MSVOA5
Misc : MS47505,VC5797,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS102820.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B



AutoFind: Scans 2107, 2108, 2109; Background Corrected with Scan 2098

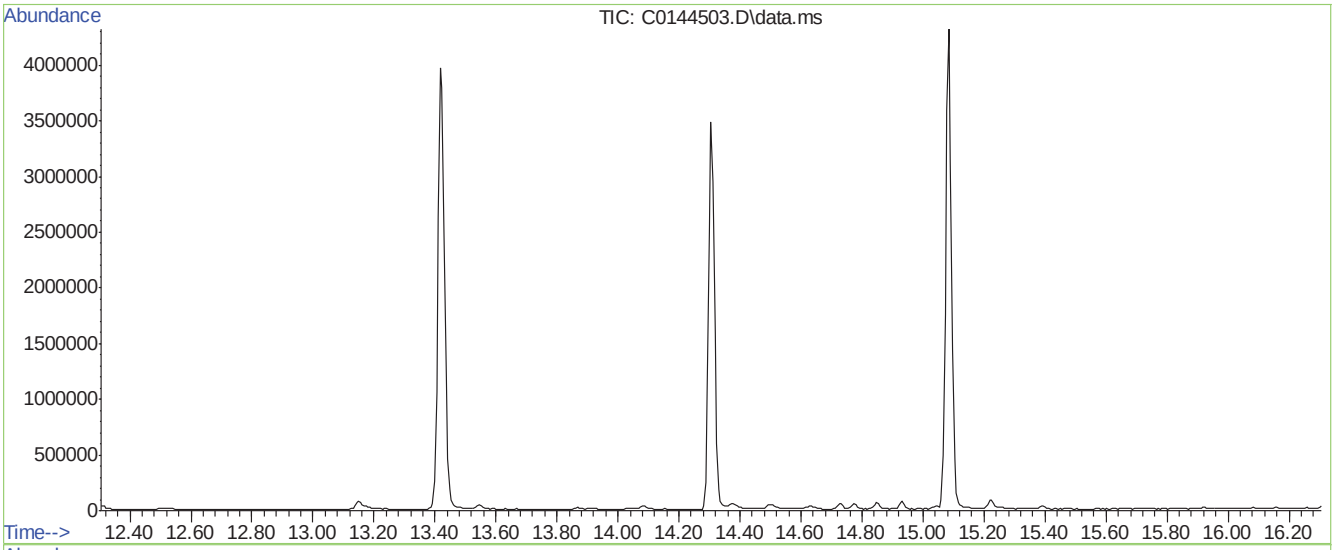
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.4	110328	PASS
75	95	30	60	54.2	279189	PASS
95	95	100	100	100.0	515157	PASS
96	95	5	9	6.8	35237	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.3	413653	PASS
175	174	5	9	7.8	32387	PASS
176	174	95	101	98.1	405824	PASS
177	176	5	9	6.5	26424	PASS

C0144495.D RTXVMS102820.M Wed Oct 28 13:47:12 2020

Methods: SW-846 8260B

Data File : C:\msdchem\2\DATA\102820\C0144503.D Vial: 10
Acq On : 28 Oct 2020 11:15 am Operator: SHANICAO
Sample : BFB Inst : MSVOA5
Misc : MS47505,VC5797,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS102820.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B



AutoFind: Scans 2107, 2108, 2109; Background Corrected with Scan 2100

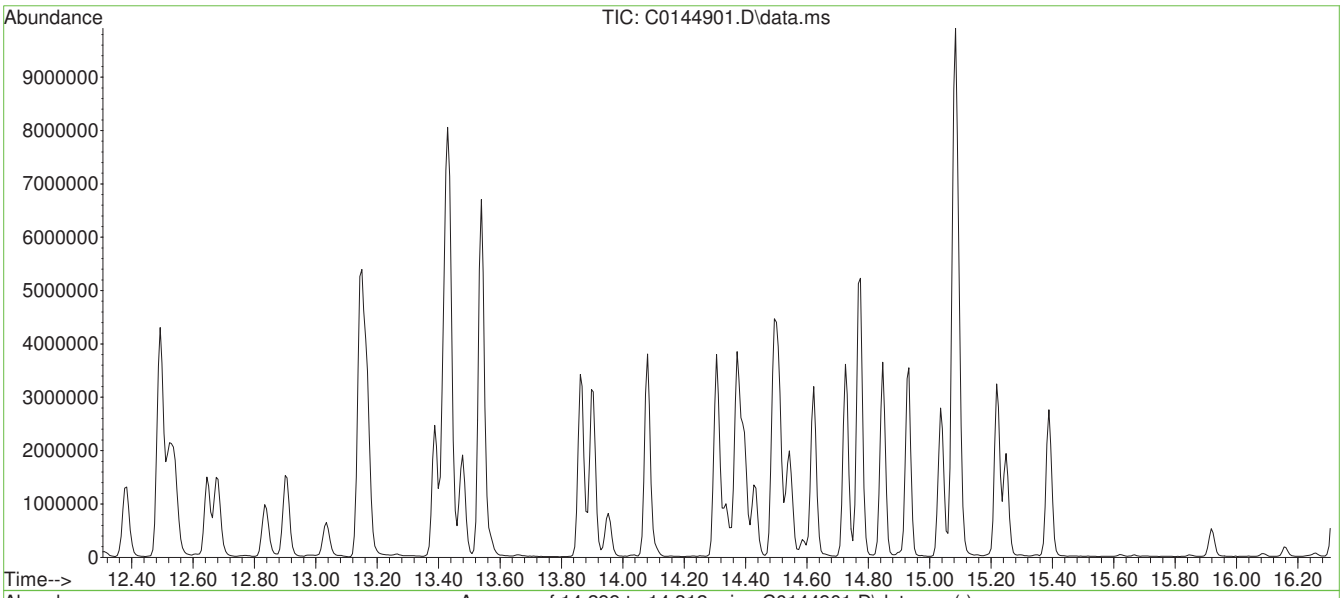
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.9	128307	PASS
75	95	30	60	54.0	316651	PASS
95	95	100	100	100.0	586496	PASS
96	95	5	9	6.7	39264	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.1	469888	PASS
175	174	5	9	7.9	37157	PASS
176	174	95	101	98.6	463339	PASS
177	176	5	9	7.0	32528	PASS

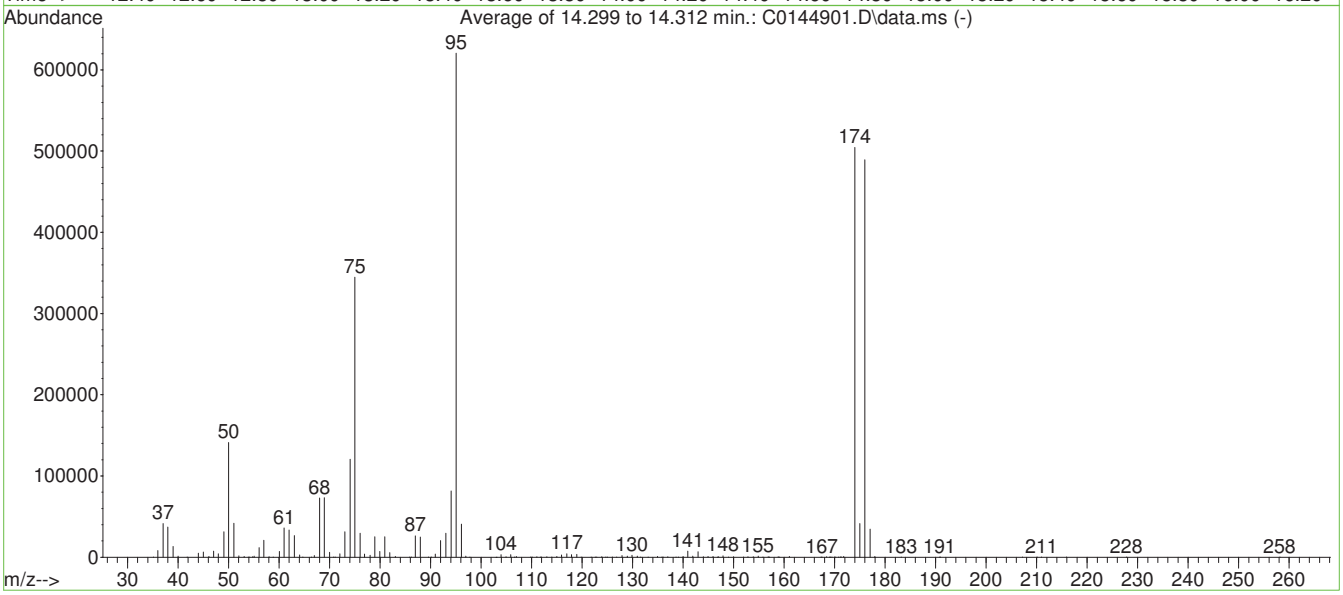
C0144503.D RTXVMS102820.M Wed Oct 28 13:47:05 2020

Methods: SW-846 8260B

```
Data File : C:\msdchem\1\data\ed...\vc5817-18\C0144901.D Vial: 3
Acq On    : 13 Nov 2020  10:00 am                    Operator: SHANICAO
Sample    : BFB                                      Inst    : MSVOA5
Misc      : MS47702,VC5817,,,,,                      Multiplr: 1.00
MS Integration Params: med.p

Method    : C:\msdchem\1\methods\RTXVMS102820.M (RTE Integrator)
Title     : SW-846 Method 5035A/8260B
```





AutoFind: Scans 2107, 2108, 2109; Background Corrected with Scan 2098

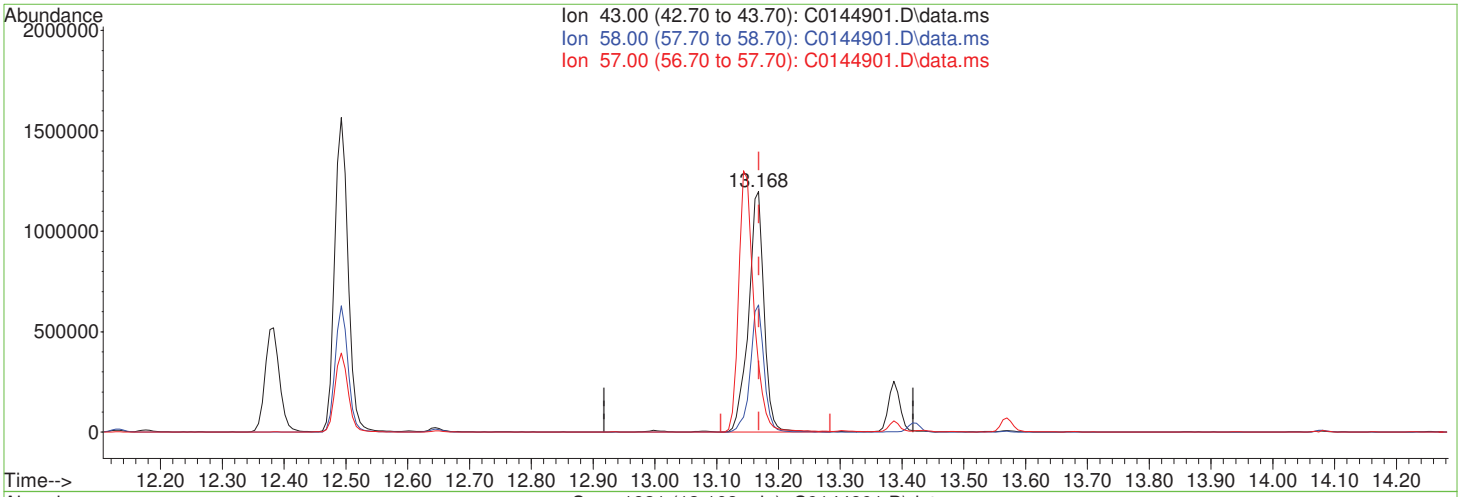
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.7	141059	PASS
75	95	30	60	55.5	344576	PASS
95	95	100	100	100.0	620459	PASS
96	95	5	9	6.6	40672	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	81.3	504555	PASS
175	174	5	9	8.2	41304	PASS
176	174	95	101	97.0	489472	PASS
177	176	5	9	7.1	34691	PASS

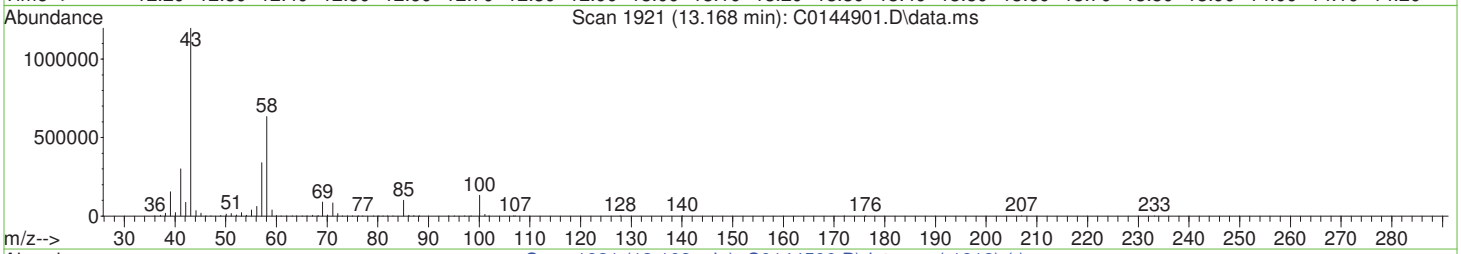
C0144901.D RTXVMS102820.M Sun Nov 15 19:17:31 2020

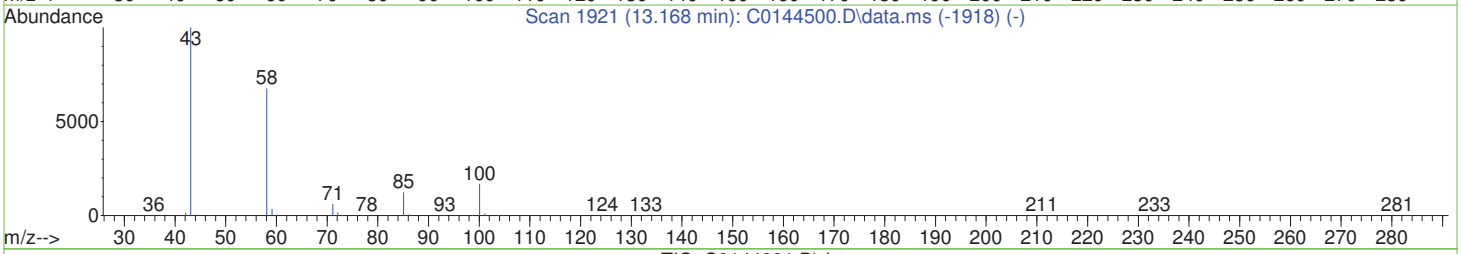
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:18:38 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144901.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 237.93ug/L

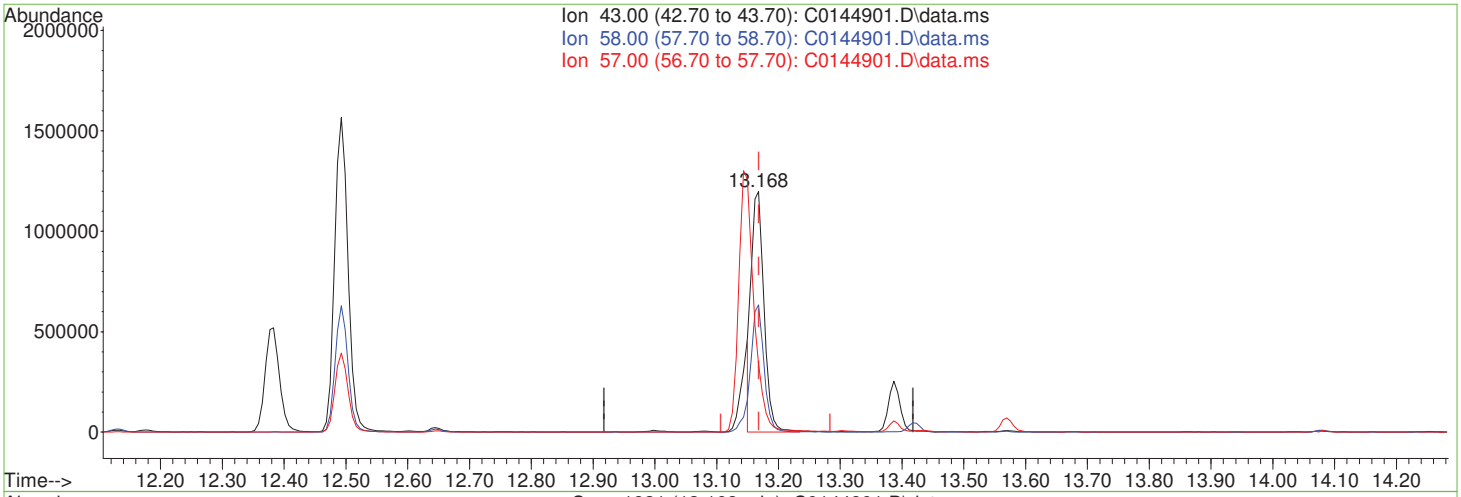
response 2096234

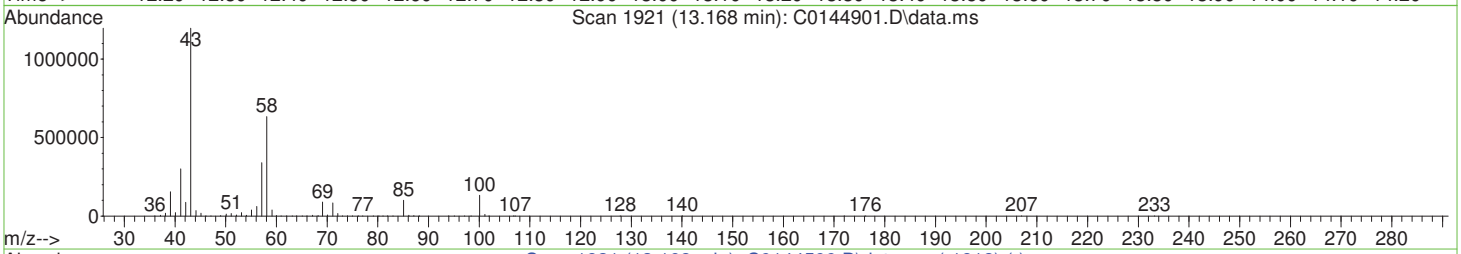
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	52.99
57.00	29.20	28.41
0.00	0.00	0.00

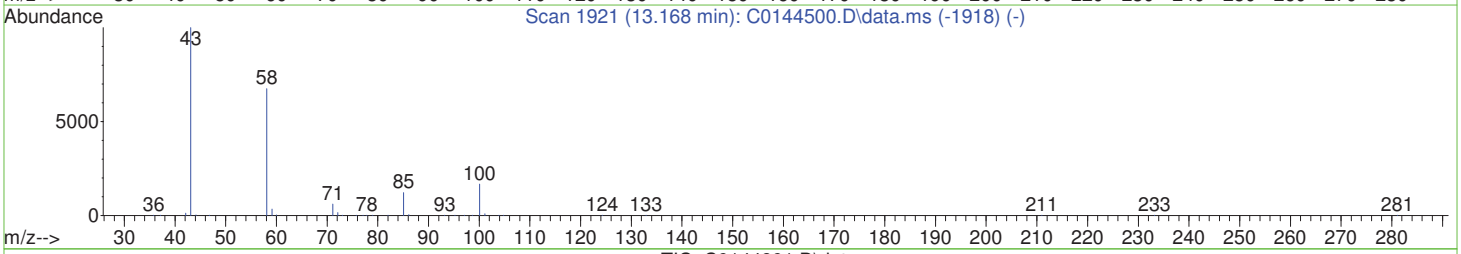
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:18:38 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144901.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 193.76ug/L m

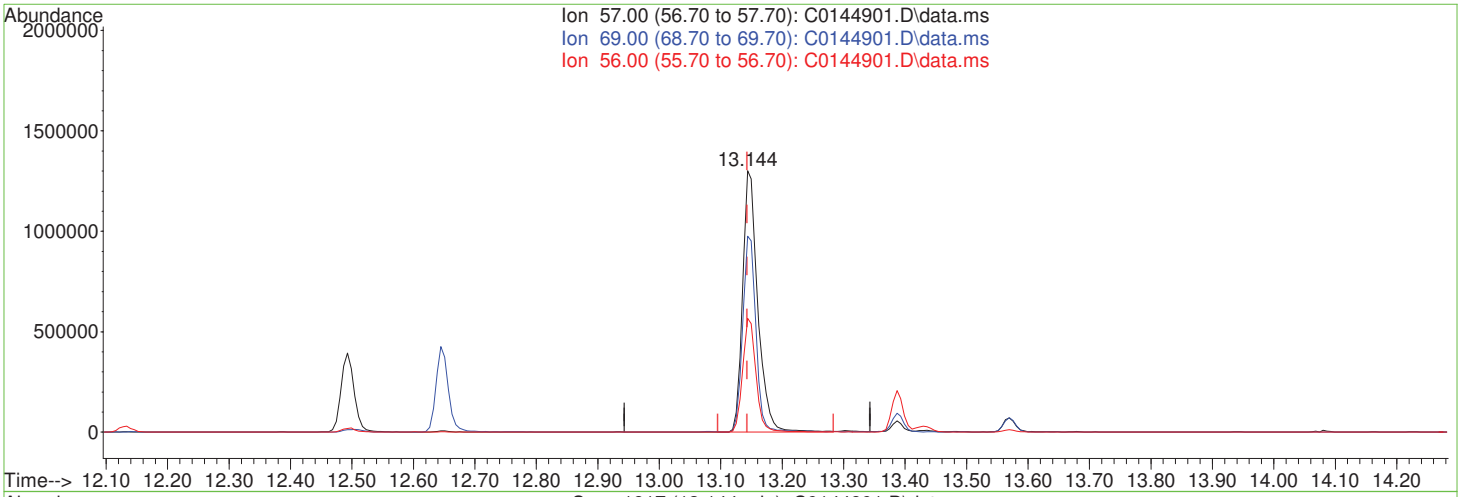
response 1707057

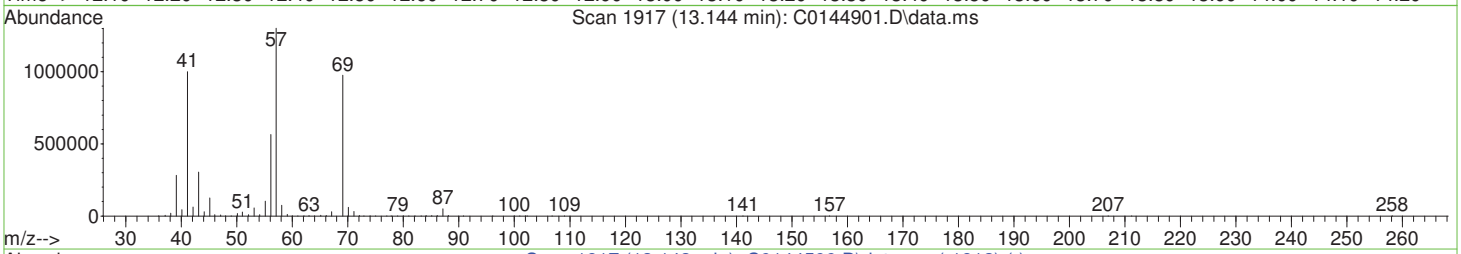
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	52.96
57.00	29.20	28.42
0.00	0.00	0.00

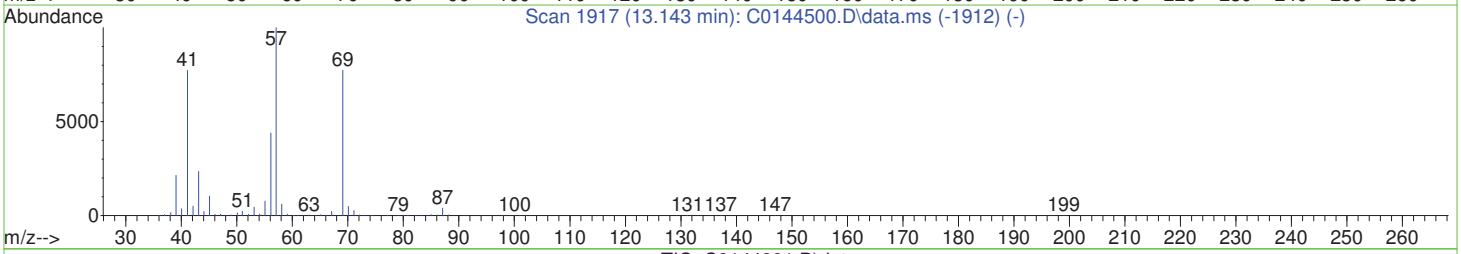
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:18:38 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144901.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.001) 3074.70ug/L

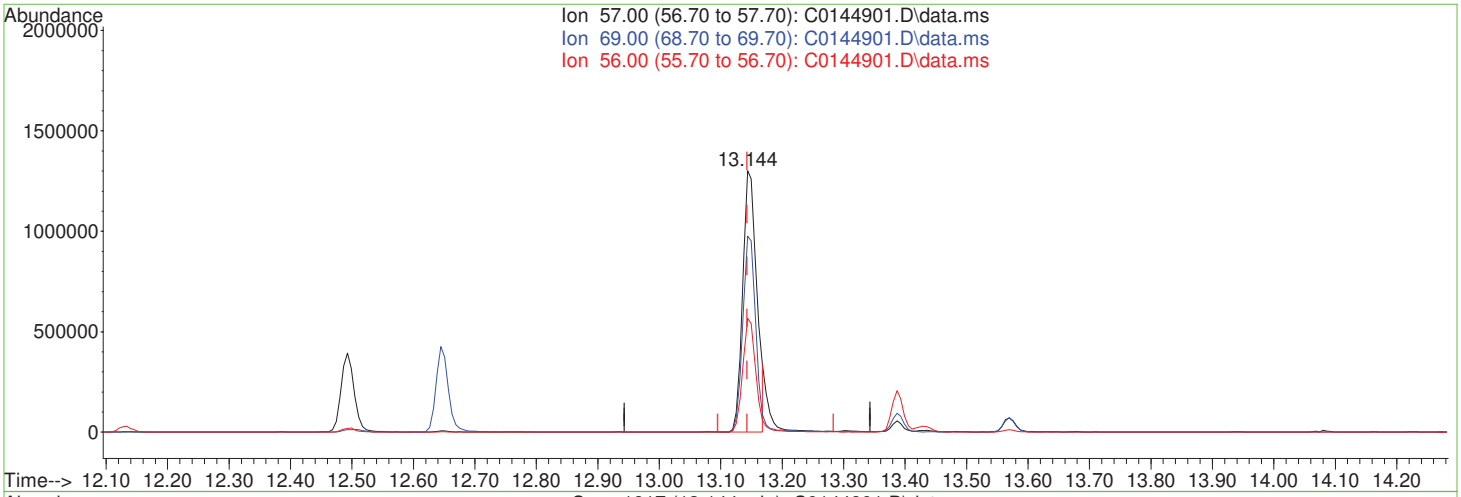
response 2247233

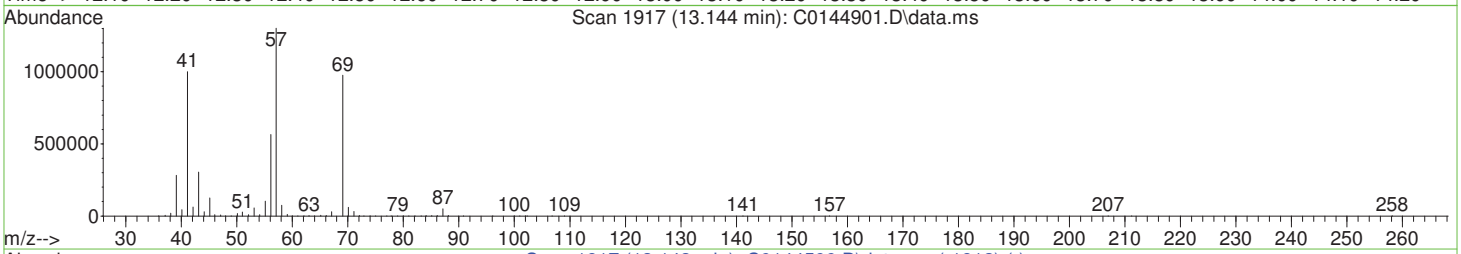
Ion	Exp%	Act%
57.00	100	100
69.00	76.50	64.94
56.00	43.50	38.36
0.00	0.00	0.00

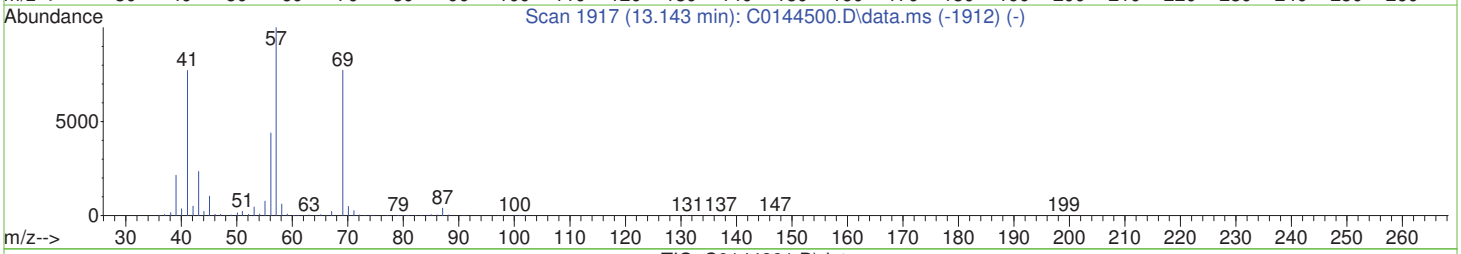
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:18:38 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144901.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.001) 2836.20ug/L m

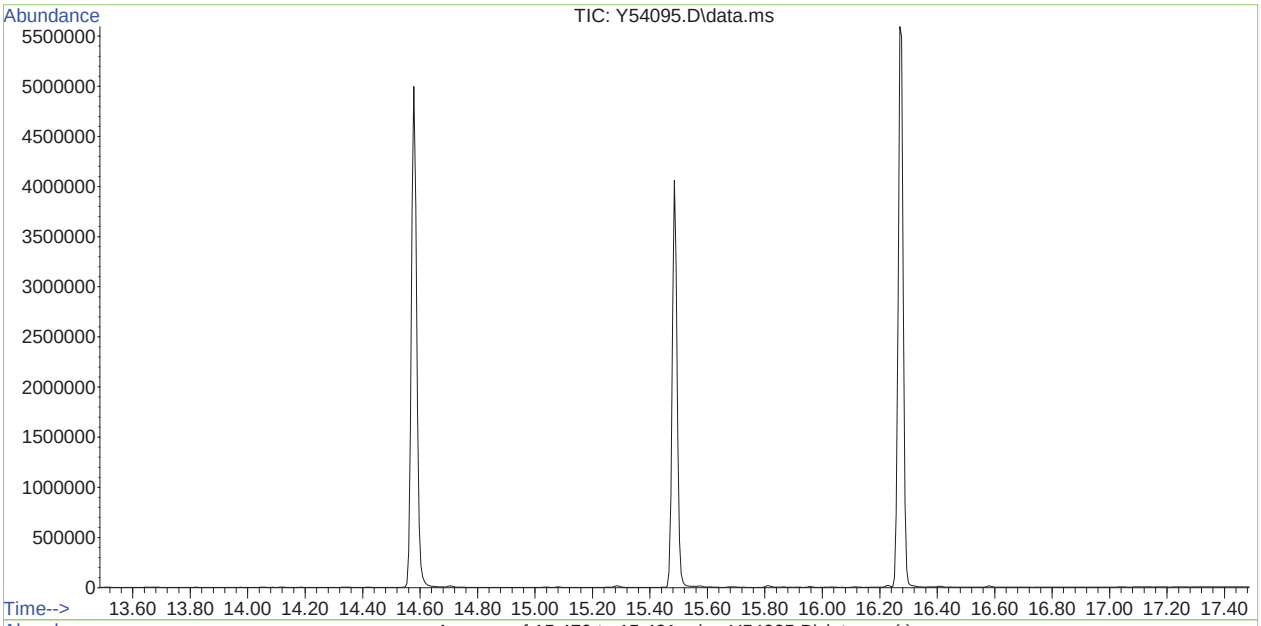
response 2072925

Ion	Exp%	Act%
57.00	100	100
69.00	76.50	70.40
56.00	43.50	41.58
0.00	0.00	0.00

Methods: SW-846 8260B

Data File : C:\msdchem\1\DATA\111720\Y54095.D Vial: 1
Acq On : 17 Nov 2020 7:51 am Operator: chelseav
Sample : BFB Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK111720w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B



AutoFind: Scans 2242, 2243, 2244; Background Corrected with Scan 2236

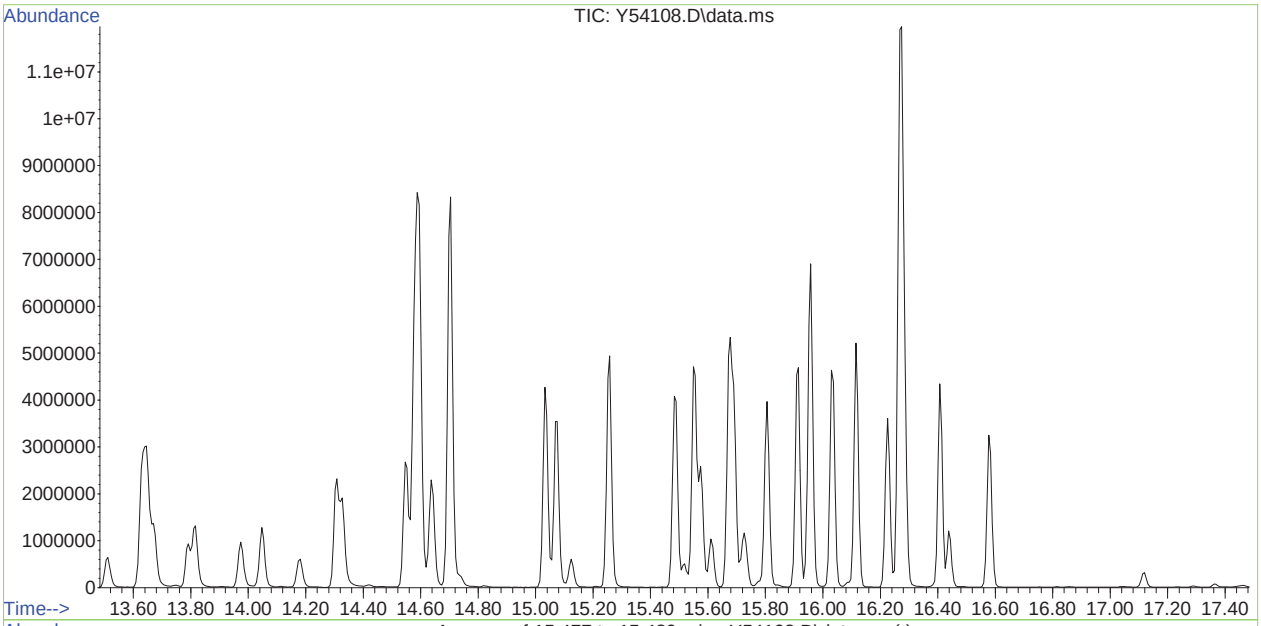
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.7	116189	PASS
75	95	30	60	43.2	301162	PASS
95	95	100	100	100.0	697749	PASS
96	95	5	9	6.7	46728	PASS
173	174	0.00	2	0.5	3375	PASS
174	95	50	100	91.1	635968	PASS
175	174	5	9	7.1	44978	PASS
176	174	95	101	97.4	619690	PASS
177	176	5	9	6.5	40232	PASS

Y54095.D RESTEK111720w.M Tue Nov 17 08:11:57 2020

Methods: SW-846 8260B

Data File : C:\msdchem\1\DATA\111720\Y54108.D Vial: 2
Acq On : 17 Nov 2020 1:53 pm Operator: chelseav
Sample : BFB Inst : MSVOA14-Y
Misc : MS47703,VY2246 Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK111720w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B



AutoFind: Scans 2242, 2243, 2244; Background Corrected with Scan 2236

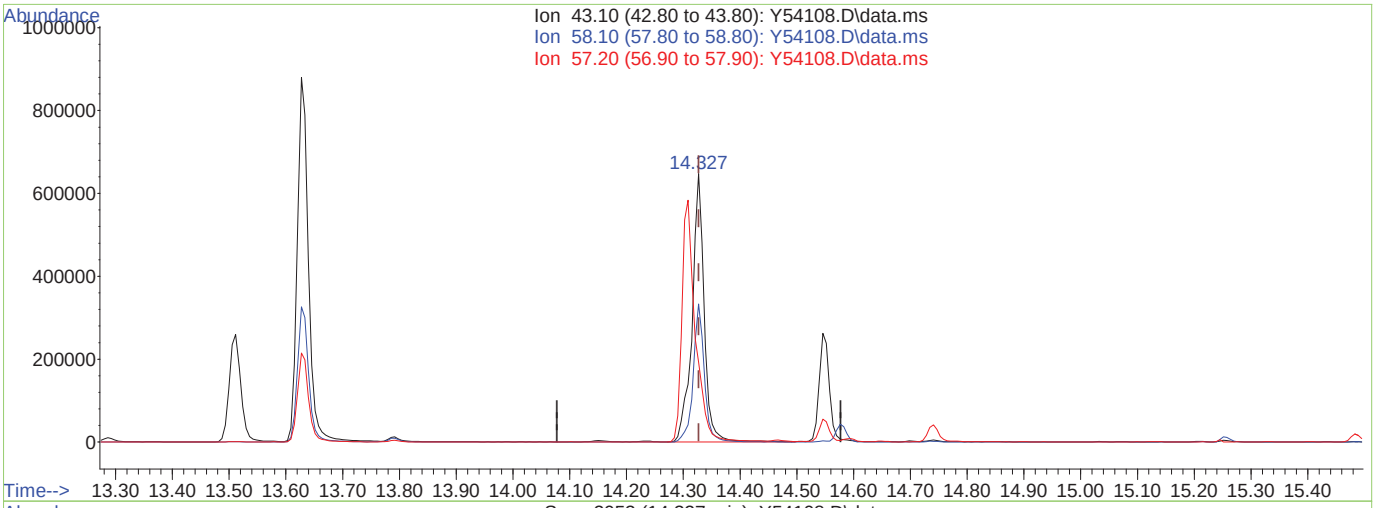
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.7	122861	PASS
75	95	30	60	43.2	316885	PASS
95	95	100	100	100.0	733824	PASS
96	95	5	9	6.5	47650	PASS
173	174	0.00	2	0.5	3417	PASS
174	95	50	100	86.4	634240	PASS
175	174	5	9	7.1	44840	PASS
176	174	95	101	96.6	612949	PASS
177	176	5	9	6.8	41493	PASS

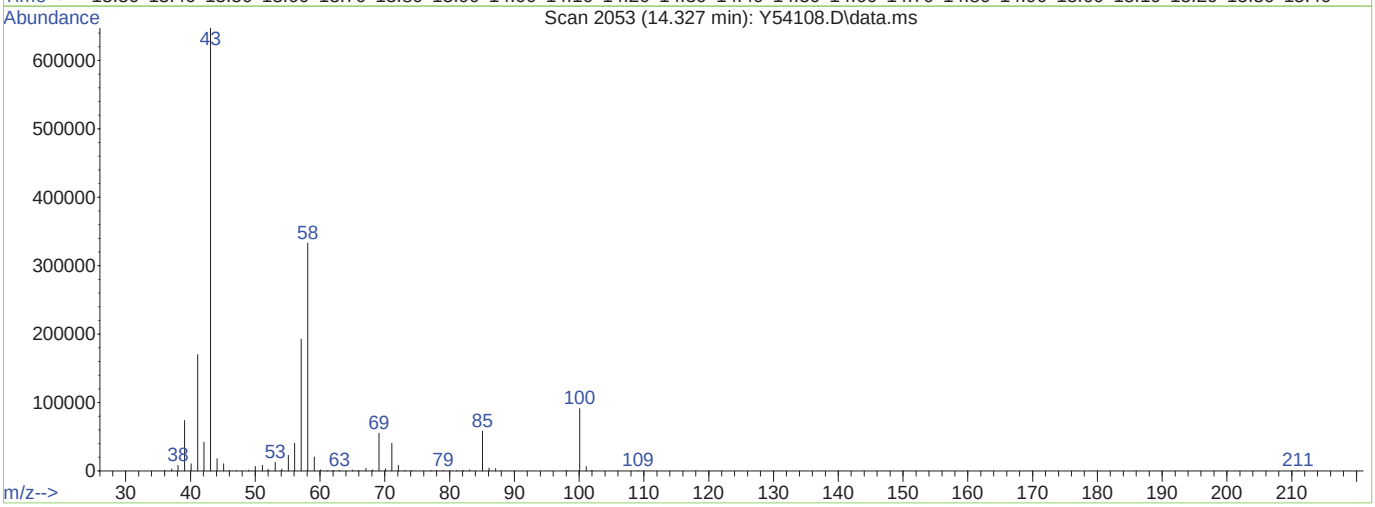
Y54108.D RESTEK111720w.M Tue Nov 17 14:15:06 2020

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54108.D
Acq On : 17 Nov 2020 1:53 pm
Operator : chelseav
Sample : CC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:13:47 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration





TIC: Y54108.D\data.ms

(69) 2-hexanone

14.327min (-0.001) 231.32ug/L

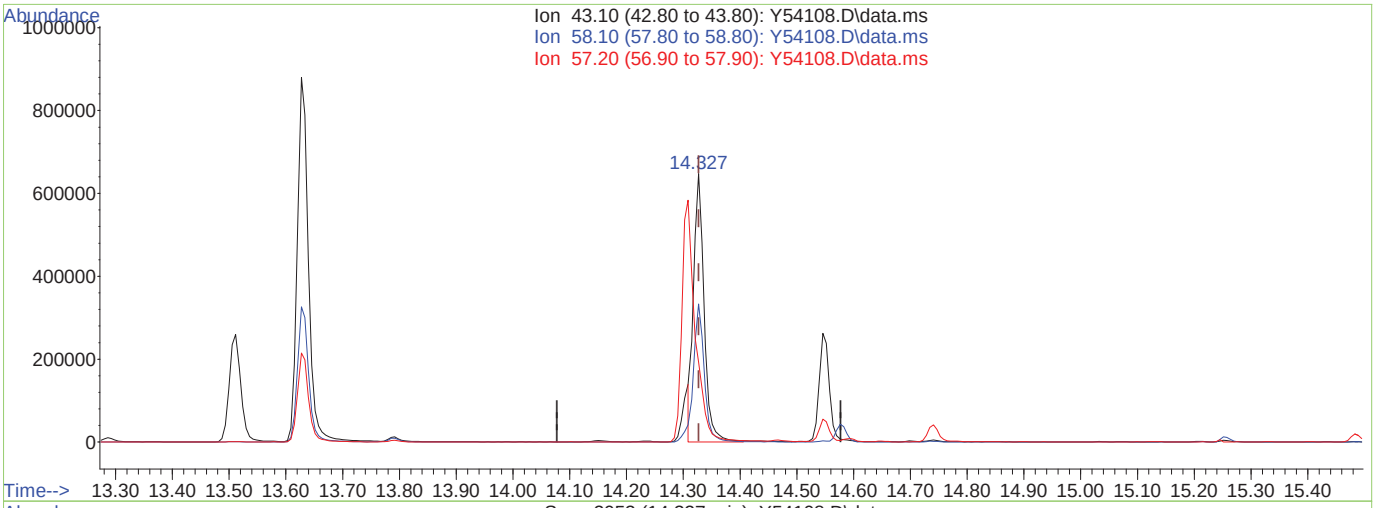
response 961763

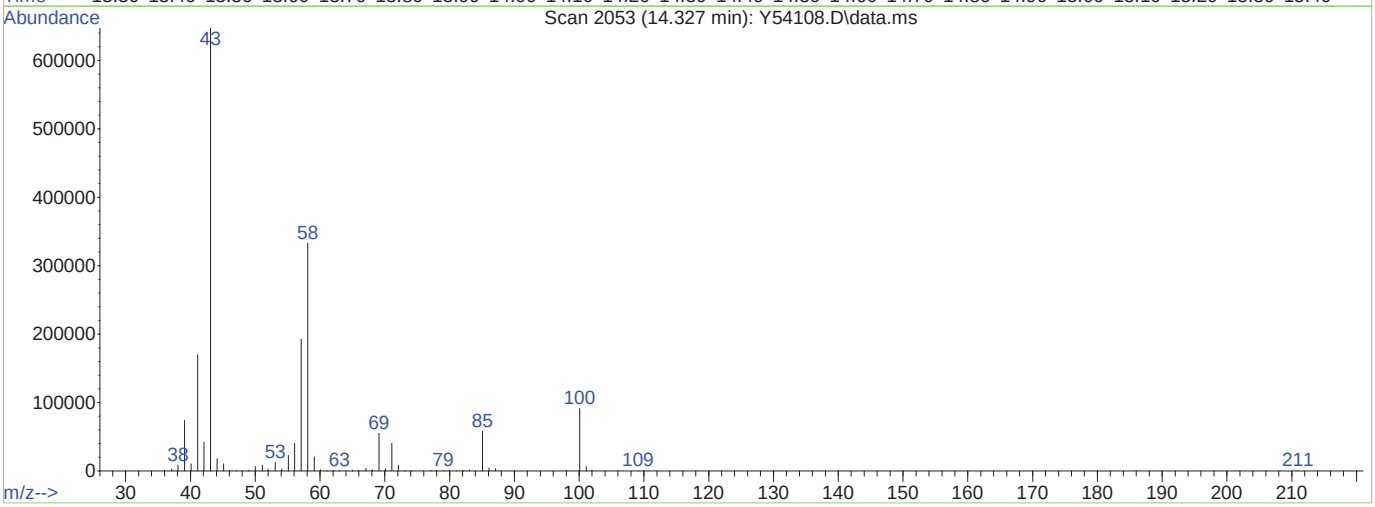
Ion	Exp%	Act%
43.10	100	100
58.10	51.30	51.46
57.20	28.20	29.77
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54108.D
Acq On : 17 Nov 2020 1:53 pm
Operator : chelseav
Sample : CC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:13:47 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration





TIC: Y54108.D\data.ms

(69) 2-hexanone

14.327min (-0.001) 202.97ug/L m

response 843885

Ion	Exp%	Act%
43.10	100	100
58.10	51.30	51.42
57.20	28.20	29.74
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
10/28/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 10:04:15 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	2085696	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1544485	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	763280	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.774	65	249951	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	523744	49.88	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.76%			
47) 1,2-Dichloroethane-d4	10.181	65	701932	49.35	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.70%			
58) Toluene-d8	12.134	98	2056173	51.65	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 103.30%			
80) 4-Bromofluorobenzene	14.306	174	645515	54.59	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 109.18%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	9395m	0.86	ug/L	
3) Chloromethane	3.209	50	15093m	1.27	ug/L	
4) 1,3-butadiene	3.373	39	9594	1.29	ug/L #	58
5) Vinyl Chloride	3.355	62	7453	0.61	ug/L	87
6) Bromomethane	3.903	94	5326m	1.12	ug/L	
7) Chloroethane	4.116	64	6355m	0.93	ug/L	
8) Trichlorofluoromethane	4.365	101	11851	0.81	ug/L	85
9) Ethyl Ether	4.913	59	8570	1.20	ug/L #	71
10) 1,2-Dichlorotrifluoroe...	5.265	67	8290	1.02	ug/L #	81
11) 1,1-Dichloroethene	5.241	61	10265	0.86	ug/L	89
12) Freon 113	5.314	101	6550m	0.76	ug/L	
13) Carbon Disulfide	5.284	76	23830	0.87	ug/L	75
14) Iodomethane	5.497	142	11076m	1.01	ug/L	
15) Acrolein	5.886	56	7828m	4.64	ug/L	
16) Allyl chloride	6.074	41	10996	0.98	ug/L	89
17) Methylene Chloride	6.275	49	16502	1.34	ug/L #	75
18) Acetone	6.373	43	10885	4.09	ug/L	92
19) Methyl acetate	6.598	43	21346	3.83	ug/L	98
20) trans-1,2-Dichloroethene	6.555	61	10364	0.94	ug/L	77
21) Hexane	6.689	56	8119	1.11	ug/L #	87
22) Methyl Tert Butyl Ether	6.732	73	23386	0.82	ug/L	79
23) Acetonitrile	7.236	41	7953m	7.01	ug/L	
24) Di-isopropyl ether	7.425	45	27773	1.17	ug/L	84
25) Chloroprene	7.614	53	8934	0.74	ug/L	85
26) 1,1-Dichloroethane	7.656	63	12281	0.85	ug/L	92
27) Acrylonitrile	7.778	52	4807	1.98	ug/L #	24
28) ETBE	8.094	59	26035	0.91	ug/L	85
29) Vinyl acetate	8.155	43	61378	3.43	ug/L	94
30) cis-1,2-Dichloroethene	8.672	96	7994	0.94	ug/L	92
31) 2,2-Dichloropropane	8.843	77	13975	0.90	ug/L	83
32) Bromochloromethane	9.037	128	3574	0.73	ug/L #	76
33) Cyclohexane	9.019	56	12421	0.95	ug/L #	82
34) Chloroform	9.165	83	12761	0.81	ug/L	84

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 10:04:15 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
35) Ethyl acetate	9.378	43	35351	4.40	ug/L		98
36) Tetrahydrofuran	9.420	42	5331m	1.69	ug/L		
38) Carbon Tetrachloride	9.378	117	8559	0.69	ug/L		82
39) 1,1,1-Trichloroethane	9.475	97	10997	0.75	ug/L		85
40) 2-Butanone	9.664	43	20314m	5.38	ug/L		
41) 1,1-Dichloropropene	9.670	75	10134	0.78	ug/L		92
42) tert-Butyl formate	9.816	59	31819	3.17	ug/L	#	73
43) Propionitrile	10.047	54	8777	7.05	ug/L		91
44) Methacrylonitrile	10.065	41	50659	10.44	ug/L		92
45) Benzene	10.011	78	29208	0.83	ug/L		92
46) TAME	10.157	73	23636	0.84	ug/L		92
48) 1,2-Dichloroethane	10.266	62	10841	0.81	ug/L		85
49) Trichloroethene	10.735	95	9173	0.96	ug/L		91
50) Methylcyclohexane	10.716	83	11474	0.76	ug/L		82
51) Dibromomethane	11.203	93	4680	0.82	ug/L	#	73
52) 1,2-Dichloropropane	11.294	63	8065	0.95	ug/L		75
53) Bromodichloromethane	11.361	83	9408	0.75	ug/L		90
54) Methyl methacrylate	11.531	41	6066	0.82	ug/L	#	63
55) 2-Chloroethyl vinyl ether	11.909	63	24421	3.87	ug/L		96
56) cis-1,3-Dichloropropene	11.969	75	12469	0.74	ug/L		83
59) Toluene	12.182	91	39152	1.07	ug/L		95
60) 2-Nitropropane	12.383	41	12446	4.52	ug/L		93
61) 4-Methyl-2-pentanone	12.499	43	46581	6.26	ug/L		94
62) trans-1,3-Dichloropropene	12.547	75	10214	0.74	ug/L	#	71
63) Tetrachloroethene	12.523	166	6923	0.69	ug/L		93
64) Ethyl methacrylate	12.651	69	10321	0.86	ug/L		92
65) 1,1,2-Trichloroethane	12.681	83	5713	0.89	ug/L		87
66) Dibromochloromethane	12.839	129	6759	0.73	ug/L		82
67) 1,3-Dichloropropane	12.906	76	12439	0.87	ug/L		90
68) 1,2-Dibromoethane	13.034	107	6916	0.86	ug/L		95
69) 2-hexanone	13.174	43	35594m	7.05	ug/L		
70) 1-Chlorohexane	13.387	91	10670	0.89	ug/L		91
71) Ethylbenzene	13.436	91	40724	0.94	ug/L		88
72) Chlorobenzene	13.436	112	20032	0.84	ug/L		79
73) 1,1,1,2-Tetrachloroethane	13.472	131	5955	0.68	ug/L	#	38
74) m,p-Xylene	13.539	91	56541	1.63	ug/L		93
75) o-Xylene	13.868	91	28961	0.79	ug/L		94
76) Styrene	13.910	104	20326	0.71	ug/L		94
77) Bromoform	13.959	173	3467	0.44	ug/L		75
78) Isopropylbenzene	14.081	105	31956	0.73	ug/L		91
81) cis-1,4-Dichloro-2-butene	14.342	53	2857	1.06	ug/L	#	70
82) n-Propylbenzene	14.373	91	41781	1.06	ug/L		92
83) Bromobenzene	14.397	156	7654	0.89	ug/L		95
84) 1,1,2,2-Tetrachloroethane	14.433	83	9520	1.09	ug/L		82
85) 1,3,5-Trimethylbenzene	14.494	105	26322	0.92	ug/L		98
86) 2-Chlorotoluene	14.512	91	26615	0.98	ug/L		95
87) trans-1,4-Dichloro-2-B...	14.549	53	3297	1.31	ug/L	#	90
88) 1,2,3-Trichloropropane	14.543	110	2583	0.90	ug/L		90
89) Cyclohexanone	14.592	55	3546	11.96	ug/L	#	65
90) 4-Chlorotoluene	14.622	91	23428	0.93	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 10:04:15 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

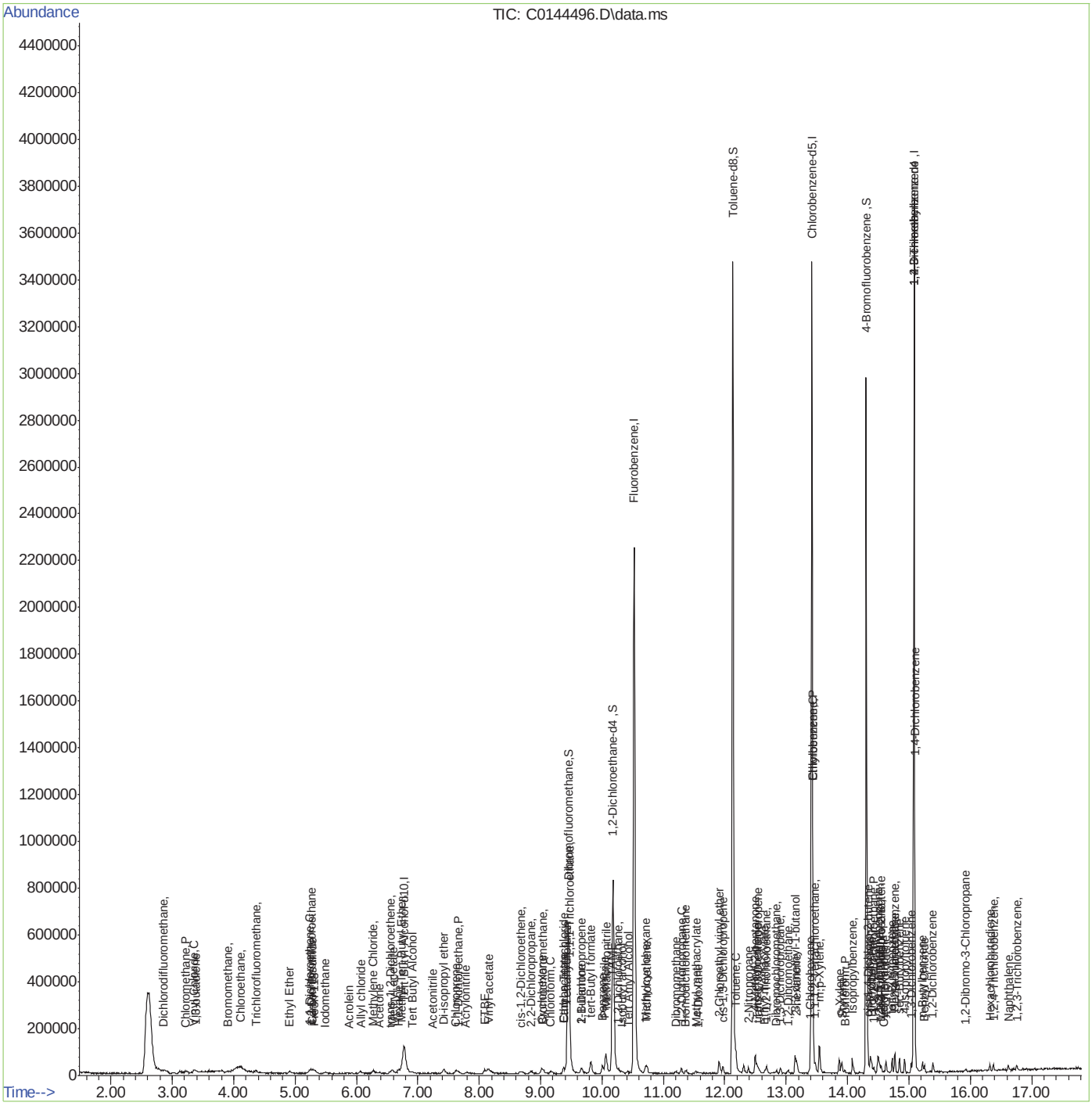
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
91) tert-Butylbenzene	14.725	91	13721	0.85	ug/L		81
93) 1,2,4-Trimethylbenzene	14.774	105	25384	0.84	ug/L		94
94) Pentachloroethane	14.768	167	4350	0.79	ug/L		84
95) sec-Butylbenzene	14.847	105	31669	0.96	ug/L		89
96) 4-Isopropyltoluene	14.932	119	26469	0.88	ug/L		86
97) 1,3-Dichlorobenzene	15.042	146	14935	0.90	ug/L		88
98) 1,2,3-Trimethylbenzene	15.084	105	27387	0.83	ug/L		98
99) 1,4-Dichlorobenzene	15.096	146	16319m	0.96	ug/L		
100) n-Butylbenzene	15.224	92	11650	0.72	ug/L		81
101) Benzyl Chloride	15.255	126	3163	0.83	ug/L	#	26
102) 1,2-Dichlorobenzene	15.388	146	12418	0.78	ug/L		94
103) 1,2-Dibromo-3-Chloropr...	15.924	75	2590	1.17	ug/L	#	61
104) Hexachlorobutadiene	16.319	225	3615	0.63	ug/L		93
105) 1,2,4-Trichlorobenzene	16.380	180	6399	0.57	ug/L		81
106) Naphthalene	16.623	128	12033	0.52	ug/L		93
107) 1,2,3-Trichlorobenzene	16.763	180	5233	0.54	ug/L		90
110) Tert Butyl Alcohol	6.914	59	7796	7.39	ug/L		90
111) Isobutyl alcohol	10.321	43	5967	19.96	ug/L		74
112) Tert Amyl Alcohol	10.424	59	7777	10.01	ug/L		85
113) 1,4-Dioxane	11.562	88	1383	11.81	ug/L	#	61
114) 3,3-dimethyl-1-butanol	13.150	57	31225m	45.88	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 10:04:15 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration



Manual Integration Approval Summary

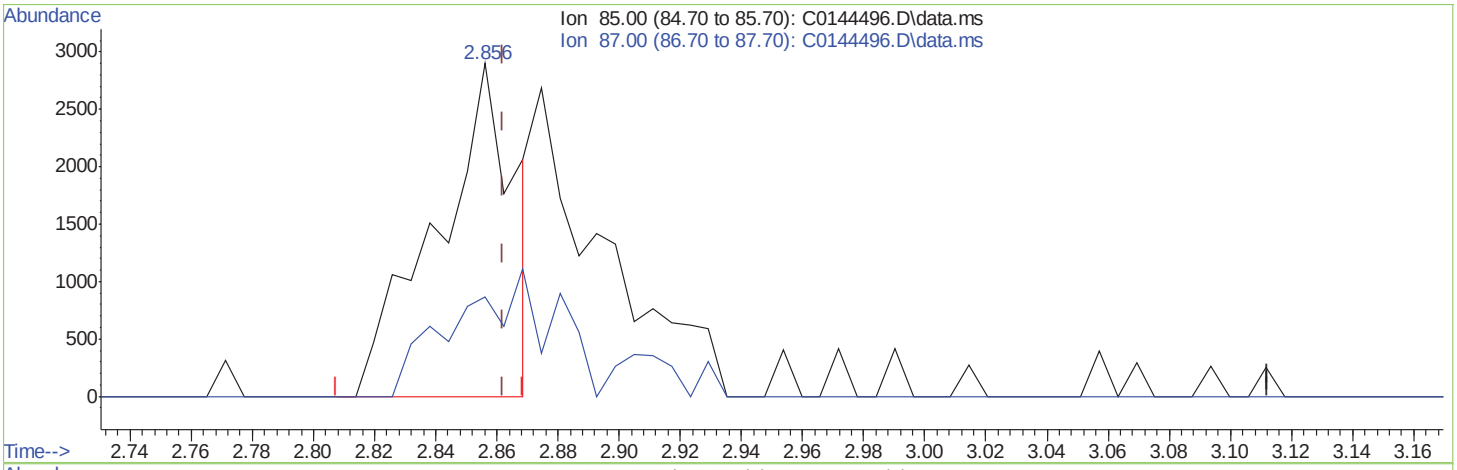
Sample Number: VC5797-IC5797
Lab FileID: C0144496.D
Injection Time: 10/28/20 08:10
Method: SW846 8260B
Analyst approved: 10/28/20 13:54 Shanica O'Connor
Supervisor approved: 10/28/20 14:16 Melissa Mangual

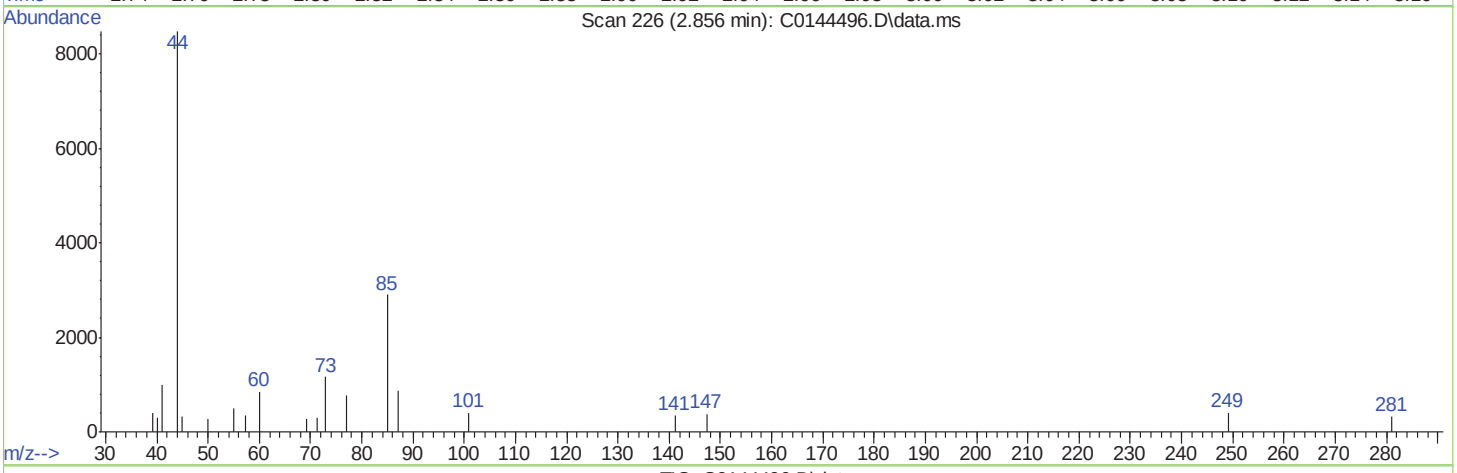
Parameter	CAS	Sig#	R.T. (min.)	Reason
Dichlorodifluoromethane	75-71-8		2.86	Split peak
Methyl Chloride	74-87-3		3.21	Split peak
Methyl Bromide	74-83-9		3.90	Split peak
Chloroethane	75-00-3		4.12	Poor instrument integration
Freon 113	76-13-1		5.31	Split peak
Methyl Iodide	74-88-4		5.50	Split peak
Acrolein	107-02-8		5.89	Poor instrument integration
Acetonitrile	75-05-8		7.24	Missed peak
Tetrahydrofuran	109-99-9		9.42	Poor instrument integration
2-Butanone (MEK)	78-93-3		9.66	Missed peak
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak
1,4-Dichlorobenzene	106-46-7		15.10	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(2) Dichlorodifluoromethane ( )

2.856min (-0.006) 0.47ug/L

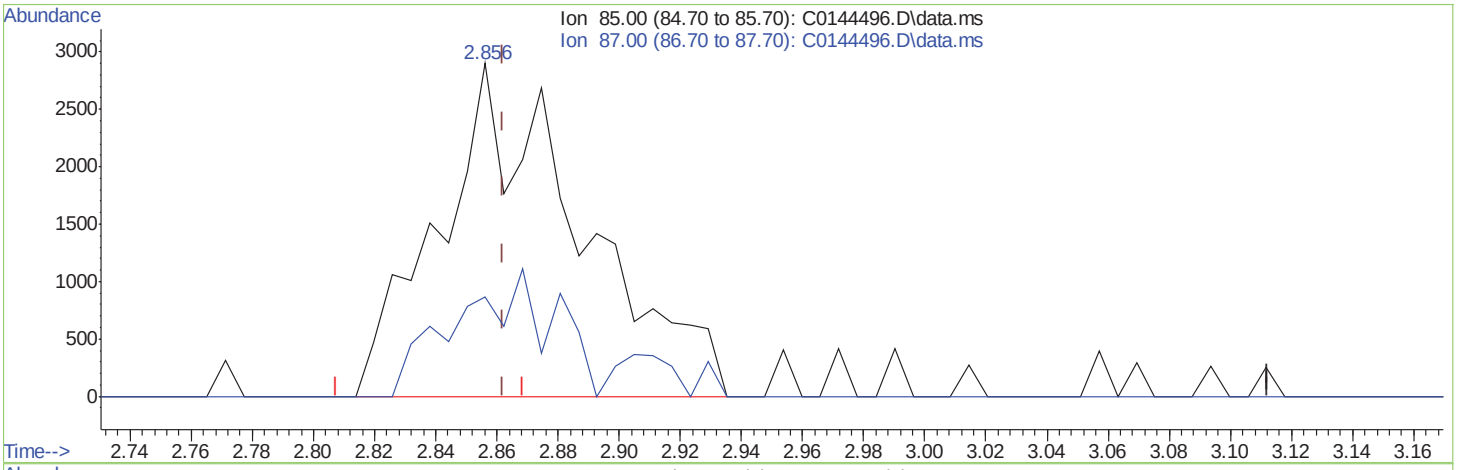
response 5140

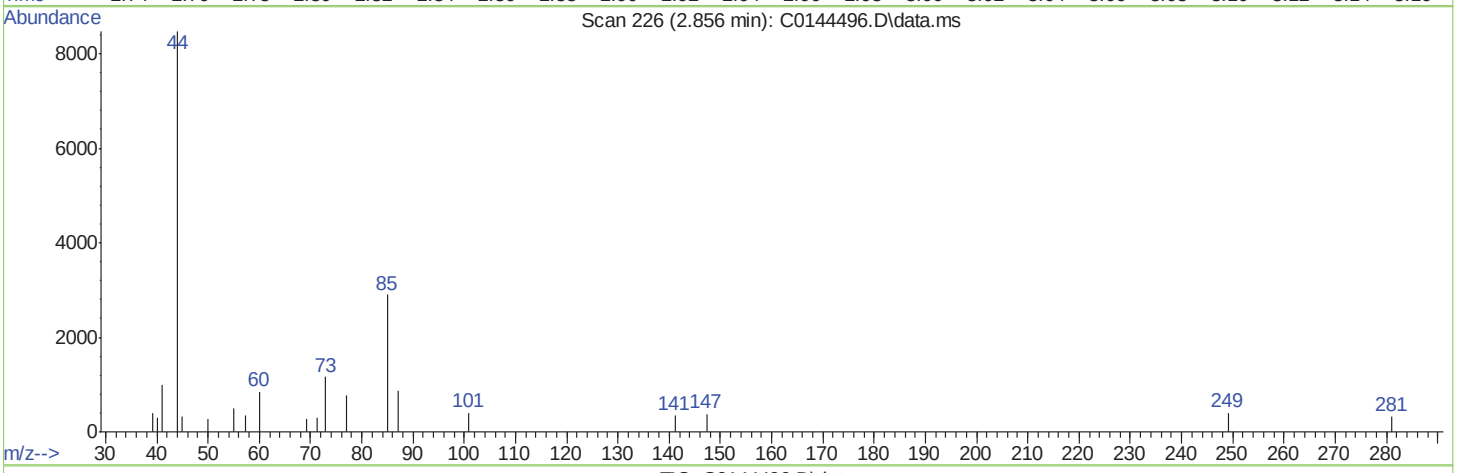
Ion	Exp%	Act%
85.00	100	100
87.00	29.40	29.81
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(2) Dichlorodifluoromethane ( )

2.856min (-0.006) 0.86ug/L m

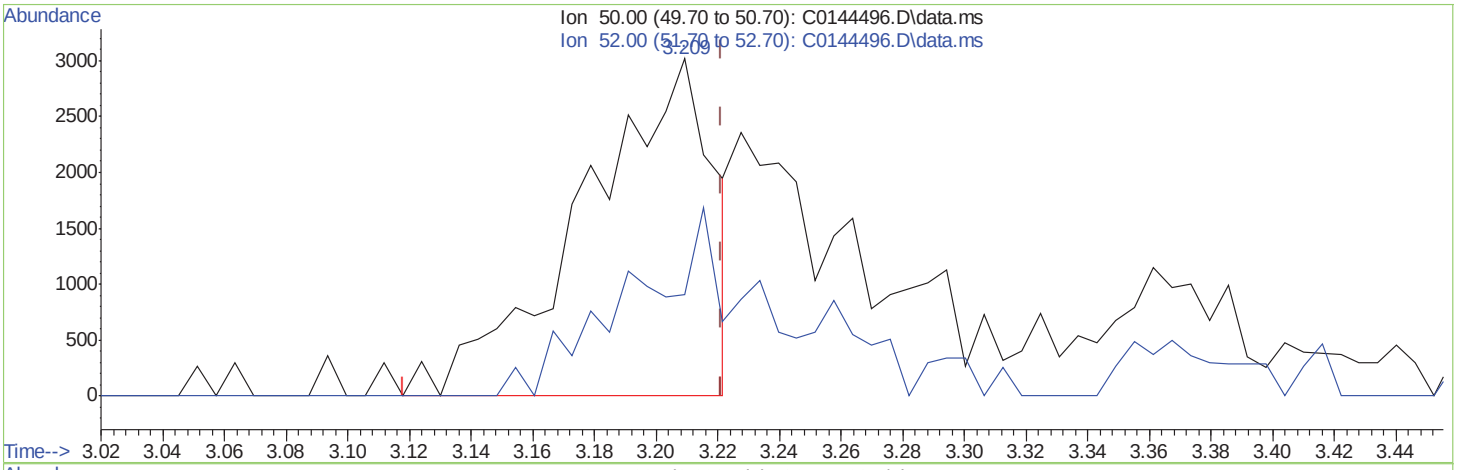
response 9395

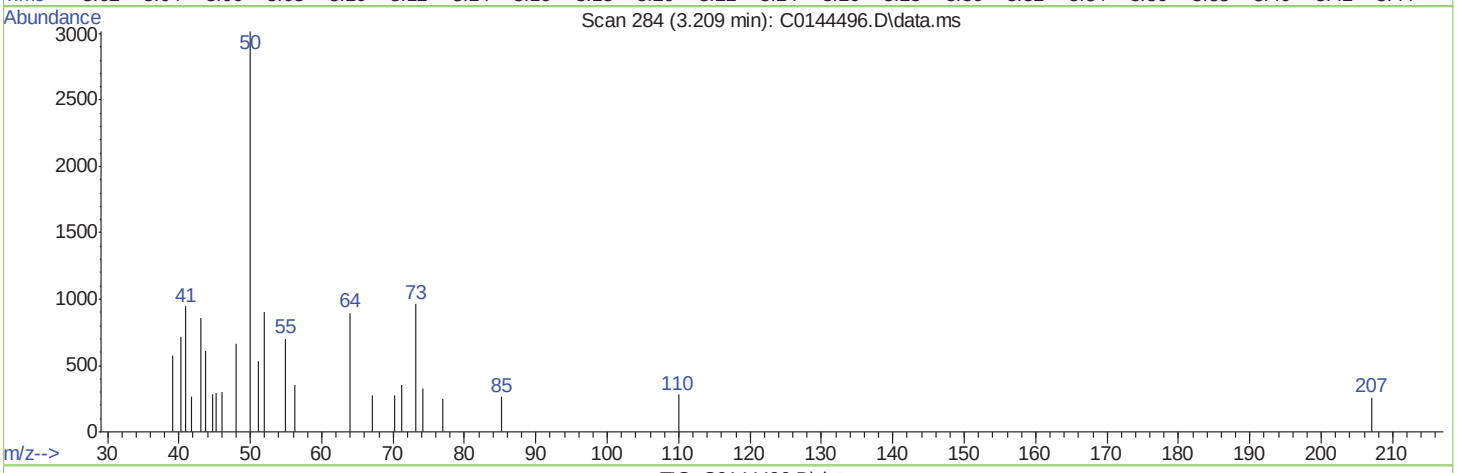
Ion	Exp%	Act%
85.00	100	100
87.00	29.40	29.81
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(3) Chloromethane (P)

3.209min (-0.012) 0.74ug/L

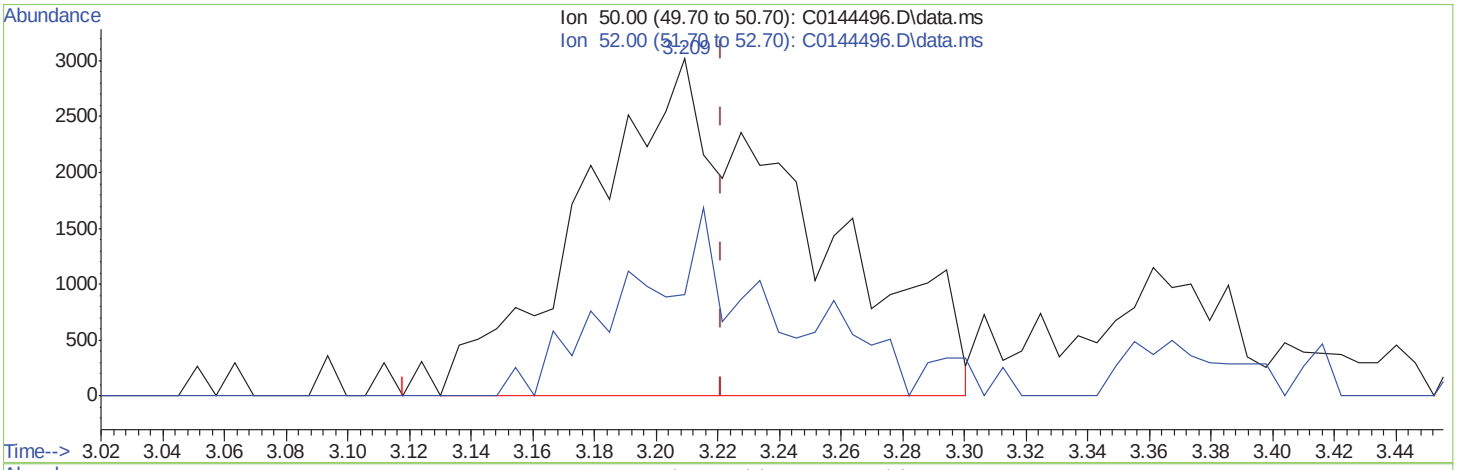
response 8801

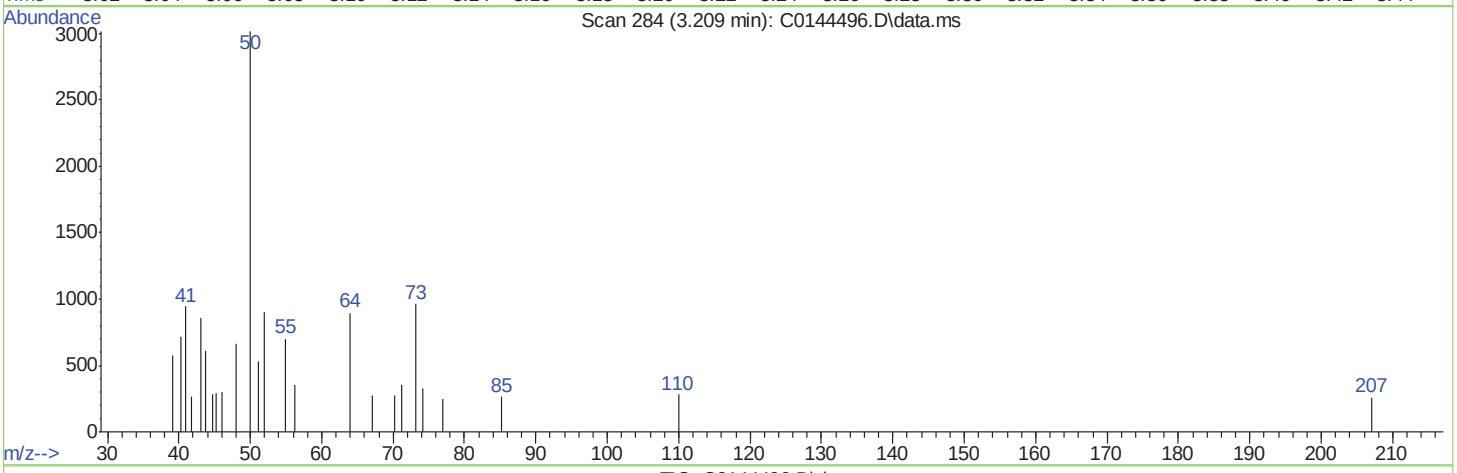
Ion	Exp%	Act%
50.00	100	100
52.00	30.00	29.93
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(3) Chloromethane (P)

3.209min (-0.012) 1.27ug/L m

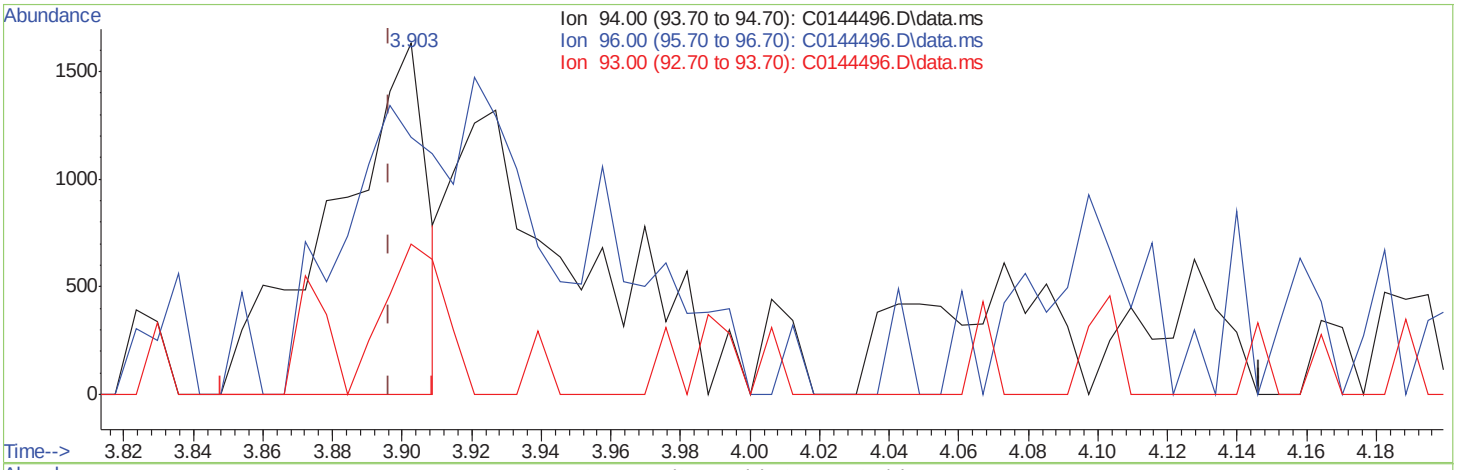
response 15093

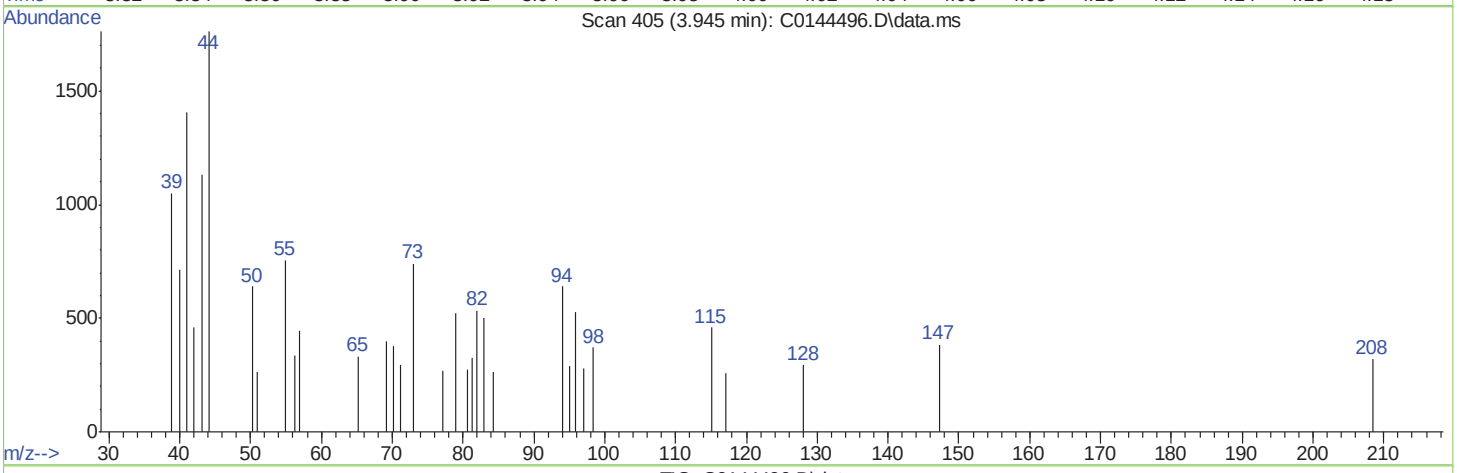
Ion	Exp%	Act%
50.00	100	100
52.00	30.00	29.93
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(6) Bromomethane ( )

3.903min (+0.006) 0.64ug/L

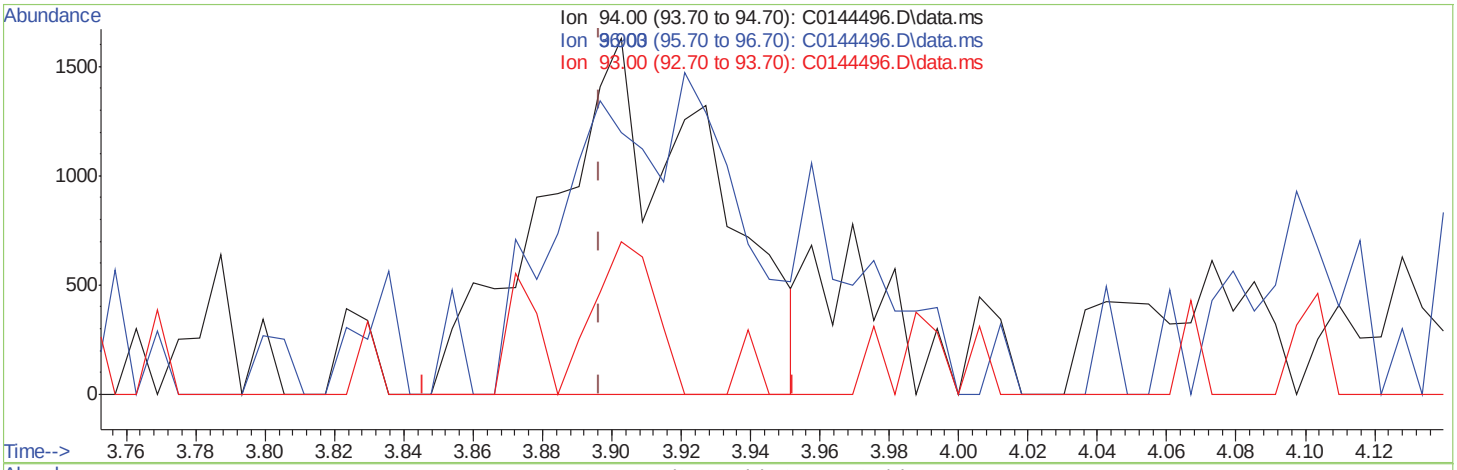
response 3054

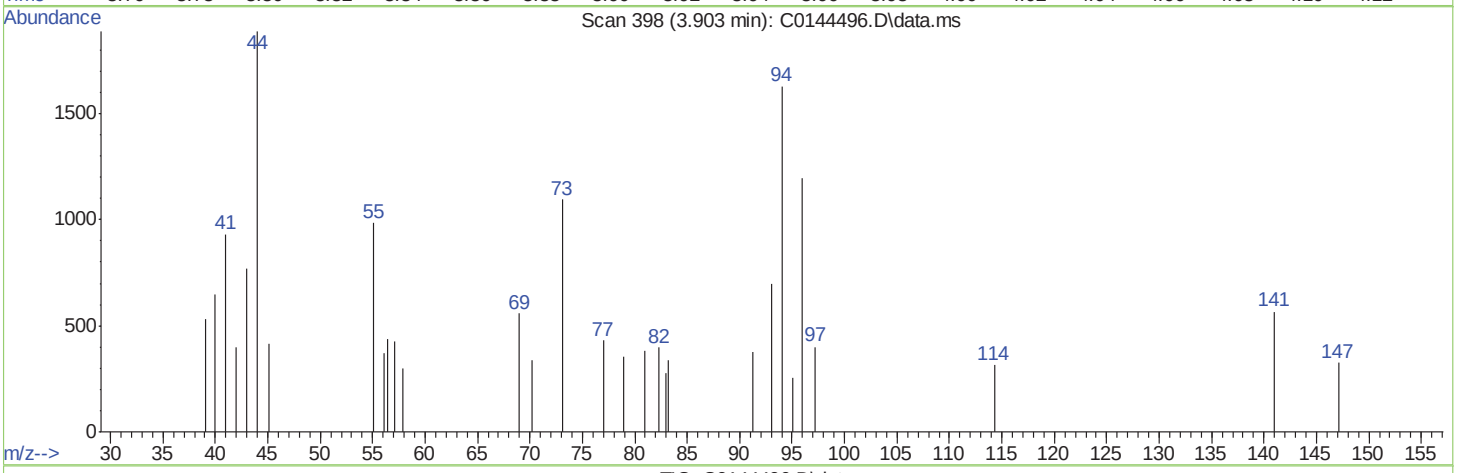
Ion	Exp%	Act%
94.00	100	100
96.00	91.30	73.42
93.00	23.30	42.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(6) Bromomethane ( )

3.903min (+0.006) 1.12ug/L m

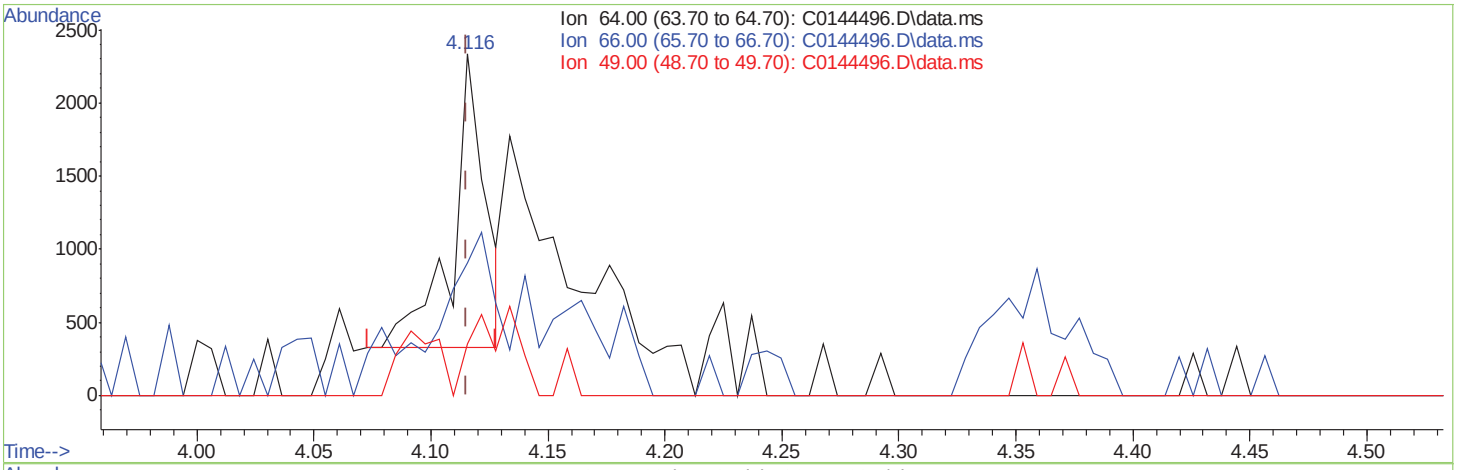
response 5326

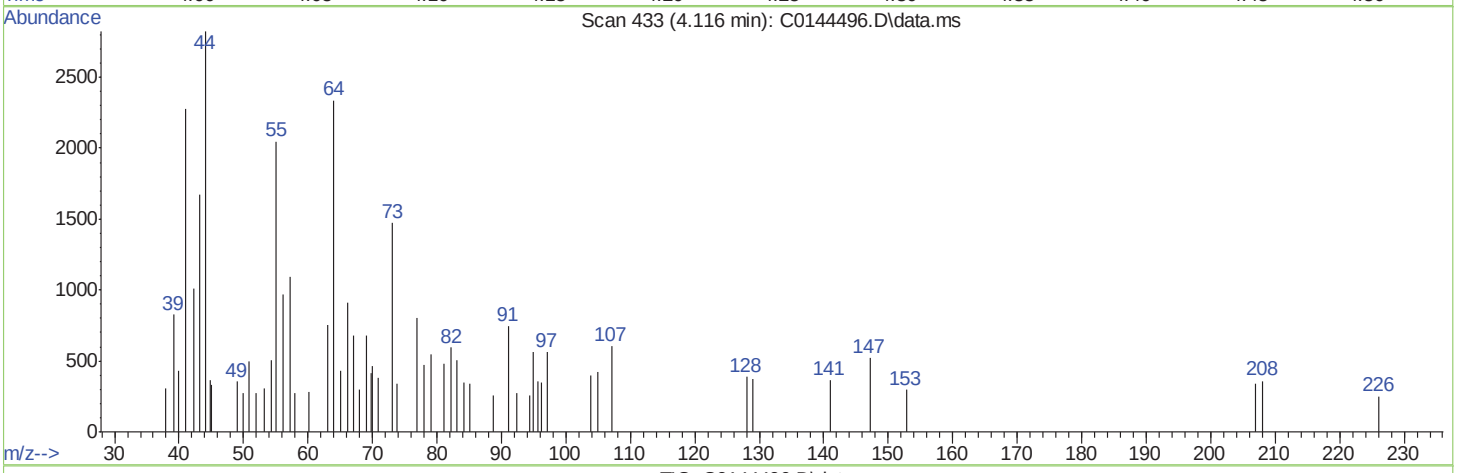
Ion	Exp%	Act%
94.00	100	100
96.00	91.30	73.42
93.00	23.30	42.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(7) Chloroethane ( )

4.116min (+0.000) 0.29ug/L

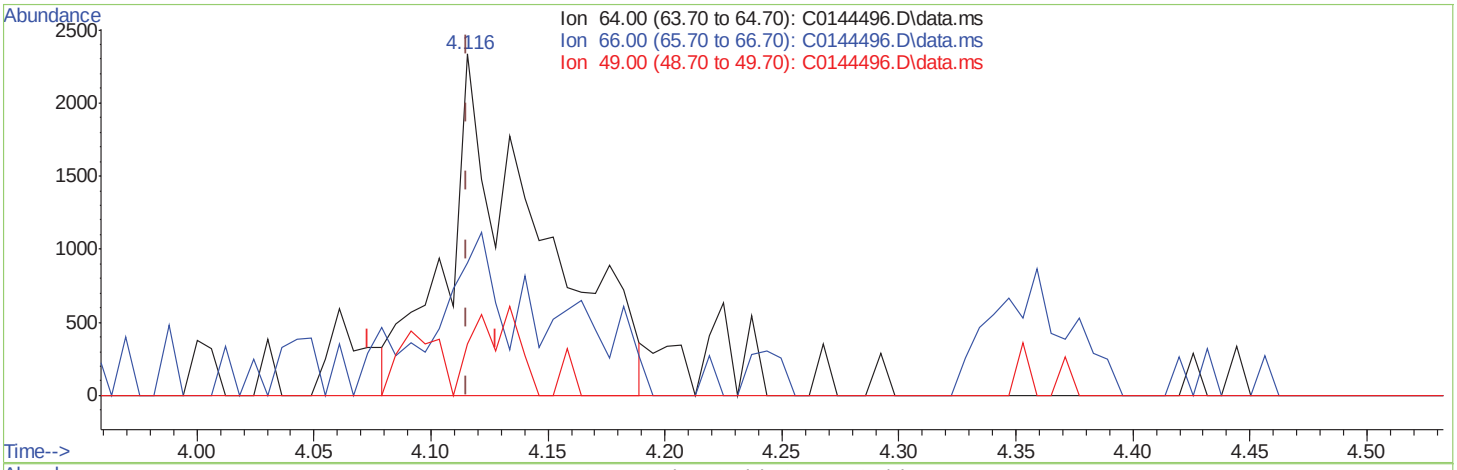
response 1984

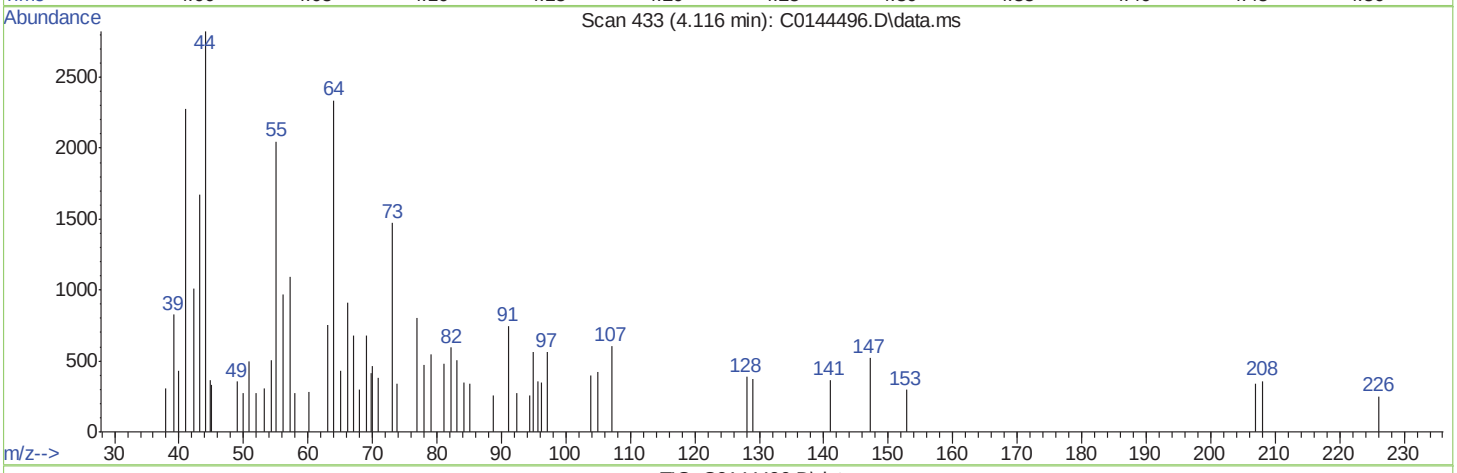
Ion	Exp%	Act%
64.00	100	100
66.00	30.90	30.96
49.00	22.80	17.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(7) Chloroethane ( )

4.116min (+0.000) 0.93ug/L m

response 6355

Ion	Exp%	Act%
64.00	100	100
66.00	30.90	38.84
49.00	22.80	15.16
0.00	0.00	0.00

7.6.19

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
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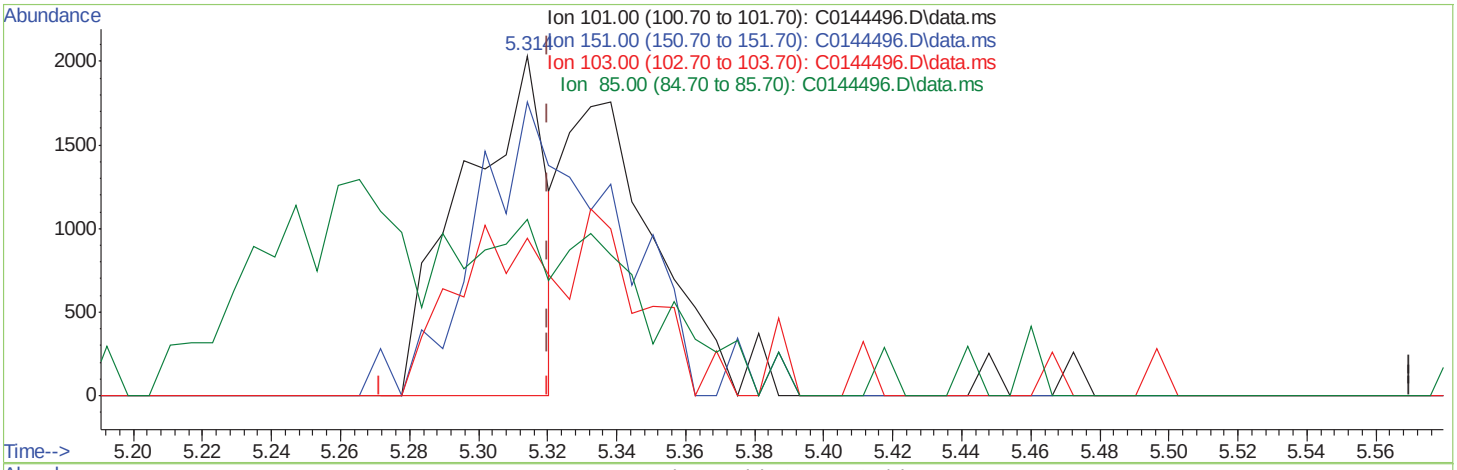
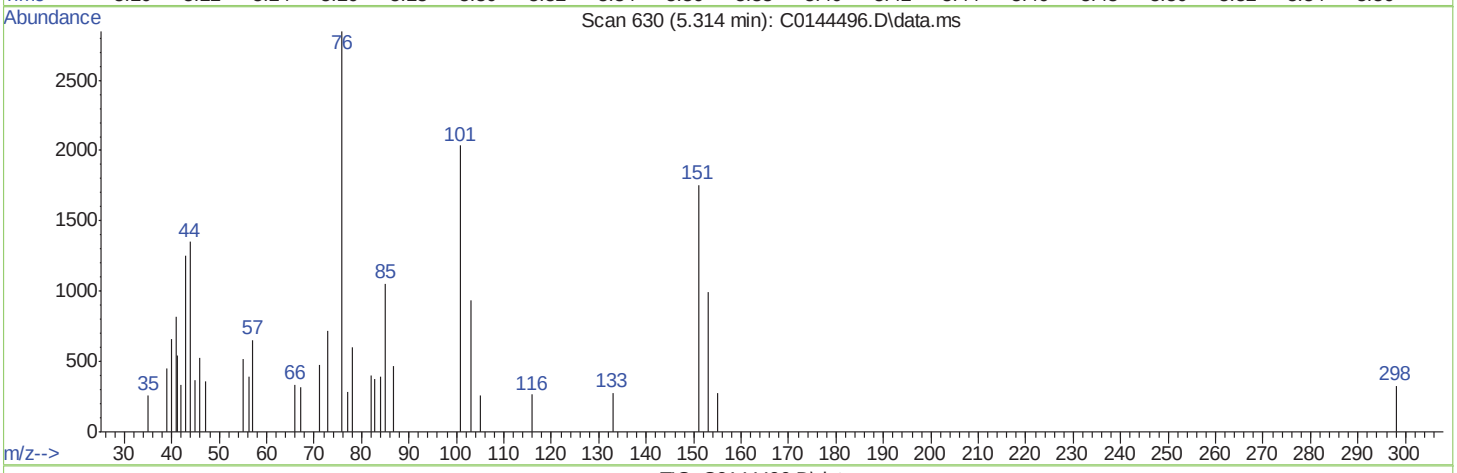
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(12) Freon 113

5.314min (-0.006) 0.39ug/L

response 3367

Ion	Exp%	Act%
101.00	100	100
151.00	84.40	72.48
103.00	68.50	46.14#
85.00	40.90	17.84#

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
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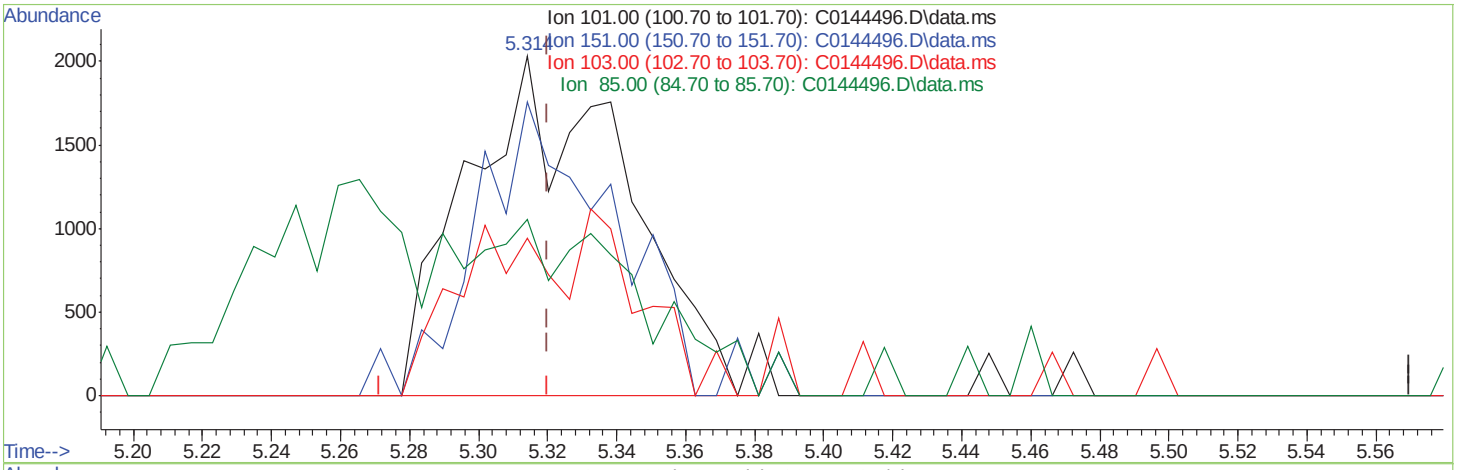

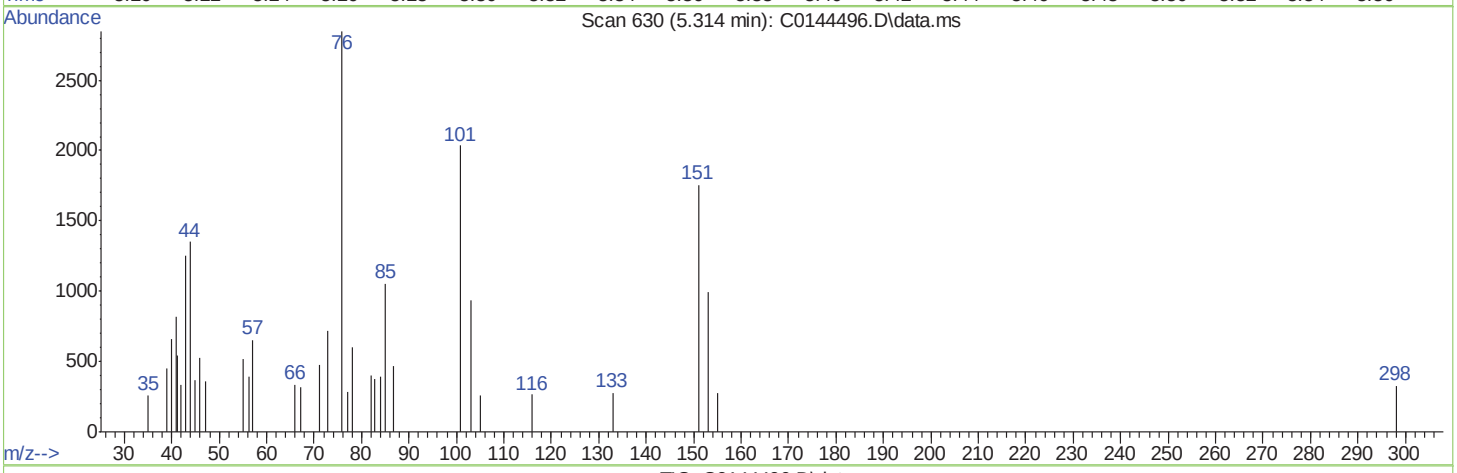

TIC: C0144496.D\data.ms

(12) Freon 113

5.314min (-0.006) 0.76ug/L m

response 6550

Ion	Exp%	Act%
101.00	100	100
151.00	84.40	86.34
103.00	68.50	46.14#
85.00	40.90	51.84

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
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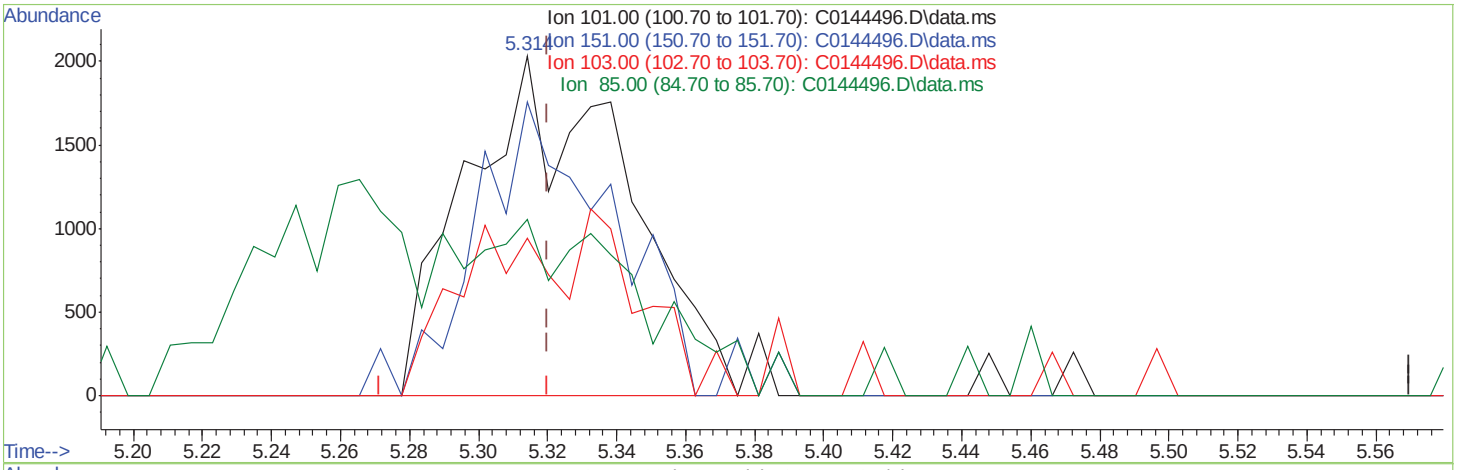
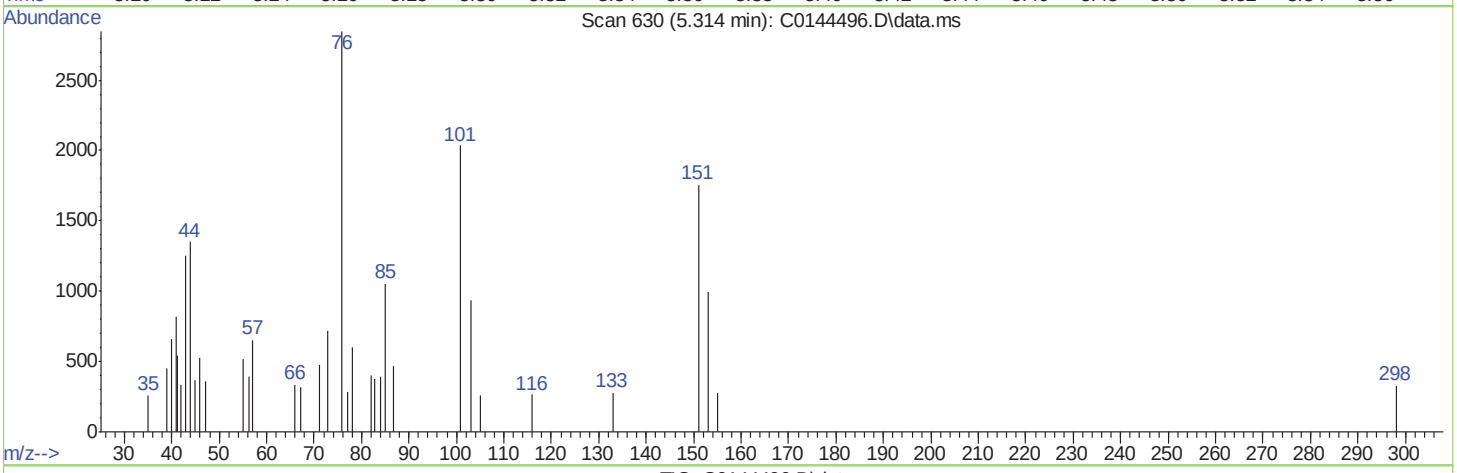
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(12) Freon 113

5.314min (-0.006) 0.76ug/L m

response 6550

Ion	Exp%	Act%
101.00	100	100
151.00	84.40	86.34
103.00	68.50	46.14#
85.00	40.90	51.84

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
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Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
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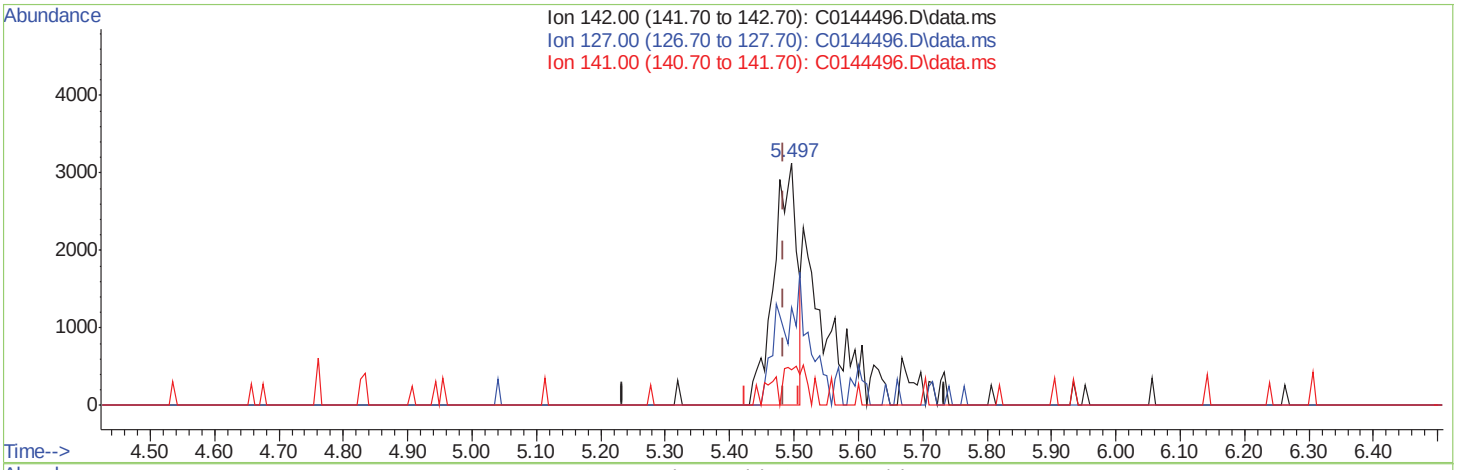
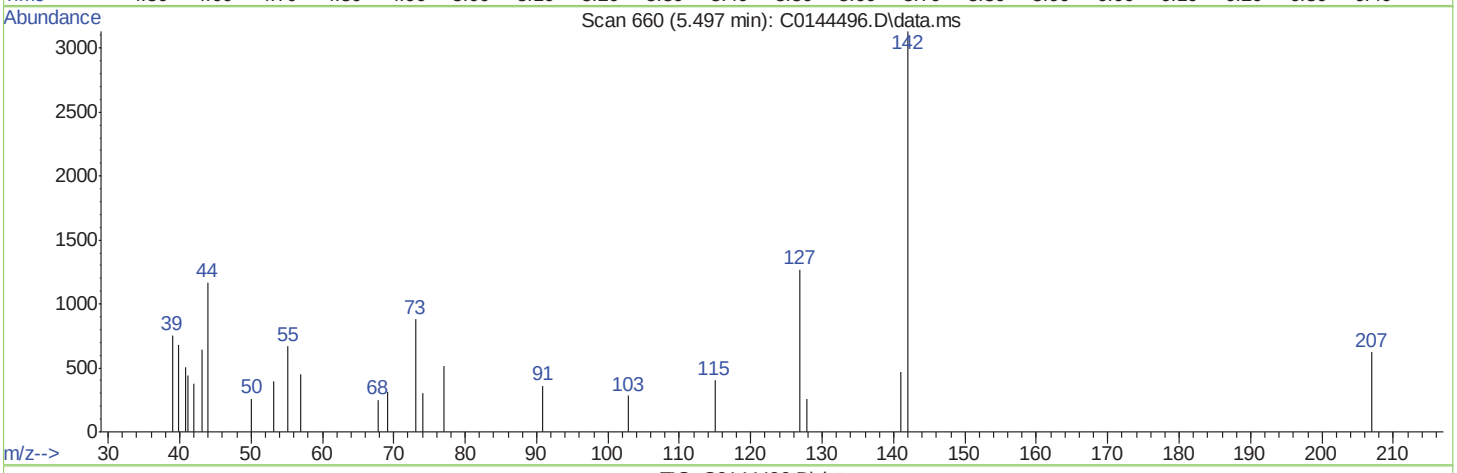




TIC: C0144496.D\data.ms

(14) Iodomethane

5.497min (+0.012) 0.71ug/L

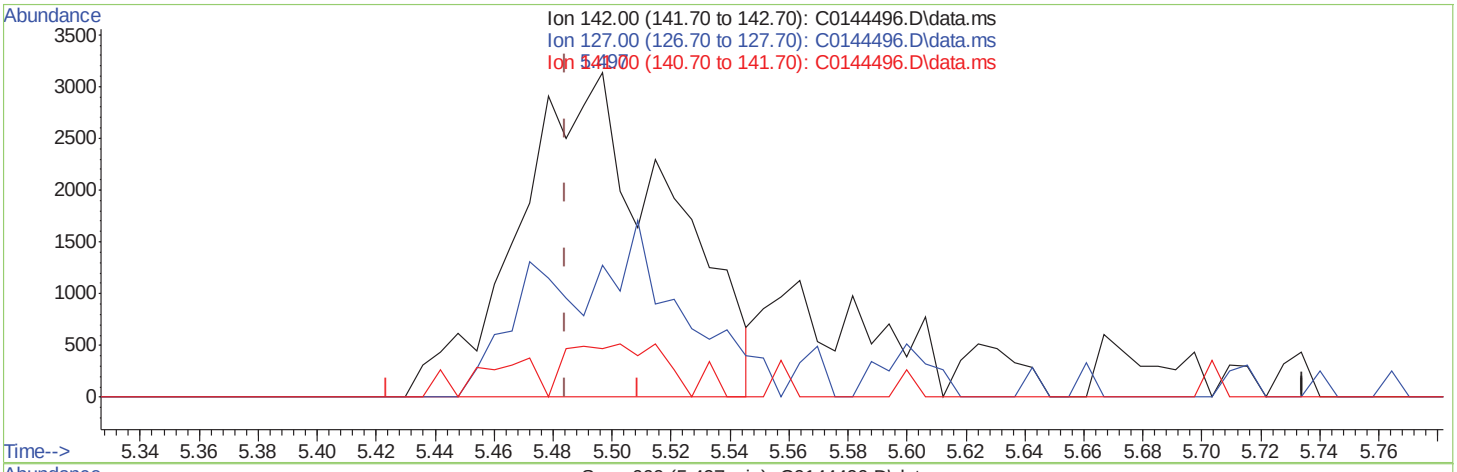
response 7758

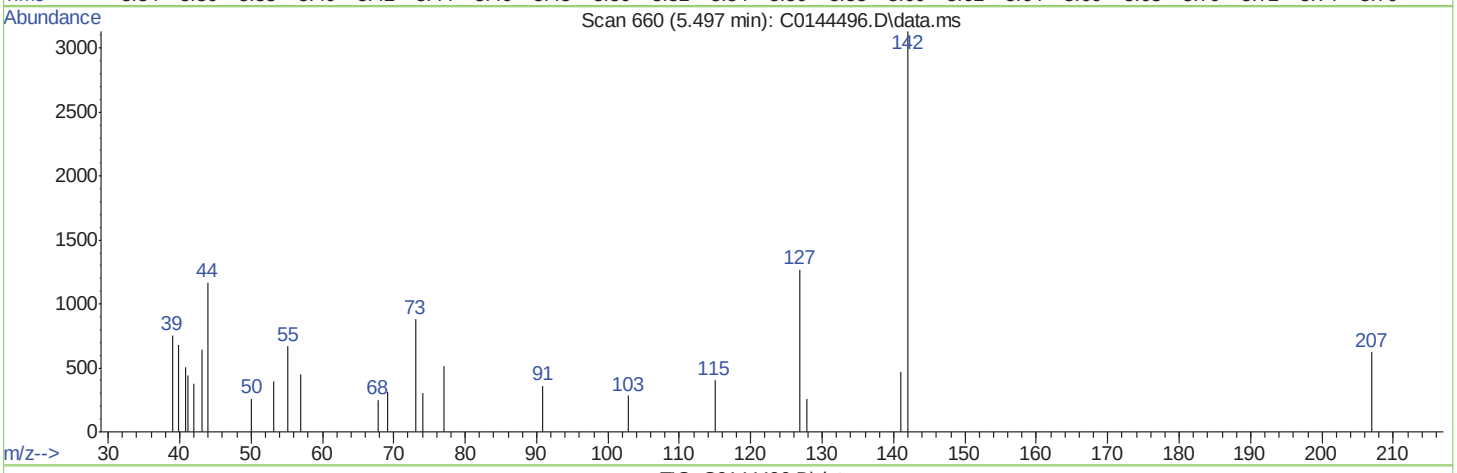
Ion	Exp%	Act%
142.00	100	100
127.00	42.10	40.56
141.00	12.80	14.82
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(14) Iodomethane

5.497min (+0.012) 1.01ug/L m

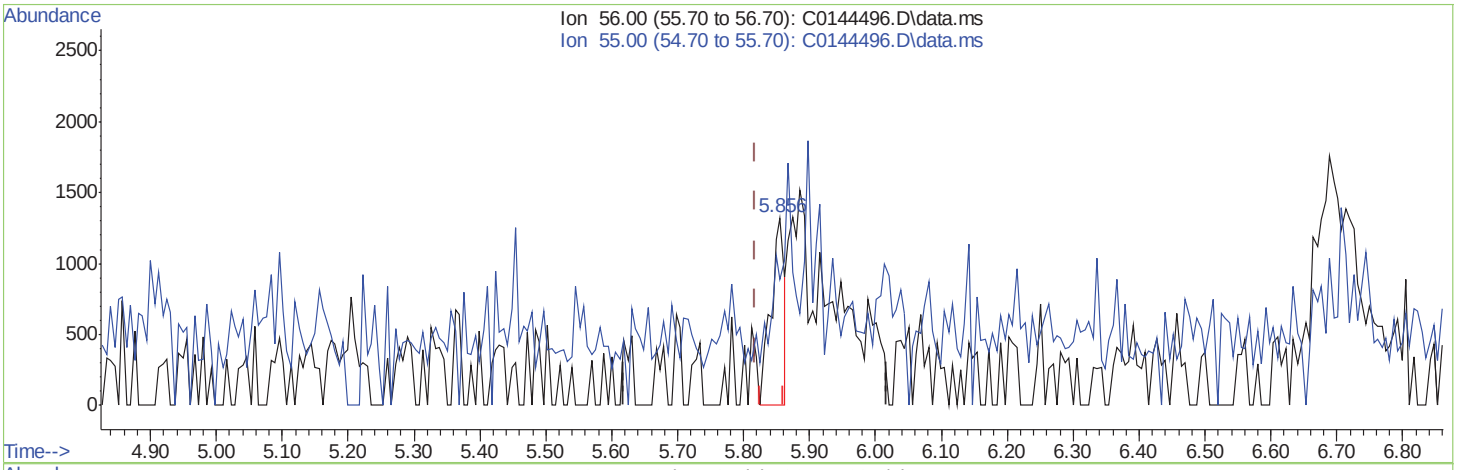
response 11076

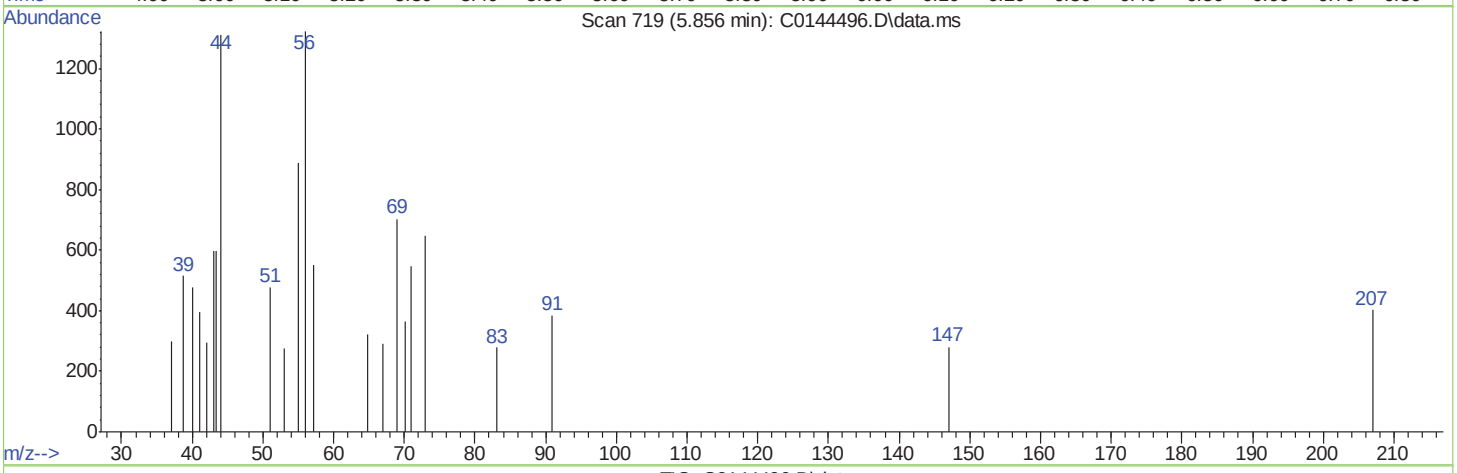
Ion	Exp%	Act%
142.00	100	100
127.00	42.10	40.56
141.00	12.80	14.82
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(15) Acrolein

5.856min (+0.037) 1.10ug/L

response 1858

Ion	Exp%	Act%
56.00	100	100
55.00	76.40	44.63#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
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Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
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Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
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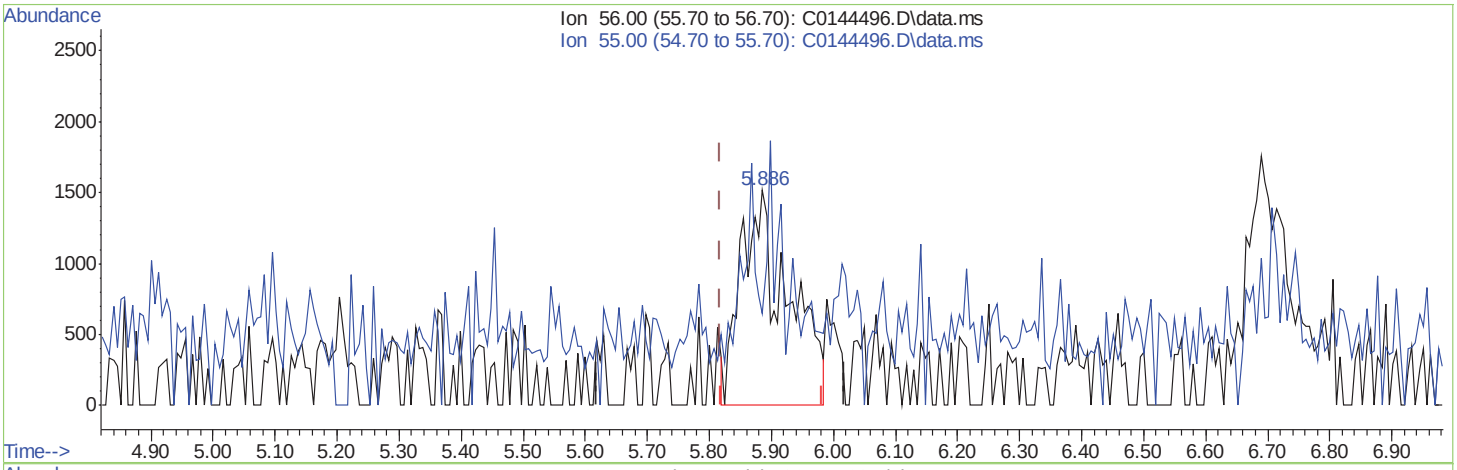

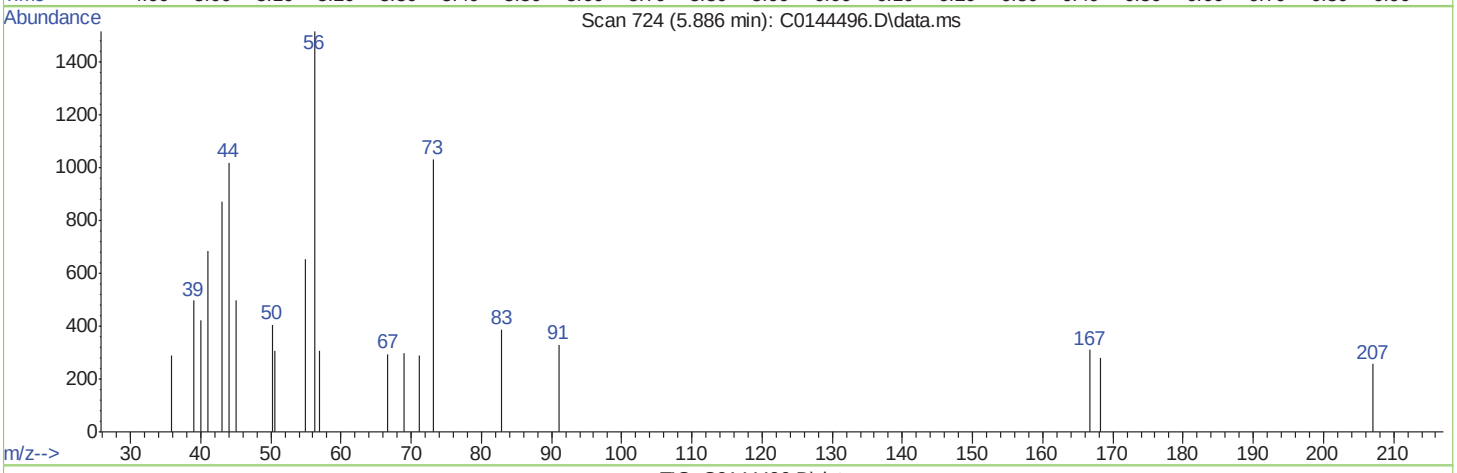

TIC: C0144496.D\data.ms

(15) Acrolein

5.886min (+0.067) 4.64ug/L m

response 7828

Ion	Exp%	Act%
56.00	100	100
55.00	76.40	42.98#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
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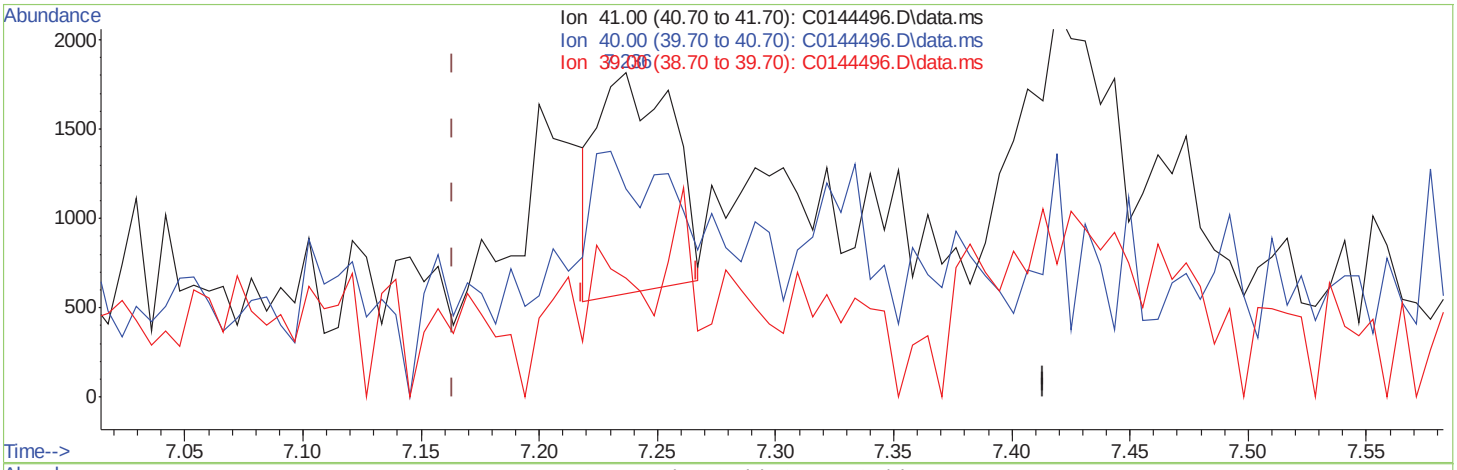

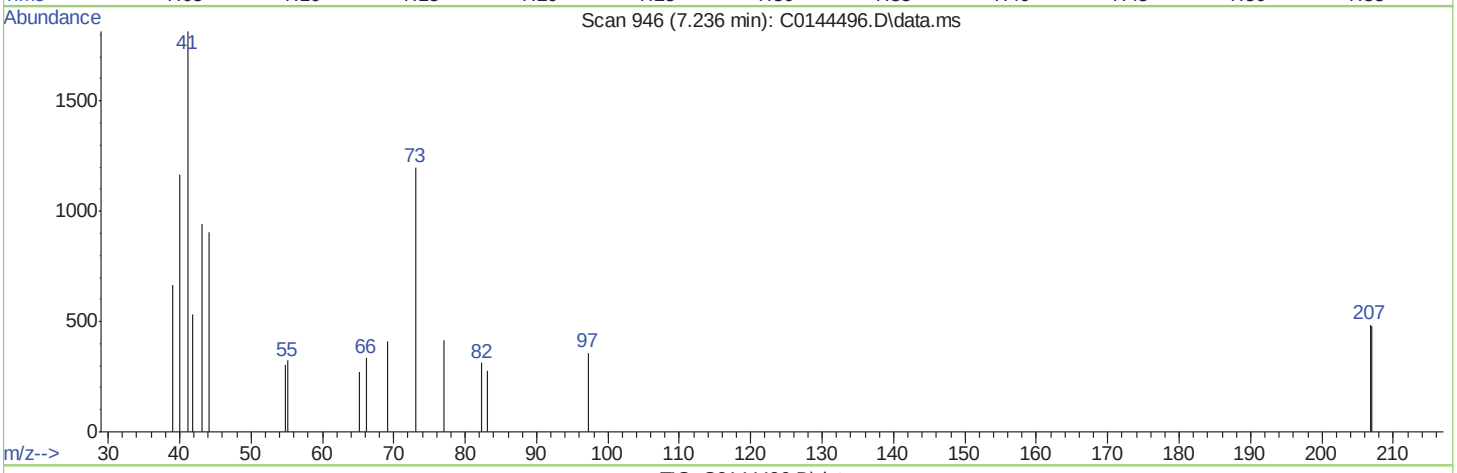

TIC: C0144496.D\data.ms

(23) Acetonitrile

7.236min (+0.073) 2.35ug/L

response 2667

Ion	Exp%	Act%
41.00	100	100
40.00	50.10	34.77
39.00	19.30	32.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
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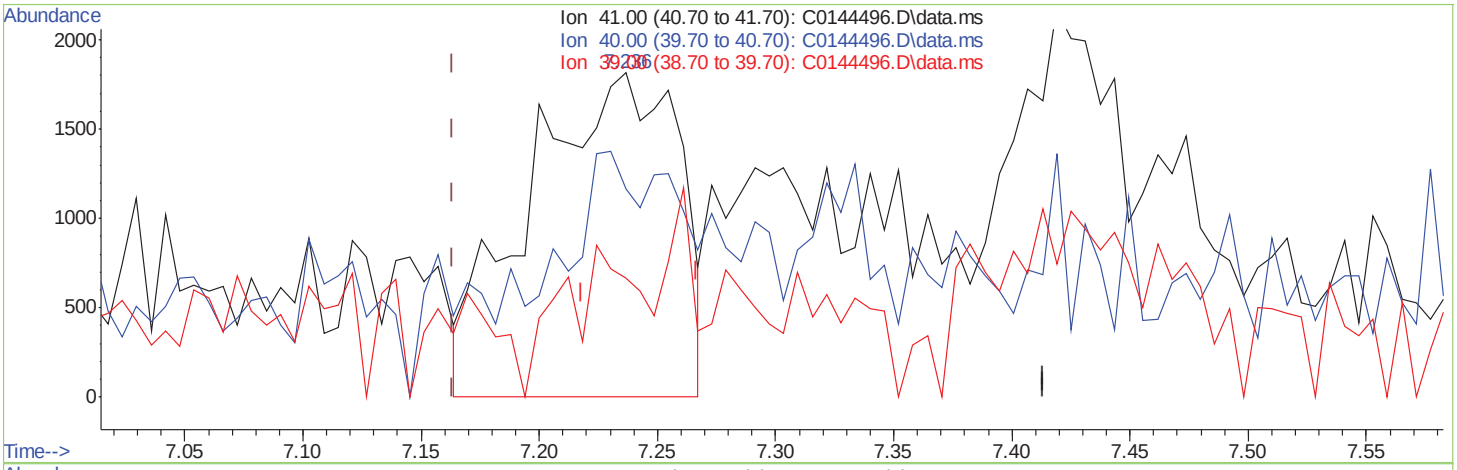

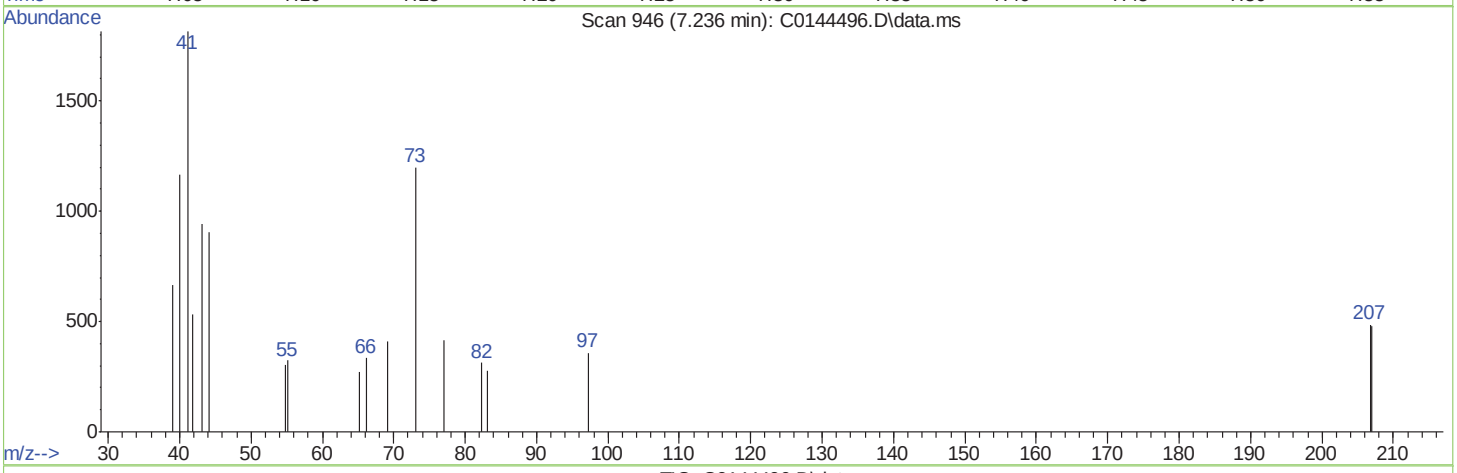

TIC: C0144496.D\data.ms

(23) Acetonitrile

7.236min (+0.073) 7.01ug/L m

response 7953

Ion	Exp%	Act%
41.00	100	100
40.00	50.10	64.24
39.00	19.30	36.53
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
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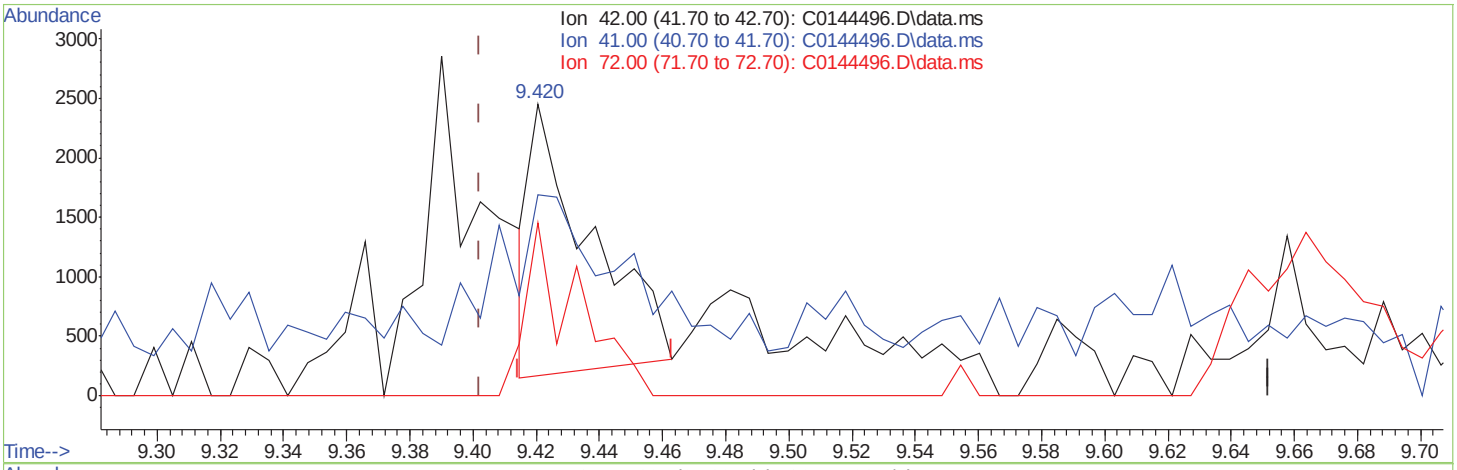

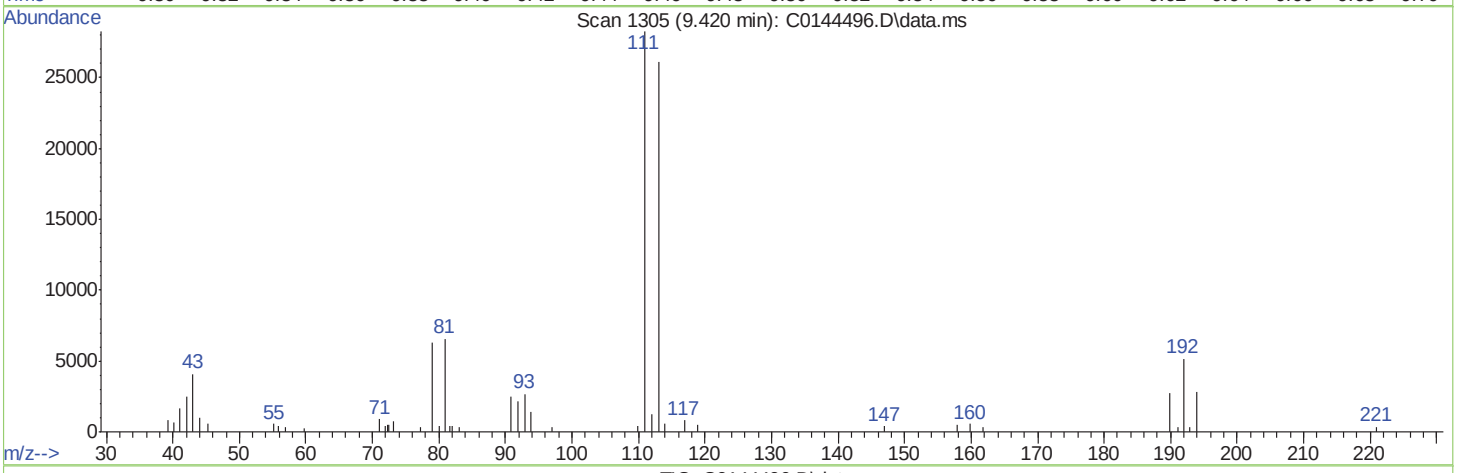

TIC: C0144496.D\data.ms

(36) Tetrahydrofuran

9.420min (+0.018) 0.95ug/L

response 3013

Ion	Exp%	Act%
42.00	100	100
41.00	51.50	39.74
72.00	52.30	67.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

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Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
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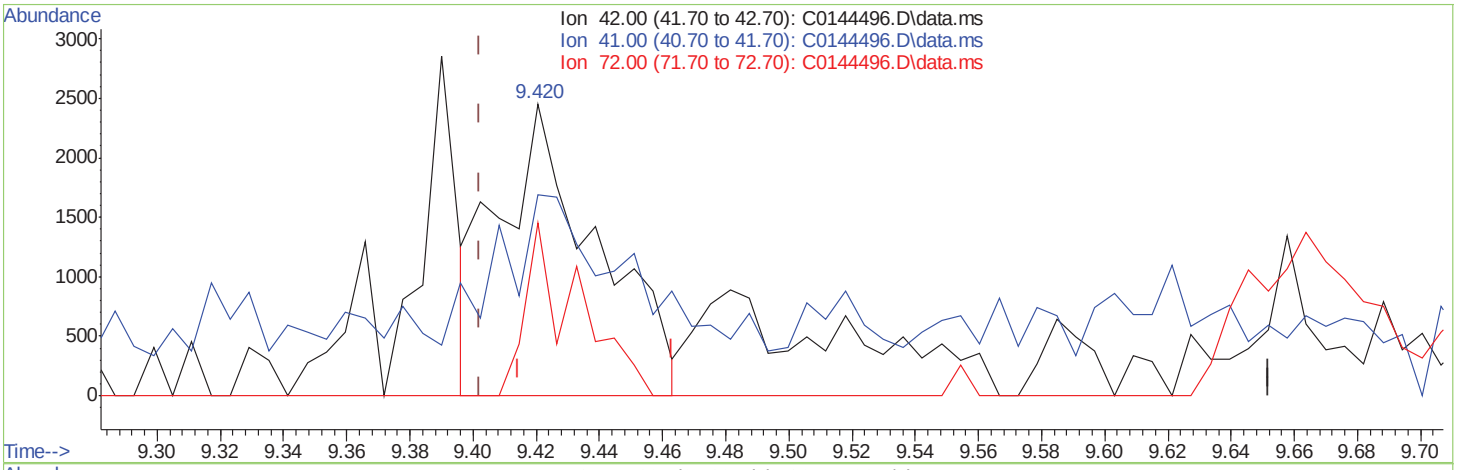
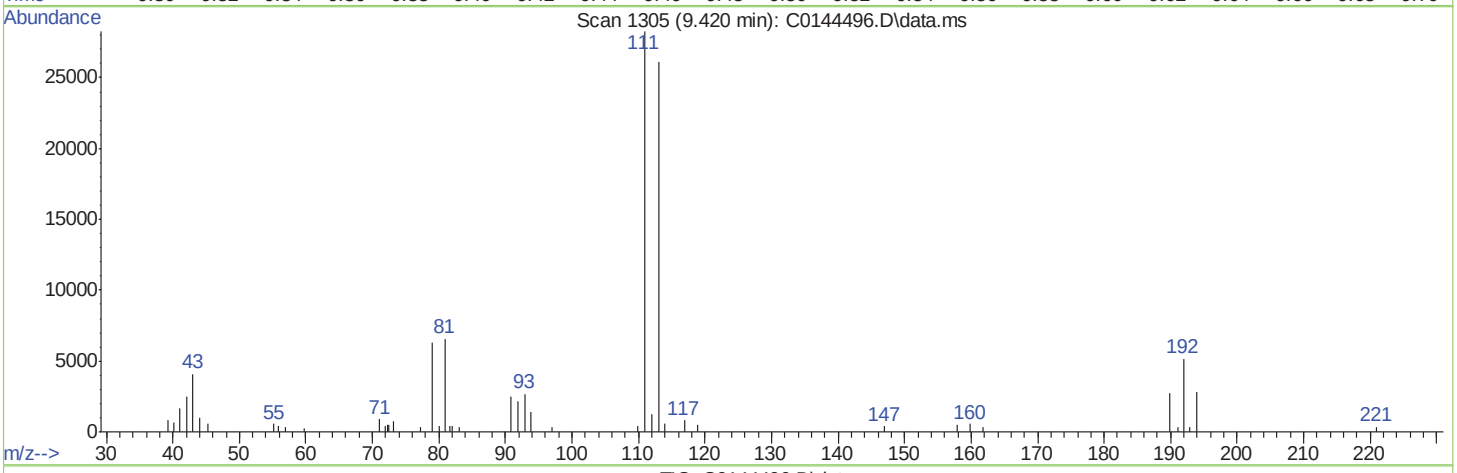
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(36) Tetrahydrofuran

9.420min (+0.018) 1.69ug/L m

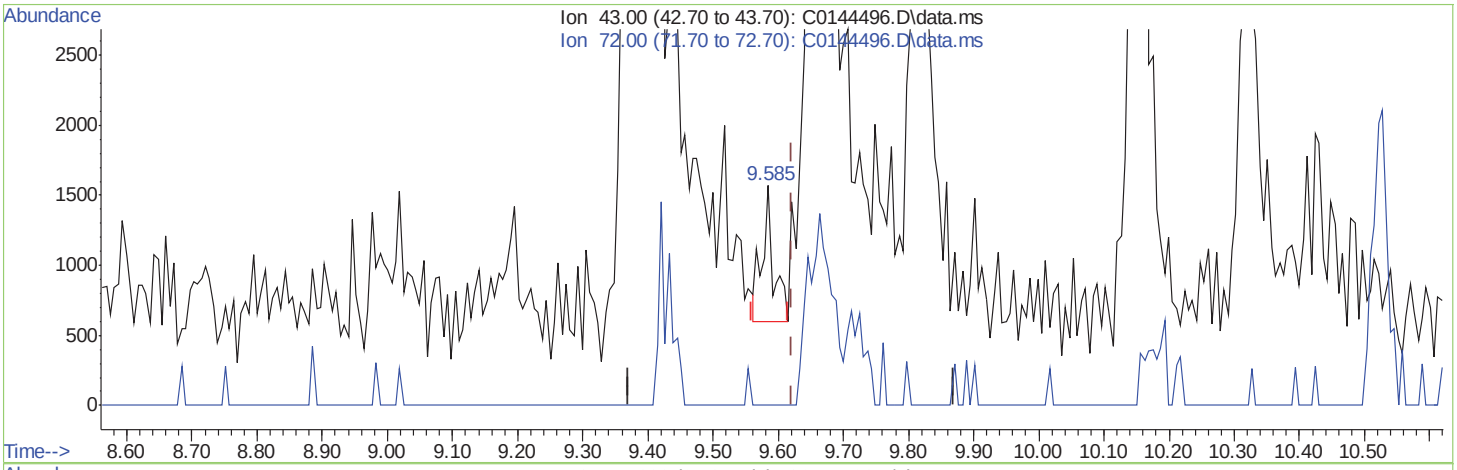
response 5331

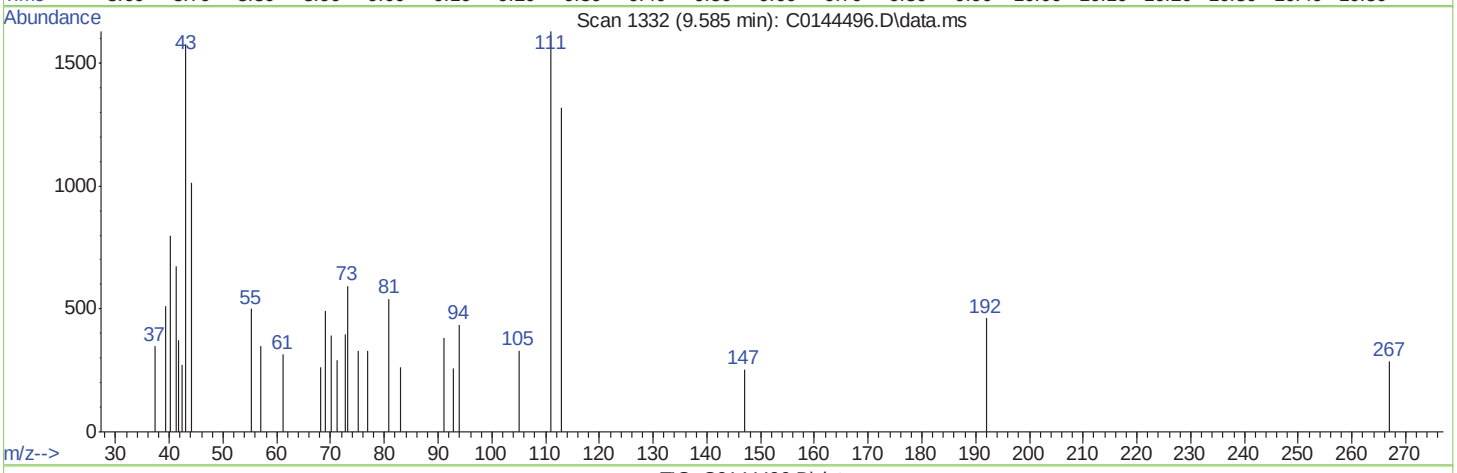
Ion	Exp%	Act%
42.00	100	100
41.00	51.50	68.83
72.00	52.30	21.03#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(40) 2-Butanone

9.585min (-0.036) 0.32ug/L

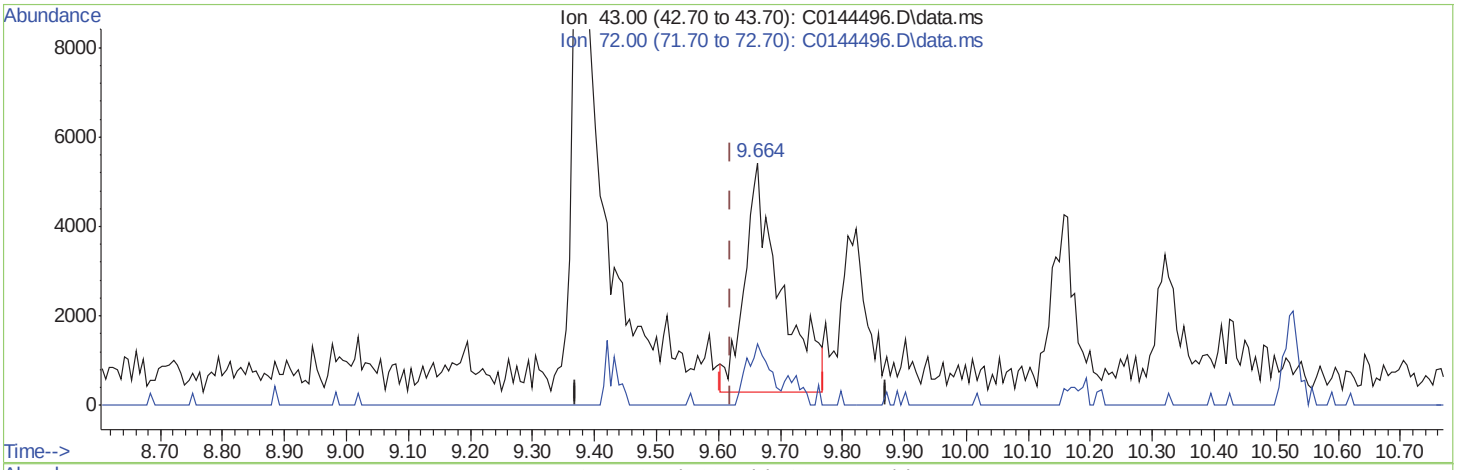
response 1207

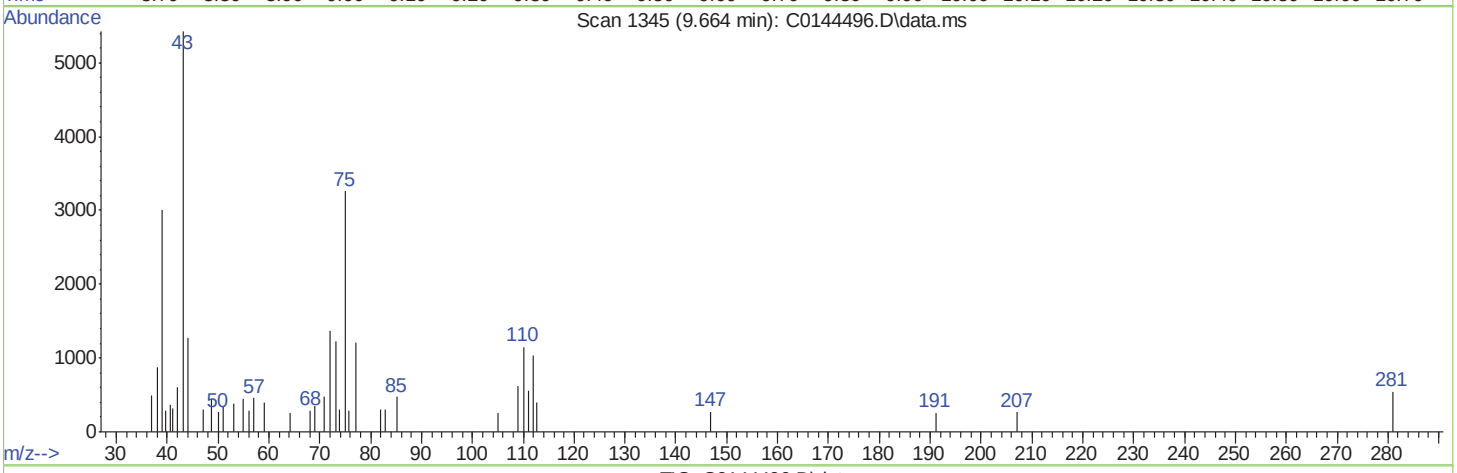
Ion	Exp%	Act%
43.00	100	100
72.00	29.50	40.68
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(40) 2-Butanone

9.664min (+0.043) 5.38ug/L m

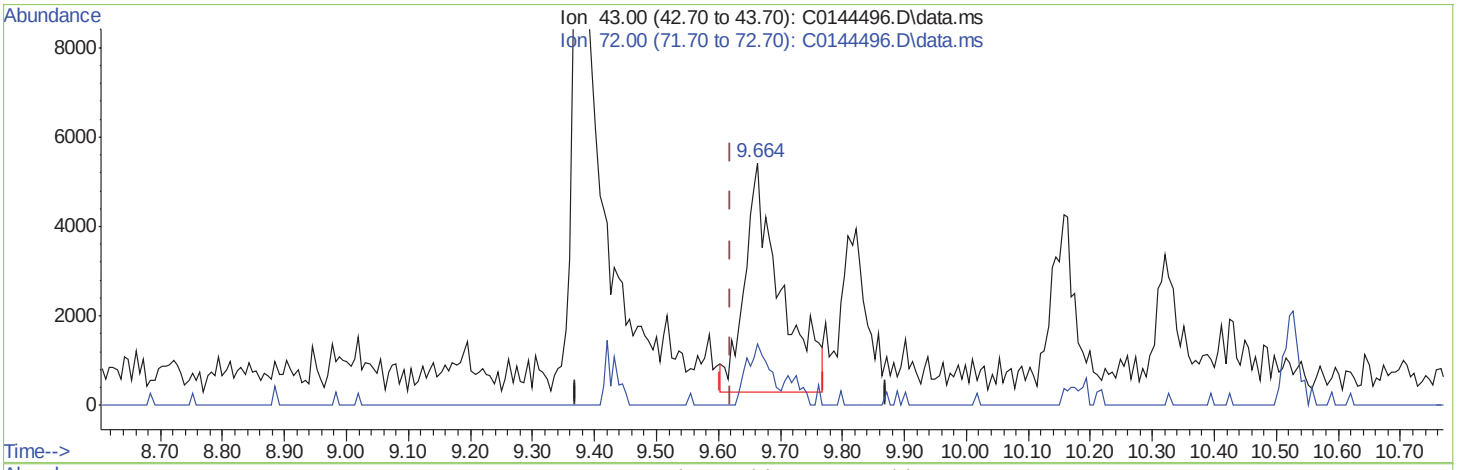
response 20314

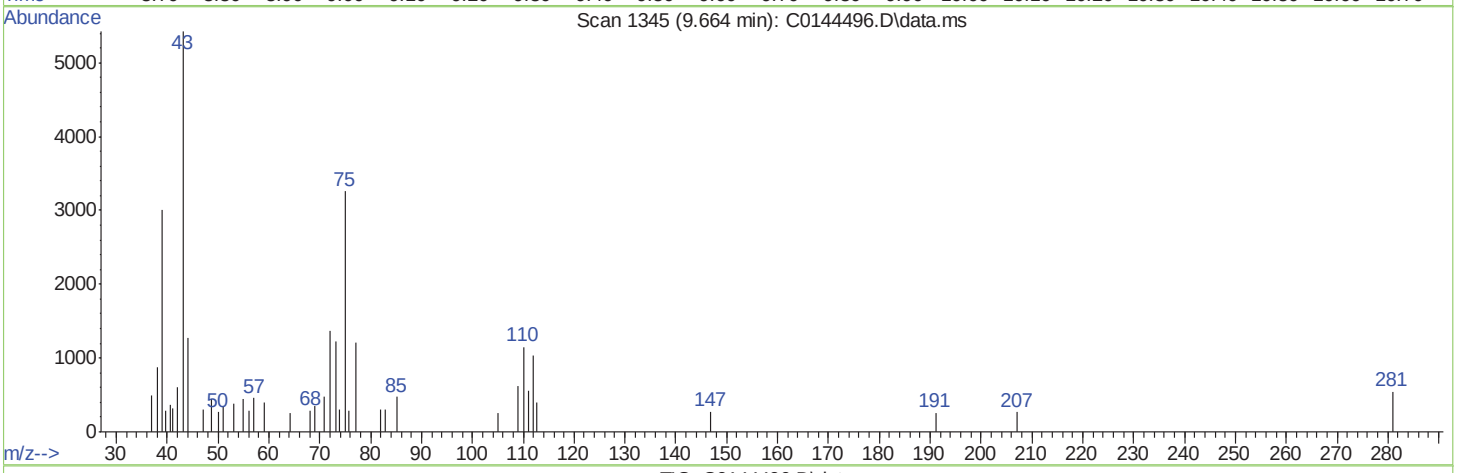
Ion	Exp%	Act%
43.00	100	100
72.00	29.50	25.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(40) 2-Butanone

9.664min (+0.043) 5.38ug/L m

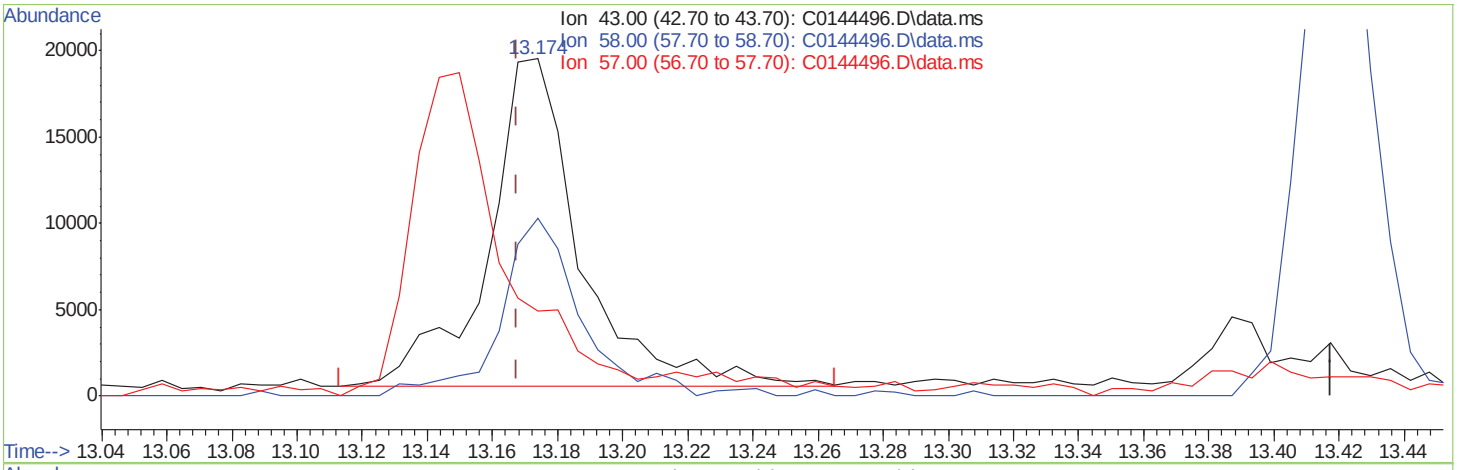
response 20314

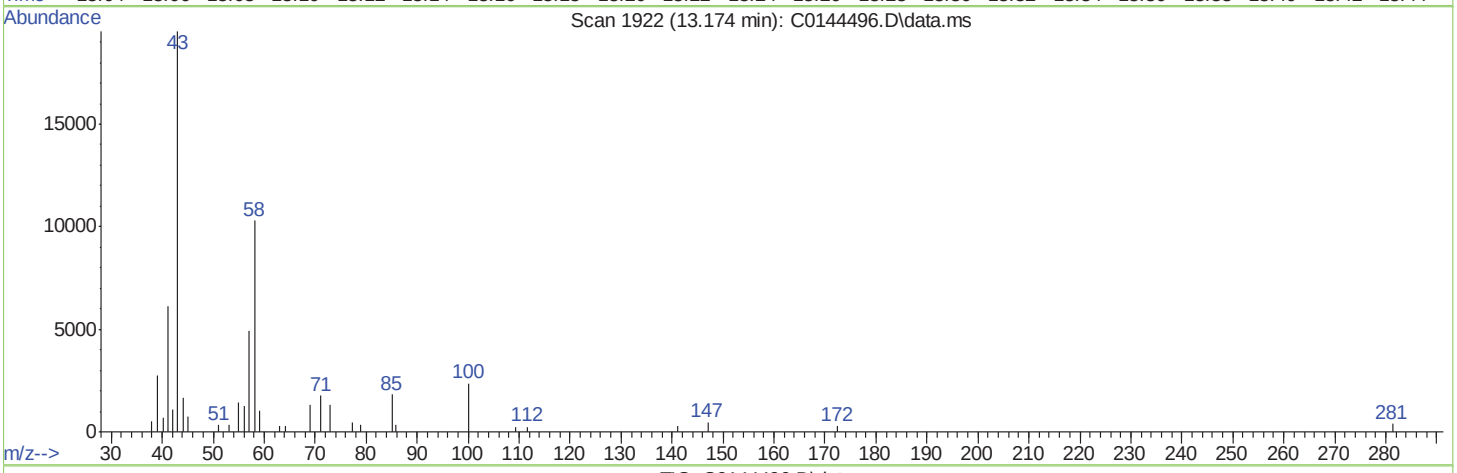
Ion	Exp%	Act%
43.00	100	100
72.00	29.50	25.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(69) 2-hexanone

13.174min (+0.006) 7.53ug/L

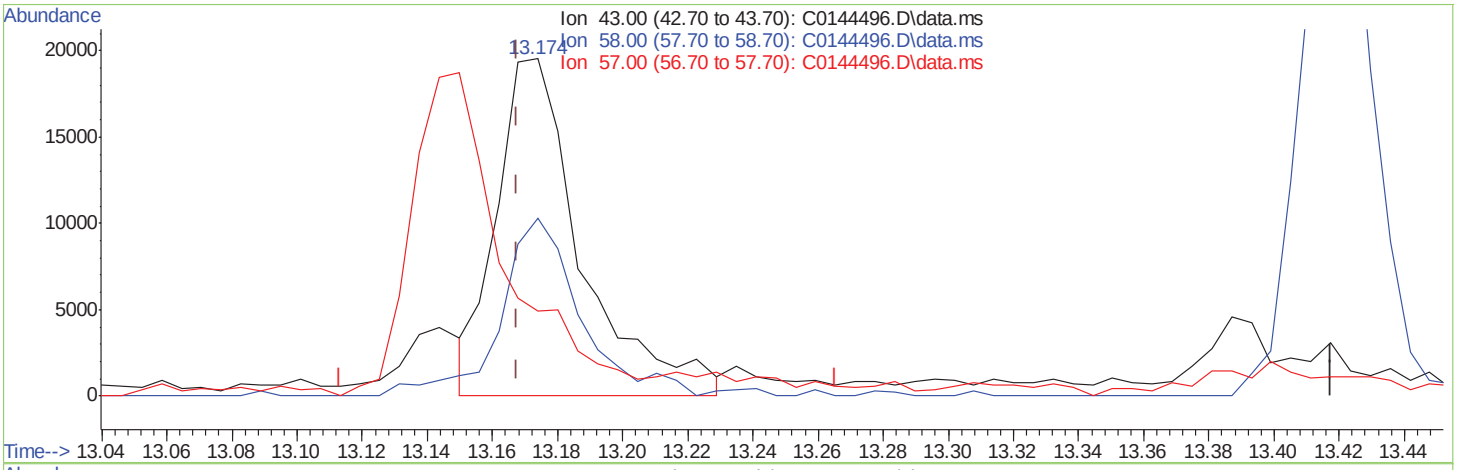
response 37994

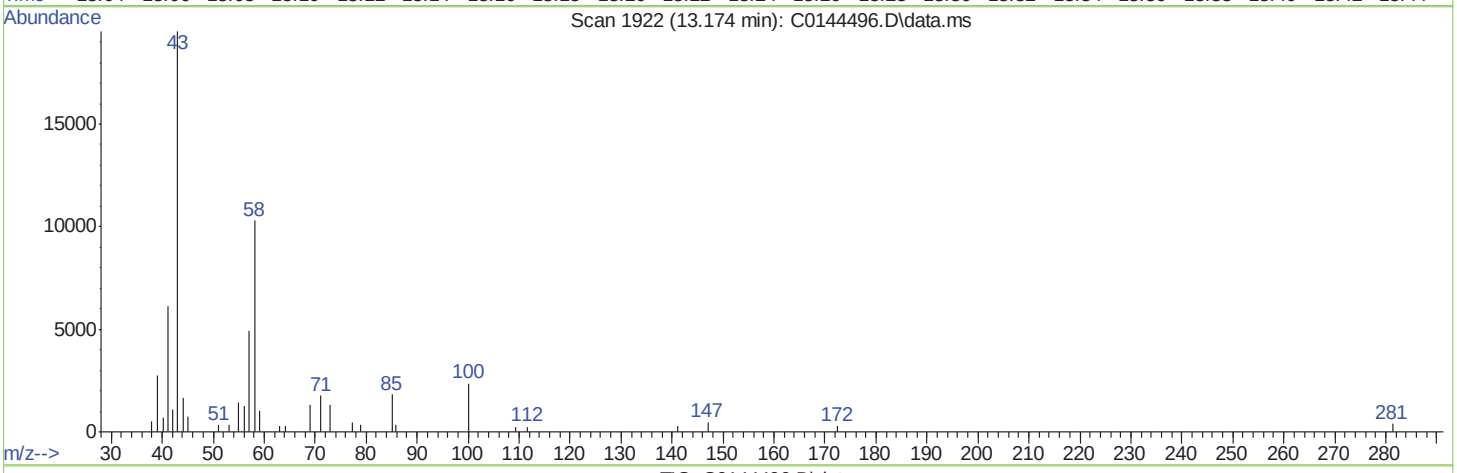
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	54.28
57.00	52.00	25.90
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(69) 2-hexanone

13.174min (+0.006) 7.05ug/L m

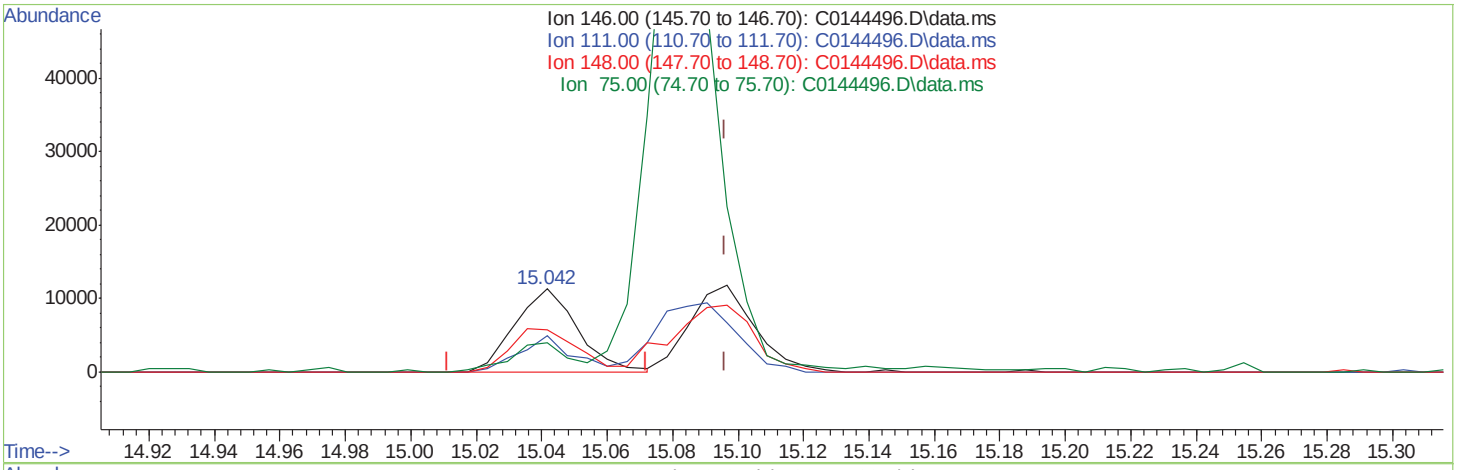
response 35594

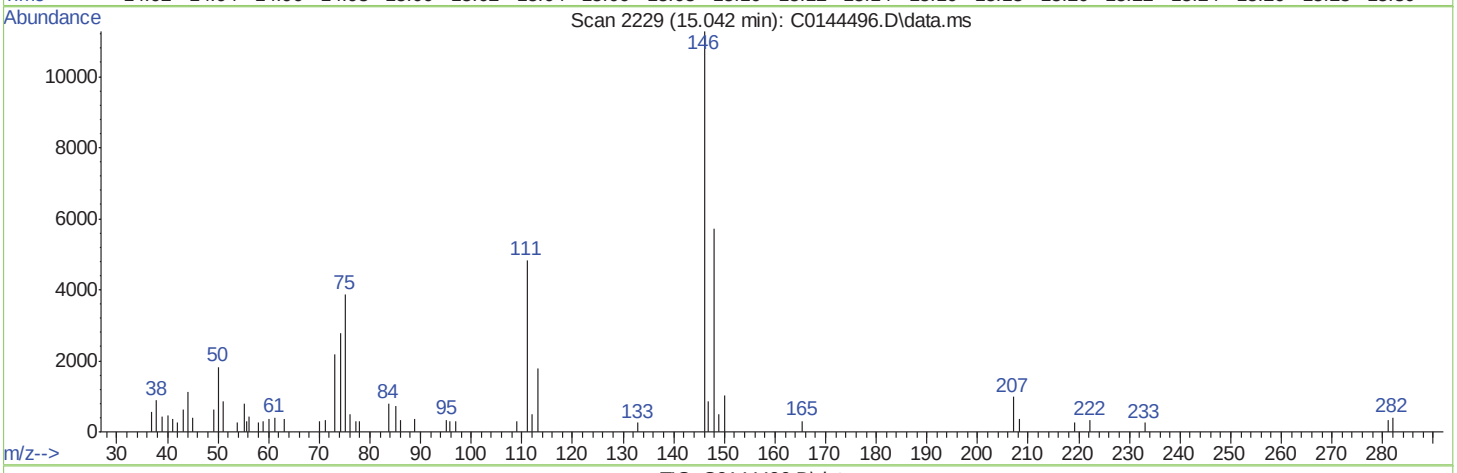
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	52.75
57.00	52.00	25.17
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(99) 1,4-Dichlorobenzene

15.042min (-0.055) 0.87ug/L

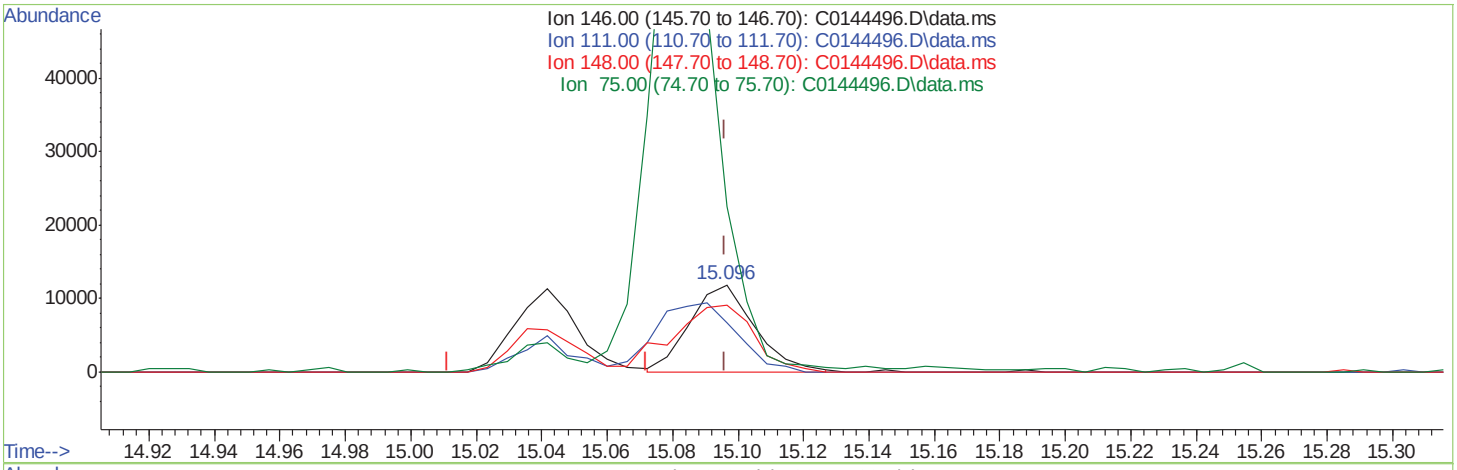
response 14935

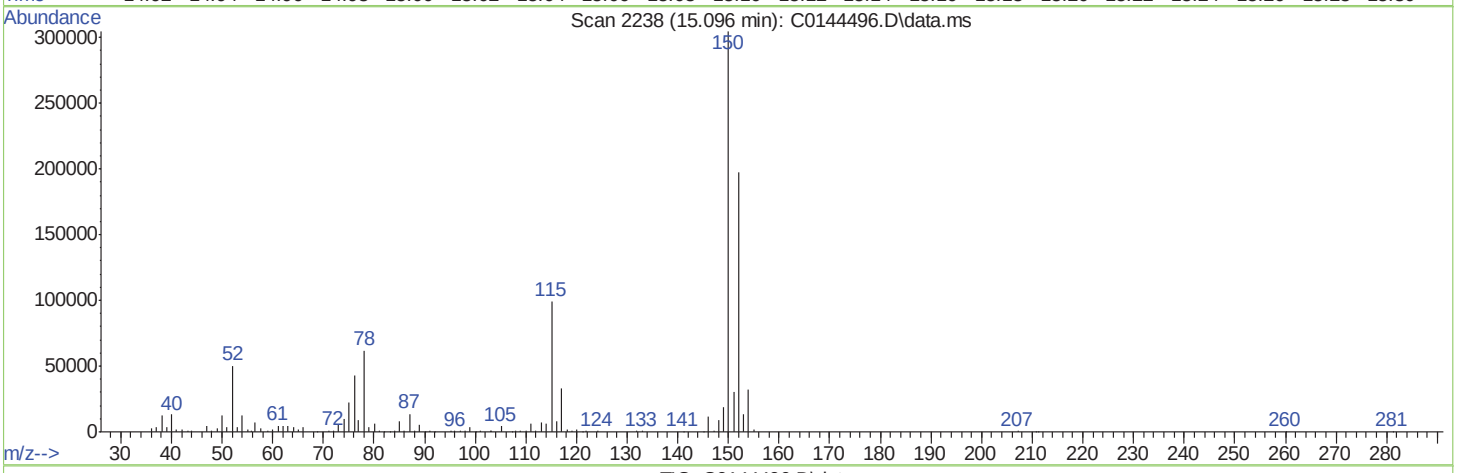
Ion	Exp%	Act%
146.00	100	100
111.00	40.00	42.94
148.00	66.00	50.63
75.00	33.50	34.38

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(99) 1,4-Dichlorobenzene

15.096min (+0.000) 0.96ug/L m

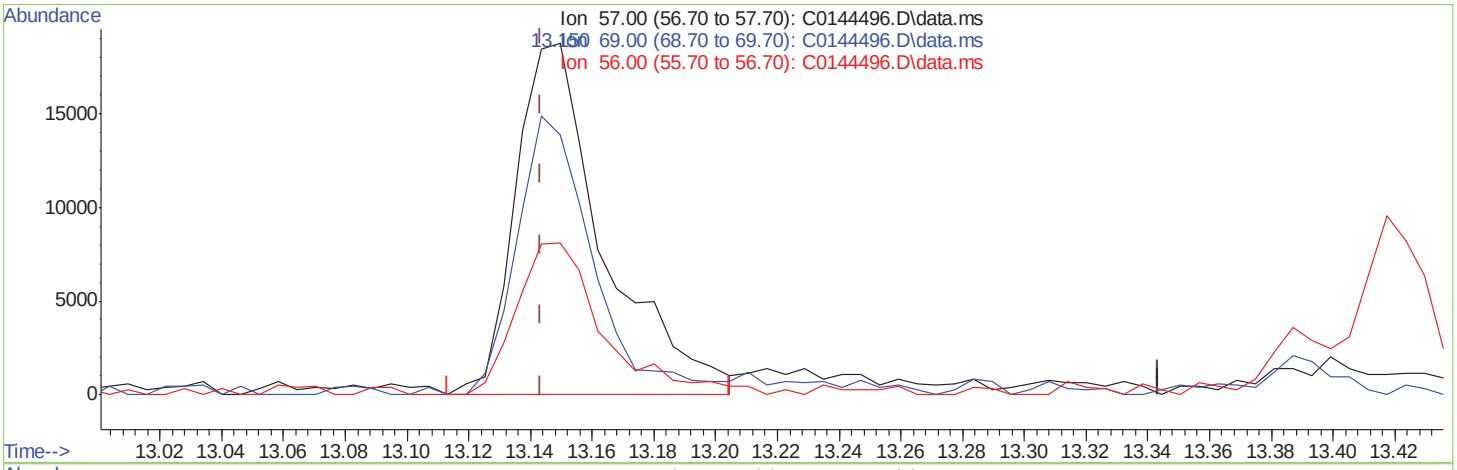
response 16319

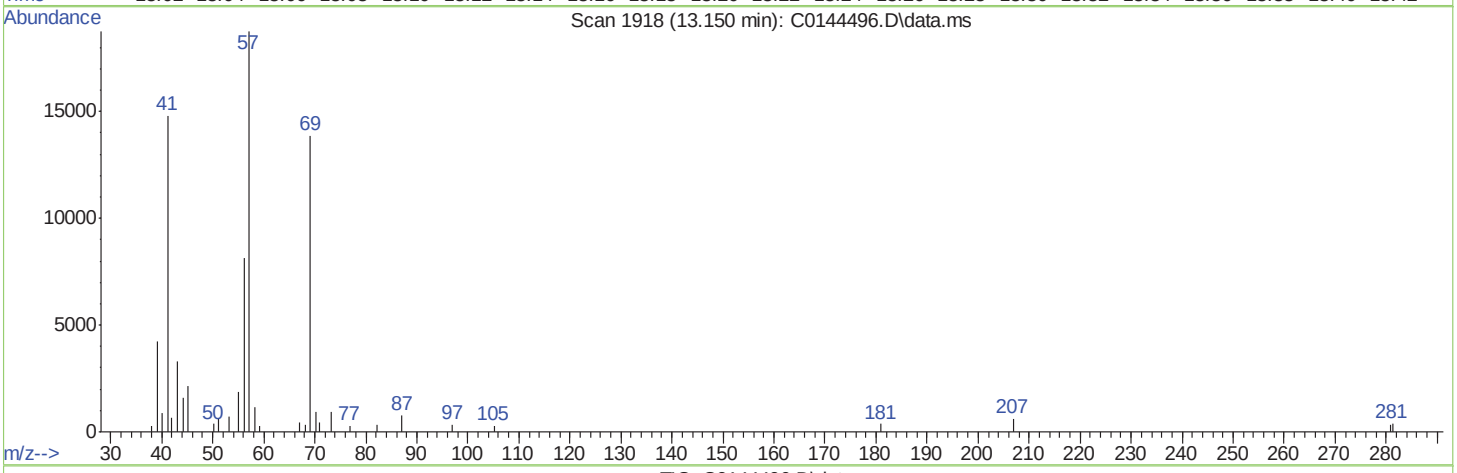
Ion	Exp%	Act%
146.00	100	100
111.00	40.00	56.82
148.00	66.00	77.12
75.00	33.50	189.87#

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.150min (+0.006) 54.89ug/L

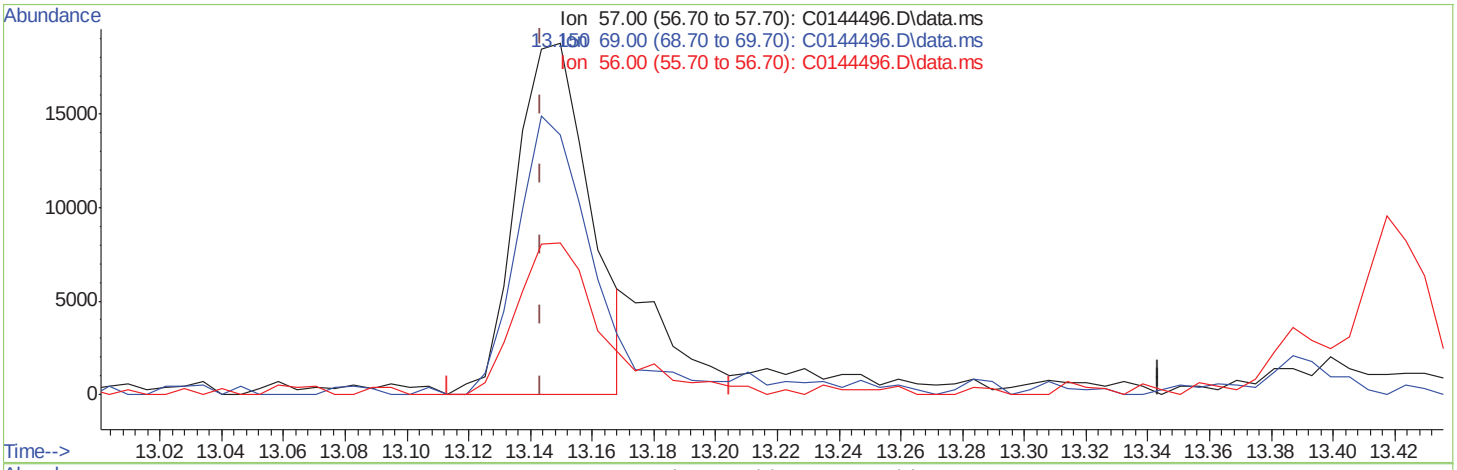
response 37378

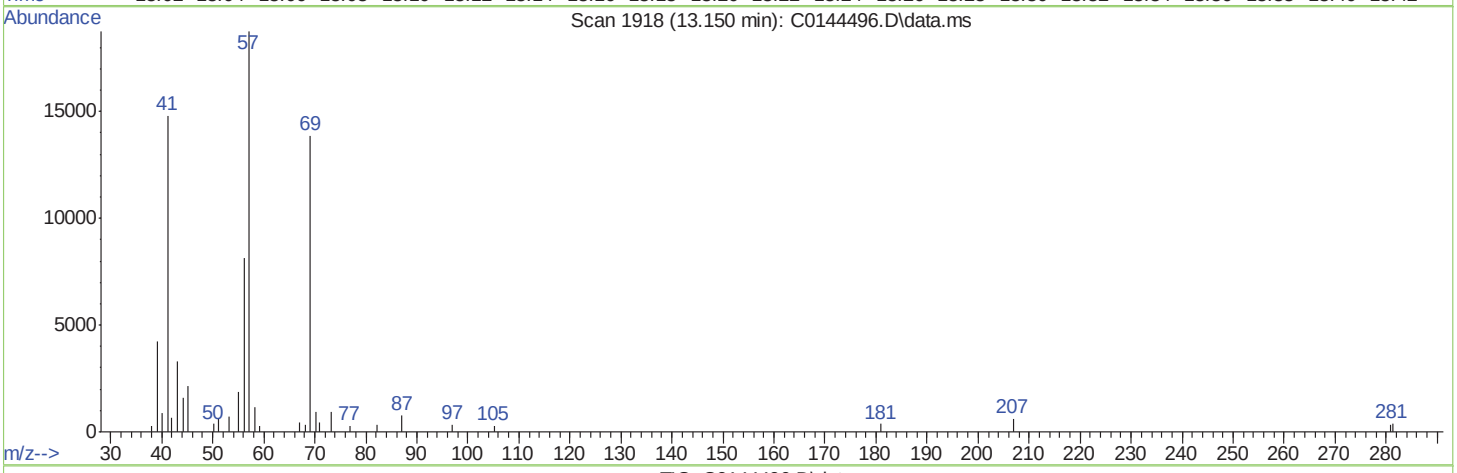
Ion	Exp%	Act%
57.00	100	100
69.00	82.30	68.75
56.00	40.10	42.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144496.D
Acq On : 28 Oct 2020 8:10 am
Operator : SHANICAO
Sample : IC5797-1 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 28 09:54:29 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144496.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.150min (+0.006) 45.88ug/L m

response 31225

Ion	Exp%	Act%
57.00	100	100
69.00	82.30	82.29
56.00	40.10	50.86
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
10/28/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
Acq On : 28 Oct 2020 8:35 am
Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 28 10:07:46 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	2142153	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1571541	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	785353	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.774	65	261224	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	539463	50.02	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.04%			
47) 1,2-Dichloroethane-d4	10.181	65	720022	49.28	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.56%			
58) Toluene-d8	12.134	98	2103003	51.92	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 103.84%			
80) 4-Bromofluorobenzene	14.306	174	671830	55.22	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 110.44%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.850	85	70845	6.30	ug/L	92
3) Chloromethane	3.209	50	72674	5.97	ug/L	88
4) 1,3-butadiene	3.361	39	52911	6.94	ug/L	89
5) Vinyl Chloride	3.337	62	64250	5.14	ug/L	91
6) Bromomethane	3.890	94	17040m	3.47	ug/L	
7) Chloroethane	4.116	64	38252	5.46	ug/L	96
8) Trichlorofluoromethane	4.359	101	82893	5.53	ug/L	85
9) Ethyl Ether	4.906	59	50261	6.86	ug/L	89
10) 1,2-Dichlorotrifluoroe...	5.259	67	57941	6.93	ug/L	95
11) 1,1-Dichloroethene	5.247	61	78383	6.41	ug/L	97
12) Freon 113	5.314	101	54714	6.19	ug/L	88
13) Carbon Disulfide	5.278	76	166128	5.91	ug/L	91
14) Iodomethane	5.490	142	47852	4.24	ug/L	95
15) Acrolein	5.825	56	39006	22.30	ug/L	83
16) Allyl chloride	6.062	41	80364	7.00	ug/L	93
17) Methylene Chloride	6.269	49	77924	6.19	ug/L	80
18) Acetone	6.342	43	78255	28.46	ug/L	95
19) Methyl acetate	6.573	43	185183	32.28	ug/L	96
20) trans-1,2-Dichloroethene	6.543	61	69204	6.13	ug/L	95
21) Hexane	6.689	56	48594	6.54	ug/L #	84
22) Methyl Tert Butyl Ether	6.719	73	165838	5.69	ug/L	68
23) Acetonitrile	7.176	41	59517m	51.10	ug/L	
24) Di-isopropyl ether	7.413	45	192745	7.92	ug/L	88
25) Chloroprene	7.608	53	74414	6.03	ug/L	92
26) 1,1-Dichloroethane	7.638	63	90393	6.08	ug/L	97
27) Acrylonitrile	7.741	52	68195	27.12	ug/L	83
28) ETBE	8.088	59	190148	6.47	ug/L	93
29) Vinyl acetate	8.125	43	556281	30.22	ug/L	98
30) cis-1,2-Dichloroethene	8.666	96	50105	5.71	ug/L	95
31) 2,2-Dichloropropane	8.849	77	81988	5.16	ug/L	98
32) Bromochloromethane	9.025	128	25825	5.15	ug/L	77
33) Cyclohexane	9.019	56	94211	7.02	ug/L	89
34) Chloroform	9.165	83	90340	5.61	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
Acq On : 28 Oct 2020 8:35 am
Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 28 10:07:46 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
35) Ethyl acetate	9.360	43	235456	28.46	ug/L		98
36) Tetrahydrofuran	9.408	42	23276	7.23	ug/L		87
38) Carbon Tetrachloride	9.372	117	60750	4.80	ug/L		96
39) 1,1,1-Trichloroethane	9.469	97	79452	5.29	ug/L		96
40) 2-Butanone	9.633	43	111614	28.61	ug/L		87
41) 1,1-Dichloropropene	9.664	75	70104	5.24	ug/L		82
42) tert-Butyl formate	9.816	59	239087	23.19	ug/L		85
43) Propionitrile	10.029	54	74742	57.88	ug/L		94
44) Methacrylonitrile	10.059	41	362662	72.79	ug/L		97
45) Benzene	10.004	78	208304	5.76	ug/L		97
46) TAME	10.150	73	171044	5.93	ug/L		93
48) 1,2-Dichloroethane	10.272	62	78791	5.76	ug/L		93
49) Trichloroethene	10.735	95	57667	5.89	ug/L		94
50) Methylcyclohexane	10.710	83	89436	5.78	ug/L		88
51) Dibromomethane	11.197	93	33887	5.79	ug/L	#	80
52) 1,2-Dichloropropane	11.288	63	57727	6.59	ug/L		93
53) Bromodichloromethane	11.361	83	70717	5.48	ug/L	#	96
54) Methyl methacrylate	11.507	41	50262	6.59	ug/L		89
55) 2-Chloroethyl vinyl ether	11.903	63	175777	27.06	ug/L		90
56) cis-1,3-Dichloropropene	11.969	75	96837	5.58	ug/L		87
59) Toluene	12.182	91	240433	6.46	ug/L		100
60) 2-Nitropropane	12.383	41	90991	32.47	ug/L		92
61) 4-Methyl-2-pentanone	12.493	43	261733	34.57	ug/L		92
62) trans-1,3-Dichloropropene	12.547	75	86299	6.11	ug/L		85
63) Tetrachloroethene	12.523	166	54053	5.30	ug/L		96
64) Ethyl methacrylate	12.651	69	67849	5.55	ug/L		92
65) 1,1,2-Trichloroethane	12.681	83	43197	6.59	ug/L		96
66) Dibromochloromethane	12.839	129	51022	5.44	ug/L		92
67) 1,3-Dichloropropane	12.906	76	88259	6.06	ug/L		88
68) 1,2-Dibromoethane	13.034	107	47670	5.82	ug/L		97
69) 2-hexanone	13.168	43	194933m	36.72	ug/L		
70) 1-Chlorohexane	13.387	91	71931	5.90	ug/L		80
71) Ethylbenzene	13.436	91	257344	5.84	ug/L		96
72) Chlorobenzene	13.436	112	139058	5.70	ug/L		91
73) 1,1,1,2-Tetrachloroethane	13.478	131	48388	5.43	ug/L		88
74) m,p-Xylene	13.539	91	394569	11.21	ug/L		97
75) o-Xylene	13.868	91	205833	5.54	ug/L		98
76) Styrene	13.904	104	152981	5.23	ug/L		94
77) Bromoform	13.953	173	33415	4.19	ug/L		94
78) Isopropylbenzene	14.080	105	236727	5.33	ug/L		93
81) cis-1,4-Dichloro-2-butene	14.336	53	21776	7.80	ug/L	#	76
82) n-Propylbenzene	14.373	91	282412	6.97	ug/L		97
83) Bromobenzene	14.397	156	59754	6.72	ug/L		91
84) 1,1,2,2-Tetrachloroethane	14.427	83	66406	7.42	ug/L		97
85) 1,3,5-Trimethylbenzene	14.494	105	185189	6.30	ug/L		98
86) 2-Chlorotoluene	14.506	91	194110	6.93	ug/L		95
87) trans-1,4-Dichloro-2-B...	14.549	53	20874	7.97	ug/L		90
88) 1,2,3-Trichloropropane	14.543	110	19484	6.63	ug/L		79
89) Cyclohexanone	14.585	55	10423	34.16	ug/L		84
90) 4-Chlorotoluene	14.622	91	168985	6.51	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
Acq On : 28 Oct 2020 8:35 am
Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 28 10:07:46 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
91) tert-Butylbenzene	14.725	91	109789	6.58	ug/L		95
93) 1,2,4-Trimethylbenzene	14.774	105	180005	5.79	ug/L		99
94) Pentachloroethane	14.774	167	27851	4.92	ug/L	#	78
95) sec-Butylbenzene	14.847	105	222732	6.58	ug/L		93
96) 4-Isopropyltoluene	14.932	119	180756	5.84	ug/L		98
97) 1,3-Dichlorobenzene	15.036	146	103901	6.11	ug/L		95
98) 1,2,3-Trimethylbenzene	15.078	105	197999	5.84	ug/L		100
99) 1,4-Dichlorobenzene	15.096	146	103520	5.89	ug/L		85
100) n-Butylbenzene	15.218	92	89115	5.36	ug/L		95
101) Benzyl Chloride	15.249	126	20796	5.29	ug/L	#	91
102) 1,2-Dichlorobenzene	15.388	146	94221	5.74	ug/L		99
103) 1,2-Dibromo-3-Chloropr...	15.924	75	11752	5.18	ug/L		92
104) Hexachlorobutadiene	16.319	225	27660	4.71	ug/L		90
105) 1,2,4-Trichlorobenzene	16.374	180	46842	4.08	ug/L		93
106) Naphthalene	16.617	128	89305	3.72	ug/L		96
107) 1,2,3-Trichlorobenzene	16.757	180	34529	3.46	ug/L	#	76
109) Ethanol	5.223	45	11423m	127.76	ug/L		
110) Tert Butyl Alcohol	6.920	59	68584m	62.18	ug/L		
111) Isobutyl alcohol	10.303	43	49801	159.38	ug/L		88
112) Tert Amyl Alcohol	10.412	59	51064	62.84	ug/L		89
113) 1,4-Dioxane	11.556	88	13176	107.70	ug/L		83
114) 3,3-dimethyl-1-butanol	13.144	57	237868m	328.50	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Sample : IC5797-2 Inst : MSVOA5
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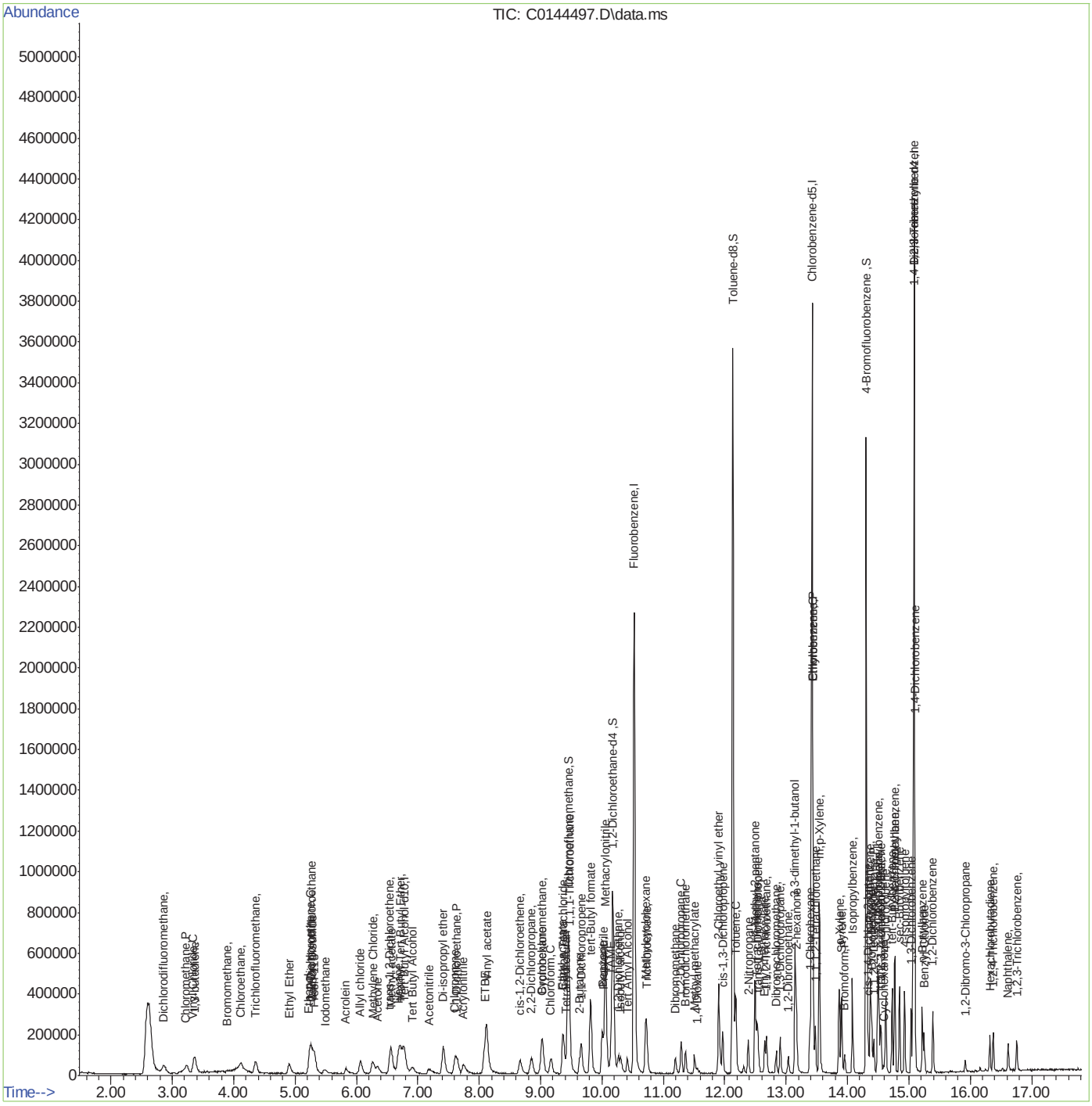
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: VC5797-IC5797
Lab FileID: C0144497.D
Injection Time: 10/28/20 08:35
Method: SW846 8260B
Analyst approved: 10/28/20 13:54 Shanica O'Connor
Supervisor approved: 10/28/20 14:16 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Bromide	74-83-9		3.89	Split peak
Ethyl Alcohol	64-17-5		5.22	Split peak
Tert-Butyl Alcohol	75-65-0		6.92	Split peak
Acetonitrile	75-05-8		7.18	Split peak
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
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Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
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Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
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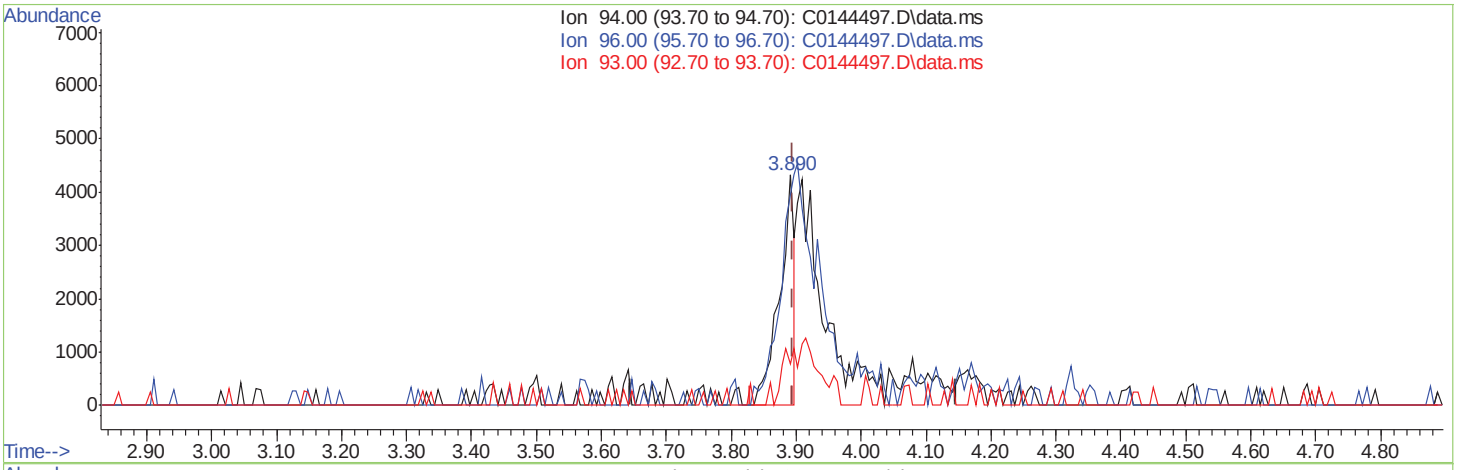

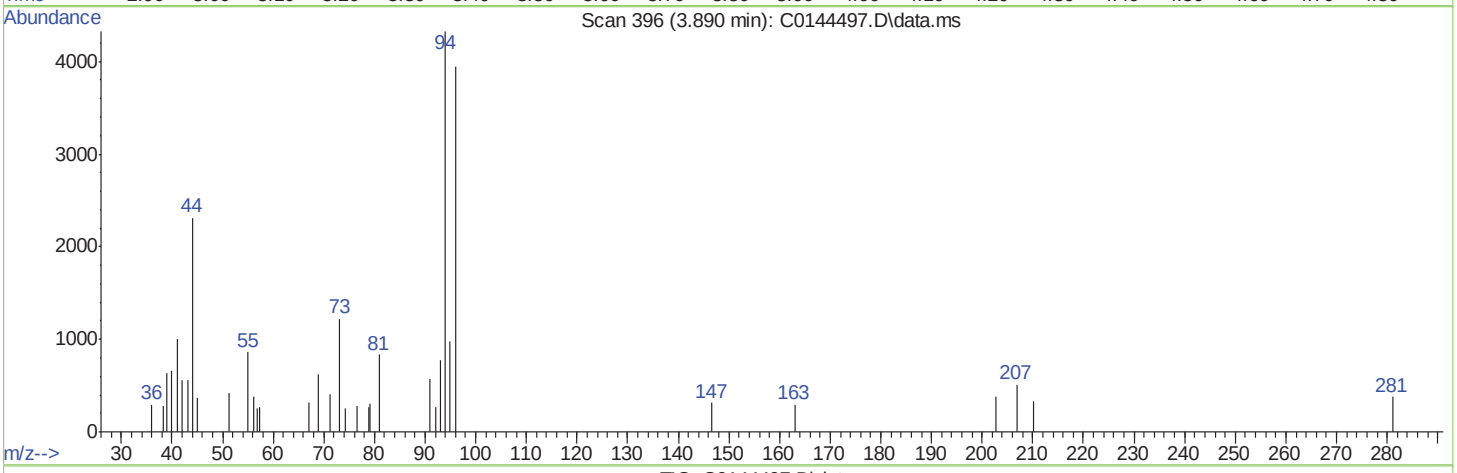

TIC: C0144497.D\data.ms

(6) Bromomethane ( )

3.890min (-0.006) 1.38ug/L

response 6724

Ion	Exp%	Act%
94.00	100	100
96.00	91.30	91.12
93.00	23.30	8.51
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
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Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
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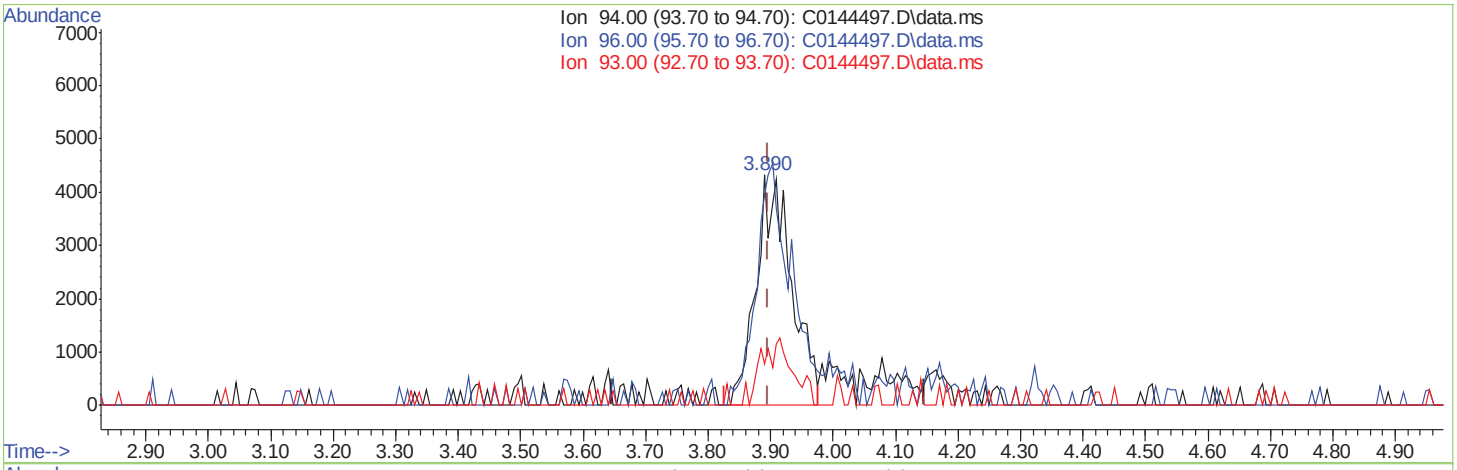
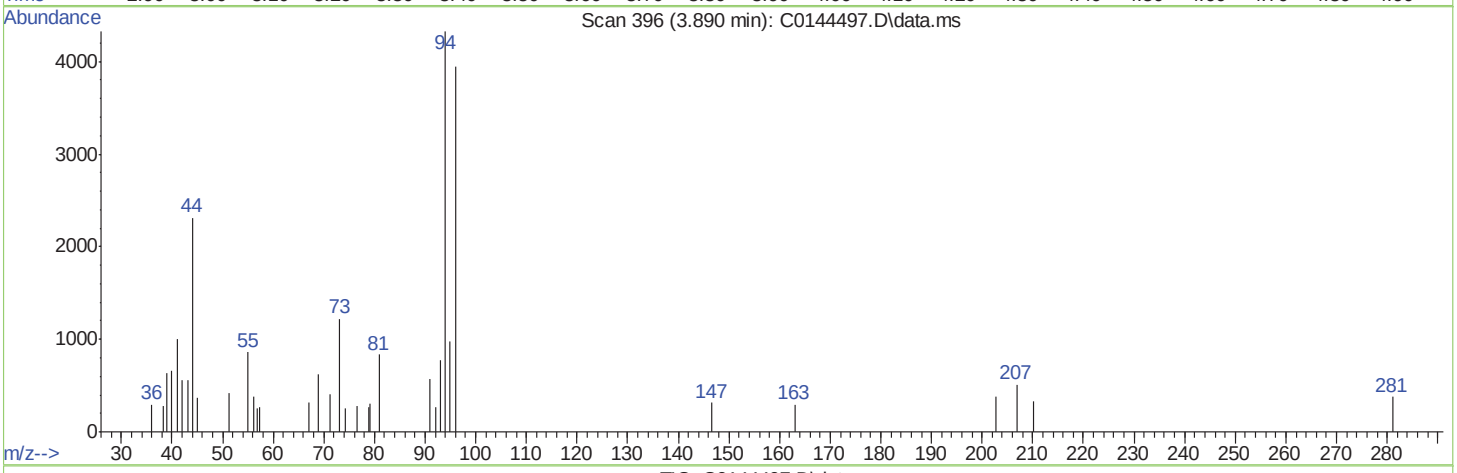
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144497.D\data.ms

(6) Bromomethane ( )

3.890min (-0.006) 3.47ug/L m

response 17040

Ion	Exp%	Act%
94.00	100	100
96.00	91.30	91.12
93.00	23.30	17.78
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
Acq On : 28 Oct 2020 8:35 am
Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 28 09:54:32 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
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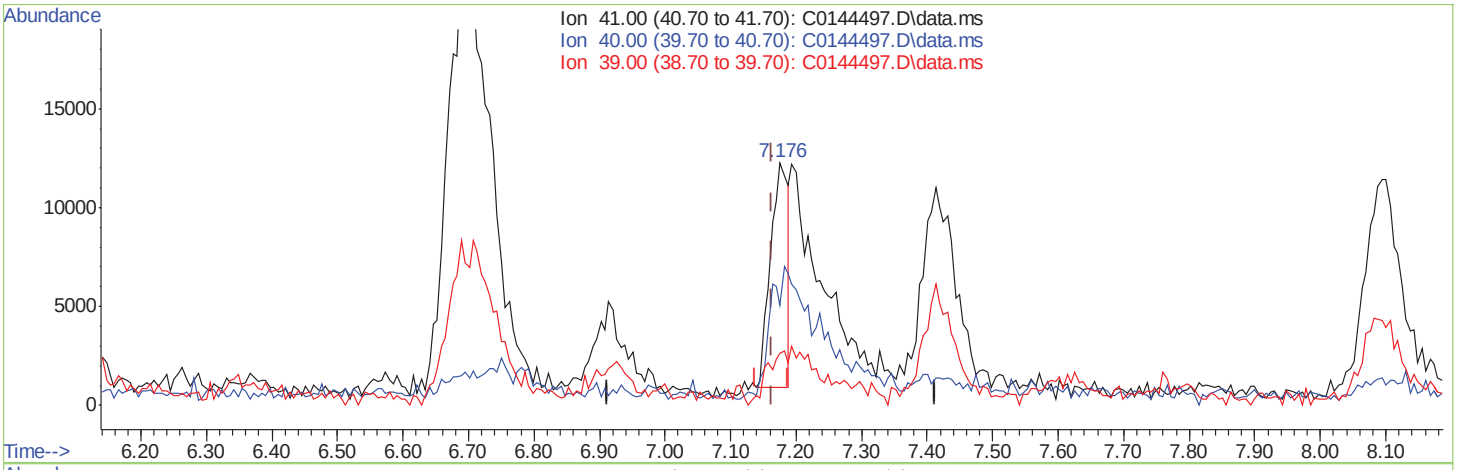
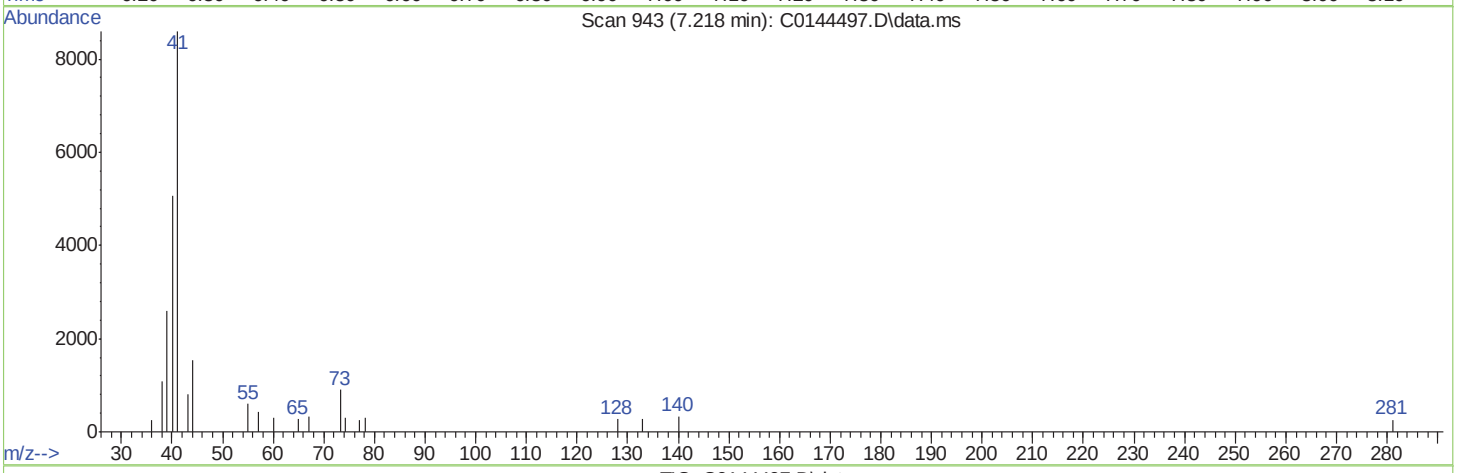




TIC: C0144497.D\data.ms

(23) Acetonitrile

7.176min (+0.012) 18.44ug/L

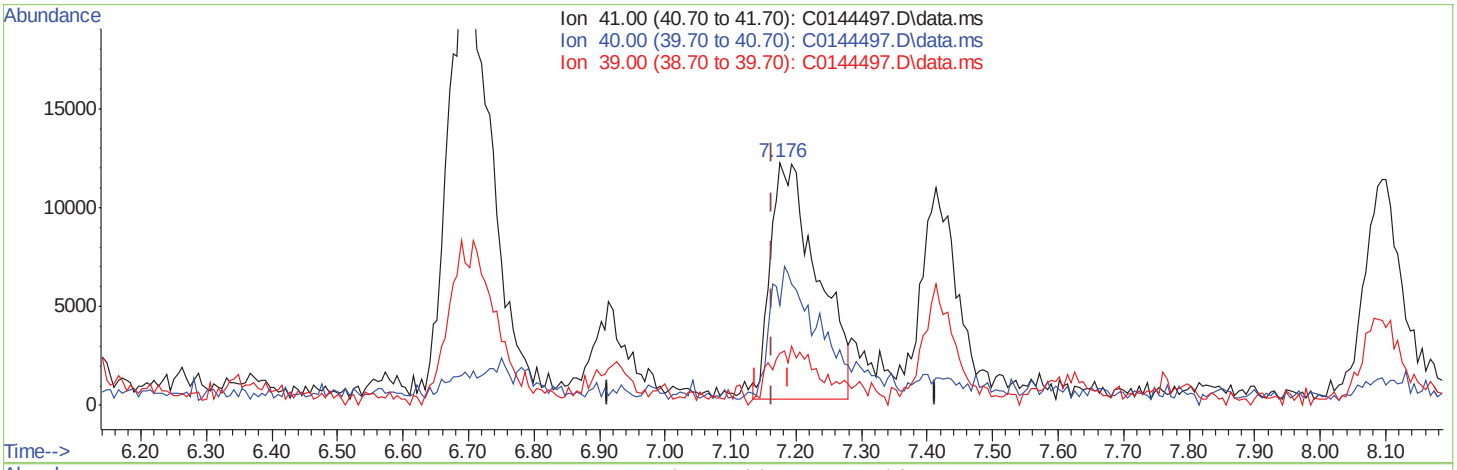
response 21480

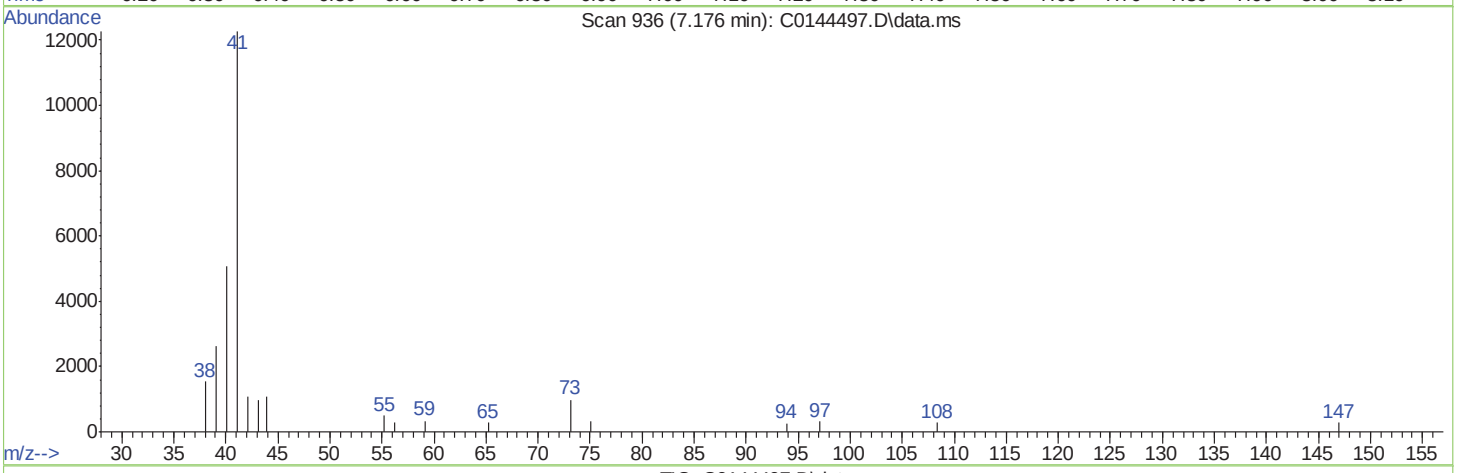
Ion	Exp%	Act%
41.00	100	100
40.00	50.10	39.95
39.00	19.30	18.45
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
Acq On : 28 Oct 2020 8:35 am
Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 28 09:54:32 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144497.D\data.ms

(23) Acetonitrile

7.176min (+0.012) 51.10ug/L m

response 59517

Ion	Exp%	Act%
41.00	100	100
40.00	50.10	41.23
39.00	19.30	21.32
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
Acq On : 28 Oct 2020 8:35 am
Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
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Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
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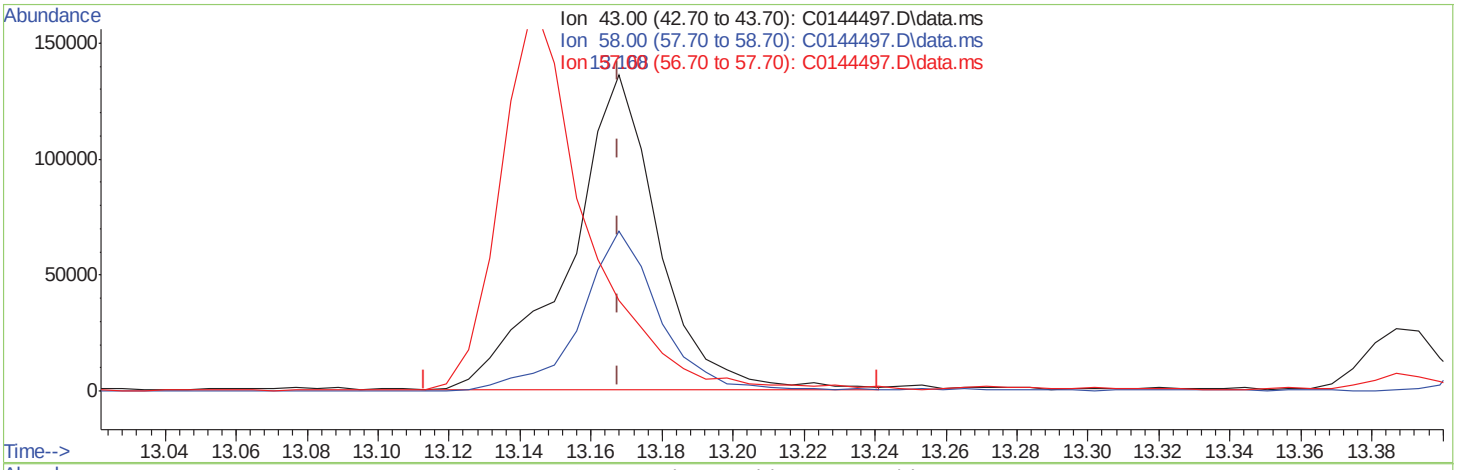
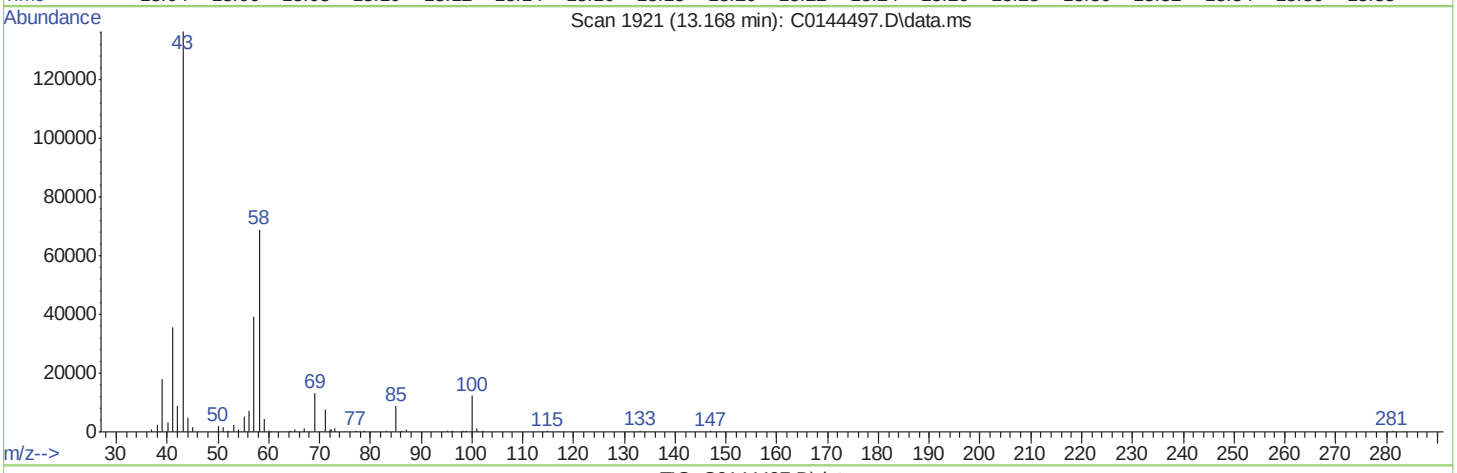




TIC: C0144497.D\data.ms

(69) 2-hexanone

13.168min (+0.000) 44.17ug/L

response 236386

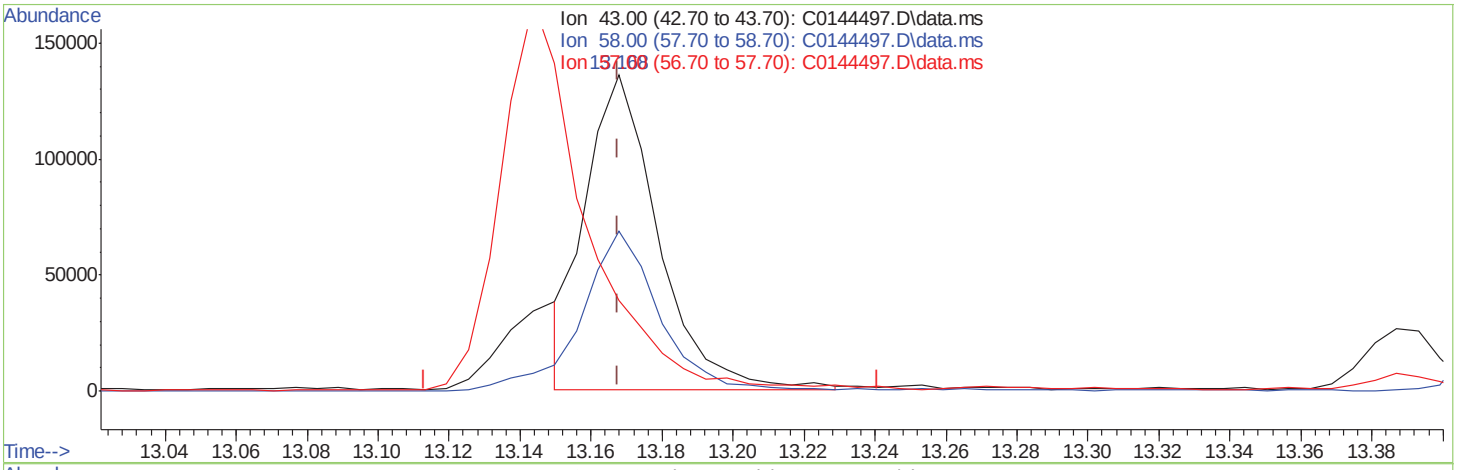
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	50.69
57.00	52.00	28.38
0.00	0.00	0.00

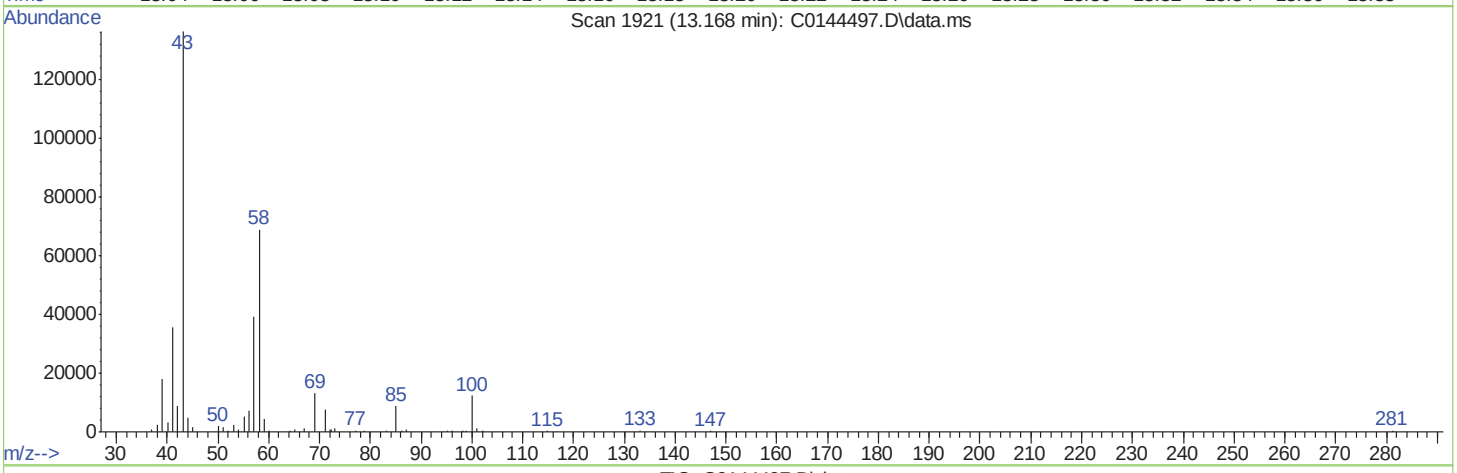
SGS FA80565

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
Acq On : 28 Oct 2020 8:35 am
Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 28 09:54:32 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144497.D\data.ms

(69) 2-hexanone

13.168min (+0.000) 36.72ug/L m

response 194933

Ion	Exp%	Act%
43.00	100	100
58.00	56.20	50.46
57.00	52.00	28.70
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
Acq On : 28 Oct 2020 8:35 am
Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

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Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
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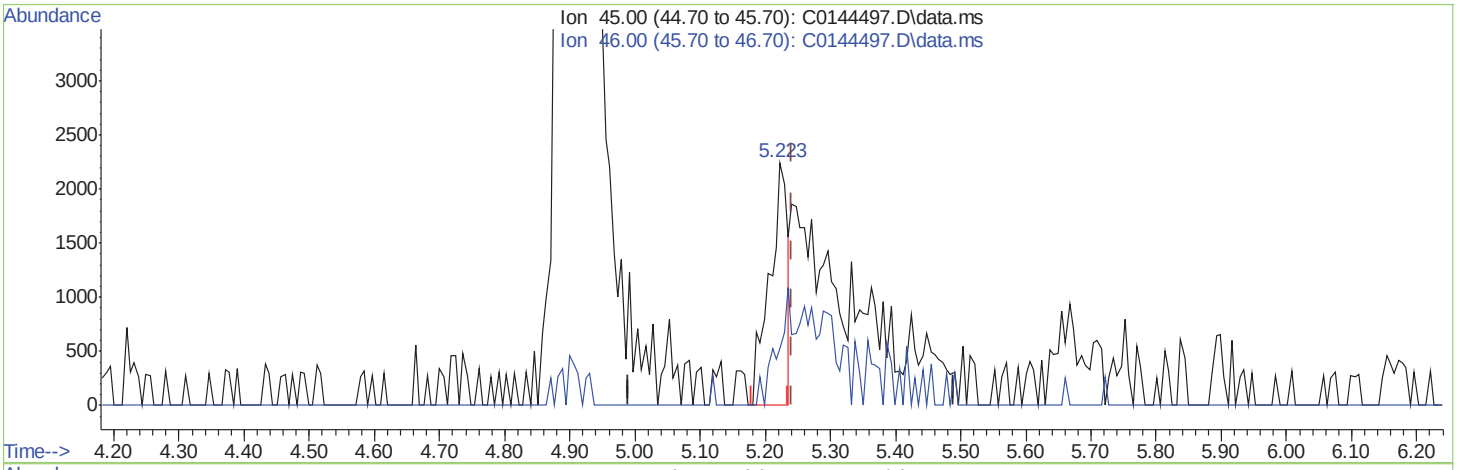

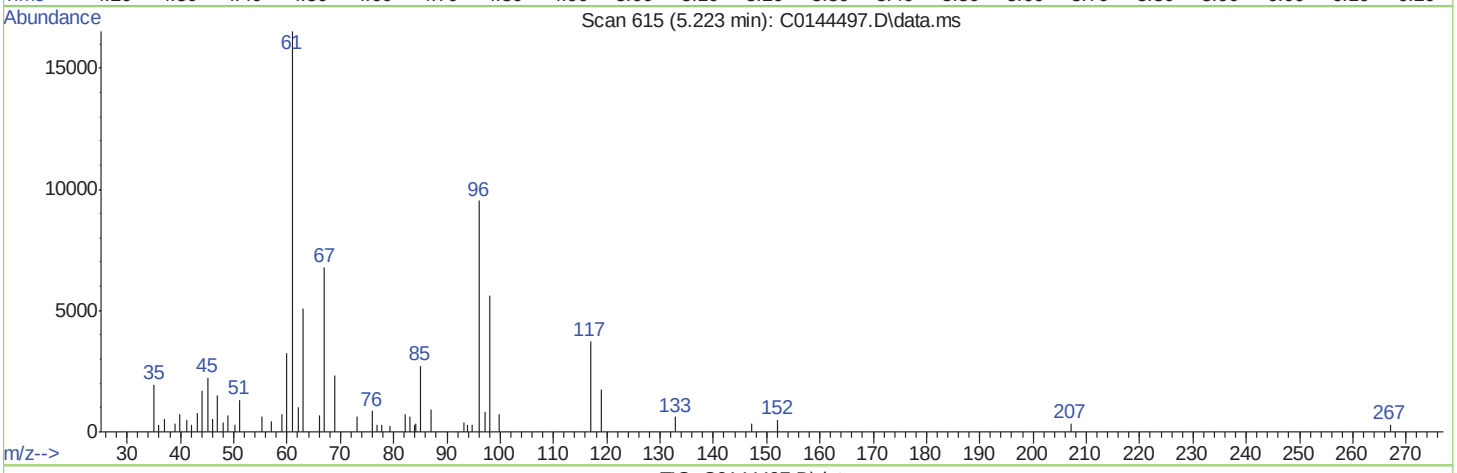

TIC: C0144497.D\data.ms

(109) Ethanol

5.223min (-0.018) 48.13ug/L

response 4303

Ion	Exp%	Act%
45.00	100	100
46.00	31.10	23.50
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

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Acq On : 28 Oct 2020 8:35 am
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Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 28 09:54:32 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
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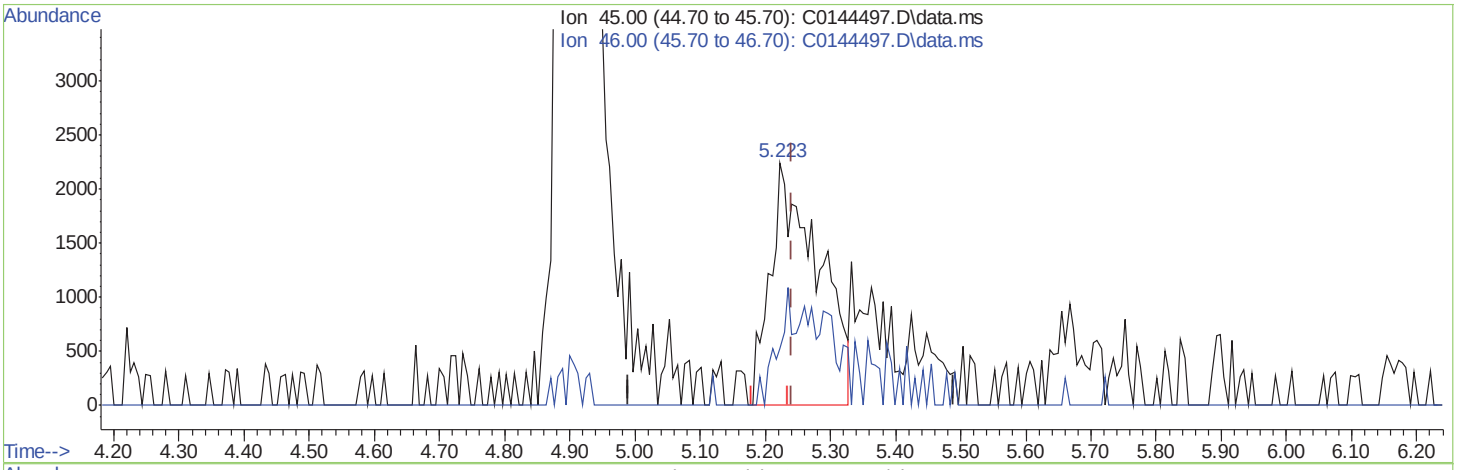

TIC: C0144497.D\data.ms

(109) Ethanol

5.223min (-0.018) 127.76ug/L m

response 11423

Ion	Exp%	Act%
45.00	100	100
46.00	31.10	23.50
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

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Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

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Quant Title : SW-846 Method 5035A/8260B
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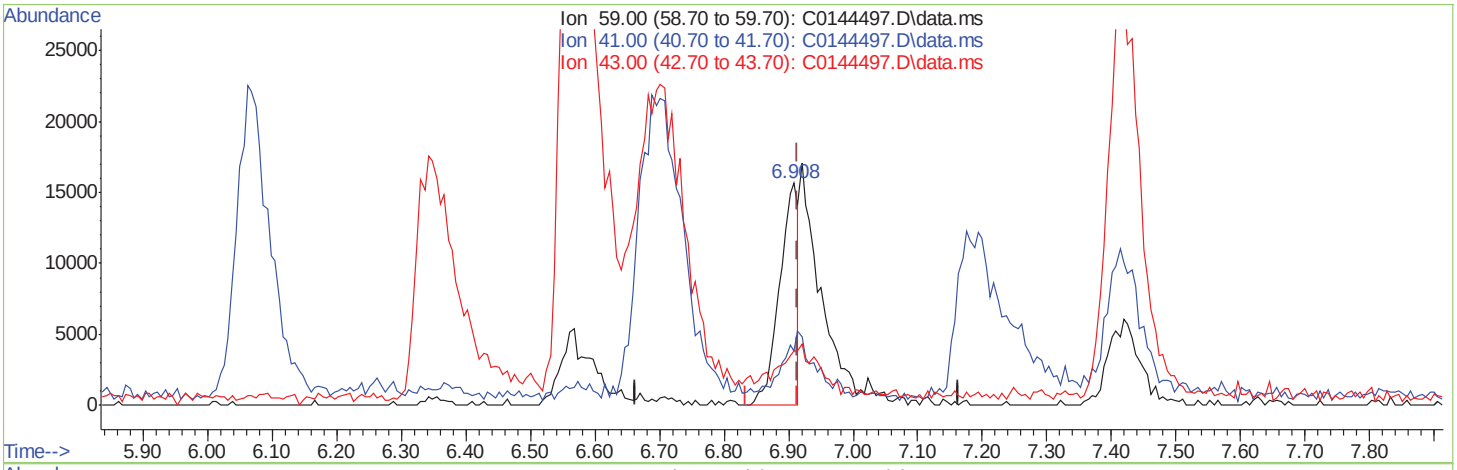

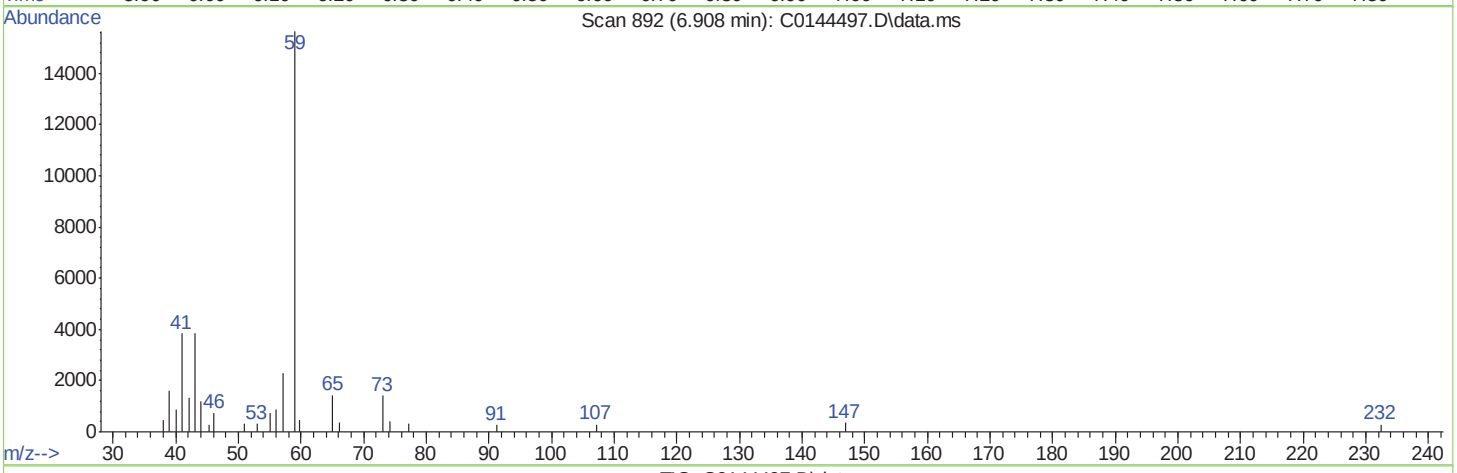

TIC: C0144497.D\data.ms

(110) Tert Butyl Alcohol

6.908min (-0.006) 28.82ug/L

response 31782

Ion	Exp%	Act%
59.00	100	100
41.00	18.90	18.57
43.00	14.30	12.07
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
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Acq On : 28 Oct 2020 8:35 am
Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 28 09:54:32 2020
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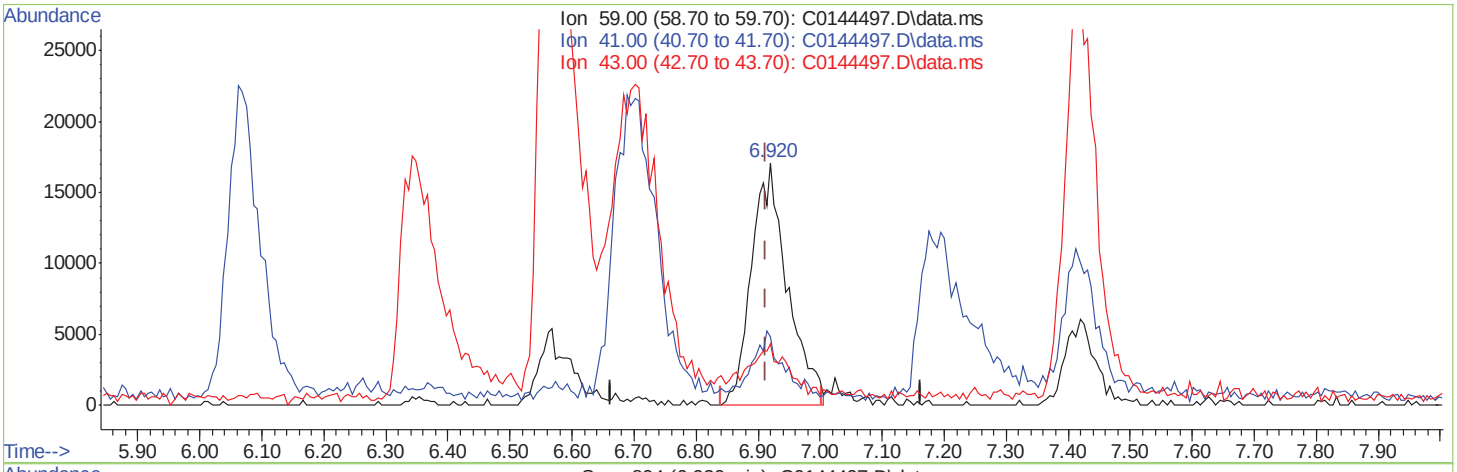

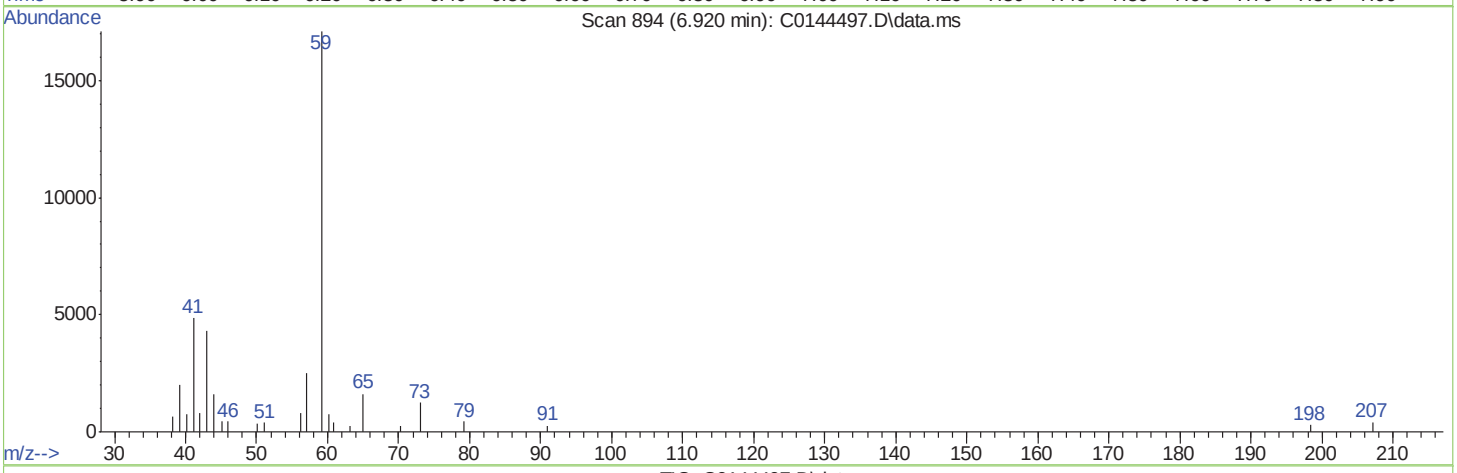

TIC: C0144497.D\data.ms

(110) Tert Butyl Alcohol

6.920min (+0.006) 62.18ug/L m

response 68584

Ion	Exp%	Act%
59.00	100	100
41.00	18.90	28.36
43.00	14.30	25.15
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
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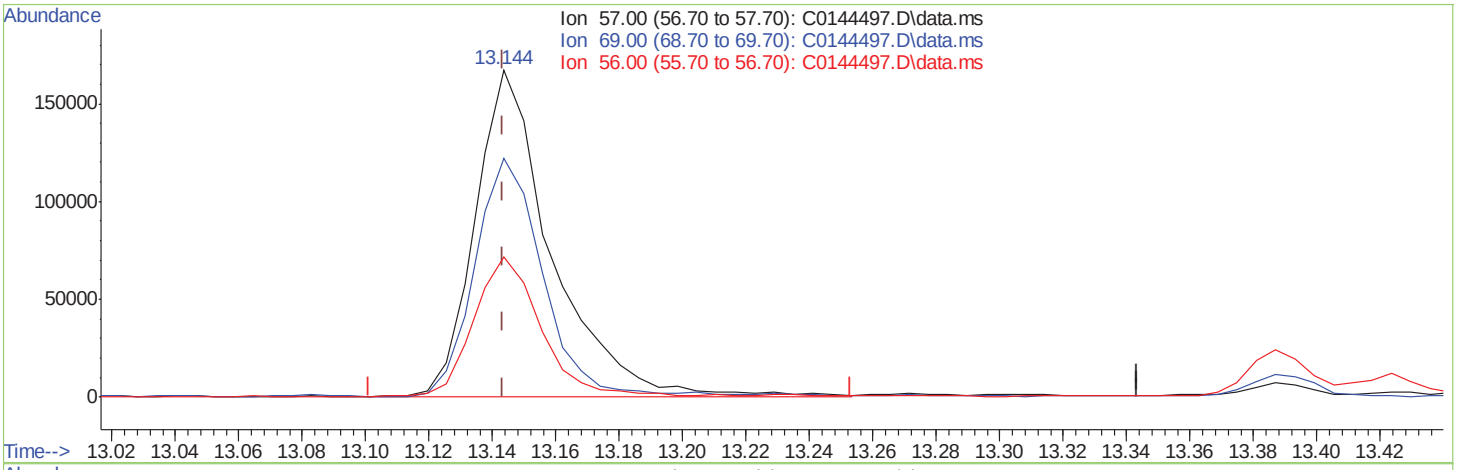
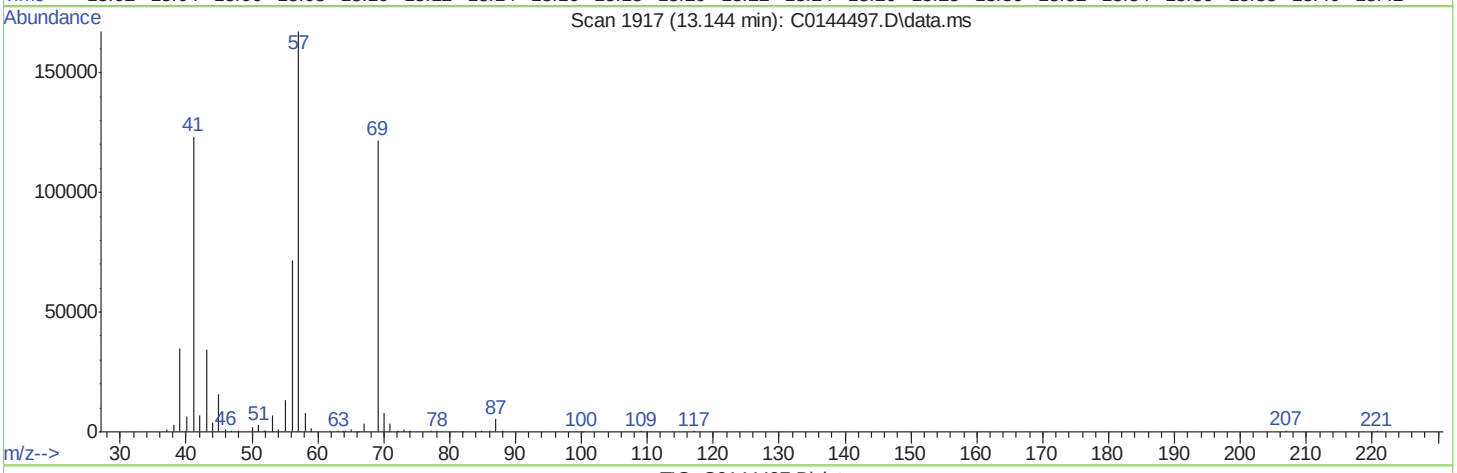




TIC: C0144497.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.000) 384.83ug/L

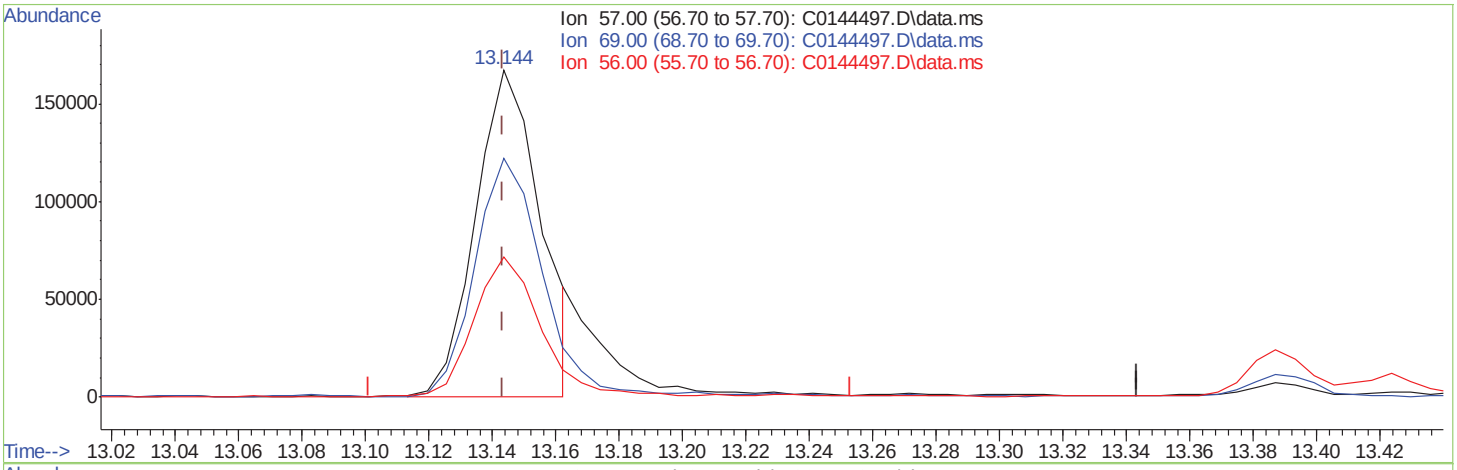
response 279643

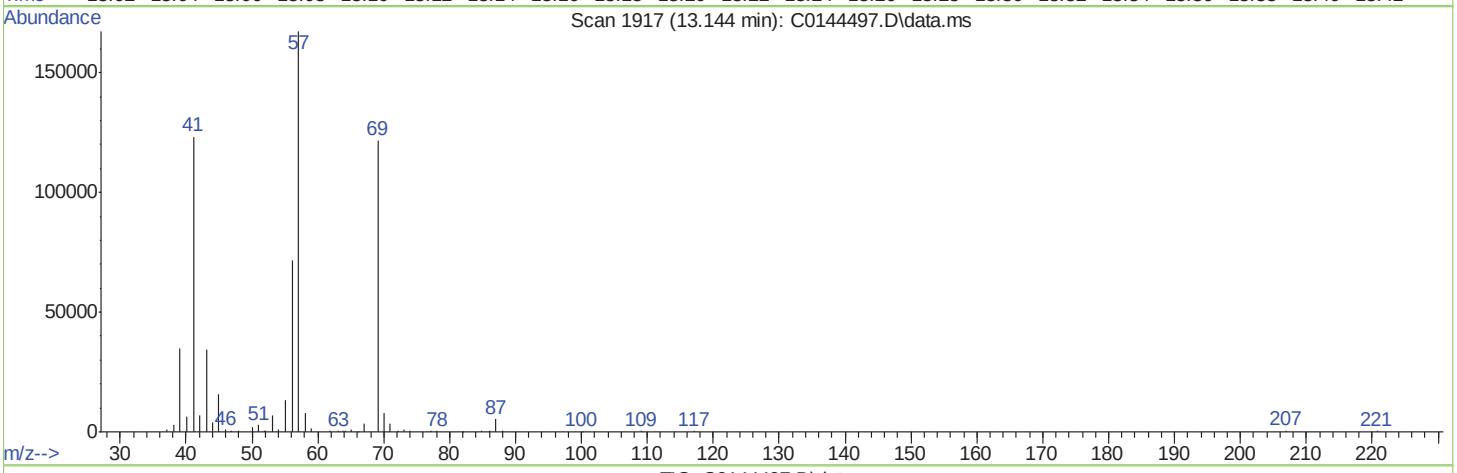
Ion	Exp%	Act%
57.00	100	100
69.00	82.30	64.75
56.00	40.10	37.79
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144497.D
Acq On : 28 Oct 2020 8:35 am
Operator : SHANICAO
Sample : IC5797-2 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 28 09:54:32 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144497.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.000) 328.50ug/L m

response 237868

Ion	Exp%	Act%
57.00	100	100
69.00	82.30	76.12
56.00	40.10	44.42
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
10/28/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144498.D
Acq On : 28 Oct 2020 9:08 am
Operator : SHANICAO
Sample : IC5797-3 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 28 10:10:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	2189672	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1604121	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	806213	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.774	65	244045	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.445	113	547451	49.66	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.32%			
47) 1,2-Dichloroethane-d4	10.175	65	731391	48.98	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.96%			
58) Toluene-d8	12.134	98	2144075	51.86	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 103.72%			
80) 4-Bromofluorobenzene	14.306	174	684701	54.82	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 109.64%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.868	85	124237	10.80	ug/L	83
3) Chloromethane	3.215	50	131668	10.58	ug/L	96
4) 1,3-butadiene	3.361	39	101516	13.03	ug/L	91
5) Vinyl Chloride	3.343	62	111087	8.70	ug/L	94
6) Bromomethane	3.903	94	27144	5.39	ug/L	97
7) Chloroethane	4.134	64	66119	9.24	ug/L	98
8) Trichlorofluoromethane	4.353	101	151971	9.92	ug/L	84
9) Ethyl Ether	4.906	59	87424	11.67	ug/L	87
10) 1,2-Dichlorotrifluoroe...	5.253	67	104164	12.19	ug/L	89
11) 1,1-Dichloroethene	5.241	61	141023	11.29	ug/L	98
12) Freon 113	5.314	101	100453	11.12	ug/L	90
13) Carbon Disulfide	5.278	76	283653	9.87	ug/L	89
14) Iodomethane	5.490	142	80774	7.01	ug/L	99
15) Acrolein	5.825	56	78699	43.57	ug/L	95
16) Allyl chloride	6.062	41	142530	12.13	ug/L	94
17) Methylene Chloride	6.269	49	140155	10.97	ug/L	81
18) Acetone	6.330	43	157482	55.61	ug/L	92
19) Methyl acetate	6.567	43	292471	49.77	ug/L	90
20) trans-1,2-Dichloroethene	6.537	61	127442	11.05	ug/L	93
21) Hexane	6.683	56	82883	11.00	ug/L #	83
22) Methyl Tert Butyl Ether	6.719	73	286954	9.64	ug/L	72
23) Acetonitrile	7.170	41	119549	100.42	ug/L	99
24) Di-isopropyl ether	7.419	45	335136	13.47	ug/L	94
25) Chloroprene	7.601	53	139828	11.08	ug/L	94
26) 1,1-Dichloroethane	7.638	63	164848	10.86	ug/L	97
27) Acrylonitrile	7.735	52	129896	50.12	ug/L	97
28) ETBE	8.082	59	327593	10.90	ug/L	90
29) Vinyl acetate	8.119	43	1100753	58.42	ug/L	99
30) cis-1,2-Dichloroethene	8.660	96	92467	10.32	ug/L	93
31) 2,2-Dichloropropane	8.855	77	140409	8.64	ug/L	98
32) Bromochloromethane	9.025	128	45302	8.91	ug/L #	75
33) Cyclohexane	9.019	56	175906	12.82	ug/L	89
34) Chloroform	9.165	83	162538	9.88	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144498.D
Acq On : 28 Oct 2020 9:08 am
Operator : SHANICAO
Sample : IC5797-3 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 28 10:10:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
35) Ethyl acetate	9.354	43	485723	57.33	ug/L		99
36) Tetrahydrofuran	9.402	42	35113	10.71	ug/L		88
38) Carbon Tetrachloride	9.366	117	107717	8.32	ug/L		98
39) 1,1,1-Trichloroethane	9.475	97	139175	9.06	ug/L		91
40) 2-Butanone	9.627	43	217526	54.22	ug/L		90
41) 1,1-Dichloropropene	9.664	75	136644	10.00	ug/L		88
42) tert-Butyl formate	9.810	59	413940	39.28	ug/L		92
43) Propionitrile	10.029	54	134252	100.89	ug/L		85
44) Methacrylonitrile	10.053	41	643386	126.33	ug/L		98
45) Benzene	10.004	78	372370	10.07	ug/L		91
46) TAME	10.150	73	295693	10.03	ug/L		92
48) 1,2-Dichloroethane	10.266	62	135496	9.69	ug/L		92
49) Trichloroethene	10.728	95	107500	10.74	ug/L		96
50) Methylcyclohexane	10.710	83	168753	10.67	ug/L		90
51) Dibromomethane	11.191	93	55991	9.37	ug/L		89
52) 1,2-Dichloropropane	11.288	63	103803	11.59	ug/L		95
53) Bromodichloromethane	11.361	83	122326	9.27	ug/L	#	97
54) Methyl methacrylate	11.501	41	92893	11.87	ug/L	#	82
55) 2-Chloroethyl vinyl ether	11.896	63	328540	49.43	ug/L		92
56) cis-1,3-Dichloropropene	11.963	75	167993	9.47	ug/L		91
59) Toluene	12.176	91	429368	11.31	ug/L		97
60) 2-Nitropropane	12.383	41	147498	51.57	ug/L		89
61) 4-Methyl-2-pentanone	12.493	43	510864	66.10	ug/L		94
62) trans-1,3-Dichloropropene	12.541	75	144604	10.04	ug/L		86
63) Tetrachloroethene	12.523	166	96320	9.26	ug/L		96
64) Ethyl methacrylate	12.645	69	124469	9.96	ug/L		83
65) 1,1,2-Trichloroethane	12.675	83	70102	10.47	ug/L		94
66) Dibromochloromethane	12.833	129	87167	9.11	ug/L		98
67) 1,3-Dichloropropane	12.906	76	158153	10.64	ug/L		90
68) 1,2-Dibromoethane	13.034	107	86992	10.41	ug/L		94
69) 2-hexanone	13.168	43	365815m	65.44	ug/L		
70) 1-Chlorohexane	13.387	91	134493	10.81	ug/L	#	75
71) Ethylbenzene	13.436	91	449504	10.00	ug/L		97
72) Chlorobenzene	13.436	112	249976	10.05	ug/L		90
73) 1,1,1,2-Tetrachloroethane	13.478	131	85939	9.44	ug/L		92
74) m,p-Xylene	13.539	91	702598	19.55	ug/L		99
75) o-Xylene	13.861	91	363625	9.59	ug/L		99
76) Styrene	13.904	104	284918	9.55	ug/L		95
77) Bromoform	13.953	173	54689	6.72	ug/L		95
78) Isopropylbenzene	14.080	105	426569	9.41	ug/L		97
81) cis-1,4-Dichloro-2-butene	14.336	53	35512	12.32	ug/L	#	84
82) n-Propylbenzene	14.372	91	505313	12.14	ug/L		96
83) Bromobenzene	14.397	156	104293	11.43	ug/L		95
84) 1,1,2,2-Tetrachloroethane	14.427	83	114399	12.45	ug/L		98
85) 1,3,5-Trimethylbenzene	14.494	105	327920	10.86	ug/L		99
86) 2-Chlorotoluene	14.506	91	336602	11.71	ug/L		97
87) trans-1,4-Dichloro-2-B...	14.549	53	31681	11.70	ug/L	#	88
88) 1,2,3-Trichloropropane	14.537	110	32025	10.62	ug/L		87
89) Cyclohexanone	14.585	55	20139	64.30	ug/L		86
90) 4-Chlorotoluene	14.622	91	312528	11.72	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144498.D
Acq On : 28 Oct 2020 9:08 am
Operator : SHANICAO
Sample : IC5797-3 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 28 10:10:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

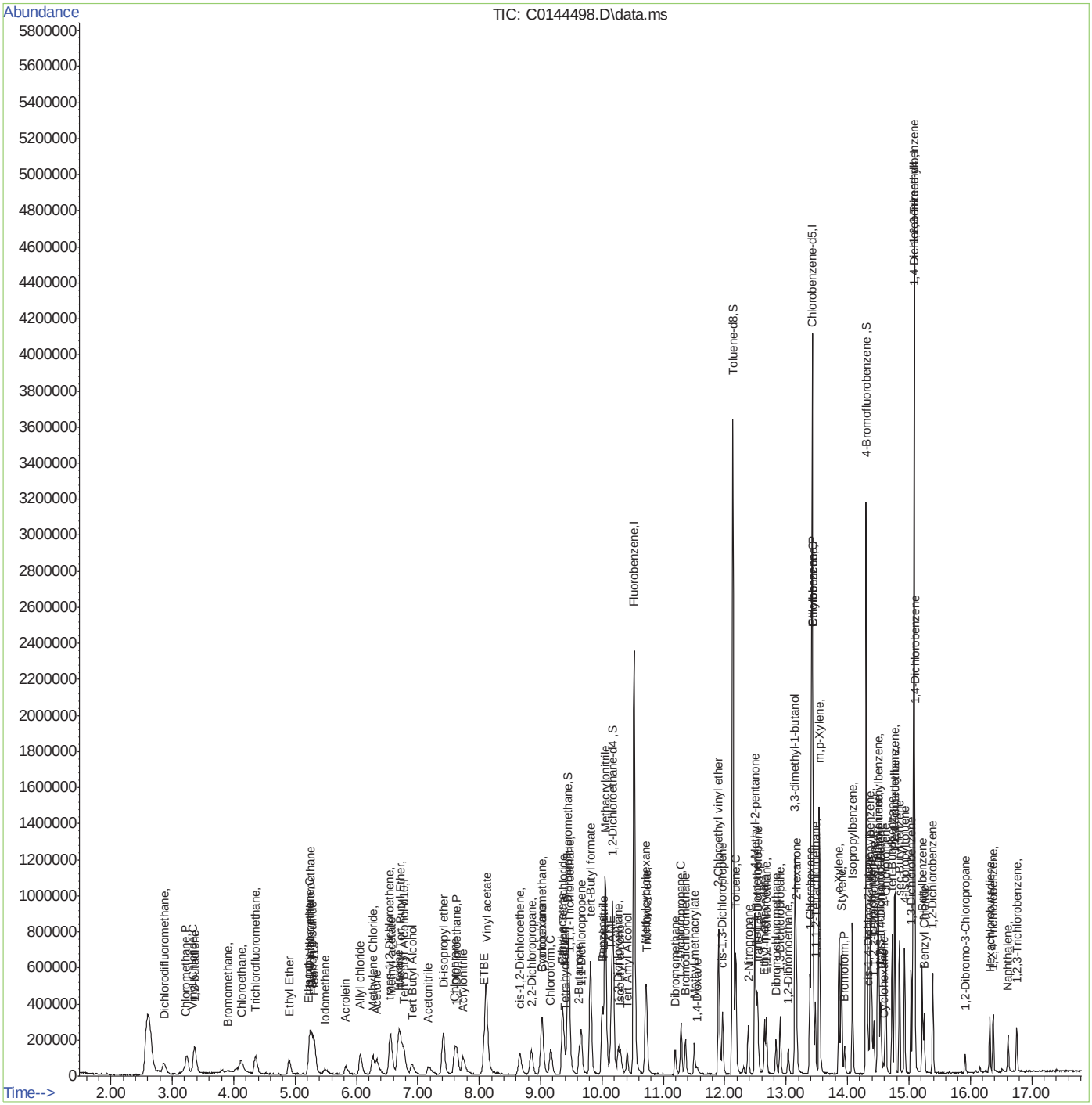
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
91) tert-Butylbenzene	14.725	91	196777	11.49	ug/L		95
93) 1,2,4-Trimethylbenzene	14.768	105	313716	9.83	ug/L		96
94) Pentachloroethane	14.774	167	53598	9.23	ug/L		87
95) sec-Butylbenzene	14.847	105	397796	11.45	ug/L		96
96) 4-Isopropyltoluene	14.932	119	330593	10.40	ug/L		95
97) 1,3-Dichlorobenzene	15.036	146	182301	10.45	ug/L		97
98) 1,2,3-Trimethylbenzene	15.078	105	351841	10.12	ug/L		97
99) 1,4-Dichlorobenzene	15.096	146	185319	10.27	ug/L		93
100) n-Butylbenzene	15.218	92	160576	9.41	ug/L		97
101) Benzyl Chloride	15.249	126	36336	8.95	ug/L	#	82
102) 1,2-Dichlorobenzene	15.388	146	176453	10.47	ug/L		97
103) 1,2-Dibromo-3-Chloropr...	15.918	75	20843	8.95	ug/L		88
104) Hexachlorobutadiene	16.319	225	47574	7.89	ug/L		95
105) 1,2,4-Trichlorobenzene	16.374	180	79743	6.77	ug/L		99
106) Naphthalene	16.617	128	143963	5.84	ug/L		97
107) 1,2,3-Trichlorobenzene	16.757	180	66756	6.52	ug/L		96
109) Ethanol	5.223	45	23622m	282.81	ug/L		
110) Tert Butyl Alcohol	6.914	59	123985	120.33	ug/L		95
111) Isobutyl alcohol	10.303	43	82932	284.09	ug/L		97
112) Tert Amyl Alcohol	10.412	59	84787	111.60	ug/L		94
113) 1,4-Dioxane	11.550	88	22314	195.24	ug/L		96
114) 3,3-dimethyl-1-butanol	13.144	57	440416m	638.59	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144498.D
Acq On : 28 Oct 2020 9:08 am
Operator : SHANICAO
Sample : IC5797-3 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 28 10:10:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration



Manual Integration Approval Summary

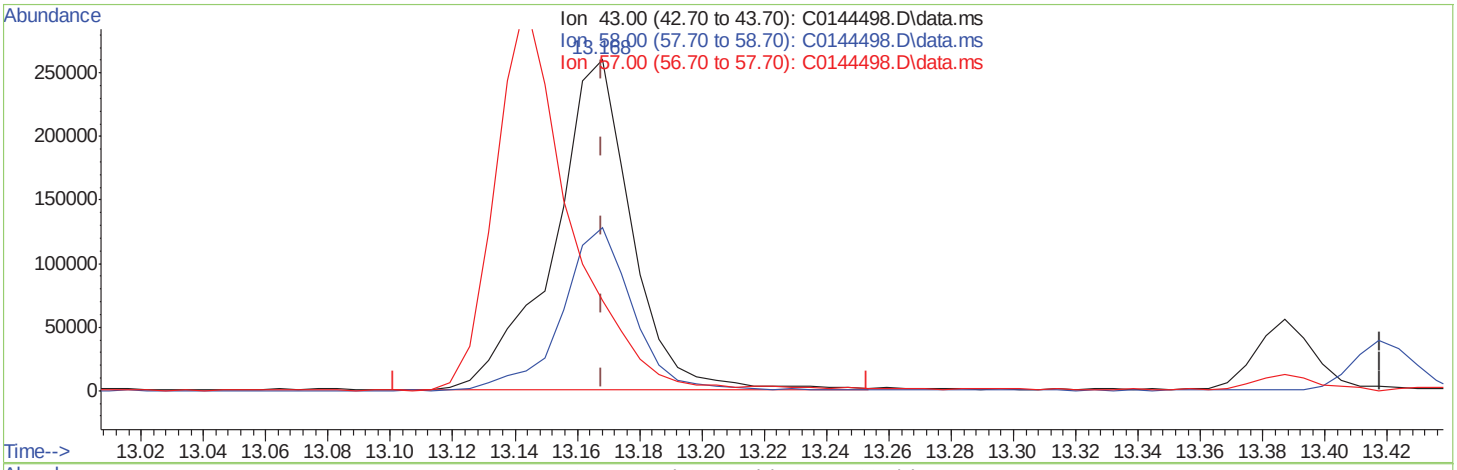
Sample Number: VC5797-IC5797
Lab FileID: C0144498.D
Injection Time: 10/28/20 09:08
Method: SW846 8260B
Analyst approved: 10/28/20 13:54 Shanica O'Connor
Supervisor approved: 10/28/20 14:16 Melissa Mangual

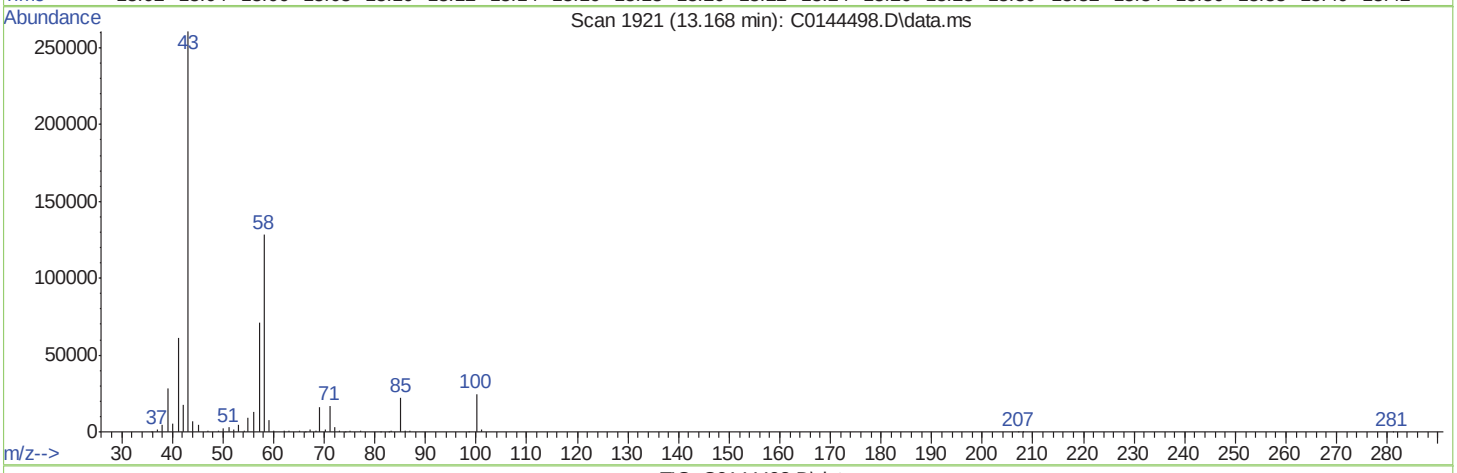
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.22	Split peak
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144498.D
Acq On : 28 Oct 2020 9:08 am
Operator : SHANICAO
Sample : IC5797-3 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 28 09:54:35 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144498.D\data.ms

(69) 2-hexanone

13.168min (+0.000) 79.89ug/L

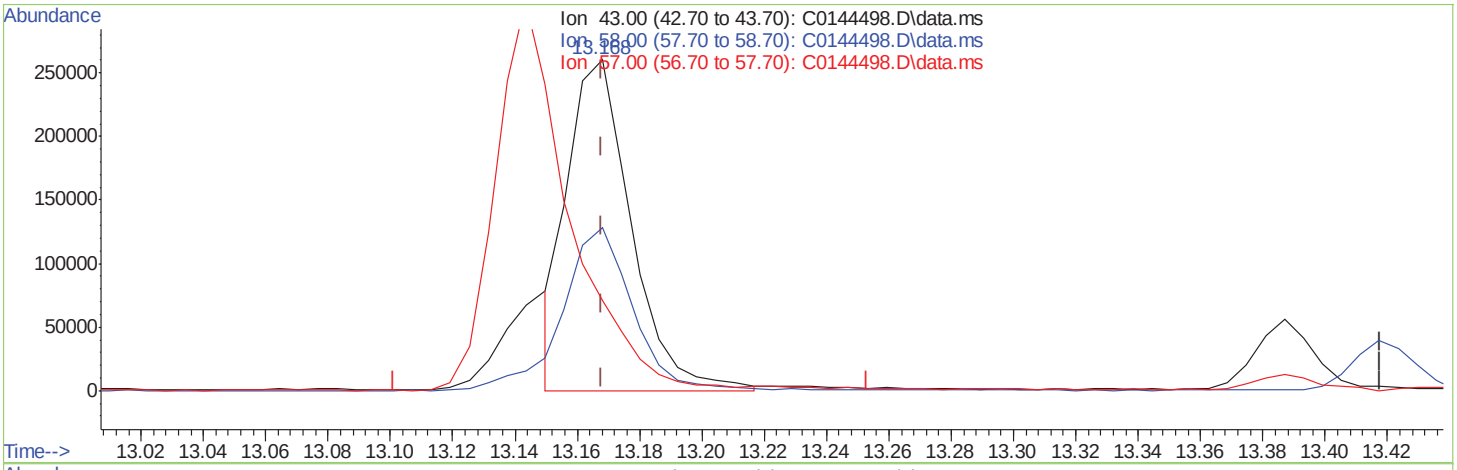
response 453484

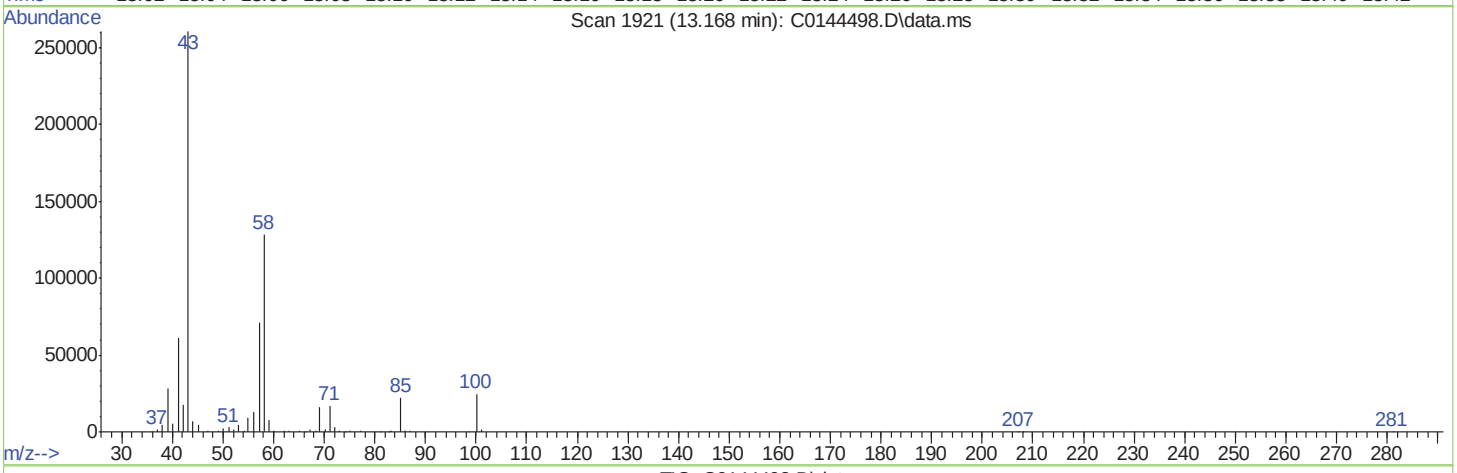
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	49.42
57.00	52.00	27.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144498.D
Acq On : 28 Oct 2020 9:08 am
Operator : SHANICAO
Sample : IC5797-3 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 28 09:54:35 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144498.D\data.ms

(69) 2-hexanone

13.168min (+0.000) 65.44ug/L m

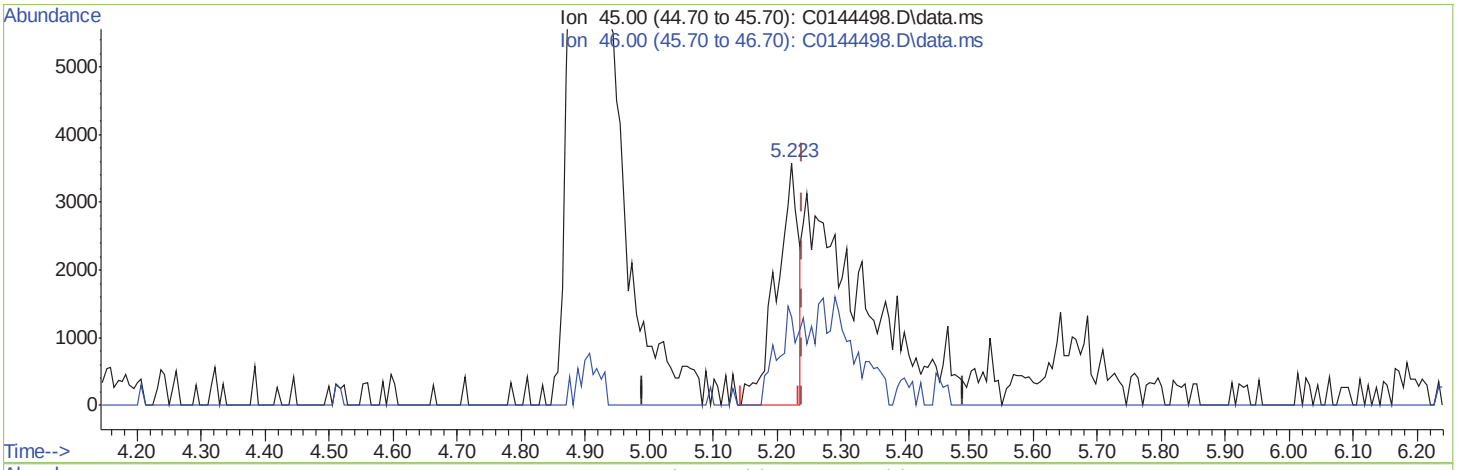
response 365815

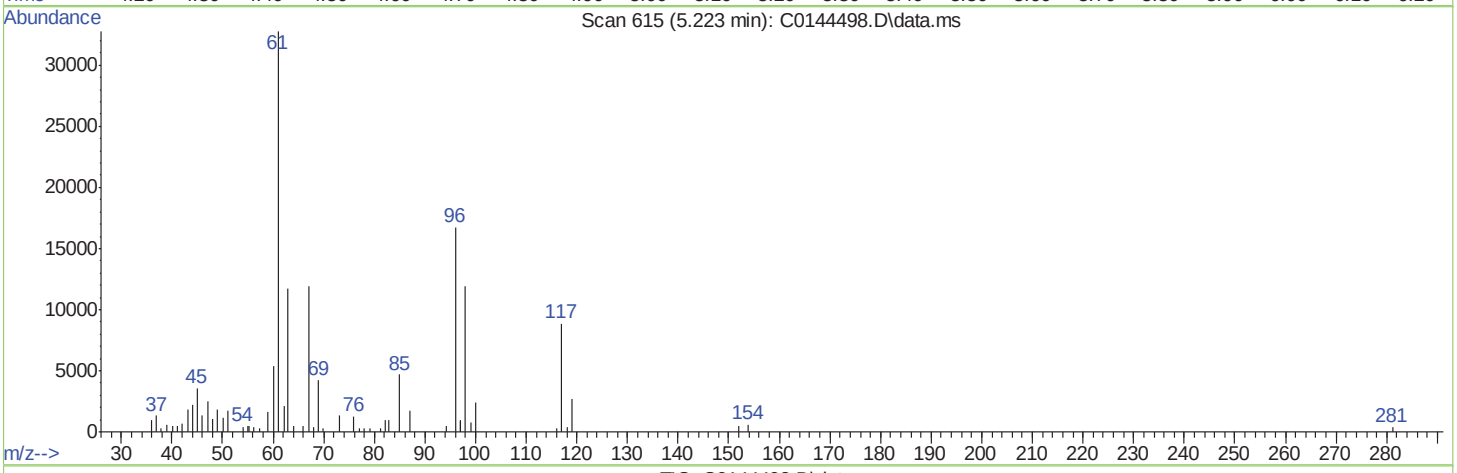
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	49.35
57.00	52.00	27.41
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144498.D
Acq On : 28 Oct 2020 9:08 am
Operator : SHANICAO
Sample : IC5797-3 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 28 09:54:35 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144498.D\data.ms

(109) Ethanol

5.223min (-0.018) 102.25ug/L

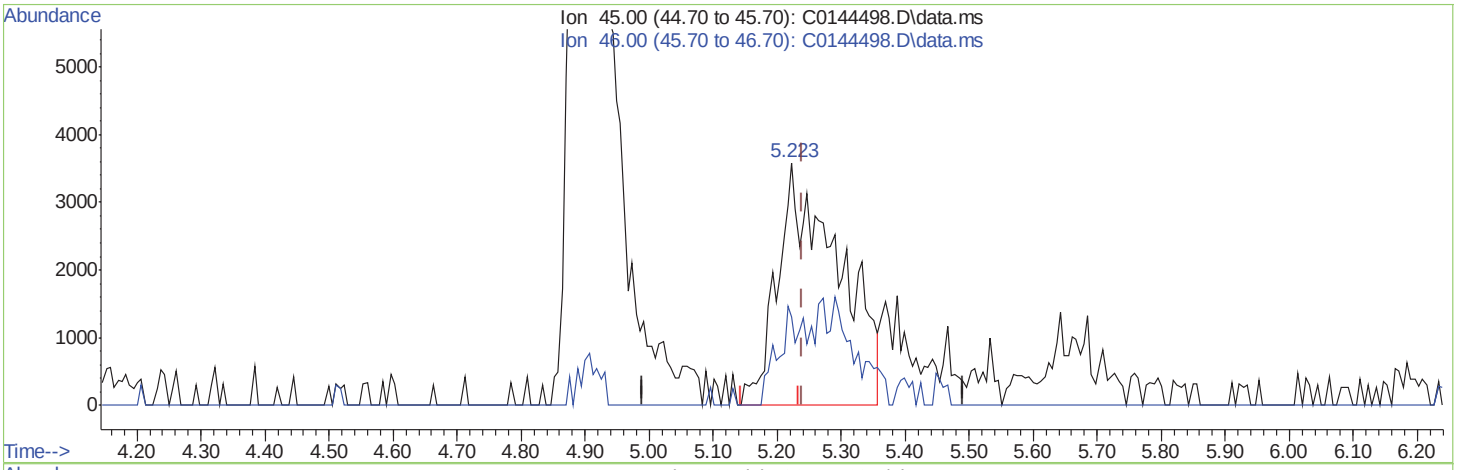
response 8541

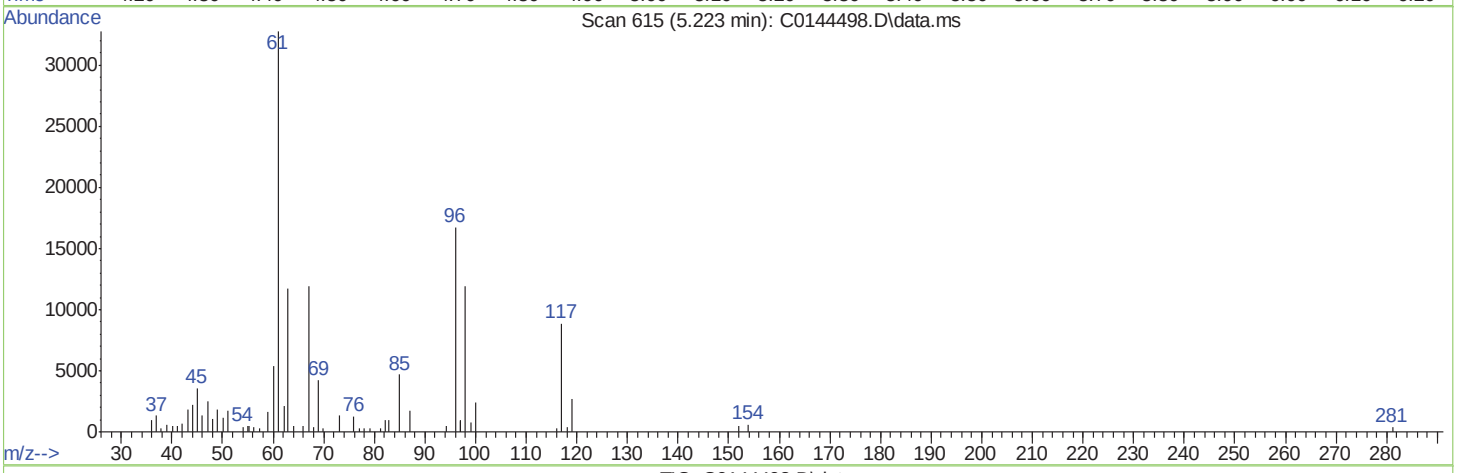
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	36.55
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144498.D
Acq On : 28 Oct 2020 9:08 am
Operator : SHANICAO
Sample : IC5797-3 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 28 09:54:35 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144498.D\data.ms

(109) Ethanol

5.223min (-0.018) 282.81ug/L m

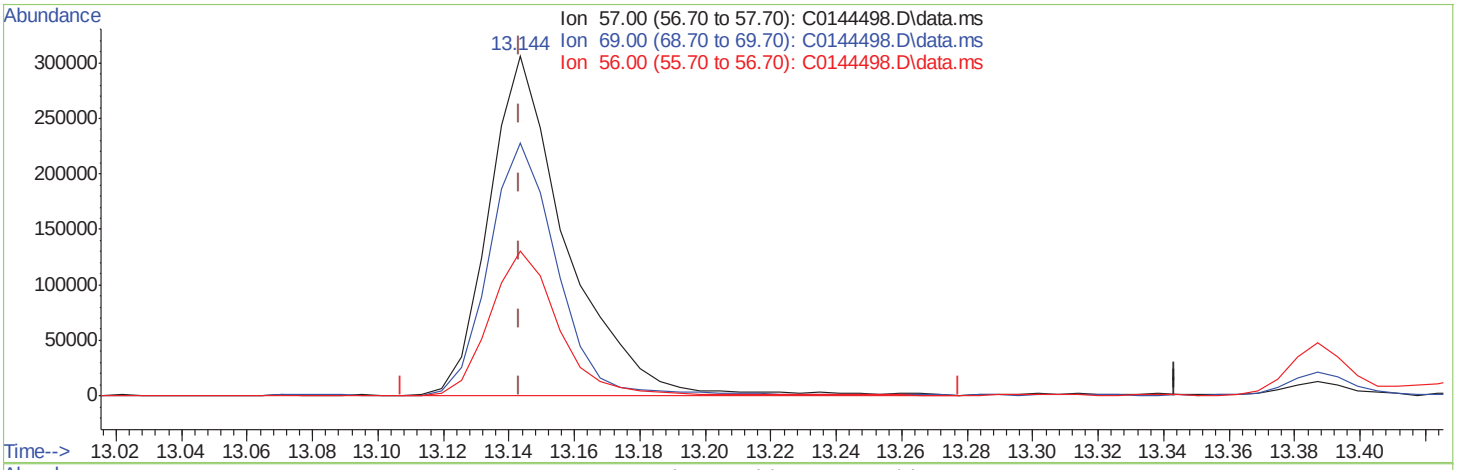
response 23622

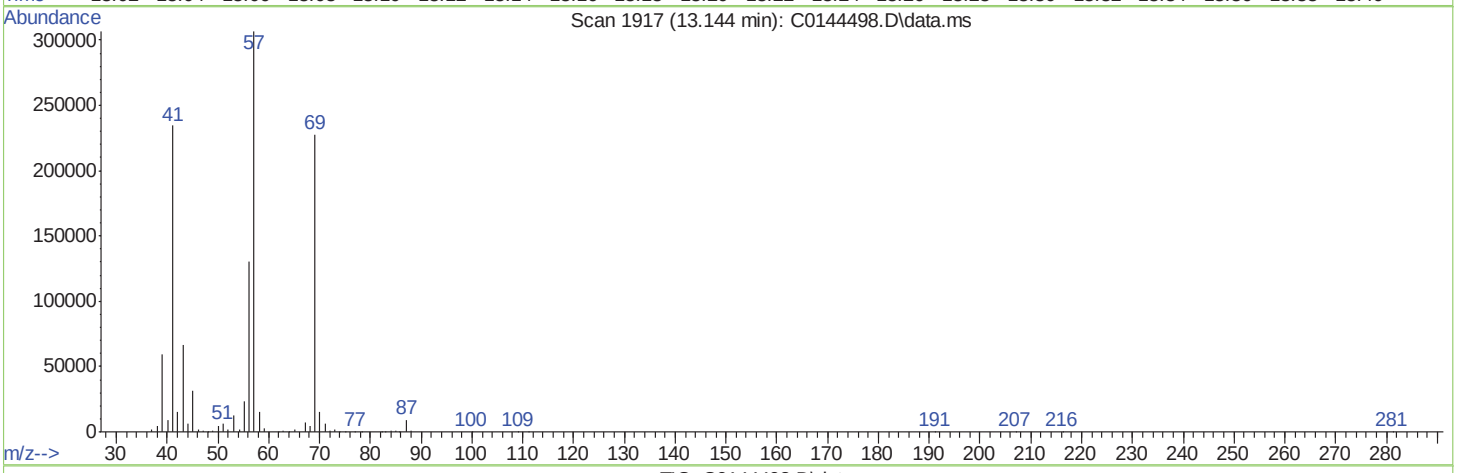
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	36.55
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144498.D
Acq On : 28 Oct 2020 9:08 am
Operator : SHANICAO
Sample : IC5797-3 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 28 09:54:35 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144498.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.000) 735.43ug/L

response 510237

Ion	Exp%	Act%
57.00	100	100
69.00	82.30	65.06
56.00	40.10	37.69
0.00	0.00	0.00

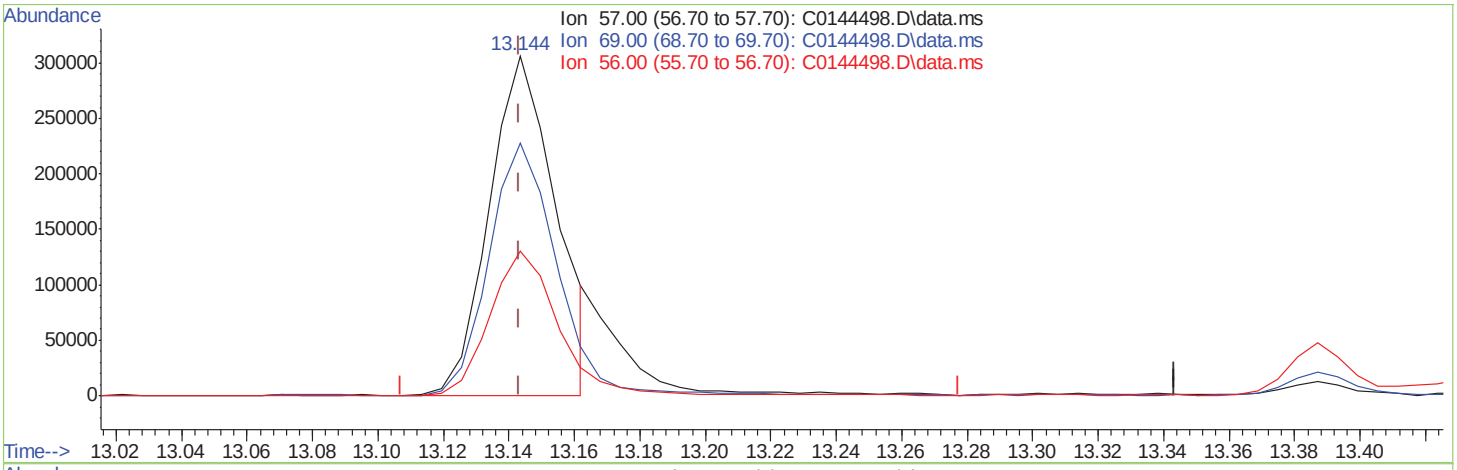
SGS FA80565

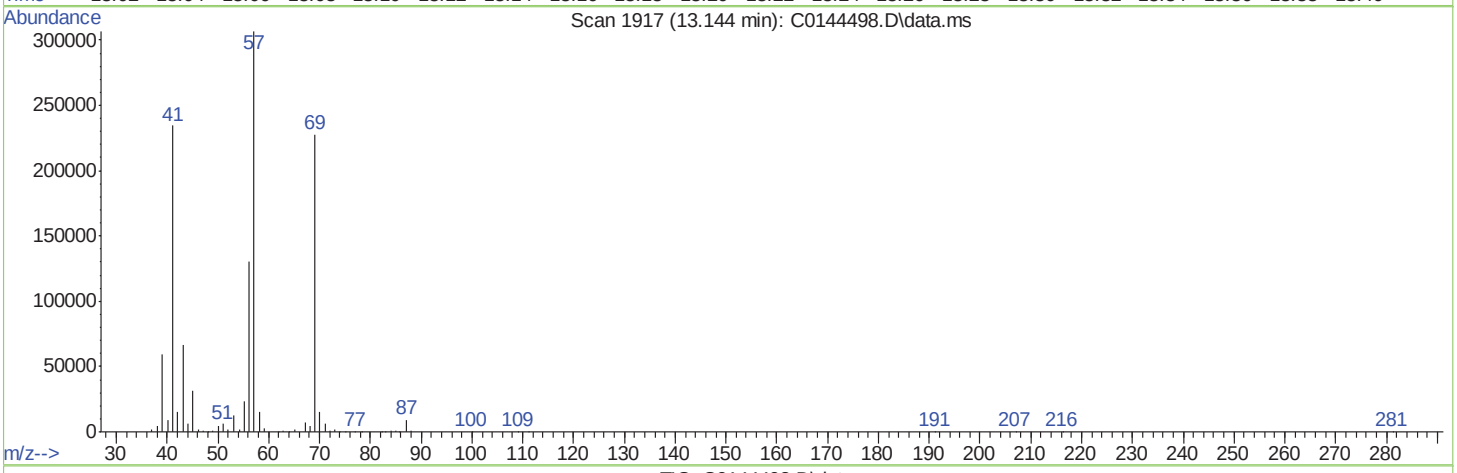
C0144498.D edits: 3,3-dimethyl-1-butanol

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144498.D
Acq On : 28 Oct 2020 9:08 am
Operator : SHANICAO
Sample : IC5797-3 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 28 09:54:35 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144498.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.000) 638.59ug/L m

response 440416

Ion	Exp%	Act%
57.00	100	100
69.00	82.30	75.37
56.00	40.10	43.66
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
10/28/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 10:12:36 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	2261195	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1642066	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	849434	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	283595	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	572100	50.25	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.50%			
47) 1,2-Dichloroethane-d4	10.181	65	762220	49.43	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.86%			
58) Toluene-d8	12.134	98	2224483	52.56	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 105.12%			
80) 4-Bromofluorobenzene	14.305	174	712957	54.18	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 108.36%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	304231	25.62	ug/L	90
3) Chloromethane	3.221	50	303269	23.59	ug/L	99
4) 1,3-butadiene	3.367	39	242496	30.13	ug/L	92
5) Vinyl Chloride	3.343	62	292972	22.21	ug/L	96
6) Bromomethane	3.896	94	64708	12.26	ug/L	99
7) Chloroethane	4.115	64	178851	24.20	ug/L	96
8) Trichlorofluoromethane	4.347	101	388612	24.57	ug/L	86
9) Ethyl Ether	4.900	59	229045	29.60	ug/L	86
10) 1,2-Dichlorotrifluoroe...	5.247	67	266196	30.16	ug/L	97
11) 1,1-Dichloroethene	5.235	61	371200	28.77	ug/L	98
12) Freon 113	5.320	101	250621	26.86	ug/L	92
13) Carbon Disulfide	5.277	76	727775	24.53	ug/L	89
14) Iodomethane	5.484	142	230955	19.45	ug/L	96
15) Acrolein	5.819	56	225110	116.64	ug/L	91
16) Allyl chloride	6.062	41	394707	32.47	ug/L	91
17) Methylene Chloride	6.269	49	341201	26.50	ug/L	84
18) Acetone	6.336	43	423189	141.30	ug/L	98
19) Methyl acetate	6.555	43	949268	154.53	ug/L	90
20) trans-1,2-Dichloroethene	6.543	61	333576	28.01	ug/L	94
21) Hexane	6.683	56	209720	27.78	ug/L #	82
22) Methyl Tert Butyl Ether	6.725	73	786054	25.57	ug/L	84
23) Acetonitrile	7.163	41	354319	288.20	ug/L	96
24) Di-isopropyl ether	7.413	45	920808	35.84	ug/L	95
25) Chloroprene	7.601	53	366320	28.11	ug/L	92
26) 1,1-Dichloroethane	7.638	63	431857	27.54	ug/L	100
27) Acrylonitrile	7.735	52	384673	139.19	ug/L	99
28) ETBE	8.088	59	896800	28.89	ug/L	94
29) Vinyl acetate	8.112	43	3173779	162.36	ug/L	98
30) cis-1,2-Dichloroethene	8.660	96	243917	26.36	ug/L	94
31) 2,2-Dichloropropane	8.848	77	388122	23.13	ug/L	100
32) Bromochloromethane	9.025	128	122579	24.11	ug/L #	76
33) Cyclohexane	9.019	56	445948	31.48	ug/L	89
34) Chloroform	9.165	83	426408	25.10	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 10:12:36 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
35) Ethyl acetate	9.353	43	1433408	162.74	ug/L		97
36) Tetrahydrofuran	9.402	42	101396	30.68	ug/L		84
38) Carbon Tetrachloride	9.366	117	294128	22.01	ug/L		98
39) 1,1,1-Trichloroethane	9.469	97	370467	23.36	ug/L		95
40) 2-Butanone	9.621	43	652165	153.86	ug/L		87
41) 1,1-Dichloropropene	9.664	75	356920	25.29	ug/L		91
42) tert-Butyl formate	9.810	59	1244465	114.36	ug/L		92
43) Propionitrile	10.029	54	385233	271.64	ug/L		86
44) Methacrylonitrile	10.053	41	1800857	342.43	ug/L		97
45) Benzene	10.004	78	983659	25.77	ug/L		92
46) TAME	10.150	73	805783	26.46	ug/L		89
48) 1,2-Dichloroethane	10.266	62	366464	25.37	ug/L		93
49) Trichloroethene	10.728	95	265666	25.70	ug/L		95
50) Methylcyclohexane	10.710	83	425566	26.05	ug/L		95
51) Dibromomethane	11.191	93	158552	25.81	ug/L		88
52) 1,2-Dichloropropane	11.288	63	275611	29.80	ug/L		93
53) Bromodichloromethane	11.361	83	330264	24.23	ug/L	#	94
54) Methyl methacrylate	11.501	41	271491	32.98	ug/L		88
55) 2-Chloroethyl vinyl ether	11.896	63	919988	133.45	ug/L		91
56) cis-1,3-Dichloropropene	11.963	75	454579	24.82	ug/L		86
59) Toluene	12.176	91	1084155	27.89	ug/L		98
60) 2-Nitropropane	12.377	41	444793	151.93	ug/L		91
61) 4-Methyl-2-pentanone	12.492	43	1414851	178.84	ug/L		96
62) trans-1,3-Dichloropropene	12.541	75	403462m	27.36	ug/L		
63) Tetrachloroethene	12.523	166	251393	23.60	ug/L		98
64) Ethyl methacrylate	12.645	69	360597	28.04	ug/L		87
65) 1,1,2-Trichloroethane	12.675	83	195085	28.47	ug/L		94
66) Dibromochloromethane	12.833	129	246596	25.18	ug/L		94
67) 1,3-Dichloropropane	12.900	76	422603	27.78	ug/L		86
68) 1,2-Dibromoethane	13.034	107	234934	27.47	ug/L		98
69) 2-hexanone	13.168	43	1007300m	159.88	ug/L		
70) 1-Chlorohexane	13.387	91	361959	28.42	ug/L		86
71) Ethylbenzene	13.435	91	1156440	25.12	ug/L		99
72) Chlorobenzene	13.435	112	646488	25.38	ug/L		90
73) 1,1,1,2-Tetrachloroethane	13.478	131	229993	24.69	ug/L		95
74) m,p-Xylene	13.539	91	1761339	47.89	ug/L		99
75) o-Xylene	13.861	91	932809	24.04	ug/L		99
76) Styrene	13.904	104	753644	24.67	ug/L		97
77) Bromoform	13.953	173	169022	20.29	ug/L		96
78) Isopropylbenzene	14.080	105	1109269	23.91	ug/L		100
81) cis-1,4-Dichloro-2-butene	14.336	53	108317	34.69	ug/L		90
82) n-Propylbenzene	14.372	91	1322031	30.15	ug/L		99
83) Bromobenzene	14.397	156	277325	28.84	ug/L		98
84) 1,1,2,2-Tetrachloroethane	14.427	83	320782	33.13	ug/L		100
85) 1,3,5-Trimethylbenzene	14.494	105	876636	27.56	ug/L		99
86) 2-Chlorotoluene	14.506	91	899464	29.69	ug/L		98
87) trans-1,4-Dichloro-2-B...	14.549	53	96242	32.49	ug/L		96
88) 1,2,3-Trichloropropane	14.537	110	92111	29.00	ug/L		79
89) Cyclohexanone	14.585	55	58083	176.00	ug/L		88
90) 4-Chlorotoluene	14.622	91	828252	29.49	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 10:12:36 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

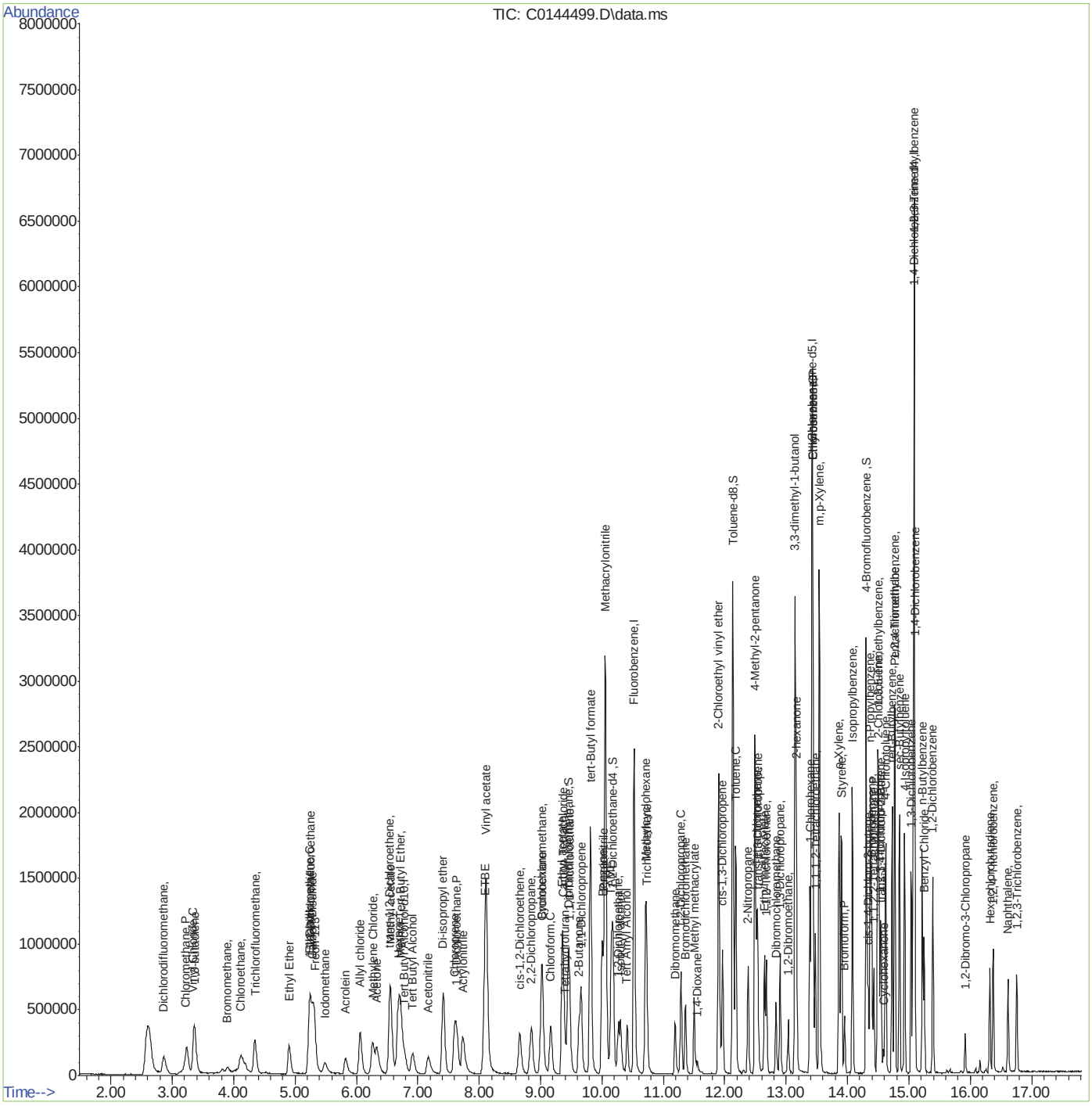
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	518264	28.72	ug/L	94
93) 1,2,4-Trimethylbenzene	14.768	105	857580	25.51	ug/L	98
94) Pentachloroethane	14.774	167	149109	24.36	ug/L	85
95) sec-Butylbenzene	14.847	105	1041977	28.46	ug/L	98
96) 4-Isopropyltoluene	14.932	119	858973	25.64	ug/L	99
97) 1,3-Dichlorobenzene	15.035	146	485889	26.43	ug/L	96
98) 1,2,3-Trimethylbenzene	15.078	105	969381	26.46	ug/L	97
99) 1,4-Dichlorobenzene	15.096	146	484531	25.48	ug/L	97
100) n-Butylbenzene	15.218	92	448054	24.93	ug/L	96
101) Benzyl Chloride	15.248	126	109772	24.97	ug/L	96
102) 1,2-Dichlorobenzene	15.388	146	458073	25.80	ug/L	99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	60008	24.45	ug/L	91
104) Hexachlorobutadiene	16.319	225	122535	19.28	ug/L	96
105) 1,2,4-Trichlorobenzene	16.374	180	238379	19.21	ug/L	99
106) Naphthalene	16.617	128	472920	18.20	ug/L	99
107) 1,2,3-Trichlorobenzene	16.757	180	203385	18.85	ug/L	99
109) Ethanol	5.241	45	64316m	662.62	ug/L	
110) Tert Butyl Alcohol	6.914	59	358170	299.13	ug/L	98
111) Isobutyl alcohol	10.302	43	261767	771.66	ug/L	94
112) Tert Amyl Alcohol	10.406	59	252842	285.51	ug/L	94
113) 1,4-Dioxane	11.550	88	64781	487.76	ug/L	97
114) 3,3-dimethyl-1-butanol	13.143	57	1298110m	1534.91	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 10:12:36 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration



Manual Integration Approval Summary

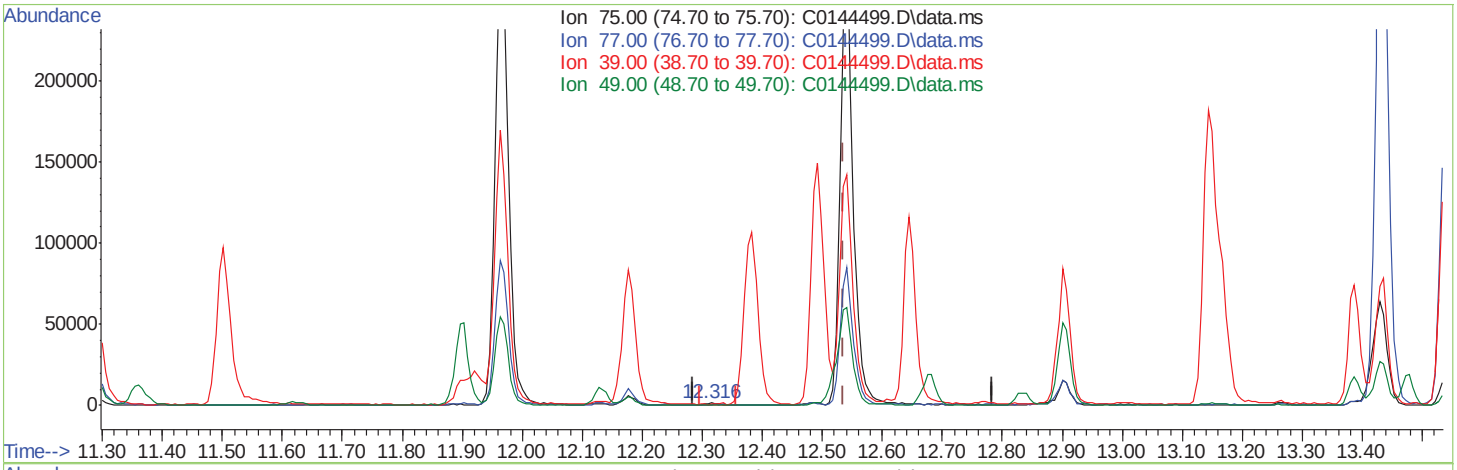
Sample Number: VC5797-IC5797
Lab FileID: C0144499.D
Injection Time: 10/28/20 09:33
Method: SW846 8260B
Analyst approved: 10/28/20 13:54 Shanica O'Connor
Supervisor approved: 10/28/20 14:16 Melissa Mangual

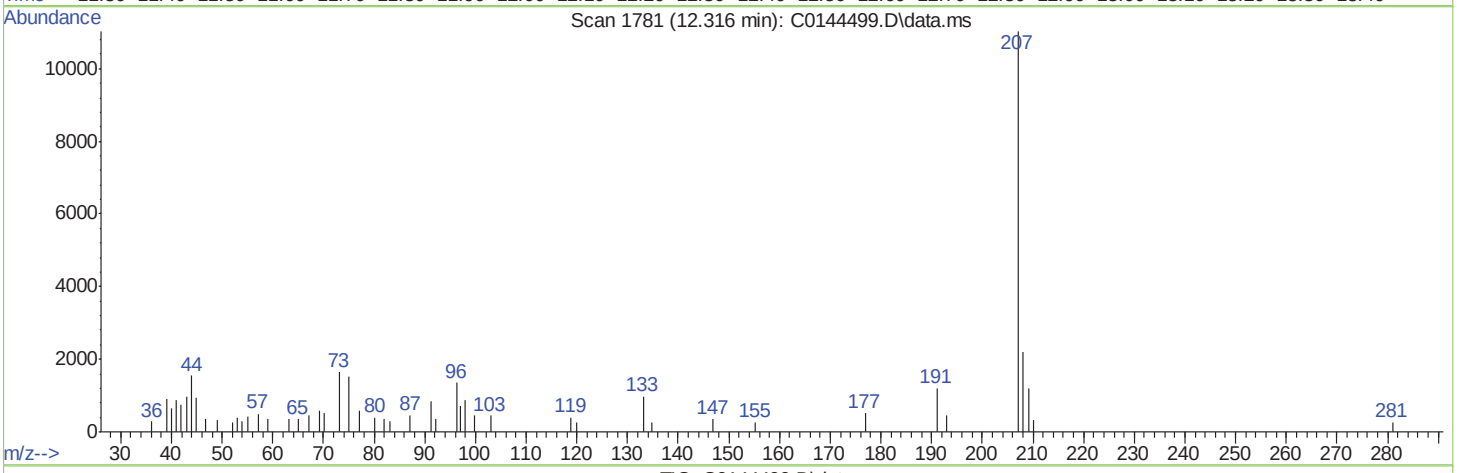
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.24	Split peak
trans-1,3-Dichloropropene	10061-02-6		12.54	Missed peak
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:51:39 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 09 19:08:42 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(62) trans-1,3-Dichloropropene

12.316min (-0.219) 0.20ug/L

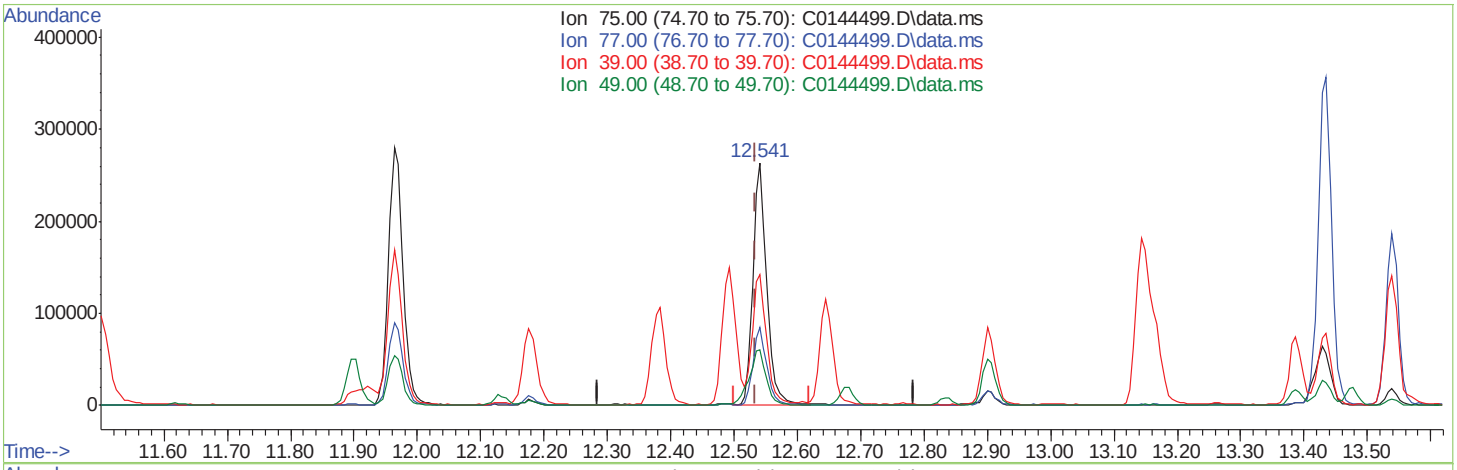
response 2950

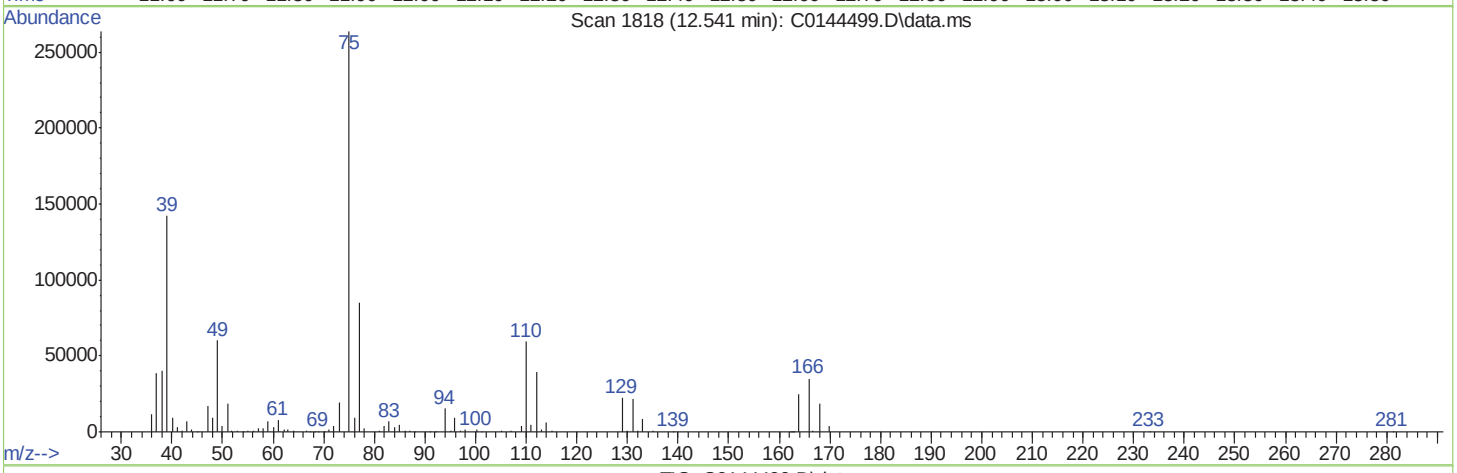
Ion	Exp%	Act%
75.00	100	100
77.00	30.00	37.76
39.00	13.60	13.41
49.00	18.40	20.18

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:51:39 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 09 19:08:42 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(62) trans-1,3-Dichloropropene

12.541min (+0.006) 27.32ug/L m

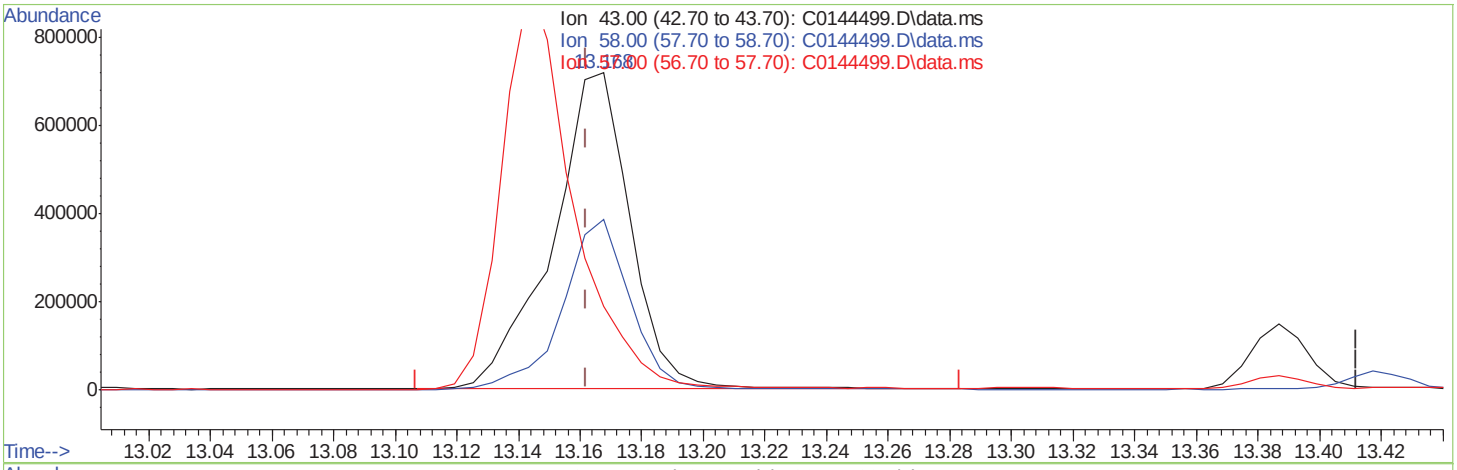
response 402909

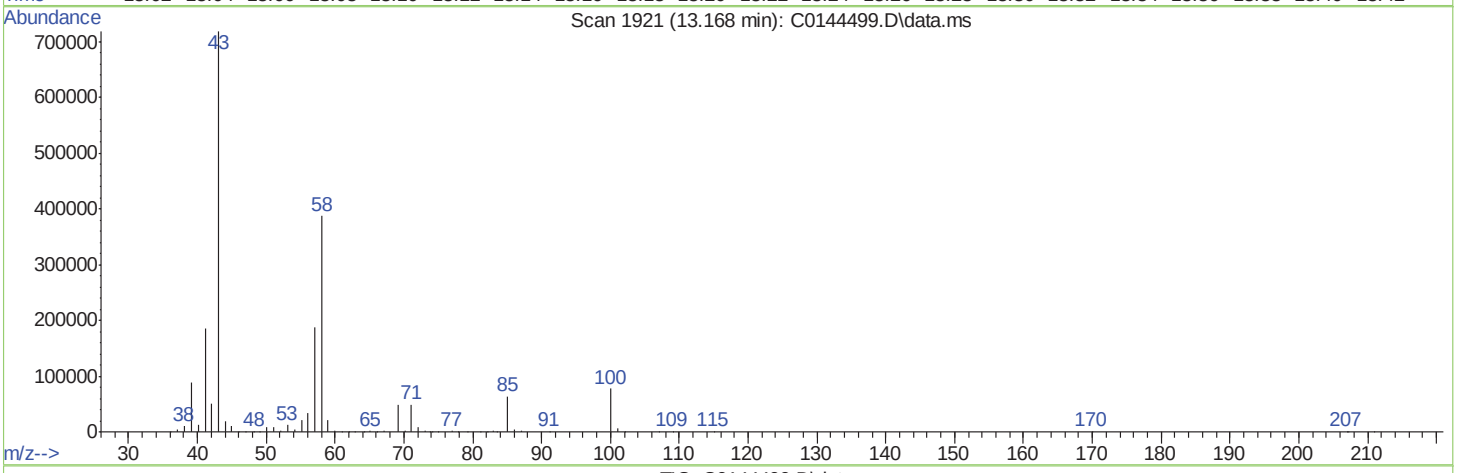
Ion	Exp%	Act%
75.00	100	100
77.00	30.00	32.25
39.00	13.60	53.85#
49.00	18.40	22.78

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:51:39 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 09 19:08:42 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 195.36ug/L

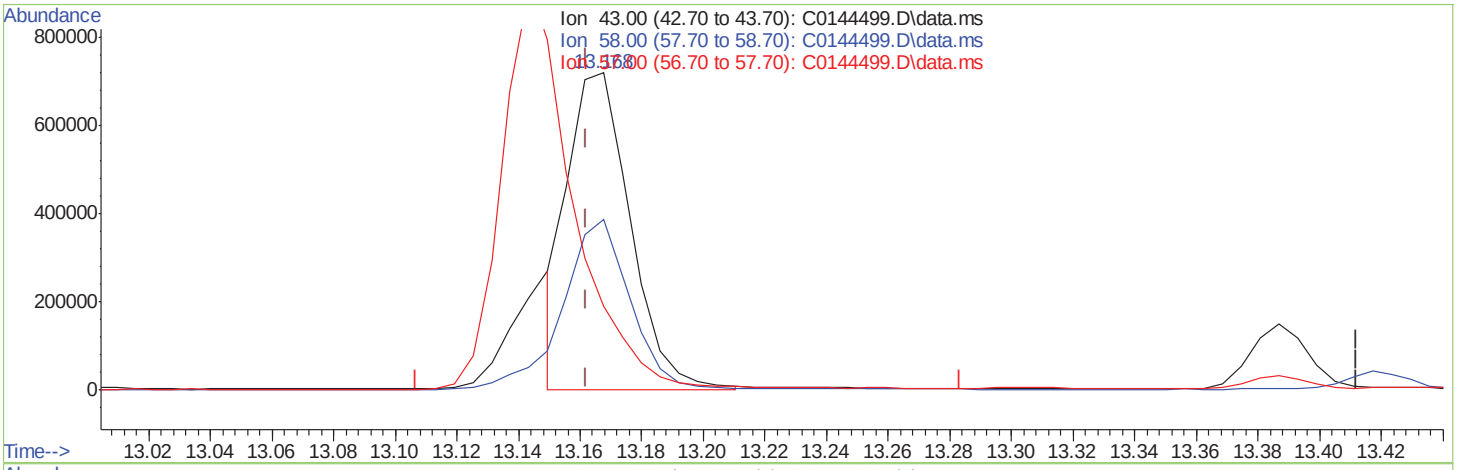
response 1273266

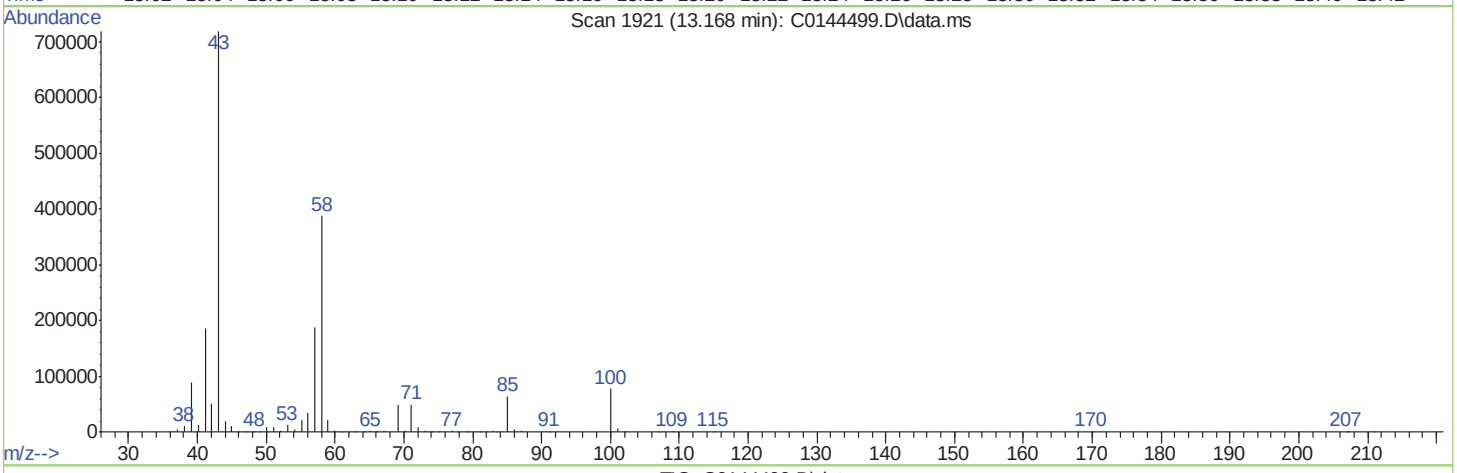
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	53.94
57.00	52.00	26.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:51:39 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 09 19:08:42 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 160.27ug/L m

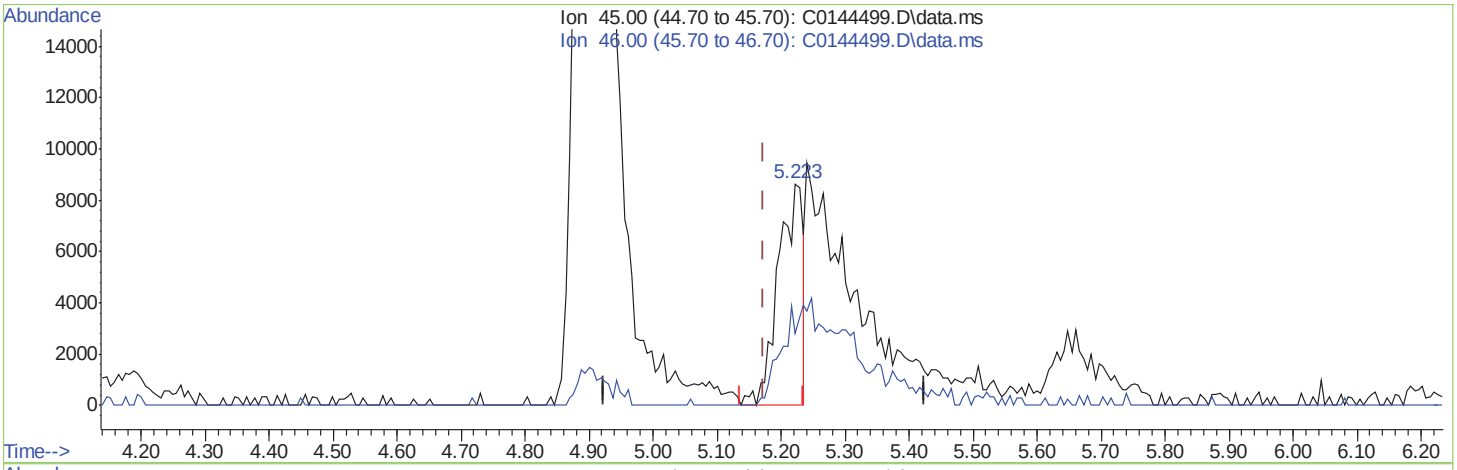
response 1010172

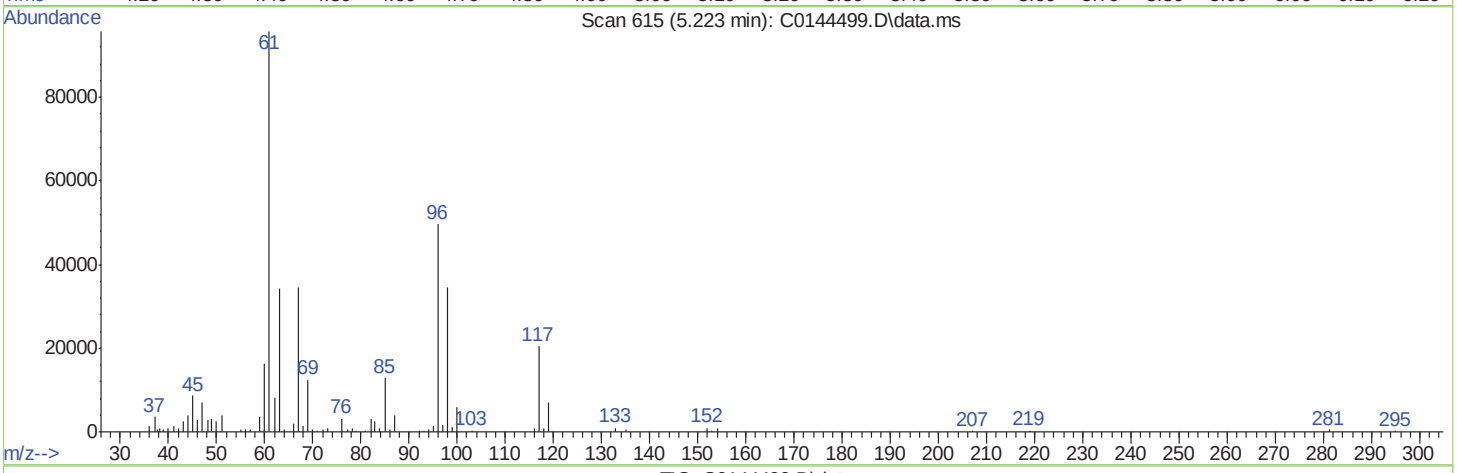
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	53.87
57.00	52.00	26.15
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:51:39 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 09 19:08:42 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(109) Ethanol

5.223min (+0.049) 239.00ug/L

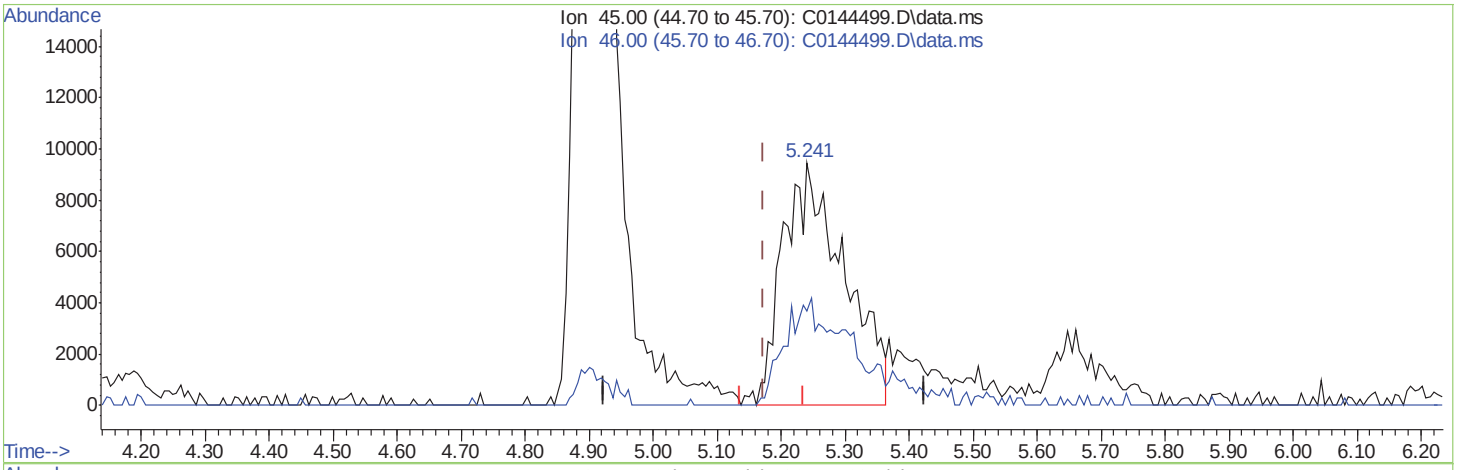
response 23198

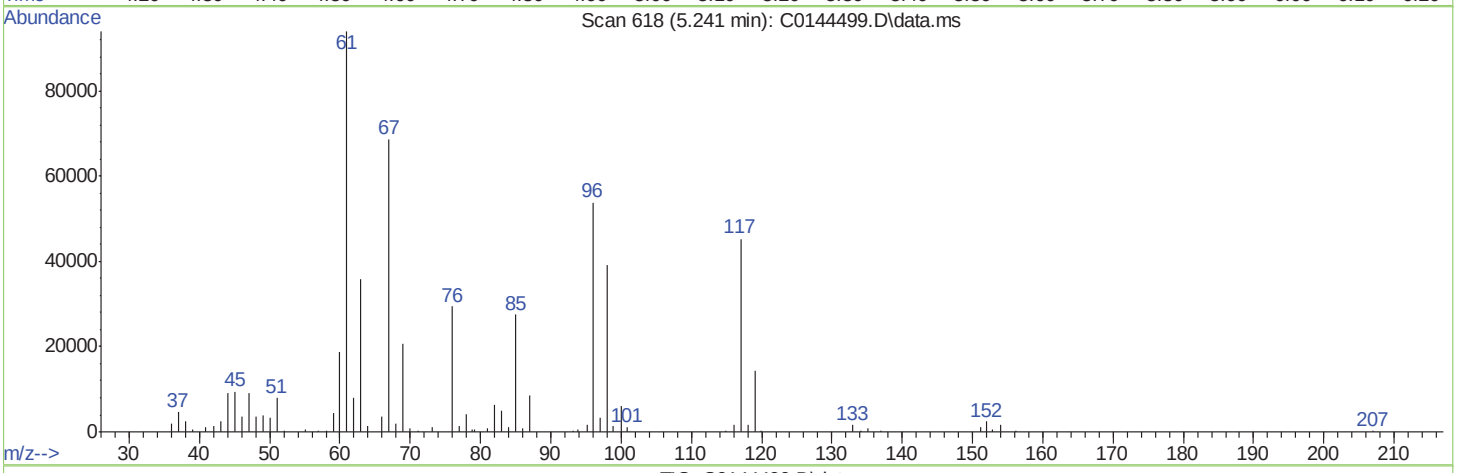
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	32.57
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:51:39 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 09 19:08:42 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(109) Ethanol

5.241min (+0.067) 646.96ug/L m

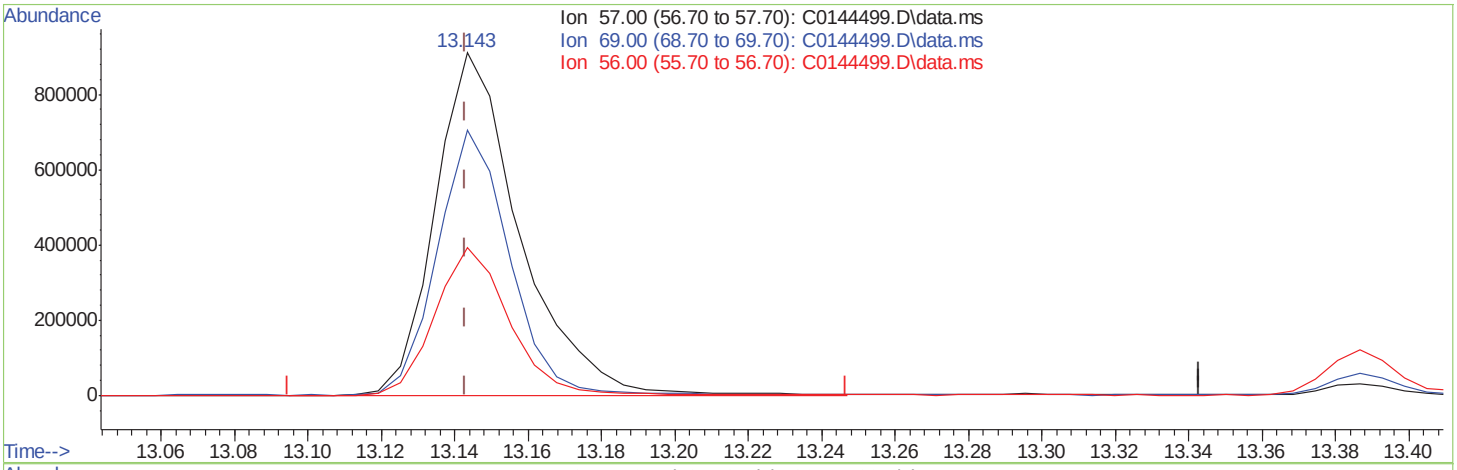
response 62796

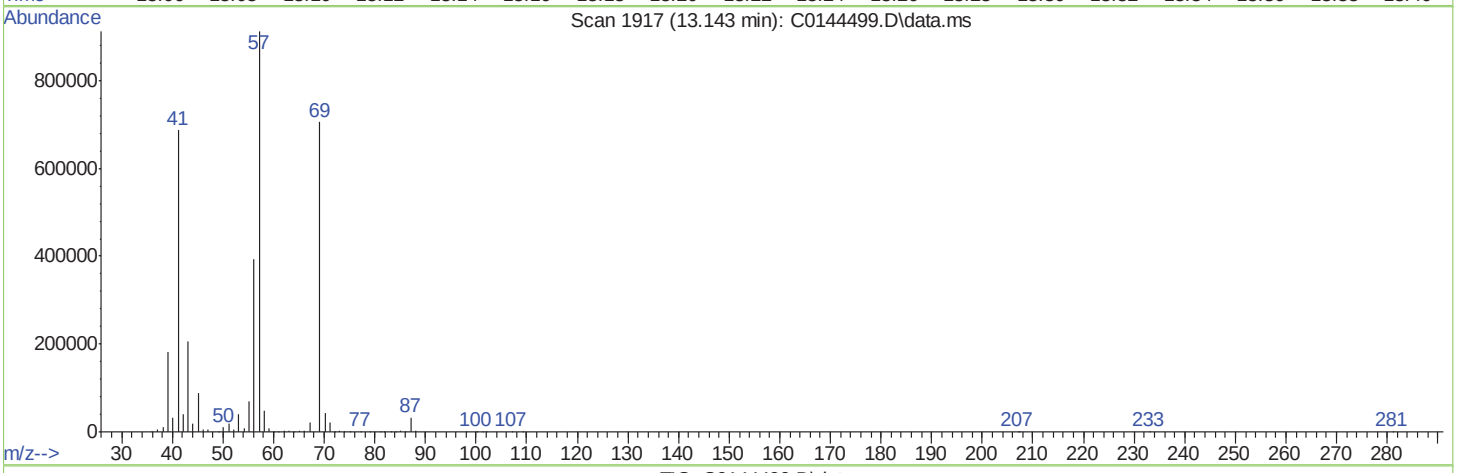
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	38.76
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:51:39 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 09 19:08:42 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (+0.000) 1713.58ug/L

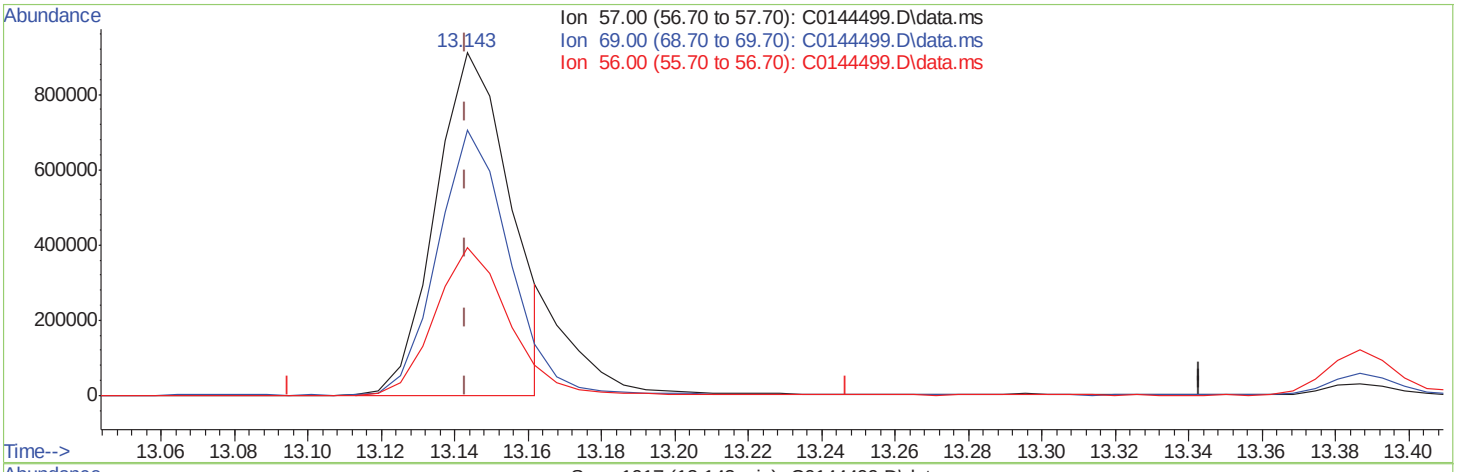
response 1464346

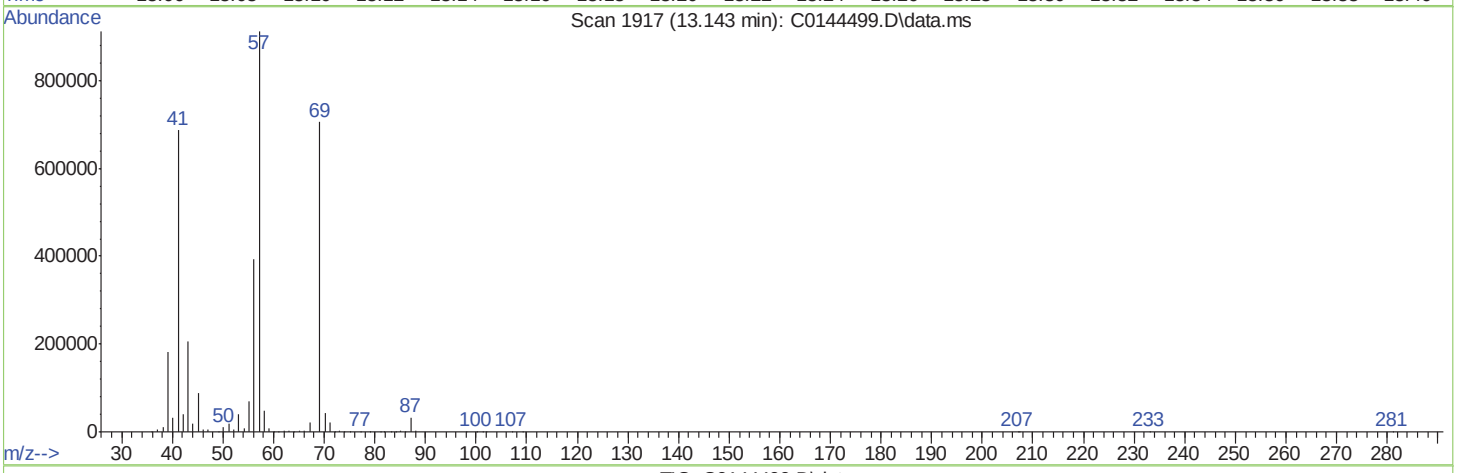
Ion	Exp%	Act%
57.00	100	100
69.00	82.30	66.55
56.00	40.10	37.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:51:39 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Oct 09 19:08:42 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (+0.000) 1534.27ug/L m

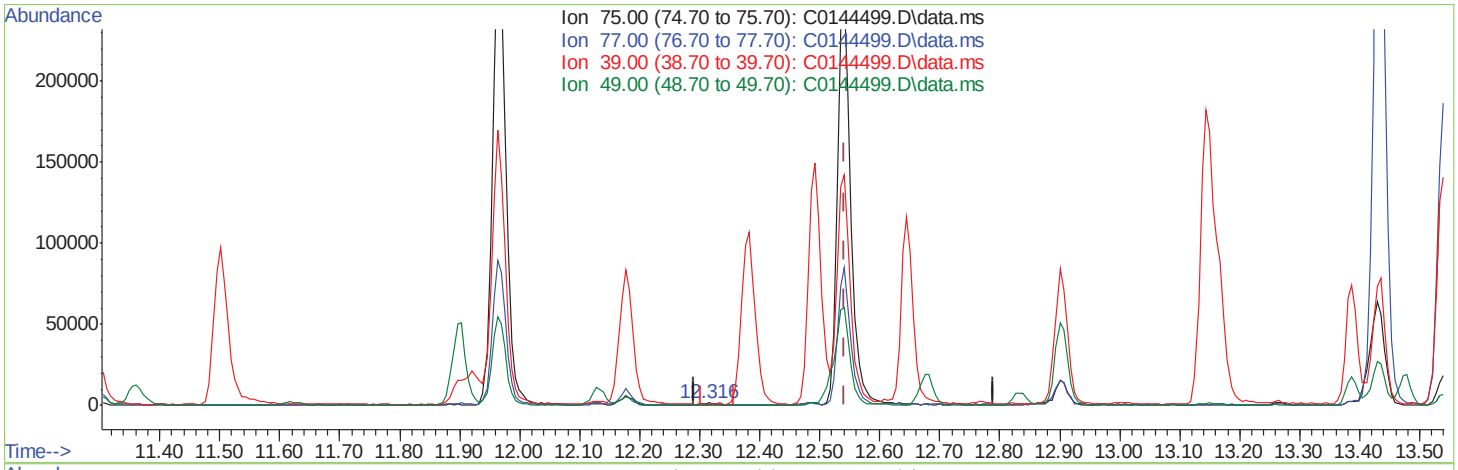
response 1297523

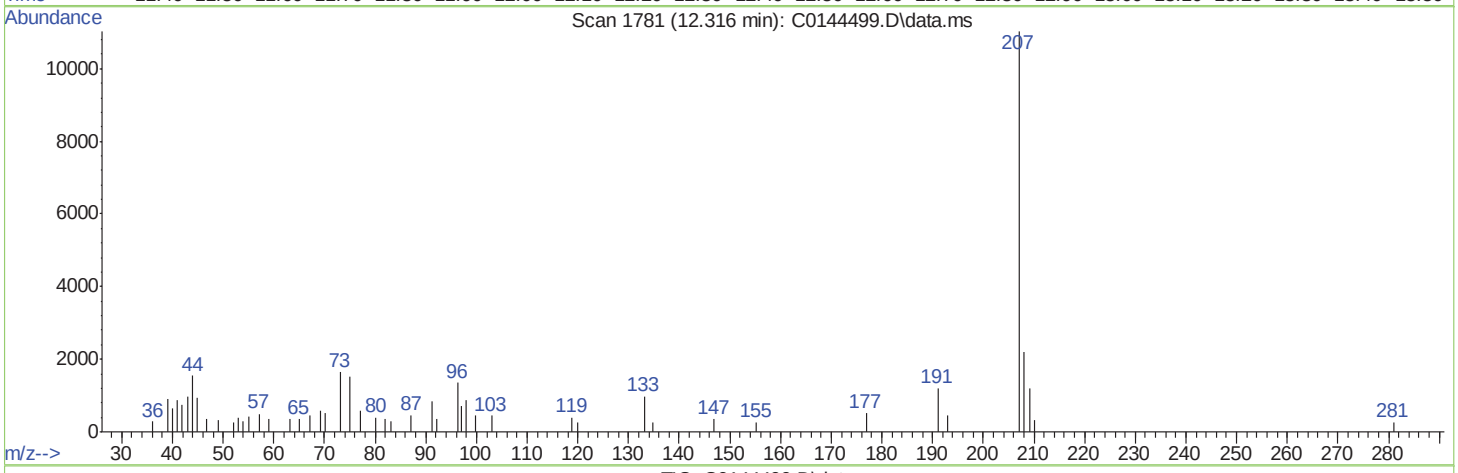
Ion	Exp%	Act%
57.00	100	100
69.00	82.30	75.11
56.00	40.10	42.66
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:54:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(62) trans-1,3-Dichloropropene

12.316min (-0.225) 0.17ug/L

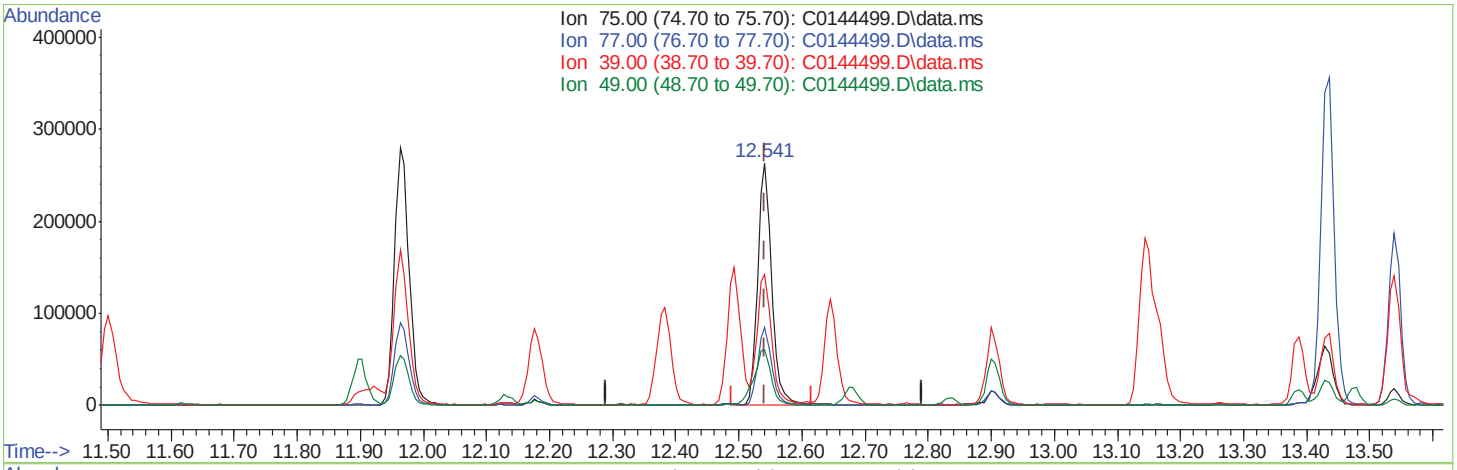
response 2556

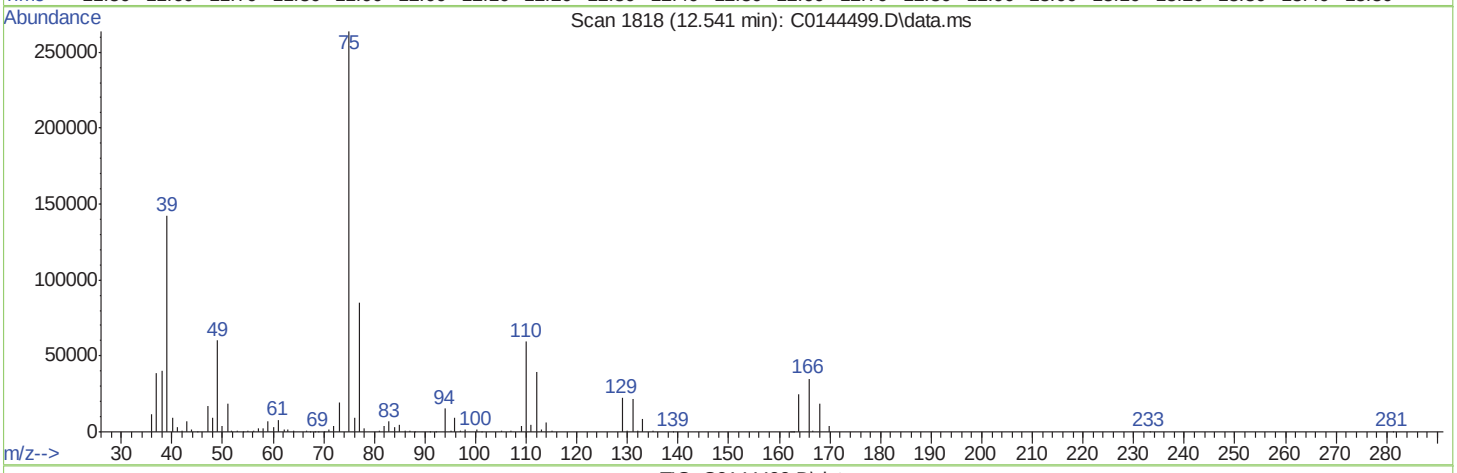
Ion	Exp%	Act%
75.00	100	100
77.00	30.00	37.76
39.00	13.60	0.00
49.00	18.40	20.18

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:54:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(62) trans-1,3-Dichloropropene

12.541min (0.000) 27.36ug/L m

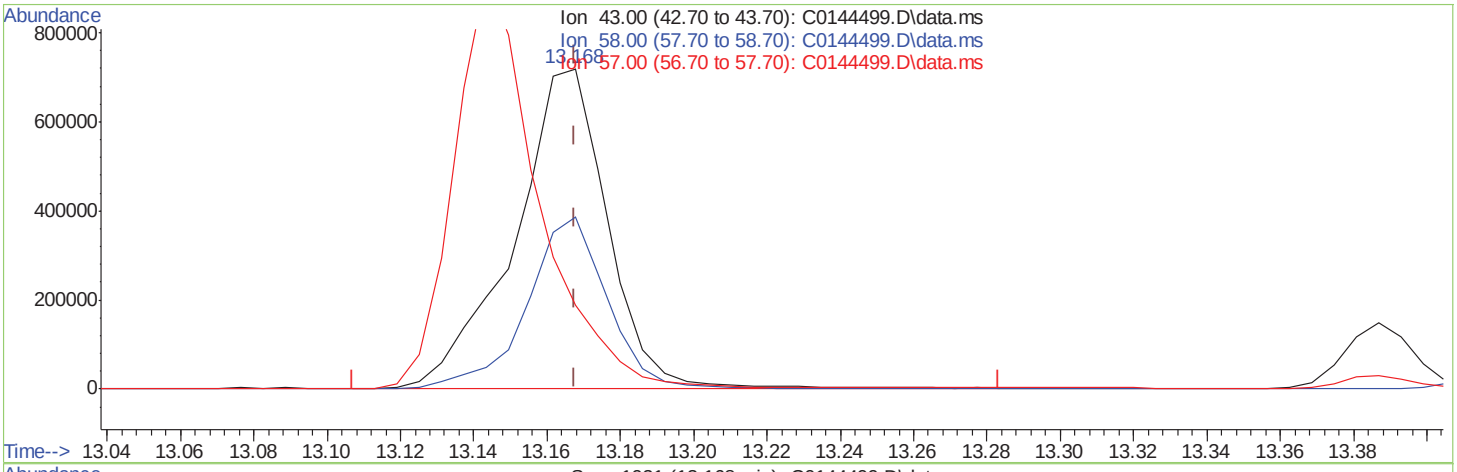
response 403462

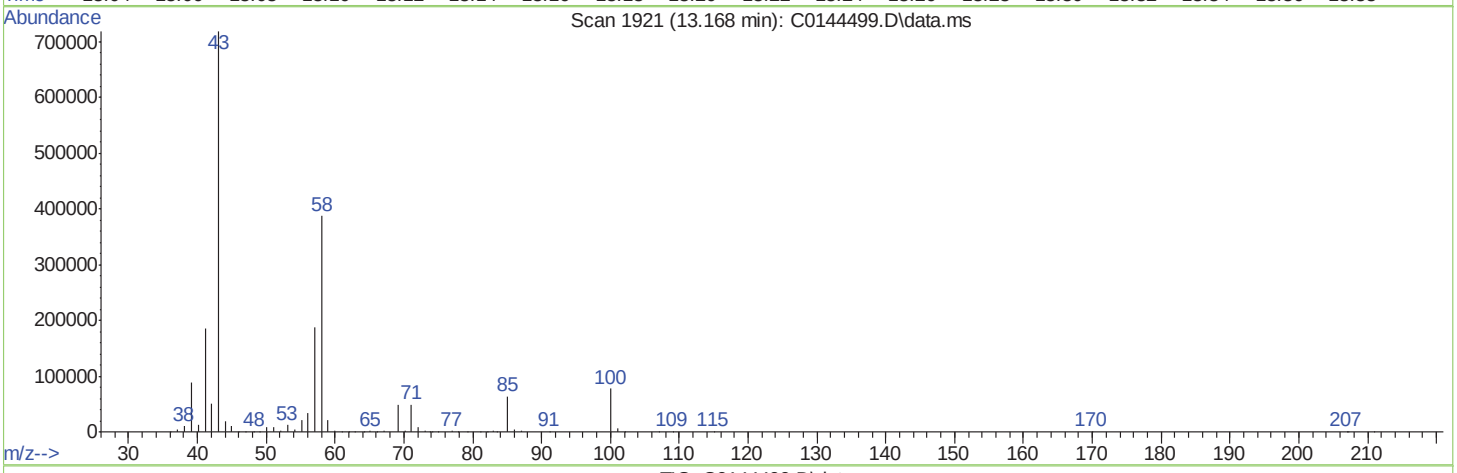
Ion	Exp%	Act%
75.00	100	100
77.00	30.00	32.25
39.00	13.60	53.85#
49.00	18.40	22.78

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:54:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(69) 2-hexanone

13.168min (0.000) 195.36ug/L

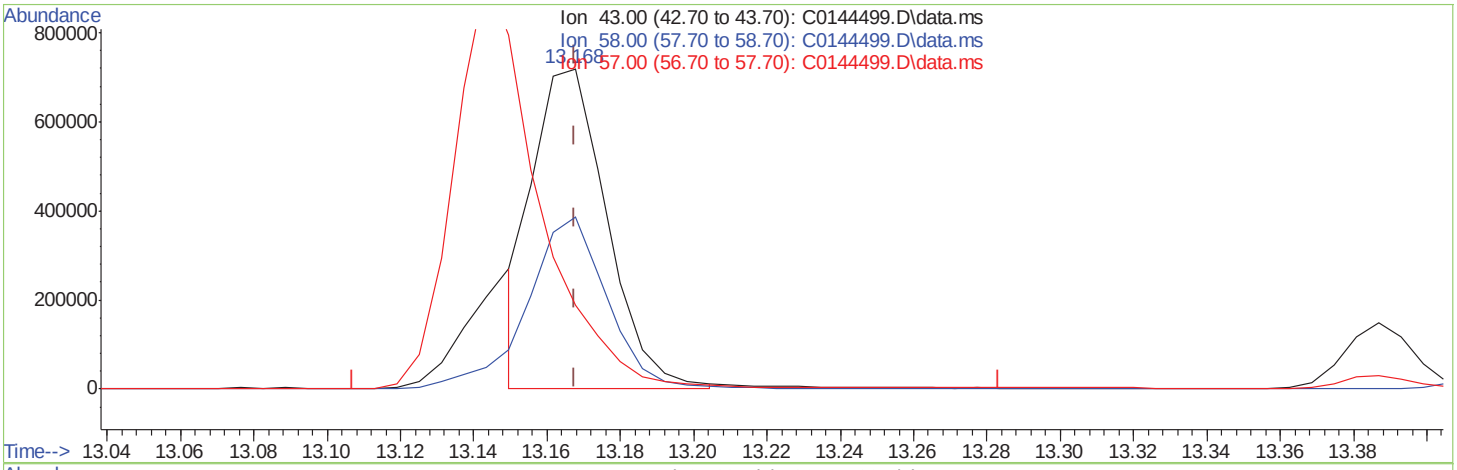
response 1273266

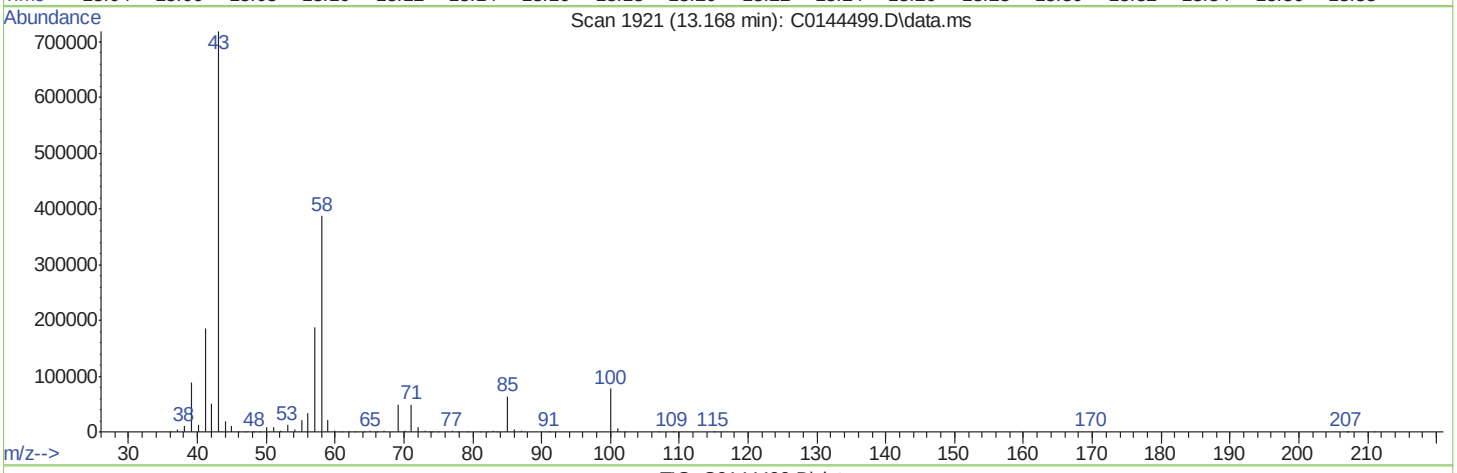
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	53.94
57.00	52.00	26.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:54:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(69) 2-hexanone

13.168min (0.000) 159.88ug/L m

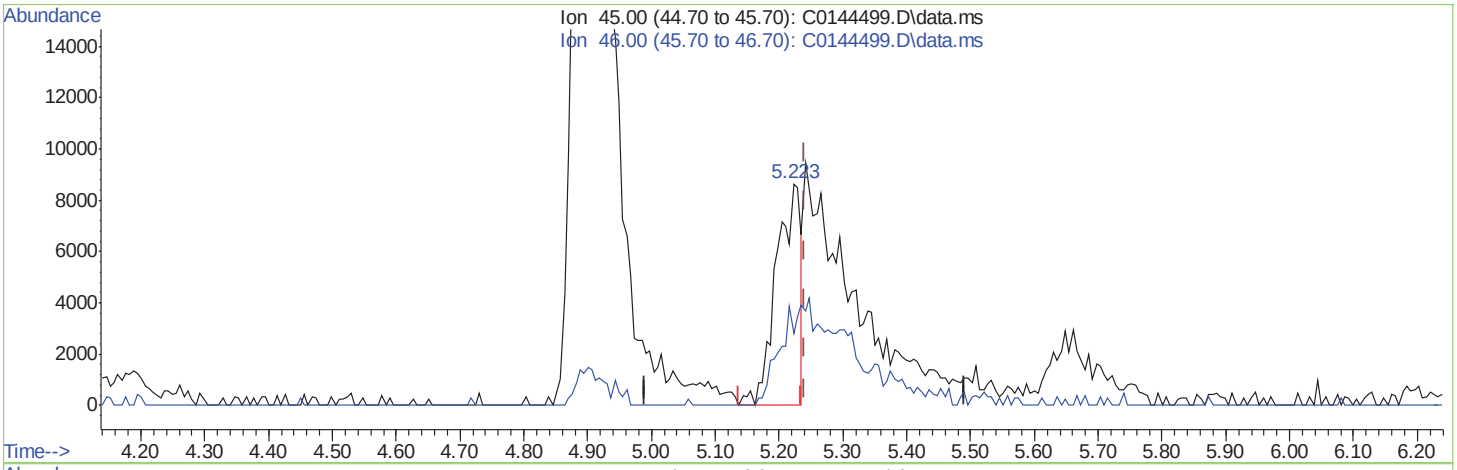
response 1007300

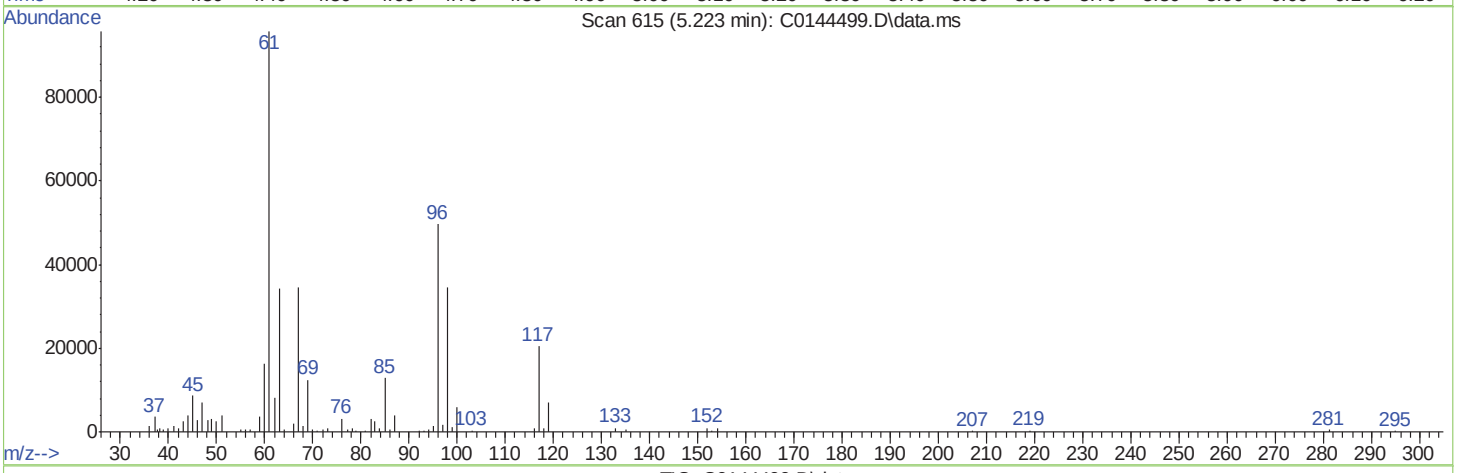
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	53.87
57.00	52.00	26.15
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:54:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(109) Ethanol

5.223min (-0.018) 239.00ug/L

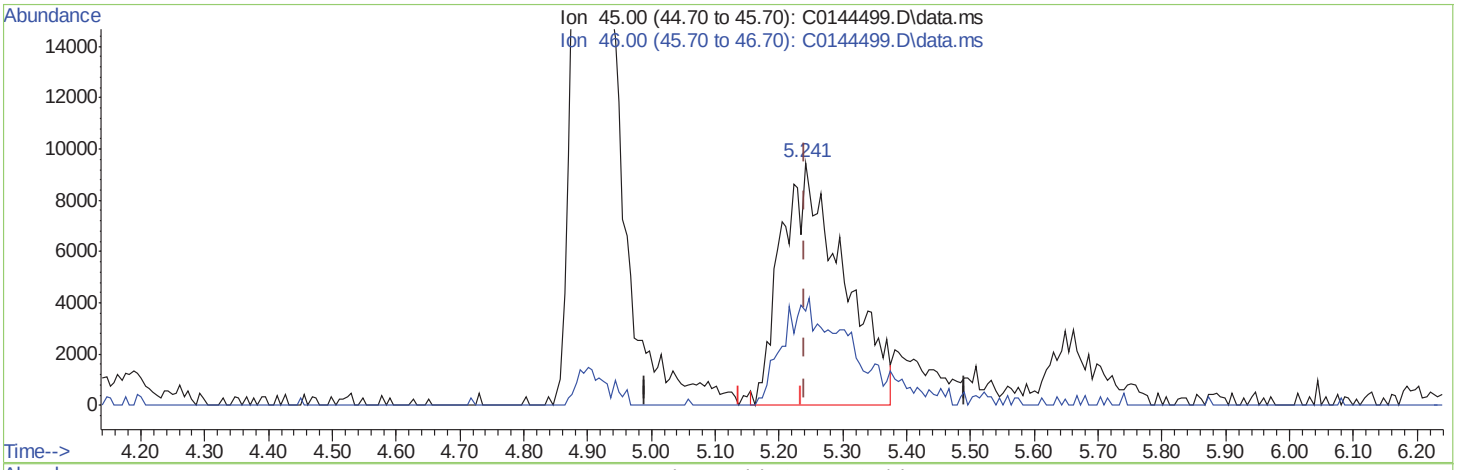
response 23198

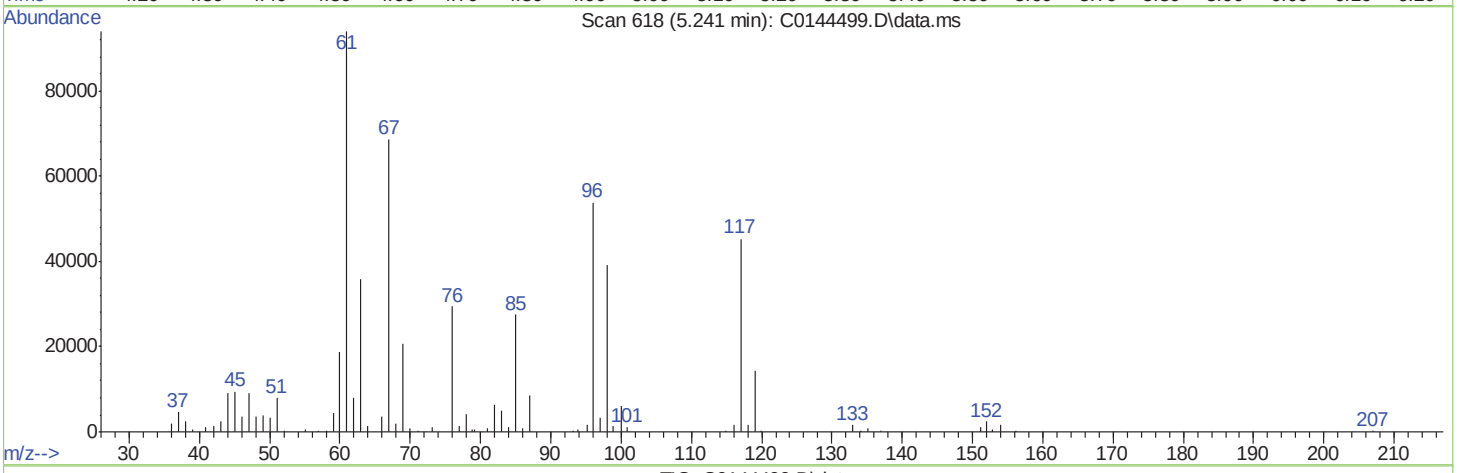
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	32.57
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:54:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(109) Ethanol

5.241min (0.000) 662.62ug/L m

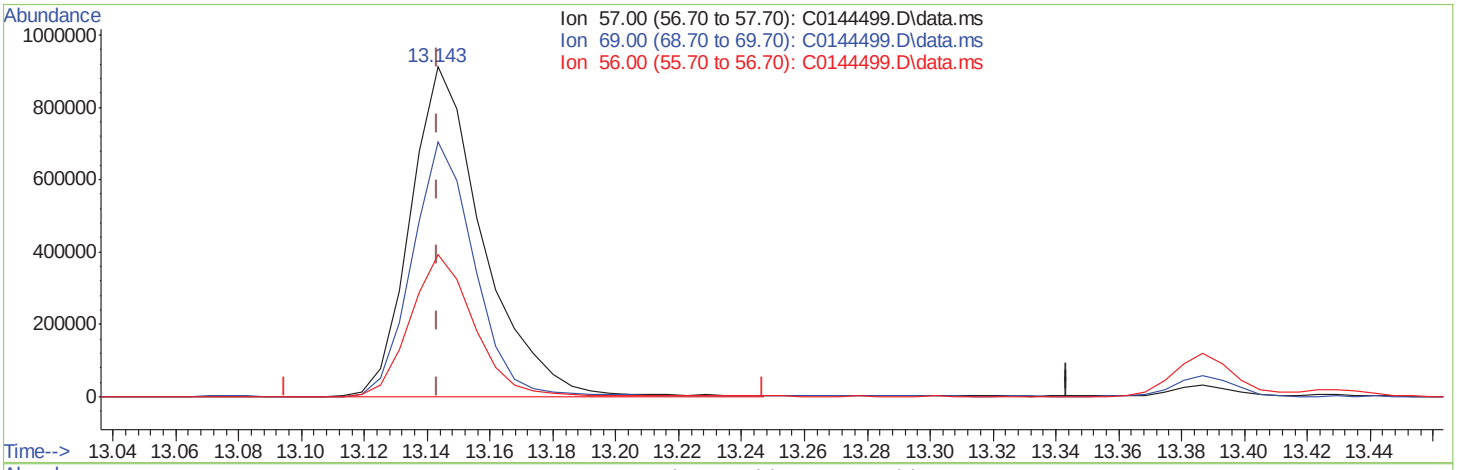
response 64316

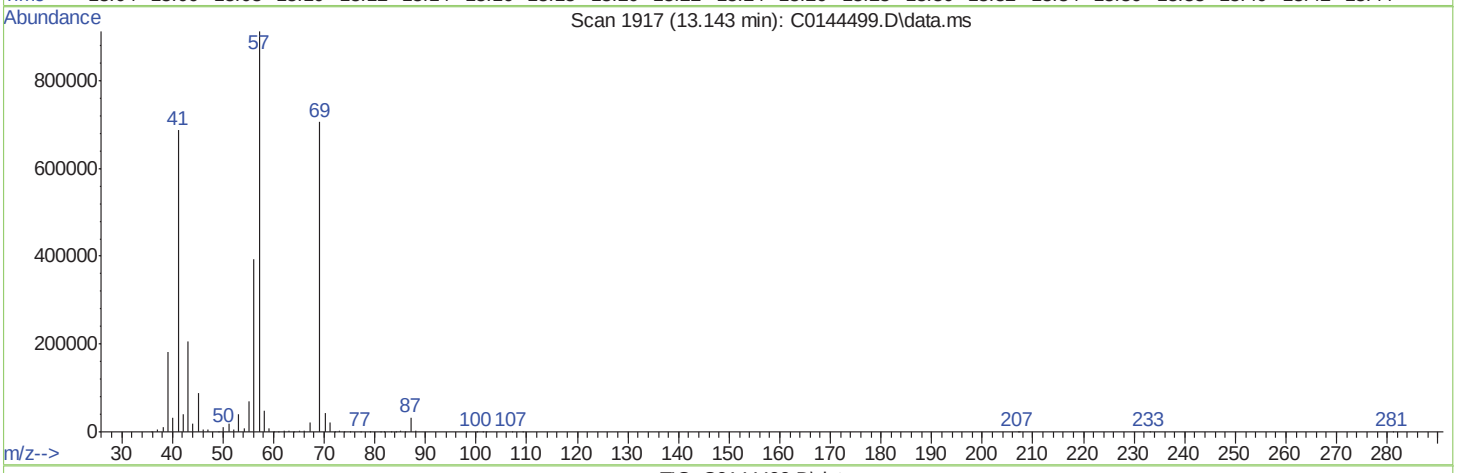
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	38.76
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:54:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (0.000) 1713.58ug/L

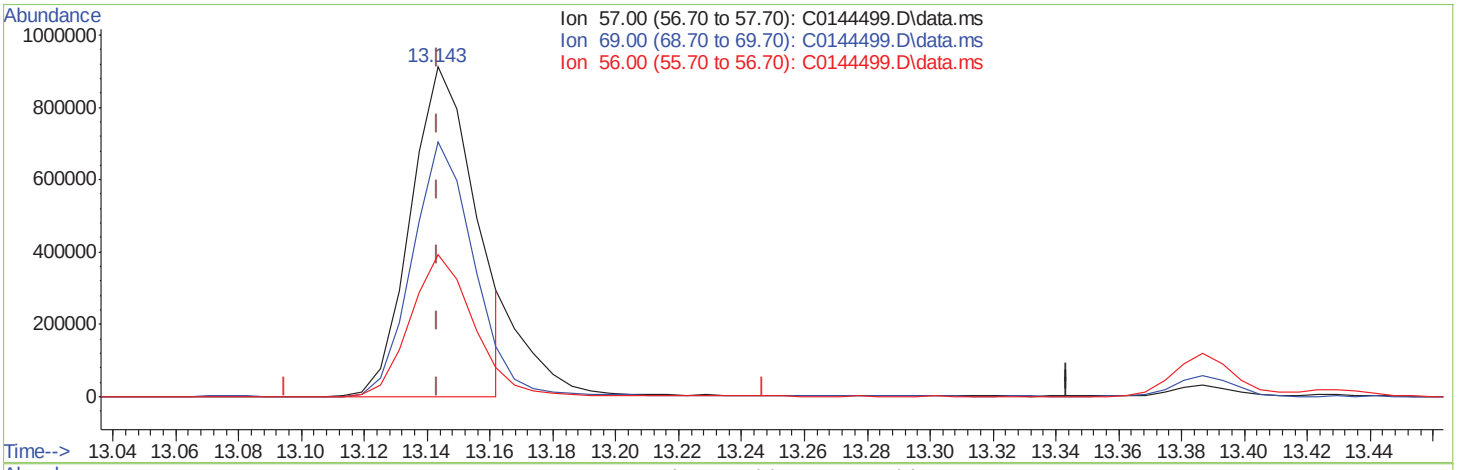
response 1464346

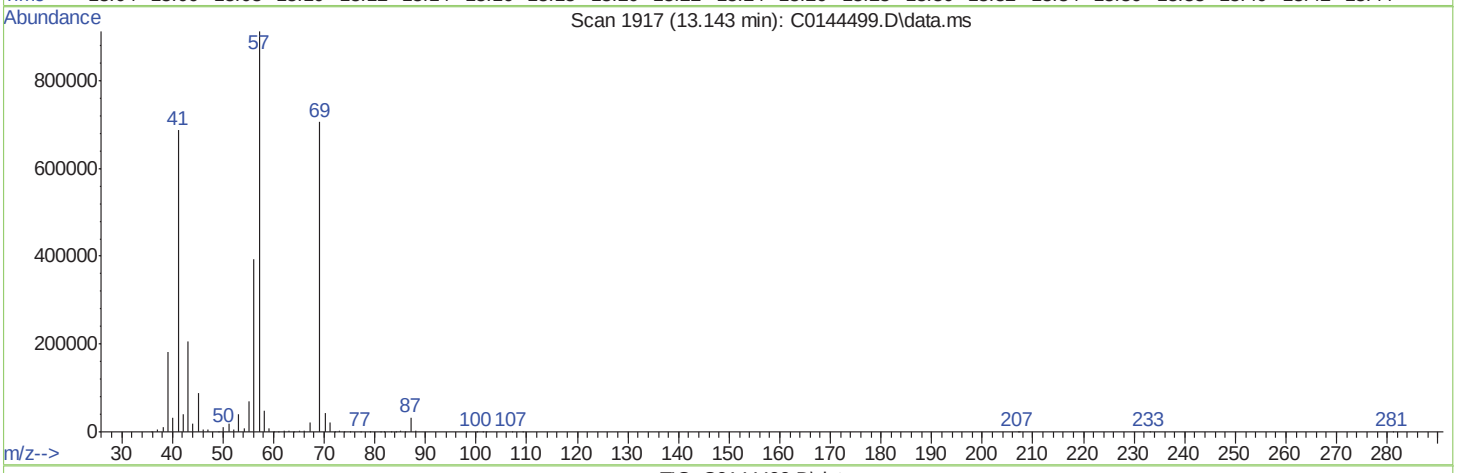
Ion	Exp%	Act%
57.00	100	100
69.00	82.30	66.55
56.00	40.10	37.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144499.D
Acq On : 28 Oct 2020 9:33 am
Operator : SHANICAO
Sample : IC5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 28 09:54:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144499.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (0.000) 1534.91ug/L m

response 1298110

Ion	Exp%	Act%
57.00	100	100
69.00	82.30	75.07
56.00	40.10	42.64
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
10/28/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144500.D
Acq On : 28 Oct 2020 9:59 am
Operator : SHANICAO
Sample : ICC5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 28 10:17:28 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	2260245	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1658885	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	871357	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.792	65	295092	250.00	ug/L	0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	563792	49.55	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.10%			
47) 1,2-Dichloroethane-d4	10.181	65	756095	49.05	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.10%			
58) Toluene-d8	12.134	98	2218237	51.88	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 103.76%			
80) 4-Bromofluorobenzene	14.305	174	721810	53.47	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 106.94%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	522881	44.05	ug/L	95
3) Chloromethane	3.227	50	514427	40.04	ug/L	98
4) 1,3-butadiene	3.361	39	414572	51.53	ug/L	88
5) Vinyl Chloride	3.343	62	490275	37.19	ug/L	95
6) Bromomethane	3.896	94	123527	22.89	ug/L	94
7) Chloroethane	4.121	64	299120	40.49	ug/L	97
8) Trichlorofluoromethane	4.340	101	646367	40.88	ug/L	86
9) Ethyl Ether	4.906	59	358320	46.33	ug/L	90
10) 1,2-Dichlorotrifluoroe...	5.247	67	435895	49.40	ug/L	96
11) 1,1-Dichloroethene	5.229	61	602636	46.74	ug/L	97
12) Freon 113	5.308	101	420567	45.09	ug/L	93
13) Carbon Disulfide	5.283	76	1224571	41.29	ug/L	85
14) Iodomethane	5.484	142	397841	33.60	ug/L	98
15) Acrolein	5.831	56	378005	189.57	ug/L	88
16) Allyl chloride	6.056	41	621364	51.03	ug/L	89
17) Methylene Chloride	6.269	49	554056	44.33	ug/L	82
18) Acetone	6.330	43	714763	232.89	ug/L	98
19) Methyl acetate	6.555	43	1465821	236.47	ug/L	92
20) trans-1,2-Dichloroethene	6.543	61	553891	46.53	ug/L	92
21) Hexane	6.677	56	368906	51.05	ug/L #	86
22) Methyl Tert Butyl Ether	6.725	73	1253904	40.80	ug/L	87
23) Acetonitrile	7.163	41	580156	472.09	ug/L	96
24) Di-isopropyl ether	7.419	45	1473464	57.37	ug/L	94
25) Chloroprene	7.595	53	603705	46.35	ug/L	95
26) 1,1-Dichloroethane	7.638	63	702865	44.84	ug/L	91
27) Acrylonitrile	7.735	52	628077	220.95	ug/L	98
28) ETBE	8.088	59	1431331	46.13	ug/L	94
29) Vinyl acetate	8.112	43	4944617	252.05	ug/L	98
30) cis-1,2-Dichloroethene	8.660	96	383166	41.42	ug/L	95
31) 2,2-Dichloropropane	8.848	77	603189	35.97	ug/L	95
32) Bromochloromethane	9.025	128	195530	39.83	ug/L #	74
33) Cyclohexane	9.019	56	744968	52.61	ug/L	92
34) Chloroform	9.165	83	682945	40.22	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144500.D
Acq On : 28 Oct 2020 9:59 am
Operator : SHANICAO
Sample : ICC5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 28 10:17:28 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
35) Ethyl acetate	9.353	43	2224010	251.21	ug/L		99
36) Tetrahydrofuran	9.396	42	163472	50.71	ug/L	#	83
38) Carbon Tetrachloride	9.365	117	461119	34.52	ug/L		97
39) 1,1,1-Trichloroethane	9.469	97	601930	37.96	ug/L		95
40) 2-Butanone	9.621	43	1040719	240.87	ug/L		89
41) 1,1-Dichloropropene	9.664	75	575178	40.77	ug/L		92
42) tert-Butyl formate	9.810	59	1883950	173.20	ug/L		94
43) Propionitrile	10.029	54	613966	421.63	ug/L		83
44) Methacrylonitrile	10.059	41	2782655	529.34	ug/L		98
45) Benzene	10.004	78	1565937	41.04	ug/L		92
46) TAME	10.150	73	1278965	42.01	ug/L		91
48) 1,2-Dichloroethane	10.266	62	584780	40.50	ug/L		90
49) Trichloroethene	10.728	95	436720	42.27	ug/L		94
50) Methylcyclohexane	10.710	83	710136	43.49	ug/L		89
51) Dibromomethane	11.191	93	248318	40.60	ug/L		84
52) 1,2-Dichloropropane	11.288	63	433171	46.85	ug/L		91
53) Bromodichloromethane	11.361	83	527629	38.73	ug/L	#	97
54) Methyl methacrylate	11.501	41	449216	53.63	ug/L	#	86
55) 2-Chloroethyl vinyl ether	11.896	63	1439006	208.02	ug/L		90
56) cis-1,3-Dichloropropene	11.963	75	713463	38.97	ug/L		87
59) Toluene	12.176	91	1714767	43.67	ug/L		99
60) 2-Nitropropane	12.383	41	683476	231.09	ug/L		93
61) 4-Methyl-2-pentanone	12.492	43	2179606	272.72	ug/L		96
62) trans-1,3-Dichloropropene	12.541	75	633990	42.55	ug/L		92
63) Tetrachloroethene	12.523	166	408022	37.92	ug/L		98
64) Ethyl methacrylate	12.645	69	573979	43.97	ug/L		86
65) 1,1,2-Trichloroethane	12.681	83	316958	45.78	ug/L		96
66) Dibromochloromethane	12.833	129	393376	39.75	ug/L		97
67) 1,3-Dichloropropane	12.900	76	678377	44.15	ug/L		86
68) 1,2-Dibromoethane	13.034	107	380267	44.02	ug/L		98
69) 2-hexanone	13.168	43	1588544m	233.01	ug/L		
70) 1-Chlorohexane	13.387	91	587135	45.63	ug/L		82
71) Ethylbenzene	13.435	91	1825515	39.26	ug/L		99
72) Chlorobenzene	13.435	112	1025649	39.86	ug/L		93
73) 1,1,1,2-Tetrachloroethane	13.478	131	368760	39.18	ug/L		93
74) m,p-Xylene	13.539	91	2756257	74.18	ug/L		96
75) o-Xylene	13.861	91	1499163	38.25	ug/L		99
76) Styrene	13.904	104	1212293	39.29	ug/L		97
77) Bromoform	13.953	173	274364	32.60	ug/L		97
78) Isopropylbenzene	14.080	105	1753823	37.42	ug/L		99
81) cis-1,4-Dichloro-2-butene	14.336	53	172100	52.58	ug/L	#	85
82) n-Propylbenzene	14.372	91	2121692	47.17	ug/L		99
83) Bromobenzene	14.397	156	452907	45.91	ug/L		98
84) 1,1,2,2-Tetrachloroethane	14.427	83	507020	51.05	ug/L		99
85) 1,3,5-Trimethylbenzene	14.494	105	1407440	43.13	ug/L		98
86) 2-Chlorotoluene	14.506	91	1444329	46.48	ug/L		99
87) trans-1,4-Dichloro-2-B...	14.549	53	152953	48.92	ug/L		97
88) 1,2,3-Trichloropropane	14.537	110	149400	45.85	ug/L		83
89) Cyclohexanone	14.585	55	89702	264.98	ug/L		84
90) 4-Chlorotoluene	14.622	91	1319850	45.81	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144500.D
Acq On : 28 Oct 2020 9:59 am
Operator : SHANICAO
Sample : ICC5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 28 10:17:28 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

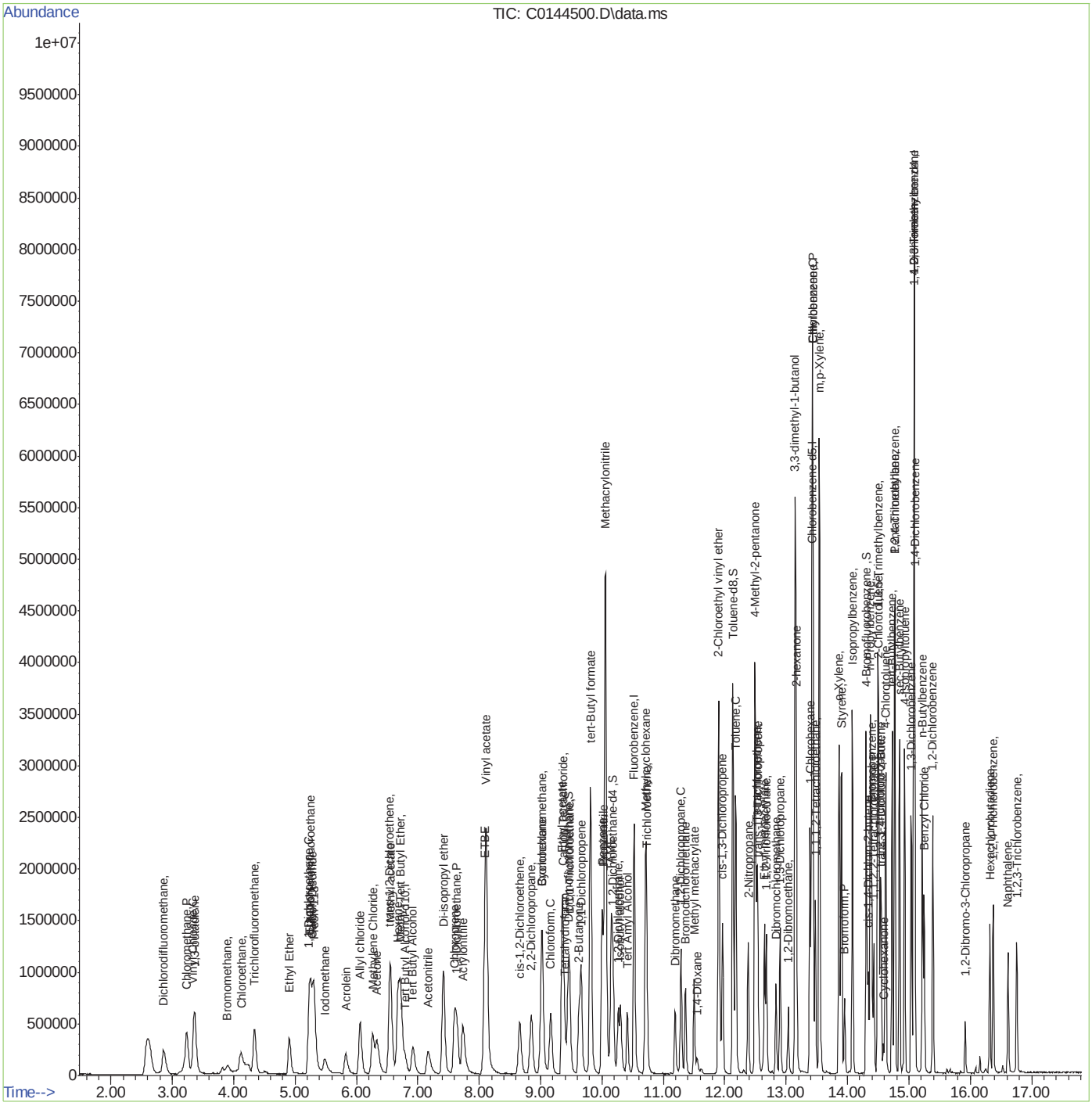
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	854558	46.16	ug/L	94
93) 1,2,4-Trimethylbenzene	14.774	105	1369016	39.69	ug/L	97
94) Pentachloroethane	14.774	167	252734	40.25	ug/L	90
95) sec-Butylbenzene	14.847	105	1688663	44.96	ug/L	98
96) 4-Isopropyltoluene	14.932	119	1406491	40.93	ug/L	100
97) 1,3-Dichlorobenzene	15.035	146	794869	42.14	ug/L	97
98) 1,2,3-Trimethylbenzene	15.078	105	1546212	41.14	ug/L	99
99) 1,4-Dichlorobenzene	15.096	146	803073	41.17	ug/L	98
100) n-Butylbenzene	15.218	92	759190	41.18	ug/L	100
101) Benzyl Chloride	15.248	126	190872	41.23	ug/L	97
102) 1,2-Dichlorobenzene	15.388	146	762951	41.89	ug/L	98
103) 1,2-Dibromo-3-Chloropr...	15.918	75	99484	39.52	ug/L	91
104) Hexachlorobutadiene	16.319	225	223115	34.22	ug/L	96
105) 1,2,4-Trichlorobenzene	16.374	180	406833	31.96	ug/L	97
106) Naphthalene	16.617	128	791855	29.70	ug/L	100
107) 1,2,3-Trichlorobenzene	16.757	180	351369	31.75	ug/L	94
109) Ethanol	5.241	45	101213m	1002.13	ug/L	
110) Tert Butyl Alcohol	6.920	59	578302	464.15	ug/L	98
111) Isobutyl alcohol	10.302	43	416287	1179.36	ug/L	96
112) Tert Amyl Alcohol	10.412	59	404132	437.42	ug/L	93
113) 1,4-Dioxane	11.556	88	103901	751.83	ug/L	97
114) 3,3-dimethyl-1-butanol	13.143	57	2001840m	2190.84	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144500.D
Acq On : 28 Oct 2020 9:59 am
Operator : SHANICAO
Sample : ICC5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 28 10:17:28 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration



Manual Integration Approval Summary

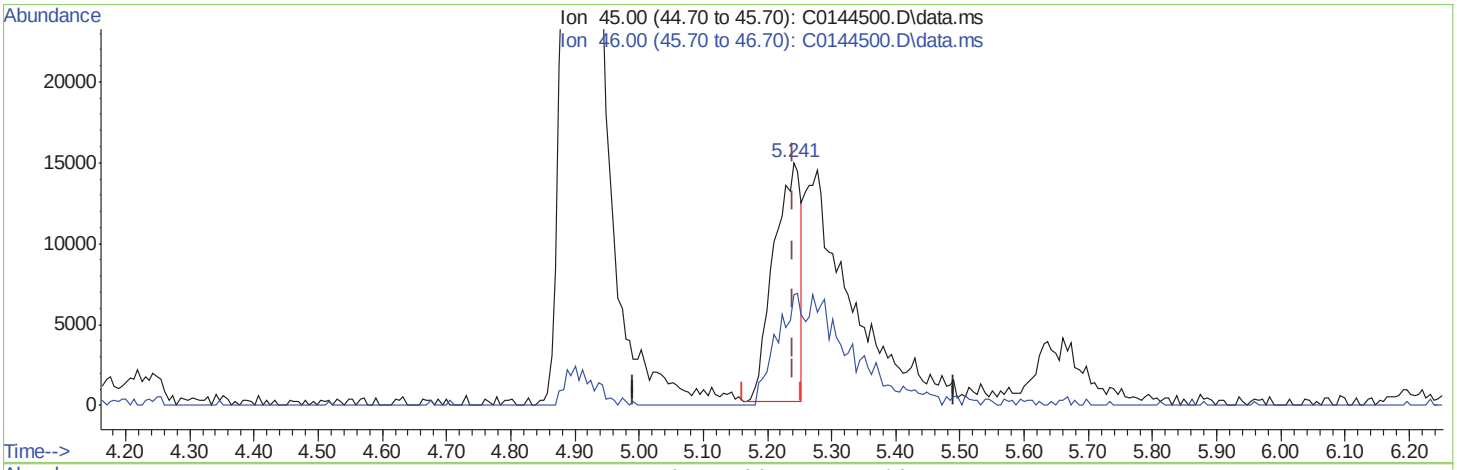
Sample Number: VC5797-ICC5797
Lab FileID: C0144500.D
Injection Time: 10/28/20 09:59
Method: SW846 8260B
Analyst approved: 10/28/20 13:54 Shanica O'Connor
Supervisor approved: 10/28/20 14:16 Melissa Mangual

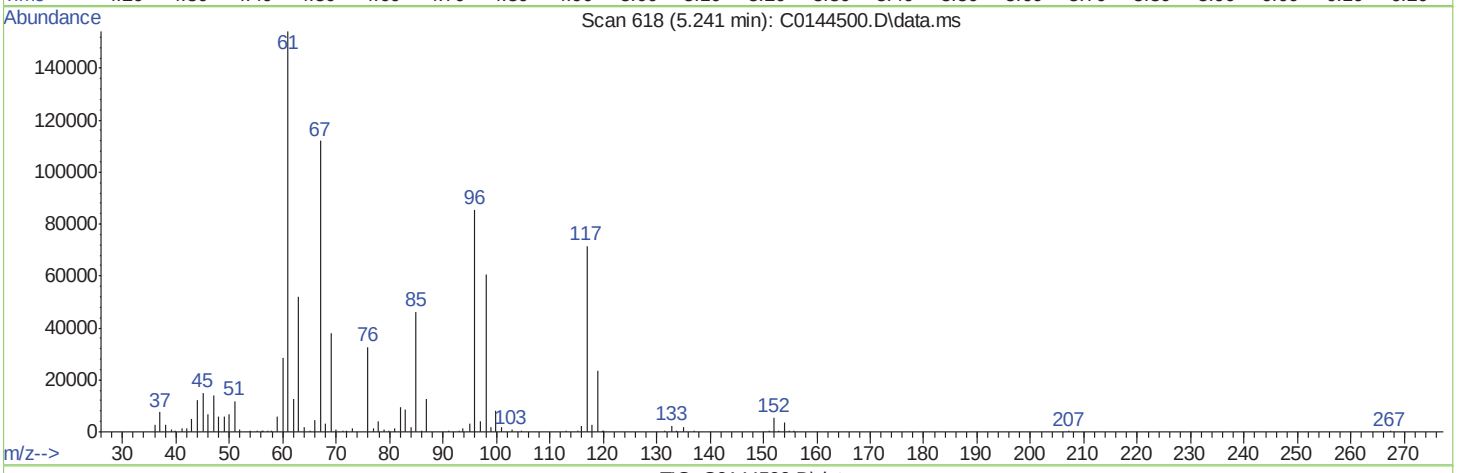
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.24	Split peak
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144500.D
Acq On : 28 Oct 2020 9:59 am
Operator : SHANICAO
Sample : ICC5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 28 10:15:55 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144500.D\data.ms

(109) Ethanol

5.241min (-0.000) 433.42ug/L

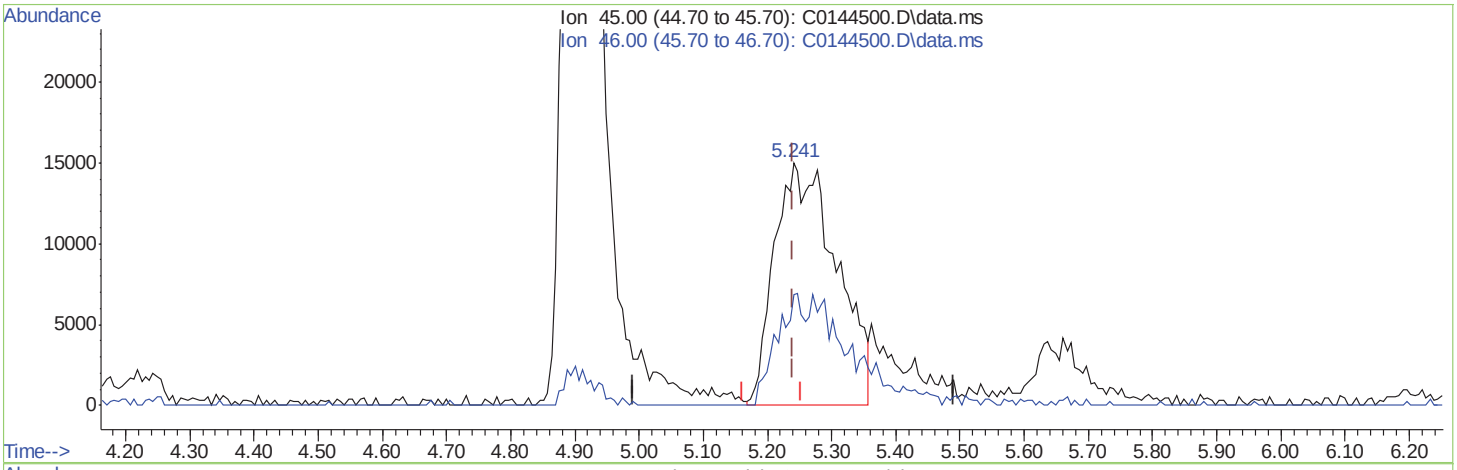
response 43775

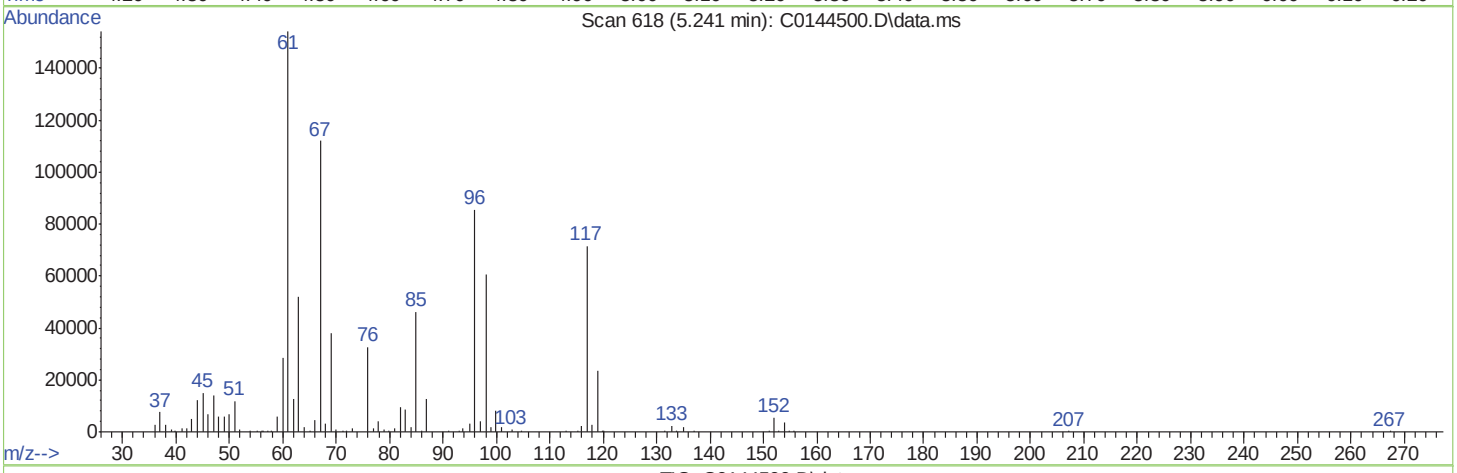
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	46.34
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144500.D
Acq On : 28 Oct 2020 9:59 am
Operator : SHANICAO
Sample : ICC5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 28 10:15:55 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144500.D\data.ms

(109) Ethanol

5.241min (-0.000) 1002.13ug/L m

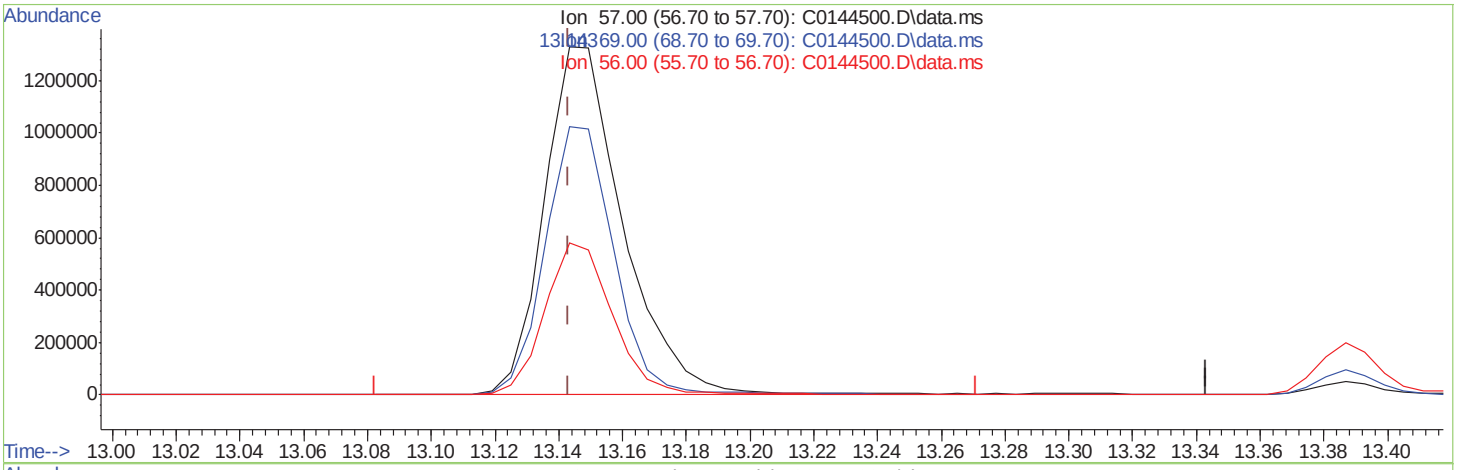
response 101213

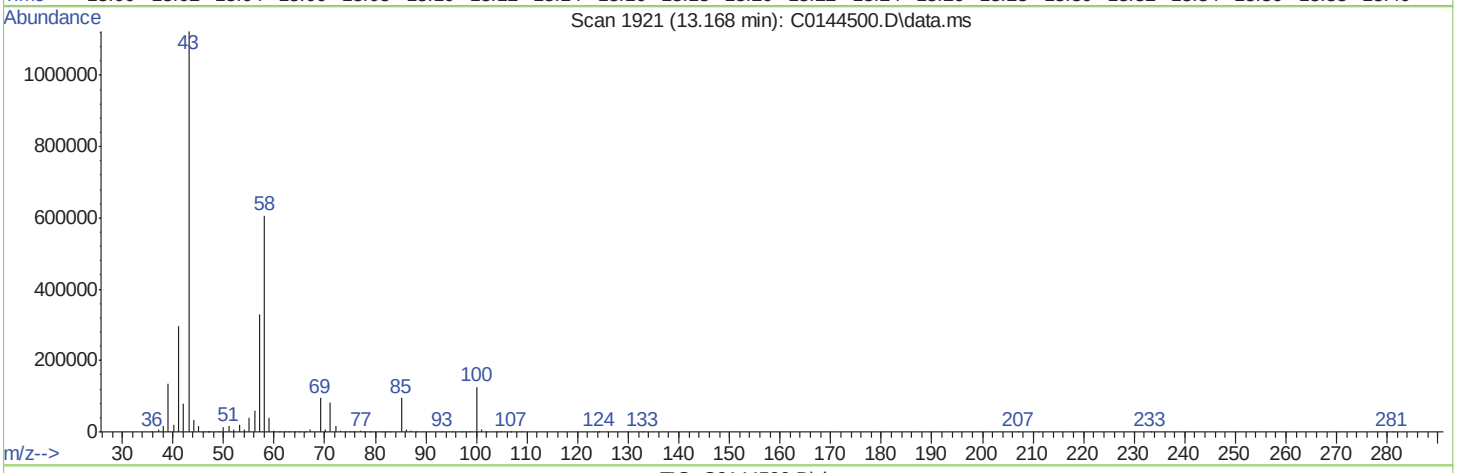
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	45.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144500.D
Acq On : 28 Oct 2020 9:59 am
Operator : SHANICAO
Sample : ICC5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 28 10:15:55 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144500.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (-0.000) 2462.68ug/L

response 2284645

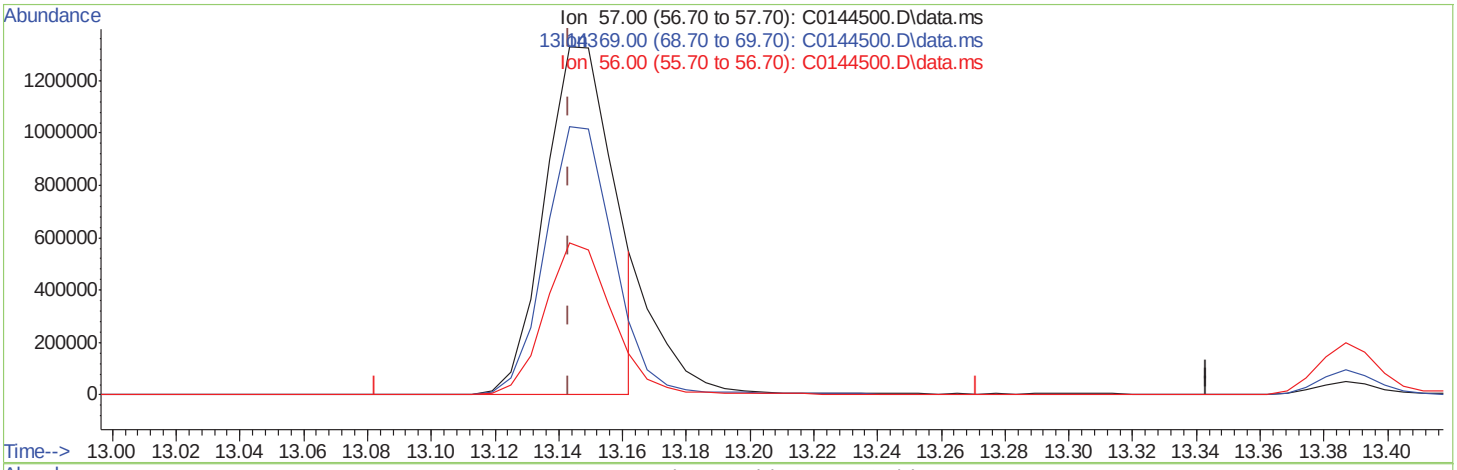
Ion	Exp%	Act%
57.00	100	100
69.00	82.30	67.07
56.00	40.10	38.10
0.00	0.00	0.00

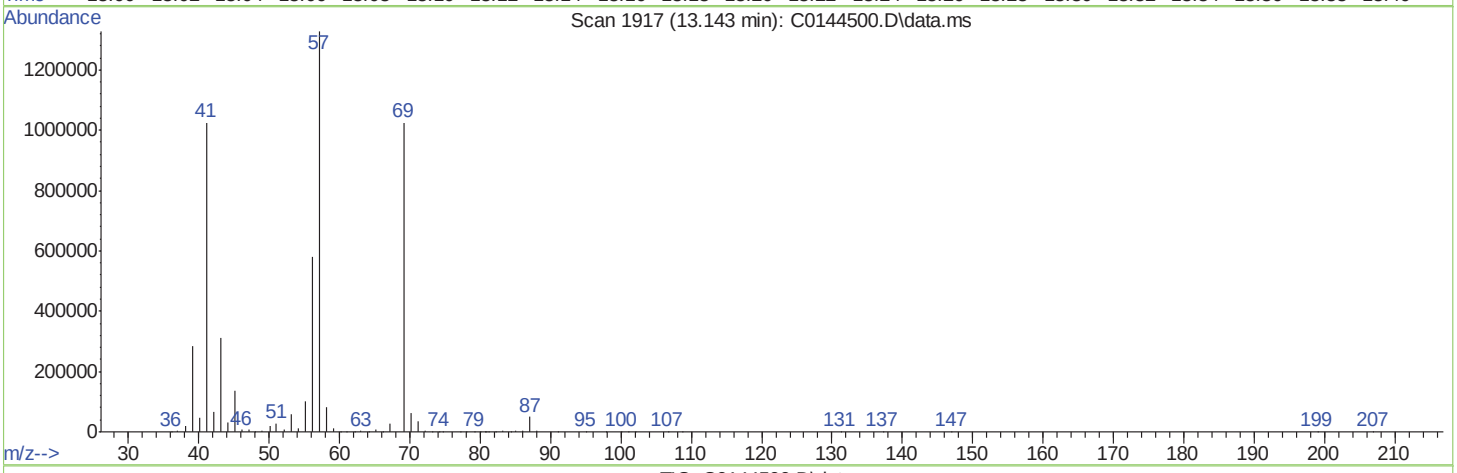
C0144500.D edits: 3,3-dimethyl-1-butanol

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144500.D
Acq On : 28 Oct 2020 9:59 am
Operator : SHANICAO
Sample : ICC5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 28 10:15:55 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144500.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (-0.000) 2190.84ug/L m

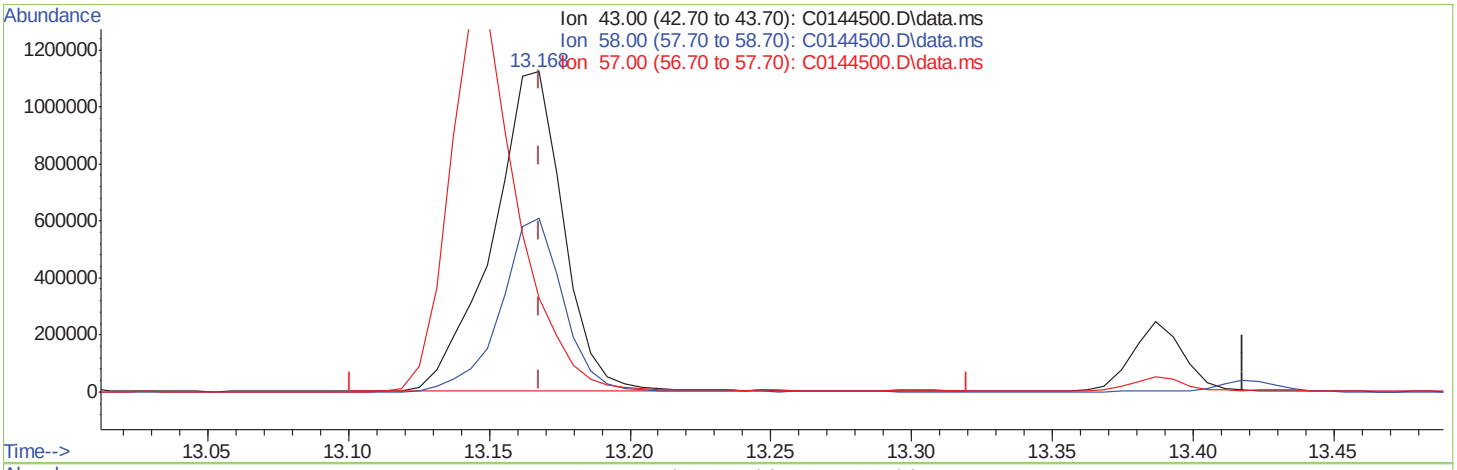
response 2001840

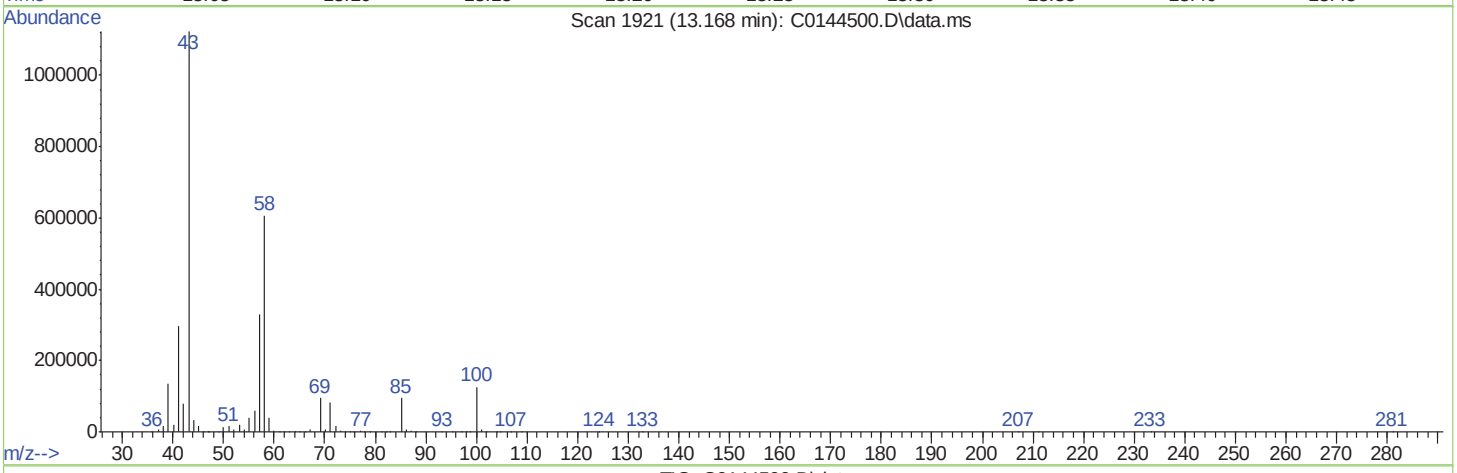
Ion	Exp%	Act%
57.00	100	100
69.00	82.30	76.54
56.00	40.10	43.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144500.D
Acq On : 28 Oct 2020 9:59 am
Operator : SHANICAO
Sample : ICC5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 28 10:15:55 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144500.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 278.60ug/L

response 1977861

Ion	Exp%	Act%
43.00	100	100
58.00	56.20	54.19
57.00	52.00	29.23
0.00	0.00	0.00

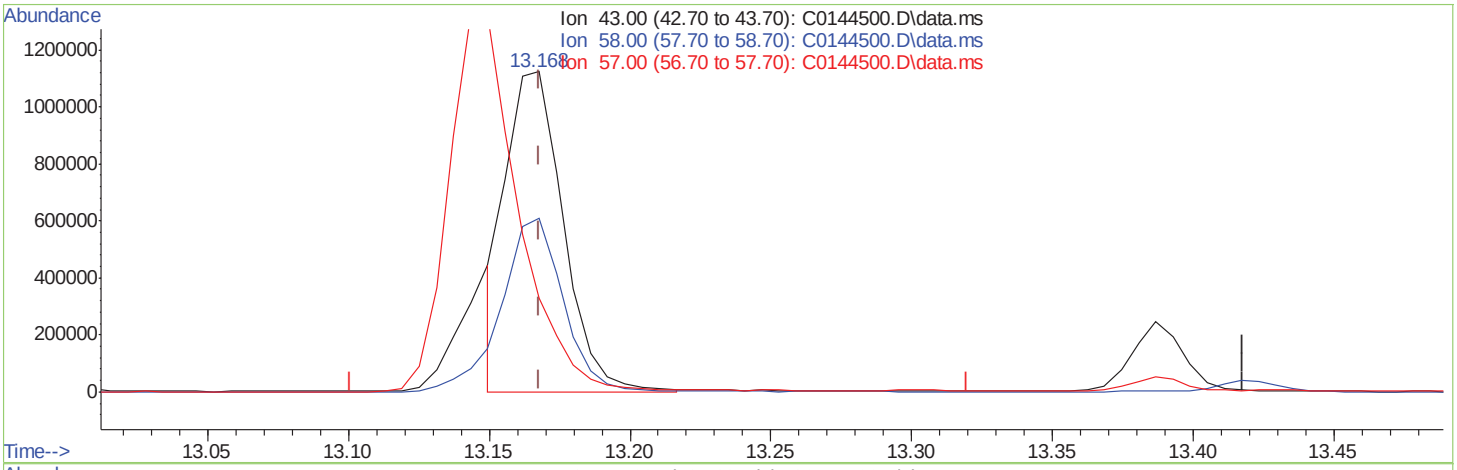
7.6.5.6

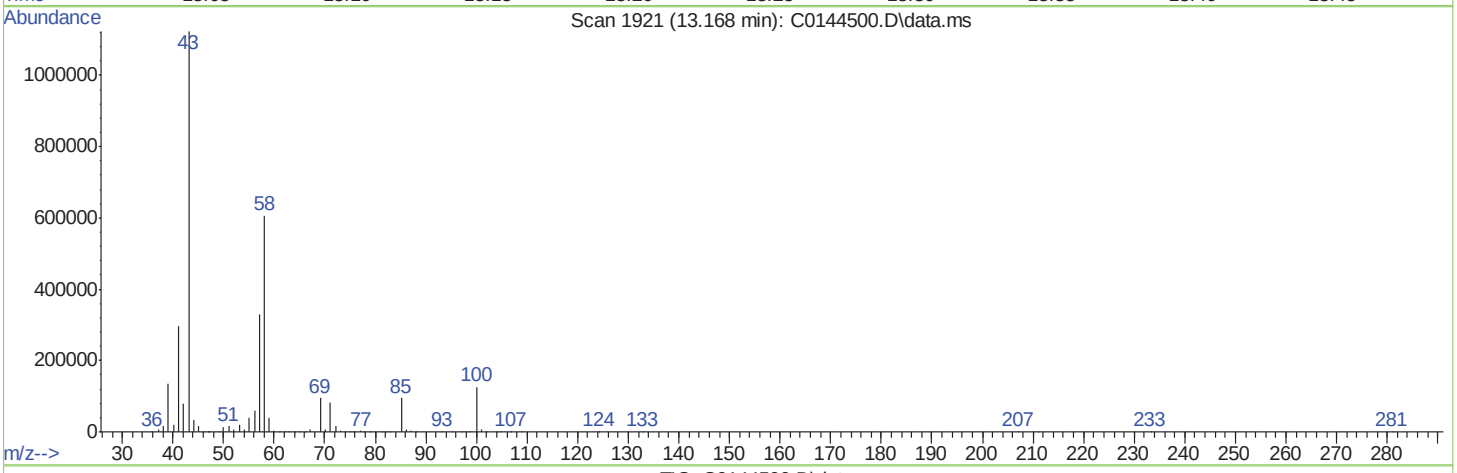
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144500.D
Acq On : 28 Oct 2020 9:59 am
Operator : SHANICAO
Sample : ICC5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 28 10:15:55 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144500.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 233.01ug/L m

response 1588544

Ion	Exp%	Act%
43.00	100	100
58.00	56.20	54.11
57.00	52.00	29.24
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 10/28/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144501.D
Acq On : 28 Oct 2020 10:24 am
Operator : SHANICAO
Sample : IC5797-6 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 28 10:49:17 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	2317822	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1703277	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	918377	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.817	65	330712	250.00	ug/L	0.04
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	584165	50.06	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.12%			
47) 1,2-Dichloroethane-d4	10.181	65	795296	50.31	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.62%			
58) Toluene-d8	12.134	98	2252593	51.31	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 102.62%			
80) 4-Bromofluorobenzene	14.305	174	759103	53.35	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 106.70%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	869215	71.41	ug/L	93
3) Chloromethane	3.221	50	897729	68.14	ug/L	97
4) 1,3-butadiene	3.361	39	681441	82.60	ug/L	86
5) Vinyl Chloride	3.343	62	876741	64.85	ug/L	98
6) Bromomethane	3.896	94	289476	49.57	ug/L	94
7) Chloroethane	4.109	64	546784	72.18	ug/L	93
8) Trichlorofluoromethane	4.322	101	1042599	64.30	ug/L	86
9) Ethyl Ether	4.912	59	681197	85.90	ug/L	87
10) 1,2-Dichlorotrifluoroe...	5.247	67	764453	84.49	ug/L	96
11) 1,1-Dichloroethene	5.223	61	1050736	79.46	ug/L	98
12) Freon 113	5.302	101	729501	76.27	ug/L	94
13) Carbon Disulfide	5.277	76	2194335	72.16	ug/L	88
14) Iodomethane	5.478	142	846504	70.16	ug/L	99
15) Acrolein	5.825	56	768102	350.52	ug/L	91
16) Allyl chloride	6.056	41	1218421	97.08	ug/L	91
17) Methylene Chloride	6.257	49	998956	83.31	ug/L	83
18) Acetone	6.336	43	1285975	391.90	ug/L	100
19) Methyl acetate	6.561	43	2932125	450.24	ug/L	94
20) trans-1,2-Dichloroethene	6.531	61	998808	81.82	ug/L	94
21) Hexane	6.671	56	643123	94.65	ug/L #	87
22) Methyl Tert Butyl Ether	6.725	73	2295348	72.84	ug/L	91
23) Acetonitrile	7.163	41	1092870	867.21	ug/L	96
24) Di-isopropyl ether	7.419	45	2653701	100.75	ug/L	94
25) Chloroprene	7.595	53	1067700	79.94	ug/L	96
26) 1,1-Dichloroethane	7.638	63	1280236	79.65	ug/L	93
27) Acrylonitrile	7.735	52	1185820	385.02	ug/L	97
28) ETBE	8.094	59	2591575	81.46	ug/L	93
29) Vinyl acetate	8.118	43	8664663	427.37	ug/L	97
30) cis-1,2-Dichloroethene	8.654	96	713420	75.20	ug/L	94
31) 2,2-Dichloropropane	8.842	77	1129053	65.66	ug/L	97
32) Bromochloromethane	9.025	128	321183	68.10	ug/L #	67
33) Cyclohexane	9.013	56	1294371	89.13	ug/L	89
34) Chloroform	9.165	83	1224641	70.32	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144501.D
Acq On : 28 Oct 2020 10:24 am
Operator : SHANICAO
Sample : IC5797-6 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 28 10:49:17 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
35) Ethyl acetate	9.353	43	4017574	437.42	ug/L		98
36) Tetrahydrofuran	9.396	42	293236	93.68	ug/L		87
38) Carbon Tetrachloride	9.366	117	856123	62.50	ug/L		94
39) 1,1,1-Trichloroethane	9.469	97	1086900	66.85	ug/L		93
40) 2-Butanone	9.627	43	1949775	422.92	ug/L		92
41) 1,1-Dichloropropene	9.658	75	1040877	71.94	ug/L		92
42) tert-Butyl formate	9.816	59	3724734	333.93	ug/L		93
43) Propionitrile	10.035	54	1126646	717.04	ug/L		80
44) Methacrylonitrile	10.059	41	4859511	901.45	ug/L		97
45) Benzene	9.998	78	2786457	71.21	ug/L		94
46) TAME	10.150	73	2325797	74.50	ug/L		90
48) 1,2-Dichloroethane	10.266	62	1066502	72.03	ug/L		91
49) Trichloroethene	10.728	95	752887	71.06	ug/L		98
50) Methylcyclohexane	10.710	83	1235775	73.80	ug/L		92
51) Dibromomethane	11.191	93	458596	73.81	ug/L		87
52) 1,2-Dichloropropane	11.288	63	793752	83.72	ug/L		93
53) Bromodichloromethane	11.361	83	969429	69.40	ug/L	#	97
54) Methyl methacrylate	11.501	41	825282	92.98	ug/L		89
55) 2-Chloroethyl vinyl ether	11.902	63	2566528	358.99	ug/L		87
56) cis-1,3-Dichloropropene	11.963	75	1334421	71.08	ug/L		88
59) Toluene	12.176	91	2912044	72.22	ug/L		95
60) 2-Nitropropane	12.383	41	1288898	424.43	ug/L		94
61) 4-Methyl-2-pentanone	12.493	43	3794825	462.44	ug/L		99
62) trans-1,3-Dichloropropene	12.541	75	1189352	77.75	ug/L	#	74
63) Tetrachloroethene	12.523	166	732280	66.27	ug/L		98
64) Ethyl methacrylate	12.645	69	1068162	78.88	ug/L		85
65) 1,1,2-Trichloroethane	12.681	83	579775	81.56	ug/L		94
66) Dibromochloromethane	12.833	129	735149	72.36	ug/L		98
67) 1,3-Dichloropropane	12.900	76	1225938	77.70	ug/L		87
68) 1,2-Dibromoethane	13.034	107	695535	78.41	ug/L		99
69) 2-hexanone	13.168	43	2872392m	366.14	ug/L		
70) 1-Chlorohexane	13.387	91	1035527	78.38	ug/L		81
71) Ethylbenzene	13.436	91	3122883	65.41	ug/L		96
72) Chlorobenzene	13.436	112	1815795	68.73	ug/L		89
73) 1,1,1,2-Tetrachloroethane	13.478	131	681325	70.50	ug/L		92
74) m,p-Xylene	13.539	91	4525745	118.62	ug/L		91
75) o-Xylene	13.861	91	2604449	64.71	ug/L		97
76) Styrene	13.904	104	2180735	68.83	ug/L		96
77) Bromoform	13.953	173	540830	62.59	ug/L		98
78) Isopropylbenzene	14.080	105	3015961	62.67	ug/L		96
81) cis-1,4-Dichloro-2-butene	14.336	53	337038	93.14	ug/L	#	87
82) n-Propylbenzene	14.372	91	3588066	75.68	ug/L		95
83) Bromobenzene	14.397	156	812497	78.15	ug/L		99
84) 1,1,2,2-Tetrachloroethane	14.433	83	918293	87.73	ug/L		96
85) 1,3,5-Trimethylbenzene	14.494	105	2455186	71.39	ug/L		95
86) 2-Chlorotoluene	14.506	91	2556713	78.07	ug/L		99
87) trans-1,4-Dichloro-2-B...	14.549	53	313966	89.14	ug/L		90
88) 1,2,3-Trichloropropane	14.537	110	271387	79.03	ug/L		83
89) Cyclohexanone	14.585	55	165961	465.14	ug/L		87
90) 4-Chlorotoluene	14.622	91	2329487	76.72	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144501.D
Acq On : 28 Oct 2020 10:24 am
Operator : SHANICAO
Sample : IC5797-6 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 28 10:49:17 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

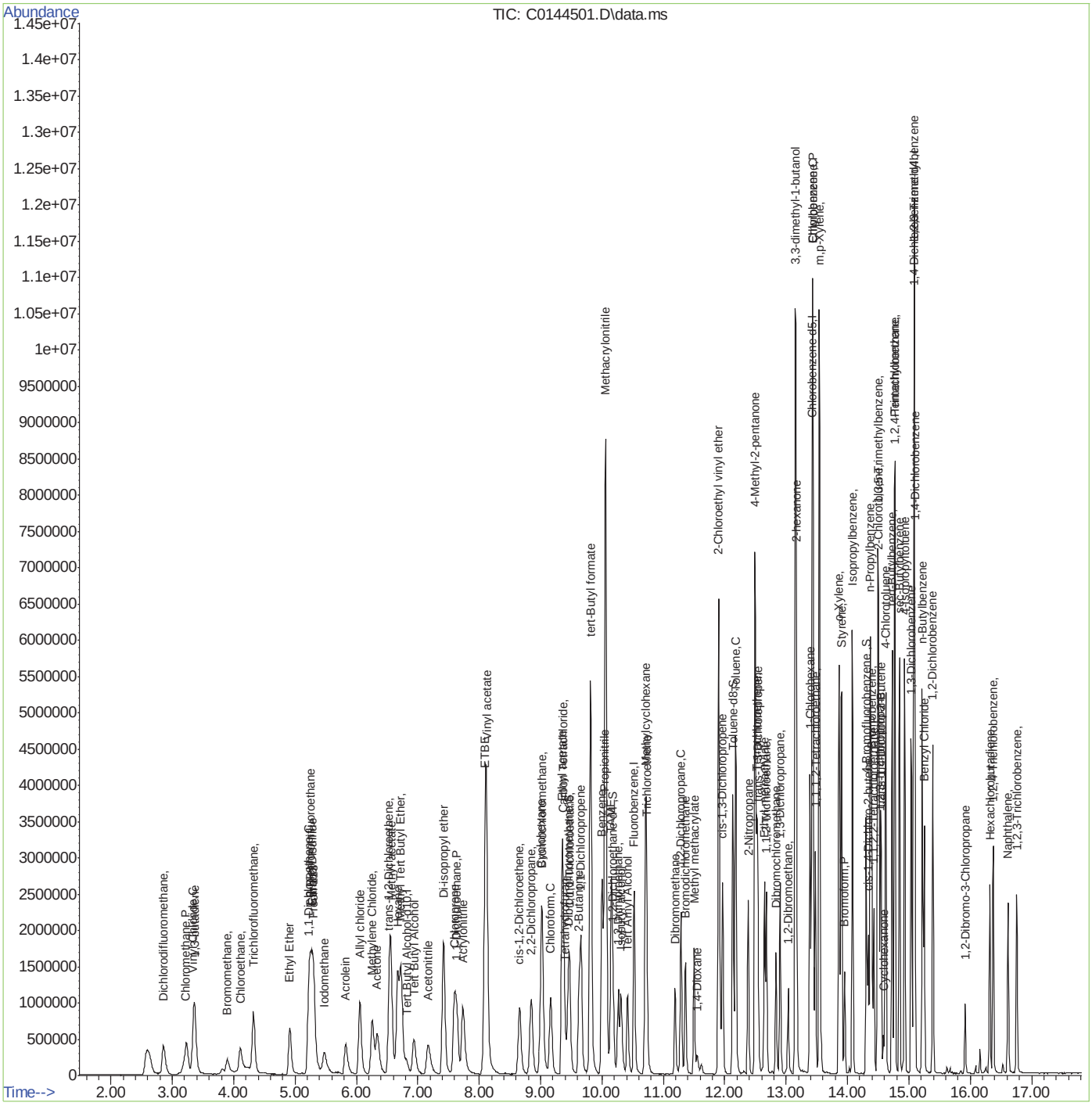
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
91) tert-Butylbenzene	14.725	91	1504824	77.13	ug/L		94
93) 1,2,4-Trimethylbenzene	14.768	105	2442923	67.20	ug/L		97
94) Pentachloroethane	14.774	167	486626	73.54	ug/L		96
95) sec-Butylbenzene	14.847	105	2917994	73.71	ug/L		96
96) 4-Isopropyltoluene	14.932	119	2507779	69.25	ug/L		98
97) 1,3-Dichlorobenzene	15.036	146	1427876	71.83	ug/L		96
98) 1,2,3-Trimethylbenzene	15.078	105	2753164	69.50	ug/L		96
99) 1,4-Dichlorobenzene	15.096	146	1430986	69.61	ug/L		97
100) n-Butylbenzene	15.218	92	1424207	73.29	ug/L		95
101) Benzyl Chloride	15.248	126	378088	73.65	ug/L	#	89
102) 1,2-Dichlorobenzene	15.388	146	1381033	71.94	ug/L		97
103) 1,2-Dibromo-3-Chloropr...	15.918	75	191490	72.18	ug/L		91
104) Hexachlorobutadiene	16.319	225	408248	59.41	ug/L		96
105) 1,2,4-Trichlorobenzene	16.374	180	783889	58.42	ug/L		97
106) Naphthalene	16.617	128	1581936	56.30	ug/L		100
107) 1,2,3-Trichlorobenzene	16.757	180	665581	57.06	ug/L		93
109) Ethanol	5.277	45	202304m	1787.30	ug/L		
110) Tert Butyl Alcohol	6.938	59	1094542	783.87	ug/L		98
111) Isobutyl alcohol	10.309	43	788425	1993.06	ug/L		97
112) Tert Amyl Alcohol	10.418	59	789920	758.66	ug/L		96
113) 1,4-Dioxane	11.556	88	190042	1227.04	ug/L		96
114) 3,3-dimethyl-1-butanol	13.150	57	3699689m	3385.37	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144501.D
Acq On : 28 Oct 2020 10:24 am
Operator : SHANICAO
Sample : IC5797-6 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 28 10:49:17 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration



7.6.6

7

Manual Integration Approval Summary

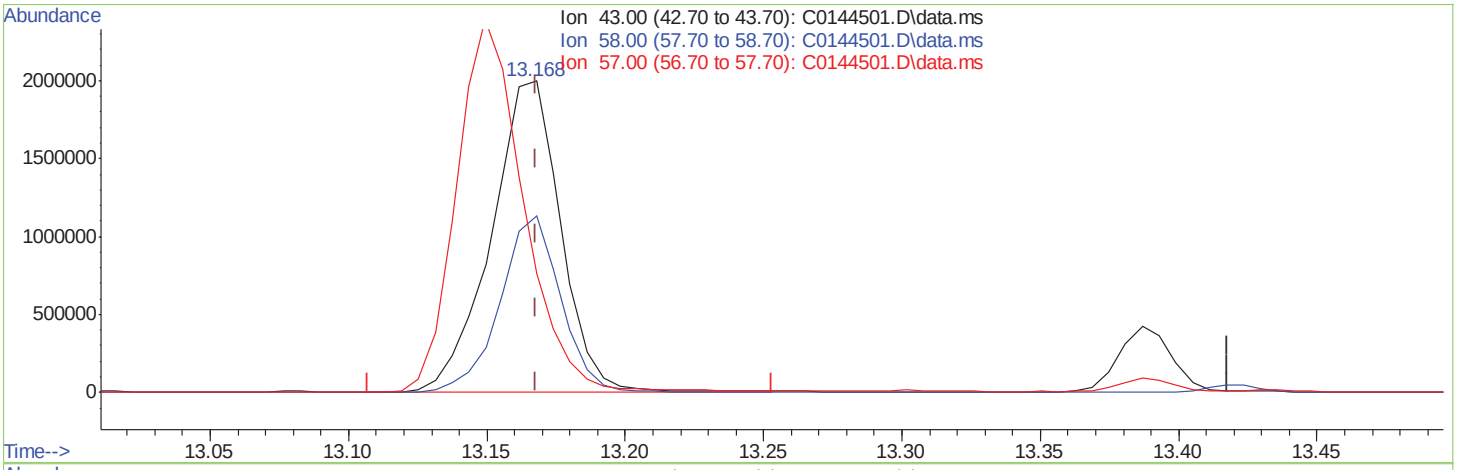
Sample Number: VC5797-IC5797
Lab FileID: C0144501.D
Injection Time: 10/28/20 10:24
Method: SW846 8260B
Analyst approved: 10/28/20 13:54 Shanica O'Connor
Supervisor approved: 10/28/20 14:16 Melissa Mangual

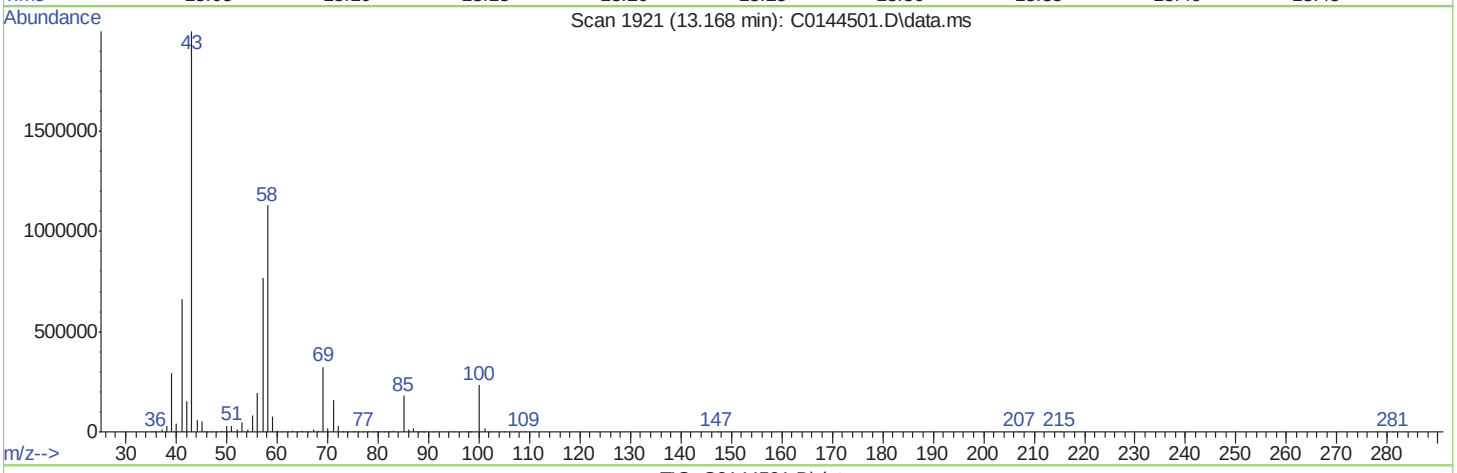
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.28	Split peak
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144501.D
Acq On : 28 Oct 2020 10:24 am
Operator : SHANICAO
Sample : IC5797-6 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 28 10:47:44 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144501.D\data.ms

(69) 2-hexanone

13.168min (+0.000) 425.28ug/L

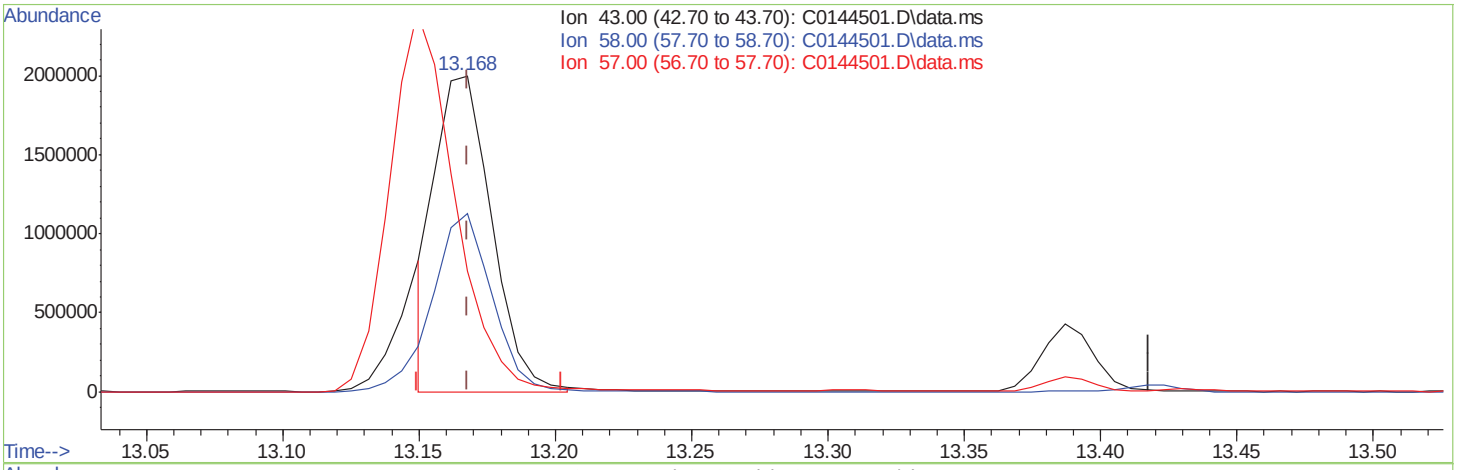
response 3496132

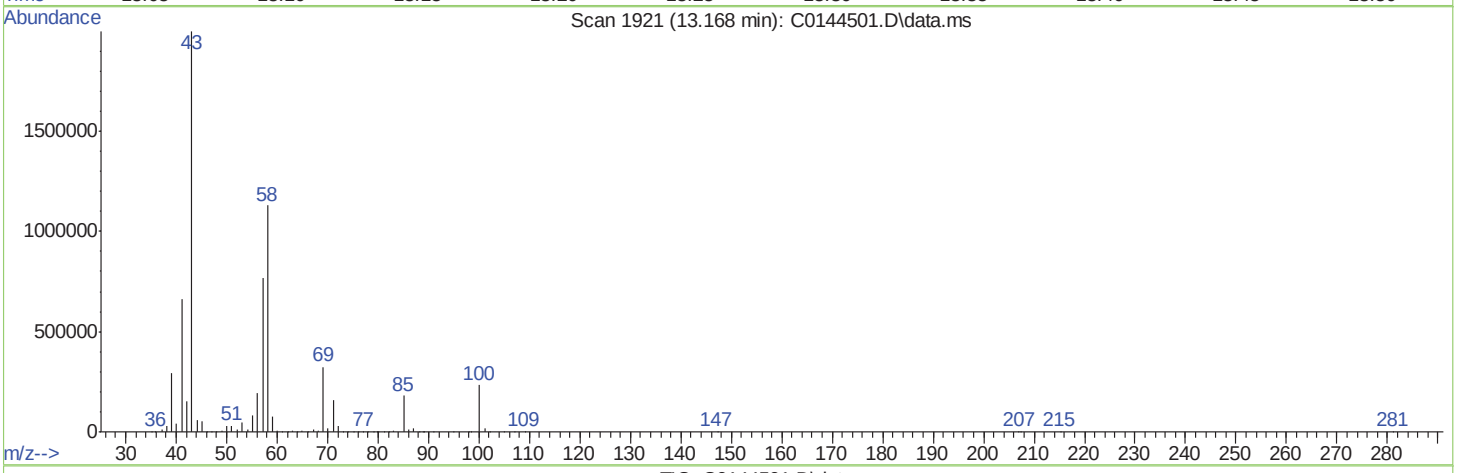
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	56.57
57.00	52.00	38.31
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144501.D
Acq On : 28 Oct 2020 10:24 am
Operator : SHANICAO
Sample : IC5797-6 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 28 10:47:44 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144501.D\data.ms

(69) 2-hexanone

13.168min (+0.000) 366.14ug/L m

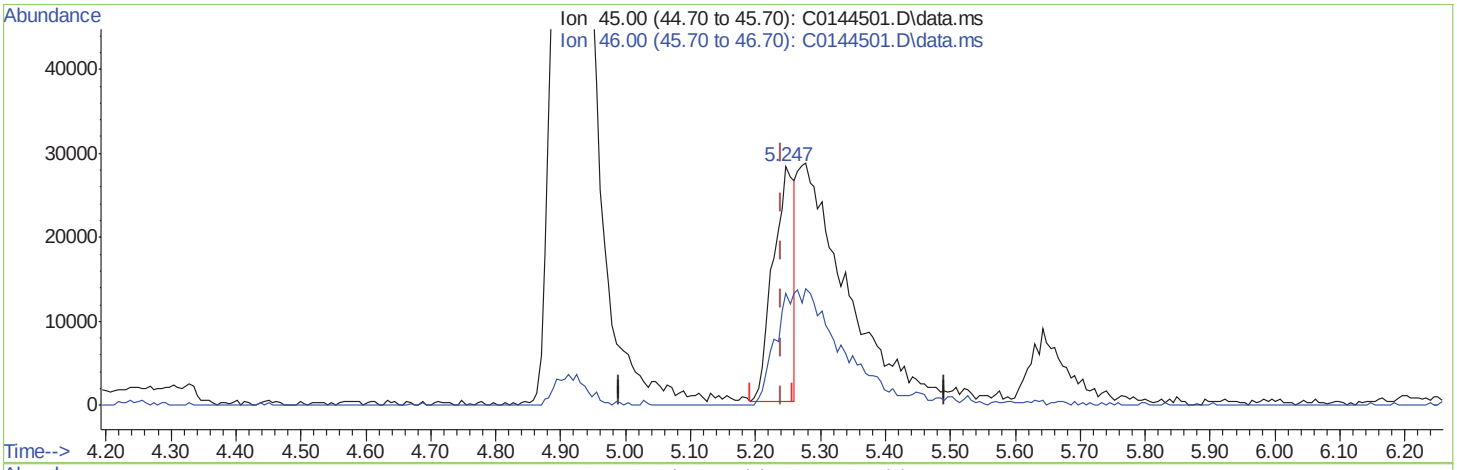
response 2872392

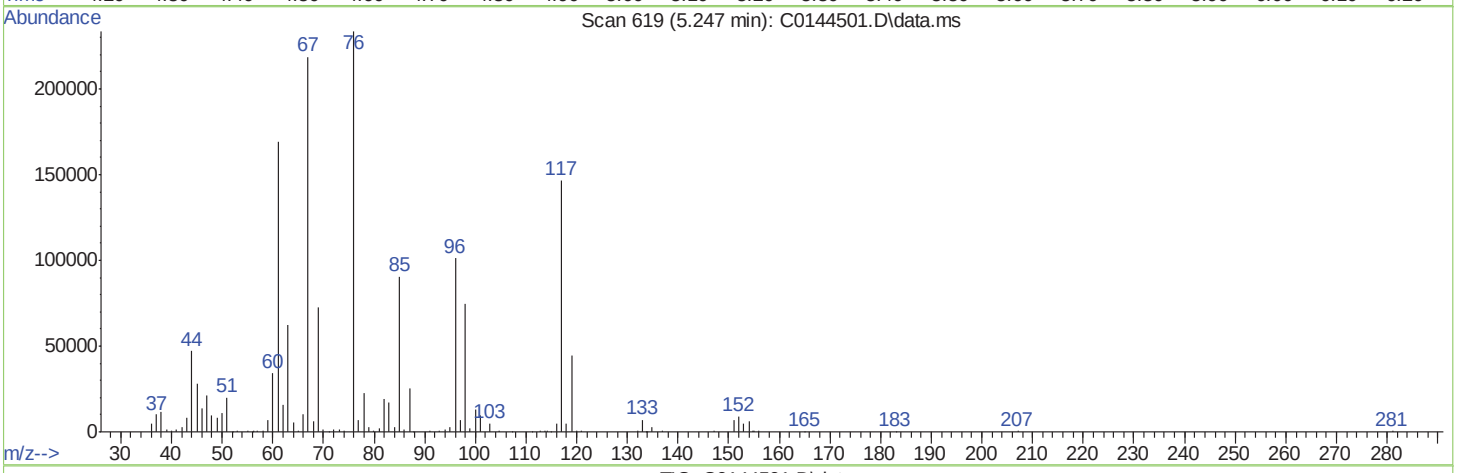
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	56.55
57.00	52.00	38.32
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144501.D
Acq On : 28 Oct 2020 10:24 am
Operator : SHANICAO
Sample : IC5797-6 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 28 10:47:44 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144501.D\data.ms

(109) Ethanol

5.247min (+0.006) 556.18ug/L

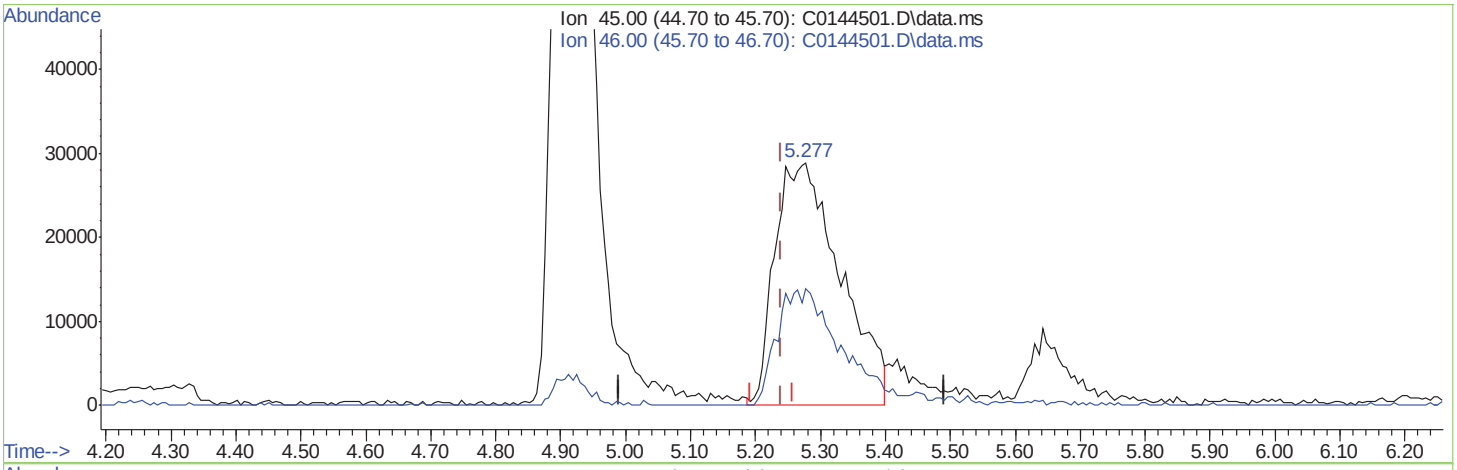
response 62954

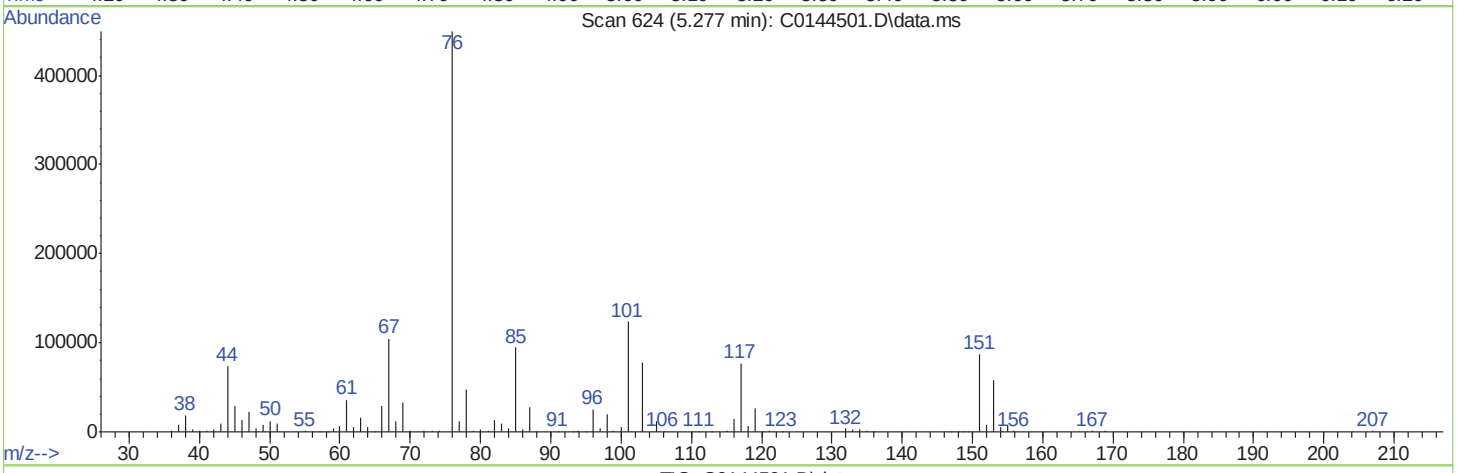
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	47.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144501.D
Acq On : 28 Oct 2020 10:24 am
Operator : SHANICAO
Sample : IC5797-6 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 28 10:47:44 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144501.D\data.ms

(109) Ethanol

5.277min (+0.037) 1787.30ug/L m

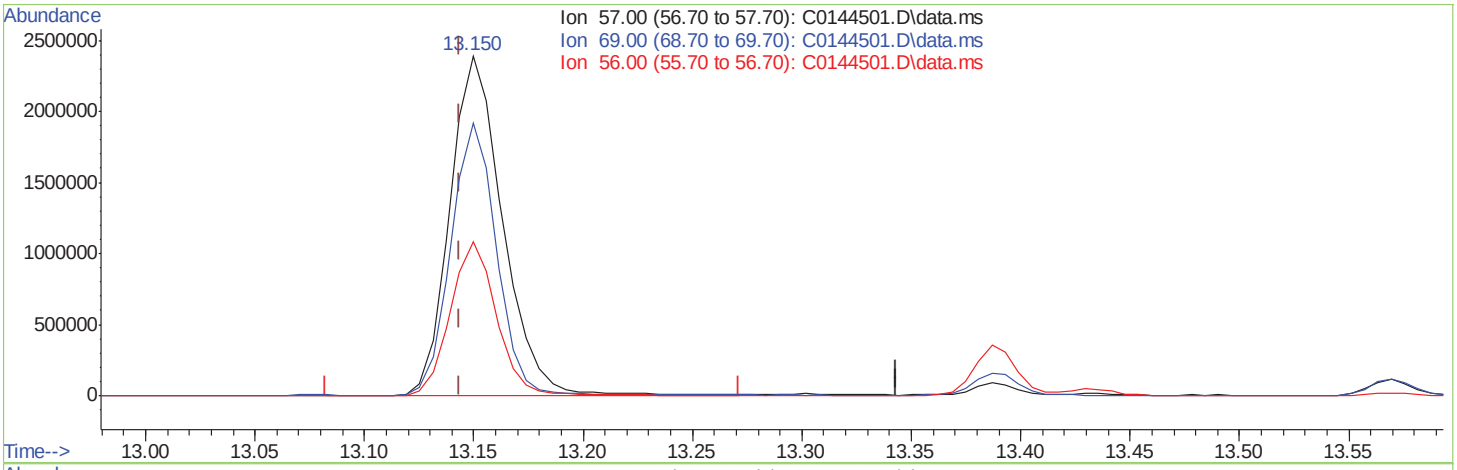
response 202304

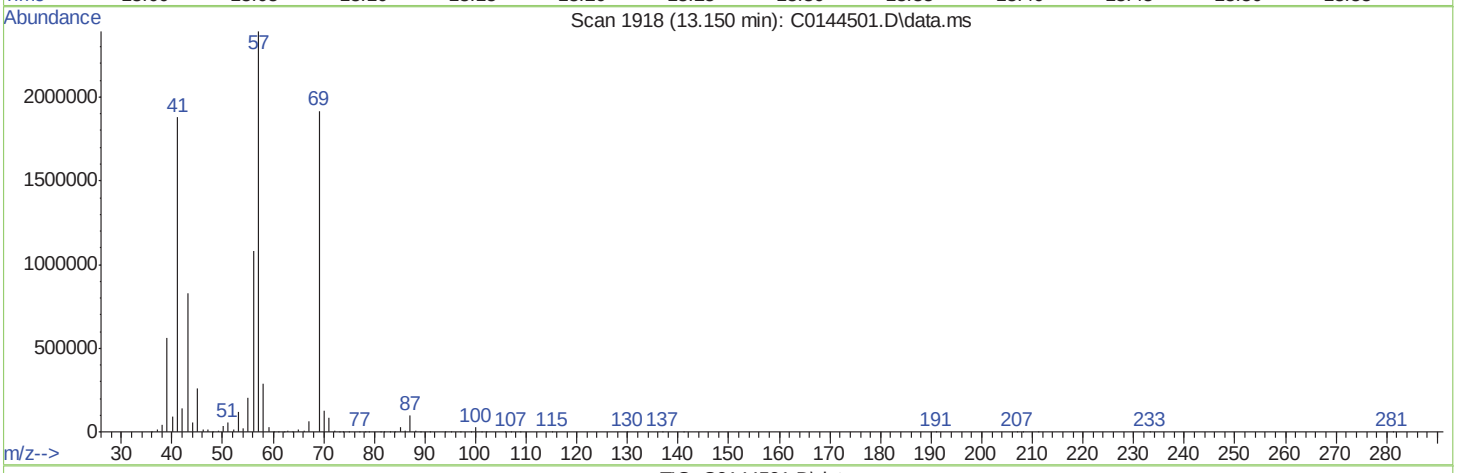
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	48.01
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144501.D
Acq On : 28 Oct 2020 10:24 am
Operator : SHANICAO
Sample : IC5797-6 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 28 10:47:44 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144501.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.150min (+0.006) 3637.46ug/L

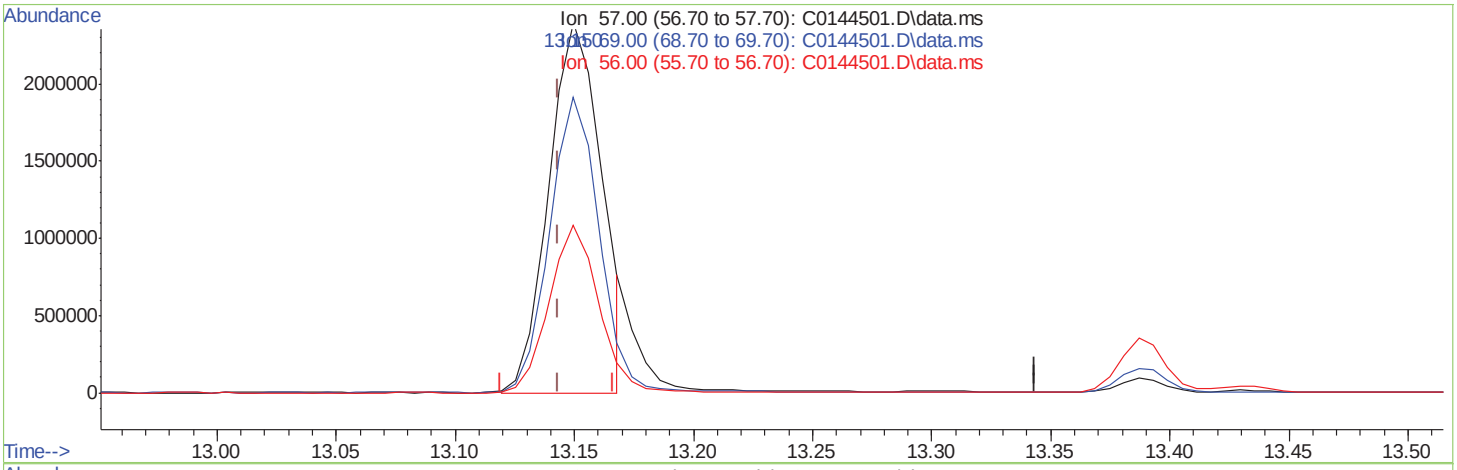
response 4028020

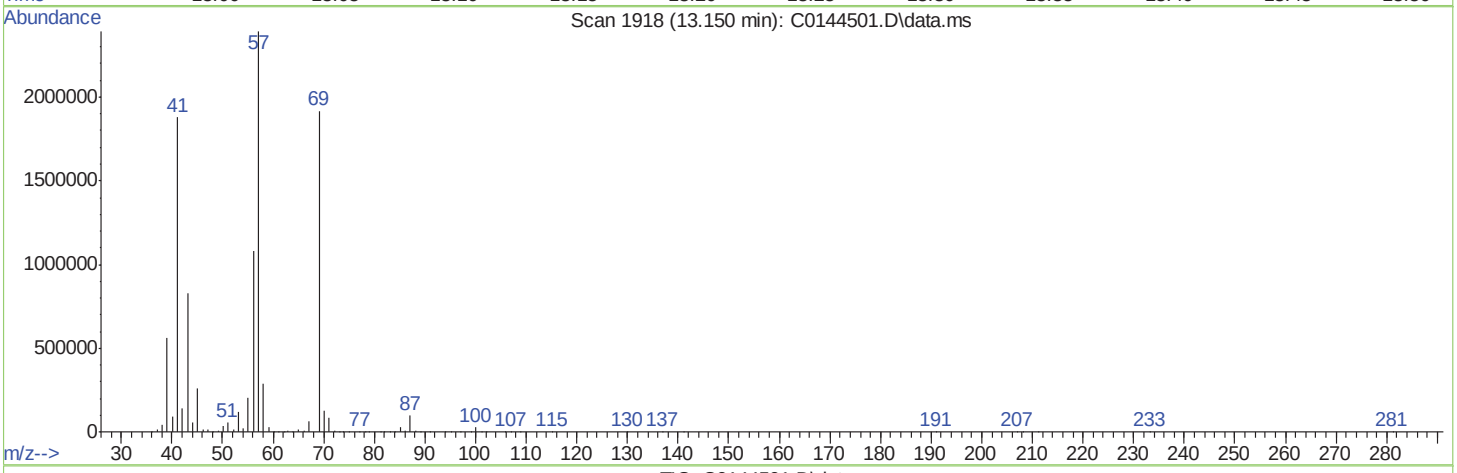
Ion	Exp%	Act%
57.00	100	100
69.00	82.30	69.86
56.00	40.10	39.51
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144501.D
Acq On : 28 Oct 2020 10:24 am
Operator : SHANICAO
Sample : IC5797-6 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 28 10:47:44 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144501.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.150min (+0.006) 3385.37ug/L m

response 3699689

Ion	Exp%	Act%
57.00	100	100
69.00	82.30	76.06
56.00	40.10	43.02
0.00	0.00	0.00

C0144502.D

Manual Integrations APPROVED (compounds with "m" flag)

Melissa Mangual 10/28/20 14:16

7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:08:35 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	2354085	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1714426	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	933005	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.835	65	320848	250.00	ug/L	0.05
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	594436	50.16	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.32%			
47) 1,2-Dichloroethane-d4	10.181	65	786461	48.98	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.96%			
58) Toluene-d8	12.134	98	2289668	51.81	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 103.62%			
80) 4-Bromofluorobenzene	14.305	174	761230	52.66	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 105.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	1156466	93.55	ug/L	95
3) Chloromethane	3.221	50	1279252	95.60	ug/L	96
4) 1,3-butadiene	3.367	39	853980	101.92	ug/L	93
5) Vinyl Chloride	3.343	62	1170726	85.26	ug/L	100
6) Bromomethane	3.896	94	454031	73.16	ug/L	96
7) Chloroethane	4.103	64	714791	92.91	ug/L	94
8) Trichlorofluoromethane	4.322	101	1317331	80.00	ug/L	88
9) Ethyl Ether	4.918	59	965172	119.83	ug/L	89
10) 1,2-Dichlorotrifluoroe...	5.247	67	1048074	114.05	ug/L	95
11) 1,1-Dichloroethene	5.217	61	1440252	107.24	ug/L	98
12) Freon 113	5.290	101	1005606	103.52	ug/L	89
13) Carbon Disulfide	5.265	76	3013542	97.57	ug/L	83
14) Iodomethane	5.472	142	1127261	92.35	ug/L	97
15) Acrolein	5.831	56	1104206	472.25	ug/L	89
16) Allyl chloride	6.050	41	1663587	130.03	ug/L	90
17) Methylene Chloride	6.257	49	1374908	120.95	ug/L	84
18) Acetone	6.354	43	1806485	524.21	ug/L	99
19) Methyl acetate	6.561	43	4144994	615.31	ug/L	95
20) trans-1,2-Dichloroethene	6.537	61	1383467	111.59	ug/L	96
21) Hexane	6.671	56	874144	139.80	ug/L #	88
22) Methyl Tert Butyl Ether	6.731	73	3254166	101.67	ug/L	95
23) Acetonitrile	7.175	41	1557295	1216.71	ug/L	96
24) Di-isopropyl ether	7.425	45	3643236	136.19	ug/L	96
25) Chloroprene	7.595	53	1499145	110.51	ug/L	96
26) 1,1-Dichloroethane	7.638	63	1788298	109.54	ug/L	93
27) Acrylonitrile	7.741	52	1699433	520.31	ug/L	98
28) ETBE	8.094	59	3633724	112.45	ug/L	94
29) Vinyl acetate	8.118	43	11450258	553.00	ug/L	94
30) cis-1,2-Dichloroethene	8.654	96	999323	103.72	ug/L	96
31) 2,2-Dichloropropane	8.848	77	1554517	89.00	ug/L	98
32) Bromochloromethane	9.031	128	425369	94.85	ug/L #	73
33) Cyclohexane	9.013	56	1767786	119.85	ug/L	91
34) Chloroform	9.165	83	1709453	96.65	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:08:35 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
35) Ethyl acetate	9.359	43	5473108	581.52	ug/L		97
36) Tetrahydrofuran	9.402	42	393740	130.03	ug/L		87
38) Carbon Tetrachloride	9.366	117	1175774	84.52	ug/L		96
39) 1,1,1-Trichloroethane	9.469	97	1493695	90.45	ug/L		93
40) 2-Butanone	9.627	43	2694409	559.14	ug/L		92
41) 1,1-Dichloropropene	9.658	75	1412550	96.12	ug/L		90
42) tert-Butyl formate	9.816	59	5060064	446.65	ug/L		93
43) Propionitrile	10.041	54	1617828	972.13	ug/L	#	64
44) Methacrylonitrile	10.065	41	6501479	1187.46	ug/L		94
45) Benzene	9.998	78	3791479	95.41	ug/L		92
46) TAME	10.156	73	3228926	101.83	ug/L		90
48) 1,2-Dichloroethane	10.266	62	1476780	98.20	ug/L		89
49) Trichloroethene	10.728	95	1035984	96.28	ug/L		98
50) Methylcyclohexane	10.704	83	1674439	98.45	ug/L		90
51) Dibromomethane	11.191	93	639009	102.07	ug/L		87
52) 1,2-Dichloropropane	11.288	63	1099834	114.21	ug/L		94
53) Bromodichloromethane	11.361	83	1350029	95.15	ug/L	#	96
54) Methyl methacrylate	11.501	41	1152519	124.61	ug/L		87
55) 2-Chloroethyl vinyl ether	11.902	63	3500503	479.12	ug/L		86
56) cis-1,3-Dichloropropene	11.969	75	1856275	97.35	ug/L		88
59) Toluene	12.176	91	3922160	96.64	ug/L		91
60) 2-Nitropropane	12.383	41	1776887	581.31	ug/L		93
61) 4-Methyl-2-pentanone	12.493	43	5058398	612.41	ug/L		94
62) trans-1,3-Dichloropropene	12.541	75	1633664	106.10	ug/L	#	72
63) Tetrachloroethene	12.523	166	1000656	89.97	ug/L		99
64) Ethyl methacrylate	12.645	69	1474247	107.26	ug/L		85
65) 1,1,2-Trichloroethane	12.675	83	817855	114.31	ug/L		97
66) Dibromochloromethane	12.833	129	1035474	101.25	ug/L		97
67) 1,3-Dichloropropane	12.900	76	1706206	107.44	ug/L		87
68) 1,2-Dibromoethane	13.034	107	971906	108.86	ug/L		99
69) 2-hexanone	13.168	43	4026106m	470.24	ug/L		
70) 1-Chlorohexane	13.387	91	1408242	105.90	ug/L		81
71) Ethylbenzene	13.435	91	4162076	86.60	ug/L		93
72) Chlorobenzene	13.435	112	2498921	93.98	ug/L		88
73) 1,1,1,2-Tetrachloroethane	13.478	131	952167	97.89	ug/L		93
74) m,p-Xylene	13.539	91	5815722	151.44	ug/L		84
75) o-Xylene	13.861	91	3493501	86.24	ug/L		94
76) Styrene	13.904	104	3000041	94.07	ug/L		95
77) Bromoform	13.953	173	767933	88.30	ug/L		98
78) Isopropylbenzene	14.080	105	4012220	82.83	ug/L		91
81) cis-1,4-Dichloro-2-butene	14.336	53	482116	126.34	ug/L	#	87
82) n-Propylbenzene	14.372	91	4733154	98.27	ug/L		90
83) Bromobenzene	14.397	156	1125164	106.53	ug/L		98
84) 1,1,2,2-Tetrachloroethane	14.433	83	1298136	122.08	ug/L		95
85) 1,3,5-Trimethylbenzene	14.494	105	3304147	94.57	ug/L		92
86) 2-Chlorotoluene	14.506	91	3458475	103.95	ug/L		96
87) trans-1,4-Dichloro-2-B...	14.549	53	433635	116.16	ug/L		94
88) 1,2,3-Trichloropropane	14.543	110	389417	111.62	ug/L		81
89) Cyclohexanone	14.591	55	224632	619.71	ug/L		92
90) 4-Chlorotoluene	14.622	91	3189908	103.41	ug/L		94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:08:35 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration

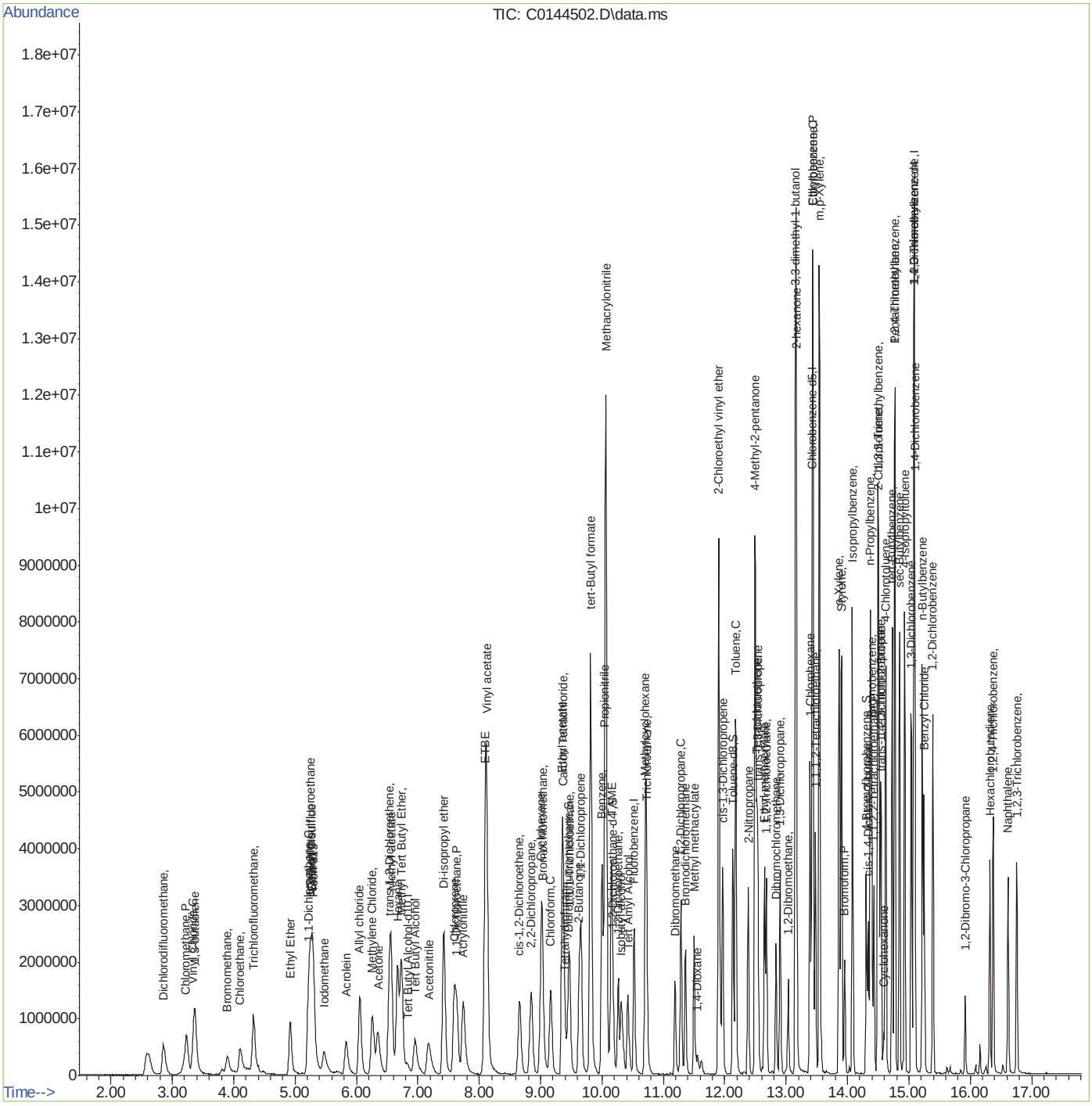
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
91) tert-Butylbenzene	14.725	91	2118058	106.85	ug/L		93
93) 1,2,4-Trimethylbenzene	14.774	105	3329957	90.16	ug/L		91
94) Pentachloroethane	14.774	167	699231	104.01	ug/L		85
95) sec-Butylbenzene	14.847	105	3955014	98.34	ug/L		95
96) 4-Isopropyltoluene	14.932	119	3406021	92.58	ug/L		93
97) 1,3-Dichlorobenzene	15.035	146	2000565	99.06	ug/L		93
98) 1,2,3-Trimethylbenzene	15.078	105	3761830	93.47	ug/L		94
99) 1,4-Dichlorobenzene	15.096	146	1992859	95.43	ug/L		94
100) n-Butylbenzene	15.218	92	2042417	103.45	ug/L		91
101) Benzyl Chloride	15.248	126	557075	102.33	ug/L	#	84
102) 1,2-Dichlorobenzene	15.388	146	1943837	99.67	ug/L		95
103) 1,2-Dibromo-3-Chloropr...	15.918	75	280490	104.07	ug/L		90
104) Hexachlorobutadiene	16.319	225	585128	83.82	ug/L		95
105) 1,2,4-Trichlorobenzene	16.374	180	1150409	84.39	ug/L		97
106) Naphthalene	16.617	128	2338186	81.92	ug/L		100
107) 1,2,3-Trichlorobenzene	16.757	180	1003022	84.64	ug/L		93
109) Ethanol	5.283	45	289385m	2635.24	ug/L		
110) Tert Butyl Alcohol	6.956	59	1573523	1161.55	ug/L		94
111) Isobutyl alcohol	10.315	43	1111879m	2897.13	ug/L		
112) Tert Amyl Alcohol	10.424	59	1106050	1088.74	ug/L		95
113) 1,4-Dioxane	11.556	88	271906	1809.58	ug/L		95
114) 3,3-dimethyl-1-butanol	13.156	57	4998219m	4461.16	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:08:35 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration



Manual Integration Approval Summary

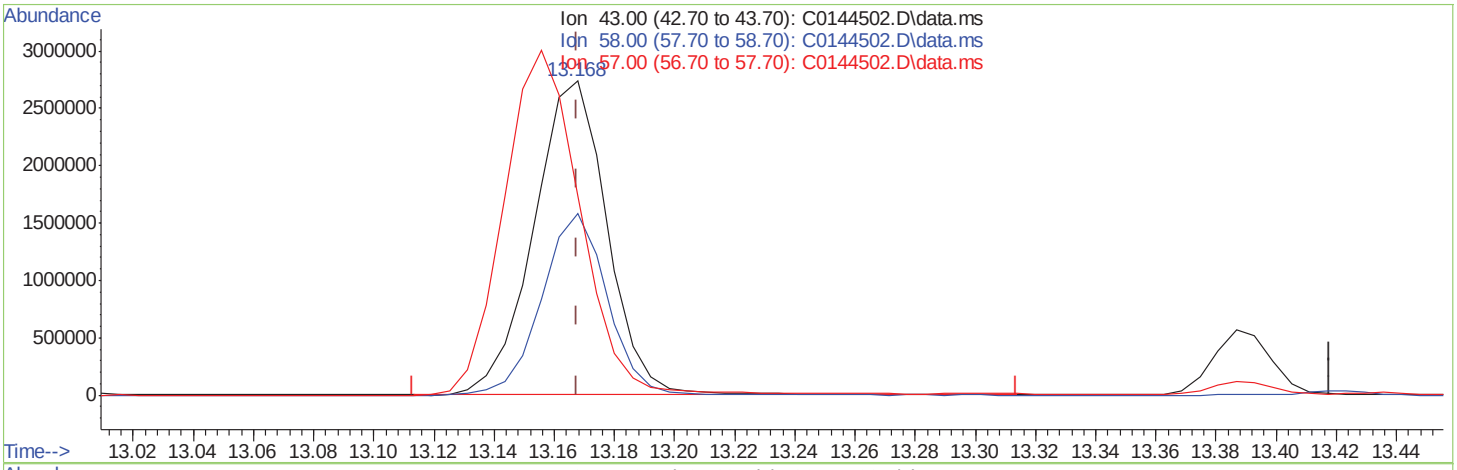
Sample Number: VC5797-IC5797
Lab FileID: C0144502.D
Injection Time: 10/28/20 10:50
Method: SW846 8260B
Analyst approved: 10/28/20 13:54 Shanica O'Connor
Supervisor approved: 10/28/20 14:16 Melissa Mangual

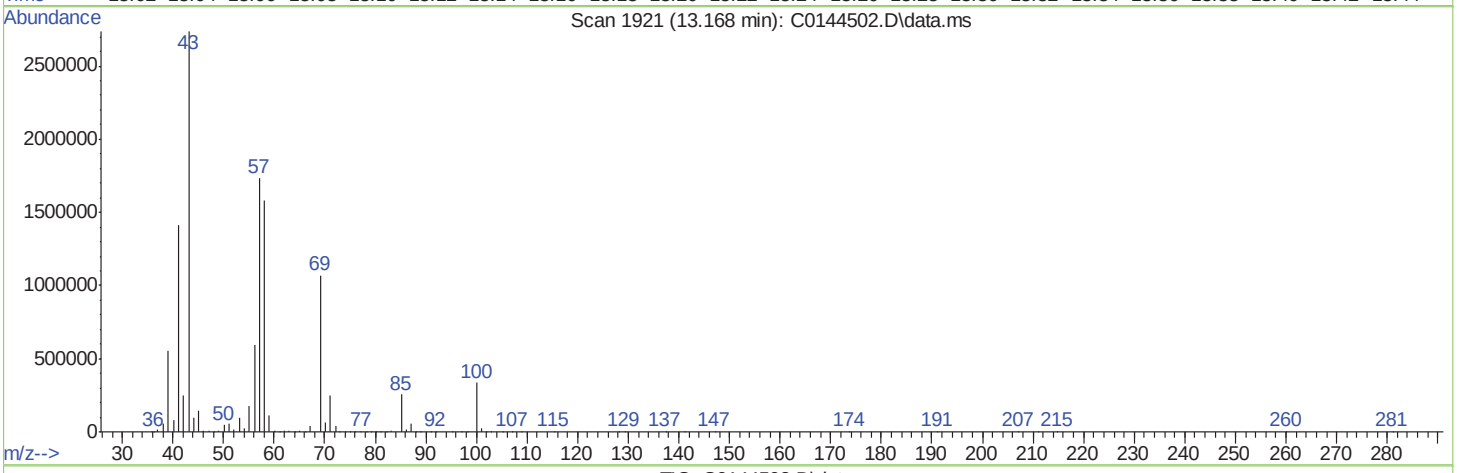
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.28	Poor instrument integration
Isobutyl Alcohol	78-83-1		10.31	Missed peak
3,3-Dimethyl-1-Butanol	624-95-3		13.16	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:06:30 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144502.D\data.ms

(69) 2-hexanone

13.168min (+0.000) 523.35ug/L

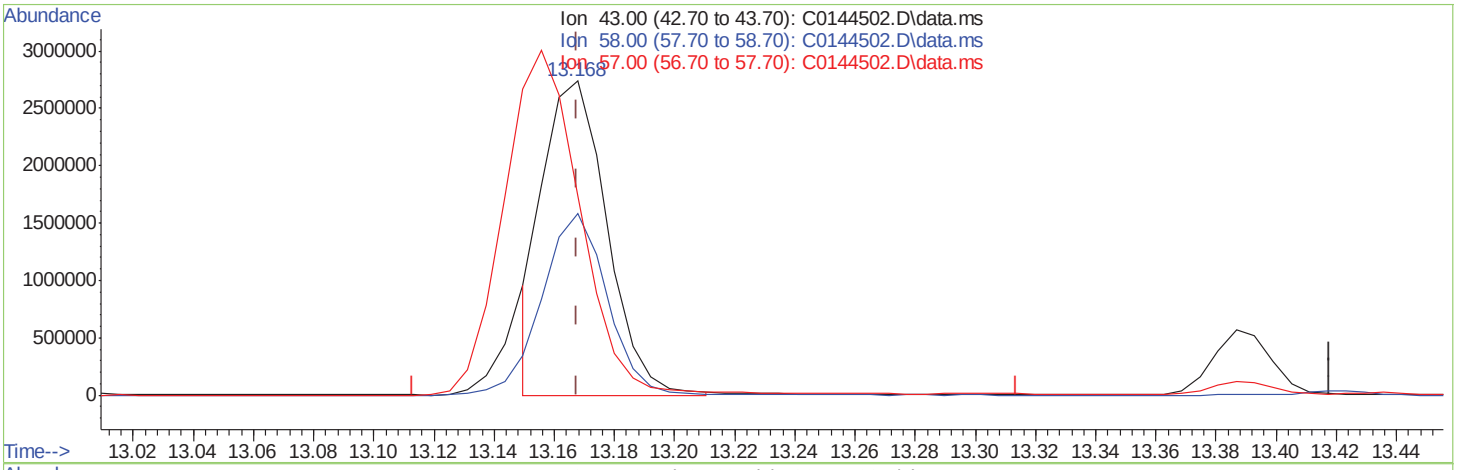
response 4658505

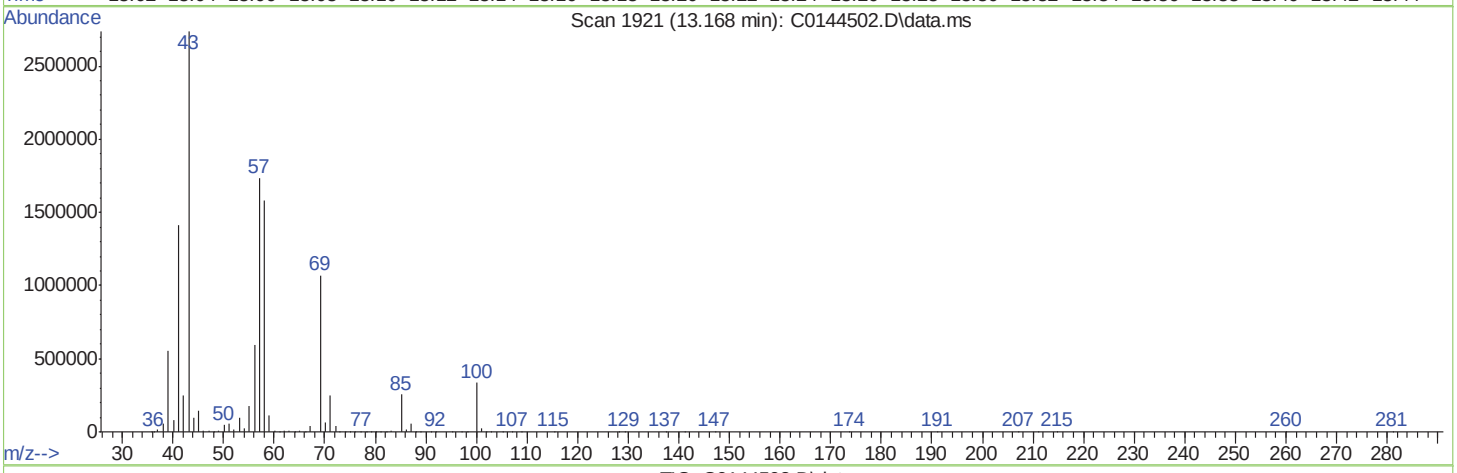
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	57.72
57.00	52.00	63.34
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:06:30 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144502.D\data.ms

(69) 2-hexanone

13.168min (+0.000) 470.24ug/L m

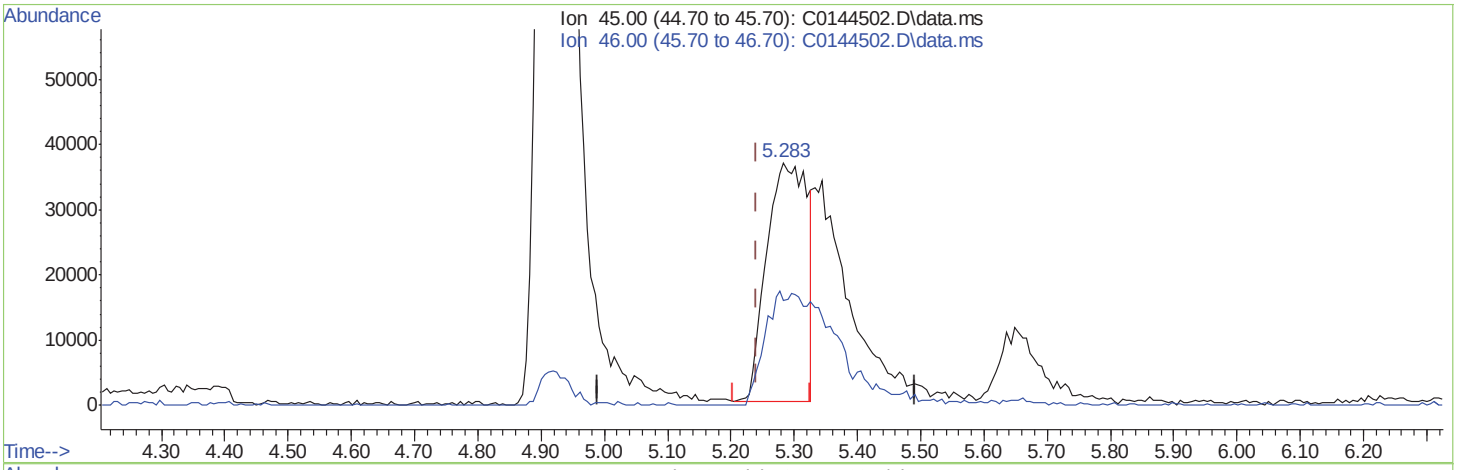
response 4026106

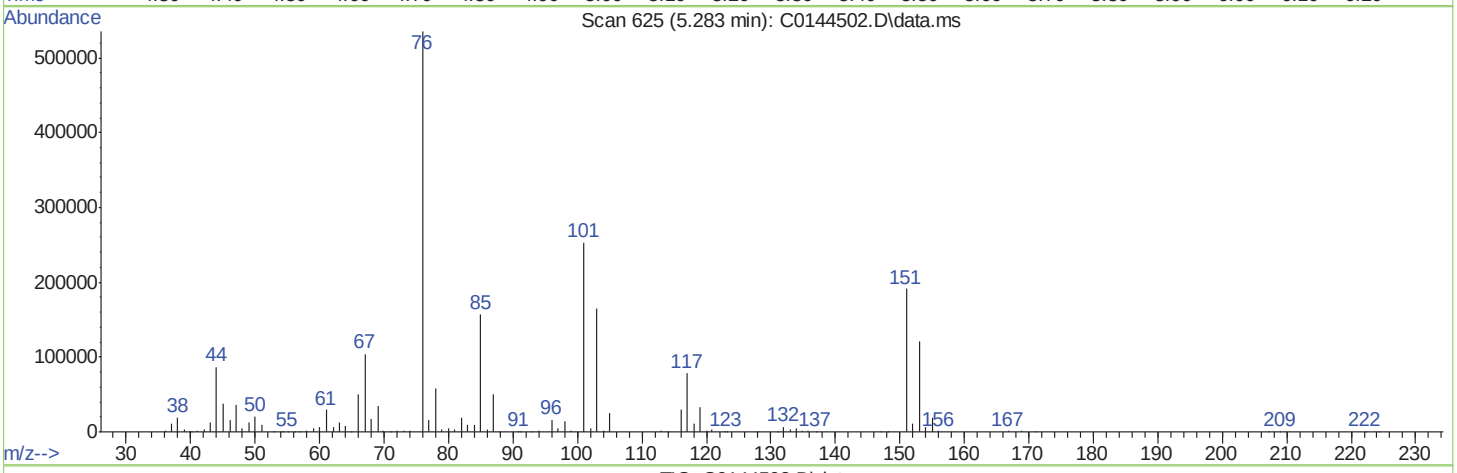
Ion	Exp%	Act%
43.00	100	100
58.00	56.20	57.70
57.00	52.00	63.31
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:06:30 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144502.D\data.ms

(109) Ethanol

5.283min (+0.043) 1499.25ug/L

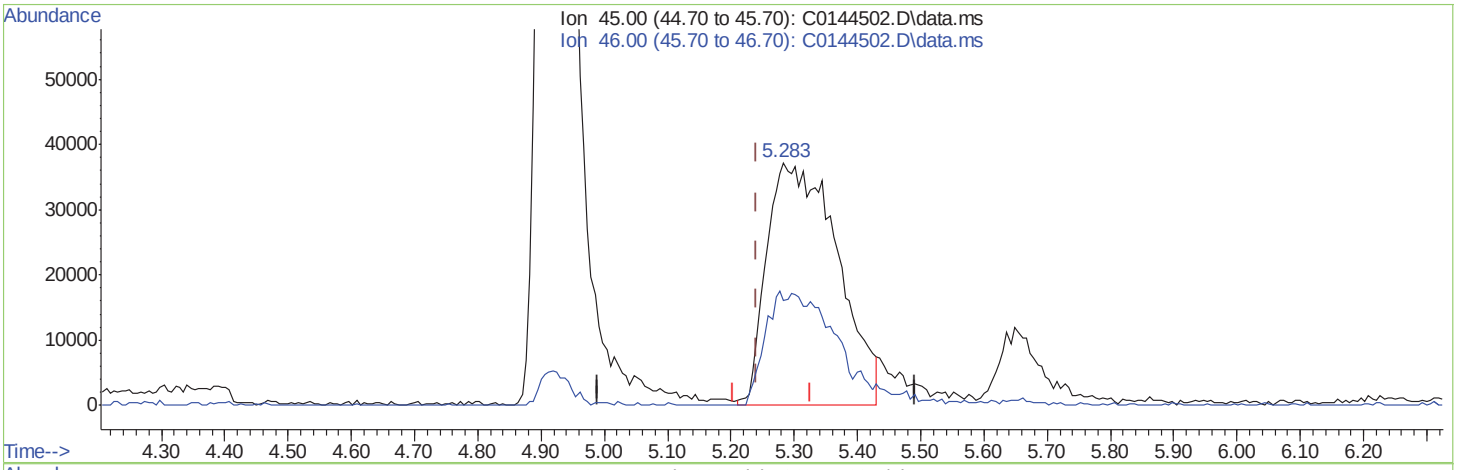
response 164638

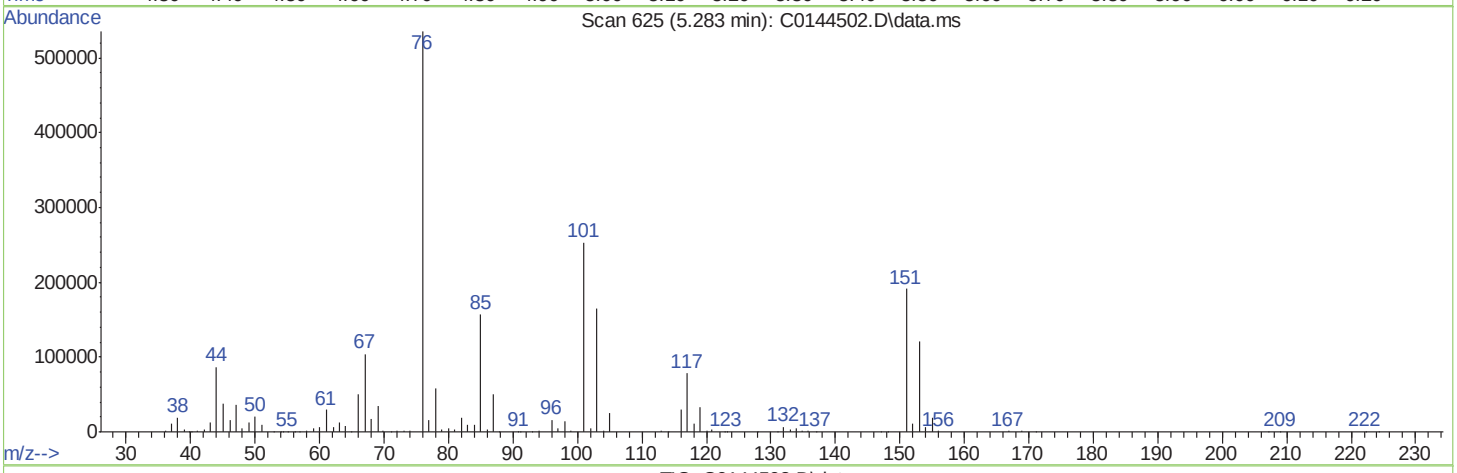
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	43.76
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:06:30 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144502.D\data.ms

(109) Ethanol

5.283min (+0.043) 2635.24ug/L m

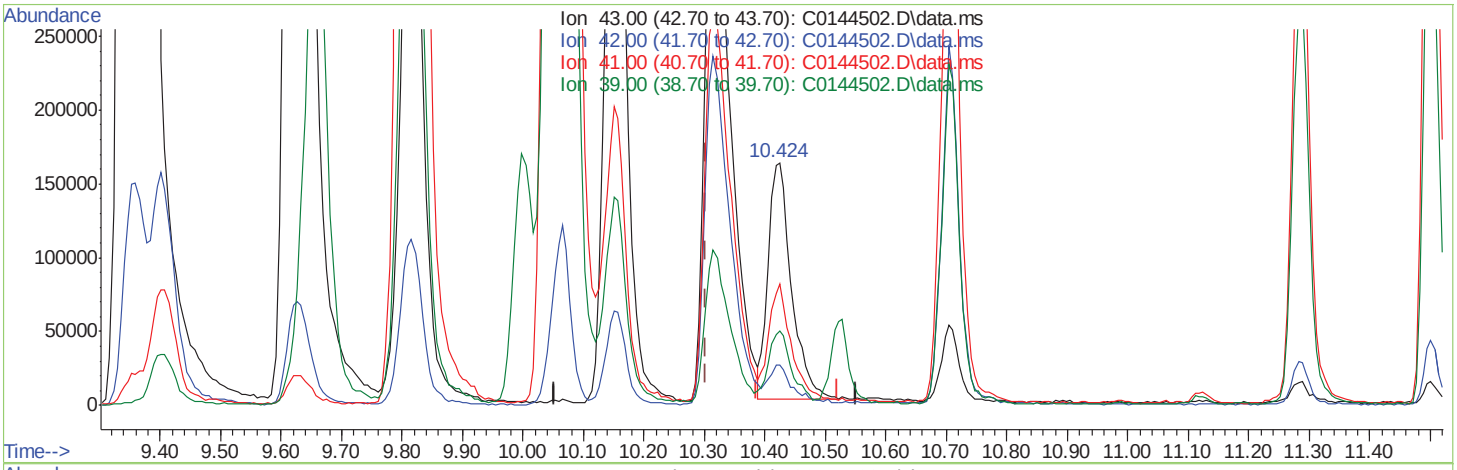
response 289385

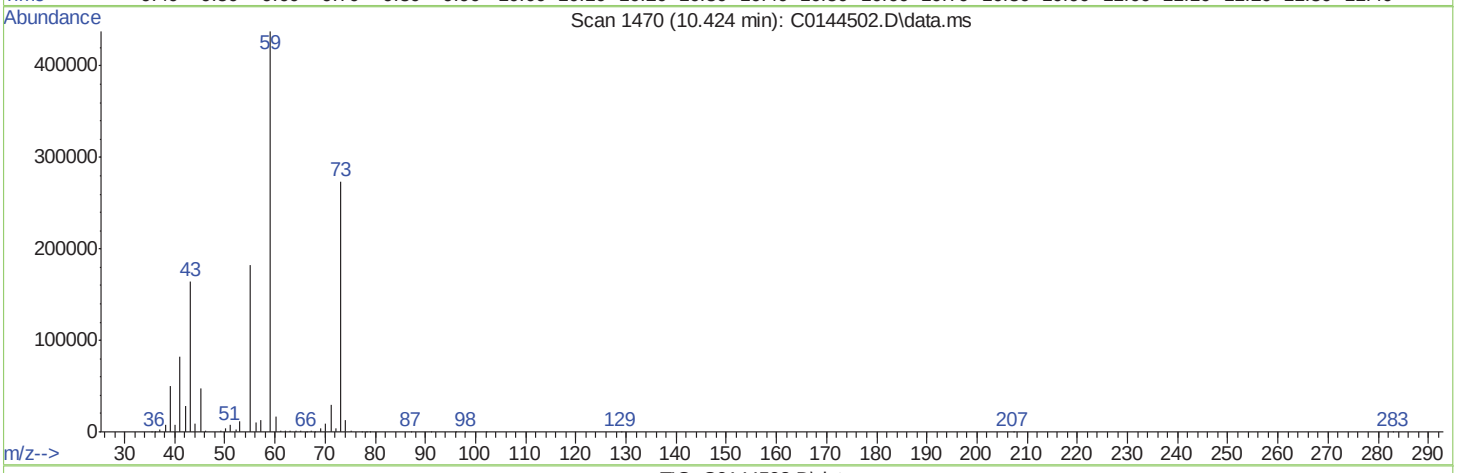
Ion	Exp%	Act%
45.00	100	100
46.00	31.10	43.15
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:06:30 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144502.D\data.ms

(111) Isobutyl alcohol

10.424min (+0.122) 1111.32ug/L

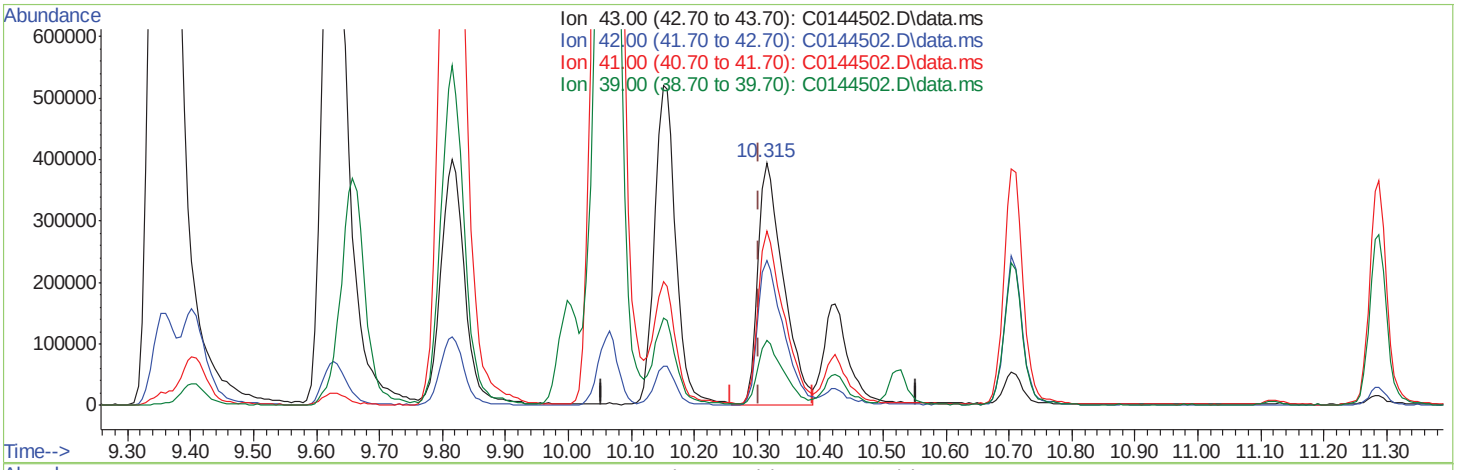
response 426510

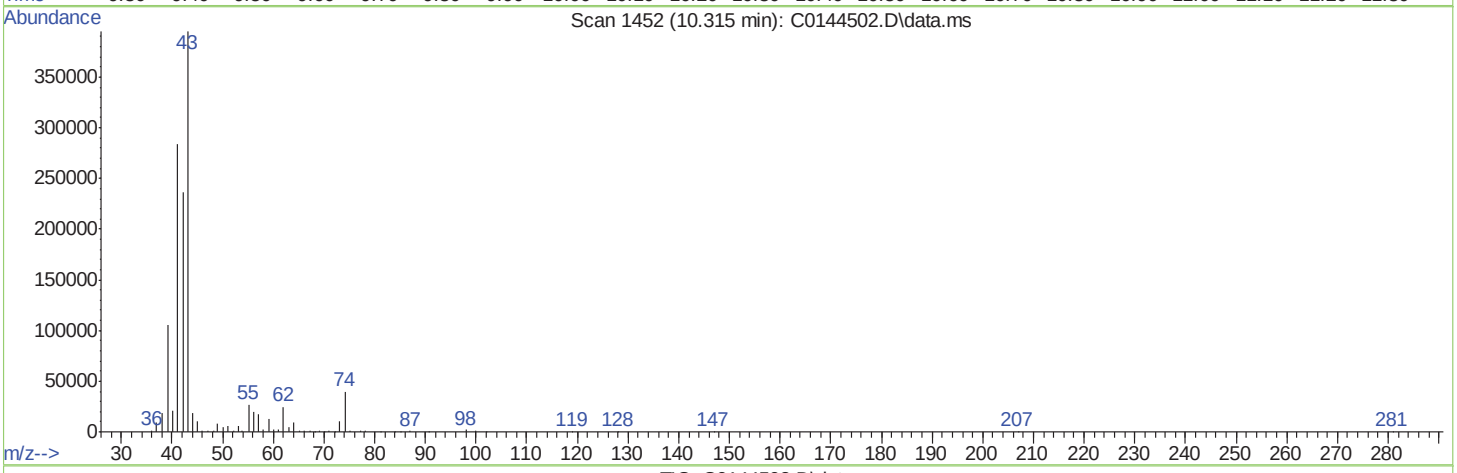
Ion	Exp%	Act%
43.00	100	100
42.00	63.90	16.16
41.00	75.70	49.05
39.00	28.60	25.77

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:06:30 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144502.D\data.ms

(111) Isobutyl alcohol

10.315min (+0.012) 2897.13ug/L m

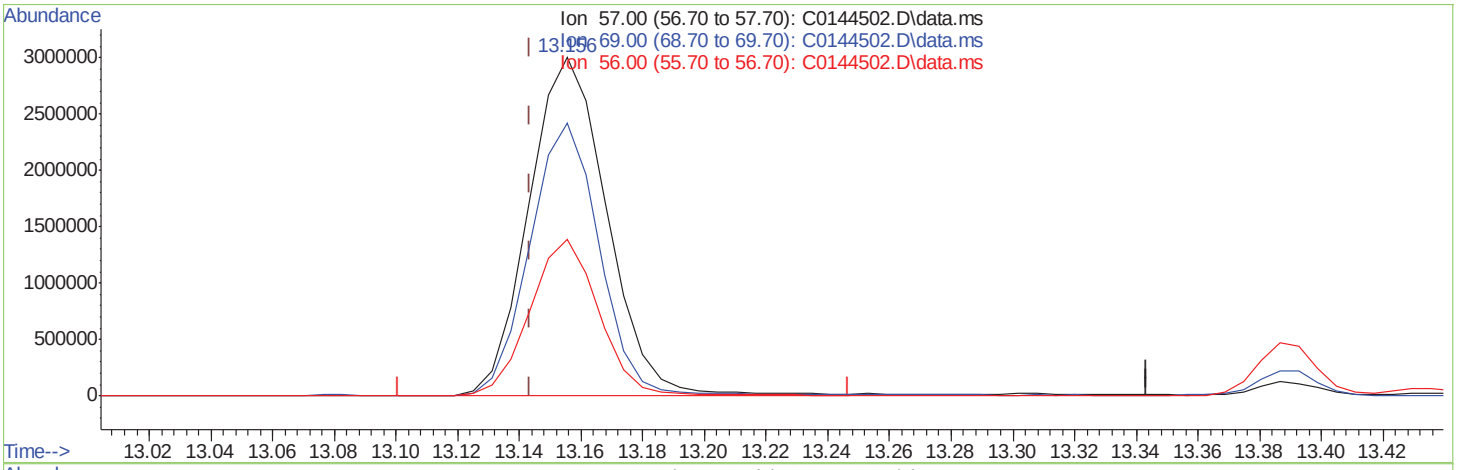
response 1111879

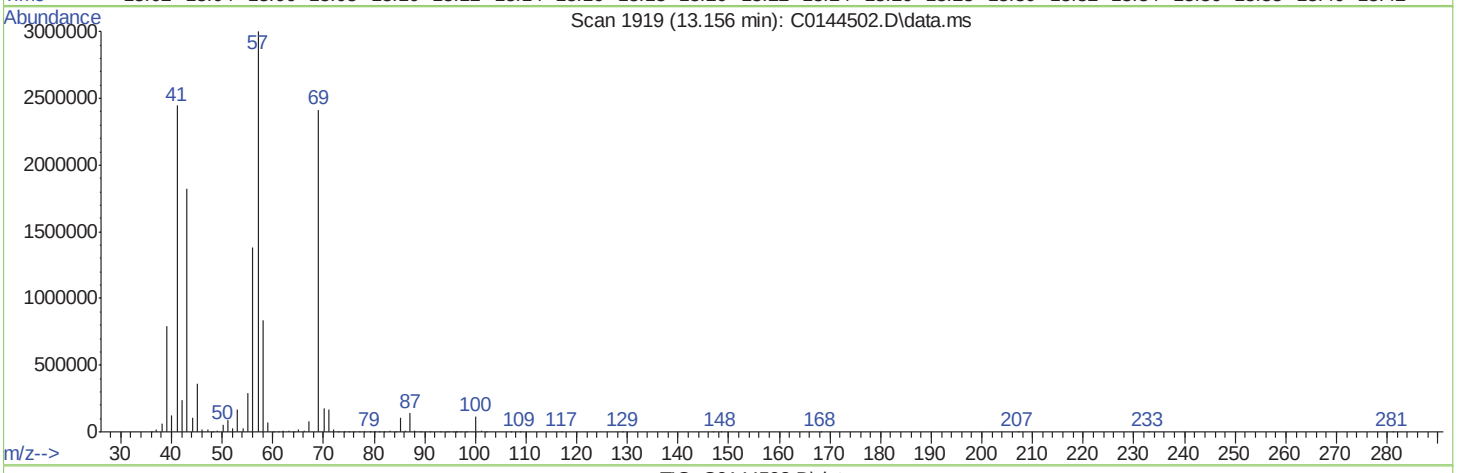
Ion	Exp%	Act%
43.00	100	100
42.00	63.90	59.89
41.00	75.70	71.88
39.00	28.60	26.66

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:06:30 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144502.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.156min (+0.012) 4675.91ug/L

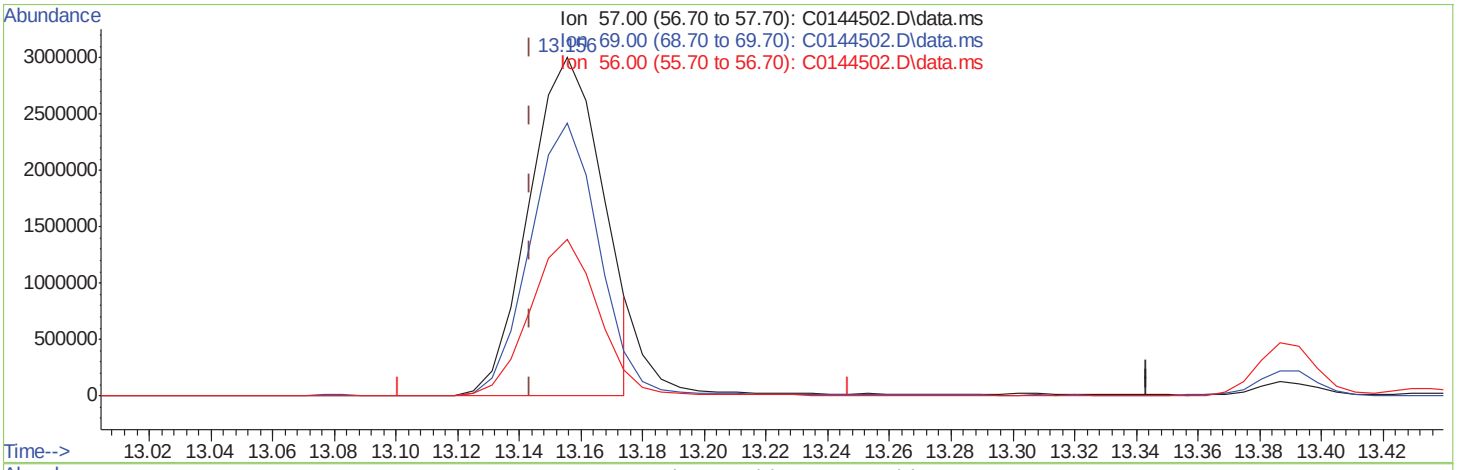
response 5294950

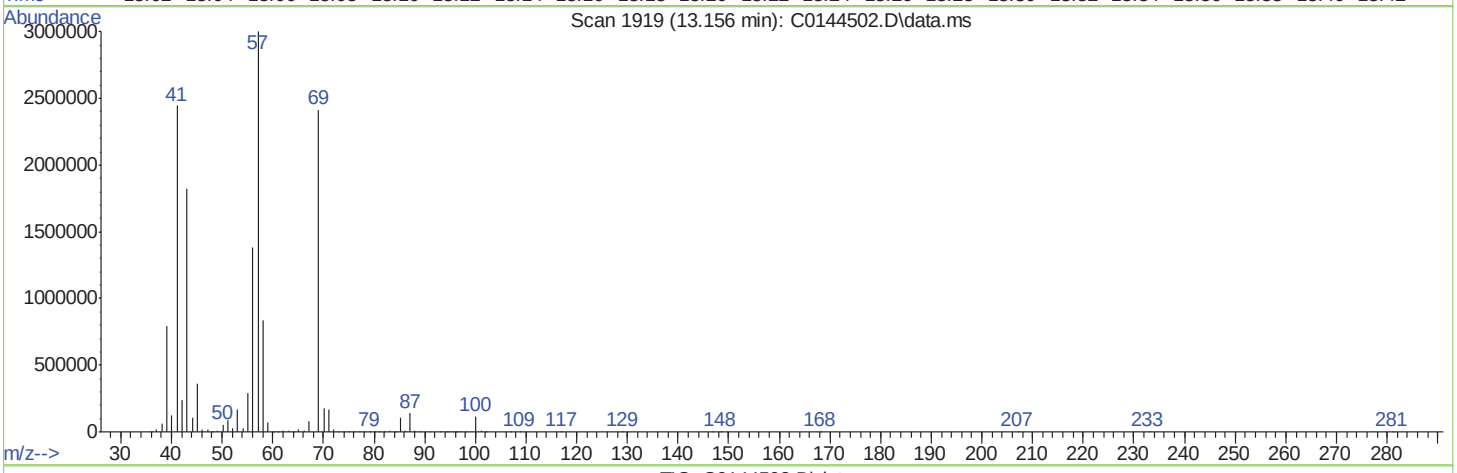
Ion	Exp%	Act%
57.00	100	100
69.00	82.30	72.44
56.00	40.10	40.98
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144502.D
Acq On : 28 Oct 2020 10:50 am
Operator : SHANICAO
Sample : IC5797-7 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 28 11:06:30 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 09:54:07 2020
Response via : Initial Calibration





TIC: C0144502.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.156min (+0.012) 4461.16ug/L m

response 4998219

Ion	Exp%	Act%
57.00	100	100
69.00	82.30	76.74
56.00	40.10	43.42
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
10/28/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144504A.D
Acq On : 28 Oct 2020 11:41 am
Operator : SHANICAO
Sample : ICV5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 28 13:46:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	2452582	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1756708	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	924656	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.804	65	348968	250.00	ug/L	0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	619527	50.23	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.46%			
47) 1,2-Dichloroethane-d4	10.181	65	830087	50.29	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.58%			
58) Toluene-d8	12.134	98	2371818	50.51	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 101.02%			
80) 4-Bromofluorobenzene	14.306	174	773475	49.96	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.92%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	432398	32.28	ug/L	97
3) Chloromethane	3.227	50	517633	35.13	ug/L	100
4) 1,3-butadiene	3.355	39	481975	44.55	ug/L	96
5) Vinyl Chloride	3.343	62	489413	39.21	ug/L	97
6) Bromomethane	3.897	94	197895	52.01	ug/L	93
7) Chloroethane	4.109	64	278081	35.25	ug/L	95
8) Trichlorofluoromethane	4.322	101	626029	38.50	ug/L	96
9) Ethyl Ether	4.912	59	362867	35.58	ug/L	100
10) 1,2-Dichlorotrifluoroe...	5.241	67	506204	44.00	ug/L	97
11) 1,1-Dichloroethene	5.223	61	608330	39.01	ug/L	97
13) Carbon Disulfide	5.277	76	1047018	32.26	ug/L	99
14) Iodomethane	5.478	142	388223	34.67	ug/L	95
15) Acrolein	5.819	56	224713	112.22	ug/L	94
16) Allyl chloride	6.056	41	717157	42.90	ug/L	96
17) Methylene Chloride	6.257	49	561269	35.02	ug/L	97
18) Acetone	6.342	43	780388	219.62	ug/L	100
19) Methyl acetate	6.561	43	1743710	213.95	ug/L	98
20) trans-1,2-Dichloroethene	6.537	61	580653	40.12	ug/L	96
21) Hexane	6.677	56	313500	32.32	ug/L	95
22) Methyl Tert Butyl Ether	6.725	73	1319156	39.41	ug/L	89
23) Acetonitrile	7.169	41	616332	399.89	ug/L	99
24) Di-isopropyl ether	7.419	45	1482562	38.11	ug/L	99
25) Chloroprene	7.595	53	725076	47.33	ug/L	99
26) 1,1-Dichloroethane	7.638	63	784340	42.43	ug/L	92
27) Acrylonitrile	7.735	52	705933	210.61	ug/L	97
28) ETBE	8.088	59	1351181	35.61	ug/L	99
29) Vinyl acetate	8.112	43	5020937	190.54	ug/L	99
30) cis-1,2-Dichloroethene	8.660	96	418251	39.89	ug/L	98
31) 2,2-Dichloropropane	8.849	77	690972	41.20	ug/L	98
32) Bromochloromethane	9.025	128	190218	37.94	ug/L	98
33) Cyclohexane	9.019	56	684893	35.93	ug/L	98
34) Chloroform	9.165	83	738371	40.62	ug/L	99
35) Ethyl acetate	9.353	43	2422109	217.28	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144504A.D
Acq On : 28 Oct 2020 11:41 am
Operator : SHANICAO
Sample : ICV5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 28 13:46:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
36) Tetrahydrofuran	9.402	42	174812	39.36	ug/L	96
38) Carbon Tetrachloride	9.366	117	525069	42.49	ug/L	95
39) 1,1,1-Trichloroethane	9.475	97	651242	41.03	ug/L	98
40) 2-Butanone	9.621	43	1207245	224.90	ug/L	97
41) 1,1-Dichloropropene	9.658	75	591110	39.48	ug/L	95
42) tert-Butyl formate	9.816	59	2092232	207.65	ug/L	99
43) Propionitrile	10.029	54	679062	410.25	ug/L	90
44) Methacrylonitrile	10.059	41	2938406	403.72	ug/L	100
45) Benzene	9.998	78	1623111	39.11	ug/L	100
46) TAME	10.150	73	1323095	38.83	ug/L	99
48) 1,2-Dichloroethane	10.266	62	599977	38.45	ug/L	99
49) Trichloroethene	10.728	95	441015	37.84	ug/L	94
50) Methylcyclohexane	10.710	83	665895	36.78	ug/L	97
51) Dibromomethane	11.191	93	264883	39.67	ug/L	98
52) 1,2-Dichloropropane	11.288	63	461417	39.63	ug/L	96
53) Bromodichloromethane	11.361	83	580963	41.36	ug/L	97
54) Methyl methacrylate	11.501	41	487860	41.09	ug/L	99
55) 2-Chloroethyl vinyl ether	11.896	63	1241500	167.14	ug/L	99
56) cis-1,3-Dichloropropene	11.963	75	749612	39.09	ug/L	97
59) Toluene	12.176	91	1732863	37.88	ug/L	98
60) 2-Nitropropane	12.383	41	758874	212.52	ug/L	99
61) 4-Methyl-2-pentanone	12.493	43	2437795	216.87	ug/L	99
62) trans-1,3-Dichloropropene	12.541	75	709913	43.19	ug/L	92
63) Tetrachloroethene	12.523	166	434692	41.62	ug/L	98
64) Ethyl methacrylate	12.645	69	631785	43.35	ug/L	98
65) 1,1,2-Trichloroethane	12.675	83	339415	41.32	ug/L	97
66) Dibromochloromethane	12.833	129	439438	43.30	ug/L	97
67) 1,3-Dichloropropane	12.900	76	691401	39.42	ug/L	99
68) 1,2-Dibromoethane	13.034	107	395264	40.46	ug/L	98
69) 2-hexanone	13.168	43	1787281m	213.60	ug/L	
70) 1-Chlorohexane	13.387	91	566902	38.28	ug/L	100
71) Ethylbenzene	13.436	91	1903785	39.25	ug/L	99
72) Chlorobenzene	13.436	112	1055525	39.21	ug/L	98
73) 1,1,1,2-Tetrachloroethane	13.478	131	400008	42.17	ug/L	98
74) m,p-Xylene	13.539	91	2825154	78.46	ug/L	99
75) o-Xylene	13.861	91	1554493	39.92	ug/L	100
76) Styrene	13.898	104	1261124	40.92	ug/L	97
77) Bromoform	13.953	173	315322	43.04	ug/L	98
78) Isopropylbenzene	14.080	105	1818704	40.36	ug/L	100
81) cis-1,4-Dichloro-2-butene	14.336	53	196704	43.62	ug/L	90
82) n-Propylbenzene	14.372	91	2179218	39.37	ug/L	99
83) Bromobenzene	14.397	156	470479	40.05	ug/L	98
84) 1,1,2,2-Tetrachloroethane	14.427	83	555787	41.48	ug/L	99
85) 1,3,5-Trimethylbenzene	14.494	105	1472922	40.17	ug/L	100
86) 2-Chlorotoluene	14.506	91	1496406	39.51	ug/L	100
87) trans-1,4-Dichloro-2-B...	14.549	53	163245	38.60	ug/L	97
88) 1,2,3-Trichloropropane	14.543	110	159839	41.25	ug/L	95
89) Cyclohexanone	14.585	55	94027	192.88	ug/L	93
90) 4-Chlorotoluene	14.622	91	1380610	40.23	ug/L	97
91) tert-Butylbenzene	14.725	91	866797	39.68	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144504A.D
Acq On : 28 Oct 2020 11:41 am
Operator : SHANICAO
Sample : ICV5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 28 13:46:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

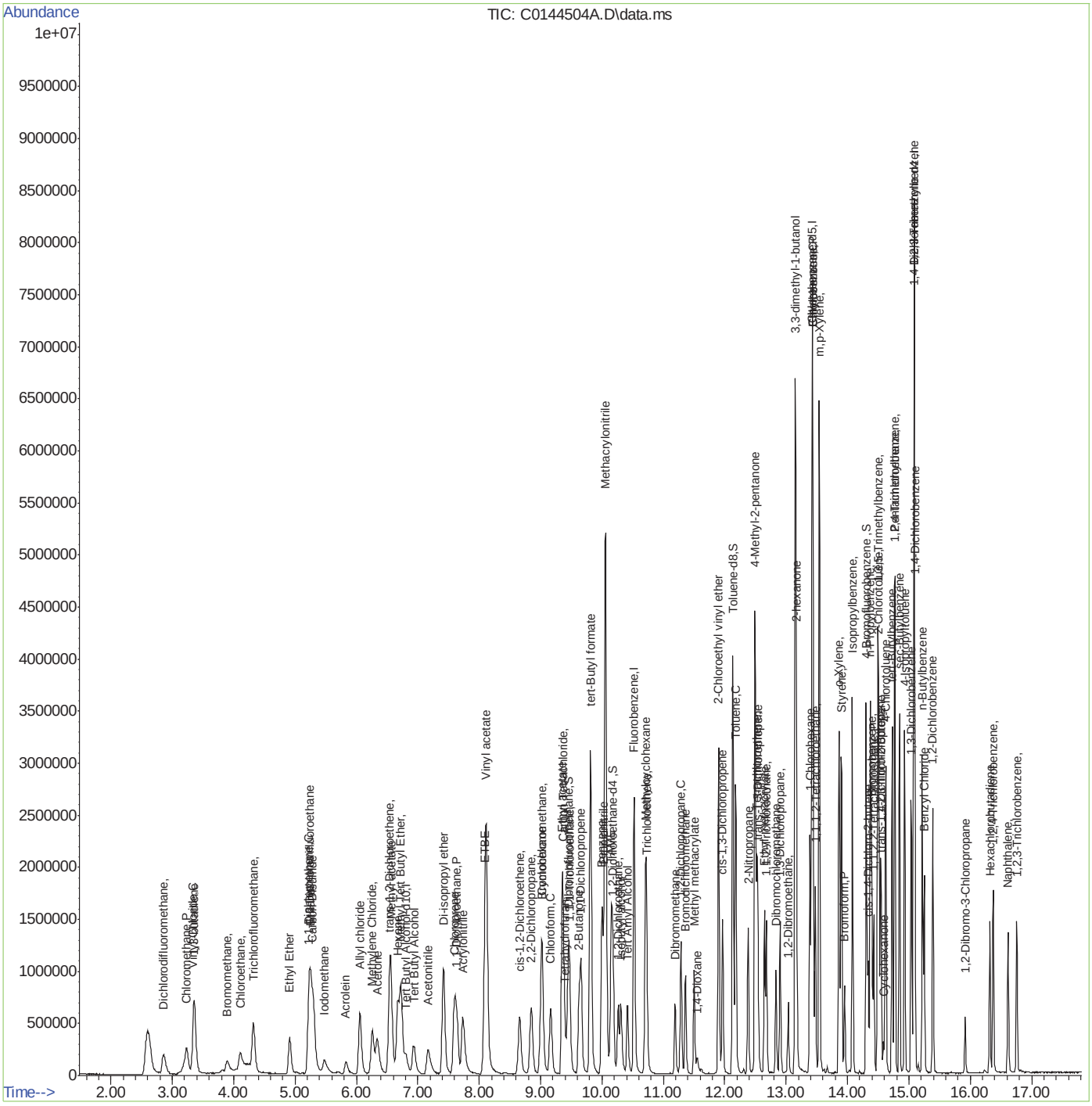
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
93) 1,2,4-Trimethylbenzene	14.768	105	1414804	39.47	ug/L	97
94) Pentachloroethane	14.774	167	283374	43.98	ug/L	97
95) sec-Butylbenzene	14.847	105	1769130	40.24	ug/L	100
96) 4-Isopropyltoluene	14.932	119	1500424	40.85	ug/L	100
97) 1,3-Dichlorobenzene	15.036	146	834032	39.97	ug/L	99
98) 1,2,3-Trimethylbenzene	15.078	105	1411279	35.25	ug/L	100
99) 1,4-Dichlorobenzene	15.096	146	823489	38.91	ug/L	100
100) n-Butylbenzene	15.218	92	815337	42.63	ug/L	99
101) Benzyl Chloride	15.248	126	200740	41.70	ug/L	95
102) 1,2-Dichlorobenzene	15.388	146	794946	40.68	ug/L	97
103) 1,2-Dibromo-3-Chloropr...	15.918	75	111939	41.06	ug/L	92
104) Hexachlorobutadiene	16.319	225	225397	40.17	ug/L	98
105) 1,2,4-Trichlorobenzene	16.374	180	457136	44.58	ug/L	95
106) Naphthalene	16.617	128	924506	43.97	ug/L	98
107) 1,2,3-Trichlorobenzene	16.757	180	392781	45.96	ug/L	99
109) Ethanol	5.253	45	124680	796.47	ug/L	91
110) Tert Butyl Alcohol	6.938	59	618361	360.73	ug/L	99
111) Isobutyl alcohol	10.309	43	455574	771.55	ug/L	98
112) Tert Amyl Alcohol	10.418	59	461210	380.02	ug/L	96
113) 1,4-Dioxane	11.556	88	112104	728.92	ug/L	96
114) 3,3-dimethyl-1-butanol	13.150	57	2436814m	2114.58	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144504A.D
Acq On : 28 Oct 2020 11:41 am
Operator : SHANICAO
Sample : ICV5797-5 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 28 13:46:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration



7.6.8

7

Manual Integration Approval Summary

Sample Number: VC5797-ICV5797
Lab FileID: C0144504A.D
Injection Time: 10/28/20 11:41
Method: SW846 8260B
Analyst approved: 10/28/20 13:54 Shanica O'Connor
Supervisor approved: 10/28/20 14:16 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144505A.D
Acq On : 28 Oct 2020 12:07 pm
Operator : SHANICAO
Sample : ICV5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 28 13:46:16 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

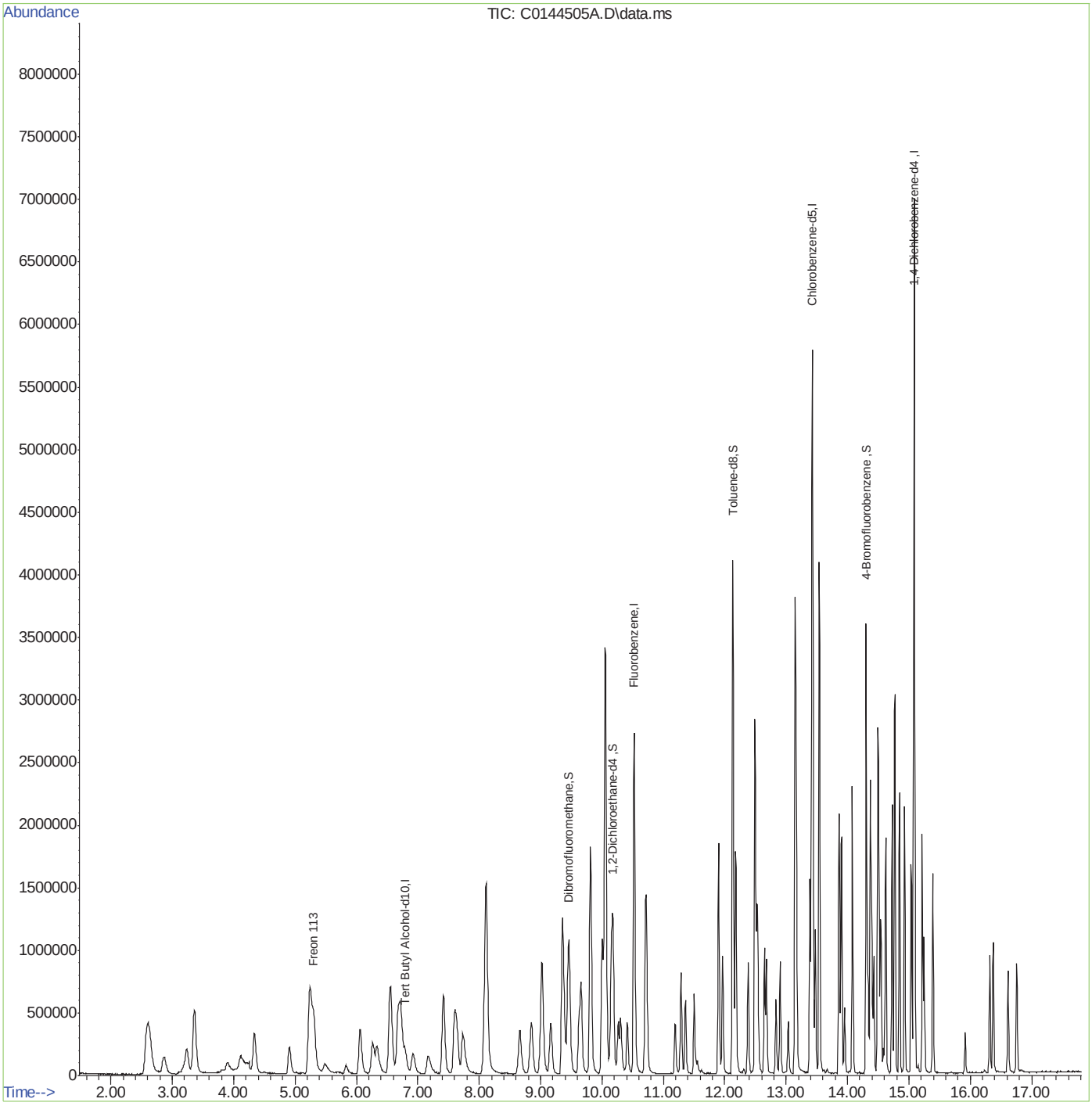
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	2488312	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1795743	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	932901	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.792	65	362236	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	631900	50.50	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.00%			
47) 1,2-Dichloroethane-d4	10.181	65	841779	50.27	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.54%			
58) Toluene-d8	12.134	98	2401665	50.03	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.06%			
80) 4-Bromofluorobenzene	14.306	174	784620	50.23	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.46%			
Target Compounds						Qvalue
12) Freon 113	5.302	101	218832	20.06	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\102820\
Data File : C0144505A.D
Acq On : 28 Oct 2020 12:07 pm
Operator : SHANICAO
Sample : ICV5797-4 Inst : MSVOA5
Misc : MS47505,VC5797,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 28 13:46:16 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration



Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
11/17/20 12:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:27:16 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	2340573	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1849664	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	996670	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.786	65	221327	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	587393	49.91	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.82%			
47) 1,2-Dichloroethane-d4	10.181	65	784679	49.81	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.62%			
58) Toluene-d8	12.134	98	2351283	47.55	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 95.10%			
80) 4-Bromofluorobenzene	14.306	174	803589	48.15	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.30%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	442850	34.65	ug/L	95
3) Chloromethane	3.221	50	604543	42.99	ug/L	98
4) 1,3-butadiene	3.373	39	445514	43.15	ug/L	98
5) Vinyl Chloride	3.349	62	481101	40.39	ug/L	97
6) Bromomethane	3.909	94	169833	47.83	ug/L	94
7) Chloroethane	4.122	64	312228	41.47	ug/L	95
8) Trichlorofluoromethane	4.341	101	654465	42.18	ug/L	96
9) Ethyl Ether	4.912	59	365645	37.57	ug/L	97
10) 1,2-Dichlorotrifluoroe...	5.253	67	453665	41.32	ug/L	98
11) 1,1-Dichloroethene	5.235	61	614719	41.31	ug/L	97
12) Freon 113	5.308	101	387569	37.77	ug/L	97
13) Carbon Disulfide	5.284	76	1213861	39.19	ug/L	100
14) Iodomethane	5.490	142	282139	26.40	ug/L	94
15) Acrolein	5.825	56	467716	244.74	ug/L	98
16) Allyl chloride	6.062	41	596893	37.41	ug/L	96
17) Methylene Chloride	6.269	49	557332	36.43	ug/L	96
18) Acetone	6.336	43	716495	211.29	ug/L	97
19) Methyl acetate	6.561	43	1531979	197.88	ug/L	98
20) trans-1,2-Dichloroethene	6.543	61	562733	40.74	ug/L	96
21) Hexane	6.677	56	371351	40.12	ug/L	95
22) Methyl Tert Butyl Ether	6.725	73	1246427	39.02	ug/L	96
23) Acetonitrile	7.169	41	598306	406.45	ug/L	98
24) Di-isopropyl ether	7.413	45	1554233	41.86	ug/L	98
25) Chloroprene	7.601	53	611121	41.80	ug/L	98
26) 1,1-Dichloroethane	7.644	63	719506	40.79	ug/L	100
27) Acrylonitrile	7.735	52	662602	207.32	ug/L	97
28) ETBE	8.088	59	1404802	38.79	ug/L	99
29) Vinyl acetate	8.118	43	5577194	223.57	ug/L	99
30) cis-1,2-Dichloroethene	8.660	96	415610	41.53	ug/L	97
31) 2,2-Dichloropropane	8.849	77	506858	31.67	ug/L	97
32) Bromochloromethane	9.025	128	206488	43.15	ug/L	95
33) Cyclohexane	9.019	56	776355	42.68	ug/L	97
34) Chloroform	9.165	83	704230	40.59	ug/L	98
35) Ethyl acetate	9.353	43	2403675	225.94	ug/L	99
36) Tetrahydrofuran	9.402	42	133661	31.27	ug/L	98
38) Carbon Tetrachloride	9.372	117	511362	43.36	ug/L	96
39) 1,1,1-Trichloroethane	9.469	97	610491	40.30	ug/L	99
40) 2-Butanone	9.621	43	1099015	214.53	ug/L	100
41) 1,1-Dichloropropene	9.658	75	602228	42.14	ug/L	96
42) tert-Butyl formate	9.816	59	1371719	142.66	ug/L	98
43) Propionitrile	10.029	54	640126	405.33	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:27:16 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Methacrylonitrile	10.059	41	2976349	428.50	ug/L		99
45)	Benzene	10.004	78	1652479	41.72	ug/L		97
46)	TAME	10.150	73	1299306	39.95	ug/L		99
48)	1,2-Dichloroethane	10.266	62	616916	41.42	ug/L		97
49)	Trichloroethene	10.728	95	442673	39.80	ug/L		96
50)	Methylcyclohexane	10.710	83	723768	41.89	ug/L		96
51)	Dibromomethane	11.191	93	259625	40.74	ug/L		95
52)	1,2-Dichloropropane	11.288	63	471621	42.45	ug/L		95
53)	Bromodichloromethane	11.361	83	557256	41.57	ug/L		99
54)	Methyl methacrylate	11.501	41	453119	40.01	ug/L		98
55)	2-Chloroethyl vinyl ether	11.896	63	1054551	148.76	ug/L		99
56)	cis-1,3-Dichloropropene	11.963	75	759034	41.47	ug/L		97
59)	Toluene	12.176	91	1816193	37.71	ug/L		100
60)	2-Nitropropane	12.383	41	714296	189.99	ug/L		98
61)	4-Methyl-2-pentanone	12.493	43	2368680	200.13	ug/L		99
62)	trans-1,3-Dichloropropene	12.541	75	664741	38.41	ug/L	#	81
63)	Tetrachloroethene	12.523	166	431686	39.26	ug/L		93
64)	Ethyl methacrylate	12.645	69	601465	39.20	ug/L		96
65)	1,1,2-Trichloroethane	12.675	83	347553	40.19	ug/L		96
66)	Dibromochloromethane	12.833	129	438730	41.05	ug/L		100
67)	1,3-Dichloropropane	12.900	76	712480	38.58	ug/L		97
68)	1,2-Dibromoethane	13.034	107	387604	37.69	ug/L		96
69)	2-hexanone	13.168	43	1707057m	193.76	ug/L		
70)	1-Chlorohexane	13.387	91	603665	38.71	ug/L		98
71)	Ethylbenzene	13.436	91	1975402	38.68	ug/L		99
72)	Chlorobenzene	13.436	112	1138055	40.15	ug/L		98
73)	1,1,1,2-Tetrachloroethane	13.478	131	407828	40.83	ug/L		98
74)	m,p-Xylene	13.539	91	2933914	77.39	ug/L		99
75)	o-Xylene	13.861	91	1583484	38.62	ug/L		99
76)	Styrene	13.904	104	1312967	40.46	ug/L		99
77)	Bromoform	13.953	173	301743	39.36	ug/L		97
78)	Isopropylbenzene	14.080	105	1898508	40.01	ug/L		99
81)	cis-1,4-Dichloro-2-butene	14.336	53	174455	35.89	ug/L		94
82)	n-Propylbenzene	14.372	91	2265453	37.97	ug/L		99
83)	Bromobenzene	14.397	156	486394	38.41	ug/L		100
84)	1,1,2,2-Tetrachloroethane	14.427	83	536756	37.17	ug/L		98
85)	1,3,5-Trimethylbenzene	14.494	105	1533273	38.79	ug/L		98
86)	2-Chlorotoluene	14.506	91	1544628	37.84	ug/L		99
87)	trans-1,4-Dichloro-2-B...	14.549	53	153086	33.58	ug/L		95
88)	1,2,3-Trichloropropane	14.537	110	161889	38.76	ug/L		95
89)	Cyclohexanone	14.585	55	93012	176.25	ug/L		91
90)	4-Chlorotoluene	14.622	91	1403476	37.94	ug/L		99
91)	tert-Butylbenzene	14.725	91	899343	38.19	ug/L		98
93)	1,2,4-Trimethylbenzene	14.768	105	1538252	39.81	ug/L		98
94)	Pentachloroethane	14.774	167	286497	41.25	ug/L		95
95)	sec-Butylbenzene	14.847	105	1851445	39.07	ug/L		99
96)	4-Isopropyltoluene	14.932	119	1559841	39.40	ug/L		99
97)	1,3-Dichlorobenzene	15.036	146	859421	38.21	ug/L		98
98)	1,2,3-Trimethylbenzene	15.078	105	1805202	41.83	ug/L		98
99)	1,4-Dichlorobenzene	15.096	146	881789	38.66	ug/L		99
100)	n-Butylbenzene	15.218	92	852332	41.34	ug/L		99
101)	Benzyl Chloride	15.248	126	211810	40.82	ug/L		93
102)	1,2-Dichlorobenzene	15.388	146	831315	39.47	ug/L		99
103)	1,2-Dibromo-3-Chloropr...	15.918	75	94108	32.03	ug/L		95
104)	Hexachlorobutadiene	16.319	225	205456	33.97	ug/L		96
105)	1,2,4-Trichlorobenzene	16.374	180	424227	38.38	ug/L		98
106)	Naphthalene	16.617	128	823141	36.87	ug/L		98
107)	1,2,3-Trichlorobenzene	16.757	180	328351	35.65	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:27:16 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

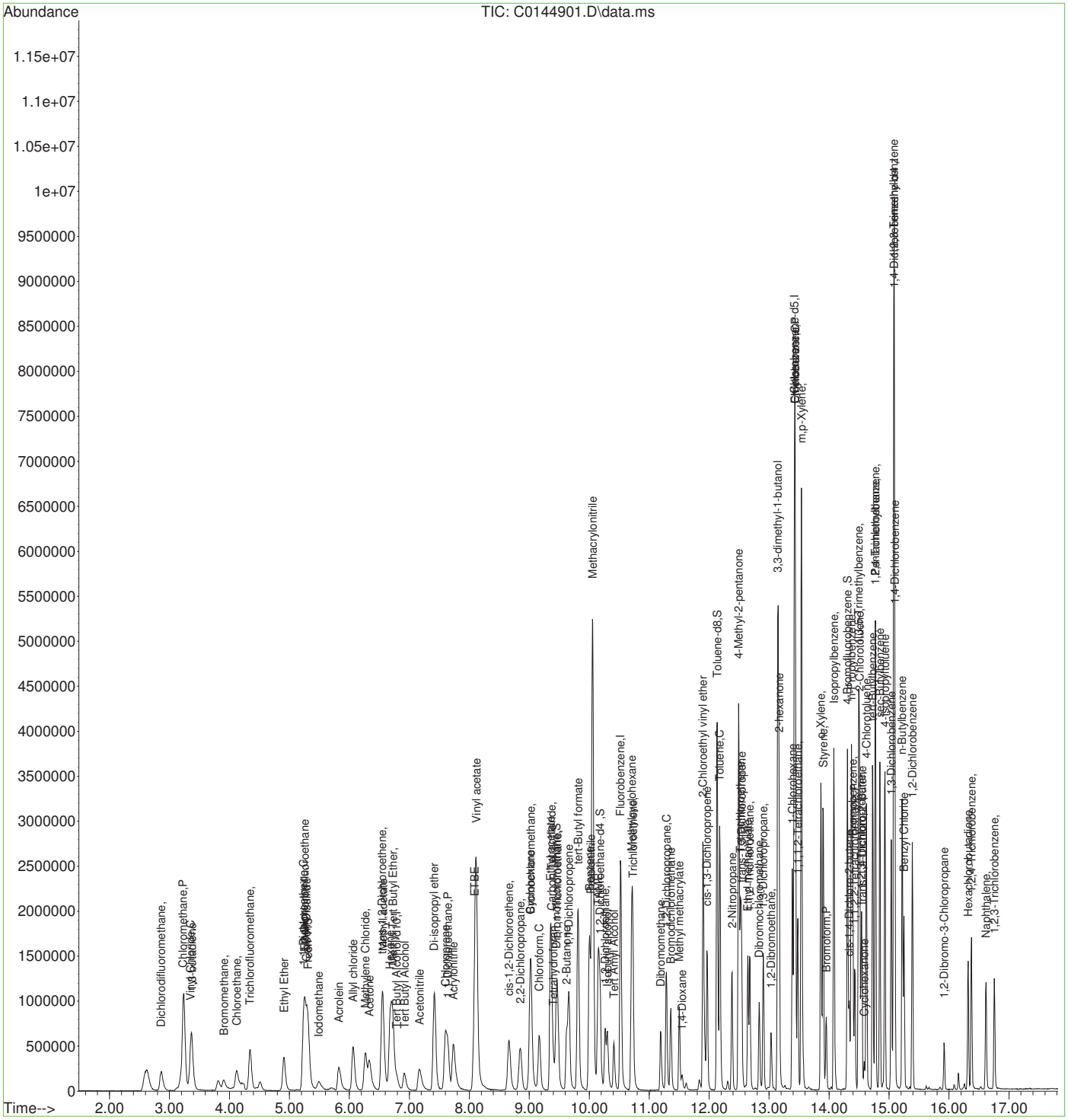
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Ethanol	5.253	45	111041	1118.43	ug/L	84
110) Tert Butyl Alcohol	6.920	59	394357	362.75	ug/L	98
111) Isobutyl alcohol	10.303	43	400761	1070.14	ug/L	98
112) Tert Amyl Alcohol	10.412	59	358053	465.16	ug/L	96
113) 1,4-Dioxane	11.550	88	96105	996.93	ug/L	94
114) 3,3-dimethyl-1-butanol	13.144	57	2072925m	2836.20	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:27:16 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration



RTXVMS102820.M Sun Nov 15 19:58:34 2020 Page: 4

Manual Integration Approval Summary

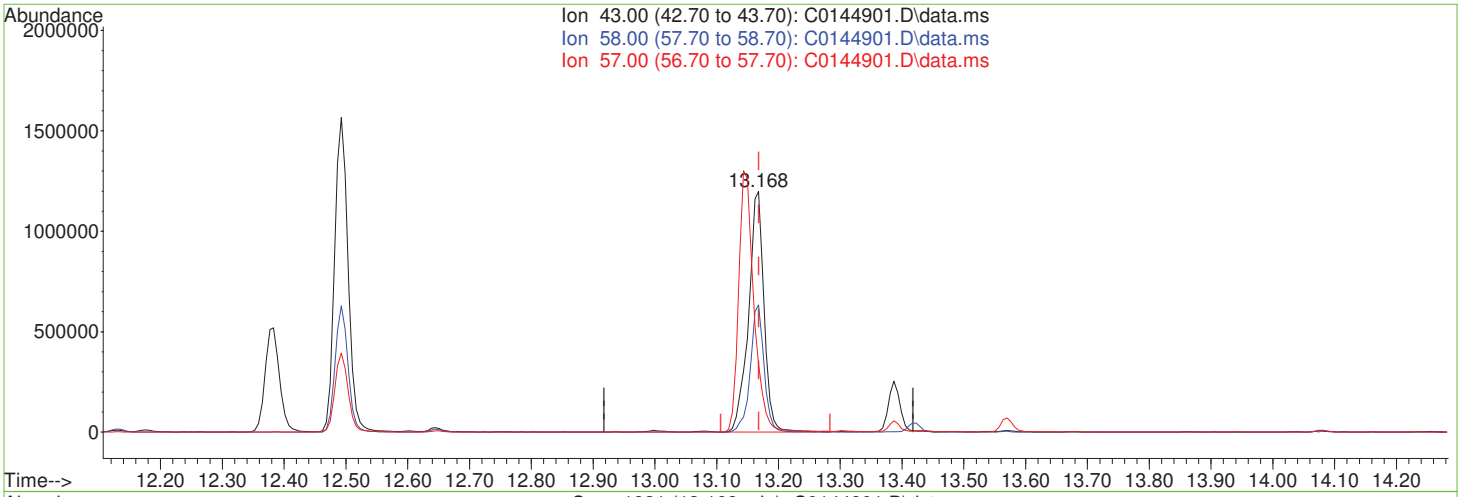
Sample Number: VC5817-CC5797
Lab FileID: C0144901.D
Injection Time: 11/13/20 10:00
Method: SW846 8260B
Analyst approved: 11/16/20 01:07 Edessa Sumagaysay
Supervisor approved: 11/17/20 12:25 Melissa Mangual

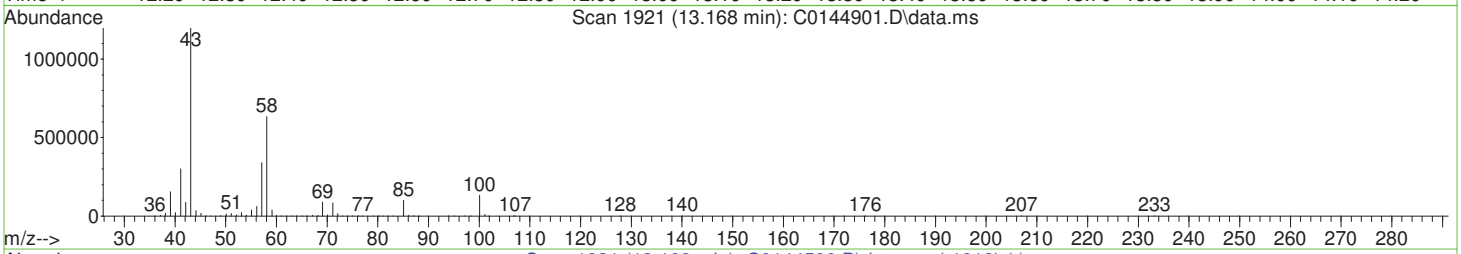
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

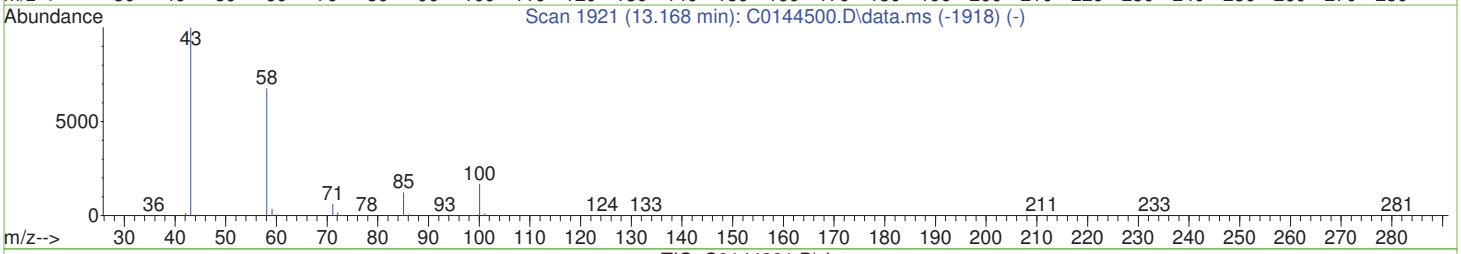
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:18:38 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144901.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 237.93ug/L

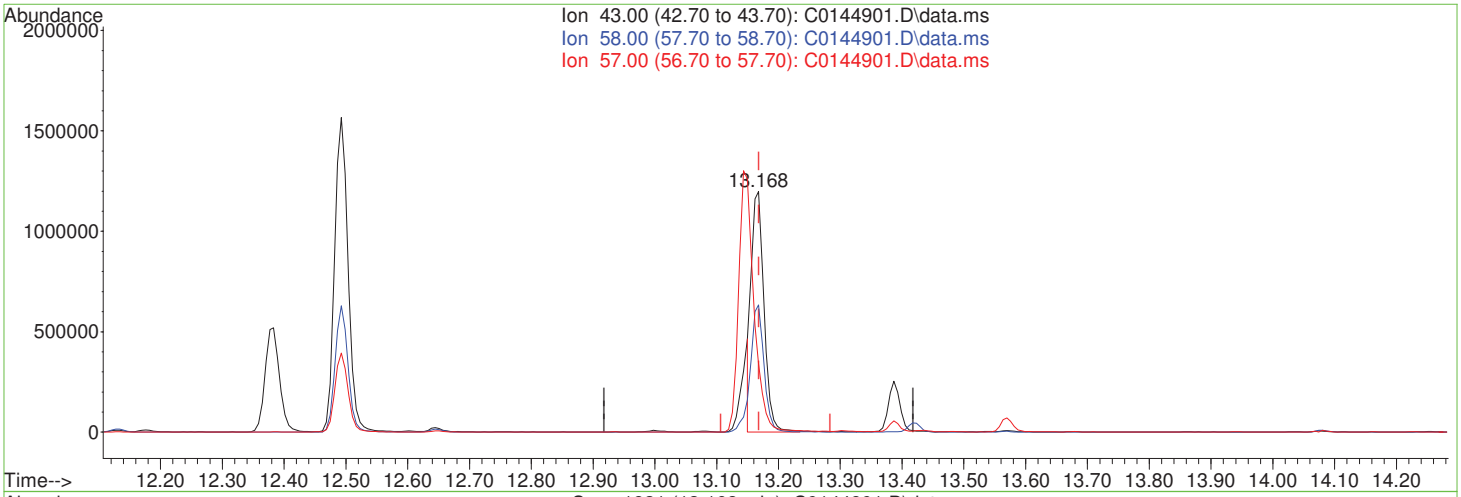
response 2096234

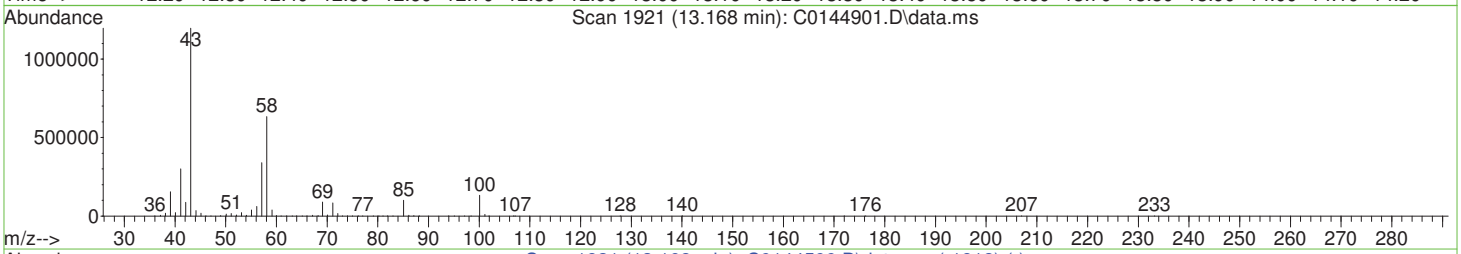
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	52.99
57.00	29.20	28.41
0.00	0.00	0.00

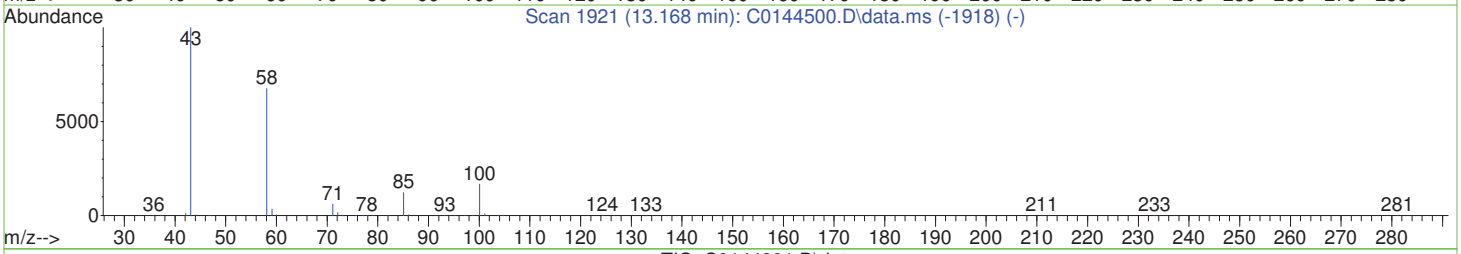
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:18:38 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144901.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 193.76ug/L m

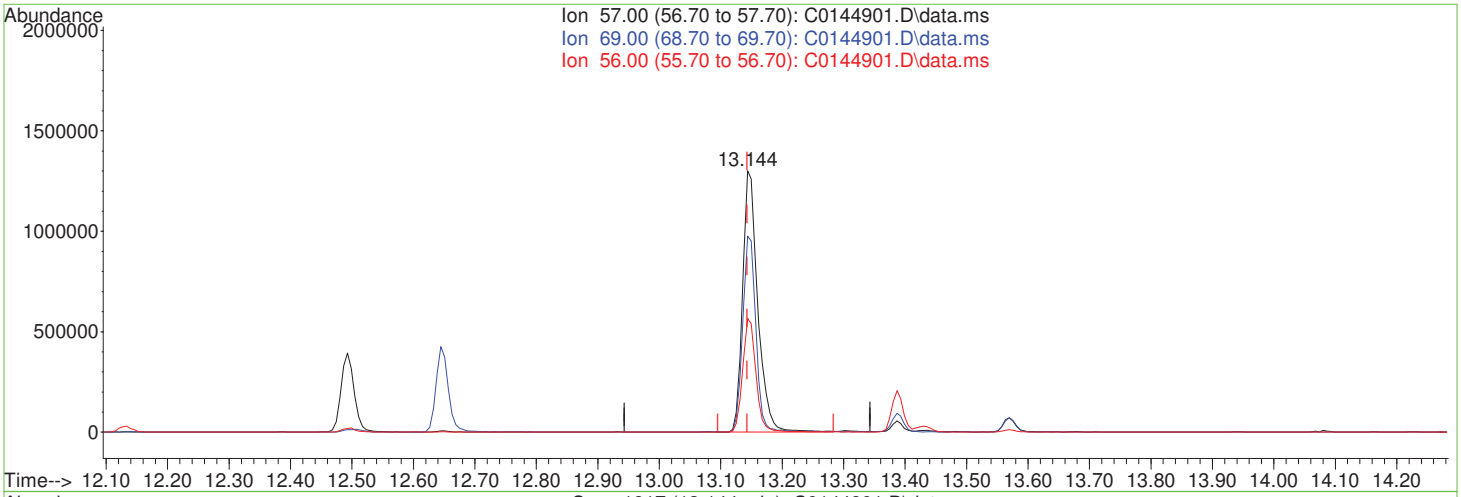
response 1707057

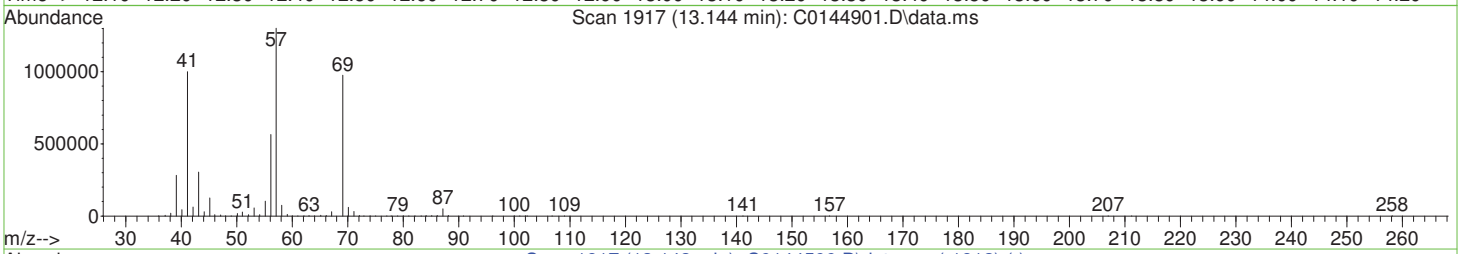
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	52.96
57.00	29.20	28.42
0.00	0.00	0.00

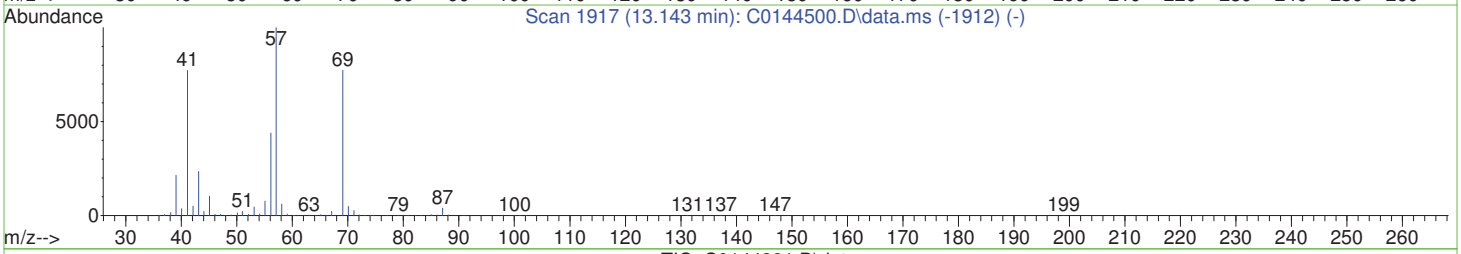
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:18:38 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144901.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.001) 3074.70ug/L

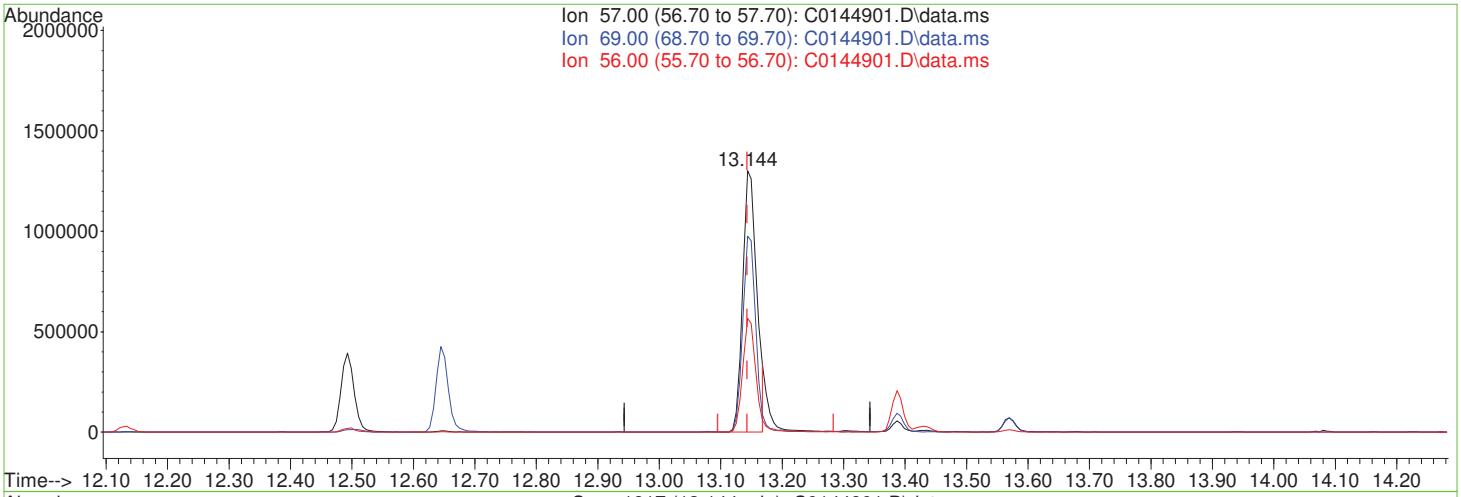
response 2247233

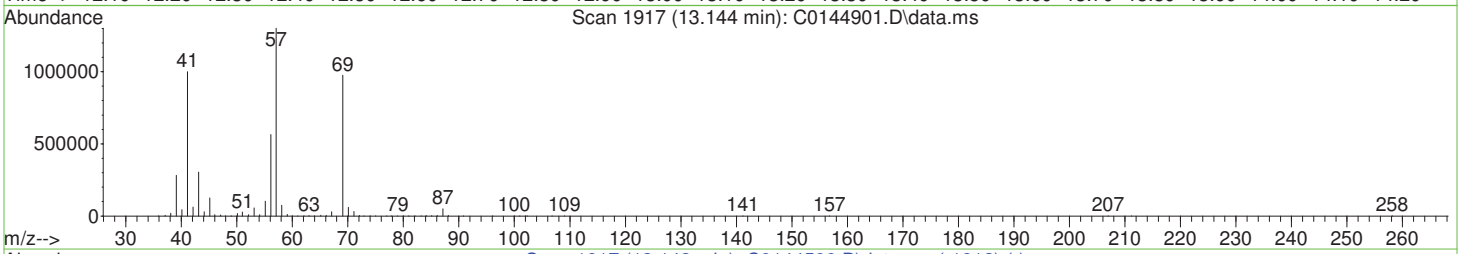
Ion	Exp%	Act%
57.00	100	100
69.00	76.50	64.94
56.00	43.50	38.36
0.00	0.00	0.00

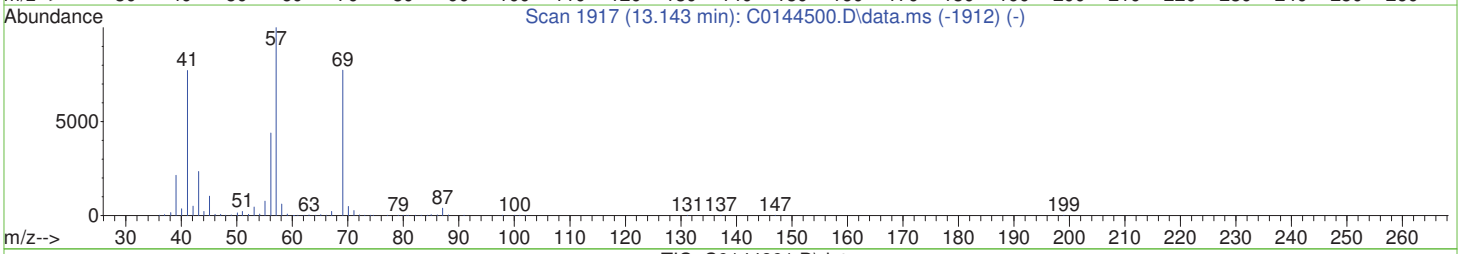
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144901.D
Acq On : 13 Nov 2020 10:00 am
Operator : SHANICAO
Sample : CC5797-5
Misc : MS47702,VC5817,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 15 19:18:38 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144901.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.001) 2836.20ug/L m

response 2072925

Ion	Exp%	Act%
57.00	100	100
69.00	76.50	70.40
56.00	43.50	41.58
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/18/20 15:23

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144929.D
Acq On : 13 Nov 2020 10:02 pm
Operator : SHANICAO
Sample : ECC5797-5
Misc : MS47712,VC5817,,,,,
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 15 19:57:34 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.528	96	2410617	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1887656	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	1015023	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.786	65	256976	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.457	113	618208	51.00	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.00%			
47) 1,2-Dichloroethane-d4	10.181	65	797670	49.17	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.34%			
58) Toluene-d8	12.134	98	2421423	47.99	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 95.98%			
80) 4-Bromofluorobenzene	14.305	174	825687	48.58	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	456681	34.69	ug/L	96
3) Chloromethane	3.209	50	635249	43.86	ug/L	93
4) 1,3-butadiene	3.367	39	469161	44.12	ug/L	99
5) Vinyl Chloride	3.343	62	514230	41.91	ug/L	98
6) Bromomethane	3.915	94	192804	51.65	ug/L	90
7) Chloroethane	4.115	64	330936	42.68	ug/L	98
8) Trichlorofluoromethane	4.347	101	671380	42.01	ug/L	96
9) Ethyl Ether	4.912	59	385957	38.50	ug/L	98
10) 1,2-Dichlorotrifluoroe...	5.253	67	467377	41.33	ug/L	95
11) 1,1-Dichloroethene	5.235	61	633089	41.31	ug/L	97
12) Freon 113	5.308	101	392270	37.12	ug/L	93
13) Carbon Disulfide	5.284	76	1237977	38.81	ug/L	99
14) Iodomethane	5.496	142	363515	33.03	ug/L	98
15) Acrolein	5.825	56	461739	234.60	ug/L	95
16) Allyl chloride	6.062	41	614231	37.38	ug/L	96
17) Methylene Chloride	6.263	49	569589	36.15	ug/L	99
18) Acetone	6.342	43	751367	215.13	ug/L	99
19) Methyl acetate	6.561	43	1631558	204.24	ug/L	99
20) trans-1,2-Dichloroethene	6.543	61	583376	41.01	ug/L	96
21) Hexane	6.683	56	355413	37.28	ug/L	99
22) Methyl Tert Butyl Ether	6.725	73	1314548	39.95	ug/L	97
23) Acetonitrile	7.169	41	640370	421.60	ug/L	99
24) Di-isopropyl ether	7.419	45	1602470	41.91	ug/L	97
25) Chloroprene	7.601	53	627487	41.67	ug/L	100
26) 1,1-Dichloroethane	7.644	63	743323	40.91	ug/L	95
27) Acrylonitrile	7.741	52	720335	218.22	ug/L	97
28) ETBE	8.094	59	1457215	39.07	ug/L	98
29) Vinyl acetate	8.118	43	5698493	221.69	ug/L	100
30) cis-1,2-Dichloroethene	8.660	96	425755	41.31	ug/L	96
31) 2,2-Dichloropropane	8.855	77	491731	29.83	ug/L	100
32) Bromochloromethane	9.025	128	210654	42.74	ug/L	94
33) Cyclohexane	9.025	56	802419	42.83	ug/L	97
34) Chloroform	9.165	83	725113	40.58	ug/L	98
35) Ethyl acetate	9.353	43	2560541	233.70	ug/L	97
36) Tetrahydrofuran	9.408	42	158125	36.10	ug/L	95
38) Carbon Tetrachloride	9.366	117	520303	42.84	ug/L	95
39) 1,1,1-Trichloroethane	9.475	97	630077	40.39	ug/L	97
40) 2-Butanone	9.627	43	1140569	216.17	ug/L	96
41) 1,1-Dichloropropene	9.664	75	602888	40.97	ug/L	95
42) tert-Butyl formate	9.816	59	1495405	151.00	ug/L	98
43) Propionitrile	10.029	54	678590	416.98	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144929.D
Acq On : 13 Nov 2020 10:02 pm
Operator : SHANICAO
Sample : ECC5797-5
Misc : MS47712,VC5817,,,,,
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 15 19:57:34 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
44) Methacrylonitrile	10.059	41	3101653	433.56 ug/L		98
45) Benzene	10.004	78	1687682	41.37 ug/L		99
46) TAME	10.150	73	1357948	40.54 ug/L		98
48) 1,2-Dichloroethane	10.266	62	624331	40.70 ug/L		98
49) Trichloroethene	10.728	95	450742	39.35 ug/L		93
50) Methylcyclohexane	10.710	83	716002	40.24 ug/L		99
51) Dibromomethane	11.191	93	268067	40.85 ug/L		99
52) 1,2-Dichloropropane	11.288	63	467172	40.83 ug/L		96
53) Bromodichloromethane	11.361	83	575639	41.70 ug/L		99
54) Methyl methacrylate	11.501	41	469673	40.26 ug/L		98
55) 2-Chloroethyl vinyl ether	11.896	63	1147904	157.23 ug/L		100
56) cis-1,3-Dichloropropene	11.963	75	760697	40.36 ug/L		100
59) Toluene	12.176	91	1838844	37.41 ug/L		99
60) 2-Nitropropane	12.383	41	748031	194.95 ug/L		99
61) 4-Methyl-2-pentanone	12.493	43	2492475	206.35 ug/L		99
62) trans-1,3-Dichloropropene	12.541	75	650814	36.85 ug/L	#	79
63) Tetrachloroethene	12.523	166	479174	42.70 ug/L		95
64) Ethyl methacrylate	12.645	69	617500	39.43 ug/L		97
65) 1,1,2-Trichloroethane	12.681	83	355365	40.26 ug/L		99
66) Dibromochloromethane	12.833	129	443918	40.70 ug/L		99
67) 1,3-Dichloropropane	12.900	76	733014	38.89 ug/L		98
68) 1,2-Dibromoethane	13.034	107	394798	37.61 ug/L		98
69) 2-hexanone	13.168	43	1803076m	200.54 ug/L		
70) 1-Chlorohexane	13.387	91	608237	38.22 ug/L		98
71) Ethylbenzene	13.436	91	1996643	38.31 ug/L		98
72) Chlorobenzene	13.436	112	1141954	39.48 ug/L		97
73) 1,1,1,2-Tetrachloroethane	13.478	131	411048	40.33 ug/L		95
74) m,p-Xylene	13.539	91	2948030	76.20 ug/L		98
75) o-Xylene	13.861	91	1600617	38.26 ug/L		100
76) Styrene	13.904	104	1290670	38.97 ug/L		99
77) Bromoform	13.953	173	308614	39.44 ug/L		98
78) Isopropylbenzene	14.080	105	1914747	39.54 ug/L		98
81) cis-1,4-Dichloro-2-butene	14.336	53	168561	34.05 ug/L		93
82) n-Propylbenzene	14.372	91	2270319	37.37 ug/L		100
83) Bromobenzene	14.397	156	489437	37.95 ug/L		100
84) 1,1,2,2-Tetrachloroethane	14.433	83	557251	37.89 ug/L		99
85) 1,3,5-Trimethylbenzene	14.494	105	1525191	37.89 ug/L		99
86) 2-Chlorotoluene	14.506	91	1548406	37.25 ug/L		98
87) trans-1,4-Dichloro-2-B...	14.549	53	147820	31.84 ug/L		95
88) 1,2,3-Trichloropropane	14.537	110	161099	37.87 ug/L		96
89) Cyclohexanone	14.585	55	95502	177.77 ug/L	#	79
90) 4-Chlorotoluene	14.622	91	1417111	37.62 ug/L		99
91) tert-Butylbenzene	14.725	91	904028	37.70 ug/L		98
93) 1,2,4-Trimethylbenzene	14.768	105	1533229	38.97 ug/L		97
94) Pentachloroethane	14.774	167	259632	36.71 ug/L		97
95) sec-Butylbenzene	14.847	105	1858048	38.50 ug/L		100
96) 4-Isopropyltoluene	14.932	119	1545373	38.33 ug/L		100
97) 1,3-Dichlorobenzene	15.036	146	873454	38.13 ug/L		99
98) 1,2,3-Trimethylbenzene	15.078	105	1798604	40.92 ug/L		95
99) 1,4-Dichlorobenzene	15.096	146	874295	37.64 ug/L		98
100) n-Butylbenzene	15.218	92	815535	38.84 ug/L		98
101) Benzyl Chloride	15.248	126	177862	33.66 ug/L		94
102) 1,2-Dichlorobenzene	15.388	146	832770	38.82 ug/L		99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	98726	32.99 ug/L		97
104) Hexachlorobutadiene	16.319	225	205752	33.41 ug/L		95
105) 1,2,4-Trichlorobenzene	16.374	180	433236	38.49 ug/L		96
106) Naphthalene	16.617	128	870248	38.17 ug/L		99
107) 1,2,3-Trichlorobenzene	16.757	180	344309	36.70 ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144929.D
Acq On : 13 Nov 2020 10:02 pm
Operator : SHANICAO
Sample : ECC5797-5
Misc : MS47712,VC5817,,,,,
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 15 19:57:34 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration

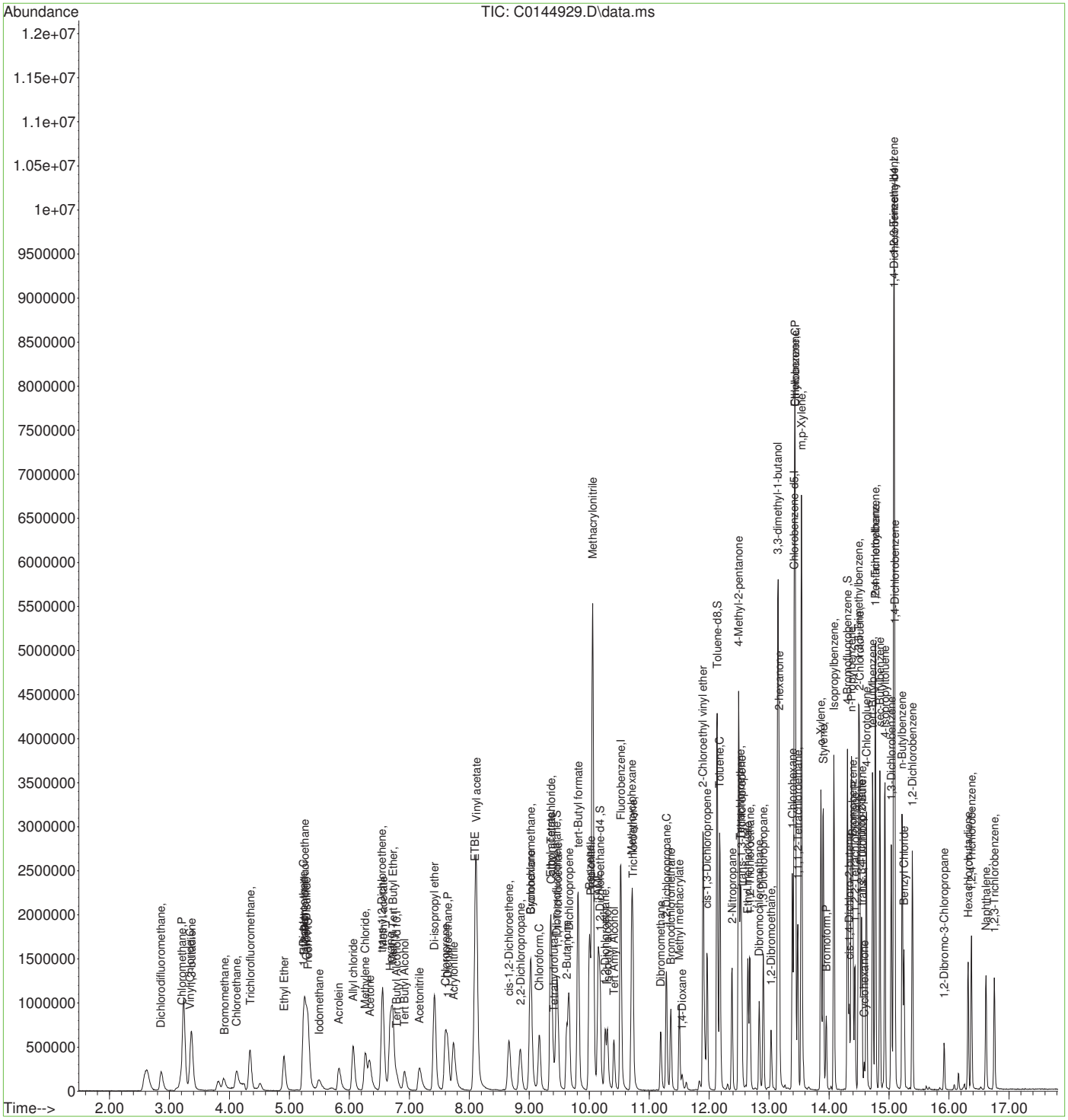
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Ethanol	5.247	45	130255	1129.96	ug/L	95
110) Tert Butyl Alcohol	6.920	59	448129	354.96	ug/L	98
111) Isobutyl alcohol	10.302	43	429694	988.23	ug/L	99
112) Tert Amyl Alcohol	10.412	59	385266	431.08	ug/L	92
113) 1,4-Dioxane	11.550	88	100151	890.60	ug/L	97
114) 3,3-dimethyl-1-butanol	13.144	57	2088925m	2461.61	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144929.D
Acq On : 13 Nov 2020 10:02 pm
Operator : SHANICAO
Sample : ECC5797-5
Misc : MS47712,VC5817,,,,,
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 15 19:57:34 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration



Manual Integration Approval Summary

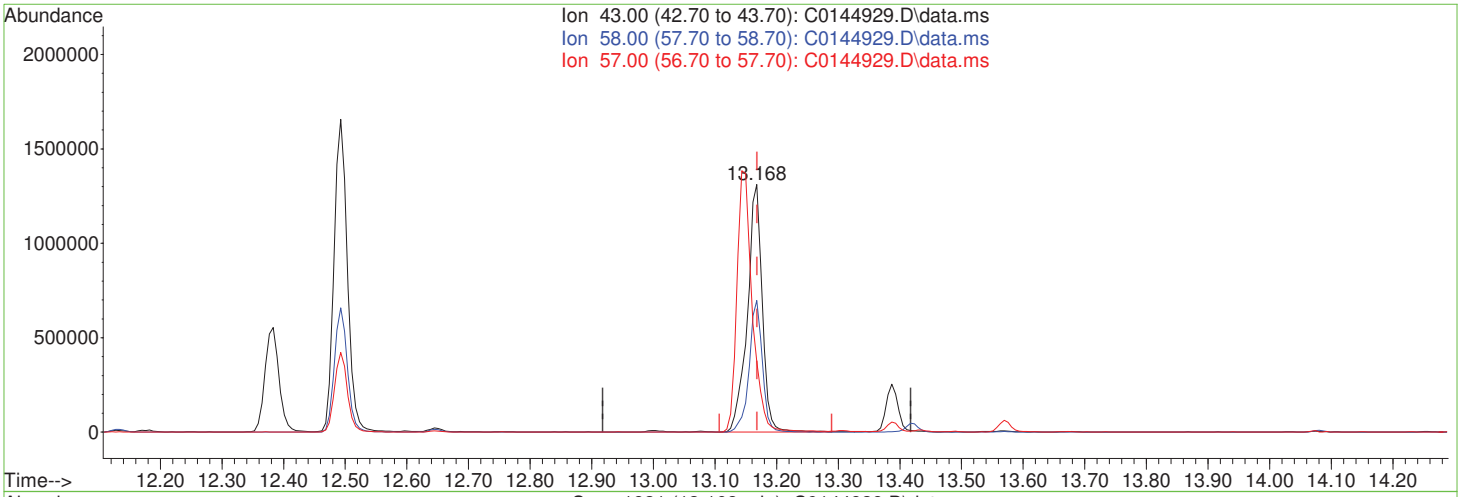
Sample Number: VC5817-ECC5797
Lab FileID: C0144929.D
Injection Time: 11/13/20 22:02
Method: SW846 8260B
Analyst approved: 11/18/20 04:28 Edessa Sumagaysay
Supervisor approved: 11/18/20 15:23 Melissa Mangual

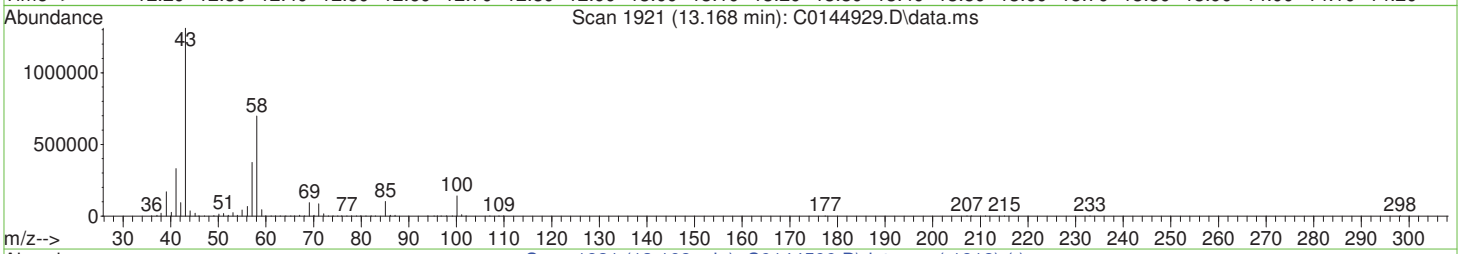
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

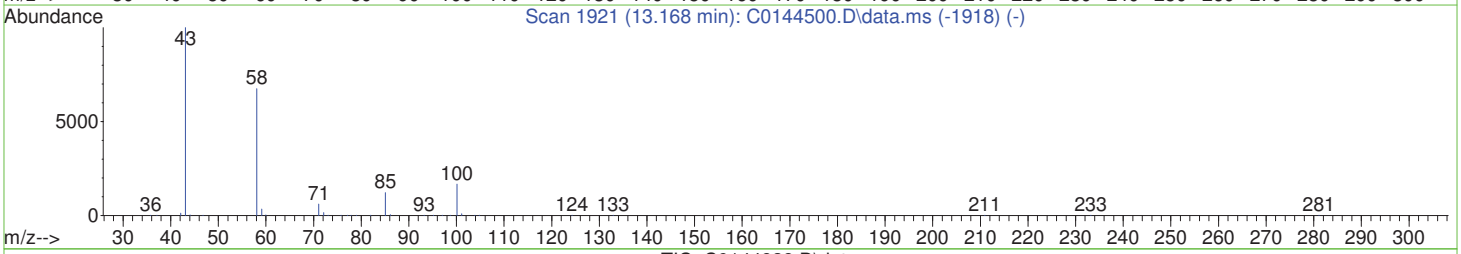
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144929.D
Acq On : 13 Nov 2020 10:02 pm
Operator : SHANICAO
Sample : ECC5797-5
Misc : MS47712,VC5817,,,,,
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 15 19:20:16 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144929.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 245.60ug/L

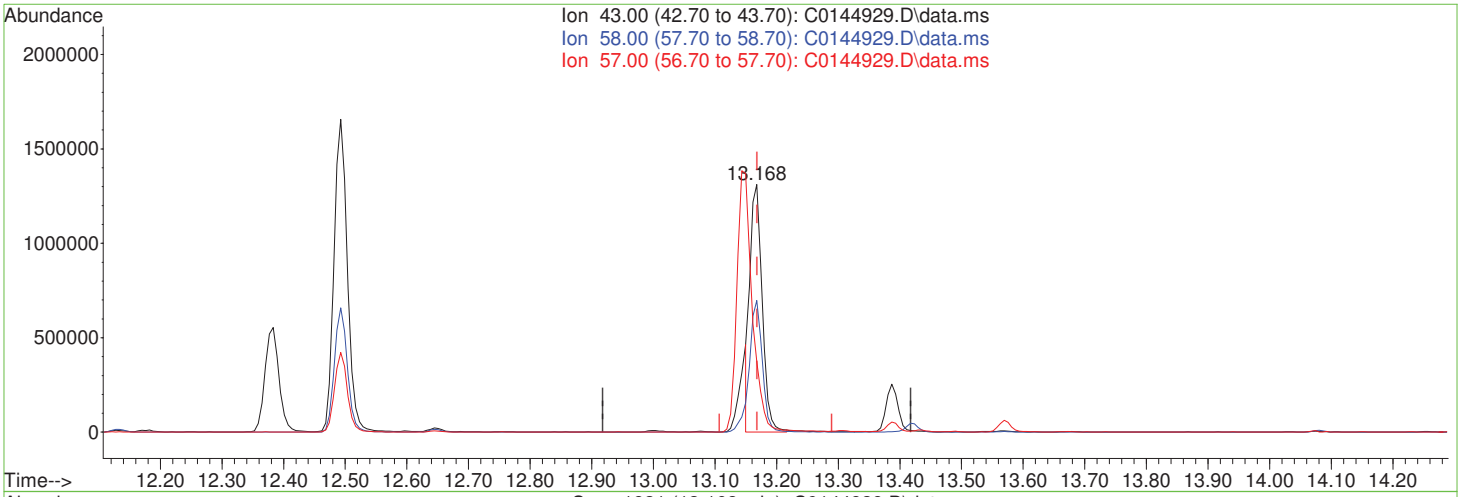
response 2208218

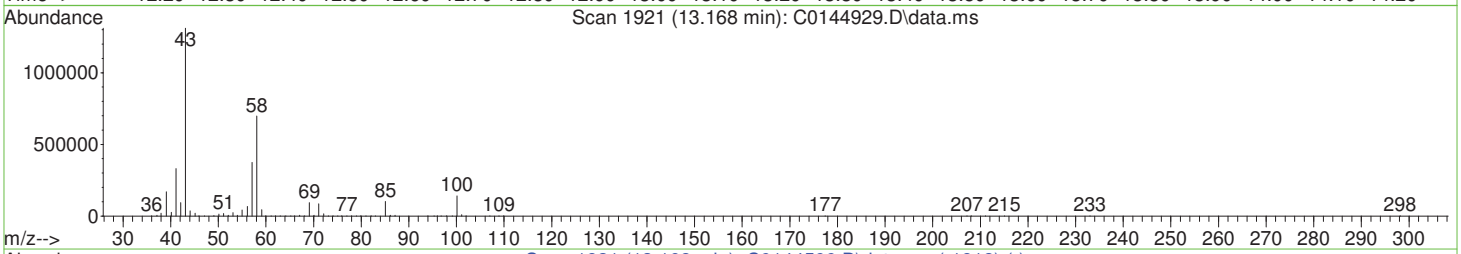
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	53.19
57.00	29.20	28.52
0.00	0.00	0.00

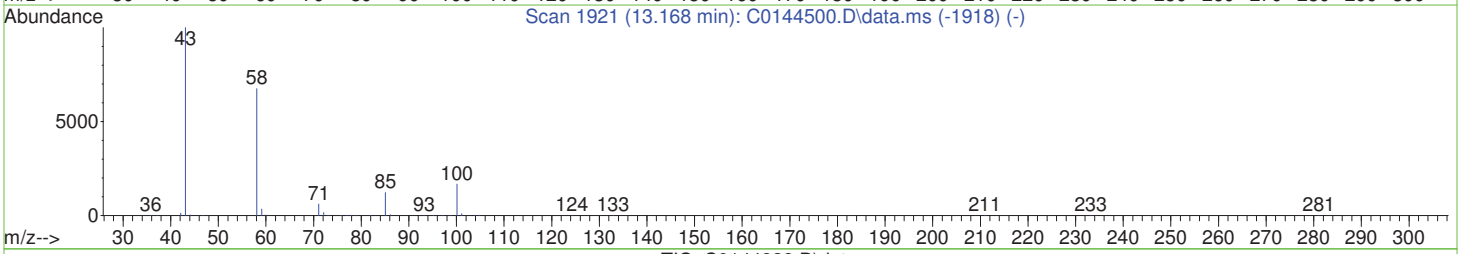
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144929.D
Acq On : 13 Nov 2020 10:02 pm
Operator : SHANICAO
Sample : ECC5797-5
Misc : MS47712,VC5817,,,,,
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 15 19:20:16 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144929.D\data.ms

(69) 2-hexanone

13.168min (-0.000) 200.54ug/L m

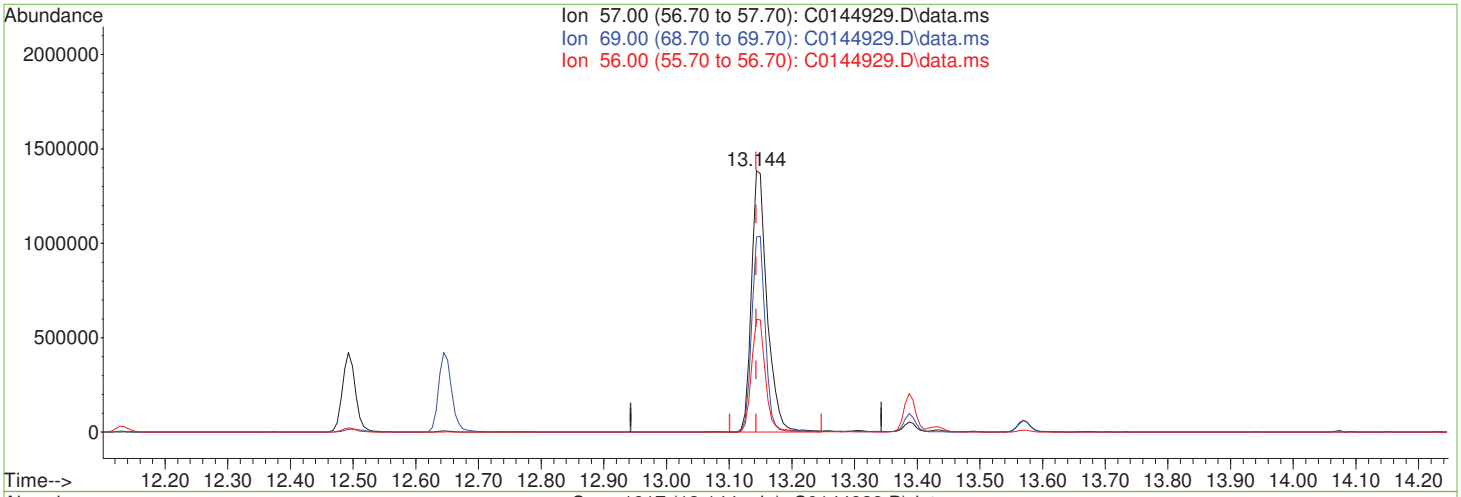
response 1803076

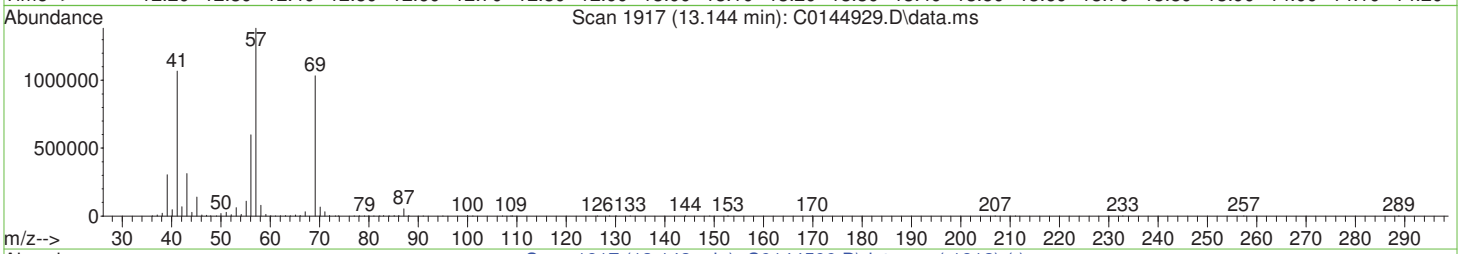
Ion	Exp%	Act%
43.00	100	100
58.00	54.10	53.15
57.00	29.20	28.55
0.00	0.00	0.00

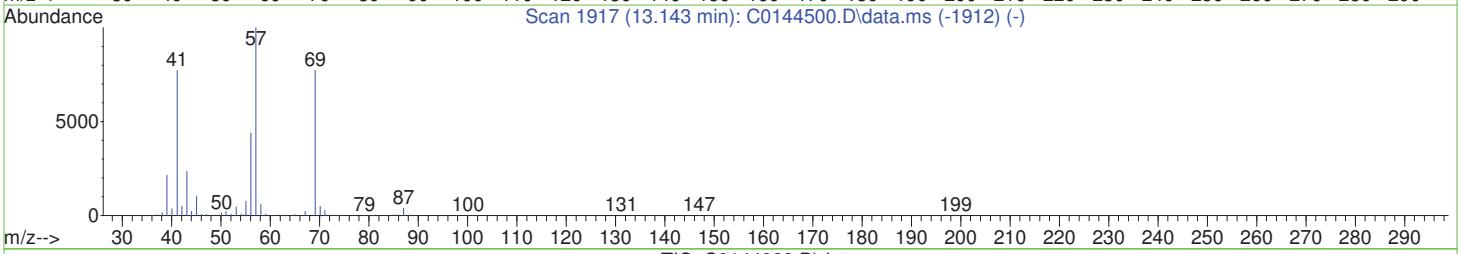
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144929.D
Acq On : 13 Nov 2020 10:02 pm
Operator : SHANICAO
Sample : ECC5797-5
Misc : MS47712,VC5817,,,,,
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 15 19:20:16 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144929.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.000) 2831.24ug/L

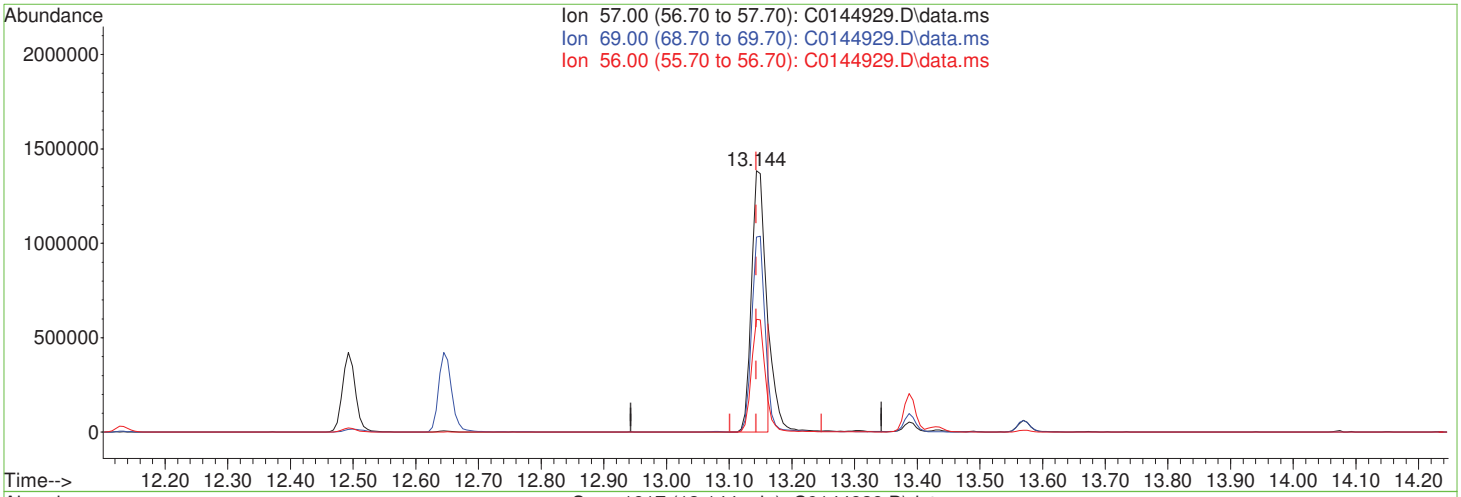
response 2402593

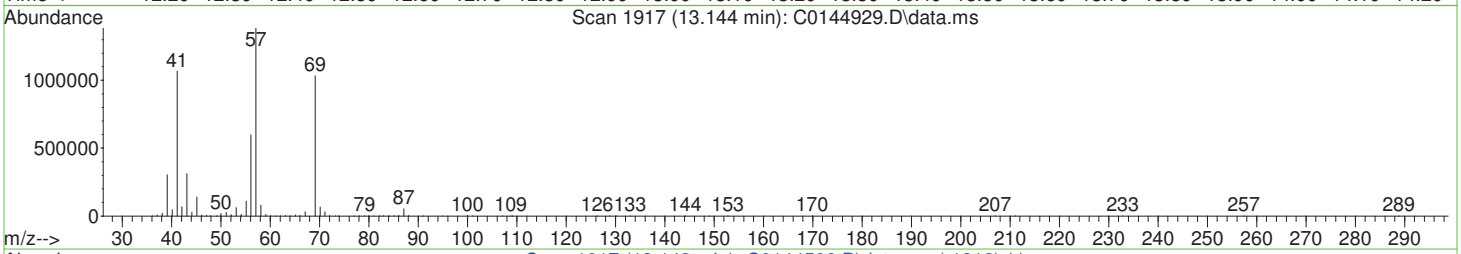
Ion	Exp%	Act%
57.00	100	100
69.00	76.50	65.07
56.00	43.50	38.52
0.00	0.00	0.00

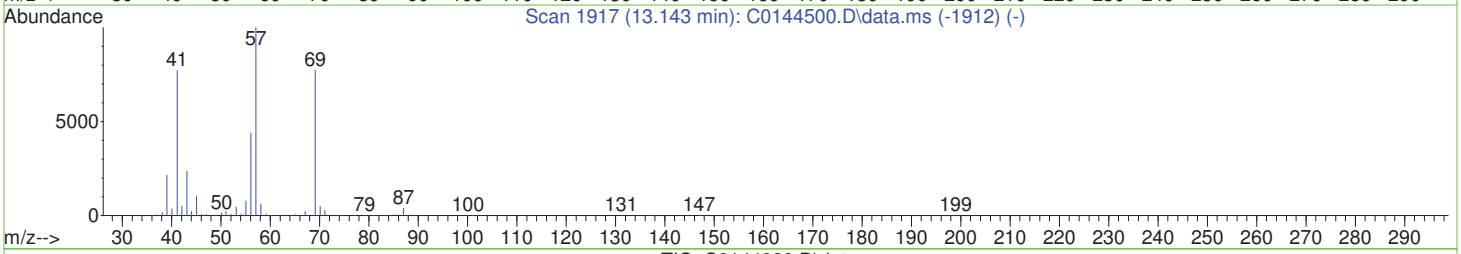
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-16-2020\vc5817-18\
Data File : C0144929.D
Acq On : 13 Nov 2020 10:02 pm
Operator : SHANICAO
Sample : ECC5797-5
Misc : MS47712,VC5817,,,,,
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 15 19:20:16 2020
Quant Method : C:\msdchem\1\methods\RTXVMS102820.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Oct 28 11:12:26 2020
Response via : Initial Calibration







TIC: C0144929.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (+0.000) 2461.61ug/L m

response 2088925

Ion	Exp%	Act%
57.00	100	100
69.00	76.50	74.84
56.00	43.50	44.31
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/17/20 18:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54097.D
Acq On : 17 Nov 2020 8:45 am
Operator : chelseav
Sample : IC2245-2 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 09:09:26 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	2431469	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	2204408	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1129279	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.410	65	88518	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	628989	49.85	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.70%			
47) 1,2-Dichloroethane-d4	11.146	65	544185	48.43	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 96.86%			
58) Toluene-d8	13.238	98	2473966	50.88	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 101.76%			
80) 4-Bromofluorobenzene	15.489	174	849594	49.43	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.86%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	47121	3.78	ug/L	91
3) Acrolein	6.315	56	26695	17.60	ug/L	92
4) Chloromethane	3.389	50	53216	4.18	ug/L	96
5) 1,3-butadiene	3.584	39	42603	4.87	ug/L	100
6) Vinyl Chloride	3.547	62	45849	3.98	ug/L	98
7) Bromomethane	4.156	94	17222	3.51	ug/L	95
8) Chloroethane	4.405	64	24052	7.45	ug/L	95
9) Trichlorofluoromethane	4.673	101	75671	4.90	ug/L	91
10) Ethyl Ether	5.287	59	30529	3.90	ug/L	94
11) 1,2-Dichlorotrifluoroe...	5.670	67	50141	4.98	ug/L	96
12) 1,1-Dichloroethene	5.640	61	60676	4.42	ug/L	96
13) Freon 113	5.731	101	55770	4.29	ug/L	98
14) Carbon Disulfide	5.670	76	113972	4.48	ug/L	95
15) Iodomethane	5.908	142	32331	3.84	ug/L	98
16) Allyl chloride	6.565	41	65024	4.59	ug/L	96
17) Methylene Chloride	6.784	49	66438	4.48	ug/L	96
18) Acetone	6.893	43	34201	17.05	ug/L	91
19) Methyl acetate	7.149	43	92482	17.77	ug/L	97
20) trans-1,2-Dichloroethene	7.100	61	58948	4.51	ug/L	97
21) Hexane	7.252	56	38623	4.49	ug/L	93
22) Methyl Tert Butyl Ether	7.325	73	76169	3.71	ug/L	94
23) Acetonitrile	7.806	41	36836	42.82	ug/L	93
24) Di-isopropyl ether	8.092	45	131275	4.09	ug/L	96
25) Chloroprene	8.268	53	64932	4.63	ug/L	96
26) 1,1-Dichloroethane	8.317	63	73693	4.61	ug/L	98
27) Acrylonitrile	8.432	53	45237	17.57	ug/L	94
28) ETBE	8.834	59	91503	3.34	ug/L	96
29) Vinyl acetate	8.864	43	262482	15.41	ug/L	98
30) cis-1,2-Dichloroethene	9.430	96	52291	4.46	ug/L	97
31) 2,2-Dichloropropane	9.643	77	48306	4.74	ug/L	95
32) Bromochloromethane	9.838	128	28638	4.37	ug/L	92
33) Cyclohexane	9.819	56	86284	4.50	ug/L	97
34) Chloroform	10.002	83	77814	4.63	ug/L	96
35) Ethyl acetate	10.263	43	111317	17.61	ug/L	97
36) Tetrahydrofuran	10.263	42	6920	3.86	ug/L	95
38) Carbon Tetrachloride	10.233	117	63052	4.38	ug/L	97
39) 1,1,1-Trichloroethane	10.349	97	74425	4.47	ug/L	97
40) 2-Butanone	10.562	43	42997	15.20	ug/L	90
41) 1,1-Dichloropropene	10.568	75	59607	4.36	ug/L	94
42) tert-Butyl formate	10.756	59	18727	23.77	ug/L #	84
43) Propionitrile	10.993	54	38165	40.17	ug/L	97
44) Methacrylonitrile	11.024	41	190550	43.70	ug/L	99
45) Benzene	10.945	78	189188	4.67	ug/L	97
46) TAME	11.127	73	72594	3.41	ug/L	85
48) 1,2-Dichloroethane	11.237	62	51469	4.14	ug/L	99
49) Trichloroethene	11.742	95	59762	5.05	ug/L	97
50) Methylcyclohexane	11.717	83	84705	4.54	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54097.D
Acq On : 17 Nov 2020 8:45 am
Operator : chelseav
Sample : IC2245-2 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 09:09:26 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

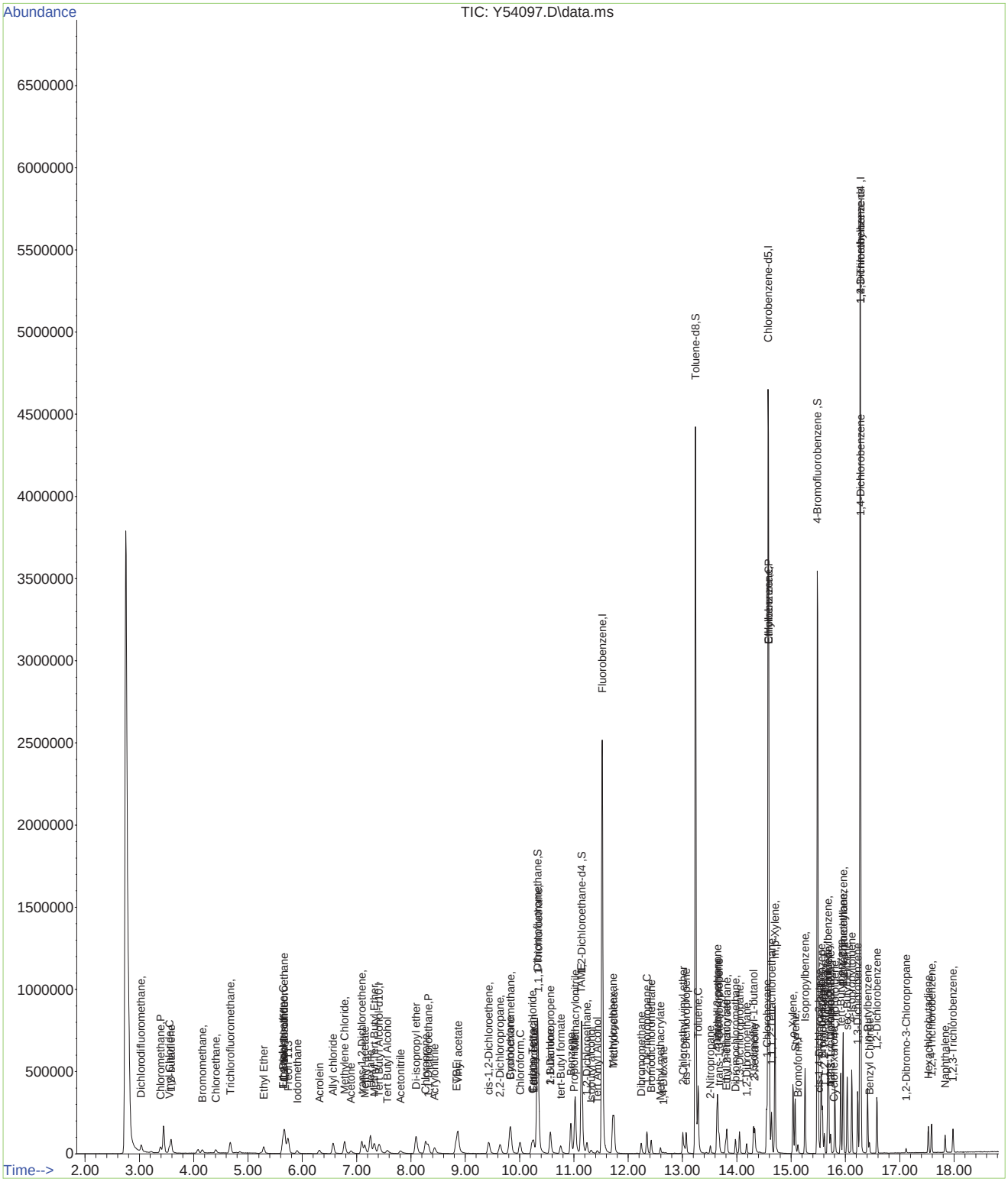
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) Dibromomethane	12.241	93	22005	4.06 ug/L	94
52) 1,2-Dichloropropane	12.344	63	42193	4.32 ug/L	94
53) Bromodichloromethane	12.423	83	46505	4.22 ug/L	99
54) Methyl methacrylate	12.593	41	21484	3.85 ug/L	96
55) 2-Chloroethyl vinyl ether	13.007	63	45615	18.22 ug/L	97
56) cis-1,3-Dichloropropene	13.068	75	52864	3.65 ug/L	92
59) Toluene	13.287	91	234838	5.01 ug/L	97
60) 2-Nitropropane	13.512	41	25292	16.76 ug/L	95
61) 4-Methyl-2-pentanone	13.634	43	106963	17.37 ug/L	97
62) trans-1,3-Dichloropropene	13.676	75	38630	3.79 ug/L	93
63) Tetrachloroethene	13.646	166	70320	4.78 ug/L	95
64) Ethyl methacrylate	13.798	69	28941	3.80 ug/L	92
65) 1,1,2-Trichloroethane	13.816	83	28263	4.54 ug/L	96
66) Dibromochloromethane	13.974	129	40238	4.06 ug/L	99
67) 1,3-Dichloropropane	14.047	76	59775	4.42 ug/L	98
68) 1,2-Dibromoethane	14.181	107	35452	4.16 ug/L	95
69) 2-hexanone	14.333	43	78938m	17.73 ug/L	
70) 1-Chlorohexane	14.552	91	70892	4.46 ug/L	98
71) Ethylbenzene	14.595	91	257703	5.08 ug/L	98
72) Chlorobenzene	14.595	112	167211	4.84 ug/L	99
73) 1,1,1,2-Tetrachloroethane	14.637	131	53322	4.48 ug/L	94
74) m,p-Xylene	14.704	91	392486	9.50 ug/L	99
75) o-Xylene	15.033	91	187186	4.51 ug/L	98
76) Styrene	15.075	104	142867	4.43 ug/L	98
77) Bromoform	15.124	173	18327	3.85 ug/L	98
78) Isopropylbenzene	15.258	105	265354	4.67 ug/L	98
81) cis-1,4-Dichloro-2-butene	15.520	53	5743	2.97 ug/L #	78
82) n-Propylbenzene	15.550	91	285560	4.92 ug/L	97
83) Bromobenzene	15.574	156	69450	4.94 ug/L	98
84) 1,1,2,2-Tetrachloroethane	15.611	83	37502	4.59 ug/L	92
85) 1,3,5-Trimethylbenzene	15.672	105	201802	4.94 ug/L	99
86) 2-Chlorotoluene	15.690	91	188249	5.09 ug/L	98
87) trans-1,4-Dichloro-2-B...	15.732	53	5379	2.58 ug/L #	23
88) 1,2,3-Trichloropropane	15.726	110	13658	4.38 ug/L	95
89) Cyclohexanone	15.781	55	3293	16.56 ug/L	94
90) 4-Chlorotoluene	15.805	91	166195	4.84 ug/L	98
91) tert-Butylbenzene	15.915	91	105801	4.86 ug/L	94
92) 1,2,4-Trimethylbenzene	15.958	105	205509	4.99 ug/L	96
93) Pentachloroethane	15.958	167	34004	5.11 ug/L	84
94) sec-Butylbenzene	16.037	105	250144	4.96 ug/L	98
95) 4-Isopropyltoluene	16.116	119	223454	4.77 ug/L	99
96) 1,3-Dichlorobenzene	16.225	146	127954	4.86 ug/L	99
97) 1,2,3-Trimethylbenzene	16.268	105	284872	6.18 ug/L	100
98) 1,4-Dichlorobenzene	16.286	146	129283	4.94 ug/L	97
99) n-Butylbenzene	16.408	92	82645	4.36 ug/L	98
100) Benzyl Chloride	16.444	126	8160	2.36 ug/L	99
101) 1,2-Dichlorobenzene	16.578	146	116589	4.84 ug/L	98
102) 1,2-Dibromo-3-Chloropr...	17.113	75	4072	3.81 ug/L	84
103) Hexachlorobutadiene	17.527	225	21046	4.51 ug/L	98
104) 1,2,4-Trichlorobenzene	17.588	180	46915	3.51 ug/L	99
105) Naphthalene	17.837	128	72933	2.24 ug/L	98
106) 1,2,3-Trichlorobenzene	17.983	180	40078	3.38 ug/L	96
108) Ethanol	5.640	45	8121m	176.33 ug/L	
109) Tert Butyl Alcohol	7.562	59	29084	78.44 ug/L	88
110) Isobutyl alcohol	11.322	42	8816	115.73 ug/L #	82
111) Tert Amyl Alcohol	11.431	59	8618	39.70 ug/L #	67
112) 1,4-Dioxane	12.648	88	4236	97.17 ug/L	82
113) 3,3-dimethyl-1-butanol	14.309	57	78232	242.64 ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54097.D
Acq On : 17 Nov 2020 8:45 am
Operator : chelseav
Sample : IC2245-2 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 09:09:26 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



RESTEK111720w.M Tue Nov 17 12:28:23 2020 Page: 3

Manual Integration Approval Summary

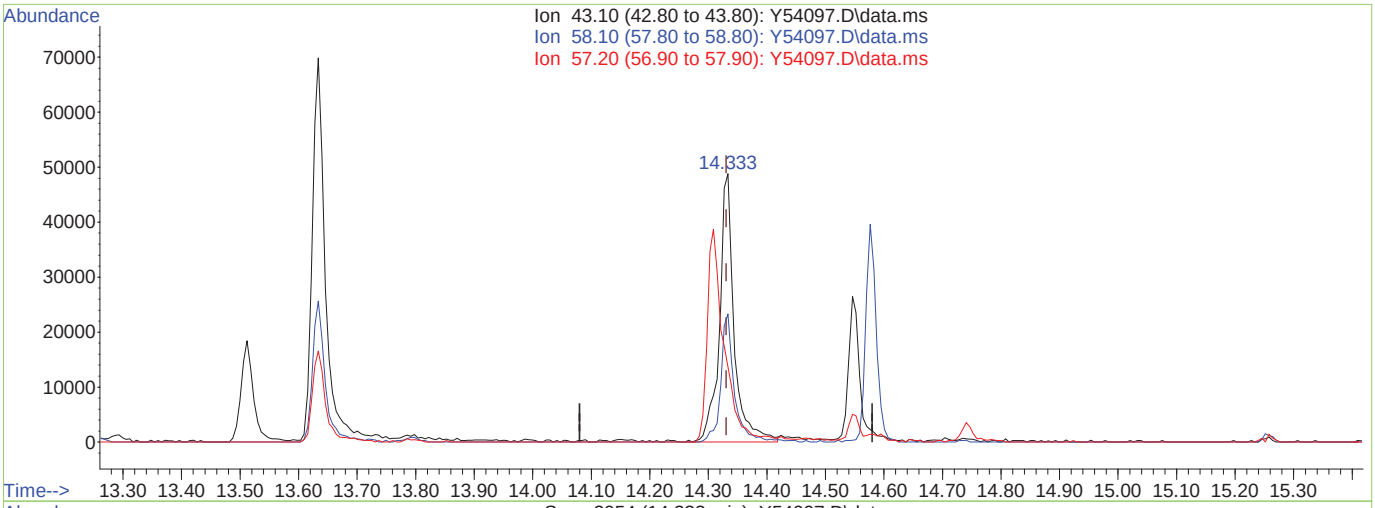
Sample Number: VY2245-IC2245
Lab FileID: Y54097.D
Injection Time: 11/17/20 08:45
Method: SW846 8260B
Analyst approved: 11/17/20 13:28 Chelsea VanDenBurg
Supervisor approved: 11/17/20 18:54 Melissa Mangual

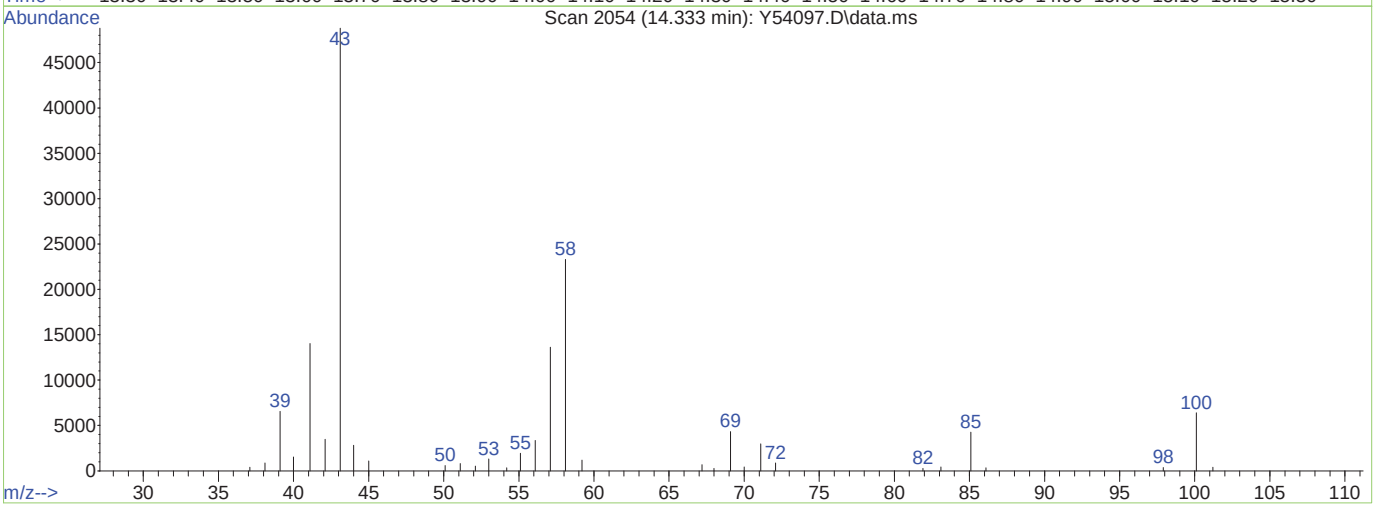
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.64	Poor instrument integration
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54097.D
Acq On : 17 Nov 2020 8:45 am
Operator : chelseav
Sample : IC2245-2 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 09:08:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54097.D\data.ms

(69) 2-hexanone

14.333min (+0.003) 19.27ug/L

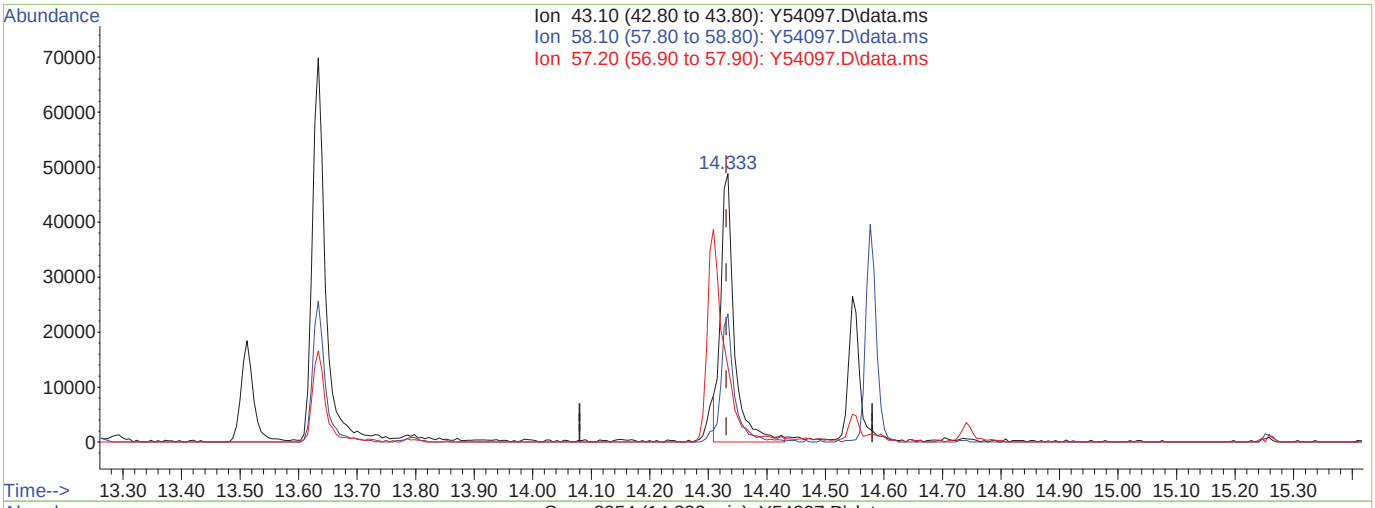
response 85795

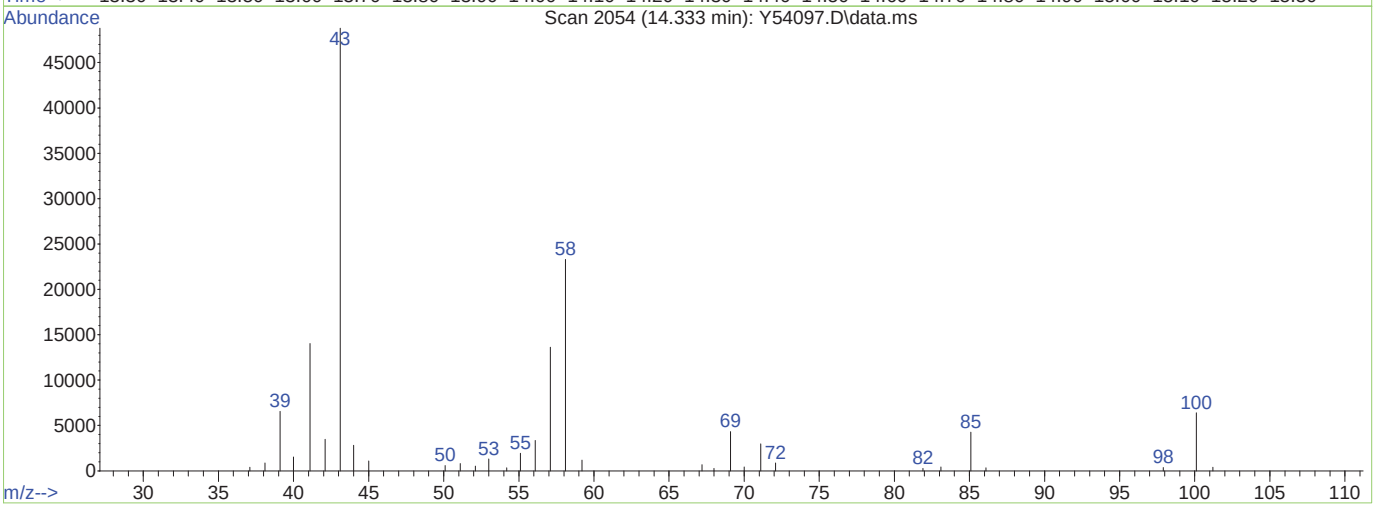
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	47.72
57.20	27.10	27.93
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54097.D
Acq On : 17 Nov 2020 8:45 am
Operator : chelseav
Sample : IC2245-2 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 09:08:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54097.D\data.ms

(69) 2-hexanone

14.333min (+0.003) 17.73ug/L m

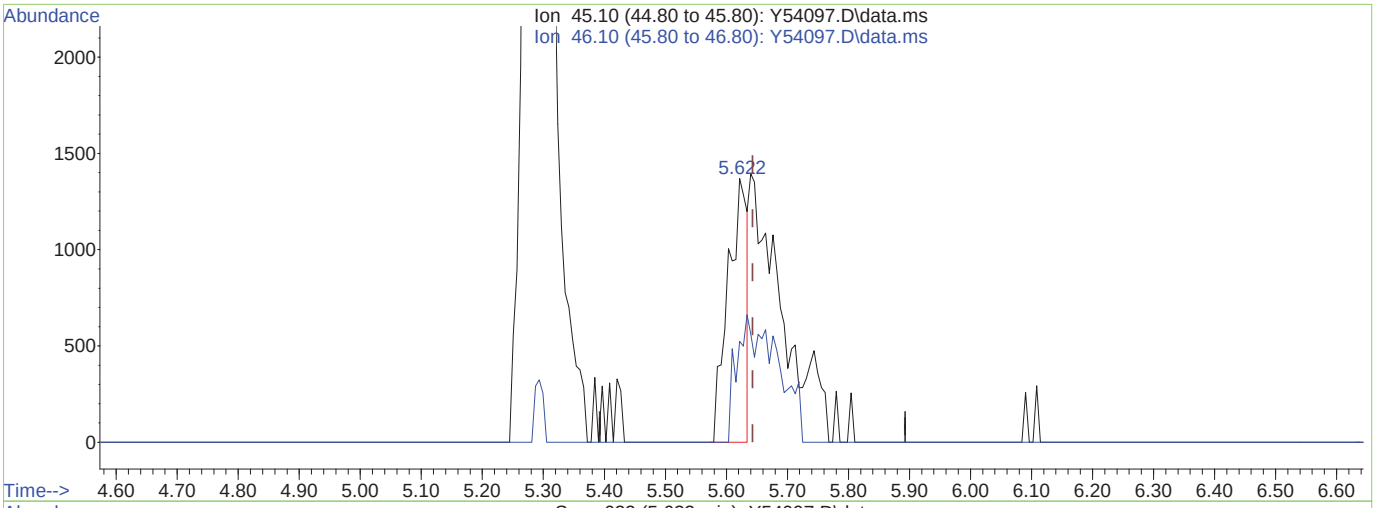
response 78938

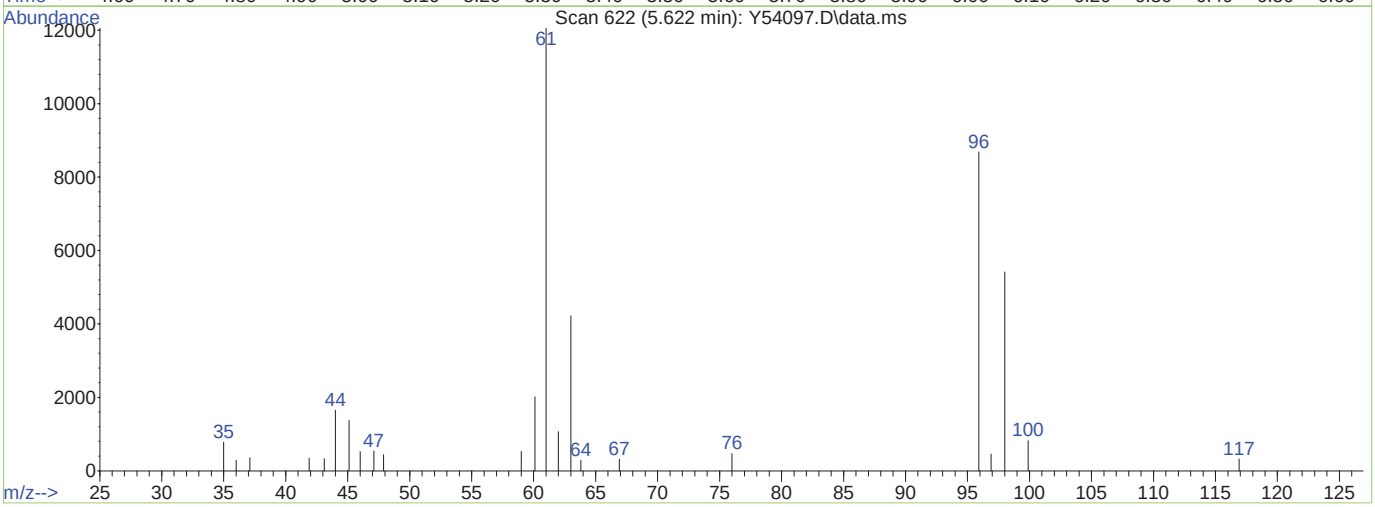
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	47.72
57.20	27.10	27.93
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54097.D
Acq On : 17 Nov 2020 8:45 am
Operator : chelseav
Sample : IC2245-2 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 09:08:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54097.D\data.ms

(108) Ethanol

5.622min (-0.021) 64.42ug/L

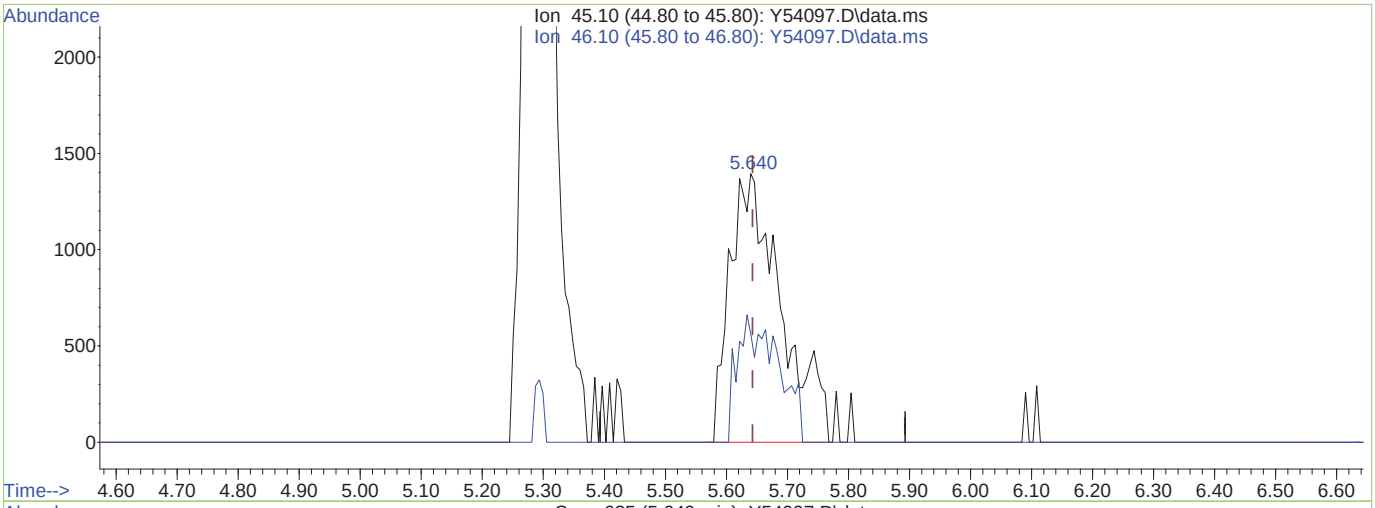
response 2967

Ion	Exp%	Act%
45.10	100	100
46.10	47.50	38.25
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54097.D
Acq On : 17 Nov 2020 8:45 am
Operator : chelseav
Sample : IC2245-2 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 17 09:08:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



TIC: Y54097.D\data.ms

(108) Ethanol

5.640min (-0.003) 176.33ug/L m

response 8121

Ion	Exp%	Act%
45.10	100	100
46.10	47.50	40.39
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/17/20 18:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54098.D
Acq On : 17 Nov 2020 9:12 am
Operator : chelseav
Sample : IC2245-3 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 17 09:58:13 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	2482317	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	2243397	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1181622	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.417	65	112153	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	645806	50.14	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.28%			
47) 1,2-Dichloroethane-d4	11.146	65	551030	48.03	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 96.06%			
58) Toluene-d8	13.238	98	2542880	51.39	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 102.78%			
80) 4-Bromofluorobenzene	15.489	174	882115	49.05	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.10%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	96349	7.57	ug/L	98
3) Acrolein	6.309	56	63898	41.27	ug/L	99
4) Chloromethane	3.389	50	108406	8.35	ug/L	96
5) 1,3-butadiene	3.584	39	86146	9.66	ug/L	96
6) Vinyl Chloride	3.554	62	95857	8.14	ug/L	98
7) Bromomethane	4.162	94	39141	7.82	ug/L	91
8) Chloroethane	4.399	64	47193	14.46	ug/L	98
9) Trichlorofluoromethane	4.667	101	153462	9.73	ug/L	96
10) Ethyl Ether	5.287	59	71755	8.99	ug/L	97
11) 1,2-Dichlorotrifluoroe...	5.671	67	104351	10.15	ug/L	97
12) 1,1-Dichloroethene	5.640	61	131537	9.38	ug/L	97
13) Freon 113	5.738	101	118856	8.97	ug/L	98
14) Carbon Disulfide	5.671	76	245338	9.44	ug/L	96
15) Iodomethane	5.902	142	74124	8.33	ug/L	99
16) Allyl chloride	6.565	41	134937	9.32	ug/L	96
17) Methylene Chloride	6.778	49	134548	8.94	ug/L	95
18) Acetone	6.893	43	79548	38.84	ug/L	100
19) Methyl acetate	7.143	43	227725	42.87	ug/L	98
20) trans-1,2-Dichloroethene	7.094	61	126697	9.50	ug/L	95
21) Hexane	7.252	56	84734	9.66	ug/L	93
22) Methyl Tert Butyl Ether	7.325	73	182891	8.74	ug/L	96
23) Acetonitrile	7.800	41	77162	87.54	ug/L	98
24) Di-isopropyl ether	8.092	45	299673	9.15	ug/L	98
25) Chloroprene	8.268	53	135174	9.45	ug/L	97
26) 1,1-Dichloroethane	8.317	63	155457	9.52	ug/L	100
27) Acrylonitrile	8.432	53	107452	40.88	ug/L	93
28) ETBE	8.834	59	216381	7.74	ug/L	98
29) Vinyl acetate	8.864	43	645276	37.05	ug/L	97
30) cis-1,2-Dichloroethene	9.430	96	112011	9.36	ug/L	98
31) 2,2-Dichloropropane	9.643	77	108709	10.25	ug/L	99
32) Bromochloromethane	9.838	128	62633	9.36	ug/L	94
33) Cyclohexane	9.826	56	193482	9.88	ug/L	95
34) Chloroform	10.008	83	167865	9.78	ug/L	99
35) Ethyl acetate	10.258	43	274171	42.49	ug/L	100
36) Tetrahydrofuran	10.264	42	15933	8.71	ug/L	93
38) Carbon Tetrachloride	10.233	117	141876	9.66	ug/L	97
39) 1,1,1-Trichloroethane	10.349	97	166555	9.79	ug/L	98
40) 2-Butanone	10.556	43	109415	37.77	ug/L	95
41) 1,1-Dichloropropene	10.568	75	134922	9.66	ug/L	96
42) tert-Butyl formate	10.756	59	50762	50.56	ug/L #	87
43) Propionitrile	10.994	54	83132	85.71	ug/L	92
44) Methacrylonitrile	11.018	41	418055	93.90	ug/L	98
45) Benzene	10.945	78	409028	9.89	ug/L	99
46) TAME	11.127	73	171503	7.89	ug/L	95
48) 1,2-Dichloroethane	11.237	62	114653	9.03	ug/L	98
49) Trichloroethene	11.736	95	122121	10.15	ug/L	94
50) Methylcyclohexane	11.718	83	184289	9.67	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54098.D
Acq On : 17 Nov 2020 9:12 am
Operator : chelseav
Sample : IC2245-3 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 17 09:58:13 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

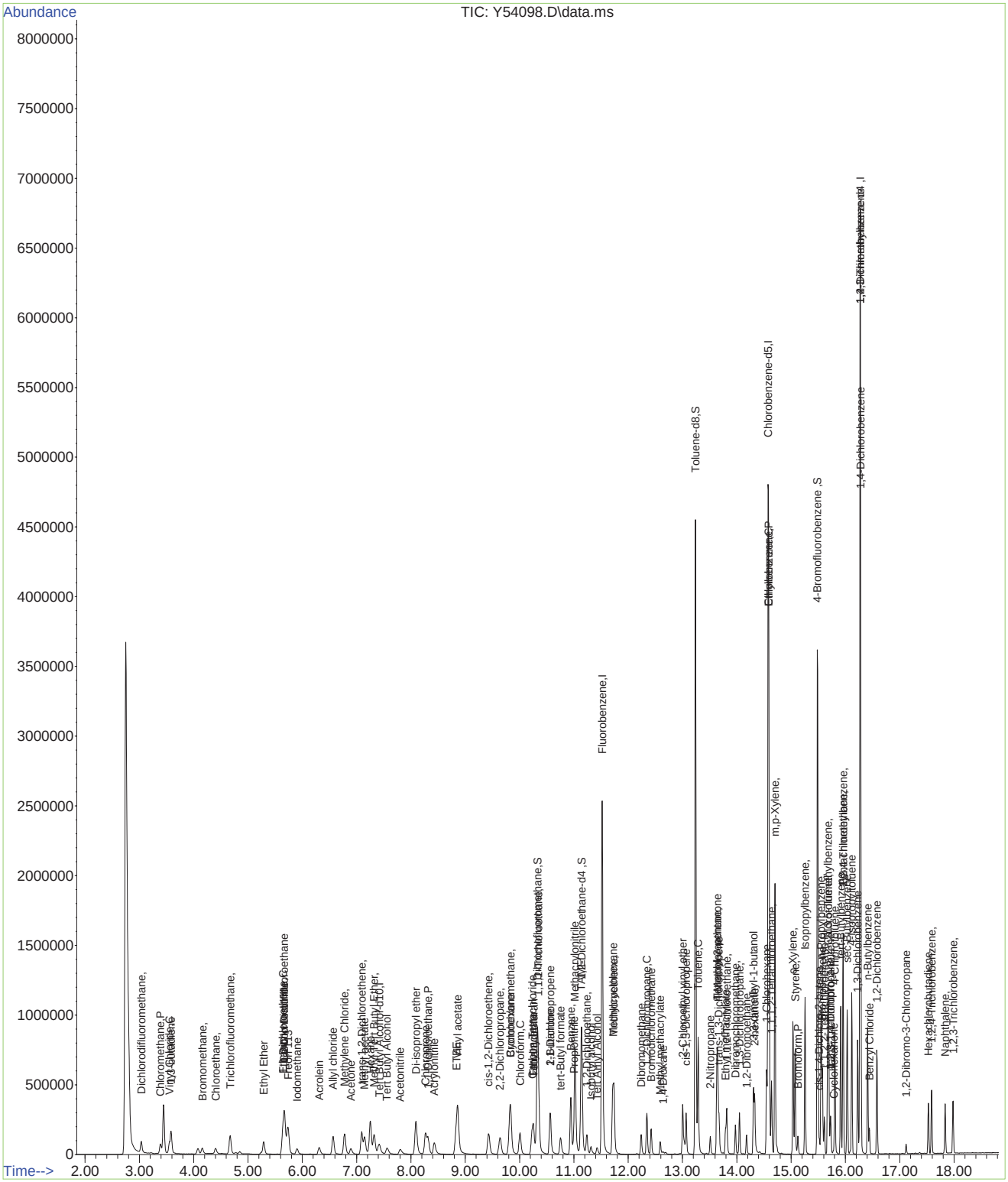
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.235	93	49286	8.91	ug/L		94
52) 1,2-Dichloropropane	12.344	63	91890	9.22	ug/L		96
53) Bromodichloromethane	12.423	83	104809	9.31	ug/L		98
54) Methyl methacrylate	12.588	41	43859	7.62	ug/L		90
55) 2-Chloroethyl vinyl ether	13.001	63	123437	46.96	ug/L		99
56) cis-1,3-Dichloropropene	13.068	75	125089	8.47	ug/L		97
59) Toluene	13.287	91	494994	10.36	ug/L		100
60) 2-Nitropropane	13.512	41	63660	40.83	ug/L		93
61) 4-Methyl-2-pentanone	13.634	43	277185	44.24	ug/L		97
62) trans-1,3-Dichloropropene	13.670	75	92978	8.84	ug/L		92
63) Tetrachloroethene	13.646	166	151750	10.14	ug/L		98
64) Ethyl methacrylate	13.792	69	70204	8.92	ug/L		97
65) 1,1,2-Trichloroethane	13.816	83	62523	9.87	ug/L		99
66) Dibromochloromethane	13.975	129	95868	9.49	ug/L		99
67) 1,3-Dichloropropane	14.048	76	129856	9.44	ug/L		97
68) 1,2-Dibromoethane	14.181	107	81378	9.39	ug/L		98
69) 2-hexanone	14.327	43	202727m	44.74	ug/L		
70) 1-Chlorohexane	14.552	91	158752	9.82	ug/L		96
71) Ethylbenzene	14.595	91	549251	10.65	ug/L		97
72) Chlorobenzene	14.595	112	354565	10.08	ug/L		98
73) 1,1,1,2-Tetrachloroethane	14.638	131	116841	9.65	ug/L		98
74) m,p-Xylene	14.705	91	846816	20.14	ug/L		99
75) o-Xylene	15.033	91	417642	9.88	ug/L		99
76) Styrene	15.076	104	325416	9.90	ug/L		98
77) Bromoform	15.124	173	45701	9.27	ug/L		98
78) Isopropylbenzene	15.258	105	587904	10.16	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.520	53	14987	7.26	ug/L	#	77
82) n-Propylbenzene	15.550	91	618972	10.20	ug/L		100
83) Bromobenzene	15.574	156	147024	10.00	ug/L		97
84) 1,1,2,2-Tetrachloroethane	15.611	83	82933	9.71	ug/L		96
85) 1,3,5-Trimethylbenzene	15.672	105	446664	10.45	ug/L		99
86) 2-Chlorotoluene	15.690	91	402018	10.40	ug/L		97
87) trans-1,4-Dichloro-2-B...	15.733	53	12749	5.80	ug/L	#	25
88) 1,2,3-Trichloropropane	15.727	110	32120	9.85	ug/L		94
89) Cyclohexanone	15.781	55	7921	38.08	ug/L		91
90) 4-Chlorotoluene	15.806	91	360205	10.02	ug/L		97
91) tert-Butylbenzene	15.915	91	235044	10.31	ug/L		94
92) 1,2,4-Trimethylbenzene	15.958	105	457587	10.61	ug/L		97
93) Pentachloroethane	15.958	167	71397	10.26	ug/L	#	83
94) sec-Butylbenzene	16.031	105	550170	10.43	ug/L		100
95) 4-Isopropyltoluene	16.116	119	510826	10.42	ug/L		99
96) 1,3-Dichlorobenzene	16.225	146	276750	10.05	ug/L		99
97) 1,2,3-Trimethylbenzene	16.268	105	624084	12.95	ug/L		100
98) 1,4-Dichlorobenzene	16.286	146	274257	10.02	ug/L		98
99) n-Butylbenzene	16.408	92	193715	9.76	ug/L		96
100) Benzyl Chloride	16.444	126	24355	6.59	ug/L		95
101) 1,2-Dichlorobenzene	16.578	146	254216	10.08	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.114	75	10170	8.92	ug/L		89
103) Hexachlorobutadiene	17.527	225	46735	9.57	ug/L		93
104) 1,2,4-Trichlorobenzene	17.588	180	117720	8.41	ug/L		99
105) Naphthalene	17.838	128	237784	6.98	ug/L		99
106) 1,2,3-Trichlorobenzene	17.984	180	102332	8.24	ug/L		100
108) Ethanol	5.640	45	14440	247.46	ug/L		94
109) Tert Butyl Alcohol	7.556	59	68164	145.10	ug/L		84
110) Isobutyl alcohol	11.316	42	21366	221.38	ug/L		94
111) Tert Amyl Alcohol	11.432	59	23692	86.15	ug/L		80
112) 1,4-Dioxane	12.642	88	11814	213.90	ug/L		91
113) 3,3-dimethyl-1-butanol	14.309	57	212049	519.08	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54098.D
Acq On : 17 Nov 2020 9:12 am
Operator : chelseav
Sample : IC2245-3 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 17 09:58:13 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



RESTEK111720w.M Tue Nov 17 12:28:24 2020 Page: 3

Manual Integration Approval Summary

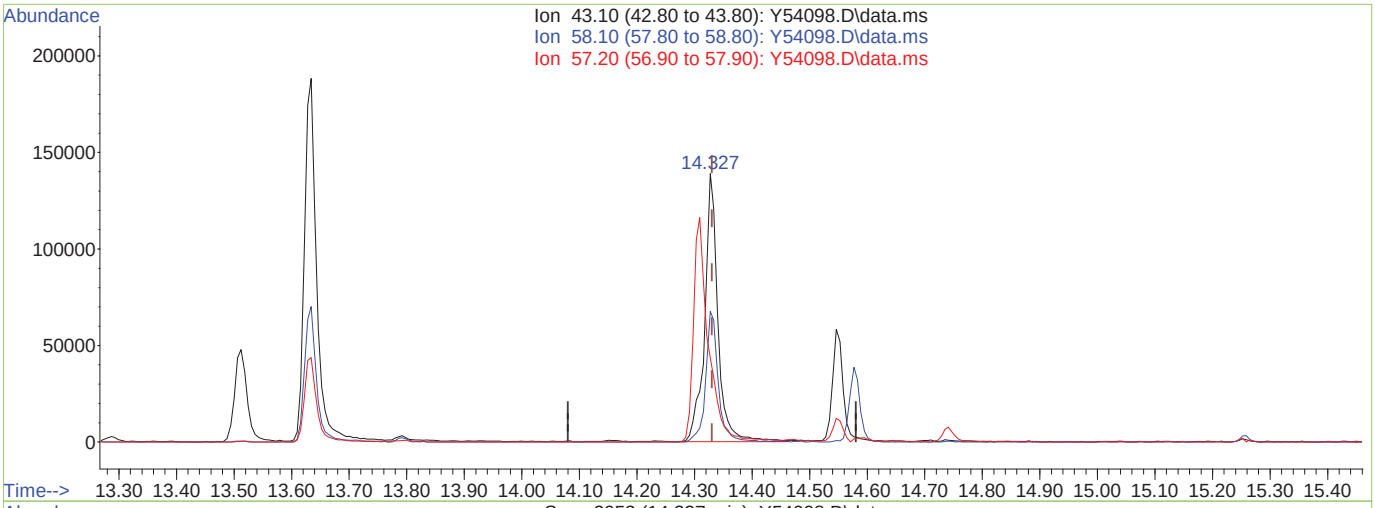
Sample Number: VY2245-IC2245
Lab FileID: Y54098.D
Injection Time: 11/17/20 09:12
Method: SW846 8260B
Analyst approved: 11/17/20 13:28 Chelsea VanDenBurg
Supervisor approved: 11/17/20 18:54 Melissa Mangual

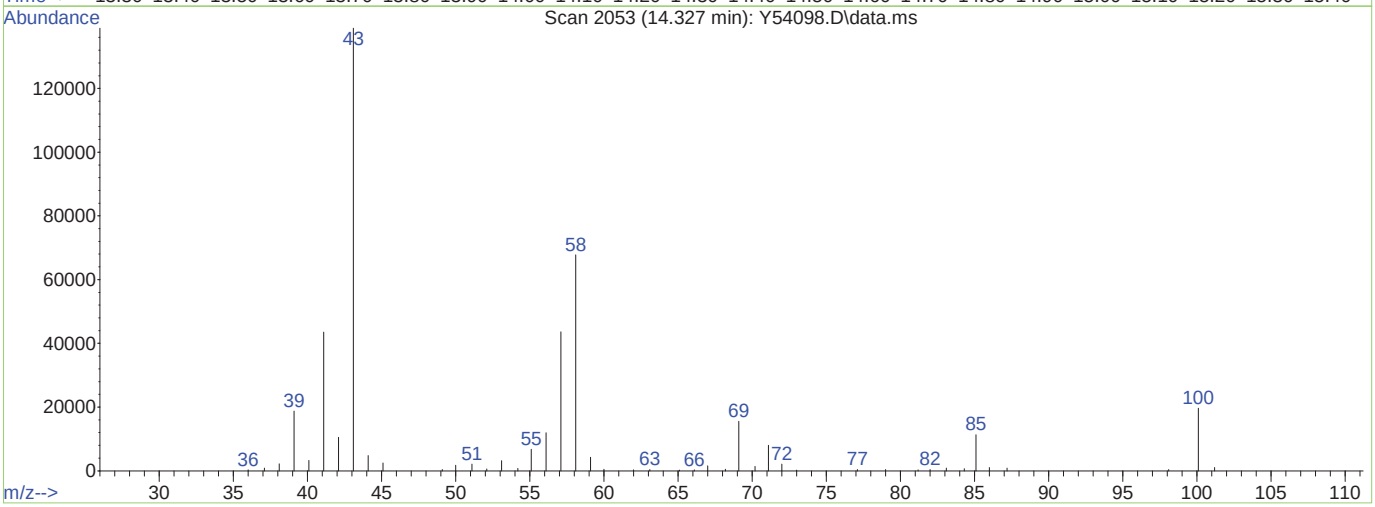
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54098.D
Acq On : 17 Nov 2020 9:12 am
Operator : chelseav
Sample : IC2245-3 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 17 09:57:47 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54098.D\data.ms

(69) 2-hexanone

14.327min (-0.003) 49.32ug/L

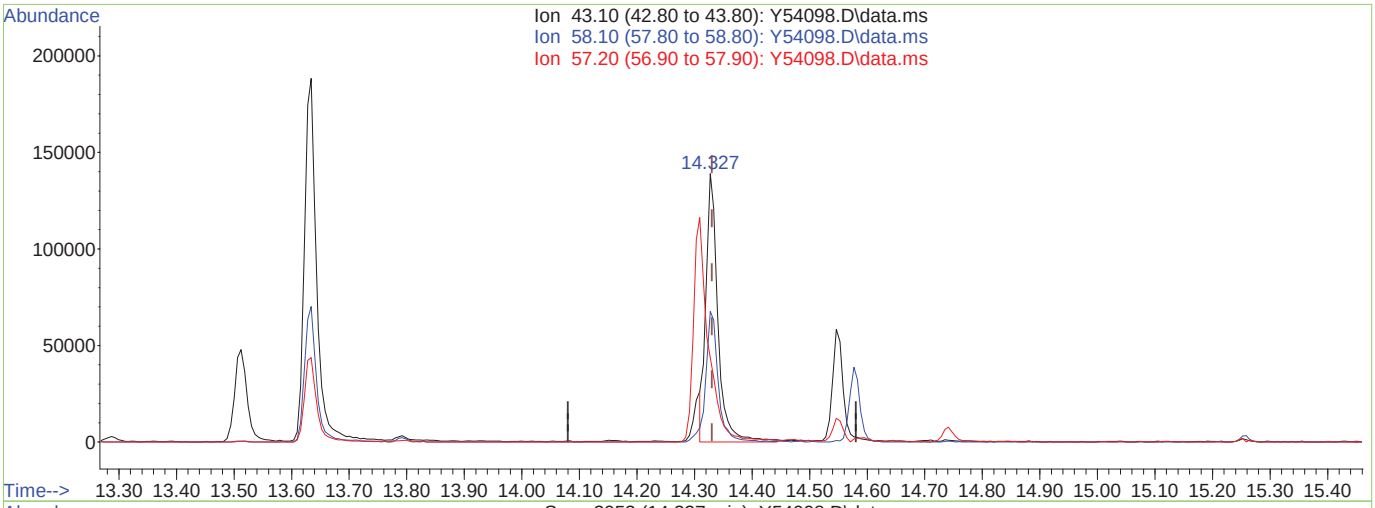
response 223494

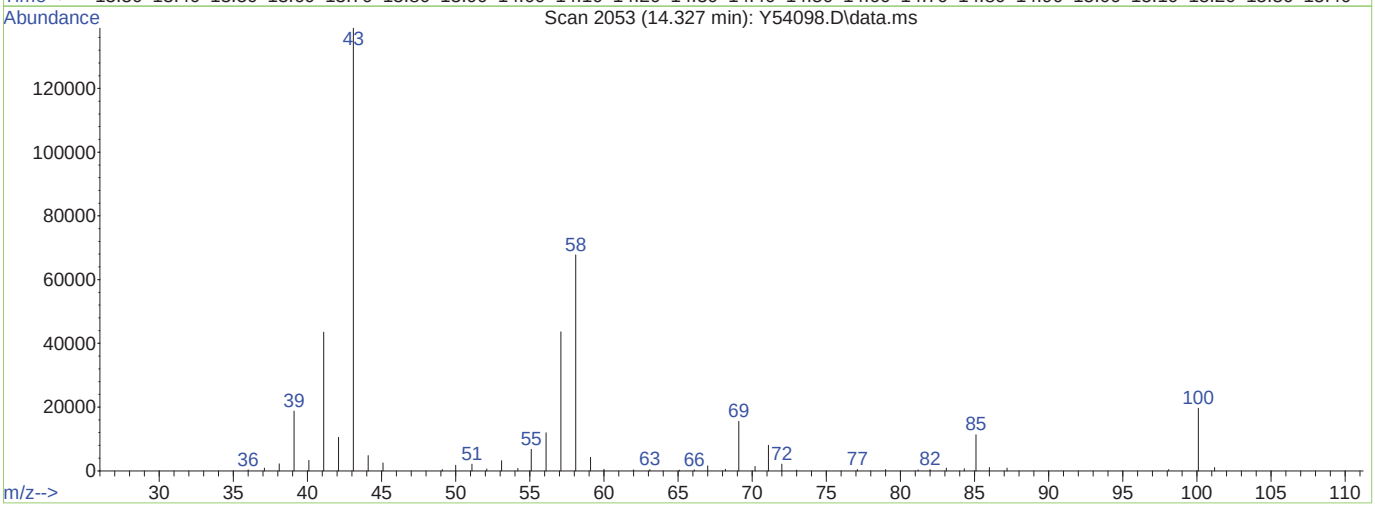
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	48.86
57.20	27.10	31.43
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54098.D
Acq On : 17 Nov 2020 9:12 am
Operator : chelseav
Sample : IC2245-3 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 17 09:57:47 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54098.D\data.ms

(69) 2-hexanone

14.327min (-0.003) 44.74ug/L m

response 202727

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	48.76
57.20	27.10	31.37
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/17/20 18:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54099.D
Acq On : 17 Nov 2020 9:39 am
Operator : chelseav
Sample : IC2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 17 09:59:35 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.519	96	2420450	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	2193104	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.270	152	1181949	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.413	65	95326	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.333	113	643014	51.19	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.38%			
47) 1,2-Dichloroethane-d4	11.142	65	530380	47.42	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 94.84%			
58) Toluene-d8	13.241	98	2509677	51.88	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 103.76%			
80) 4-Bromofluorobenzene	15.486	174	880786	48.96	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.92%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.033	85	247955	19.97	ug/L	98
3) Acrolein	6.312	56	143801	95.26	ug/L	100
4) Chloromethane	3.392	50	293240m	23.16	ug/L	
5) 1,3-butadiene	3.580	39	206210	23.70	ug/L	95
6) Vinyl Chloride	3.550	62	255014	22.22	ug/L	99
7) Bromomethane	4.158	94	119811	24.54	ug/L	92
8) Chloroethane	4.401	64	108066	34.96	ug/L	96
9) Trichlorofluoromethane	4.669	101	393115	25.57	ug/L	95
10) Ethyl Ether	5.290	59	160629	20.64	ug/L	96
11) 1,2-Dichlorotrifluoroe...	5.673	67	249442	24.89	ug/L	97
12) 1,1-Dichloroethene	5.642	61	323432	23.66	ug/L	98
13) Freon 113	5.734	101	286560	22.17	ug/L	98
14) Carbon Disulfide	5.673	76	626012	24.69	ug/L	98
15) Iodomethane	5.904	142	230694	23.75	ug/L	97
16) Allyl chloride	6.567	41	353105	25.02	ug/L	96
17) Methylene Chloride	6.780	49	311146	21.68	ug/L	95
18) Acetone	6.890	43	179758	90.01	ug/L	99
19) Methyl acetate	7.145	43	508819	98.23	ug/L	99
20) trans-1,2-Dichloroethene	7.090	61	313868	24.13	ug/L	98
21) Hexane	7.255	56	209291	24.46	ug/L	95
22) Methyl Tert Butyl Ether	7.322	73	448392	21.96	ug/L	96
23) Acetonitrile	7.808	41	179261	206.64	ug/L	97
24) Di-isopropyl ether	8.088	45	758119	23.73	ug/L	97
25) Chloroprene	8.264	53	353412	25.34	ug/L	98
26) 1,1-Dichloroethane	8.313	63	386942	24.30	ug/L	98
27) Acrylonitrile	8.429	53	255582	99.73	ug/L	95
28) ETBE	8.830	59	563968	20.69	ug/L	97
29) Vinyl acetate	8.861	43	1763754	103.45	ug/L	99
30) cis-1,2-Dichloroethene	9.426	96	278551	23.86	ug/L	99
31) 2,2-Dichloropropane	9.639	77	297163	27.15	ug/L	100
32) Bromochloromethane	9.840	128	151801	23.27	ug/L	98
33) Cyclohexane	9.822	56	468288	24.51	ug/L	98
34) Chloroform	10.004	83	407932	24.37	ug/L	97
35) Ethyl acetate	10.254	43	654078	103.95	ug/L	98
36) Tetrahydrofuran	10.254	42	39658	22.24	ug/L	96
38) Carbon Tetrachloride	10.229	117	367883	25.68	ug/L	98
39) 1,1,1-Trichloroethane	10.351	97	407806	24.58	ug/L	97
40) 2-Butanone	10.552	43	258514	90.87	ug/L	100
41) 1,1-Dichloropropene	10.564	75	327726	24.06	ug/L	99
42) tert-Butyl formate	10.753	59	247399	147.20	ug/L	91
43) Propionitrile	10.990	54	183903	194.45	ug/L	97
44) Methacrylonitrile	11.020	41	940827	216.73	ug/L	99
45) Benzene	10.941	78	983541	24.38	ug/L	98
46) TAME	11.124	73	425874	20.10	ug/L	95
48) 1,2-Dichloroethane	11.239	62	269006	21.72	ug/L	98
49) Trichloroethene	11.738	95	287643	24.74	ug/L	97
50) Methylcyclohexane	11.714	83	451002	24.26	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54099.D
Acq On : 17 Nov 2020 9:39 am
Operator : chelseav
Sample : IC2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 17 09:59:35 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

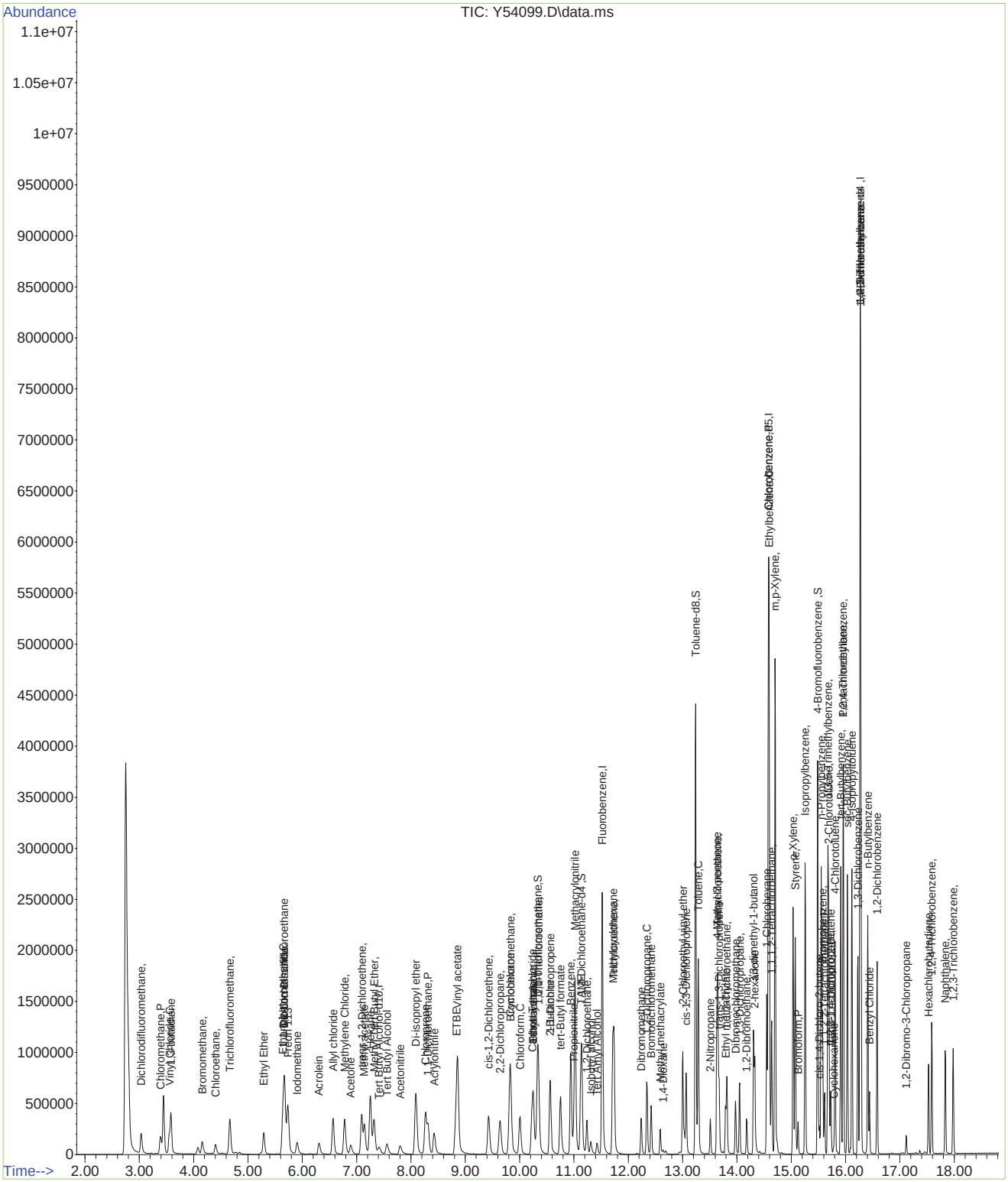
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.237	93	116930	21.68	ug/L		99
52) 1,2-Dichloropropane	12.340	63	225229	23.17	ug/L		98
53) Bromodichloromethane	12.419	83	267336	24.35	ug/L		99
54) Methyl methacrylate	12.590	41	119714	20.61	ug/L		92
55) 2-Chloroethyl vinyl ether	13.003	63	330084	120.22	ug/L		99
56) cis-1,3-Dichloropropene	13.064	75	340936	23.67	ug/L		95
59) Toluene	13.289	91	1194604	25.54	ug/L		99
60) 2-Nitropropane	13.508	41	167056	105.44	ug/L		97
61) 4-Methyl-2-pentanone	13.630	43	629012	102.69	ug/L		97
62) trans-1,3-Dichloropropene	13.673	75	253225	23.75	ug/L		82
63) Tetrachloroethene	13.648	166	357855	24.46	ug/L		99
64) Ethyl methacrylate	13.788	69	176725	22.15	ug/L		99
65) 1,1,2-Trichloroethane	13.813	83	144823	23.39	ug/L		97
66) Dibromochloromethane	13.977	129	244894	24.81	ug/L		98
67) 1,3-Dichloropropane	14.050	76	306355	22.78	ug/L		98
68) 1,2-Dibromoethane	14.178	107	196617	23.20	ug/L		96
69) 2-hexanone	14.330	43	432673m	97.67	ug/L		
70) 1-Chlorohexane	14.549	91	390071	24.69	ug/L		98
71) Ethylbenzene	14.597	91	1317607	26.24	ug/L		98
72) Chlorobenzene	14.591	112	852353	24.80	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.640	131	298751	25.25	ug/L		99
74) m,p-Xylene	14.701	91	2088218	50.80	ug/L		99
75) o-Xylene	15.035	91	1058725	25.62	ug/L		99
76) Styrene	15.072	104	846857	26.37	ug/L		99
77) Bromoform	15.127	173	117171	23.22	ug/L		98
78) Isopropylbenzene	15.254	105	1467992	25.95	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.516	53	42331	19.38	ug/L		85
82) n-Propylbenzene	15.552	91	1548471	25.50	ug/L		98
83) Bromobenzene	15.577	156	357335	24.29	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.613	83	190868	22.33	ug/L		95
85) 1,3,5-Trimethylbenzene	15.674	105	1124721	26.30	ug/L		97
86) 2-Chlorotoluene	15.692	91	976948	25.26	ug/L		99
87) trans-1,4-Dichloro-2-B...	15.735	53	40174	17.68	ug/L	#	90
88) 1,2,3-Trichloropropane	15.723	110	71042	21.78	ug/L		96
89) Cyclohexanone	15.778	55	17166	82.50	ug/L		96
90) 4-Chlorotoluene	15.808	91	907386	25.23	ug/L		100
91) tert-Butylbenzene	15.911	91	582531	25.55	ug/L		99
92) 1,2,4-Trimethylbenzene	15.954	105	1148756	26.64	ug/L		99
93) Pentachloroethane	15.960	167	188208	27.05	ug/L		97
94) sec-Butylbenzene	16.033	105	1383171	26.22	ug/L		99
95) 4-Isopropyltoluene	16.118	119	1301048	26.53	ug/L		100
96) 1,3-Dichlorobenzene	16.228	146	685615	24.89	ug/L		99
97) 1,2,3-Trimethylbenzene	16.270	105	1561402	32.38	ug/L		99
98) 1,4-Dichlorobenzene	16.282	146	673420	24.60	ug/L		100
99) n-Butylbenzene	16.410	92	507980	25.58	ug/L		100
100) Benzyl Chloride	16.441	126	77195	19.60	ug/L		96
101) 1,2-Dichlorobenzene	16.581	146	629534	24.95	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.116	75	26087	21.80	ug/L		98
103) Hexachlorobutadiene	17.530	225	120411	24.65	ug/L		99
104) 1,2,4-Trichlorobenzene	17.584	180	326968	23.35	ug/L		100
105) Naphthalene	17.834	128	684598	20.08	ug/L		99
106) 1,2,3-Trichlorobenzene	17.980	180	271965	21.89	ug/L		99
108) Ethanol	5.636	45	31307m	631.22	ug/L		
109) Tert Butyl Alcohol	7.559	59	152921	382.98	ug/L		91
110) Isobutyl alcohol	11.312	42	48122	586.62	ug/L		95
111) Tert Amyl Alcohol	11.422	59	54370	232.60	ug/L		90
112) 1,4-Dioxane	12.638	88	26044	554.77	ug/L		94
113) 3,3-dimethyl-1-butanol	14.305	57	488675	1407.39	ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54099.D
Acq On : 17 Nov 2020 9:39 am
Operator : chelseav
Sample : IC2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 17 09:59:35 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



RESTEK111720w.M Tue Nov 17 12:28:27 2020 Page: 3

Manual Integration Approval Summary

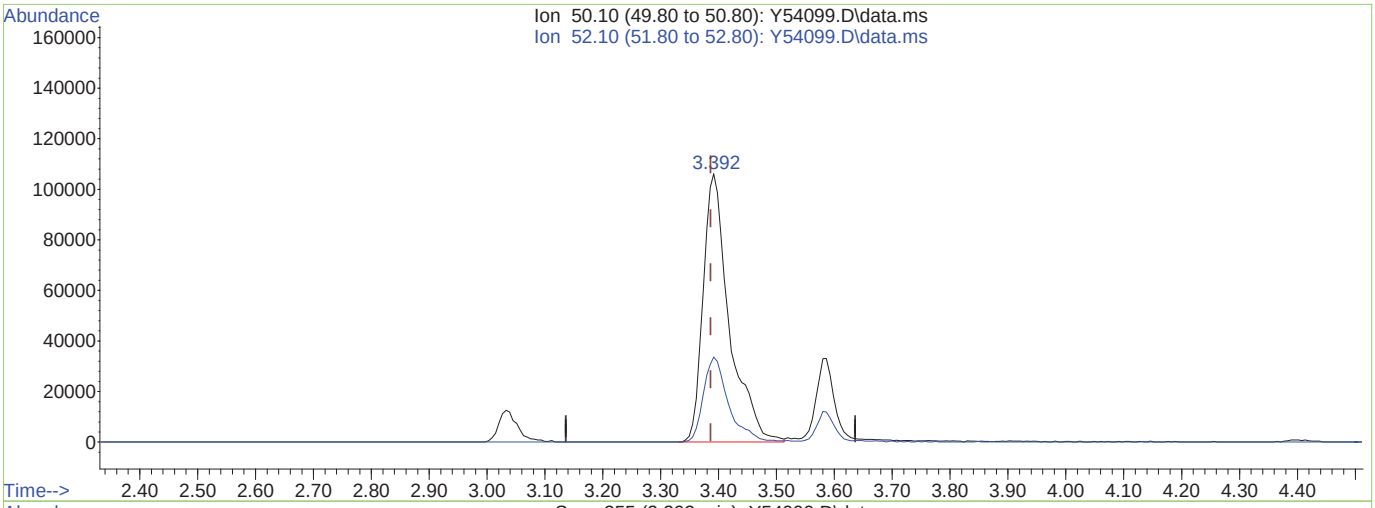
Sample Number: VY2245-IC2245
Lab FileID: Y54099.D
Injection Time: 11/17/20 09:39
Method: SW846 8260B
Analyst approved: 11/17/20 13:28 Chelsea VanDenBurg
Supervisor approved: 11/17/20 18:54 Melissa Mangual

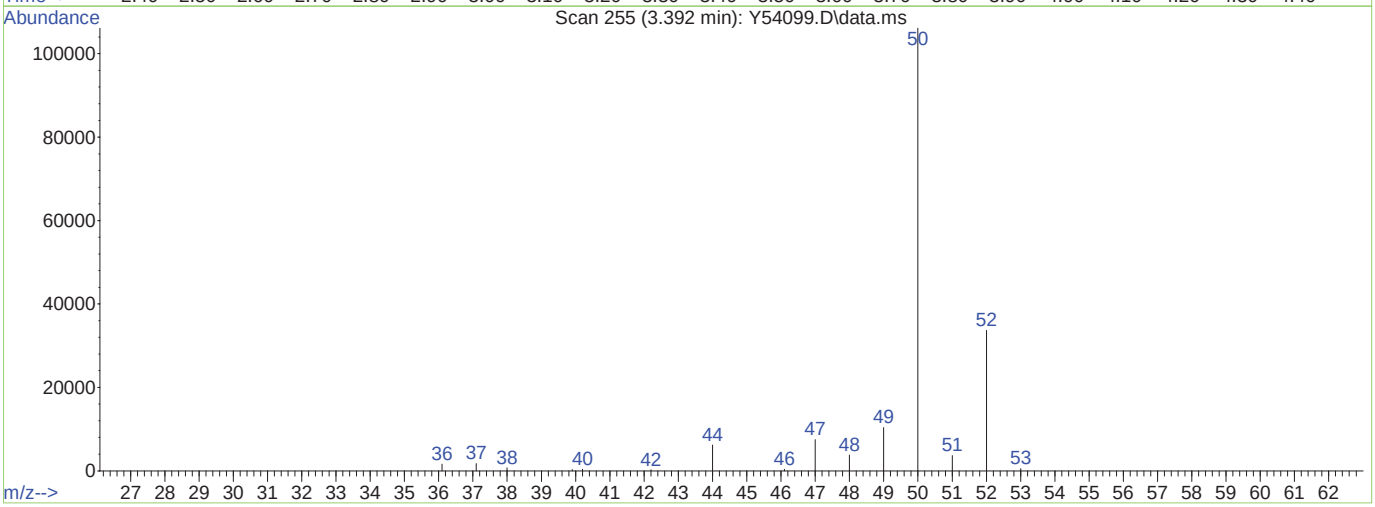
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
Ethyl Alcohol	64-17-5		5.64	Poor instrument integration
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54099.D
Acq On : 17 Nov 2020 9:39 am
Operator : chelseav
Sample : IC2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 17 09:58:45 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54099.D\data.ms

(4) Chloromethane (P)

3.392min (+0.005) 26.39ug/L

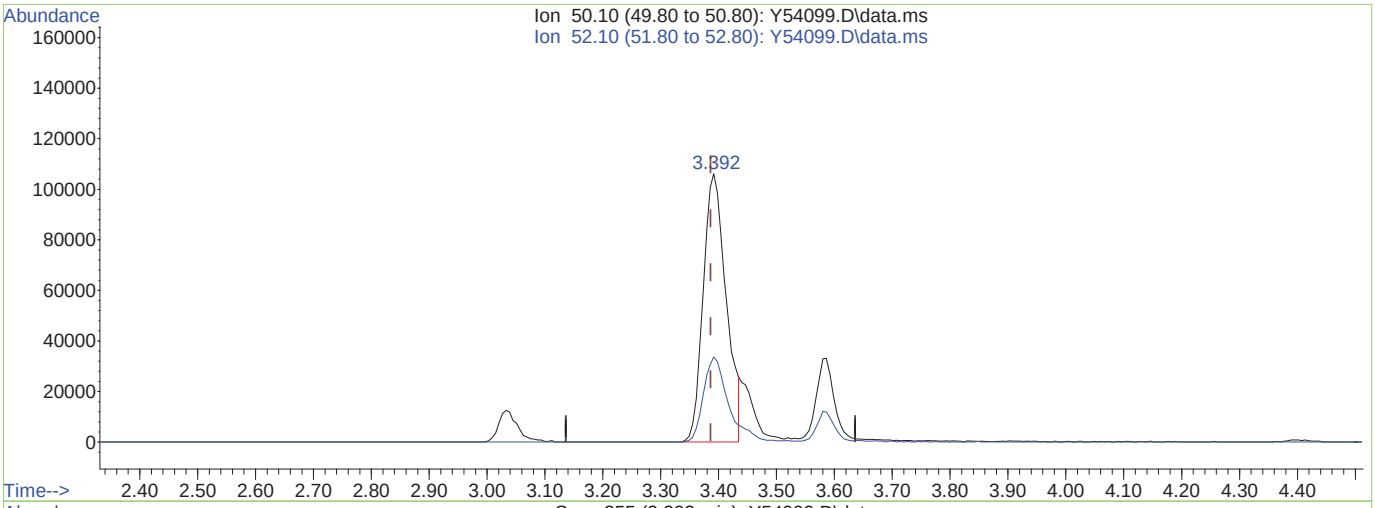
response 334137

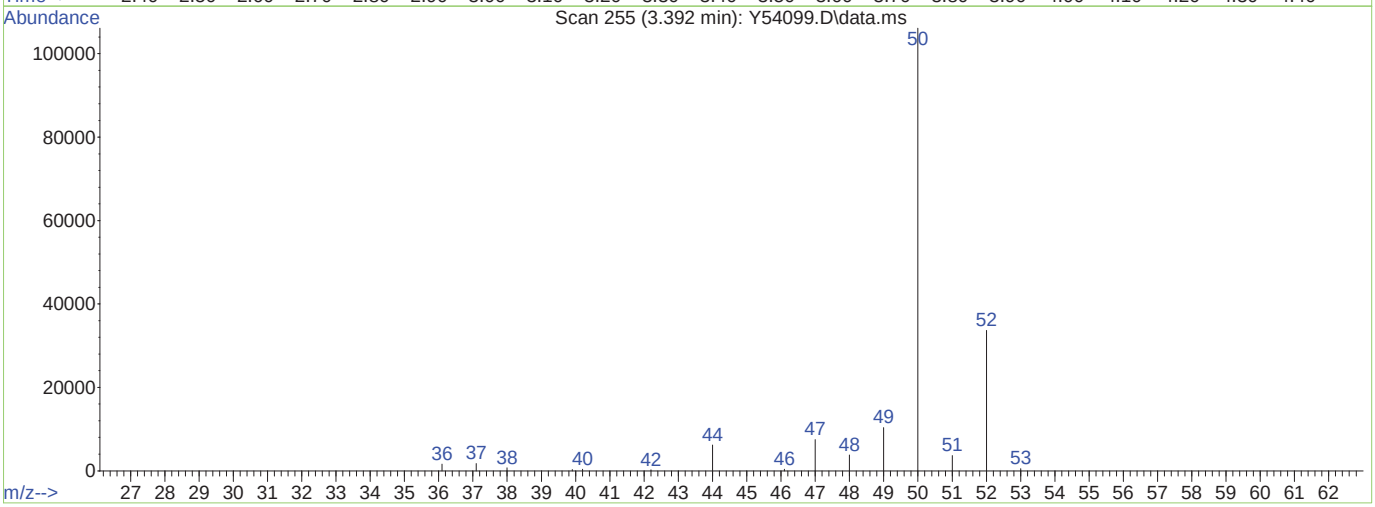
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.70
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54099.D
Acq On : 17 Nov 2020 9:39 am
Operator : chelseav
Sample : IC2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 17 09:58:45 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54099.D\data.ms

(4) Chloromethane (P)

3.392min (+0.005) 23.16ug/L m

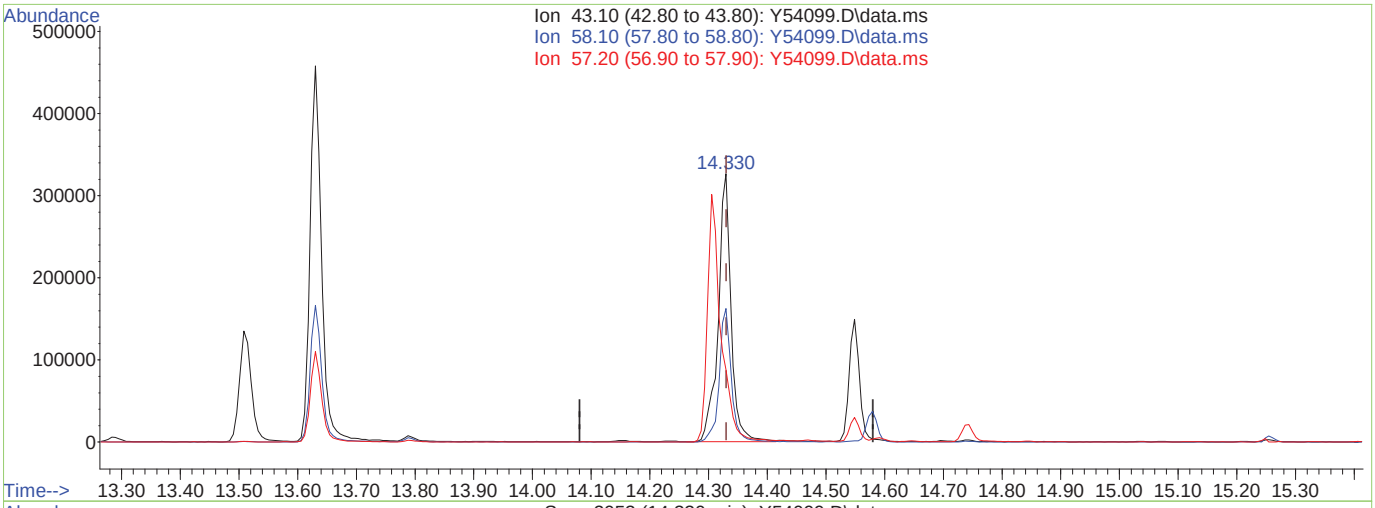
response 293240

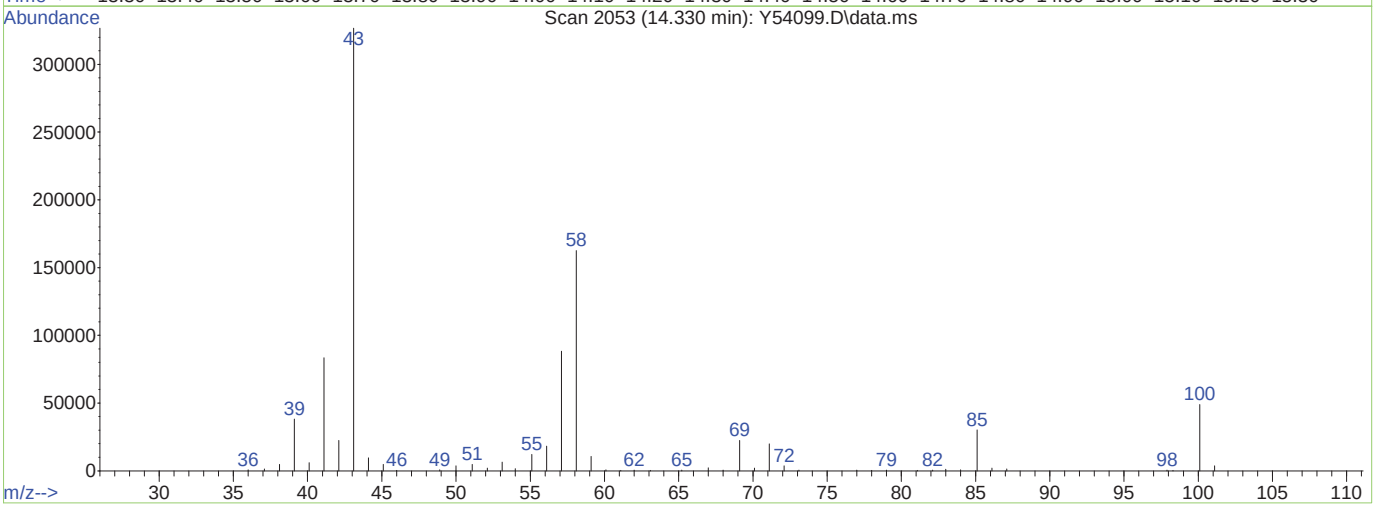
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.70
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54099.D
Acq On : 17 Nov 2020 9:39 am
Operator : chelseav
Sample : IC2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 17 09:58:45 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54099.D\data.ms

(69) 2-hexanone

14.330min (-0.001) 113.34ug/L

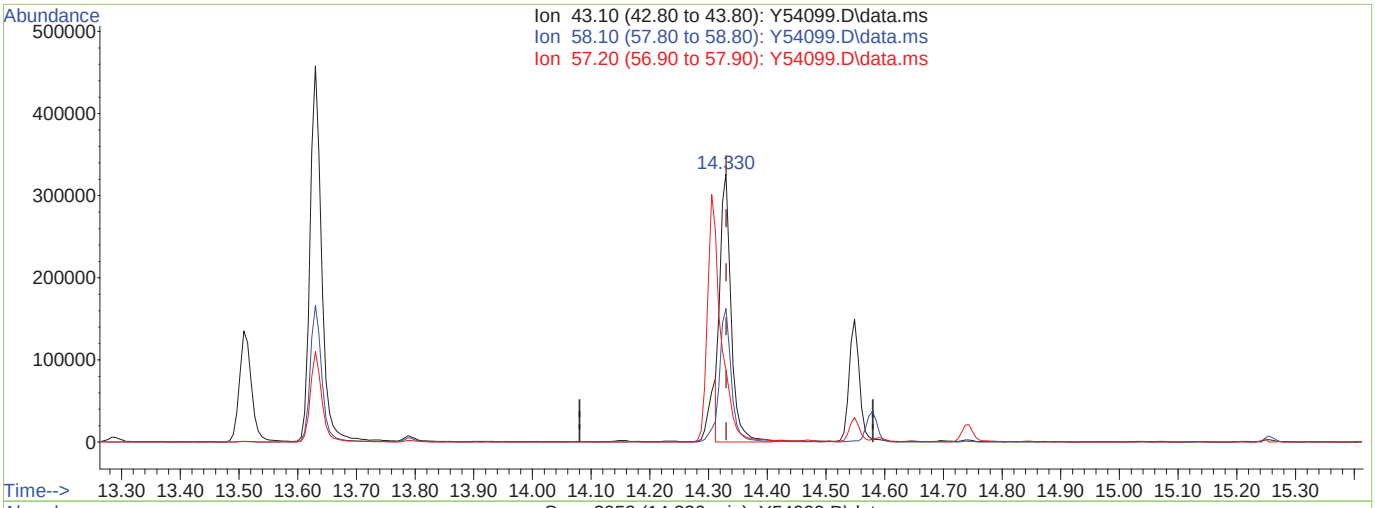
response 502064

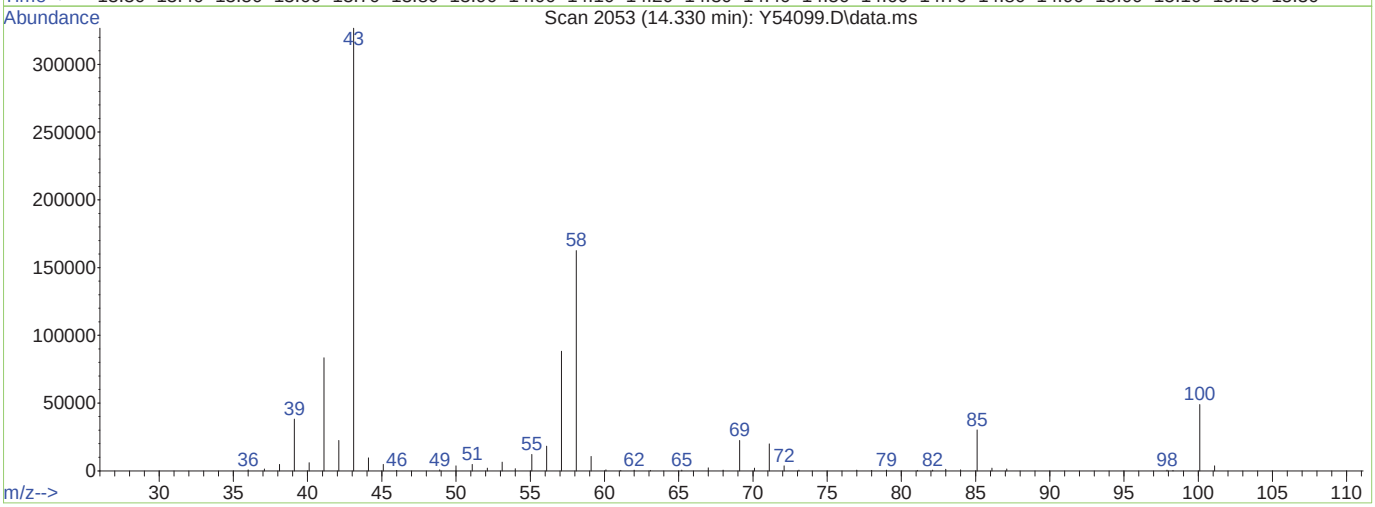
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	49.80
57.20	27.10	27.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54099.D
Acq On : 17 Nov 2020 9:39 am
Operator : chelseav
Sample : IC2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 17 09:58:45 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54099.D\data.ms

(69) 2-hexanone

14.330min (-0.001) 97.67ug/L m

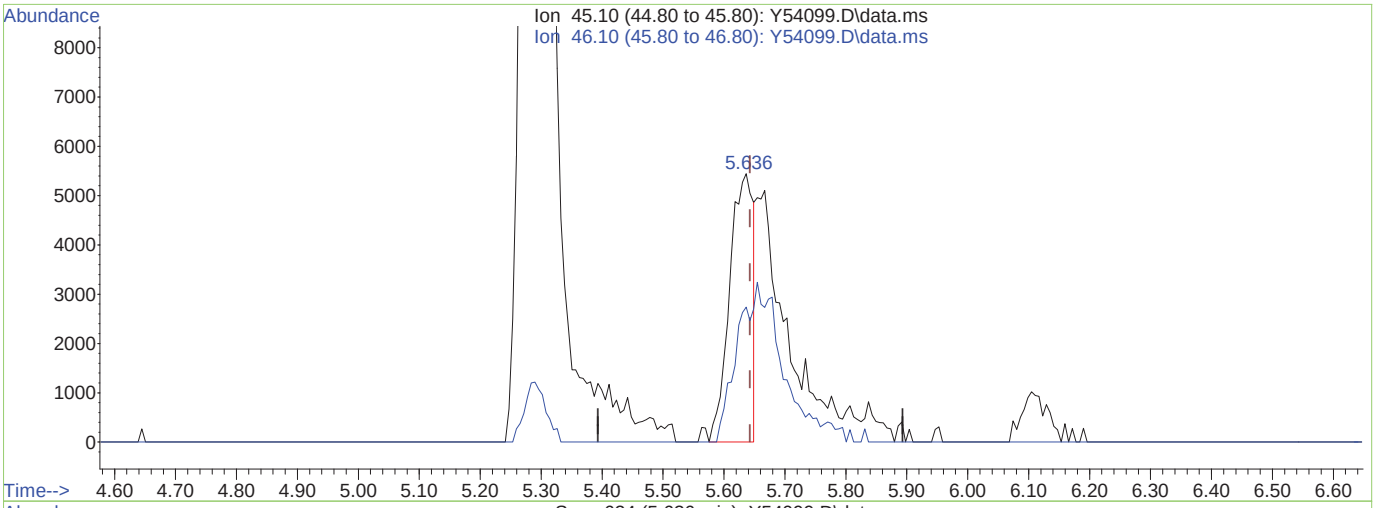
response 432673

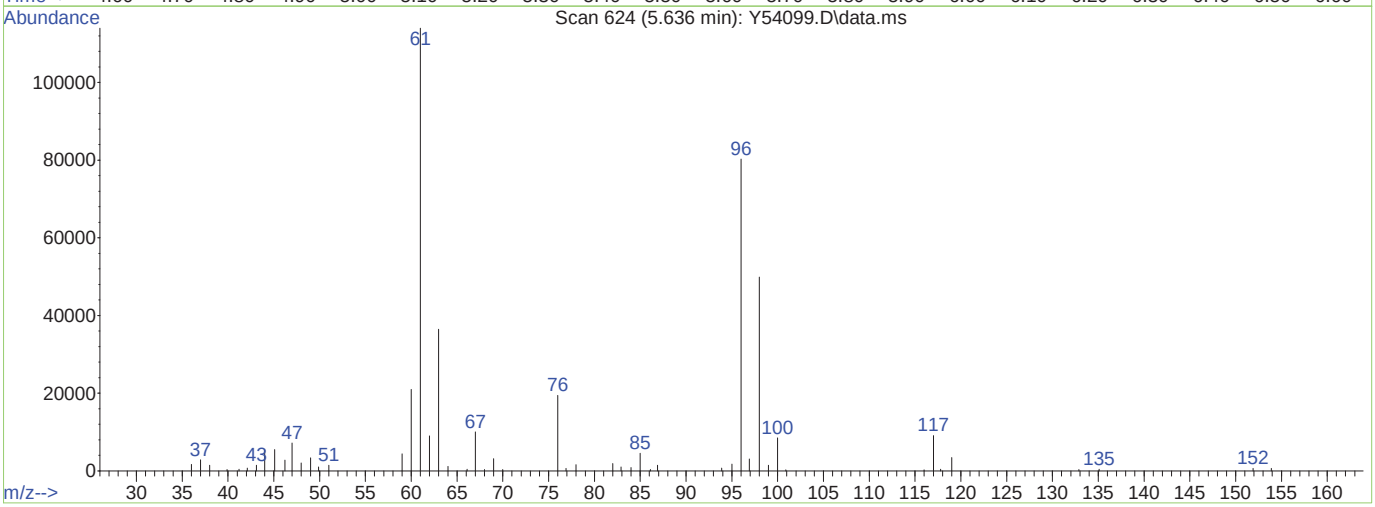
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	49.75
57.20	27.10	26.99
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54099.D
Acq On : 17 Nov 2020 9:39 am
Operator : chelseav
Sample : IC2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 17 09:58:45 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54099.D\data.ms

(108) Ethanol

5.636min (-0.007) 295.20ug/L

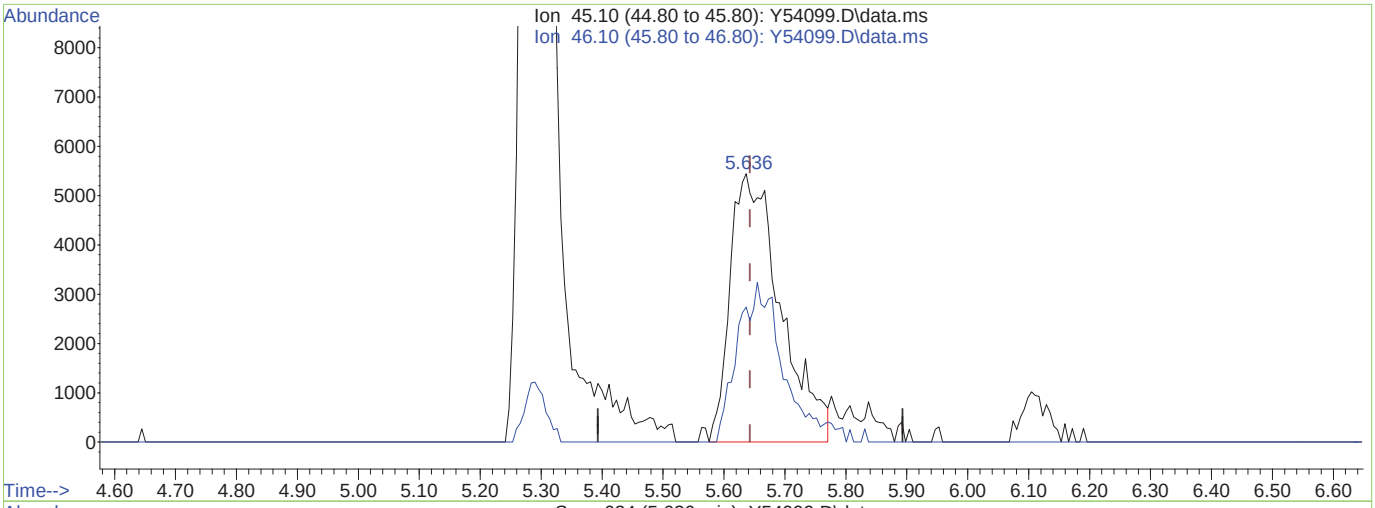
response 14641

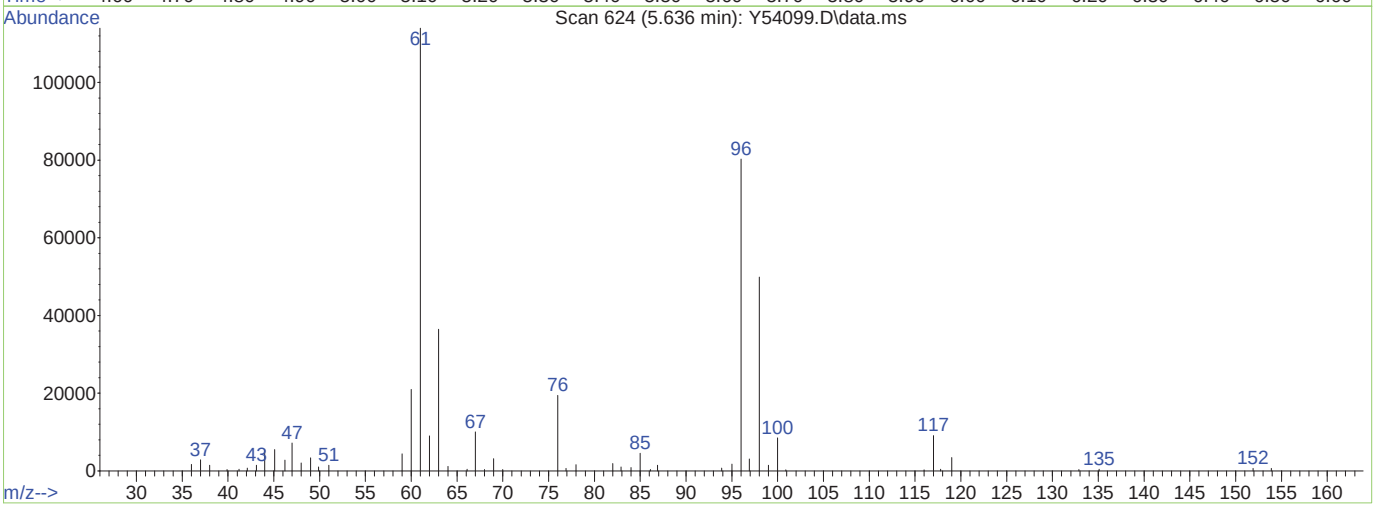
Ion	Exp%	Act%
45.10	100	100
46.10	47.50	50.34
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54099.D
Acq On : 17 Nov 2020 9:39 am
Operator : chelseav
Sample : IC2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 17 09:58:45 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54099.D\data.ms

(108) Ethanol

5.636min (-0.007) 631.22ug/L m

response 31307

Ion	Exp%	Act%
45.10	100	100
46.10	47.50	50.34
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/17/20 18:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54100.D
Acq On : 17 Nov 2020 10:06 am
Operator : chelseav
Sample : ICC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 17 10:26:53 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	2504535	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	2259089	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1217216	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.417	65	105064	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	656282	50.50	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.00%			
47) 1,2-Dichloroethane-d4	11.146	65	540333	46.68	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 93.36%			
58) Toluene-d8	13.239	98	2611696	52.41	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 104.82%			
80) 4-Bromofluorobenzene	15.483	174	908500	49.04	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.08%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.031	85	403133	31.38	ug/L	99
3) Acrolein	6.303	56	243844	156.10	ug/L	99
4) Chloromethane	3.383	50	459568	35.08	ug/L	97
5) 1,3-butadiene	3.584	39	345892	38.42	ug/L	96
6) Vinyl Chloride	3.548	62	418526	35.24	ug/L	99
7) Bromomethane	4.156	94	187659	37.15	ug/L	98
8) Chloroethane	4.399	64	144280	45.82	ug/L	96
9) Trichlorofluoromethane	4.667	101	657908	41.36	ug/L	98
10) Ethyl Ether	5.288	59	272536	33.84	ug/L	96
11) 1,2-Dichlorotrifluoroe...	5.677	67	404124	38.96	ug/L	98
12) 1,1-Dichloroethene	5.640	61	535345	37.85	ug/L	98
13) Freon 113	5.732	101	456783	34.15	ug/L	98
14) Carbon Disulfide	5.671	76	1031124	39.31	ug/L	100
15) Iodomethane	5.902	142	412945	37.53	ug/L	99
16) Allyl chloride	6.565	41	576586	39.48	ug/L	96
17) Methylene Chloride	6.778	49	497564	34.23	ug/L	96
18) Acetone	6.887	43	308468	149.27	ug/L	97
19) Methyl acetate	7.143	43	830275	154.91	ug/L	98
20) trans-1,2-Dichloroethene	7.088	61	500397	37.19	ug/L	98
21) Hexane	7.252	56	327844	37.04	ug/L	95
22) Methyl Tert Butyl Ether	7.319	73	734940	34.79	ug/L	96
23) Acetonitrile	7.794	41	289408	319.59	ug/L	97
24) Di-isopropyl ether	8.086	45	1275279	38.58	ug/L	99
25) Chloroprene	8.268	53	586085	40.61	ug/L	98
26) 1,1-Dichloroethane	8.317	63	624775	37.91	ug/L	97
27) Acrylonitrile	8.421	53	417486	157.43	ug/L	98
28) ETBE	8.828	59	929508	32.96	ug/L	96
29) Vinyl acetate	8.859	43	2855224	161.30	ug/L	100
30) cis-1,2-Dichloroethene	9.430	96	454980	37.67	ug/L	98
31) 2,2-Dichloropropane	9.637	77	475875	40.29	ug/L	99
32) Bromochloromethane	9.838	128	246520	36.52	ug/L	97
33) Cyclohexane	9.820	56	763534	38.63	ug/L	97
34) Chloroform	10.002	83	664247	38.35	ug/L	98
35) Ethyl acetate	10.252	43	1089318	167.31	ug/L	99
36) Tetrahydrofuran	10.252	42	68020	36.86	ug/L	100
38) Carbon Tetrachloride	10.227	117	604268	40.76	ug/L	98
39) 1,1,1-Trichloroethane	10.349	97	663076	38.63	ug/L	99
40) 2-Butanone	10.550	43	447784	150.90	ug/L	99
41) 1,1-Dichloropropene	10.562	75	543996	38.59	ug/L	99
42) tert-Butyl formate	10.750	59	321214	168.88	ug/L	93
43) Propionitrile	10.988	54	297225	303.72	ug/L	98
44) Methacrylonitrile	11.018	41	1498652	333.64	ug/L	98
45) Benzene	10.939	78	1617687	38.75	ug/L	97
46) TAME	11.128	73	699997	31.93	ug/L	98
48) 1,2-Dichloroethane	11.237	62	439258	34.27	ug/L	98
49) Trichloroethene	11.736	95	467418	39.21	ug/L	98
50) Methylcyclohexane	11.718	83	739807	38.46	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54100.D
Acq On : 17 Nov 2020 10:06 am
Operator : chelseav
Sample : ICC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 17 10:26:53 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

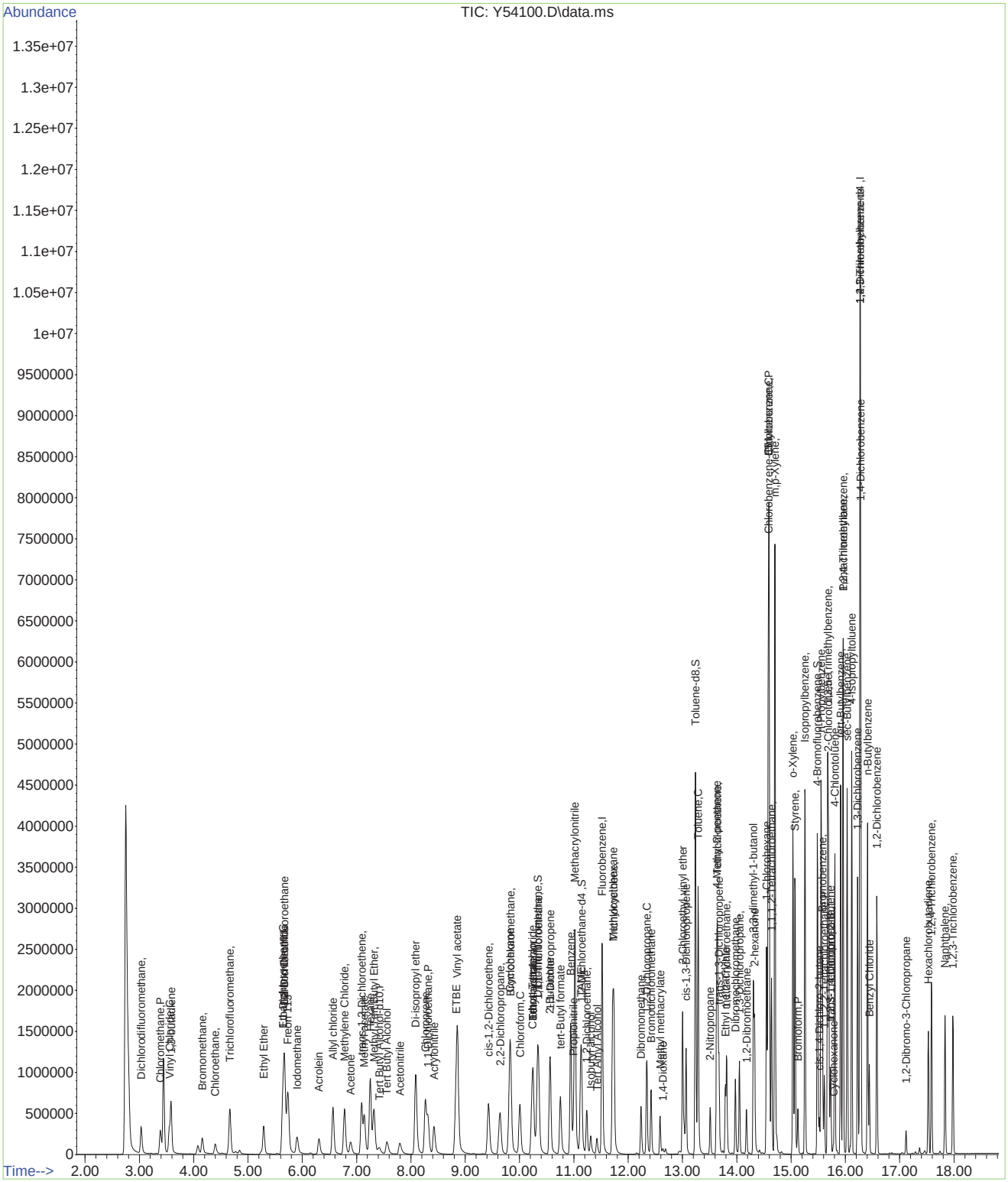
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.235	93	190063	34.06	ug/L		99
52) 1,2-Dichloropropane	12.344	63	369109	36.70	ug/L		99
53) Bromodichloromethane	12.423	83	447343	39.37	ug/L		100
54) Methyl methacrylate	12.588	41	210664	33.86	ug/L		95
55) 2-Chloroethyl vinyl ether	13.001	63	570633	189.05	ug/L		99
56) cis-1,3-Dichloropropene	13.068	75	553866	37.16	ug/L		98
59) Toluene	13.287	91	1982121	41.07	ug/L		99
60) 2-Nitropropane	13.506	41	278550	164.90	ug/L		99
61) 4-Methyl-2-pentanone	13.628	43	1078370	170.90	ug/L		97
62) trans-1,3-Dichloropropene	13.671	75	412379	36.42	ug/L		95
63) Tetrachloroethene	13.646	166	585550	38.85	ug/L		99
64) Ethyl methacrylate	13.792	69	306436	35.95	ug/L		97
65) 1,1,2-Trichloroethane	13.810	83	230072	36.08	ug/L		98
66) Dibromochloromethane	13.975	129	413518	40.67	ug/L		100
67) 1,3-Dichloropropane	14.048	76	500010	36.09	ug/L		97
68) 1,2-Dibromoethane	14.175	107	318098	36.44	ug/L		98
69) 2-hexanone	14.328	43	756646m	165.82	ug/L		
70) 1-Chlorohexane	14.547	91	662378	40.70	ug/L		98
71) Ethylbenzene	14.595	91	2137762	41.48	ug/L		98
72) Chlorobenzene	14.595	112	1400279	39.55	ug/L		97
73) 1,1,1,2-Tetrachloroethane	14.638	131	501927	41.18	ug/L		99
74) m,p-Xylene	14.705	91	3446145	81.38	ug/L		98
75) o-Xylene	15.033	91	1743072	40.95	ug/L		99
76) Styrene	15.070	104	1417641	42.85	ug/L		99
77) Bromoform	15.124	173	199856	36.83	ug/L		99
78) Isopropylbenzene	15.258	105	2440719	41.89	ug/L		98
81) cis-1,4-Dichloro-2-butene	15.520	53	70254	29.84	ug/L		95
82) n-Propylbenzene	15.550	91	2592758	41.46	ug/L		99
83) Bromobenzene	15.575	156	579055	38.23	ug/L		100
84) 1,1,2,2-Tetrachloroethane	15.611	83	307307	34.91	ug/L		94
85) 1,3,5-Trimethylbenzene	15.672	105	1889838	42.91	ug/L		100
86) 2-Chlorotoluene	15.690	91	1626163	40.83	ug/L		98
87) trans-1,4-Dichloro-2-B...	15.733	53	68731	28.53	ug/L	#	79
88) 1,2,3-Trichloropropane	15.721	110	115137	34.28	ug/L		96
89) Cyclohexanone	15.775	55	33942	158.39	ug/L		93
90) 4-Chlorotoluene	15.806	91	1510364	40.79	ug/L		98
91) tert-Butylbenzene	15.909	91	970187	41.32	ug/L		99
92) 1,2,4-Trimethylbenzene	15.952	105	1901415	42.81	ug/L		99
93) Pentachloroethane	15.958	167	312406	43.60	ug/L		90
94) sec-Butylbenzene	16.031	105	2307911	42.49	ug/L		98
95) 4-Isopropyltoluene	16.116	119	2194506	43.45	ug/L		99
96) 1,3-Dichlorobenzene	16.226	146	1140076	40.19	ug/L		99
97) 1,2,3-Trimethylbenzene	16.268	105	2567122	51.69	ug/L		100
98) 1,4-Dichlorobenzene	16.286	146	1116441	39.61	ug/L		95
99) n-Butylbenzene	16.408	92	863256	42.21	ug/L		98
100) Benzyl Chloride	16.439	126	134361	31.37	ug/L	#	88
101) 1,2-Dichlorobenzene	16.578	146	1029644	39.63	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.114	75	43830	34.05	ug/L		94
103) Hexachlorobutadiene	17.527	225	202371	40.22	ug/L		97
104) 1,2,4-Trichlorobenzene	17.582	180	550079	38.14	ug/L		99
105) Naphthalene	17.838	128	1196562	34.08	ug/L		99
106) 1,2,3-Trichlorobenzene	17.978	180	453364	35.43	ug/L		98
108) Ethanol	5.640	45	55486	1015.04	ug/L		90
109) Tert Butyl Alcohol	7.557	59	247188	561.69	ug/L		91
110) Isobutyl alcohol	11.310	42	86617	958.01	ug/L		96
111) Tert Amyl Alcohol	11.426	59	100555	390.31	ug/L		86
112) 1,4-Dioxane	12.642	88	48463	936.64	ug/L		98
113) 3,3-dimethyl-1-butanol	14.303	57	891740	2330.19	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54100.D
Acq On : 17 Nov 2020 10:06 am
Operator : chelseav
Sample : ICC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 17 10:26:53 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



Manual Integration Approval Summary

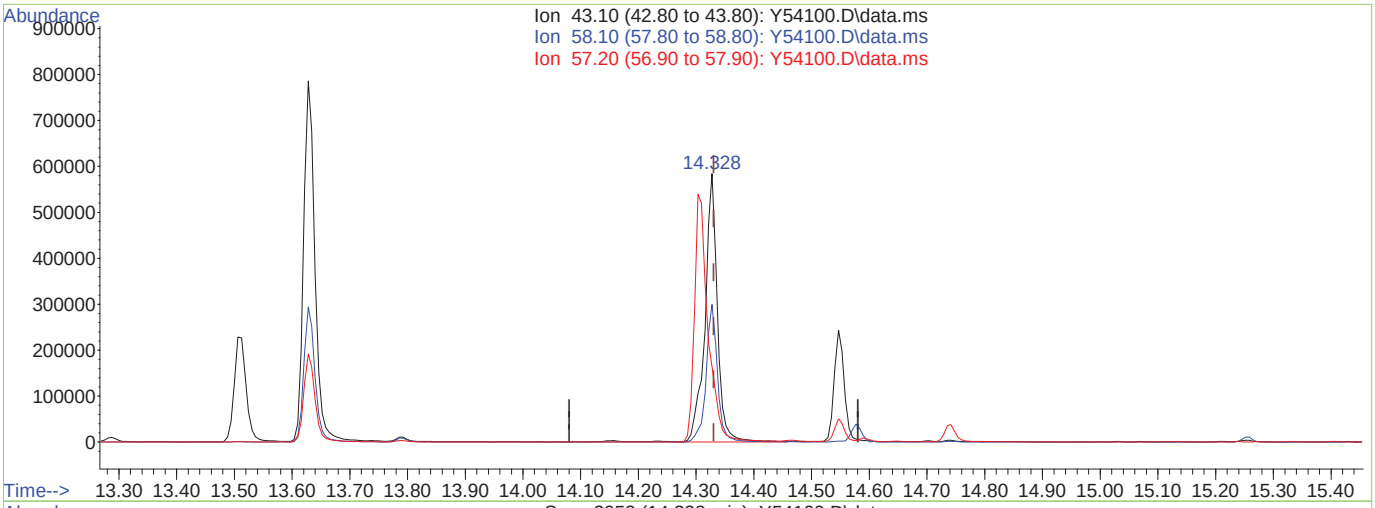
Sample Number: VY2245-ICC2245
Lab FileID: Y54100.D
Injection Time: 11/17/20 10:06
Method: SW846 8260B
Analyst approved: 11/17/20 13:28 Chelsea VanDenBurg
Supervisor approved: 11/17/20 18:54 Melissa Mangual

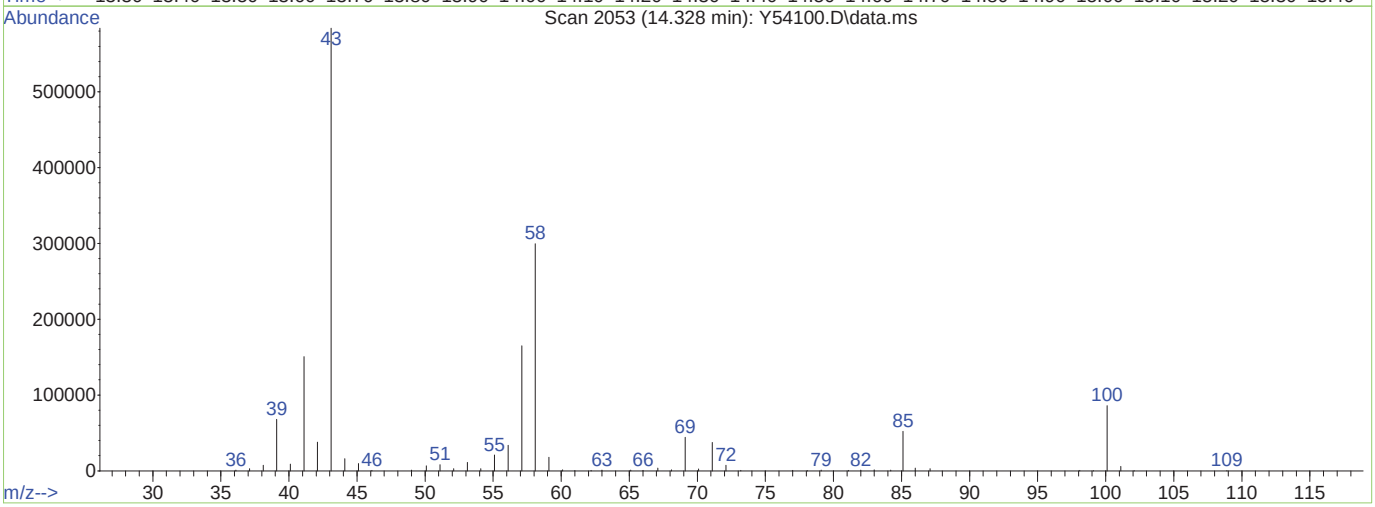
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54100.D
Acq On : 17 Nov 2020 10:06 am
Operator : chelseav
Sample : ICC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 17 10:26:30 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54100.D\data.ms

(69) 2-hexanone

14.328min (-0.003) 191.22ug/L

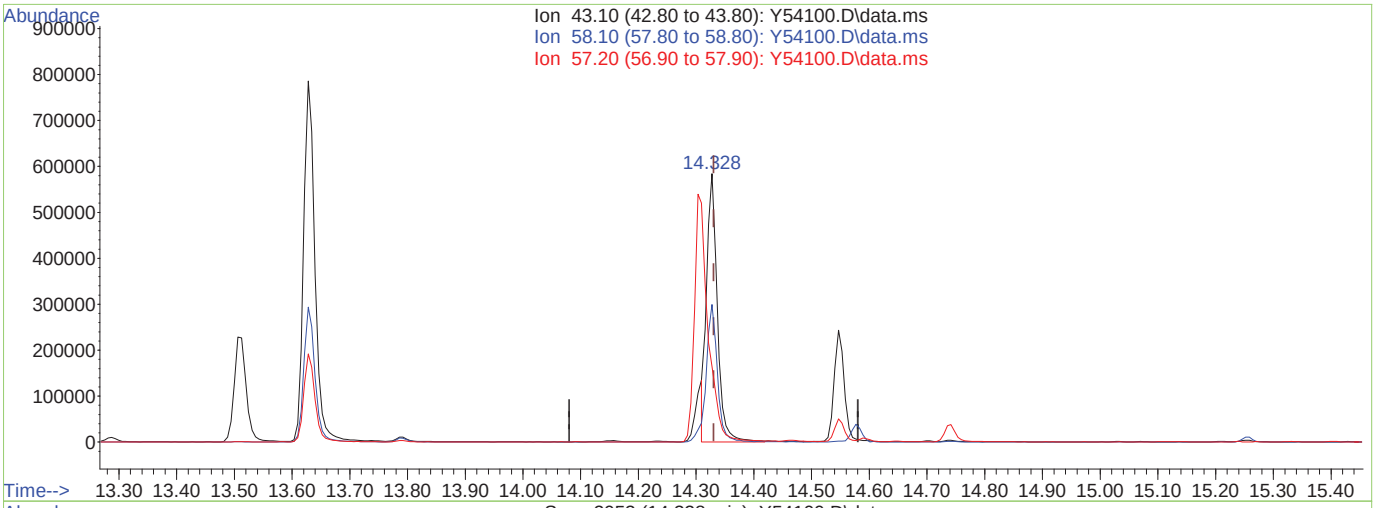
response 872588

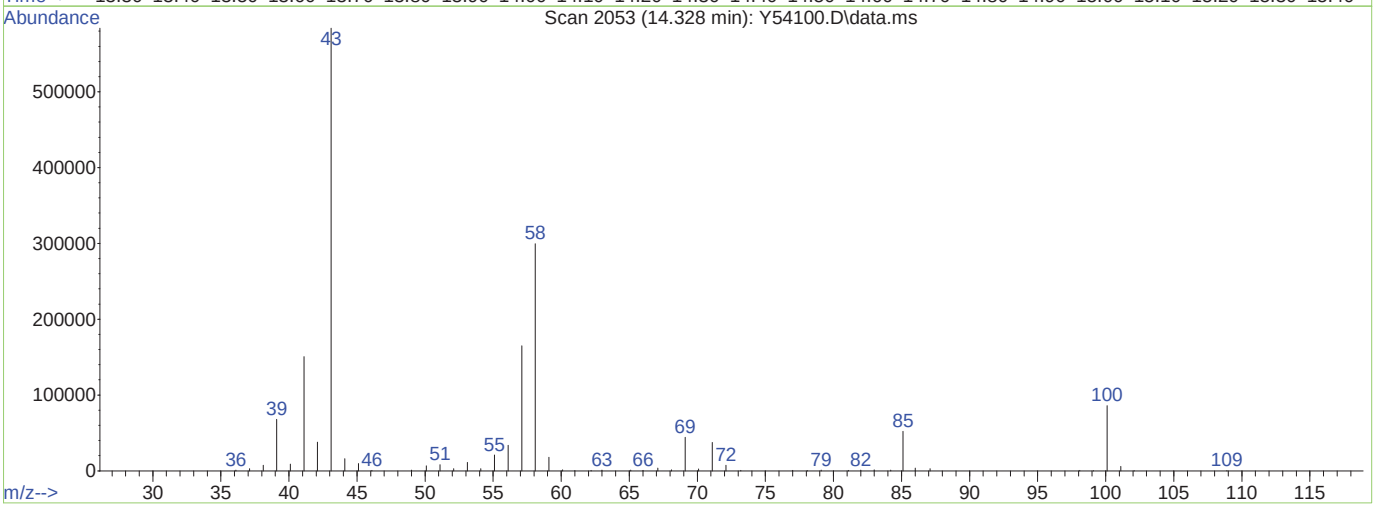
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	51.32
57.20	27.10	28.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54100.D
Acq On : 17 Nov 2020 10:06 am
Operator : chelseav
Sample : ICC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 17 10:26:30 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54100.D\data.ms

(69) 2-hexanone

14.328min (-0.003) 165.82ug/L m

response 756646

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	51.28
57.20	27.10	28.23
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/17/20 18:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54101.D
Acq On : 17 Nov 2020 10:33 am
Operator : chelseav
Sample : IC2245-6 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 17 10:58:39 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	2525650	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	2246776	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1226971	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.422	65	124157	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	658633	50.25	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.50%			
47) 1,2-Dichloroethane-d4	11.145	65	553946	47.46	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 94.92%			
58) Toluene-d8	13.238	98	2629576	53.06	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 106.12%			
80) 4-Bromofluorobenzene	15.489	174	930477	49.83	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.030	85	736746	56.86	ug/L	98
3) Acrolein	6.309	56	492085	312.39	ug/L	99
4) Chloromethane	3.383	50	824902m	62.44	ug/L	
5) 1,3-butadiene	3.584	39	620426	68.34	ug/L	97
6) Vinyl Chloride	3.547	62	748142	62.46	ug/L	99
7) Bromomethane	4.155	94	352442	69.19	ug/L	96
8) Chloroethane	4.393	64	238934	79.09	ug/L	97
9) Trichlorofluoromethane	4.654	101	1148371	71.59	ug/L	97
10) Ethyl Ether	5.293	59	531284	65.42	ug/L	95
11) 1,2-Dichlorotrifluoroe...	5.670	67	717683	68.62	ug/L	99
12) 1,1-Dichloroethene	5.634	61	976456	68.46	ug/L	99
13) Freon 113	5.731	101	827632	61.36	ug/L	97
14) Carbon Disulfide	5.664	76	1914240	72.36	ug/L	100
15) Iodomethane	5.901	142	840031	64.65	ug/L	97
16) Allyl chloride	6.564	41	1058361	71.86	ug/L	98
17) Methylene Chloride	6.777	49	876232	62.95	ug/L	94
18) Acetone	6.887	43	628412	301.56	ug/L	97
19) Methyl acetate	7.142	43	1733717	320.77	ug/L	99
20) trans-1,2-Dichloroethene	7.088	61	922252	67.96	ug/L	96
21) Hexane	7.246	56	600360	67.25	ug/L	94
22) Methyl Tert Butyl Ether	7.319	73	1494421	70.16	ug/L	93
23) Acetonitrile	7.793	41	584924	625.70	ug/L	99
24) Di-isopropyl ether	8.091	45	2389267	71.67	ug/L	100
25) Chloroprene	8.262	53	1064402	73.14	ug/L	99
26) 1,1-Dichloroethane	8.310	63	1126518	67.79	ug/L	100
27) Acrylonitrile	8.426	53	853181	319.04	ug/L	99
28) ETBE	8.828	59	1819308	63.97	ug/L	97
29) Vinyl acetate	8.858	43	5847930	324.50	ug/L	100
30) cis-1,2-Dichloroethene	9.424	96	830253	68.17	ug/L	100
31) 2,2-Dichloropropane	9.637	77	911369	70.03	ug/L	98
32) Bromochloromethane	9.831	128	457867	67.26	ug/L	98
33) Cyclohexane	9.819	56	1387781	69.62	ug/L	97
34) Chloroform	10.002	83	1202837	68.86	ug/L	99
35) Ethyl acetate	10.251	43	2312950	352.28	ug/L	99
36) Tetrahydrofuran	10.251	42	132288	71.08	ug/L	98
38) Carbon Tetrachloride	10.227	117	1131750	75.70	ug/L	98
39) 1,1,1-Trichloroethane	10.348	97	1219627	70.45	ug/L	99
40) 2-Butanone	10.549	43	951578	311.38	ug/L	99
41) 1,1-Dichloropropene	10.561	75	997263	70.15	ug/L	99
42) tert-Butyl formate	10.750	59	883060	301.83	ug/L	98
43) Propionitrile	10.993	54	607697	615.79	ug/L	91
44) Methacrylonitrile	11.024	41	2946762	650.54	ug/L	99
45) Benzene	10.938	78	2935280	69.72	ug/L	97
46) TAME	11.121	73	1439157	65.10	ug/L	99
48) 1,2-Dichloroethane	11.237	62	830542	64.26	ug/L	99
49) Trichloroethene	11.735	95	843794	71.69	ug/L	96
50) Methylcyclohexane	11.711	83	1373635	70.82	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54101.D
Acq On : 17 Nov 2020 10:33 am
Operator : chelseav
Sample : IC2245-6 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 17 10:58:39 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

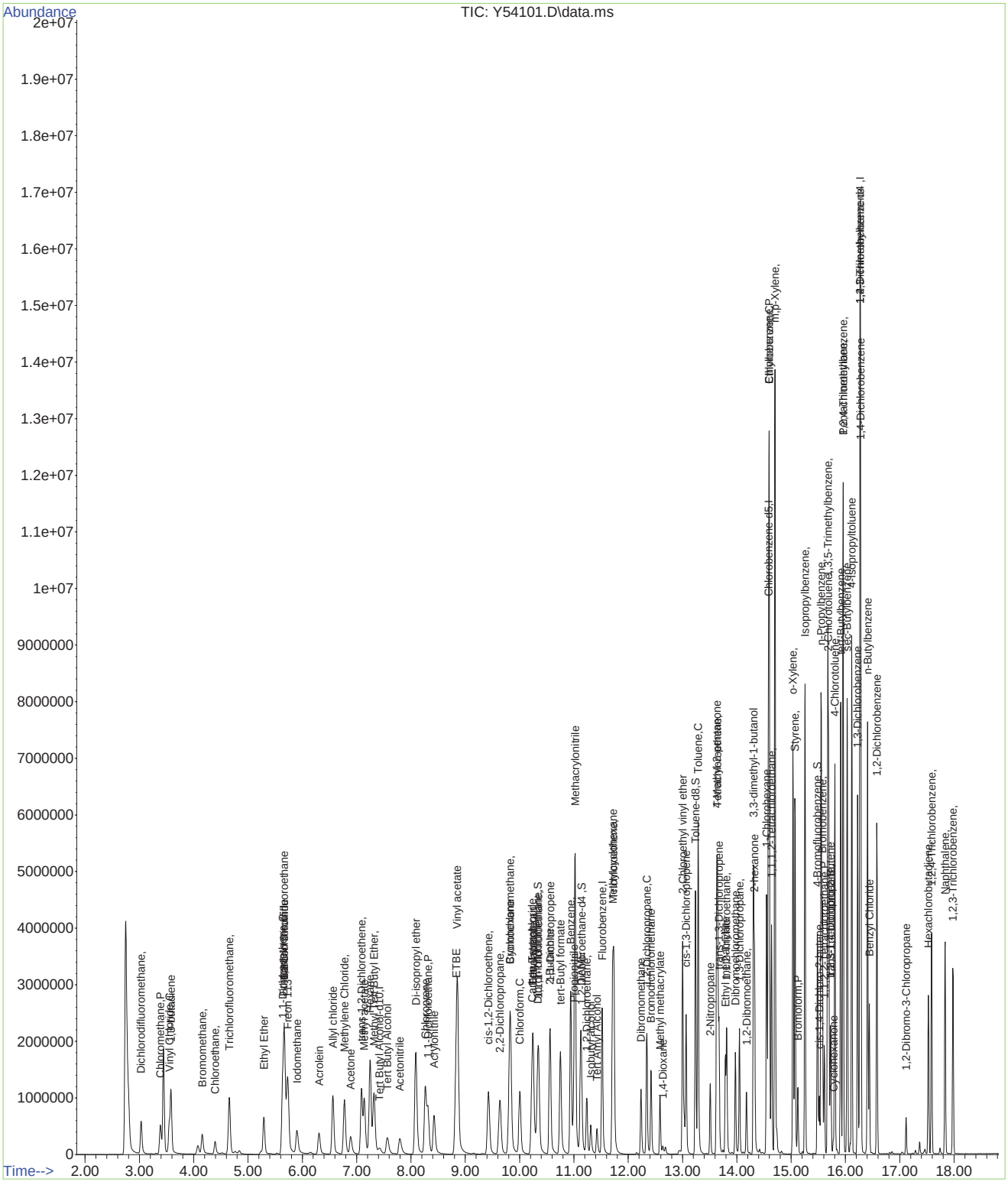
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) Dibromomethane	12.234	93	368192	65.43 ug/L		97
52) 1,2-Dichloropropane	12.344	63	688753	67.90 ug/L		99
53) Bromodichloromethane	12.417	83	855714	74.69 ug/L		98
54) Methyl methacrylate	12.581	41	448227	66.03 ug/L		98
55) 2-Chloroethyl vinyl ether	13.001	63	1247582	358.18 ug/L		98
56) cis-1,3-Dichloropropene	13.068	75	1063784	70.78 ug/L		98
59) Toluene	13.287	91	3611668	74.97 ug/L		100
60) 2-Nitropropane	13.512	41	615547	334.21 ug/L		97
61) 4-Methyl-2-pentanone	13.627	43	2214125	352.82 ug/L		97
62) trans-1,3-Dichloropropene	13.670	75	829705	68.50 ug/L		78
63) Tetrachloroethene	13.646	166	1051631	70.16 ug/L		99
64) Ethyl methacrylate	13.792	69	634286	68.92 ug/L		97
65) 1,1,2-Trichloroethane	13.816	83	441631	69.64 ug/L		97
66) Dibromochloromethane	13.974	129	825197	81.60 ug/L		99
67) 1,3-Dichloropropane	14.047	76	962111	69.83 ug/L		99
68) 1,2-Dibromoethane	14.175	107	637829	73.47 ug/L		98
69) 2-hexanone	14.327	43	1588207m	349.96 ug/L		
70) 1-Chlorohexane	14.546	91	1237701	76.46 ug/L		99
71) Ethylbenzene	14.595	91	3905386	76.86 ug/L		97
72) Chlorobenzene	14.595	112	2523768	71.67 ug/L		98
73) 1,1,1,2-Tetrachloroethane	14.637	131	933965	77.06 ug/L		99
74) m,p-Xylene	14.704	91	6294259	149.45 ug/L		99
75) o-Xylene	15.033	91	3240390	76.55 ug/L		99
76) Styrene	15.069	104	2669664	81.14 ug/L		98
77) Bromoform	15.124	173	422951	70.91 ug/L		99
78) Isopropylbenzene	15.258	105	4507731	77.79 ug/L		99
81) cis-1,4-Dichloro-2-butene	15.519	53	167197	61.92 ug/L	#	86
82) n-Propylbenzene	15.550	91	4817266	76.43 ug/L		98
83) Bromobenzene	15.574	156	1073329	70.29 ug/L		100
84) 1,1,2,2-Tetrachloroethane	15.611	83	623768	70.30 ug/L		94
85) 1,3,5-Trimethylbenzene	15.671	105	3518480	79.26 ug/L		99
86) 2-Chlorotoluene	15.690	91	2953127	73.56 ug/L		97
87) trans-1,4-Dichloro-2-B...	15.732	53	156561	59.62 ug/L	#	79
88) 1,2,3-Trichloropropane	15.726	110	234986	69.40 ug/L		95
89) Cyclohexanone	15.775	55	75216	348.21 ug/L		96
90) 4-Chlorotoluene	15.805	91	2818144	75.50 ug/L		96
91) tert-Butylbenzene	15.909	91	1807526	76.37 ug/L		98
92) 1,2,4-Trimethylbenzene	15.957	105	3535038	78.96 ug/L		97
93) Pentachloroethane	15.957	167	591586	81.90 ug/L		96
94) sec-Butylbenzene	16.030	105	4390759	80.19 ug/L		97
95) 4-Isopropyltoluene	16.116	119	4179219	82.08 ug/L		98
96) 1,3-Dichlorobenzene	16.225	146	2132435	74.58 ug/L		99
97) 1,2,3-Trimethylbenzene	16.268	105	4785933	95.60 ug/L		99
98) 1,4-Dichlorobenzene	16.286	146	2083974	73.34 ug/L		96
99) n-Butylbenzene	16.408	92	1668606	80.94 ug/L		98
100) Benzyl Chloride	16.438	126	335428	66.97 ug/L		96
101) 1,2-Dichlorobenzene	16.578	146	1954596	74.64 ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.119	75	96794	66.94 ug/L		84
103) Hexachlorobutadiene	17.527	225	377994	74.53 ug/L		96
104) 1,2,4-Trichlorobenzene	17.588	180	1082132	74.43 ug/L		98
105) Naphthalene	17.837	128	2646247	74.77 ug/L		99
106) 1,2,3-Trichlorobenzene	17.983	180	907315	70.35 ug/L		98
108) Ethanol	5.646	45	112048	1734.54 ug/L		94
109) Tert Butyl Alcohol	7.562	59	508542	977.87 ug/L		97
110) Isobutyl alcohol	11.310	42	196294	1837.20 ug/L		97
111) Tert Amyl Alcohol	11.425	59	233373	766.54 ug/L		92
112) 1,4-Dioxane	12.636	88	103541	1693.40 ug/L		94
113) 3,3-dimethyl-1-butanol	14.309	57	2015760	4457.32 ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54101.D
Acq On : 17 Nov 2020 10:33 am
Operator : chelseav
Sample : IC2245-6 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 17 10:58:39 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



RESTEK111720w.M Tue Nov 17 12:28:30 2020 Page: 3

Manual Integration Approval Summary

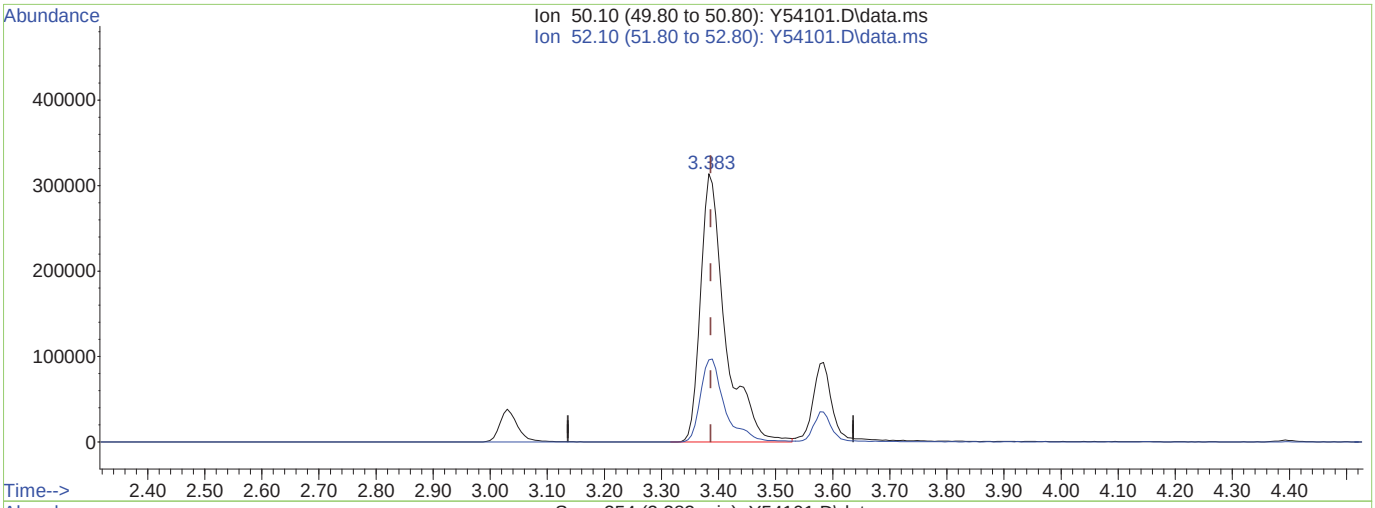
Sample Number: VY2245-IC2245
Lab FileID: Y54101.D
Injection Time: 11/17/20 10:33
Method: SW846 8260B
Analyst approved: 11/17/20 13:28 Chelsea VanDenBurg
Supervisor approved: 11/17/20 18:54 Melissa Mangual

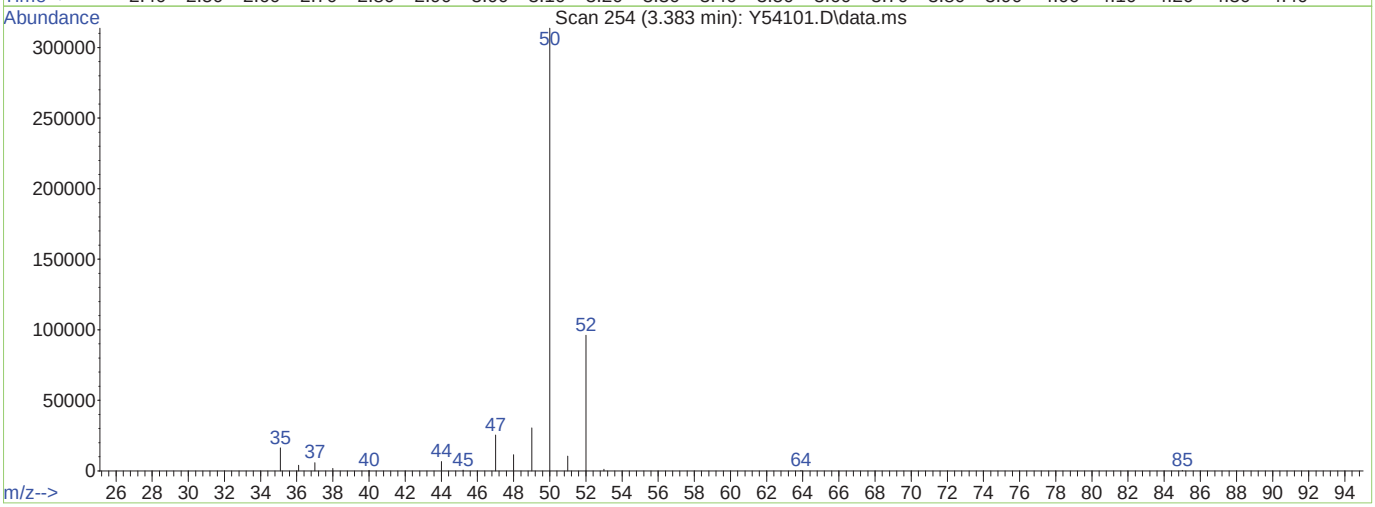
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.38	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54101.D
Acq On : 17 Nov 2020 10:33 am
Operator : chelseav
Sample : IC2245-6 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 17 10:58:09 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54101.D\data.ms

(4) Chloromethane (P)

3.383min (-0.003) 71.77ug/L

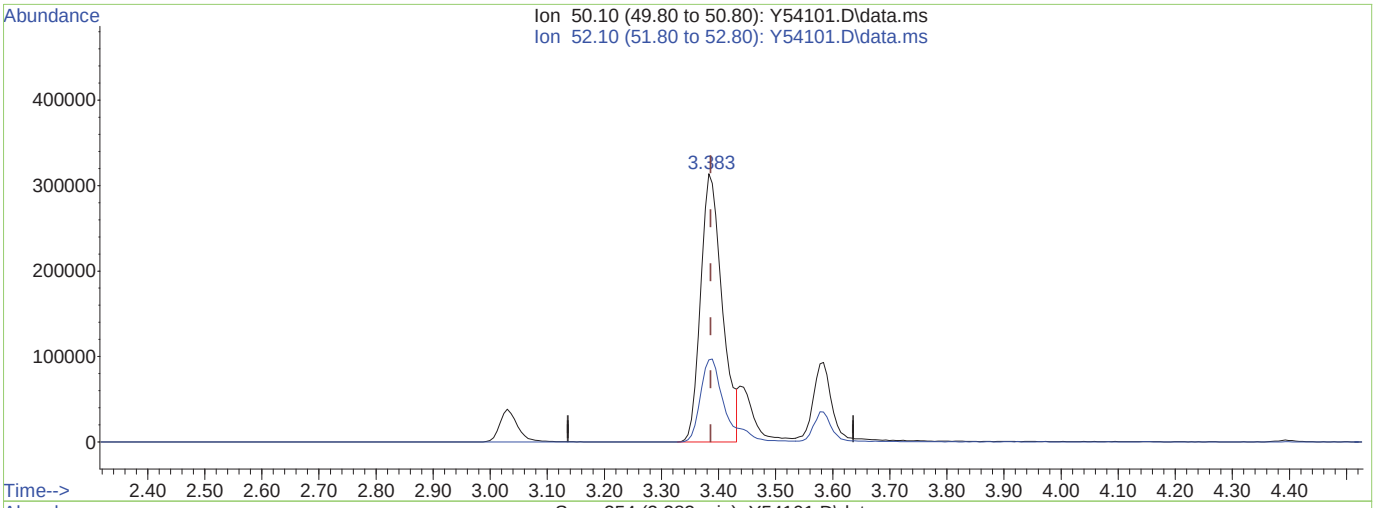
response 948107

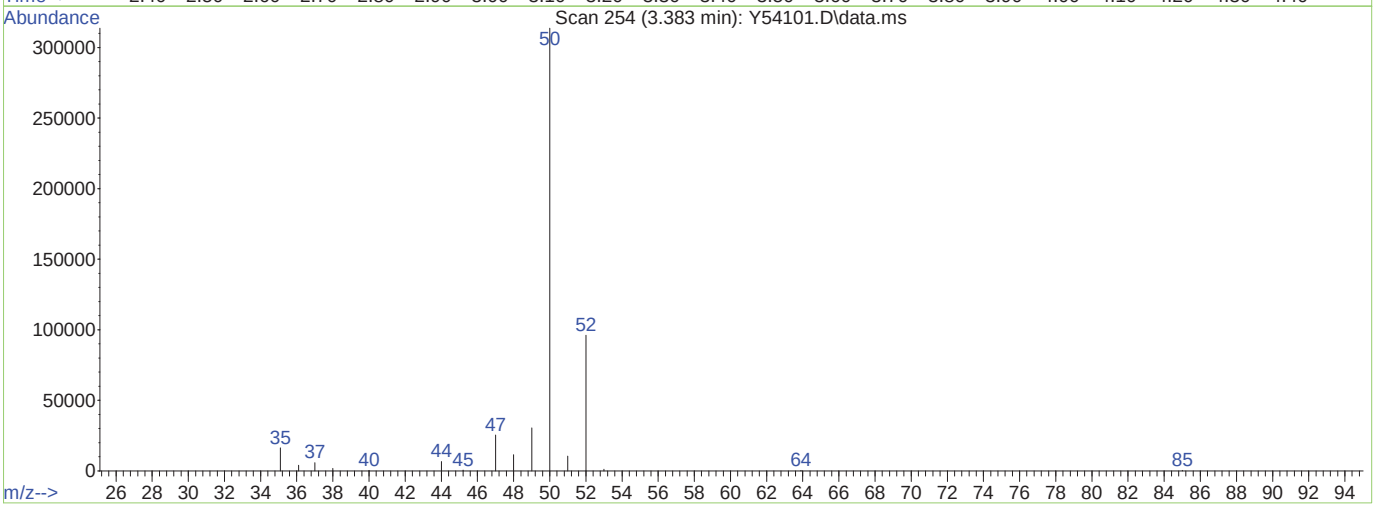
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	30.65
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54101.D
Acq On : 17 Nov 2020 10:33 am
Operator : chelseav
Sample : IC2245-6 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 17 10:58:09 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54101.D\data.ms

(4) Chloromethane (P)

3.383min (-0.003) 62.44ug/L m

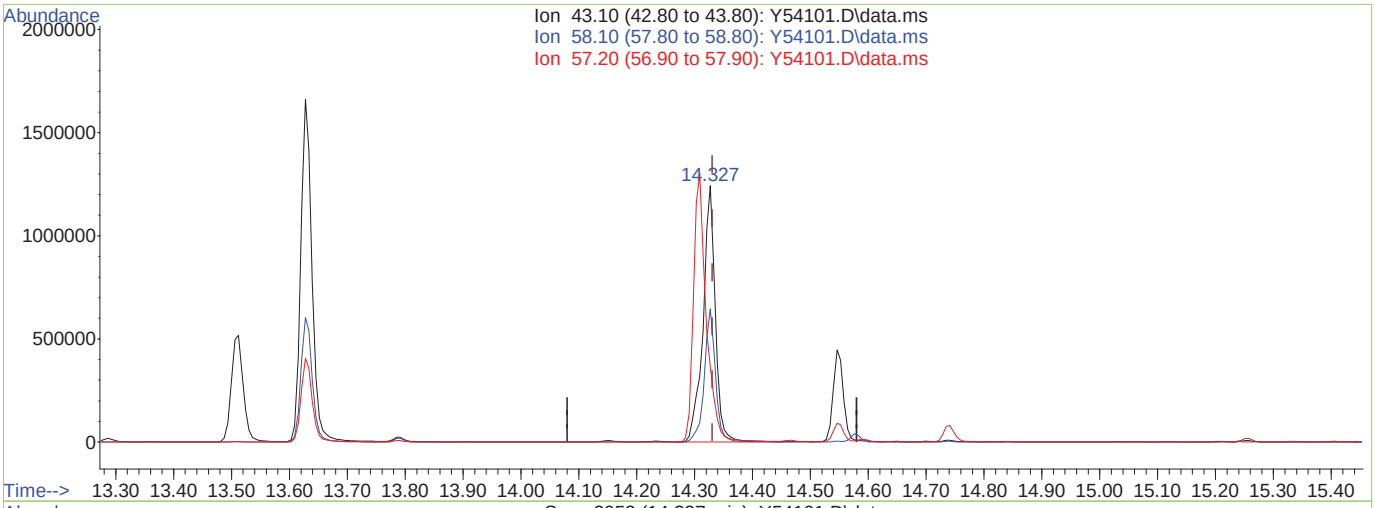
response 824902

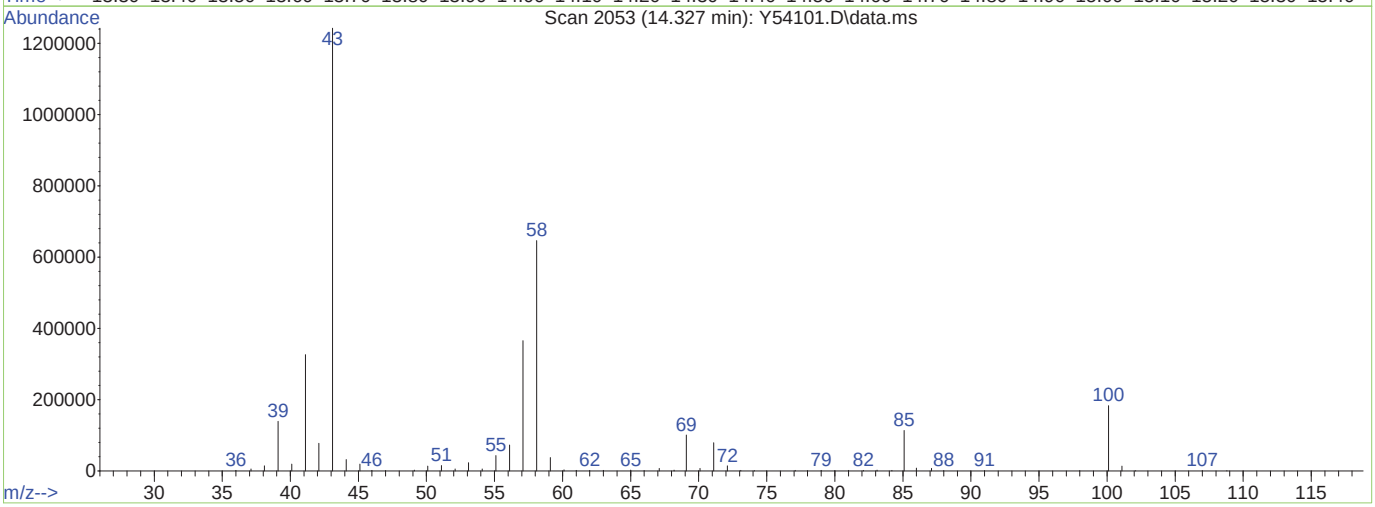
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	30.65
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54101.D
Acq On : 17 Nov 2020 10:33 am
Operator : chelseav
Sample : IC2245-6 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 17 10:58:09 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54101.D\data.ms

(69) 2-hexanone

14.327min (-0.003) 406.04ug/L

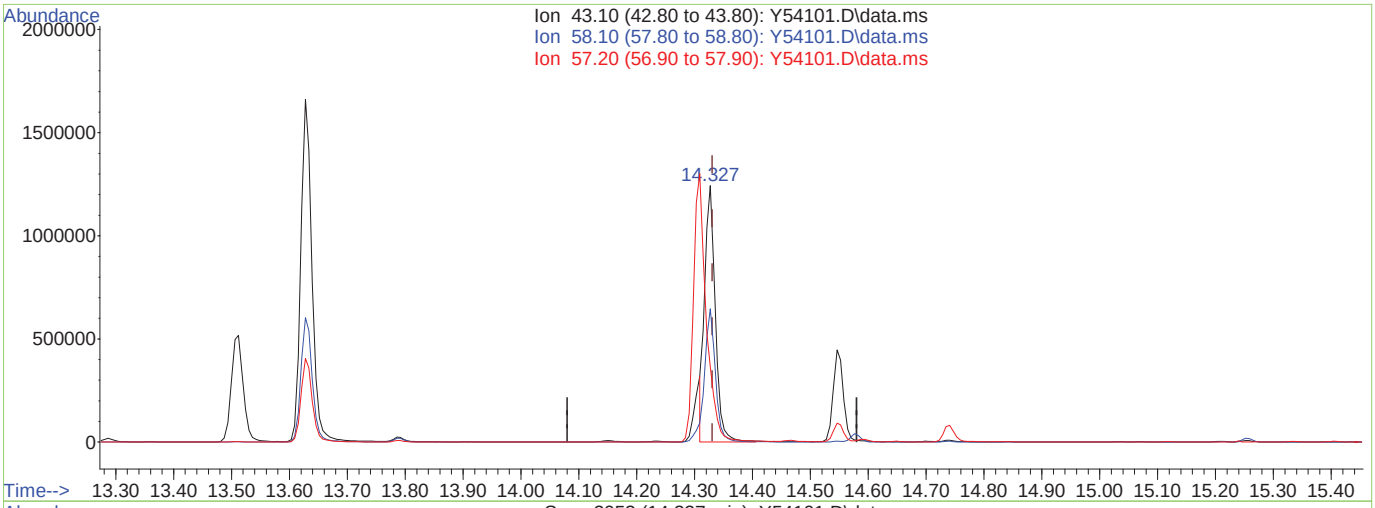
response 1842731

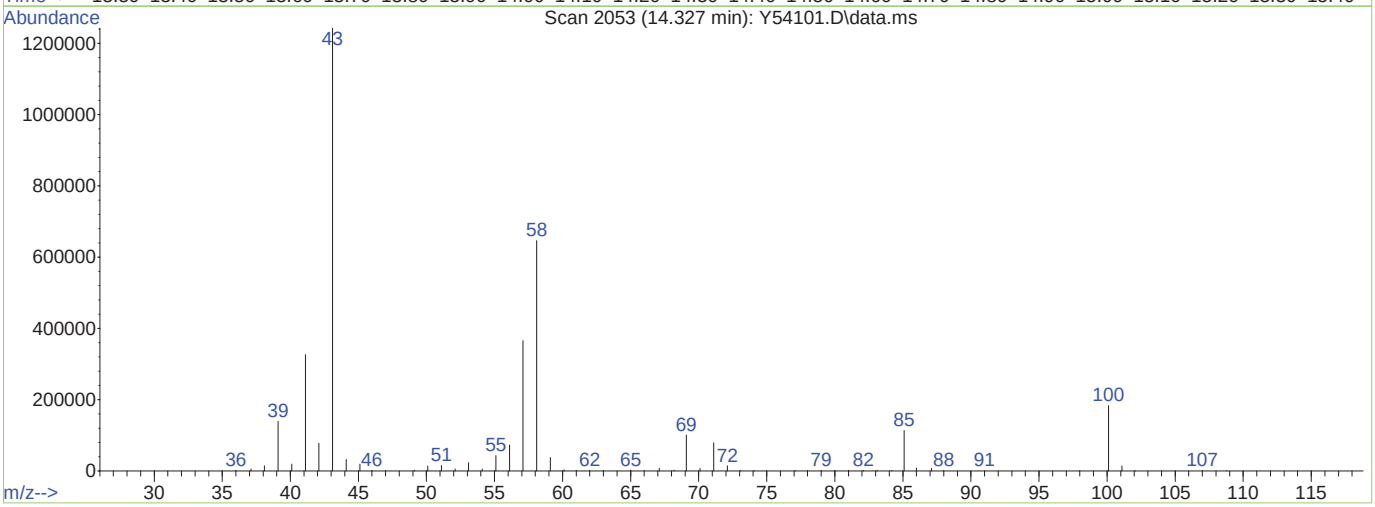
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	52.02
57.20	27.10	29.43
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54101.D
Acq On : 17 Nov 2020 10:33 am
Operator : chelseav
Sample : IC2245-6 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 17 10:58:09 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54101.D\data.ms

(69) 2-hexanone

14.327min (-0.003) 349.96ug/L m

response 1588207

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	51.99
57.20	27.10	29.41
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/17/20 18:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54102.D
Acq On : 17 Nov 2020 11:00 am
Operator : chelseav
Sample : IC2245-7 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 11:37:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.522	96	2625094	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	2300419	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1239172	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.434	65	121083	250.00	ug/L	0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	679287	49.87	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.74%			
47) 1,2-Dichloroethane-d4	11.145	65	555333	45.78	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 91.56%			
58) Toluene-d8	13.238	98	2719891	53.60	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 107.20%			
80) 4-Bromofluorobenzene	15.489	174	963221	51.07	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.14%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.030	85	1071079	79.53	ug/L	98
3) Acrolein	6.303	56	666099	406.84	ug/L	100
4) Chloromethane	3.383	50	1244400	90.62	ug/L	98
5) 1,3-butadiene	3.577	39	888281	94.14	ug/L	95
6) Vinyl Chloride	3.547	62	1101693	88.49	ug/L	99
7) Bromomethane	4.155	94	535776	101.20	ug/L	97
8) Chloroethane	4.393	64	353701	120.22	ug/L	96
9) Trichlorofluoromethane	4.648	101	1739262	104.31	ug/L	97
10) Ethyl Ether	5.293	59	763426	90.45	ug/L	93
11) 1,2-Dichlorotrifluoroe...	5.670	67	1066296	98.09	ug/L	98
12) 1,1-Dichloroethene	5.634	61	1456032	98.22	ug/L	98
13) Freon 113	5.731	101	1205107	85.96	ug/L	98
14) Carbon Disulfide	5.664	76	2872027	104.46	ug/L	99
15) Iodomethane	5.901	142	1403182	91.00	ug/L	99
16) Allyl chloride	6.558	41	1592167	104.01	ug/L	97
17) Methylene Chloride	6.771	49	1284894	94.27	ug/L	96
18) Acetone	6.893	43	840346	387.98	ug/L	98
19) Methyl acetate	7.142	43	2362364	420.52	ug/L	99
20) trans-1,2-Dichloroethene	7.088	61	1379180	97.78	ug/L	97
21) Hexane	7.246	56	854104	92.05	ug/L	91
22) Methyl Tert Butyl Ether	7.319	73	2153467	97.27	ug/L	94
23) Acetonitrile	7.793	41	785664	798.19	ug/L	100
24) Di-isopropyl ether	8.091	45	3554633	102.59	ug/L	99
25) Chloroprene	8.262	53	1613888	106.70	ug/L	99
26) 1,1-Dichloroethane	8.310	63	1665352	96.42	ug/L	98
27) Acrylonitrile	8.426	53	1161470	417.86	ug/L	98
28) ETBE	8.827	59	2697557	91.25	ug/L	97
29) Vinyl acetate	8.858	43	8224102	436.24	ug/L	99
30) cis-1,2-Dichloroethene	9.424	96	1244307	98.29	ug/L	99
31) 2,2-Dichloropropane	9.637	77	1396917	96.12	ug/L	99
32) Bromochloromethane	9.837	128	670345	94.74	ug/L	97
33) Cyclohexane	9.819	56	2054692	99.17	ug/L	98
34) Chloroform	10.002	83	1798540	99.07	ug/L	98
35) Ethyl acetate	10.251	43	3132693	459.06	ug/L	99
36) Tetrahydrofuran	10.251	42	175949	90.96	ug/L	98
38) Carbon Tetrachloride	10.227	117	1700151	109.41	ug/L	98
39) 1,1,1-Trichloroethane	10.348	97	1836338	102.06	ug/L	98
40) 2-Butanone	10.549	43	1281945	399.05	ug/L	99
41) 1,1-Dichloropropene	10.561	75	1496325	101.27	ug/L	99
42) tert-Butyl formate	10.750	59	1380054	378.57	ug/L	99
43) Propionitrile	10.993	54	818942	798.42	ug/L	92
44) Methacrylonitrile	11.024	41	4001325	849.88	ug/L	99
45) Benzene	10.938	78	4407824	100.73	ug/L	96
46) TAME	11.127	73	2127147	92.57	ug/L	97
48) 1,2-Dichloroethane	11.236	62	1191910	88.73	ug/L	98
49) Trichloroethene	11.735	95	1245119	103.99	ug/L	96
50) Methylcyclohexane	11.711	83	2024525	100.42	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54102.D
Acq On : 17 Nov 2020 11:00 am
Operator : chelseav
Sample : IC2245-7 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 11:37:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

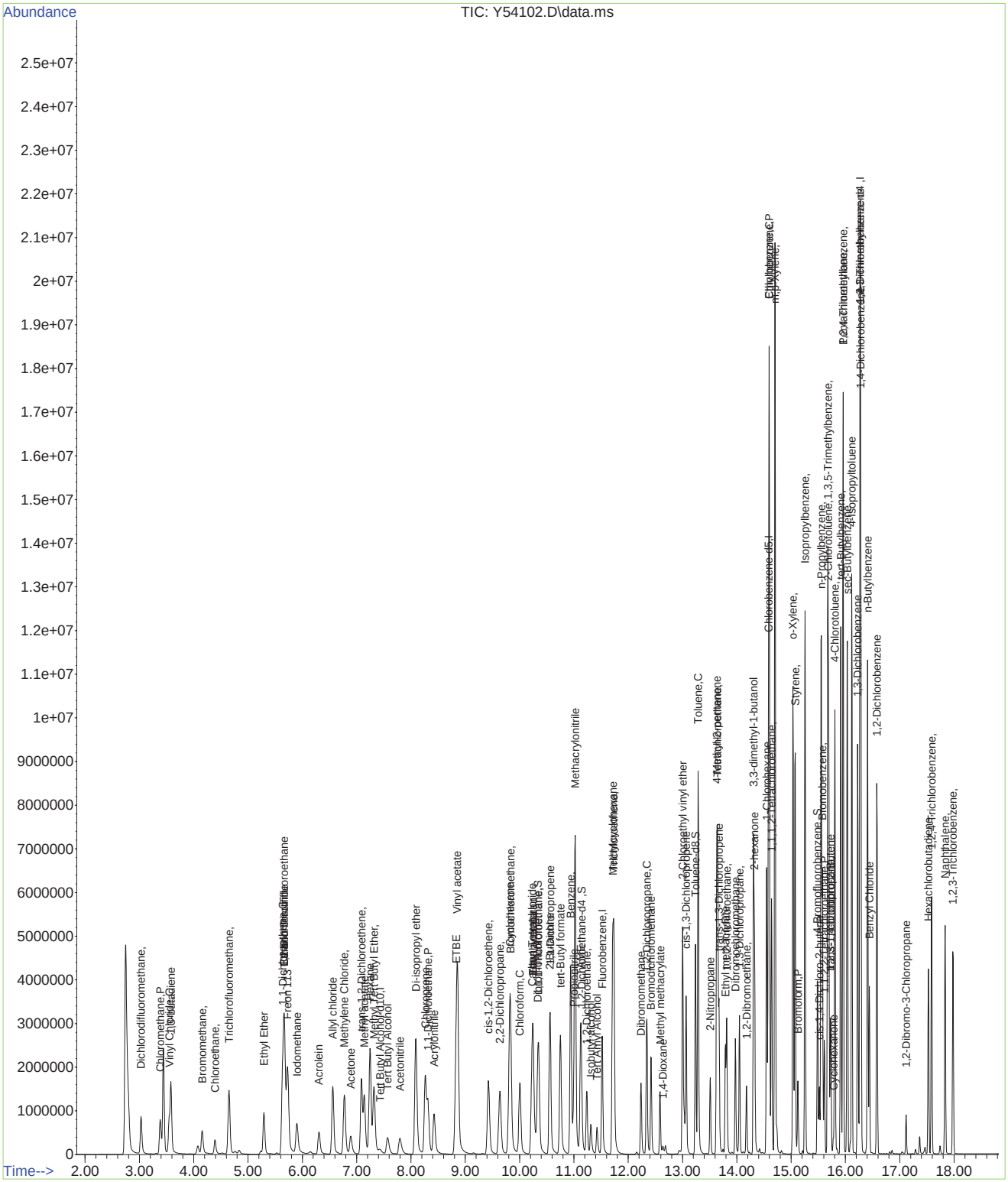
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.234	93	530586	90.71	ug/L		99
52) 1,2-Dichloropropane	12.344	63	1023943	97.12	ug/L		98
53) Bromodichloromethane	12.423	83	1292871	108.57	ug/L		99
54) Methyl methacrylate	12.581	41	628005	85.18	ug/L		97
55) 2-Chloroethyl vinyl ether	13.001	63	1763420	454.46	ug/L		98
56) cis-1,3-Dichloropropene	13.068	75	1578796	101.07	ug/L		98
59) Toluene	13.287	91	5429526	109.68	ug/L		98
60) 2-Nitropropane	13.512	41	858599	433.08	ug/L		98
61) 4-Methyl-2-pentanone	13.627	43	2971615	462.49	ug/L		97
62) trans-1,3-Dichloropropene	13.670	75	1209894	92.66	ug/L		95
63) Tetrachloroethene	13.646	166	1557143	101.46	ug/L		99
64) Ethyl methacrylate	13.792	69	910472	91.64	ug/L		96
65) 1,1,2-Trichloroethane	13.816	83	625722	96.36	ug/L		97
66) Dibromochloromethane	13.974	129	1201630	116.05	ug/L		99
67) 1,3-Dichloropropane	14.047	76	1380659	97.87	ug/L		99
68) 1,2-Dibromoethane	14.181	107	902123	101.49	ug/L		99
69) 2-hexanone	14.327	43	2148113m	462.29	ug/L		
70) 1-Chlorohexane	14.552	91	1841723	111.13	ug/L		93
71) Ethylbenzene	14.595	91	5802247	112.52	ug/L		96
72) Chlorobenzene	14.595	112	3710110	102.91	ug/L		98
73) 1,1,1,2-Tetrachloroethane	14.637	131	1399551	112.77	ug/L		99
74) m,p-Xylene	14.704	91	9366169	217.21	ug/L		100
75) o-Xylene	15.033	91	4835664	111.57	ug/L		99
76) Styrene	15.075	104	3999006	118.70	ug/L		95
77) Bromoform	15.124	173	609328	93.77	ug/L		99
78) Isopropylbenzene	15.258	105	6738827	113.58	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.519	53	241820	82.33	ug/L	#	76
82) n-Propylbenzene	15.550	91	7249196	113.88	ug/L		98
83) Bromobenzene	15.574	156	1578976	102.39	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.611	83	856254	95.55	ug/L		96
85) 1,3,5-Trimethylbenzene	15.677	105	5259924	117.32	ug/L		98
86) 2-Chlorotoluene	15.690	91	4398487	108.48	ug/L		96
87) trans-1,4-Dichloro-2-B...	15.732	53	221501	79.65	ug/L	#	80
88) 1,2,3-Trichloropropane	15.720	110	320801	93.81	ug/L		97
89) Cyclohexanone	15.775	55	103058	472.41	ug/L		96
90) 4-Chlorotoluene	15.805	91	4244098	112.58	ug/L		95
91) tert-Butylbenzene	15.915	91	2688939	112.49	ug/L		96
92) 1,2,4-Trimethylbenzene	15.957	105	5249623	116.11	ug/L		98
93) Pentachloroethane	15.957	167	877953	120.34	ug/L		90
94) sec-Butylbenzene	16.036	105	6598049	119.32	ug/L		100
95) 4-Isopropyltoluene	16.115	119	6263298	121.81	ug/L		97
96) 1,3-Dichlorobenzene	16.225	146	3190872	110.50	ug/L		99
97) 1,2,3-Trimethylbenzene	16.267	105	7109549	140.62	ug/L		98
98) 1,4-Dichlorobenzene	16.286	146	3075687	107.18	ug/L		96
99) n-Butylbenzene	16.407	92	2361139	113.40	ug/L		98
100) Benzyl Chloride	16.438	126	499209	90.46	ug/L	#	90
101) 1,2-Dichlorobenzene	16.578	146	2894937	109.45	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.119	75	135114	87.06	ug/L		84
103) Hexachlorobutadiene	17.527	225	567640	110.82	ug/L		97
104) 1,2,4-Trichlorobenzene	17.588	180	1572360	107.08	ug/L		98
105) Naphthalene	17.837	128	3697280	103.44	ug/L		98
106) 1,2,3-Trichlorobenzene	17.983	180	1300729	99.86	ug/L		98
108) Ethanol	5.658	45	148166	2351.89	ug/L		82
109) Tert Butyl Alcohol	7.568	59	686346	1353.27	ug/L		96
110) Isobutyl alcohol	11.309	42	271099	2601.75	ug/L		95
111) Tert Amyl Alcohol	11.425	59	334611	1126.97	ug/L		94
112) 1,4-Dioxane	12.642	88	144529	2423.76	ug/L		96
113) 3,3-dimethyl-1-butanol	14.309	57	2815990	6384.90	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54102.D
Acq On : 17 Nov 2020 11:00 am
Operator : chelseav
Sample : IC2245-7 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 11:37:33 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



Manual Integration Approval Summary

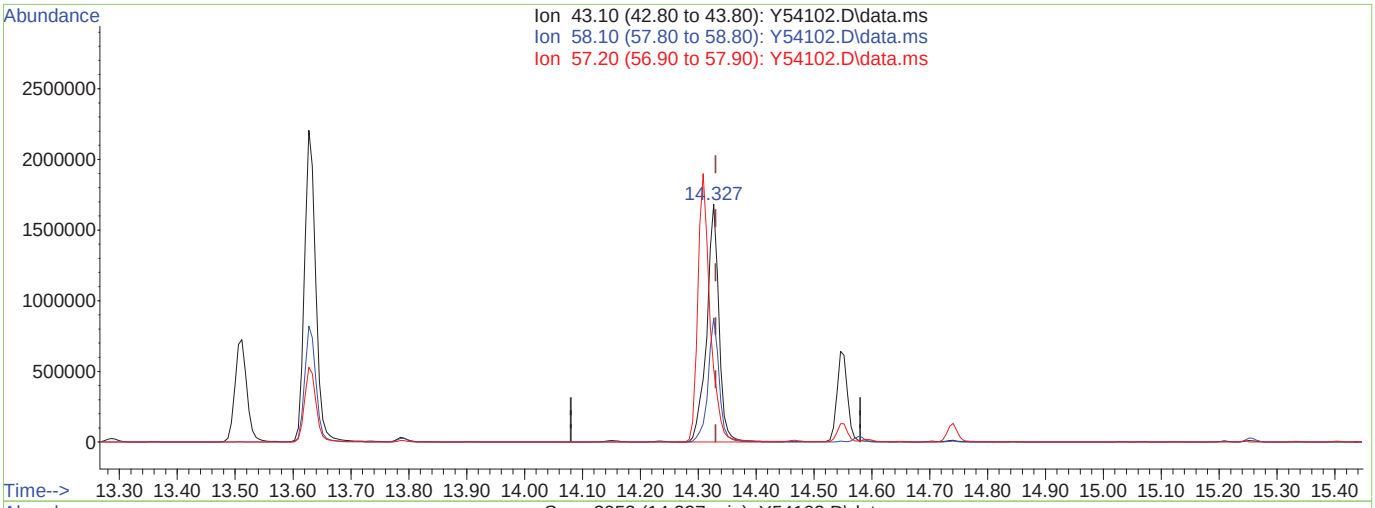
Sample Number: VY2245-IC2245
Lab FileID: Y54102.D
Injection Time: 11/17/20 11:00
Method: SW846 8260B
Analyst approved: 11/17/20 13:28 Chelsea VanDenBurg
Supervisor approved: 11/17/20 18:54 Melissa Mangual

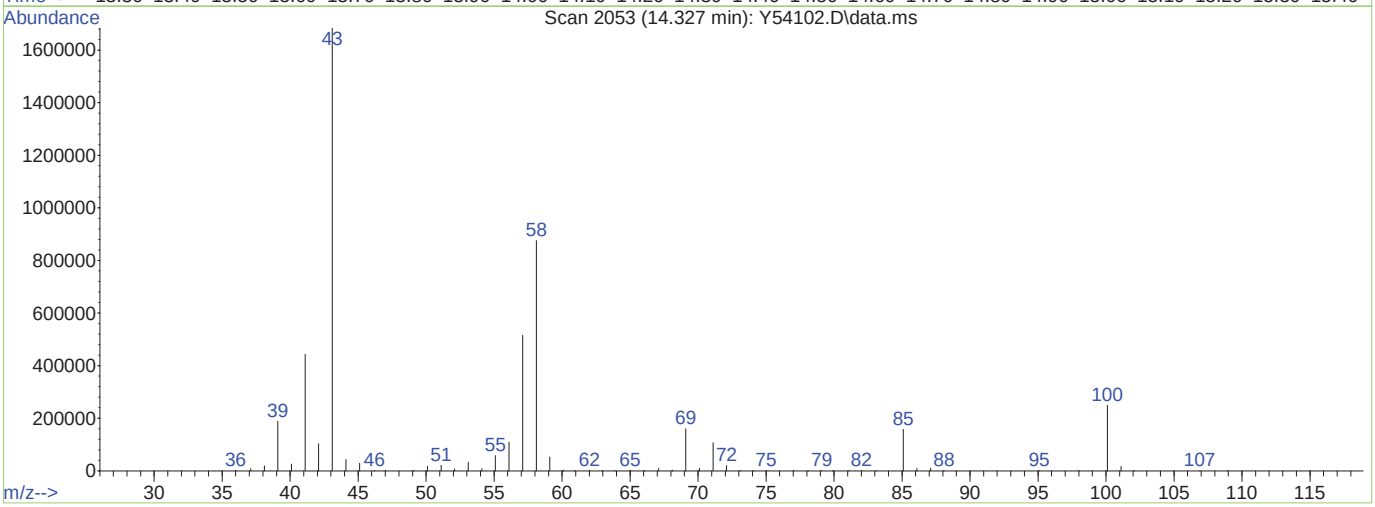
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54102.D
Acq On : 17 Nov 2020 11:00 am
Operator : chelseav
Sample : IC2245-7 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 11:37:02 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54102.D\data.ms

(69) 2-hexanone

14.327min (-0.004) 535.33ug/L

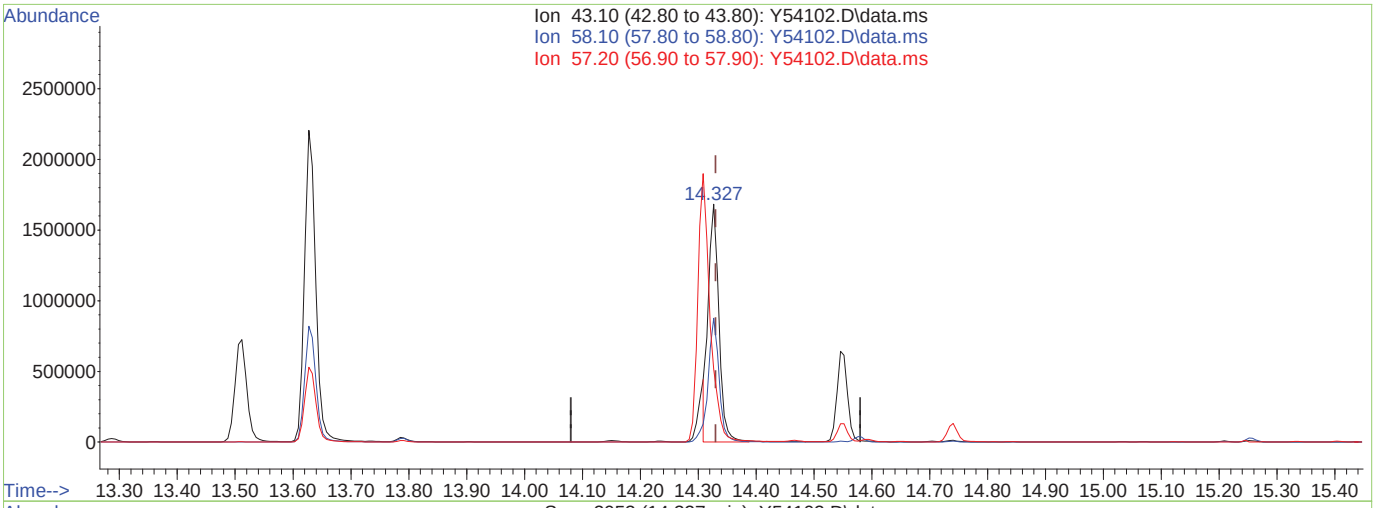
response 2487476

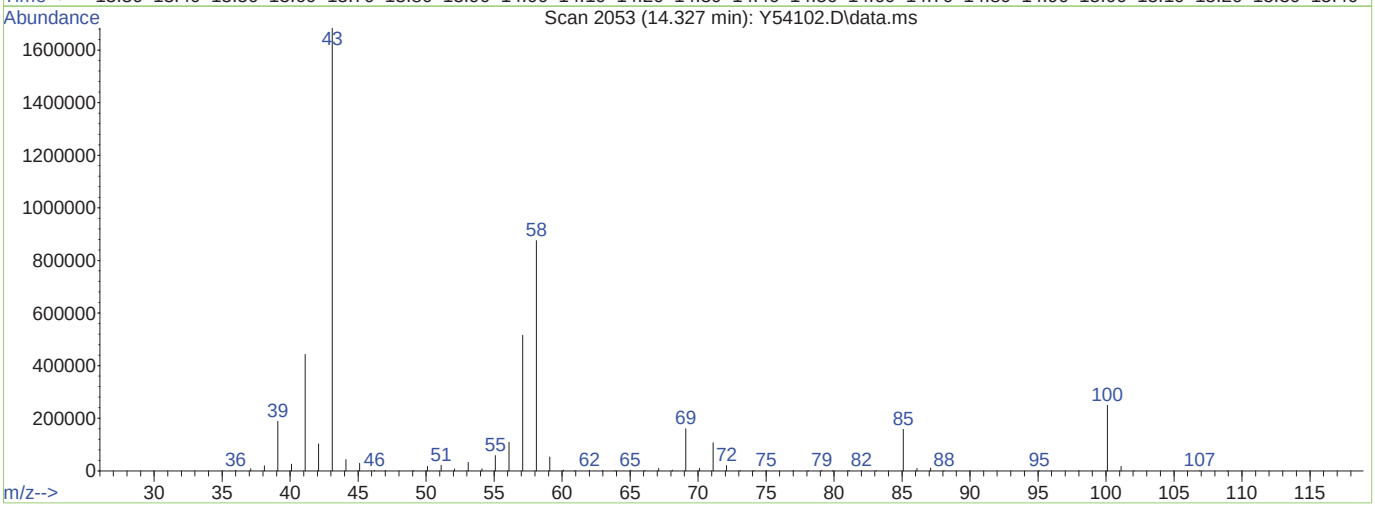
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	52.03
57.20	27.10	30.59
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54102.D
Acq On : 17 Nov 2020 11:00 am
Operator : chelseav
Sample : IC2245-7 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 17 11:37:02 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54102.D\data.ms

(69) 2-hexanone

14.327min (-0.004) 462.29ug/L m

response 2148113

Ion	Exp%	Act%
43.10	100	100
58.10	54.80	52.00
57.20	27.10	30.60
0.00	0.00	0.00

Y54104.D

Manual Integrations APPROVED (compounds with "m" flag)

Melissa Mangual 11/17/20 18:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54104.D
Acq On : 17 Nov 2020 11:54 am
Operator : chelseav
Sample : IC2245-1 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 17 12:15:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	2716228	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	2494919	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1270270	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.411	65	106462	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	689225	48.90	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.80%			
47) 1,2-Dichloroethane-d4	11.140	65	597851	47.63	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 95.26%			
58) Toluene-d8	13.239	98	2782641	50.56	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 101.12%			
80) 4-Bromofluorobenzene	15.490	174	951126	49.20	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.031	85	9599	0.69	ug/L	96
3) Acrolein	6.322	56	7219	4.26	ug/L	98
4) Chloromethane	3.390	50	14563	1.02	ug/L	96
5) 1,3-butadiene	3.584	39	11360	1.16	ug/L	90
6) Vinyl Chloride	3.548	62	10673	0.83	ug/L	81
7) Bromomethane	4.156	94	6692	1.22	ug/L	78
8) Chloroethane	4.393	64	6359	1.75	ug/L	98
9) Trichlorofluoromethane	4.673	101	15892	0.92	ug/L	98
10) Ethyl Ether	5.288	59	7551	0.86	ug/L	91
11) 1,2-Dichlorotrifluoroe...	5.677	67	11371	1.01	ug/L	85
12) 1,1-Dichloroethene	5.647	61	15613	1.02	ug/L	92
13) Freon 113	5.738	101	12554	0.87	ug/L	95
14) Carbon Disulfide	5.671	76	34187	1.20	ug/L	99
15) Iodomethane	5.908	142	14634	1.59	ug/L	92
16) Allyl chloride	6.565	41	15089	0.95	ug/L	91
17) Methylene Chloride	6.778	49	27769	1.67	ug/L	95
18) Acetone	6.906	43	9105	4.06	ug/L	96
19) Methyl acetate	7.155	43	20684	3.56	ug/L	98
20) trans-1,2-Dichloroethene	7.094	61	13930	0.95	ug/L	94
21) Hexane	7.253	56	9394	0.98	ug/L	92
22) Methyl Tert Butyl Ether	7.332	73	17006	0.74	ug/L	91
23) Acetonitrile	7.831	41	8853	9.24	ug/L	86
24) Di-isopropyl ether	8.098	45	29980	0.84	ug/L	100
25) Chloroprene	8.275	53	13881	0.89	ug/L	96
26) 1,1-Dichloroethane	8.311	63	16508	0.92	ug/L	91
27) Acrylonitrile	8.451	53	14003	4.87	ug/L	89
28) ETBE	8.834	59	20588	0.67	ug/L	92
29) Vinyl acetate	8.871	43	68819	3.62	ug/L	92
30) cis-1,2-Dichloroethene	9.430	96	11827	0.90	ug/L	90
31) 2,2-Dichloropropane	9.643	77	10658	0.95	ug/L	87
32) Bromochloromethane	9.850	128	7313	1.00	ug/L	93
33) Cyclohexane	9.826	56	19353	0.90	ug/L	89
34) Chloroform	10.014	83	17669	0.94	ug/L	92
35) Ethyl acetate	10.264	43	32465	4.60	ug/L	99
38) Carbon Tetrachloride	10.227	117	13443	0.84	ug/L	94
39) 1,1,1-Trichloroethane	10.355	97	19503	1.05	ug/L	96
40) 2-Butanone	10.592	43	8065	2.56	ug/L	97
41) 1,1-Dichloropropene	10.574	75	13518	0.88	ug/L	93
42) tert-Butyl formate	10.757	59	5372	7.21	ug/L #	76
43) Propionitrile	11.006	54	7024	6.62	ug/L	80
44) Methacrylonitrile	11.030	41	39808	8.17	ug/L	92
45) Benzene	10.945	78	43400	0.96	ug/L	99
46) TAME	11.134	73	16212	0.68	ug/L	87
48) 1,2-Dichloroethane	11.243	62	12557	0.90	ug/L	99
49) Trichloroethene	11.742	95	15107	1.14	ug/L	90
50) Methylcyclohexane	11.712	83	20447	0.98	ug/L	95
51) Dibromomethane	12.241	93	5691	0.94	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54104.D
Acq On : 17 Nov 2020 11:54 am
Operator : chelseav
Sample : IC2245-1 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 17 12:15:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration

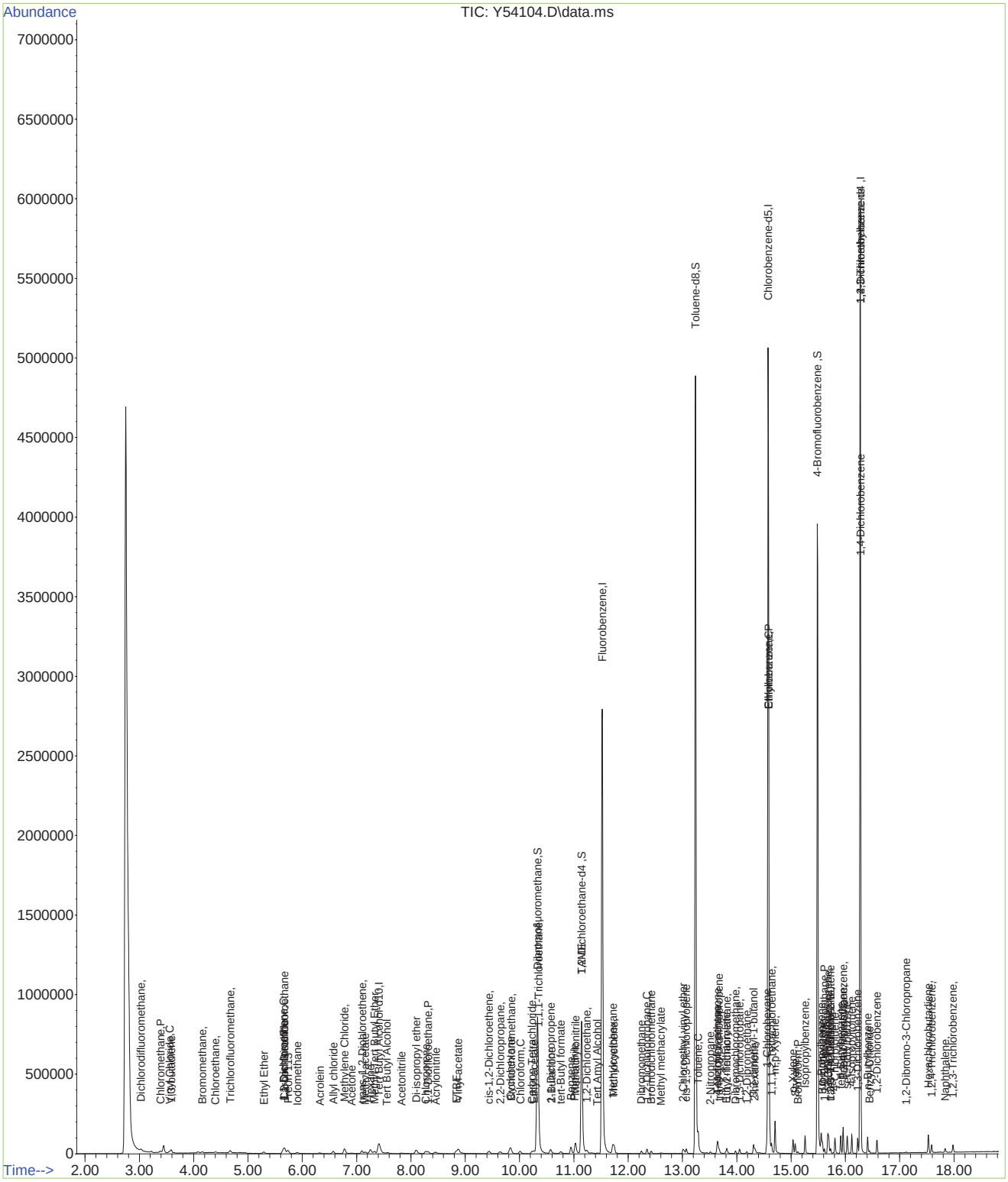
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
52) 1,2-Dichloropropane	12.351	63	9616	0.88 ug/L		94
53) Bromodichloromethane	12.424	83	10320	0.84 ug/L		93
54) Methyl methacrylate	12.594	41	3537	0.57 ug/L		86
55) 2-Chloroethyl vinyl ether	13.008	63	11245	4.08 ug/L		96
56) cis-1,3-Dichloropropene	13.068	75	12127	0.75 ug/L		91
59) Toluene	13.287	91	59049	1.11 ug/L		96
60) 2-Nitropropane	13.512	41	5423	3.20 ug/L	#	73
61) 4-Methyl-2-pentanone	13.634	43	23619	3.39 ug/L		90
62) trans-1,3-Dichloropropene	13.677	75	9249	0.81 ug/L		95
63) Tetrachloroethene	13.652	166	16339	0.98 ug/L		90
64) Ethyl methacrylate	13.798	69	5548	0.65 ug/L		92
65) 1,1,2-Trichloroethane	13.817	83	6322	0.90 ug/L		97
66) Dibromochloromethane	13.975	129	8483	0.76 ug/L		97
67) 1,3-Dichloropropane	14.054	76	13305	0.87 ug/L		92
68) 1,2-Dibromoethane	14.188	107	8337	0.86 ug/L		90
69) 2-hexanone	14.334	43	17296m	3.43 ug/L		
70) 1-Chlorohexane	14.553	91	16694	0.93 ug/L		95
71) Ethylbenzene	14.595	91	63390	1.10 ug/L		100
72) Chlorobenzene	14.595	112	41240	1.05 ug/L		98
73) 1,1,1,2-Tetrachloroethane	14.638	131	11801	0.88 ug/L	#	83
74) m,p-Xylene	14.705	91	92136	1.97 ug/L		99
75) o-Xylene	15.033	91	42943	0.91 ug/L		97
76) Styrene	15.076	104	29140	0.80 ug/L		98
77) Bromoform	15.125	173	3722	0.70 ug/L		92
78) Isopropylbenzene	15.258	105	58907	0.92 ug/L		98
82) n-Propylbenzene	15.557	91	70454	1.08 ug/L		96
83) Bromobenzene	15.575	156	17072	1.08 ug/L		97
84) 1,1,2,2-Tetrachloroethane	15.611	83	8762	0.95 ug/L		96
85) 1,3,5-Trimethylbenzene	15.678	105	46719	1.02 ug/L		95
86) 2-Chlorotoluene	15.690	91	46429	1.12 ug/L		92
87) trans-1,4-Dichloro-2-B...	15.733	53	1263	0.54 ug/L	#	31
88) 1,2,3-Trichloropropane	15.727	110	3211	0.92 ug/L		97
90) 4-Chlorotoluene	15.806	91	41379	1.07 ug/L		98
91) tert-Butylbenzene	15.909	91	24261	0.99 ug/L		96
92) 1,2,4-Trimethylbenzene	15.958	105	45891	0.99 ug/L		97
93) Pentachloroethane	15.958	167	6715	0.90 ug/L	#	79
94) sec-Butylbenzene	16.037	105	59945	1.06 ug/L		98
95) 4-Isopropyltoluene	16.116	119	53334	1.01 ug/L		99
96) 1,3-Dichlorobenzene	16.226	146	33241	1.12 ug/L		95
97) 1,2,3-Trimethylbenzene	16.268	105	68661	1.32 ug/L		95
98) 1,4-Dichlorobenzene	16.287	146	36174m	1.23 ug/L		
99) n-Butylbenzene	16.408	92	22130	1.04 ug/L		95
100) Benzyl Chloride	16.445	126	1953	0.51 ug/L	#	87
101) 1,2-Dichlorobenzene	16.585	146	29977	1.11 ug/L		96
102) 1,2-Dibromo-3-Chloropr...	17.120	75	1121m	0.94 ug/L		
103) Hexachlorobutadiene	17.528	225	14989	2.85 ug/L		98
104) 1,2,4-Trichlorobenzene	17.588	180	13247	0.88 ug/L		97
105) Naphthalene	17.838	128	17651	0.48 ug/L		96
106) 1,2,3-Trichlorobenzene	17.984	180	13119	0.98 ug/L		94
109) Tert Butyl Alcohol	7.557	59	6621	14.85 ug/L		89
111) Tert Amyl Alcohol	11.426	59	1926	7.38 ug/L		80
113) 3,3-dimethyl-1-butanol	14.309	57	27603	71.18 ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54104.D
Acq On : 17 Nov 2020 11:54 am
Operator : chelseav
Sample : IC2245-1 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 17 12:15:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration



Manual Integration Approval Summary

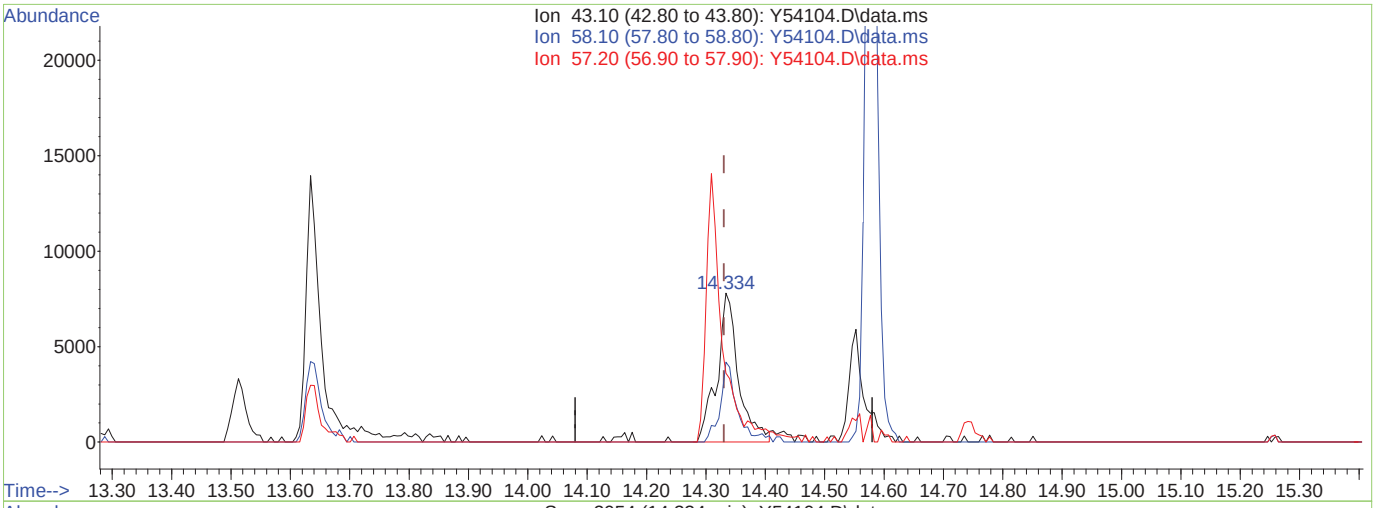
Sample Number: VY2245-IC2245
Lab FileID: Y54104.D
Injection Time: 11/17/20 11:54
Method: SW846 8260B
Analyst approved: 11/17/20 13:28 Chelsea VanDenBurg
Supervisor approved: 11/17/20 18:54 Melissa Mangual

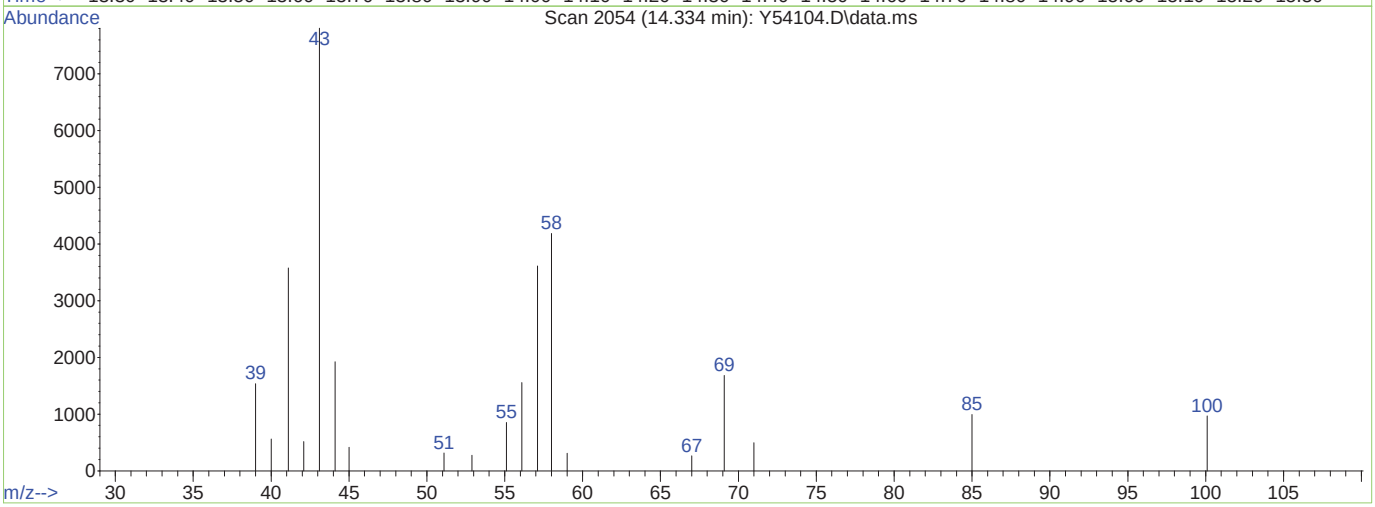
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak
1,4-Dichlorobenzene	106-46-7		16.29	Missed peak
1,2-Dibromo-3-chloropropane	96-12-8		17.12	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54104.D
Acq On : 17 Nov 2020 11:54 am
Operator : chelseav
Sample : IC2245-1 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 17 12:14:00 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54104.D\data.ms

(69) 2-hexanone

14.334min (+0.003) 3.90ug/L

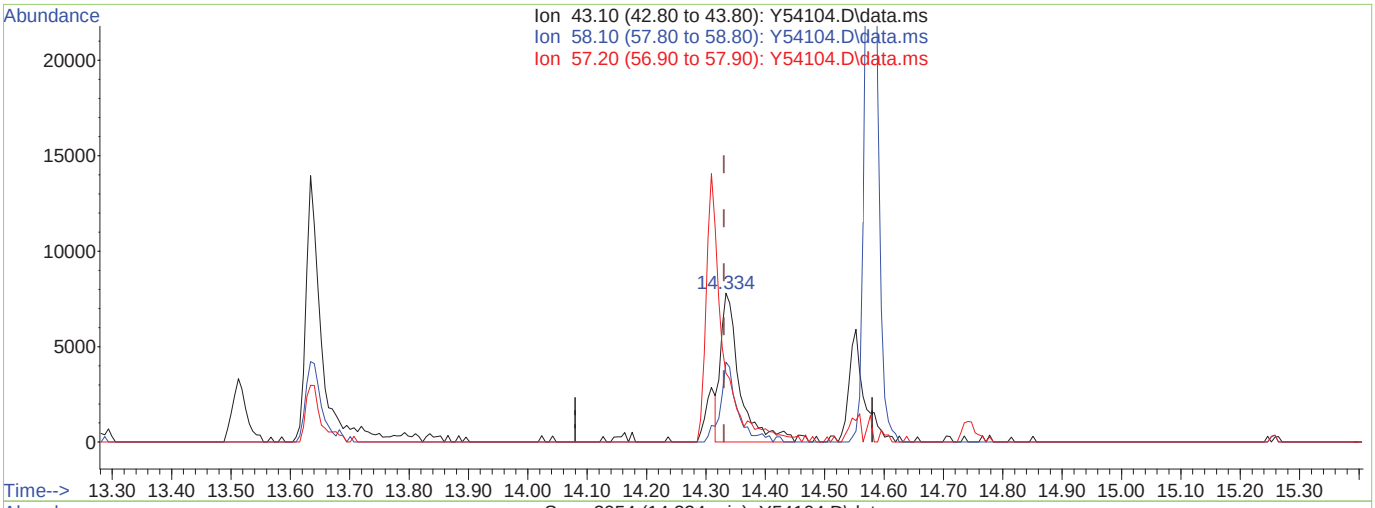
response 19640

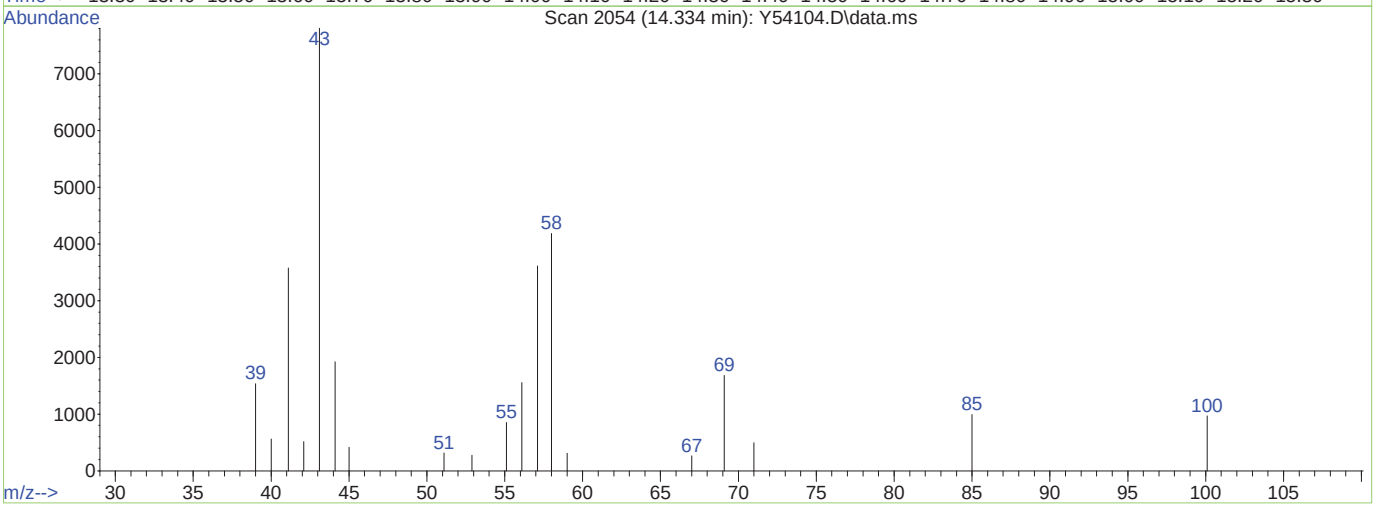
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	53.62
57.20	27.10	46.25
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54104.D
Acq On : 17 Nov 2020 11:54 am
Operator : chelseav
Sample : IC2245-1 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 17 12:14:00 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54104.D\data.ms

(69) 2-hexanone

14.334min (+0.003) 3.43ug/L m

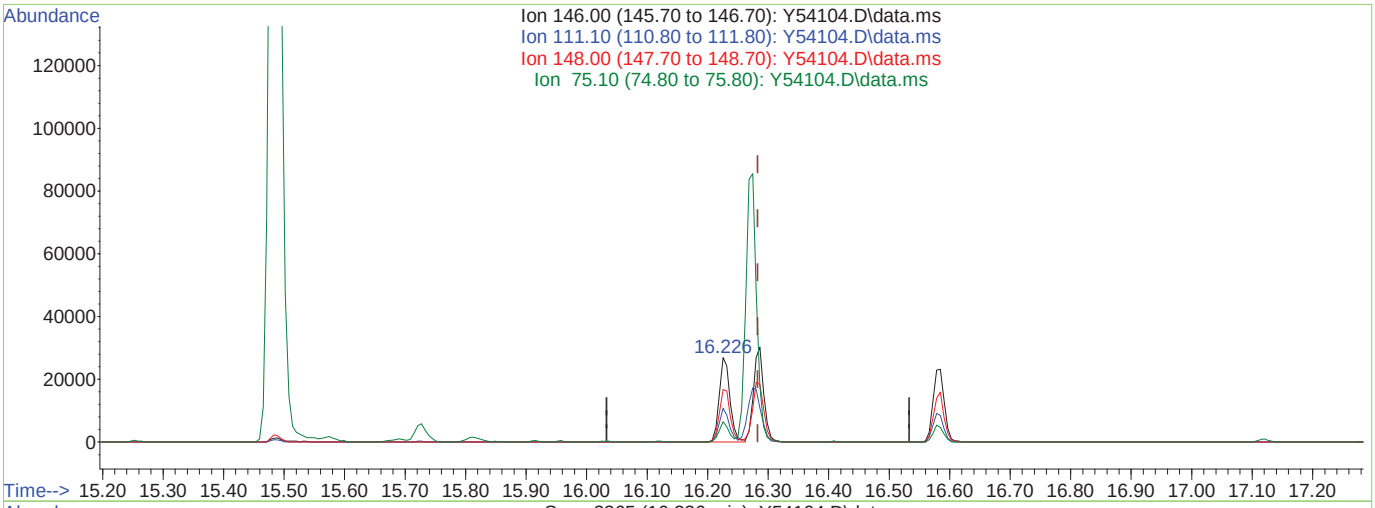
response 17296

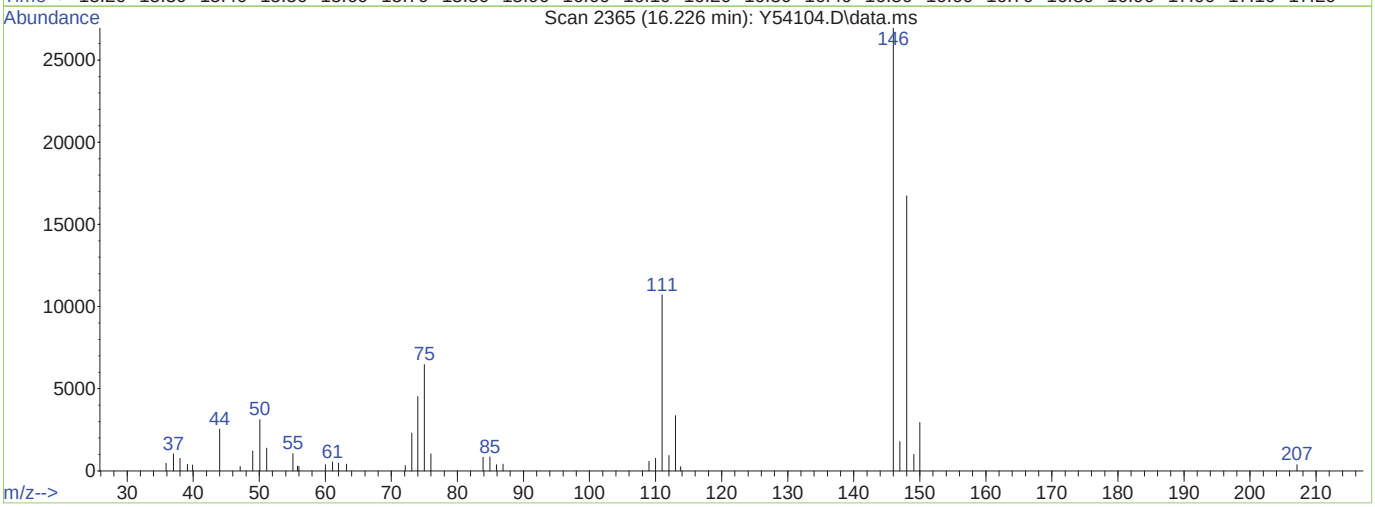
Ion	Exp%	Act%
43.10	100	100
58.10	54.80	53.62
57.20	27.10	46.25
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54104.D
Acq On : 17 Nov 2020 11:54 am
Operator : chelseav
Sample : IC2245-1 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 17 12:14:00 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54104.D\data.ms

(98) 1,4-Dichlorobenzene

16.226min (-0.057) 1.13ug/L

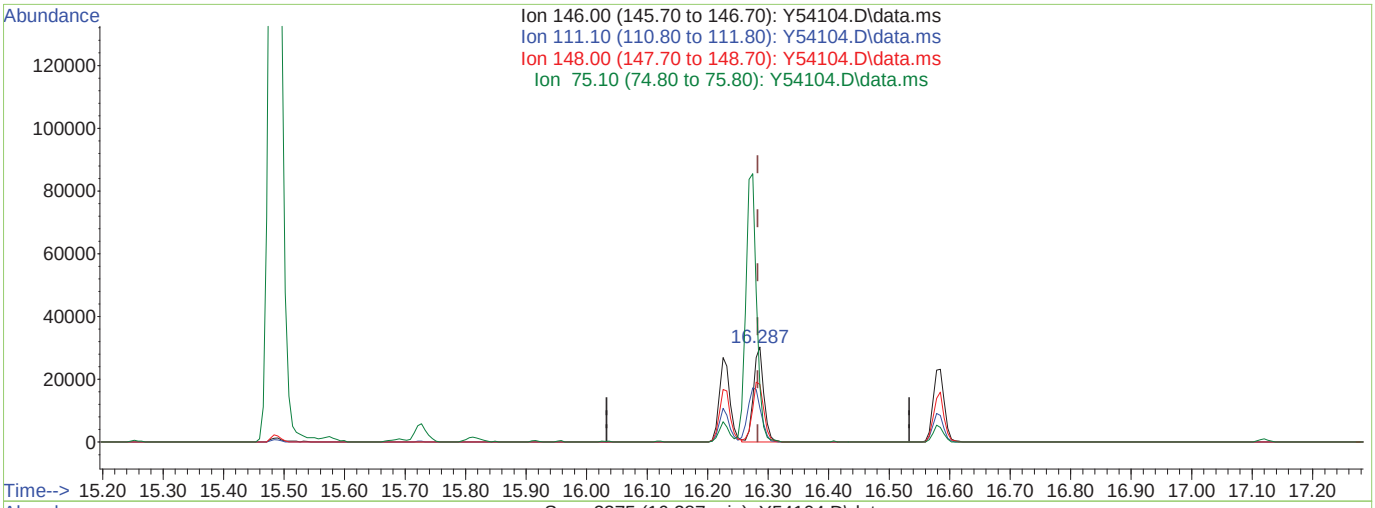
response 33241

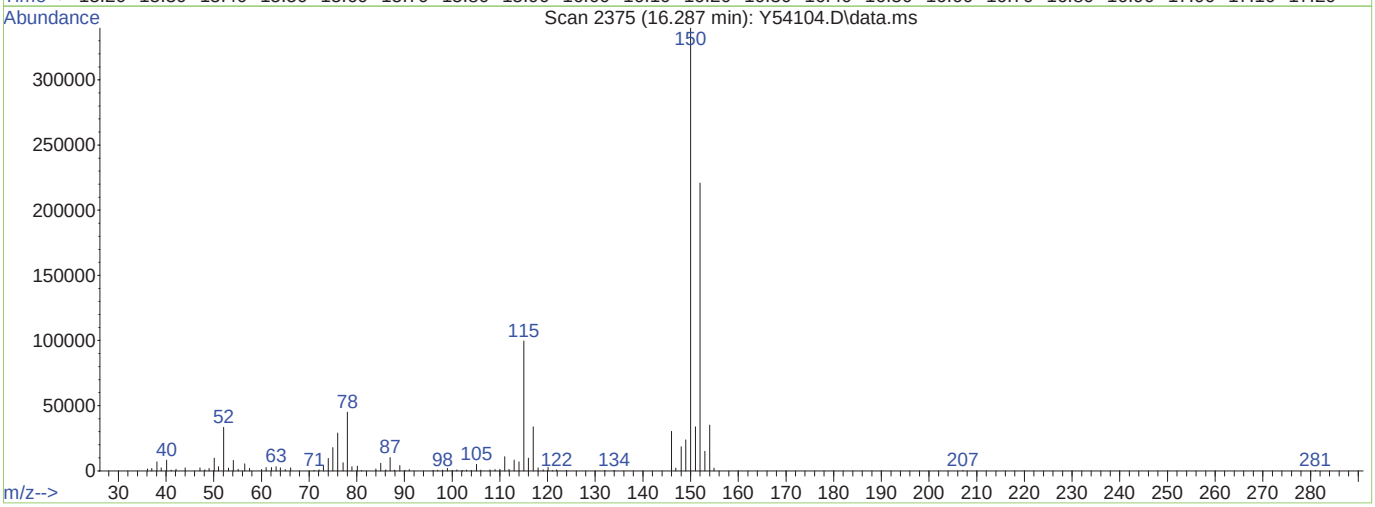
Ion	Exp%	Act%
146.00	100	100
111.10	36.90	39.77
148.00	64.00	62.13
75.10	26.10	24.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54104.D
Acq On : 17 Nov 2020 11:54 am
Operator : chelseav
Sample : IC2245-1 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 17 12:14:00 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54104.D\data.ms

(98) 1,4-Dichlorobenzene

16.287min (+0.003) 1.23ug/L m

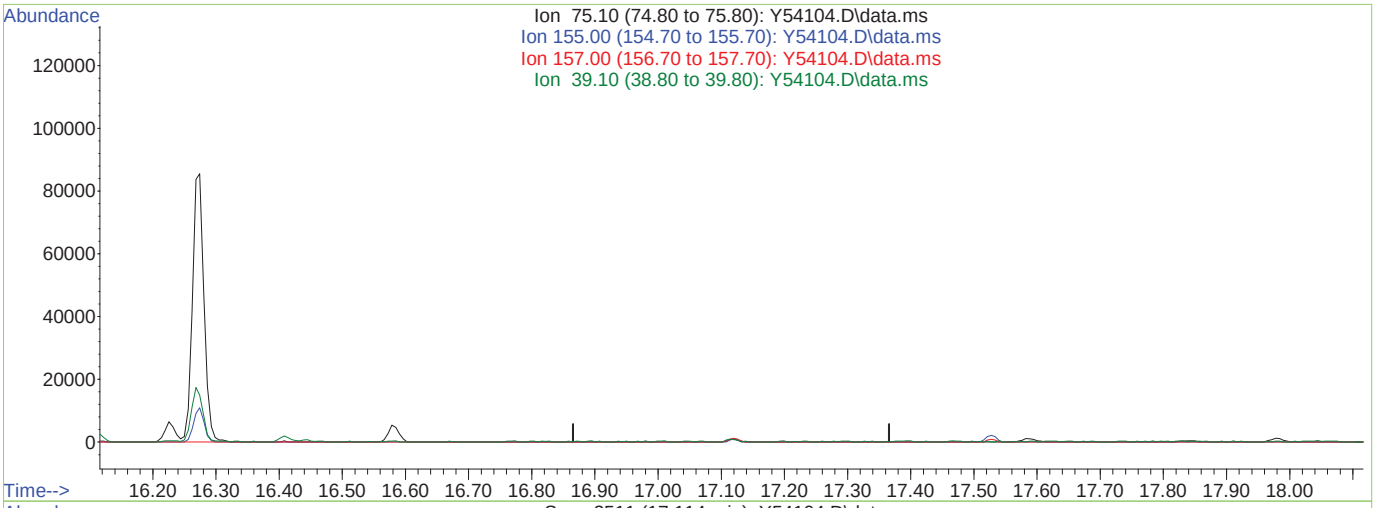
response 36174

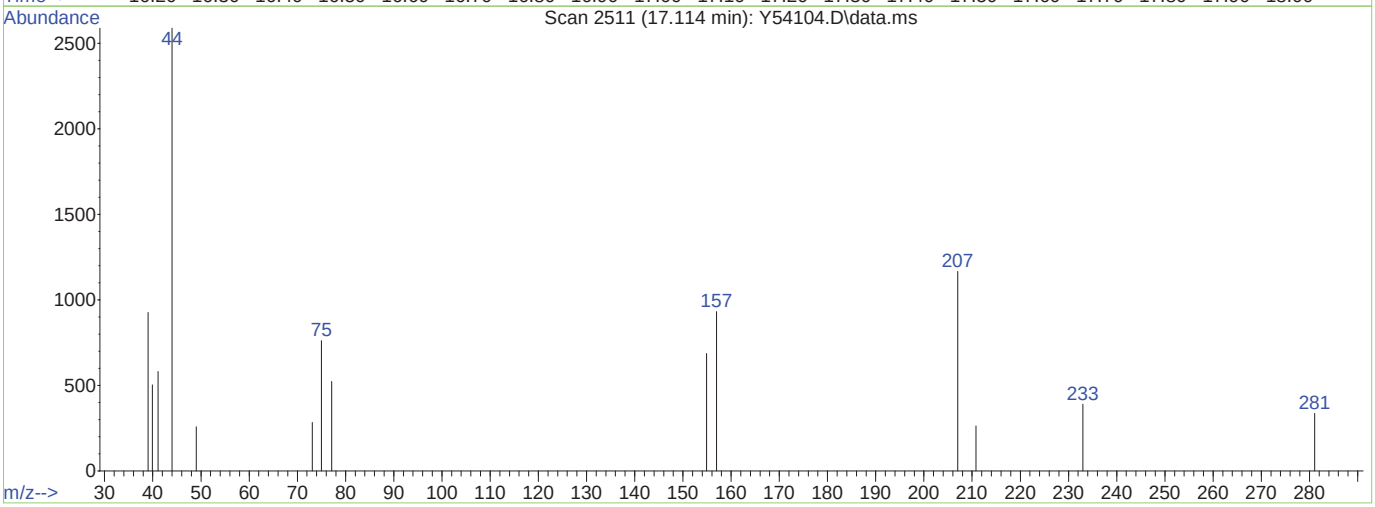
Ion	Exp%	Act%
146.00	100	100
111.10	36.90	35.94
148.00	64.00	60.80
75.10	26.10	58.87#

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54104.D
Acq On : 17 Nov 2020 11:54 am
Operator : chelseav
Sample : IC2245-1 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 17 12:14:00 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54104.D\data.ms

(102) 1,2-Dibromo-3-Chloropropane

17.116min (-17.116) 0.00ug/L

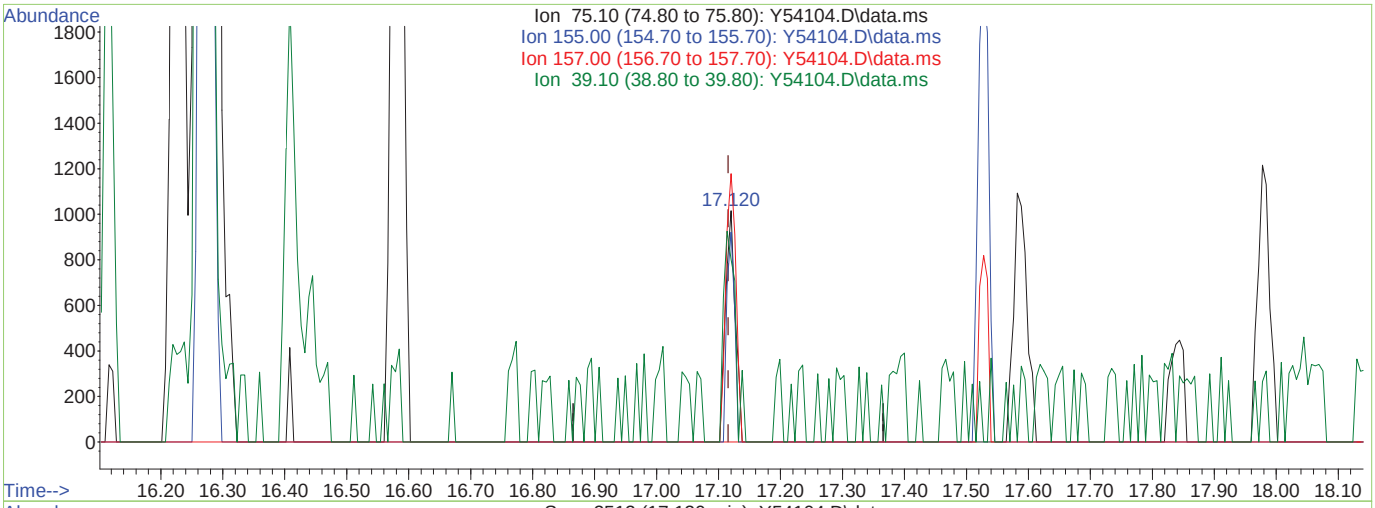
response 0

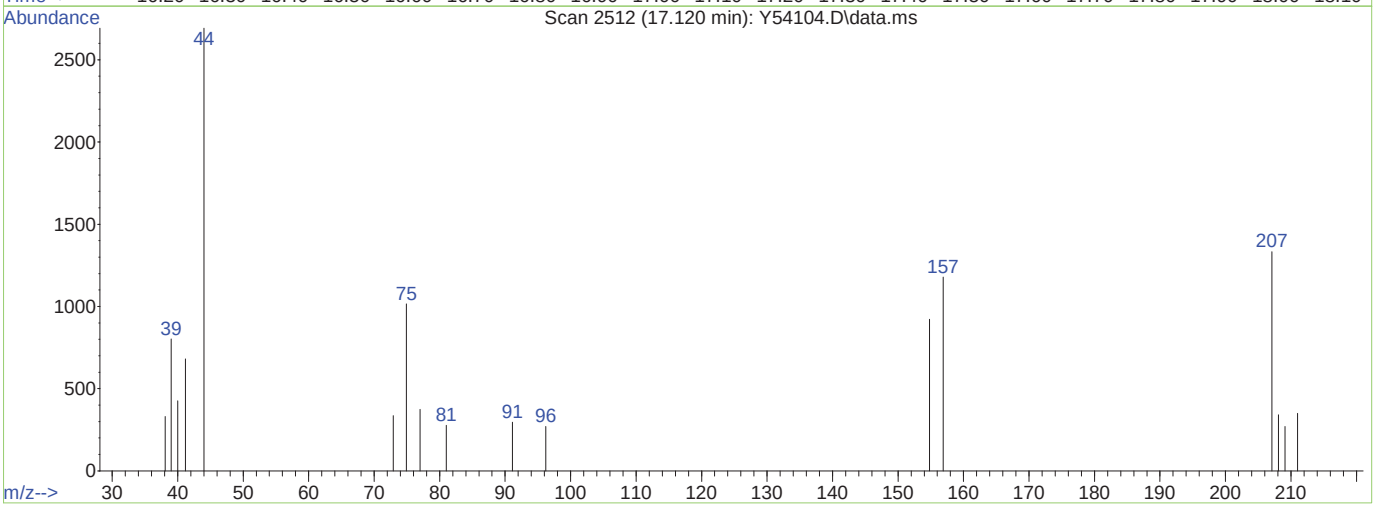
Ion	Exp%	Act%
75.10	100	0.00
155.00	109.20	0.00#
157.00	143.30	0.00#
39.10	76.40	0.00#

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54104.D
Acq On : 17 Nov 2020 11:54 am
Operator : chelseav
Sample : IC2245-1 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 17 12:14:00 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Mon Nov 02 07:51:18 2020
Response via : Initial Calibration





TIC: Y54104.D\data.ms

(102) 1,2-Dibromo-3-Chloropropane

17.120min (+0.004) 0.94ug/L m

response 1121

Ion	Exp%	Act%
75.10	100	100
155.00	109.20	90.75
157.00	143.30	115.94
39.10	76.40	78.94

Y54104.D edits: 1,2-Dibromo-3-Chloropropane

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
11/17/20 18:54

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54105.D
Acq On : 17 Nov 2020 12:32 pm
Operator : chelseav
Sample : ICV2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 17 13:22:57 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	2683006	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	2377732	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1277508	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.416	65	119739	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	699747	50.16	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.32%			
47) 1,2-Dichloroethane-d4	11.139	65	576313	49.09	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.18%			
58) Toluene-d8	13.238	98	2767053	50.76	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 101.52%			
80) 4-Bromofluorobenzene	15.489	174	958664	49.79	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.58%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.030	85	322557	30.42	ug/L	99
4) Chloromethane	3.383	50	458133	36.28	ug/L	98
5) 1,3-butadiene	3.578	39	484900	50.79	ug/L	100
6) Vinyl Chloride	3.547	62	422907	38.87	ug/L	98
7) Bromomethane	4.149	94	186894	37.19	ug/L	96
9) Trichlorofluoromethane	4.660	101	667575	39.19	ug/L	99
10) Ethyl Ether	5.287	59	289122	38.74	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.670	67	447214	40.52	ug/L	98
12) 1,1-Dichloroethene	5.634	61	602082	41.56	ug/L	99
14) Carbon Disulfide	5.664	76	1028700	36.15	ug/L	100
15) Iodomethane	5.901	142	442462	40.60	ug/L	100
16) Allyl chloride	6.564	41	652019	42.55	ug/L	98
17) Methylene Chloride	6.771	49	553934	40.12	ug/L	97
18) Acetone	6.893	43	367415	216.14	ug/L	98
19) Methyl acetate	7.142	43	963499	209.84	ug/L	98
20) trans-1,2-Dichloroethene	7.088	61	570813	41.68	ug/L	98
21) Hexane	7.252	56	308019	34.30	ug/L	97
22) Methyl Tert Butyl Ether	7.319	73	783381	39.84	ug/L	90
23) Acetonitrile	7.793	41	325521	394.09	ug/L	97
24) Di-isopropyl ether	8.085	45	1326218	40.13	ug/L	98
25) Chloroprene	8.262	53	685444	44.98	ug/L	98
26) 1,1-Dichloroethane	8.310	63	714690	42.62	ug/L	97
27) Acrylonitrile	8.420	53	491704	207.94	ug/L	99
28) ETBE	8.828	59	931299	38.58	ug/L	99
29) Vinyl acetate	8.858	43	3018482	201.95	ug/L	100
30) cis-1,2-Dichloroethene	9.424	96	503735	41.40	ug/L	97
31) 2,2-Dichloropropane	9.637	77	540632	43.52	ug/L	99
32) Bromochloromethane	9.831	128	249754	36.85	ug/L	97
33) Cyclohexane	9.819	56	759964	37.37	ug/L	98
34) Chloroform	10.008	83	726659	40.60	ug/L	98
35) Ethyl acetate	10.251	43	1234054	204.16	ug/L	100
36) Tetrahydrofuran	10.251	42	76029	42.89	ug/L	93
38) Carbon Tetrachloride	10.227	117	658313	42.06	ug/L	99
39) 1,1,1-Trichloroethane	10.348	97	720560	39.78	ug/L	98
40) 2-Butanone	10.549	43	528966	213.34	ug/L	98
41) 1,1-Dichloropropene	10.561	75	576373	40.10	ug/L	99
42) tert-Butyl formate	10.750	59	356781	175.78	ug/L	96
43) Propionitrile	10.987	54	339023	408.80	ug/L	98
44) Methacrylonitrile	11.018	41	1658236	394.78	ug/L	100
45) Benzene	10.939	78	1732055	39.71	ug/L	100
46) TAME	11.127	73	747622	39.71	ug/L	99
48) 1,2-Dichloroethane	11.237	62	462711	38.27	ug/L	98
49) Trichloroethene	11.735	95	483984	36.78	ug/L	98
50) Methylcyclohexane	11.711	83	774197	38.67	ug/L	99
51) Dibromomethane	12.234	93	212248	40.06	ug/L	99
52) 1,2-Dichloropropane	12.344	63	397651	40.03	ug/L	99
53) Bromodichloromethane	12.423	83	504246	43.14	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54105.D
Acq On : 17 Nov 2020 12:32 pm
Operator : chelseav
Sample : ICV2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 17 13:22:57 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration

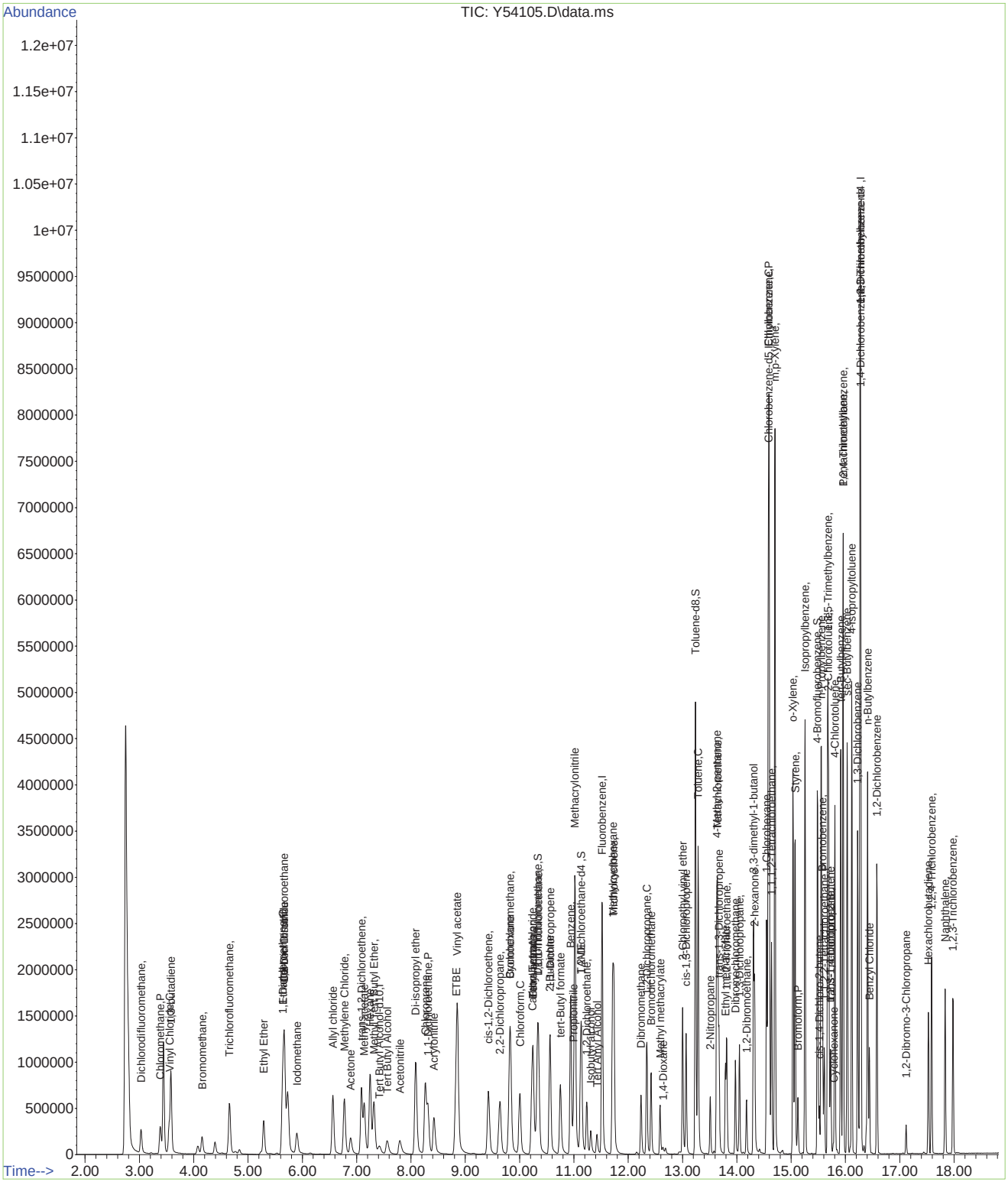
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
54) Methyl methacrylate	12.587	41	240620	41.89	ug/L		99
55) 2-Chloroethyl vinyl ether	13.001	63	535820	174.76	ug/L		99
56) cis-1,3-Dichloropropene	13.068	75	574864	40.49	ug/L		98
59) Toluene	13.287	91	2035834	38.10	ug/L		100
60) 2-Nitropropane	13.512	41	305848	199.40	ug/L		99
61) 4-Methyl-2-pentanone	13.627	43	1236045	222.08	ug/L		99
62) trans-1,3-Dichloropropene	13.670	75	463390	41.62	ug/L		99
63) Tetrachloroethene	13.646	166	626868	39.98	ug/L		99
64) Ethyl methacrylate	13.792	69	357355	43.17	ug/L		99
65) 1,1,2-Trichloroethane	13.816	83	253267	40.09	ug/L		98
66) Dibromochloromethane	13.974	129	458735	41.41	ug/L		100
67) 1,3-Dichloropropane	14.047	76	519236	38.42	ug/L		99
68) 1,2-Dibromoethane	14.181	107	345083	40.20	ug/L		98
69) 2-hexanone	14.327	43	866647m	216.84	ug/L		
70) 1-Chlorohexane	14.546	91	675719	39.38	ug/L		99
71) Ethylbenzene	14.595	91	2256843	38.85	ug/L		99
72) Chlorobenzene	14.595	112	1441505	38.33	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.637	131	527949	41.12	ug/L		99
74) m,p-Xylene	14.704	91	3583566	78.95	ug/L		99
75) o-Xylene	15.033	91	1829925	40.49	ug/L		99
76) Styrene	15.075	104	1477807	41.58	ug/L		98
77) Bromoform	15.124	173	224748	41.41	ug/L		99
78) Isopropylbenzene	15.258	105	2523756	40.02	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.519	53	81114	41.02	ug/L		94
82) n-Propylbenzene	15.550	91	2675375	38.71	ug/L		98
83) Bromobenzene	15.574	156	611439	38.33	ug/L		100
84) 1,1,2,2-Tetrachloroethane	15.611	83	332435	38.35	ug/L		98
85) 1,3,5-Trimethylbenzene	15.671	105	1955443	39.59	ug/L		99
86) 2-Chlorotoluene	15.690	91	1654871	37.74	ug/L		100
87) trans-1,4-Dichloro-2-B...	15.732	53	70983	38.60	ug/L	#	85
88) 1,2,3-Trichloropropane	15.726	110	122688	37.86	ug/L		96
89) Cyclohexanone	15.781	55	34341	190.56	ug/L		93
90) 4-Chlorotoluene	15.805	91	1560231	38.63	ug/L		99
91) tert-Butylbenzene	15.915	91	989772	38.71	ug/L		95
92) 1,2,4-Trimethylbenzene	15.957	105	1901540	38.21	ug/L		95
93) Pentachloroethane	15.957	167	354763	44.07	ug/L		95
94) sec-Butylbenzene	16.030	105	2422782	39.44	ug/L		99
95) 4-Isopropyltoluene	16.116	119	2297825	40.21	ug/L		100
96) 1,3-Dichlorobenzene	16.225	146	1191820	38.54	ug/L		99
97) 1,2,3-Trimethylbenzene	16.268	105	1824580	26.59	ug/L		99
98) 1,4-Dichlorobenzene	16.286	146	1146454	37.09	ug/L		98
99) n-Butylbenzene	16.408	92	897829	40.37	ug/L		99
100) Benzyl Chloride	16.438	126	153218	41.14	ug/L	#	92
101) 1,2-Dichlorobenzene	16.578	146	1059502	37.62	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.119	75	46773	38.85	ug/L		86
103) Hexachlorobutadiene	17.527	225	202080	37.27	ug/L		96
104) 1,2,4-Trichlorobenzene	17.588	180	566510	40.66	ug/L		98
105) Naphthalene	17.837	128	1229623	39.08	ug/L		100
106) 1,2,3-Trichlorobenzene	17.983	180	467289	38.99	ug/L		98
108) Ethanol	5.640	45	65057	814.24	ug/L		95
109) Tert Butyl Alcohol	7.562	59	249262	341.37	ug/L		95
110) Isobutyl alcohol	11.310	42	98209	788.97	ug/L		97
111) Tert Amyl Alcohol	11.425	59	109692	385.11	ug/L		95
112) 1,4-Dioxane	12.642	88	55407	836.07	ug/L		98
113) 3,3-dimethyl-1-butanol	14.309	57	1040017	2017.44	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54105.D
Acq On : 17 Nov 2020 12:32 pm
Operator : chelseav
Sample : ICV2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 17 13:22:57 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration



Manual Integration Approval Summary

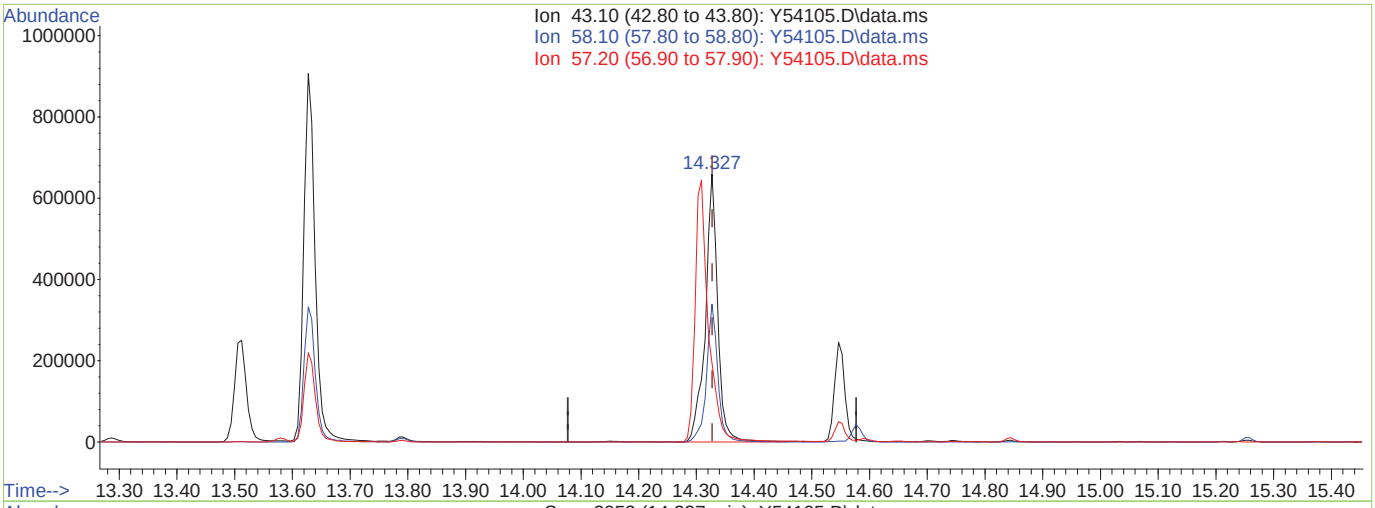
Sample Number: VY2245-ICV2245
Lab FileID: Y54105.D
Injection Time: 11/17/20 12:32
Method: SW846 8260B
Analyst approved: 11/17/20 13:28 Chelsea VanDenBurg
Supervisor approved: 11/17/20 18:54 Melissa Mangual

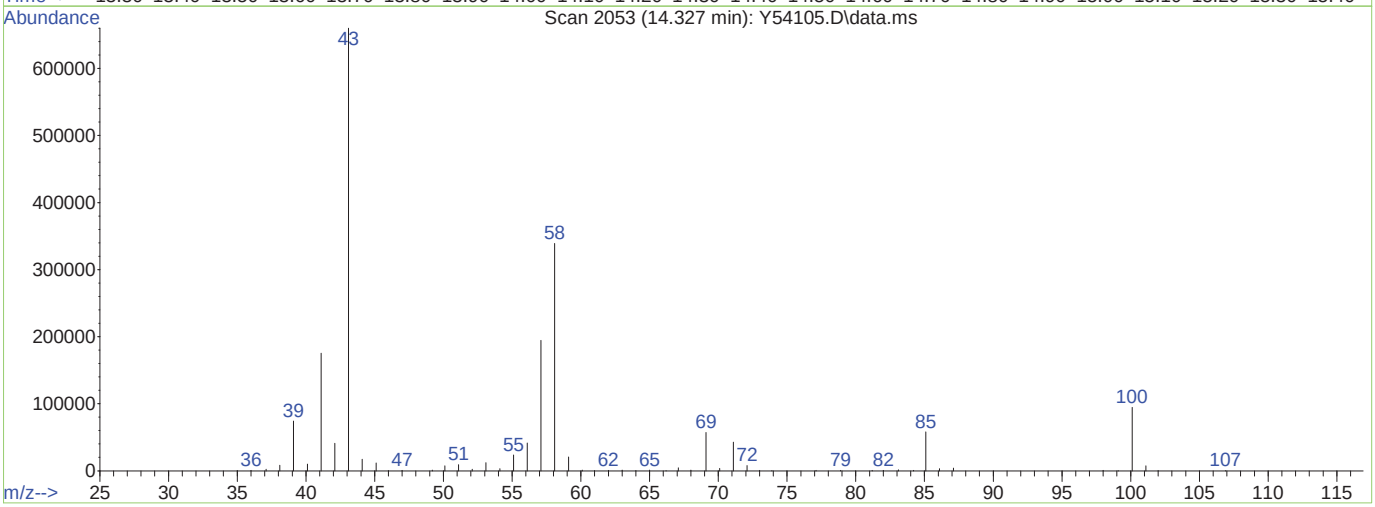
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54105.D
Acq On : 17 Nov 2020 12:32 pm
Operator : chelseav
Sample : ICV2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 17 13:22:20 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration





TIC: Y54105.D\data.ms

(69) 2-hexanone

14.327min (-0.001) 248.20ug/L

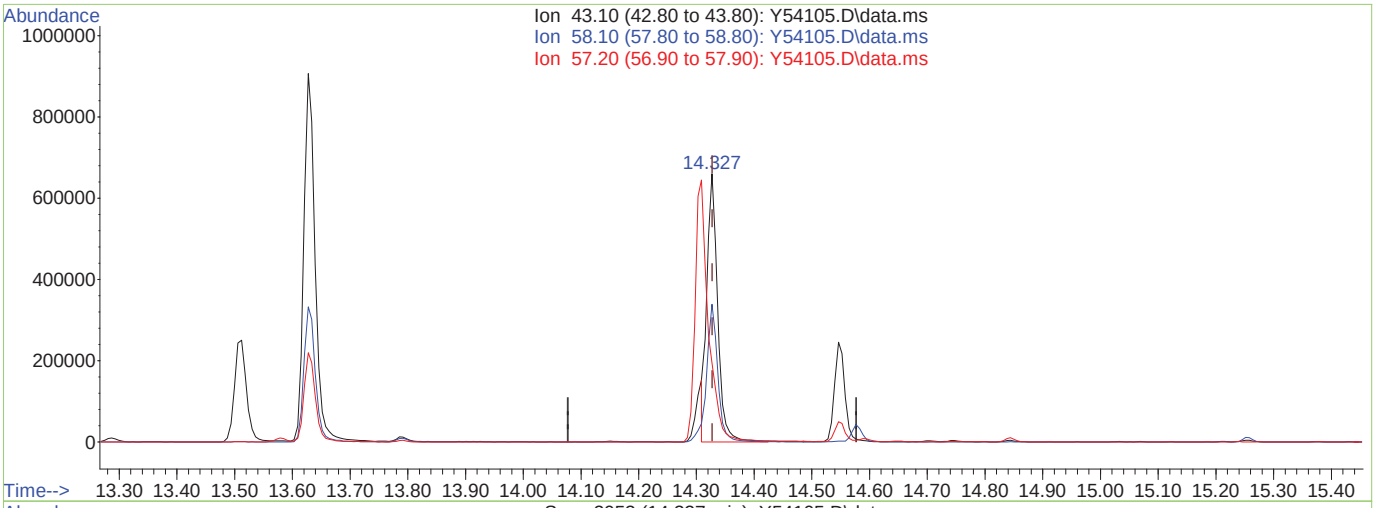
response 991978

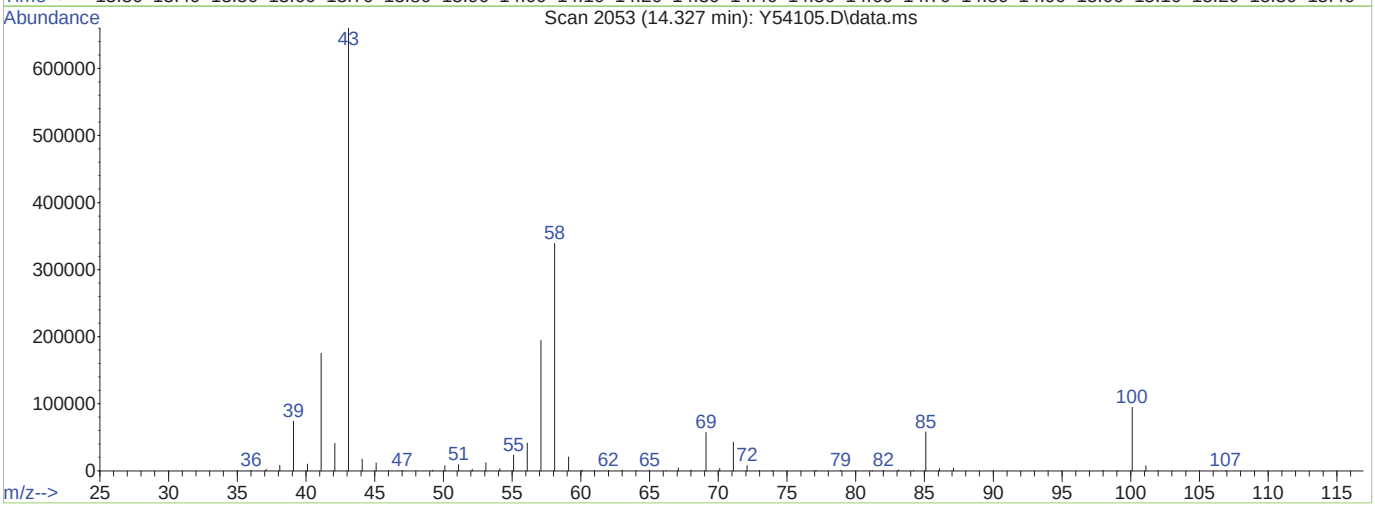
Ion	Exp%	Act%
43.10	100	100
58.10	51.30	51.36
57.20	28.20	29.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54105.D
Acq On : 17 Nov 2020 12:32 pm
Operator : chelseav
Sample : ICV2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 17 13:22:20 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration





TIC: Y54105.D\data.ms

(69) 2-hexanone

14.327min (-0.001) 216.84ug/L m

response 866647

Ion	Exp%	Act%
43.10	100	100
58.10	51.30	51.32
57.20	28.20	29.48
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54106.D
Acq On : 17 Nov 2020 12:59 pm
Operator : chelseav
Sample : ICV2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 17 13:23:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.518	96	2719478	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.578	117	2431224	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.275	152	1295828	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.418	65	124977	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.332	113	703213	49.73	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.46%			
47) 1,2-Dichloroethane-d4	11.141	65	584344	49.10	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.20%			
58) Toluene-d8	13.240	98	2792811	50.10	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.20%			
80) 4-Bromofluorobenzene	15.484	174	970220	49.68	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.36%			
Target Compounds						Qvalue
3) Acrolein	6.311	56	83881	61.48	ug/L	98
8) Chloroethane	4.394	64	92730	20.23	ug/L	97
13) Freon 113	5.727	101	255899	20.23	ug/L	99

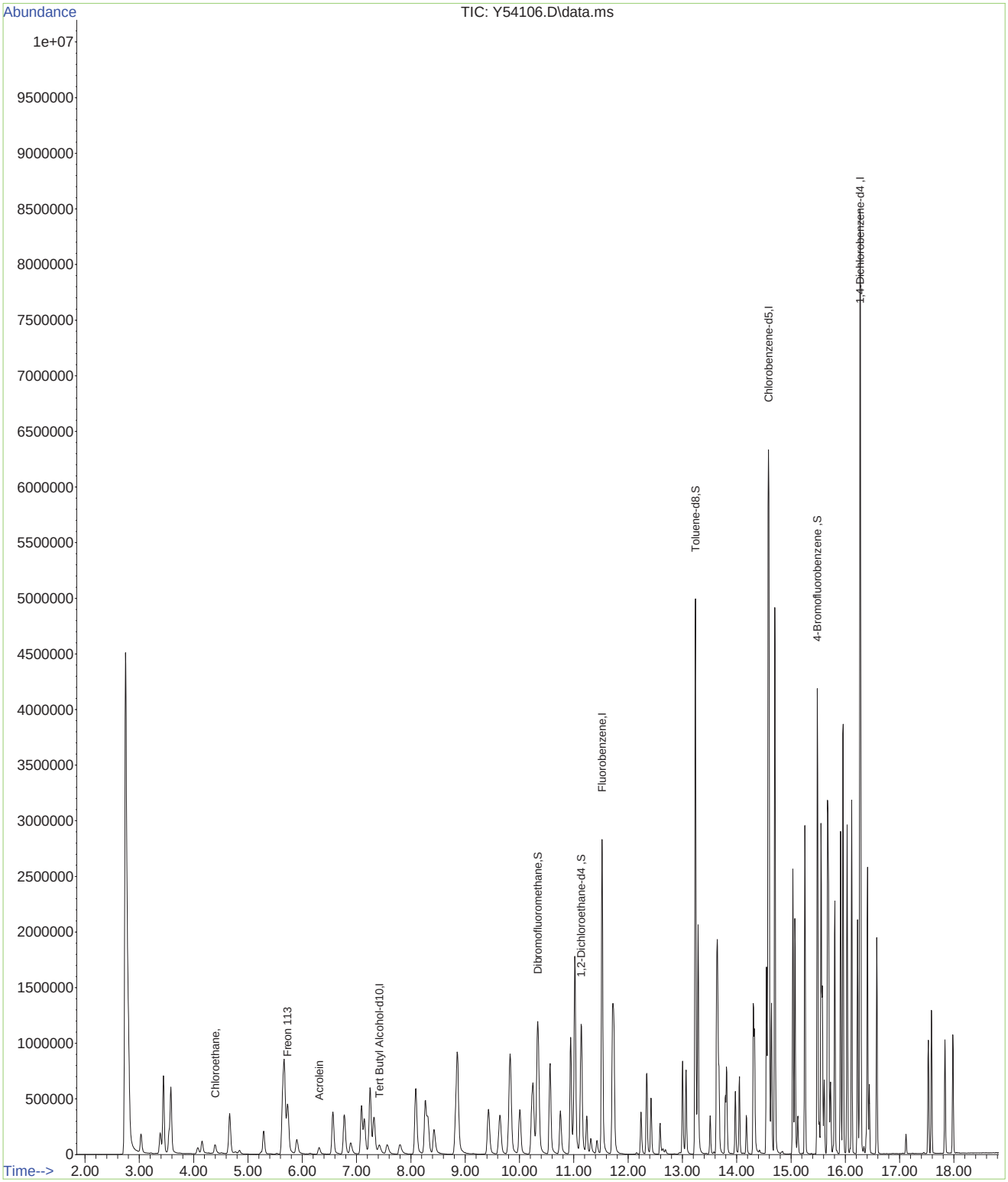
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.20
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54106.D
Acq On : 17 Nov 2020 12:59 pm
Operator : chelseav
Sample : ICV2245-4 Inst : MSVOA14-Y
Misc : MS47703,VY2245,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 17 13:23:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration



RESTEK111720w.M Tue Nov 17 13:24:29 2020 Page: 2

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/18/20 15:22

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54108.D
Acq On : 17 Nov 2020 1:53 pm
Operator : chelseav
Sample : CC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:14:03 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.522	96	2774229	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	2473453	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	1315587	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.416	65	125228	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	721276	50.00	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.00%			
47) 1,2-Dichloroethane-d4	11.145	65	579366	47.72	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 95.44%			
58) Toluene-d8	13.238	98	2880488	50.80	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 101.60%			
80) 4-Bromofluorobenzene	15.489	174	992696	50.07	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.14%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.030	85	443081	40.42	ug/L	98
3) Acrolein	6.309	56	264150	189.79	ug/L	100
4) Chloromethane	3.383	50	494964	37.91	ug/L	100
5) 1,3-butadiene	3.583	39	374136	37.90	ug/L	100
6) Vinyl Chloride	3.547	62	450468	40.05	ug/L	99
7) Bromomethane	4.155	94	214257	40.99	ug/L	98
8) Chloroethane	4.392	64	153148	34.14	ug/L	98
9) Trichlorofluoromethane	4.666	101	698380	39.65	ug/L	99
10) Ethyl Ether	5.287	59	305649	39.61	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.670	67	441493	38.69	ug/L	98
12) 1,1-Dichloroethene	5.634	61	585572	39.09	ug/L	99
13) Freon 113	5.731	101	507544	39.33	ug/L	99
14) Carbon Disulfide	5.670	76	1139753	38.73	ug/L	98
15) Iodomethane	5.901	142	482107	42.37	ug/L	98
16) Allyl chloride	6.564	41	624097	39.39	ug/L	98
17) Methylene Chloride	6.777	49	545068	38.11	ug/L	97
18) Acetone	6.887	43	348073	198.03	ug/L	100
19) Methyl acetate	7.142	43	950853	200.28	ug/L	98
20) trans-1,2-Dichloroethene	7.094	61	558459	39.43	ug/L	99
21) Hexane	7.246	56	385582	41.52	ug/L	98
22) Methyl Tert Butyl Ether	7.319	73	827944	40.73	ug/L	97
23) Acetonitrile	7.793	41	318289	372.67	ug/L	100
24) Di-isopropyl ether	8.085	45	1423592	41.66	ug/L	98
25) Chloroprene	8.268	53	623945	39.60	ug/L	99
26) 1,1-Dichloroethane	8.310	63	686023	39.57	ug/L	99
27) Acrylonitrile	8.420	53	461804	188.88	ug/L	98
28) ETBE	8.827	59	1044953	41.86	ug/L	97
29) Vinyl acetate	8.858	43	3227716	208.85	ug/L	99
30) cis-1,2-Dichloroethene	9.430	96	495775	39.40	ug/L	99
31) 2,2-Dichloropropane	9.643	77	521272	40.58	ug/L	100
32) Bromochloromethane	9.837	128	266815	38.07	ug/L	98
33) Cyclohexane	9.819	56	865234	41.15	ug/L	97
34) Chloroform	10.008	83	715041	38.64	ug/L	99
35) Ethyl acetate	10.251	43	1244317	199.09	ug/L	99
36) Tetrahydrofuran	10.251	42	75932	41.43	ug/L	94
38) Carbon Tetrachloride	10.227	117	646097	39.92	ug/L	99
39) 1,1,1-Trichloroethane	10.348	97	718373	38.35	ug/L	98
40) 2-Butanone	10.549	43	502290	197.10	ug/L	99
41) 1,1-Dichloropropene	10.561	75	597875	40.23	ug/L	98
42) tert-Butyl formate	10.750	59	349282	168.08	ug/L	99
43) Propionitrile	10.993	54	327508	381.92	ug/L	90
44) Methacrylonitrile	11.017	41	1637187	376.96	ug/L	99
45) Benzene	10.938	78	1750837	38.82	ug/L	100
46) TAME	11.127	73	789125	40.54	ug/L	99
48) 1,2-Dichloroethane	11.236	62	470608	37.64	ug/L	97
49) Trichloroethene	11.741	95	499307	36.70	ug/L	99
50) Methylcyclohexane	11.717	83	845567	40.84	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54108.D
Acq On : 17 Nov 2020 1:53 pm
Operator : chelseav
Sample : CC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:14:03 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration

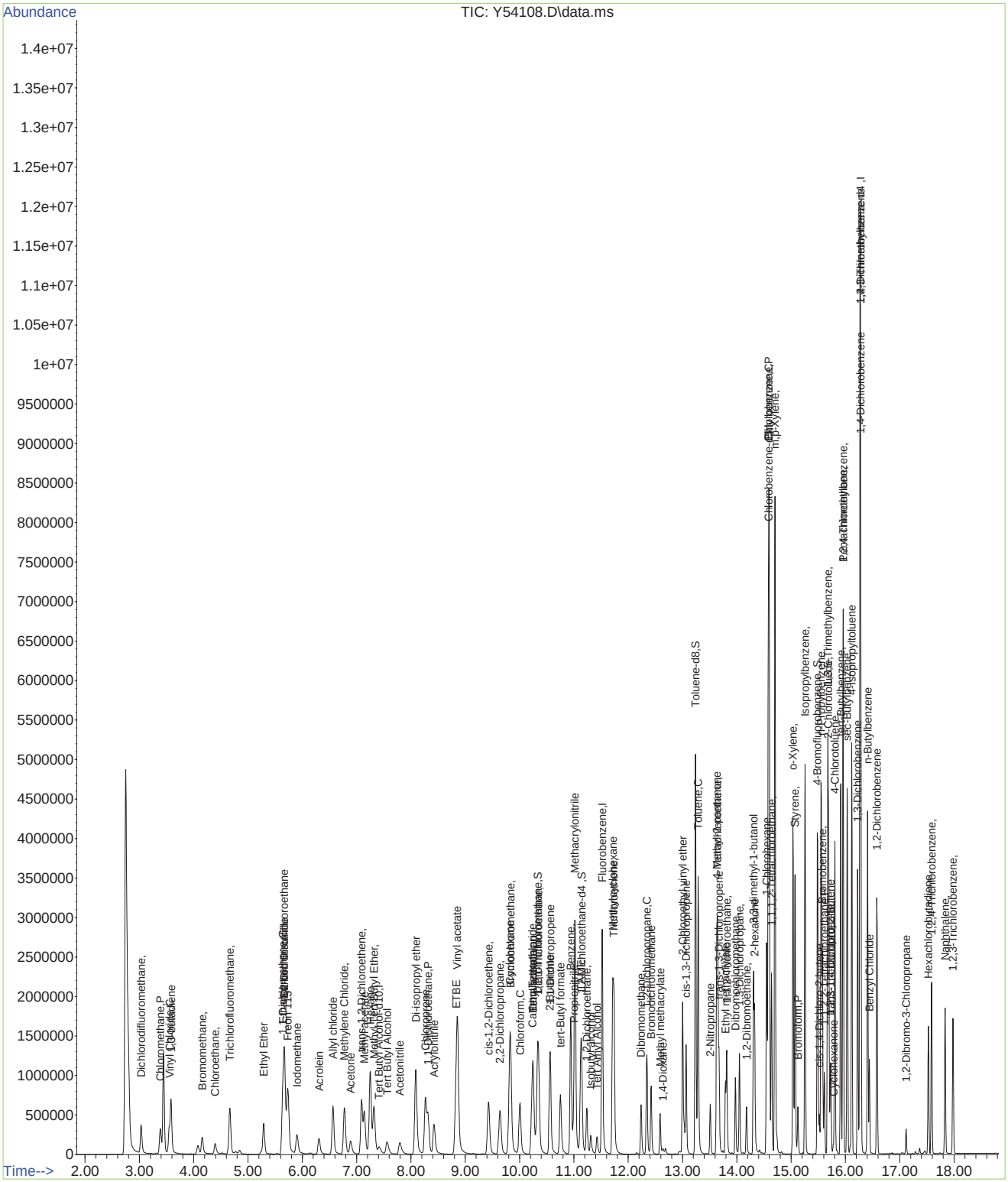
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) Dibromomethane	12.234	93	206486	37.69	ug/L	98
52) 1,2-Dichloropropane	12.344	63	405304	39.46	ug/L	99
53) Bromodichloromethane	12.423	83	490248	40.56	ug/L	100
54) Methyl methacrylate	12.587	41	230519	39.12	ug/L	97
55) 2-Chloroethyl vinyl ether	13.001	63	630915	196.10	ug/L	99
56) cis-1,3-Dichloropropene	13.068	75	606235	41.29	ug/L	100
59) Toluene	13.287	91	2147461	38.63	ug/L	100
60) 2-Nitropropane	13.512	41	304574	191.86	ug/L	96
61) 4-Methyl-2-pentanone	13.627	43	1201123	207.45	ug/L	99
62) trans-1,3-Dichloropropene	13.670	75	450636	39.15	ug/L	98
63) Tetrachloroethene	13.645	166	622218	38.15	ug/L	99
64) Ethyl methacrylate	13.791	69	336232	39.48	ug/L	99
65) 1,1,2-Trichloroethane	13.816	83	255272	38.84	ug/L	99
66) Dibromochloromethane	13.974	129	447591	39.07	ug/L	99
67) 1,3-Dichloropropane	14.047	76	549017	39.05	ug/L	98
68) 1,2-Dibromoethane	14.181	107	348924	39.08	ug/L	99
69) 2-hexanone	14.327	43	843885m	202.97	ug/L	
70) 1-Chlorohexane	14.552	91	733421	41.09	ug/L	92
71) Ethylbenzene	14.594	91	2332045	38.59	ug/L	99
72) Chlorobenzene	14.594	112	1496390	38.25	ug/L	99
73) 1,1,1,2-Tetrachloroethane	14.637	131	533459	39.94	ug/L	100
74) m,p-Xylene	14.704	91	3729332	78.99	ug/L	99
75) o-Xylene	15.032	91	1892620	40.26	ug/L	99
76) Styrene	15.075	104	1531131	41.41	ug/L	98
77) Bromoform	15.124	173	216767	38.74	ug/L	98
78) Isopropylbenzene	15.258	105	2633217	40.14	ug/L	99
81) cis-1,4-Dichloro-2-butene	15.519	53	79347	39.32	ug/L	98
82) n-Propylbenzene	15.550	91	2793242	39.25	ug/L	100
83) Bromobenzene	15.574	156	618090	37.63	ug/L	99
84) 1,1,2,2-Tetrachloroethane	15.610	83	335974	37.63	ug/L	99
85) 1,3,5-Trimethylbenzene	15.671	105	2041104	40.13	ug/L	100
86) 2-Chlorotoluene	15.689	91	1729262	38.30	ug/L	99
87) trans-1,4-Dichloro-2-B...	15.732	53	73510	38.78	ug/L	94
88) 1,2,3-Trichloropropane	15.726	110	124742	37.37	ug/L	96
89) Cyclohexanone	15.775	55	38521	205.32	ug/L	94
90) 4-Chlorotoluene	15.805	91	1633534	39.28	ug/L	98
91) tert-Butylbenzene	15.915	91	1050351	39.89	ug/L	93
92) 1,2,4-Trimethylbenzene	15.957	105	2040828	39.82	ug/L	97
93) Pentachloroethane	15.957	167	326364	39.37	ug/L	97
94) sec-Butylbenzene	16.030	105	2514023	39.74	ug/L	99
95) 4-Isopropyltoluene	16.115	119	2372677	40.32	ug/L	99
96) 1,3-Dichlorobenzene	16.225	146	1219918	38.31	ug/L	99
97) 1,2,3-Trimethylbenzene	16.267	105	2753998	38.97	ug/L	99
98) 1,4-Dichlorobenzene	16.286	146	1193701	37.50	ug/L	99
99) n-Butylbenzene	16.407	92	940053	41.05	ug/L	99
100) Benzyl Chloride	16.438	126	154561	40.49	ug/L	97
101) 1,2-Dichlorobenzene	16.578	146	1098938	37.89	ug/L	99
102) 1,2-Dibromo-3-Chloropr...	17.119	75	47802	38.58	ug/L	87
103) Hexachlorobutadiene	17.527	225	211758	37.90	ug/L	98
104) 1,2,4-Trichlorobenzene	17.588	180	580384	40.45	ug/L	98
105) Naphthalene	17.837	128	1273910	39.28	ug/L	99
106) 1,2,3-Trichlorobenzene	17.983	180	483252	39.16	ug/L	97
108) Ethanol	5.640	45	62824	748.35	ug/L	92
109) Tert Butyl Alcohol	7.562	59	270640	354.40	ug/L	93
110) Isobutyl alcohol	11.309	42	96890	744.26	ug/L	96
111) Tert Amyl Alcohol	11.425	59	115678	388.00	ug/L	95
112) 1,4-Dioxane	12.642	88	53883	777.44	ug/L	90
113) 3,3-dimethyl-1-butanol	14.309	57	957652	1776.25	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54108.D
Acq On : 17 Nov 2020 1:53 pm
Operator : chelseav
Sample : CC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:14:03 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration



RESTEK111720w.M Tue Nov 17 14:14:45 2020 Page: 3

Manual Integration Approval Summary

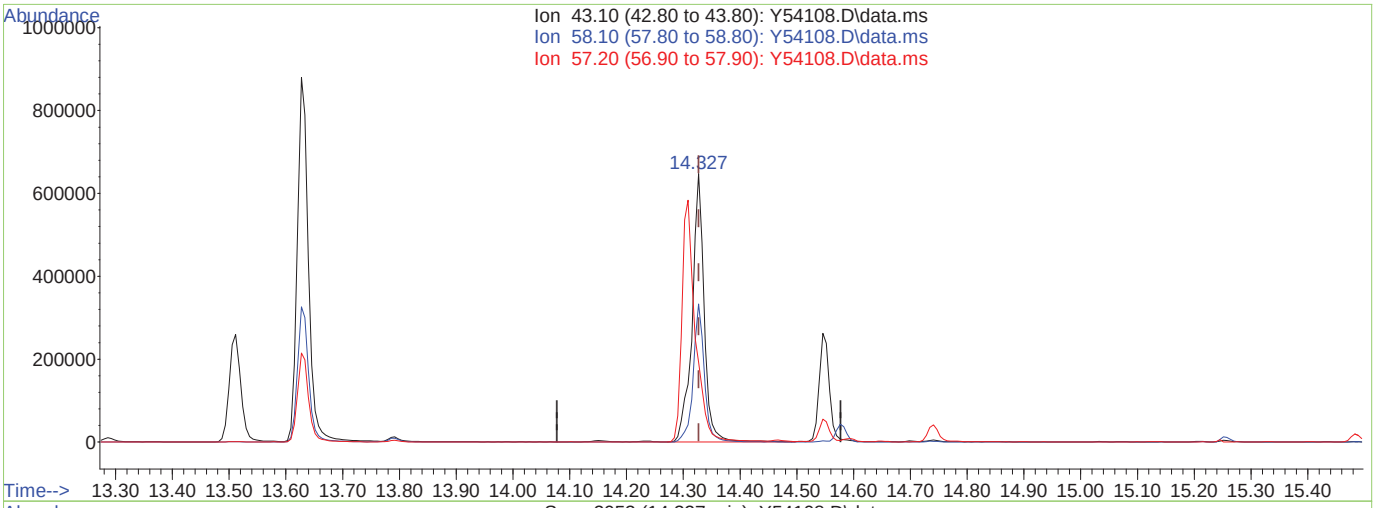
Sample Number: VY2246-CC2245
Lab FileID: Y54108.D
Injection Time: 11/17/20 13:53
Method: SW846 8260B
Analyst approved: 11/18/20 04:39 Edessa Sumagaysay
Supervisor approved: 11/18/20 15:22 Melissa Mangual

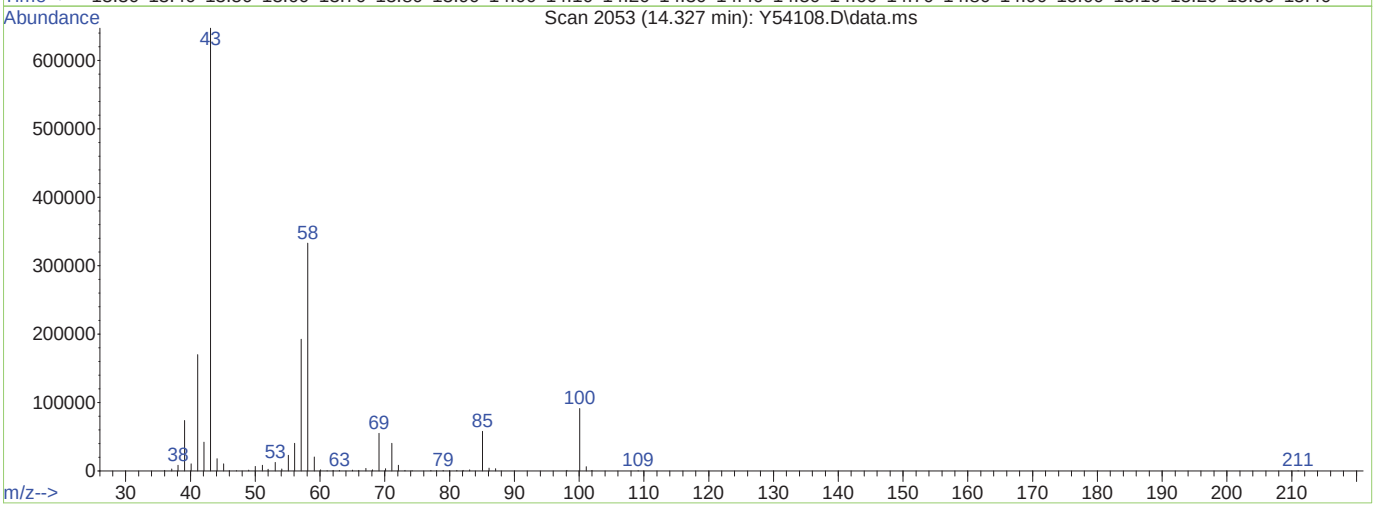
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54108.D
Acq On : 17 Nov 2020 1:53 pm
Operator : chelseav
Sample : CC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:13:47 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration





TIC: Y54108.D\data.ms

(69) 2-hexanone

14.327min (-0.001) 231.32ug/L

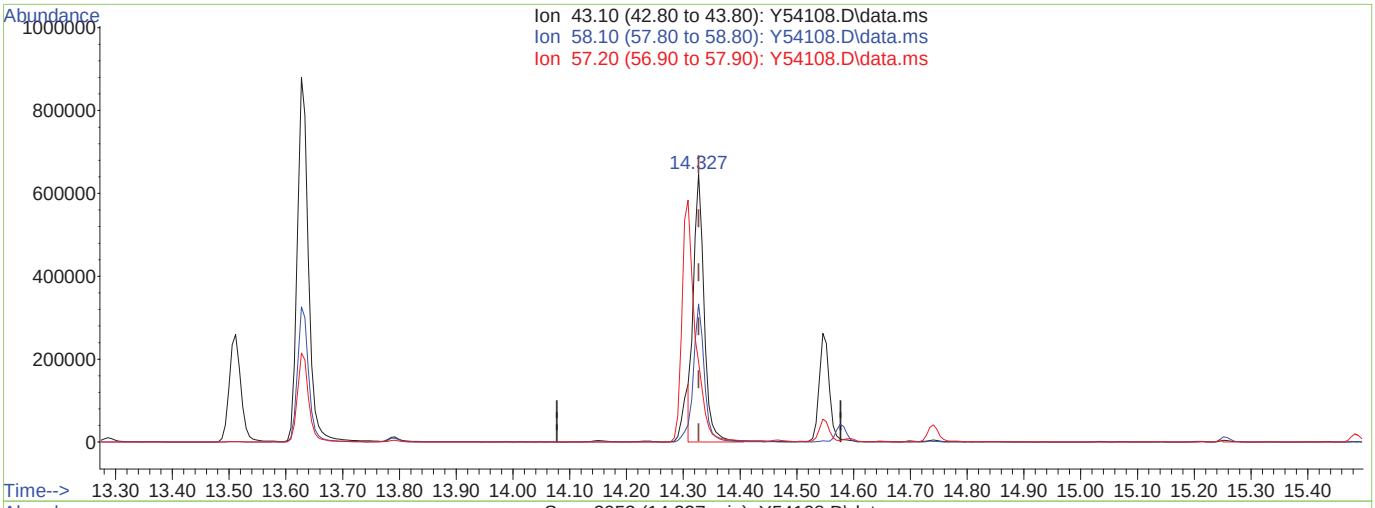
response 961763

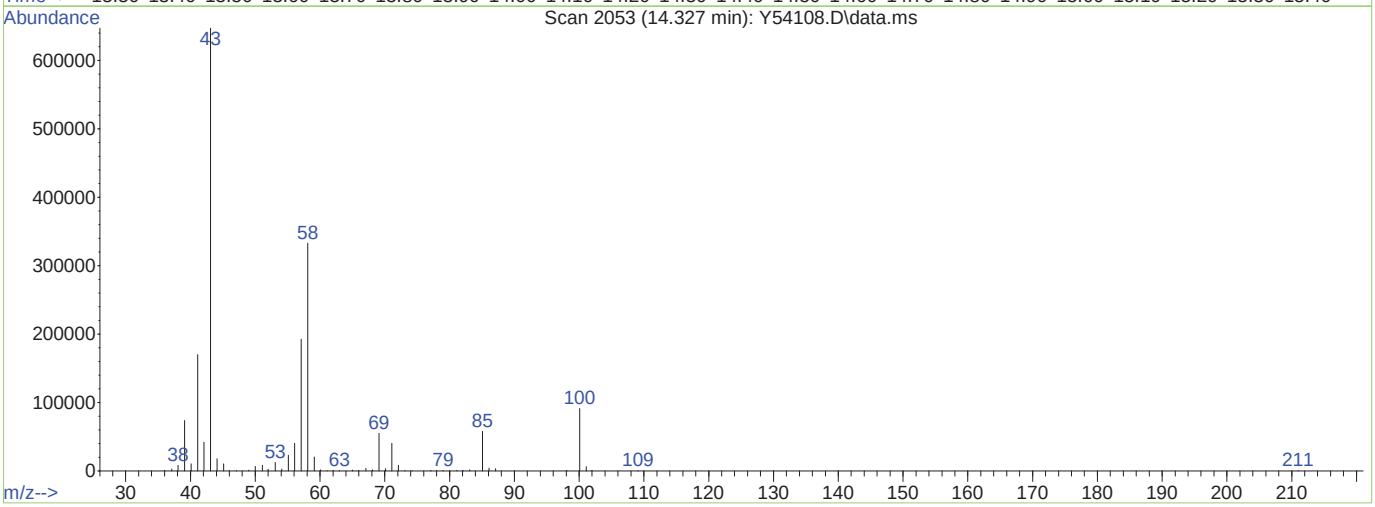
Ion	Exp%	Act%
43.10	100	100
58.10	51.30	51.46
57.20	28.20	29.77
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\111720\
Data File : Y54108.D
Acq On : 17 Nov 2020 1:53 pm
Operator : chelseav
Sample : CC2245-5 Inst : MSVOA14-Y
Misc : MS47703,VY2246
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 17 14:13:47 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Nov 17 13:22:04 2020
Response via : Initial Calibration





TIC: Y54108.D\data.ms

(69) 2-hexanone

14.327min (-0.001) 202.97ug/L m

response 843885

Ion	Exp%	Act%
43.10	100	100
58.10	51.30	51.42
57.20	28.20	29.74
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
11/18/20 15:35

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54134.D
Acq On : 18 Nov 2020 1:54 am
Operator : chelseav
Sample : ECC2245-5
Misc : MS47712,VY2246
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Nov 18 02:45:14 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.522	96	2358073	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.582	117	2170266	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	1172074	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.422	65	104915	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	619015	50.49	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.98%			
47) 1,2-Dichloroethane-d4	11.145	65	501314	48.58	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.16%			
58) Toluene-d8	13.237	98	2463611	49.51	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.02%			
80) 4-Bromofluorobenzene	15.488	174	866590	49.06	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.12%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	390458	41.90	ug/L	100
3) Acrolein	6.308	56	221478	187.22	ug/L	97
4) Chloromethane	3.382	50	442956	39.91	ug/L	98
5) 1,3-butadiene	3.583	39	345957	41.23	ug/L	99
6) Vinyl Chloride	3.547	62	381983	39.95	ug/L	96
7) Bromomethane	4.161	94	156745	35.58	ug/L	99
8) Chloroethane	4.398	64	126245	33.00	ug/L	97
9) Trichlorofluoromethane	4.660	101	647286	43.24	ug/L	99
10) Ethyl Ether	5.286	59	271195	41.35	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.676	67	399713	41.21	ug/L	97
12) 1,1-Dichloroethene	5.639	61	507376	39.85	ug/L	99
13) Freon 113	5.730	101	479532	43.71	ug/L	98
14) Carbon Disulfide	5.670	76	966957	38.66	ug/L	100
15) Iodomethane	5.901	142	311016	33.73	ug/L	97
16) Allyl chloride	6.564	41	519706	38.59	ug/L	99
17) Methylene Chloride	6.777	49	490211	40.41	ug/L	98
18) Acetone	6.892	43	313995	210.17	ug/L	98
19) Methyl acetate	7.142	43	849463	210.50	ug/L	99
20) trans-1,2-Dichloroethene	7.087	61	487464	40.50	ug/L	99
21) Hexane	7.251	56	304914	38.63	ug/L	98
22) Methyl Tert Butyl Ether	7.318	73	740869	42.87	ug/L	94
23) Acetonitrile	7.799	41	289117	398.25	ug/L	98
24) Di-isopropyl ether	8.091	45	1257942	43.31	ug/L	99
25) Chloroprene	8.267	53	543649	40.59	ug/L	97
26) 1,1-Dichloroethane	8.316	63	606888	41.18	ug/L	100
27) Acrylonitrile	8.425	53	400941	192.93	ug/L	99
28) ETBE	8.833	59	916986	43.22	ug/L	100
29) Vinyl acetate	8.857	43	2776007	211.32	ug/L	100
30) cis-1,2-Dichloroethene	9.429	96	444219	41.53	ug/L	98
31) 2,2-Dichloropropane	9.636	77	371477	34.02	ug/L	99
32) Bromochloromethane	9.837	128	248061	41.64	ug/L	99
33) Cyclohexane	9.819	56	754234	42.20	ug/L	99
34) Chloroform	10.007	83	640668	40.73	ug/L	97
35) Ethyl acetate	10.257	43	1092535	205.65	ug/L	98
36) Tetrahydrofuran	10.251	42	67067	43.05	ug/L	97
38) Carbon Tetrachloride	10.226	117	570926	41.50	ug/L	98
39) 1,1,1-Trichloroethane	10.348	97	626897	39.37	ug/L	100
40) 2-Butanone	10.549	43	447413	205.88	ug/L	98
41) 1,1-Dichloropropene	10.561	75	513152	40.62	ug/L	99
42) tert-Butyl formate	10.755	59	274675	157.62	ug/L	98
43) Propionitrile	10.993	54	301769	414.01	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54134.D
Acq On : 18 Nov 2020 1:54 am
Operator : chelseav
Sample : ECC2245-5
Misc : MS47712,VY2246
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Nov 18 02:45:14 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Methacrylonitrile	11.023	41	1502774	407.07	ug/L		99
45)	Benzene	10.944	78	1568490	40.91	ug/L		99
46)	TAME	11.127	73	693294	41.90	ug/L		97
48)	1,2-Dichloroethane	11.236	62	431012	40.56	ug/L		98
49)	Trichloroethene	11.741	95	452573	39.13	ug/L		98
50)	Methylcyclohexane	11.717	83	730796	41.53	ug/L		99
51)	Dibromomethane	12.234	93	189072	40.60	ug/L		99
52)	1,2-Dichloropropane	12.343	63	366868	42.02	ug/L		99
53)	Bromodichloromethane	12.422	83	436832	42.52	ug/L		99
54)	Methyl methacrylate	12.587	41	197850	39.46	ug/L		97
55)	2-Chloroethyl vinyl ether	13.000	63	477906	177.06	ug/L		99
56)	cis-1,3-Dichloropropene	13.067	75	500723	40.12	ug/L		99
59)	Toluene	13.286	91	1927237	39.51	ug/L		99
60)	2-Nitropropane	13.511	41	272244	195.03	ug/L		99
61)	4-Methyl-2-pentanone	13.627	43	1097423	216.02	ug/L		99
62)	trans-1,3-Dichloropropene	13.669	75	368392	36.71	ug/L		95
63)	Tetrachloroethene	13.645	166	636580	44.49	ug/L		99
64)	Ethyl methacrylate	13.791	69	300915	40.18	ug/L		98
65)	1,1,2-Trichloroethane	13.815	83	235337	40.81	ug/L		98
66)	Dibromochloromethane	13.974	129	403812	40.07	ug/L		99
67)	1,3-Dichloropropane	14.047	76	496053	40.22	ug/L		99
68)	1,2-Dibromoethane	14.180	107	314653	40.16	ug/L		99
69)	2-hexanone	14.326	43	789375m	216.38	ug/L		
70)	1-Chlorohexane	14.552	91	626985	40.03	ug/L		93
71)	Ethylbenzene	14.594	91	2093025	39.48	ug/L		100
72)	Chlorobenzene	14.594	112	1368287	39.86	ug/L		99
73)	1,1,1,2-Tetrachloroethane	14.637	131	481698	41.10	ug/L		99
74)	m,p-Xylene	14.704	91	3339928	80.62	ug/L		100
75)	o-Xylene	15.032	91	1707511	41.40	ug/L		100
76)	Styrene	15.075	104	1385990	42.72	ug/L		98
77)	Bromoform	15.123	173	194184	39.46	ug/L		98
78)	Isopropylbenzene	15.257	105	2370993	41.20	ug/L		98
81)	cis-1,4-Dichloro-2-butene	15.519	53	50551	29.61	ug/L		90
82)	n-Propylbenzene	15.555	91	2507549	39.55	ug/L		96
83)	Bromobenzene	15.574	156	573805	39.21	ug/L		100
84)	1,1,2,2-Tetrachloroethane	15.610	83	312624	39.31	ug/L		100
85)	1,3,5-Trimethylbenzene	15.677	105	1836086	40.52	ug/L		96
86)	2-Chlorotoluene	15.689	91	1587493	39.46	ug/L		99
87)	trans-1,4-Dichloro-2-B...	15.732	53	54668	33.25	ug/L	#	67
88)	1,2,3-Trichloropropane	15.726	110	118085	39.71	ug/L		98
89)	Cyclohexanone	15.780	55	33255	199.77	ug/L		95
90)	4-Chlorotoluene	15.805	91	1467196	39.60	ug/L		99
91)	tert-Butylbenzene	15.914	91	946660	40.35	ug/L		95
92)	1,2,4-Trimethylbenzene	15.957	105	1865602	40.86	ug/L		98
93)	Pentachloroethane	15.963	167	245855	33.29	ug/L		86
94)	sec-Butylbenzene	16.036	105	2253322	39.98	ug/L		97
95)	4-Isopropyltoluene	16.115	119	2115148	40.35	ug/L		99
96)	1,3-Dichlorobenzene	16.224	146	1113232	39.24	ug/L		99
97)	1,2,3-Trimethylbenzene	16.267	105	2535497	40.28	ug/L		99
98)	1,4-Dichlorobenzene	16.285	146	1089808	38.42	ug/L		99
99)	n-Butylbenzene	16.407	92	798028	39.11	ug/L		99
100)	Benzyl Chloride	16.443	126	87013	28.17	ug/L	#	84
101)	1,2-Dichlorobenzene	16.577	146	1023475	39.61	ug/L		100
102)	1,2-Dibromo-3-Chloropr...	17.119	75	42132	38.22	ug/L		85
103)	Hexachlorobutadiene	17.526	225	174529	35.17	ug/L		97
104)	1,2,4-Trichlorobenzene	17.587	180	517379	40.47	ug/L		97
105)	Naphthalene	17.837	128	1164667	40.15	ug/L		99
106)	1,2,3-Trichlorobenzene	17.983	180	437790	39.82	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54134.D
Acq On : 18 Nov 2020 1:54 am
Operator : chelseav
Sample : ECC2245-5
Misc : MS47712,VY2246
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Nov 18 02:45:14 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.651	45	60789	871.87	ug/L	82
109) Tert Butyl Alcohol	7.562	59	243340	380.35	ug/L	97
110) Isobutyl alcohol	11.309	42	88172	808.42	ug/L	96
111) Tert Amyl Alcohol	11.425	59	102472	407.89	ug/L	98
112) 1,4-Dioxane	12.641	88	48847	841.23	ug/L	95
113) 3,3-dimethyl-1-butanol	14.308	57	904208	2001.83	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54134.D
Acq On : 18 Nov 2020 1:54 am
Operator : chelseav
Sample : ECC2245-5
Misc : MS47712,VY2246
ALS Vial : 28 Sample Multiplier: 1

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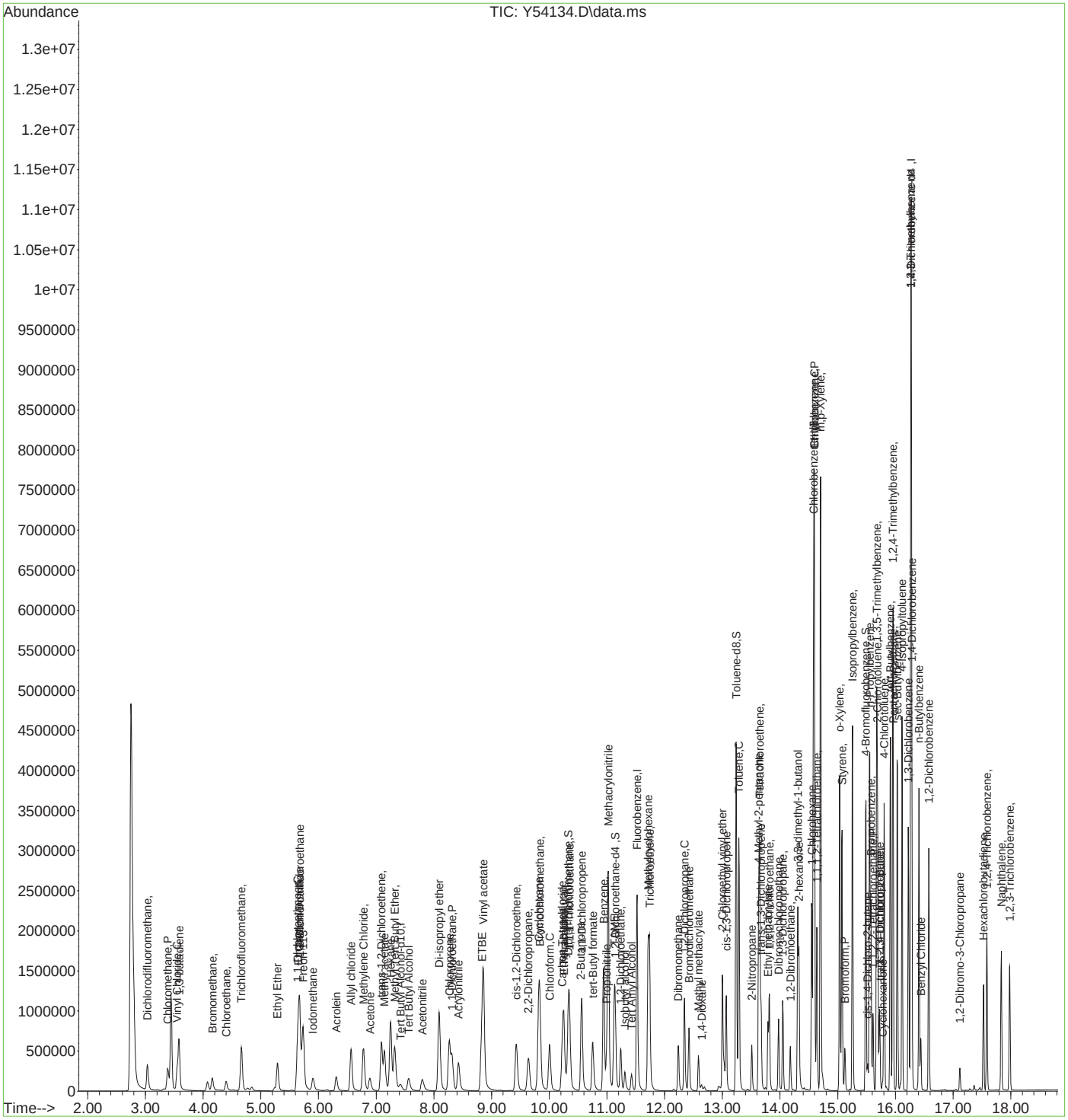
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



SGS FA80565

Manual Integration Approval Summary

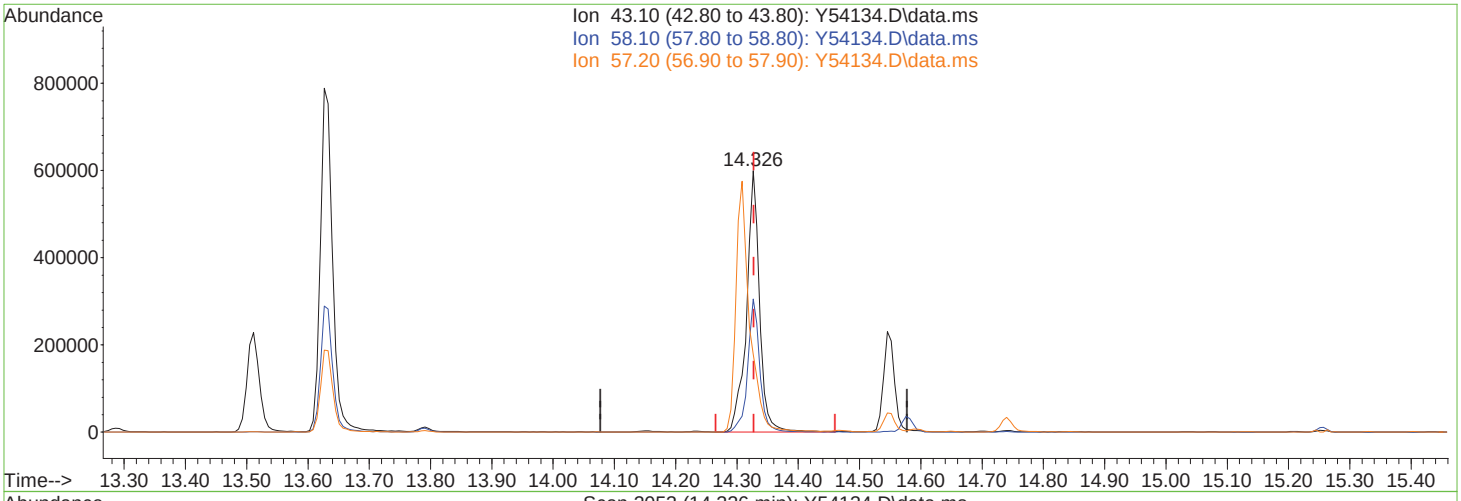
Sample Number: VY2246-ECC2245
Lab FileID: Y54134.D
Injection Time: 11/18/20 01:54
Method: SW846 8260B
Analyst approved: 11/18/20 04:39 Edessa Sumagaysay
Supervisor approved: 11/18/20 15:35 Melissa Mangual

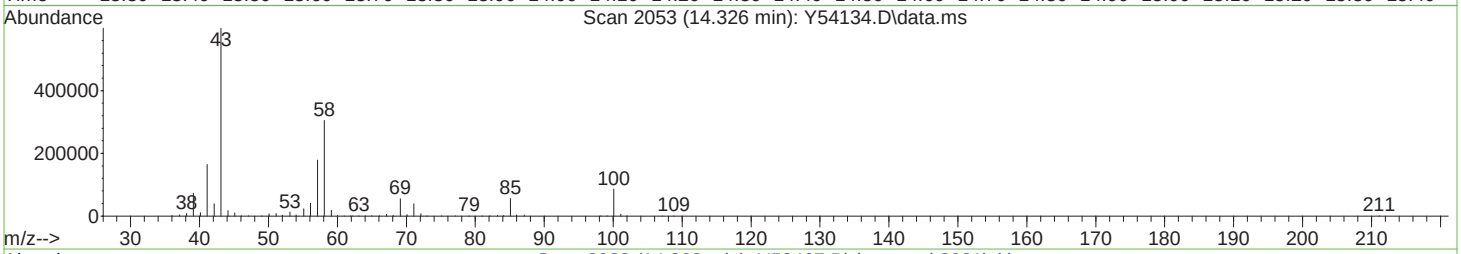
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

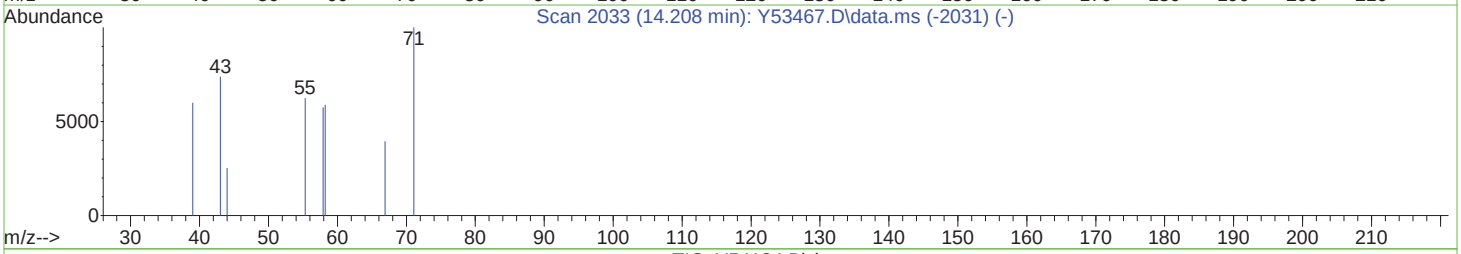
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54134.D
Acq On : 18 Nov 2020 1:54 am
Operator : chelseav
Sample : ECC2245-5
Misc : MS47712,VY2246
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Nov 18 02:44:04 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y54134.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 244.11ug/L

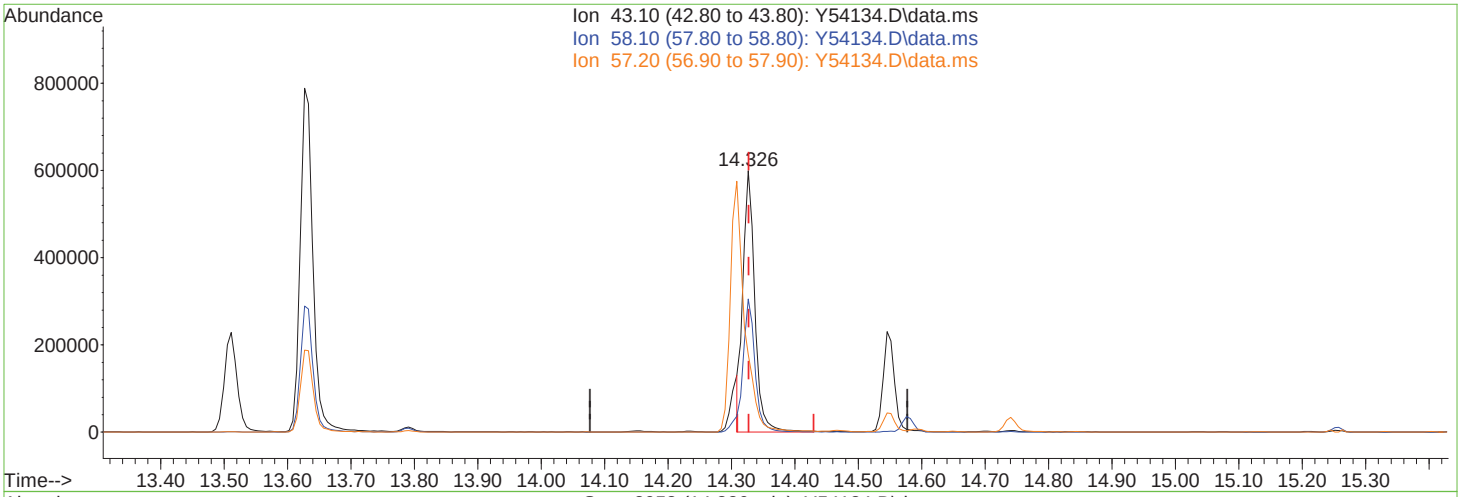
response 890531

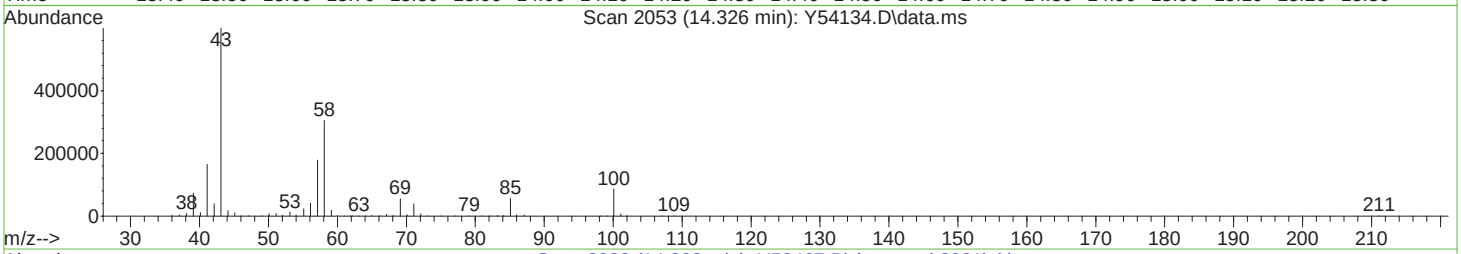
Ion	Exp%	Act%
43.10	100	100
58.10	51.30	50.95
57.20	28.20	29.73
0.00	0.00	0.00

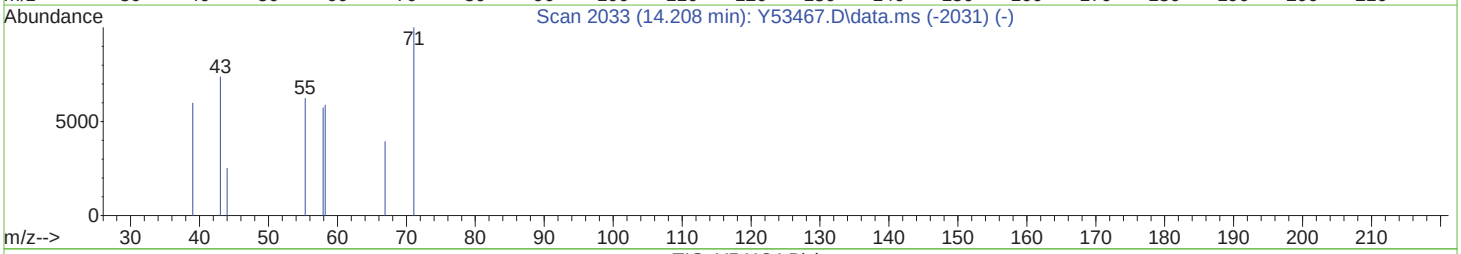
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\11-18-2020\vy2246\
Data File : Y54134.D
Acq On : 18 Nov 2020 1:54 am
Operator : chelseav
Sample : ECC2245-5
Misc : MS47712,VY2246
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Nov 18 02:44:04 2020
Quant Method : C:\msdchem\1\methods\RESTEK111720w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y54134.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 216.38ug/L m

response 789375

Ion	Exp%	Act%
43.10	100	100
58.10	51.30	50.92
57.20	28.20	29.71
0.00	0.00	0.00

SGS -ORLANDO

MSVOA5-C-ANALYSIS LOG

DATE:	10/28/2020
COLUMN TYPE:	RTXVMS
DETECTOR:	5973MSD
INSTRUMENT:	MSVOA5-C
PURGE PRESSURE:	1psi
PURGE VOLUME:	5mL
ANALYST:	Shanika O

METHODS:*	8260
METHOD FILE:	RTXVMS102820.M
CALIB. DATE:	10/28/2020
EM VOLTAGE:	2129V
AFA:	VS0841C
BFB RESPONSE:	4134968/4680955
VC5797-798	

BFB: VS0887
ICAL/CC: VS0880, VS0886 VS08685
VS08581 VS0879 VS0883
ISTD/SUR: VS0887
ICV/QC: VS0892 VS0891 VS0890
VS0889 VS0872 VS0884, VS0873

PH LOT: 1-12pH 230814
0-3pH 220416A
KI PAPER LOT: 022018
Data Processed By: johnm
SAMPLE ID VERIFIED BY:
Shanika O.
Date: 10/29/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
C0144494	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
C0144495	BLANK/BFB	-	-	W	1	8260		-	-	-	Passed autofind ✓
C0144496	IC5797-1	-	-	W	1	8260	#2,3,6,12(SP) #7,14,15,23,36(PII) #40,99(MP)	-	-	-	3uL→50mL ✓ #69,114(OP)
C0144497	IC5797-2	-	-	W	2	8260	#6,23,109,110(SP) #69,114(OP)	-	-	-	15uL→50mL ✓
C0144498	IC5797-3	-	-	W	3	8260	#69,114(OP) #109(SP)	-	-	-	30uL→50mL ✓
C0144499	IC5797-4	-	-	W	4	8260	#62(MP) #69,114(OP) #109(SP)	-	-	-	75uL→50mL ✓
C0144500	ICC5797-5	-	-	W	5	8260	#69,114(OP) #109(SP)	-	-	-	120uL→50mL ✓
C0144501	IC5797-6	-	-	W	6	8260	#69,114(OP) #109(SP)	-	-	-	210uL→50mL ✓
C0144502	IC5797-7	-	-	W	7	8260	#69,114(OP) #109(PII) #111(MP)	-	-	-	300uL→50mL ✓
C0144503	BLK/BFB	-	-	W	8	8260		-	-	-	Passed autofind ✓
C0144504	ICV5797-5/CCV	-	-	W	9	8260	#69,114(OP)	-	-	-	25uL→50mL ✓
C0144505	BS/ICV-4	-	-	W	10	8260	#69,114(OP) #109(SP)	-	-	-	12.5uL→40mL ✓
C0144506	CC5797-1	-	-	W	1	8260		-	-	-	✓
C0144507	BLK	-	-	W	2	8260		-	-	-	✓
C0144508	MB	-	-	W	3	8260D		-	-	-	MBr Hit
C0144509	FA79935-8	1X	1	W	4	8260D	All vials arrived w/ HS. Lot#: 424825	1	NO		Tol Hit
C0144510	FA79781-16	5X	4	W	5	8260	Last vial arrived w/ HS, 10mL→ 50mL #14(PII)	1	NO		✓
C0144511	**FA79935-3**	1X	1	W	6	8260D		1	NO	**1x**	ICV Failed Methyl Bromide
C0144512	**FA79935-4**	1X	5	W	7	8260D		1	NO	**1x**	ICV Failed Methyl Bromide
C0144513	**FA79935-5**	1X	3	W	8	8260D	#6(PII)	1	NO	**1x**	ICV Failed Methyl Bromide
C0144514	**FA79935-6**	1X	1	W	9	8260D	#6(PII)	1	NO	**1x**	ICV Failed Methyl Bromide
C0144515	**FA79935-7**	1X	1	W	10	8260D	#6(PII)	1	NO	**1x**	ICV Failed Methyl Bromide
C0144516	FA79946-2	1X	1	W	11	8260D		1	NO		ND✓
C0144517	FA79946-23	1X	1	W	12	8260D		1	NO		✓
C0144518	**FA79946-24**	1X	2	W	13	8260D		1	NO	**1x**	ICV Failed Methyl Bromide
C0144519	FA79946-25	1X	2	W	14	8260D		1	NO		ND✓
C0144520	FA79946-26	1X	2	W	15	8260D		1	NO		ND✓
C0144521	**FA79946-27**	1X	2	W	16	8260D		1	NO	**1x**	ICV Failed Methyl Bromide
C0144522	FA79946-28	1X	3	W	17	8260D		1	NO		ND✓
C0144523	FA79946-29	1X	2	W	18	8260D		1	NO		ND✓
C0144524	FA79946-30	1X	2	W	19	8260D		1	NO		ND✓
C0144525	FA79946-31	1X	2	W	20	8260D		1	NO		ND✓
C0144526	FA79946-32	1X	2	W	21	8260D		1	NO		ND✓
C0144527	FA79946-33	1X	2	W	22	8260D		1	NO		ND✓
C0144528	FA79935-4MS	5X	5	W	23	8260D	#69(OP) #109(SP)	1	NO		12.5uL→40mL ✓
C0144529	FA79935-4MSD	5X	5	W	23	8260D	#69(OP) #109(SP)	1	NO		12.5uL→40mL ✓
C0144530	ECC5797-5	-	-	W	24	8260	#69(OP) #109(SP)	-	-	-	20uL→50mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rational SOP QA029· MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument

Analyst's Signature: Shanika O.

SGS -ORLANDO

MSVOA5-C-ANALYSIS LOG

DATE:	11/12/2020
COLUMN TYPE:	RTXVMS
DETECTOR:	5973MSD
INSTRUMENT:	MSVOA5-C
PURGE PRESSURE:	1psi
PURGE VOLUME:	5mL
ANALYST:	Shanika O

METHODS:*	8260
METHOD FILE:	RTXVMS102820.M
CALIB. DATE:	10/28/2020
EM VOLTAGE:	2129V
AFA:	VS0841C
BFB RESPONSE:	6244711
VC5817-818	

BFB: VS0887
ICAL/CC: VS0880, VS0886 VS08685
VS08581 VS0879 VS0907
ISTD/SUR: VS0887
ICV/QC: VS0892 VS0891 VS0890
VS0889 VS0872 VS0908, VS0873

PH LOT: 1-12pH 230814 by: stutip
0-3pH 220416A
KI PAPER LOT: 022018
Data Processed By: EdessaS
SAMPLE ID VERIFIED BY:
Shanika O.
Date: 11/13/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
C0144899	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
C0144900	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
C0144901	CC5797-5/BFB	-	-	W	2	8260	#69,114(OP)	-	-	-	20uL→50mL ✓
C0144902	BS	-	-	W	1	8260	#69,114(OP)	-	-	-	12.5uL→40mL ✓
C0144903	CC5797-1	-	-	W	2	8260	peaks present	-	-	-	1uL→100mL ✓
C0144904	BLK	-	-	W	3	8260	#6,14(PII)	-	-	-	
C0144905	MB	-	-	W	4	8260	#6,14(PII)	-	-	-	MBr,MI hits
C0144906	**FA80462-5**	1X	1	W	5	8260	All vials arrived w/ HS #6,14(PII)	1	N	**1x**	MBr,MI hit,14Diox
C0144907	**FA80463-4**	1X	1	W	6	8260		1	N	**1x**	MBr hit
C0144908	FA80329-24	1X	5	W	7	8260	#6,14,40(PII)	1	N		Acetone✓
C0144909	FA80329-11	1X	3	W	8	8260	#6,14(PII)	1	N		Acetone,CE, 123TCB,124TCB,F11
C0144910	FA80329-28	1X	5	W	9	8260	#6,14(PII)	1	N		Acetone✓
C0144911	**FA80353-4**	1X	2	W	10	8260D	#6,14(PII)	1	N	**1x**	MBr hit
C0144912	**FA80462-1**	1X	3	W	11	8260	#6,14(PII)	6	N	**1x**	MBr hit,14Diox, MI
C0144913	**FA80462-2**	1X	2	W	12	8260	#6,14(PII)	6	N	**1x**	MBr hit,14Diox, MI
C0144914	**FA80462-3**	1X	2	W	13	8260	#6(PII)	6	N	**1x**	MBr hit,14Diox, MI
C0144915	**FA80462-4**	1X	2	W	14	8260	#6,14(PII)	6	N	**1x**	MBr hit,14Diox, MI
C0144916	**FA80463-1**	1X	1	W	15	8260	#6(PII)	1	N	**1x**	MBr hit
C0144917	**FA80463-2**	1X	2	W	16	8260	#6(PII)	1	N	**1x**	MBr hit
C0144918	**FA80463-3**	1X	1	W	17	8260	#6(PII)	1	N	**1x**	MBr hit
C0144919	**FA80465-1**	1X	1	W	18	8260	#6(PII)	1	N	**1x**	MBr hit
C0144920	**FA80465-2**	1X	1	W	19	8260	#5,6,20(PII)	1	N	**1x**	MBr hit
C0144921	**FA80465-3**	1X	1	W	20	8260	#5,6(PII)	1	N	**1x**	MBr hit
C0144922	**FA80565-1**	1X	2	W	21	8260	#6(PII)	1	N	**1x**	MBr hit
C0144923	FA80353-4MS	5X	2	W	22	8260D	#69,114(OP)#109(PII)	1	N		12.5uL→40mL ✓
C0144924	FA80353-4MSD	5X	2	W	22	8260D	#69,114(OP)#109(PII)	1	N		12.5uL→40mL ✓
C0144925	FA80463-1MS	1X	2	W	23	8260	#69,114(OP)	1	N		12.5uL→40mL ✓
C0144926	FA80463-1MSD	1X	2	W	23	8260	#69,114(OP)	1	N		12.5uL→40mL ✓
C0144927	FA80462-3MS	1X	9	W	24	8260	#69,114(OP)#109(PII)	6	N		12.5uL→40mL ✓
C0144928	FA80462-3MSD	1X	9	W	24	8260	#69,114(OP)#109(PII)	6	N	-	12.5uL→40mL ✓
C0144929	ECC5797-5	-	-	W	25	8260	#69,114(OP)				20uL→50mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rational SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument

Analyst's Signature: SO

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 11/17/2020	METHODS: 8260	BFB: VS0911	PH LOT: 1 to 12 pH lot #: 200814
COLUMN TYPE: RTX-VMS	METHOD FILE: RESTEK111720W.m	ICAL/CC: VS0903, VS0910, VS0909,	0 to 3 pH lot#: 220416
DETECTOR: 5973 MSD	CALIB. DATE: 11/17/2020	VS0919, VS0920, VS0917	KI PAPER LOT: 102916
INSTRUMENT: MSVOA14-Y	EM VOLTAGE: 2118V	ISTD/SURR: VS0911	AFA: V26039A
PURGE PRESSURE: 9.0 psi	BFB RESPONSE: 4861096	ICV/QC: V26049, V26052, V26051,	SAMPLE ID VERIFIED BY:
PURGE VOLUME: 5 mL		V26050, VS0913, VS0918, VS0893	CV
ANALYST: Chelsea V	RUN ID: VY2245	DATA PROCESSED BY: Chelsea V	Date: 11/17/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Y54095	BFB	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y54096	IC2245-1	-	-	W	2	8260	#23(PII) #69(OP) #98,100,102(MP)	-	-	-	1uL→ 100mL ✓
Y54097	IC2245-2	-	-	W	3	8260	#69(OP) #108(PII)	-	-	-	5uL→ 100mL ✓
Y54098	IC2245-3	-	-	W	4	8260	#69(OP)	-	-	-	5uL→ 50mL ✓
Y54099	IC2245-4	-	-	W	5	8260	#4,69(OP) #108(PII)	-	-	-	12.5uL→ 50mL
Y54100	ICC2245-5	-	-	W	6	8260	#69(OP)	-	-	-	20uL→ 50mL ✓
Y54101	IC2245-6	-	-	W	7	8260	#4,69(OP)	-	-	-	35uL→ 50mL ✓
Y54102	IC2245-7	-	-	W	8	8260	#69(OP)	-	-	-	50uL→ 50mL ✓
Y54103	BLANK	-	-	W	9	8260		-	-	-	✓
Y54104	IC2245-1	-	-	W	10	8260	#69(OP) #98,102(MP)	-	-	-	1uL→ 100mL ✓
Y54105	ICV2245-5	-	-	W	11	8260	#69(OP)	-	-	-	25uL→ 50mL ✓
Y54106	ICV2245-4	-	-	W	12	8260		-	-	-	12.5uL→ 40mL

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: _____

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 11/17/2020
COLUMN TYPE: RTX-VMS
DETECTOR: 5973 MSD
INSTRUMENT: MSVOA14-Y
PURGE PRESSURE: 9.0 psi
PURGE VOLUME: 5 mL
ANALYST: Chelsea V

METHODS: 8260
METHOD FILE: RESTEK111720W.m
CALIB. DATE: 11/17/2020
EM VOLTAGE: 2118V
BFB RESPONSE: 5767995
RUN ID: VY2246

BFB: VS0911
ICAL/CC: VS0903, VS0910, VS0909,
VS0919, VS0920, VS0917
ISTD/SURR: VS0911
ICV/QC: V26049, V26052, V26051,
V26050, VS0913, VS0918, VS0893
DATA PROCESSED BY: Chelsea V/EdessaS

PH LOT: 1 to 12 pH lot #: 200814
0 to 3 pH lot#: 220416
KI PAPER LOT: 102916
AFA: V26039A
SAMPLE ID VERIFIED BY:
CV
Date: 11/17/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Y54107	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y54108	BFB/CC2245-5	-	-	W	2	8260	#69(OP)	-	-	-	Passed autofind; 20uL→ 50mL ✓
Y54109	BS	-	-	W	3	8260	#69(OP)	-	-	-	12.5uL→ 40mL
Y54110	BLANK	-	-	W	4	8260		-	-	-	✓
Y54111	CC2245-1	-	-	W	5	8260		-	-	-	1uL→ 100mL ✓
Y54112	MB	-	-	W	6	8260		-	-	-	HCB hit ✓
Y54113	FA80463-4	1x	2	W	7	8260		1	N		MB & 2,2DCP ONLY ✓
Y54114	FA80462-5	1x	2	W	8	8260	Last vial, bubble >6mm	1	N		MB, MI, 1,4D, & 2,2DCP ONLY ✓
Y54115	FA80551-2	1x	2	W	9	8260		1	N		MB, DCDFM, MI, VA ONLY ✓
Y54116	FA80463-1	1x	3	W	10	8260	#98(MP)	1	N		MB & 2,2DCP ONLY ✓
Y54117	FA80463-2	1x	1	W	11	8260		1	N		MB & 2,2DCP ONLY ✓
Y54118	FA80463-3	1x	2	W	12	8260		1	N		MB & 2,2DCP ONLY ✓
Y54119	FA80465-1	1x	2	W	13	8260		1	N		MB & 2,2DCP ONLY ✓
Y54120	FA80465-2	1x	2	W	14	8260		1	N		MB & 2,2DCP ONLY ✓
Y54121	FA80465-3	1x	2	W	15	8260		1	N		MB & 2,2DCP ONLY ✓
Y54122	FA80551-1	1x	3	W	16	8260		1	N		MB, 1,4D, MI, & VA ONLY ✓
Y54123	FA80463-1MS	1x	4	W	17	8260	#69(OP)	1	N		12.5uL→ 40mL
Y54124	FA80463-1MSD	1x	5	W	18	8260	#69(OP)	1	N		12.5uL→ 40mL
Y54125	BLANK	-	-	W	19	8260	#98(MP)	-	-	-	✓
Y54126	FA80698-2	1x	1	W	20	8260		1	N		ND ✓
Y54127	FA80565-1	1x	3	W	21	8260		1	N		MB only ✓
Y54128	FA80462-1	1x	2	W	22	8260		6	N		MB, MI, 1,4D, & 2,2DCP ONLY ✓
Y54129	FA80462-2	1x	3	W	23	8260		6	N		MB, MI, 1,4D, & 2,2DCP ONLY ✓
Y54130	FA80462-3	1x	3	W	24	8260		1	N		MB, MI, 1,4D, & 2,2DCP ONLY ✓
Y54131	FA80462-4	1x	3	W	25	8260		1	N		MB, MI, 1,4D, & 2,2DCP ONLY ✓
Y54132	FA80577-1	1x	2	W	26	8260		1	N		✓
Y54133	FA80698-1	1x	2	W	27	8260	All vials, bubble >6mm	1	N	20x	TCFM↑
Y54134	ECC2245-5	-	-	W	28	8260	#69(OP)	-	-	-	20uL→ 50mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: _____

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP18-5015 PFAS Removal; Pease AFB, NH

7311180270

SGS Job Number: FA81069

Sampling Date: 11/17/20

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Ave Suite 1200
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Emma Driver

Total number of pages in report: 224

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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EHS.US.CustomerCare@sgs.com

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: FA81069

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FA81069-1	11/17/20	07:00	KC	11/20/20	AQ	Ground Water	SP1-GW_20201117

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Wood Environment & Infrastructure Solut. **Job No:** FA81069

Site: ESTCP18-5015 PFAS Removal; Pease AFB, NH **Report Date:** 12/5/2020 11:39:13 AM

1 Sample was collected on 11/17/2020 and were received at SGS North America Inc - Orlando on 11/20/2020 properly preserved, at 3.4 Deg. C and intact. This Sample received an SGS Orlando job number of FA81069. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** VY2258

All samples were analyzed within the recommended method holding time.

Sample(s) FA81027-11MS, FA81027-11MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, Chloroethane, Toluene are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethylene, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Benzene, Bromochloromethane, Bromodichloromethane, Bromoform, Chlorobenzene, Chloroform, cis-1,2-Dichloroethylene, cis-1,3-Dichloropropene, Dibromochloromethane, Ethylbenzene, Isopropylbenzene, m,p-Xylene, Methyl Tert Butyl Ether, o-Xylene, Styrene, Tetrachloroethylene, Toluene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene, Trichloroethylene are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for 1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethylene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Benzene, Bromochloromethane, Bromodichloromethane, Bromoform, Chlorobenzene, Chloroform, cis-1,2-Dichloroethylene, cis-1,3-Dichloropropene, Cyclohexane, Dibromochloromethane, Ethylbenzene, Isopropylbenzene, m,p-Xylene, Methyl Acetate, Methyl Tert Butyl Ether, Methylcyclohexane, Methylene Chloride, o-Xylene, Tetrachloroethylene, Toluene, trans-1,2-Dichloroethylene, trans-1,3-Dichloropropene, Trichloroethylene are outside control limits for sample FA81027-11MSD. Probable cause is due to sample non-homogeneity.

FA81069-1 for Chloroethane: Associated ECC outside control limits high.

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual
FA81027-11MS	MSVOA	Y54423.D	2-Hexanone, Methyl Chloride
FA81027-11MSD	MSVOA	Y54424.D	2-Hexanone, Methyl Chloride
VY2256-IC2256	MSVOA	Y54337.D	1,4-Dichlorobenzene, 2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol, Methyl Chloride
VY2256-IC2256	MSVOA	Y54338.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol, Methyl Chloride
VY2256-IC2256	MSVOA	Y54339.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VY2256-IC2256	MSVOA	Y54340.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Methyl Chloride
VY2256-IC2256	MSVOA	Y54342.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Methyl Chloride
VY2256-IC2256	MSVOA	Y54343.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Methyl Chloride
VY2256-ICC2256	MSVOA	Y54341.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VY2256-ICV2256	MSVOA	Y54345.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Methyl Chloride
VY2258-BS	MSVOA	Y54356.D	2-Hexanone
VY2258-CC2256	MSVOA	Y54355.D	2-Hexanone
VY2260-CC2256	MSVOA	Y54402.D	2-Hexanone

13 Manual Integrations were found for FA81069

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Jenna Kravitz, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA81069
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/17/20

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA81069-1	**SP1-GW_20201117**					
Chlorobenzene		0.22 J	1.0	0.50	ug/l	SW846 8260B

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID: SP1-GW_20201117
Lab Sample ID: FA81069-1
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Date Sampled: 11/17/20
Date Received: 11/20/20
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y54371.D	1	11/29/20 19:21	LR	n/a	n/a	VY2258
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane [a]	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP1-GW_20201117		
Lab Sample ID:	FA81069-1	**Date Sampled:**	11/17/20
Matrix:	AQ - Ground Water	**Date Received:**	11/20/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	4.0 U	5.0	4.0	2.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	106%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

(a) Associated ECC outside control limits high.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

FA81069

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote #	SKIFF #

Client / Reporting Information

Company Name: Wood Plc
Address: 511 Congress St, suite 200
City: Portland State: ME Zip: 04101
Project Contact: Eric Thompson Email: eric.thompson2@woodplc.com
Phone #: (207) 747-7386
Sampler(s) Name(s) (Printed)
Sampler 1: Kaitlyn Chick Sampler 2:

Project Information

Project Name: ESTCP Site 8 Pilot
Street: 20 short st
City: Newington State: NH
Project #: AMEC MNM 87196
Fax #:
Client Purchase Order #:

Analytical Information

VOC 8260

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNA	DI WATER	MEOH	LAB USE ONLY
	~~SPI-GW~~															
1	SPI-GW_20201117	11/17/20	7:00	KSC	GW	3			X						X	

INITIAL ASSESSMENT
ARF

Turnaround Time (Business days)

10 Day (Business)
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Approved By: / Date:
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULLT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

SGS-ACCUTEST MARLBOR 11/19

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Kaitlyn Chick / Woodplc	11/17/20 9:00	2 Brad Herrick	3 Brad Herrick	11/19/2020	4
5		11.19.20 4:00	6 Fedex	7 Fedex	11/20/20	8 11/20/20 9:30

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 3.4 CS 13877

http://www.sgs.com/en/terms-and-conditions

ORLD-SMT-0001-03-FORM-COC (1) Rev 031318

FA81069: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA81069 **Client:** WOOD PLE **Project:** ESTCP SITE 8 PILOT

Date / Time Received: 11/20/2020 9:30:00 AM **Delivery Method:** FX **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (3.4);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 11/20/2020 9:30:00 A Reviewer: _____ Date: _____

FA81069: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81069
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/17/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VY2258	SW846 8260B						
VY2258-BS	67-64-1	Acetone	BSP	REC	94	%	39-160
VY2258-BS	71-43-2	Benzene	BSP	REC	86	%	79-120
VY2258-BS	74-97-5	Bromochloromethane	BSP	REC	84	%	78-123
VY2258-BS	75-27-4	Bromodichloromethane	BSP	REC	91	%	79-125
VY2258-BS	75-25-2	Bromoform	BSP	REC	93	%	66-130
VY2258-BS	78-93-3	2-Butanone (MEK)	BSP	REC	90	%	56-143
VY2258-BS	75-15-0	Carbon Disulfide	BSP	REC	93	%	64-133
VY2258-BS	56-23-5	Carbon Tetrachloride	BSP	REC	94	%	72-136
VY2258-BS	108-90-7	Chlorobenzene	BSP	REC	83	%	82-118
VY2258-BS	75-00-3	Chloroethane	BSP	REC	97	%	60-138
VY2258-BS	67-66-3	Chloroform	BSP	REC	88	%	79-124
VY2258-BS	110-82-7	Cyclohexane	BSP	REC	94	%	71-130
VY2258-BS	124-48-1	Dibromochloromethane	BSP	REC	92	%	74-126
VY2258-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	84	%	62-128
VY2258-BS	106-93-4	1,2-Dibromoethane	BSP	REC	86	%	77-121
VY2258-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	88	%	32-152
VY2258-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	83	%	80-119
VY2258-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	85	%	80-119
VY2258-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	82	%	79-118
VY2258-BS	75-34-3	1,1-Dichloroethane	BSP	REC	92	%	77-125
VY2258-BS	107-06-2	1,2-Dichloroethane	BSP	REC	83	%	73-128
VY2258-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	90	%	71-131
VY2258-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	90	%	78-123
VY2258-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	87	%	75-124
VY2258-BS	78-87-5	1,2-Dichloropropane	BSP	REC	86	%	78-122
VY2258-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	86	%	75-124
VY2258-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	91	%	73-127
VY2258-BS	100-41-4	Ethylbenzene	BSP	REC	89	%	79-121
VY2258-BS	76-13-1	Freon 113	BSP	REC	86	%	70-136
VY2258-BS	591-78-6	2-Hexanone	BSP	REC	92	%	57-139
VY2258-BS	98-82-8	Isopropylbenzene	BSP	REC	87	%	72-131
VY2258-BS	79-20-9	Methyl Acetate	BSP	REC	92	%	56-136
VY2258-BS	74-83-9	Methyl Bromide	BSP	REC	97	%	53-141
VY2258-BS	74-87-3	Methyl Chloride	BSP	REC	96	%	50-139
VY2258-BS	108-87-2	Methylcyclohexane	BSP	REC	99	%	72-132
VY2258-BS	75-09-2	Methylene Chloride	BSP	REC	88	%	74-124
VY2258-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	90	%	67-130
VY2258-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	88	%	71-124
VY2258-BS	100-42-5	Styrene	BSP	REC	90	%	78-123
VY2258-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	85	%	71-121
VY2258-BS	127-18-4	Tetrachloroethylene	BSP	REC	92	%	74-129
VY2258-BS	108-88-3	Toluene	BSP	REC	82	%	80-121

* Sample used for QC is not from job FA81069

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81069
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/17/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VY2258-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	90	%	69-129
VY2258-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	92	%	69-130
VY2258-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	90	%	74-131
VY2258-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	86	%	80-119
VY2258-BS	79-01-6	Trichloroethylene	BSP	REC	89	%	79-123
VY2258-BS	75-69-4	Trichlorofluoromethane	BSP	REC	101	%	65-141
VY2258-BS	75-01-4	Vinyl Chloride	BSP	REC	96	%	58-137
VY2258-BS		m,p-Xylene	BSP	REC	85	%	80-121
VY2258-BS	95-47-6	o-Xylene	BSP	REC	87	%	78-122
VY2258-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	100	%	80-119
VY2258-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	100	%	81-118
VY2258-BS	2037-26-5	Toluene-D8	BSP	SURR	99	%	89-112
VY2258-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	99	%	85-114
FA81027-11MS*	67-64-1	Acetone	MS	REC	82	%	39-160
FA81027-11MS*	71-43-2	Benzene	MS	REC	89	%	79-120
FA81027-11MS*	74-97-5	Bromochloromethane	MS	REC	92	%	78-123
FA81027-11MS*	75-27-4	Bromodichloromethane	MS	REC	94	%	79-125
FA81027-11MS*	75-25-2	Bromoform	MS	REC	83	%	66-130
FA81027-11MS*	78-93-3	2-Butanone (MEK)	MS	REC	80	%	56-143
FA81027-11MS*	75-15-0	Carbon Disulfide	MS	REC	94	%	64-133
FA81027-11MS*	56-23-5	Carbon Tetrachloride	MS	REC	103	%	72-136
FA81027-11MS*	108-90-7	Chlorobenzene	MS	REC	85	%	82-118
FA81027-11MS*	75-00-3	Chloroethane	MS	REC	146	%	60-138
FA81027-11MS*	67-66-3	Chloroform	MS	REC	95	%	79-124
FA81027-11MS*	110-82-7	Cyclohexane	MS	REC	94	%	71-130
FA81027-11MS*	124-48-1	Dibromochloromethane	MS	REC	87	%	74-126
FA81027-11MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	68	%	62-128
FA81027-11MS*	106-93-4	1,2-Dibromoethane	MS	REC	77	%	77-121
FA81027-11MS*	75-71-8	Dichlorodifluoromethane	MS	REC	94	%	32-152
FA81027-11MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	80	%	80-119
FA81027-11MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	82	%	80-119
FA81027-11MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	80	%	79-118
FA81027-11MS*	75-34-3	1,1-Dichloroethane	MS	REC	96	%	77-125
FA81027-11MS*	107-06-2	1,2-Dichloroethane	MS	REC	87	%	73-128
FA81027-11MS*	75-35-4	1,1-Dichloroethylene	MS	REC	93	%	71-131
FA81027-11MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	92	%	78-123
FA81027-11MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	90	%	75-124
FA81027-11MS*	78-87-5	1,2-Dichloropropane	MS	REC	87	%	78-122
FA81027-11MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	82	%	75-124
FA81027-11MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	80	%	73-127
FA81027-11MS*	100-41-4	Ethylbenzene	MS	REC	88	%	79-121
FA81027-11MS*	76-13-1	Freon 113	MS	REC	86	%	70-136
FA81027-11MS*	591-78-6	2-Hexanone	MS	REC	78	%	57-139
FA81027-11MS*	98-82-8	Isopropylbenzene	MS	REC	85	%	72-131
FA81027-11MS*	79-20-9	Methyl Acetate	MS	REC	81	%	56-136

* Sample used for QC is not from job FA81069

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81069
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/17/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA81027-11MS*	74-83-9	Methyl Bromide	MS	REC	98	%	53-141
FA81027-11MS*	74-87-3	Methyl Chloride	MS	REC	98	%	50-139
FA81027-11MS*	108-87-2	Methylcyclohexane	MS	REC	101	%	72-132
FA81027-11MS*	75-09-2	Methylene Chloride	MS	REC	93	%	74-124
FA81027-11MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	79	%	67-130
FA81027-11MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	83	%	71-124
FA81027-11MS*	100-42-5	Styrene	MS	REC	85	%	78-123
FA81027-11MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	74	%	71-121
FA81027-11MS*	127-18-4	Tetrachloroethylene	MS	REC	90	%	74-129
FA81027-11MS*	108-88-3	Toluene	MS	REC	79	%	80-121
FA81027-11MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	77	%	69-129
FA81027-11MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	80	%	69-130
FA81027-11MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	97	%	74-131
FA81027-11MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	79	%	80-119
FA81027-11MS*	79-01-6	Trichloroethylene	MS	REC	95	%	79-123
FA81027-11MS*	75-69-4	Trichlorofluoromethane	MS	REC	115	%	65-141
FA81027-11MS*	75-01-4	Vinyl Chloride	MS	REC	98	%	58-137
FA81027-11MS*		m,p-Xylene	MS	REC	83	%	80-121
FA81027-11MS*	95-47-6	o-Xylene	MS	REC	84	%	78-122
FA81027-11MS*	1868-53-7	Dibromofluoromethane	MS	SURR	105	%	80-119
FA81027-11MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	101	%	81-118
FA81027-11MS*	2037-26-5	Toluene-D8	MS	SURR	93	%	89-112
FA81027-11MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	96	%	85-114
FA81027-11MSD*	67-64-1	Acetone	MSD	REC	78	%	39-160
FA81027-11MSD*	67-64-1	Acetone	MSD	RPD	4	%	20
FA81027-11MSD*	71-43-2	Benzene	MSD	REC	73	%	79-120
FA81027-11MSD*	71-43-2	Benzene	MSD	RPD	19	%	20
FA81027-11MSD*	74-97-5	Bromochloromethane	MSD	REC	74	%	78-123
FA81027-11MSD*	74-97-5	Bromochloromethane	MSD	RPD	21	%	20
FA81027-11MSD*	75-27-4	Bromodichloromethane	MSD	REC	77	%	79-125
FA81027-11MSD*	75-27-4	Bromodichloromethane	MSD	RPD	20	%	20
FA81027-11MSD*	75-25-2	Bromoform	MSD	REC	64	%	66-130
FA81027-11MSD*	75-25-2	Bromoform	MSD	RPD	26	%	20
FA81027-11MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	75	%	56-143
FA81027-11MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	6	%	20
FA81027-11MSD*	75-15-0	Carbon Disulfide	MSD	REC	77	%	64-133
FA81027-11MSD*	75-15-0	Carbon Disulfide	MSD	RPD	20	%	20
FA81027-11MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	83	%	72-136
FA81027-11MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	21	%	20
FA81027-11MSD*	108-90-7	Chlorobenzene	MSD	REC	68	%	82-118
FA81027-11MSD*	108-90-7	Chlorobenzene	MSD	RPD	22	%	20
FA81027-11MSD*	75-00-3	Chloroethane	MSD	REC	139	%	60-138
FA81027-11MSD*	75-00-3	Chloroethane	MSD	RPD	5	%	20
FA81027-11MSD*	67-66-3	Chloroform	MSD	REC	77	%	79-124
FA81027-11MSD*	67-66-3	Chloroform	MSD	RPD	21	%	20

* Sample used for QC is not from job FA81069

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81069
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/17/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA81027-11MSD*	110-82-7	Cyclohexane	MSD	REC	77	%	71-130
FA81027-11MSD*	110-82-7	Cyclohexane	MSD	RPD	20	%	20
FA81027-11MSD*	124-48-1	Dibromochloromethane	MSD	REC	68	%	74-126
FA81027-11MSD*	124-48-1	Dibromochloromethane	MSD	RPD	25	%	20
FA81027-11MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	51	%	62-128
FA81027-11MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	29	%	20
FA81027-11MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	62	%	77-121
FA81027-11MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	23	%	20
FA81027-11MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	96	%	32-152
FA81027-11MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	2	%	20
FA81027-11MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	65	%	80-119
FA81027-11MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	21	%	20
FA81027-11MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	67	%	80-119
FA81027-11MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	19	%	20
FA81027-11MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	66	%	79-118
FA81027-11MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	20	%	20
FA81027-11MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	78	%	77-125
FA81027-11MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	21	%	20
FA81027-11MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	70	%	73-128
FA81027-11MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	21	%	20
FA81027-11MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	76	%	71-131
FA81027-11MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	20	%	20
FA81027-11MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	75	%	78-123
FA81027-11MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	21	%	20
FA81027-11MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	73	%	75-124
FA81027-11MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	21	%	20
FA81027-11MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	71	%	78-122
FA81027-11MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	21	%	20
FA81027-11MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	64	%	75-124
FA81027-11MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	24	%	20
FA81027-11MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	64	%	73-127
FA81027-11MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	23	%	20
FA81027-11MSD*	100-41-4	Ethylbenzene	MSD	REC	71	%	79-121
FA81027-11MSD*	100-41-4	Ethylbenzene	MSD	RPD	22	%	20
FA81027-11MSD*	76-13-1	Freon 113	MSD	REC	76	%	70-136
FA81027-11MSD*	76-13-1	Freon 113	MSD	RPD	13	%	20
FA81027-11MSD*	591-78-6	2-Hexanone	MSD	REC	76	%	57-139
FA81027-11MSD*	591-78-6	2-Hexanone	MSD	RPD	3	%	20
FA81027-11MSD*	98-82-8	Isopropylbenzene	MSD	REC	68	%	72-131
FA81027-11MSD*	98-82-8	Isopropylbenzene	MSD	RPD	22	%	20
FA81027-11MSD*	79-20-9	Methyl Acetate	MSD	REC	65	%	56-136
FA81027-11MSD*	79-20-9	Methyl Acetate	MSD	RPD	22	%	20
FA81027-11MSD*	74-83-9	Methyl Bromide	MSD	REC	85	%	53-141
FA81027-11MSD*	74-83-9	Methyl Bromide	MSD	RPD	15	%	20
FA81027-11MSD*	74-87-3	Methyl Chloride	MSD	REC	99	%	50-139

* Sample used for QC is not from job FA81069

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81069
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/17/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA81027-11MSD*	74-87-3	Methyl Chloride	MSD	RPD	1	%	20
FA81027-11MSD*	108-87-2	Methylcyclohexane	MSD	REC	82	%	72-132
FA81027-11MSD*	108-87-2	Methylcyclohexane	MSD	RPD	20	%	20
FA81027-11MSD*	75-09-2	Methylene Chloride	MSD	REC	74	%	74-124
FA81027-11MSD*	75-09-2	Methylene Chloride	MSD	RPD	23	%	20
FA81027-11MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	74	%	67-130
FA81027-11MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	8	%	20
FA81027-11MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	65	%	71-124
FA81027-11MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	25	%	20
FA81027-11MSD*	100-42-5	Styrene	MSD	REC	68	%	78-123
FA81027-11MSD*	100-42-5	Styrene	MSD	RPD	22	%	20
FA81027-11MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	60	%	71-121
FA81027-11MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	22	%	20
FA81027-11MSD*	127-18-4	Tetrachloroethylene	MSD	REC	74	%	74-129
FA81027-11MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	19	%	20
FA81027-11MSD*	108-88-3	Toluene	MSD	REC	64	%	80-121
FA81027-11MSD*	108-88-3	Toluene	MSD	RPD	21	%	20
FA81027-11MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	63	%	69-129
FA81027-11MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	20	%	20
FA81027-11MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	64	%	69-130
FA81027-11MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	22	%	20
FA81027-11MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	80	%	74-131
FA81027-11MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	19	%	20
FA81027-11MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	63	%	80-119
FA81027-11MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	23	%	20
FA81027-11MSD*	79-01-6	Trichloroethylene	MSD	REC	78	%	79-123
FA81027-11MSD*	79-01-6	Trichloroethylene	MSD	RPD	20	%	20
FA81027-11MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	115	%	65-141
FA81027-11MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	0	%	20
FA81027-11MSD*	75-01-4	Vinyl Chloride	MSD	REC	102	%	58-137
FA81027-11MSD*	75-01-4	Vinyl Chloride	MSD	RPD	3	%	20
FA81027-11MSD*		m,p-Xylene	MSD	REC	67	%	80-121
FA81027-11MSD*		m,p-Xylene	MSD	RPD	21	%	20
FA81027-11MSD*	95-47-6	o-Xylene	MSD	REC	67	%	78-122
FA81027-11MSD*	95-47-6	o-Xylene	MSD	RPD	23	%	20
FA81027-11MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	105	%	80-119
FA81027-11MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	100	%	81-118
FA81027-11MSD*	2037-26-5	Toluene-D8	MSD	SURR	94	%	89-112
FA81027-11MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	97	%	85-114
VY2258-MB	1868-53-7	Dibromofluoromethane	MB	SURR	98	%	80-119
VY2258-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	103	%	81-118
VY2258-MB	2037-26-5	Toluene-D8	MB	SURR	96	%	89-112
VY2258-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	100	%	85-114
FA81069-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	100	%	80-119
FA81069-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	106	%	81-118

* Sample used for QC is not from job FA81069

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81069
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 11/17/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA81069-1	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
FA81069-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114

* Sample used for QC is not from job FA81069

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2258-MB	Y54360.D	1	11/29/20	LR	n/a	n/a	VY2258

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81069-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	

Method Blank Summary

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2258-MB	Y54360.D	1	11/29/20	LR	n/a	n/a	VY2258

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81069-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	79-125%
2037-26-5	Toluene-D8	96%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

Blank Spike Summary

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2258-BS	Y54356.D	1	11/29/20	LR	n/a	n/a	VY2258

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81069-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	117	94	50-147
71-43-2	Benzene	25	21.5	86	81-122
74-97-5	Bromochloromethane	25	21.1	84	76-123
75-27-4	Bromodichloromethane	25	22.8	91	79-123
75-25-2	Bromoform	25	23.2	93	66-123
78-93-3	2-Butanone (MEK)	125	112	90	56-143
75-15-0	Carbon Disulfide	25	23.2	93	66-148
56-23-5	Carbon Tetrachloride	25	23.6	94	76-136
108-90-7	Chlorobenzene	25	20.8	83	82-124
75-00-3	Chloroethane	25	24.2	97	62-144
67-66-3	Chloroform	25	22.1	88	80-124
110-82-7	Cyclohexane	25	23.5	94	73-138
124-48-1	Dibromochloromethane	25	22.9	92	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	21.0	84	64-123
106-93-4	1,2-Dibromoethane	25	21.4	86	75-120
75-71-8	Dichlorodifluoromethane	25	21.9	88	42-167
95-50-1	1,2-Dichlorobenzene	25	20.8	83	82-124
541-73-1	1,3-Dichlorobenzene	25	21.3	85	84-125
106-46-7	1,4-Dichlorobenzene	25	20.5	82	78-120
75-34-3	1,1-Dichloroethane	25	23.0	92	81-122
107-06-2	1,2-Dichloroethane	25	20.7	83	75-125
75-35-4	1,1-Dichloroethylene	25	22.5	90	78-137
156-59-2	cis-1,2-Dichloroethylene	25	22.4	90	78-120
156-60-5	trans-1,2-Dichloroethylene	25	21.7	87	76-127
78-87-5	1,2-Dichloropropane	25	21.5	86	76-124
10061-01-5	cis-1,3-Dichloropropene	25	21.4	86	75-118
10061-02-6	trans-1,3-Dichloropropene	25	22.7	91	80-120
100-41-4	Ethylbenzene	25	22.2	89	81-121
76-13-1	Freon 113	25	21.6	86	72-134
591-78-6	2-Hexanone	125	115	92	61-129
98-82-8	Isopropylbenzene	25	21.8	87	83-132
79-20-9	Methyl Acetate	125	115	92	65-126
74-83-9	Methyl Bromide	25	24.2	97	59-143
74-87-3	Methyl Chloride	25	23.9	96	50-159
108-87-2	Methylcyclohexane	25	24.7	99	76-129
75-09-2	Methylene Chloride	25	22.0	88	69-135

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2258-BS	Y54356.D	1	11/29/20	LR	n/a	n/a	VY2258

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81069-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
108-10-1	4-Methyl-2-pentanone (MIBK)	125	113	90	66-122
1634-04-4	Methyl Tert Butyl Ether	25	21.9	88	72-117
100-42-5	Styrene	25	22.4	90	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	21.3	85	72-120
127-18-4	Tetrachloroethylene	25	23.1	92	76-135
108-88-3	Toluene	25	20.4	82	80-120
87-61-6	1,2,3-Trichlorobenzene	25	22.5	90	68-131
120-82-1	1,2,4-Trichlorobenzene	25	23.0	92	73-129
71-55-6	1,1,1-Trichloroethane	25	22.4	90	75-130
79-00-5	1,1,2-Trichloroethane	25	21.5	86	76-119
79-01-6	Trichloroethylene	25	22.2	89	81-126
75-69-4	Trichlorofluoromethane	25	25.2	101	71-156
75-01-4	Vinyl Chloride	25	24.1	96	69-159
	m,p-Xylene	50	42.6	85	79-126
95-47-6	o-Xylene	25	21.8	87	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	99%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA81027-11MS	Y54423.D	5	11/30/20	LR	n/a	n/a	VY2258
FA81027-11MSD	Y54424.D	5	11/30/20	LR	n/a	n/a	VY2258
FA81027-11	Y54372.D	1	11/29/20	LR	n/a	n/a	VY2258

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81069-1

CAS No.	Compound	FA81027-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	25 U		625	510	82	625	489	78	4	50-147/21
71-43-2	Benzene	1.0 U		125	111	89	125	91.5	73*	19*	81-122/14
74-97-5	Bromochloromethane	1.0 U		125	115	92	125	92.7	74*	21*	76-123/14
75-27-4	Bromodichloromethane	1.0 U		125	118	94	125	96.8	77*	20*	79-123/19
75-25-2	Bromoform	1.0 U		125	104	83	125	80.4	64*	26*	66-123/21
78-93-3	2-Butanone (MEK)	5.0 U		625	497	80	625	469	75	6	56-143/18
75-15-0	Carbon Disulfide	2.0 U		125	117	94	125	96.1	77	20	66-148/23
56-23-5	Carbon Tetrachloride	1.0 U		125	129	103	125	104	83	21	76-136/23
108-90-7	Chlorobenzene	1.0 U		125	106	85	125	85.1	68*	22*	82-124/14
75-00-3	Chloroethane	2.0 U		125	183	146*	125	174	139	5	62-144/20
67-66-3	Chloroform	1.0 U		125	119	95	125	95.9	77*	21*	80-124/15
110-82-7	Cyclohexane	1.0 U		125	117	94	125	95.9	77	20*	73-138/18
124-48-1	Dibromochloromethane	1.0 U		125	109	87	125	85.2	68*	25*	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		125	84.7	68	125	63.5	51*	29*	64-123/18
106-93-4	1,2-Dibromoethane	2.0 U		125	96.7	77	125	76.9	62*	23*	75-120/13
75-71-8	Dichlorodifluoromethane	2.0 U		125	118	94	125	120	96	2	42-167/19
95-50-1	1,2-Dichlorobenzene	1.0 U		125	100	80*	125	81.0	65*	21*	82-124/14
541-73-1	1,3-Dichlorobenzene	1.0 U		125	102	82*	125	84.0	67*	19*	84-125/14
106-46-7	1,4-Dichlorobenzene	1.0 U		125	100	80	125	81.9	66*	20*	78-120/15
75-34-3	1,1-Dichloroethane	1.0 U		125	120	96	125	97.1	78*	21*	81-122/15
107-06-2	1,2-Dichloroethane	1.0 U		125	109	87	125	88.0	70*	21*	75-125/14
75-35-4	1,1-Dichloroethylene	1.0 U		125	116	93	125	95.2	76*	20*	78-137/18
156-59-2	cis-1,2-Dichloroethylene	1.0 U		125	115	92	125	93.5	75*	21*	78-120/15
156-60-5	trans-1,2-Dichloroethylene	1.0 U		125	113	90	125	91.6	73*	21*	76-127/17
78-87-5	1,2-Dichloropropane	1.0 U		125	109	87	125	88.7	71*	21*	76-124/14
10061-01-5	cis-1,3-Dichloropropene	1.0 U		125	102	82	125	80.5	64*	24*	75-118/23
10061-02-6	trans-1,3-Dichloropropene	1.0 U		125	100	80	125	79.4	64*	23*	80-120/22
100-41-4	Ethylbenzene	1.0 U		125	110	88	125	88.4	71*	22*	81-121/14
76-13-1	Freon 113	1.0 U		125	108	86	125	94.7	76	13	72-134/20
591-78-6	2-Hexanone	10 U		625	486	78	625	473	76	3	61-129/18
98-82-8	Isopropylbenzene	1.0 U		125	106	85	125	85.3	68*	22*	83-132/15
79-20-9	Methyl Acetate	20 U		625	509	81	625	407	65	22*	65-126/18
74-83-9	Methyl Bromide	5.0 U		125	123	98	125	106	85	15	59-143/19
74-87-3	Methyl Chloride	2.0 U		125	123	98	125	124	99	1	50-159/19
108-87-2	Methylcyclohexane	1.0 U		125	126	101	125	103	82	20*	76-129/17
75-09-2	Methylene Chloride	5.0 U		125	116	93	125	92.5	74	23*	69-135/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA81027-11MS	Y54423.D	5	11/30/20	LR	n/a	n/a	VY2258
FA81027-11MSD	Y54424.D	5	11/30/20	LR	n/a	n/a	VY2258
FA81027-11	Y54372.D	1	11/29/20	LR	n/a	n/a	VY2258

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81069-1

CAS No.	Compound	FA81027-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		625	496	79	625	460	74	8	66-122/16
1634-04-4	Methyl Tert Butyl Ether	1.0 U		125	104	83	125	81.1	65*	25*	72-117/14
100-42-5	Styrene	1.0 U		125	106	85	125	85.1	68*	22	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U		125	92.8	74	125	74.4	60*	22*	72-120/14
127-18-4	Tetrachloroethylene	1.0 U		125	113	90	125	93.1	74*	19*	76-135/16
108-88-3	Toluene	1.0 U		125	98.5	79*	125	80.1	64*	21*	80-120/14
87-61-6	1,2,3-Trichlorobenzene	2.0 U		125	96.2	77	125	78.5	63*	20	68-131/25
120-82-1	1,2,4-Trichlorobenzene	2.0 U		125	99.7	80	125	80.2	64*	22*	73-129/20
71-55-6	1,1,1-Trichloroethane	1.0 U		125	121	97	125	99.7	80	19*	75-130/16
79-00-5	1,1,2-Trichloroethane	1.0 U		125	98.6	79	125	78.4	63*	23*	76-119/14
79-01-6	Trichloroethylene	1.0 U		125	119	95	125	97.0	78*	20*	81-126/15
75-69-4	Trichlorofluoromethane	2.0 U		125	144	115	125	144	115	0	71-156/21
75-01-4	Vinyl Chloride	1.0 U		125	123	98	125	127	102	3	69-159/18
	m,p-Xylene	2.0 U		250	208	83	250	168	67*	21*	79-126/15
95-47-6	o-Xylene	1.0 U		125	105	84	125	83.6	67*	23*	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA81027-11	Limits
1868-53-7	Dibromofluoromethane	105%	105%	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	100%	104%	79-125%
2037-26-5	Toluene-D8	93%	94%	95%	85-112%
460-00-4	4-Bromofluorobenzene	96%	97%	99%	83-118%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VY2256-BFB	**Injection Date:**	11/26/20
Lab File ID:	Y54336.D	**Injection Time:**	08:19
Instrument ID:	GCMSY		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	142330	15.9		Pass
75	30.0 - 60.0% of mass 95	376661	42.1		Pass
95	Base peak, 100% relative abundance	895232	100.0		Pass
96	5.0 - 9.0% of mass 95	60098	6.71		Pass
173	Less than 2.0% of mass 174	3520	0.39	(0.44) [a]	Pass
174	50.0 - 100.0% of mass 95	804458	89.9		Pass
175	5.0 - 9.0% of mass 174	56885	6.35	(7.07) [a]	Pass
176	95.0 - 101.0% of mass 174	781034	87.2	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	51034	5.70	(6.53) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY2256-IC2256	Y54337.D	11/26/20	08:46	00:27	Initial cal 1
VY2256-IC2256	Y54338.D	11/26/20	09:13	00:54	Initial cal 2
VY2256-IC2256	Y54339.D	11/26/20	09:40	01:21	Initial cal 3
VY2256-IC2256	Y54340.D	11/26/20	10:07	01:48	Initial cal 4
VY2256-ICC2256	Y54341.D	11/26/20	10:35	02:16	Initial cal 5
VY2256-IC2256	Y54342.D	11/26/20	11:02	02:43	Initial cal 6
VY2256-IC2256	Y54343.D	11/26/20	11:29	03:10	Initial cal 7
VY2256-ICV2256	Y54345.D	11/26/20	12:23	04:04	Initial cal verification 5
VY2256-ICV2256	Y54346.D	11/26/20	12:50	04:31	Initial cal verification 4

Instrument Performance Check (BFB)

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VY2258-BFB	**Injection Date:**	11/29/20
Lab File ID:	Y54354.D	**Injection Time:**	11:38
Instrument ID:	GCMSY		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	134219	15.9		Pass
75	30.0 - 60.0% of mass 95	353045	41.8		Pass
95	Base peak, 100% relative abundance	844267	100.0		Pass
96	5.0 - 9.0% of mass 95	56000	6.63		Pass
173	Less than 2.0% of mass 174	2317	0.27	(0.30) [a]	Pass
174	50.0 - 100.0% of mass 95	765781	90.7		Pass
175	5.0 - 9.0% of mass 174	54987	6.51	(7.18) [a]	Pass
176	95.0 - 101.0% of mass 174	740096	87.7	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	48840	5.78	(6.60) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY2258-CC2256	Y54355.D	11/29/20	12:06	00:28	Continuing cal 5
VY2258-BS	Y54356.D	11/29/20	12:41	01:03	Blank Spike
ZZZZZZ	Y54359.D	11/29/20	14:21	02:43	(unrelated sample)
VY2258-MB	Y54360.D	11/29/20	14:48	03:10	Method Blank
ZZZZZZ	Y54362.D	11/29/20	15:16	03:38	(unrelated sample)
ZZZZZZ	Y54363.D	11/29/20	15:43	04:05	(unrelated sample)
ZZZZZZ	Y54364.D	11/29/20	16:10	04:32	(unrelated sample)
FA80938-3	Y54365.D	11/29/20	16:37	04:59	(used for QC only; not part of job FA81069)
ZZZZZZ	Y54366.D	11/29/20	17:04	05:26	(unrelated sample)
ZZZZZZ	Y54367.D	11/29/20	17:31	05:53	(unrelated sample)
ZZZZZZ	Y54368.D	11/29/20	17:58	06:20	(unrelated sample)
ZZZZZZ	Y54369.D	11/29/20	18:26	06:48	(unrelated sample)
ZZZZZZ	Y54370.D	11/29/20	18:53	07:15	(unrelated sample)
FA81069-1	Y54371.D	11/29/20	19:21	07:43	SP1-GW_20201117
FA81027-11	Y54372.D	11/29/20	19:48	08:10	(used for QC only; not part of job FA81069)
ZZZZZZ	Y54373.D	11/29/20	20:16	08:38	(unrelated sample)
ZZZZZZ	Y54374.D	11/29/20	20:43	09:05	(unrelated sample)
ZZZZZZ	Y54375.D	11/29/20	21:10	09:32	(unrelated sample)
VY2258-CC2256	Y54378.D	11/29/20	22:32	10:54	Continuing cal 5

Instrument Performance Check (BFB)

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VY2260-BFB	**Injection Date:**	11/30/20
Lab File ID:	Y54401.D	**Injection Time:**	09:59
Instrument ID:	GCMSY		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	120797	16.5		Pass
75	30.0 - 60.0% of mass 95	308907	42.3		Pass
95	Base peak, 100% relative abundance	730624	100.0		Pass
96	5.0 - 9.0% of mass 95	48317	6.61		Pass
173	Less than 2.0% of mass 174	2131	0.29	(0.33) [a]	Pass
174	50.0 - 100.0% of mass 95	650325	89.0		Pass
175	5.0 - 9.0% of mass 174	45661	6.25	(7.02) [a]	Pass
176	95.0 - 101.0% of mass 174	626837	85.8	(96.4) [a]	Pass
177	5.0 - 9.0% of mass 176	41523	5.68	(6.62) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY2260-CC2256	Y54402.D	11/30/20	10:26	00:27	Continuing cal 5
VY2260-BS	Y54403.D	11/30/20	11:06	01:07	Blank Spike
VY2260-MB	Y54406.D	11/30/20	12:27	02:28	Method Blank
ZZZZZZ	Y54407.D	11/30/20	12:55	02:56	(unrelated sample)
ZZZZZZ	Y54408.D	11/30/20	13:22	03:23	(unrelated sample)
ZZZZZZ	Y54409.D	11/30/20	13:49	03:50	(unrelated sample)
ZZZZZZ	Y54410.D	11/30/20	14:16	04:17	(unrelated sample)
ZZZZZZ	Y54411.D	11/30/20	14:43	04:44	(unrelated sample)
ZZZZZZ	Y54412.D	11/30/20	15:10	05:11	(unrelated sample)
ZZZZZZ	Y54413.D	11/30/20	15:37	05:38	(unrelated sample)
ZZZZZZ	Y54414.D	11/30/20	16:04	06:05	(unrelated sample)
ZZZZZZ	Y54415.D	11/30/20	16:31	06:32	(unrelated sample)
FA81011-1	Y54416.D	11/30/20	16:59	07:00	(used for QC only; not part of job FA81069)
ZZZZZZ	Y54417.D	11/30/20	17:26	07:27	(unrelated sample)
ZZZZZZ	Y54418.D	11/30/20	17:53	07:54	(unrelated sample)
ZZZZZZ	Y54419.D	11/30/20	18:20	08:21	(unrelated sample)
FA81011-1MS	Y54421.D	11/30/20	19:14	09:15	Matrix Spike
FA81011-1MSD	Y54422.D	11/30/20	19:41	09:42	Matrix Spike Duplicate
FA81027-11MS	Y54423.D	11/30/20	20:08	10:09	Matrix Spike
FA81027-11MSD	Y54424.D	11/30/20	20:35	10:36	Matrix Spike Duplicate
VY2260-ECC2256	Y54425.D	11/30/20	21:02	11:03	Ending cal 5

Internal Standard Area Summary

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VY2258-CC2256	**Injection Date:**	11/29/20
Lab File ID:	Y54355.D	**Injection Time:**	12:06
Instrument ID:	GCMSY	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	2812974	11.52	2660662	14.58	1452927	16.27	194949	7.42
Check Std [b]	2866620	11.52	2732983	14.58	1500885	16.27	222583	7.42
Upper Limit [c]	5733240	11.69	5465966	14.75	3001770	16.44	445166	7.59
Lower Limit [d]	1433310	11.35	1366492	14.41	750443	16.10	111292	7.25

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VY2258-BS	2944142	11.52	2820060	14.58	1546170	16.27	223865	7.42
ZZZZZZ	2913836	11.52	2867367	14.58	1501681	16.27	215725	7.40
VY2258-MB	2876854	11.52	2809267	14.58	1462494	16.27	189768	7.41
ZZZZZZ	2869971	11.52	2822025	14.58	1471290	16.27	188635	7.41
ZZZZZZ	2845618	11.52	2796646	14.58	1469707	16.27	187128	7.41
ZZZZZZ	2759504	11.52	2737086	14.58	1426787	16.27	171554	7.41
FA80938-3	2749401	11.52	2754066	14.58	1461054	16.27	206591	7.42
ZZZZZZ	2711439	11.52	2692356	14.58	1407078	16.27	136295	7.41
ZZZZZZ	2709754	11.52	2705476	14.58	1458058	16.28	171513	7.41
ZZZZZZ	2718718	11.52	2713315	14.58	1428419	16.28	140828	7.41
ZZZZZZ	2685304	11.52	2665723	14.58	1405398	16.28	140913	7.41
ZZZZZZ	2645046	11.52	2633335	14.58	1389762	16.27	168796	7.42
FA81069-1	2570580	11.52	2595324	14.58	1374357	16.27	155322	7.41
FA81027-11	2604532	11.52	2618810	14.58	1372429	16.27	148457	7.40
ZZZZZZ	2576738	11.52	2562767	14.58	1371856	16.27	158851	7.41
ZZZZZZ	2565642	11.52	2571010	14.58	1350584	16.27	152461	7.41
ZZZZZZ	2484152	11.52	2516588	14.58	1339549	16.27	174973	7.41

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VY2256-ICC2256 Y54341.D 11/26/20 10:35
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Internal Standard Area Summary

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VY2260-CC2256	**Injection Date:**	11/30/20
Lab File ID:	Y54402.D	**Injection Time:**	10:26
Instrument ID:	GCMSY	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	2812974	11.52	2660662	14.58	1452927	16.27	194949	7.42
Check Std [b]	2354338	11.52	2425758	14.58	1365314	16.27	141232	7.42
Upper Limit [c]	4708676	11.69	4851516	14.75	2730628	16.44	282464	7.59
Lower Limit [d]	1177169	11.35	1212879	14.41	682657	16.10	70616	7.25

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VY2260-BS	2340773	11.52	2418819	14.58	1363706	16.27	149113	7.42
VY2260-MB	2257909	11.52	2350970	14.58	1239667	16.27	115836	7.41
ZZZZZZ	2233627	11.52	2330405	14.58	1226572	16.28	120147	7.41
ZZZZZZ	2226285	11.52	2350234	14.58	1240138	16.27	111046	7.41
ZZZZZZ	2216165	11.52	2322012	14.58	1222552	16.27	116315	7.41
ZZZZZZ	2231519	11.52	2366278	14.58	1254200	16.27	115108	7.41
ZZZZZZ	2193210	11.52	2298459	14.58	1239850	16.27	126039	7.41
ZZZZZZ	2174927	11.52	2316285	14.58	1224491	16.27	117817	7.41
ZZZZZZ	2184290	11.52	2309032	14.58	1220565	16.27	121859	7.40
ZZZZZZ	2130030	11.52	2271964	14.58	1198868	16.27	110974	7.40
ZZZZZZ	2143853	11.52	2264934	14.58	1201404	16.27	106089	7.41
FA81011-1	2129294	11.52	2247062	14.58	1206274	16.27	117928	7.41
ZZZZZZ	2140850	11.52	2264572	14.58	1209929	16.27	123316	7.42
ZZZZZZ	2131877	11.52	2281740	14.58	1230522	16.27	110359	7.40
ZZZZZZ	2138005	11.52	2270899	14.58	1211979	16.27	124749	7.41
FA81011-1MS	2159025	11.52	2273493	14.58	1291415	16.28	89718	7.41
FA81011-1MSD	2185586	11.52	2285628	14.58	1291912	16.27	99538	7.41
FA81027-11MS	2213179	11.52	2316772	14.58	1300054	16.27	113636	7.41
FA81027-11MSD	2197866	11.52	2292388	14.58	1267797	16.27	109791	7.41
VY2260-ECC2256	2272168	11.52	2351560	14.58	1333669	16.27	135029	7.40

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VY2256-ICC2256 Y54341.D 11/26/20 10:35
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA81069-1	Y54371.D	100	106	94	97
FA81027-11MS	Y54423.D	105	101	93	96
FA81027-11MSD	Y54424.D	105	100	94	97
VY2258-BS	Y54356.D	100	100	99	99
VY2258-MB	Y54360.D	98	103	96	100

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

Initial Calibration Summary

Job Number: FA81069 **Sample:** VY2256-ICC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54341.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Response Factor Report MSVOA14-Y

Method : C:\msdchem\1\MET...\RESTEK112620w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration

Calibration Files
1 =Y54337.D 2 =Y54338.D 3 =Y54339.D 4 =Y54340.D
5 =Y54341.D 6 =Y54342.D 7 =Y54343.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.294	0.294	0.258	0.249	0.260	0.244	0.252	0.264	7.93
3) Acrolein	0.045	0.039	0.034	0.030	0.034	0.033	0.032	0.035	13.70
4)P Chloromethane	0.369	0.332	0.276	0.258	0.279	0.261	0.261	0.291	14.75
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9986									
Response Ratio = 0.00000 + 0.28235 *A + -0.01198 *A^2									
5) 1,3-butadiene	0.248	0.191	0.153	0.142	0.147	0.140	0.135	0.165	24.85
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996									
Response Ratio = 0.00000 + 0.15180 *A + -0.00841 *A^2									
6)C Vinyl Chloride	0.316	0.289	0.246	0.240	0.254	0.244	0.242	0.261	11.24
7) Bromomethane	0.156	0.130	0.110	0.099	0.117	0.111	0.115	0.120	15.65
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9976									
Response Ratio = 0.00000 + 0.10976 *A + 0.00203 *A^2									
8) Chloroethane	0.166	0.147	0.123	0.079	0.076	0.070		0.110	37.03
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9904									
Response Ratio = 0.00000 + 0.09194 *A + -0.01586 *A^2									
9) Trichlorofluorome	0.423	0.412	0.364	0.350	0.366	0.347	0.336	0.371	8.96
10) Ethyl Ether	0.185	0.191	0.160	0.155	0.163	0.157	0.157	0.167	8.94
11) 1,2-Dichlorotrifl	0.291	0.269	0.223	0.215	0.217	0.202	0.202	0.231	15.00
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9989									
Response Ratio = 0.00000 + 0.22894 *A + -0.01514 *A^2									
12)C 1,1-Dichloroethen	0.421	0.371	0.318	0.301	0.313	0.295	0.294	0.330	14.49
13) Freon 113	0.325	0.304	0.255	0.236	0.244	0.225	0.225	0.259	15.28
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9986									
Response Ratio = 0.00000 + 0.25648 *A + -0.01757 *A^2									
14) Carbon Disulfide	0.818	0.661	0.560	0.544	0.565	0.540	0.545	0.605	17.00
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9992									
Response Ratio = 0.00000 + 0.57609 *A + -0.01851 *A^2									
15) Iodomethane	0.252	0.215	0.201	0.192	0.245	0.240	0.282	0.232	13.59
16) Allyl chloride	0.371	0.350	0.277	0.269	0.299	0.295	0.299	0.309	12.13
17) Methylene Chlorid	0.507	0.373	0.311	0.277	0.282	0.264	0.262	0.325	27.37
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9983									
Response Ratio = 0.00000 + 0.30683 *A + -0.02500 *A^2									
18) Acetone	0.078	0.049	0.043	0.041	0.042	0.041	0.038	0.048	29.07
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9988									
Response Ratio = 0.00000 + 0.04534 *A + -0.00069 *A^2									
19) Methyl acetate	0.136	0.133	0.111	0.104	0.113	0.108	0.104	0.115	11.56

Initial Calibration Summary

Job Number: FA81069 **Sample:** VY2256-ICC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54341.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

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20)  trans-1,2-Dichlor 0.385 0.357 0.304 0.288 0.296 0.279 0.283 0.313  13.15
21)  Hexane            0.223 0.227 0.179 0.178 0.176 0.165 0.162 0.187  14.33
22)  Methyl Tert Butyl 0.531 0.562 0.457 0.438 0.473 0.461 0.463 0.484   9.34
23)  Acetonitrile      0.027 0.023 0.019 0.017 0.019 0.019 0.018 0.020  18.27
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9972
              Response Ratio = 0.00000 + 0.01924 *A + -0.00006 *A^2

24)  Di-isopropyl ethe 0.786 0.792 0.681 0.674 0.703 0.677 0.686 0.714   7.29
25)  Chloroprene       0.342 0.327 0.279 0.272 0.300 0.294 0.298 0.302   8.28
26)P 1,1-Dichloroethan 0.462 0.439 0.371 0.351 0.361 0.338 0.339 0.380  13.11
27)  Acrylonitrile     0.090 0.061 0.054 0.052 0.055 0.054 0.053 0.060  22.98
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 0.05565 *A + -0.00026 *A^2

28)  ETBE              0.555 0.629 0.519 0.518 0.556 0.539 0.552 0.553   6.79
29)  Vinyl acetate     0.376 0.374 0.321 0.334 0.349 0.358 0.360 0.353   5.73
30)  cis-1,2-Dichloroe 0.325 0.315 0.268 0.253 0.264 0.251 0.253 0.276  11.24
31)  2,2-Dichloropropa 0.318 0.342 0.274 0.270 0.288 0.284 0.291 0.295   8.71
32)  Bromochloromethan 0.173 0.174 0.140 0.135 0.138 0.131 0.130 0.146  13.16
33)  Cyclohexane       0.488 0.505 0.422 0.415 0.420 0.387 0.397 0.433  10.40
34)C Chloroform        0.479 0.456 0.386 0.363 0.378 0.357 0.363 0.397  12.45
35)  Ethyl acetate     0.214 0.165 0.140 0.138 0.144 0.145 0.143 0.155  17.61
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
              Response Ratio = 0.00000 + 0.14534 *A + -0.00024 *A^2

36)  Tetrahydrofuran   0.063 0.046 0.041 0.040 0.040 0.043 0.041 0.045  18.33
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
              Response Ratio = 0.00000 + 0.04166 *A + -0.00026 *A^2

37)S Dibromofluorometh 0.253 0.258 0.258 0.260 0.259 0.257 0.260 0.258   0.96
38)  Carbon Tetrachlor 0.382 0.391 0.335 0.330 0.344 0.330 0.337 0.350   7.29
39)  1,1,1-Trichloroet 0.504 0.459 0.386 0.367 0.377 0.361 0.362 0.402  14.01
40)  2-Butanone        0.085 0.067 0.061 0.060 0.064 0.065 0.062 0.066  13.09
41)  1,1-Dichloroprope 0.390 0.366 0.319 0.303 0.314 0.299 0.299 0.327  11.03
42)  tert-Butyl format 0.036 0.047 0.033 0.038 0.051 0.068 0.081 0.051  35.47
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9981
              Response Ratio = 0.00000 + 0.03008 *A + 0.00516 *A^2

43)  Propionitrile     0.027 0.026 0.021 0.018 0.021 0.020 0.019 0.022  14.96
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9971
              Response Ratio = 0.00000 + 0.02107 *A + -0.00008 *A^2

44)  Methacrylonitrile 0.119 0.118 0.097 0.087 0.097 0.094 0.089 0.100  12.96
45)  Benzene           1.220 1.135 0.965 0.908 0.938 0.893 0.905 0.995  12.99
46)  TAME              0.473 0.512 0.430 0.421 0.455 0.451 0.459 0.457   6.58
47)S 1,2-Dichloroethan 0.226 0.221 0.220 0.218 0.217 0.217 0.213 0.219   1.87
48)  1,2-Dichloroethan 0.324 0.322 0.265 0.249 0.259 0.248 0.246 0.273  12.64
49)  Trichloroethene   0.402 0.336 0.281 0.262 0.266 0.249 0.250 0.292  19.38
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9988
              Response Ratio = 0.00000 + 0.28204 *A + -0.01816 *A^2

50)  Methylcyclohexane 0.476 0.493 0.413 0.405 0.406 0.380 0.388 0.423  10.33
51)  Dibromomethane    0.150 0.139 0.118 0.113 0.118 0.114 0.114 0.124  11.93
52)C 1,2-Dichloropropa 0.267 0.263 0.217 0.209 0.217 0.208 0.210 0.227  11.47
53)  Bromodichlorometh 0.277 0.290 0.245 0.247 0.261 0.255 0.262 0.262   6.19
54)  Methyl methacryla 0.128 0.138 0.120 0.118 0.138 0.142 0.140 0.132   7.48
55)  2-Chloroethyl vin 0.068 0.072 0.067 0.064 0.076 0.078 0.079 0.072   8.20
56)  cis-1,3-Dichlorop 0.323 0.375 0.314 0.314 0.333 0.328 0.334 0.332   6.31

57) I   Chlorobenzene-d5      ----------------ISTD---------------------
```

Initial Calibration Summary

Job Number: FA81069 **Sample:** VY2256-ICC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54341.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
 58)S Toluene-d8        1.081 1.099 1.108 1.116 1.126 1.142 1.161 1.119   2.39
 59)C Toluene           1.621 1.422 1.221 1.155 1.204 1.162 1.185 1.282  13.68
 60)  2-Nitropropane    0.037 0.039 0.034 0.035 0.040 0.040 0.040 0.038   6.70
 61)  4-Methyl-2-pentan 0.205 0.165 0.153 0.150 0.157 0.157 0.151 0.163  11.87
 62)  trans-1,3-Dichlor 0.269 0.302 0.252 0.253 0.275 0.275 0.286 0.273   6.51
 63)  Tetrachloroethene 0.477 0.432 0.364 0.342 0.348 0.326 0.331 0.374  15.43
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9988
               Response Ratio = 0.00000 + 0.36436 *A + -0.01971 *A^2

 64)  Ethyl methacrylat 0.186 0.212 0.181 0.185 0.214 0.219 0.222 0.203   8.86
 65)  1,1,2-Trichloroet 0.184 0.188 0.160 0.149 0.155 0.147 0.146 0.161  10.93
 66)  Dibromochlorometh 0.233 0.280 0.243 0.247 0.268 0.268 0.271 0.258   6.76
 67)  1,3-Dichloropropa 0.387 0.397 0.329 0.313 0.330 0.321 0.322 0.343   9.98
 68)  1,2-Dibromoethane 0.234 0.248 0.210 0.206 0.217 0.214 0.214 0.220   6.78
 69)  2-hexanone        0.141 0.116 0.101 0.105 0.112 0.110 0.110 0.114  11.44
 70)  1-Chlorohexane    0.436 0.445 0.369 0.369 0.383 0.369 0.377 0.393   8.42
 71)C Ethylbenzene      1.781 1.565 1.325 1.255 1.296 1.238 1.257 1.388  14.88
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9991
               Response Ratio = 0.00000 + 1.33186 *A + -0.04595 *A^2

 72)P Chlorobenzene     1.061 1.022 0.854 0.808 0.830 0.795 0.800 0.881  12.69
 73)  1,1,1,2-Tetrachlo 0.314 0.341 0.289 0.287 0.299 0.295 0.301 0.304   6.17
 74)  m,p-Xylene        1.282 1.237 1.032 0.996 1.036 0.999 1.005 1.084  11.23
 75)  o-Xylene          1.187 1.199 1.027 1.006 1.049 1.015 1.043 1.075   7.63
 76)  Styrene           0.773 0.918 0.790 0.802 0.850 0.839 0.865 0.834   5.97
 77)P Bromoform         0.115 0.141 0.120 0.125 0.141 0.142 0.145 0.133   9.18
 78)  Isopropylbenzene  1.698 1.700 1.465 1.403 1.453 1.411 1.447 1.511   8.64

 79) I   1,4-Dichlorobenzene-d ----------------ISTD--------------------
 80)S 4-Bromofluorobenz 0.750 0.741 0.751 0.749 0.750 0.757 0.776 0.753   1.46
 81)  cis-1,4-Dichloro- 0.119 0.099 0.083 0.079 0.101 0.106 0.113 0.100  14.64
 82)  n-Propylbenzene   3.497 3.369 2.861 2.728 2.827 2.736 2.839 2.980  10.61
 83)  Bromobenzene      0.826 0.786 0.668 0.620 0.632 0.608 0.622 0.680  13.03
 84)P 1,1,2,2-Tetrachlo 0.471 0.488 0.410 0.378 0.405 0.389 0.387 0.418  10.40
 85)  1,3,5-Trimethylbe 2.401 2.387 2.063 1.988 2.038 1.976 2.052 2.129   8.63
 86)  2-Chlorotoluene   2.308 2.173 1.836 1.705 1.744 1.668 1.724 1.880  13.56
 87)  trans-1,4-Dichlor 0.076 0.092 0.075 0.077 0.090 0.097 0.098 0.087  11.75
 88)  1,2,3-Trichloropr 0.187 0.186 0.154 0.142 0.152 0.146 0.144 0.159  12.29
 89)  Cyclohexanone     0.016 0.011 0.010 0.009 0.009 0.010 0.010 0.011  23.42
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9985
               Response Ratio = 0.00000 + 0.00920 *A + 0.00007 *A^2

 90)  4-Chlorotoluene   1.987 1.947 1.639 1.589 1.648 1.605 1.664 1.726   9.69
 91)  tert-Butylbenzene 1.315 1.260 1.072 1.030 1.044 1.002 1.037 1.109  11.26
 92)  1,2,4-Trimethylbe 2.400 2.427 2.074 1.997 2.044 1.979 2.043 2.138   8.94
 93)  Pentachloroethane 0.380 0.374 0.317 0.304 0.330 0.333 0.338 0.340   8.24
 94)  sec-Butylbenzene  3.129 2.994 2.539 2.450 2.498 2.439 2.542 2.656  10.63
 95)  4-Isopropyltoluen 2.697 2.729 2.352 2.289 2.349 2.296 2.380 2.442   7.71
 96)  1,3-Dichlorobenze 1.567 1.467 1.236 1.194 1.221 1.195 1.233 1.302  11.57
 97)  1,2,3-Trimethylbe 2.798 2.693 2.262 2.174 2.225 2.183 2.236 2.367  11.06
 98)  1,4-Dichlorobenze 1.617 1.464 1.241 1.166 1.198 1.165 1.199 1.293  13.66
 99)  n-Butylbenzene    1.030 1.044 0.909 0.913 0.894 0.930 0.906 0.947   6.62
100)  Benzyl Chloride   0.129 0.168 0.147 0.163 0.197 0.208 0.217 0.175  18.71
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9982
               Response Ratio = 0.00000 + 0.16007 *A + 0.03034 *A^2

101)  1,2-Dichlorobenze 1.421 1.368 1.138 1.099 1.134 1.106 1.127 1.199  11.28
102)  1,2-Dibromo-3-Chl 0.069 0.063 0.054 0.054 0.062 0.063 0.063 0.061   8.81
103)  Hexachlorobutadie 0.411 0.261 0.214 0.205 0.212 0.206 0.203 0.245  31.11
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9987
```

Initial Calibration Summary

Job Number: FA81069 **Sample:** VY2256-ICC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54341.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
                Response Ratio = 0.00000 + 0.22289 *A + -0.01072 *A^2

104)  1,2,4-Trichlorobe 0.537 0.645 0.565 0.581 0.617 0.595 0.596 0.591   5.91
105)  Naphthalene       0.777 1.338 1.303 1.408 1.620 1.614 1.603 1.380  21.63
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9983
                Response Ratio = 0.00000 + 1.42110 *A + 0.10758 *A^2

106)  1,2,3-Trichlorobe 0.521 0.568 0.513 0.505 0.540 0.511 0.502 0.523   4.49

107) I   Tert Butyl Alcohol-d1 ----------------ISTD---------------------
108)  Ethanol           0.272 0.198 0.162 0.142 0.148 0.133 0.127 0.169  30.31
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9980
                Response Ratio = 0.00000 + 0.16389 *A + -0.00492 *A^2

109)  Tert Butyl Alcoho 1.904 1.845 1.419 1.350 1.311 1.263 1.204 1.471  19.32
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9980
                Response Ratio = 0.00000 + 1.46541 *A + -0.06882 *A^2

110)  Isobutyl alcohol  0.261 0.257 0.216 0.211 0.241 0.244 0.248 0.240   8.05
111)  Tert Amyl Alcohol 0.588 0.678 0.580 0.581 0.643 0.635 0.653 0.623   6.34
112)  1,4-Dioxane       0.156 0.148 0.126 0.129 0.131 0.124 0.122 0.134   9.54
113)  3,3-dimethyl-1-bu 0.864 0.792 0.724 0.750 0.826 0.879 0.890 0.818   7.92
 ----------------------------------------------------------------------------
 (#) = Out of Range

           RESTEK112620w.M        Fri Nov 27 08:48:17 2020
```

Initial Calibration Verification

Job Number: FA81069 **Sample:** VY2256-ICV2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54345.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\112620\Y54345.D Vial: 10
Acq On : 26 Nov 2020 12:23 pm Operator: chelseav
Sample : ICV2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK112620w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Nov 27 08:21:29 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	102	0.00	11.52
2	Dichlorodifluoromethane		----------NA----------				
3	Acrolein	0.035	0.024	31.4#	73	0.00	6.30
	----------	Amount	Calc.	%Drift			
4 P	Chloromethane	40.000	39.684	0.8	99	0.00	3.38
5	1,3-butadiene	40.000	58.735	-46.8#	145	0.00	3.58
	----------	AvgRF	CCRF	%Dev			
6 C	Vinyl Chloride	0.261	0.234	10.3	94	0.00	3.55
	----------	Amount	Calc.	%Drift			
7	Bromomethane	40.000	32.884	17.8	80	0.00	4.16
8	Chloroethane	40.000	36.095	9.8	98	0.00	4.39
	----------	AvgRF	CCRF	%Dev			
9	Trichlorofluoromethane	0.371	0.329	11.3	92	0.00	4.65
10	Ethyl Ether	0.167	0.152	9.0	95	0.00	5.29
	----------	Amount	Calc.	%Drift			
11	1,2-Dichlorotrifluoroetha	40.000	39.273	1.8	100	0.00	5.67
	----------	AvgRF	CCRF	%Dev			
12 C	1,1-Dichloroethene	0.330	0.279	15.5	91	0.00	5.63
	----------	Amount	Calc.	%Drift			
13	Freon 113		----------NA----------				
14	Carbon Disulfide	40.000	34.249	14.4	87	0.00	5.67
	----------	AvgRF	CCRF	%Dev			
15	Iodomethane	0.232	0.198	14.7	83	0.00	5.90
16	Allyl chloride	0.309	0.313	-1.3	107	0.00	6.57
	----------	Amount	Calc.	%Drift			
17	Methylene Chloride	40.000	36.490	8.8	95	0.00	6.77
18	Acetone	200.000	193.012	3.5	99	0.00	6.89
	----------	AvgRF	CCRF	%Dev			
19	Methyl acetate	0.115	0.108	6.1	98	0.00	7.14
20	trans-1,2-Dichloroethene	0.313	0.271	13.4	93	0.00	7.09
21	Hexane		----------NA----------				
22	Methyl Tert Butyl Ether	0.484	0.431	11.0	93	0.00	7.32

Initial Calibration Verification

Job Number: FA81069 **Sample:** VY2256-ICV2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54345.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
23		Acetonitrile	400.000	394.986	1.3	99	0.00	7.80
			AvgRF	CCRF	%Dev			
24		Di-isopropyl ether	0.714	0.656	8.1	95	0.00	8.09
25		Chloroprene	0.302	0.319	-5.6	108	0.00	8.26
26	P	1,1-Dichloroethane	0.380	0.347	8.7	98	0.00	8.31
			Amount	Calc.	%Drift			
27		Acrylonitrile	200.000	195.652	2.2	100	0.00	8.43
			AvgRF	CCRF	%Dev			
28		ETBE	0.553	0.495	10.5	91	0.00	8.83
29		Vinyl acetate	0.353	0.322	8.8	94	0.00	8.86
30		cis-1,2-Dichloroethene	0.276	0.244	11.6	95	0.00	9.42
31		2,2-Dichloropropane	0.295	0.264	10.5	93	0.00	9.64
32		Bromochloromethane	0.146	0.126	13.7	93	0.00	9.83
33		Cyclohexane		----------NA----------				
34	C	Chloroform	0.397	0.352	11.3	95	0.00	10.01
			Amount	Calc.	%Drift			
35		Ethyl acetate	200.000	190.866	4.6	98	0.00	10.25
36		Tetrahydrofuran	40.000	36.112	9.7	96	0.00	10.25
			AvgRF	CCRF	%Dev			
37	S	Dibromofluoromethane	0.258	0.258	0.0	102	0.00	10.33
38		Carbon Tetrachloride	0.350	0.308	12.0	91	0.00	10.23
39		1,1,1-Trichloroethane	0.402	0.342	14.9	92	0.00	10.35
40		2-Butanone	0.066	0.061	7.6	96	0.00	10.55
41		1,1-Dichloropropene	0.327	0.273	16.5	89	0.00	10.56
			Amount	Calc.	%Drift			
42		tert-Butyl formate	200.000	181.726	9.1	89	0.00	10.75
43		Propionitrile	400.000	386.506	3.4	97	0.00	10.99
			AvgRF	CCRF	%Dev			
44		Methacrylonitrile	0.100	0.091	9.0	95	0.00	11.02
45		Benzene	0.995	0.850	14.6	93	0.00	10.94
46		TAME	0.457	0.417	8.8	93	0.00	11.12
47	S	1,2-Dichloroethane-d4	0.219	0.214	2.3	101	0.00	11.14
48		1,2-Dichloroethane	0.273	0.230	15.8	91	0.00	11.24
			Amount	Calc.	%Drift			
49		Trichloroethene	40.000	35.091	12.3	91	0.00	11.74
			AvgRF	CCRF	%Dev			
50		Methylcyclohexane	0.423	0.348	17.7	87	0.00	11.71
51		Dibromomethane	0.124	0.108	12.9	94	0.00	12.23
52	C	1,2-Dichloropropane	0.227	0.199	12.3	94	0.00	12.34
53		Bromodichloromethane	0.262	0.249	5.0	98	0.00	12.42
54		Methyl methacrylate	0.132	0.133	-0.8	98	0.00	12.59
55		2-Chloroethyl vinyl ether	0.072	0.053	26.4#	71	0.00	13.00
56		cis-1,3-Dichloropropene	0.332	0.295	11.1	91	0.00	13.07
57	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00	14.58
58	S	Toluene-d8	1.119	1.126	-0.6	102	0.00	13.24
59	C	Toluene	1.282	1.061	17.2	90	0.00	13.29
60		2-Nitropropane	0.038	0.037	2.6	94	0.00	13.51
61		4-Methyl-2-pentanone	0.163	0.149	8.6	97	0.00	13.63

Initial Calibration Verification

Job Number: FA81069 **Sample:** VY2256-ICV2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54345.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
62		trans-1,3-Dichloropropene	0.273	0.256	6.2	95	0.00	13.67
			Amount	Calc.	%Drift			
63		Tetrachloroethene	40.000	36.560	8.6	94	0.00	13.65
			AvgRF	CCRF	%Dev			
64		Ethyl methacrylate	0.203	0.210	-3.4	100	0.00	13.79
65		1,1,2-Trichloroethane	0.161	0.141	12.4	93	0.00	13.81
66		Dibromochloromethane	0.258	0.251	2.7	96	0.00	13.97
67		1,3-Dichloropropane	0.343	0.288	16.0	89	0.00	14.05
68		1,2-Dibromoethane	0.220	0.195	11.4	92	0.00	14.18
69		2-hexanone	0.114	0.102	10.5	93	0.00	14.33
70		1-Chlorohexane	0.393	0.341	13.2	91	0.00	14.55
			Amount	Calc.	%Drift			
71	C	Ethylbenzene	40.000	36.153	9.6	92	0.00	14.60
			AvgRF	CCRF	%Dev			
72	P	Chlorobenzene	0.881	0.751	14.8	92	0.00	14.60
73		1,1,1,2-Tetrachloroethane	0.304	0.278	8.6	95	0.00	14.64
74		m,p-Xylene	1.084	0.934	13.8	92	0.00	14.70
75		o-Xylene	1.075	0.956	11.1	93	0.00	15.03
76		Styrene	0.834	0.772	7.4	93	0.00	15.07
77	P	Bromoform	0.133	0.132	0.8	96	0.00	15.12
78		Isopropylbenzene	1.511	1.312	13.2	92	0.00	15.25
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	103	0.00	16.27
80	S	4-Bromofluorobenzene	0.753	0.745	1.1	102	0.00	15.48
81		cis-1,4-Dichloro-2-butene	0.100	0.092	8.0	94	0.00	15.51
82		n-Propylbenzene	2.980	2.509	15.8	91	0.00	15.55
83		Bromobenzene	0.680	0.589	13.4	96	0.00	15.57
84	P	1,1,2,2-Tetrachloroethane	0.418	0.360	13.9	92	0.00	15.61
85		1,3,5-Trimethylbenzene	2.129	1.871	12.1	95	0.00	15.67
86		2-Chlorotoluene	1.880	1.577	16.1	93	0.00	15.69
87		trans-1,4-Dichloro-2-Bute	0.087	0.081	6.9	93	0.00	15.73
88		1,2,3-Trichloropropane	0.159	0.133	16.4	90	0.00	15.72
			Amount	Calc.	%Drift			
89		Cyclohexanone	200.000	177.984	11.0	93	0.00	15.78
			AvgRF	CCRF	%Dev			
90		4-Chlorotoluene	1.726	1.482	14.1	93	0.00	15.81
91		tert-Butylbenzene	1.109	0.929	16.2	92	0.00	15.91
92		1,2,4-Trimethylbenzene	2.138	1.824	14.7	92	0.00	15.95
93		Pentachloroethane	0.340	0.331	2.6	103	0.00	15.96
94		sec-Butylbenzene	2.656	2.278	14.2	94	0.00	16.03
95		4-Isopropyltoluene	2.442	2.167	11.3	95	0.00	16.12
96		1,3-Dichlorobenzene	1.302	1.141	12.4	96	0.00	16.23
97		1,2,3-Trimethylbenzene	2.367	1.763	25.5#	82	0.00	16.27
98		1,4-Dichlorobenzene	1.293	1.092	15.5	94	0.00	16.29
99		n-Butylbenzene	0.947	0.854	9.8	99	0.00	16.41
			Amount	Calc.	%Drift			
100		Benzyl Chloride	40.000	36.385	9.0	87	0.00	16.44
			AvgRF	CCRF	%Dev			
101		1,2-Dichlorobenzene	1.199	1.032	13.9	94	0.00	16.58
102		1,2-Dibromo-3-Chloropropa	0.061	0.053	13.1	90	0.00	17.11
			Amount	Calc.	%Drift			

Initial Calibration Verification

Job Number: FA81069 **Sample:** VY2256-ICV2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54345.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

103	Hexachlorobutadiene	40.000	35.364	11.6	92	0.00	17.53
	----------	AvgRF	CCRF	%Dev	----------		
104	1,2,4-Trichlorobenzene	0.591	0.553	6.4	92	0.00	17.58
	----------	Amount	Calc.	%Drift	----------		
105	Naphthalene	40.000	36.757	8.1	88	0.00	17.83
	----------	AvgRF	CCRF	%Dev	----------		
106	1,2,3-Trichlorobenzene	0.523	0.478	8.6	91	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	95	0.00	7.42
	----------	Amount	Calc.	%Drift	----------		
108	Ethanol	800.000	725.867	9.3	88	0.00	5.65
109	Tert Butyl Alcohol	400.000	317.789	20.6#	80	0.00	7.56
	----------	AvgRF	CCRF	%Dev	----------		
110	Isobutyl alcohol	0.240	0.231	3.7	91	0.00	11.31
111	Tert Amyl Alcohol	0.623	0.603	3.2	90	0.00	11.43
112	1,4-Dioxane	0.134	0.131	2.2	95	0.00	12.64
113	3,3-dimethyl-1-butanol	0.818	0.828	-1.2	96	0.00	14.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y54341.D RESTEK112620w.M Fri Nov 27 08:49:18 2020

Initial Calibration Verification

Job Number: FA81069 **Sample:** VY2256-ICV2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54346.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\112620\Y54346.D Vial: 11
Acq On : 26 Nov 2020 12:50 pm Operator: chelseav
Sample : ICV2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK112620w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Nov 27 08:21:29 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	104	0.00	11.52
2	Dichlorodifluoromethane	0.264	0.230	12.9	96	0.00	3.03
3	Acrolein		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
4 P	Chloromethane		----------NA----------				
5	1,3-butadiene		----------NA----------				
	---------- AvgRF	CCRF	%Dev	----------			
6 C	Vinyl Chloride		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
7	Bromomethane		----------NA----------				
8	Chloroethane		----------NA----------				
	---------- AvgRF	CCRF	%Dev	----------			
9	Trichlorofluoromethane		----------NA----------				
10	Ethyl Ether		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
11	1,2-Dichlorotrifluoroetha		----------NA----------				
	---------- AvgRF	CCRF	%Dev	----------			
12 C	1,1-Dichloroethene		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
13	Freon 113	25.000	21.889	12.4	95	0.00	5.73
14	Carbon Disulfide		----------NA----------				
	---------- AvgRF	CCRF	%Dev	----------			
15	Iodomethane		----------NA----------				
16	Allyl chloride		----------NA----------				
	---------- Amount	Calc.	%Drift	----------			
17	Methylene Chloride		----------NA----------				
18	Acetone		----------NA----------				
	---------- AvgRF	CCRF	%Dev	----------			
19	Methyl acetate		----------NA----------				
20	trans-1,2-Dichloroethene		----------NA----------				
21	Hexane	0.187	0.165	11.8	96	0.00	7.25
22	Methyl Tert Butyl Ether		----------NA----------				

Initial Calibration Verification

Job Number: FA81069 **Sample:** VY2256-ICV2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54346.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
23		Acetonitrile		NA				
			AvgRF	CCRF	%Dev			
24		Di-isopropyl ether		NA				
25		Chloroprene		NA				
26	P	1,1-Dichloroethane		NA				
			Amount	Calc.	%Drift			
27		Acrylonitrile		NA				
			AvgRF	CCRF	%Dev			
28		ETBE		NA				
29		Vinyl acetate		NA				
30		cis-1,2-Dichloroethene		NA				
31		2,2-Dichloropropane		NA				
32		Bromochloromethane		NA				
33		Cyclohexane	0.433	0.417	3.7	104	0.00	9.82
34	C	Chloroform		NA				
			Amount	Calc.	%Drift			
35		Ethyl acetate		NA				
36		Tetrahydrofuran		NA				
			AvgRF	CCRF	%Dev			
37	S	Dibromofluoromethane	0.258	0.260	-0.8	104	0.00	10.33
38		Carbon Tetrachloride		NA				
39		1,1,1-Trichloroethane		NA				
40		2-Butanone		NA				
41		1,1-Dichloropropene		NA				
			Amount	Calc.	%Drift			
42		tert-Butyl formate		NA				
43		Propionitrile		NA				
			AvgRF	CCRF	%Dev			
44		Methacrylonitrile		NA				
45		Benzene		NA				
46		TAME		NA				
47	S	1,2-Dichloroethane-d4	0.219	0.217	0.9	103	0.00	11.14
48		1,2-Dichloroethane		NA				
			Amount	Calc.	%Drift			
49		Trichloroethene		NA				
			AvgRF	CCRF	%Dev			
50		Methylcyclohexane		NA				
51		Dibromomethane		NA				
52	C	1,2-Dichloropropane		NA				
53		Bromodichloromethane		NA				
54		Methyl methacrylate		NA				
55		2-Chloroethyl vinyl ether		NA				
56		cis-1,3-Dichloropropene		NA				
57	I	Chlorobenzene-d5	1.000	1.000	0.0	104	0.00	14.58
58	S	Toluene-d8	1.119	1.108	1.0	103	0.00	13.24
59	C	Toluene		NA				
60		2-Nitropropane		NA				
61		4-Methyl-2-pentanone		NA				

Initial Calibration Verification

Job Number: FA81069 **Sample:** VY2256-ICV2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54346.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

62		trans-1,3-Dichloropropene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
63		Tetrachloroethene		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
64		Ethyl methacrylate		----------NA----------				
65		1,1,2-Trichloroethane		----------NA----------				
66		Dibromochloromethane		----------NA----------				
67		1,3-Dichloropropane		----------NA----------				
68		1,2-Dibromoethane		----------NA----------				
69		2-hexanone		----------NA----------				
70		1-Chlorohexane		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
71	C	Ethylbenzene		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
72	P	Chlorobenzene		----------NA----------				
73		1,1,1,2-Tetrachloroethane		----------NA----------				
74		m,p-Xylene		----------NA----------				
75		o-Xylene		----------NA----------				
76		Styrene		----------NA----------				
77	P	Bromoform		----------NA----------				
78		Isopropylbenzene		----------NA----------				
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	104	0.00	16.27
80	S	4-Bromofluorobenzene	0.753	0.750	0.4	104	0.00	15.49
81		cis-1,4-Dichloro-2-butene		----------NA----------				
82		n-Propylbenzene		----------NA----------				
83		Bromobenzene		----------NA----------				
84	P	1,1,2,2-Tetrachloroethane		----------NA----------				
85		1,3,5-Trimethylbenzene		----------NA----------				
86		2-Chlorotoluene		----------NA----------				
87		trans-1,4-Dichloro-2-Bute		----------NA----------				
88		1,2,3-Trichloropropane		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
89		Cyclohexanone		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
90		4-Chlorotoluene		----------NA----------				
91		tert-Butylbenzene		----------NA----------				
92		1,2,4-Trimethylbenzene		----------NA----------				
93		Pentachloroethane		----------NA----------				
94		sec-Butylbenzene		----------NA----------				
95		4-Isopropyltoluene		----------NA----------				
96		1,3-Dichlorobenzene		----------NA----------				
97		1,2,3-Trimethylbenzene		----------NA----------				
98		1,4-Dichlorobenzene		----------NA----------				
99		n-Butylbenzene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
100		Benzyl Chloride		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
101		1,2-Dichlorobenzene		----------NA----------				
102		1,2-Dibromo-3-Chloropropa		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		

Initial Calibration Verification

Job Number: FA81069 **Sample:** VY2256-ICV2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54346.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

103	Hexachlorobutadiene		----------NA----------				
	----------	AvgRF	CCRF	%Dev	----------		
104	1,2,4-Trichlorobenzene		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
105	Naphthalene		----------NA----------				
	----------	AvgRF	CCRF	%Dev	----------		
106	1,2,3-Trichlorobenzene		----------NA----------				
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	113	0.00	7.41
	----------	Amount	Calc.	%Drift	----------		
108	Ethanol		----------NA----------				
109	Tert Butyl Alcohol		----------NA----------				
	----------	AvgRF	CCRF	%Dev	----------		
110	Isobutyl alcohol		----------NA----------				
111	Tert Amyl Alcohol		----------NA----------				
112	1,4-Dioxane		----------NA----------				
113	3,3-dimethyl-1-butanol		----------NA----------				

(#) = Out of Range SPCC's out = 4 CCC's out = 6
Y54340.D RESTEK112620w.M Fri Nov 27 08:49:34 2020

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2258-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54355.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jo...-2020\vy2258\Y54355.D Vial: 3
Acq On : 29 Nov 2020 12:06 pm Operator: LINDSAYR
Sample : CC2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2258,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\met...\RESTEK112620w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Sep 14 08:38:11 2018
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	102	0.00	11.52
2	Dichlorodifluoromethane	0.264	0.235	11.0	92	0.00	3.03
3	Acrolein	0.035	0.034	2.9	102	0.00	6.30
	----------	True	Calc.	% Drift	----------		
4 P	Chloromethane	40.000	36.082	9.8	90	0.00	3.38
5	1,3-butadiene	40.000	33.959	15.1	86	0.00	3.58
	----------	AvgRF	CCRF	% Dev	----------		
6 C	Vinyl Chloride	0.261	0.226	13.4	91	0.00	3.55
	----------	True	Calc.	% Drift	----------		
7	Bromomethane	40.000	37.671	5.8	91	0.00	4.16
8	Chloroethane	40.000	35.322	11.7	96	0.00	4.39
	----------	AvgRF	CCRF	% Dev	----------		
9	Trichlorofluoromethane	0.371	0.327	11.9	91	0.00	4.66
10	Ethyl Ether	0.167	0.154	7.8	96	0.00	5.29
	----------	True	Calc.	% Drift	----------		
11	1,2-Dichlorotrifluoroetha	40.000	34.608	13.5	89	0.00	5.67
	----------	AvgRF	CCRF	% Dev	----------		
12 C	1,1-Dichloroethene	0.330	0.274	17.0	89	0.00	5.63
	----------	True	Calc.	% Drift	----------		
13	Freon 113	40.000	35.785	10.5	91	0.00	5.73
14	Carbon Disulfide	40.000	36.160	9.6	92	0.00	5.67
	----------	AvgRF	CCRF	% Dev	----------		
15	Iodomethane	0.232	0.231	0.4	96	0.00	5.90
16	Allyl chloride	0.309	0.279	9.7	95	0.00	6.57
	----------	True	Calc.	% Drift	----------		
17	Methylene Chloride	40.000	36.097	9.8	94	0.00	6.77
18	Acetone	200.000	202.551	-1.3	103	0.00	6.89
	----------	AvgRF	CCRF	% Dev	----------		
19	Methyl acetate	0.115	0.110	4.3	99	0.00	7.14
20	trans-1,2-Dichloroethene	0.313	0.265	15.3	91	0.00	7.09
21	Hexane	0.187	0.165	11.8	95	0.00	7.25
22	Methyl Tert Butyl Ether	0.484	0.454	6.2	98	0.00	7.32

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2258-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54355.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
23		Acetonitrile	400.000	403.315	-0.8	101	0.00	7.79
			AvgRF	CCRF	% Dev			
24		Di-isopropyl ether	0.714	0.656	8.1	95	0.00	8.09
25		Chloroprene	0.302	0.279	7.6	95	0.00	8.26
26	P	1,1-Dichloroethane	0.380	0.326	14.2	92	0.00	8.31
			True	Calc.	% Drift			
27		Acrylonitrile	200.000	205.487	-2.7	105	0.00	8.42
			AvgRF	CCRF	% Dev			
28		ETBE	0.553	0.525	5.1	96	0.00	8.83
29		Vinyl acetate	0.353	0.358	-1.4	105	0.00	8.86
30		cis-1,2-Dichloroethene	0.276	0.240	13.0	93	0.00	9.42
31		2,2-Dichloropropane	0.295	0.253	14.2	89	0.00	9.64
32		Bromochloromethane	0.146	0.128	12.3	95	0.00	9.84
33		Cyclohexane	0.433	0.379	12.5	92	0.00	9.82
34	C	Chloroform	0.397	0.344	13.4	93	0.00	10.00
			True	Calc.	% Drift			
35		Ethyl acetate	200.000	208.101	-4.1	107	0.00	10.25
36		Tetrahydrofuran	40.000	41.402	-3.5	110	0.00	10.25
			AvgRF	CCRF	% Dev			
37	S	Dibromofluoromethane	0.258	0.260	-0.8	102	0.00	10.33
38		Carbon Tetrachloride	0.350	0.303	13.4	90	0.00	10.23
39		1,1,1-Trichloroethane	0.402	0.336	16.4	91	0.00	10.35
40		2-Butanone	0.066	0.066	0.0	105	0.00	10.55
41		1,1-Dichloropropene	0.327	0.280	14.4	91	0.00	10.56
			True	Calc.	% Drift			
42		tert-Butyl formate	200.000	203.544	-1.8	104	0.00	10.75
43		Propionitrile	400.000	407.051	-1.8	102	0.00	10.99
			AvgRF	CCRF	% Dev			
44		Methacrylonitrile	0.100	0.095	5.0	100	0.00	11.02
45		Benzene	0.995	0.849	14.7	92	0.00	10.94
46		TAME	0.457	0.435	4.8	97	0.00	11.12
47	S	1,2-Dichloroethane-d4	0.219	0.218	0.5	102	0.00	11.14
48		1,2-Dichloroethane	0.273	0.240	12.1	94	0.00	11.24
			True	Calc.	% Drift			
49		Trichloroethene	40.000	35.259	11.9	91	0.00	11.74
			AvgRF	CCRF	% Dev			
50		Methylcyclohexane	0.423	0.376	11.1	94	0.00	11.71
51		Dibromomethane	0.124	0.110	11.3	95	0.00	12.24
52	C	1,2-Dichloropropane	0.227	0.200	11.9	94	0.00	12.34
53		Bromodichloromethane	0.262	0.240	8.4	94	0.00	12.42
54		Methyl methacrylate	0.132	0.138	-4.5	102	0.00	12.58
55		2-Chloroethyl vinyl ether	0.072	0.079	-9.7	105	0.00	13.00
56		cis-1,3-Dichloropropene	0.332	0.309	6.9	94	0.00	13.06
57	I	Chlorobenzene-d5	1.000	1.000	0.0	103	0.00	14.58
58	S	Toluene-d8	1.119	1.121	-0.2	102	0.00	13.24
59	C	Toluene	1.282	1.080	15.8	92	0.00	13.29
60		2-Nitropropane	0.038	0.039	-2.6	98	0.00	13.51
61		4-Methyl-2-pentanone	0.163	0.160	1.8	104	0.00	13.63

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2258-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54355.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

62	trans-1,3-Dichloropropene	0.273	0.253	7.3	94	0.00	13.67
		True	Calc.	% Drift			
63	Tetrachloroethene	40.000	35.156	12.1	91	0.00	13.65
		AvgRF	CCRF	% Dev			
64	Ethyl methacrylate	0.203	0.212	-4.4	102	0.00	13.79
65	1,1,2-Trichloroethane	0.161	0.145	9.9	96	0.00	13.81
66	Dibromochloromethane	0.258	0.247	4.3	95	0.00	13.98
67	1,3-Dichloropropane	0.343	0.305	11.1	95	0.00	14.05
68	1,2-Dibromoethane	0.220	0.202	8.2	95	0.00	14.18
69	2-hexanone	0.114	0.112	1.8	103	0.00	14.33
70	1-Chlorohexane	0.393	0.344	12.5	92	0.00	14.55
		True	Calc.	% Drift			
71 C	Ethylbenzene	40.000	35.537	11.2	91	0.00	14.60
		AvgRF	CCRF	% Dev			
72 P	Chlorobenzene	0.881	0.756	14.2	94	0.00	14.59
73	1,1,1,2-Tetrachloroethane	0.304	0.277	8.9	95	0.00	14.64
74	m,p-Xylene	1.084	0.935	13.7	93	0.00	14.70
75	o-Xylene	1.075	0.950	11.6	93	0.00	15.03
76	Styrene	0.834	0.777	6.8	94	0.00	15.07
77 P	Bromoform	0.133	0.133	0.0	97	0.00	15.13
78	Isopropylbenzene	1.511	1.313	13.1	93	0.00	15.25
79 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	103	0.00	16.27
80 S	4-Bromofluorobenzene	0.753	0.751	0.3	103	0.00	15.48
81	cis-1,4-Dichloro-2-butene	0.100	0.098	2.0	101	0.00	15.51
82	n-Propylbenzene	2.980	2.535	14.9	93	0.00	15.55
83	Bromobenzene	0.680	0.581	14.6	95	0.00	15.58
84 P	1,1,2,2-Tetrachloroethane	0.418	0.380	9.1	97	0.00	15.61
85	1,3,5-Trimethylbenzene	2.129	1.865	12.4	95	0.00	15.67
86	2-Chlorotoluene	1.880	1.583	15.8	94	0.00	15.69
87	trans-1,4-Dichloro-2-Bute	0.087	0.085	2.3	97	0.00	15.73
88	1,2,3-Trichloropropane	0.159	0.144	9.4	98	0.00	15.72
		True	Calc.	% Drift			
89	Cyclohexanone	200.000	216.217	-8.1	114	0.00	15.78
		AvgRF	CCRF	% Dev			
90	4-Chlorotoluene	1.726	1.496	13.3	94	0.00	15.81
91	tert-Butylbenzene	1.109	0.945	14.8	93	0.00	15.91
92	1,2,4-Trimethylbenzene	2.138	1.859	13.0	94	0.00	15.95
93	Pentachloroethane	0.340	0.318	6.5	99	0.00	15.96
94	sec-Butylbenzene	2.656	2.277	14.3	94	0.00	16.03
95	4-Isopropyltoluene	2.442	2.148	12.0	94	0.00	16.12
96	1,3-Dichlorobenzene	1.302	1.119	14.1	95	0.00	16.23
97	1,2,3-Trimethylbenzene	2.367	2.044	13.6	95	0.00	16.27
98	1,4-Dichlorobenzene	1.293	1.100	14.9	95	0.00	16.29
99	n-Butylbenzene	0.947	0.857	9.5	99	0.00	16.41
		True	Calc.	% Drift			
100	Benzyl Chloride	40.000	40.498	-1.2	98	0.00	16.44
		AvgRF	CCRF	% Dev			
101	1,2-Dichlorobenzene	1.199	1.047	12.7	95	0.00	16.58
102	1,2-Dibromo-3-Chloropropa	0.061	0.059	3.3	100	0.00	17.11
		True	Calc.	% Drift			

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2258-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54355.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

103	Hexachlorobutadiene	40.000	34.060	14.8	89	0.00	17.53
	----------	AvgRF	CCRF	% Dev	----------		
104	1,2,4-Trichlorobenzene	0.591	0.567	4.1	95	0.00	17.58
	----------	True	Calc.	% Drift	----------		
105	Naphthalene	40.000	40.827	-2.1	98	0.00	17.83
	----------	AvgRF	CCRF	% Dev	----------		
106	1,2,3-Trichlorobenzene	0.523	0.500	4.4	96	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	114	0.00	7.42
	----------	True	Calc.	% Drift	----------		
108	Ethanol	800.000	737.041	7.9	106	0.00	5.65
109	Tert Butyl Alcohol	400.000	343.812	14.0	103	0.00	7.56
	----------	AvgRF	CCRF	% Dev	----------		
110	Isobutyl alcohol	0.240	0.229	4.6	108	0.00	11.31
111	Tert Amyl Alcohol	0.623	0.578	7.2	103	0.00	11.43
112	1,4-Dioxane	0.134	0.115	14.2	100	0.00	12.64
113	3,3-dimethyl-1-butanol	0.818	0.945	-15.5	131	0.00	14.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y54341.D RESTEK112620w.M Mon Nov 30 02:49:54 2020

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2258-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54378.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\112920\Y54378.D Vial: 25
Acq On : 29 Nov 2020 10:32 pm Operator: LINDSAYR
Sample : CC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK112620w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Nov 27 08:21:29 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	89	0.00	11.52
2	Dichlorodifluoromethane	0.264	0.254	3.8	87	0.00	3.03
3	Acrolein	0.035	0.030	14.3	79	0.00	6.31
		Amount	Calc.	%Drift			
4 P	Chloromethane	40.000	36.265	9.3	79	0.00	3.39
5	1,3-butadiene	40.000	35.757	10.6	79	0.00	3.58
		AvgRF	CCRF	%Dev			
6 C	Vinyl Chloride	0.261	0.235	10.0	82	0.00	3.54
		Amount	Calc.	%Drift			
7	Bromomethane	40.000	40.589	-1.5	86	0.00	4.16
8	Chloroethane	40.000	63.721	-59.3#	134	0.00	4.40
		AvgRF	CCRF	%Dev			
9	Trichlorofluoromethane	0.371	0.369	0.5	90	0.00	4.67
10	Ethyl Ether	0.167	0.149	10.8	81	0.00	5.28
		Amount	Calc.	%Drift			
11	1,2-Dichlorotrifluoroetha	40.000	37.253	6.9	83	0.00	5.67
		AvgRF	CCRF	%Dev			
12 C	1,1-Dichloroethene	0.330	0.287	13.0	81	0.00	5.64
		Amount	Calc.	%Drift			
13	Freon 113	40.000	38.975	2.6	86	0.00	5.73
14	Carbon Disulfide	40.000	37.045	7.4	82	0.00	5.67
		AvgRF	CCRF	%Dev			
15	Iodomethane	0.232	0.266	-14.7	97	0.00	5.90
16	Allyl chloride	0.309	0.270	12.6	80	0.00	6.56
		Amount	Calc.	%Drift			
17	Methylene Chloride	40.000	38.075	4.8	86	0.00	6.77
18	Acetone	200.000	170.031	15.0	77	0.00	6.88
		AvgRF	CCRF	%Dev			
19	Methyl acetate	0.115	0.100	13.0	79	0.00	7.14
20	trans-1,2-Dichloroethene	0.313	0.270	13.7	81	0.00	7.09
21	Hexane	0.187	0.164	12.3	83	0.00	7.26
22	Methyl Tert Butyl Ether	0.484	0.444	8.3	83	0.00	7.32

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2258-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54378.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
23		Acetonitrile	400.000	322.369	19.4	71	0.00	7.79
			AvgRF	CCRF	%Dev			
24		Di-isopropyl ether	0.714	0.666	6.7	84	0.00	8.09
25		Chloroprene	0.302	0.276	8.6	82	0.00	8.26
26	P	1,1-Dichloroethane	0.380	0.335	11.8	83	0.00	8.31
			Amount	Calc.	%Drift			
27		Acrylonitrile	200.000	186.235	6.9	83	0.00	8.42
			AvgRF	CCRF	%Dev			
28		ETBE	0.553	0.527	4.7	84	0.00	8.82
29		Vinyl acetate	0.353	0.337	4.5	86	0.00	8.86
30		cis-1,2-Dichloroethene	0.276	0.248	10.1	84	0.00	9.43
31		2,2-Dichloropropane	0.295	0.243	17.6	75	0.00	9.63
32		Bromochloromethane	0.146	0.134	8.2	86	0.00	9.83
33		Cyclohexane	0.433	0.393	9.2	83	0.00	9.82
34	C	Chloroform	0.397	0.358	9.8	84	0.00	10.00
			Amount	Calc.	%Drift			
35		Ethyl acetate	200.000	190.719	4.6	85	0.00	10.25
36		Tetrahydrofuran	40.000	39.328	1.7	91	0.00	10.25
			AvgRF	CCRF	%Dev			
37	S	Dibromofluoromethane	0.258	0.268	-3.9	92	0.00	10.33
38		Carbon Tetrachloride	0.350	0.324	7.4	84	0.00	10.23
39		1,1,1-Trichloroethane	0.402	0.353	12.2	83	0.00	10.35
40		2-Butanone	0.066	0.057	13.6	79	0.00	10.55
41		1,1-Dichloropropene	0.327	0.290	11.3	82	0.00	10.56
			Amount	Calc.	%Drift			
42		tert-Butyl formate	200.000	191.024	4.5	83	0.00	10.75
43		Propionitrile	400.000	343.288	14.2	75	0.00	10.99
			AvgRF	CCRF	%Dev			
44		Methacrylonitrile	0.100	0.091	9.0	83	0.00	11.02
45		Benzene	0.995	0.872	12.4	83	0.00	10.94
46		TAME	0.457	0.430	5.9	84	0.00	11.12
47	S	1,2-Dichloroethane-d4	0.219	0.220	-0.5	90	0.00	11.14
48		1,2-Dichloroethane	0.273	0.251	8.1	86	0.00	11.24
			Amount	Calc.	%Drift			
49		Trichloroethene	40.000	36.820	7.9	83	0.00	11.74
			AvgRF	CCRF	%Dev			
50		Methylcyclohexane	0.423	0.388	8.3	85	0.00	11.71
51		Dibromomethane	0.124	0.114	8.1	86	0.00	12.24
52	C	1,2-Dichloropropane	0.227	0.205	9.7	84	0.00	12.34
53		Bromodichloromethane	0.262	0.251	4.2	86	0.00	12.42
54		Methyl methacrylate	0.132	0.126	4.5	81	0.00	12.58
55		2-Chloroethyl vinyl ether	0.072	0.075	-4.2	87	0.00	13.00
56		cis-1,3-Dichloropropene	0.332	0.311	6.3	83	0.00	13.06
57	I	Chlorobenzene-d5	1.000	1.000	0.0	94	0.00	14.58
58	S	Toluene-d8	1.119	1.090	2.6	91	0.00	13.24
59	C	Toluene	1.282	1.076	16.1	84	0.00	13.29
60		2-Nitropropane	0.038	0.034	10.5	80	0.00	13.51
61		4-Methyl-2-pentanone	0.163	0.142	12.9	85	0.00	13.63

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2258-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54378.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

62		trans-1,3-Dichloropropene	0.273	0.241	11.7	82	0.00	13.67
		----------	Amount	Calc.	%Drift	----------		
63		Tetrachloroethene	40.000	37.971	5.1	90	0.00	13.65
		----------	AvgRF	CCRF	%Dev	----------		
64		Ethyl methacrylate	0.203	0.192	5.4	84	0.00	13.79
65		1,1,2-Trichloroethane	0.161	0.141	12.4	85	0.00	13.81
66		Dibromochloromethane	0.258	0.244	5.4	86	0.00	13.98
67		1,3-Dichloropropane	0.343	0.298	13.1	85	0.00	14.05
68		1,2-Dibromoethane	0.220	0.197	10.5	85	0.00	14.18
69		2-hexanone	0.114	0.105	7.9	87	0.00	14.32
70		1-Chlorohexane	0.393	0.331	15.8	81	0.00	14.55
		----------	Amount	Calc.	%Drift	----------		
71	C	Ethylbenzene	40.000	36.110	9.7	85	0.00	14.59
		----------	AvgRF	CCRF	%Dev	----------		
72	P	Chlorobenzene	0.881	0.766	13.1	87	0.00	14.59
73		1,1,1,2-Tetrachloroethane	0.304	0.279	8.2	88	0.00	14.64
74		m,p-Xylene	1.084	0.938	13.5	85	0.00	14.70
75		o-Xylene	1.075	0.956	11.1	86	0.00	15.04
76		Styrene	0.834	0.782	6.2	86	0.00	15.07
77	P	Bromoform	0.133	0.125	6.0	84	0.00	15.12
78		Isopropylbenzene	1.511	1.317	12.8	85	0.00	15.25
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	97	0.00	16.27
80	S	4-Bromofluorobenzene	0.753	0.729	3.2	95	0.00	15.49
81		cis-1,4-Dichloro-2-butene	0.100	0.080	20.0	78	0.00	15.52
82		n-Propylbenzene	2.980	2.474	17.0	85	0.00	15.55
83		Bromobenzene	0.680	0.576	15.3	89	0.00	15.58
84	P	1,1,2,2-Tetrachloroethane	0.418	0.350	16.3	84	0.00	15.61
85		1,3,5-Trimethylbenzene	2.129	1.818	14.6	87	0.00	15.67
86		2-Chlorotoluene	1.880	1.553	17.4	87	0.00	15.69
87		trans-1,4-Dichloro-2-Bute	0.087	0.073	16.1	79	0.00	15.73
88		1,2,3-Trichloropropane	0.159	0.133	16.4	85	0.00	15.72
		----------	Amount	Calc.	%Drift	----------		
89		Cyclohexanone	200.000	116.744	41.6	57	0.00	15.78
		----------	AvgRF	CCRF	%Dev	----------		
90		4-Chlorotoluene	1.726	1.465	15.1	87	0.00	15.80
91		tert-Butylbenzene	1.109	0.925	16.6	86	0.00	15.91
92		1,2,4-Trimethylbenzene	2.138	1.842	13.8	88	0.00	15.95
93		Pentachloroethane	0.340	0.282	17.1	83	0.00	15.96
94		sec-Butylbenzene	2.656	2.230	16.0	87	0.00	16.03
95		4-Isopropyltoluene	2.442	2.101	14.0	87	0.00	16.12
96		1,3-Dichlorobenzene	1.302	1.117	14.2	89	0.00	16.23
97		1,2,3-Trimethylbenzene	2.367	2.030	14.2	89	0.00	16.26
98		1,4-Dichlorobenzene	1.293	1.082	16.3	88	0.00	16.28
99		n-Butylbenzene	0.947	0.822	13.2	90	0.00	16.40
		----------	Amount	Calc.	%Drift	----------		
100		Benzyl Chloride	40.000	32.347	19.1	72	0.00	16.44
		----------	AvgRF	CCRF	%Dev	----------		
101		1,2-Dichlorobenzene	1.199	1.035	13.7	89	0.00	16.58
102		1,2-Dibromo-3-Chloropropa	0.061	0.051	16.4	81	0.00	17.12
		----------	Amount	Calc.	%Drift	----------		

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2258-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54378.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

103	Hexachlorobutadiene	40.000	33.870	15.3	84	0.00	17.53
	----------	AvgRF	CCRF	%Dev	----------		
104	1,2,4-Trichlorobenzene	0.591	0.545	7.8	86	0.00	17.58
	----------	Amount	Calc.	%Drift	----------		
105	Naphthalene	40.000	36.715	8.2	83	0.00	17.83
	----------	AvgRF	CCRF	%Dev	----------		
106	1,2,3-Trichlorobenzene	0.523	0.470	10.1	85	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	64	0.00	7.41
	----------	Amount	Calc.	%Drift	----------		
108	Ethanol	800.000	526.993	34.1	44	-0.02	5.62
109	Tert Butyl Alcohol	400.000	397.130	0.7	66	0.00	7.55
	----------	AvgRF	CCRF	%Dev	----------		
110	Isobutyl alcohol	0.240	0.231	3.7	62	0.00	11.31
111	Tert Amyl Alcohol	0.623	0.633	-1.6	63	0.00	11.42
112	1,4-Dioxane	0.134	0.071	47.0	35#	0.00	12.65
113	3,3-dimethyl-1-butanol	0.818	1.154	-41.1	90	0.00	14.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y54341.D RESTEK112620w.M Mon Nov 30 11:22:17 2020

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2260-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54402.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\Je...-2020\VY2260\Y54402.D Vial: 2
Acq On : 30 Nov 2020 10:26 am Operator: LINDSAYR
Sample : cc2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2260,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\met...\RESTEK112620w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Sep 14 08:38:11 2018
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	84	0.00	11.52
2	Dichlorodifluoromethane	0.264	0.275	-4.2	89	0.00	3.03
3	Acrolein	0.035	0.031	11.4	77	0.00	6.31
	----------	True	Calc.	% Drift	----------		
4 P	Chloromethane	40.000	39.185	2.0	80	0.00	3.39
5	1,3-butadiene	40.000	37.089	7.3	77	0.00	3.58
	----------	AvgRF	CCRF	% Dev	----------		
6 C	Vinyl Chloride	0.261	0.248	5.0	82	0.00	3.54
	----------	True	Calc.	% Drift	----------		
7	Bromomethane	40.000	40.975	-2.4	82	0.00	4.16
8	Chloroethane	40.000	41.307	-3.3	90	0.00	4.40
	----------	AvgRF	CCRF	% Dev	----------		
9	Trichlorofluoromethane	0.371	0.393	-5.9	90	0.00	4.66
10	Ethyl Ether	0.167	0.158	5.4	81	0.00	5.29
	----------	True	Calc.	% Drift	----------		
11	1,2-Dichlorotrifluoroetha	40.000	40.879	-2.2	85	0.00	5.67
	----------	AvgRF	CCRF	% Dev	----------		
12 C	1,1-Dichloroethene	0.330	0.319	3.3	85	0.00	5.64
	----------	True	Calc.	% Drift	----------		
13	Freon 113	40.000	43.388	-8.5	90	0.00	5.73
14	Carbon Disulfide	40.000	41.647	-4.1	86	0.00	5.67
	----------	AvgRF	CCRF	% Dev	----------		
15	Iodomethane	0.232	0.240	-3.4	82	0.00	5.90
16	Allyl chloride	0.309	0.303	1.9	85	0.00	6.56
	----------	True	Calc.	% Drift	----------		
17	Methylene Chloride	40.000	40.016	-0.0	85	0.00	6.77
18	Acetone	200.000	176.761	11.6	75	0.00	6.89
	----------	AvgRF	CCRF	% Dev	----------		
19	Methyl acetate	0.115	0.101	12.2	75	0.00	7.14
20	trans-1,2-Dichloroethene	0.313	0.301	3.8	85	0.00	7.09
21	Hexane	0.187	0.191	-2.1	91	0.00	7.25
22	Methyl Tert Butyl Ether	0.484	0.447	7.6	79	0.00	7.32

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2260-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54402.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
23		Acetonitrile	400.000	355.048	11.2	73	0.00	7.80
			AvgRF	CCRF	% Dev			
24		Di-isopropyl ether	0.714	0.688	3.6	82	0.00	8.09
25		Chloroprene	0.302	0.307	-1.7	85	0.00	8.27
26	P	1,1-Dichloroethane	0.380	0.366	3.7	85	0.00	8.31
			True	Calc.	% Drift			
27		Acrylonitrile	200.000	187.428	6.3	79	0.00	8.42
			AvgRF	CCRF	% Dev			
28		ETBE	0.553	0.533	3.6	80	0.00	8.83
29		Vinyl acetate	0.353	0.341	3.4	82	0.00	8.86
30		cis-1,2-Dichloroethene	0.276	0.268	2.9	85	0.00	9.43
31		2,2-Dichloropropane	0.295	0.293	0.7	85	0.00	9.64
32		Bromochloromethane	0.146	0.144	1.4	87	0.00	9.83
33		Cyclohexane	0.433	0.427	1.4	85	0.00	9.82
34	C	Chloroform	0.397	0.388	2.3	86	0.00	10.01
			True	Calc.	% Drift			
35		Ethyl acetate	200.000	186.614	6.7	79	0.00	10.25
36		Tetrahydrofuran	40.000	38.205	4.5	84	0.00	10.25
			AvgRF	CCRF	% Dev			
37	S	Dibromofluoromethane	0.258	0.271	-5.0	87	0.00	10.33
38		Carbon Tetrachloride	0.350	0.363	-3.7	88	0.00	10.23
39		1,1,1-Trichloroethane	0.402	0.394	2.0	87	0.00	10.35
40		2-Butanone	0.066	0.057	13.6	74	0.00	10.55
41		1,1-Dichloropropene	0.327	0.318	2.8	85	0.00	10.56
			True	Calc.	% Drift			
42		tert-Butyl formate	200.000	203.562	-1.8	86	0.00	10.75
43		Propionitrile	400.000	360.233	9.9	74	0.00	10.99
			AvgRF	CCRF	% Dev			
44		Methacrylonitrile	0.100	0.091	9.0	79	0.00	11.02
45		Benzene	0.995	0.944	5.1	84	0.00	10.94
46		TAME	0.457	0.432	5.5	79	0.00	11.12
47	S	1,2-Dichloroethane-d4	0.219	0.222	-1.4	85	0.00	11.14
48		1,2-Dichloroethane	0.273	0.262	4.0	85	0.00	11.24
			True	Calc.	% Drift			
49		Trichloroethene	40.000	41.197	-3.0	87	0.00	11.74
			AvgRF	CCRF	% Dev			
50		Methylcyclohexane	0.423	0.424	-0.2	87	0.00	11.71
51		Dibromomethane	0.124	0.118	4.8	83	0.00	12.24
52	C	1,2-Dichloropropane	0.227	0.215	5.3	83	0.00	12.34
53		Bromodichloromethane	0.262	0.266	-1.5	85	0.00	12.42
54		Methyl methacrylate	0.132	0.127	3.8	77	0.00	12.58
55		2-Chloroethyl vinyl ether	0.072	0.074	-2.8	81	0.00	13.00
56		cis-1,3-Dichloropropene	0.332	0.334	-0.6	84	0.00	13.07
57	I	Chlorobenzene-d5	1.000	1.000	0.0	91	0.00	14.58
58	S	Toluene-d8	1.119	1.070	4.4	87	0.00	13.24
59	C	Toluene	1.282	1.133	11.6	86	0.00	13.28
60		2-Nitropropane	0.038	0.033	13.2	76	0.00	13.51
61		4-Methyl-2-pentanone	0.163	0.135	17.2	78	0.00	13.63

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2260-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54402.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

62	trans-1,3-Dichloropropene	0.273	0.248	9.2	82	0.00	13.67
		True	Calc.	% Drift			
63	Tetrachloroethene	40.000	38.628	3.4	88	0.00	13.65
		AvgRF	CCRF	% Dev			
64	Ethyl methacrylate	0.203	0.185	8.9	79	0.00	13.79
65	1,1,2-Trichloroethane	0.161	0.140	13.0	82	0.00	13.81
66	Dibromochloromethane	0.258	0.247	4.3	84	0.00	13.97
67	1,3-Dichloropropane	0.343	0.296	13.7	82	0.00	14.04
68	1,2-Dibromoethane	0.220	0.195	11.4	82	0.00	14.18
69	2-hexanone	0.114	0.099	13.2	80	0.00	14.32
70	1-Chlorohexane	0.393	0.357	9.2	85	0.00	14.55
		True	Calc.	% Drift			
71 C	Ethylbenzene	40.000	38.090	4.8	87	0.00	14.59
		AvgRF	CCRF	% Dev			
72 P	Chlorobenzene	0.881	0.796	9.6	87	0.00	14.59
73	1,1,1,2-Tetrachloroethane	0.304	0.291	4.3	89	0.00	14.64
74	m,p-Xylene	1.084	0.990	8.7	87	0.00	14.70
75	o-Xylene	1.075	0.989	8.0	86	0.00	15.04
76	Styrene	0.834	0.806	3.4	86	0.00	15.07
77 P	Bromoform	0.133	0.123	7.5	80	0.00	15.12
78	Isopropylbenzene	1.511	1.394	7.7	87	0.00	15.26
79 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	94	0.00	16.27
80 S	4-Bromofluorobenzene	0.753	0.733	2.7	92	0.00	15.49
81	cis-1,4-Dichloro-2-butene	0.100	0.083	17.0	77	0.00	15.52
82	n-Propylbenzene	2.980	2.633	11.6	88	0.00	15.55
83	Bromobenzene	0.680	0.596	12.4	89	0.00	15.58
84 P	1,1,2,2-Tetrachloroethane	0.418	0.341	18.4	79	0.00	15.61
85	1,3,5-Trimethylbenzene	2.129	1.918	9.9	88	0.00	15.68
86	2-Chlorotoluene	1.880	1.627	13.5	88	0.00	15.69
87	trans-1,4-Dichloro-2-Bute	0.087	0.073	16.1	76	0.00	15.73
88	1,2,3-Trichloropropane	0.159	0.131	17.6	81	0.00	15.72
		True	Calc.	% Drift			
89	Cyclohexanone	200.000	140.996	29.5#	67	0.00	15.78
		AvgRF	CCRF	% Dev			
90	4-Chlorotoluene	1.726	1.533	11.2	87	0.00	15.80
91	tert-Butylbenzene	1.109	0.985	11.2	89	0.00	15.91
92	1,2,4-Trimethylbenzene	2.138	1.919	10.2	88	0.00	15.95
93	Pentachloroethane	0.340	0.318	6.5	90	0.00	15.96
94	sec-Butylbenzene	2.656	2.348	11.6	88	0.00	16.03
95	4-Isopropyltoluene	2.442	2.222	9.0	89	0.00	16.12
96	1,3-Dichlorobenzene	1.302	1.162	10.8	89	0.00	16.23
97	1,2,3-Trimethylbenzene	2.367	2.095	11.5	88	0.00	16.27
98	1,4-Dichlorobenzene	1.293	1.142	11.7	90	0.00	16.28
99	n-Butylbenzene	0.947	0.873	7.8	92	0.00	16.41
		True	Calc.	% Drift			
100	Benzyl Chloride	40.000	34.663	13.3	75	0.00	16.44
		AvgRF	CCRF	% Dev			
101	1,2-Dichlorobenzene	1.199	1.053	12.2	87	0.00	16.58
102	1,2-Dibromo-3-Chloropropa	0.061	0.048	21.3#	73	0.00	17.12
		True	Calc.	% Drift			

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2260-CC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54402.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

103	Hexachlorobutadiene	40.000	36.020	9.9	86	0.00	17.52
	----------	AvgRF	CCRF	% Dev	----------		
104	1,2,4-Trichlorobenzene	0.591	0.550	6.9	84	0.00	17.59
	----------	True	Calc.	% Drift	----------		
105	Naphthalene	40.000	34.401	14.0	75	0.00	17.83
	----------	AvgRF	CCRF	% Dev	----------		
106	1,2,3-Trichlorobenzene	0.523	0.472	9.8	82	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	72	0.00	7.42
	----------	True	Calc.	% Drift	----------		
108	Ethanol	800.000	737.493	7.8	67	0.00	5.64
109	Tert Butyl Alcohol	400.000	388.699	2.8	73	0.00	7.56
	----------	AvgRF	CCRF	% Dev	----------		
110	Isobutyl alcohol	0.240	0.224	6.7	67	0.00	11.31
111	Tert Amyl Alcohol	0.623	0.562	9.8	63	0.00	11.42
112	1,4-Dioxane	0.134	0.110	17.9	60	0.00	12.64
113	3,3-dimethyl-1-butanol	0.818	1.002	-22.5#	88	0.00	14.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y54341.D RESTEK112620w.M Tue Dec 01 02:08:55 2020

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2260-ECC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54425.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\Je...-2020\VY2260\Y54425.D Vial: 25
Acq On : 30 Nov 2020 9:02 pm Operator: LINDSAYR
Sample : ECC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2260,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\met...\RESTEK112620w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Sep 14 08:38:11 2018
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	81	0.00	11.52
2	Dichlorodifluoromethane	0.264	0.248	6.1	77	0.00	3.04
3	Acrolein	0.035	0.030	14.3	72	0.00	6.30
	----------	True	Calc.	% Drift	----------		
4 P	Chloromethane	40.000	37.839	5.4	75	0.00	3.39
5	1,3-butadiene	40.000	33.710	15.7	68	0.00	3.58
	----------	AvgRF	CCRF	% Dev	----------		
6 C	Vinyl Chloride	0.261	0.230	11.9	73	0.00	3.55
	----------	True	Calc.	% Drift	----------		
7	Bromomethane	40.000	37.192	7.0	71	0.00	4.16
8	Chloroethane	40.000	43.043	-7.6	90	0.00	4.40
	----------	AvgRF	CCRF	% Dev	----------		
9	Trichlorofluoromethane	0.371	0.363	2.2	80	0.00	4.67
10	Ethyl Ether	0.167	0.150	10.2	74	0.00	5.29
	----------	True	Calc.	% Drift	----------		
11	1,2-Dichlorotrifluoroetha	40.000	38.352	4.1	78	0.00	5.67
	----------	AvgRF	CCRF	% Dev	----------		
12 C	1,1-Dichloroethene	0.330	0.294	10.9	76	0.00	5.64
	----------	True	Calc.	% Drift	----------		
13	Freon 113	40.000	39.194	2.0	79	0.00	5.74
14	Carbon Disulfide	40.000	37.804	5.5	76	0.00	5.67
	----------	AvgRF	CCRF	% Dev	----------		
15	Iodomethane	0.232	0.187	19.4	62	0.00	5.91
16	Allyl chloride	0.309	0.267	13.6	72	0.00	6.57
	----------	True	Calc.	% Drift	----------		
17	Methylene Chloride	40.000	37.363	6.6	77	0.00	6.78
18	Acetone	200.000	174.696	12.7	71	0.00	6.88
	----------	AvgRF	CCRF	% Dev	----------		
19	Methyl acetate	0.115	0.105	8.7	75	0.00	7.14
20	trans-1,2-Dichloroethene	0.313	0.275	12.1	75	0.00	7.09
21	Hexane	0.187	0.154	17.6	71	0.00	7.25
22	Methyl Tert Butyl Ether	0.484	0.435	10.1	74	0.00	7.32

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2260-ECC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54425.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
23		Acetonitrile	400.000	346.245	13.4	69	0.00	7.79
			AvgRF	CCRF	% Dev			
24		Di-isopropyl ether	0.714	0.647	9.4	74	0.00	8.09
25		Chloroprene	0.302	0.273	9.6	73	0.00	8.27
26	P	1,1-Dichloroethane	0.380	0.339	10.8	76	0.00	8.32
			True	Calc.	% Drift			
27		Acrylonitrile	200.000	189.225	5.4	77	0.00	8.42
			AvgRF	CCRF	% Dev			
28		ETBE	0.553	0.517	6.5	75	0.00	8.83
29		Vinyl acetate	0.353	0.328	7.1	76	0.00	8.86
30		cis-1,2-Dichloroethene	0.276	0.250	9.4	77	0.00	9.42
31		2,2-Dichloropropane	0.295	0.249	15.6	70	0.00	9.64
32		Bromochloromethane	0.146	0.136	6.8	79	0.00	9.84
33		Cyclohexane	0.433	0.391	9.7	75	0.00	9.82
34	C	Chloroform	0.397	0.360	9.3	77	0.00	10.00
			True	Calc.	% Drift			
35		Ethyl acetate	200.000	188.049	6.0	76	0.00	10.25
36		Tetrahydrofuran	40.000	37.601	6.0	79	0.00	10.25
			AvgRF	CCRF	% Dev			
37	S	Dibromofluoromethane	0.258	0.269	-4.3	84	0.00	10.33
38		Carbon Tetrachloride	0.350	0.337	3.7	79	0.00	10.23
39		1,1,1-Trichloroethane	0.402	0.369	8.2	79	0.00	10.35
40		2-Butanone	0.066	0.058	12.1	73	0.00	10.55
41		1,1-Dichloropropene	0.327	0.292	10.7	75	0.00	10.56
			True	Calc.	% Drift			
42		tert-Butyl formate	200.000	200.031	-0.0	81	0.00	10.75
43		Propionitrile	400.000	360.594	9.9	72	0.00	10.99
			AvgRF	CCRF	% Dev			
44		Methacrylonitrile	0.100	0.090	10.0	75	0.00	11.02
45		Benzene	0.995	0.877	11.9	76	0.00	10.94
46		TAME	0.457	0.423	7.4	75	0.00	11.12
47	S	1,2-Dichloroethane-d4	0.219	0.221	-0.9	82	0.00	11.14
48		1,2-Dichloroethane	0.273	0.254	7.0	79	0.00	11.24
			True	Calc.	% Drift			
49		Trichloroethene	40.000	38.667	3.3	79	0.00	11.74
			AvgRF	CCRF	% Dev			
50		Methylcyclohexane	0.423	0.383	9.5	76	0.00	11.71
51		Dibromomethane	0.124	0.115	7.3	78	0.00	12.23
52	C	1,2-Dichloropropane	0.227	0.202	11.0	75	0.00	12.34
53		Bromodichloromethane	0.262	0.254	3.1	79	0.00	12.42
54		Methyl methacrylate	0.132	0.123	6.8	72	0.00	12.58
55		2-Chloroethyl vinyl ether	0.072	0.070	2.8	74	0.00	13.00
56		cis-1,3-Dichloropropene	0.332	0.314	5.4	76	0.00	13.07
57	I	Chlorobenzene-d5	1.000	1.000	0.0	88	0.00	14.58
58	S	Toluene-d8	1.119	1.066	4.7	84	0.00	13.24
59	C	Toluene	1.282	1.061	17.2	78	0.00	13.29
60		2-Nitropropane	0.038	0.034	10.5	76	0.00	13.51
61		4-Methyl-2-pentanone	0.163	0.137	16.0	77	0.00	13.63

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2260-ECC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54425.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

62	trans-1,3-Dichloropropene	0.273	0.239	12.5	77	0.00	13.67
		True	Calc.	% Drift			
63	Tetrachloroethene	40.000	38.471	3.8	85	0.00	13.65
		AvgRF	CCRF	% Dev			
64	Ethyl methacrylate	0.203	0.178	12.3	74	0.00	13.79
65	1,1,2-Trichloroethane	0.161	0.137	14.9	78	0.00	13.82
66	Dibromochloromethane	0.258	0.238	7.8	79	0.00	13.97
67	1,3-Dichloropropane	0.343	0.286	16.6	77	0.00	14.05
68	1,2-Dibromoethane	0.220	0.192	12.7	78	0.00	14.18
69	2-hexanone	0.114	0.098	14.0	77	0.00	14.33
70	1-Chlorohexane	0.393	0.325	17.3	75	0.00	14.55
		True	Calc.	% Drift			
71 C	Ethylbenzene	40.000	35.430	11.4	78	0.00	14.60
		AvgRF	CCRF	% Dev			
72 P	Chlorobenzene	0.881	0.748	15.1	80	0.00	14.60
73	1,1,1,2-Tetrachloroethane	0.304	0.275	9.5	81	0.00	14.64
74	m,p-Xylene	1.084	0.916	15.5	78	0.00	14.70
75	o-Xylene	1.075	0.927	13.8	78	0.00	15.03
76	Styrene	0.834	0.754	9.6	78	0.00	15.07
77 P	Bromoform	0.133	0.123	7.5	77	0.00	15.12
78	Isopropylbenzene	1.511	1.296	14.2	79	0.00	15.26
79 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	92	0.00	16.27
80 S	4-Bromofluorobenzene	0.753	0.729	3.2	89	0.00	15.49
81	cis-1,4-Dichloro-2-butene	0.100	0.083	17.0	76	0.00	15.51
82	n-Propylbenzene	2.980	2.418	18.9	79	0.00	15.55
83	Bromobenzene	0.680	0.557	18.1	81	0.00	15.57
84 P	1,1,2,2-Tetrachloroethane	0.418	0.342	18.2	77	0.00	15.61
85	1,3,5-Trimethylbenzene	2.129	1.778	16.5	80	0.00	15.67
86	2-Chlorotoluene	1.880	1.515	19.4	80	0.00	15.69
87	trans-1,4-Dichloro-2-Bute	0.087	0.072	17.2	73	0.00	15.73
88	1,2,3-Trichloropropane	0.159	0.132	17.0	79	0.00	15.72
		True	Calc.	% Drift			
89	Cyclohexanone	200.000	128.857	35.6	60	0.00	15.78
		AvgRF	CCRF	% Dev			
90	4-Chlorotoluene	1.726	1.420	17.7	79	0.00	15.81
91	tert-Butylbenzene	1.109	0.913	17.7	80	0.00	15.91
92	1,2,4-Trimethylbenzene	2.138	1.793	16.1	81	0.00	15.95
93	Pentachloroethane	0.340	0.262	22.9	73	0.00	15.96
94	sec-Butylbenzene	2.656	2.165	18.5	80	0.00	16.03
95	4-Isopropyltoluene	2.442	2.043	16.3	80	0.00	16.12
96	1,3-Dichlorobenzene	1.302	1.084	16.7	81	0.00	16.23
97	1,2,3-Trimethylbenzene	2.367	1.970	16.8	81	0.00	16.27
98	1,4-Dichlorobenzene	1.293	1.061	17.9	81	0.00	16.29
99	n-Butylbenzene	0.947	0.787	16.9	81	0.00	16.41
		True	Calc.	% Drift			
100	Benzyl Chloride	40.000	29.332	26.7	61	0.00	16.44
		AvgRF	CCRF	% Dev			
101	1,2-Dichlorobenzene	1.199	1.006	16.1	81	0.00	16.58
102	1,2-Dibromo-3-Chloropropa	0.061	0.049	19.7	74	0.00	17.11
		True	Calc.	% Drift			

Continuing Calibration Summary

Job Number: FA81069 **Sample:** VY2260-ECC2256
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y54425.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

103	Hexachlorobutadiene	40.000	32.728	18.2	76	0.00	17.53
	----------	AvgRF	CCRF	% Dev	----------		
104	1,2,4-Trichlorobenzene	0.591	0.518	12.4	77	0.00	17.59
	----------	True	Calc.	% Drift	----------		
105	Naphthalene	40.000	35.012	12.5	74	0.00	17.84
	----------	AvgRF	CCRF	% Dev	----------		
106	1,2,3-Trichlorobenzene	0.523	0.447	14.5	76	0.00	17.98
107 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	69	-0.01	7.40
	----------	True	Calc.	% Drift	----------		
108	Ethanol	800.000	696.009	13.0	61	-0.02	5.63
109	Tert Butyl Alcohol	400.000	370.426	7.4	67	0.00	7.56
	----------	AvgRF	CCRF	% Dev	----------		
110	Isobutyl alcohol	0.240	0.219	8.7	63	0.00	11.31
111	Tert Amyl Alcohol	0.623	0.544	12.7	59	0.00	11.43
112	1,4-Dioxane	0.134	0.100	25.4	53	0.00	12.64
113	3,3-dimethyl-1-butanol	0.818	1.010	-23.5	85	0.00	14.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y54341.D RESTEK112620w.M Tue Dec 01 02:40:43 2020

Run Sequence Report

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VY2256 **Method:** SW846 8260B **Instrument ID:** GCMSY

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VY2256-BFB	Y54336.D	11/26/20 08:19	n/a	BFB Tune
VY2256-IC2256	Y54337.D	11/26/20 08:46	n/a	Initial cal 1
VY2256-IC2256	Y54338.D	11/26/20 09:13	n/a	Initial cal 2
VY2256-IC2256	Y54339.D	11/26/20 09:40	n/a	Initial cal 3
VY2256-IC2256	Y54340.D	11/26/20 10:07	n/a	Initial cal 4
VY2256-ICC2256	Y54341.D	11/26/20 10:35	n/a	Initial cal 5
VY2256-IC2256	Y54342.D	11/26/20 11:02	n/a	Initial cal 6
VY2256-IC2256	Y54343.D	11/26/20 11:29	n/a	Initial cal 7
VY2256-ICV2256	Y54345.D	11/26/20 12:23	n/a	Initial cal verification 5
VY2256-ICV2256	Y54346.D	11/26/20 12:50	n/a	Initial cal verification 4

Run Sequence Report

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VY2258 **Method:** SW846 8260B **Instrument ID:** GCMSY

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VY2258-BFB	Y54354.D	11/29/20 11:38	n/a	BFB Tune
VY2258-CC2256	Y54355.D	11/29/20 12:06	n/a	Continuing cal 5
VY2258-BS	Y54356.D	11/29/20 12:41	n/a	Blank Spike
ZZZZZZ	Y54359.D	11/29/20 14:21	n/a	(unrelated sample)
VY2258-MB	Y54360.D	11/29/20 14:48	n/a	Method Blank
ZZZZZZ	Y54362.D	11/29/20 15:16	n/a	(unrelated sample)
ZZZZZZ	Y54363.D	11/29/20 15:43	n/a	(unrelated sample)
ZZZZZZ	Y54364.D	11/29/20 16:10	n/a	(unrelated sample)
FA80938-3	Y54365.D	11/29/20 16:37	n/a	(used for QC only; not part of job FA81069)
ZZZZZZ	Y54366.D	11/29/20 17:04	n/a	(unrelated sample)
ZZZZZZ	Y54367.D	11/29/20 17:31	n/a	(unrelated sample)
ZZZZZZ	Y54368.D	11/29/20 17:58	n/a	(unrelated sample)
ZZZZZZ	Y54369.D	11/29/20 18:26	n/a	(unrelated sample)
ZZZZZZ	Y54370.D	11/29/20 18:53	n/a	(unrelated sample)
FA81069-1	Y54371.D	11/29/20 19:21	n/a	SP1-GW_20201117
FA81027-11	Y54372.D	11/29/20 19:48	n/a	(used for QC only; not part of job FA81069)
ZZZZZZ	Y54373.D	11/29/20 20:16	n/a	(unrelated sample)
ZZZZZZ	Y54374.D	11/29/20 20:43	n/a	(unrelated sample)
ZZZZZZ	Y54375.D	11/29/20 21:10	n/a	(unrelated sample)
VY2258-CC2256	Y54378.D	11/29/20 22:32	n/a	Continuing cal 5
FA81027-11MS	Y54423.D	11/30/20 20:08	n/a	Matrix Spike
FA81027-11MSD	Y54424.D	11/30/20 20:35	n/a	Matrix Spike Duplicate

Run Sequence Report

Job Number: FA81069
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VY2260 **Method:** SW846 8260B **Instrument ID:** GCMSY

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VY2260-BFB	Y54401.D	11/30/20 09:59	n/a	BFB Tune
VY2260-CC2256	Y54402.D	11/30/20 10:26	n/a	Continuing cal 5
VY2260-BS	Y54403.D	11/30/20 11:06	n/a	Blank Spike
VY2260-MB	Y54406.D	11/30/20 12:27	n/a	Method Blank
ZZZZZZ	Y54407.D	11/30/20 12:55	n/a	(unrelated sample)
ZZZZZZ	Y54408.D	11/30/20 13:22	n/a	(unrelated sample)
ZZZZZZ	Y54409.D	11/30/20 13:49	n/a	(unrelated sample)
ZZZZZZ	Y54410.D	11/30/20 14:16	n/a	(unrelated sample)
ZZZZZZ	Y54411.D	11/30/20 14:43	n/a	(unrelated sample)
ZZZZZZ	Y54412.D	11/30/20 15:10	n/a	(unrelated sample)
ZZZZZZ	Y54413.D	11/30/20 15:37	n/a	(unrelated sample)
ZZZZZZ	Y54414.D	11/30/20 16:04	n/a	(unrelated sample)
ZZZZZZ	Y54415.D	11/30/20 16:31	n/a	(unrelated sample)
FA81011-1	Y54416.D	11/30/20 16:59	n/a	(used for QC only; not part of job FA81069)
ZZZZZZ	Y54417.D	11/30/20 17:26	n/a	(unrelated sample)
ZZZZZZ	Y54418.D	11/30/20 17:53	n/a	(unrelated sample)
ZZZZZZ	Y54419.D	11/30/20 18:20	n/a	(unrelated sample)
FA81011-1MS	Y54421.D	11/30/20 19:14	n/a	Matrix Spike
FA81011-1MSD	Y54422.D	11/30/20 19:41	n/a	Matrix Spike Duplicate
VY2260-ECC2256	Y54425.D	11/30/20 21:02	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54371.D
Acq On : 29 Nov 2020 7:21 pm
Operator : LINDSAYR
Sample : FA81069-1
Misc : MS47821,VY2258,,,,,
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 30 02:39:36 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

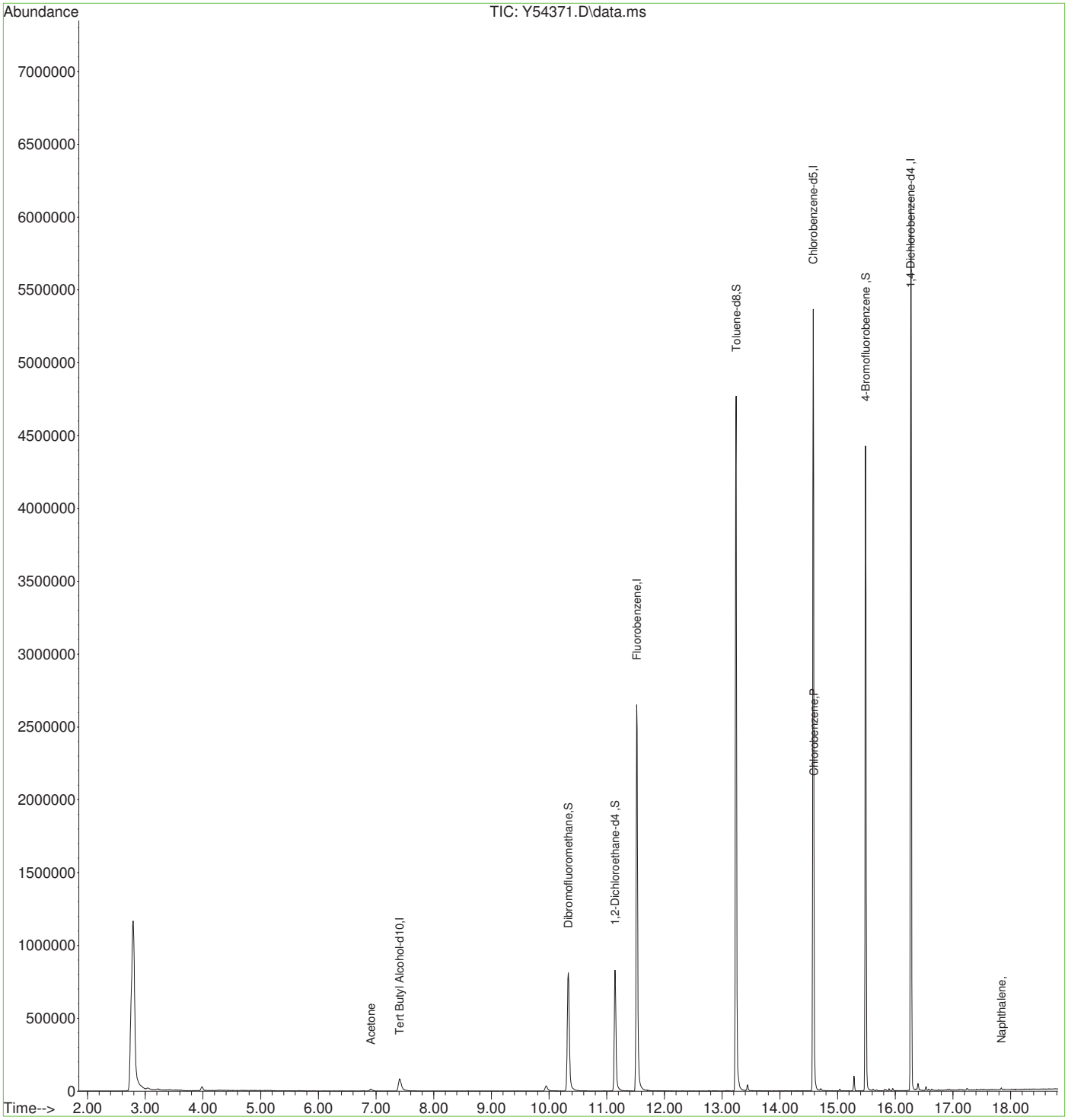
Compound		R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards							
1) Fluorobenzene		11.519	96	2570580	50.00	ug/L	0.00
57) Chlorobenzene-d5		14.579	117	2595324	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4		16.270	152	1374357	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10		7.406	65	155322	250.00	ug/L	0.00
System Monitoring Compounds							
37) Dibromofluoromethane		10.332	113	665165	50.18	ug/L	0.00
Spiked Amount	50.000	Range 83 - 118		Recovery =	100.36%		
47) 1,2-Dichloroethane-d4		11.142	65	599080	53.21	ug/L	0.00
Spiked Amount	50.000	Range 79 - 125		Recovery =	106.42%		
58) Toluene-d8		13.240	98	2724110	46.91	ug/L	0.00
Spiked Amount	50.000	Range 85 - 112		Recovery =	93.82%		
80) 4-Bromofluorobenzene		15.485	174	1006010	48.57	ug/L	0.00
Spiked Amount	50.000	Range 83 - 118		Recovery =	97.14%		
Target Compounds							Qvalue
18) Acetone		6.914	43	2972	1.28	ug/L	65
72) Chlorobenzene		14.591	112	10069	0.22	ug/L #	56
105) Naphthalene		17.839	128	7946	0.20	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

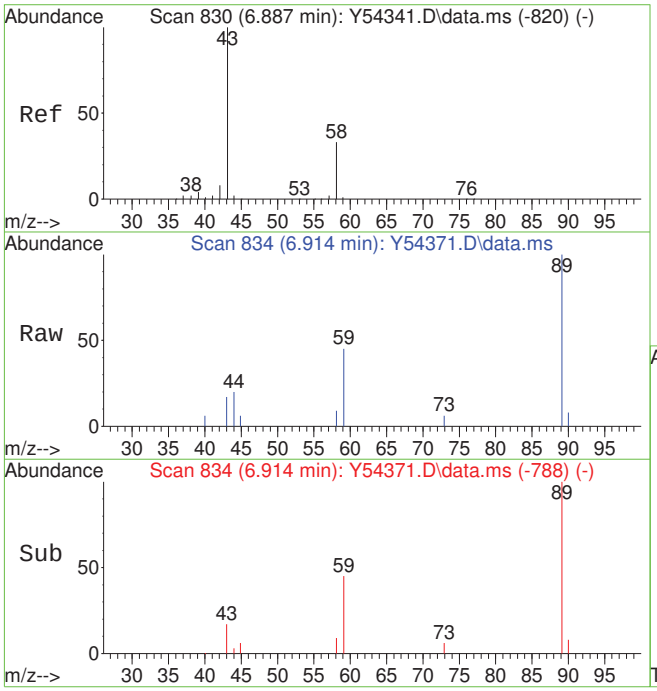
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54371.D
Acq On : 29 Nov 2020 7:21 pm
Operator : LINDSAYR
Sample : FA81069-1
Misc : MS47821,VY2258,,,,,
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 30 02:39:36 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



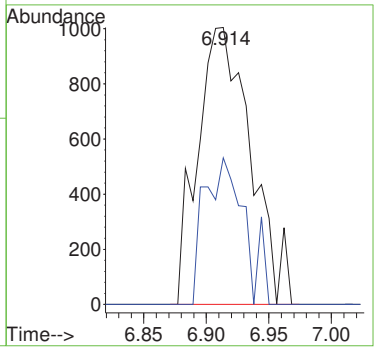
RESTEK112620w.M Mon Nov 30 02:52:25 2020 Page: 2

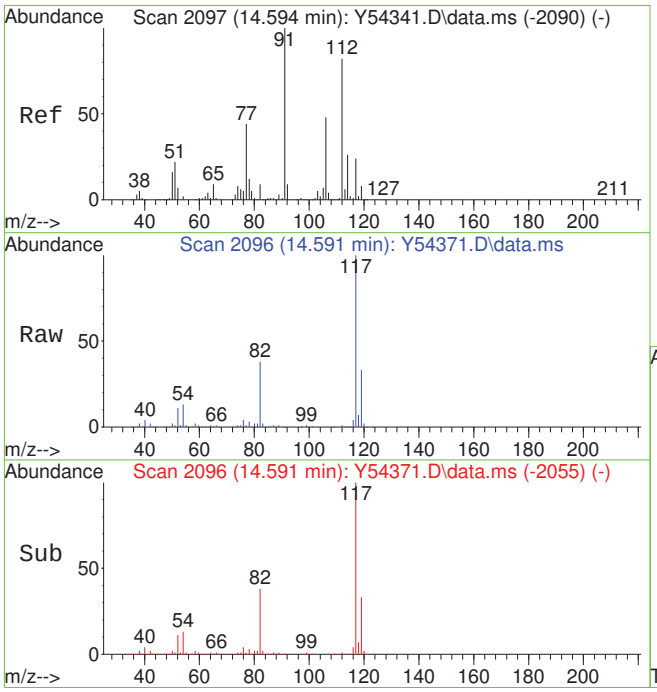


#18
Acetone
Concen: 1.28 ug/L
RT: 6.914 min Scan# 834
Delta R.T. 0.028 min
Lab File: Y54371.D
Acq: 29 Nov 2020 7:21 pm

Tgt Ion: 43 Resp: 2972

Ion	Ratio	Lower	Upper
43	100		
58	52.9	3.2	63.2

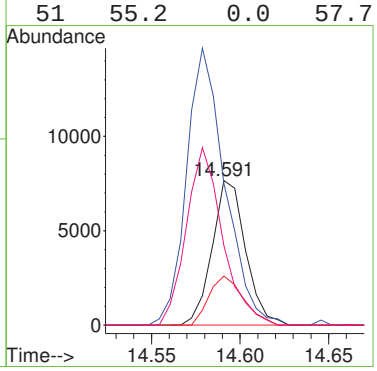


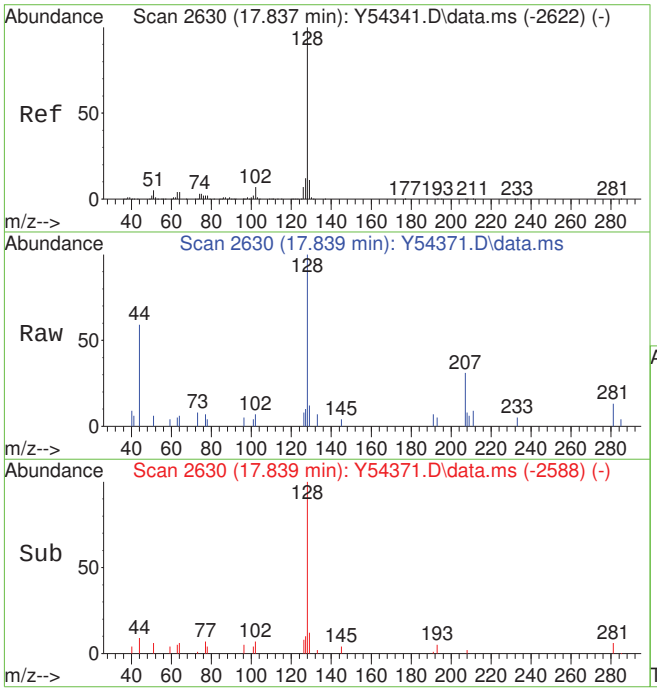


#72
Chlorobenzene
Concen: 0.22 ug/L
RT: 14.591 min Scan# 2096
Delta R.T. -0.003 min
Lab File: Y54371.D
Acq: 29 Nov 2020 7:21 pm

Tgt Ion:112 Resp: 10069

Ion	Ratio	Lower	Upper
112	100		
77	98.3	23.4	83.4#
114	34.0	1.8	61.8
51	55.2	0.0	57.7

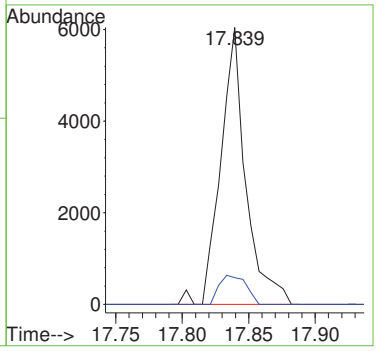




#105
Naphthalene
Concen: 0.20 ug/L
RT: 17.839 min Scan# 2630
Delta R.T. 0.003 min
Lab File: Y54371.D
Acq: 29 Nov 2020 7:21 pm

Tgt Ion:128 Resp: 7946

Ion	Ratio	Lower	Upper
128	100		
127	9.6	0.0	42.0



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54360.D
Acq On : 29 Nov 2020 2:48 pm
Operator : LINDSAYR
Sample : MB
Misc : MS47821,VY2258,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 30 02:33:14 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

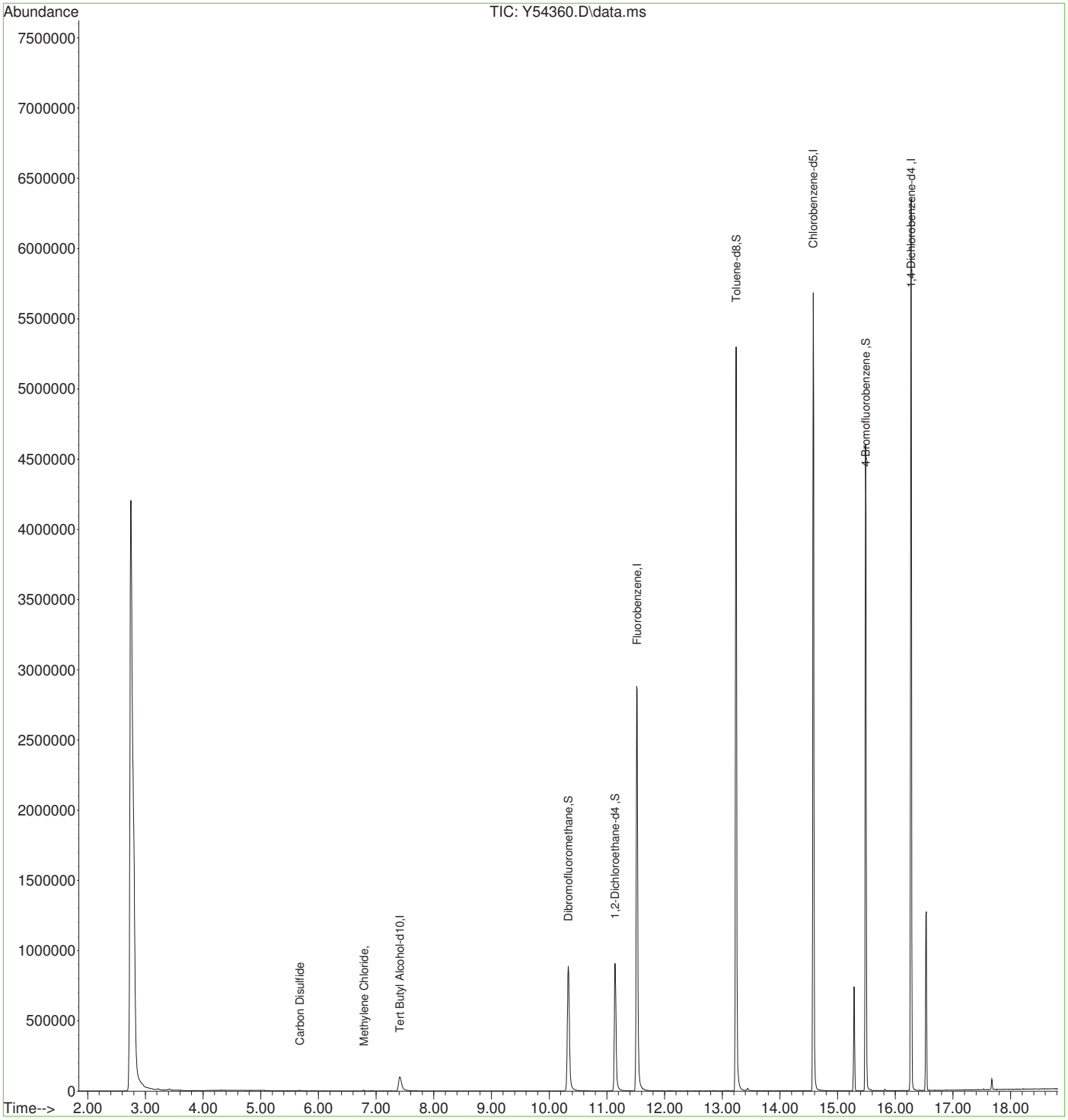
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.523	96	2876854	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	2809267	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1462494	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.411	65	189768	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	728006	49.08	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.16%			
47) 1,2-Dichloroethane-d4	11.140	65	647733	51.41	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 102.82%			
58) Toluene-d8	13.239	98	3027091	48.16	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.32%			
80) 4-Bromofluorobenzene	15.490	174	1098284	49.83	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.66%			
Target Compounds						Qvalue
14) Carbon Disulfide	5.677	76	6724	0.20	ug/L	73
17) Methylene Chloride	6.790	49	3697	0.21	ug/L	96

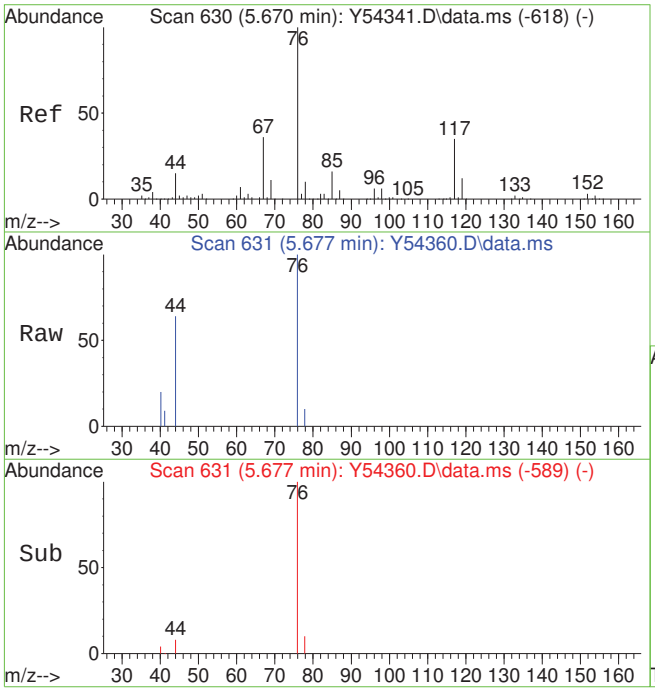
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54360.D
Acq On : 29 Nov 2020 2:48 pm
Operator : LINDSAYR
Sample : MB
Misc : MS47821,VY2258,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 30 02:33:14 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

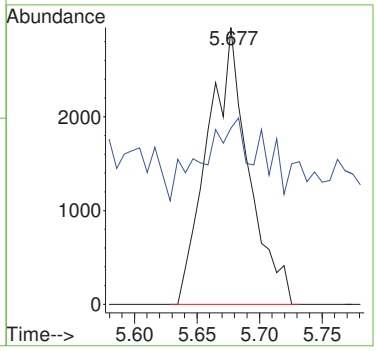


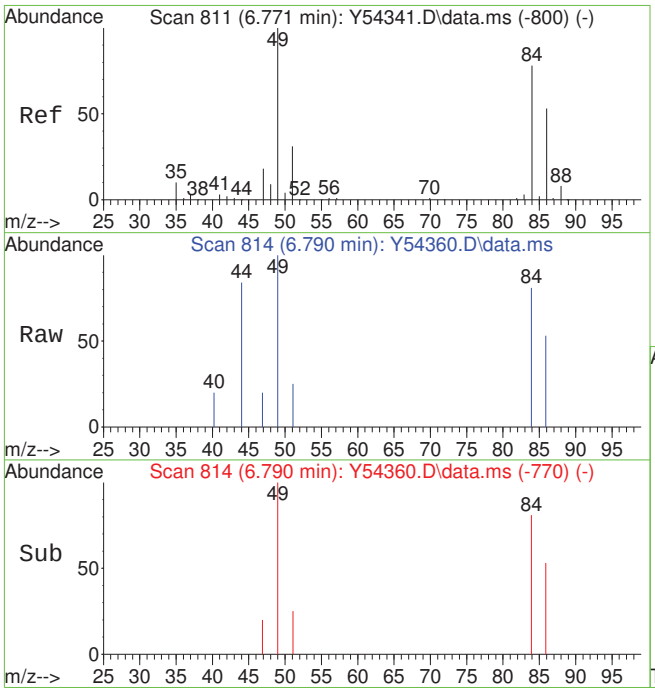


#14
Carbon Disulfide
Concen: 0.20 ug/L
RT: 5.677 min Scan# 631
Delta R.T. 0.008 min
Lab File: Y54360.D
Acq: 29 Nov 2020 2:48 pm

Tgt Ion: 76 Resp: 6724

Ion	Ratio	Lower	Upper
76	100		
44	26.1	0.0	44.8

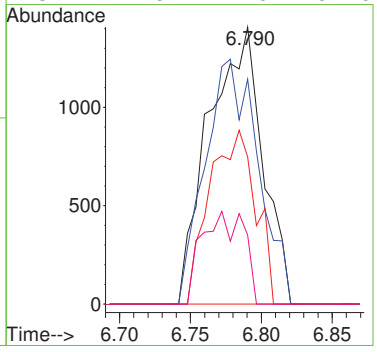




#17
Methylene Chloride
Concen: 0.21 ug/L
RT: 6.790 min Scan# 814
Delta R.T. 0.020 min
Lab File: Y54360.D
Acq: 29 Nov 2020 2:48 pm

Tgt Ion: 49 Resp: 3697

Ion	Ratio	Lower	Upper
49	100		
84	81.2	47.9	107.9
86	53.1	22.8	82.8
51	24.9	1.0	61.0



7.2.1
7

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/03/20 09:09

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54356.D
Acq On : 29 Nov 2020 12:41 pm
Operator : LINDSAYR
Sample : BS
Misc : MS47703,VY2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 30 02:32:05 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.522	96	2944142	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	2820060	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	1546170	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.416	65	223865	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	759704	50.04	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.08%			
47) 1,2-Dichloroethane-d4	11.139	65	645490	50.06	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.12%			
58) Toluene-d8	13.238	98	3137510	49.72	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.44%			
80) 4-Bromofluorobenzene	15.489	174	1156404	49.63	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.26%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.030	85	341022	21.91	ug/L	100
3) Acrolein	6.303	56	160201	76.95	ug/L	100
4) Chloromethane	3.383	50	388800	23.87	ug/L	100
5) 1,3-butadiene	3.583	39	354891	41.62	ug/L	94
6) Vinyl Chloride	3.547	62	371571	24.14	ug/L	96
7) Bromomethane	4.155	94	157780	24.20	ug/L	99
8) Chloroethane	4.392	64	119979	24.18	ug/L	96
9) Trichlorofluoromethane	4.666	101	550638	25.20	ug/L	100
10) Ethyl Ether	5.281	59	215611	21.95	ug/L	97
11) 1,2-Dichlorotrifluoroe...	5.670	67	341145	26.22	ug/L	98
12) 1,1-Dichloroethene	5.633	61	437751	22.50	ug/L	98
13) Freon 113	5.731	101	316582	21.60	ug/L	98
14) Carbon Disulfide	5.670	76	774424	23.17	ug/L	100
15) Iodomethane	5.901	142	334078	24.42	ug/L	99
16) Allyl chloride	6.564	41	458743	25.24	ug/L	98
17) Methylene Chloride	6.771	49	383956	22.04	ug/L	99
18) Acetone	6.887	43	300041	116.53	ug/L	98
19) Methyl acetate	7.142	43	785331	115.49	ug/L	98
20) trans-1,2-Dichloroethene	7.087	61	399981	21.70	ug/L	99
21) Hexane	7.246	56	245660	22.28	ug/L	98
22) Methyl Tert Butyl Ether	7.319	73	623429	21.88	ug/L	97
23) Acetonitrile	7.799	41	263823	236.43	ug/L	96
24) Di-isopropyl ether	8.091	45	938597	22.32	ug/L	98
25) Chloroprene	8.261	53	488944	27.52	ug/L	98
26) 1,1-Dichloroethane	8.310	63	514183	22.98	ug/L	97
27) Acrylonitrile	8.426	53	378711	116.87	ug/L	98
28) ETBE	8.827	59	713033	21.91	ug/L	100
29) Vinyl acetate	8.858	43	2245172	107.99	ug/L	100
30) cis-1,2-Dichloroethene	9.423	96	363869	22.42	ug/L	97
31) 2,2-Dichloropropane	9.636	77	407620	23.44	ug/L	99
32) Bromochloromethane	9.837	128	181391	21.12	ug/L	98
33) Cyclohexane	9.819	56	598808	23.46	ug/L	99
34) Chloroform	10.001	83	516703	22.08	ug/L	99
35) Ethyl acetate	10.251	43	1002657	117.61	ug/L	98
36) Tetrahydrofuran	10.251	42	53590	21.91	ug/L	93
38) Carbon Tetrachloride	10.226	117	487226	23.64	ug/L	99
39) 1,1,1-Trichloroethane	10.348	97	530196	22.39	ug/L	99
40) 2-Butanone	10.549	43	437692	112.23	ug/L	98
41) 1,1-Dichloropropene	10.561	75	428108	22.21	ug/L	98
42) tert-Butyl formate	10.750	59	274347	111.89	ug/L	100
43) Propionitrile	10.993	54	285090	234.22	ug/L	87

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54356.D
Acq On : 29 Nov 2020 12:41 pm
Operator : LINDSAYR
Sample : BS
Misc : MS47703,VY2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 30 02:32:05 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
44) Methacrylonitrile	11.017	41	1313149	222.76 ug/L		99
45) Benzene	10.938	78	1260473	21.52 ug/L		99
46) TAME	11.127	73	598824	22.24 ug/L		99
48) 1,2-Dichloroethane	11.236	62	332511	20.68 ug/L		98
49) Trichloroethene	11.735	95	358713	22.24 ug/L		98
50) Methylcyclohexane	11.717	83	615145	24.70 ug/L		98
51) Dibromomethane	12.234	93	157910	21.71 ug/L		99
52) 1,2-Dichloropropane	12.344	63	287276	21.47 ug/L		99
53) Bromodichloromethane	12.423	83	351676	22.76 ug/L		97
54) Methyl methacrylate	12.587	41	184276	23.71 ug/L		99
55) 2-Chloroethyl vinyl ether	13.001	63	388502	91.52 ug/L		99
56) cis-1,3-Dichloropropene	13.067	75	418382	21.42 ug/L		99
59) Toluene	13.286	91	1476030	20.42 ug/L		100
60) 2-Nitropropane	13.512	41	245044	114.25 ug/L		99
61) 4-Methyl-2-pentanone	13.627	43	1033167	112.63 ug/L		100
62) trans-1,3-Dichloropropene	13.670	75	349287	22.67 ug/L		97
63) Tetrachloroethene	13.645	166	463600	23.14 ug/L		99
64) Ethyl methacrylate	13.791	69	279169	24.41 ug/L		99
65) 1,1,2-Trichloroethane	13.816	83	195812	21.52 ug/L		97
66) Dibromochloromethane	13.974	129	333340	22.87 ug/L		99
67) 1,3-Dichloropropane	14.047	76	393348	20.35 ug/L		99
68) 1,2-Dibromoethane	14.181	107	265798	21.38 ug/L		99
69) 2-hexanone	14.327	43	739661m	115.41 ug/L		
70) 1-Chlorohexane	14.546	91	515311	23.28 ug/L		99
71) Ethylbenzene	14.594	91	1641834	22.20 ug/L		99
72) Chlorobenzene	14.594	112	1033908	20.80 ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.637	131	379912	22.17 ug/L		98
74) m,p-Xylene	14.704	91	2606671	42.64 ug/L		99
75) o-Xylene	15.032	91	1321604	21.79 ug/L		99
76) Styrene	15.075	104	1053550	22.40 ug/L		99
77) Bromoform	15.124	173	173465	23.17 ug/L		99
78) Isopropylbenzene	15.258	105	1854138	21.75 ug/L		99
81) cis-1,4-Dichloro-2-butene	15.519	53	66690	21.59 ug/L		95
82) n-Propylbenzene	15.550	91	1974428	21.43 ug/L		100
83) Bromobenzene	15.574	156	443971	21.10 ug/L		98
84) 1,1,2,2-Tetrachloroethane	15.610	83	275711	21.31 ug/L		97
85) 1,3,5-Trimethylbenzene	15.671	105	1436219	21.81 ug/L		100
86) 2-Chlorotoluene	15.689	91	1218276	20.96 ug/L		100
87) trans-1,4-Dichloro-2-B...	15.732	53	59207	22.12 ug/L		97
88) 1,2,3-Trichloropropane	15.726	110	100788	20.56 ug/L		99
89) Cyclohexanone	15.775	55	37358	128.69 ug/L		96
90) 4-Chlorotoluene	15.805	91	1142378	21.41 ug/L		100
91) tert-Butylbenzene	15.915	91	733155	21.38 ug/L		93
92) 1,2,4-Trimethylbenzene	15.957	105	1391550	21.05 ug/L		99
93) Pentachloroethane	15.957	167	248376	23.65 ug/L		99
94) sec-Butylbenzene	16.030	105	1809911	22.04 ug/L		100
95) 4-Isopropyltoluene	16.115	119	1691541	22.40 ug/L		99
96) 1,3-Dichlorobenzene	16.225	146	857670	21.30 ug/L		99
97) 1,2,3-Trimethylbenzene	16.267	105	1323564	18.08 ug/L		99
98) 1,4-Dichlorobenzene	16.286	146	819461	20.50 ug/L		99
99) n-Butylbenzene	16.407	92	680690	23.26 ug/L		98
100) Benzyl Chloride	16.438	126	127548	23.65 ug/L		93
101) 1,2-Dichlorobenzene	16.578	146	772837	20.85 ug/L		98
102) 1,2-Dibromo-3-Chloropr...	17.119	75	39610	21.01 ug/L	#	80
103) Hexachlorobutadiene	17.527	225	157863	23.43 ug/L		98
104) 1,2,4-Trichlorobenzene	17.587	180	419684	22.97 ug/L		99
105) Naphthalene	17.837	128	1008264	22.20 ug/L		100
106) 1,2,3-Trichlorobenzene	17.983	180	363727	22.50 ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54356.D
Acq On : 29 Nov 2020 12:41 pm
Operator : LINDSAYR
Sample : BS
Misc : MS47703,VY2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 30 02:32:05 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.640	45	54388	388.73	ug/L	88
109) Tert Butyl Alcohol	7.562	59	237209	187.36	ug/L	99
110) Isobutyl alcohol	11.309	42	92007	428.30	ug/L	98
111) Tert Amyl Alcohol	11.425	59	126002	226.01	ug/L	98
112) 1,4-Dioxane	12.642	88	53872	449.68	ug/L	96
113) 3,3-dimethyl-1-butanol	14.308	57	973505	1329.10	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

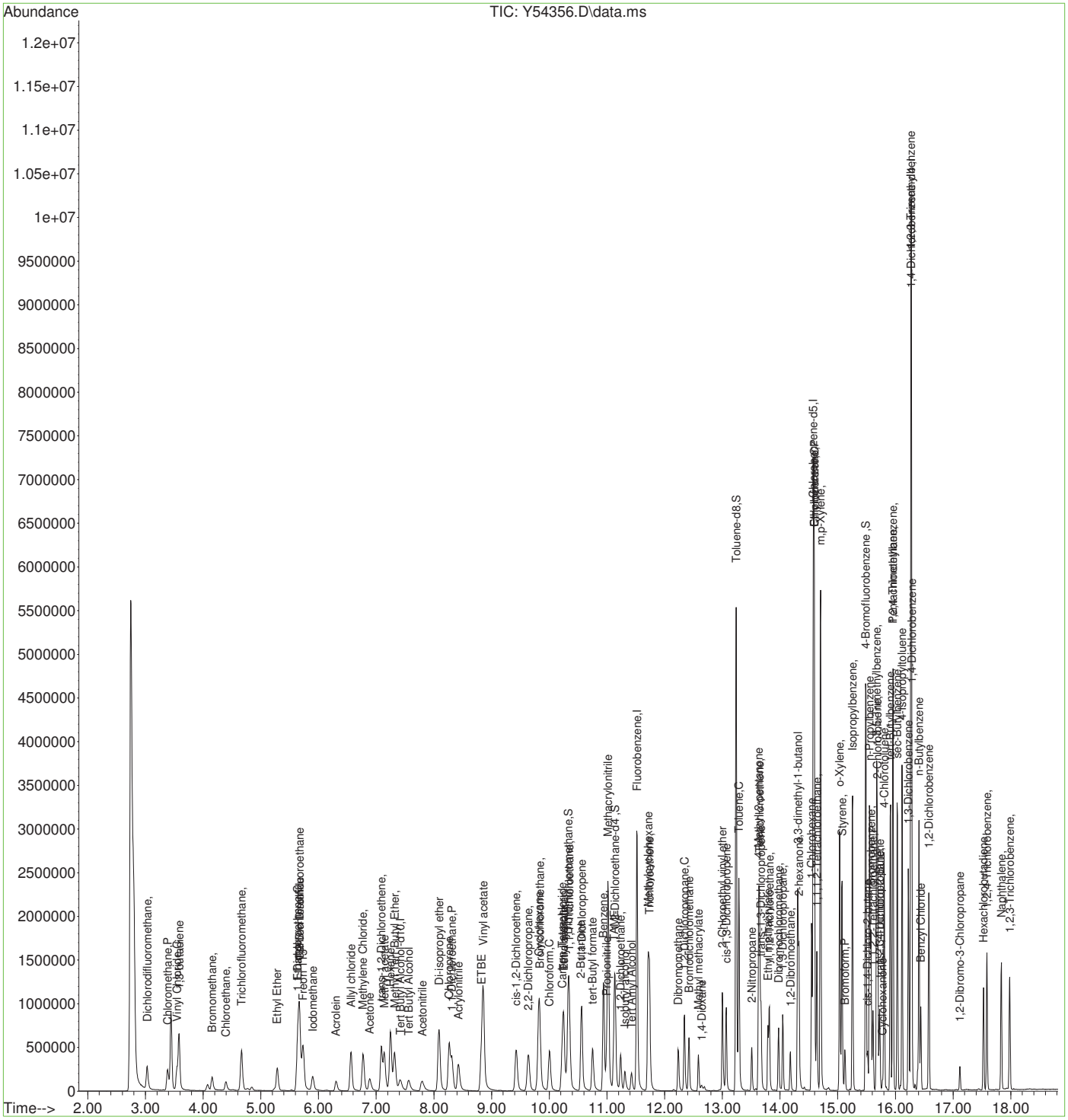
7.3.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54356.D
Acq On : 29 Nov 2020 12:41 pm
Operator : LINDSAYR
Sample : BS
Misc : MS47703,VY2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 30 02:32:05 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



Manual Integration Approval Summary

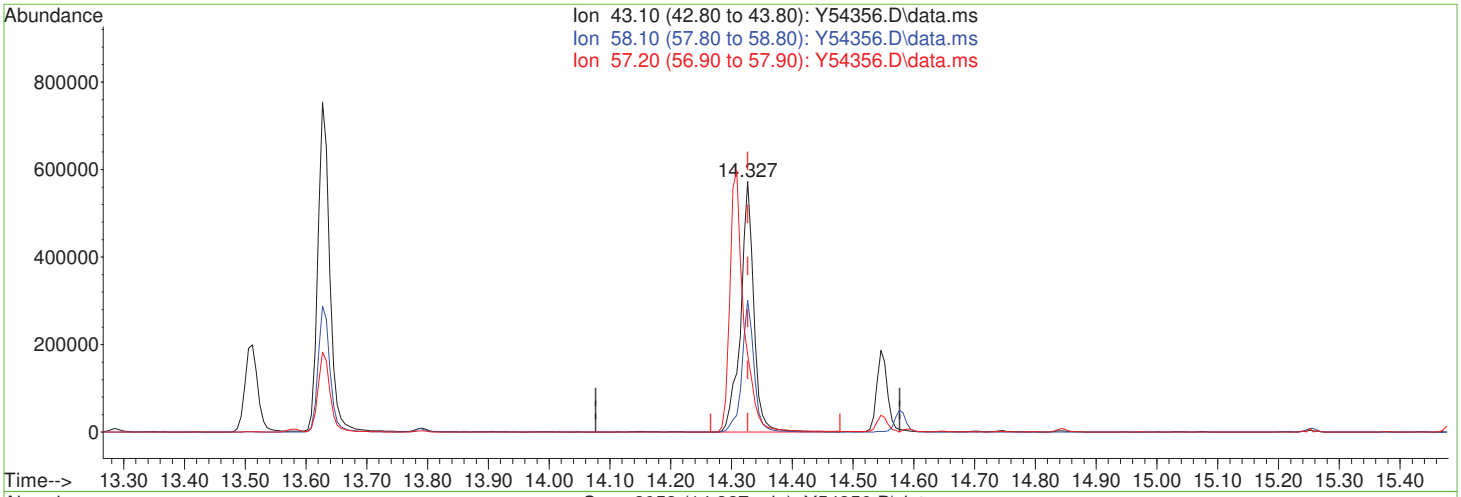
Sample Number: VY2258-BS
Lab FileID: Y54356.D
Injection Time: 11/29/20 12:41
Method: SW846 8260B
Analyst approved: 11/30/20 02:58 John Matthew de Guzman
Supervisor approved: 12/03/20 09:09 Melissa Mangual

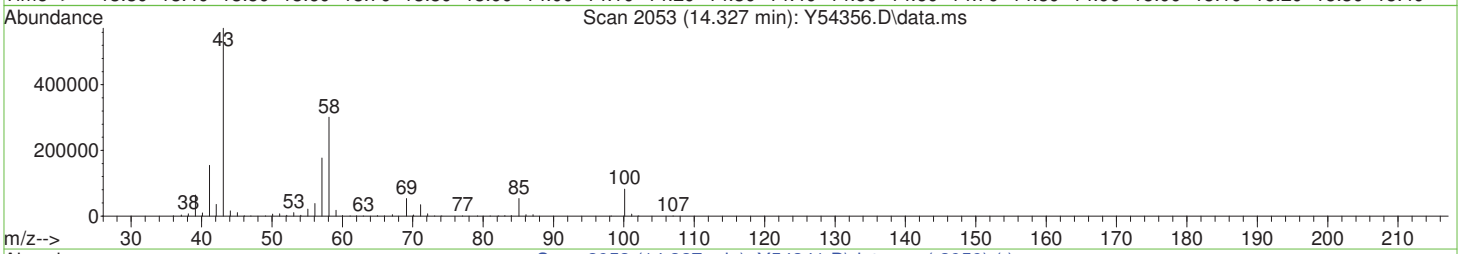
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

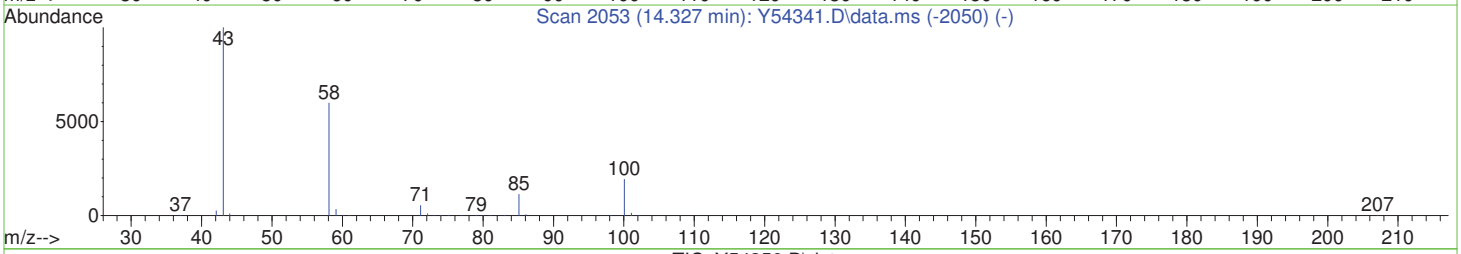
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54356.D
Acq On : 29 Nov 2020 12:41 pm
Operator : LINDSAYR
Sample : BS
Misc : MS47703,VY2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 30 02:29:25 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y54356.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 135.15ug/L

response 866191

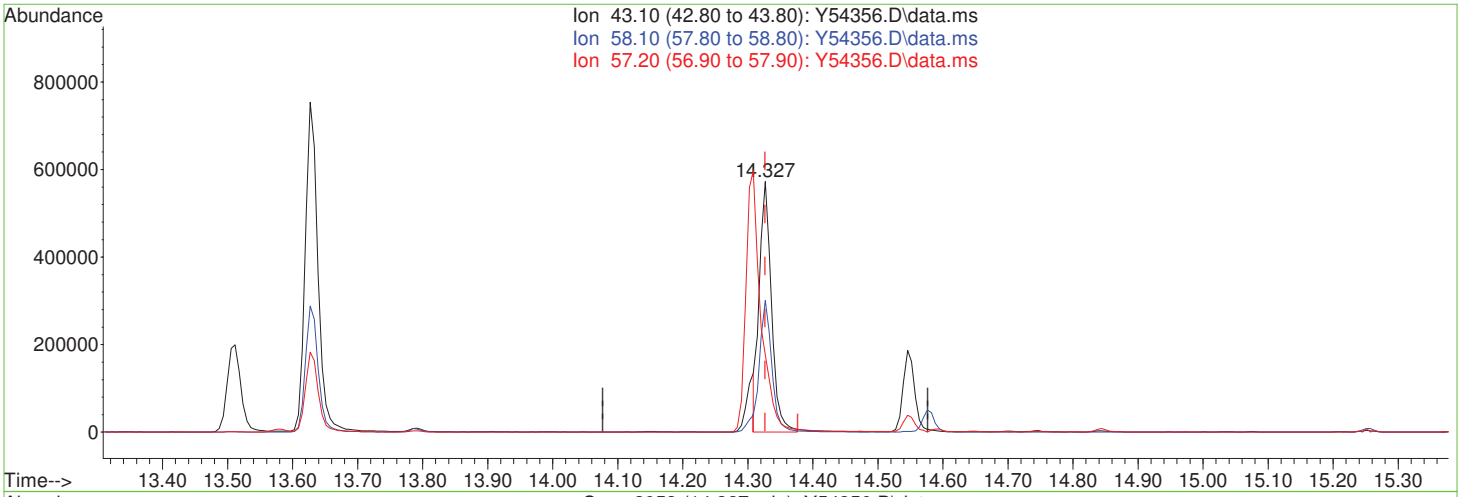
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	52.64
57.20	29.70	30.85
0.00	0.00	0.00

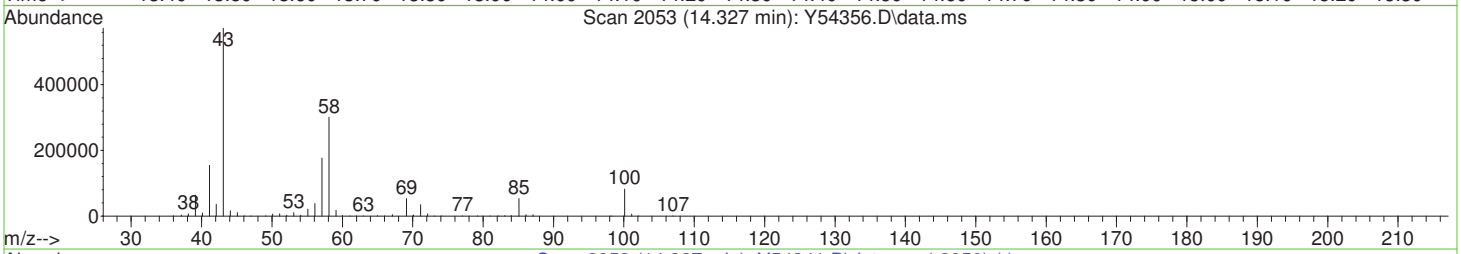
Y54356.D edits: 2-hexanone

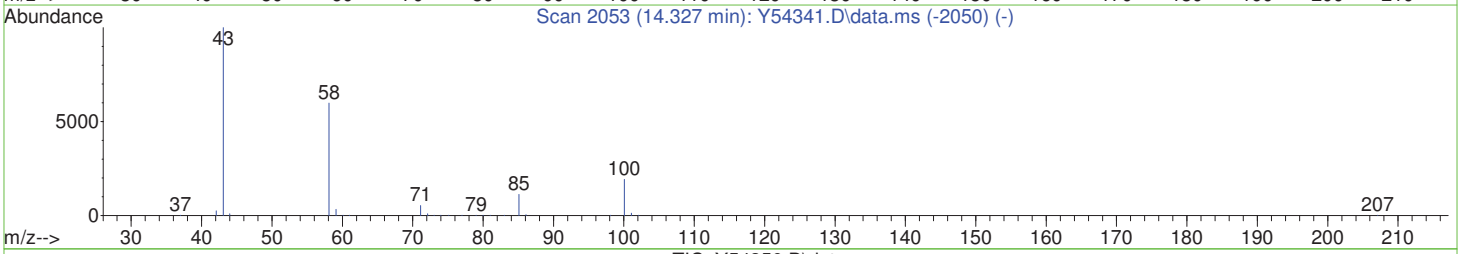
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54356.D
Acq On : 29 Nov 2020 12:41 pm
Operator : LINDSAYR
Sample : BS
Misc : MS47703,VY2258,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 30 02:29:25 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y54356.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 115.41ug/L m

response 739661

Ion	Exp%	Act%
43.10	100	100
58.10	52.70	52.60
57.20	29.70	30.83
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/03/20 09:15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:29:59 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.519	96	2213179	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	2316772	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.270	152	1300054	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.407	65	113636	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.333	113	600169	52.59	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 105.18%			
47) 1,2-Dichloroethane-d4	11.142	65	489532	50.50	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 101.00%			
58) Toluene-d8	13.241	98	2421612	46.71	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 93.42%			
80) 4-Bromofluorobenzene	15.485	174	938888	47.92	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.033	85	277061	23.68	ug/L	99
3) Acrolein	6.305	56	91690	58.59	ug/L	100
4) Chloromethane	3.385	50	301926m	24.67	ug/L	
5) 1,3-butadiene	3.586	39	271523	42.40	ug/L	100
6) Vinyl Chloride	3.550	62	285317	24.66	ug/L	97
7) Bromomethane	4.164	94	120370	24.55	ug/L	96
8) Chloroethane	4.401	64	130023	36.56	ug/L	97
9) Trichlorofluoromethane	4.669	101	473716	28.84	ug/L	98
10) Ethyl Ether	5.283	59	154537	20.93	ug/L	99
11) 1,2-Dichlorotrifluoroe...	5.673	67	277989	28.51	ug/L	96
12) 1,1-Dichloroethene	5.636	61	338277	23.13	ug/L	99
13) Freon 113	5.740	101	237484	21.55	ug/L	98
14) Carbon Disulfide	5.673	76	585905	23.33	ug/L	99
15) Iodomethane	5.904	142	222149	21.60	ug/L	97
16) Allyl chloride	6.567	41	334578	24.49	ug/L	96
17) Methylene Chloride	6.774	49	302357	23.13	ug/L	98
18) Acetone	6.889	43	198205	101.93	ug/L	96
19) Methyl acetate	7.139	43	520127	101.75	ug/L	99
20) trans-1,2-Dichloroethene	7.090	61	313192	22.61	ug/L	99
21) Hexane	7.248	56	183959	22.19	ug/L	96
22) Methyl Tert Butyl Ether	7.315	73	443645	20.72	ug/L	94
23) Acetonitrile	7.790	41	170177	202.43	ug/L	100
24) Di-isopropyl ether	8.088	45	676103	21.39	ug/L	97
25) Chloroprene	8.270	53	367881	27.54	ug/L	98
26) 1,1-Dichloroethane	8.313	63	404376	24.04	ug/L	97
27) Acrylonitrile	8.422	53	238506	97.73	ug/L	98
28) ETBE	8.830	59	510129	20.85	ug/L	98
29) Vinyl acetate	8.860	43	1434416	91.78	ug/L	98
30) cis-1,2-Dichloroethene	9.426	96	281461	23.07	ug/L	98
31) 2,2-Dichloropropane	9.639	77	290677	22.24	ug/L	98
32) Bromochloromethane	9.834	128	148138	22.94	ug/L	98
33) Cyclohexane	9.822	56	450759	23.49	ug/L	99
34) Chloroform	10.004	83	419064	23.82	ug/L	99
35) Ethyl acetate	10.254	43	611381	95.33	ug/L	100
36) Tetrahydrofuran	10.248	42	33941	18.45	ug/L	98
38) Carbon Tetrachloride	10.229	117	398735	25.74	ug/L	97
39) 1,1,1-Trichloroethane	10.351	97	432174	24.28	ug/L	99
40) 2-Butanone	10.552	43	291449	99.41	ug/L	100
41) 1,1-Dichloropropene	10.564	75	328345	22.66	ug/L	97
42) tert-Butyl formate	10.752	59	139408	81.75	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:29:59 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Propionitrile	10.990	54	188394	205.41	ug/L		98
44) Methacrylonitrile	11.020	41	943285	212.87	ug/L		99
45) Benzene	10.941	78	976291	22.17	ug/L		98
46) TAME	11.124	73	429128	21.20	ug/L		96
48) 1,2-Dichloroethane	11.239	62	262407	21.71	ug/L		100
49) Trichloroethene	11.738	95	287761	23.78	ug/L		96
50) Methylcyclohexane	11.714	83	469957	25.10	ug/L		99
51) Dibromomethane	12.237	93	121131	22.15	ug/L		98
52) 1,2-Dichloropropane	12.340	63	220033	21.88	ug/L		95
53) Bromodichloromethane	12.419	83	275130	23.69	ug/L		99
54) Methyl methacrylate	12.584	41	120277	20.59	ug/L		96
55) 2-Chloroethyl vinyl ether	13.064	63	1610	0.50	ug/L	#	36
56) cis-1,3-Dichloropropene	13.070	75	299753	20.42	ug/L		99
59) Toluene	13.289	91	1169825	19.70	ug/L		99
60) 2-Nitropropane	13.508	41	168023	95.36	ug/L		96
61) 4-Methyl-2-pentanone	13.630	43	747154	99.15	ug/L		99
62) trans-1,3-Dichloropropene	13.672	75	253497	20.03	ug/L		97
63) Tetrachloroethene	13.648	166	373669	22.69	ug/L		98
64) Ethyl methacrylate	13.788	69	185734	19.77	ug/L		96
65) 1,1,2-Trichloroethane	13.812	83	147444	19.73	ug/L		99
66) Dibromochloromethane	13.977	129	260664	21.77	ug/L		98
67) 1,3-Dichloropropane	14.050	76	295666	18.62	ug/L		99
68) 1,2-Dibromoethane	14.177	107	197459	19.33	ug/L		98
69) 2-hexanone	14.323	43	512015m	97.24	ug/L		
70) 1-Chlorohexane	14.549	91	383812	21.10	ug/L		100
71) Ethylbenzene	14.591	91	1338127	22.02	ug/L		99
72) Chlorobenzene	14.591	112	862435	21.12	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.640	131	310621	22.06	ug/L		98
74) m,p-Xylene	14.701	91	2086485	41.55	ug/L		99
75) o-Xylene	15.035	91	1045107	20.98	ug/L		99
76) Styrene	15.072	104	822483	21.29	ug/L		98
77) Bromoform	15.126	173	128084	20.82	ug/L		99
78) Isopropylbenzene	15.254	105	1479296	21.13	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.516	53	43634	16.80	ug/L		91
82) n-Propylbenzene	15.552	91	1566782	20.22	ug/L		98
83) Bromobenzene	15.577	156	366543	20.72	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.613	83	201807	18.55	ug/L		98
85) 1,3,5-Trimethylbenzene	15.674	105	1148394	20.74	ug/L		96
86) 2-Chlorotoluene	15.686	91	977825	20.01	ug/L		98
87) trans-1,4-Dichloro-2-B...	15.735	53	38782	17.23	ug/L	#	87
88) 1,2,3-Trichloropropane	15.723	110	76089	18.46	ug/L		98
89) Cyclohexanone	15.777	55	15438	63.88	ug/L		92
90) 4-Chlorotoluene	15.802	91	905235	20.18	ug/L		100
91) tert-Butylbenzene	15.911	91	586914	20.36	ug/L		96
92) 1,2,4-Trimethylbenzene	15.954	105	1121996	20.19	ug/L		98
93) Pentachloroethane	15.960	167	205335	23.26	ug/L		91
94) sec-Butylbenzene	16.033	105	1451496	21.02	ug/L		98
95) 4-Isopropyltoluene	16.118	119	1364757	21.50	ug/L		99
96) 1,3-Dichlorobenzene	16.228	146	691221	20.42	ug/L		99
97) 1,2,3-Trimethylbenzene	16.270	105	1065487	17.31	ug/L		98
98) 1,4-Dichlorobenzene	16.282	146	674523	20.07	ug/L		98
99) n-Butylbenzene	16.410	92	516110	20.97	ug/L		97
100) Benzyl Chloride	16.440	126	74626	16.85	ug/L		94
101) 1,2-Dichlorobenzene	16.580	146	624545	20.04	ug/L		98
102) 1,2-Dibromo-3-Chloropr...	17.116	75	26855	16.94	ug/L		96
103) Hexachlorobutadiene	17.529	225	120652	21.25	ug/L		96
104) 1,2,4-Trichlorobenzene	17.584	180	306405	19.95	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:29:59 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

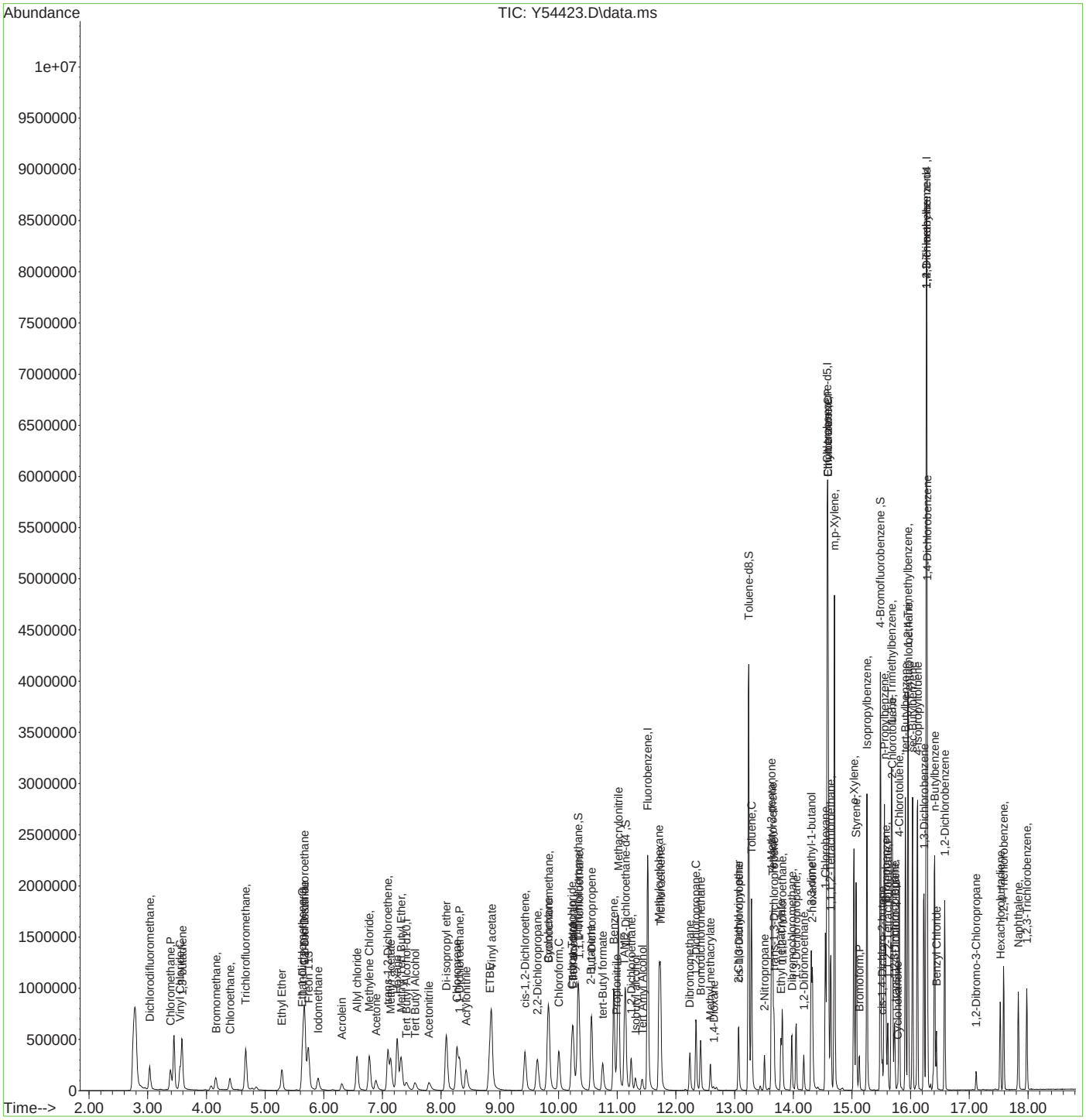
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) Naphthalene	17.834	128	647333	17.08	ug/L	100
106) 1,2,3-Trichlorobenzene	17.980	180	261664	19.25	ug/L	99
108) Ethanol	5.630	45	30850	437.04	ug/L	96
109) Tert Butyl Alcohol	7.559	59	131966	206.10	ug/L	90
110) Isobutyl alcohol	11.312	42	47724	437.66	ug/L	95
111) Tert Amyl Alcohol	11.428	59	60822	214.92	ug/L	91
112) 1,4-Dioxane	12.644	88	22488	369.80	ug/L	94
113) 3,3-dimethyl-1-butanol	14.305	57	563632	1515.95	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:29:59 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



RESTEK112620w.M Tue Dec 01 02:33:17 2020 Page: 4

Manual Integration Approval Summary

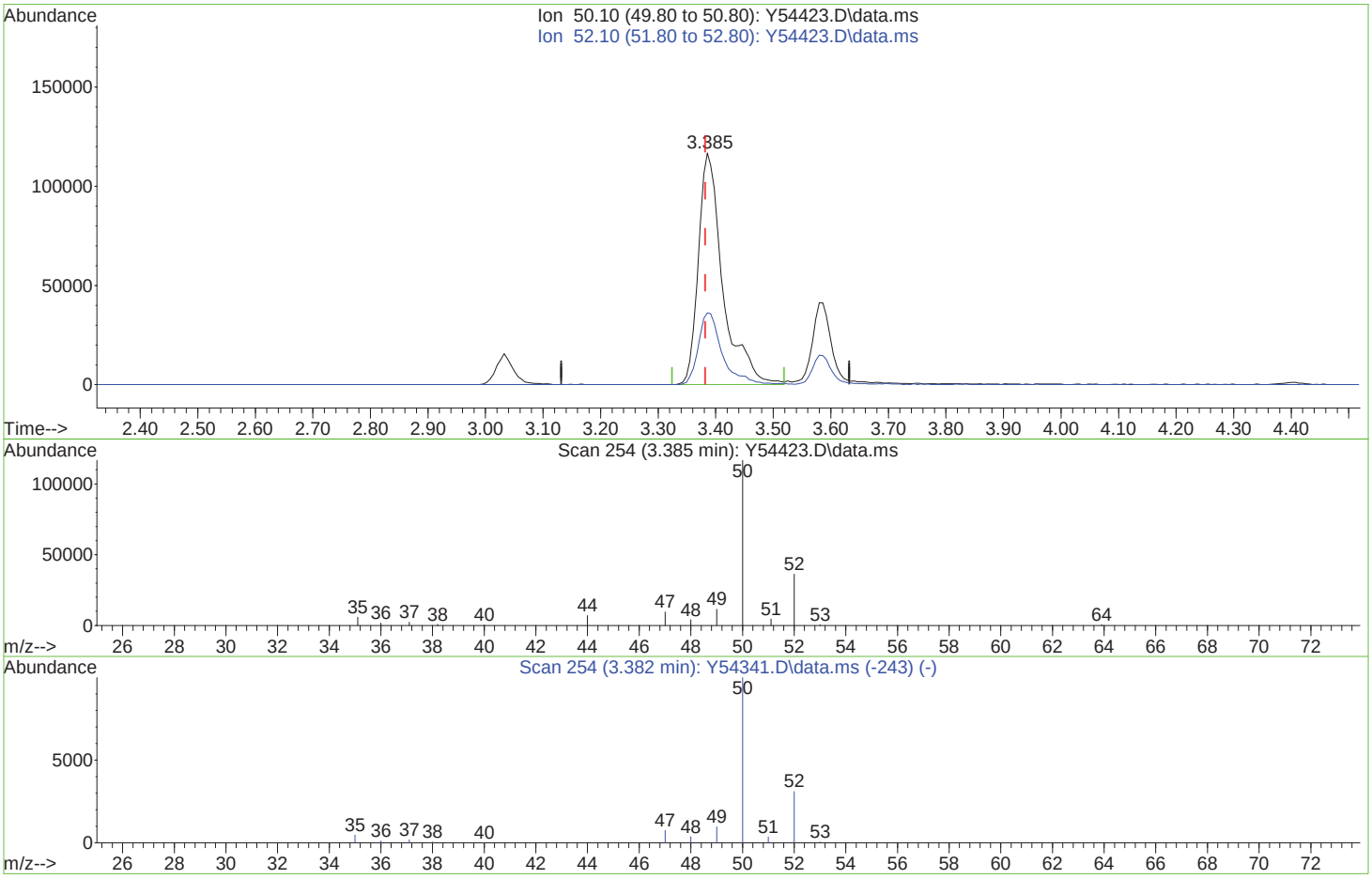
Sample Number: FA81027-11MS
Lab FileID: Y54423.D
Injection Time: 11/30/20 20:08
Method: SW846 8260B
Analyst approved: 12/01/20 02:42 Jennifer Fereira
Supervisor approved: 12/03/20 09:15 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
2-Hexanone	591-78-6		14.32	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:24 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y54423.D\data.ms

(4) Chloromethane (P)

3.385min (+0.003) 28.42ug/L

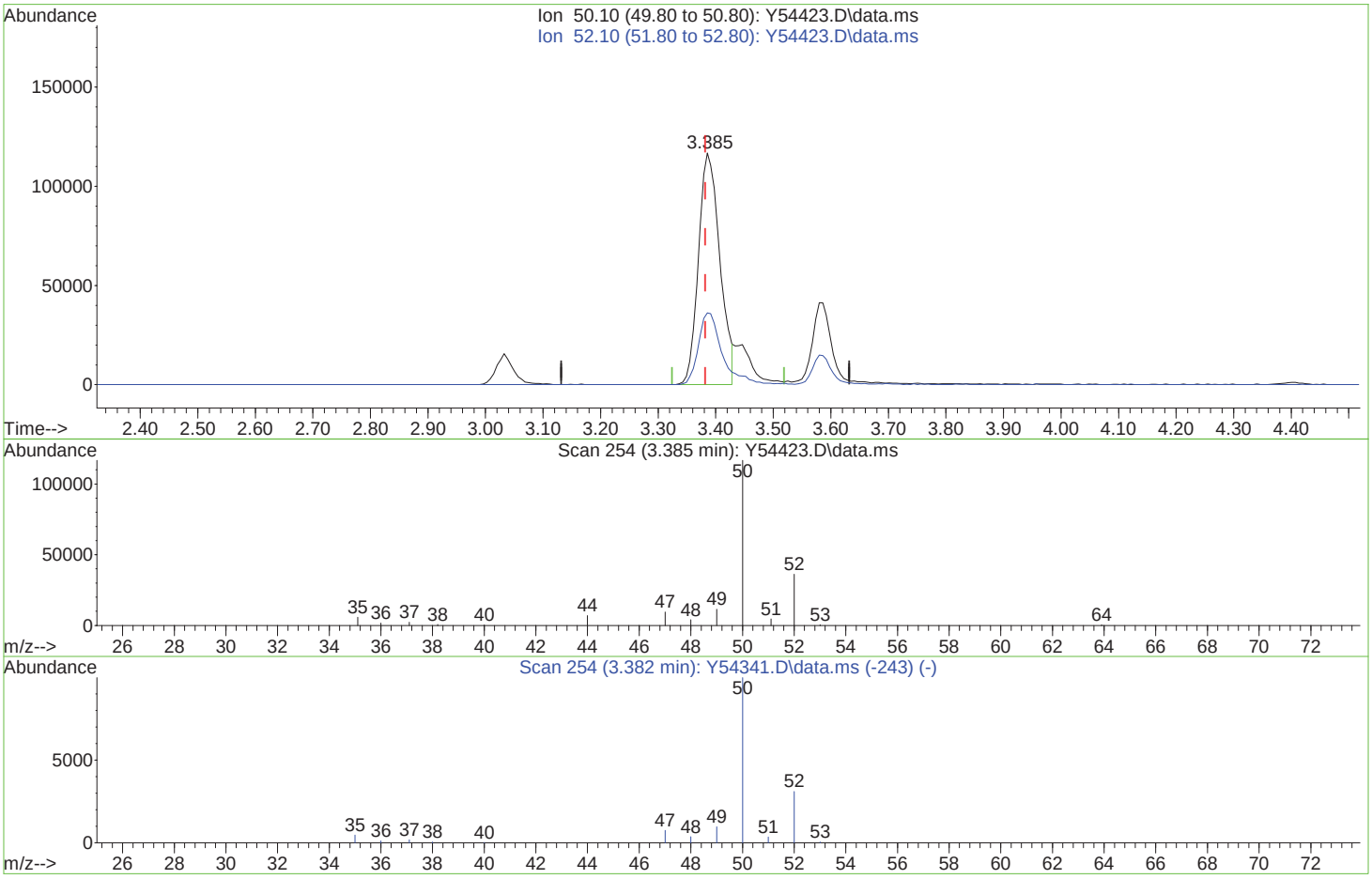
response 346584

Ion	Exp%	Act%
50.10	100	100
52.10	31.00	31.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:24 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y54423.D\data.ms

(4) Chloromethane (P)

3.385min (+0.003) 24.67ug/L m

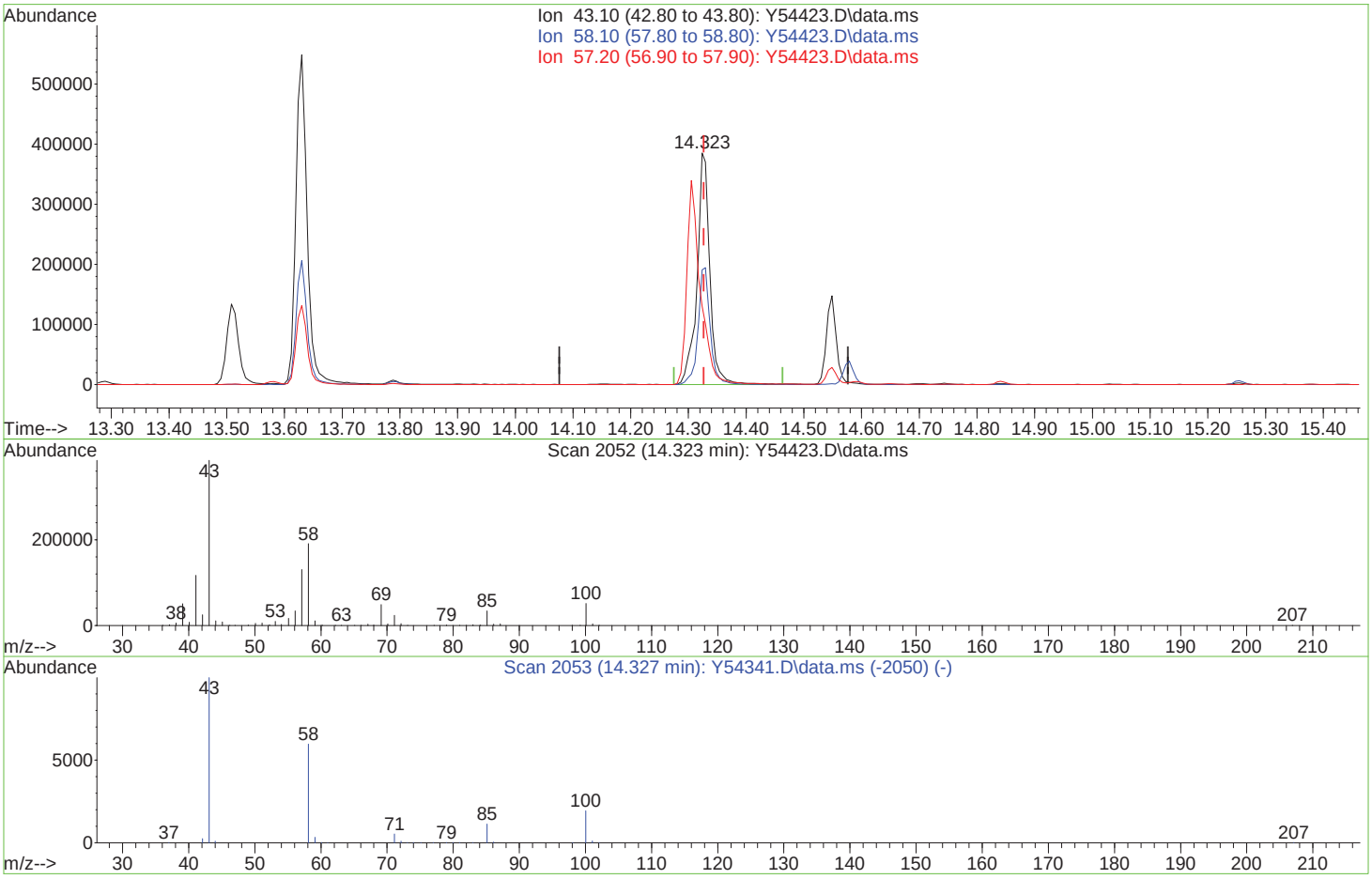
response 301926

Ion	Exp%	Act%
50.10	100	100
52.10	31.00	31.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:24 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y54423.D\data.ms

(69) 2-hexanone

14.323min (-0.003) 114.47ug/L

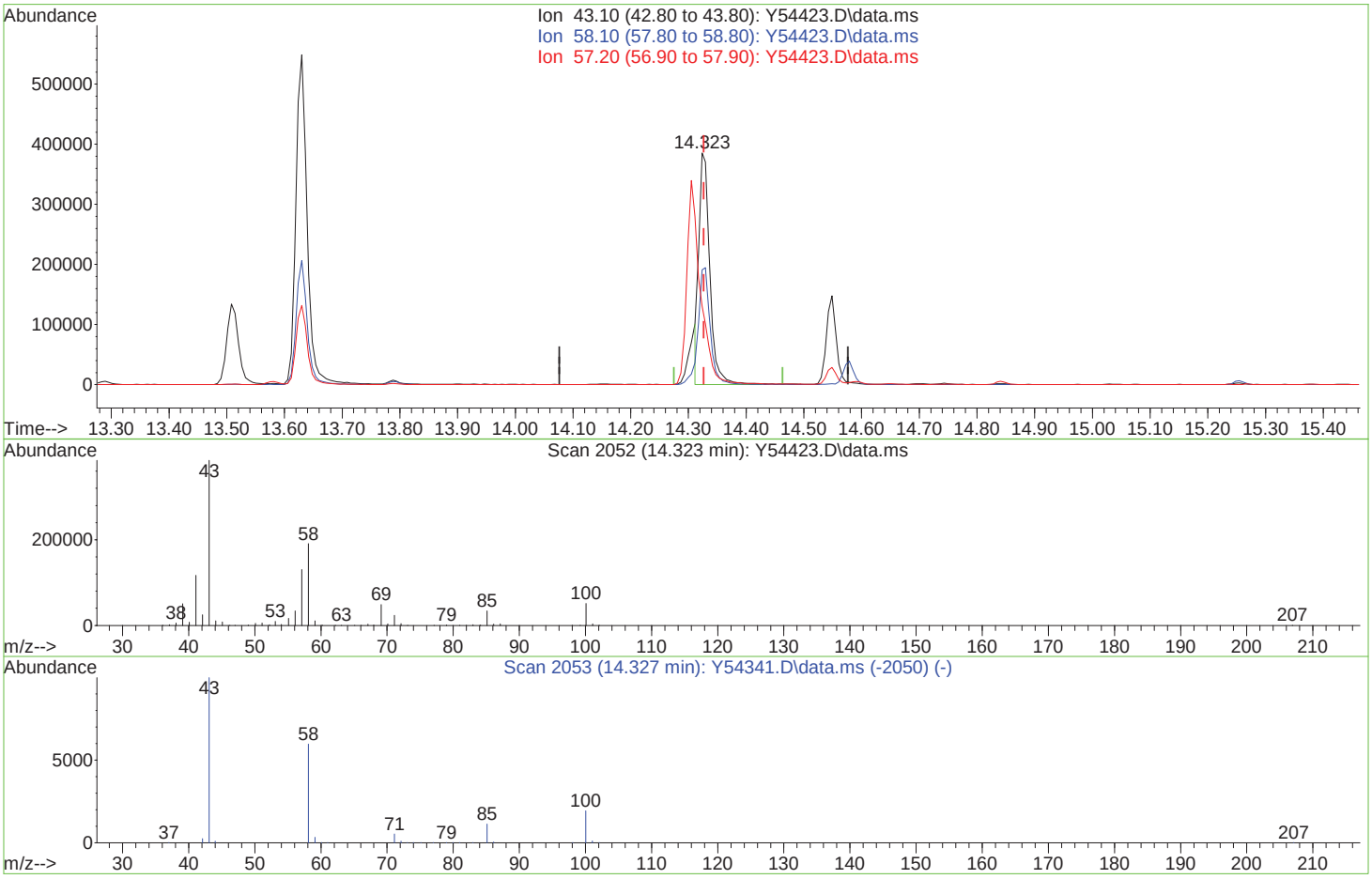
response 602705

Ion	Exp%	Act%
43.10	100	100
58.10	52.70	49.51
57.20	29.70	33.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:24 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y54423.D\data.ms

(69) 2-hexanone

14.323min (-0.003) 97.24ug/L m

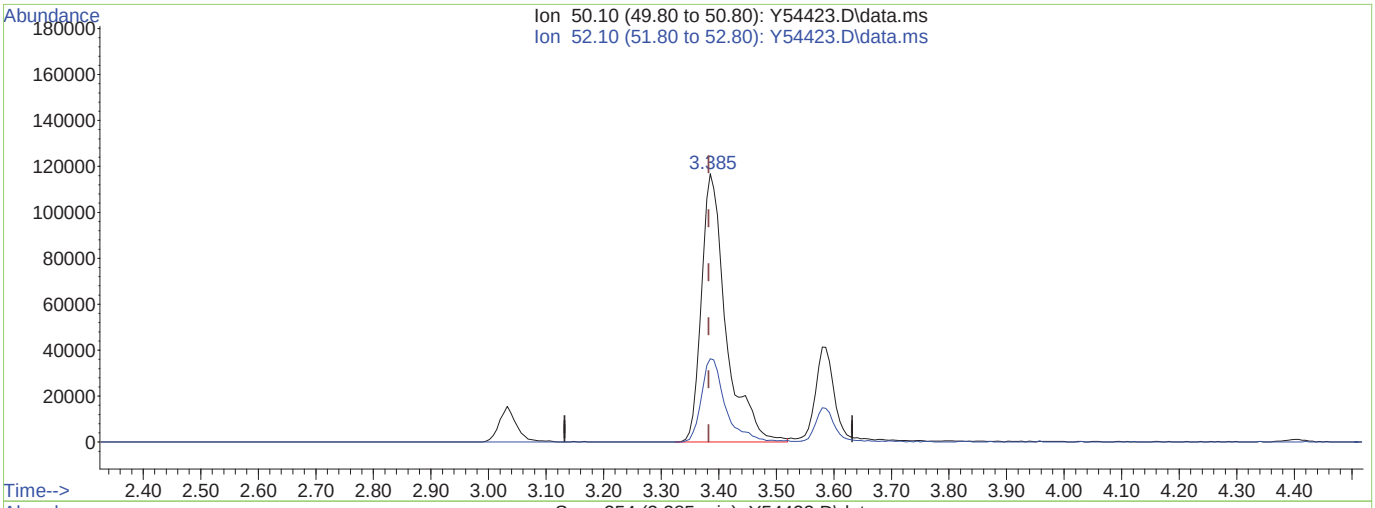
response 512015

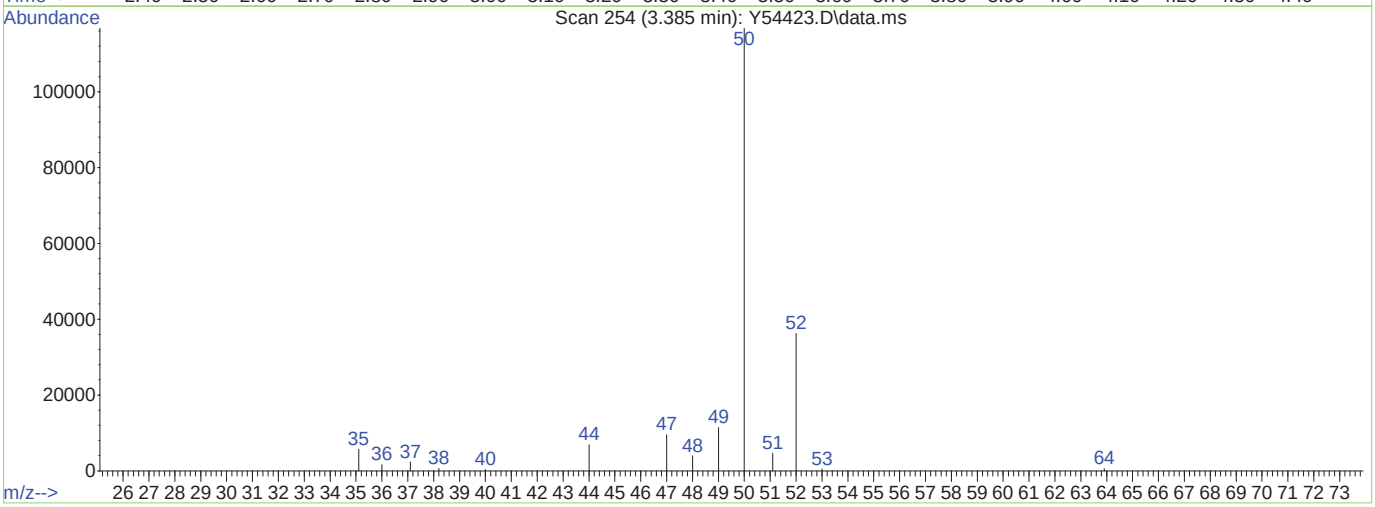
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	49.51
57.20	29.70	33.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\113020\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Dec 02 09:52:40 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Dec 02 09:52:21 2020
Response via : Initial Calibration





TIC: Y54423.D\data.ms

(4) Chloromethane (P)

3.385min (+0.003) 28.42ug/L

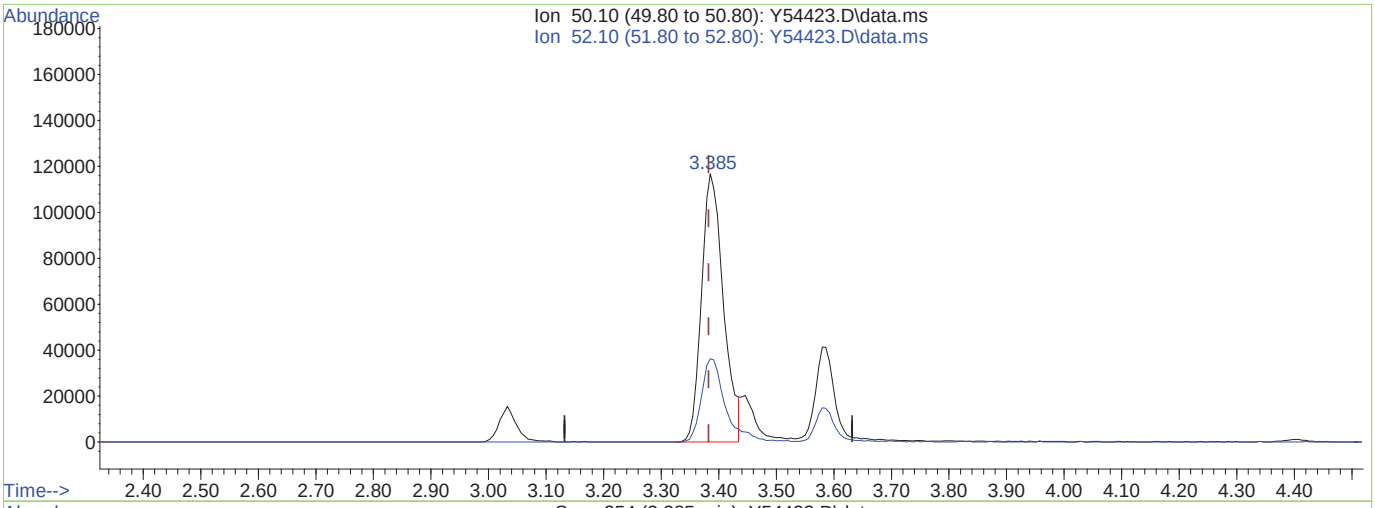
response 346584

Ion	Exp%	Act%
50.10	100	100
52.10	31.00	31.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\113020\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Dec 02 09:52:40 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Dec 02 09:52:21 2020
Response via : Initial Calibration



TIC: Y54423.D\data.ms

(4) Chloromethane (P)

3.385min (+0.003) 25.27ug/L m

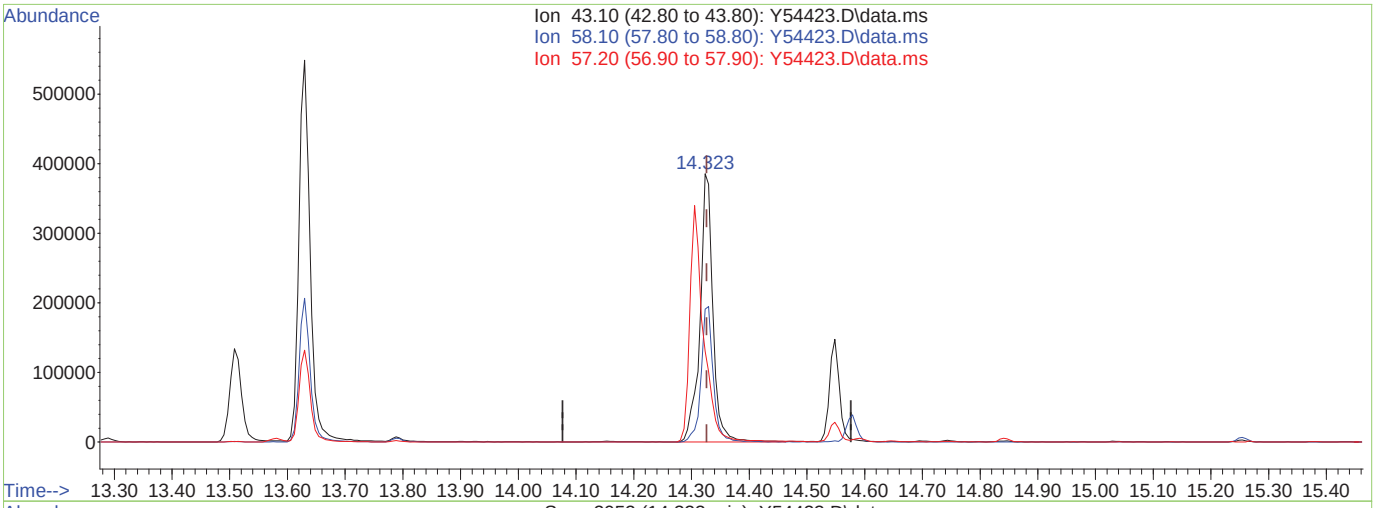
response 308990

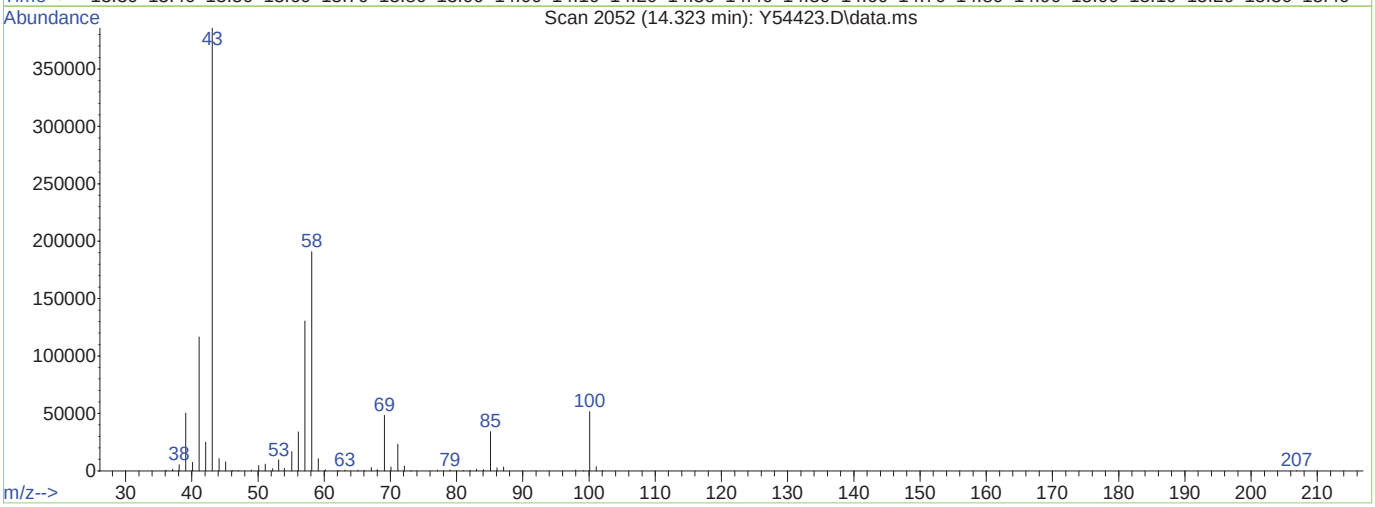
Ion	Exp%	Act%
50.10	100	100
52.10	31.00	31.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\113020\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Dec 02 09:52:40 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Dec 02 09:52:21 2020
Response via : Initial Calibration





TIC: Y54423.D\data.ms

(69) 2-hexanone

14.323min (-0.003) 114.47ug/L

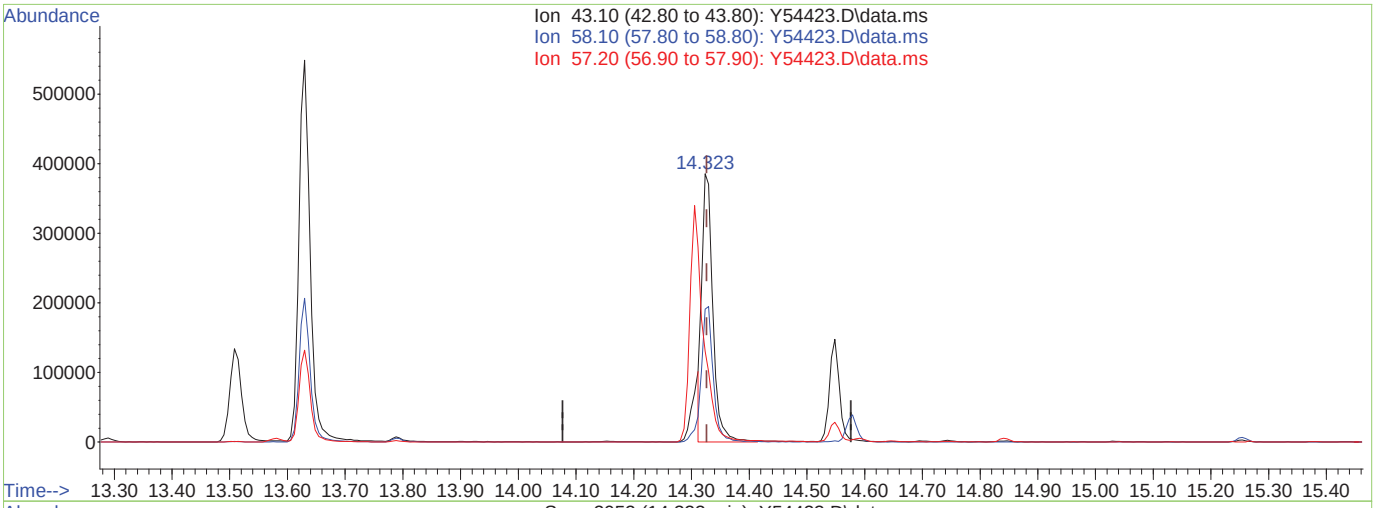
response 602705

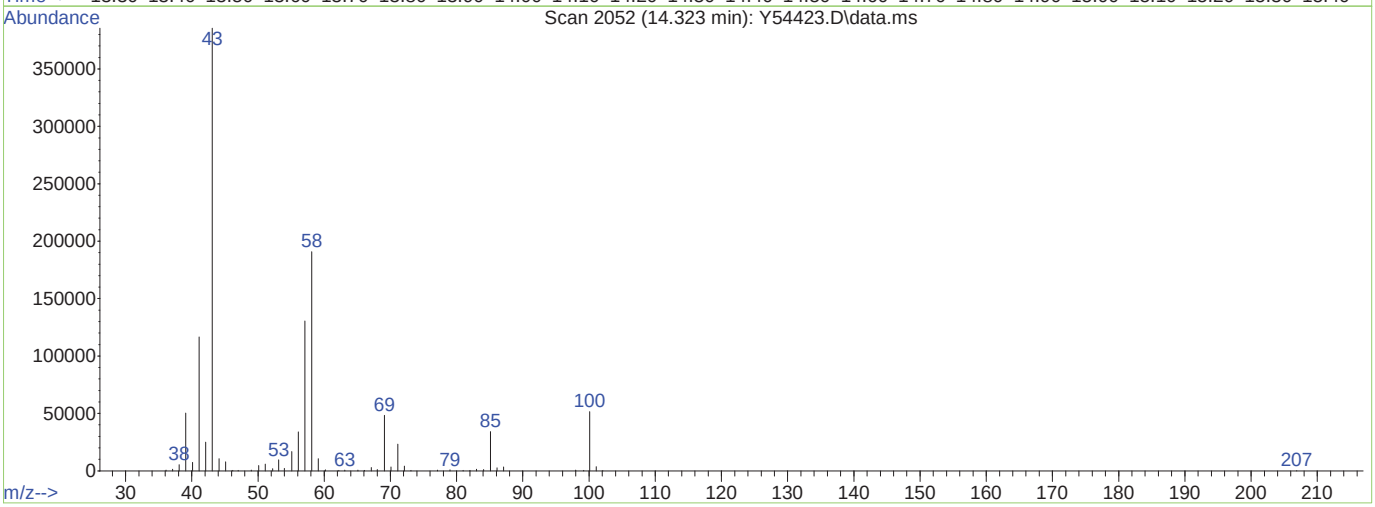
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	49.51
57.20	29.70	33.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\113020\
Data File : Y54423.D
Acq On : 30 Nov 2020 8:08 pm
Operator : LINDSAYR
Sample : FA81027-11MS Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Dec 02 09:52:40 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Dec 02 09:52:21 2020
Response via : Initial Calibration





TIC: Y54423.D\data.ms

(69) 2-hexanone

14.323min (-0.003) 97.02ug/L m

response 510857

Ion	Exp%	Act%
43.10	100	100
58.10	52.70	49.51
57.20	29.70	33.86
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/03/20 09:15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:30:35 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.523	96	2197866	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	2292388	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1267797	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.410	65	109791	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	595251	52.53	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 105.06%			
47) 1,2-Dichloroethane-d4	11.145	65	481741	50.04	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.08%			
58) Toluene-d8	13.238	98	2413232	47.05	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 94.10%			
80) 4-Bromofluorobenzene	15.489	174	923339	48.33	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	279594	24.06	ug/L	100
3) Acrolein	6.309	56	100870	64.90	ug/L	98
4) Chloromethane	3.383	50	300976m	24.77	ug/L	
5) 1,3-butadiene	3.584	39	270386	42.52	ug/L	96
6) Vinyl Chloride	3.547	62	292661	25.47	ug/L	95
7) Bromomethane	4.162	94	102897	21.16	ug/L	100
8) Chloroethane	4.399	64	123561	34.74	ug/L	99
9) Trichlorofluoromethane	4.666	101	470800	28.86	ug/L	98
10) Ethyl Ether	5.287	59	123966	16.91	ug/L	93
11) 1,2-Dichlorotrifluoroe...	5.670	67	216929	22.21	ug/L	96
12) 1,1-Dichloroethene	5.640	61	276595	19.04	ug/L	99
13) Freon 113	5.731	101	207984	18.94	ug/L	99
14) Carbon Disulfide	5.670	76	480848	19.23	ug/L	97
15) Iodomethane	5.907	142	184724	18.09	ug/L	99
16) Allyl chloride	6.564	41	338360	24.94	ug/L	95
17) Methylene Chloride	6.777	49	242077	18.51	ug/L	98
18) Acetone	6.887	43	189238	97.87	ug/L	95
19) Methyl acetate	7.142	43	412864	81.33	ug/L	99
20) trans-1,2-Dichloroethene	7.094	61	251999	18.32	ug/L	99
21) Hexane	7.252	56	145244	17.64	ug/L	96
22) Methyl Tert Butyl Ether	7.319	73	344971	16.22	ug/L	97
23) Acetonitrile	7.793	41	167769	200.94	ug/L	99
24) Di-isopropyl ether	8.085	45	546654	17.41	ug/L	98
25) Chloroprene	8.268	53	374989	28.27	ug/L	99
26) 1,1-Dichloroethane	8.317	63	324369	19.42	ug/L	99
27) Acrylonitrile	8.426	53	211617	87.23	ug/L	98
28) ETBE	8.828	59	398489	16.40	ug/L	98
29) Vinyl acetate	8.858	43	1229466	79.22	ug/L	97
30) cis-1,2-Dichloroethene	9.430	96	226497	18.69	ug/L	97
31) 2,2-Dichloropropane	9.643	77	233169	17.96	ug/L	100
32) Bromochloromethane	9.837	128	118899	18.54	ug/L	97
33) Cyclohexane	9.825	56	365578	19.19	ug/L	99
34) Chloroform	10.008	83	335037	19.18	ug/L	98
35) Ethyl acetate	10.251	43	516950	81.13	ug/L	100
36) Tetrahydrofuran	10.251	42	30490	16.69	ug/L	96
38) Carbon Tetrachloride	10.233	117	319354	20.76	ug/L	100
39) 1,1,1-Trichloroethane	10.348	97	352368	19.93	ug/L	99
40) 2-Butanone	10.549	43	272872	93.72	ug/L	96
41) 1,1-Dichloropropene	10.567	75	266180	18.50	ug/L	98
42) tert-Butyl formate	10.756	59	117923	71.58	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:30:35 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Propionitrile	10.987	54	184485	202.50	ug/L		99
44) Methacrylonitrile	11.018	41	929007	211.11	ug/L		99
45) Benzene	10.945	78	800053	18.30	ug/L		99
46) TAME	11.127	73	330444	16.44	ug/L		97
48) 1,2-Dichloroethane	11.237	62	211288	17.60	ug/L		99
49) Trichloroethene	11.742	95	234558	19.40	ug/L		95
50) Methylcyclohexane	11.717	83	383242	20.61	ug/L		98
51) Dibromomethane	12.234	93	96739	17.81	ug/L		98
52) 1,2-Dichloropropane	12.344	63	177253	17.75	ug/L		98
53) Bromodichloromethane	12.423	83	223312	19.36	ug/L		98
54) Methyl methacrylate	12.587	41	120672	20.80	ug/L		98
55) 2-Chloroethyl vinyl ether	13.068	63	1163	0.37	ug/L	#	23
56) cis-1,3-Dichloropropene	13.068	75	234797	16.10	ug/L		97
59) Toluene	13.287	91	940869	16.01	ug/L		100
60) 2-Nitropropane	13.512	41	127488	73.12	ug/L		95
61) 4-Methyl-2-pentanone	13.627	43	686001	92.00	ug/L		99
62) trans-1,3-Dichloropropene	13.670	75	198874	15.88	ug/L		90
63) Tetrachloroethene	13.646	166	304740	18.62	ug/L		99
64) Ethyl methacrylate	13.792	69	182245	19.60	ug/L		98
65) 1,1,2-Trichloroethane	13.816	83	116014	15.69	ug/L		99
66) Dibromochloromethane	13.974	129	201798	17.03	ug/L		99
67) 1,3-Dichloropropane	14.047	76	233080	14.84	ug/L		98
68) 1,2-Dibromoethane	14.181	107	155397	15.38	ug/L		100
69) 2-hexanone	14.327	43	493138m	94.65	ug/L		
70) 1-Chlorohexane	14.546	91	311617	17.32	ug/L		96
71) Ethylbenzene	14.595	91	1066648	17.68	ug/L		100
72) Chlorobenzene	14.595	112	687382	17.01	ug/L		100
73) 1,1,1,2-Tetrachloroethane	14.637	131	248243	17.82	ug/L		98
74) m,p-Xylene	14.704	91	1671337	33.64	ug/L		99
75) o-Xylene	15.033	91	824504	16.73	ug/L		99
76) Styrene	15.075	104	650450	17.02	ug/L		100
77) Bromoform	15.124	173	97844	16.07	ug/L		99
78) Isopropylbenzene	15.258	105	1181878	17.06	ug/L		98
81) cis-1,4-Dichloro-2-butene	15.519	53	42760	16.89	ug/L		89
82) n-Propylbenzene	15.550	91	1254615	16.61	ug/L		99
83) Bromobenzene	15.574	156	291090	16.88	ug/L		97
84) 1,1,2,2-Tetrachloroethane	15.611	83	157755	14.87	ug/L		100
85) 1,3,5-Trimethylbenzene	15.671	105	920950	17.06	ug/L		99
86) 2-Chlorotoluene	15.690	91	791133	16.60	ug/L		98
87) trans-1,4-Dichloro-2-B...	15.732	53	30644	13.96	ug/L	#	83
88) 1,2,3-Trichloropropane	15.726	110	57740	14.36	ug/L		98
89) Cyclohexanone	15.775	55	13457	57.16	ug/L		97
90) 4-Chlorotoluene	15.805	91	716634	16.38	ug/L		100
91) tert-Butylbenzene	15.909	91	473172	16.83	ug/L		99
92) 1,2,4-Trimethylbenzene	15.957	105	890045	16.42	ug/L		96
93) Pentachloroethane	15.957	167	204482	23.75	ug/L		96
94) sec-Butylbenzene	16.030	105	1156215	17.17	ug/L		99
95) 4-Isopropyltoluene	16.116	119	1076934	17.39	ug/L		99
96) 1,3-Dichlorobenzene	16.225	146	554660	16.80	ug/L		98
97) 1,2,3-Trimethylbenzene	16.268	105	850345	14.17	ug/L		100
98) 1,4-Dichlorobenzene	16.286	146	536987	16.38	ug/L		99
99) n-Butylbenzene	16.408	92	411255	17.14	ug/L		99
100) Benzyl Chloride	16.438	126	53575	12.60	ug/L		94
101) 1,2-Dichlorobenzene	16.578	146	492575	16.20	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.119	75	19630	12.70	ug/L		81
103) Hexachlorobutadiene	17.527	225	98597	17.75	ug/L		100
104) 1,2,4-Trichlorobenzene	17.588	180	240262	16.04	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:30:35 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

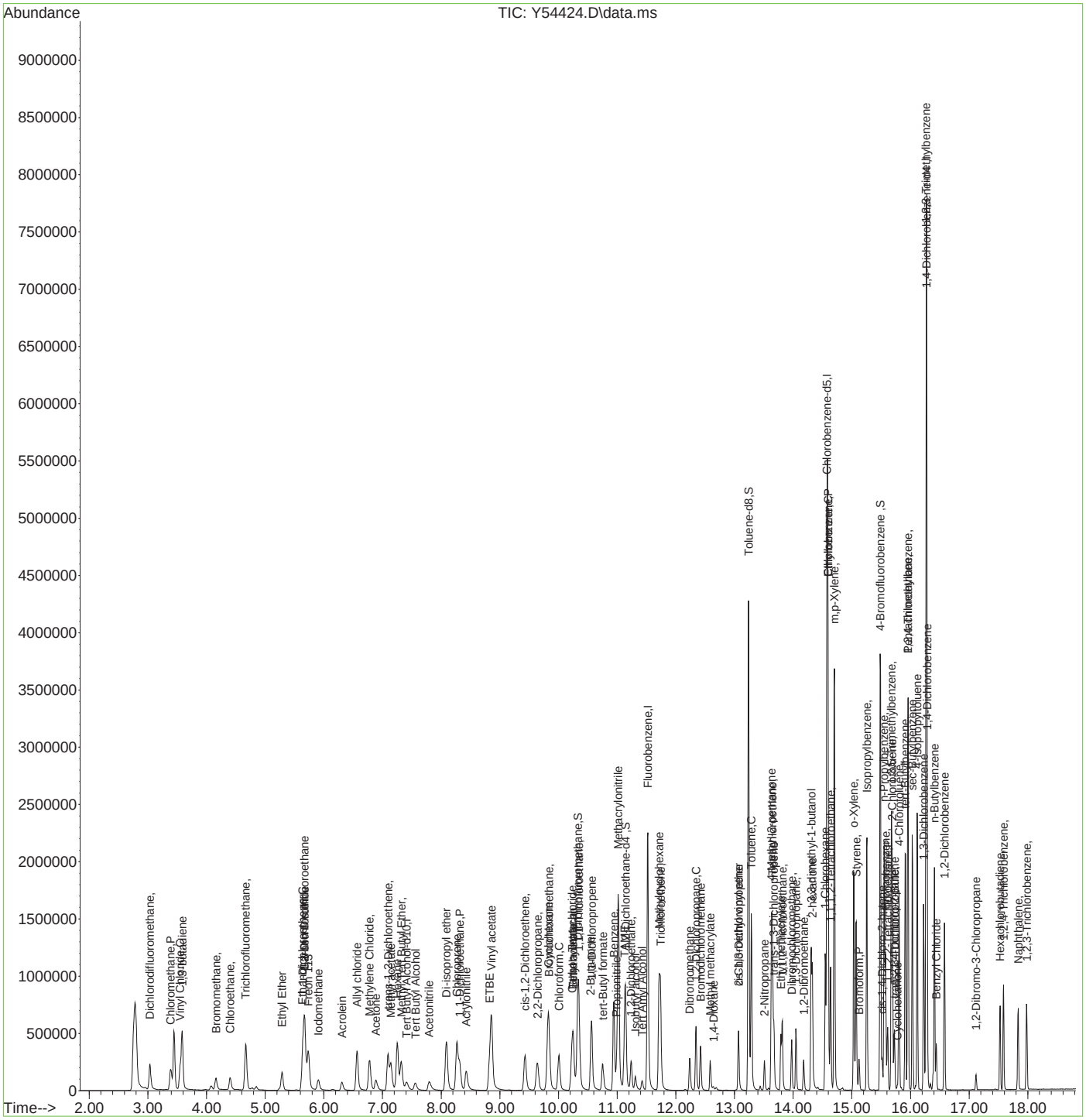
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) Naphthalene	17.837	128	491506	13.37	ug/L	100
106) 1,2,3-Trichlorobenzene	17.983	180	208183	15.70	ug/L	98
108) Ethanol	5.634	45	27650	403.72	ug/L	97
109) Tert Butyl Alcohol	7.562	59	108190	173.79	ug/L	95
110) Isobutyl alcohol	11.310	42	46273	439.21	ug/L	95
111) Tert Amyl Alcohol	11.425	59	46499	170.06	ug/L	94
112) 1,4-Dioxane	12.642	88	20141	342.80	ug/L	90
113) 3,3-dimethyl-1-butanol	14.309	57	527587	1468.70	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:30:35 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



Manual Integration Approval Summary

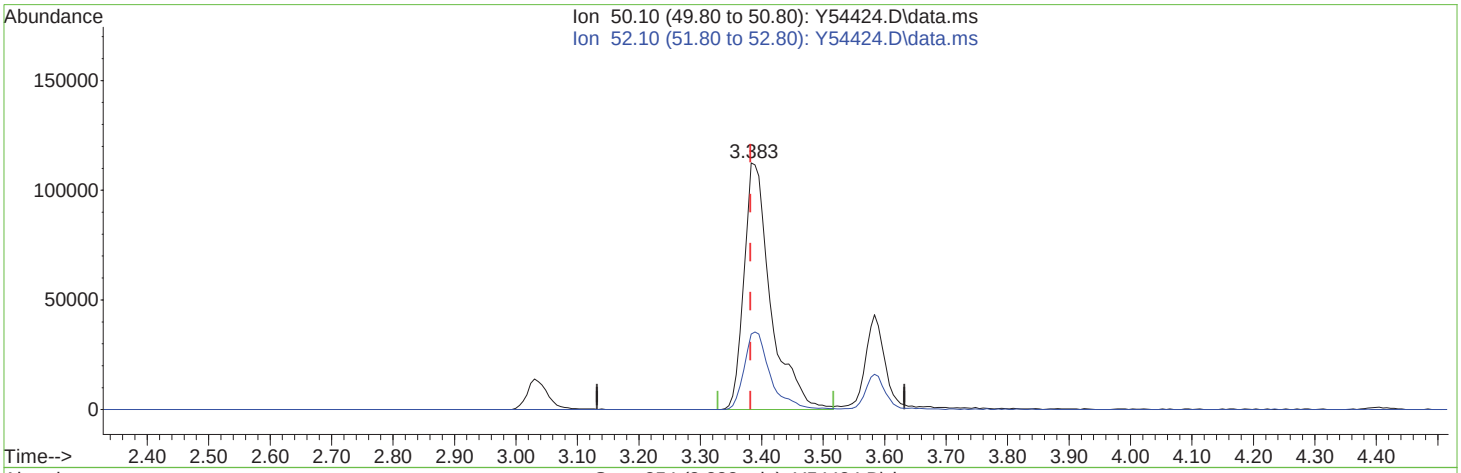
Sample Number: FA81027-11MSD
Lab FileID: Y54424.D
Injection Time: 11/30/20 20:35
Method: SW846 8260B
Analyst approved: 12/01/20 02:42 Jennifer Fereira
Supervisor approved: 12/03/20 09:15 Melissa Mangual

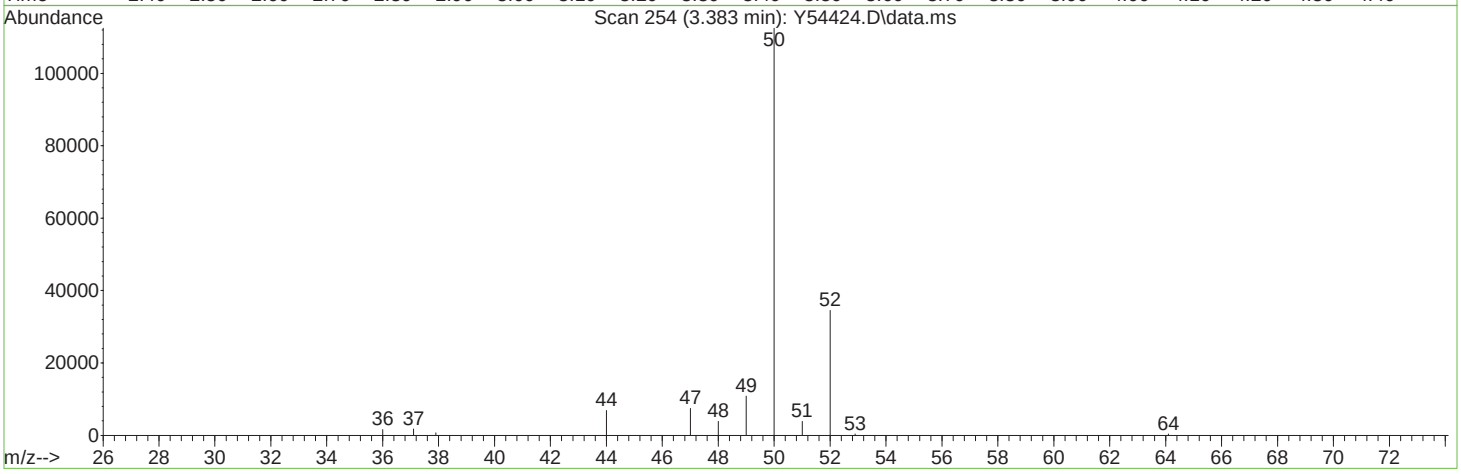
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.38	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:28 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration





TIC: Y54424.D\data.ms

(4) Chloromethane (P)

3.383min (+0.001) 28.16ug/L

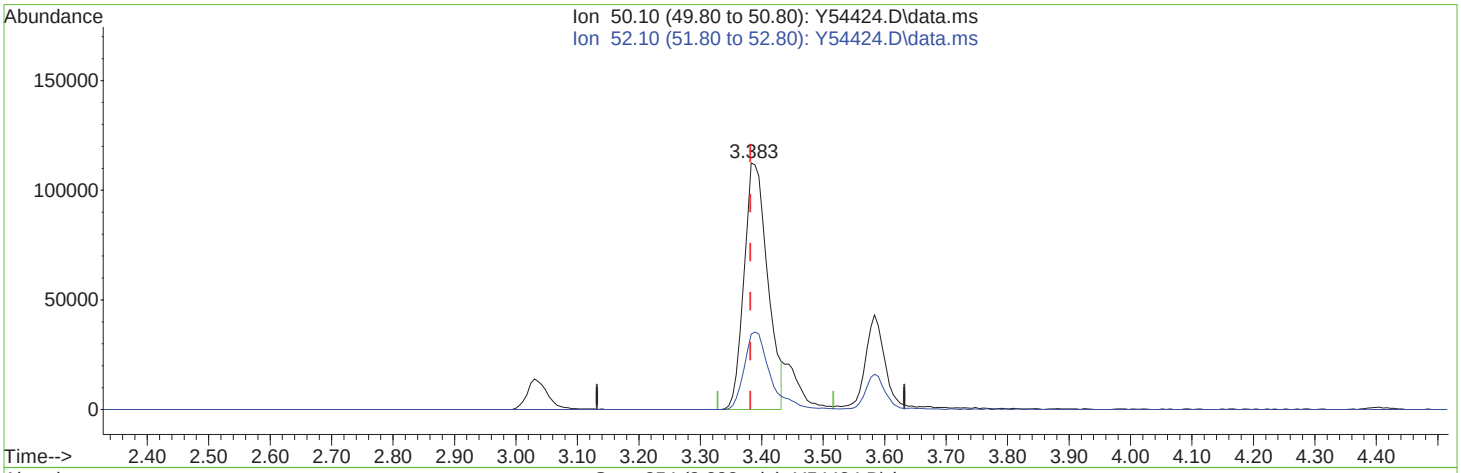
response 341204

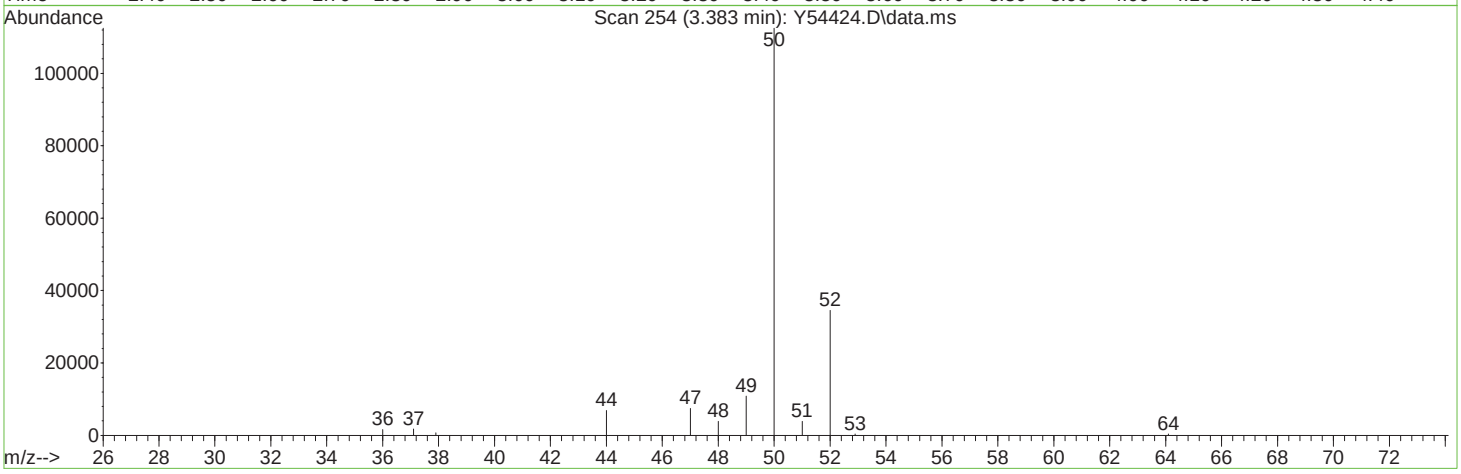
Ion	Exp%	Act%
50.10	100	100
52.10	31.00	30.68
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:28 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration





TIC: Y54424.D\data.ms

(4) Chloromethane (P)

3.383min (+0.001) 24.77ug/L m

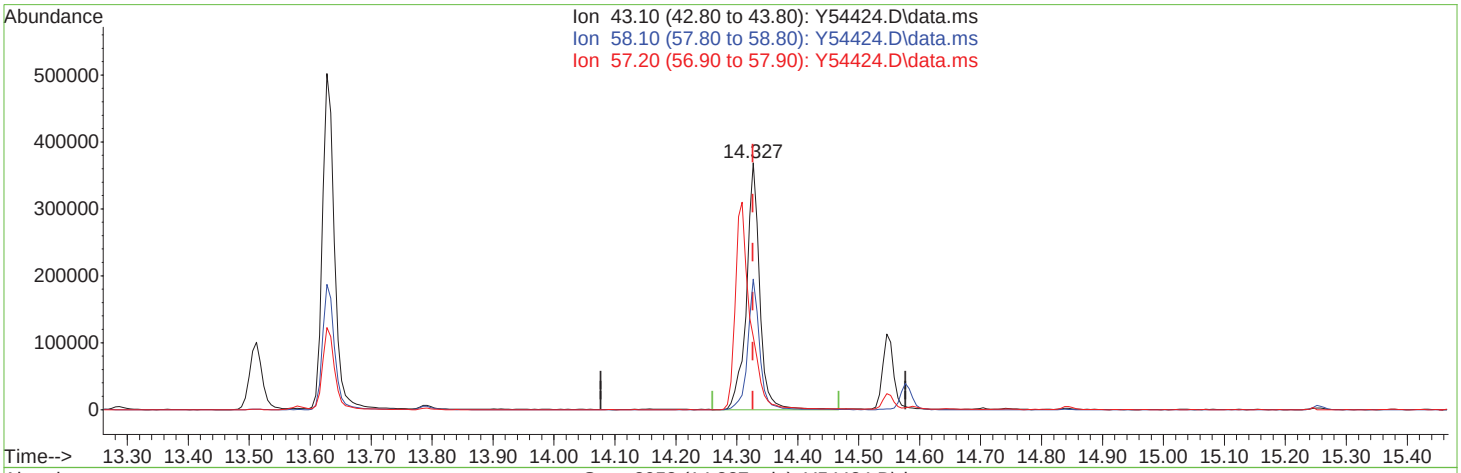
response 300976

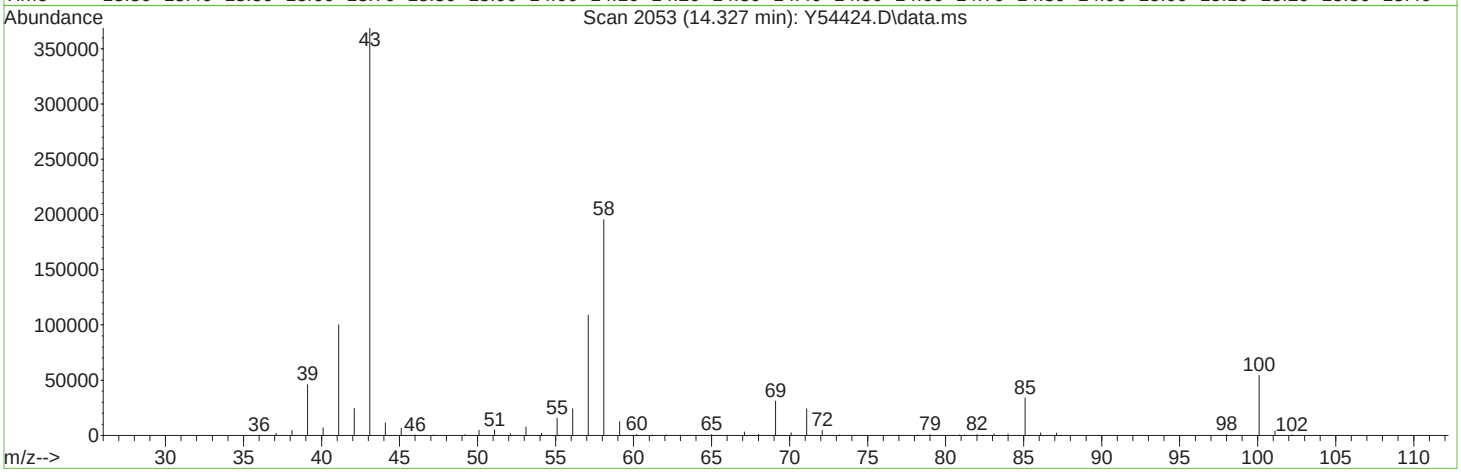
Ion	Exp%	Act%
50.10	100	100
52.10	31.00	30.68
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:28 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration





TIC: Y54424.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 107.19ug/L

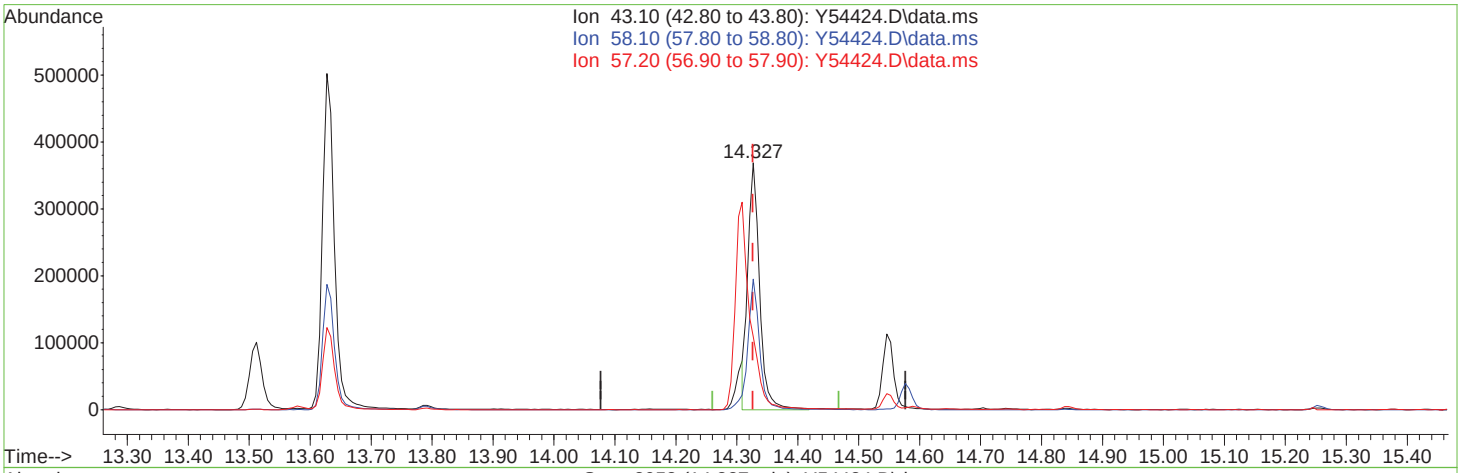
response 558441

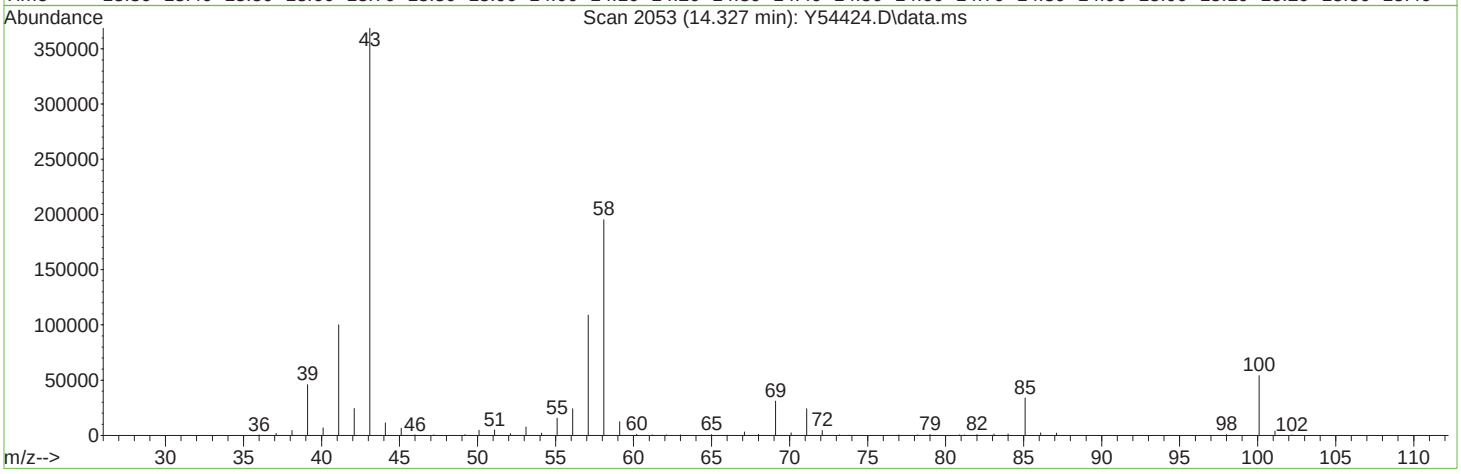
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	52.92
57.20	29.70	29.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD,5x Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:28 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration





TIC: Y54424.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 94.65ug/L m

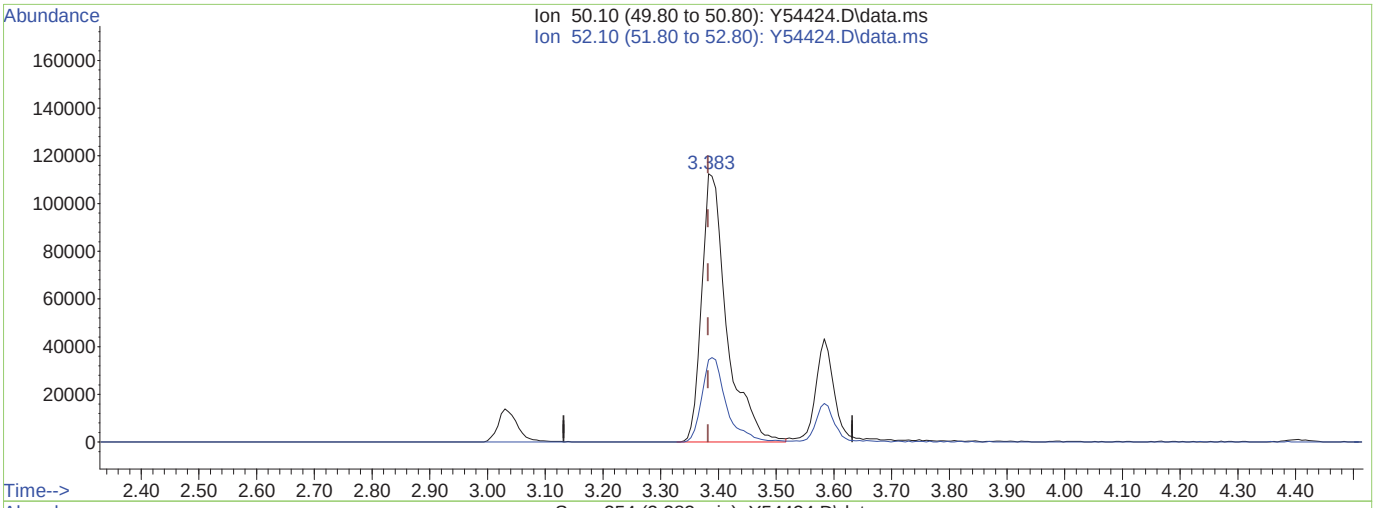
response 493138

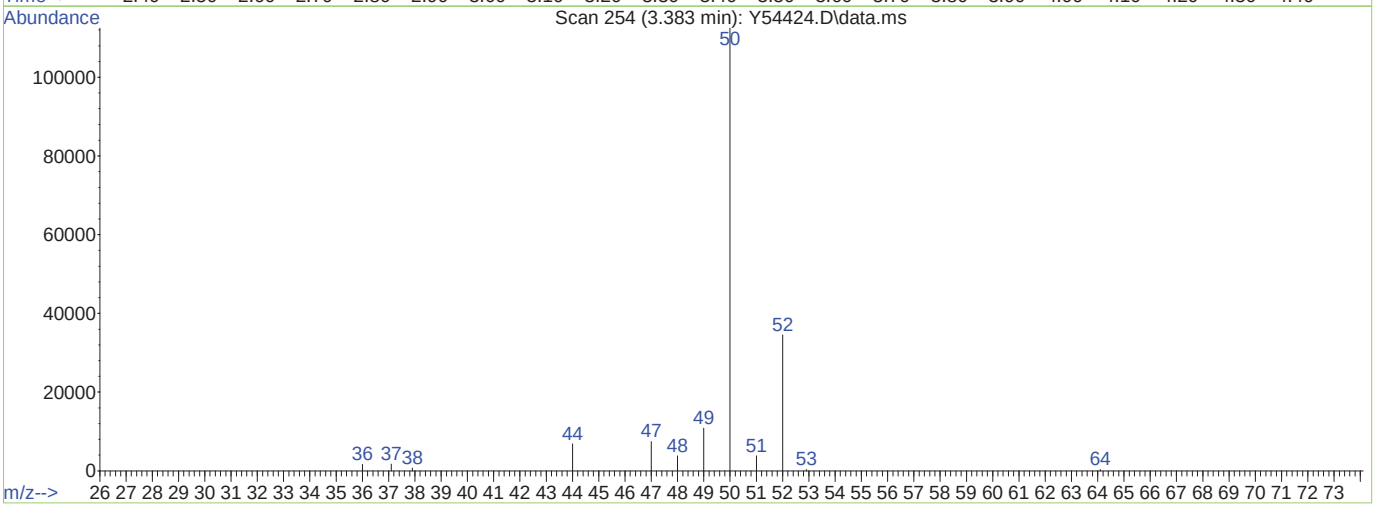
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	52.92
57.20	29.70	29.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\113020\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Dec 02 09:52:49 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Dec 02 09:52:21 2020
Response via : Initial Calibration





TIC: Y54424.D\data.ms

(4) Chloromethane (P)

3.383min (+0.001) 28.16ug/L

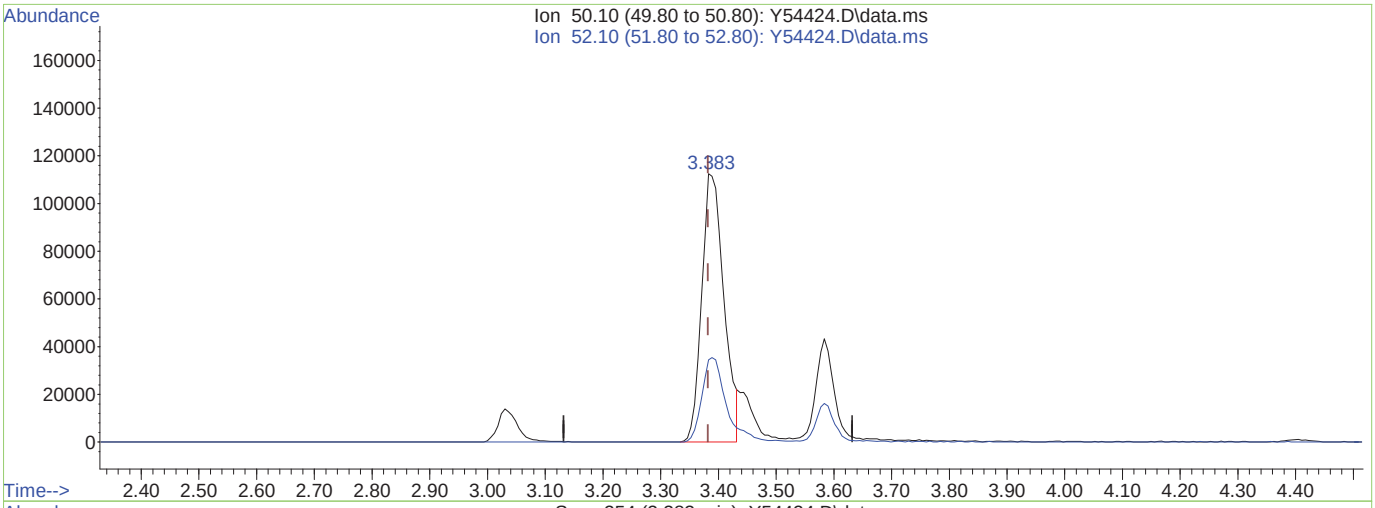
response 341204

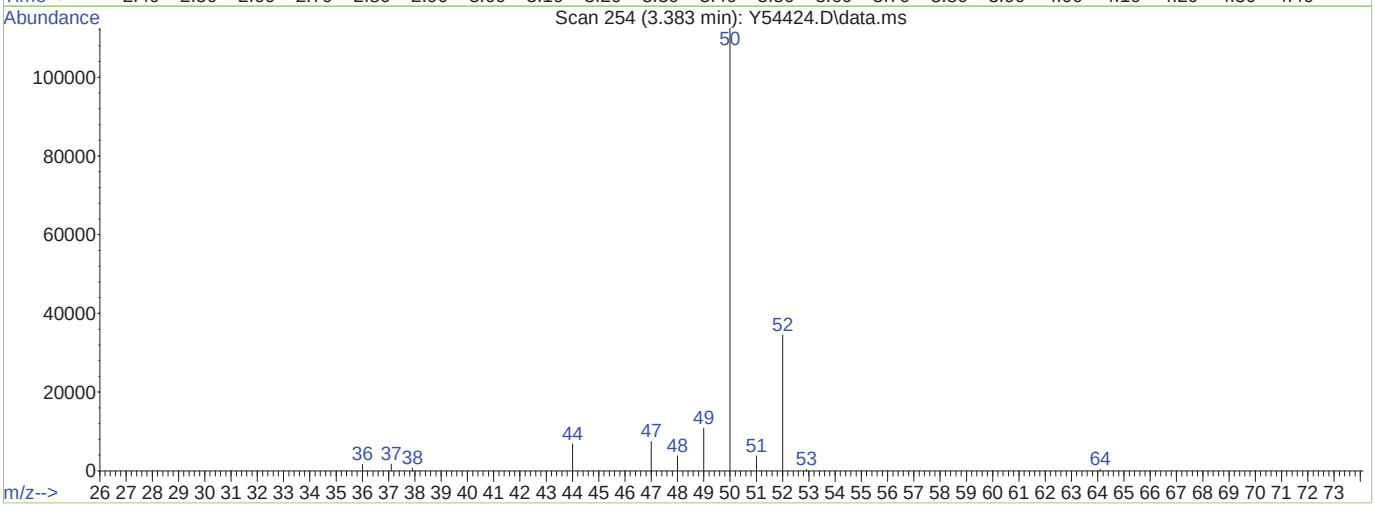
Ion	Exp%	Act%
50.10	100	100
52.10	31.00	30.68
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\113020\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Dec 02 09:52:49 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Dec 02 09:52:21 2020
Response via : Initial Calibration





TIC: Y54424.D\data.ms

(4) Chloromethane (P)

3.383min (+0.001) 24.77ug/L m

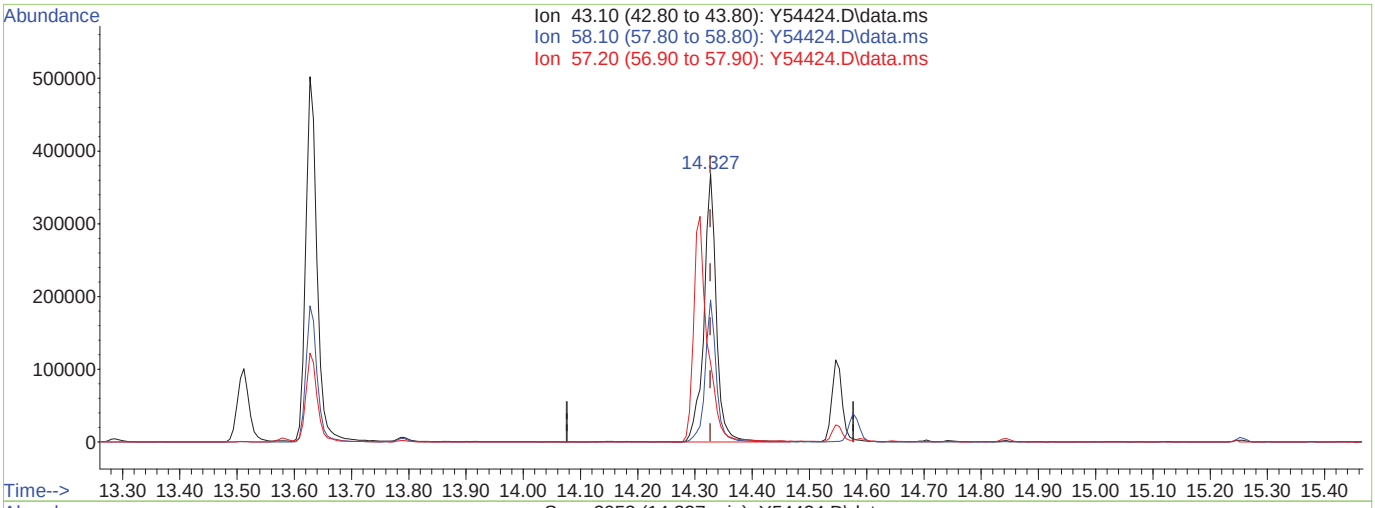
response 300979

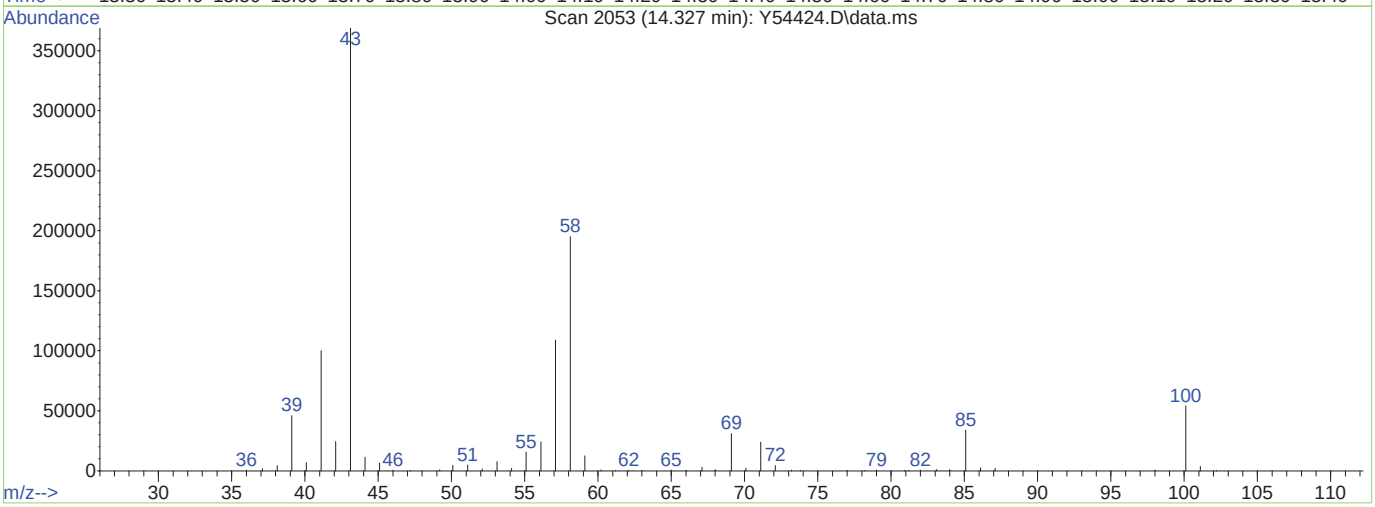
Ion	Exp%	Act%
50.10	100	100
52.10	31.00	30.68
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\113020\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Dec 02 09:52:49 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Dec 02 09:52:21 2020
Response via : Initial Calibration





TIC: Y54424.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 107.19ug/L

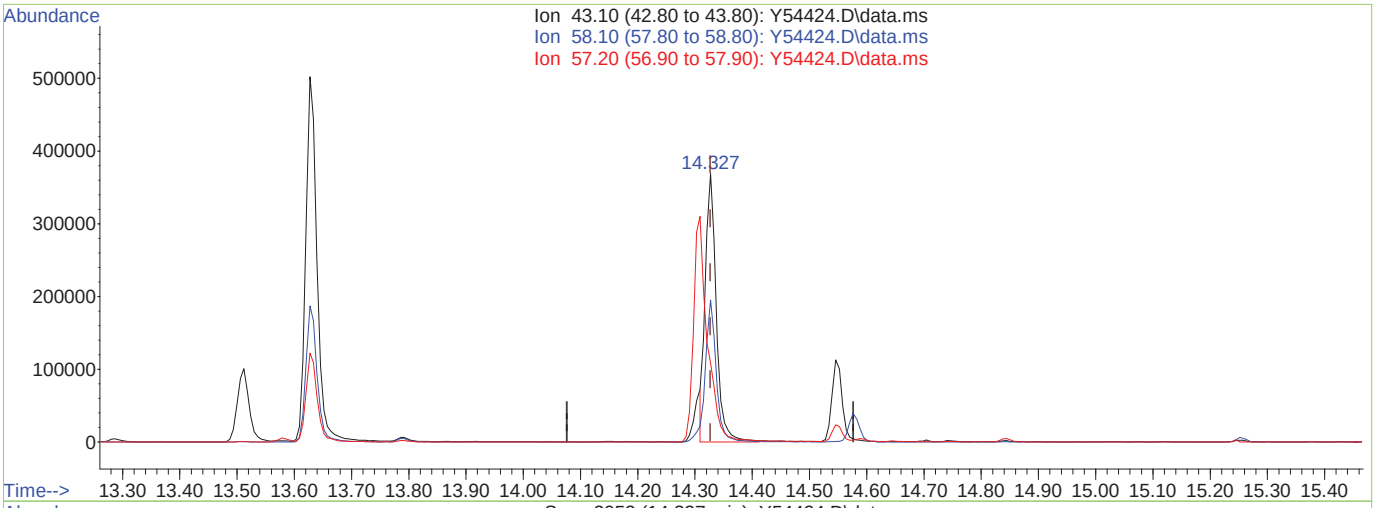
response 558441

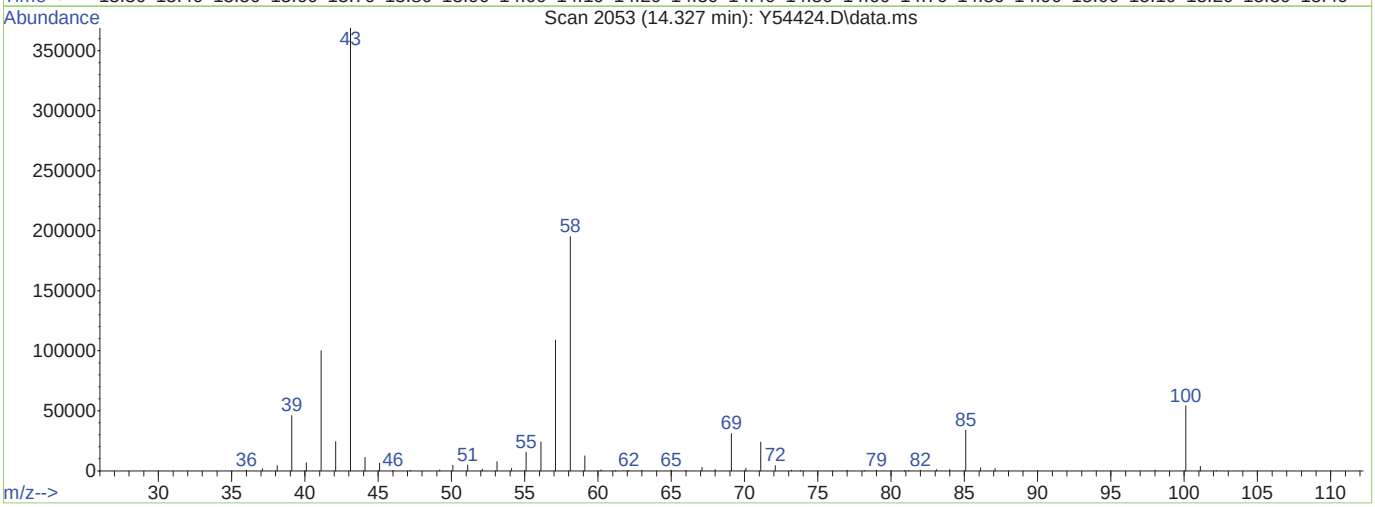
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	52.92
57.20	29.70	29.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\113020\
Data File : Y54424.D
Acq On : 30 Nov 2020 8:35 pm
Operator : LINDSAYR
Sample : FA81027-11MSD Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,5
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Dec 02 09:52:49 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Dec 02 09:52:21 2020
Response via : Initial Calibration





TIC: Y54424.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 94.54ug/L m

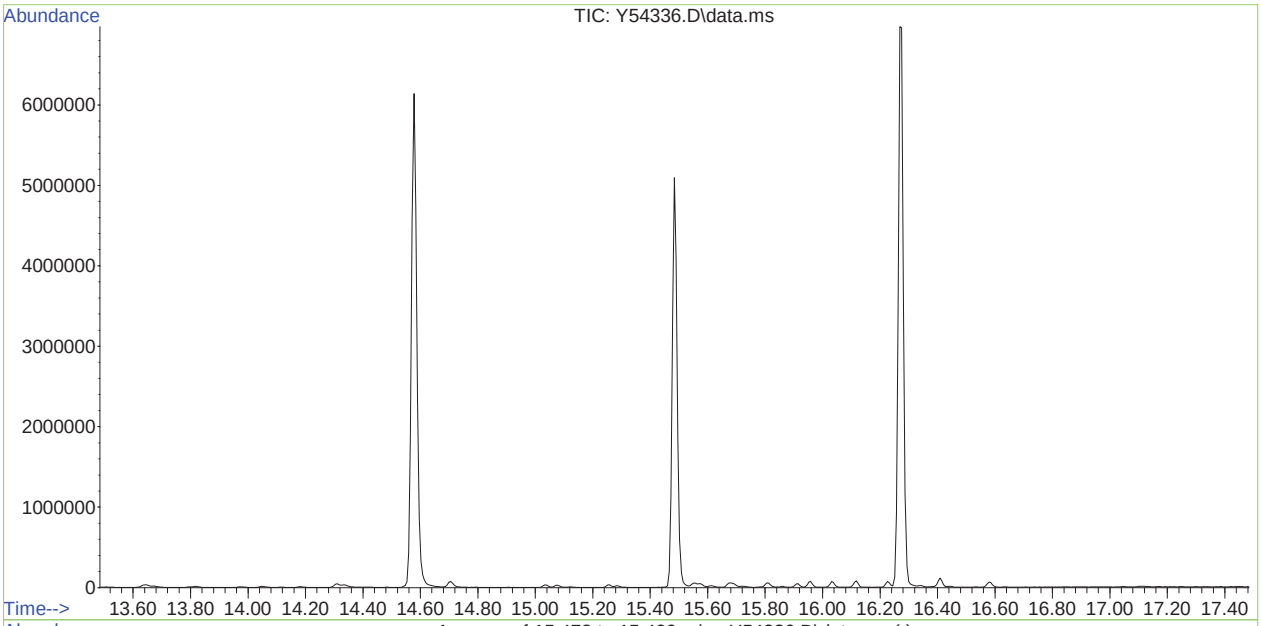
response 492543

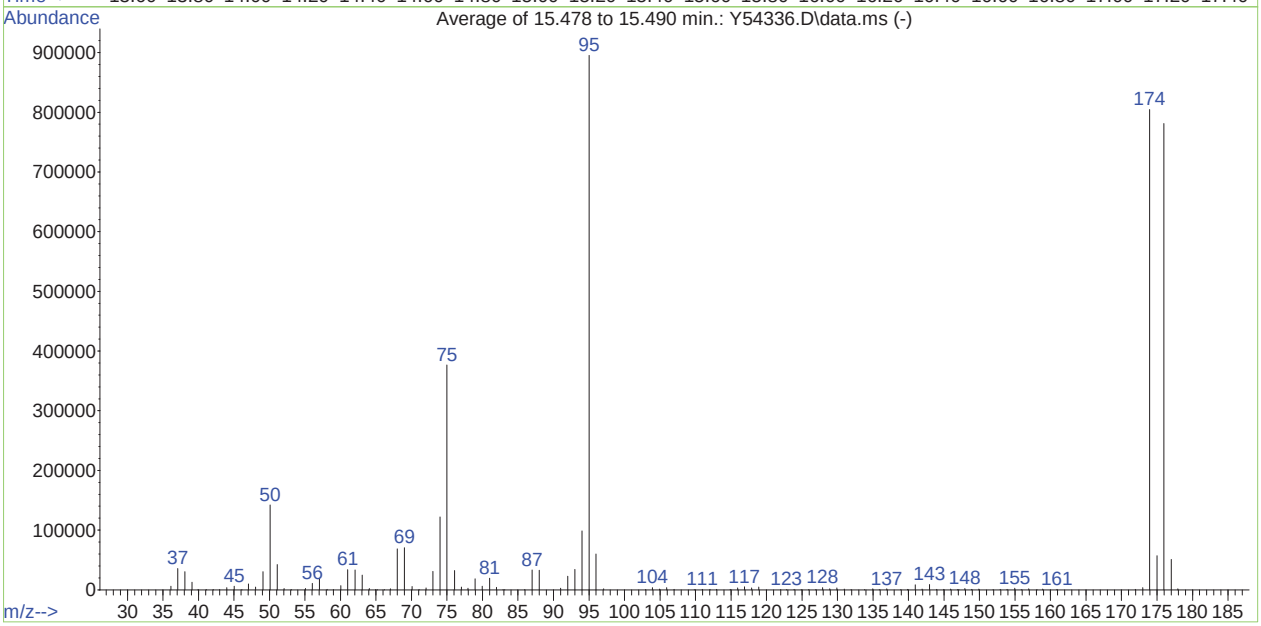
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	52.92
57.20	29.70	29.50
0.00	0.00	0.00

Methods: SW-846 8260B

Data File : C:\msdchem\1\DATA\112620\Y54336.D Vial: 1
Acq On : 26 Nov 2020 8:19 am Operator: chelseav
Sample : BFB Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK112620w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B





AutoFind: Scans 2242, 2243, 2244; Background Corrected with Scan 2235

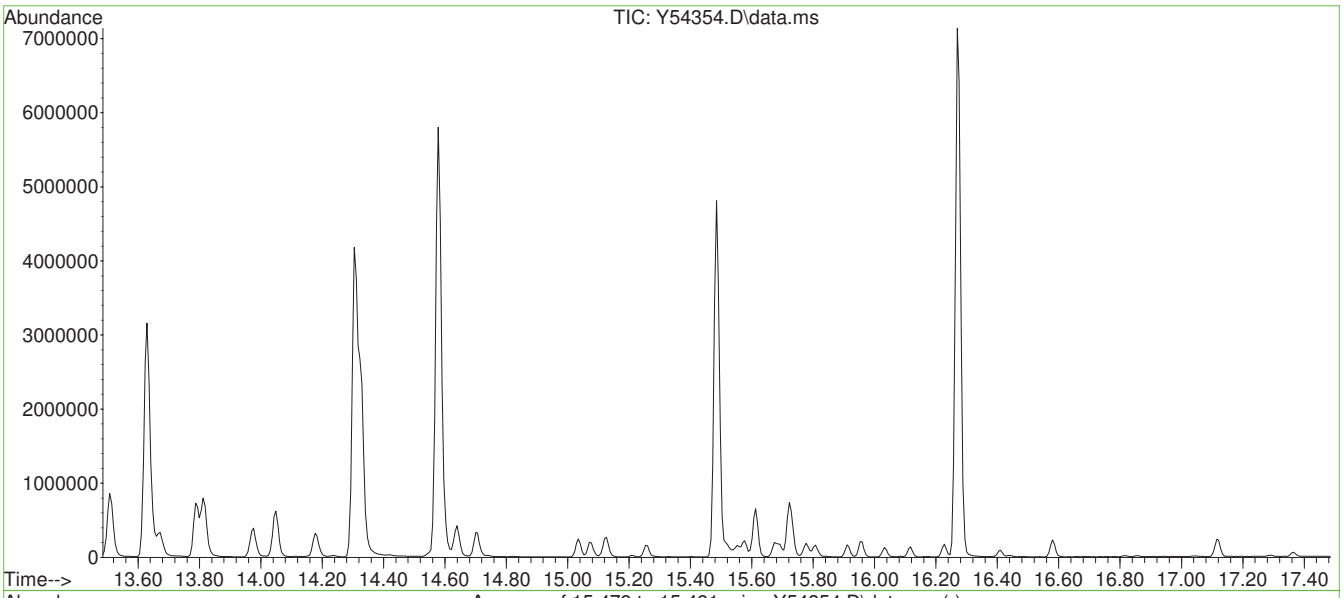
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.9	142330	PASS
75	95	30	60	42.1	376661	PASS
95	95	100	100	100.0	895232	PASS
96	95	5	9	6.7	60098	PASS
173	174	0.00	2	0.4	3520	PASS
174	95	50	100	89.9	804458	PASS
175	174	5	9	7.1	56885	PASS
176	174	95	101	97.1	781034	PASS
177	176	5	9	6.5	51034	PASS

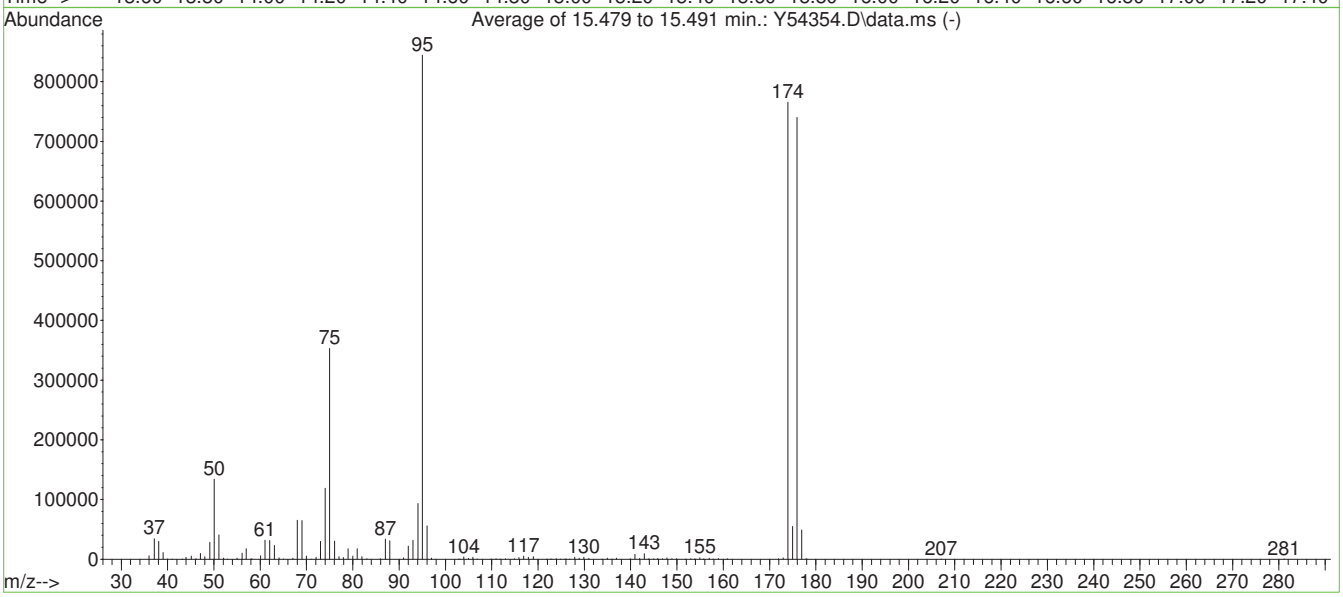
Y54336.D RESTEK112620w.M Fri Nov 27 09:19:20 2020

Methods: SW-846 8260B

Data File : C:\msdchem\1\data\jo...-2020\vy2258\Y54354.D Vial: 2
Acq On : 29 Nov 2020 11:38 am Operator: LINDSAYR
Sample : BFB Inst : MSVOA14-Y
Misc : MS47703,VY2258,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\met...\RESTEK112620w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B





AutoFind: Scans 2242, 2243, 2244; Background Corrected with Scan 2235

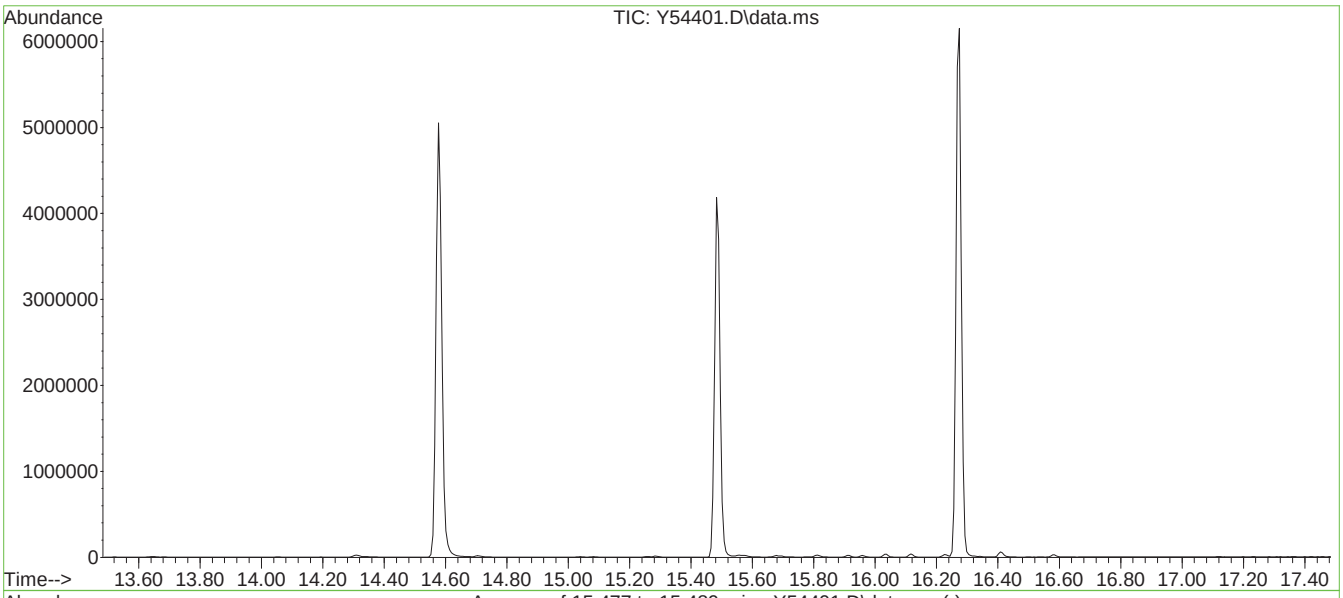
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.9	134219	PASS
75	95	30	60	41.8	353045	PASS
95	95	100	100	100.0	844267	PASS
96	95	5	9	6.6	56000	PASS
173	174	0.00	2	0.3	2317	PASS
174	95	50	100	90.7	765781	PASS
175	174	5	9	7.2	54987	PASS
176	174	95	101	96.6	740096	PASS
177	176	5	9	6.6	48840	PASS

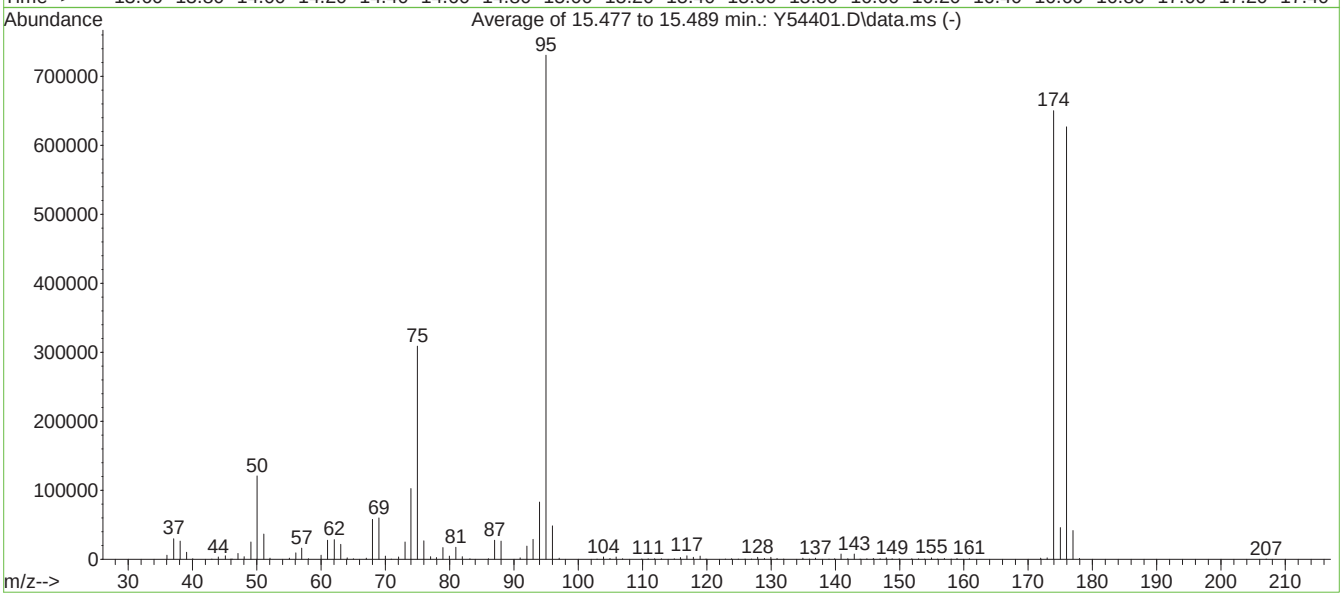
Y54354.D RESTEK112620w.M Mon Nov 30 02:31:09 2020

Methods: SW-846 8260B

```
Data File : C:\msdchem\1\data\Je...-2020\VY2260\Y54401.D Vial: 1
Acq On    : 30 Nov 2020   9:59 am                    Operator: LINDSAYR
Sample    : BFB                                     Inst    : MSVOA14-Y
Misc      : MS47703,VY2260,,,,,                     Multiplr: 1.00
MS Integration Params: med.p

Method    : C:\msdchem\1\met...\RESTEK112620w.M (RTE Integrator)
Title     : SW-846 Method 5035A/8260B
```





AutoFind: Scans 2242, 2243, 2244; Background Corrected with Scan 2236

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	120797	PASS
75	95	30	60	42.3	308907	PASS
95	95	100	100	100.0	730624	PASS
96	95	5	9	6.6	48317	PASS
173	174	0.00	2	0.3	2131	PASS
174	95	50	100	89.0	650325	PASS
175	174	5	9	7.0	45661	PASS
176	174	95	101	96.4	626837	PASS
177	176	5	9	6.6	41523	PASS

Y54401.D RESTEK112620w.M Tue Dec 01 02:05:59 2020

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/28/20 09:26

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 27 08:02:30 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.519	96	3001072	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	2918559	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.270	152	1531895	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.412	65	194698	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.332	113	758857	48.45	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.90%			
47) 1,2-Dichloroethane-d4	11.141	65	678808	50.41	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.82%			
58) Toluene-d8	13.240	98	3154249	48.94	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.88%			
80) 4-Bromofluorobenzene	15.485	174	1149013	50.36	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.72%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.032	85	17648	1.18	ug/L	89
3) Acrolein	6.305	56	13384	6.67	ug/L	94
4) Chloromethane	3.385	50	22146m	1.47	ug/L	
5) 1,3-butadiene	3.586	39	14882	1.52	ug/L	88
6) Vinyl Chloride	3.549	62	18944	1.36	ug/L	94
7) Bromomethane	4.158	94	9375	1.56	ug/L	99
8) Chloroethane	4.401	64	9948	1.85	ug/L	92
9) Trichlorofluoromethane	4.669	101	25369	1.21	ug/L	99
10) Ethyl Ether	5.283	59	11091	1.21	ug/L	96
11) 1,2-Dichlorotrifluoroe...	5.666	67	17442	1.40	ug/L	96
12) 1,1-Dichloroethene	5.642	61	25251	1.43	ug/L	97
13) Freon 113	5.733	101	19496	1.36	ug/L	93
14) Carbon Disulfide	5.672	76	49075	1.51	ug/L	95
15) Iodomethane	5.898	142	15121	1.51	ug/L	97
16) Allyl chloride	6.561	41	22246	1.32	ug/L	96
17) Methylene Chloride	6.774	49	30442	1.74	ug/L	98
18) Acetone	6.895	43	23444	8.78	ug/L	97
19) Methyl acetate	7.151	43	40789	6.20	ug/L	98
20) trans-1,2-Dichloroethene	7.096	61	23106	1.39	ug/L	91
21) Hexane	7.254	56	13402	1.30	ug/L #	86
22) Methyl Tert Butyl Ether	7.321	73	31889	1.22	ug/L	92
23) Acetonitrile	7.802	41	16437	14.15	ug/L	95
24) Di-isopropyl ether	8.094	45	47196	1.25	ug/L	94
25) Chloroprene	8.270	53	20519	1.24	ug/L	96
26) 1,1-Dichloroethane	8.319	63	27719	1.37	ug/L	97
27) Acrylonitrile	8.434	53	27128	8.46	ug/L	98
28) ETBE	8.836	59	33329	1.13	ug/L	99
29) Vinyl acetate	8.866	43	112729	5.78	ug/L	100
30) cis-1,2-Dichloroethene	9.438	96	19478	1.30	ug/L	96
31) 2,2-Dichloropropane	9.639	77	19069	1.23	ug/L	94
32) Bromochloromethane	9.834	128	10362	1.30	ug/L	95
33) Cyclohexane	9.821	56	29287	1.25	ug/L	88
34) Chloroform	10.010	83	28775	1.35	ug/L	94
35) Ethyl acetate	10.265	43	64301	7.67	ug/L	99
36) Tetrahydrofuran	10.259	42	3763	1.52	ug/L	78
38) Carbon Tetrachloride	10.223	117	22943	1.20	ug/L	94
39) 1,1,1-Trichloroethane	10.351	97	30228	1.41	ug/L	97
40) 2-Butanone	10.570	43	25571	6.72	ug/L	96
41) 1,1-Dichloropropene	10.570	75	23433	1.34	ug/L	95
42) tert-Butyl formate	10.752	59	10750	6.08	ug/L	90
43) Propionitrile	10.995	54	15981	12.84	ug/L	75
44) Methacrylonitrile	11.026	41	71212	12.36	ug/L	96
45) Benzene	10.941	78	73205	1.38	ug/L	99
46) TAME	11.135	73	28393	1.16	ug/L	93
48) 1,2-Dichloroethane	11.239	62	19423	1.28	ug/L	96
49) Trichloroethene	11.744	95	24111	1.54	ug/L	95
50) Methylcyclohexane	11.713	83	28549	1.23	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 27 08:02:30 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

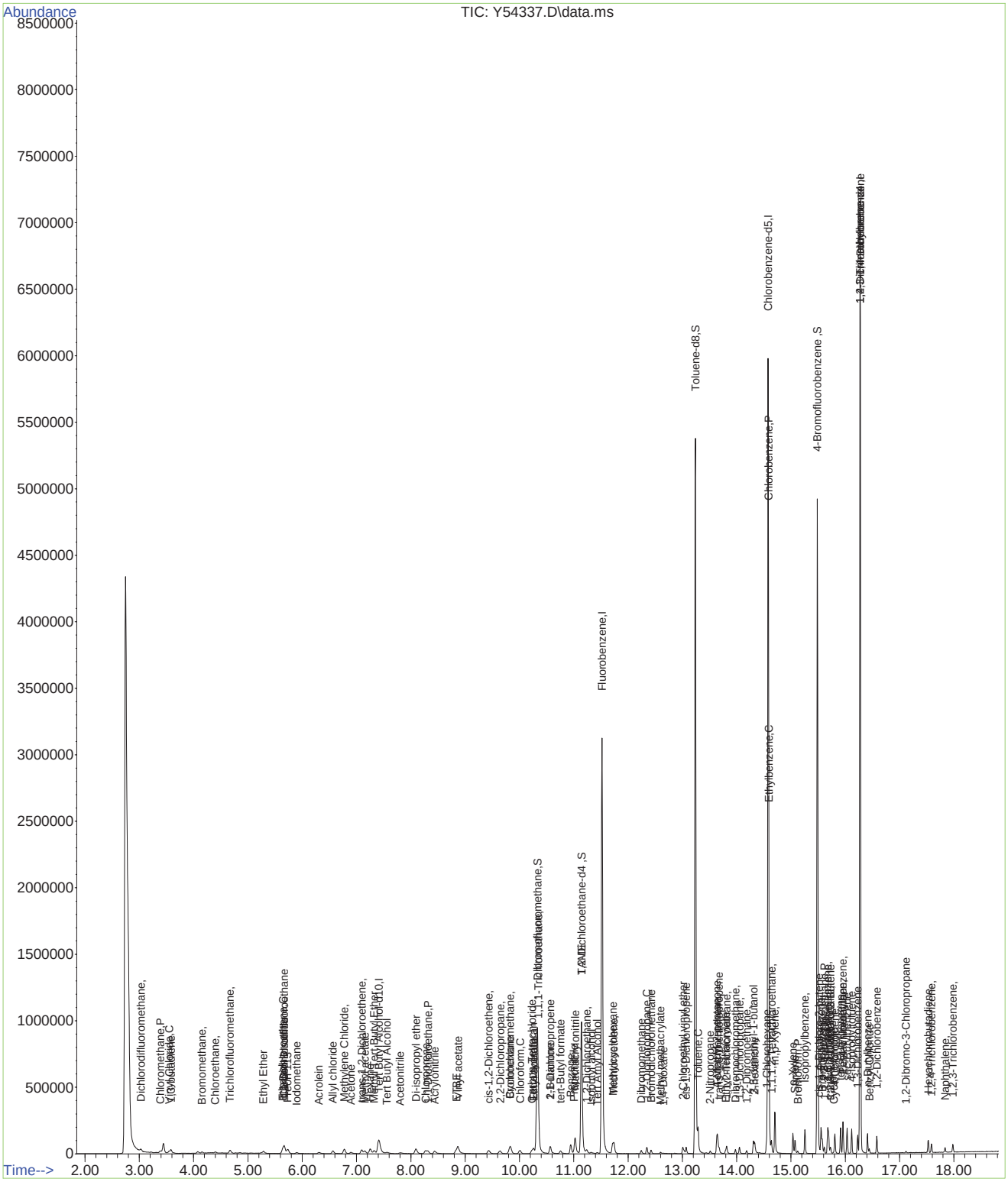
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) Dibromomethane	12.236	93	8987	1.31 ug/L	90
52) 1,2-Dichloropropane	12.346	63	16016	1.33 ug/L	96
53) Bromodichloromethane	12.425	83	16634	1.17 ug/L	93
54) Methyl methacrylate	12.595	41	7710	1.11 ug/L	91
55) 2-Chloroethyl vinyl ether	13.009	63	20409	5.19 ug/L	96
56) cis-1,3-Dichloropropene	13.070	75	19385	1.09 ug/L	93
59) Toluene	13.289	91	94636	1.43 ug/L	98
60) 2-Nitropropane	13.508	41	10917	5.51 ug/L #	78
61) 4-Methyl-2-pentanone	13.630	43	59784	6.63 ug/L	97
62) trans-1,3-Dichloropropene	13.678	75	15698	1.12 ug/L	97
63) Tetrachloroethene	13.648	166	27861	1.44 ug/L	97
64) Ethyl methacrylate	13.794	69	10884	1.05 ug/L	96
65) 1,1,2-Trichloroethane	13.812	83	10741	1.25 ug/L	96
66) Dibromochloromethane	13.976	129	13601	0.98 ug/L	93
67) 1,3-Dichloropropane	14.049	76	22584	1.25 ug/L	93
68) 1,2-Dibromoethane	14.183	107	13663	1.16 ug/L	100
69) 2-hexanone	14.329	43	41130m	6.40 ug/L	
70) 1-Chlorohexane	14.548	91	25434	1.27 ug/L	98
71) Ethylbenzene	14.597	91	103987	1.45 ug/L	98
72) Chlorobenzene	14.591	112	61947	1.35 ug/L	87
73) 1,1,1,2-Tetrachloroethane	14.639	131	18336	1.15 ug/L	92
74) m,p-Xylene	14.700	91	149625	2.68 ug/L	97
75) o-Xylene	15.035	91	69302	1.25 ug/L	99
76) Styrene	15.071	104	45141	1.04 ug/L	98
77) Bromoform	15.126	173	6735	0.99 ug/L	93
78) Isopropylbenzene	15.254	105	99137	1.28 ug/L	94
81) cis-1,4-Dichloro-2-butene	15.522	53	3650	1.51 ug/L #	79
82) n-Propylbenzene	15.552	91	107149	1.32 ug/L	97
83) Bromobenzene	15.576	156	25300	1.34 ug/L	93
84) 1,1,2,2-Tetrachloroethane	15.613	83	14442	1.21 ug/L	96
85) 1,3,5-Trimethylbenzene	15.674	105	73561	1.28 ug/L	97
86) 2-Chlorotoluene	15.692	91	70724	1.39 ug/L	98
87) trans-1,4-Dichloro-2-B...	15.735	53	2327	1.05 ug/L #	85
88) 1,2,3-Trichloropropane	15.722	110	5722	1.24 ug/L	97
89) Cyclohexanone	15.783	55	2446	9.03 ug/L	89
90) 4-Chlorotoluene	15.807	91	60879	1.29 ug/L	98
91) tert-Butylbenzene	15.911	91	40280	1.35 ug/L	98
92) 1,2,4-Trimethylbenzene	15.954	105	73522	1.28 ug/L	97
93) Pentachloroethane	15.960	167	11639	1.22 ug/L	95
94) sec-Butylbenzene	16.033	105	95851	1.34 ug/L	99
95) 4-Isopropyltoluene	16.118	119	82623	1.25 ug/L	99
96) 1,3-Dichlorobenzene	16.227	146	48014	1.33 ug/L	99
97) 1,2,3-Trimethylbenzene	16.270	105	85714	1.33 ug/L	96
98) 1,4-Dichlorobenzene	16.282	146	49537m	1.38 ug/L	
99) n-Butylbenzene	16.410	92	31547	1.23 ug/L	98
100) Benzyl Chloride	16.440	126	3945	0.89 ug/L #	82
101) 1,2-Dichlorobenzene	16.580	146	43544	1.32 ug/L	96
102) 1,2-Dibromo-3-Chloropr...	17.115	75	2101	1.15 ug/L	87
103) Hexachlorobutadiene	17.529	225	12606	2.09 ug/L	95
104) 1,2,4-Trichlorobenzene	17.584	180	16454	0.98 ug/L	95
105) Naphthalene	17.839	128	23794	0.59 ug/L	94
106) 1,2,3-Trichlorobenzene	17.979	180	15951	1.03 ug/L	99
108) Ethanol	5.630	45	4236m	38.09 ug/L	
109) Tert Butyl Alcohol	7.558	59	14826	14.34 ug/L	93
110) Isobutyl alcohol	11.324	42	4072	23.38 ug/L #	81
111) Tert Amyl Alcohol	11.433	59	4579	9.81 ug/L	89
112) 1,4-Dioxane	12.656	88	2425	27.15 ug/L	90
113) 3,3-dimethyl-1-butanol	14.311	57	33632m	43.49 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 27 08:02:30 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: VY2256-IC2256
Lab FileID: Y54337.D
Injection Time: 11/26/20 08:46
Method: SW846 8260B
Analyst approved: 11/27/20 08:54 Shanica O'Connor
Supervisor approved: 11/28/20 09:26 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
Ethyl Alcohol	64-17-5		5.63	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		14.31	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak
1,4-Dichlorobenzene	106-46-7		16.28	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
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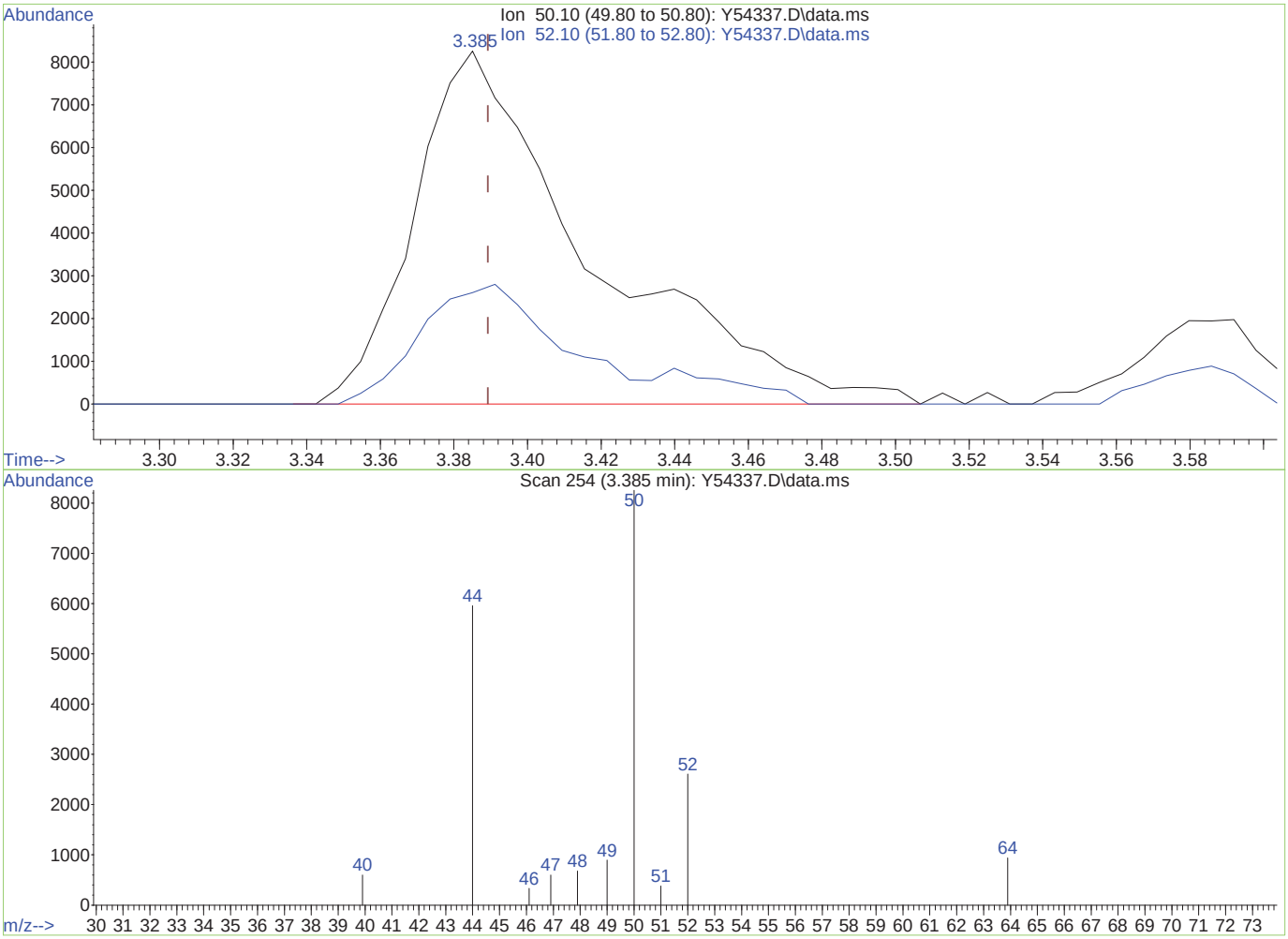
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 26 10:22:32 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration



TIC: Y54337.D\data.ms

(4) Chloromethane (P)

3.385min (-0.004) 1.84ug/L

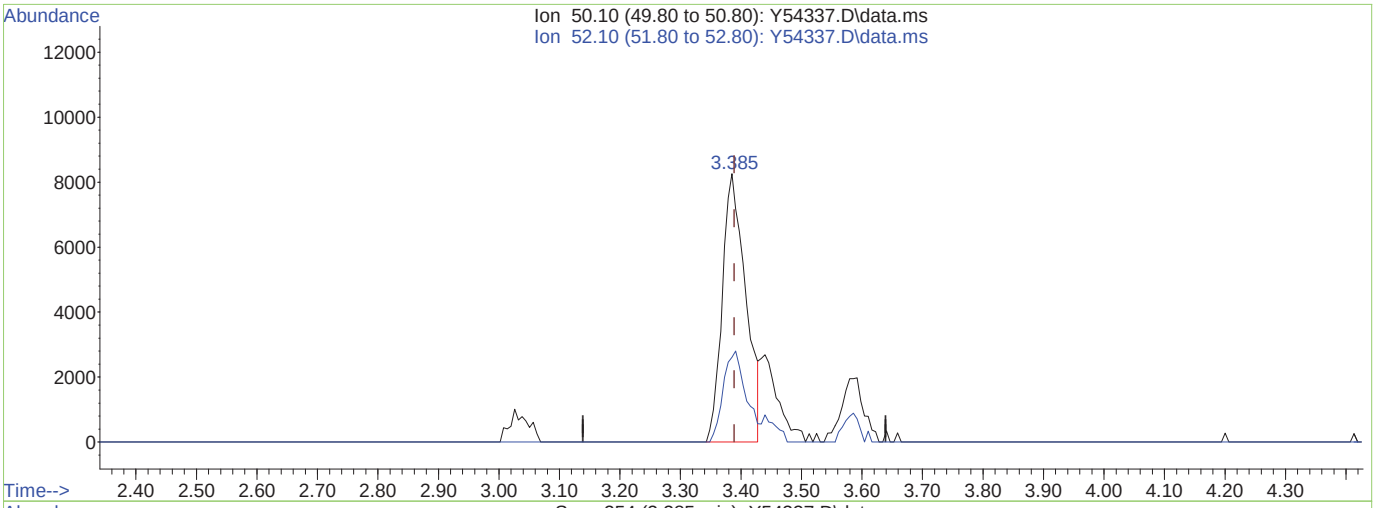
response 27690

Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 26 10:22:32 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration



TIC: Y54337.D\data.ms

(4) Chloromethane (P)

3.385min (-0.004) 1.47ug/L m

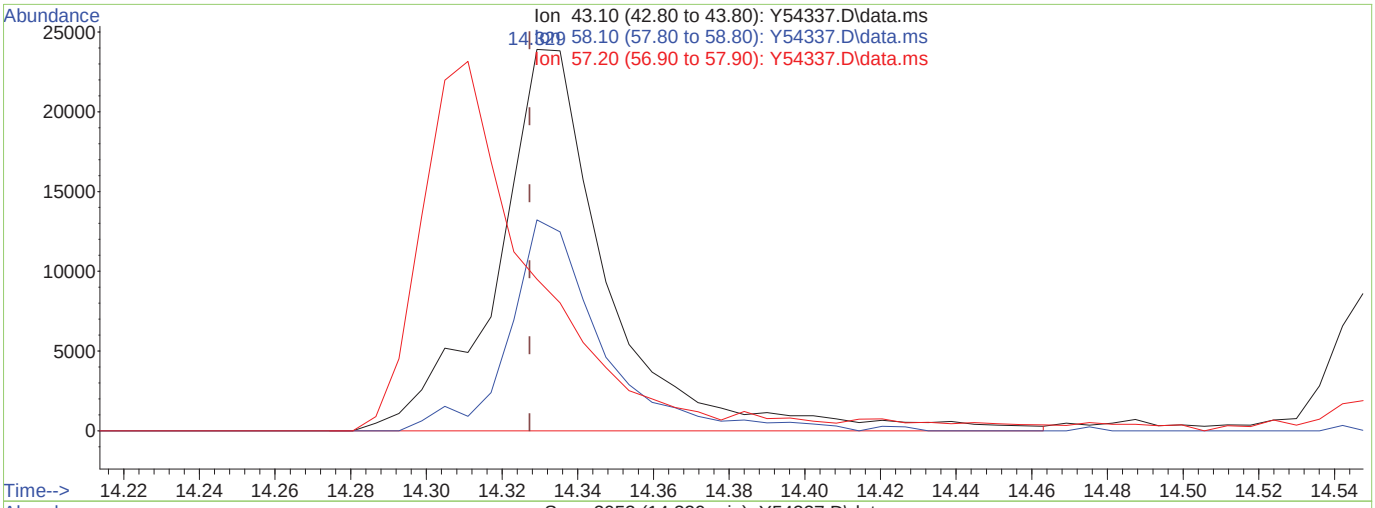
response 22146

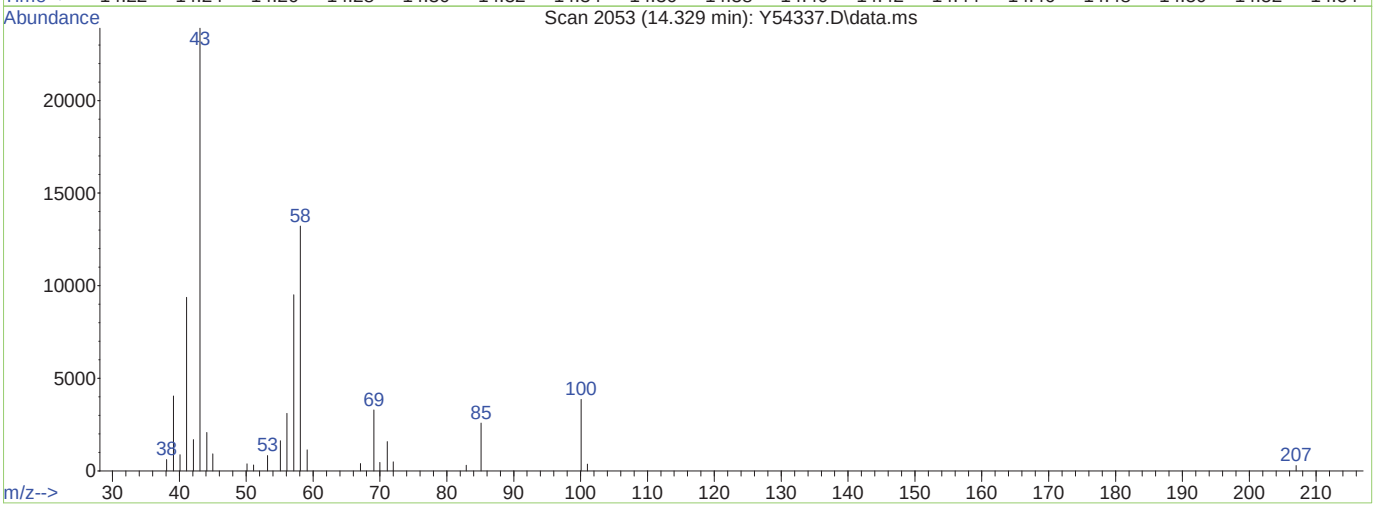
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 26 10:22:32 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54337.D\data.ms

(69) 2-hexanone

14.329min (+0.002) 7.60ug/L

response 48797

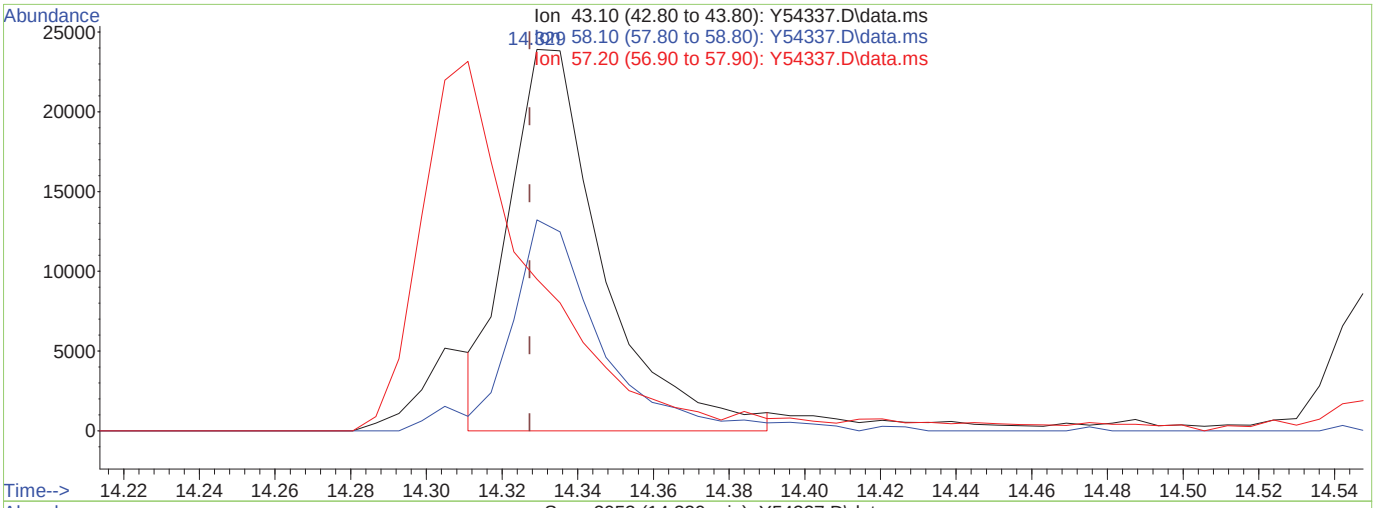
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	55.29
57.20	29.70	39.76
0.00	0.00	0.00

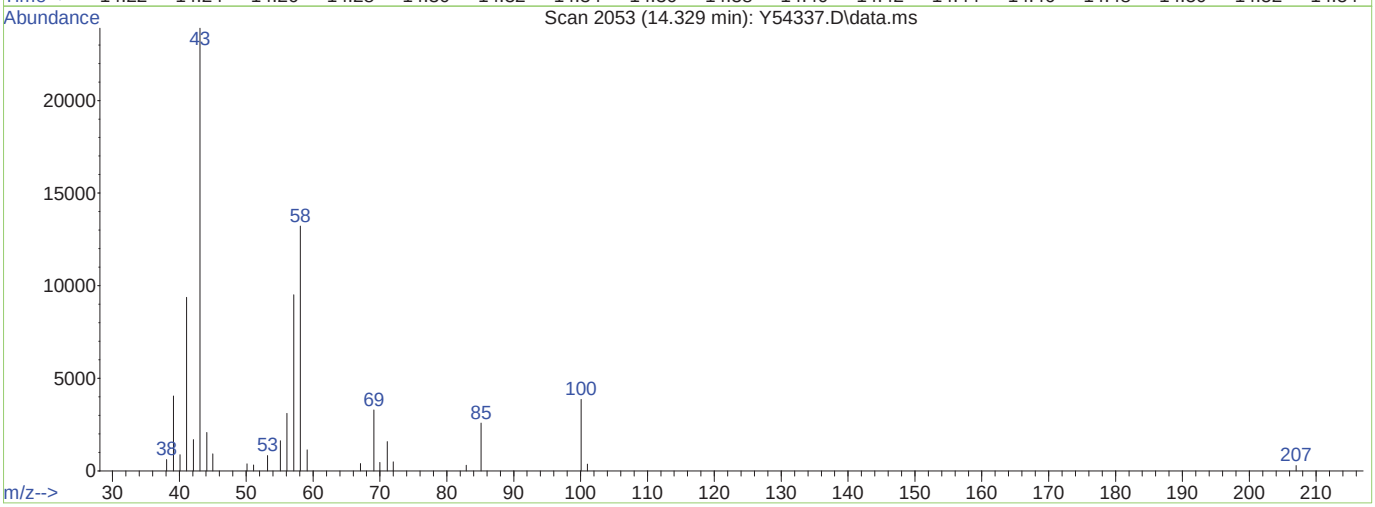
Y54337.D edits: 2-hexanone

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 26 10:22:32 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54337.D\data.ms

(69) 2-hexanone

14.329min (+0.002) 6.40ug/L m

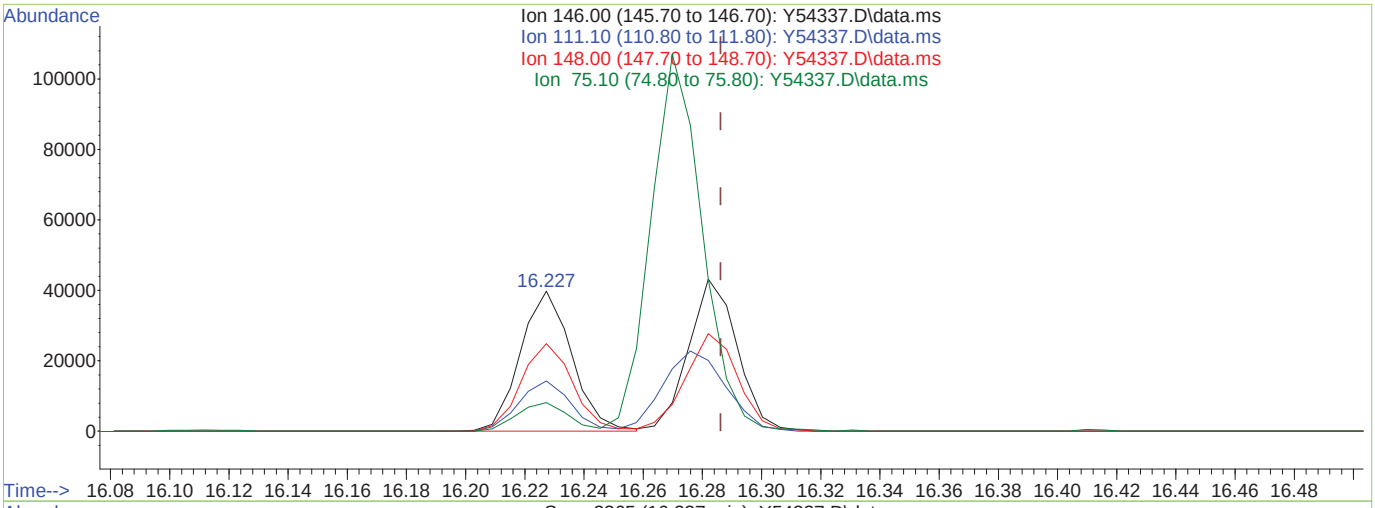
response 41130

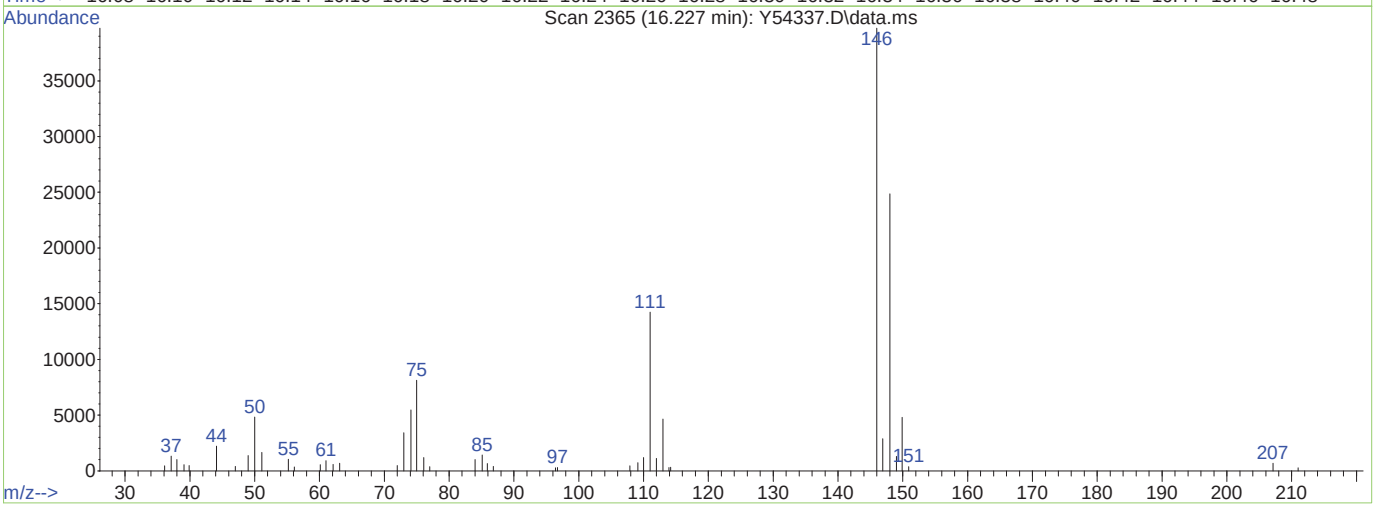
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	55.29
57.20	29.70	39.76
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 26 10:22:32 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54337.D\data.ms

(98) 1,4-Dichlorobenzene

16.227min (-0.059) 1.34ug/L

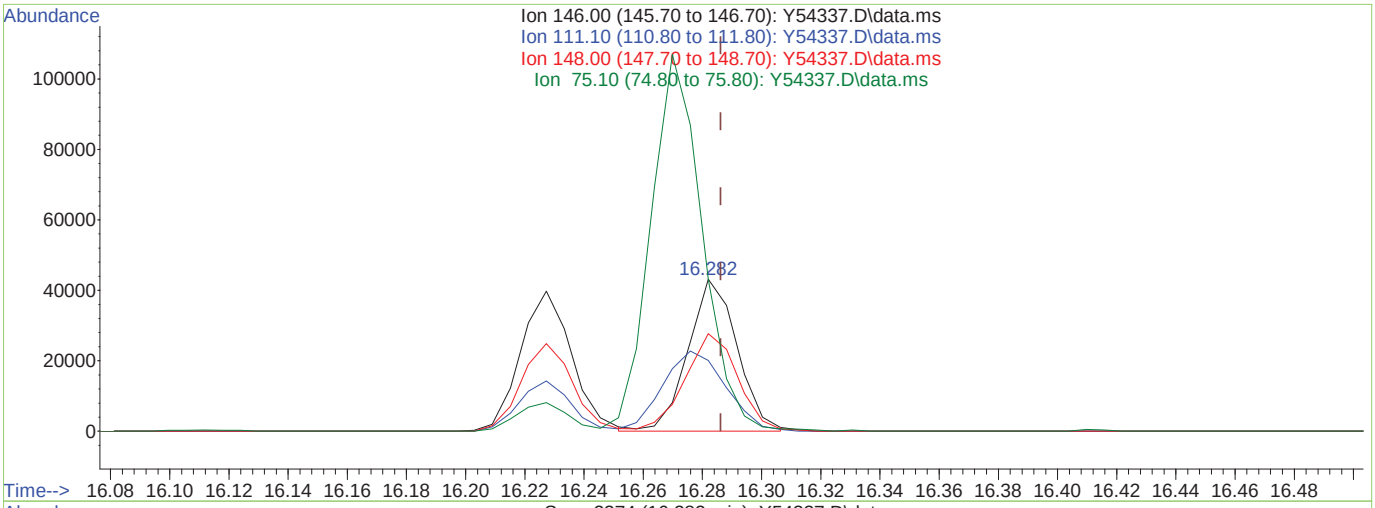
response 48014

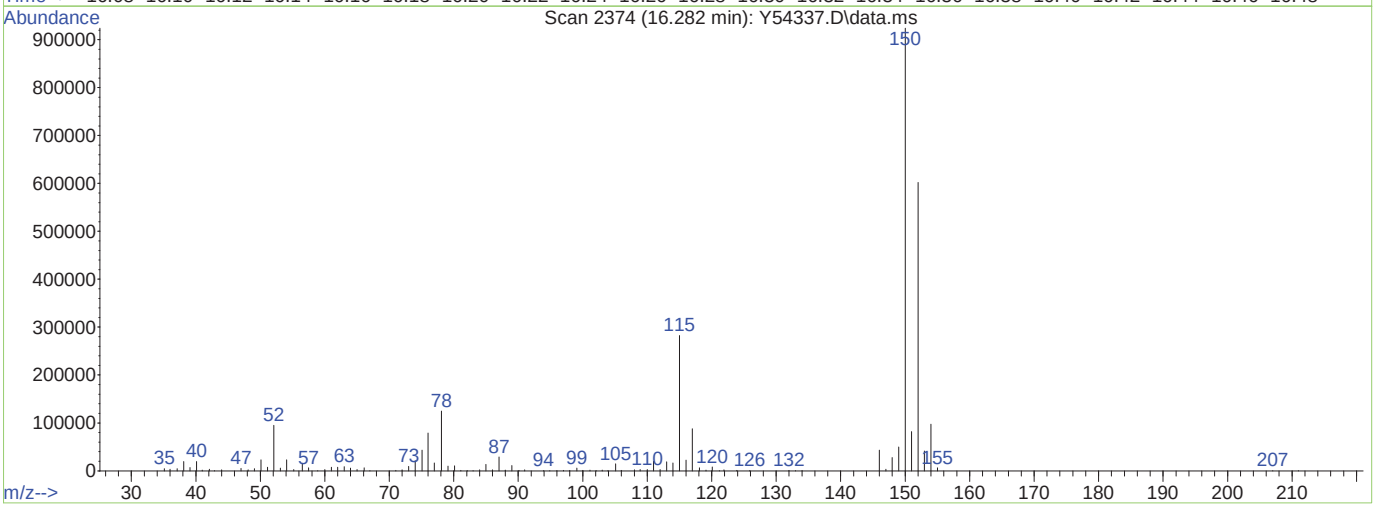
Ion	Exp%	Act%
146.00	100	100
111.10	34.40	35.86
148.00	64.70	62.57
75.10	20.40	20.45

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 26 10:22:32 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54337.D\data.ms

(98) 1,4-Dichlorobenzene

16.282min (-0.004) 1.38ug/L m

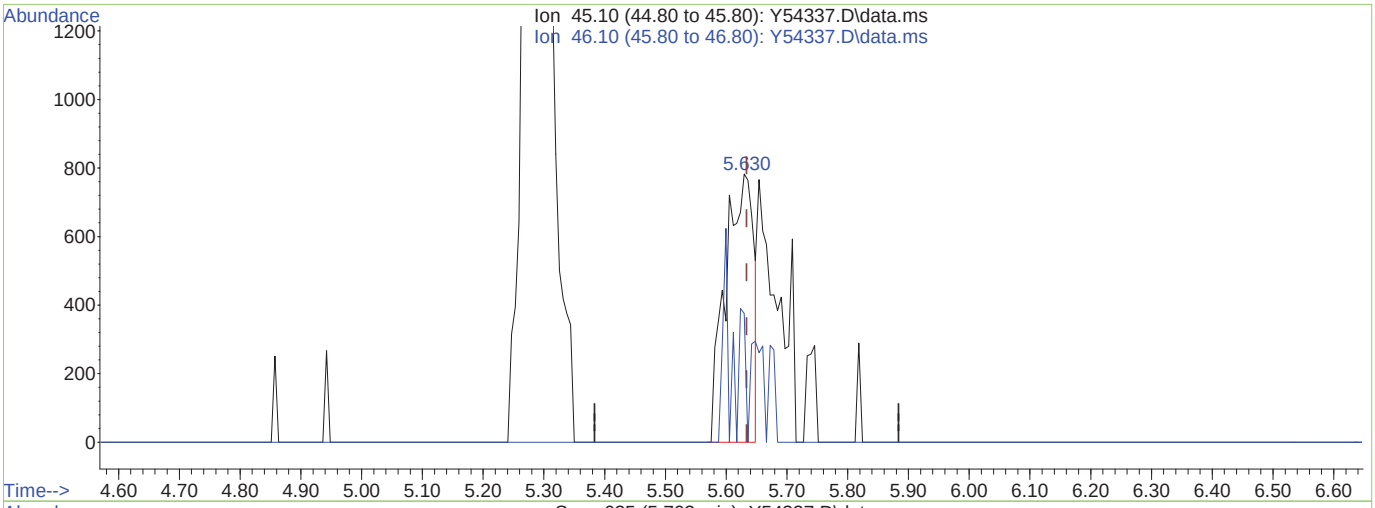
response 49537

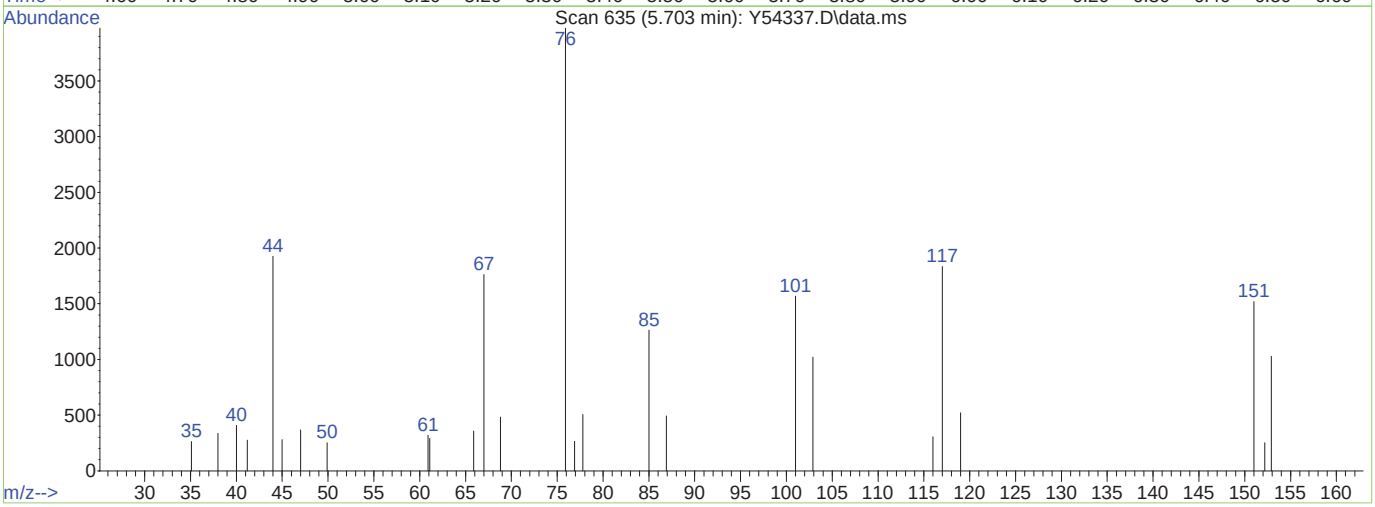
Ion	Exp%	Act%
146.00	100	100
111.10	34.40	46.55
148.00	64.70	64.26
75.10	20.40	99.72#

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 26 10:22:32 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54337.D\data.ms

(108) Ethanol

5.630min (-0.004) 22.43ug/L

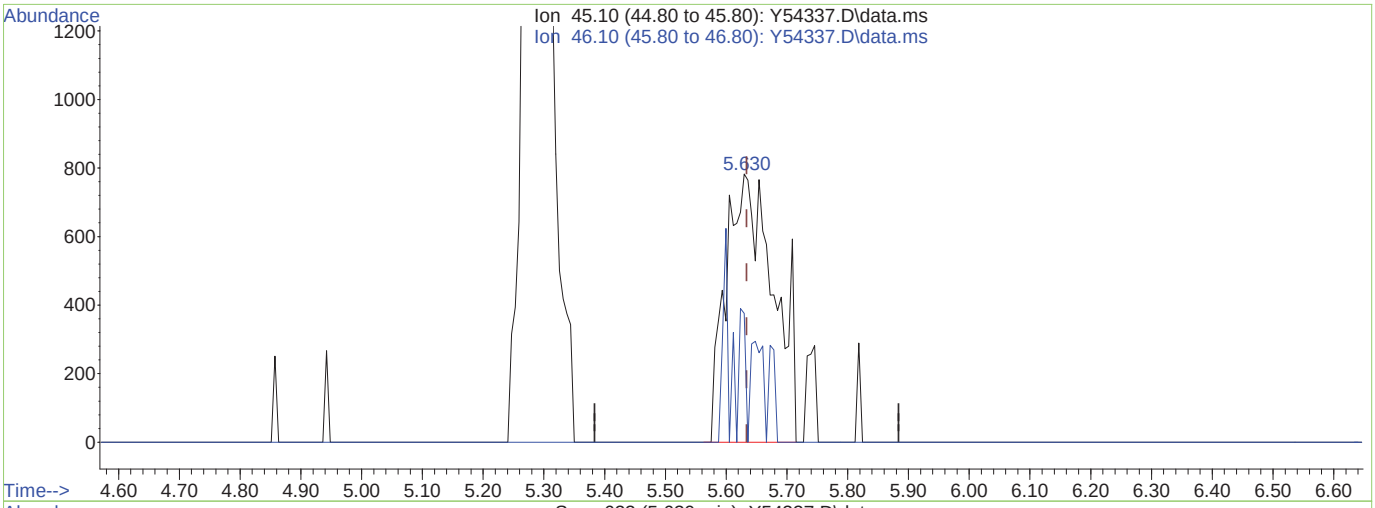
response 2494

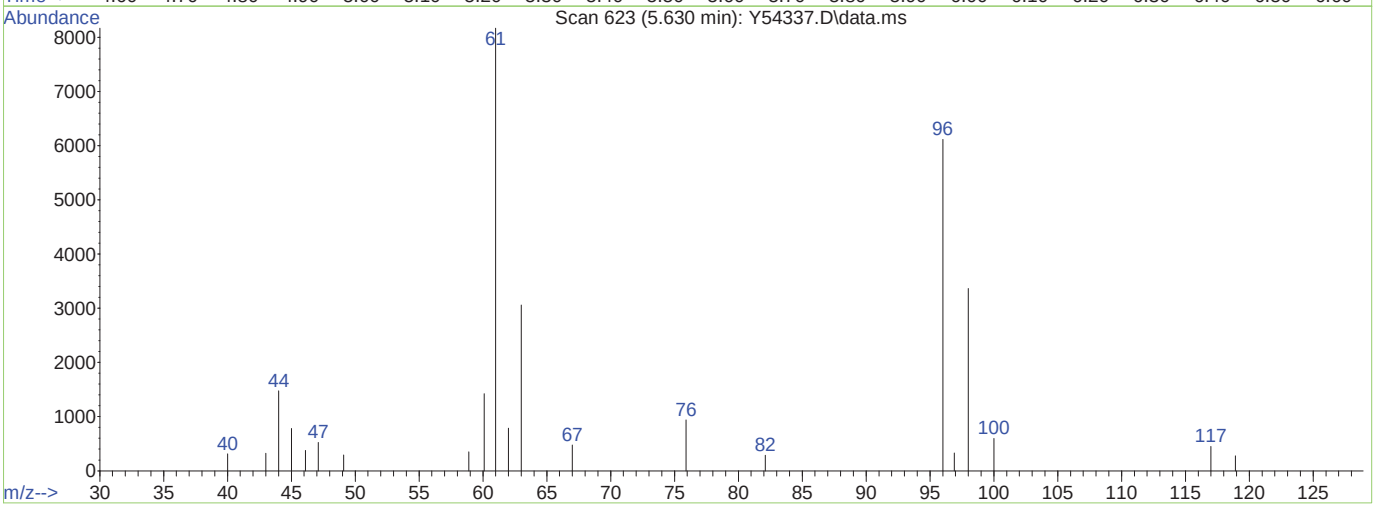
Ion	Exp%	Act%
45.10	100	100
46.10	41.20	48.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 26 10:22:32 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54337.D\data.ms

(108) Ethanol

5.630min (-0.004) 38.09ug/L m

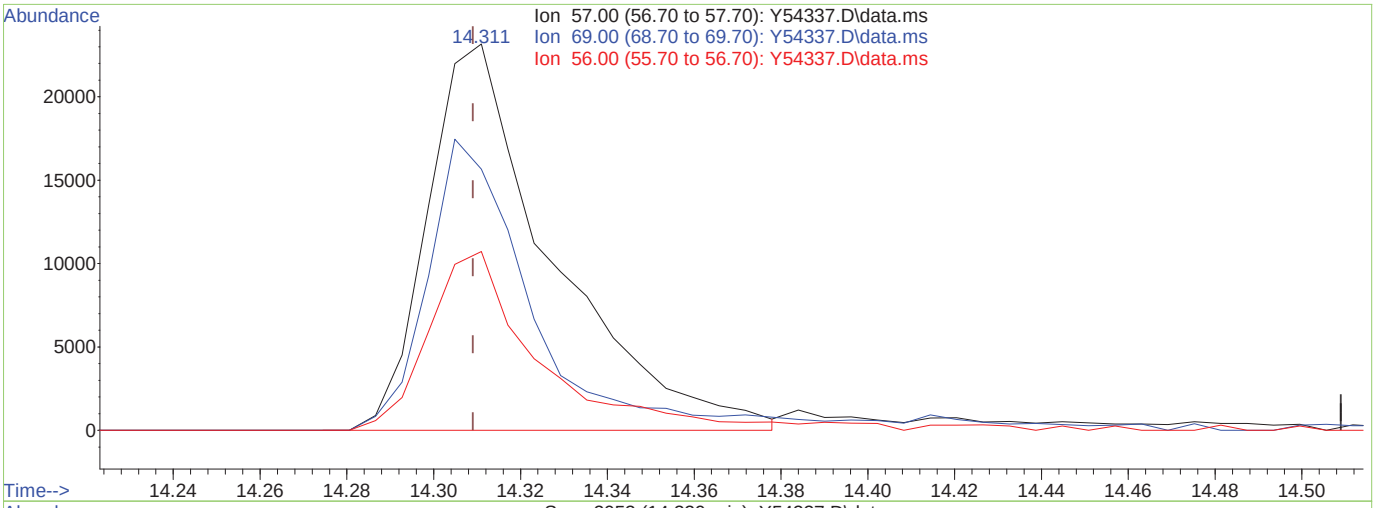
response 4236

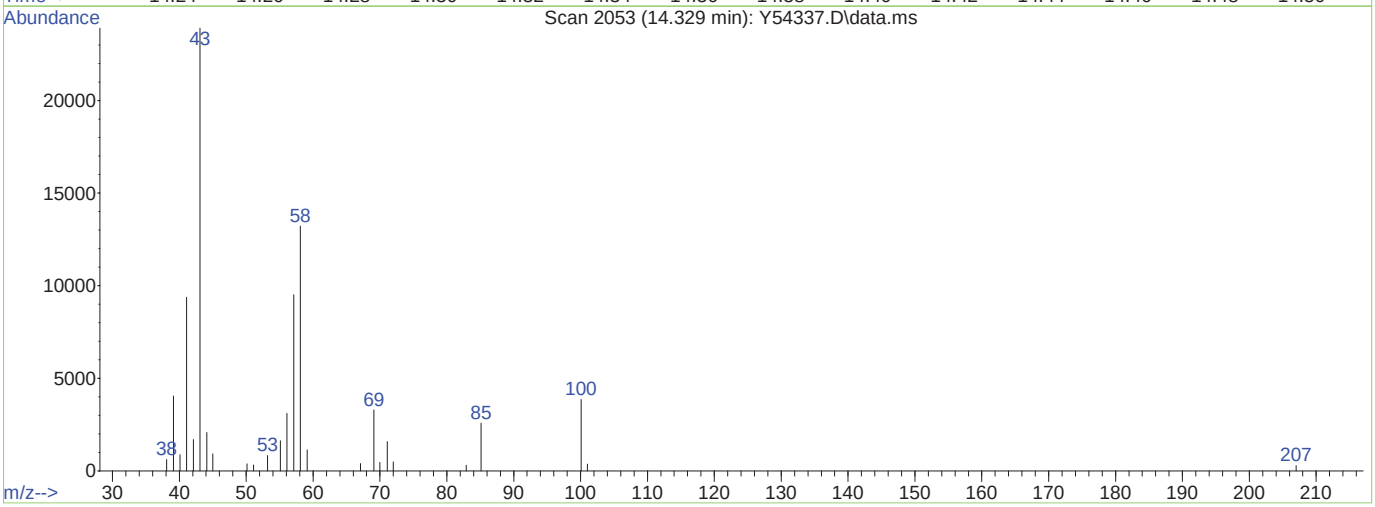
Ion	Exp%	Act%
45.10	100	100
46.10	41.20	48.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 26 10:22:32 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54337.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.311min (+0.002) 59.95ug/L

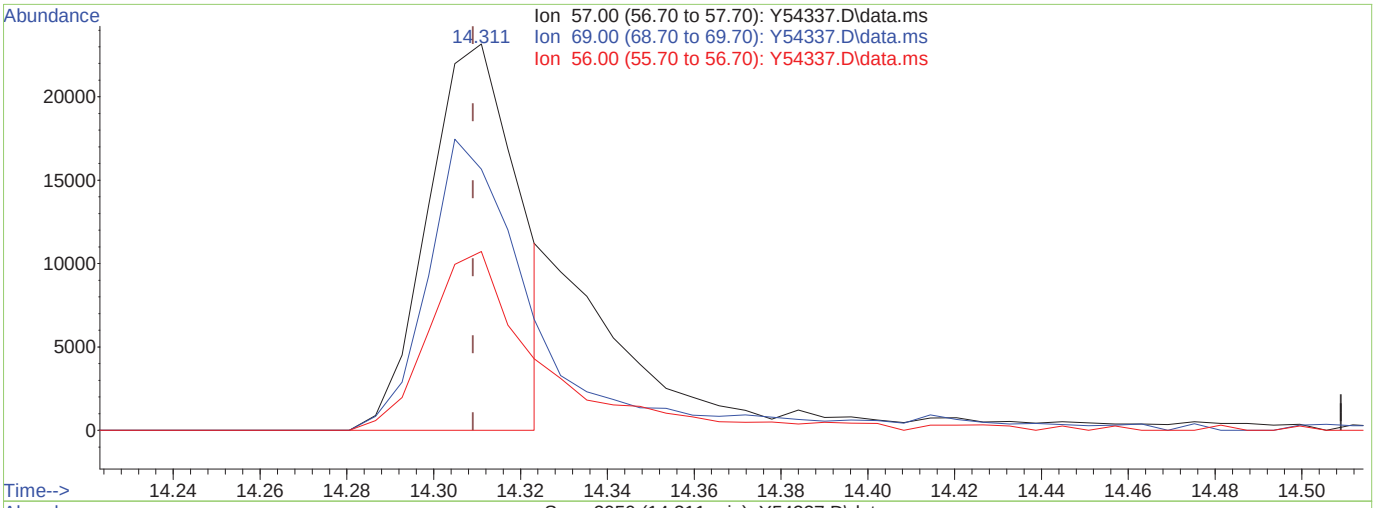
response 46362

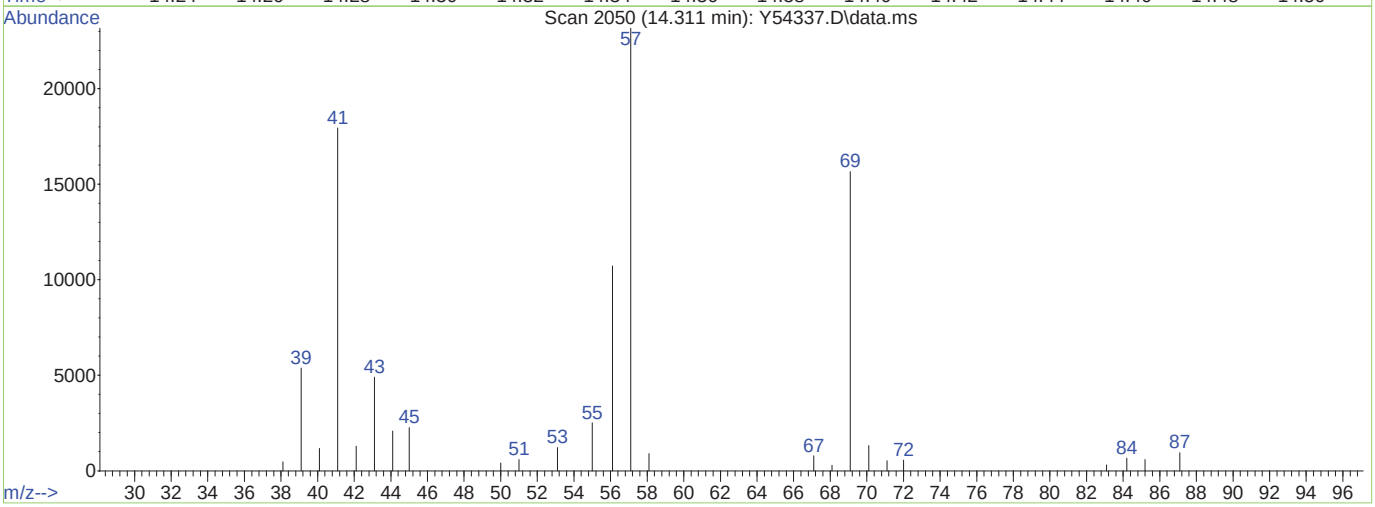
Ion	Exp%	Act%
57.00	100	100
69.00	72.60	67.60
56.00	43.30	46.28
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54337.D
Acq On : 26 Nov 2020 8:46 am
Operator : chelseav
Sample : IC2256-1 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 26 10:22:32 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54337.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.311min (+0.002) 43.49ug/L m

response 33632

Ion	Exp%	Act%
57.00	100	100
69.00	72.60	67.60
56.00	43.30	46.28
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/28/20 09:26

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 27 08:04:35 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.519	96	2968815	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	2840979	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.270	152	1537453	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.412	65	200121	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.332	113	764542	49.35	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.70%			
47) 1,2-Dichloroethane-d4	11.142	65	656392	49.28	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.56%			
58) Toluene-d8	13.240	98	3121292	49.75	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.50%			
80) 4-Bromofluorobenzene	15.485	174	1139559	49.77	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.54%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.032	85	87261	5.90	ug/L	98
3) Acrolein	6.311	56	57665	29.01	ug/L	93
4) Chloromethane	3.391	50	98505m	6.62	ug/L	
5) 1,3-butadiene	3.580	39	56729	5.87	ug/L	99
6) Vinyl Chloride	3.549	62	85910	6.22	ug/L	100
7) Bromomethane	4.158	94	38599	6.48	ug/L	99
8) Chloroethane	4.401	64	43663	8.38	ug/L	96
9) Trichlorofluoromethane	4.669	101	122279	5.91	ug/L	99
10) Ethyl Ether	5.289	59	56835	6.25	ug/L	95
11) 1,2-Dichlorotrifluoroe...	5.672	67	79958	6.46	ug/L	97
12) 1,1-Dichloroethene	5.642	61	110277	6.31	ug/L	97
13) Freon 113	5.733	101	90220	6.35	ug/L	96
14) Carbon Disulfide	5.672	76	196107	6.08	ug/L	98
15) Iodomethane	5.910	142	63765	6.29	ug/L	99
16) Allyl chloride	6.567	41	103810	6.25	ug/L	98
17) Methylene Chloride	6.774	49	110681	6.45	ug/L	97
18) Acetone	6.895	43	72760	27.55	ug/L	99
19) Methyl acetate	7.145	43	197179	30.30	ug/L	97
20) trans-1,2-Dichloroethene	7.096	61	105913	6.46	ug/L	93
21) Hexane	7.254	56	67503	6.63	ug/L	89
22) Methyl Tert Butyl Ether	7.321	73	166896	6.47	ug/L	94
23) Acetonitrile	7.796	41	68506	59.60	ug/L	96
24) Di-isopropyl ether	8.094	45	235107	6.28	ug/L	97
25) Chloroprene	8.264	53	97184	5.96	ug/L	94
26) 1,1-Dichloroethane	8.319	63	130260	6.51	ug/L	98
27) Acrylonitrile	8.428	53	91021	28.70	ug/L	99
28) ETBE	8.830	59	186867	6.42	ug/L	97
29) Vinyl acetate	8.860	43	555807	28.62	ug/L	98
30) cis-1,2-Dichloroethene	9.432	96	93586	6.34	ug/L	97
31) 2,2-Dichloropropane	9.639	77	101564	6.63	ug/L	99
32) Bromochloromethane	9.840	128	51738	6.54	ug/L	97
33) Cyclohexane	9.821	56	149899	6.49	ug/L	92
34) Chloroform	10.010	83	135331	6.42	ug/L	96
35) Ethyl acetate	10.259	43	244320	29.44	ug/L	100
36) Tetrahydrofuran	10.259	42	13762	5.62	ug/L	85
38) Carbon Tetrachloride	10.229	117	116057	6.12	ug/L	96
39) 1,1,1-Trichloroethane	10.351	97	136350	6.44	ug/L	98
40) 2-Butanone	10.557	43	98947	26.29	ug/L	95
41) 1,1-Dichloropropene	10.570	75	108536	6.26	ug/L	98
42) tert-Butyl formate	10.752	59	70054	36.29	ug/L	95
43) Propionitrile	10.996	54	76892	62.43	ug/L	96
44) Methacrylonitrile	11.020	41	350432	61.49	ug/L	99
45) Benzene	10.941	78	336828	6.43	ug/L	97
46) TAME	11.129	73	152141	6.28	ug/L	97
48) 1,2-Dichloroethane	11.239	62	95506	6.38	ug/L	97
49) Trichloroethene	11.738	95	99642	6.43	ug/L	98
50) Methylcyclohexane	11.713	83	146319	6.38	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 27 08:04:35 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

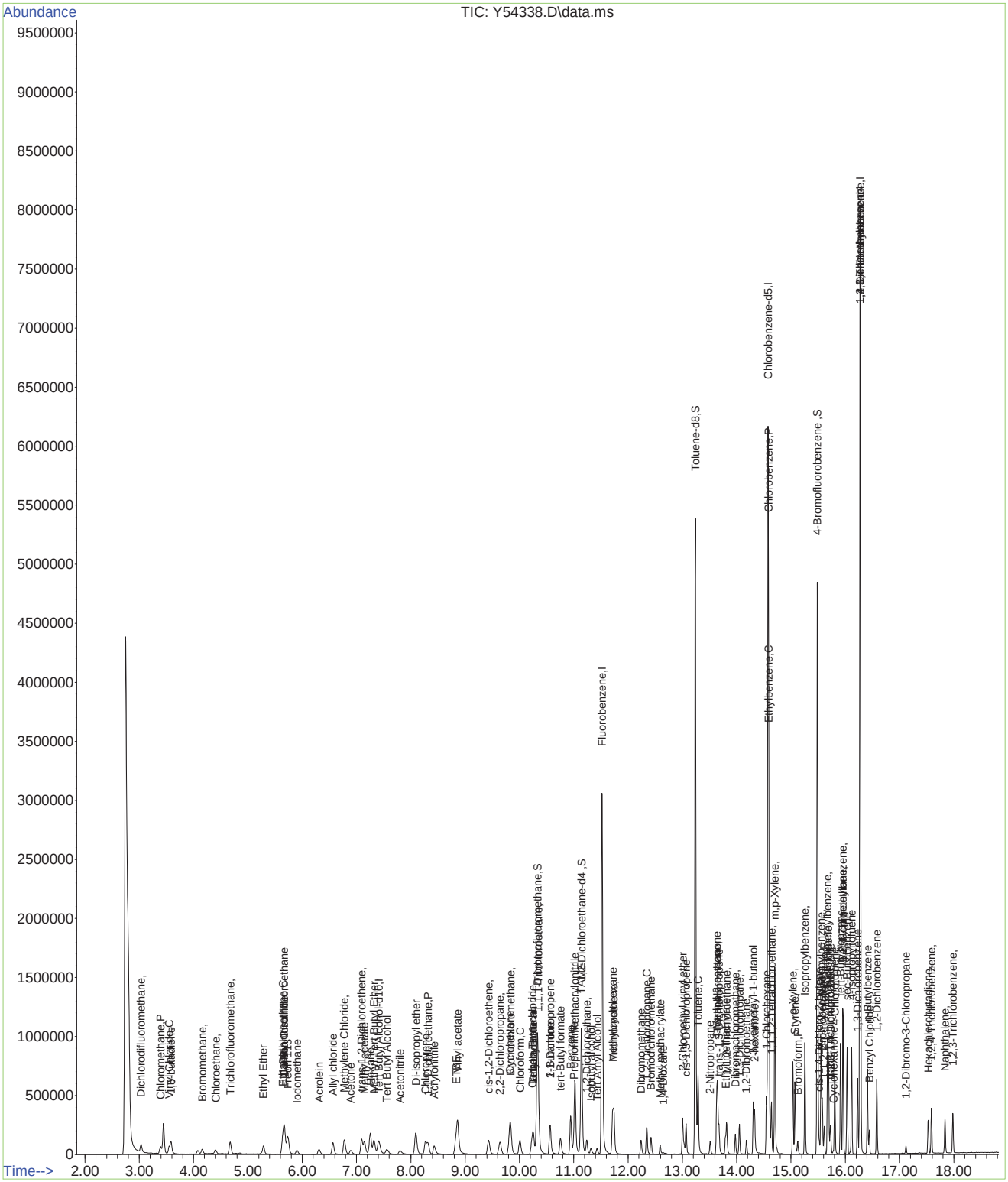
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.237	93	41322	6.08	ug/L		97
52) 1,2-Dichloropropane	12.346	63	78138	6.55	ug/L		98
53) Bromodichloromethane	12.419	83	86158	6.14	ug/L		97
54) Methyl methacrylate	12.589	41	40861	5.83	ug/L		97
55) 2-Chloroethyl vinyl ether	13.003	63	107386	27.26	ug/L		96
56) cis-1,3-Dichloropropene	13.070	75	111459	6.35	ug/L		99
59) Toluene	13.289	91	404003	6.27	ug/L		99
60) 2-Nitropropane	13.508	41	54939	28.13	ug/L		93
61) 4-Methyl-2-pentanone	13.630	43	234796	26.76	ug/L		98
62) trans-1,3-Dichloropropene	13.672	75	85913	6.27	ug/L		97
63) Tetrachloroethene	13.648	166	122797	6.54	ug/L		98
64) Ethyl methacrylate	13.794	69	60348	5.87	ug/L		95
65) 1,1,2-Trichloroethane	13.812	83	53434	6.39	ug/L		96
66) Dibromochloromethane	13.976	129	79558	5.90	ug/L		98
67) 1,3-Dichloropropane	14.049	76	112698	6.42	ug/L		98
68) 1,2-Dibromoethane	14.177	107	70339	6.11	ug/L		97
69) 2-hexanone	14.329	43	164873m	26.37	ug/L		
70) 1-Chlorohexane	14.548	91	126308	6.48	ug/L		99
71) Ethylbenzene	14.597	91	444706	6.37	ug/L		98
72) Chlorobenzene	14.591	112	290312	6.48	ug/L		96
73) 1,1,1,2-Tetrachloroethane	14.640	131	96967	6.25	ug/L		98
74) m,p-Xylene	14.700	91	703138	12.93	ug/L		99
75) o-Xylene	15.035	91	340705	6.30	ug/L		99
76) Styrene	15.071	104	260664	6.11	ug/L		99
77) Bromoform	15.126	173	39992	5.98	ug/L		98
78) Isopropylbenzene	15.254	105	483028	6.41	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.522	53	15202	6.10	ug/L	#	79
82) n-Propylbenzene	15.552	91	517986	6.38	ug/L		99
83) Bromobenzene	15.576	156	120893	6.39	ug/L		96
84) 1,1,2,2-Tetrachloroethane	15.613	83	74995	6.25	ug/L		99
85) 1,3,5-Trimethylbenzene	15.674	105	367036	6.34	ug/L		97
86) 2-Chlorotoluene	15.692	91	334119	6.53	ug/L		99
87) trans-1,4-Dichloro-2-B...	15.735	53	14195	6.23	ug/L		97
88) 1,2,3-Trichloropropane	15.722	110	28592	6.19	ug/L		98
89) Cyclohexanone	15.777	55	8126	29.64	ug/L		93
90) 4-Chlorotoluene	15.808	91	299344	6.33	ug/L		100
91) tert-Butylbenzene	15.911	91	193783	6.48	ug/L		100
92) 1,2,4-Trimethylbenzene	15.954	105	373158	6.46	ug/L		95
93) Pentachloroethane	15.960	167	57521	6.02	ug/L		93
94) sec-Butylbenzene	16.033	105	460288	6.41	ug/L		97
95) 4-Isopropyltoluene	16.118	119	419548	6.35	ug/L		99
96) 1,3-Dichlorobenzene	16.227	146	225526	6.25	ug/L		99
97) 1,2,3-Trimethylbenzene	16.270	105	414083	6.41	ug/L		98
98) 1,4-Dichlorobenzene	16.282	146	225038	6.24	ug/L		90
99) n-Butylbenzene	16.410	92	160460	6.24	ug/L		97
100) Benzyl Chloride	16.440	126	25760	5.64	ug/L		96
101) 1,2-Dichlorobenzene	16.580	146	210272	6.35	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.115	75	9684	5.28	ug/L		92
103) Hexachlorobutadiene	17.529	225	40116	6.63	ug/L		96
104) 1,2,4-Trichlorobenzene	17.584	180	99108	5.86	ug/L		99
105) Naphthalene	17.833	128	205710	4.98	ug/L		98
106) 1,2,3-Trichlorobenzene	17.979	180	87337	5.63	ug/L		97
108) Ethanol	5.636	45	15827m	138.46	ug/L		
109) Tert Butyl Alcohol	7.558	59	73839	69.94	ug/L		99
110) Isobutyl alcohol	11.318	42	20570	114.23	ug/L	#	85
111) Tert Amyl Alcohol	11.427	59	27153	56.59	ug/L		97
112) 1,4-Dioxane	12.644	88	11814	128.70	ug/L		91
113) 3,3-dimethyl-1-butanol	14.305	57	158546m	199.47	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 27 08:04:35 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration



RESTEK112620w.M Fri Nov 27 08:49:53 2020 Page: 3

Manual Integration Approval Summary

Sample Number: VY2256-IC2256
Lab FileID: Y54338.D
Injection Time: 11/26/20 09:13
Method: SW846 8260B
Analyst approved: 11/27/20 08:54 Shanica O'Connor
Supervisor approved: 11/28/20 09:26 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
Ethyl Alcohol	64-17-5		5.64	Split peak
3,3-Dimethyl-1-Butanol	624-95-3		14.30	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 26 10:22:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
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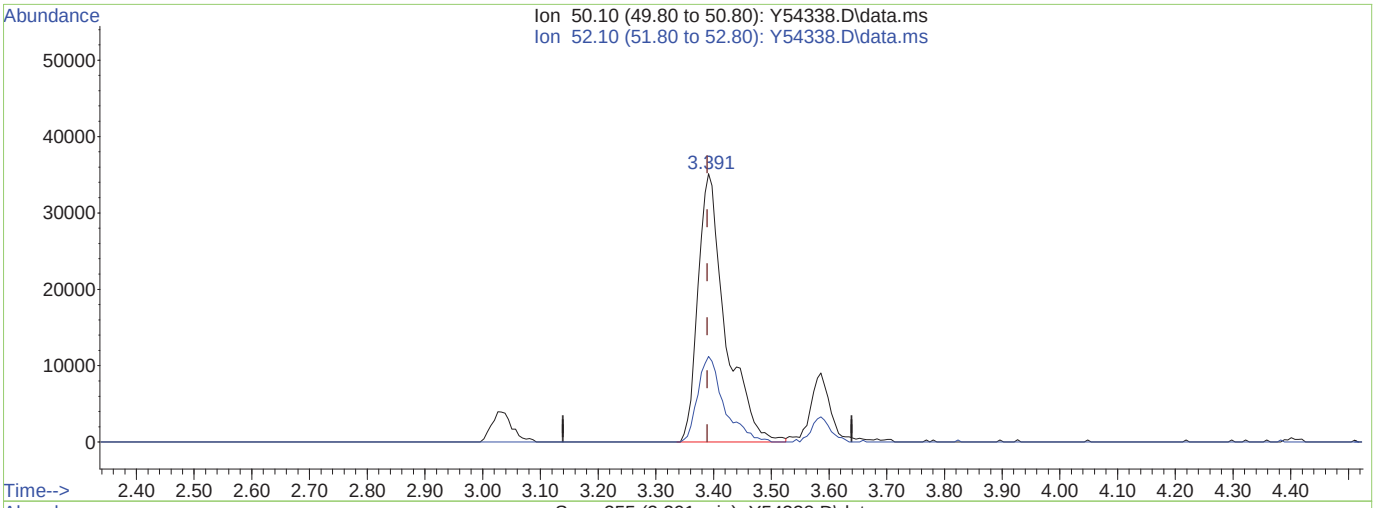
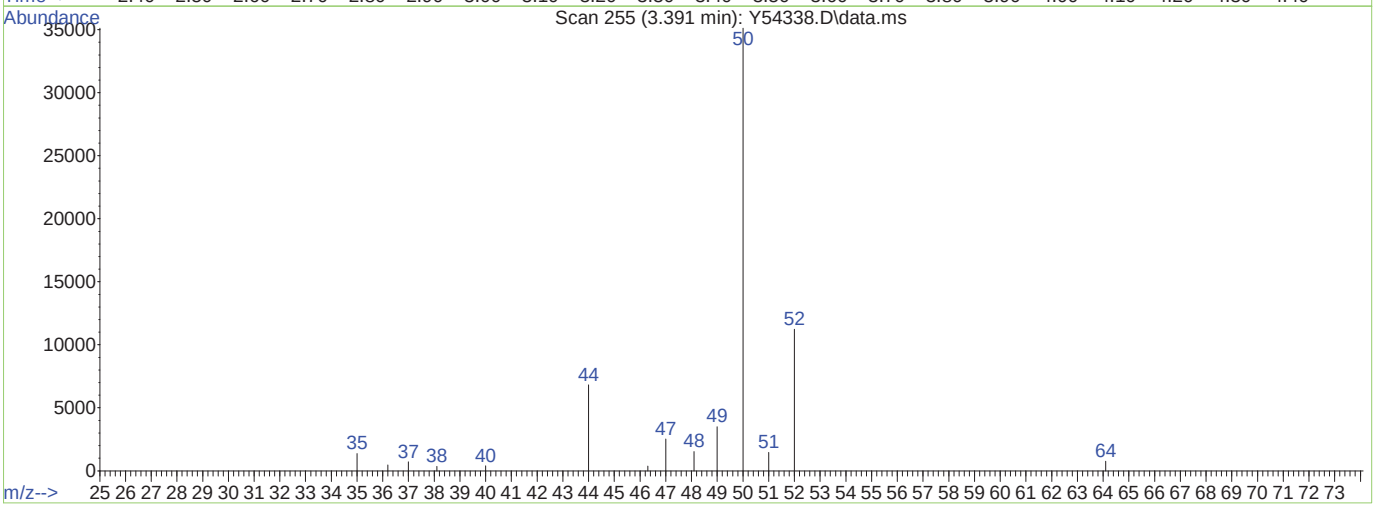




TIC: Y54338.D\data.ms

(4) Chloromethane (P)

3.391min (+0.002) 7.80ug/L

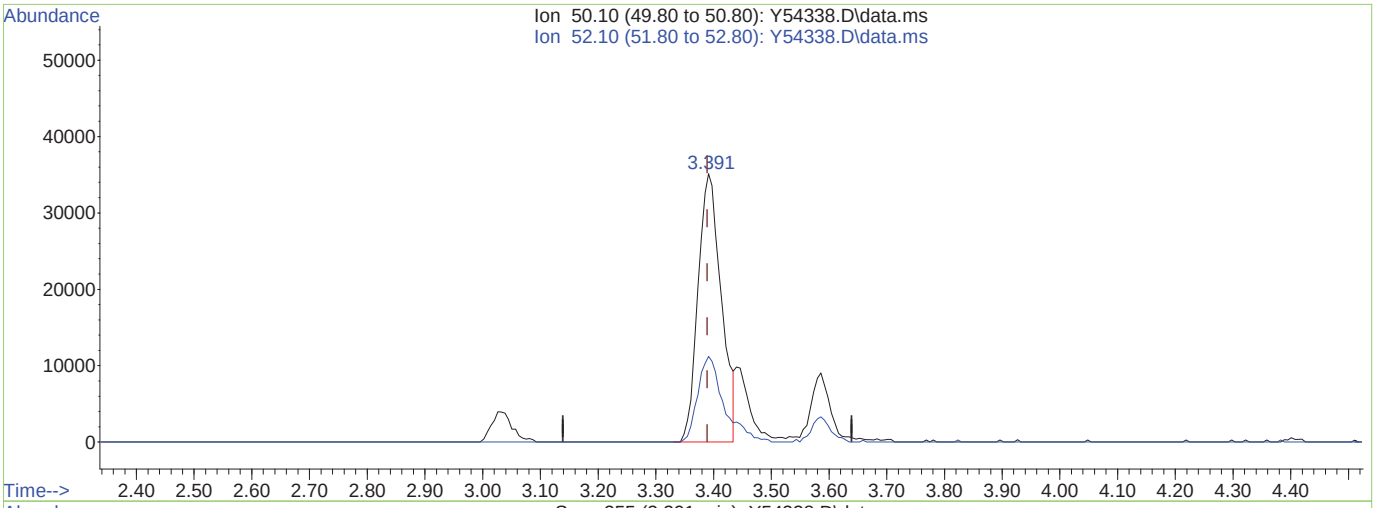
response 116078

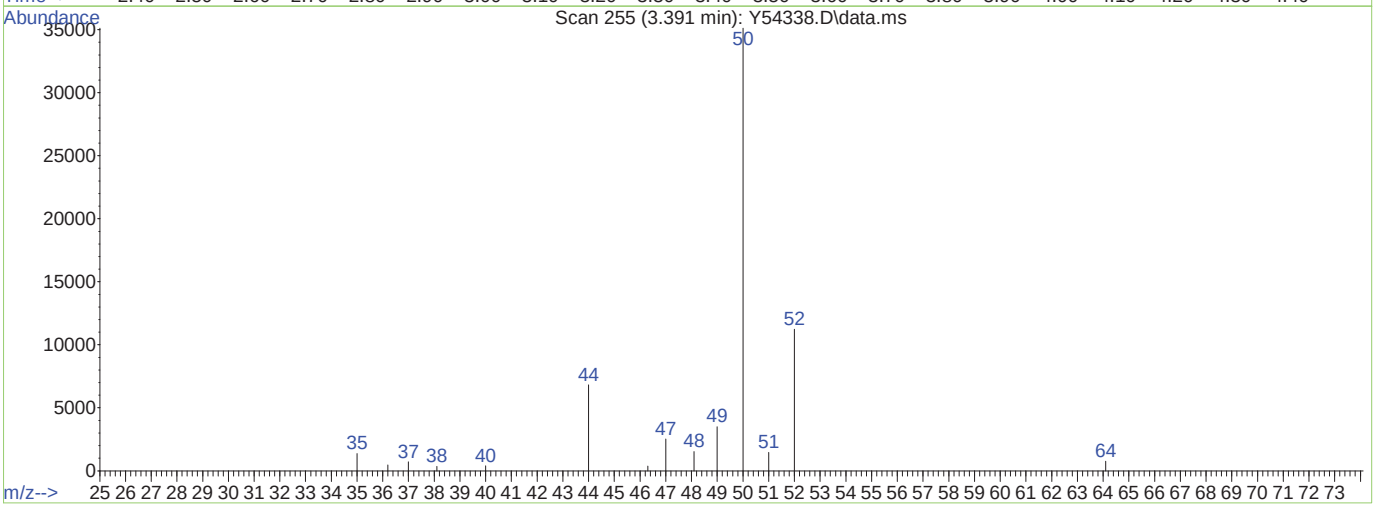
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.97
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 26 10:22:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54338.D\data.ms

(4) Chloromethane (P)

3.391min (+0.002) 6.62ug/L m

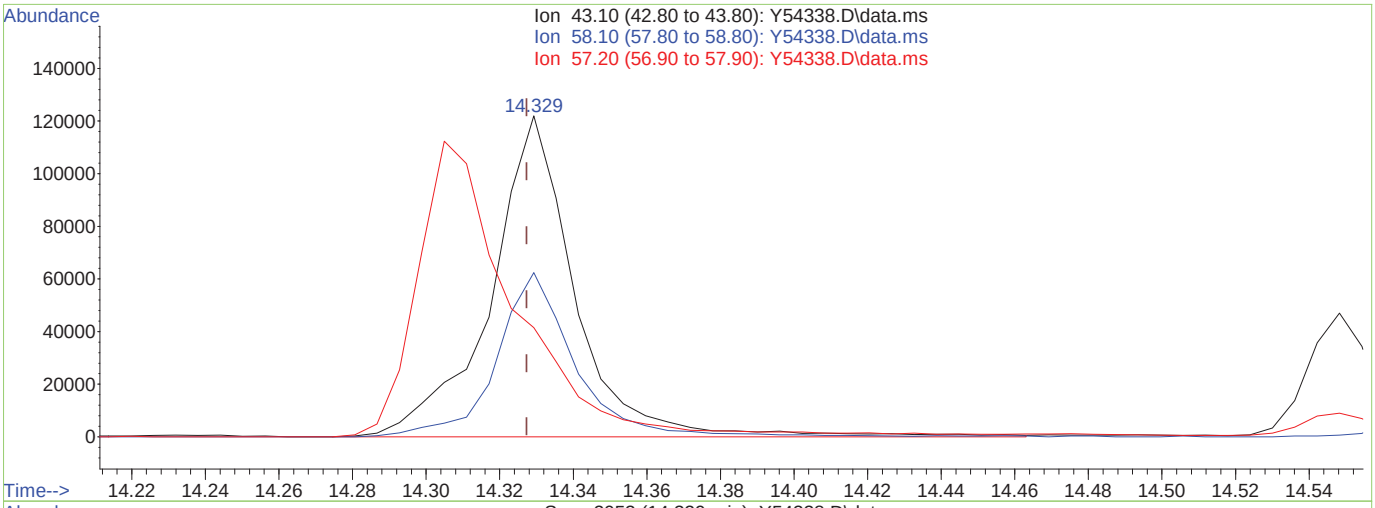
response 98505

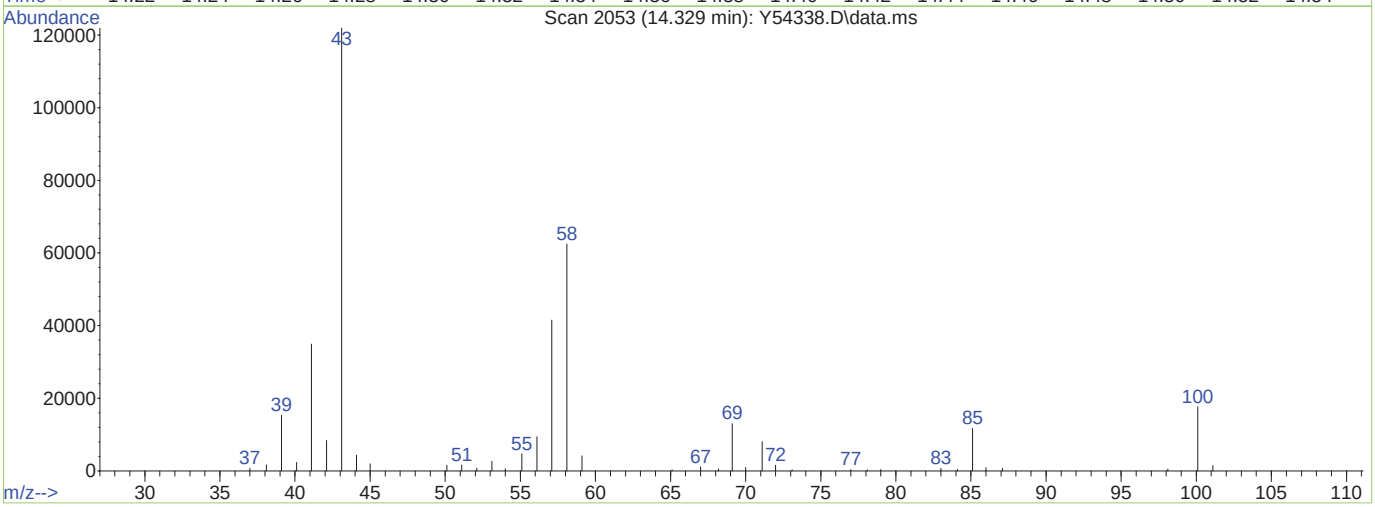
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.97
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 26 10:22:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54338.D\data.ms

(69) 2-hexanone

14.329min (+0.002) 31.24ug/L

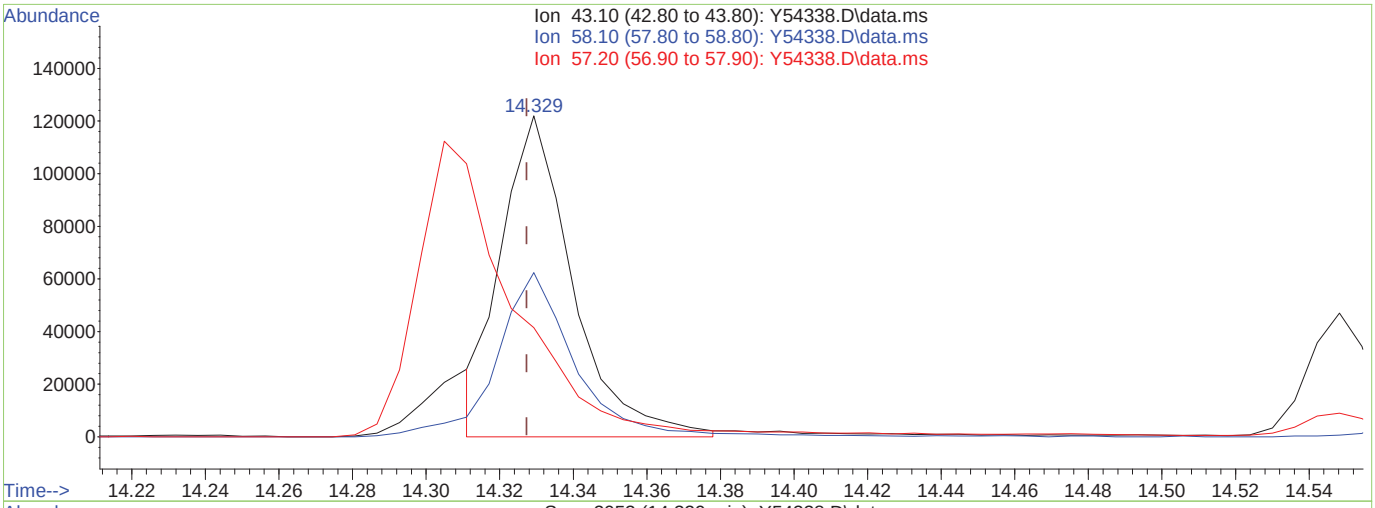
response 195370

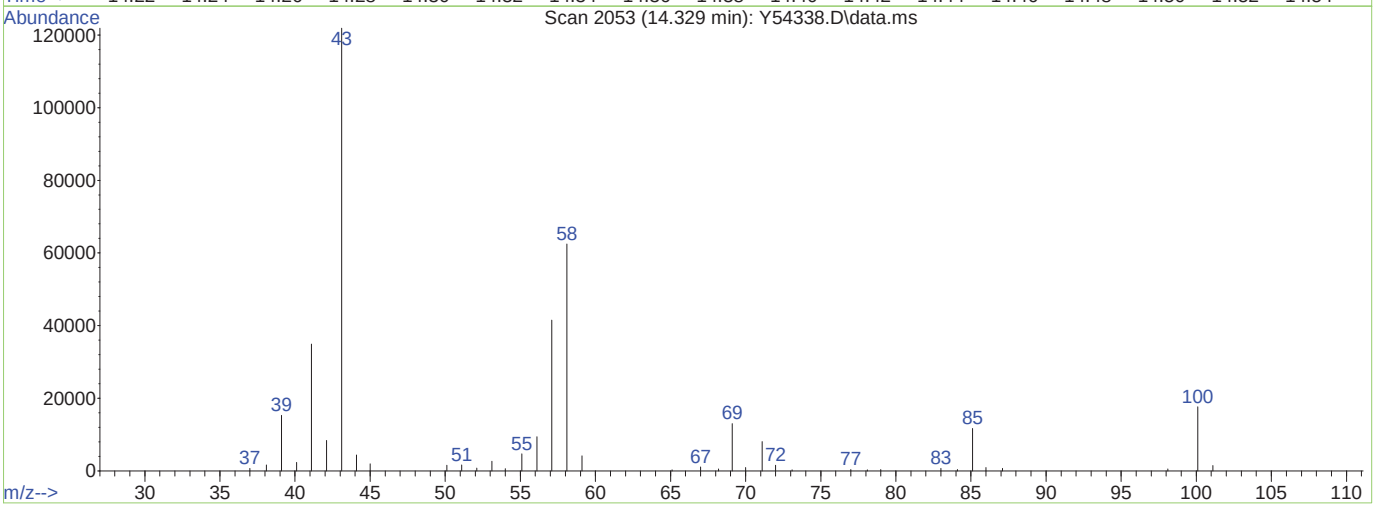
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	51.20
57.20	29.70	34.01
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 26 10:22:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54338.D\data.ms

(69) 2-hexanone

14.329min (+0.002) 26.37ug/L m

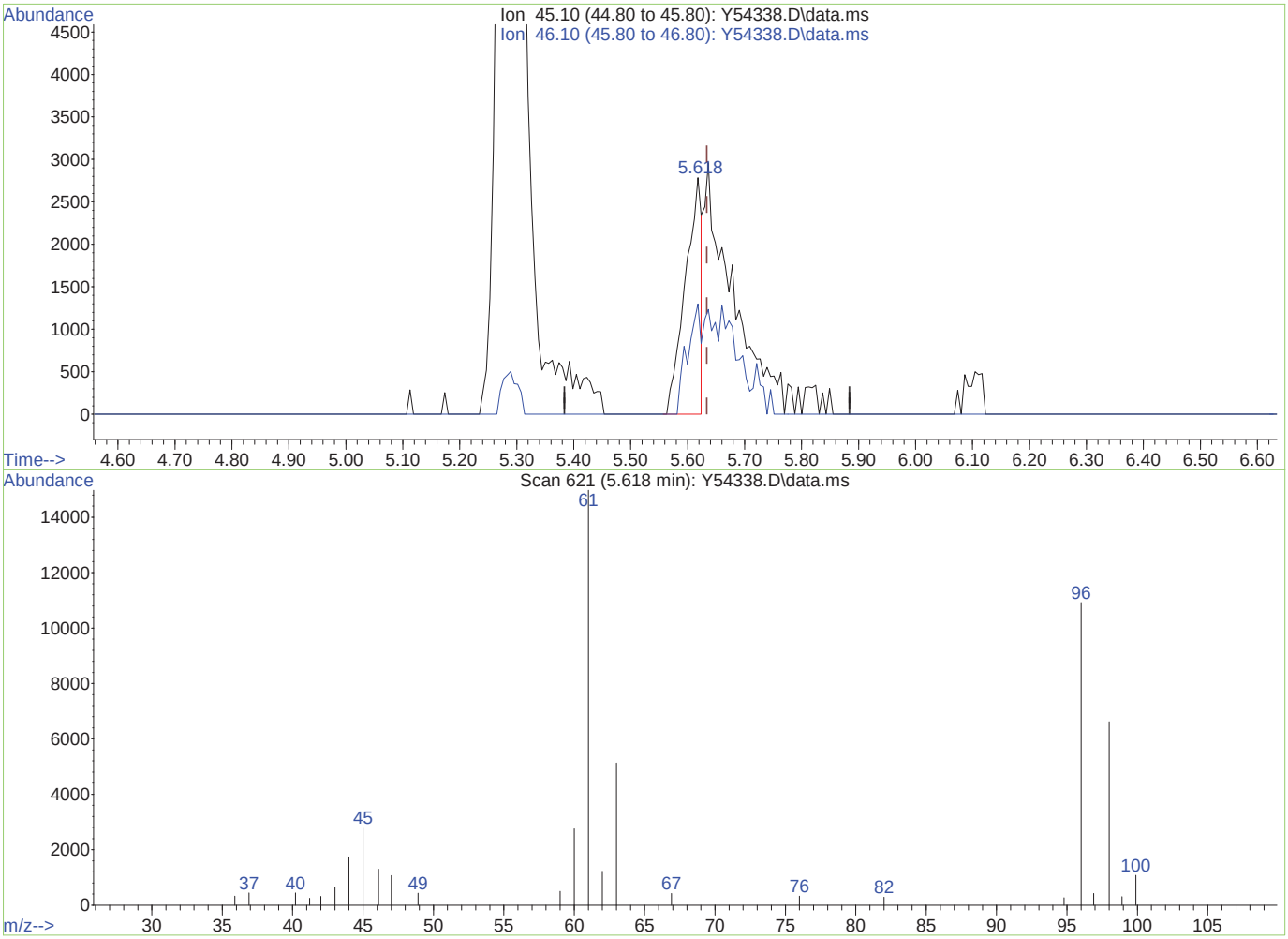
response 164873

Ion	Exp%	Act%
43.10	100	100
58.10	52.40	51.20
57.20	29.70	34.01
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 26 10:22:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration



TIC: Y54338.D\data.ms

(108) Ethanol

5.618min (-0.016) 48.96ug/L

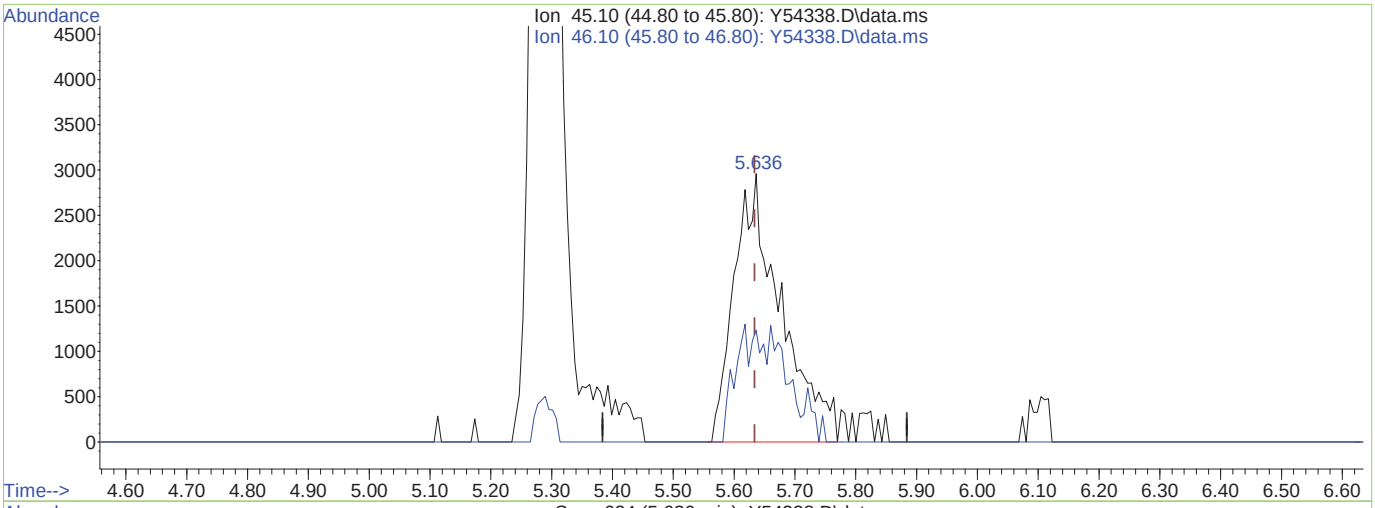
response 5597

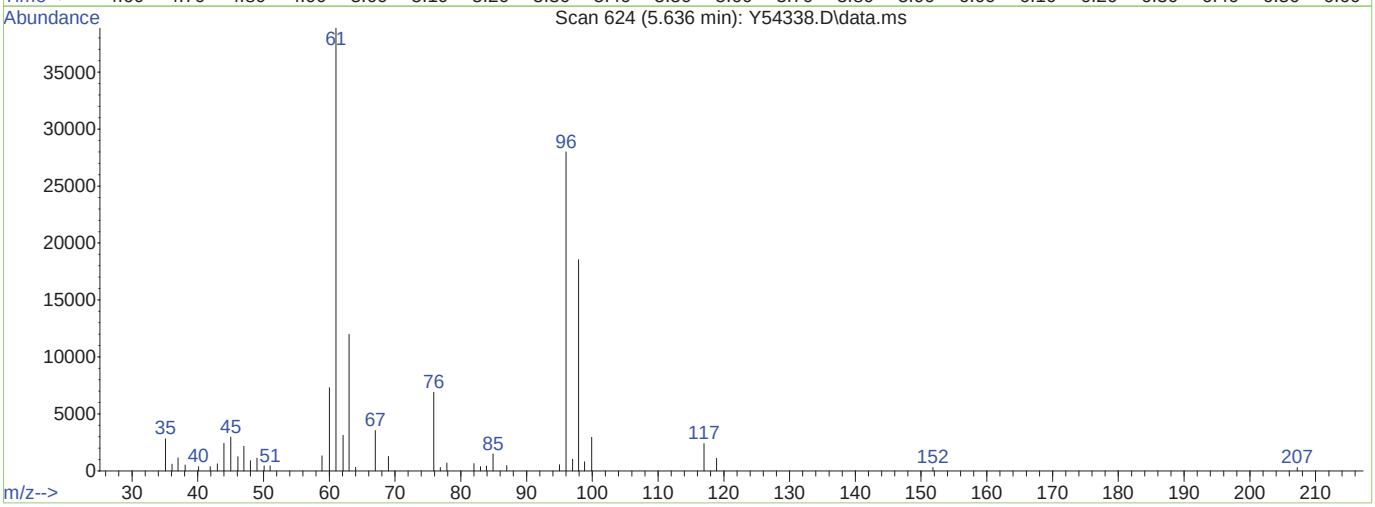
Ion	Exp%	Act%
45.10	100	100
46.10	41.20	46.66
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 26 10:22:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54338.D\data.ms

(108) Ethanol

5.636min (+0.002) 138.46ug/L m

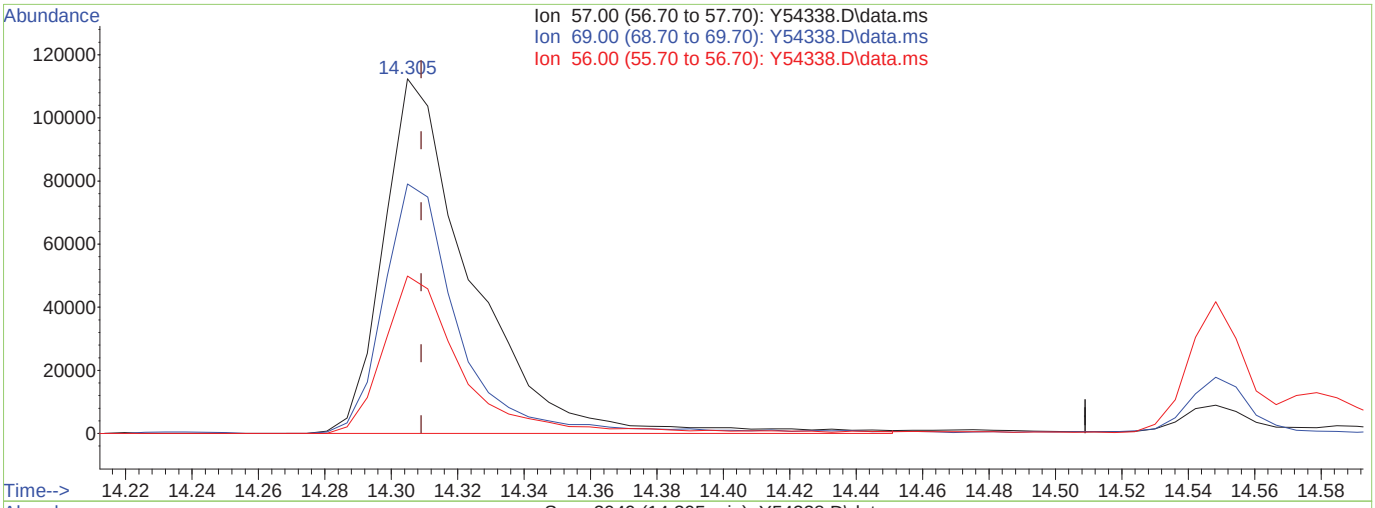
response 15827

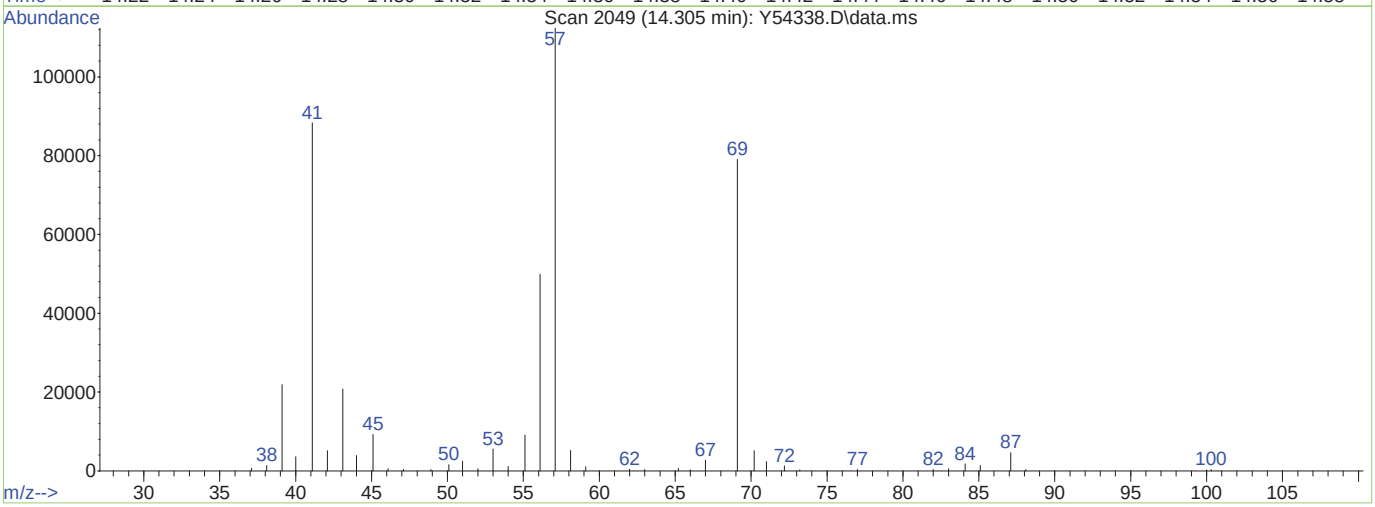
Ion	Exp%	Act%
45.10	100	100
46.10	41.20	41.69
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 26 10:22:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54338.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.305min (-0.004) 260.63ug/L

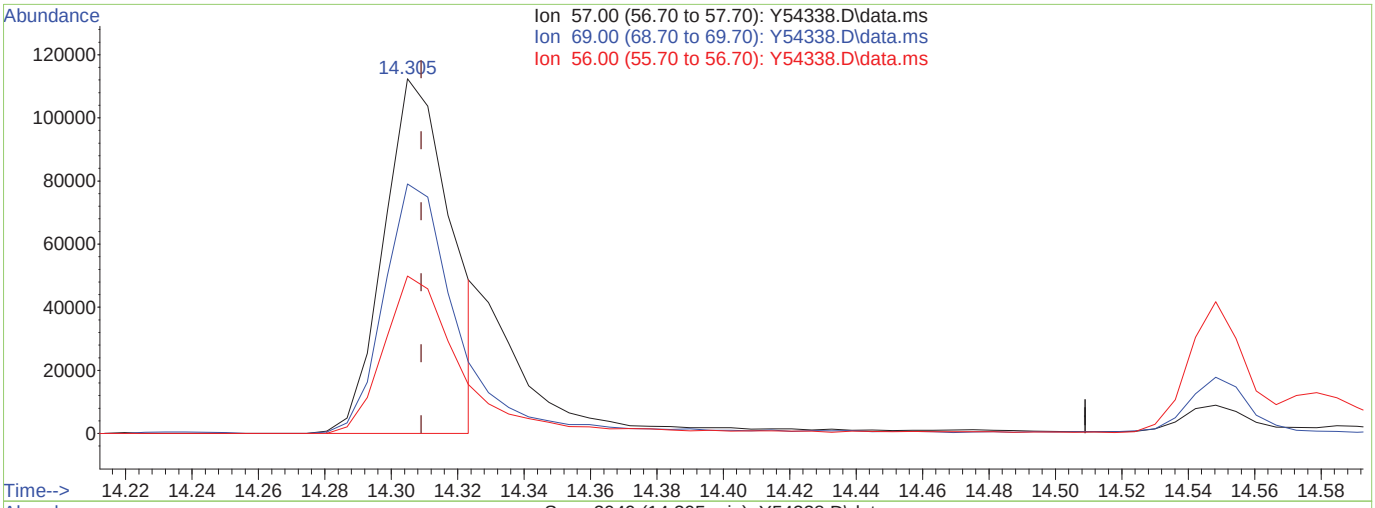
response 207151

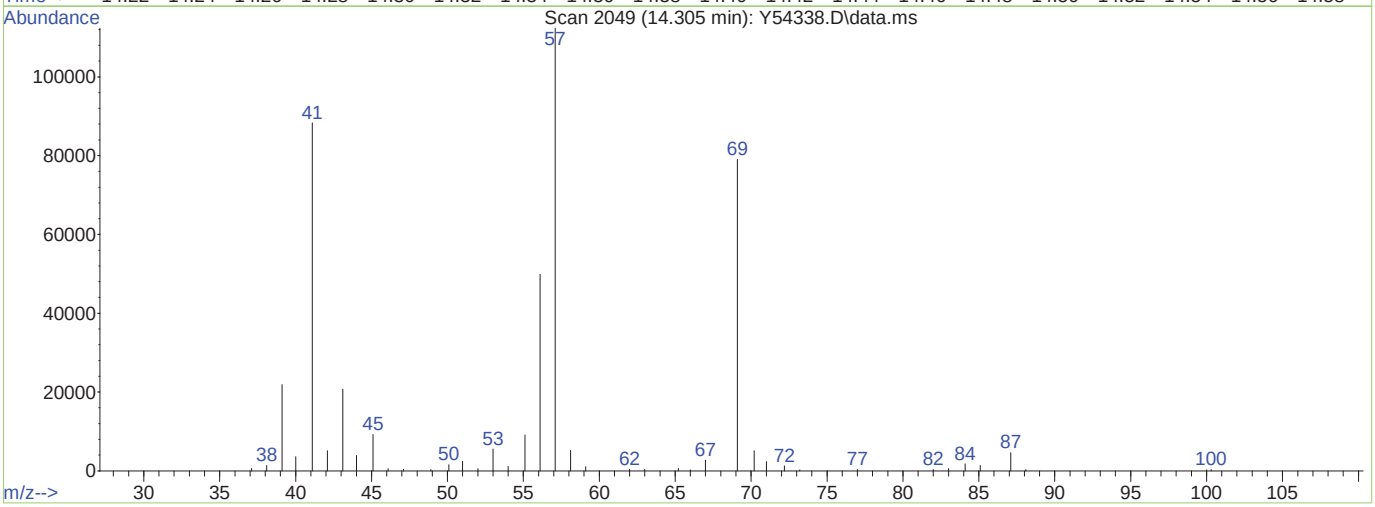
Ion	Exp%	Act%
57.00	100	100
69.00	72.60	70.33
56.00	43.30	44.39
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54338.D
Acq On : 26 Nov 2020 9:13 am
Operator : chelseav
Sample : IC2256-2 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 26 10:22:34 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54338.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.305min (-0.004) 199.47ug/L m

response 158546

Ion	Exp%	Act%
57.00	100	100
69.00	72.60	70.33
56.00	43.30	44.39
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/28/20 09:26

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54339.D
Acq On : 26 Nov 2020 9:40 am
Operator : chelseav
Sample : IC2256-3 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 27 08:05:38 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.522	96	2831734	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	2702260	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	1447093	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.416	65	190318	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	730847	49.45	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.90%			
47) 1,2-Dichloroethane-d4	11.145	65	623706	49.09	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.18%			
58) Toluene-d8	13.238	98	2994344	50.18	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.36%			
80) 4-Bromofluorobenzene	15.488	174	1087145	50.44	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.88%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.029	85	145973	10.34	ug/L	99
3) Acrolein	6.308	56	96864	50.99	ug/L	100
4) Chloromethane	3.382	50	156453	11.03	ug/L	98
5) 1,3-butadiene	3.583	39	86479	9.38	ug/L	100
6) Vinyl Chloride	3.547	62	139156	10.56	ug/L	98
7) Bromomethane	4.155	94	62022	10.91	ug/L	98
8) Chloroethane	4.398	64	69695	14.25	ug/L	99
9) Trichlorofluoromethane	4.672	101	206128	10.45	ug/L	99
10) Ethyl Ether	5.286	59	90477	10.43	ug/L	94
11) 1,2-Dichlorotrifluoroe...	5.670	67	126480	10.72	ug/L	98
12) 1,1-Dichloroethene	5.639	61	179896	10.79	ug/L	98
13) Freon 113	5.731	101	144640	10.66	ug/L	99
14) Carbon Disulfide	5.670	76	317432	10.32	ug/L	99
15) Iodomethane	5.907	142	113977	11.46	ug/L	98
16) Allyl chloride	6.564	41	157090	9.91	ug/L	99
17) Methylene Chloride	6.777	49	175942	10.81	ug/L	99
18) Acetone	6.892	43	122414	48.60	ug/L	96
19) Methyl acetate	7.148	43	314417	50.66	ug/L	99
20) trans-1,2-Dichloroethene	7.093	61	171999	11.00	ug/L	99
21) Hexane	7.251	56	101507	10.45	ug/L	89
22) Methyl Tert Butyl Ether	7.318	73	258678	10.51	ug/L	92
23) Acetonitrile	7.799	41	107962	98.47	ug/L	96
24) Di-isopropyl ether	8.091	45	385559	10.79	ug/L	97
25) Chloroprene	8.267	53	157830	10.14	ug/L	98
26) 1,1-Dichloroethane	8.316	63	210013	11.00	ug/L	97
27) Acrylonitrile	8.432	53	153031	50.59	ug/L	98
28) ETBE	8.833	59	293913	10.59	ug/L	99
29) Vinyl acetate	8.863	43	908093	48.74	ug/L	98
30) cis-1,2-Dichloroethene	9.429	96	152033	10.79	ug/L	98
31) 2,2-Dichloropropane	9.642	77	155151	10.63	ug/L	96
32) Bromochloromethane	9.837	128	79500	10.54	ug/L	96
33) Cyclohexane	9.825	56	238779	10.84	ug/L	99
34) Chloroform	10.007	83	218668	10.88	ug/L	100
35) Ethyl acetate	10.257	43	397058	50.17	ug/L	98
36) Tetrahydrofuran	10.251	42	23479	10.05	ug/L	98
38) Carbon Tetrachloride	10.226	117	189712	10.48	ug/L	98
39) 1,1,1-Trichloroethane	10.354	97	218542	10.83	ug/L	100
40) 2-Butanone	10.555	43	172806	48.14	ug/L	99
41) 1,1-Dichloropropene	10.567	75	180673	10.92	ug/L	99
42) tert-Butyl formate	10.755	59	94513	49.34	ug/L	96
43) Propionitrile	10.993	54	117083	99.66	ug/L	91
44) Methacrylonitrile	11.023	41	548348	100.88	ug/L	99
45) Benzene	10.944	78	546711	10.94	ug/L	100
46) TAME	11.127	73	243374	10.54	ug/L	99
48) 1,2-Dichloroethane	11.236	62	149805	10.49	ug/L	98
49) Trichloroethene	11.741	95	158986	10.76	ug/L	96
50) Methylcyclohexane	11.717	83	233919	10.69	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54339.D
Acq On : 26 Nov 2020 9:40 am
Operator : chelseav
Sample : IC2256-3 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 27 08:05:38 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

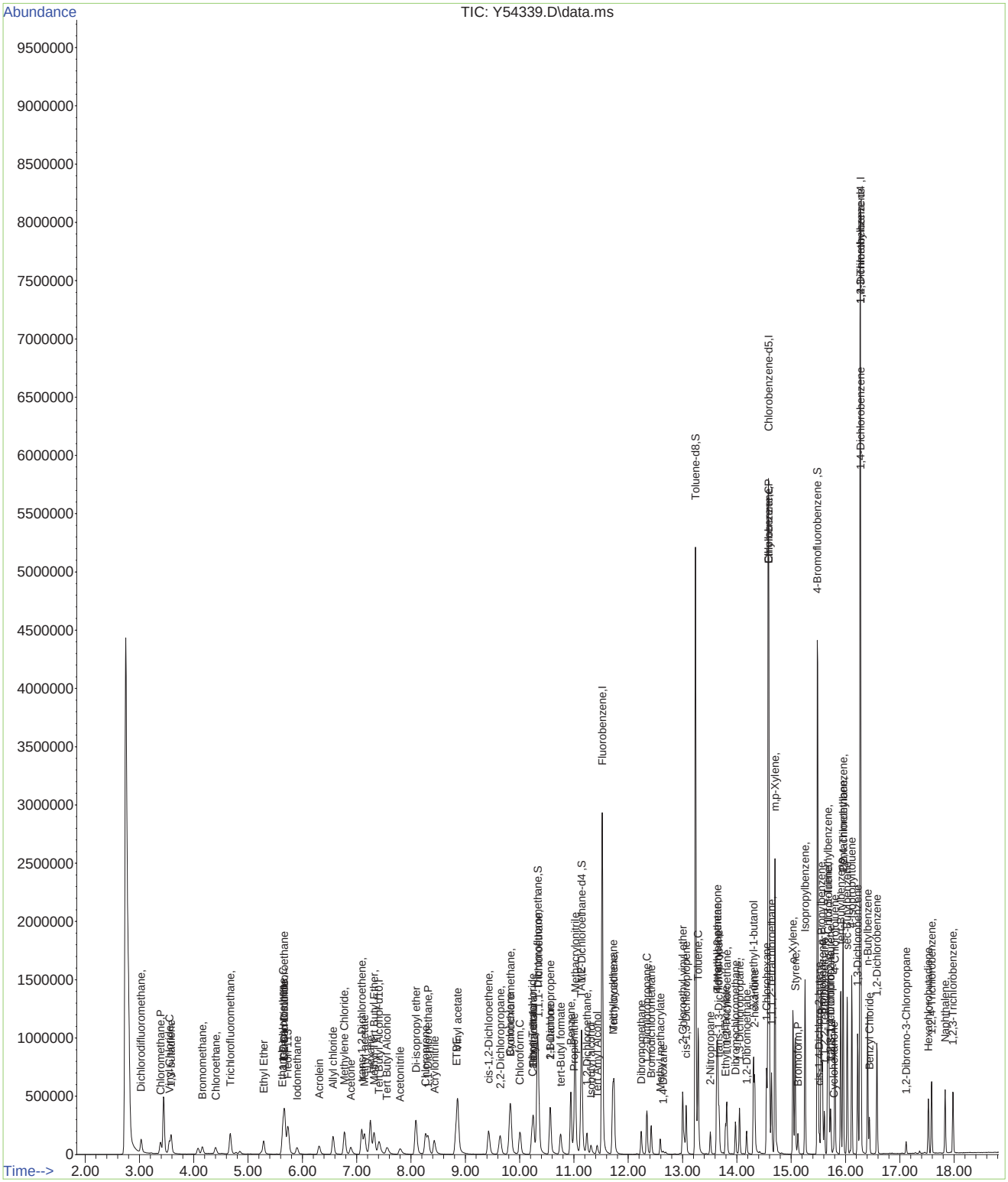
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.234	93	66617	10.28	ug/L		96
52) 1,2-Dichloropropane	12.343	63	122681	10.77	ug/L		98
53) Bromodichloromethane	12.422	83	138878	10.37	ug/L		99
54) Methyl methacrylate	12.587	41	67941	10.03	ug/L		98
55) 2-Chloroethyl vinyl ether	13.000	63	189146	49.66	ug/L		99
56) cis-1,3-Dichloropropene	13.067	75	177933	10.63	ug/L		100
59) Toluene	13.286	91	660083	10.77	ug/L		100
60) 2-Nitropropane	13.511	41	92988	49.46	ug/L		96
61) 4-Methyl-2-pentanone	13.633	43	413537	49.55	ug/L		99
62) trans-1,3-Dichloropropene	13.669	75	136338	10.47	ug/L		96
63) Tetrachloroethene	13.645	166	196900	11.02	ug/L		97
64) Ethyl methacrylate	13.791	69	97590	9.86	ug/L		98
65) 1,1,2-Trichloroethane	13.815	83	86346	10.86	ug/L		97
66) Dibromochloromethane	13.974	129	131164	10.23	ug/L		98
67) 1,3-Dichloropropane	14.047	76	178049	10.66	ug/L		98
68) 1,2-Dibromoethane	14.180	107	113668	10.39	ug/L		98
69) 2-hexanone	14.326	43	272535m	45.82	ug/L		
70) 1-Chlorohexane	14.545	91	199444	10.75	ug/L		98
71) Ethylbenzene	14.594	91	716000	10.78	ug/L		100
72) Chlorobenzene	14.594	112	461658	10.83	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.637	131	156388	10.60	ug/L		95
74) m,p-Xylene	14.704	91	1115614	21.57	ug/L		99
75) o-Xylene	15.032	91	555277	10.79	ug/L		99
76) Styrene	15.075	104	426795	10.45	ug/L		99
77) Bromoform	15.123	173	64890	10.07	ug/L		94
78) Isopropylbenzene	15.257	105	791647	11.04	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.519	53	23932	10.01	ug/L	#	81
82) n-Propylbenzene	15.555	91	828052	10.84	ug/L		97
83) Bromobenzene	15.574	156	193239	10.85	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.610	83	118792	10.51	ug/L		96
85) 1,3,5-Trimethylbenzene	15.671	105	597014	10.96	ug/L		100
86) 2-Chlorotoluene	15.689	91	531302	11.03	ug/L		99
87) trans-1,4-Dichloro-2-B...	15.732	53	21685	9.96	ug/L	#	72
88) 1,2,3-Trichloropropane	15.726	110	44438	10.22	ug/L		99
89) Cyclohexanone	15.780	55	13940	53.52	ug/L		96
90) 4-Chlorotoluene	15.805	91	474445	10.66	ug/L		98
91) tert-Butylbenzene	15.914	91	310234	11.02	ug/L		94
92) 1,2,4-Trimethylbenzene	15.957	105	600238	11.04	ug/L		97
93) Pentachloroethane	15.963	167	91768	10.20	ug/L		88
94) sec-Butylbenzene	16.030	105	734766	10.87	ug/L		99
95) 4-Isopropyltoluene	16.115	119	680700	10.94	ug/L		100
96) 1,3-Dichlorobenzene	16.224	146	357688	10.52	ug/L		99
97) 1,2,3-Trimethylbenzene	16.267	105	654787	10.78	ug/L		99
98) 1,4-Dichlorobenzene	16.285	146	359076	10.57	ug/L		97
99) n-Butylbenzene	16.407	92	262986	10.86	ug/L		98
100) Benzyl Chloride	16.437	126	42411	9.64	ug/L		99
101) 1,2-Dichlorobenzene	16.577	146	329396	10.57	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.119	75	15589	9.03	ug/L	#	81
103) Hexachlorobutadiene	17.526	225	61930	10.88	ug/L		96
104) 1,2,4-Trichlorobenzene	17.587	180	163503	10.27	ug/L		99
105) Naphthalene	17.837	128	377039	9.57	ug/L		99
106) 1,2,3-Trichlorobenzene	17.983	180	148555	10.17	ug/L		98
108) Ethanol	5.621	45	24728	227.47	ug/L		92
109) Tert Butyl Alcohol	7.556	59	108037	108.09	ug/L		98
110) Isobutyl alcohol	11.315	42	32937	191.37	ug/L	#	84
111) Tert Amyl Alcohol	11.425	59	44177	96.80	ug/L		97
112) 1,4-Dioxane	12.641	88	19165	219.54	ug/L		94
113) 3,3-dimethyl-1-butanol	14.308	57	275529m	364.51	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54339.D
Acq On : 26 Nov 2020 9:40 am
Operator : chelseav
Sample : IC2256-3 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 27 08:05:38 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration



RESTEK112620w.M Fri Nov 27 08:49:56 2020 Page: 3

Manual Integration Approval Summary

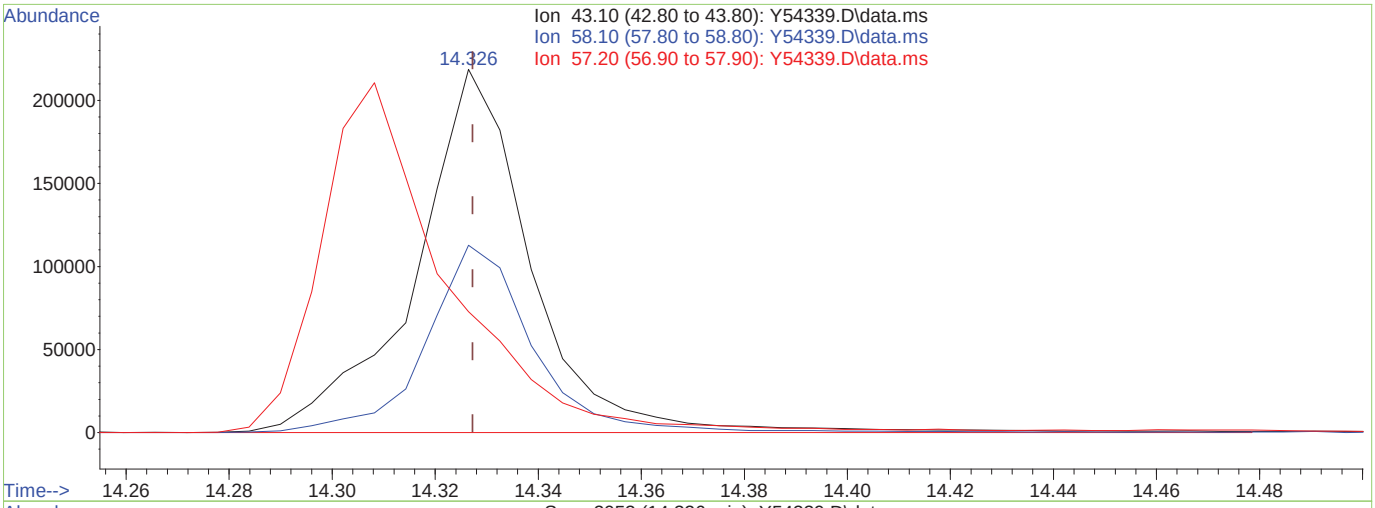
Sample Number: VY2256-IC2256
Lab FileID: Y54339.D
Injection Time: 11/26/20 09:40
Method: SW846 8260B
Analyst approved: 11/27/20 08:54 Shanica O'Connor
Supervisor approved: 11/28/20 09:26 Melissa Mangual

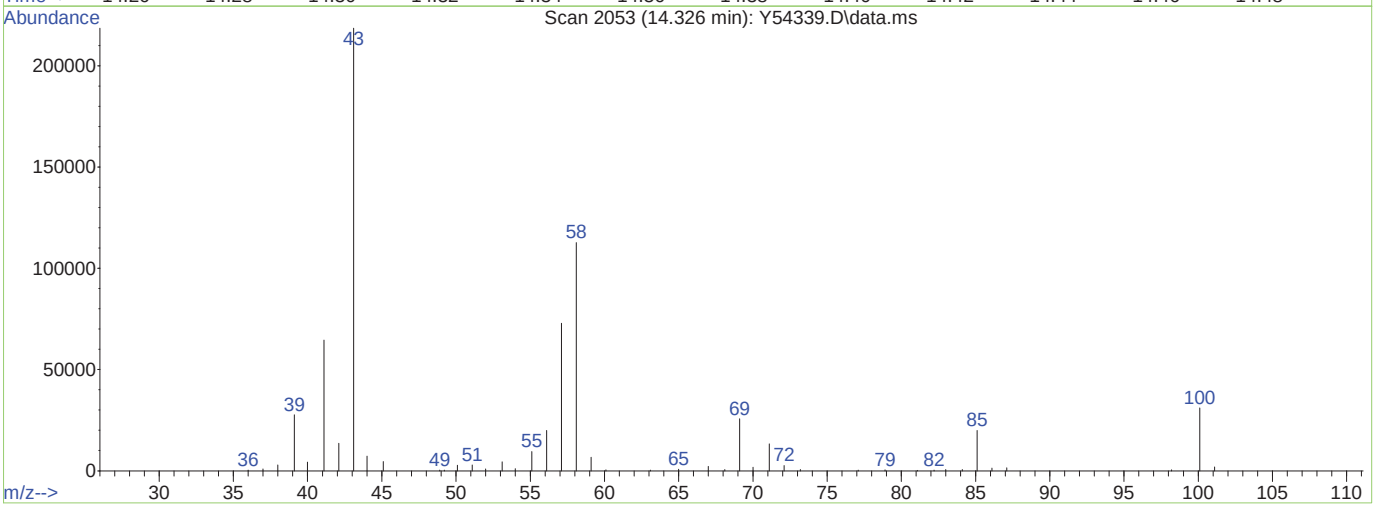
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		14.31	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54339.D
Acq On : 26 Nov 2020 9:40 am
Operator : chelseav
Sample : IC2256-3 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 26 10:22:36 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54339.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 58.10ug/L

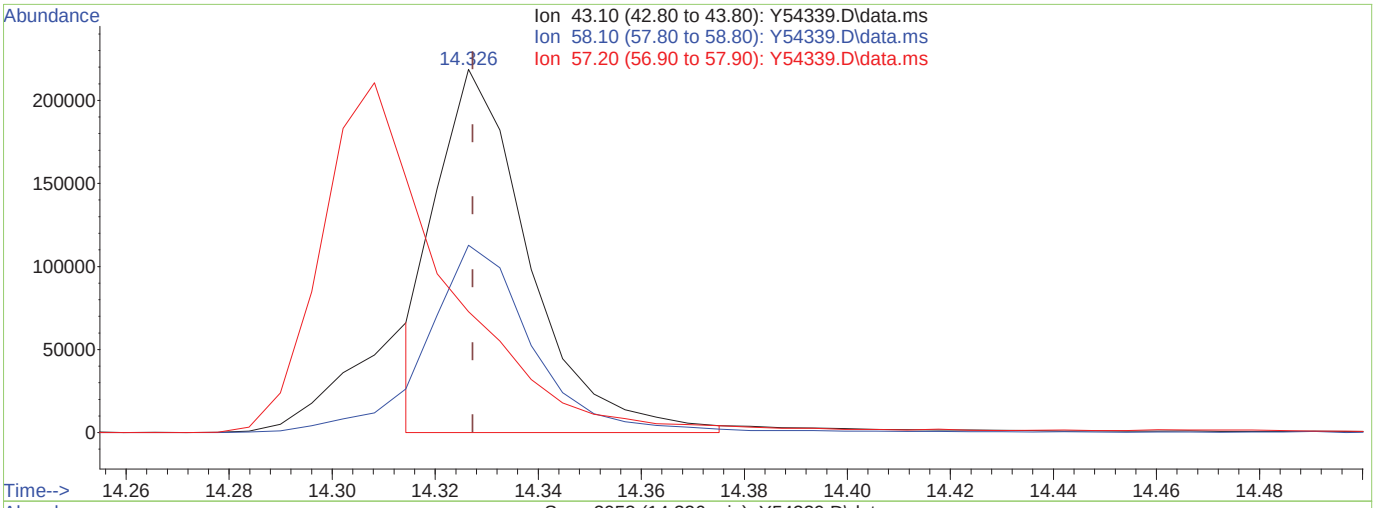
response 345545

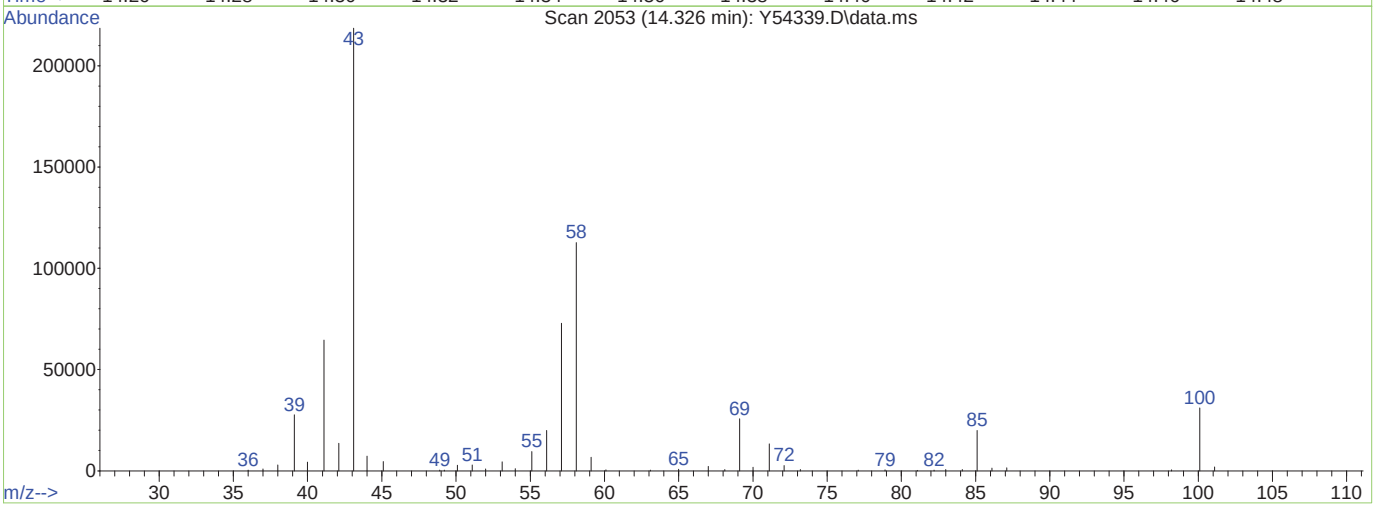
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	51.57
57.20	29.70	33.31
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54339.D
Acq On : 26 Nov 2020 9:40 am
Operator : chelseav
Sample : IC2256-3 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 26 10:22:36 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54339.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 45.82ug/L m

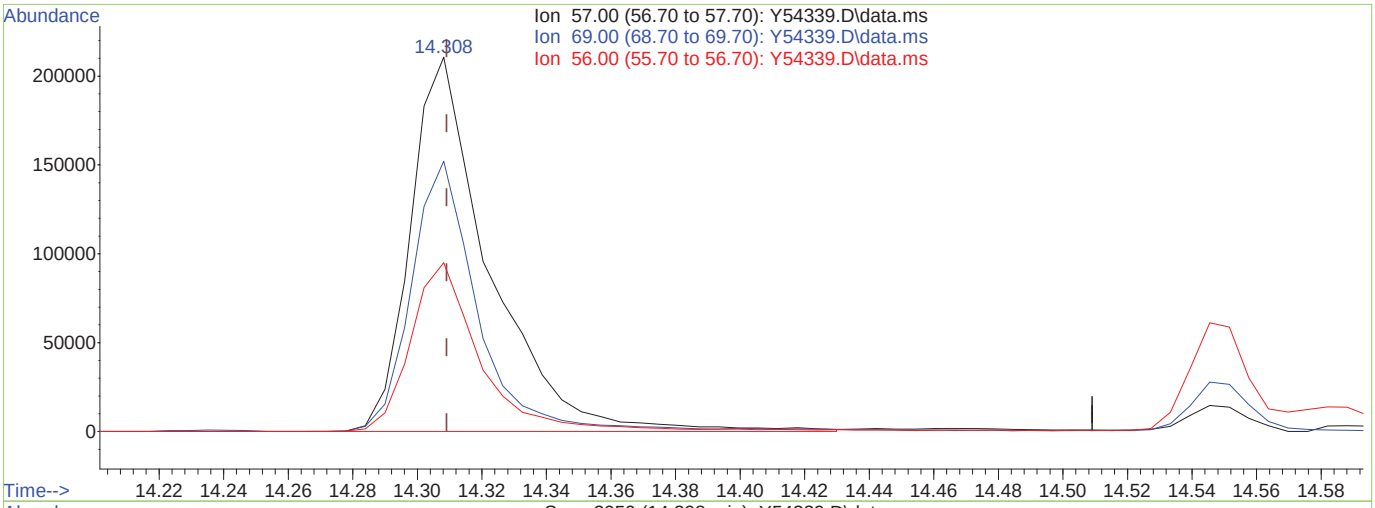
response 272535

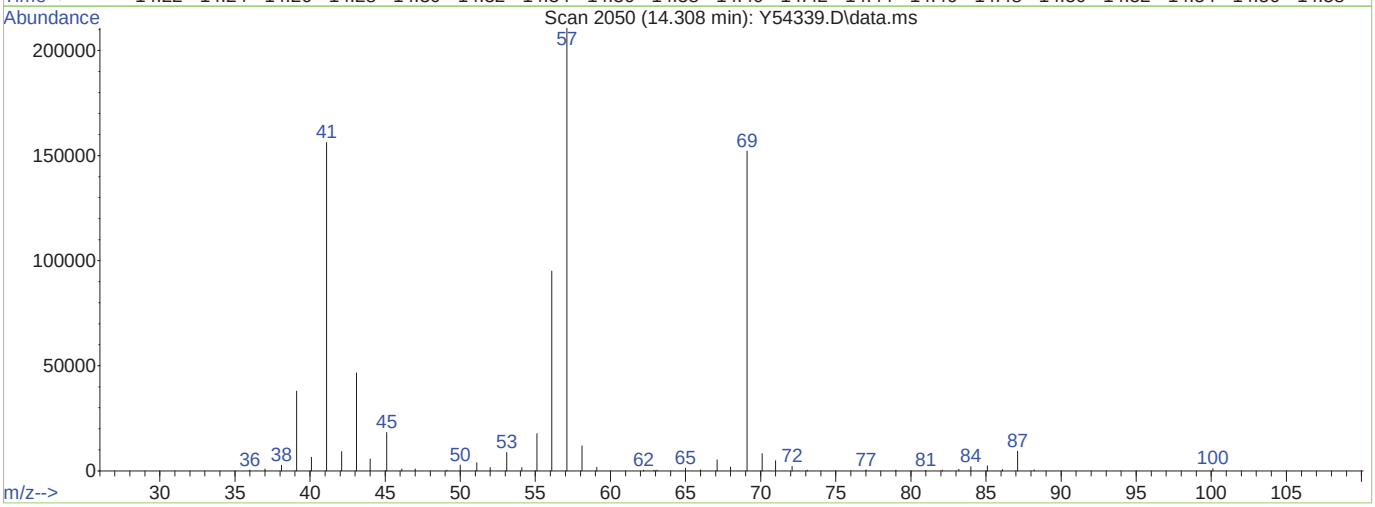
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	51.57
57.20	29.70	33.31
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54339.D
Acq On : 26 Nov 2020 9:40 am
Operator : chelseav
Sample : IC2256-3 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 26 10:22:36 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54339.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.308min (-0.001) 475.96ug/L

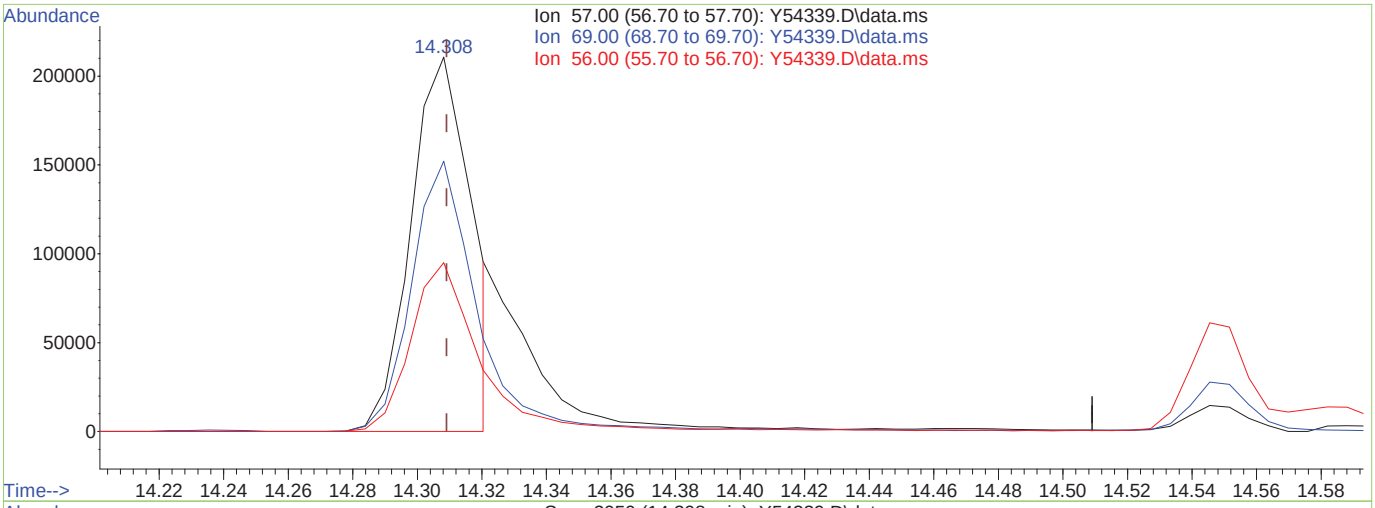
response 359770

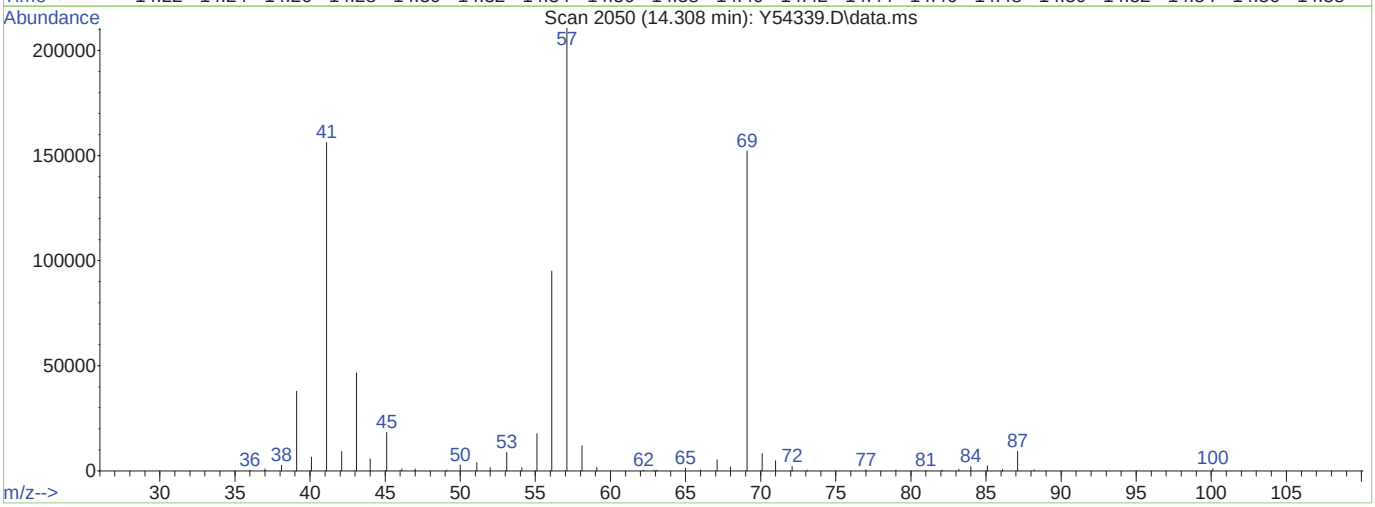
Ion	Exp%	Act%
57.00	100	100
69.00	72.60	72.24
56.00	43.30	45.09
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54339.D
Acq On : 26 Nov 2020 9:40 am
Operator : chelseav
Sample : IC2256-3 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 26 10:22:36 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54339.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.308min (-0.001) 364.51ug/L m

response 275529

Ion	Exp%	Act%
57.00	100	100
69.00	72.60	72.24
56.00	43.30	45.09
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/28/20 09:26

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54340.D
Acq On : 26 Nov 2020 10:07 am
Operator : chelseav
Sample : IC2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 27 08:07:27 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.523	96	2860671	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	2715842	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1474390	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.410	65	177946	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	742731	49.75	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.50%			
47) 1,2-Dichloroethane-d4	11.139	65	623565	48.58	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.16%			
58) Toluene-d8	13.238	98	3030638	50.53	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 101.06%			
80) 4-Bromofluorobenzene	15.489	174	1103967	50.27	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.54%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.030	85	356715	25.02	ug/L	98
3) Acrolein	6.303	56	216940	112.42	ug/L	100
4) Chloromethane	3.389	50	368400m	25.70	ug/L	
5) 1,3-butadiene	3.584	39	203261	21.82	ug/L	97
6) Vinyl Chloride	3.547	62	342676	25.74	ug/L	98
7) Bromomethane	4.156	94	141172	24.58	ug/L	99
8) Chloroethane	4.393	64	113441	23.56	ug/L	99
9) Trichlorofluoromethane	4.667	101	500454	25.14	ug/L	99
10) Ethyl Ether	5.287	59	221862	25.33	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.670	67	307660	25.81	ug/L	98
12) 1,1-Dichloroethene	5.640	61	430509	25.57	ug/L	97
13) Freon 113	5.731	101	338026	24.67	ug/L	100
14) Carbon Disulfide	5.670	76	778284	25.05	ug/L	100
15) Iodomethane	5.901	142	274098	25.42	ug/L	99
16) Allyl chloride	6.565	41	385420	24.08	ug/L	97
17) Methylene Chloride	6.771	49	395863	24.53	ug/L	99
18) Acetone	6.887	43	294765	115.84	ug/L	95
19) Methyl acetate	7.143	43	742089	118.36	ug/L	100
20) trans-1,2-Dichloroethene	7.088	61	411692	26.07	ug/L	95
21) Hexane	7.246	56	254524	25.95	ug/L	98
22) Methyl Tert Butyl Ether	7.319	73	626773	25.20	ug/L	95
23) Acetonitrile	7.793	41	238281	215.12	ug/L	97
24) Di-isopropyl ether	8.092	45	964758	26.73	ug/L	99
25) Chloroprene	8.268	53	389109	24.76	ug/L	98
26) 1,1-Dichloroethane	8.311	63	502114	26.03	ug/L	100
27) Acrylonitrile	8.426	53	371544	121.59	ug/L	98
28) ETBE	8.828	59	740938	26.43	ug/L	99
29) Vinyl acetate	8.858	43	2390910	124.26	ug/L	100
30) cis-1,2-Dichloroethene	9.430	96	362216	25.45	ug/L	99
31) 2,2-Dichloropropane	9.637	77	386891	26.23	ug/L	98
32) Bromochloromethane	9.837	128	192772	25.29	ug/L	98
33) Cyclohexane	9.819	56	593786	26.69	ug/L	98
34) Chloroform	10.002	83	519307	25.59	ug/L	99
35) Ethyl acetate	10.251	43	983772	123.04	ug/L	98
36) Tetrahydrofuran	10.251	42	57096	24.19	ug/L	99
38) Carbon Tetrachloride	10.227	117	472674	25.85	ug/L	99
39) 1,1,1-Trichloroethane	10.349	97	524358	25.71	ug/L	99
40) 2-Butanone	10.549	43	430738	118.78	ug/L	98
41) 1,1-Dichloropropene	10.561	75	433799	25.96	ug/L	99
42) tert-Butyl formate	10.750	59	269078	116.03	ug/L	98
43) Propionitrile	10.987	54	262120	220.86	ug/L	88
44) Methacrylonitrile	11.018	41	1248522	227.36	ug/L	99
45) Benzene	10.939	78	1299320	25.75	ug/L	99
46) TAME	11.127	73	601786	25.79	ug/L	97
48) 1,2-Dichloroethane	11.237	62	356551	24.71	ug/L	100
49) Trichloroethene	11.736	95	375224	25.15	ug/L	98
50) Methylcyclohexane	11.717	83	579820	26.22	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54340.D
Acq On : 26 Nov 2020 10:07 am
Operator : chelseav
Sample : IC2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 27 08:07:27 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

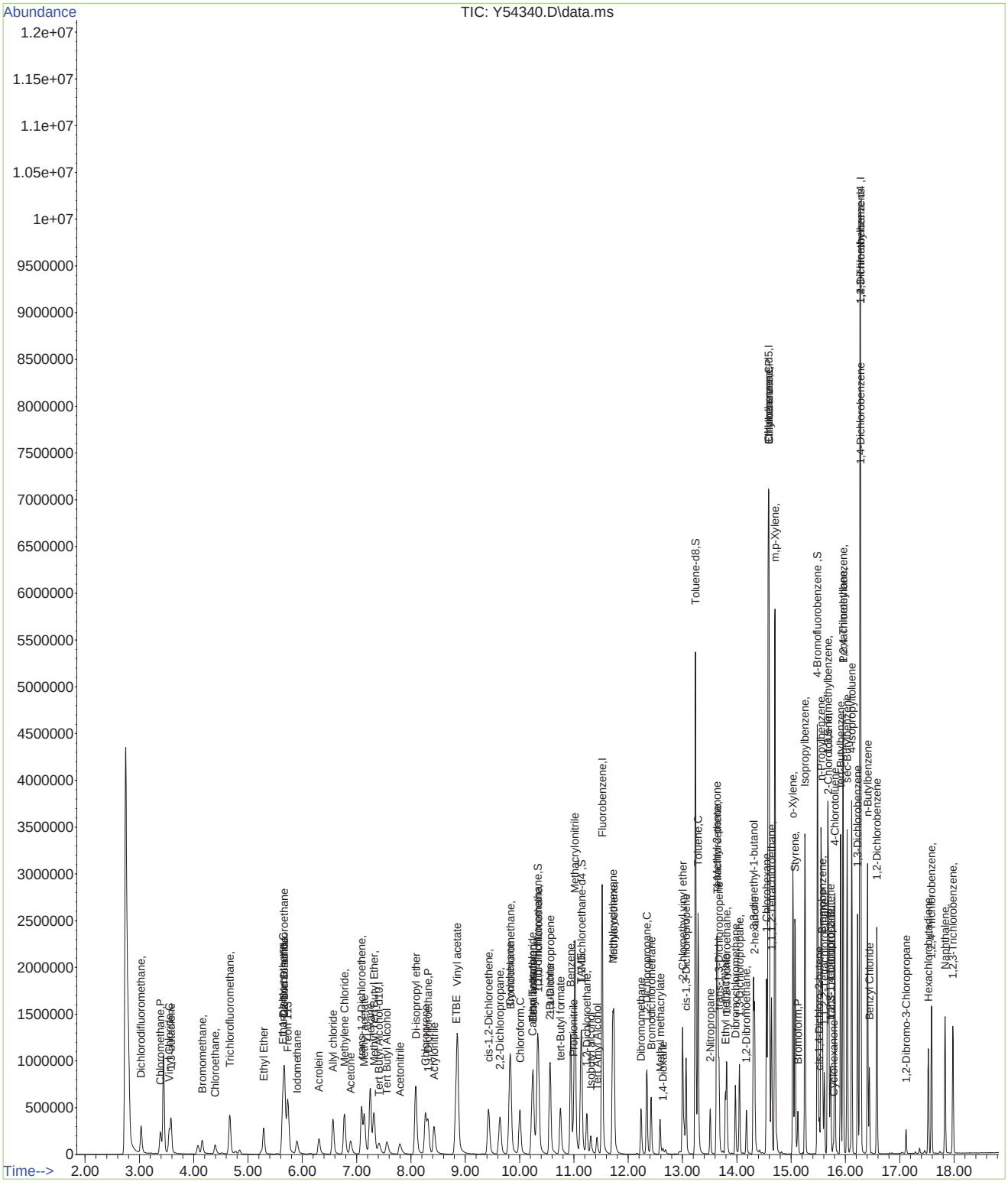
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) Dibromomethane	12.234	93	161356	24.66	ug/L	98
52) 1,2-Dichloropropane	12.344	63	298687	25.97	ug/L	99
53) Bromodichloromethane	12.423	83	353365	26.13	ug/L	99
54) Methyl methacrylate	12.587	41	168655	23.58	ug/L	99
55) 2-Chloroethyl vinyl ether	13.001	63	458831	114.78	ug/L	99
56) cis-1,3-Dichloropropene	13.068	75	449255	26.56	ug/L	100
59) Toluene	13.287	91	1568457	25.47	ug/L	100
60) 2-Nitropropane	13.512	41	236789	120.61	ug/L	98
61) 4-Methyl-2-pentanone	13.627	43	1018268	121.40	ug/L	99
62) trans-1,3-Dichloropropene	13.670	75	343328	26.23	ug/L	80
63) Tetrachloroethene	13.646	166	463973	25.83	ug/L	99
64) Ethyl methacrylate	13.792	69	251176	24.15	ug/L	99
65) 1,1,2-Trichloroethane	13.816	83	202567	25.34	ug/L	98
66) Dibromochloromethane	13.974	129	334779	25.97	ug/L	99
67) 1,3-Dichloropropane	14.047	76	424929	25.32	ug/L	99
68) 1,2-Dibromoethane	14.175	107	279253	25.39	ug/L	99
69) 2-hexanone	14.327	43	713910m	119.43	ug/L	
70) 1-Chlorohexane	14.546	91	500562	26.85	ug/L	98
71) Ethylbenzene	14.595	91	1703746	25.53	ug/L	100
72) Chlorobenzene	14.595	112	1097587	25.62	ug/L	99
73) 1,1,1,2-Tetrachloroethane	14.637	131	389731	26.28	ug/L	99
74) m,p-Xylene	14.704	91	2705663	52.05	ug/L	100
75) o-Xylene	15.033	91	1365820	26.42	ug/L	99
76) Styrene	15.069	104	1088984	25.98	ug/L	99
77) Bromoform	15.124	173	169819	25.08	ug/L	99
78) Isopropylbenzene	15.258	105	1904540	26.42	ug/L	100
81) cis-1,4-Dichloro-2-butene	15.519	53	58512	22.57	ug/L	86
82) n-Propylbenzene	15.550	91	2010730	25.82	ug/L	100
83) Bromobenzene	15.574	156	457145	25.19	ug/L	100
84) 1,1,2,2-Tetrachloroethane	15.611	83	278963	24.23	ug/L	98
85) 1,3,5-Trimethylbenzene	15.672	105	1465798	26.41	ug/L	99
86) 2-Chlorotoluene	15.690	91	1257206	25.61	ug/L	99
87) trans-1,4-Dichloro-2-B...	15.732	53	57047	24.31	ug/L	97
88) 1,2,3-Trichloropropane	15.720	110	104585	23.61	ug/L	98
89) Cyclohexanone	15.775	55	31499	115.87	ug/L	95
90) 4-Chlorotoluene	15.805	91	1171271	25.83	ug/L	99
91) tert-Butylbenzene	15.909	91	759672	26.48	ug/L	100
92) 1,2,4-Trimethylbenzene	15.957	105	1471960	26.56	ug/L	98
93) Pentachloroethane	15.957	167	224372	24.48	ug/L	95
94) sec-Butylbenzene	16.030	105	1806239	26.24	ug/L	99
95) 4-Isopropyltoluene	16.116	119	1687311	26.62	ug/L	99
96) 1,3-Dichlorobenzene	16.225	146	880501	25.43	ug/L	99
97) 1,2,3-Trimethylbenzene	16.268	105	1602902	25.89	ug/L	99
98) 1,4-Dichlorobenzene	16.286	146	859505	24.83	ug/L	99
99) n-Butylbenzene	16.408	92	673398	27.30	ug/L	100
100) Benzyl Chloride	16.438	126	120442	24.75	ug/L	98
101) 1,2-Dichlorobenzene	16.578	146	809838	25.50	ug/L	99
102) 1,2-Dibromo-3-Chloropr...	17.113	75	39649	22.55	ug/L	94
103) Hexachlorobutadiene	17.527	225	151391	26.10	ug/L	97
104) 1,2,4-Trichlorobenzene	17.588	180	428022	26.38	ug/L	99
105) Naphthalene	17.837	128	1037645	24.72	ug/L	100
106) 1,2,3-Trichlorobenzene	17.977	180	372241	25.02	ug/L	99
108) Ethanol	5.634	45	50498	496.81	ug/L	99
109) Tert Butyl Alcohol	7.556	59	240274	261.79	ug/L	98
110) Isobutyl alcohol	11.310	42	75079	458.63	ug/L	94
111) Tert Amyl Alcohol	11.425	59	103334	242.18	ug/L	95
112) 1,4-Dioxane	12.642	88	45956	563.04	ug/L	97
113) 3,3-dimethyl-1-butanol	14.309	57	667636m	944.66	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54340.D
Acq On : 26 Nov 2020 10:07 am
Operator : chelseav
Sample : IC2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 27 08:07:27 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration



RESTEK112620w.M Fri Nov 27 08:49:57 2020 Page: 3

Manual Integration Approval Summary

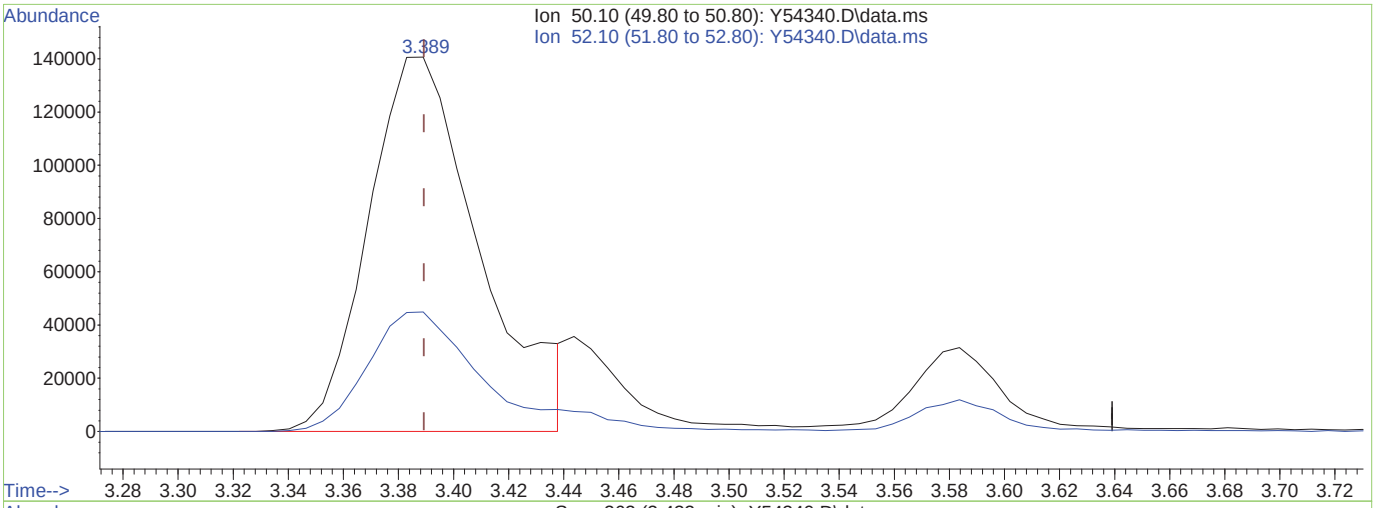
Sample Number: VY2256-IC2256
Lab FileID: Y54340.D
Injection Time: 11/26/20 10:07
Method: SW846 8260B
Analyst approved: 11/27/20 08:54 Shanica O'Connor
Supervisor approved: 11/28/20 09:26 Melissa Mangual

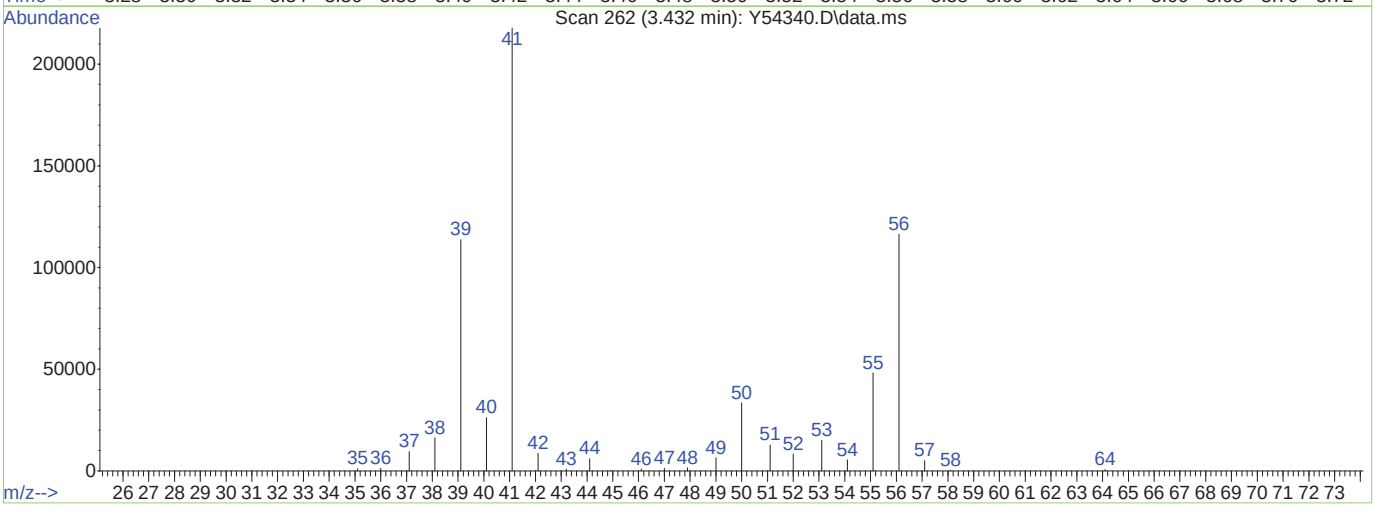
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
3,3-Dimethyl-1-Butanol	624-95-3		14.31	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54340.D
Acq On : 26 Nov 2020 10:07 am
Operator : chelseav
Sample : IC2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 26 10:45:46 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54340.D\data.ms

(4) Chloromethane (P)

3.389min (-0.000) 27.39ug/L

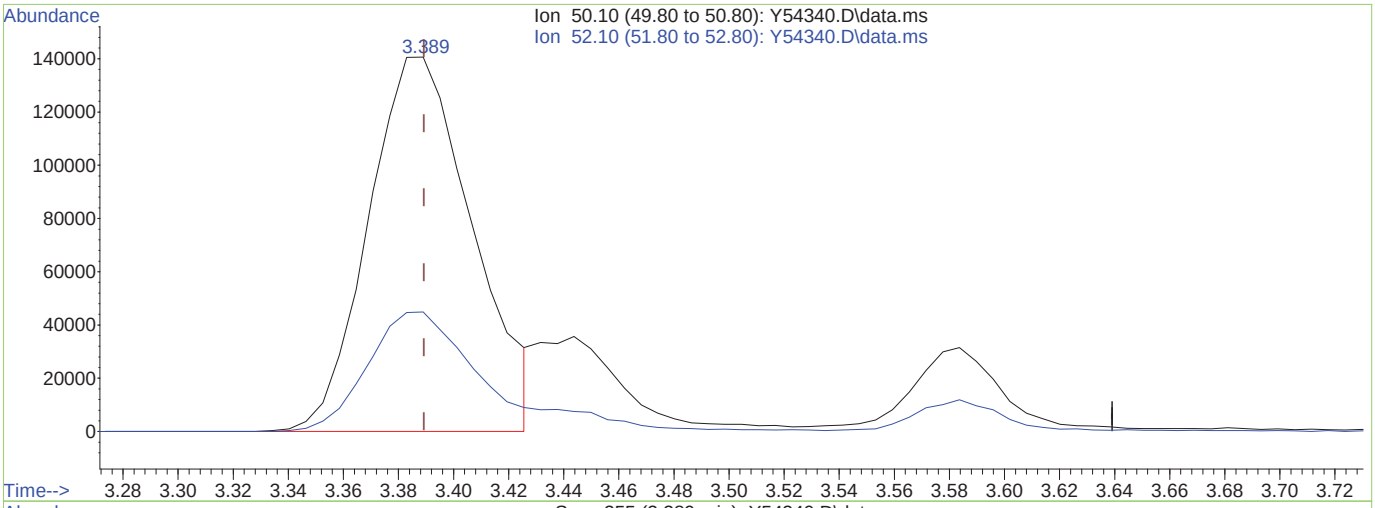
response 392642

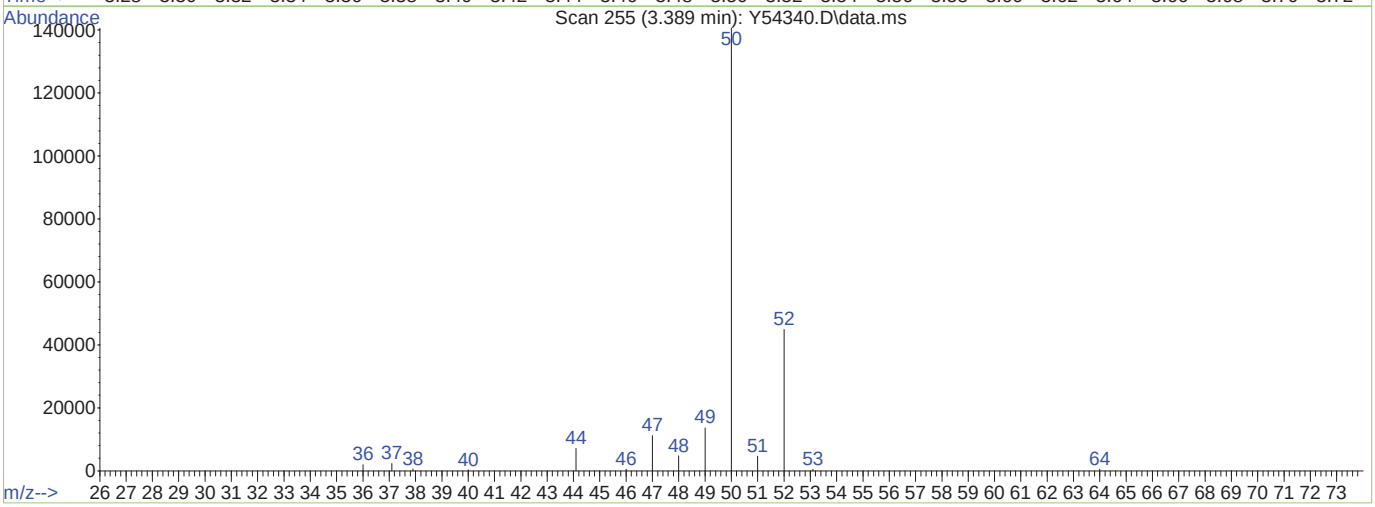
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.90
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54340.D
Acq On : 26 Nov 2020 10:07 am
Operator : chelseav
Sample : IC2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 26 10:45:46 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54340.D\data.ms

(4) Chloromethane (P)

3.389min (-0.000) 25.70ug/L m

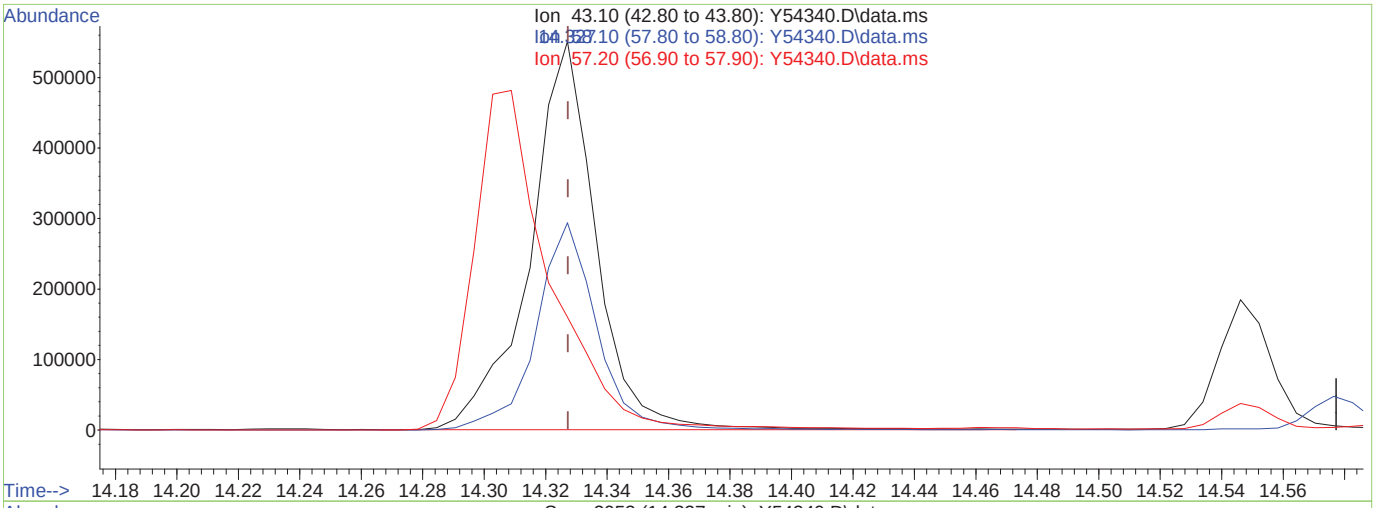
response 368400

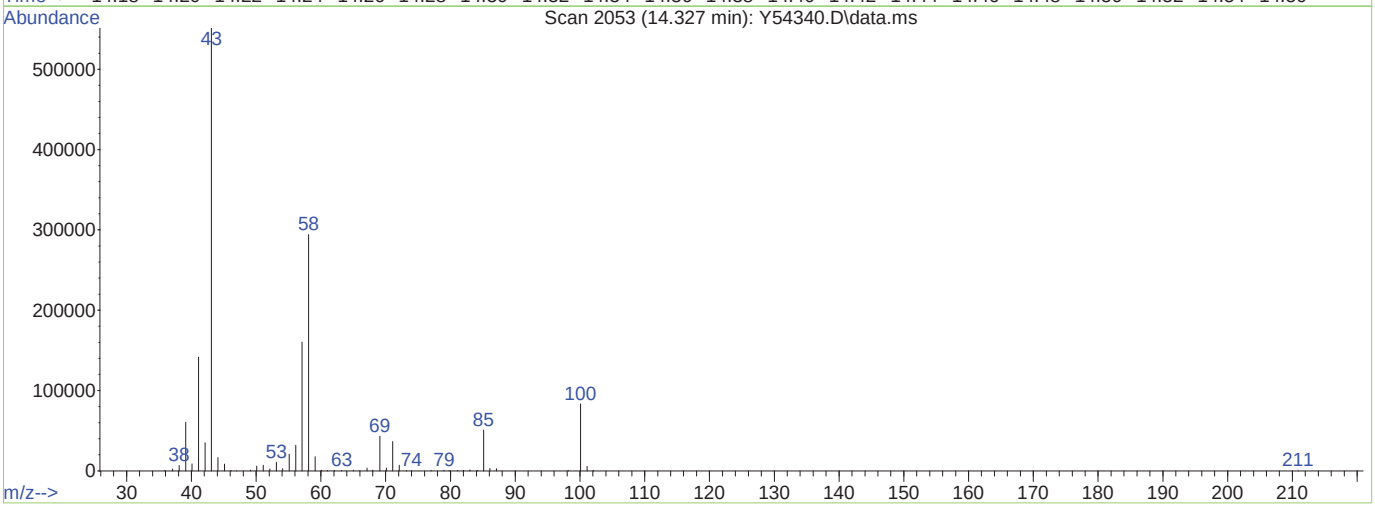
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.90
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54340.D
Acq On : 26 Nov 2020 10:07 am
Operator : chelseav
Sample : IC2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 26 10:45:46 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54340.D\data.ms

(69) 2-hexanone

14.327min (-0.000) 138.35ug/L

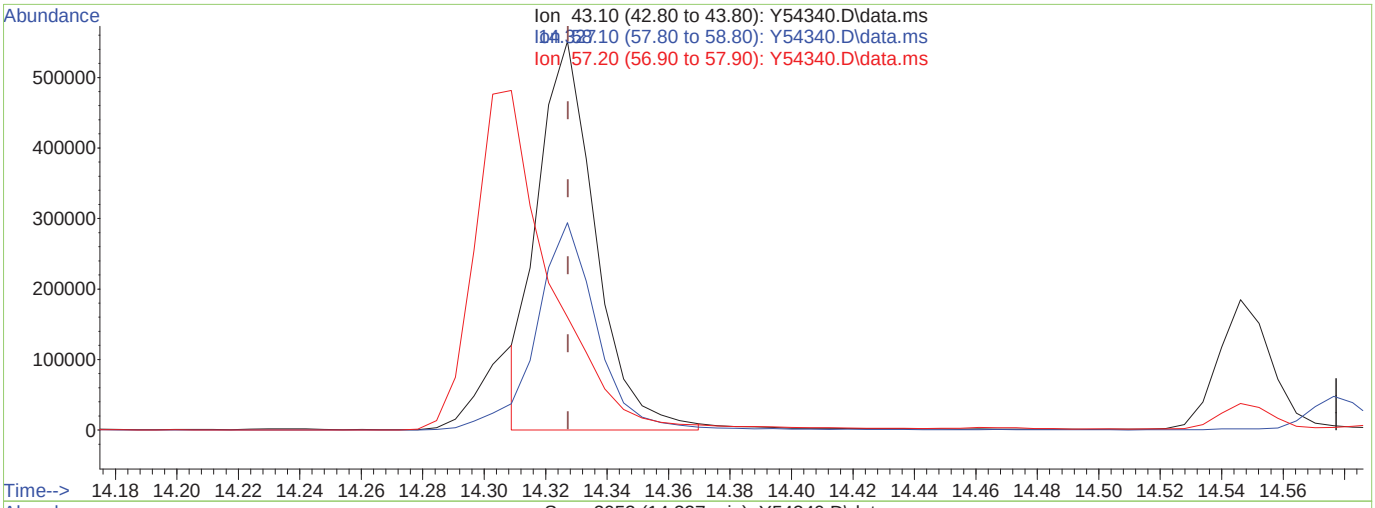
response 827012

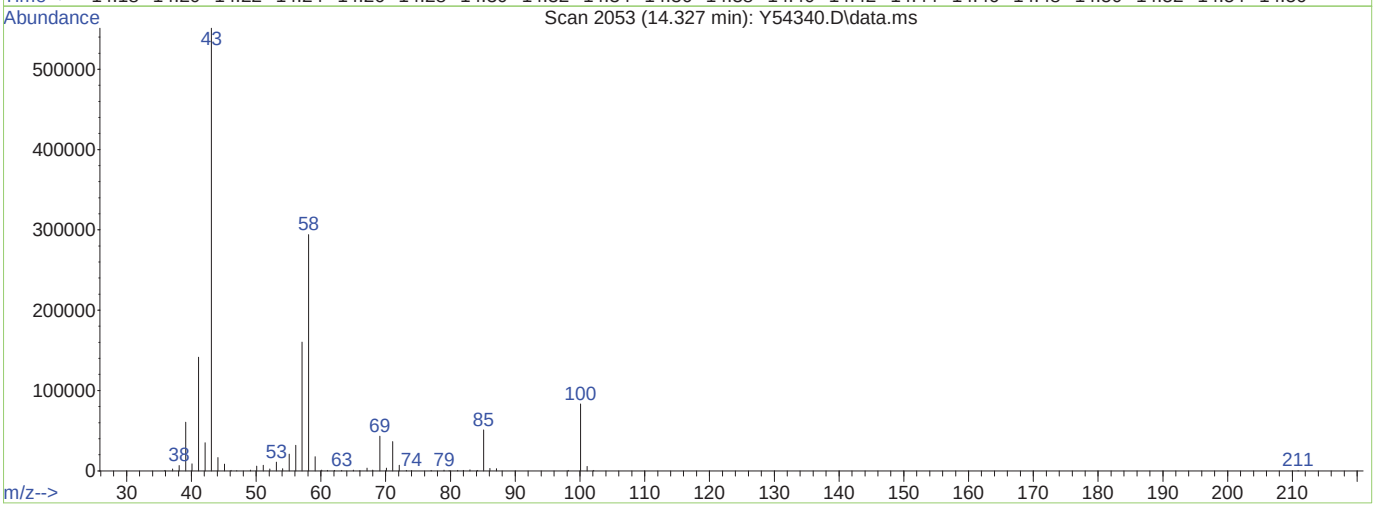
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	53.41
57.20	29.70	29.12
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54340.D
Acq On : 26 Nov 2020 10:07 am
Operator : chelseav
Sample : IC2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 26 10:45:46 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54340.D\data.ms

(69) 2-hexanone

14.327min (-0.000) 119.43ug/L m

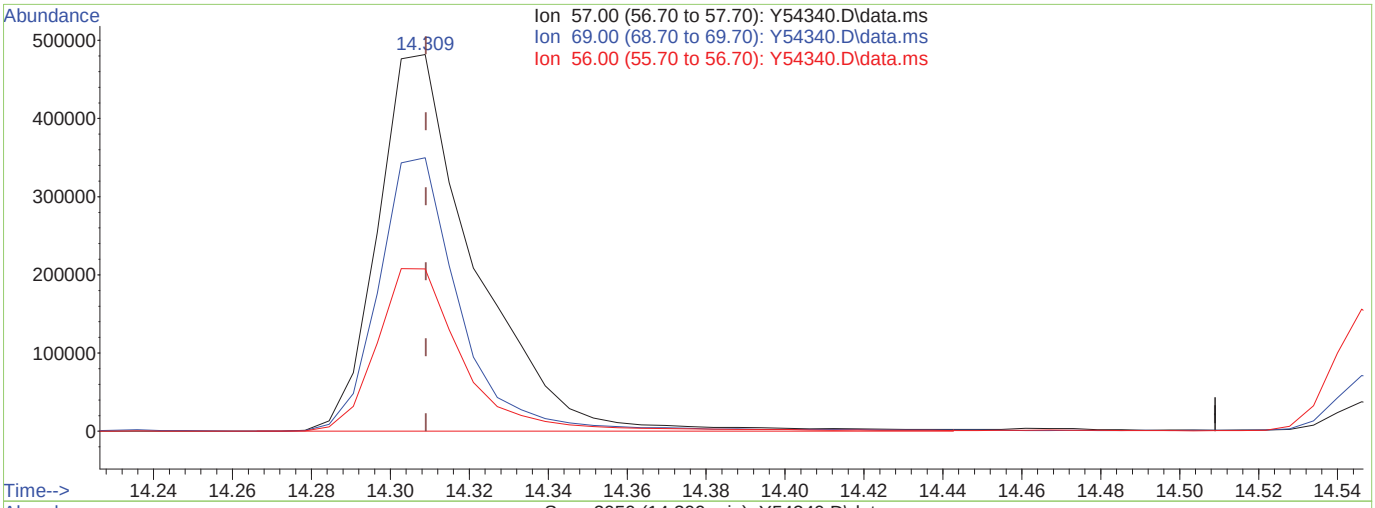
response 713910

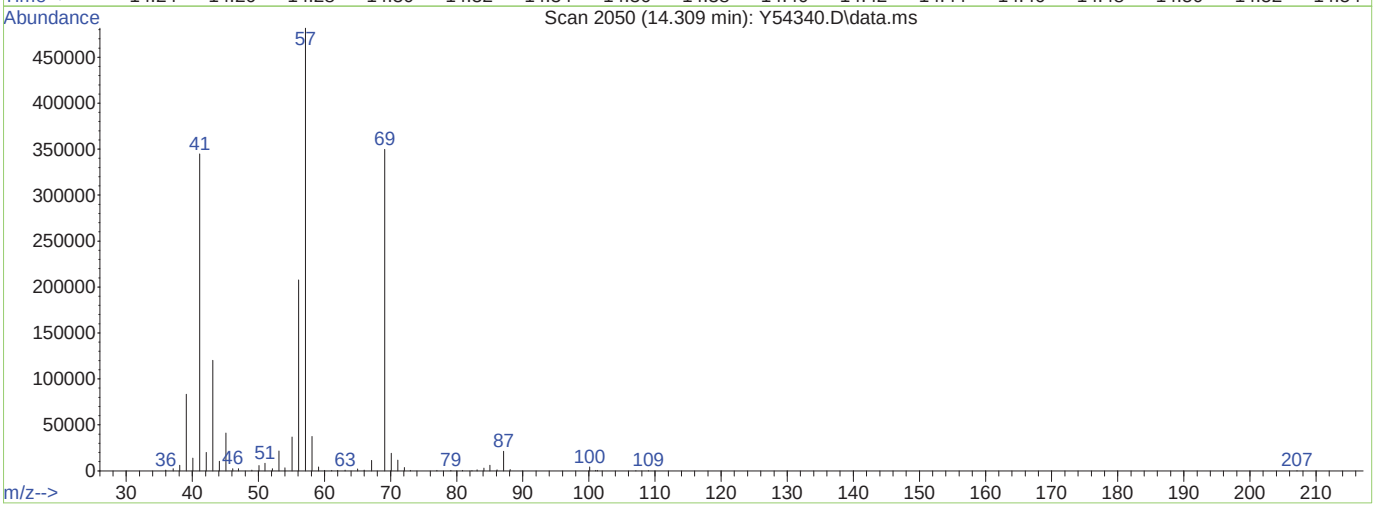
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	53.37
57.20	29.70	29.09
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54340.D
Acq On : 26 Nov 2020 10:07 am
Operator : chelseav
Sample : IC2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 26 10:45:46 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54340.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.309min (-0.000) 1174.08ug/L

response 829780

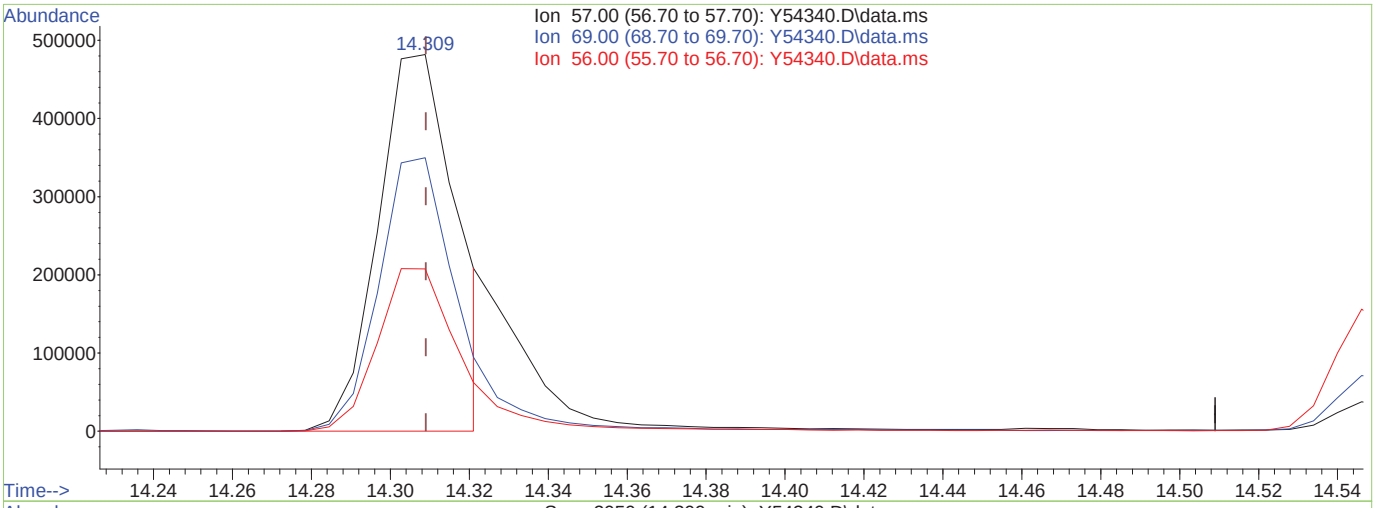
Ion	Exp%	Act%
57.00	100	100
69.00	72.60	72.57
56.00	43.30	43.12
0.00	0.00	0.00

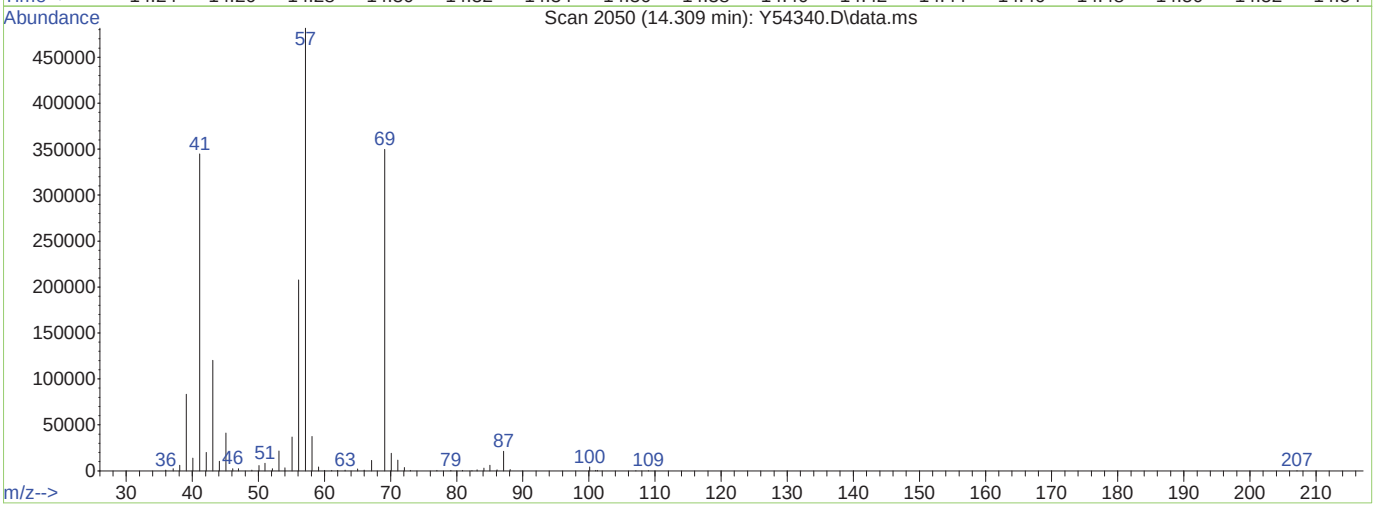
Y54340.D edits: 3,3-dimethyl-1-butanol

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54340.D
Acq On : 26 Nov 2020 10:07 am
Operator : chelseav
Sample : IC2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 26 10:45:46 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54340.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.309min (-0.000) 944.66ug/L m

response 667636

Ion	Exp%	Act%
57.00	100	100
69.00	72.60	72.63
56.00	43.30	43.12
0.00	0.00	0.00

Y54340.D edits: 3,3-dimethyl-1-butanol

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/28/20 09:26

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54341.D
Acq On : 26 Nov 2020 10:35 am
Operator : chelseav
Sample : ICC2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 27 08:08:26 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.522	96	2812974	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	2660662	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	1452927	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.416	65	194949	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	729638	49.70	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.40%			
47) 1,2-Dichloroethane-d4	11.145	65	611571	48.46	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 96.92%			
58) Toluene-d8	13.238	98	2995508	50.98	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 101.96%			
80) 4-Bromofluorobenzene	15.489	174	1089538	50.35	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.70%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.030	85	584573	41.69	ug/L	99
3) Acrolein	6.303	56	382959	200.26	ug/L	100
4) Chloromethane	3.382	50	628541	44.59	ug/L	98
5) 1,3-butadiene	3.577	39	330929	36.13	ug/L	97
6) Vinyl Chloride	3.547	62	570805	43.60	ug/L	96
7) Bromomethane	4.155	94	263051	46.57	ug/L	96
8) Chloroethane	4.392	64	170338	37.47	ug/L	98
9) Trichlorofluoromethane	4.660	101	823144	42.11	ug/L	100
10) Ethyl Ether	5.287	59	366887	42.59	ug/L	95
11) 1,2-Dichlorotrifluoroe...	5.670	67	487683	41.61	ug/L	97
12) 1,1-Dichloroethene	5.639	61	704587	42.56	ug/L	99
13) Freon 113	5.731	101	549442	40.78	ug/L	98
14) Carbon Disulfide	5.670	76	1272560	41.65	ug/L	99
15) Iodomethane	5.901	142	550569	46.97	ug/L	99
16) Allyl chloride	6.564	41	673176	42.76	ug/L	98
17) Methylene Chloride	6.771	49	634743	40.90	ug/L	97
18) Acetone	6.887	43	477296	190.75	ug/L	94
19) Methyl acetate	7.136	43	1268593	205.76	ug/L	100
20) trans-1,2-Dichloroethene	7.087	61	665696	42.87	ug/L	99
21) Hexane	7.245	56	396586	41.12	ug/L	100
22) Methyl Tert Butyl Ether	7.318	73	1065444	43.57	ug/L	97
23) Acetonitrile	7.793	41	430586	395.33	ug/L	98
24) Di-isopropyl ether	8.085	45	1581788	44.57	ug/L	100
25) Chloroprene	8.267	53	675687	43.72	ug/L	98
26) 1,1-Dichloroethane	8.310	63	812600	42.84	ug/L	99
27) Acrylonitrile	8.426	53	614244	204.42	ug/L	99
28) ETBE	8.827	59	1250981	45.38	ug/L	99
29) Vinyl acetate	8.858	43	3924267	202.84	ug/L	100
30) cis-1,2-Dichloroethene	9.429	96	593234	42.39	ug/L	98
31) 2,2-Dichloropropane	9.636	77	648542	44.71	ug/L	99
32) Bromochloromethane	9.831	128	310631	41.44	ug/L	97
33) Cyclohexane	9.819	56	945402	43.21	ug/L	99
34) Chloroform	10.001	83	850693	42.62	ug/L	99
35) Ethyl acetate	10.251	43	1615357	205.45	ug/L	100
36) Tetrahydrofuran	10.251	42	89138	38.41	ug/L	96
38) Carbon Tetrachloride	10.226	117	774065	43.05	ug/L	99
39) 1,1,1-Trichloroethane	10.348	97	848973	42.34	ug/L	100
40) 2-Butanone	10.549	43	721648	202.38	ug/L	98
41) 1,1-Dichloropropene	10.561	75	706831	43.02	ug/L	98
42) tert-Butyl formate	10.750	59	572253	205.38	ug/L	97
43) Propionitrile	10.987	54	467334	400.45	ug/L	89
44) Methacrylonitrile	11.017	41	2186703	404.96	ug/L	99
45) Benzene	10.938	78	2110141	42.52	ug/L	98
46) TAME	11.121	73	1024609	44.66	ug/L	99
48) 1,2-Dichloroethane	11.236	62	582902	41.09	ug/L	99
49) Trichloroethene	11.735	95	598639	40.80	ug/L	97
50) Methylcyclohexane	11.717	83	914227	42.04	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54341.D
Acq On : 26 Nov 2020 10:35 am
Operator : chelseav
Sample : ICC2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 27 08:08:26 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

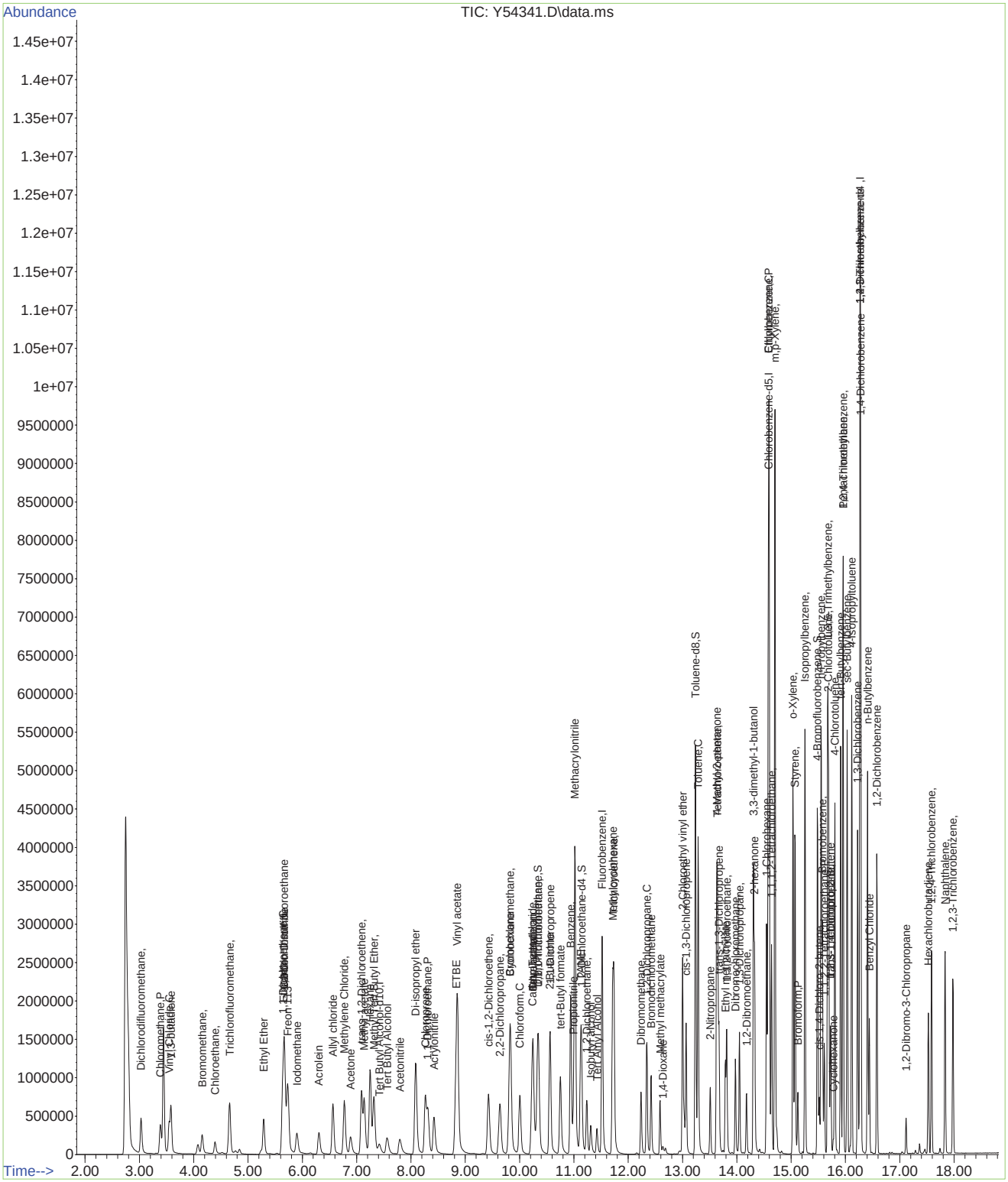
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) Dibromomethane	12.234	93	265544	41.26	ug/L	98
52) 1,2-Dichloropropane	12.343	63	487524	43.10	ug/L	99
53) Bromodichloromethane	12.422	83	586706	44.12	ug/L	99
54) Methyl methacrylate	12.587	41	311054	41.81	ug/L	98
55) 2-Chloroethyl vinyl ether	13.000	63	859328	207.51	ug/L	99
56) cis-1,3-Dichloropropene	13.067	75	749970	45.09	ug/L	100
59) Toluene	13.286	91	2563107	42.49	ug/L	99
60) 2-Nitropropane	13.511	41	428313	212.40	ug/L	96
61) 4-Methyl-2-pentanone	13.627	43	1674488	203.78	ug/L	99
62) trans-1,3-Dichloropropene	13.670	75	584788	45.61	ug/L	96
63) Tetrachloroethene	13.645	166	740187	42.06	ug/L	99
64) Ethyl methacrylate	13.791	69	454713	42.28	ug/L	99
65) 1,1,2-Trichloroethane	13.816	83	330743	42.24	ug/L	98
66) Dibromochloromethane	13.974	129	570218	45.15	ug/L	99
67) 1,3-Dichloropropane	14.047	76	702141	42.70	ug/L	100
68) 1,2-Dibromoethane	14.181	107	462854	42.96	ug/L	99
69) 2-hexanone	14.327	43	1196943m	204.39	ug/L	
70) 1-Chlorohexane	14.546	91	815155	44.63	ug/L	100
71) Ethylbenzene	14.594	91	2759525	42.21	ug/L	100
72) Chlorobenzene	14.594	112	1765688	42.07	ug/L	100
73) 1,1,1,2-Tetrachloroethane	14.637	131	637422	43.87	ug/L	98
74) m,p-Xylene	14.704	91	4408581	86.58	ug/L	100
75) o-Xylene	15.032	91	2232171	44.07	ug/L	99
76) Styrene	15.075	104	1809894	43.09	ug/L	98
77) Bromoform	15.124	173	299776	42.97	ug/L	100
78) Isopropylbenzene	15.257	105	3093778	43.82	ug/L	99
81) cis-1,4-Dichloro-2-butene	15.519	53	117084	41.95	ug/L	96
82) n-Propylbenzene	15.549	91	3285970	42.83	ug/L	100
83) Bromobenzene	15.574	156	734305	41.06	ug/L	99
84) 1,1,2,2-Tetrachloroethane	15.610	83	470445	41.47	ug/L	98
85) 1,3,5-Trimethylbenzene	15.671	105	2369003	43.32	ug/L	100
86) 2-Chlorotoluene	15.689	91	2026591	41.89	ug/L	99
87) trans-1,4-Dichloro-2-B...	15.732	53	104929	42.46	ug/L	99
88) 1,2,3-Trichloropropane	15.726	110	177075	40.56	ug/L	98
89) Cyclohexanone	15.774	55	54058	195.82	ug/L	99
90) 4-Chlorotoluene	15.805	91	1915506	42.87	ug/L	99
91) tert-Butylbenzene	15.908	91	1213865	42.94	ug/L	99
92) 1,2,4-Trimethylbenzene	15.957	105	2376057	43.51	ug/L	99
93) Pentachloroethane	15.957	167	383945	42.51	ug/L	99
94) sec-Butylbenzene	16.030	105	2903752	42.80	ug/L	100
95) 4-Isopropyltoluene	16.115	119	2730119	43.70	ug/L	100
96) 1,3-Dichlorobenzene	16.225	146	1418756	41.58	ug/L	99
97) 1,2,3-Trimethylbenzene	16.267	105	2585719	42.39	ug/L	100
98) 1,4-Dichlorobenzene	16.285	146	1392261	40.82	ug/L	99
99) n-Butylbenzene	16.407	92	1038660	42.72	ug/L	99
100) Benzyl Chloride	16.438	126	228798	43.45	ug/L	98
101) 1,2-Dichlorobenzene	16.578	146	1317874	42.11	ug/L	99
102) 1,2-Dibromo-3-Chloropr...	17.113	75	71498	41.26	ug/L	96
103) Hexachlorobutadiene	17.527	225	246961	43.20	ug/L	99
104) 1,2,4-Trichlorobenzene	17.587	180	717611	44.88	ug/L	99
105) Naphthalene	17.837	128	1883342	43.25	ug/L	99
106) 1,2,3-Trichlorobenzene	17.977	180	627239	42.77	ug/L	99
108) Ethanol	5.646	45	92235	828.29	ug/L	89
109) Tert Butyl Alcohol	7.562	59	409038	414.29	ug/L	97
110) Isobutyl alcohol	11.309	42	150426	819.94	ug/L	96
111) Tert Amyl Alcohol	11.425	59	200467	428.85	ug/L	97
112) 1,4-Dioxane	12.642	88	81946	916.42	ug/L	98
113) 3,3-dimethyl-1-butanol	14.308	57	1288608m	1664.27	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54341.D
Acq On : 26 Nov 2020 10:35 am
Operator : chelseav
Sample : ICC2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 27 08:08:26 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration



RESTEK112620w.M Fri Nov 27 08:49:59 2020 Page: 3

Manual Integration Approval Summary

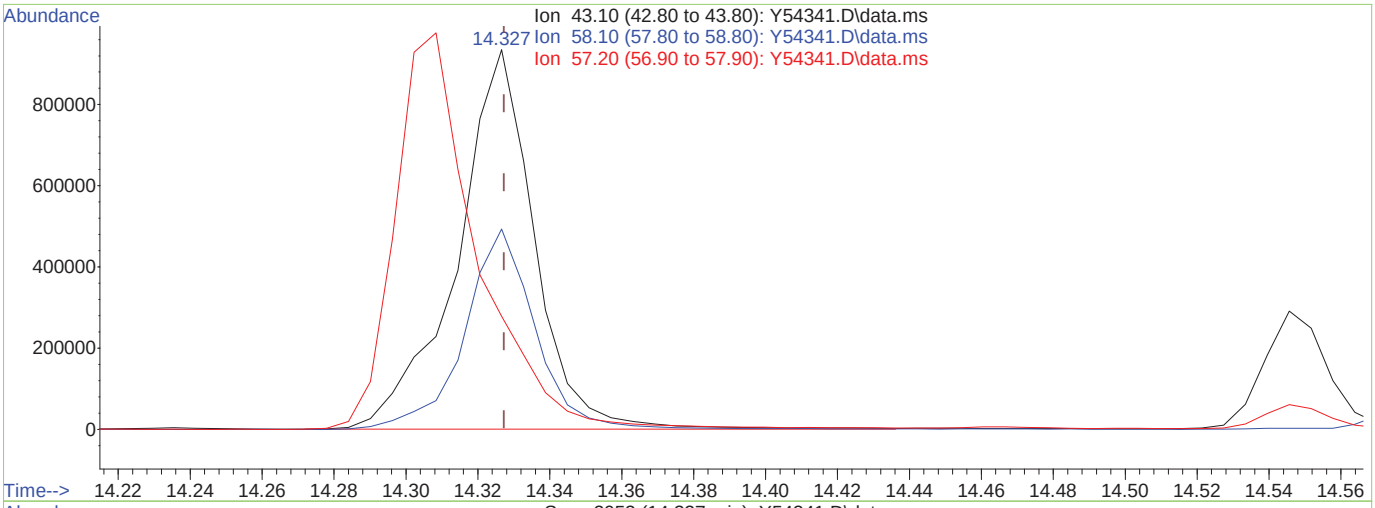
Sample Number: VY2256-ICC2256
Lab FileID: Y54341.D
Injection Time: 11/26/20 10:35
Method: SW846 8260B
Analyst approved: 11/27/20 08:54 Shanica O'Connor
Supervisor approved: 11/28/20 09:26 Melissa Mangual

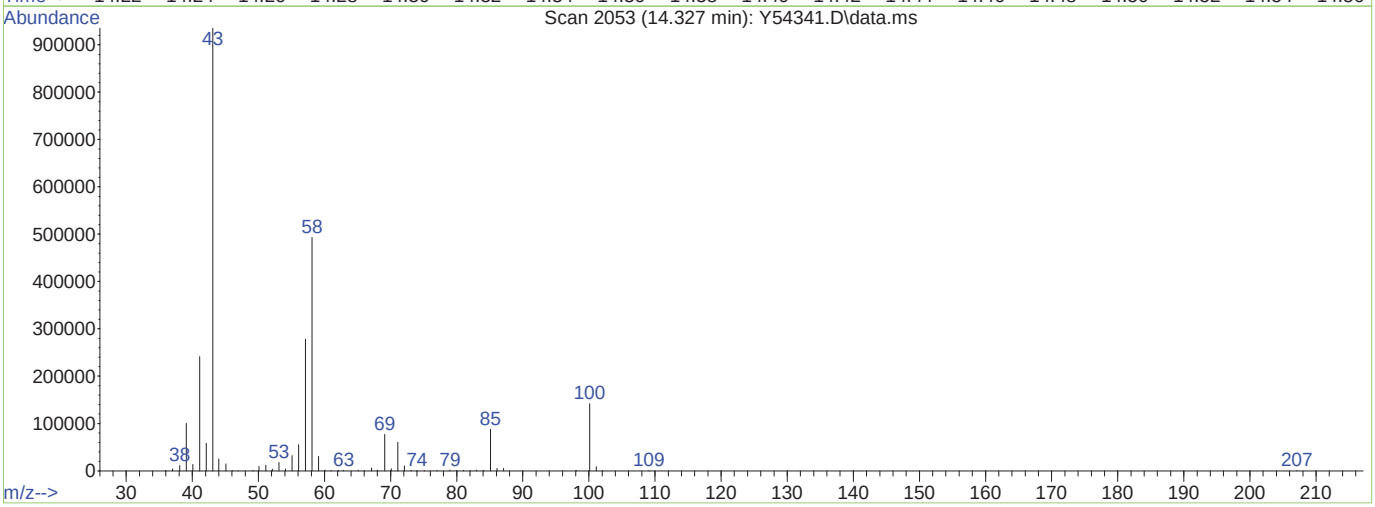
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		14.31	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54341.D
Acq On : 26 Nov 2020 10:35 am
Operator : chelseav
Sample : ICC2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 27 07:59:40 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54341.D\data.ms

(69) 2-hexanone

14.327min (-0.001) 238.92ug/L

response 1399213

Ion	Exp%	Act%
43.10	100	100
58.10	52.40	52.75
57.20	29.70	29.71
0.00	0.00	0.00

Y54341.D edits: 2-hexanone

FA81069

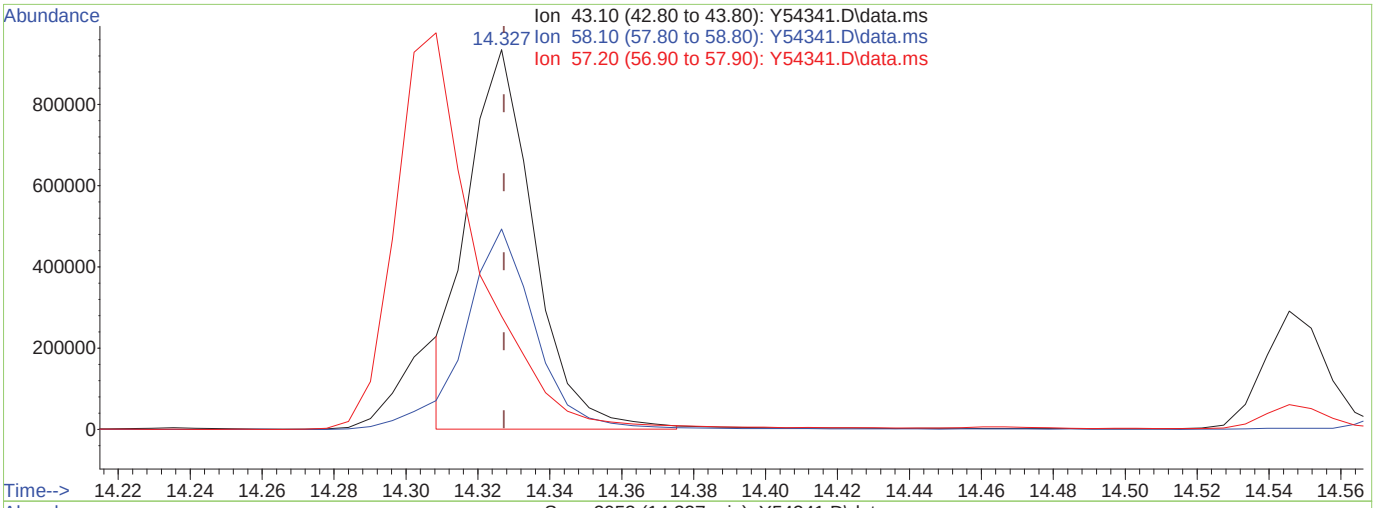
7.6.5.2

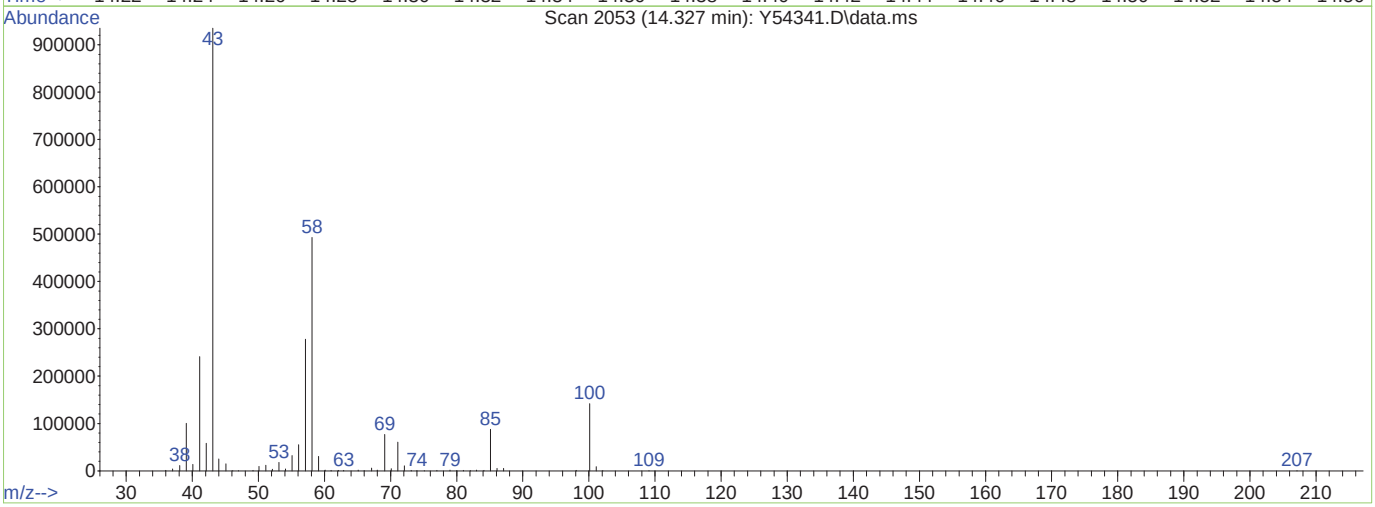
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54341.D
Acq On : 26 Nov 2020 10:35 am
Operator : chelseav
Sample : ICC2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 27 07:59:40 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54341.D\data.ms

(69) 2-hexanone

14.327min (-0.001) 204.39ug/L m

response 1196943

Ion	Exp%	Act%
43.10	100	100
58.10	52.40	52.72
57.20	29.70	29.73
0.00	0.00	0.00

Y54341.D edits: 2-hexanone

FA81069

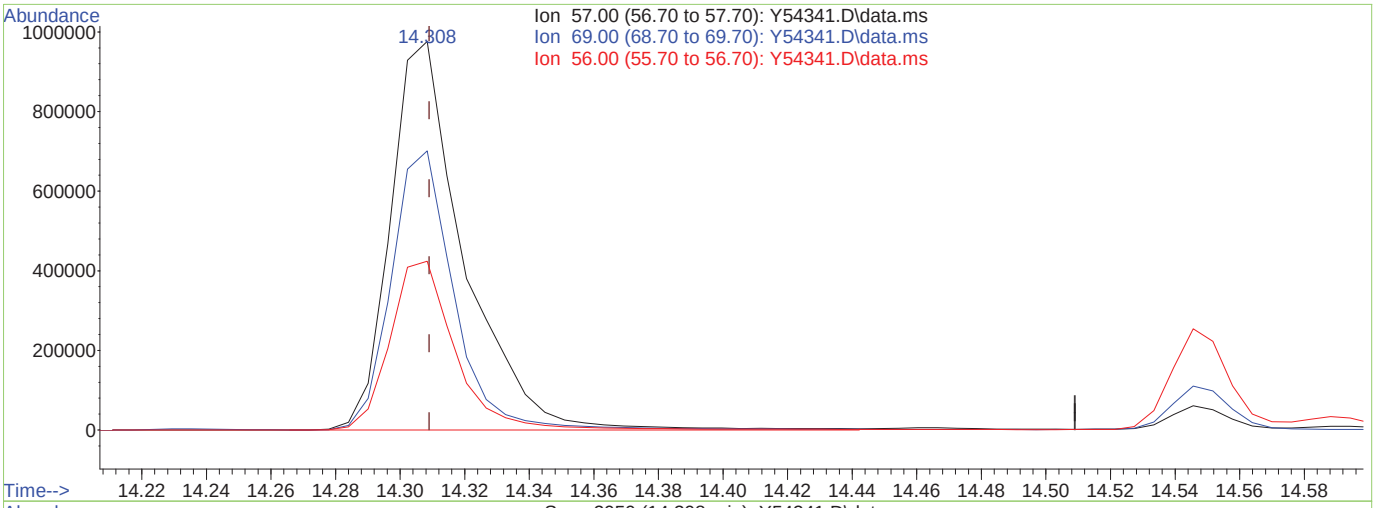
7.6.5.3

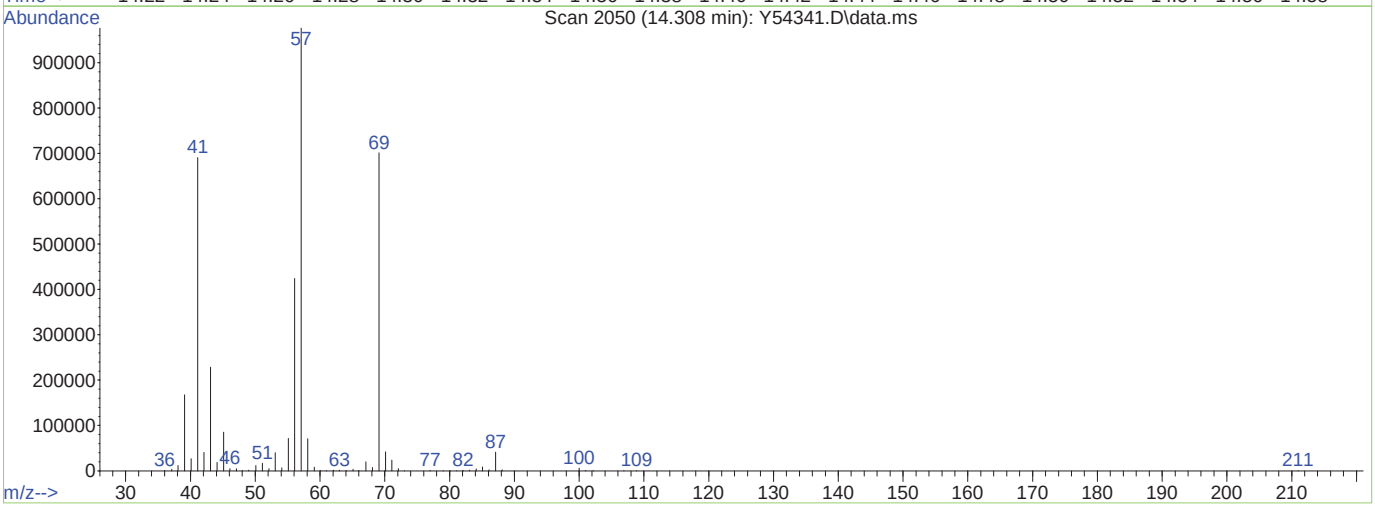
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54341.D
Acq On : 26 Nov 2020 10:35 am
Operator : chelseav
Sample : ICC2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 27 07:59:40 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54341.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.308min (-0.001) 2005.74ug/L

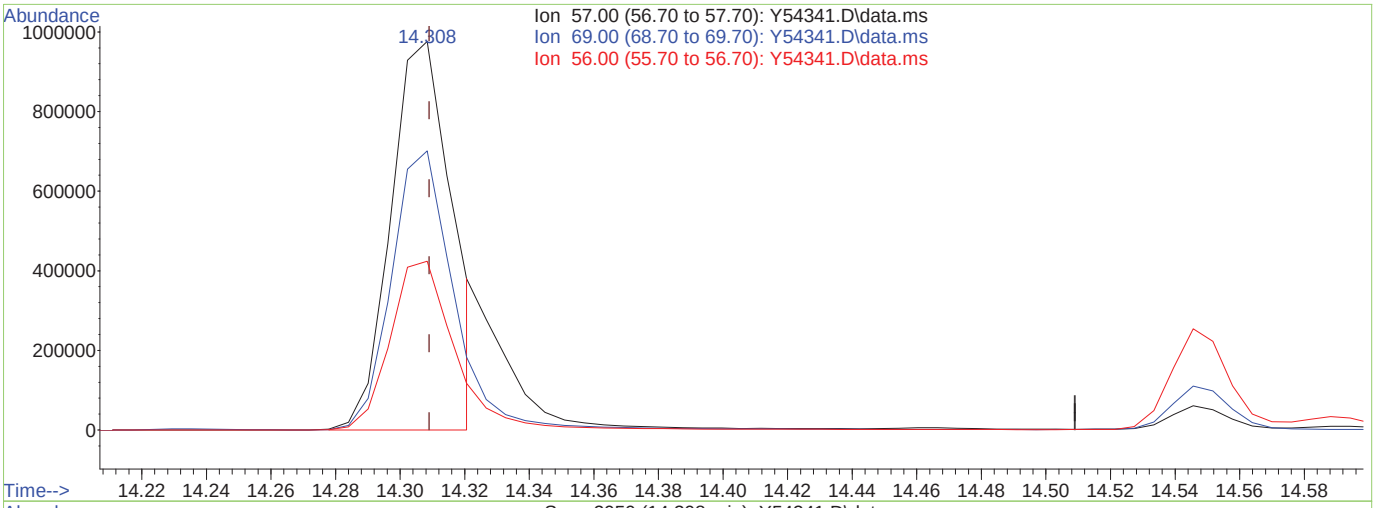
response 1553002

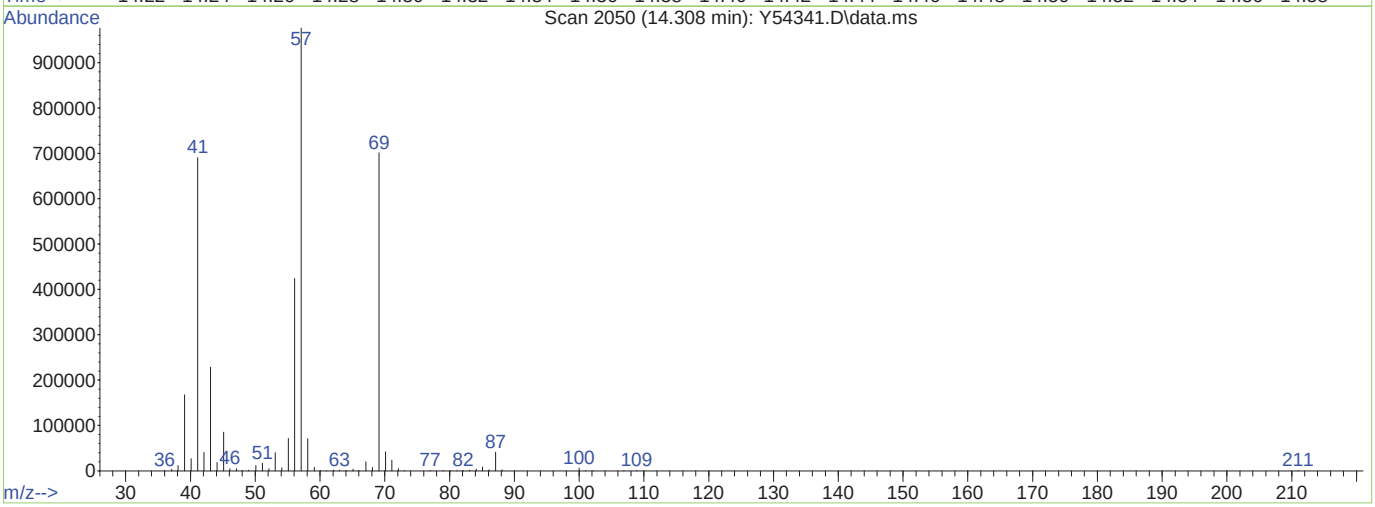
Ion	Exp%	Act%
57.00	100	100
69.00	72.60	71.77
56.00	43.30	43.46
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54341.D
Acq On : 26 Nov 2020 10:35 am
Operator : chelseav
Sample : ICC2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 27 07:59:40 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54341.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.308min (-0.001) 1664.27ug/L m

response 1288608

Ion	Exp%	Act%
57.00	100	100
69.00	72.60	71.80
56.00	43.30	43.46
0.00	0.00	0.00

Y54341.D edits: 3,3-dimethyl-1-butanol

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/28/20 09:26

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54342.D
Acq On : 26 Nov 2020 11:02 am
Operator : chelseav
Sample : IC2256-6 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 27 08:14:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.517	96	2849673	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	2665808	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.275	152	1474755	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.417	65	197239	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	732202	49.23	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.46%			
47) 1,2-Dichloroethane-d4	11.140	65	618246	48.35	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 96.70%			
58) Toluene-d8	13.239	98	3043328	51.70	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 103.40%			
80) 4-Bromofluorobenzene	15.484	174	1116586	50.84	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.68%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.031	85	971515	68.39	ug/L	99
3) Acrolein	6.304	56	667677	340.45	ug/L	100
4) Chloromethane	3.384	50	1040972m	72.90	ug/L	
5) 1,3-butadiene	3.578	39	556985	60.02	ug/L	100
6) Vinyl Chloride	3.548	62	972464	73.33	ug/L	99
7) Bromomethane	4.156	94	441374	77.14	ug/L	97
8) Chloroethane	4.394	64	281239	66.93	ug/L	96
9) Trichlorofluoromethane	4.655	101	1386184	70.15	ug/L	99
10) Ethyl Ether	5.288	59	625208	71.64	ug/L	96
11) 1,2-Dichlorotrifluoroe...	5.671	67	806599	67.94	ug/L	99
12) 1,1-Dichloroethene	5.635	61	1176751	70.17	ug/L	98
13) Freon 113	5.726	101	896366	65.68	ug/L	98
14) Carbon Disulfide	5.671	76	2153576	69.58	ug/L	99
15) Iodomethane	5.902	142	957169	72.43	ug/L	98
16) Allyl chloride	6.565	41	1176709	73.79	ug/L	100
17) Methylene Chloride	6.772	49	1054101	69.85	ug/L	97
18) Acetone	6.888	43	817087	322.34	ug/L	97
19) Methyl acetate	7.137	43	2154714	344.99	ug/L	99
20) trans-1,2-Dichloroethene	7.089	61	1114858	70.87	ug/L	98
21) Hexane	7.247	56	656797	67.22	ug/L	96
22) Methyl Tert Butyl Ether	7.320	73	1840436	74.29	ug/L	99
23) Acetonitrile	7.794	41	746847	676.87	ug/L	98
24) Di-isopropyl ether	8.086	45	2698984	75.07	ug/L	99
25) Chloroprene	8.263	53	1174331	75.01	ug/L	99
26) 1,1-Dichloroethane	8.311	63	1348636	70.19	ug/L	98
27) Acrylonitrile	8.421	53	1079862	354.75	ug/L	98
28) ETBE	8.828	59	2148946	76.94	ug/L	99
29) Vinyl acetate	8.853	43	7144466	350.04	ug/L	100
30) cis-1,2-Dichloroethene	9.425	96	1001323	70.63	ug/L	99
31) 2,2-Dichloropropane	9.638	77	1131535	77.01	ug/L	99
32) Bromochloromethane	9.838	128	522926	68.87	ug/L	98
33) Cyclohexane	9.820	56	1543765	69.66	ug/L	98
34) Chloroform	10.003	83	1423108	70.38	ug/L	99
35) Ethyl acetate	10.252	43	2902342	364.38	ug/L	99
36) Tetrahydrofuran	10.246	42	170824	72.66	ug/L	100
38) Carbon Tetrachloride	10.228	117	1317419	72.32	ug/L	100
39) 1,1,1-Trichloroethane	10.349	97	1438612	70.82	ug/L	99
40) 2-Butanone	10.544	43	1291111	357.41	ug/L	98
41) 1,1-Dichloropropene	10.562	75	1194736	71.78	ug/L	98
42) tert-Butyl formate	10.751	59	1359516	364.14	ug/L	96
43) Propionitrile	10.988	54	807934	683.38	ug/L	90
44) Methacrylonitrile	11.019	41	3735935	682.96	ug/L	98
45) Benzene	10.939	78	3561291	70.84	ug/L	98
46) TAME	11.122	73	1799507	77.42	ug/L	97
48) 1,2-Dichloroethane	11.238	62	988449	68.77	ug/L	99
49) Trichloroethene	11.736	95	992026	66.74	ug/L	99
50) Methylcyclohexane	11.712	83	1514334	68.74	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54342.D
Acq On : 26 Nov 2020 11:02 am
Operator : chelseav
Sample : IC2256-6 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 27 08:14:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

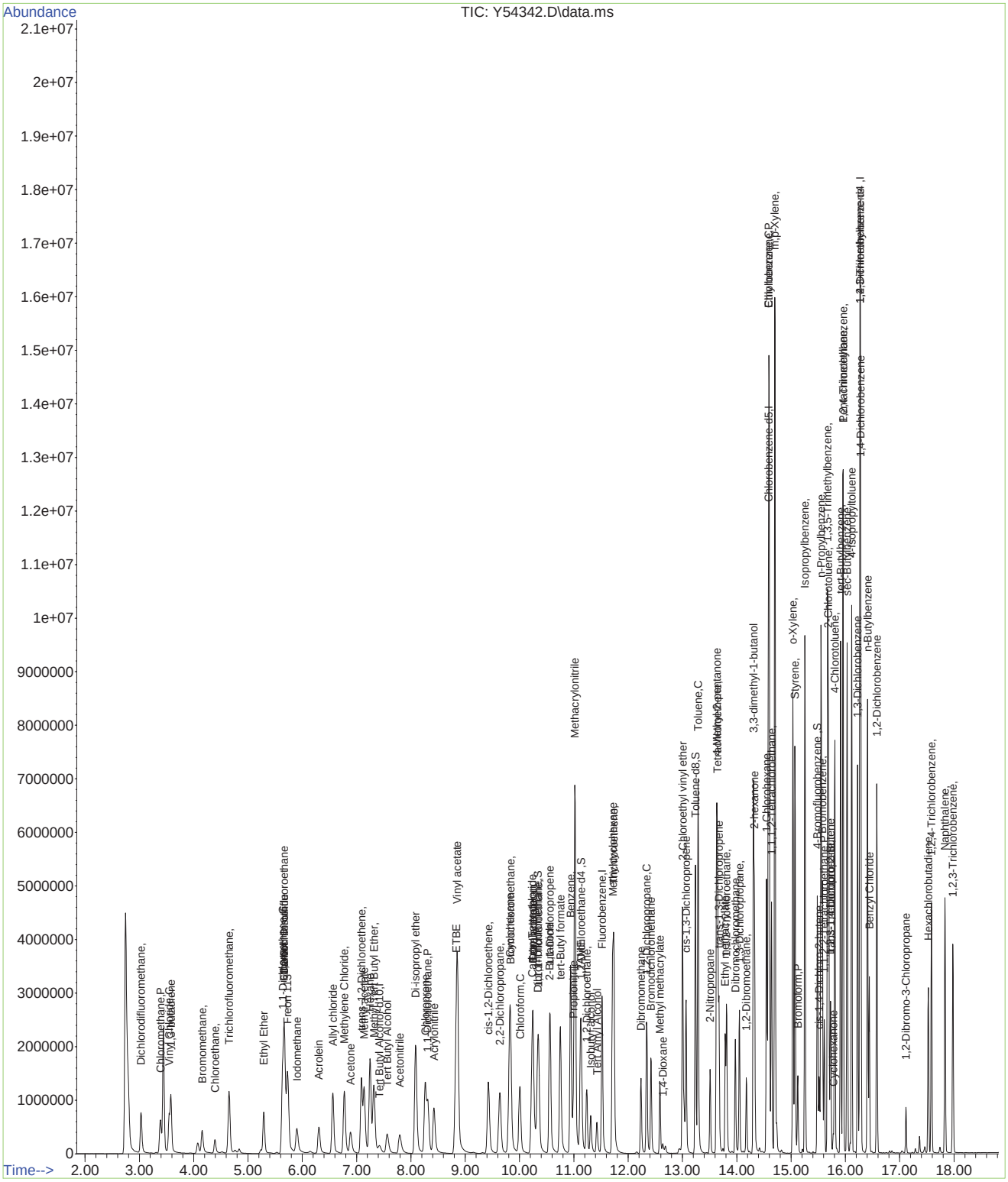
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.235	93	453602	69.58	ug/L		98
52) 1,2-Dichloropropane	12.339	63	829988	72.43	ug/L		98
53) Bromodichloromethane	12.418	83	1015865	75.41	ug/L		99
54) Methyl methacrylate	12.582	41	566842	69.47	ug/L		98
55) 2-Chloroethyl vinyl ether	13.002	63	1546151	343.10	ug/L		100
56) cis-1,3-Dichloropropene	13.069	75	1308561	77.67	ug/L		99
59) Toluene	13.288	91	4337588	71.77	ug/L		99
60) 2-Nitropropane	13.507	41	753363	348.89	ug/L		95
61) 4-Methyl-2-pentanone	13.628	43	2926914	355.51	ug/L		99
62) trans-1,3-Dichloropropene	13.671	75	1025613	79.83	ug/L		98
63) Tetrachloroethene	13.647	166	1218148	69.09	ug/L		98
64) Ethyl methacrylate	13.787	69	817627	70.21	ug/L		97
65) 1,1,2-Trichloroethane	13.811	83	547174	69.75	ug/L		99
66) Dibromochloromethane	13.975	129	999552	78.99	ug/L		100
67) 1,3-Dichloropropane	14.048	76	1197311	72.68	ug/L		98
68) 1,2-Dibromoethane	14.176	107	799316	74.04	ug/L		99
69) 2-hexanone	14.328	43	2056794m	350.53	ug/L		
70) 1-Chlorohexane	14.547	91	1378925	75.36	ug/L		97
71) Ethylbenzene	14.596	91	4621754	70.56	ug/L		99
72) Chlorobenzene	14.590	112	2965867	70.53	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.638	131	1101339	75.65	ug/L		100
74) m,p-Xylene	14.699	91	7455863	146.14	ug/L		98
75) o-Xylene	15.034	91	3787849	74.64	ug/L		100
76) Styrene	15.070	104	3131801	71.74	ug/L		99
77) Bromoform	15.125	173	530657	70.57	ug/L		99
78) Isopropylbenzene	15.253	105	5266586	74.44	ug/L		97
81) cis-1,4-Dichloro-2-butene	15.514	53	218344	68.94	ug/L		93
82) n-Propylbenzene	15.551	91	5649715	72.54	ug/L		99
83) Bromobenzene	15.575	156	1255243	69.15	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.612	83	802408	69.68	ug/L		99
85) 1,3,5-Trimethylbenzene	15.672	105	4080255	73.50	ug/L		99
86) 2-Chlorotoluene	15.691	91	3442979	70.11	ug/L		100
87) trans-1,4-Dichloro-2-B...	15.733	53	199326	71.95	ug/L	#	86
88) 1,2,3-Trichloropropane	15.721	110	300412	67.79	ug/L		99
89) Cyclohexanone	15.776	55	102171	345.50	ug/L		97
90) 4-Chlorotoluene	15.806	91	3313892	73.06	ug/L		100
91) tert-Butylbenzene	15.910	91	2069422	72.12	ug/L		99
92) 1,2,4-Trimethylbenzene	15.952	105	4085407	73.71	ug/L		95
93) Pentachloroethane	15.958	167	686816	74.92	ug/L		96
94) sec-Butylbenzene	16.031	105	5035040	73.12	ug/L		100
95) 4-Isopropyltoluene	16.116	119	4740733	74.77	ug/L		100
96) 1,3-Dichlorobenzene	16.226	146	2467754	71.25	ug/L		99
97) 1,2,3-Trimethylbenzene	16.269	105	4507349	72.79	ug/L		100
98) 1,4-Dichlorobenzene	16.287	146	2405974	69.50	ug/L		99
99) n-Butylbenzene	16.408	92	1921149	77.85	ug/L		99
100) Benzyl Chloride	16.439	126	428913	70.93	ug/L		99
101) 1,2-Dichlorobenzene	16.579	146	2282706	71.85	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.114	75	130357	74.12	ug/L		91
103) Hexachlorobutadiene	17.528	225	425347	73.28	ug/L		97
104) 1,2,4-Trichlorobenzene	17.583	180	1228770	75.71	ug/L		98
105) Naphthalene	17.832	128	3332797	70.26	ug/L		99
106) 1,2,3-Trichlorobenzene	17.978	180	1054577	70.85	ug/L		99
108) Ethanol	5.653	45	147243	1306.92	ug/L		78
109) Tert Butyl Alcohol	7.563	59	697266	725.28	ug/L		95
110) Isobutyl alcohol	11.311	42	269915	1403.36	ug/L		94
111) Tert Amyl Alcohol	11.426	59	350884	741.91	ug/L		94
112) 1,4-Dioxane	12.637	88	137474	1519.55	ug/L		94
113) 3,3-dimethyl-1-butanol	14.304	57	2428450m	3100.00	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54342.D
Acq On : 26 Nov 2020 11:02 am
Operator : chelseav
Sample : IC2256-6 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 27 08:14:59 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration



RESTEK112620w.M Fri Nov 27 08:50:01 2020 Page: 3

Manual Integration Approval Summary

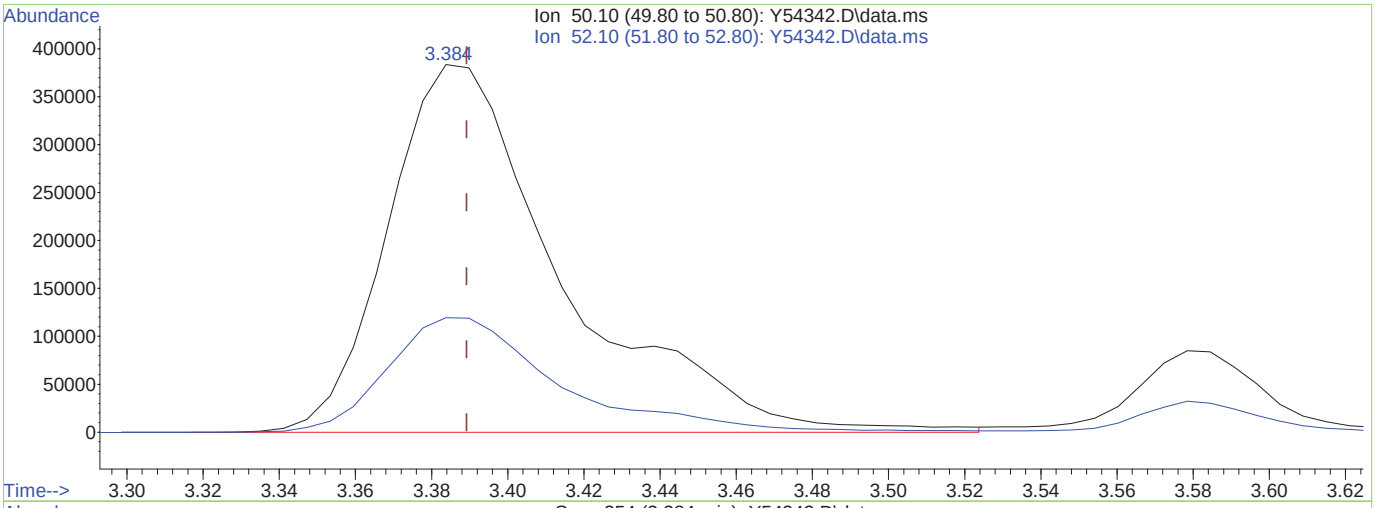
Sample Number: VY2256-IC2256
Lab FileID: Y54342.D
Injection Time: 11/26/20 11:02
Method: SW846 8260B
Analyst approved: 11/27/20 08:54 Shanica O'Connor
Supervisor approved: 11/28/20 09:26 Melissa Mangual

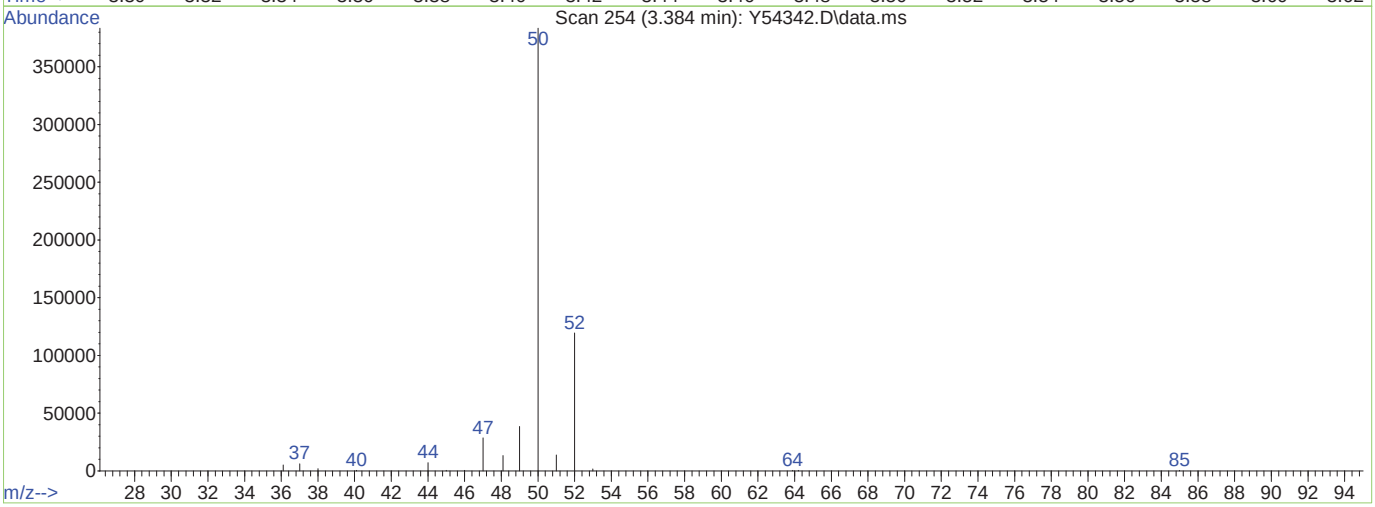
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.38	Overlapping peak
3,3-Dimethyl-1-Butanol	624-95-3		14.30	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54342.D
Acq On : 26 Nov 2020 11:02 am
Operator : chelseav
Sample : IC2256-6 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 27 07:59:42 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54342.D\data.ms

(4) Chloromethane (P)

3.384min (-0.005) 85.60ug/L

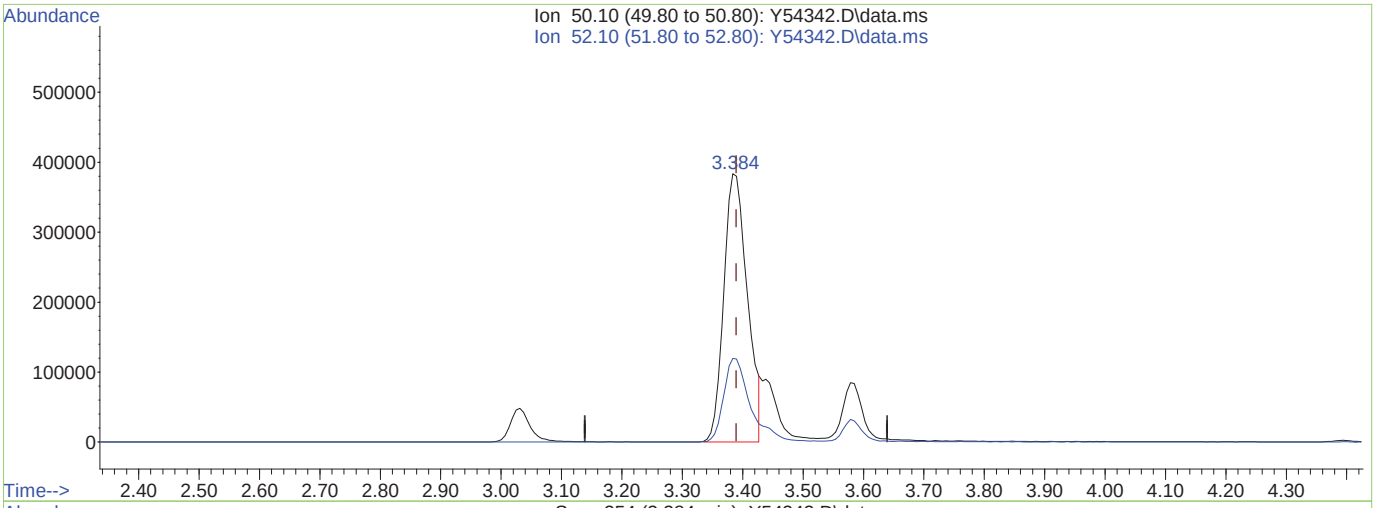
response 1222323

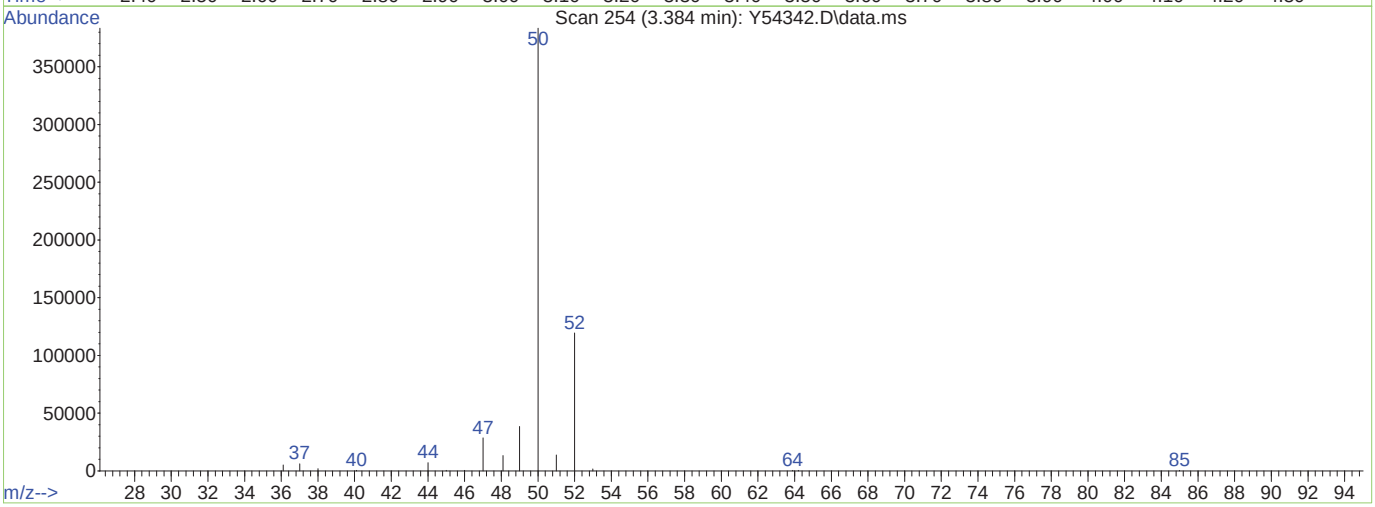
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.14
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54342.D
Acq On : 26 Nov 2020 11:02 am
Operator : chelseav
Sample : IC2256-6 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 27 07:59:42 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54342.D\data.ms

(4) Chloromethane (P)

3.384min (-0.005) 72.90ug/L m

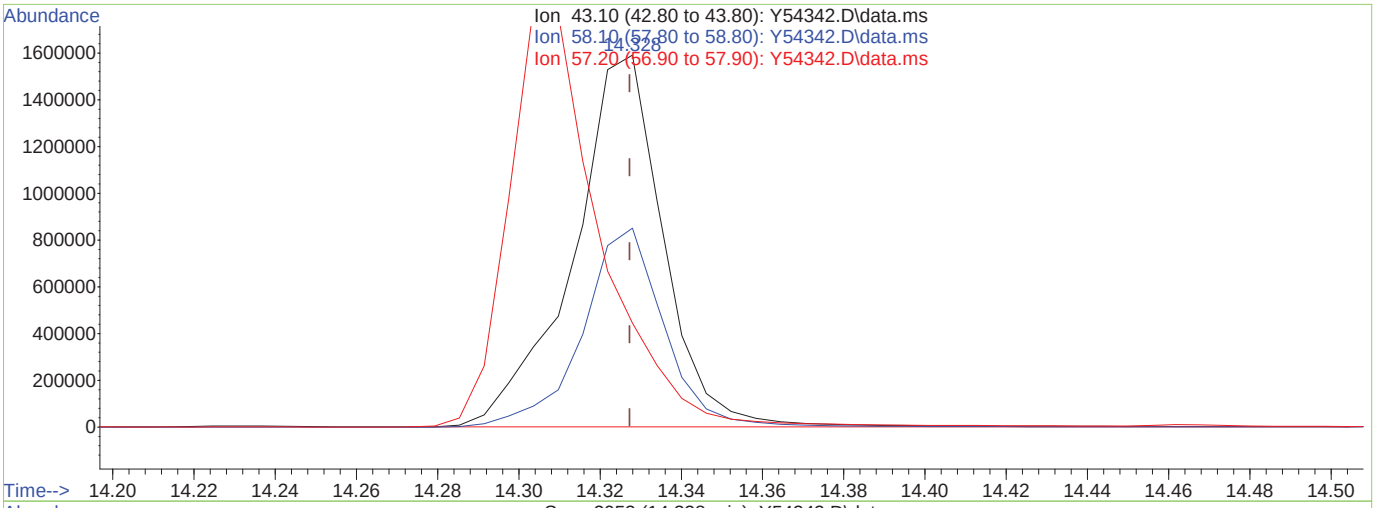
response 1040972

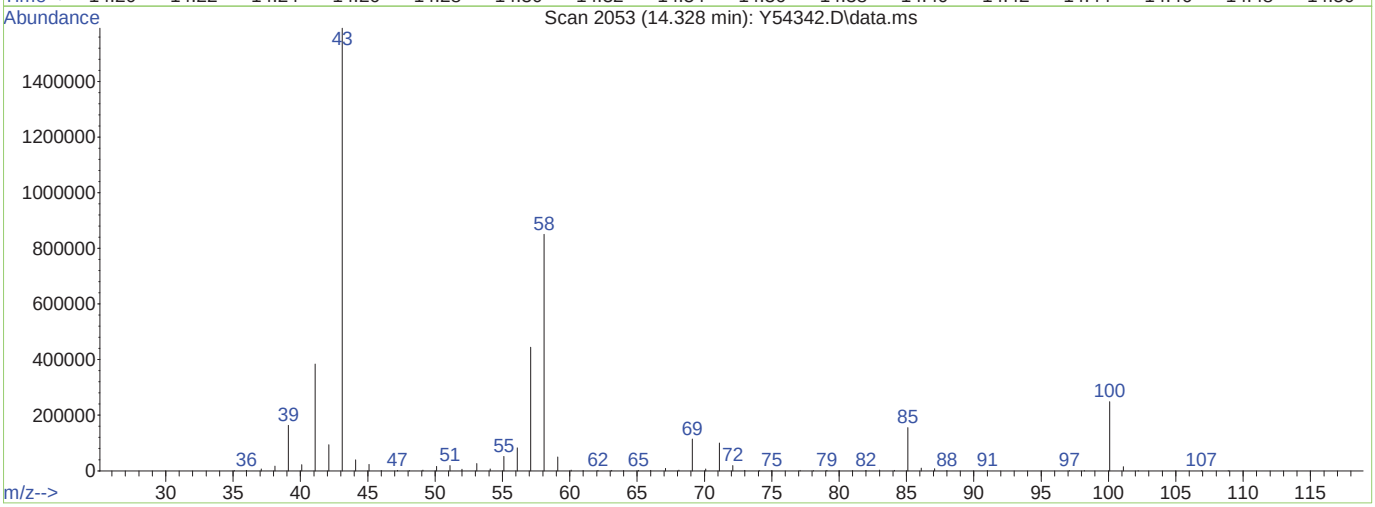
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.14
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54342.D
Acq On : 26 Nov 2020 11:02 am
Operator : chelseav
Sample : IC2256-6 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 27 07:59:42 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54342.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 420.66ug/L

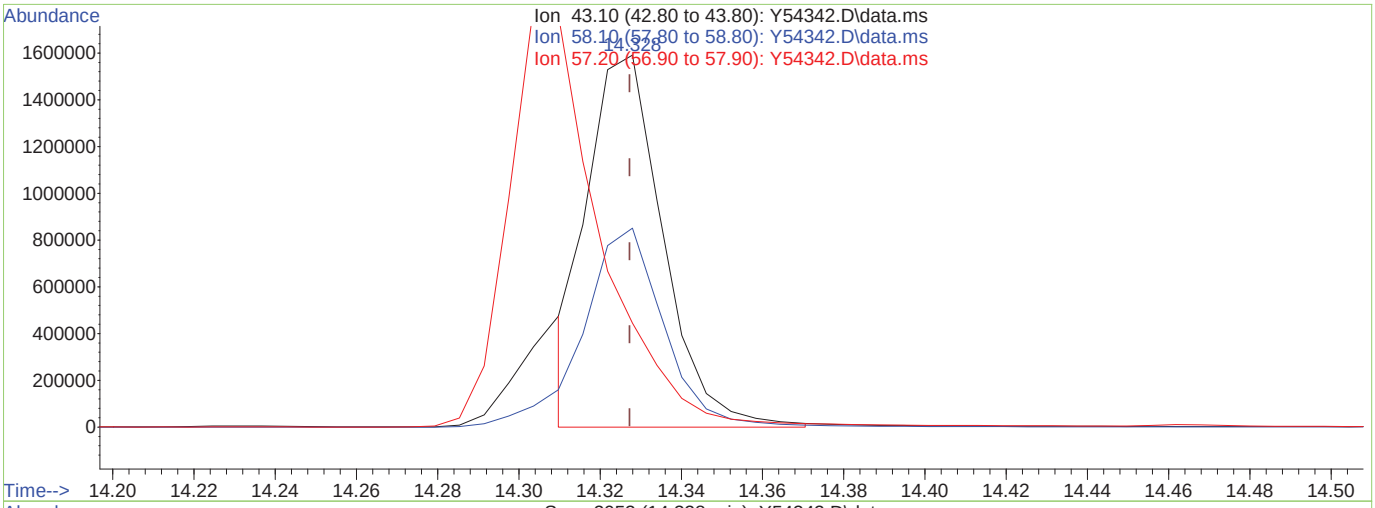
response 2468300

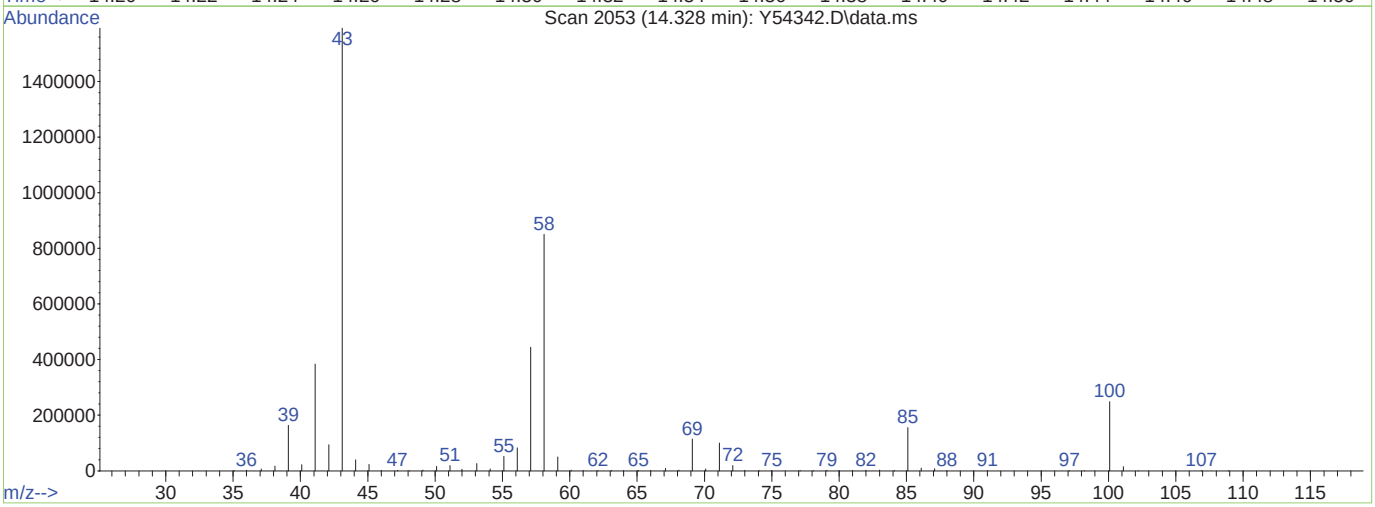
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	53.46
57.20	29.70	27.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54342.D
Acq On : 26 Nov 2020 11:02 am
Operator : chelseav
Sample : IC2256-6 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 27 07:59:42 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54342.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 350.53ug/L m

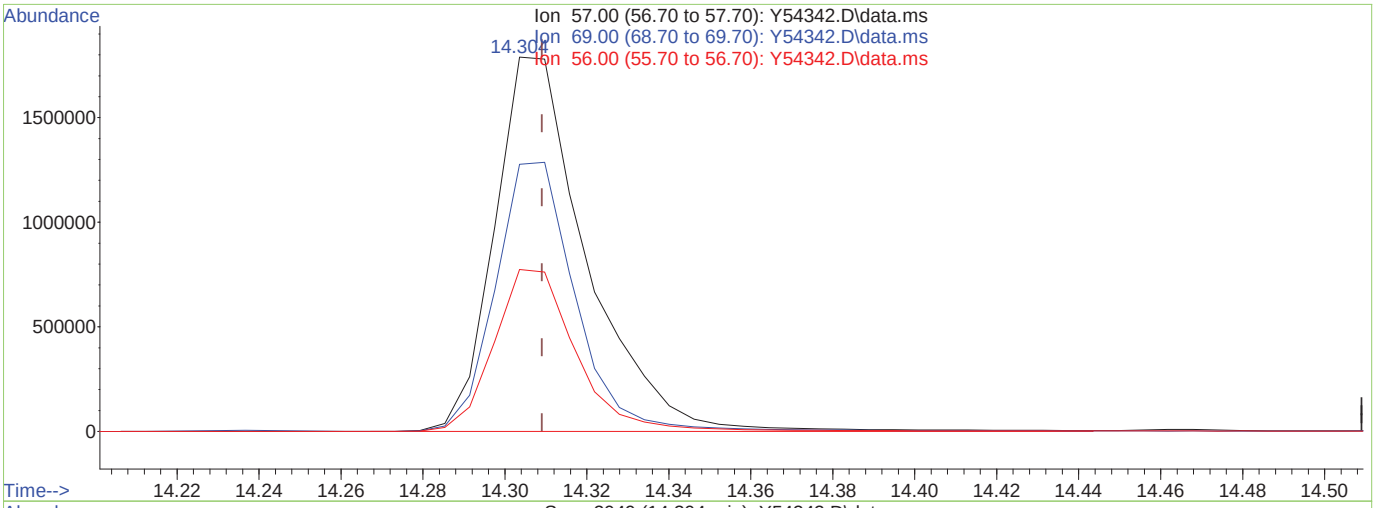
response 2056794

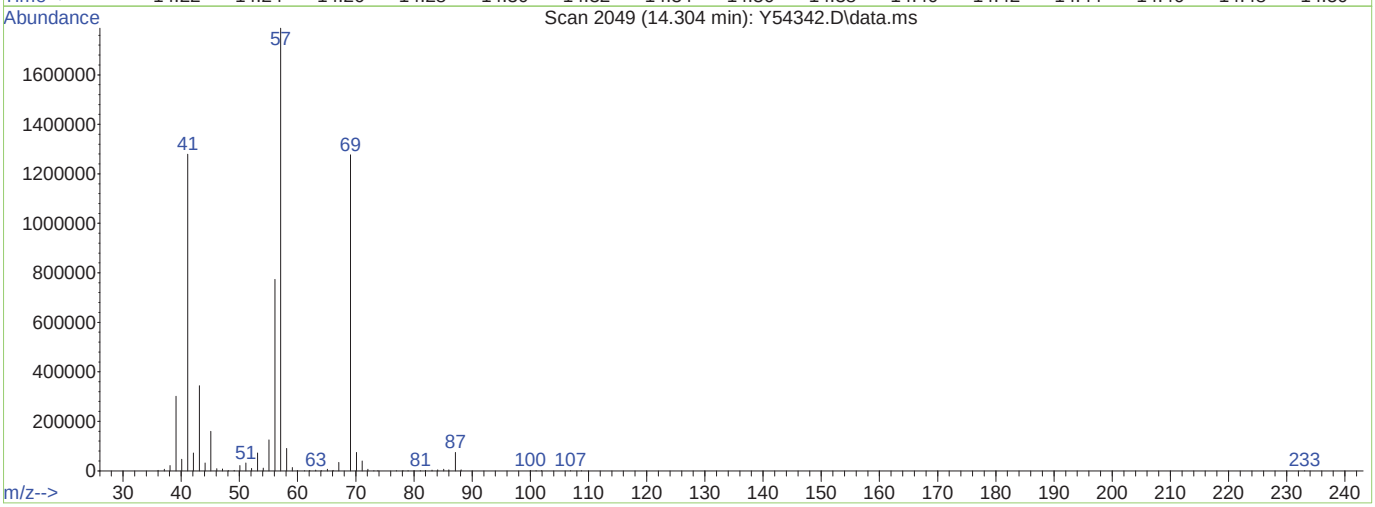
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	53.43
57.20	29.70	27.94
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54342.D
Acq On : 26 Nov 2020 11:02 am
Operator : chelseav
Sample : IC2256-6 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 27 07:59:42 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54342.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.304min (-0.005) 3600.37ug/L

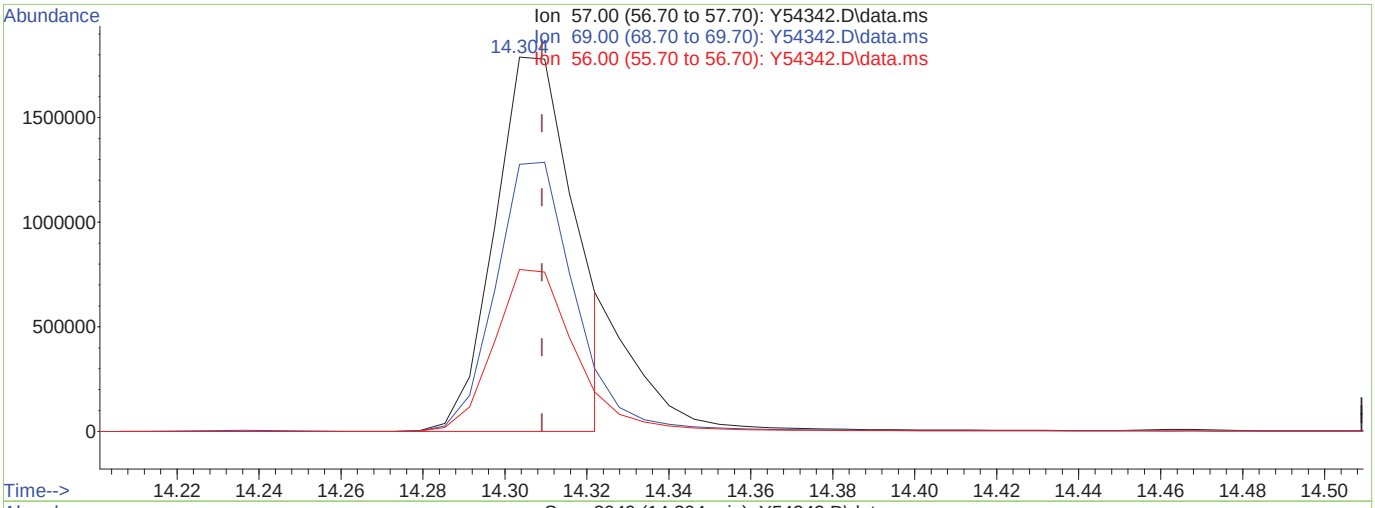
response 2820433

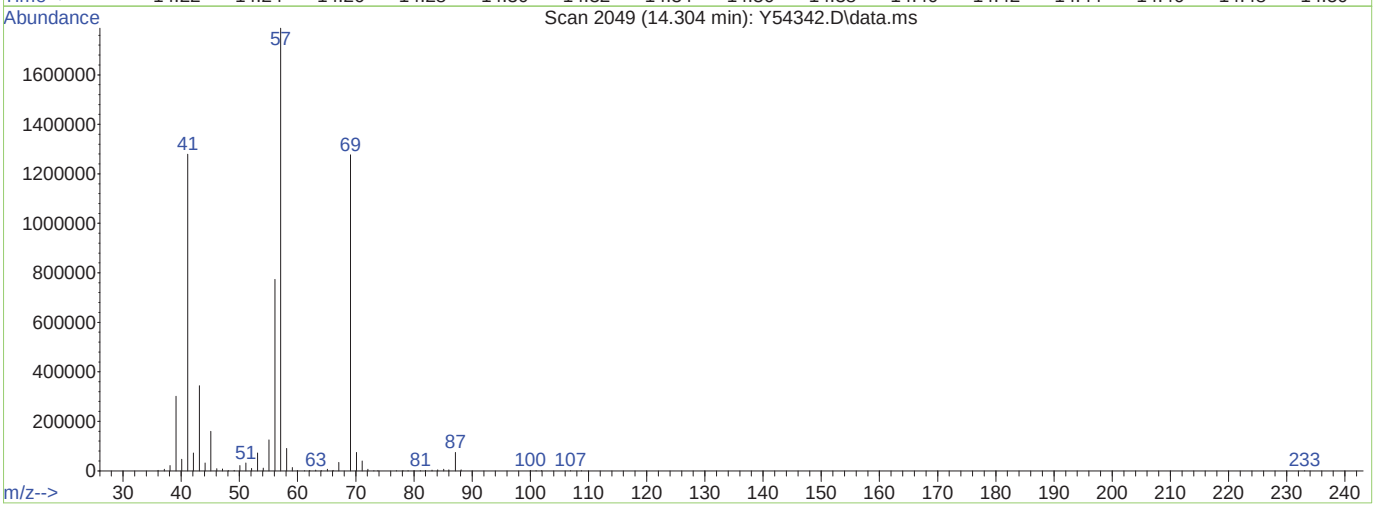
Ion	Exp%	Act%
57.00	100	100
69.00	72.60	71.38
56.00	43.30	43.25
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54342.D
Acq On : 26 Nov 2020 11:02 am
Operator : chelseav
Sample : IC2256-6 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 27 07:59:42 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54342.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.304min (-0.005) 3100.00ug/L m

response 2428450

Ion	Exp%	Act%
57.00	100	100
69.00	72.60	71.41
56.00	43.30	43.26
0.00	0.00	0.00

Y54343.D

Manual Integrations APPROVED (compounds with "m" flag)

Melissa Mangual 11/28/20 09:26

7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54343.D
Acq On : 26 Nov 2020 11:29 am
Operator : chelseav
Sample : IC2256-7 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 27 08:16:13 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.522	96	2910217	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	2699400	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1483063	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.428	65	198581	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	757364	49.87	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.74%			
47) 1,2-Dichloroethane-d4	11.145	65	620099	47.49	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 94.98%			
58) Toluene-d8	13.238	98	3133221	52.56	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 105.12%			
80) 4-Bromofluorobenzene	15.489	174	1150807	52.10	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 104.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.030	85	1466175	101.07	ug/L	99
3) Acrolein	6.303	56	931324	460.21	ug/L	99
4) Chloromethane	3.383	50	1517352m	104.05	ug/L	
5) 1,3-butadiene	3.577	39	786170	82.96	ug/L	99
6) Vinyl Chloride	3.547	62	1410327	104.14	ug/L	99
7) Bromomethane	4.155	94	667030	114.15	ug/L	98
8) Chloroethane	4.393	64	416787	115.29	ug/L	97
9) Trichlorofluoromethane	4.642	101	1956696	97.18	ug/L	98
10) Ethyl Ether	5.293	59	911902	102.32	ug/L	97
11) 1,2-Dichlorotrifluoroe...	5.670	67	1174002	96.83	ug/L	97
12) 1,1-Dichloroethene	5.634	61	1711278	99.91	ug/L	98
13) Freon 113	5.725	101	1310564	94.03	ug/L	99
14) Carbon Disulfide	5.664	76	3170767	100.32	ug/L	99
15) Iodomethane	5.901	142	1640880	106.90	ug/L	99
16) Allyl chloride	6.558	41	1741016	106.90	ug/L	99
17) Methylene Chloride	6.771	49	1525753	104.16	ug/L	97
18) Acetone	6.887	43	1116641	431.35	ug/L	98
19) Methyl acetate	7.142	43	3029332	474.93	ug/L	99
20) trans-1,2-Dichloroethene	7.088	61	1644690	102.37	ug/L	98
21) Hexane	7.246	56	943998	94.60	ug/L	98
22) Methyl Tert Butyl Ether	7.319	73	2696990	106.60	ug/L	99
23) Acetonitrile	7.799	41	1041816	924.55	ug/L	99
24) Di-isopropyl ether	8.085	45	3993196	108.75	ug/L	98
25) Chloroprene	8.262	53	1734175	108.46	ug/L	98
26) 1,1-Dichloroethane	8.310	63	1971091	100.45	ug/L	99
27) Acrylonitrile	8.426	53	1543083	496.37	ug/L	100
28) ETBE	8.827	59	3215220	112.73	ug/L	99
29) Vinyl acetate	8.858	43	10464827	484.48	ug/L	99
30) cis-1,2-Dichloroethene	9.424	96	1474864	101.87	ug/L	99
31) 2,2-Dichloropropane	9.637	77	1695454	112.99	ug/L	99
32) Bromochloromethane	9.831	128	756003	97.49	ug/L	98
33) Cyclohexane	9.819	56	2313291	102.21	ug/L	98
34) Chloroform	10.002	83	2110207	102.20	ug/L	98
35) Ethyl acetate	10.251	43	4151002	510.31	ug/L	100
36) Tetrahydrofuran	10.251	42	237234	98.81	ug/L	99
38) Carbon Tetrachloride	10.227	117	1964077	105.57	ug/L	99
39) 1,1,1-Trichloroethane	10.348	97	2107502	101.59	ug/L	99
40) 2-Butanone	10.549	43	1794223	486.35	ug/L	99
41) 1,1-Dichloropropene	10.561	75	1742609	102.52	ug/L	99
42) tert-Butyl formate	10.750	59	2359389	507.26	ug/L	96
43) Propionitrile	10.993	54	1122102	929.37	ug/L	99
44) Methacrylonitrile	11.024	41	5190668	929.16	ug/L	98
45) Benzene	10.938	78	5269277	102.63	ug/L	99
46) TAME	11.121	73	2670879	112.52	ug/L	97
48) 1,2-Dichloroethane	11.237	62	1429212	97.37	ug/L	99
49) Trichloroethene	11.735	95	1457241	96.00	ug/L	98
50) Methylcyclohexane	11.711	83	2258570	100.39	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54343.D
Acq On : 26 Nov 2020 11:29 am
Operator : chelseav
Sample : IC2256-7 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 27 08:16:13 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration

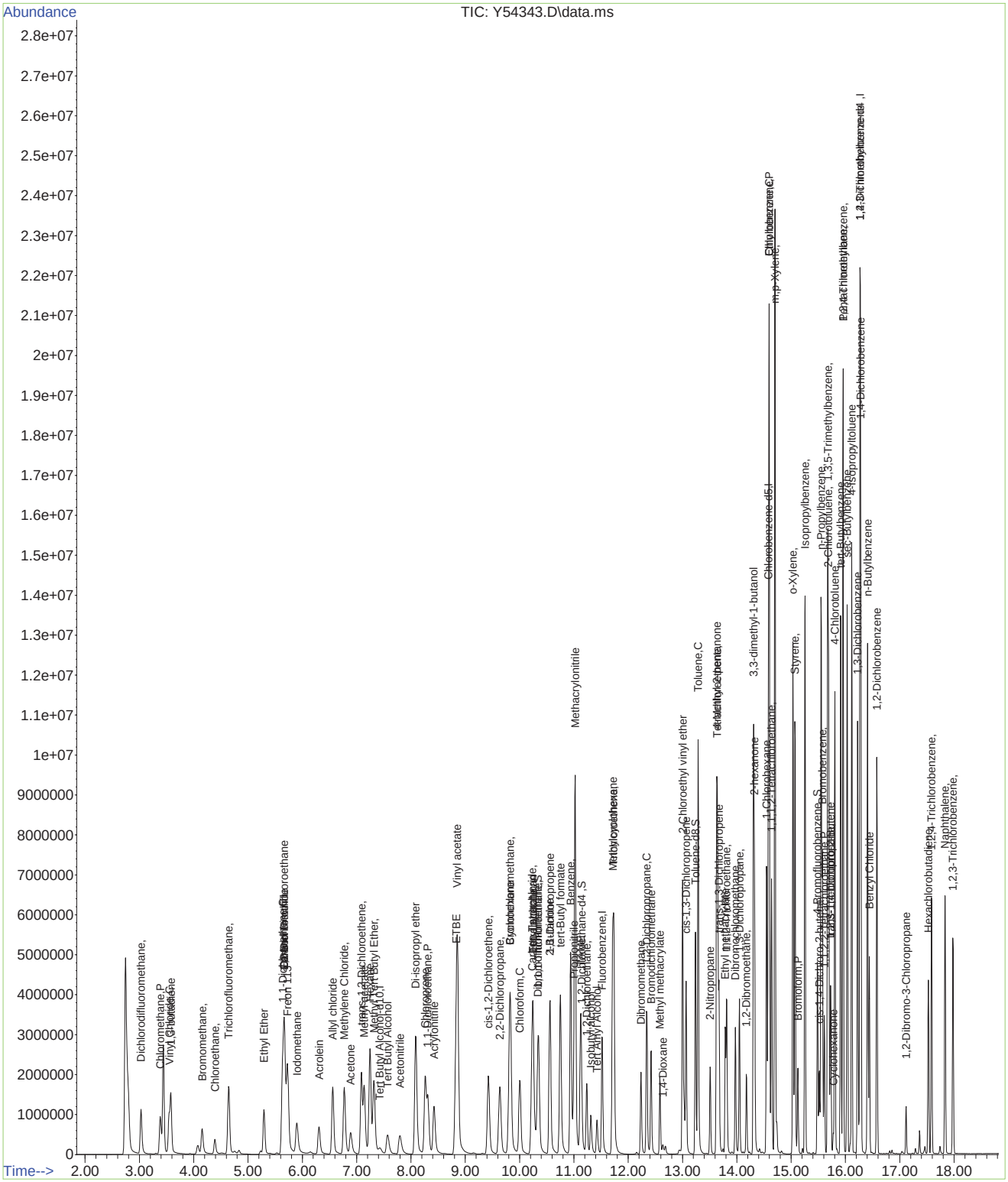
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.234	93	662107	99.45	ug/L		97
52) 1,2-Dichloropropane	12.338	63	1224691	104.66	ug/L		99
53) Bromodichloromethane	12.417	83	1524747	110.84	ug/L		100
54) Methyl methacrylate	12.581	41	812394	91.82	ug/L		98
55) 2-Chloroethyl vinyl ether	13.001	63	2312409	471.60	ug/L		99
56) cis-1,3-Dichloropropene	13.068	75	1943250	112.94	ug/L		99
59) Toluene	13.287	91	6396080	104.51	ug/L		100
60) 2-Nitropropane	13.506	41	1085334	469.65	ug/L		96
61) 4-Methyl-2-pentanone	13.627	43	4078929	489.27	ug/L		99
62) trans-1,3-Dichloropropene	13.670	75	1545556	118.80	ug/L		98
63) Tetrachloroethene	13.646	166	1785665	100.02	ug/L		99
64) Ethyl methacrylate	13.786	69	1200362	95.37	ug/L		97
65) 1,1,2-Trichloroethane	13.810	83	788502	99.26	ug/L		99
66) Dibromochloromethane	13.974	129	1461856	114.08	ug/L		100
67) 1,3-Dichloropropane	14.047	76	1736934	104.12	ug/L		98
68) 1,2-Dibromoethane	14.175	107	1153419	105.51	ug/L		99
69) 2-hexanone	14.327	43	2962846m	498.66	ug/L		
70) 1-Chlorohexane	14.552	91	2037031	109.94	ug/L		92
71) Ethylbenzene	14.595	91	6784938	102.29	ug/L		98
72) Chlorobenzene	14.595	112	4317734	101.40	ug/L		100
73) 1,1,1,2-Tetrachloroethane	14.637	131	1623458	110.12	ug/L		99
74) m,p-Xylene	14.704	91	10847969	209.98	ug/L		98
75) o-Xylene	15.033	91	5632776	109.61	ug/L		99
76) Styrene	15.069	104	4667451	101.73	ug/L		98
77) Bromoform	15.124	173	782966	96.46	ug/L		99
78) Isopropylbenzene	15.258	105	7813105	109.06	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.519	53	333833	95.10	ug/L		93
82) n-Propylbenzene	15.550	91	8421902	107.53	ug/L		99
83) Bromobenzene	15.574	156	1846342	101.14	ug/L		100
84) 1,1,2,2-Tetrachloroethane	15.611	83	1147359	99.07	ug/L		98
85) 1,3,5-Trimethylbenzene	15.671	105	6085020	109.00	ug/L		100
86) 2-Chlorotoluene	15.690	91	5114568	103.57	ug/L		98
87) trans-1,4-Dichloro-2-B...	15.732	53	292018	97.01	ug/L		92
88) 1,2,3-Trichloropropane	15.726	110	426439	95.69	ug/L		98
89) Cyclohexanone	15.775	55	146926	472.94	ug/L		99
90) 4-Chlorotoluene	15.805	91	4935100	108.20	ug/L		98
91) tert-Butylbenzene	15.909	91	3077089	106.63	ug/L		97
92) 1,2,4-Trimethylbenzene	15.957	105	6060345	108.72	ug/L		98
93) Pentachloroethane	15.957	167	1003740	108.88	ug/L		98
94) sec-Butylbenzene	16.030	105	7540309	108.89	ug/L		99
95) 4-Isopropyltoluene	16.115	119	7060731	110.73	ug/L		99
96) 1,3-Dichlorobenzene	16.225	146	3657043	105.00	ug/L		99
97) 1,2,3-Trimethylbenzene	16.268	105	6631851	106.50	ug/L		98
98) 1,4-Dichlorobenzene	16.286	146	3557385	102.18	ug/L		99
99) n-Butylbenzene	16.407	92	2687926	108.32	ug/L		100
100) Benzyl Chloride	16.438	126	644018	95.84	ug/L		98
101) 1,2-Dichlorobenzene	16.578	146	3343313	104.65	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.119	75	186793	105.61	ug/L	#	77
103) Hexachlorobutadiene	17.527	225	603244	103.32	ug/L		99
104) 1,2,4-Trichlorobenzene	17.588	180	1767370	108.29	ug/L		99
105) Naphthalene	17.837	128	4755461	94.05	ug/L		98
106) 1,2,3-Trichlorobenzene	17.983	180	1489798	99.53	ug/L		98
108) Ethanol	5.664	45	201329	1774.90	ug/L		82
109) Tert Butyl Alcohol	7.568	59	956500	1027.14	ug/L		96
110) Isobutyl alcohol	11.310	42	394144	1968.75	ug/L		96
111) Tert Amyl Alcohol	11.425	59	518541	1089.00	ug/L		91
112) 1,4-Dioxane	12.636	88	194454	2134.84	ug/L		98
113) 3,3-dimethyl-1-butanol	14.309	57	3534275m	4481.13	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54343.D
Acq On : 26 Nov 2020 11:29 am
Operator : chelseav
Sample : IC2256-7 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 27 08:16:13 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration



Manual Integration Approval Summary

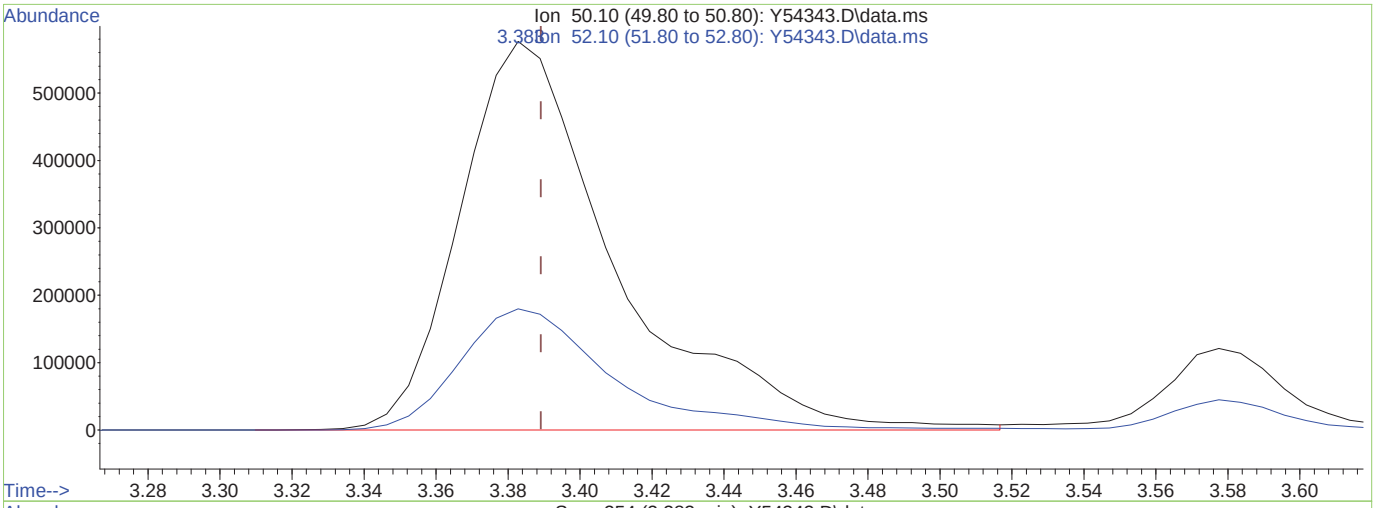
Sample Number: VY2256-IC2256
Lab FileID: Y54343.D
Injection Time: 11/26/20 11:29
Method: SW846 8260B
Analyst approved: 11/27/20 08:54 Shanica O'Connor
Supervisor approved: 11/28/20 09:26 Melissa Mangual

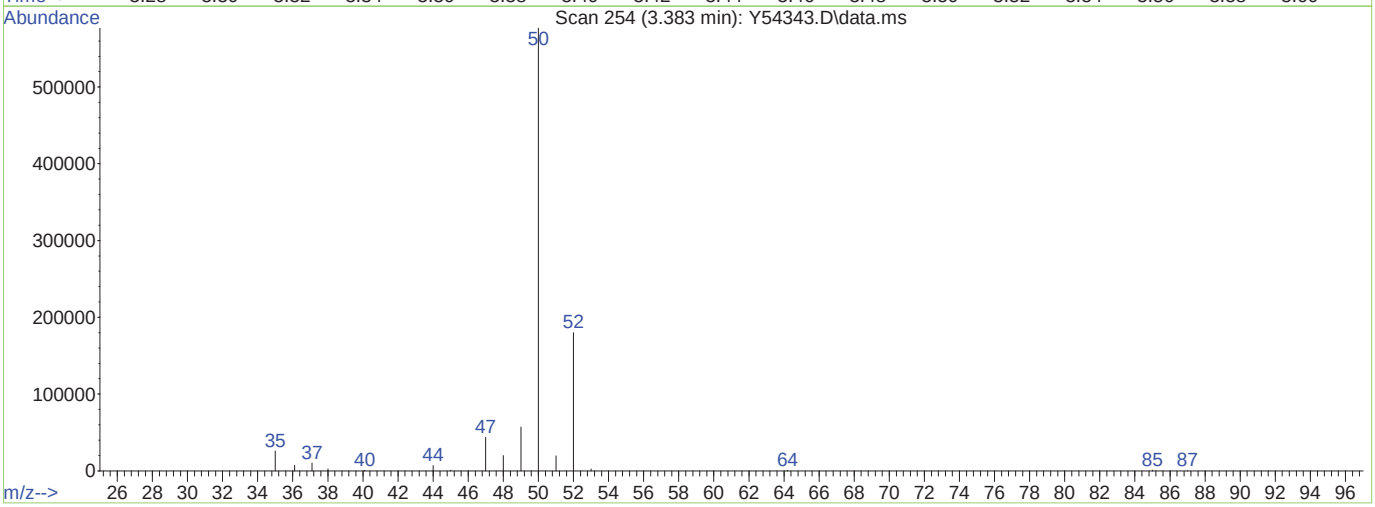
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.38	Overlapping peak
3,3-Dimethyl-1-Butanol	624-95-3		14.31	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54343.D
Acq On : 26 Nov 2020 11:29 am
Operator : chelseav
Sample : IC2256-7 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 27 07:59:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54343.D\data.ms

(4) Chloromethane (P)

3.383min (-0.006) 119.38ug/L

response 1740946

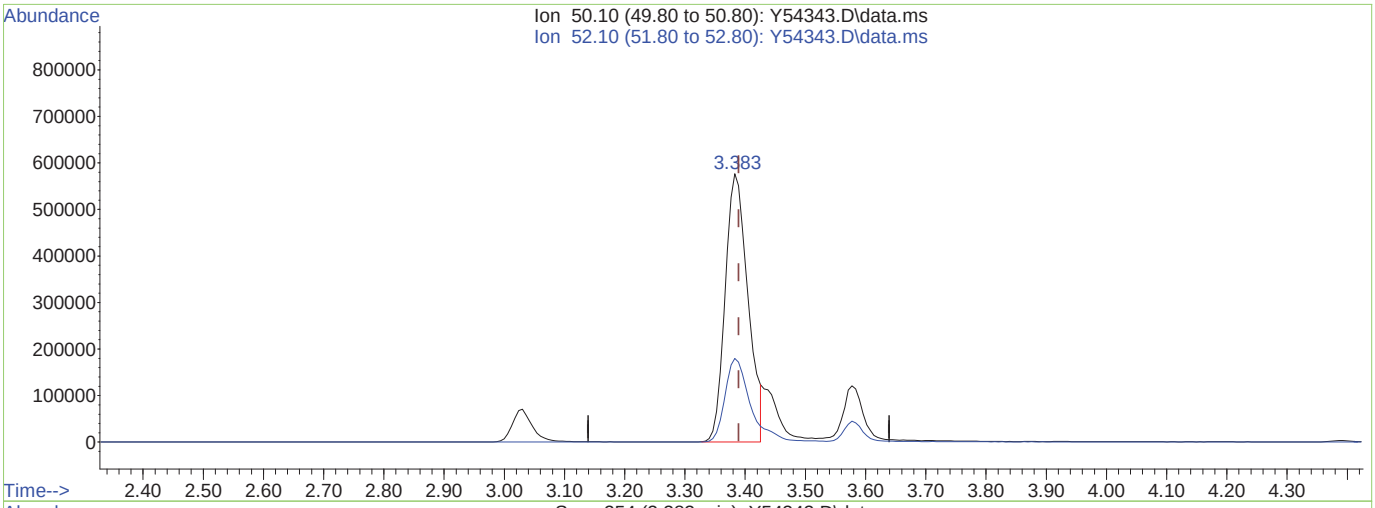
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.19
0.00	0.00	0.00
0.00	0.00	0.00

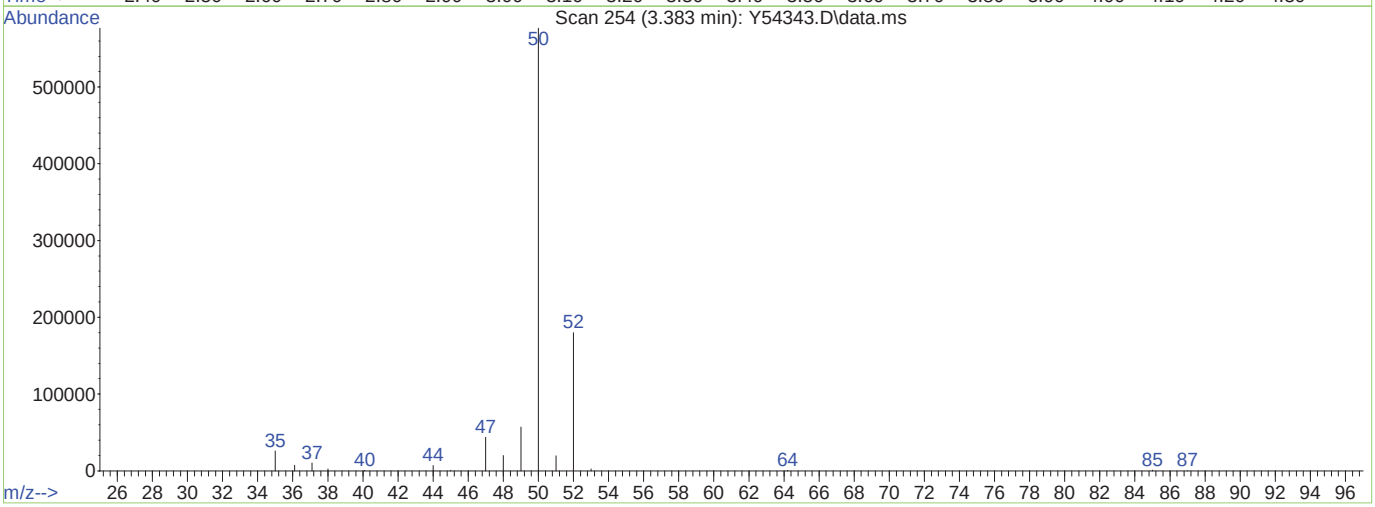
Y54343.D edits: Chloromethane

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54343.D
Acq On : 26 Nov 2020 11:29 am
Operator : chelseav
Sample : IC2256-7 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 27 07:59:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54343.D\data.ms

(4) Chloromethane (P)

3.383min (-0.006) 104.05ug/L m

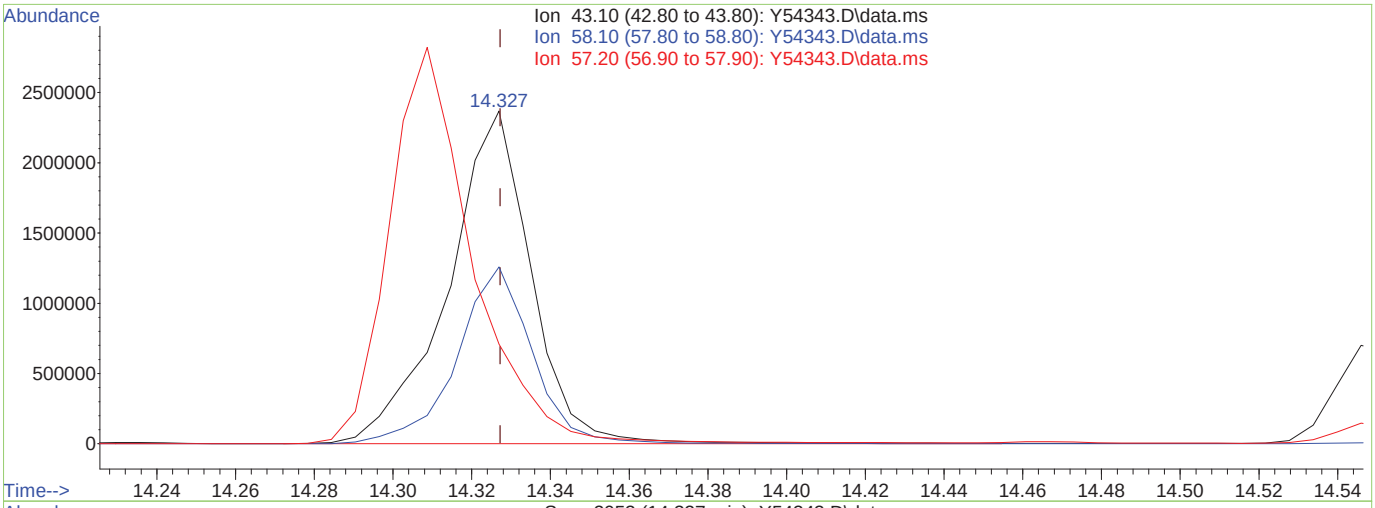
response 1517352

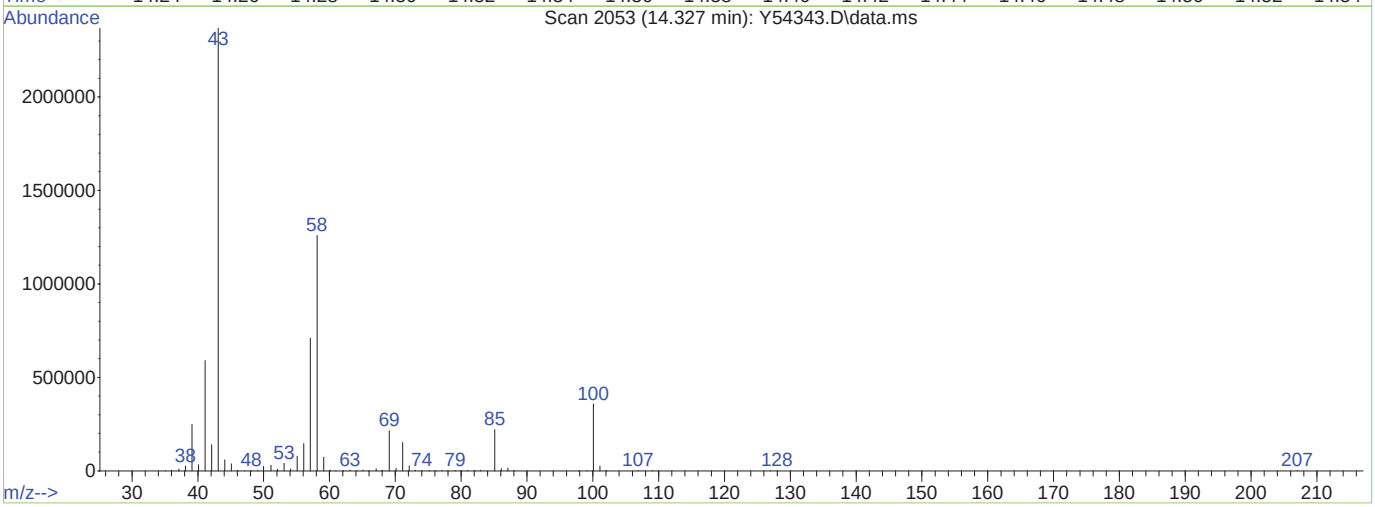
Ion	Exp%	Act%
50.10	100	100
52.10	32.30	31.19
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54343.D
Acq On : 26 Nov 2020 11:29 am
Operator : chelseav
Sample : IC2256-7 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 27 07:59:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54343.D\data.ms

(69) 2-hexanone

14.327min (-0.000) 584.93ug/L

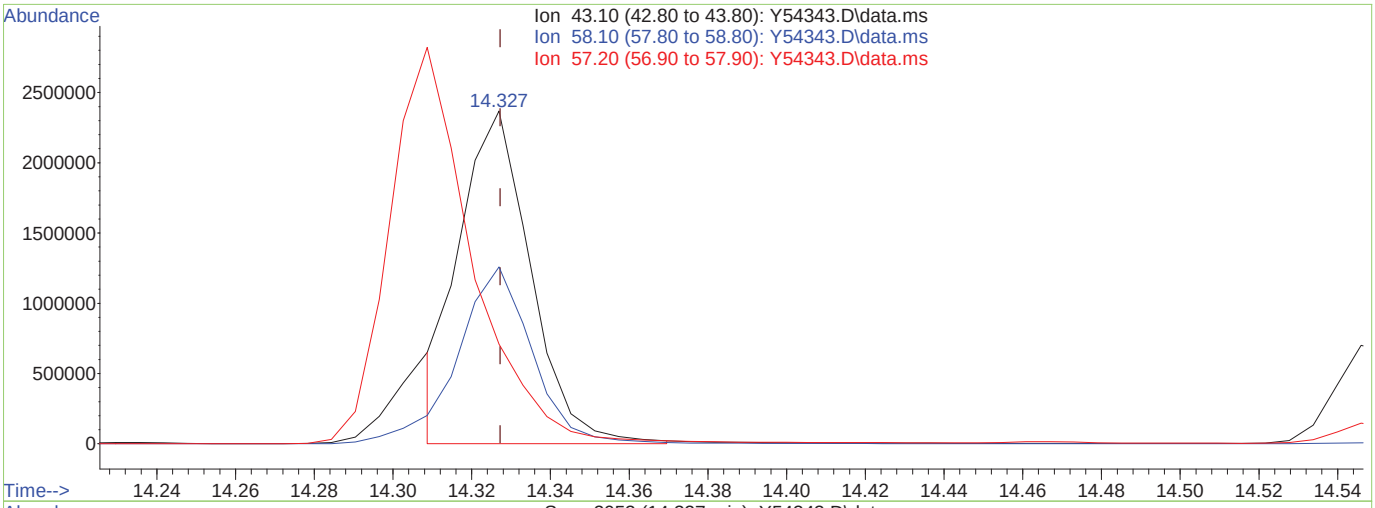
response 3475426

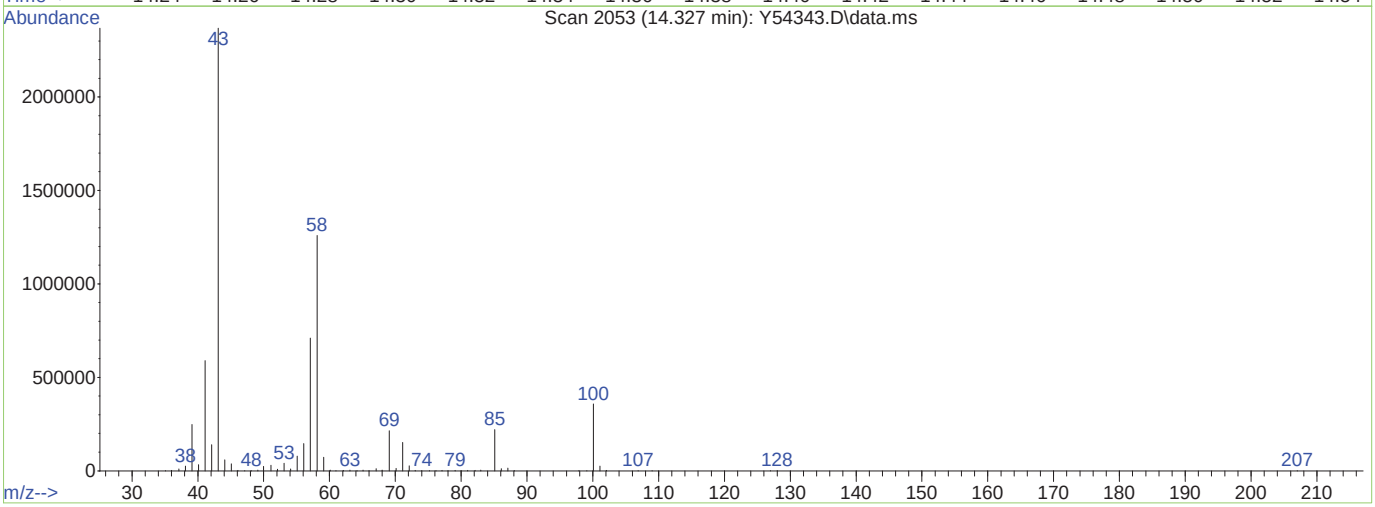
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	53.18
57.20	29.70	29.94
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54343.D
Acq On : 26 Nov 2020 11:29 am
Operator : chelseav
Sample : IC2256-7 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 27 07:59:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54343.D\data.ms

(69) 2-hexanone

14.327min (-0.000) 498.66ug/L m

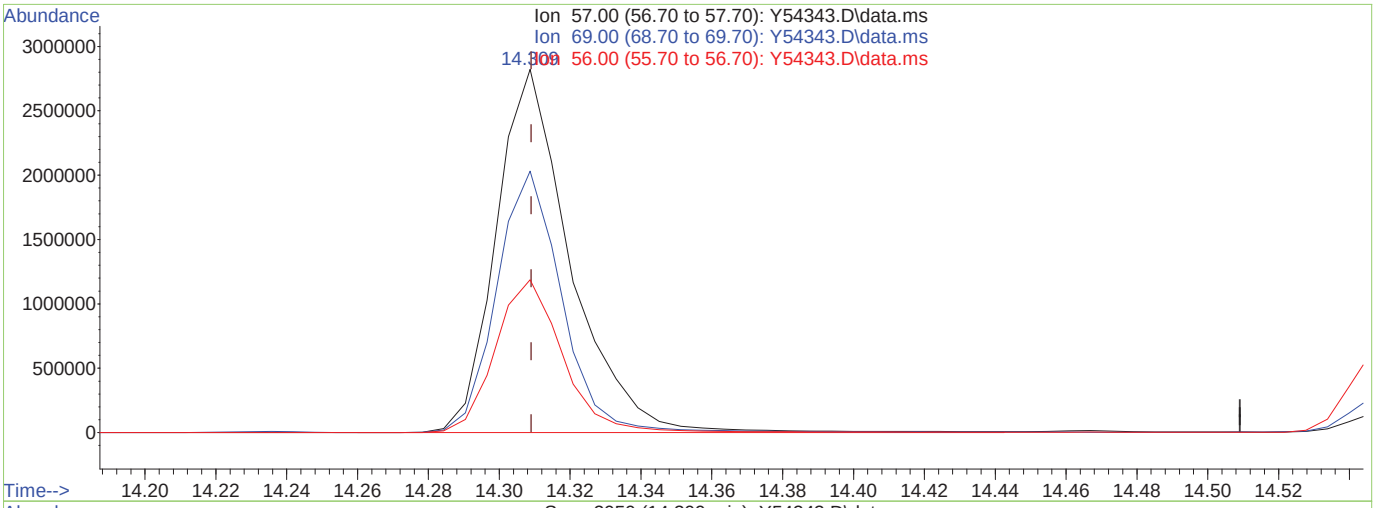
response 2962846

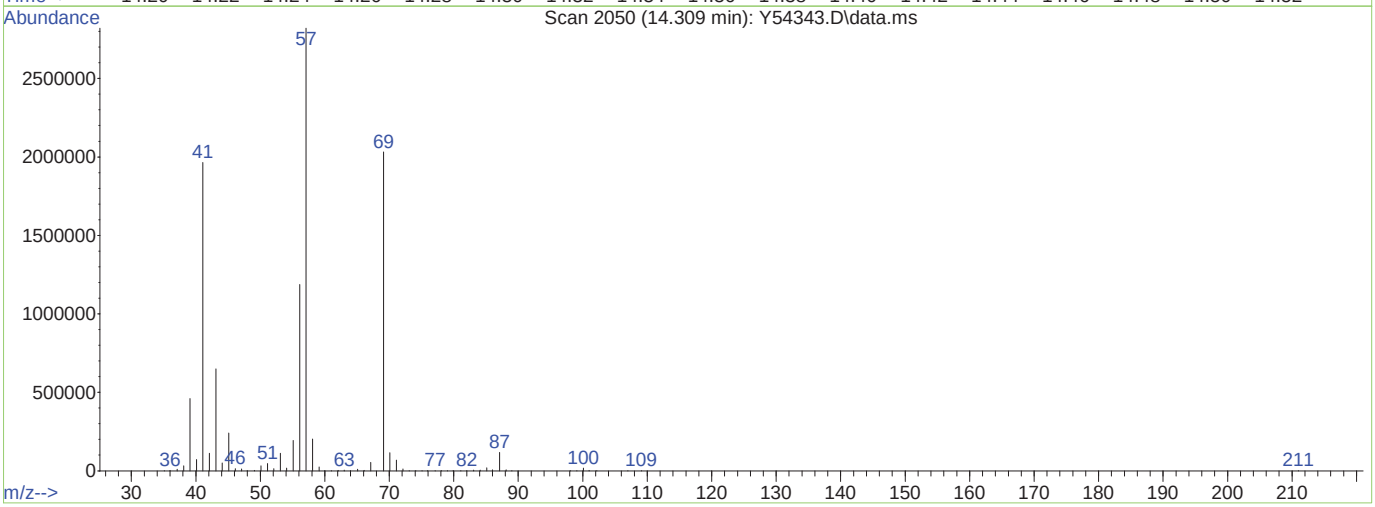
Ion	Exp%	Act%
43.10	100	100
58.10	52.40	53.16
57.20	29.70	29.96
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54343.D
Acq On : 26 Nov 2020 11:29 am
Operator : chelseav
Sample : IC2256-7 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 27 07:59:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54343.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.309min (-0.000) 5246.64ug/L

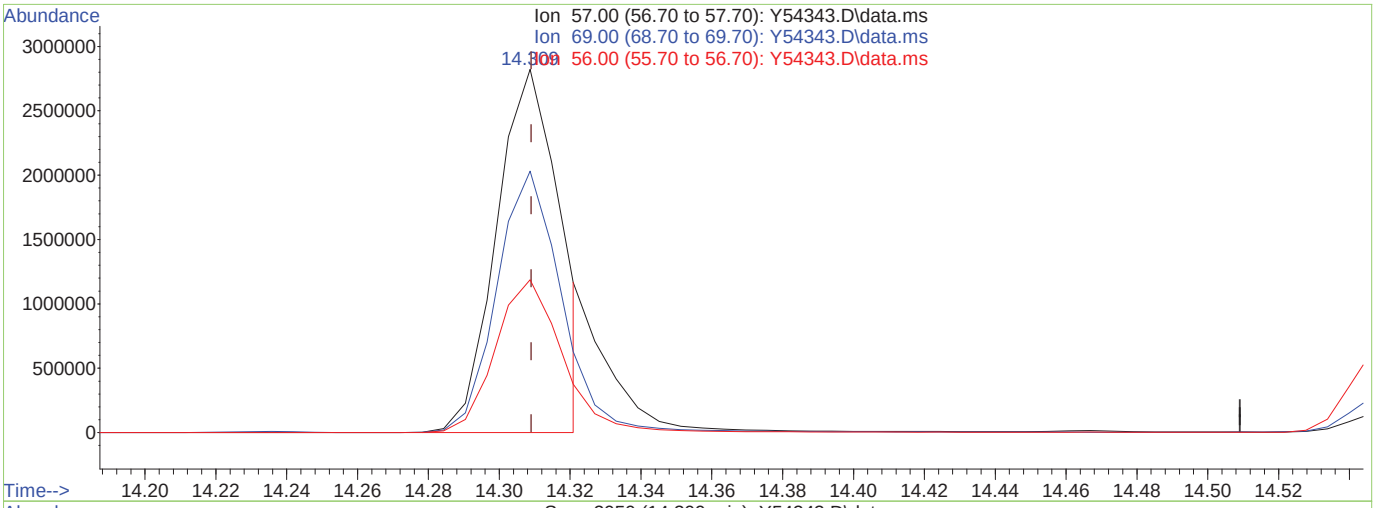
response 4138033

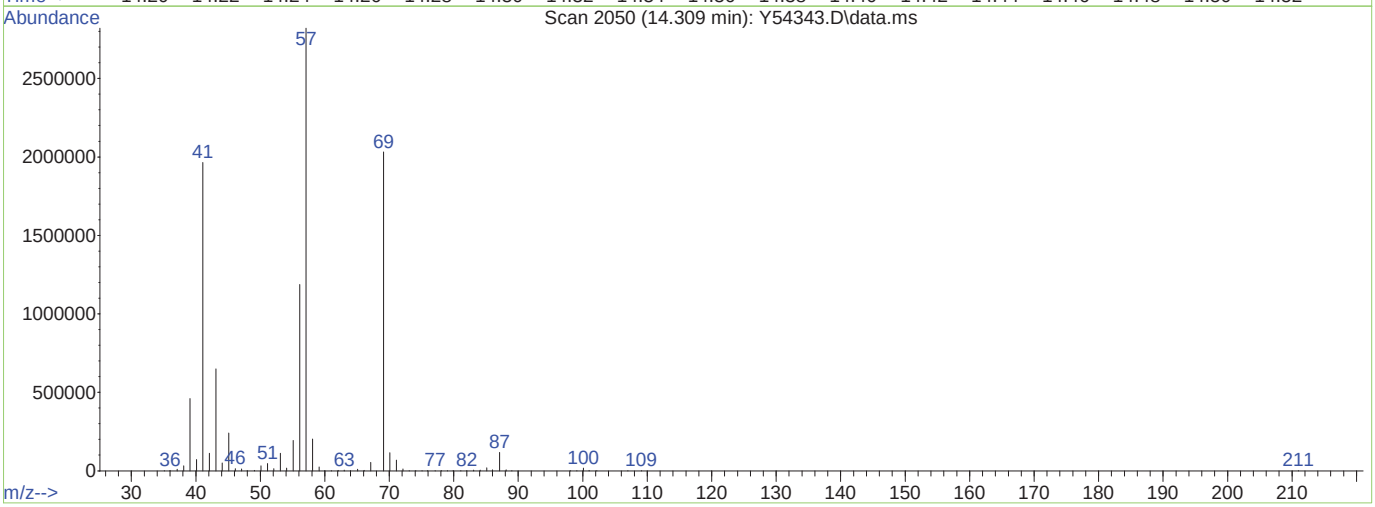
Ion	Exp%	Act%
57.00	100	100
69.00	72.60	71.97
56.00	43.30	42.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54343.D
Acq On : 26 Nov 2020 11:29 am
Operator : chelseav
Sample : IC2256-7 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 27 07:59:44 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Wed Nov 25 14:37:02 2020
Response via : Initial Calibration





TIC: Y54343.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.309min (-0.000) 4481.13ug/L m

response 3534275

Ion	Exp%	Act%
57.00	100	100
69.00	72.60	72.00
56.00	43.30	42.11
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 11/28/20 09:26

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54345.D
Acq On : 26 Nov 2020 12:23 pm
Operator : chelseav
Sample : ICV2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 27 08:34:08 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.517	96	2871433	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	2715728	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1497551	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.423	65	186122	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	741767	50.10	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.20%			
47) 1,2-Dichloroethane-d4	11.140	65	615513	48.94	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.88%			
58) Toluene-d8	13.239	98	3059010	50.34	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.68%			
80) 4-Bromofluorobenzene	15.483	174	1115631	49.44	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.88%			
Target Compounds						Qvalue
3) Acrolein	6.304	56	279997	137.90	ug/L	98
4) Chloromethane	3.383	50	621804m	39.68	ug/L	
5) 1,3-butadiene	3.578	39	478709	58.73	ug/L	98
6) Vinyl Chloride	3.548	62	537658	35.81	ug/L	96
7) Bromomethane	4.156	94	209794	32.88	ug/L	97
8) Chloroethane	4.393	64	166851	36.10	ug/L	96
9) Trichlorofluoromethane	4.655	101	755740	35.46	ug/L	99
10) Ethyl Ether	5.294	59	348196	36.35	ug/L	96
11) 1,2-Dichlorotrifluoroe...	5.671	67	489529	39.27	ug/L	98
12) 1,1-Dichloroethene	5.634	61	640738	33.77	ug/L	99
14) Carbon Disulfide	5.671	76	1108161	34.25	ug/L	100
15) Iodomethane	5.902	142	455768	34.16	ug/L	98
16) Allyl chloride	6.565	41	719097	40.57	ug/L	98
17) Methylene Chloride	6.772	49	604750	36.49	ug/L	98
18) Acetone	6.888	43	472969	193.01	ug/L	96
19) Methyl acetate	7.143	43	1243187	187.45	ug/L	99
20) trans-1,2-Dichloroethene	7.088	61	621442	34.57	ug/L	99
22) Methyl Tert Butyl Ether	7.319	73	989456	35.61	ug/L	98
23) Acetonitrile	7.800	41	425377	394.99	ug/L	99
24) Di-isopropyl ether	8.086	45	1505885	36.72	ug/L	98
25) Chloroprene	8.262	53	732958	42.29	ug/L	100
26) 1,1-Dichloroethane	8.311	63	795992	36.47	ug/L	100
27) Acrylonitrile	8.427	53	613649	195.65	ug/L	100
28) ETBE	8.828	59	1137746	35.85	ug/L	99
29) Vinyl acetate	8.859	43	3698853	182.42	ug/L	100
30) cis-1,2-Dichloroethene	9.424	96	561089	35.45	ug/L	98
31) 2,2-Dichloropropane	9.637	77	605368	35.69	ug/L	99
32) Bromochloromethane	9.832	128	288806	34.48	ug/L	97
34) Chloroform	10.008	83	809015	35.45	ug/L	100
35) Ethyl acetate	10.252	43	1583145	190.87	ug/L	100
36) Tetrahydrofuran	10.252	42	85994	36.11	ug/L	94
38) Carbon Tetrachloride	10.227	117	707207	35.18	ug/L	99
39) 1,1,1-Trichloroethane	10.349	97	785067	33.99	ug/L	98
40) 2-Butanone	10.550	43	696378	183.08	ug/L	98
41) 1,1-Dichloropropene	10.562	75	628045	33.41	ug/L	99
42) tert-Butyl formate	10.751	59	509821	181.73	ug/L	99
43) Propionitrile	10.988	54	453148	386.51	ug/L	100
44) Methacrylonitrile	11.018	41	2079026	361.61	ug/L	99
45) Benzene	10.939	78	1953458	34.19	ug/L	99
46) TAME	11.122	73	957880	36.47	ug/L	98
48) 1,2-Dichloroethane	11.237	62	528851	33.72	ug/L	98
49) Trichloroethene	11.736	95	542705	35.09	ug/L	99
50) Methylcyclohexane	11.712	83	799914	32.93	ug/L	98
51) Dibromomethane	12.235	93	249232	35.13	ug/L	97
52) 1,2-Dichloropropane	12.344	63	456242	34.96	ug/L	99
53) Bromodichloromethane	12.417	83	572728	38.00	ug/L	98
54) Methyl methacrylate	12.588	41	305531	40.31	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54345.D
Acq On : 26 Nov 2020 12:23 pm
Operator : chelseav
Sample : ICV2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 27 08:34:08 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration

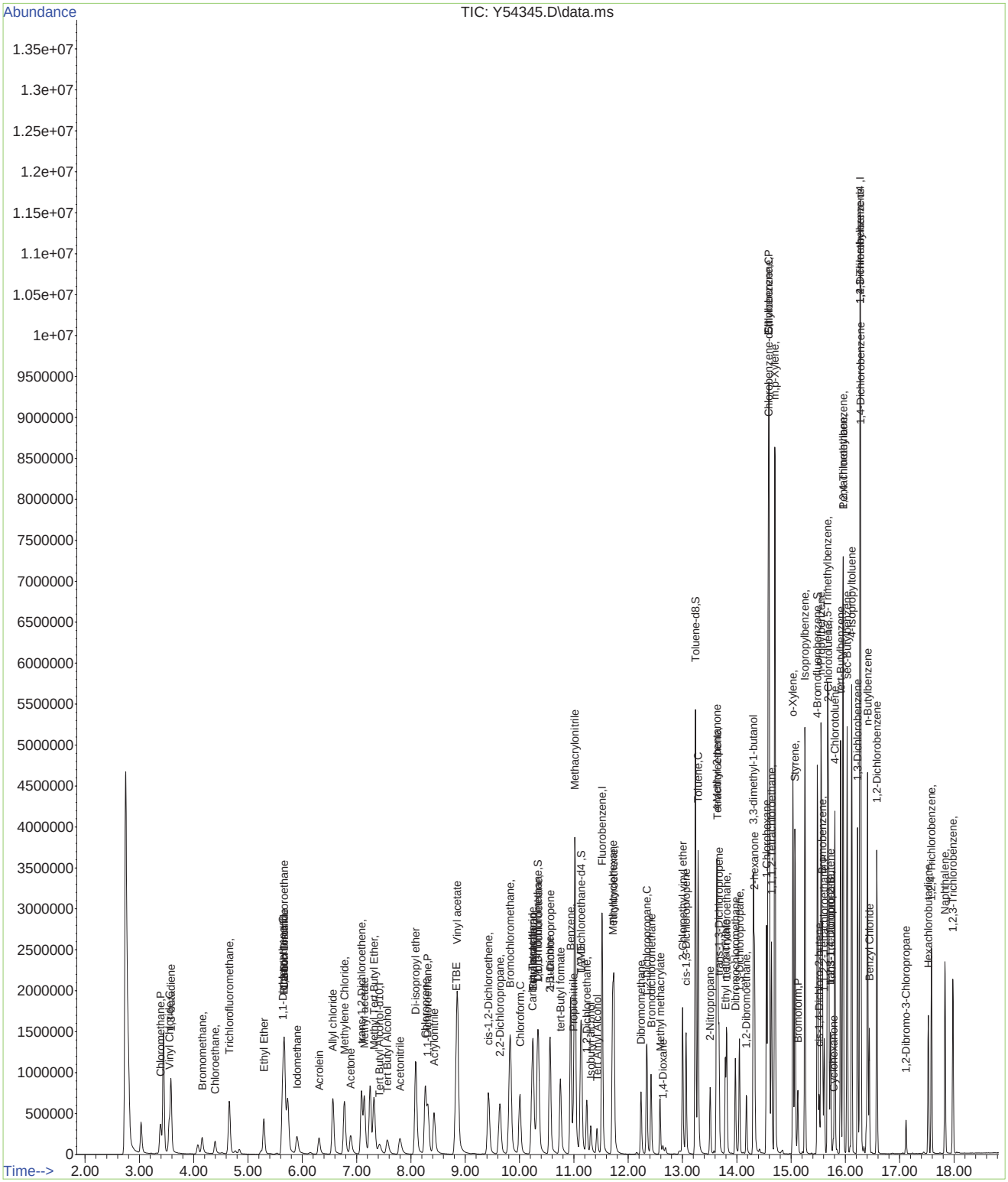
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
55) 2-Chloroethyl vinyl ether	13.001	63	608355	146.94 ug/L	100
56) cis-1,3-Dichloropropene	13.068	75	678790	35.64 ug/L	99
59) Toluene	13.287	91	2305960	33.13 ug/L	100
60) 2-Nitropropane	13.506	41	401912	194.59 ug/L	98
61) 4-Methyl-2-pentanone	13.628	43	1617282	183.09 ug/L	99
62) trans-1,3-Dichloropropene	13.671	75	555979	37.47 ug/L	99
63) Tetrachloroethene	13.646	166	694913	36.56 ug/L	99
64) Ethyl methacrylate	13.786	69	455828	41.39 ug/L	98
65) 1,1,2-Trichloroethane	13.811	83	306372	34.97 ug/L	99
66) Dibromochloromethane	13.975	129	545632	38.88 ug/L	99
67) 1,3-Dichloropropane	14.048	76	626550	33.67 ug/L	99
68) 1,2-Dibromoethane	14.176	107	424560	35.46 ug/L	99
69) 2-hexanone	14.328	43	1113357m	180.39 ug/L	
70) 1-Chlorohexane	14.547	91	740865	34.75 ug/L	99
71) Ethylbenzene	14.595	91	2550007	36.15 ug/L	100
72) Chlorobenzene	14.595	112	1631126	34.07 ug/L	99
73) 1,1,1,2-Tetrachloroethane	14.638	131	603640	36.57 ug/L	98
74) m,p-Xylene	14.699	91	4056343	68.91 ug/L	98
75) o-Xylene	15.033	91	2077593	35.57 ug/L	99
76) Styrene	15.070	104	1677243	37.04 ug/L	98
77) Bromoform	15.125	173	287187	39.83 ug/L	99
78) Isopropylbenzene	15.252	105	2850645	34.73 ug/L	97
81) cis-1,4-Dichloro-2-butene	15.514	53	110373	36.90 ug/L	89
82) n-Propylbenzene	15.550	91	3005406	33.68 ug/L	100
83) Bromobenzene	15.575	156	705254	34.61 ug/L	98
84) 1,1,2,2-Tetrachloroethane	15.611	83	431694	34.46 ug/L	99
85) 1,3,5-Trimethylbenzene	15.672	105	2241007	35.14 ug/L	99
86) 2-Chlorotoluene	15.690	91	1889160	33.56 ug/L	100
87) trans-1,4-Dichloro-2-B...	15.733	53	97412	37.58 ug/L	94
88) 1,2,3-Trichloropropane	15.721	110	159679	33.63 ug/L	97
89) Cyclohexanone	15.775	55	50424	177.98 ug/L	94
90) 4-Chlorotoluene	15.806	91	1775452	34.35 ug/L	99
91) tert-Butylbenzene	15.909	91	1112511	33.50 ug/L	100
92) 1,2,4-Trimethylbenzene	15.952	105	2185404	34.13 ug/L	96
93) Pentachloroethane	15.958	167	396098	38.95 ug/L	97
94) sec-Butylbenzene	16.031	105	2729552	34.32 ug/L	99
95) 4-Isopropyltoluene	16.116	119	2595887	35.50 ug/L	99
96) 1,3-Dichlorobenzene	16.226	146	1367124	35.06 ug/L	98
97) 1,2,3-Trimethylbenzene	16.268	105	2112164	29.79 ug/L	99
98) 1,4-Dichlorobenzene	16.287	146	1308286	33.79 ug/L	99
99) n-Butylbenzene	16.408	92	1023234	36.09 ug/L	100
100) Benzyl Chloride	16.439	126	198498	36.39 ug/L	93
101) 1,2-Dichlorobenzene	16.579	146	1236323	34.43 ug/L	99
102) 1,2-Dibromo-3-Chloropr...	17.114	75	64051	35.07 ug/L	95
103) Hexachlorobutadiene	17.528	225	228053	35.36 ug/L	98
104) 1,2,4-Trichlorobenzene	17.582	180	662161	37.42 ug/L	98
105) Naphthalene	17.832	128	1651577	36.76 ug/L	99
106) 1,2,3-Trichlorobenzene	17.978	180	572793	36.58 ug/L	99
108) Ethanol	5.653	45	80852	725.87 ug/L	96
109) Tert Butyl Alcohol	7.563	59	326003	317.79 ug/L	98
110) Isobutyl alcohol	11.310	42	137545	770.12 ug/L	100
111) Tert Amyl Alcohol	11.426	59	179528	387.31 ug/L	95
112) 1,4-Dioxane	12.643	88	77895	782.06 ug/L	99
113) 3,3-dimethyl-1-butanol	14.303	57	1233497m	2025.56 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54345.D
Acq On : 26 Nov 2020 12:23 pm
Operator : chelseav
Sample : ICV2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 27 08:34:08 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration



Manual Integration Approval Summary

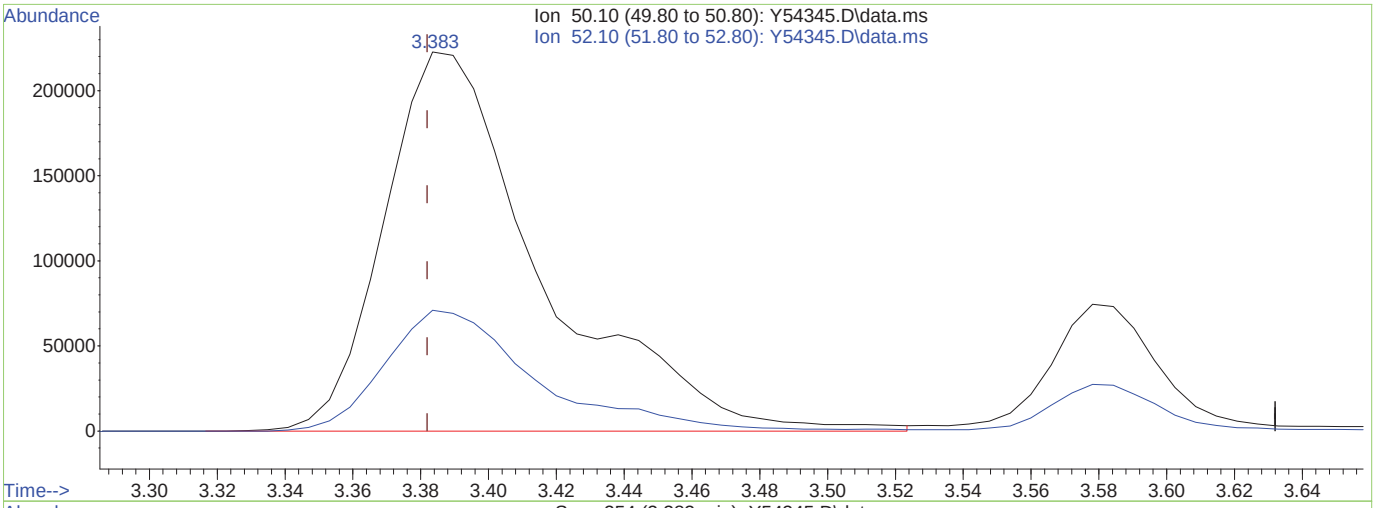
Sample Number: VY2256-ICV2256
Lab FileID: Y54345.D
Injection Time: 11/26/20 12:23
Method: SW846 8260B
Analyst approved: 11/27/20 08:54 Shanica O'Connor
Supervisor approved: 11/28/20 09:26 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.38	Overlapping peak
3,3-Dimethyl-1-Butanol	624-95-3		14.30	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54345.D
Acq On : 26 Nov 2020 12:23 pm
Operator : chelseav
Sample : ICV2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 27 08:21:48 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration



TIC: Y54345.D\data.ms

(4) Chloromethane (P)

3.383min (+0.001) 46.19ug/L

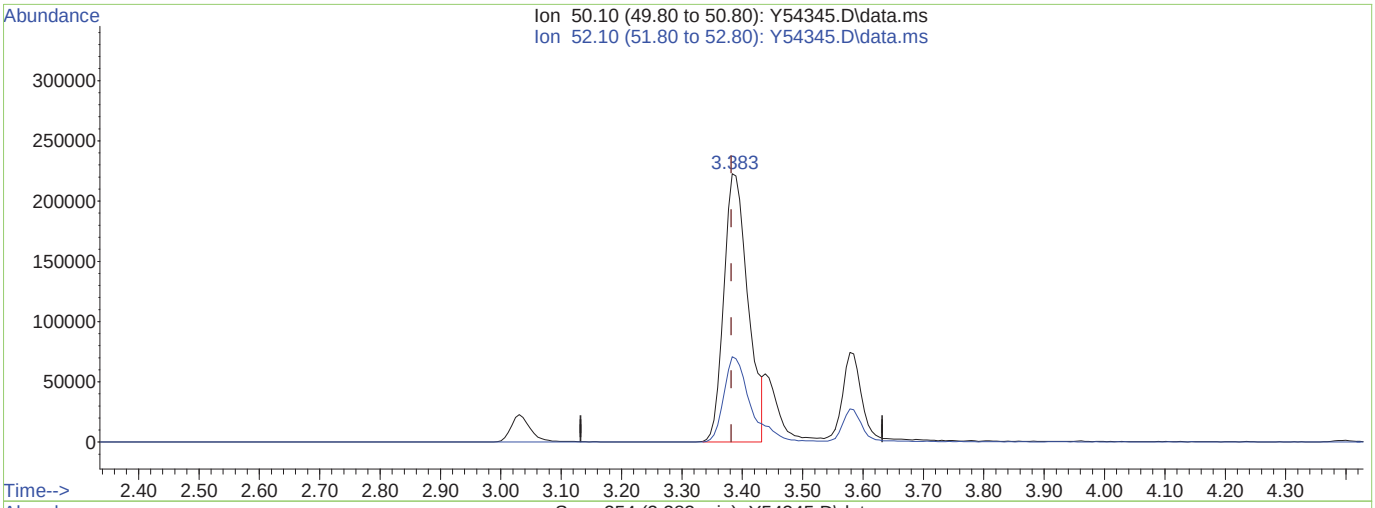
response 719597

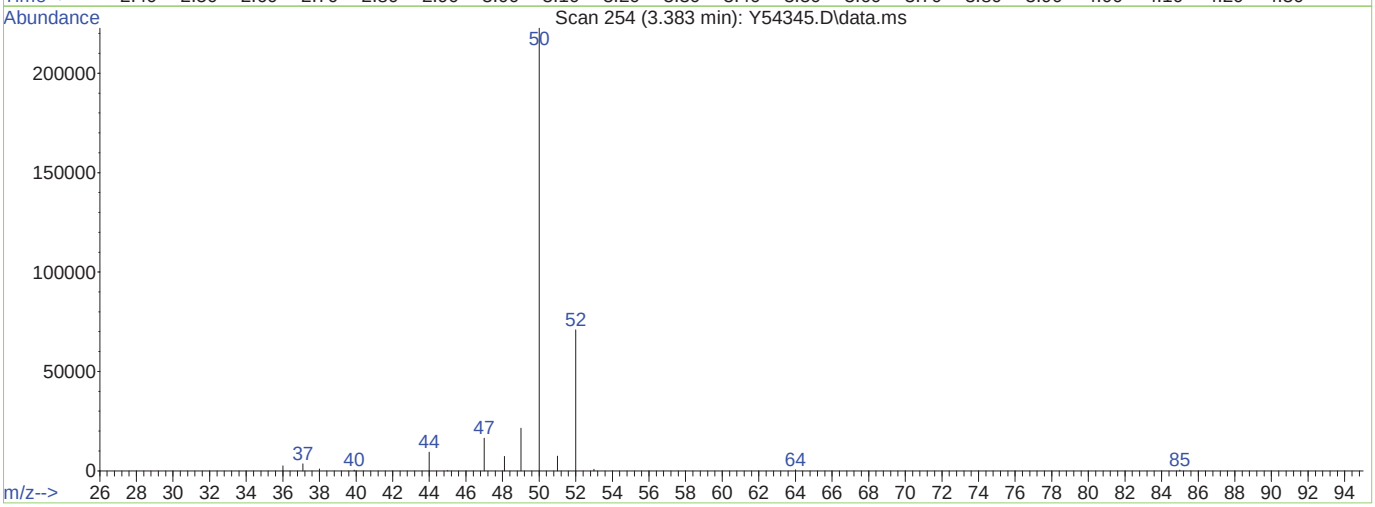
Ion	Exp%	Act%
50.10	100	100
52.10	31.00	31.86
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54345.D
Acq On : 26 Nov 2020 12:23 pm
Operator : chelseav
Sample : ICV2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 27 08:21:48 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration





TIC: Y54345.D\data.ms

(4) Chloromethane (P)

3.383min (+0.001) 39.68ug/L m

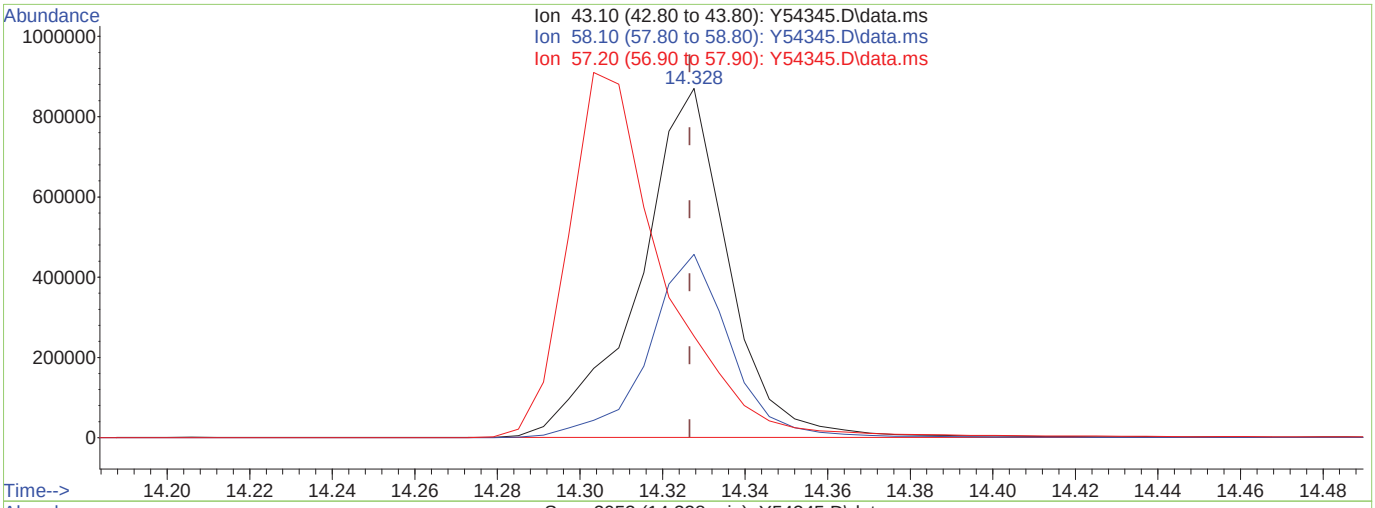
response 621804

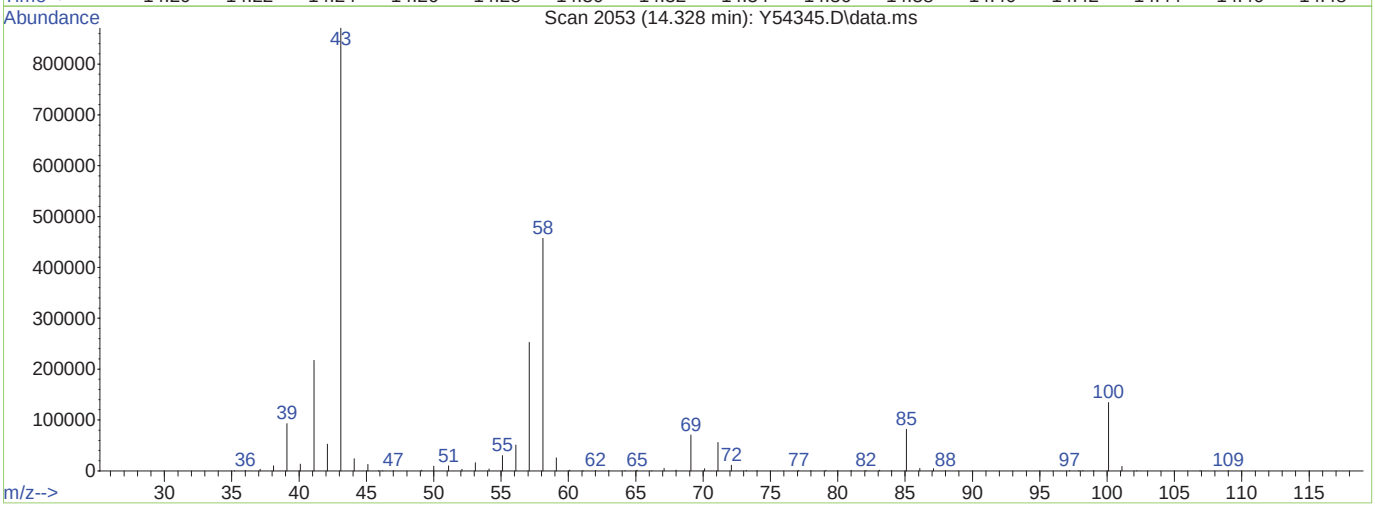
Ion	Exp%	Act%
50.10	100	100
52.10	31.00	31.86
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54345.D
Acq On : 26 Nov 2020 12:23 pm
Operator : chelseav
Sample : ICV2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 27 08:21:48 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration





TIC: Y54345.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 214.04ug/L

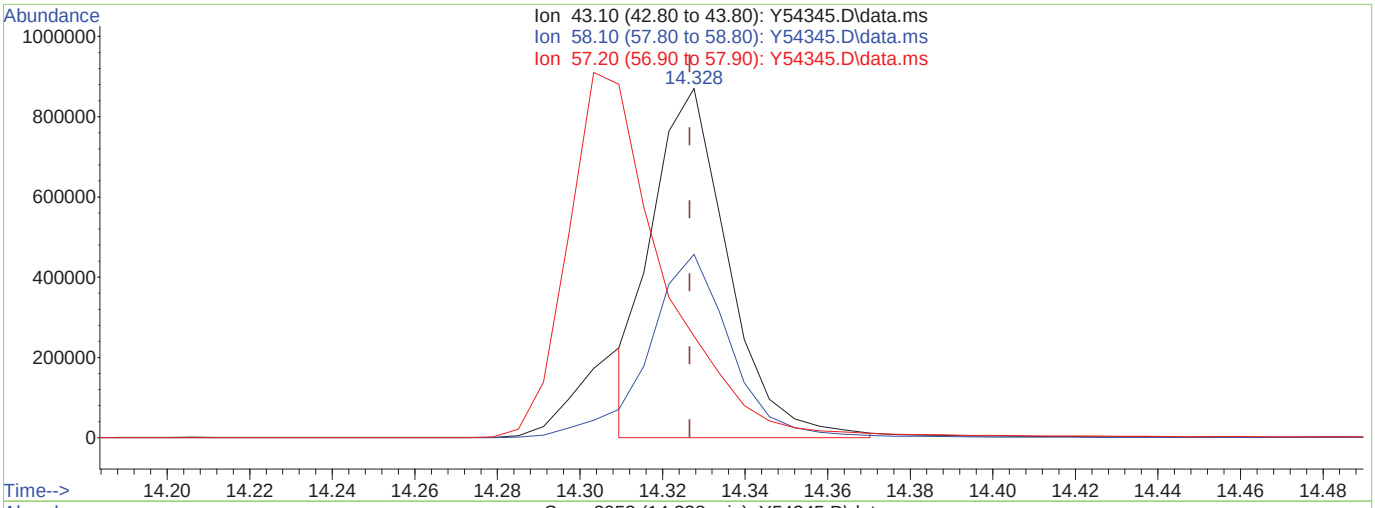
response 1321037

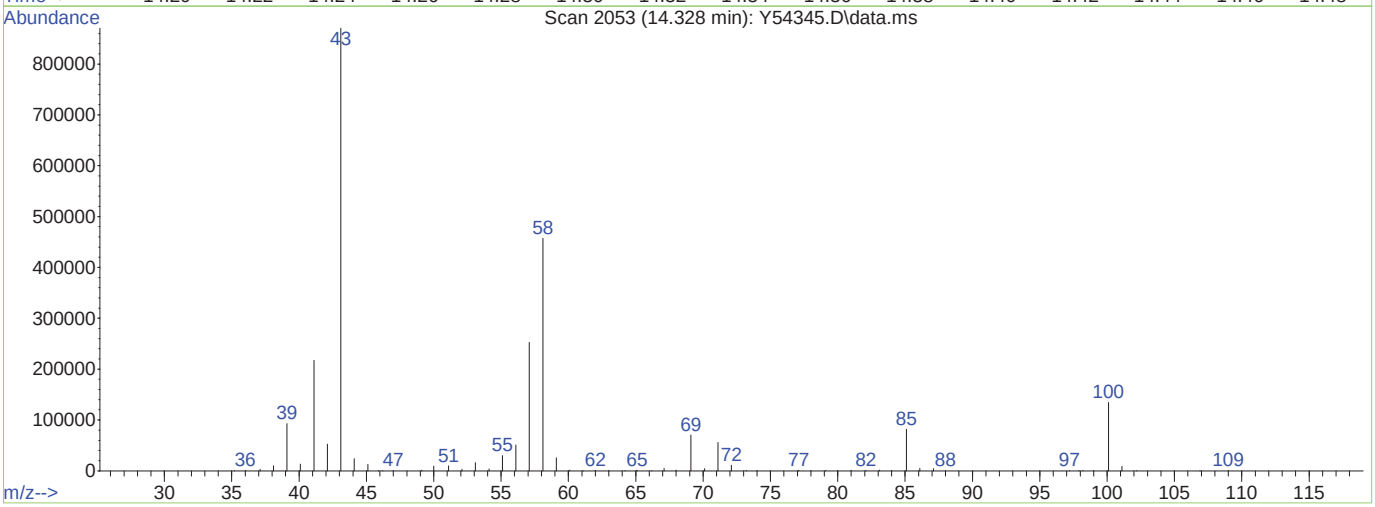
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	52.53
57.20	29.70	29.01
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54345.D
Acq On : 26 Nov 2020 12:23 pm
Operator : chelseav
Sample : ICV2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 27 08:21:48 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration





TIC: Y54345.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 180.39ug/L m

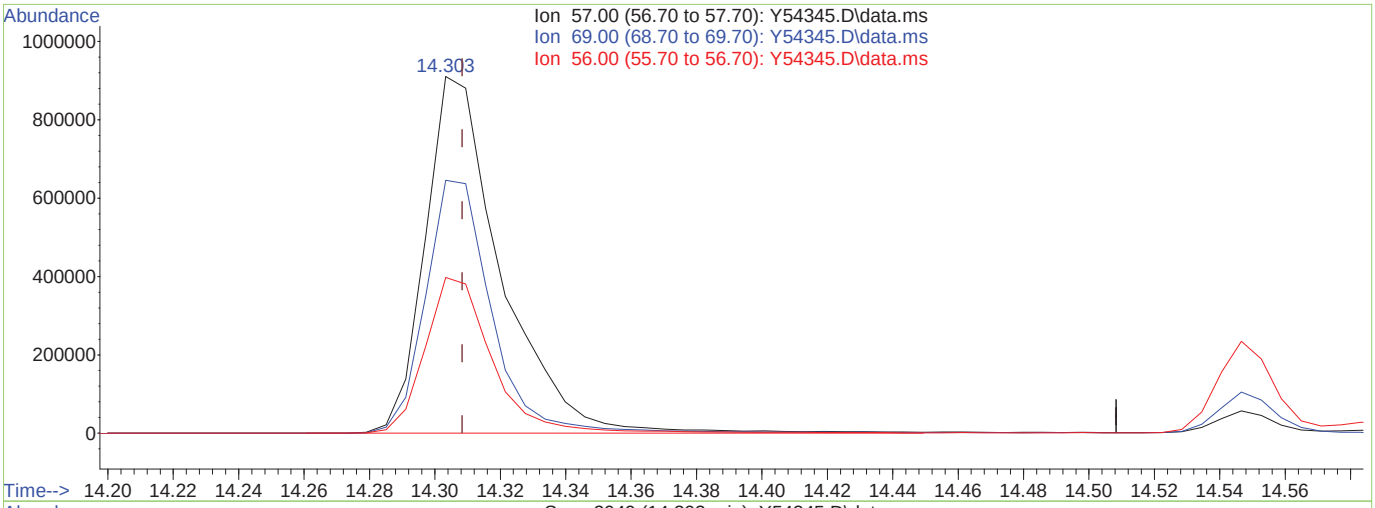
response 1113357

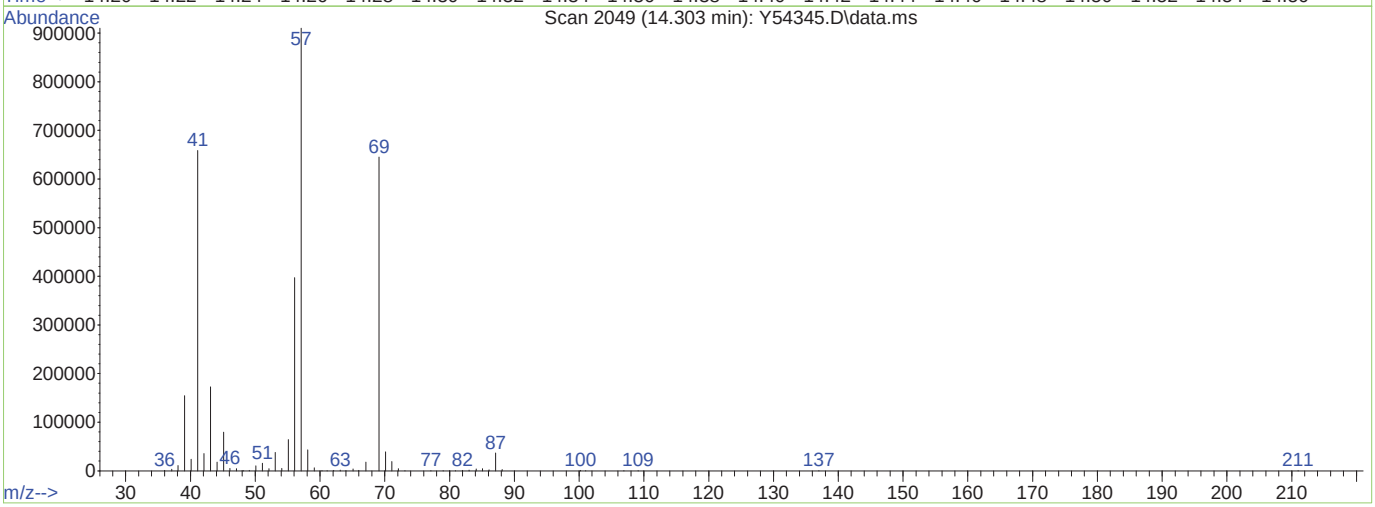
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	52.50
57.20	29.70	29.03
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54345.D
Acq On : 26 Nov 2020 12:23 pm
Operator : chelseav
Sample : ICV2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 27 08:21:48 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration





TIC: Y54345.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.303min (-0.005) 2426.89ug/L

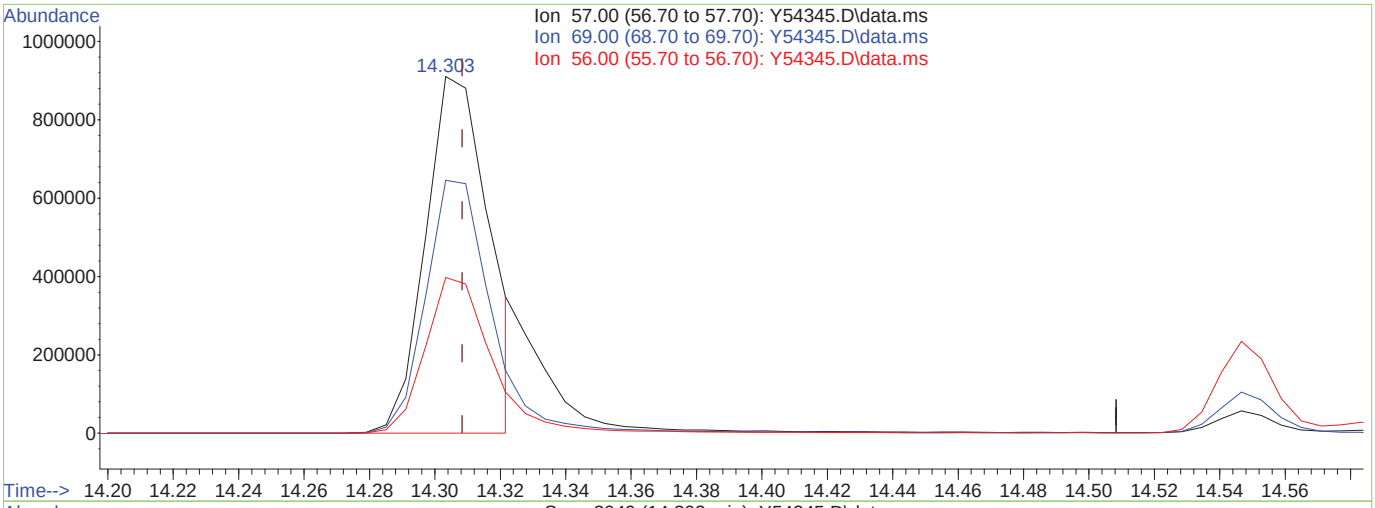
response 1477894

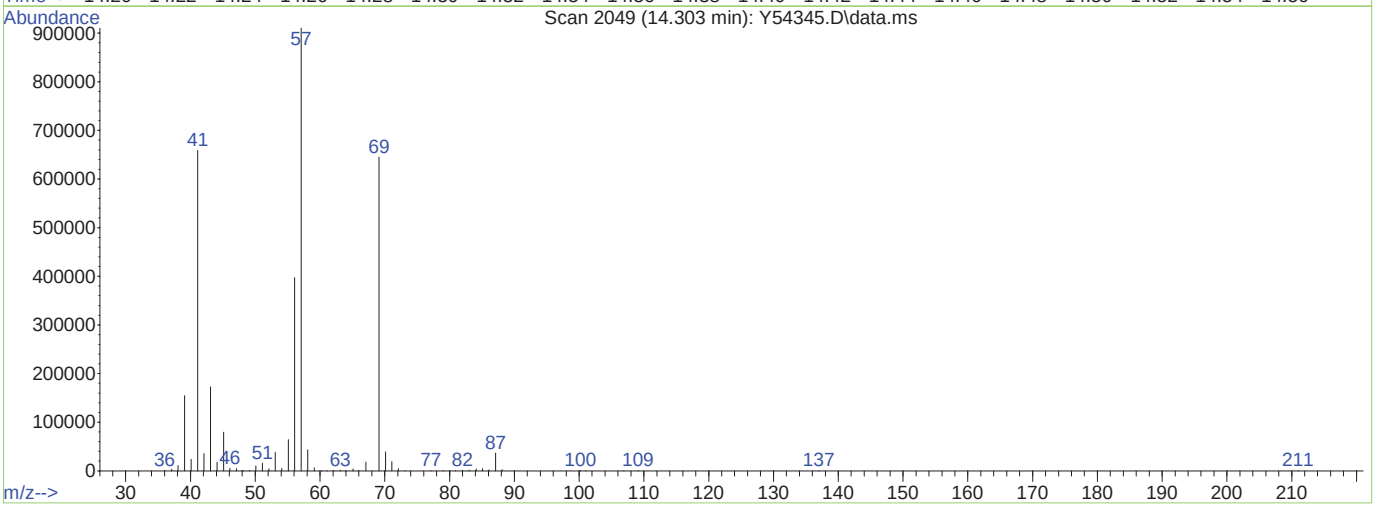
Ion	Exp%	Act%
57.00	100	100
69.00	71.80	70.85
56.00	43.50	43.63
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54345.D
Acq On : 26 Nov 2020 12:23 pm
Operator : chelseav
Sample : ICV2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 27 08:21:48 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration





TIC: Y54345.D\data.ms

(113) 3,3-dimethyl-1-butanol

14.303min (-0.005) 2025.56ug/L m

response 1233497

Ion	Exp%	Act%
57.00	100	100
69.00	71.80	70.88
56.00	43.50	43.63
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54346.D
Acq On : 26 Nov 2020 12:50 pm
Operator : chelseav
Sample : ICV2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 27 08:40:58 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration

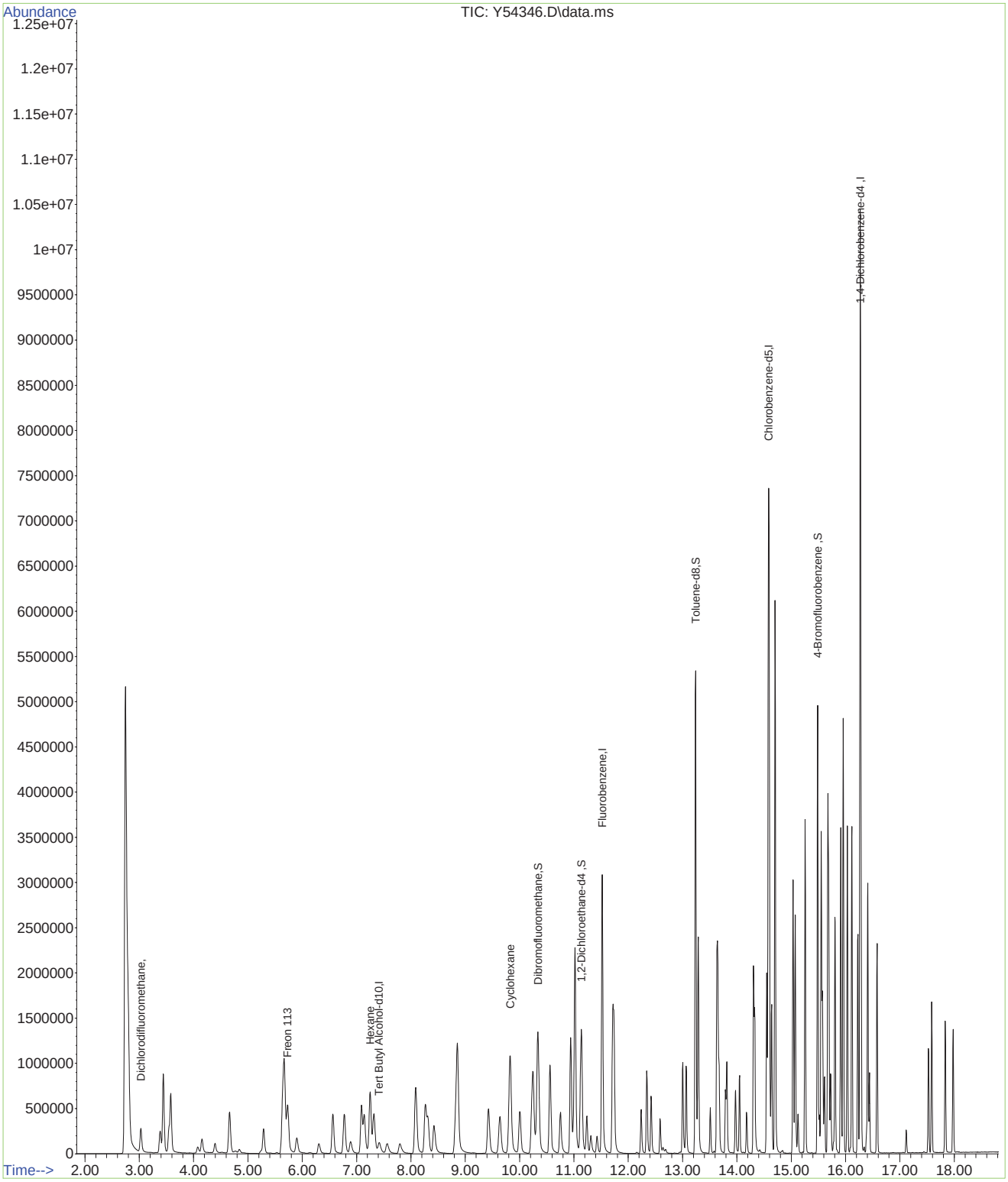
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.519	96	2963476	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	2824531	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.270	152	1526110	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.413	65	200312	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.333	113	770641	50.43	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.86%			
47) 1,2-Dichloroethane-d4	11.142	65	641993	49.46	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.92%			
58) Toluene-d8	13.241	98	3129268	49.51	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.02%			
80) 4-Bromofluorobenzene	15.486	174	1144720	49.78	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.56%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.027	85	340687	21.75	ug/L	99
13) Freon 113	5.734	101	322776	21.89	ug/L	98
21) Hexane	7.249	56	244880	22.06	ug/L	96
33) Cyclohexane	9.822	56	618441	24.07	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112620\
Data File : Y54346.D
Acq On : 26 Nov 2020 12:50 pm
Operator : chelseav
Sample : ICV2256-4 Inst : MSVOA14-Y
Misc : MS47703,VY2256,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 27 08:40:58 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration



RESTEK112620w.M Fri Nov 27 08:50:06 2020 Page: 2

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/03/20 09:09

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54355.D
Acq On : 29 Nov 2020 12:06 pm
Operator : LINDSAYR
Sample : CC2256-5
Misc : MS47703,VY2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 30 02:31:54 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.518	96	2866620	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	2732983	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.275	152	1500885	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.417	65	222583	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	746520	50.51	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.02%			
47) 1,2-Dichloroethane-d4	11.140	65	625010	49.78	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.56%			
58) Toluene-d8	13.239	98	3064235	50.11	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.22%			
80) 4-Bromofluorobenzene	15.484	174	1127159	49.84	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.68%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.031	85	539961	35.63	ug/L	99
3) Acrolein	6.304	56	389454	192.13	ug/L	99
4) Chloromethane	3.384	50	566203	36.08	ug/L	98
5) 1,3-butadiene	3.579	39	284429	33.96	ug/L	94
6) Vinyl Chloride	3.548	62	518527	34.60	ug/L	98
7) Bromomethane	4.157	94	240354	37.67	ug/L	99
8) Chloroethane	4.394	64	163500	35.32	ug/L	97
9) Trichlorofluoromethane	4.661	101	750042	35.25	ug/L	99
10) Ethyl Ether	5.288	59	352170	36.83	ug/L	97
11) 1,2-Dichlorotrifluoroe...	5.671	67	433451	34.61	ug/L	98
12) 1,1-Dichloroethene	5.635	61	628901	33.20	ug/L	98
13) Freon 113	5.732	101	500418	35.78	ug/L	99
14) Carbon Disulfide	5.665	76	1166553	36.16	ug/L	100
15) Iodomethane	5.896	142	529503	39.76	ug/L	97
16) Allyl chloride	6.566	41	640218	36.18	ug/L	99
17) Methylene Chloride	6.772	49	597645	36.10	ug/L	98
18) Acetone	6.888	43	493979	202.55	ug/L	97
19) Methyl acetate	7.137	43	1259682	190.25	ug/L	99
20) trans-1,2-Dichloroethene	7.089	61	606681	33.81	ug/L	98
21) Hexane	7.247	56	377736	35.18	ug/L	97
22) Methyl Tert Butyl Ether	7.320	73	1040471	37.51	ug/L	95
23) Acetonitrile	7.794	41	433379	403.31	ug/L	100
24) Di-isopropyl ether	8.086	45	1503607	36.72	ug/L	99
25) Chloroprene	8.263	53	639897	36.98	ug/L	99
26) 1,1-Dichloroethane	8.312	63	747888	34.33	ug/L	100
27) Acrylonitrile	8.421	53	642802	205.49	ug/L	99
28) ETBE	8.829	59	1203950	38.00	ug/L	98
29) Vinyl acetate	8.859	43	4108232	202.95	ug/L	100
30) cis-1,2-Dichloroethene	9.425	96	549575	34.78	ug/L	98
31) 2,2-Dichloropropane	9.638	77	580345	34.27	ug/L	100
32) Bromochloromethane	9.838	128	293587	35.11	ug/L	96
33) Cyclohexane	9.820	56	870148	35.02	ug/L	99
34) Chloroform	10.003	83	788395	34.60	ug/L	100
35) Ethyl acetate	10.252	43	1722227	208.10	ug/L	100
36) Tetrahydrofuran	10.252	42	98358	41.40	ug/L	96
38) Carbon Tetrachloride	10.228	117	694478	34.61	ug/L	99
39) 1,1,1-Trichloroethane	10.349	97	771513	33.46	ug/L	98
40) 2-Butanone	10.550	43	760300	200.22	ug/L	97
41) 1,1-Dichloropropene	10.562	75	642381	34.23	ug/L	99
42) tert-Butyl formate	10.751	59	596365	203.54	ug/L	98
43) Propionitrile	10.988	54	475628	407.05	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54355.D
Acq On : 29 Nov 2020 12:06 pm
Operator : LINDSAYR
Sample : CC2256-5
Misc : MS47703,VY2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 30 02:31:54 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	Methacrylonitrile	11.019	41	2182819	380.30	ug/L	99
45)	Benzene	10.940	78	1947720	34.15	ug/L	99
46)	TAME	11.122	73	996802	38.02	ug/L	98
48)	1,2-Dichloroethane	11.238	62	550209	35.15	ug/L	99
49)	Trichloroethene	11.736	95	544261	35.26	ug/L	97
50)	Methylcyclohexane	11.712	83	861596	35.53	ug/L	98
51)	Dibromomethane	12.235	93	252298	35.62	ug/L	97
52)	1,2-Dichloropropane	12.339	63	458101	35.16	ug/L	98
53)	Bromodichloromethane	12.418	83	551136	36.63	ug/L	99
54)	Methyl methacrylate	12.582	41	316852	41.88	ug/L	98
55)	2-Chloroethyl vinyl ether	13.002	63	901111	218.02	ug/L	98
56)	cis-1,3-Dichloropropene	13.063	75	708201	37.24	ug/L	97
59)	Toluene	13.288	91	2362220	33.72	ug/L	99
60)	2-Nitropropane	13.507	41	421573	202.82	ug/L	98
61)	4-Methyl-2-pentanone	13.628	43	1747623	196.59	ug/L	100
62)	trans-1,3-Dichloropropene	13.671	75	552538	37.00	ug/L	96
63)	Tetrachloroethene	13.647	166	673544	35.16	ug/L	98
64)	Ethyl methacrylate	13.787	69	462823	41.76	ug/L	96
65)	1,1,2-Trichloroethane	13.811	83	317044	35.96	ug/L	99
66)	Dibromochloromethane	13.975	129	540223	38.25	ug/L	100
67)	1,3-Dichloropropane	14.048	76	665828	35.55	ug/L	99
68)	1,2-Dibromoethane	14.176	107	440792	36.59	ug/L	99
69)	2-hexanone	14.328	43	1228500m	197.79	ug/L	
70)	1-Chlorohexane	14.547	91	751136	35.01	ug/L	98
71)	Ethylbenzene	14.596	91	2523609	35.54	ug/L	100
72)	Chlorobenzene	14.590	112	1652414	34.30	ug/L	99
73)	1,1,1,2-Tetrachloroethane	14.638	131	604932	36.42	ug/L	99
74)	m,p-Xylene	14.699	91	4089682	69.04	ug/L	98
75)	o-Xylene	15.034	91	2078144	35.36	ug/L	99
76)	Styrene	15.070	104	1699117	37.28	ug/L	98
77)	Bromoform	15.125	173	290948	40.09	ug/L	99
78)	Isopropylbenzene	15.253	105	2869956	34.75	ug/L	100
81)	cis-1,4-Dichloro-2-butene	15.514	53	118002	39.36	ug/L	92
82)	n-Propylbenzene	15.551	91	3043536	34.03	ug/L	100
83)	Bromobenzene	15.575	156	697987	34.18	ug/L	98
84)	1,1,2,2-Tetrachloroethane	15.612	83	456018	36.32	ug/L	100
85)	1,3,5-Trimethylbenzene	15.673	105	2239225	35.03	ug/L	100
86)	2-Chlorotoluene	15.691	91	1900642	33.68	ug/L	99
87)	trans-1,4-Dichloro-2-B...	15.733	53	101655	39.13	ug/L	92
88)	1,2,3-Trichloropropane	15.721	110	173149	36.38	ug/L	98
89)	Cyclohexanone	15.776	55	61751	216.22	ug/L	97
90)	4-Chlorotoluene	15.806	91	1796600	34.68	ug/L	100
91)	tert-Butylbenzene	15.910	91	1134490	34.09	ug/L	98
92)	1,2,4-Trimethylbenzene	15.952	105	2232520	34.79	ug/L	96
93)	Pentachloroethane	15.958	167	381477	37.43	ug/L	95
94)	sec-Butylbenzene	16.031	105	2733787	34.29	ug/L	100
95)	4-Isopropyltoluene	16.117	119	2578714	35.18	ug/L	100
96)	1,3-Dichlorobenzene	16.226	146	1344027	34.39	ug/L	98
97)	1,2,3-Trimethylbenzene	16.269	105	2453835	34.53	ug/L	99
98)	1,4-Dichlorobenzene	16.287	146	1320197	34.02	ug/L	99
99)	n-Butylbenzene	16.409	92	1029200	36.22	ug/L	99
100)	Benzyl Chloride	16.439	126	224464	40.50	ug/L	95
101)	1,2-Dichlorobenzene	16.579	146	1256546	34.92	ug/L	99
102)	1,2-Dibromo-3-Chloropr...	17.114	75	71175	38.89	ug/L	94
103)	Hexachlorobutadiene	17.528	225	220416	34.06	ug/L	98
104)	1,2,4-Trichlorobenzene	17.583	180	680368	38.36	ug/L	98
105)	Naphthalene	17.832	128	1849245	40.83	ug/L	99
106)	1,2,3-Trichlorobenzene	17.978	180	600790	38.28	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54355.D
Acq On : 29 Nov 2020 12:06 pm
Operator : LINDSAYR
Sample : CC2256-5
Misc : MS47703,VY2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 30 02:31:54 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

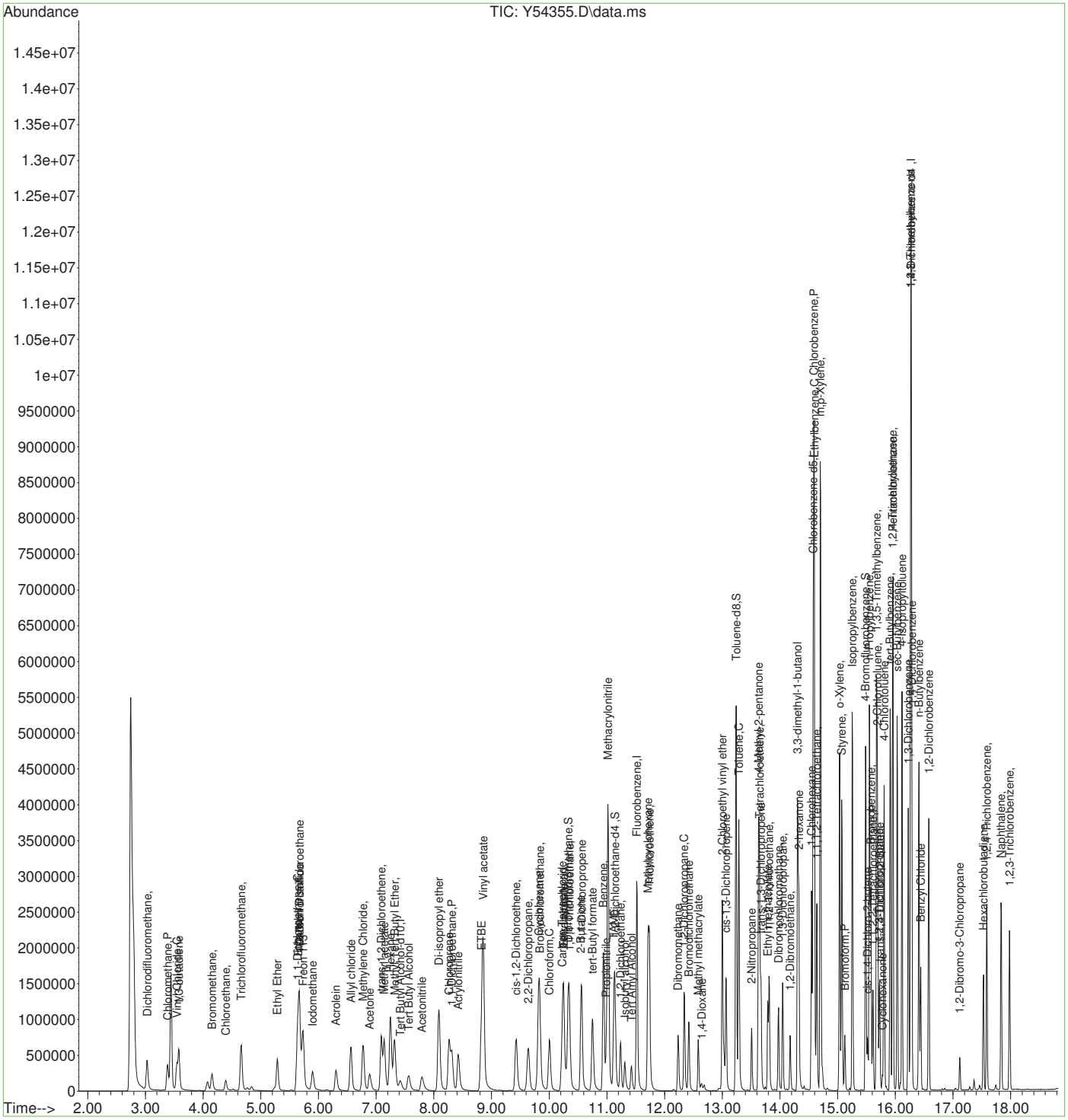
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.653	45	98035	737.04	ug/L	99
109) Tert Butyl Alcohol	7.563	59	419599	343.81	ug/L	99
110) Isobutyl alcohol	11.311	42	163010	763.19	ug/L	96
111) Tert Amyl Alcohol	11.426	59	206009	371.64	ug/L	98
112) 1,4-Dioxane	12.643	88	81817	686.88	ug/L	98
113) 3,3-dimethyl-1-butanol	14.304	57	1683399	2311.53	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54355.D
Acq On : 29 Nov 2020 12:06 pm
Operator : LINDSAYR
Sample : CC2256-5
Misc : MS47703,VY2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 30 02:31:54 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



Manual Integration Approval Summary

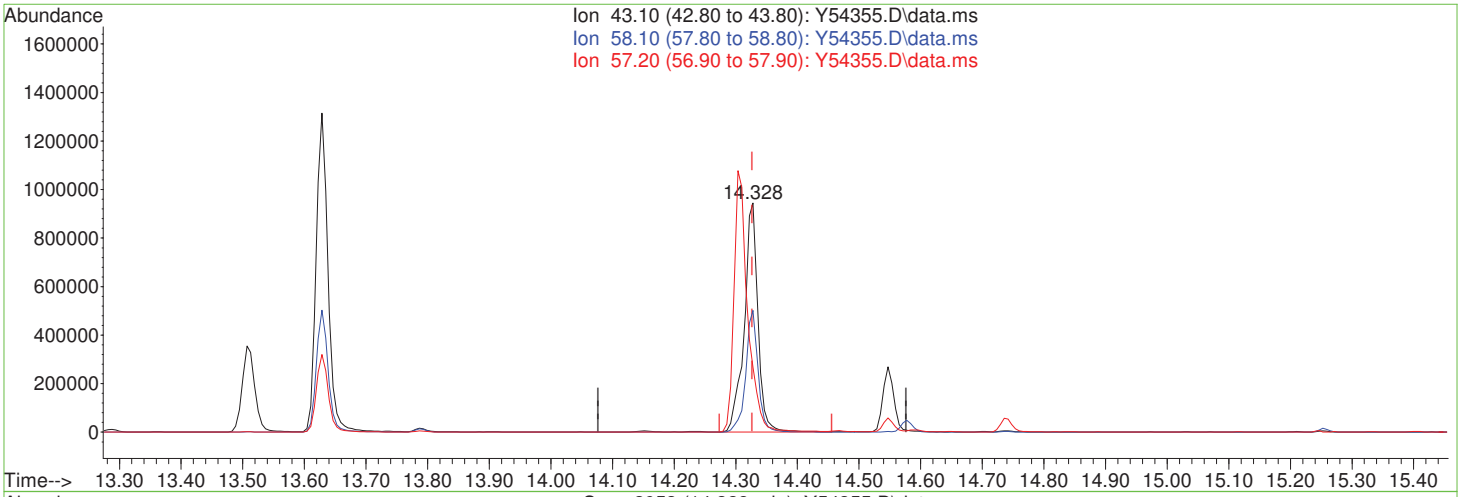
Sample Number: VY2258-CC2256
Lab FileID: Y54355.D
Injection Time: 11/29/20 12:06
Method: SW846 8260B
Analyst approved: 11/30/20 03:13 John Matthew de Guzman
Supervisor approved: 12/03/20 09:09 Melissa Mangual

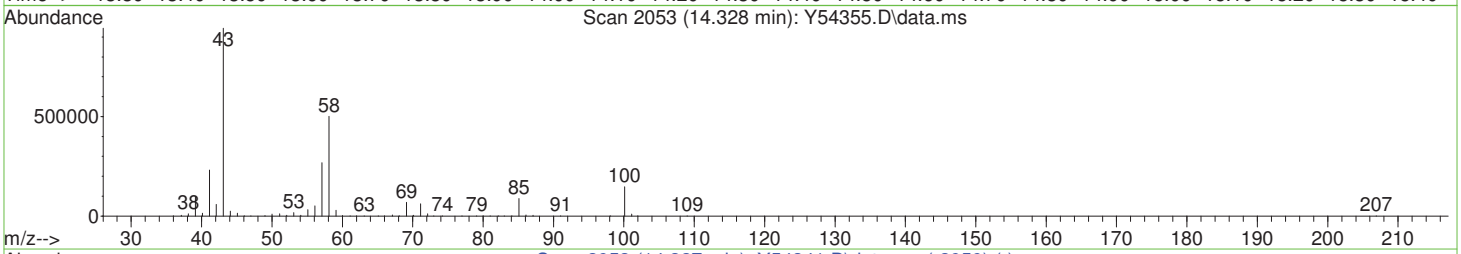
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

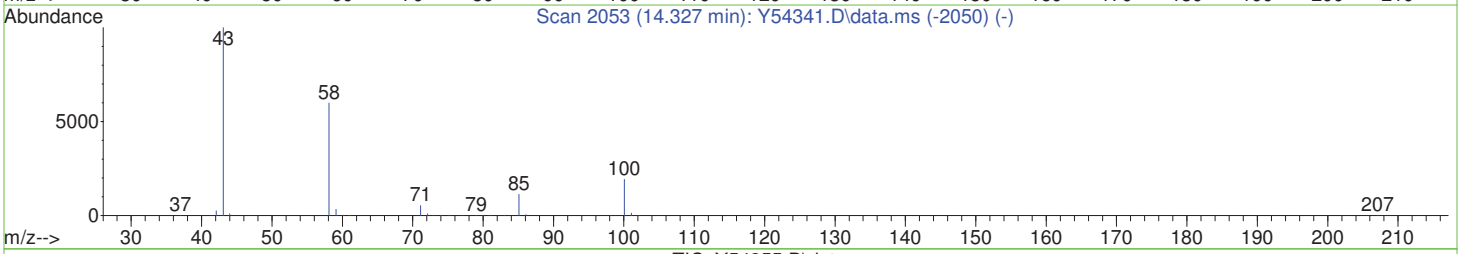
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54355.D
Acq On : 29 Nov 2020 12:06 pm
Operator : LINDSAYR
Sample : CC2246-5
Misc : MS47703,VY2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 30 02:29:22 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y54355.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 237.60ug/L

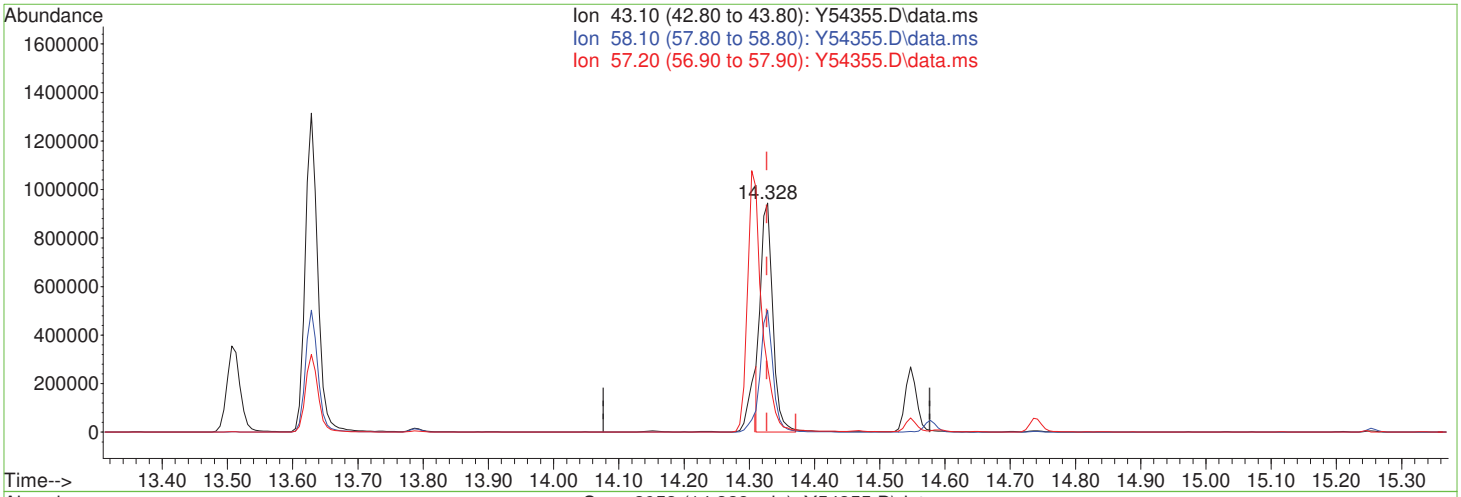
response 1475779

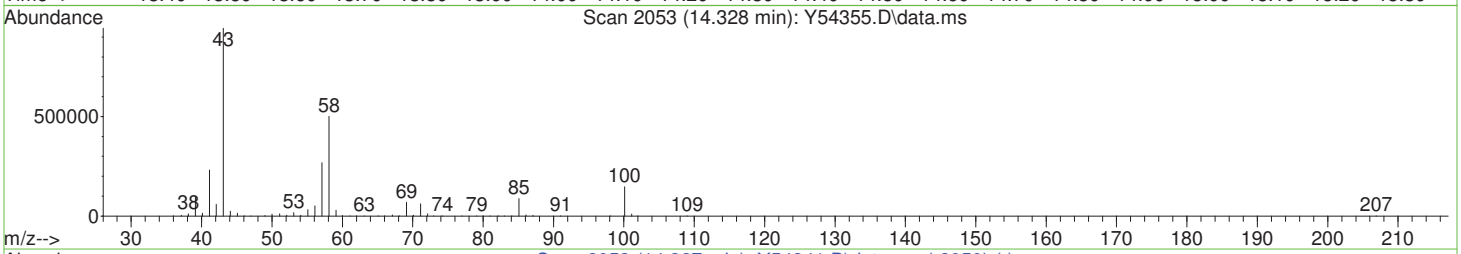
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	53.09
57.20	29.70	28.33
0.00	0.00	0.00

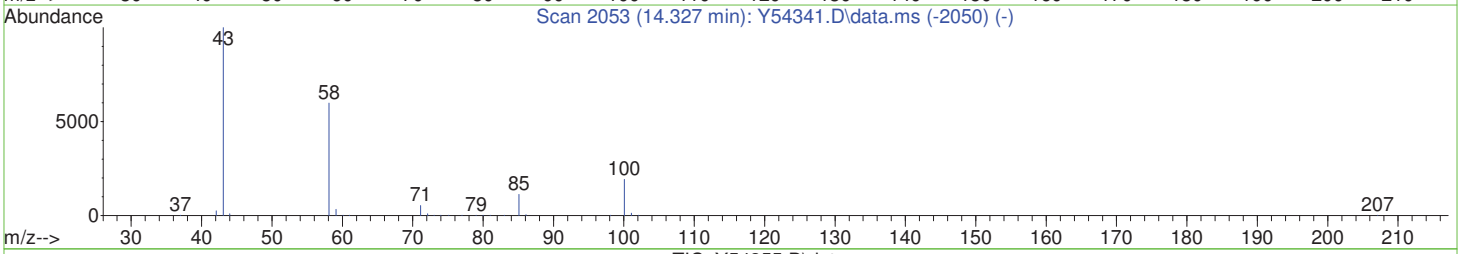
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\November 2020\11-30-2020\vy2258\
Data File : Y54355.D
Acq On : 29 Nov 2020 12:06 pm
Operator : LINDSAYR
Sample : CC2246-5
Misc : MS47703,VY2258,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 30 02:29:22 2020
Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y54355.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 197.79ug/L m

response 1228500

Ion	Exp%	Act%
43.10	100	100
58.10	52.70	53.06
57.20	29.70	28.36
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 12/03/20 09:15

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112920\
Data File : Y54378.D
Acq On : 29 Nov 2020 10:32 pm
Operator : LINDSAYR
Sample : CC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 30 11:19:11 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.520	96	2501324	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.580	117	2499707	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.271	152	1416392	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.413	65	124988	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.327	113	669235	51.89	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 103.78%			
47) 1,2-Dichloroethane-d4	11.142	65	550206	50.22	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.44%			
58) Toluene-d8	13.241	98	2724444	48.71	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.42%			
80) 4-Bromofluorobenzene	15.486	174	1032797	48.39	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.027	85	507568	38.38	ug/L	99
3) Acrolein	6.306	56	301758	170.61	ug/L	100
4) Chloromethane	3.386	50	496478	36.26	ug/L	98
5) 1,3-butadiene	3.581	39	260786	35.76	ug/L	100
6) Vinyl Chloride	3.544	62	469865	35.93	ug/L	99
7) Bromomethane	4.159	94	226211	40.59	ug/L	98
8) Chloroethane	4.402	64	228651	63.72	ug/L	99
9) Trichlorofluoromethane	4.670	101	737998	39.75	ug/L	99
10) Ethyl Ether	5.284	59	297225	35.62	ug/L	97
11) 1,2-Dichlorotrifluoroe...	5.673	67	405637	37.25	ug/L	99
12) 1,1-Dichloroethene	5.637	61	574151	34.74	ug/L	99
13) Freon 113	5.734	101	473389	38.98	ug/L	97
14) Carbon Disulfide	5.673	76	1042197	37.04	ug/L	100
15) Iodomethane	5.905	142	531444	45.73	ug/L	99
16) Allyl chloride	6.562	41	539947	34.97	ug/L	98
17) Methylene Chloride	6.774	49	548170	38.07	ug/L	98
18) Acetone	6.884	43	365655	170.03	ug/L	95
19) Methyl acetate	7.139	43	1005191	173.99	ug/L	99
20) trans-1,2-Dichloroethene	7.091	61	539421	34.45	ug/L	98
21) Hexane	7.255	56	327196m	34.93	ug/L	
22) Methyl Tert Butyl Ether	7.316	73	887512	36.67	ug/L	97
23) Acetonitrile	7.790	41	303883	322.37	ug/L	98
24) Di-isopropyl ether	8.089	45	1332560	37.30	ug/L	99
25) Chloroprene	8.265	53	553164	36.64	ug/L	98
26) 1,1-Dichloroethane	8.314	63	671024	35.30	ug/L	100
27) Acrylonitrile	8.423	53	509289	186.23	ug/L	99
28) ETBE	8.825	59	1054419	38.14	ug/L	100
29) Vinyl acetate	8.855	43	3369309	190.75	ug/L	100
30) cis-1,2-Dichloroethene	9.427	96	495615	35.94	ug/L	97
31) 2,2-Dichloropropane	9.634	77	485890	32.89	ug/L	98
32) Bromochloromethane	9.834	128	267793	36.70	ug/L	97
33) Cyclohexane	9.822	56	787148	36.30	ug/L	98
34) Chloroform	10.005	83	717006	36.07	ug/L	98
35) Ethyl acetate	10.248	43	1378034	190.72	ug/L	99
36) Tetrahydrofuran	10.248	42	81547	39.33	ug/L	98
38) Carbon Tetrachloride	10.230	117	648653	37.04	ug/L	98
39) 1,1,1-Trichloroethane	10.352	97	706289	35.10	ug/L	100
40) 2-Butanone	10.546	43	568644	171.62	ug/L	97
41) 1,1-Dichloropropene	10.564	75	580752	35.47	ug/L	99
42) tert-Butyl formate	10.753	59	476008	191.02	ug/L	97
43) Propionitrile	10.990	54	351851	343.29	ug/L	95
44) Methacrylonitrile	11.021	41	1816616	362.72	ug/L	100
45) Benzene	10.942	78	1744544	35.05	ug/L	99
46) TAME	11.124	73	860218	37.60	ug/L	98
48) 1,2-Dichloroethane	11.240	62	501881	36.74	ug/L	99
49) Trichloroethene	11.739	95	494888	36.82	ug/L	97
50) Methylcyclohexane	11.714	83	776186	36.68	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112920\
Data File : Y54378.D
Acq On : 29 Nov 2020 10:32 pm
Operator : LINDSAYR
Sample : CC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 30 11:19:11 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration

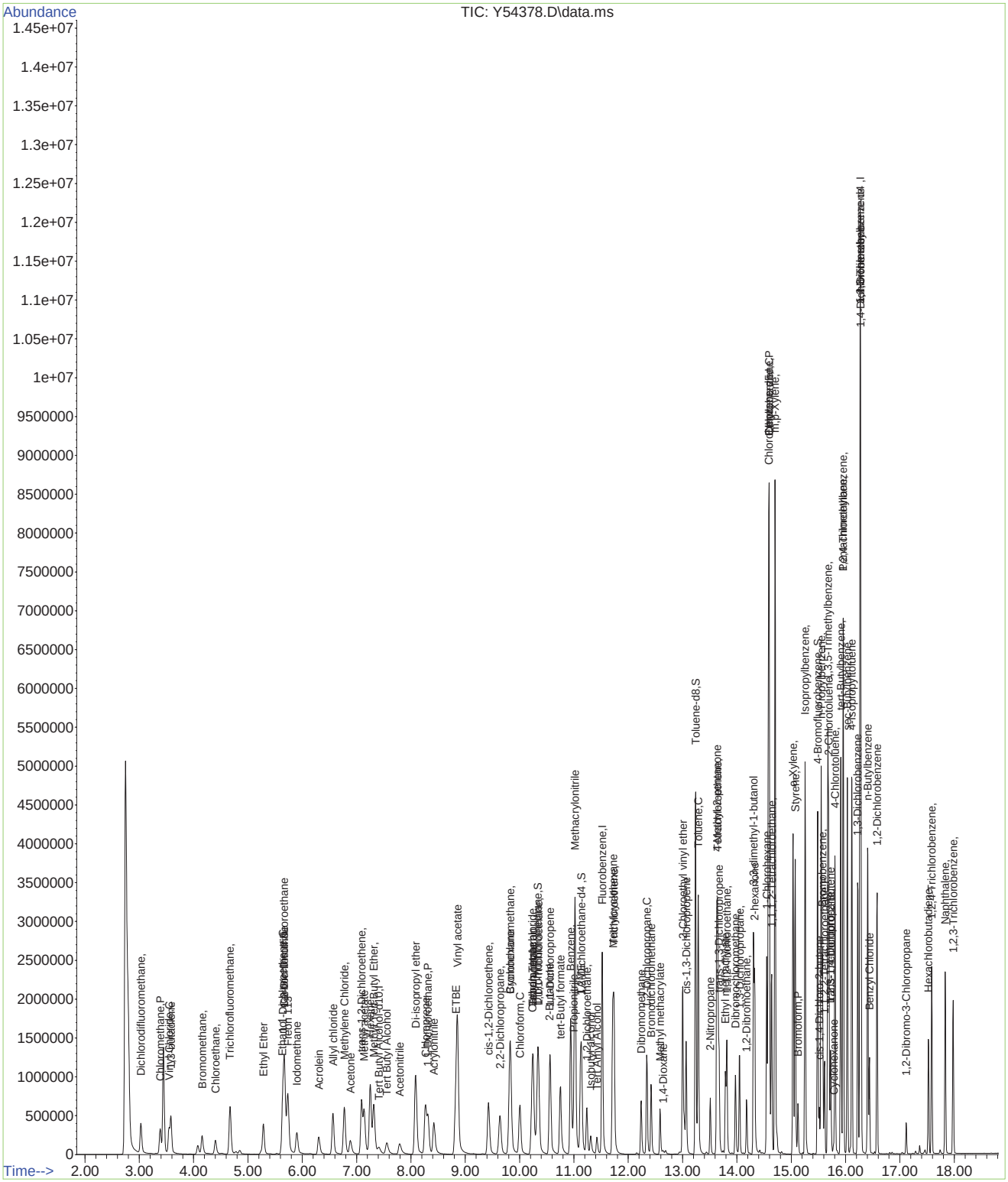
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.237	93	228152	36.92	ug/L		97
52) 1,2-Dichloropropane	12.341	63	409303	36.01	ug/L		97
53) Bromodichloromethane	12.420	83	502471	38.28	ug/L		99
54) Methyl methacrylate	12.584	41	252423	38.23	ug/L		97
55) 2-Chloroethyl vinyl ether	13.004	63	746335	206.94	ug/L		99
56) cis-1,3-Dichloropropene	13.065	75	621677	37.47	ug/L		97
59) Toluene	13.290	91	2151596	33.58	ug/L		99
60) 2-Nitropropane	13.509	41	342850	180.34	ug/L		99
61) 4-Methyl-2-pentanone	13.631	43	1424139	175.16	ug/L		99
62) trans-1,3-Dichloropropene	13.673	75	481955	35.29	ug/L		98
63) Tetrachloroethene	13.649	166	663271	37.97	ug/L		97
64) Ethyl methacrylate	13.789	69	383089	37.79	ug/L		98
65) 1,1,2-Trichloroethane	13.813	83	281364	34.89	ug/L		98
66) Dibromochloromethane	13.977	129	488304	37.80	ug/L		100
67) 1,3-Dichloropropane	14.050	76	594942	34.73	ug/L		97
68) 1,2-Dibromoethane	14.178	107	393415	35.70	ug/L		97
69) 2-hexanone	14.324	43	1047150m	184.32	ug/L		
70) 1-Chlorohexane	14.549	91	661339	33.70	ug/L		96
71) Ethylbenzene	14.592	91	2344465	36.11	ug/L		98
72) Chlorobenzene	14.592	112	1531300	34.75	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.640	131	557983	36.73	ug/L		98
74) m,p-Xylene	14.701	91	3752645	69.26	ug/L		99
75) o-Xylene	15.036	91	1911856	35.57	ug/L		99
76) Styrene	15.072	104	1562861	37.49	ug/L		99
77) Bromoform	15.121	173	250842	37.79	ug/L		99
78) Isopropylbenzene	15.255	105	2634435	34.87	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.516	53	91153	32.22	ug/L		94
82) n-Propylbenzene	15.553	91	2803036	33.21	ug/L		97
83) Bromobenzene	15.577	156	653007	33.88	ug/L		97
84) 1,1,2,2-Tetrachloroethane	15.614	83	396951	33.50	ug/L		100
85) 1,3,5-Trimethylbenzene	15.675	105	2059442	34.14	ug/L		98
86) 2-Chlorotoluene	15.693	91	1759407	33.04	ug/L		96
87) trans-1,4-Dichloro-2-B...	15.729	53	82854	33.79	ug/L	#	56
88) 1,2,3-Trichloropropane	15.723	110	151233	33.67	ug/L		98
89) Cyclohexanone	15.778	55	30989	116.74	ug/L		96
90) 4-Chlorotoluene	15.802	91	1659524	33.95	ug/L		99
91) tert-Butylbenzene	15.912	91	1048084	33.37	ug/L		96
92) 1,2,4-Trimethylbenzene	15.954	105	2086945	34.46	ug/L		97
93) Pentachloroethane	15.961	167	320032	33.27	ug/L		94
94) sec-Butylbenzene	16.034	105	2526640	33.58	ug/L		99
95) 4-Isopropyltoluene	16.119	119	2380353	34.41	ug/L		99
96) 1,3-Dichlorobenzene	16.228	146	1266090	34.33	ug/L		98
97) 1,2,3-Trimethylbenzene	16.265	105	2300551	34.31	ug/L		99
98) 1,4-Dichlorobenzene	16.283	146	1226571	33.49	ug/L		98
99) n-Butylbenzene	16.405	92	931206	34.73	ug/L		98
100) Benzyl Chloride	16.441	126	164658	32.35	ug/L	#	92
101) 1,2-Dichlorobenzene	16.581	146	1172437	34.52	ug/L		98
102) 1,2-Dibromo-3-Chloropr...	17.116	75	58112	33.64	ug/L		84
103) Hexachlorobutadiene	17.530	225	206886	33.87	ug/L		96
104) 1,2,4-Trichlorobenzene	17.585	180	617760	36.91	ug/L		98
105) Naphthalene	17.834	128	1560199	36.72	ug/L		100
106) 1,2,3-Trichlorobenzene	17.980	180	532553	35.96	ug/L		99
108) Ethanol	5.625	45	40450	526.99	ug/L		81
109) Tert Butyl Alcohol	7.553	59	269244	397.13	ug/L		97
110) Isobutyl alcohol	11.307	42	92525	771.44	ug/L		99
111) Tert Amyl Alcohol	11.422	59	126667	406.93	ug/L		97
112) 1,4-Dioxane	12.645	88	28343	423.75	ug/L		97
113) 3,3-dimethyl-1-butanol	14.306	57	1153603	2820.93	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\112920\
Data File : Y54378.D
Acq On : 29 Nov 2020 10:32 pm
Operator : LINDSAYR
Sample : CC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 30 11:19:11 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration



RESTEK112620w.M Mon Nov 30 11:22:28 2020 Page: 3

Manual Integration Approval Summary

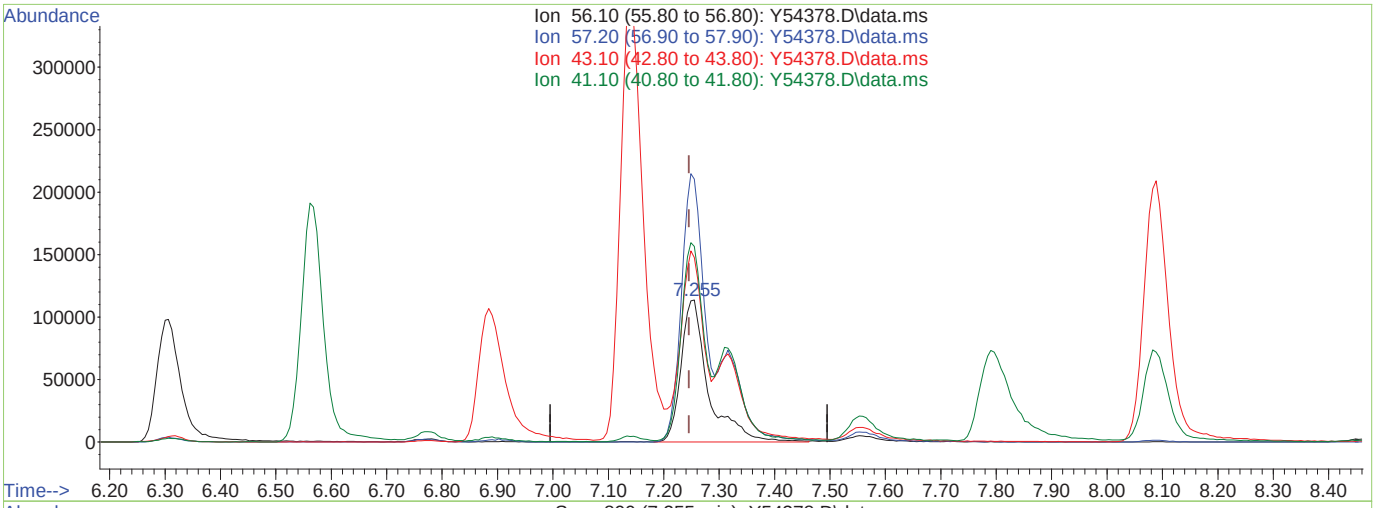
Sample Number: VY2258-CC2256
Lab FileID: Y54378.D
Injection Time: 11/29/20 22:32
Method: SW846 8260B
Analyst approved: 12/03/20 08:32 Shanica O'Connor
Supervisor approved: 12/03/20 09:15 Melissa Mangual

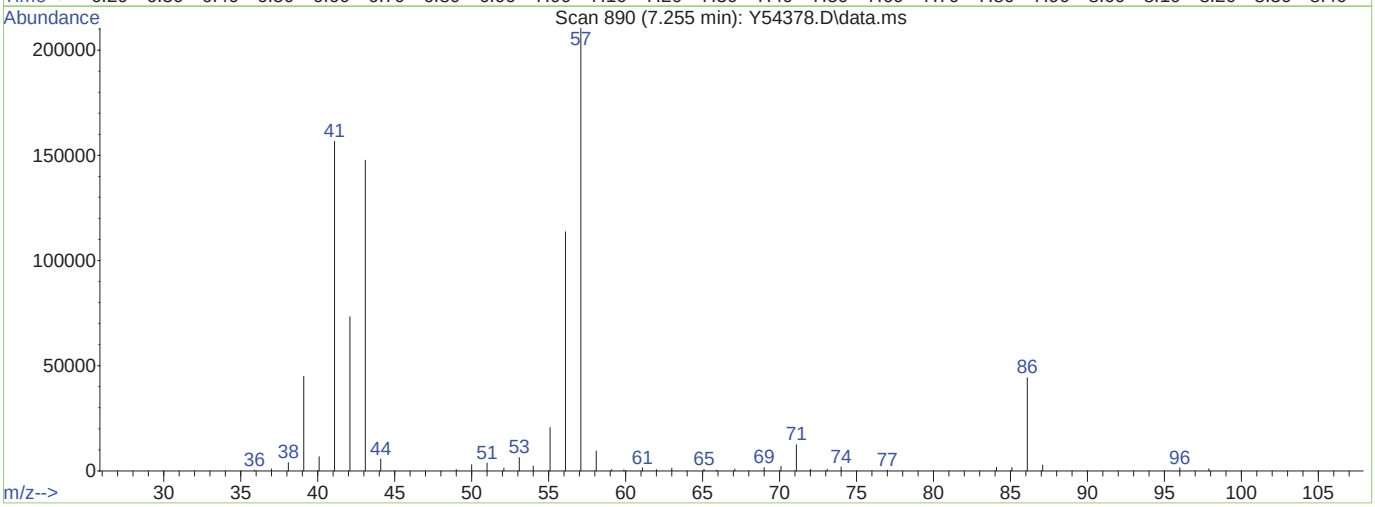
Parameter	CAS	Sig#	R.T. (min.)	Reason
Hexane	110-54-3		7.26	Overlapping peak
2-Hexanone	591-78-6		14.32	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112920\
Data File : Y54378.D
Acq On : 29 Nov 2020 10:32 pm
Operator : LINDSAYR
Sample : ECC2246-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 30 11:18:50 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration





TIC: Y54378.D\data.ms

(21) Hexane

7.255min (+0.010) 41.70ug/L

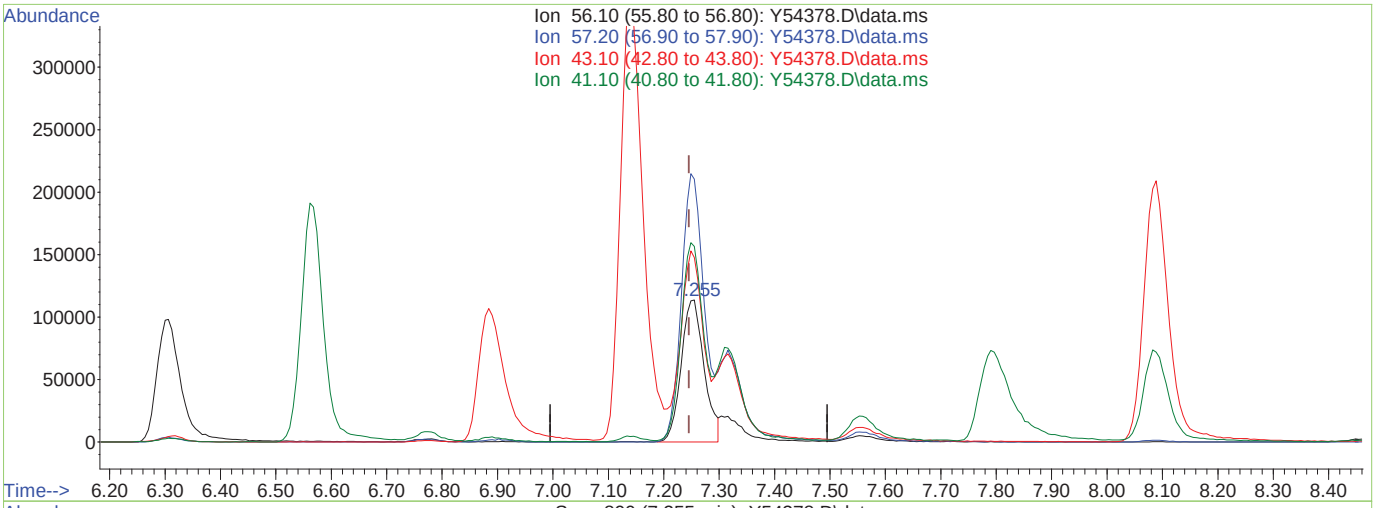
response 390651

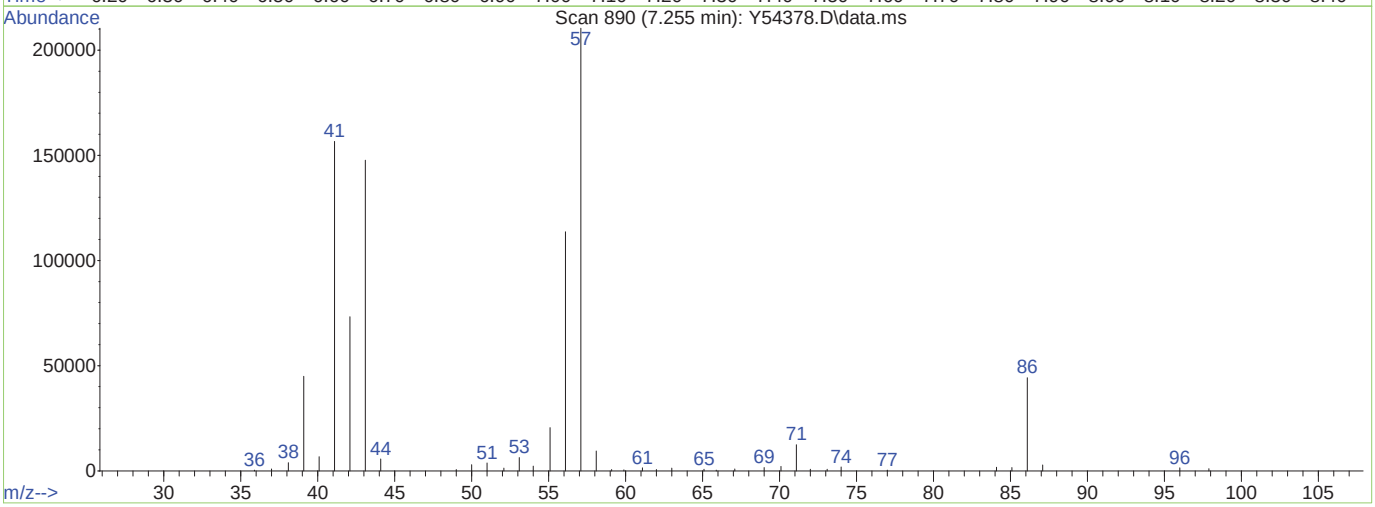
Ion	Exp%	Act%
56.10	100	100
57.20	193.30	185.20
43.10	88.60	127.57#
41.10	139.60	136.83

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112920\
Data File : Y54378.D
Acq On : 29 Nov 2020 10:32 pm
Operator : LINDSAYR
Sample : ECC2246-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 30 11:18:50 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration





TIC: Y54378.D\data.ms

(21) Hexane

7.255min (+0.010) 34.93ug/L m

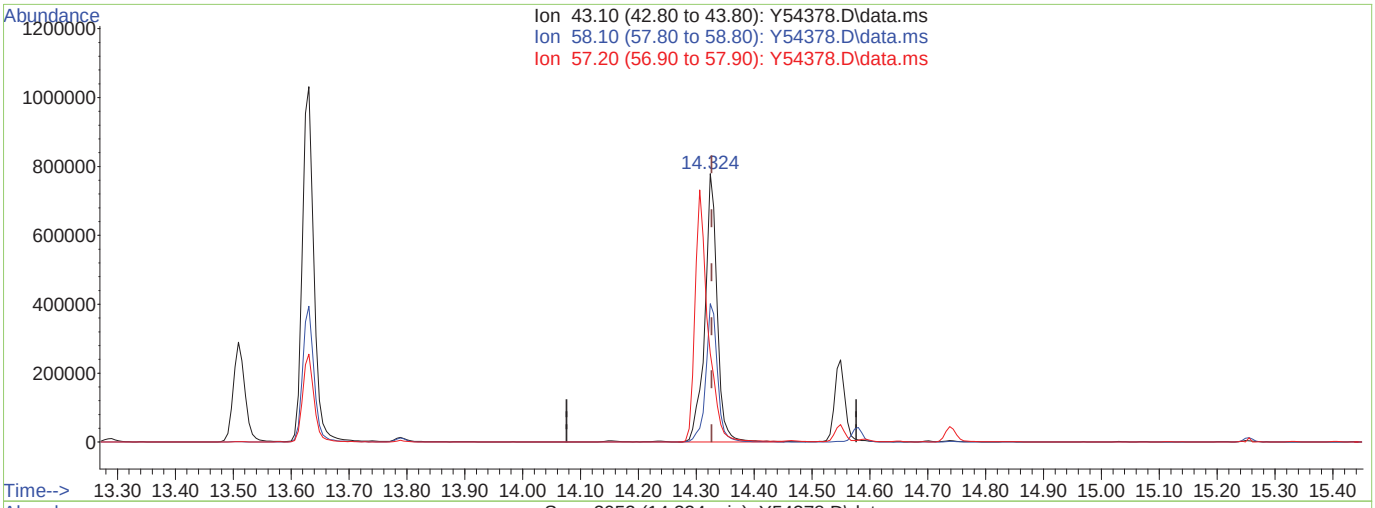
response 327196

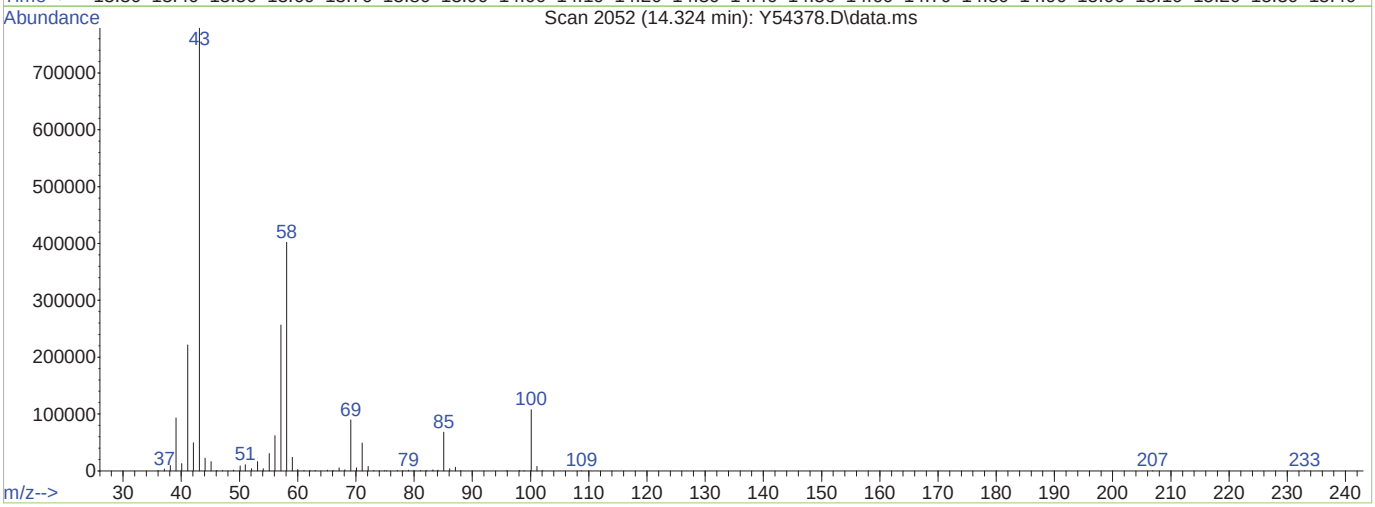
Ion	Exp%	Act%
56.10	100	100
57.20	193.30	185.20
43.10	88.60	129.91#
41.10	139.60	137.85

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112920\
Data File : Y54378.D
Acq On : 29 Nov 2020 10:32 pm
Operator : LINDSAYR
Sample : ECC2246-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 30 11:18:50 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration





TIC: Y54378.D\data.ms

(69) 2-hexanone

14.324min (-0.003) 203.89ug/L

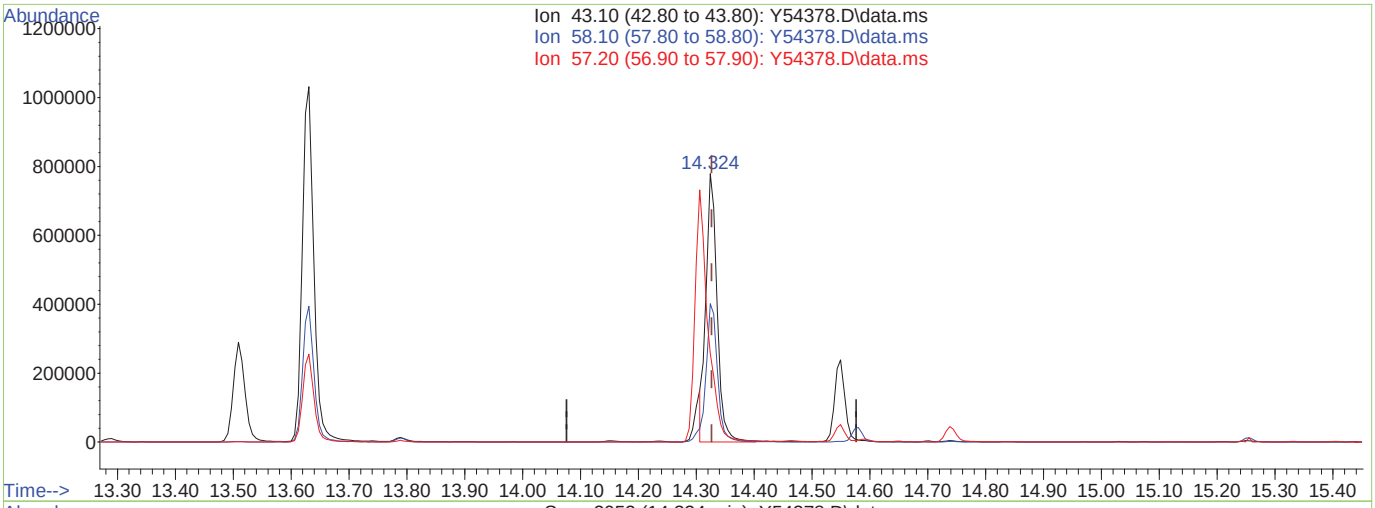
response 1158327

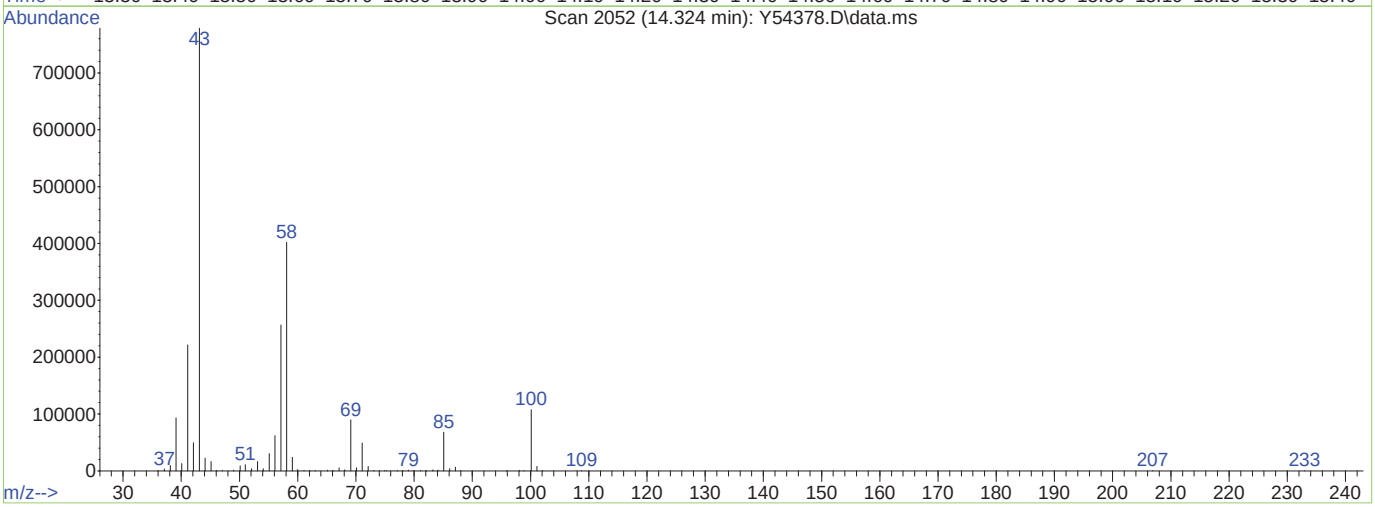
Ion	Exp%	Act%
43.10	100	100
58.10	52.70	51.63
57.20	29.70	32.98
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\112920\
Data File : Y54378.D
Acq On : 29 Nov 2020 10:32 pm
Operator : LINDSAYR
Sample : ECC2246-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 30 11:18:50 2020
Quant Method : C:\msdchem\1\METHODS\RESTEK112620w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Nov 27 08:21:29 2020
Response via : Initial Calibration





TIC: Y54378.D\data.ms

(69) 2-hexanone

14.324min (-0.003) 184.32ug/L m

response 1047150

Ion	Exp%	Act%
43.10	100	100
58.10	52.70	51.60
57.20	29.70	32.96
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/02/20 07:56

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54402.D
Acq On : 30 Nov 2020 10:26 am
Operator : LINDSAYR
Sample : cc2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2260,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:08:30 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.520	96	2354338	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.580	117	2425758	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.271	152	1365314	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.420	65	141232	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.328	113	638196	52.57	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 105.14%			
47) 1,2-Dichloroethane-d4	11.143	65	521916	50.61	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 101.22%			
58) Toluene-d8	13.242	98	2596150	47.83	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 95.66%			
80) 4-Bromofluorobenzene	15.486	174	1001152	48.66	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.034	85	518392	41.65	ug/L	98
3) Acrolein	6.307	56	296548	178.13	ug/L	98
4) Chloromethane	3.386	50	503638	39.18	ug/L	99
5) 1,3-butadiene	3.581	39	254210	37.09	ug/L	98
6) Vinyl Chloride	3.545	62	466503	37.90	ug/L	98
7) Bromomethane	4.159	94	214973	40.98	ug/L	97
8) Chloroethane	4.396	64	153342	41.31	ug/L	98
9) Trichlorofluoromethane	4.664	101	739651	42.33	ug/L	99
10) Ethyl Ether	5.291	59	297501	37.88	ug/L	99
11) 1,2-Dichlorotrifluoroe...	5.674	67	416842	40.88	ug/L	97
12) 1,1-Dichloroethene	5.637	61	600888	38.62	ug/L	99
13) Freon 113	5.729	101	492850	43.39	ug/L	99
14) Carbon Disulfide	5.668	76	1099478	41.65	ug/L	98
15) Iodomethane	5.899	142	451126	41.24	ug/L	97
16) Allyl chloride	6.562	41	571114	39.30	ug/L	98
17) Methylene Chloride	6.775	49	540439	40.02	ug/L	99
18) Acetone	6.891	43	357016	176.76	ug/L	96
19) Methyl acetate	7.140	43	951049	174.89	ug/L	99
20) trans-1,2-Dichloroethene	7.091	61	566143	38.41	ug/L	98
21) Hexane	7.250	56	359191	40.73	ug/L	98
22) Methyl Tert Butyl Ether	7.316	73	842445	36.98	ug/L	98
23) Acetonitrile	7.797	41	314340	355.05	ug/L	99
24) Di-isopropyl ether	8.089	45	1295767	38.53	ug/L	99
25) Chloroprene	8.265	53	577708	40.66	ug/L	98
26) 1,1-Dichloroethane	8.314	63	689028	38.50	ug/L	98
27) Acrylonitrile	8.424	53	482377	187.43	ug/L	98
28) ETBE	8.831	59	1004673	38.61	ug/L	98
29) Vinyl acetate	8.856	43	3207561	192.93	ug/L	99
30) cis-1,2-Dichloroethene	9.427	96	505117	38.92	ug/L	96
31) 2,2-Dichloropropane	9.640	77	551170	39.63	ug/L	100
32) Bromochloromethane	9.835	128	271477	39.53	ug/L	96
33) Cyclohexane	9.823	56	805141	39.45	ug/L	100
34) Chloroform	10.005	83	731414	39.09	ug/L	99
35) Ethyl acetate	10.249	43	1269311	186.61	ug/L	100
36) Tetrahydrofuran	10.249	42	74573	38.20	ug/L	97
38) Carbon Tetrachloride	10.230	117	683405	41.46	ug/L	98
39) 1,1,1-Trichloroethane	10.352	97	742210	39.19	ug/L	99
40) 2-Butanone	10.547	43	535075	171.57	ug/L	98
41) 1,1-Dichloropropene	10.565	75	599388	38.89	ug/L	99
42) tert-Butyl formate	10.754	59	489854	203.56	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54402.D
Acq On : 30 Nov 2020 10:26 am
Operator : LINDSAYR
Sample : cc2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2260,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:08:30 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Propionitrile	10.991	54	347038	360.23	ug/L		94
44) Methacrylonitrile	11.021	41	1718020	364.45	ug/L		99
45) Benzene	10.942	78	1777685	37.95	ug/L		99
46) TAME	11.125	73	814026	37.80	ug/L		97
48) 1,2-Dichloroethane	11.240	62	493340	38.37	ug/L		99
49) Trichloroethene	11.739	95	518095	41.20	ug/L		96
50) Methylcyclohexane	11.715	83	799492	40.14	ug/L		100
51) Dibromomethane	12.238	93	221348	38.05	ug/L		96
52) 1,2-Dichloropropane	12.341	63	404288	37.79	ug/L		97
53) Bromodichloromethane	12.420	83	500065	40.47	ug/L		99
54) Methyl methacrylate	12.585	41	239114	38.48	ug/L		98
55) 2-Chloroethyl vinyl ether	12.998	63	692322	203.95	ug/L		98
56) cis-1,3-Dichloropropene	13.065	75	629537	40.31	ug/L		98
59) Toluene	13.284	91	2199602	35.38	ug/L		99
60) 2-Nitropropane	13.509	41	324901	176.11	ug/L		99
61) 4-Methyl-2-pentanone	13.631	43	1311964	166.28	ug/L		99
62) trans-1,3-Dichloropropene	13.674	75	482024	36.37	ug/L		98
63) Tetrachloroethene	13.649	166	654304	38.63	ug/L		97
64) Ethyl methacrylate	13.789	69	358473	36.44	ug/L		97
65) 1,1,2-Trichloroethane	13.814	83	271500	34.69	ug/L		99
66) Dibromochloromethane	13.972	129	478600	38.18	ug/L		98
67) 1,3-Dichloropropane	14.045	76	573886	34.52	ug/L		98
68) 1,2-Dibromoethane	14.179	107	379238	35.46	ug/L		98
69) 2-hexanone	14.325	43	963346m	174.74	ug/L		
70) 1-Chlorohexane	14.550	91	693408	36.41	ug/L		95
71) Ethylbenzene	14.592	91	2396502	38.09	ug/L		99
72) Chlorobenzene	14.592	112	1544705	36.13	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.641	131	564546	38.29	ug/L		98
74) m,p-Xylene	14.702	91	3841970	73.07	ug/L		99
75) o-Xylene	15.036	91	1918794	36.78	ug/L		98
76) Styrene	15.073	104	1564030	38.66	ug/L		99
77) Bromoform	15.121	173	239134	37.13	ug/L		99
78) Isopropylbenzene	15.255	105	2704654	36.89	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.517	53	90557	33.21	ug/L		91
82) n-Propylbenzene	15.553	91	2875573	35.34	ug/L		97
83) Bromobenzene	15.578	156	650717	35.03	ug/L		98
84) 1,1,2,2-Tetrachloroethane	15.614	83	372204	32.58	ug/L		100
85) 1,3,5-Trimethylbenzene	15.675	105	2095054	36.03	ug/L		97
86) 2-Chlorotoluene	15.687	91	1777175	34.62	ug/L		98
87) trans-1,4-Dichloro-2-B...	15.730	53	80036	33.87	ug/L	#	64
88) 1,2,3-Trichloropropane	15.724	110	142720	32.97	ug/L		97
89) Cyclohexanone	15.779	55	36212	141.00	ug/L		96
90) 4-Chlorotoluene	15.803	91	1674087	35.53	ug/L		98
91) tert-Butylbenzene	15.912	91	1075785	35.53	ug/L		95
92) 1,2,4-Trimethylbenzene	15.955	105	2096017	35.91	ug/L		98
93) Pentachloroethane	15.961	167	346817	37.41	ug/L		94
94) sec-Butylbenzene	16.034	105	2564463	35.36	ug/L		98
95) 4-Isopropyltoluene	16.119	119	2426788	36.40	ug/L		99
96) 1,3-Dichlorobenzene	16.229	146	1269159	35.70	ug/L		97
97) 1,2,3-Trimethylbenzene	16.265	105	2288341	35.40	ug/L		100
98) 1,4-Dichlorobenzene	16.283	146	1247190	35.33	ug/L		99
99) n-Butylbenzene	16.405	92	953107	36.88	ug/L		98
100) Benzyl Chloride	16.442	126	171415	34.66	ug/L		96
101) 1,2-Dichlorobenzene	16.582	146	1149674	35.12	ug/L		98
102) 1,2-Dibromo-3-Chloropr...	17.117	75	52149	31.32	ug/L		84
103) Hexachlorobutadiene	17.524	225	211632	36.02	ug/L		95
104) 1,2,4-Trichlorobenzene	17.585	180	600522	37.22	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54402.D
Acq On : 30 Nov 2020 10:26 am
Operator : LINDSAYR
Sample : cc2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2260,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:08:30 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

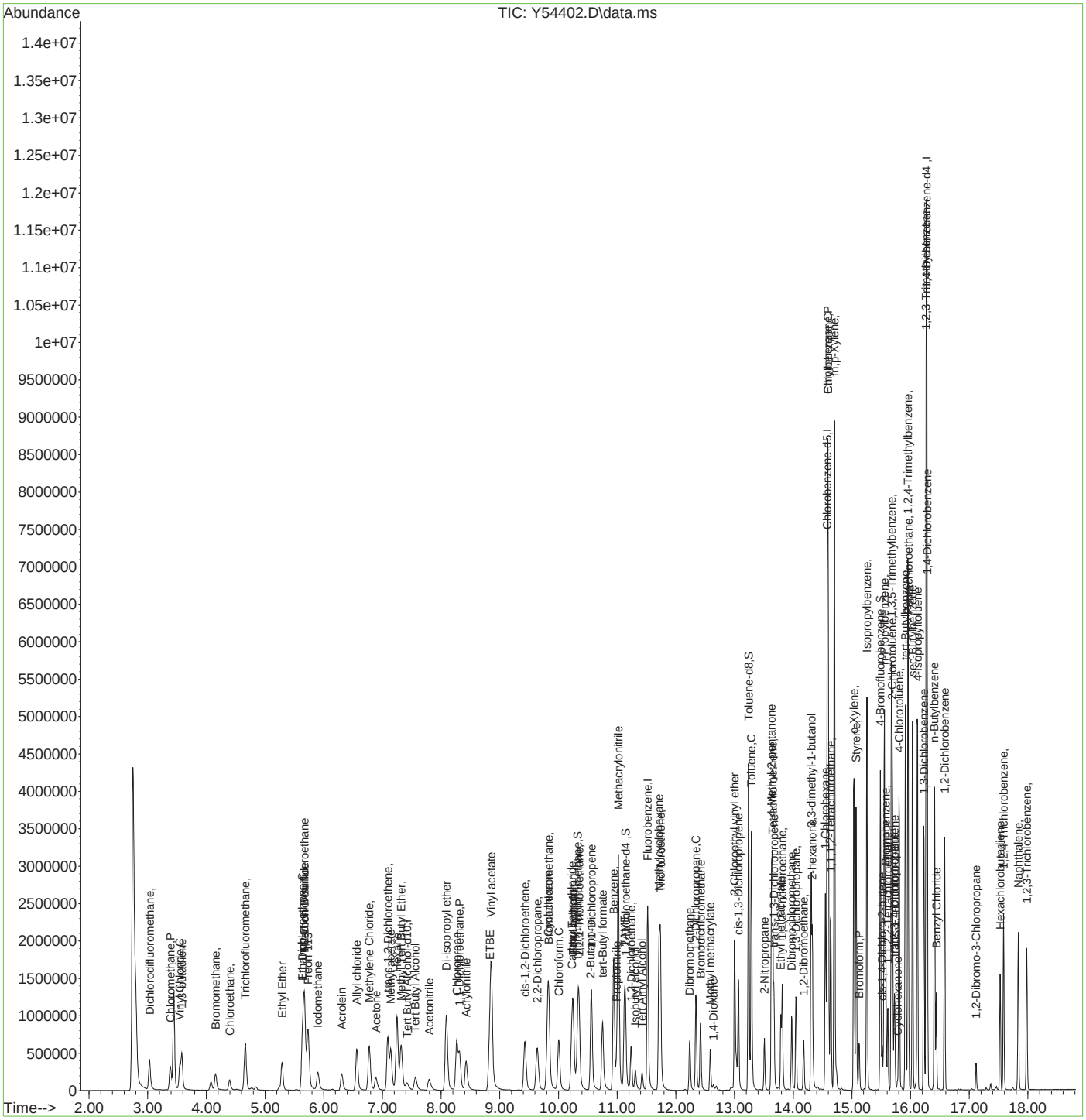
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) Naphthalene	17.835	128	1404467	34.40	ug/L	100
106) 1,2,3-Trichlorobenzene	17.981	180	515029	36.08	ug/L	98
108) Ethanol	5.637	45	62239	737.49	ug/L	89
109) Tert Butyl Alcohol	7.560	59	298287	388.70	ug/L	93
110) Isobutyl alcohol	11.307	42	101209	746.79	ug/L	98
111) Tert Amyl Alcohol	11.423	59	126990	361.05	ug/L	92
112) 1,4-Dioxane	12.639	88	49576	655.95	ug/L	97
113) 3,3-dimethyl-1-butanol	14.306	57	1132596	2451.02	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54402.D
Acq On : 30 Nov 2020 10:26 am
Operator : LINDSAYR
Sample : cc2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2260,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:08:30 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



Manual Integration Approval Summary

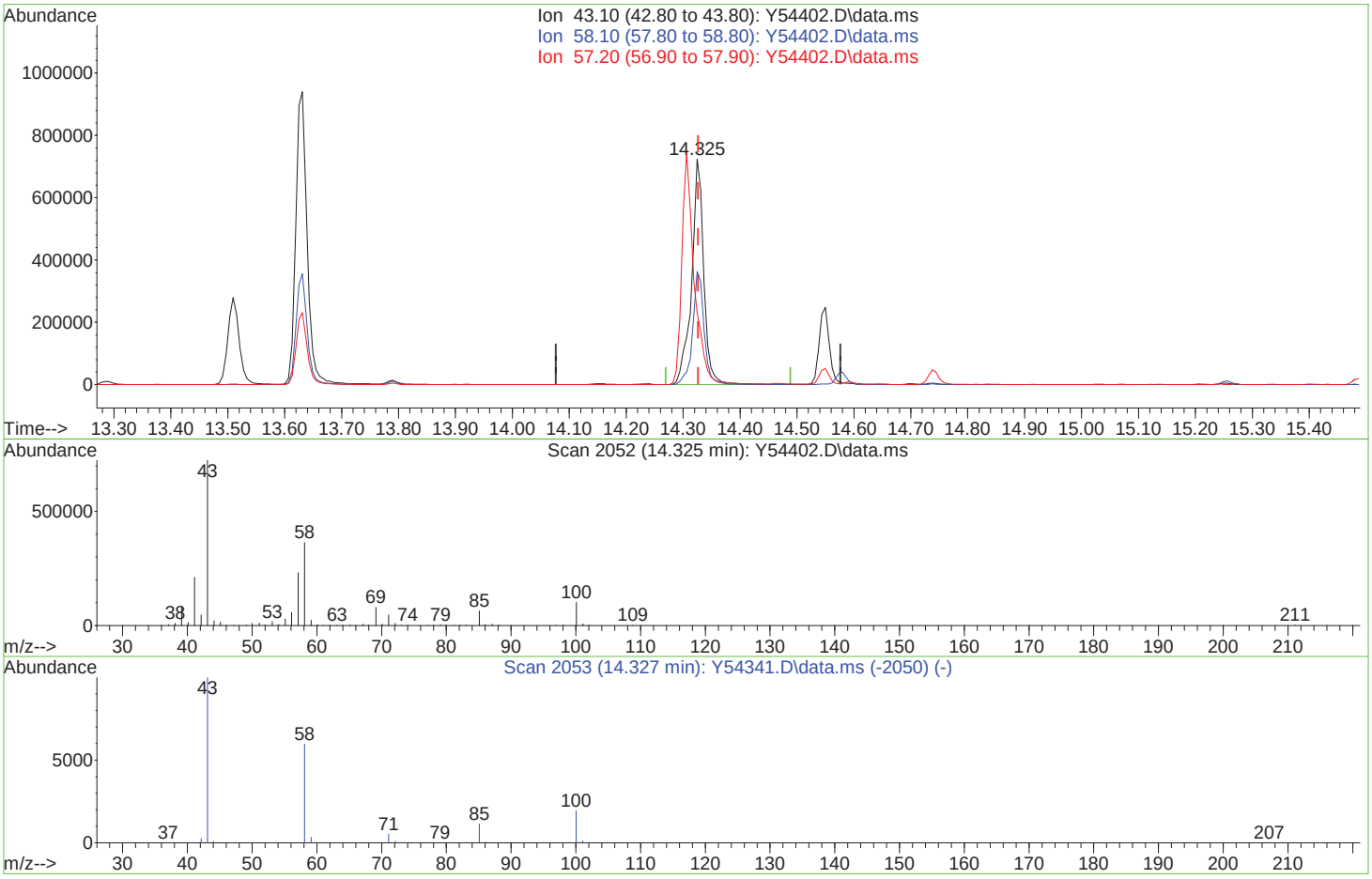
Sample Number: VY2260-CC2256
Lab FileID: Y54402.D
Injection Time: 11/30/20 10:26
Method: SW846 8260B
Analyst approved: 12/01/20 02:09 Jennifer Fereira
Supervisor approved: 12/02/20 07:56 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.32	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54402.D
Acq On : 30 Nov 2020 10:26 am
Operator : LINDSAYR
Sample : cc2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2260,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:00:43 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y54402.D\data.ms

(69) 2-hexanone

14.325min (-0.002) 196.50ug/L

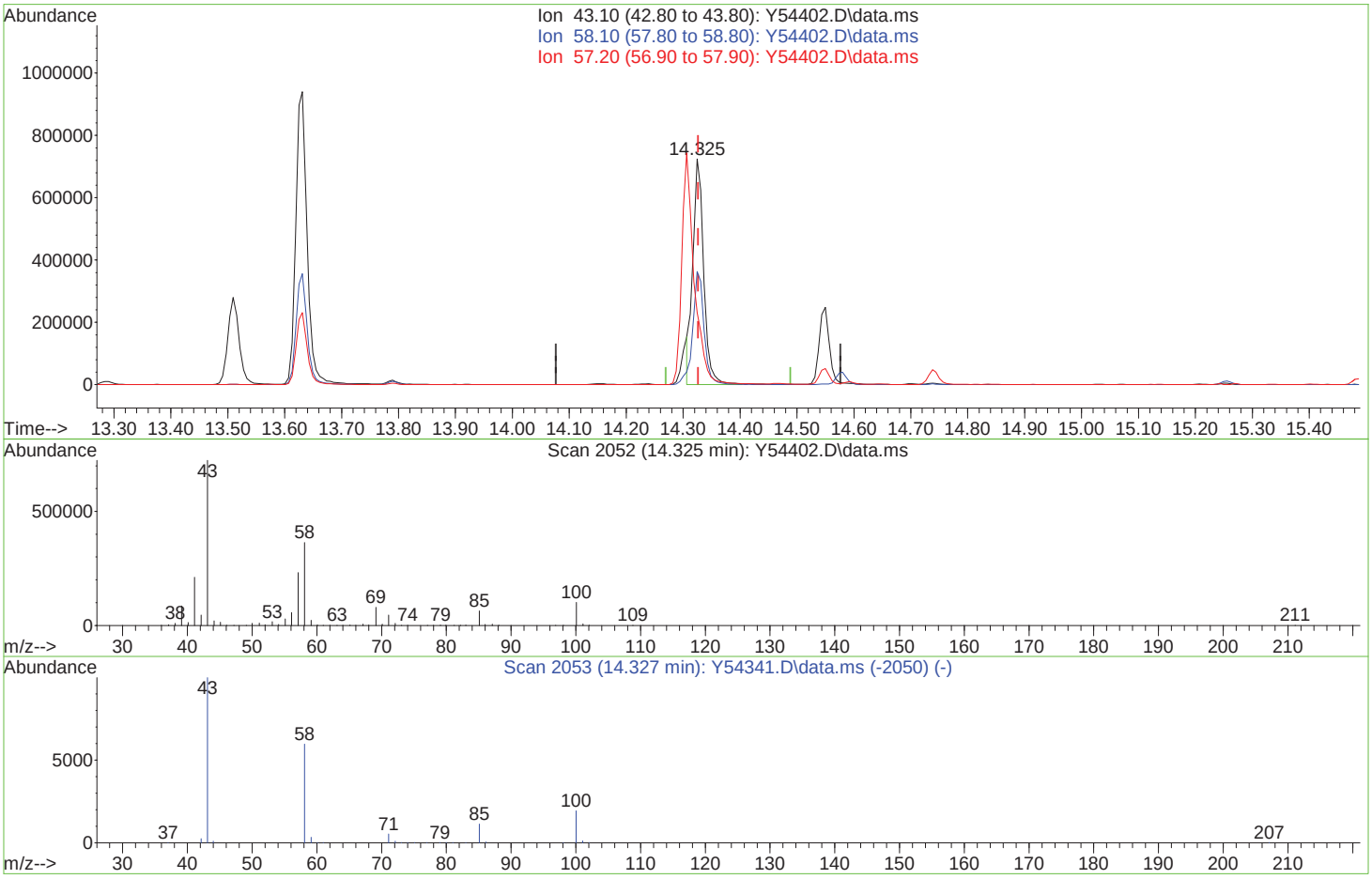
response 1083321

Ion	Exp%	Act%
43.10	100	100
58.10	52.70	50.18
57.20	29.70	31.99
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54402.D
Acq On : 30 Nov 2020 10:26 am
Operator : LINDSAYR
Sample : cc2256-5 Inst : MSVOA14-Y
Misc : MS47703,VY2260,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:00:43 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y54402.D\data.ms

(69) 2-hexanone

14.325min (-0.002) 174.74ug/L m

response 963346

Ion	Exp%	Act%
43.10	100	100
58.10	52.70	50.15
57.20	29.70	31.97
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/02/20 08:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54425.D
Acq On : 30 Nov 2020 9:02 pm
Operator : LINDSAYR
Sample : ECC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2260,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:31:19 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.523	96	2272168	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	2351560	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1333669	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.405	65	135029	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	612123	52.25	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 104.50%			
47) 1,2-Dichloroethane-d4	11.140	65	502114	50.45	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.90%			
58) Toluene-d8	13.239	98	2505755	47.62	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 95.24%			
80) 4-Bromofluorobenzene	15.490	174	972473	48.39	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.037	85	451550	37.59	ug/L	96
3) Acrolein	6.303	56	274606	170.91	ug/L	96
4) Chloromethane	3.390	50	469917m	37.84	ug/L	
5) 1,3-butadiene	3.584	39	223856	33.71	ug/L	99
6) Vinyl Chloride	3.554	62	418388	35.22	ug/L	98
7) Bromomethane	4.162	94	188052	37.19	ug/L	100
8) Chloroethane	4.399	64	153132	43.04	ug/L	96
9) Trichlorofluoromethane	4.667	101	659502	39.11	ug/L	99
10) Ethyl Ether	5.288	59	273143	36.04	ug/L	99
11) 1,2-Dichlorotrifluoroe...	5.671	67	378763	38.35	ug/L	99
12) 1,1-Dichloroethene	5.640	61	533972	35.56	ug/L	98
13) Freon 113	5.738	101	432295	39.19	ug/L	99
14) Carbon Disulfide	5.671	76	965648	37.80	ug/L	98
15) Iodomethane	5.908	142	339791	32.19	ug/L	98
16) Allyl chloride	6.565	41	485542	34.62	ug/L	98
17) Methylene Chloride	6.778	49	489246	37.36	ug/L	99
18) Acetone	6.881	43	340758	174.70	ug/L	96
19) Methyl acetate	7.137	43	953389	181.66	ug/L	99
20) trans-1,2-Dichloroethene	7.094	61	500219	35.17	ug/L	99
21) Hexane	7.253	56	280149	32.92	ug/L	94
22) Methyl Tert Butyl Ether	7.319	73	790787	35.97	ug/L	96
23) Acetonitrile	7.794	41	296020	346.25	ug/L	99
24) Di-isopropyl ether	8.086	45	1175944	36.24	ug/L	99
25) Chloroprene	8.268	53	496459	36.20	ug/L	99
26) 1,1-Dichloroethane	8.317	63	615597	35.65	ug/L	99
27) Acrylonitrile	8.421	53	469922	189.22	ug/L	98
28) ETBE	8.828	59	939422	37.41	ug/L	98
29) Vinyl acetate	8.859	43	2985074	186.04	ug/L	99
30) cis-1,2-Dichloroethene	9.424	96	455204	36.34	ug/L	99
31) 2,2-Dichloropropane	9.637	77	452158	33.69	ug/L	99
32) Bromochloromethane	9.838	128	246837	37.24	ug/L	97
33) Cyclohexane	9.820	56	709991	36.05	ug/L	98
34) Chloroform	10.002	83	653740	36.20	ug/L	99
35) Ethyl acetate	10.252	43	1234369	188.05	ug/L	99
36) Tetrahydrofuran	10.252	42	70838	37.60	ug/L	99
38) Carbon Tetrachloride	10.227	117	612449	38.50	ug/L	99
39) 1,1,1-Trichloroethane	10.349	97	671593	36.75	ug/L	98
40) 2-Butanone	10.550	43	526225	174.83	ug/L	99
41) 1,1-Dichloropropene	10.562	75	530342	35.65	ug/L	99
42) tert-Butyl formate	10.751	59	461240	200.03	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54425.D
Acq On : 30 Nov 2020 9:02 pm
Operator : LINDSAYR
Sample : ECC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2260,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:31:19 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Propionitrile	10.988	54	335252	360.59	ug/L	98
44) Methacrylonitrile	11.018	41	1642630	361.06	ug/L	100
45) Benzene	10.939	78	1593878	35.26	ug/L	98
46) TAME	11.122	73	768817	36.99	ug/L	98
48) 1,2-Dichloroethane	11.237	62	461112	37.16	ug/L	100
49) Trichloroethene	11.736	95	470926	38.67	ug/L	97
50) Methylcyclohexane	11.712	83	695860	36.20	ug/L	99
51) Dibromomethane	12.235	93	208227	37.09	ug/L	98
52) 1,2-Dichloropropane	12.344	63	367932	35.63	ug/L	97
53) Bromodichloromethane	12.423	83	461282	38.68	ug/L	98
54) Methyl methacrylate	12.582	41	222758	37.14	ug/L	95
55) 2-Chloroethyl vinyl ether	13.001	63	637141	194.48	ug/L	99
56) cis-1,3-Dichloropropene	13.068	75	571099	37.89	ug/L	99
59) Toluene	13.287	91	1996334	33.12	ug/L	100
60) 2-Nitropropane	13.506	41	324425	181.40	ug/L	97
61) 4-Methyl-2-pentanone	13.628	43	1290541	168.72	ug/L	99
62) trans-1,3-Dichloropropene	13.671	75	449846	35.01	ug/L	96
63) Tetrachloroethene	13.646	166	631824	38.47	ug/L	99
64) Ethyl methacrylate	13.786	69	334468	35.07	ug/L	94
65) 1,1,2-Trichloroethane	13.817	83	256940	33.87	ug/L	99
66) Dibromochloromethane	13.975	129	448342	36.89	ug/L	100
67) 1,3-Dichloropropane	14.048	76	537499	33.36	ug/L	99
68) 1,2-Dibromoethane	14.182	107	361768	34.90	ug/L	98
69) 2-hexanone	14.328	43	919272m	172.01	ug/L	
70) 1-Chlorohexane	14.547	91	611884	33.14	ug/L	99
71) Ethylbenzene	14.595	91	2165008	35.43	ug/L	100
72) Chlorobenzene	14.595	112	1406667	33.93	ug/L	99
73) 1,1,1,2-Tetrachloroethane	14.638	131	517585	36.22	ug/L	98
74) m,p-Xylene	14.705	91	3446856	67.62	ug/L	99
75) o-Xylene	15.033	91	1744841	34.50	ug/L	99
76) Styrene	15.070	104	1419314	36.19	ug/L	98
77) Bromoform	15.125	173	232065	37.17	ug/L	99
78) Isopropylbenzene	15.258	105	2438861	34.32	ug/L	98
81) cis-1,4-Dichloro-2-butene	15.514	53	88590	33.26	ug/L	86
82) n-Propylbenzene	15.550	91	2579502	32.46	ug/L	98
83) Bromobenzene	15.575	156	594257	32.75	ug/L	100
84) 1,1,2,2-Tetrachloroethane	15.611	83	364556	32.67	ug/L	99
85) 1,3,5-Trimethylbenzene	15.672	105	1897285	33.41	ug/L	98
86) 2-Chlorotoluene	15.690	91	1616122	32.23	ug/L	98
87) trans-1,4-Dichloro-2-B...	15.733	53	76723	33.23	ug/L	99
88) 1,2,3-Trichloropropane	15.721	110	140381	33.20	ug/L	99
89) Cyclohexanone	15.775	55	32267	128.86	ug/L	96
90) 4-Chlorotoluene	15.806	91	1514619	32.91	ug/L	97
91) tert-Butylbenzene	15.909	91	973877	32.93	ug/L	100
92) 1,2,4-Trimethylbenzene	15.952	105	1913306	33.56	ug/L	95
93) Pentachloroethane	15.958	167	279714	30.88	ug/L	91
94) sec-Butylbenzene	16.031	105	2310240	32.61	ug/L	100
95) 4-Isopropyltoluene	16.116	119	2179839	33.47	ug/L	100
96) 1,3-Dichlorobenzene	16.226	146	1156095	33.29	ug/L	99
97) 1,2,3-Trimethylbenzene	16.268	105	2101335	33.28	ug/L	99
98) 1,4-Dichlorobenzene	16.286	146	1131846	32.82	ug/L	99
99) n-Butylbenzene	16.408	92	839190	33.24	ug/L	99
100) Benzyl Chloride	16.439	126	139160	29.33	ug/L	96
101) 1,2-Dichlorobenzene	16.578	146	1073619	33.57	ug/L	99
102) 1,2-Dibromo-3-Chloropr...	17.114	75	52688	32.39	ug/L	96
103) Hexachlorobutadiene	17.527	225	188451	32.73	ug/L	98
104) 1,2,4-Trichlorobenzene	17.588	180	553110	35.10	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54425.D
Acq On : 30 Nov 2020 9:02 pm
Operator : LINDSAYR
Sample : ECC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2260,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:31:19 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

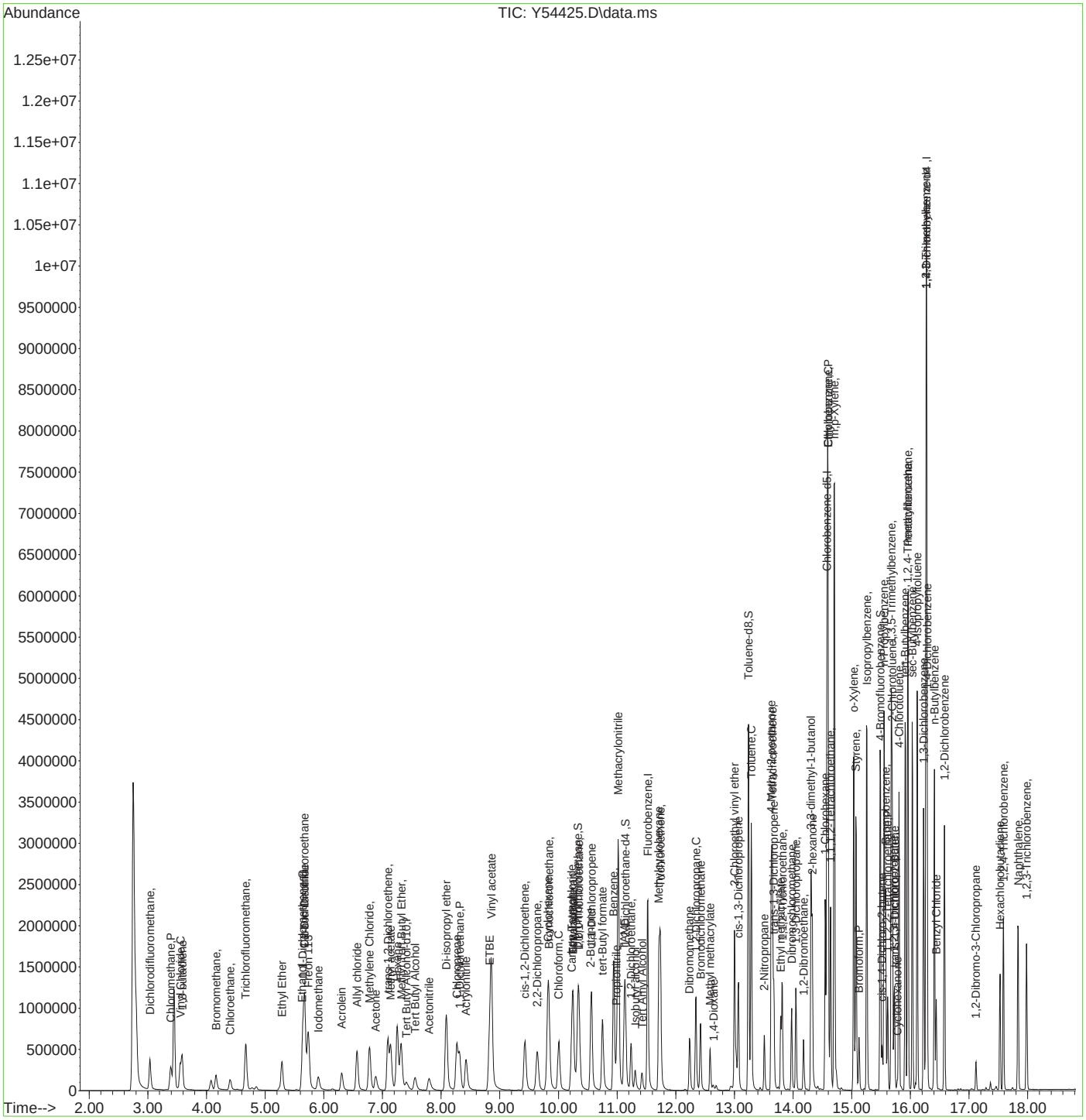
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) Naphthalene	17.838	128	1397519	35.01	ug/L	100
106) 1,2,3-Trichlorobenzene	17.978	180	476901	34.20	ug/L	100
108) Ethanol	5.628	45	56465	696.01	ug/L	80
109) Tert Butyl Alcohol	7.557	59	272786	370.43	ug/L	95
110) Isobutyl alcohol	11.310	42	94545	729.67	ug/L	98
111) Tert Amyl Alcohol	11.426	59	117620	349.77	ug/L	98
112) 1,4-Dioxane	12.642	88	43158	597.26	ug/L	96
113) 3,3-dimethyl-1-butanol	14.303	57	1091564	2470.74	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54425.D
Acq On : 30 Nov 2020 9:02 pm
Operator : LINDSAYR
Sample : ECC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2260,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 02:31:19 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



Manual Integration Approval Summary

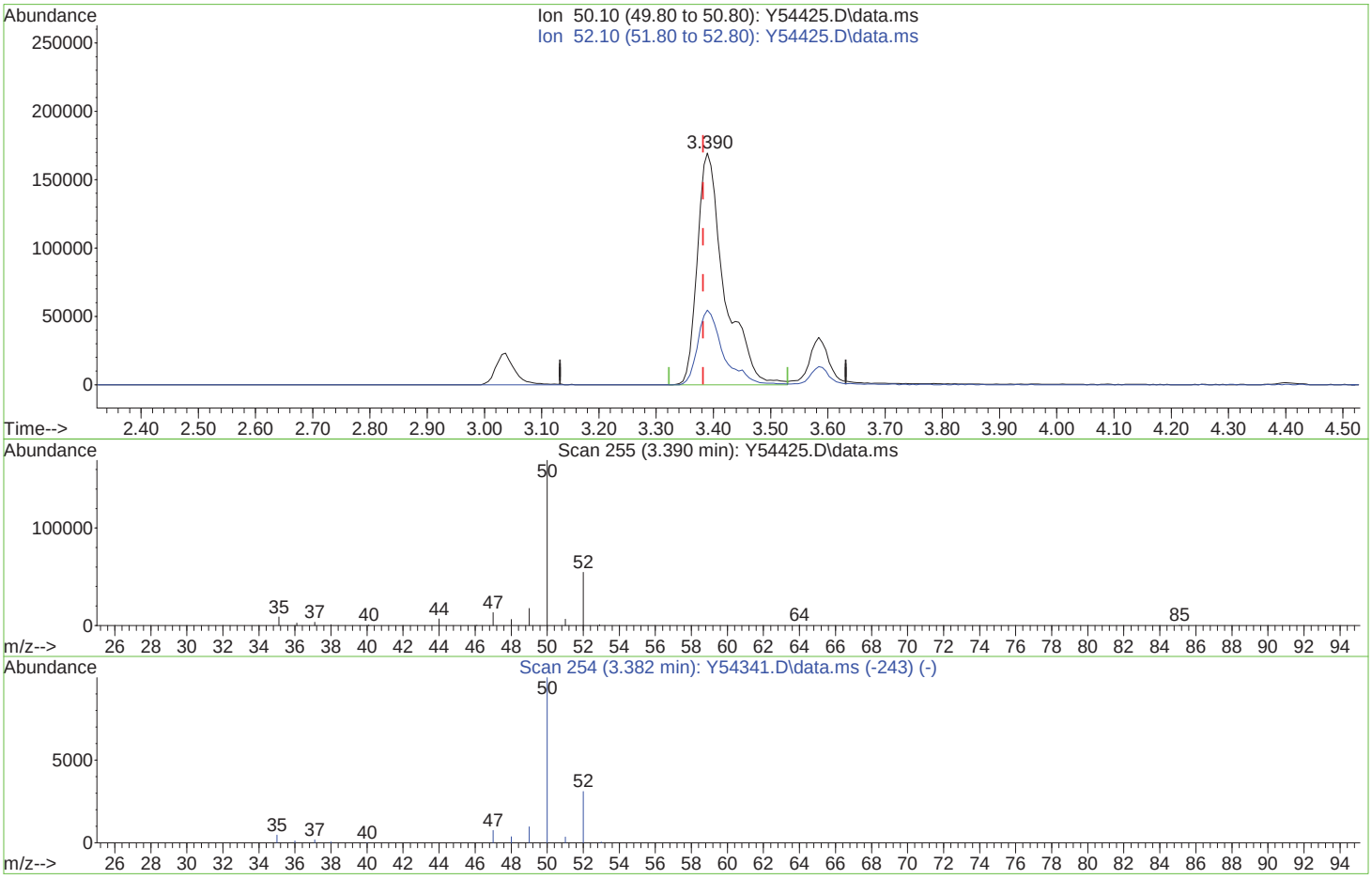
Sample Number: VY2260-ECC2256
Lab FileID: Y54425.D
Injection Time: 11/30/20 21:02
Method: SW846 8260B
Analyst approved: 12/01/20 02:43 Jennifer Fereira
Supervisor approved: 12/02/20 08:16 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54425.D
Acq On : 30 Nov 2020 9:02 pm
Operator : LINDSAYR
Sample : ECC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:32 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y54425.D\data.ms

(4) Chloromethane (P)

3.390min (+0.008) 45.20ug/L

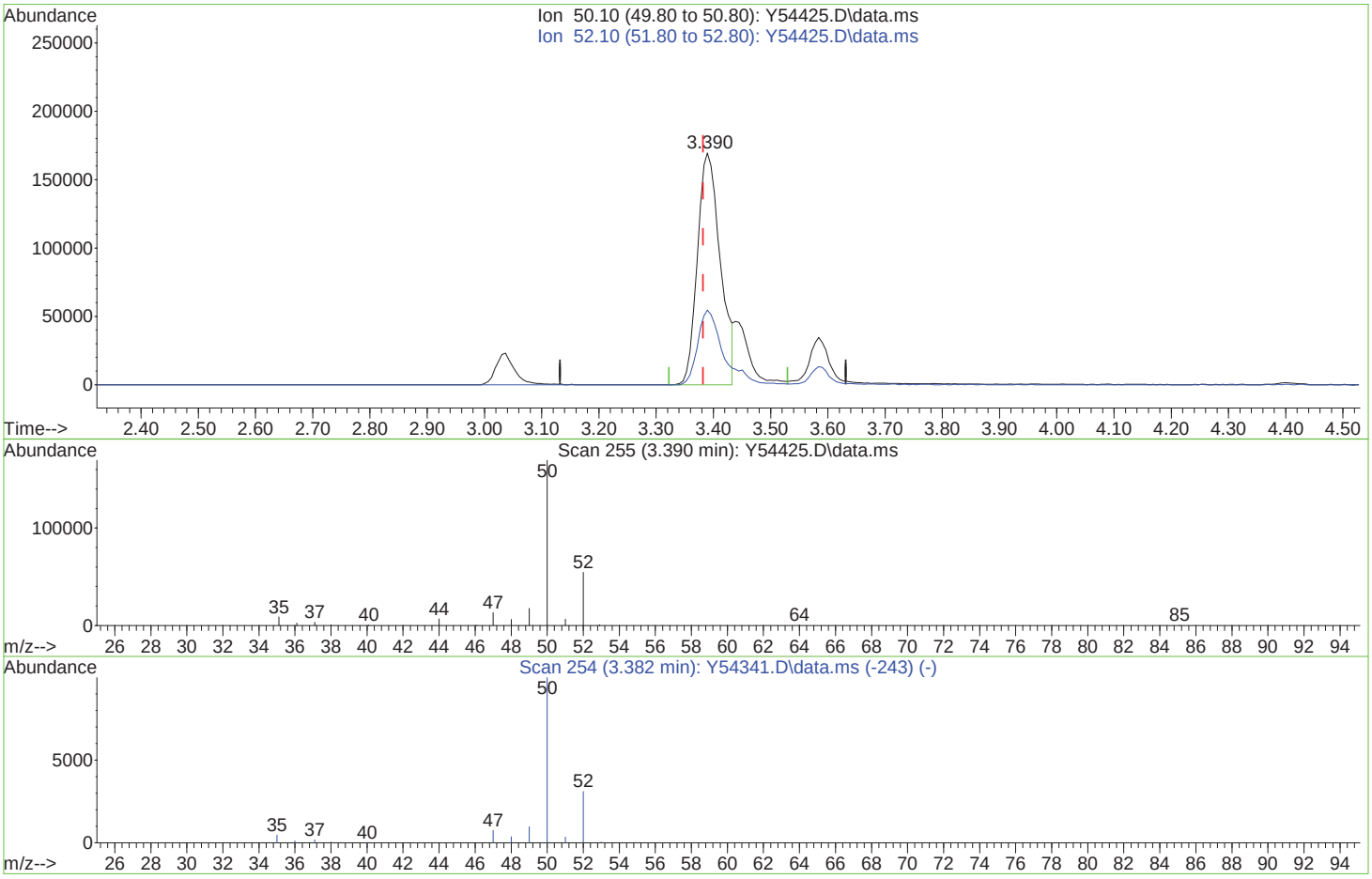
response 557745

Ion	Exp%	Act%
50.10	100	100
52.10	31.00	32.21
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54425.D
Acq On : 30 Nov 2020 9:02 pm
Operator : LINDSAYR
Sample : ECC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:32 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y54425.D\data.ms

(4) Chloromethane (P)

3.390min (+0.008) 37.84ug/L m

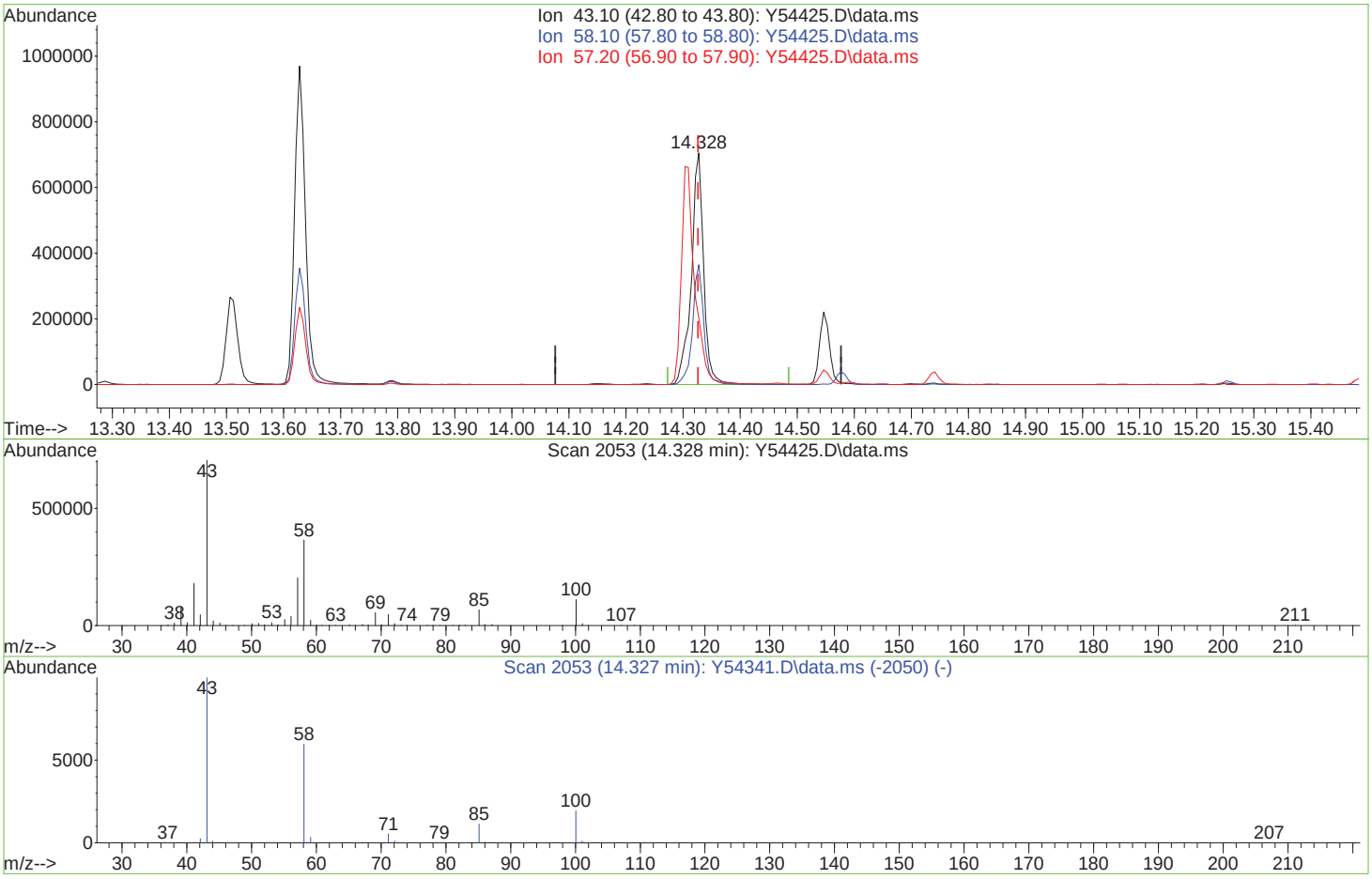
response 469917

Ion	Exp%	Act%
50.10	100	100
52.10	31.00	32.21
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54425.D
Acq On : 30 Nov 2020 9:02 pm
Operator : LINDSAYR
Sample : ECC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:32 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y54425.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 200.32ug/L

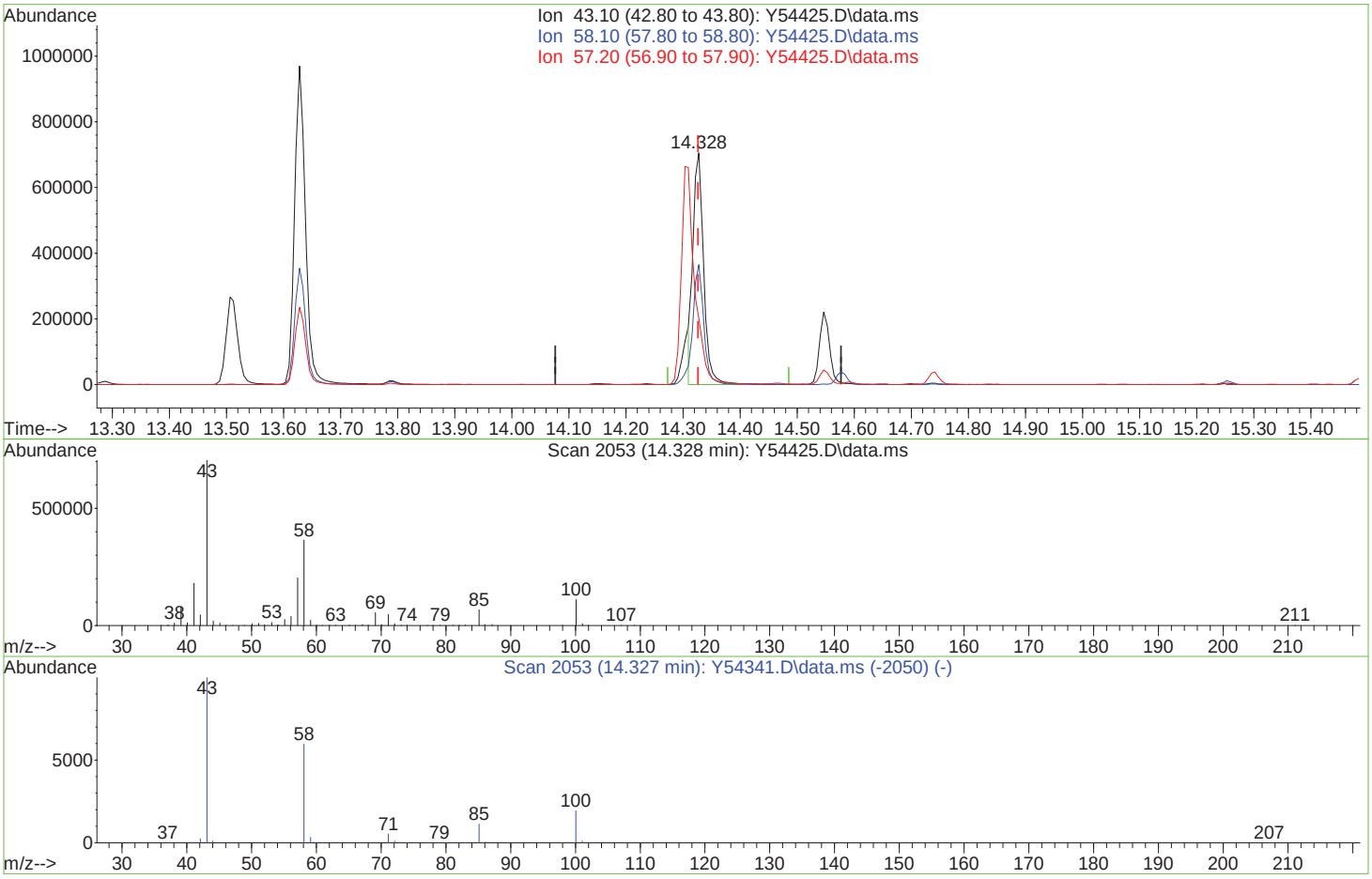
response 1070587

Ion	Exp%	Act%
43.10	100	100
58.10	52.70	51.78
57.20	29.70	28.77
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\JenniferF\DECEMBER 2020\12-01-2020\VY2260\
Data File : Y54425.D
Acq On : 30 Nov 2020 9:02 pm
Operator : LINDSAYR
Sample : ECC2256-5 Inst : MSVOA14-Y
Misc : MS47821,VY2258,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\RESTEK112620w.M
Quant Results File: RESTEK112620w.RES
Quant Time: Dec 01 00:02:32 2020
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



TIC: Y54425.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 172.01ug/L m

response 919272

Ion	Exp%	Act%
43.10	100	100
58.10	52.70	51.75
57.20	29.70	28.78
0.00	0.00	0.00

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 11/26/2020	**METHODS:** 8260	**BFB:** VS0911	**PH LOT:** 1 to 12 pH lot #: 200814
COLUMN TYPE: RTX-VMS	**METHOD FILE:** RESTEK112620W.m	**ICAL/CC:** VS0922, VS0925, VS0921,	0 to 3 pH lot#: 220416
DETECTOR: 5973 MSD	**CALIB. DATE:** 11/26/2020	VS0919, VS0931, VS0923	**KI PAPER LOT:** 102916
INSTRUMENT: MSVOA14-Y	**EM VOLTAGE:** 2188V	**ISTD/SURR:** VS0911	**AFA:** V26039A
PURGE PRESSURE: 9.0 psi	**BFB RESPONSE:** 6113061	**ICV/QC:** V26049, V26052, V26051,	**SAMPLE ID VERIFIED BY:**
PURGE VOLUME: 5 mL		V26050, VS0928, VS0965, VS0926	CV
ANALYST: Chelsea V	**RUN ID: VY2256**	**DATA PROCESSED BY:** Chelsea V	**Date:** 11/26/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Y54319	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y54320	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y54321	Conditioning Std	-	-	W	2	8260		-	-	-	20uL→ 50mL
Y54322	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y54323	CC2245-5	-	-	W	2	8260		-	-	-	Passed autofind; 20uL→ 50mL ✓
Y54324	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y54325	IC2256-1	-	-	W	2	8260	#69(OP), #98(MP), #108(PII)	-	-	-	1uL→ 100mL ✓
Y54326	IC2256-2	-	-	W	3	8260	#69(OP), #108(PII)	-	-	-	5uL→ 100mL ✓
Y54327	IC2256-3	-	-	W	4	8260	#69(OP)	-	-	-	5uL→ 50mL ✓
Y54328	IC2256-4	-	-	W	5	8260	#69(OP)	-	-	-	12.5uL→ 50mL ✓
Y54329	ICC2256-5	-	-	W	6	8260	#69(OP)	-	-	-	20uL→ 50mL ✓
Y54330	IC2256-6	-	-	W	7	8260	#4,69(OP)	-	-	-	35uL→ 50mL ✓
Y54331	IC2256-7	-	-	W	8	8260	#4,69(OP)	-	-	-	50uL→ 50mL ✓
Y54332	BLANK	-	-	W	9	8260		-	-	-	✓
Y54333	ICV2256-5	-	-	W	10	8260		-	-	-	25uL→ 50mL ✓
Y54334	ICV2256-4	-	-	W	11	8260		-	-	-	12.5uL→ 40mL ✓
Y54335	ICV2256-5	-	-	W	12	8260	Curve failed, re-calibrate	-	-	-	25uL→ 50mL ✓
Y54336	BFB	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y54337	IC2256-1	-	-	W	2	8260	#4,68,114(OP) #98(MP) #108(PII)	-	-	-	1uL→ 100mL ✓
Y54338	IC2256-2	-	-	W	3	8260	#4,69,114(OP) #108(SP)	-	-	-	5uL→ 100mL ✓
Y54339	IC2256-3	-	-	W	4	8260	#69,114(OP)	-	-	-	5uL→ 50mL ✓
Y54340	IC2256-4	-	-	W	5	8260	#4(PII) #69,114(OP)	-	-	-	12.5uL→ 50mL ✓
Y54341	ICC2256-5	-	-	W	6	8260	#69,114(OP)	-	-	-	20uL→ 50mL ✓
Y54342	IC2256-6	-	-	W	7	8260	#4,69,114(OP)	-	-	-	35uL→ 50mL ✓
Y54343	IC2256-7	-	-	W	8	8260	#4,69,114(OP)	-	-	-	50uL→ 50mL ✓
Y54344	BLANK	-	-	W	9	8260		-	-	-	✓
Y54345	ICV2256-5	-	-	W	10	8260	#4,69,114(OP)	-	-	-	25uL→ 50mL ✓
Y54346	ICV2256-4	-	-	W	11	8260		-	-	-	12.5uL→ 40mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: Chelsea V

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 11/29/2020	**METHODS:** 8260	**BFB:** VS0911	**PH LOT:** 1 to 12 pH lot #: 200814
COLUMN TYPE: RTX-VMS	**METHOD FILE:** RESTEK112620W.m	**ICAL/CC:** VS0922, VS0925, VS0921,	0 to 3 pH lot#: 220416
DETECTOR: 5973 MSD	**CALIB. DATE:** 11/26/2020	VS0919, VS0931, VS0923	**KI PAPER LOT:** 102916
INSTRUMENT: MSVOA14-Y	**EM VOLTAGE:** 2188V	**ISTD/SURR:** VS0911	**AFA:** V26039A
PURGE PRESSURE: 9.0 psi	**BFB RESPONSE:** 6039404	**ICV/QC:** V26049, V26052, V26051,	**SAMPLE ID VERIFIED BY:**
PURGE VOLUME: 5 mL		V26050, VS0928, VS0965, VS0926	LR
ANALYST: Lindsay R	**RUN ID: VY2258**	**DATA PROCESSED BY:** John M	**Date:** 11/29/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Y54353	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y54354	Conditioning Std	-	-	W	2	8260		-	-	-	Passed autofind ✓
Y54355	CC2256-5	-	-	W	3	8260	#69(OP)	-	-	-	20uL→ 50mL
Y54356	BS	-	-	W	4	8260	#69(OP)	-	-	-	12.5uL→40mL
Y54357	BLANK	-	-	W	5	8260		-	-	-	Passed autofind ✓
Y54358	CC2256-1	-	-	W	6	8260		-	-	-	1uL→ 100mL ✓
Y54359	FA80938-10	1x	1	W	7	8260		1	N		✓
Y54360	MB	-	-	W	8	8260		-	-	-	AFA, ND ✓
Y54362	FA80938-9	1x	1	W	9	8260		1	N		✓
Y54363	FA80938-1	1x	5	W	10	8260		1	N		✓
Y54364	FA80938-2	1x	5	W	11	8260		1	N		✓
Y54365	**FA80938-3**	10x	5	W	12	8260		1	N	5x	AFA
Y54366	FA80938-4	1x	5	W	13	8260		1	N		ND✓
Y54367	**FA80938-5**	50x	5	W	14	8260		1	N	25x	AFA
Y54368	FA80938-6	1x	5	W	15	8260		1	N		✓
Y54369	FA80938-7	1x	5	W	16	8260		1	N		✓
Y54370	FA80938-8	25x	5	W	17	8260		1	N		AFA ✓
Y54371	FA81069-1	1x	1	W	18	8260		1	N		✓
Y54372	FA81027-11	1x	4	W	19	8260		1	N		ND✓
Y54373	FA81027-12	1x	4	W	20	8260		1	N		✓
Y54374	FA81027-13	1x	3	W	21	8260		1	N		ND✓
Y54375	FA81027-14	1x	4	W	22	8260		1	N		✓
Y54376	**FA80938-3MS**	10x	5	W	23	8260	#69(OP)	1	N	x	AFA, 12.5uL→40mL
Y54377	**FA80938-3MSD**	10x	5	W	24	8260		1	N	x	AFA, 12.5uL→40mL
Y54378	ECC2256-5	-	-	W	25	8260	#21,69(OP)	-	-	-	20uL→ 50mL

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: _____

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 11/30/2020	**METHODS:** 8260	**BFB:** VS0911	**PH LOT:** 1 to 12 pH lot #: 200814
COLUMN TYPE: RTX-VMS	**METHOD FILE:** RESTEK112620W.m	**ICAL/CC:** VS0922, VS0925, VS0921,	0 to 3 pH lot#: 220416
DETECTOR: 5973 MSD	**CALIB. DATE:** 11/26/2020	VS0919, VS0931, VS0934	**KI PAPER LOT:** 102916
INSTRUMENT: MSVOA14-Y	**EM VOLTAGE:** 2188V	**ISTD/SURR:** VS0911	**AFA:** V26039A
PURGE PRESSURE: 9.0 psi	**BFB RESPONSE:** 5105956	**ICV/QC:** V26049, V26052, V26051,	**SAMPLE ID VERIFIED BY:**
PURGE VOLUME: 5 mL		V26050, VS0928, VS0935	LR
ANALYST: Lindsay R	**RUN ID: VY2260**	**DATA PROCESSED BY:** JenniferF	**Date:** 11/30/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Y54401	BFB	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y54402	CC2256-5/BFB	-	-	W	2	8260	#69(OP)	-	-	-	20uL→ 50mL
Y54403	BS	-	-	W	3	8260	#69(OP)	-	-	-	12.5uL→40mL
Y54404	BLANK	-	-	W	4	8260		-	-	-	Passed autofind ✓
Y54405	CC2256-1	-	-	W	5	8260		-	-	-	1uL→ 100mL ✓
Y54406	MB	-	-	W	6	8260		-	-	-	HCB (J Value) ✓
Y54407	FA81011-5	1x	2	W	7	8260		1	N		HS, last vial; CE & trans-1,4 only, ND✓
Y54408	FA81251-4	1x	2	W	8	8260		1	N		CE only, ND✓
Y54409	FA81251-5	1x	2	W	9	8260		1	N		CE only, ND✓
Y54410	FA81011-2	1x	2	W	10	8260	#98(MP)	1	N		CE & trans-1,4 only ✓
Y54411	FA81011-3	1x	3	W	11	8260	#98(MP)	1	N		CE & trans-1,4 only ✓
Y54412	FA81011-4	1x	2	W	12	8260		1	N		CE & trans-1,4 only, ND✓
Y54413	FA81011-6	1x	3	W	13	8260		1	N		CE & trans-1,4 only ✓
Y54414	FA81011-7	1x	3	W	14	8260		1	N		CE & trans-1,4 only, ND✓
Y54415	FA81011-8	1x	2	W	15	8260	#98(MP)	1	N		CE & trans-1,4 only ✓
Y54416	FA81011-1	25x	2	W	16	8260	2mL (-) 50mL	1	N		CE & trans-1,4 only ✓
Y54417	FA81251-2	100x	3	W	17	8260	500uL (-) 50mL	5	N		AFA; CE only ✓
Y54418	FA81251-3	100x	3	W	18	8260	500uL (-) 50mL	5	N		AFA; CE only, ND✓
Y54419	FA81251-1	10x	3	W	19	8260	5mL (-) 50mL, #19,40(PII)	1	N		AFA; CE only, ND✓
Y54420	BLANK	-	-	W	20	8260		-	-	-	✓
Y54421	FA81011-1MS	25x	2	W	21	8260	4mL (-) 100mL, #69(OP)	1	N		CE above cal
Y54422	FA81011-1MSD	25x	2	W	22	8260	4mL (-) 100mL, #69(OP)	1	N		✓
Y54423	FA81027-11MS	5x	5	W	23	8260	20mL (-) 100mL, #4,69(OP)	1	N		RR for VY2258✓
Y54424	FA81027-11MSD	5x	5	W	24	8260	20mL (-) 100mL, #4,69(OP)	1	N		RR for VY2258✓
Y54425	ECC2256-5	-	-	W	25	8260	#4,69(OP)	-	-	-	20uL→ 50mL✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: LR

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP18-5015 PFAS Removal; Pease AFB, NH

7311180270.6000

SGS Job Number: FA81935

Sampling Date: 12/16/20

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Ave Suite 1200
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Emma Driver

Total number of pages in report: **217**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: FA81935

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FA81935-1	12/16/20	12:30	KY	12/19/20	AQ	Ground Water	SP1-GW_20201216

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Wood Environment & Infrastructure Solut. **Job No:** FA81935

Site: ESTCP18-5015 PFAS Removal; Pease AFB, NH **Report Date** 1/2/2021 2:22:50 PM

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 12/16/2020 and were received at SGS North America Inc - Orlando on 12/19/2020 properly preserved, at 3.4 Deg. C and intact. These Samples received an SGS Orlando job number of FA81935. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** VC5862

All samples were analyzed within the recommended method holding time.

Sample(s) FA81743-26MS, FA81743-26MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

VC5862-MB: Sample was treated with an anti-foaming agent.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Ellen Pampel, LogIn/Safety (signature on file)

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
FA81743-26MS	MSVOA	C0145973.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
FA81743-26MSD	MSVOA	C0145974.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VC5857-IC5857	MSVOA	C0145852.D	1,1-Dichloroethylene, 1,4-Dichlorobenzene, Acetone, Acetonitrile, Acrolein, Allyl Chloride, Ethyl Ether, Freon 113, Isobutyl Alcohol, Methyl Bromide, Methyl Chloride, Methyl Iodide, Tert-Butyl Alcohol
VC5857-IC5857	MSVOA	C0145853.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol, Methyl Chloride
VC5857-IC5857	MSVOA	C0145854.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5857-IC5857	MSVOA	C0145855.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5857-IC5857	MSVOA	C0145857.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VC5857-IC5857	MSVOA	C0145858.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5857-ICC5857	MSVOA	C0145856.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VC5857-ICV5857	MSVOA	C0145860A.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5862-BS	MSVOA	C0145951.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VC5862-CC5857	MSVOA	C0145950.D	2-Hexanone, 3,3-Dimethyl-1-Butanol

12 Manual Integrations were found for FA81935

Summary of Hits

Job Number: FA81935
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/16/20

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA81935-1	**SP1-GW_20201216**					
Chlorobenzene		0.36 J	1.0	0.50	ug/l	SW846 8260B

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP1-GW_20201216		
Lab Sample ID:	FA81935-1	**Date Sampled:**	12/16/20
Matrix:	AQ - Ground Water	**Date Received:**	12/19/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0145962.D	1	12/30/20 13:39	SO	n/a	n/a	VC5862
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.36	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP1-GW_20201216		
Lab Sample ID:	FA81935-1	**Date Sampled:**	12/16/20
Matrix:	AQ - Ground Water	**Date Received:**	12/19/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	4.0 U	5.0	4.0	2.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	105%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

CHAIN OF CUSTODY

FA81935

DATE: 12/16/20
COC #:
PAGE: 1 OF 1

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	FED EX
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

Sample Information						Methods for Analysis	RUSH					
No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	VOC-8260c	STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
1	SP1-GW_2020 12/6	12/16/20 12:30	WG	N	N	X	X				3	
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

Sampler's Signature: Date: 12/16/20 Time: 13:30

Relinquished By/Affiliation: Wood E&IS Date: 12/18/20 Time: 13:15

Received By: Date: 12/18/20 Time: 1315

Relinquished By/Affiliation: Fed ex Date: 12/18/20 Time: 1800

Received By: Date: Time:

Relinquished By/Affiliation: Date: Time:

Received By (LAB): Date: 12/19/20 Time: 1150

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	3.4 °C

Initial Acceptance: NS
Label Verification: NS

Comments:
X=Analyze H=Hold Analysis Request PO # F013200721
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT:

CS # 15476

SGS-ACCUTEST MARLBOR 12/18

FA81935: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA81935 **Client:** WOOD **Project:** ESTCP SITE 8

Date / Time Received: 12/19/2020 11:50:00 AM **Delivery Method:** FX **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (3.4);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 12/19/2020 11:50:00 Reviewer: _____ Date: _____

5.1 5

FA81935: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81935
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/16/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC5862	SW846 8260B						
VC5862-BS	67-64-1	Acetone	BSP	REC	79	%	39-160
VC5862-BS	71-43-2	Benzene	BSP	REC	85	%	79-120
VC5862-BS	74-97-5	Bromochloromethane	BSP	REC	82	%	78-123
VC5862-BS	75-27-4	Bromodichloromethane	BSP	REC	90	%	79-125
VC5862-BS	75-25-2	Bromoform	BSP	REC	90	%	66-130
VC5862-BS	78-93-3	2-Butanone (MEK)	BSP	REC	77	%	56-143
VC5862-BS	75-15-0	Carbon Disulfide	BSP	REC	79	%	64-133
VC5862-BS	56-23-5	Carbon Tetrachloride	BSP	REC	94	%	72-136
VC5862-BS	108-90-7	Chlorobenzene	BSP	REC	84	%	82-118
VC5862-BS	75-00-3	Chloroethane	BSP	REC	82	%	60-138
VC5862-BS	67-66-3	Chloroform	BSP	REC	90	%	79-124
VC5862-BS	110-82-7	Cyclohexane	BSP	REC	86	%	71-130
VC5862-BS	124-48-1	Dibromochloromethane	BSP	REC	89	%	74-126
VC5862-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	73	%	62-128
VC5862-BS	106-93-4	1,2-Dibromoethane	BSP	REC	79	%	77-121
VC5862-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	90	%	32-152
VC5862-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	84	%	80-119
VC5862-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	86	%	80-119
VC5862-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	84	%	79-118
VC5862-BS	75-34-3	1,1-Dichloroethane	BSP	REC	90	%	77-125
VC5862-BS	107-06-2	1,2-Dichloroethane	BSP	REC	88	%	73-128
VC5862-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	92	%	71-131
VC5862-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	86	%	78-123
VC5862-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	88	%	75-124
VC5862-BS	78-87-5	1,2-Dichloropropane	BSP	REC	83	%	78-122
VC5862-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	80	%	75-124
VC5862-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	86	%	73-127
VC5862-BS	100-41-4	Ethylbenzene	BSP	REC	86	%	79-121
VC5862-BS	76-13-1	Freon 113	BSP	REC	80	%	70-136
VC5862-BS	591-78-6	2-Hexanone	BSP	REC	79	%	57-139
VC5862-BS	98-82-8	Isopropylbenzene	BSP	REC	88	%	72-131
VC5862-BS	79-20-9	Methyl Acetate	BSP	REC	76	%	56-136
VC5862-BS	74-83-9	Methyl Bromide	BSP	REC	89	%	53-141
VC5862-BS	74-87-3	Methyl Chloride	BSP	REC	100	%	50-139
VC5862-BS	108-87-2	Methylcyclohexane	BSP	REC	95	%	72-132
VC5862-BS	75-09-2	Methylene Chloride	BSP	REC	74	%	74-124
VC5862-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	83	%	67-130
VC5862-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	77	%	71-124
VC5862-BS	100-42-5	Styrene	BSP	REC	86	%	78-123
VC5862-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	76	%	71-121
VC5862-BS	127-18-4	Tetrachloroethylene	BSP	REC	90	%	74-129
VC5862-BS	108-88-3	Toluene	BSP	REC	83	%	80-121

* Sample used for QC is not from job FA81935

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81935
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/16/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC5862-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	78	%	69-129
VC5862-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	84	%	69-130
VC5862-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	93	%	74-131
VC5862-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	82	%	80-119
VC5862-BS	79-01-6	Trichloroethylene	BSP	REC	83	%	79-123
VC5862-BS	75-69-4	Trichlorofluoromethane	BSP	REC	114	%	65-141
VC5862-BS	75-01-4	Vinyl Chloride	BSP	REC	93	%	58-137
VC5862-BS		m,p-Xylene	BSP	REC	87	%	80-121
VC5862-BS	95-47-6	o-Xylene	BSP	REC	86	%	78-122
VC5862-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	99	%	80-119
VC5862-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	101	%	81-118
VC5862-BS	2037-26-5	Toluene-D8	BSP	SURR	99	%	89-112
VC5862-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	101	%	85-114
FA81743-26MS*	67-64-1	Acetone	MS	REC	88	%	39-160
FA81743-26MS*	71-43-2	Benzene	MS	REC	94	%	79-120
FA81743-26MS*	74-97-5	Bromochloromethane	MS	REC	94	%	78-123
FA81743-26MS*	75-27-4	Bromodichloromethane	MS	REC	100	%	79-125
FA81743-26MS*	75-25-2	Bromoform	MS	REC	94	%	66-130
FA81743-26MS*	78-93-3	2-Butanone (MEK)	MS	REC	92	%	56-143
FA81743-26MS*	75-15-0	Carbon Disulfide	MS	REC	88	%	64-133
FA81743-26MS*	56-23-5	Carbon Tetrachloride	MS	REC	106	%	72-136
FA81743-26MS*	108-90-7	Chlorobenzene	MS	REC	91	%	82-118
FA81743-26MS*	75-00-3	Chloroethane	MS	REC	95	%	60-138
FA81743-26MS*	67-66-3	Chloroform	MS	REC	99	%	79-124
FA81743-26MS*	110-82-7	Cyclohexane	MS	REC	90	%	71-130
FA81743-26MS*	124-48-1	Dibromochloromethane	MS	REC	96	%	74-126
FA81743-26MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	81	%	62-128
FA81743-26MS*	106-93-4	1,2-Dibromoethane	MS	REC	90	%	77-121
FA81743-26MS*	75-71-8	Dichlorodifluoromethane	MS	REC	98	%	32-152
FA81743-26MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	92	%	80-119
FA81743-26MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	93	%	80-119
FA81743-26MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	89	%	79-118
FA81743-26MS*	75-34-3	1,1-Dichloroethane	MS	REC	100	%	77-125
FA81743-26MS*	107-06-2	1,2-Dichloroethane	MS	REC	98	%	73-128
FA81743-26MS*	75-35-4	1,1-Dichloroethylene	MS	REC	100	%	71-131
FA81743-26MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	99	%	78-123
FA81743-26MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	98	%	75-124
FA81743-26MS*	78-87-5	1,2-Dichloropropane	MS	REC	93	%	78-122
FA81743-26MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	90	%	75-124
FA81743-26MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	94	%	73-127
FA81743-26MS*	100-41-4	Ethylbenzene	MS	REC	92	%	79-121
FA81743-26MS*	76-13-1	Freon 113	MS	REC	120	%	70-136
FA81743-26MS*	591-78-6	2-Hexanone	MS	REC	93	%	57-139
FA81743-26MS*	98-82-8	Isopropylbenzene	MS	REC	95	%	72-131
FA81743-26MS*	79-20-9	Methyl Acetate	MS	REC	91	%	56-136

* Sample used for QC is not from job FA81935

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81935
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/16/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA81743-26MS*	74-83-9	Methyl Bromide	MS	REC	60	%	53-141
FA81743-26MS*	74-87-3	Methyl Chloride	MS	REC	94	%	50-139
FA81743-26MS*	108-87-2	Methylcyclohexane	MS	REC	101	%	72-132
FA81743-26MS*	75-09-2	Methylene Chloride	MS	REC	89	%	74-124
FA81743-26MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	98	%	67-130
FA81743-26MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	89	%	71-124
FA81743-26MS*	100-42-5	Styrene	MS	REC	93	%	78-123
FA81743-26MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	85	%	71-121
FA81743-26MS*	127-18-4	Tetrachloroethylene	MS	REC	100	%	74-129
FA81743-26MS*	108-88-3	Toluene	MS	REC	90	%	80-121
FA81743-26MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	88	%	69-129
FA81743-26MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	90	%	69-130
FA81743-26MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	102	%	74-131
FA81743-26MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	92	%	80-119
FA81743-26MS*	79-01-6	Trichloroethylene	MS	REC	92	%	79-123
FA81743-26MS*	75-69-4	Trichlorofluoromethane	MS	REC	122	%	65-141
FA81743-26MS*	75-01-4	Vinyl Chloride	MS	REC	101	%	58-137
FA81743-26MS*		m,p-Xylene	MS	REC	94	%	80-121
FA81743-26MS*	95-47-6	o-Xylene	MS	REC	92	%	78-122
FA81743-26MS*	1868-53-7	Dibromofluoromethane	MS	SURR	102	%	80-119
FA81743-26MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	105	%	81-118
FA81743-26MS*	2037-26-5	Toluene-D8	MS	SURR	100	%	89-112
FA81743-26MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	99	%	85-114
FA81743-26MSD*	67-64-1	Acetone	MSD	REC	85	%	39-160
FA81743-26MSD*	67-64-1	Acetone	MSD	RPD	4	%	20
FA81743-26MSD*	71-43-2	Benzene	MSD	REC	87	%	79-120
FA81743-26MSD*	71-43-2	Benzene	MSD	RPD	8	%	20
FA81743-26MSD*	74-97-5	Bromochloromethane	MSD	REC	88	%	78-123
FA81743-26MSD*	74-97-5	Bromochloromethane	MSD	RPD	6	%	20
FA81743-26MSD*	75-27-4	Bromodichloromethane	MSD	REC	94	%	79-125
FA81743-26MSD*	75-27-4	Bromodichloromethane	MSD	RPD	6	%	20
FA81743-26MSD*	75-25-2	Bromoform	MSD	REC	89	%	66-130
FA81743-26MSD*	75-25-2	Bromoform	MSD	RPD	6	%	20
FA81743-26MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	84	%	56-143
FA81743-26MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	9	%	20
FA81743-26MSD*	75-15-0	Carbon Disulfide	MSD	REC	81	%	64-133
FA81743-26MSD*	75-15-0	Carbon Disulfide	MSD	RPD	9	%	20
FA81743-26MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	98	%	72-136
FA81743-26MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	8	%	20
FA81743-26MSD*	108-90-7	Chlorobenzene	MSD	REC	86	%	82-118
FA81743-26MSD*	108-90-7	Chlorobenzene	MSD	RPD	6	%	20
FA81743-26MSD*	75-00-3	Chloroethane	MSD	REC	88	%	60-138
FA81743-26MSD*	75-00-3	Chloroethane	MSD	RPD	8	%	20
FA81743-26MSD*	67-66-3	Chloroform	MSD	REC	94	%	79-124
FA81743-26MSD*	67-66-3	Chloroform	MSD	RPD	5	%	20

* Sample used for QC is not from job FA81935

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81935
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/16/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA81743-26MSD*	110-82-7	Cyclohexane	MSD	REC	86	%	71-130
FA81743-26MSD*	110-82-7	Cyclohexane	MSD	RPD	5	%	20
FA81743-26MSD*	124-48-1	Dibromochloromethane	MSD	REC	90	%	74-126
FA81743-26MSD*	124-48-1	Dibromochloromethane	MSD	RPD	7	%	20
FA81743-26MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	80	%	62-128
FA81743-26MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	1	%	20
FA81743-26MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	82	%	77-121
FA81743-26MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	10	%	20
FA81743-26MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	90	%	32-152
FA81743-26MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	9	%	20
FA81743-26MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	86	%	80-119
FA81743-26MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	6	%	20
FA81743-26MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	88	%	80-119
FA81743-26MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	5	%	20
FA81743-26MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	84	%	79-118
FA81743-26MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	6	%	20
FA81743-26MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	95	%	77-125
FA81743-26MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	5	%	20
FA81743-26MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	92	%	73-128
FA81743-26MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	6	%	20
FA81743-26MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	94	%	71-131
FA81743-26MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	6	%	20
FA81743-26MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	92	%	78-123
FA81743-26MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	8	%	20
FA81743-26MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	91	%	75-124
FA81743-26MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	7	%	20
FA81743-26MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	88	%	78-122
FA81743-26MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	5	%	20
FA81743-26MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	83	%	75-124
FA81743-26MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	7	%	20
FA81743-26MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	86	%	73-127
FA81743-26MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	9	%	20
FA81743-26MSD*	100-41-4	Ethylbenzene	MSD	REC	87	%	79-121
FA81743-26MSD*	100-41-4	Ethylbenzene	MSD	RPD	5	%	20
FA81743-26MSD*	76-13-1	Freon 113	MSD	REC	102	%	70-136
FA81743-26MSD*	76-13-1	Freon 113	MSD	RPD	5	%	20
FA81743-26MSD*	591-78-6	2-Hexanone	MSD	REC	86	%	57-139
FA81743-26MSD*	591-78-6	2-Hexanone	MSD	RPD	8	%	20
FA81743-26MSD*	98-82-8	Isopropylbenzene	MSD	REC	91	%	72-131
FA81743-26MSD*	98-82-8	Isopropylbenzene	MSD	RPD	4	%	20
FA81743-26MSD*	79-20-9	Methyl Acetate	MSD	REC	83	%	56-136
FA81743-26MSD*	79-20-9	Methyl Acetate	MSD	RPD	9	%	20
FA81743-26MSD*	74-83-9	Methyl Bromide	MSD	REC	68	%	53-141
FA81743-26MSD*	74-83-9	Methyl Bromide	MSD	RPD	13	%	20
FA81743-26MSD*	74-87-3	Methyl Chloride	MSD	REC	91	%	50-139

* Sample used for QC is not from job FA81935

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81935
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/16/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA81743-26MSD*	74-87-3	Methyl Chloride	MSD	RPD	3	%	20
FA81743-26MSD*	108-87-2	Methylcyclohexane	MSD	REC	98	%	72-132
FA81743-26MSD*	108-87-2	Methylcyclohexane	MSD	RPD	3	%	20
FA81743-26MSD*	75-09-2	Methylene Chloride	MSD	REC	83	%	74-124
FA81743-26MSD*	75-09-2	Methylene Chloride	MSD	RPD	7	%	20
FA81743-26MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	88	%	67-130
FA81743-26MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	10	%	20
FA81743-26MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	82	%	71-124
FA81743-26MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	7	%	20
FA81743-26MSD*	100-42-5	Styrene	MSD	REC	86	%	78-123
FA81743-26MSD*	100-42-5	Styrene	MSD	RPD	8	%	20
FA81743-26MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	80	%	71-121
FA81743-26MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	6	%	20
FA81743-26MSD*	127-18-4	Tetrachloroethylene	MSD	REC	92	%	74-129
FA81743-26MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	8	%	20
FA81743-26MSD*	108-88-3	Toluene	MSD	REC	83	%	80-121
FA81743-26MSD*	108-88-3	Toluene	MSD	RPD	8	%	20
FA81743-26MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	81	%	69-129
FA81743-26MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	9	%	20
FA81743-26MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	84	%	69-130
FA81743-26MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	6	%	20
FA81743-26MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	98	%	74-131
FA81743-26MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	3	%	20
FA81743-26MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	86	%	80-119
FA81743-26MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	7	%	20
FA81743-26MSD*	79-01-6	Trichloroethylene	MSD	REC	88	%	79-123
FA81743-26MSD*	79-01-6	Trichloroethylene	MSD	RPD	4	%	20
FA81743-26MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	114	%	65-141
FA81743-26MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	7	%	20
FA81743-26MSD*	75-01-4	Vinyl Chloride	MSD	REC	94	%	58-137
FA81743-26MSD*	75-01-4	Vinyl Chloride	MSD	RPD	6	%	20
FA81743-26MSD*		m,p-Xylene	MSD	REC	90	%	80-121
FA81743-26MSD*		m,p-Xylene	MSD	RPD	5	%	20
FA81743-26MSD*	95-47-6	o-Xylene	MSD	REC	88	%	78-122
FA81743-26MSD*	95-47-6	o-Xylene	MSD	RPD	4	%	20
FA81743-26MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	102	%	80-119
FA81743-26MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	105	%	81-118
FA81743-26MSD*	2037-26-5	Toluene-D8	MSD	SURR	99	%	89-112
FA81743-26MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	100	%	85-114
VC5862-MB	1868-53-7	Dibromofluoromethane	MB	SURR	103	%	80-119
VC5862-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	105	%	81-118
VC5862-MB	2037-26-5	Toluene-D8	MB	SURR	97	%	89-112
VC5862-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	101	%	85-114
FA81935-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	100	%	80-119
FA81935-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	105	%	81-118

* Sample used for QC is not from job FA81935

QC Evaluation: DOD QSM5.x Limits

Job Number: FA81935
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/16/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA81935-1	2037-26-5	Toluene-D8	SAMP	SURR	97	%	89-112
FA81935-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	98	%	85-114

* Sample used for QC is not from job FA81935

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5862-MB [a]	C0145954.D	1	12/30/20	SO	n/a	n/a	VC5862

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81935-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	0.59	2.0	0.50	ug/l	J
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	

Method Blank Summary

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5862-MB [a]	C0145954.D	1	12/30/20	SO	n/a	n/a	VC5862

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81935-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	105%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

(a) Sample was treated with an anti-foaming agent.

Blank Spike Summary

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5862-BS	C0145951.D	1	12/30/20	SO	n/a	n/a	VC5862

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81935-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	99.1	79	50-147
71-43-2	Benzene	25	21.2	85	81-122
74-97-5	Bromochloromethane	25	20.6	82	76-123
75-27-4	Bromodichloromethane	25	22.6	90	79-123
75-25-2	Bromoform	25	22.4	90	66-123
78-93-3	2-Butanone (MEK)	125	96.6	77	56-143
75-15-0	Carbon Disulfide	25	19.7	79	66-148
56-23-5	Carbon Tetrachloride	25	23.6	94	76-136
108-90-7	Chlorobenzene	25	21.0	84	82-124
75-00-3	Chloroethane	25	20.5	82	62-144
67-66-3	Chloroform	25	22.4	90	80-124
110-82-7	Cyclohexane	25	21.4	86	73-138
124-48-1	Dibromochloromethane	25	22.2	89	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	18.2	73	64-123
106-93-4	1,2-Dibromoethane	25	19.8	79	75-120
75-71-8	Dichlorodifluoromethane	25	22.6	90	42-167
95-50-1	1,2-Dichlorobenzene	25	21.0	84	82-124
541-73-1	1,3-Dichlorobenzene	25	21.6	86	84-125
106-46-7	1,4-Dichlorobenzene	25	20.9	84	78-120
75-34-3	1,1-Dichloroethane	25	22.4	90	81-122
107-06-2	1,2-Dichloroethane	25	21.9	88	75-125
75-35-4	1,1-Dichloroethylene	25	22.9	92	78-137
156-59-2	cis-1,2-Dichloroethylene	25	21.6	86	78-120
156-60-5	trans-1,2-Dichloroethylene	25	22.0	88	76-127
78-87-5	1,2-Dichloropropane	25	20.8	83	76-124
10061-01-5	cis-1,3-Dichloropropene	25	20.1	80	75-118
10061-02-6	trans-1,3-Dichloropropene	25	21.5	86	80-120
100-41-4	Ethylbenzene	25	21.6	86	81-121
76-13-1	Freon 113	25	20.0	80	72-134
591-78-6	2-Hexanone	125	98.2	79	61-129
98-82-8	Isopropylbenzene	25	22.0	88	83-132
79-20-9	Methyl Acetate	125	95.4	76	65-126
74-83-9	Methyl Bromide	25	22.2	89	59-143
74-87-3	Methyl Chloride	25	25.1	100	50-159
108-87-2	Methylcyclohexane	25	23.8	95	76-129
75-09-2	Methylene Chloride	25	18.6	74	69-135

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5862-BS	C0145951.D	1	12/30/20	SO	n/a	n/a	VC5862

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81935-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
108-10-1	4-Methyl-2-pentanone (MIBK)	125	104	83	66-122
1634-04-4	Methyl Tert Butyl Ether	25	19.2	77	72-117
100-42-5	Styrene	25	21.5	86	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	19.1	76	72-120
127-18-4	Tetrachloroethylene	25	22.6	90	76-135
108-88-3	Toluene	25	20.7	83	80-120
87-61-6	1,2,3-Trichlorobenzene	25	19.6	78	68-131
120-82-1	1,2,4-Trichlorobenzene	25	21.1	84	73-129
71-55-6	1,1,1-Trichloroethane	25	23.2	93	75-130
79-00-5	1,1,2-Trichloroethane	25	20.5	82	76-119
79-01-6	Trichloroethylene	25	20.7	83	81-126
75-69-4	Trichlorofluoromethane	25	28.5	114	71-156
75-01-4	Vinyl Chloride	25	23.3	93	69-159
	m,p-Xylene	50	43.6	87	79-126
95-47-6	o-Xylene	25	21.4	86	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA81743-26MS	C0145973.D	50	12/30/20	SO	n/a	n/a	VC5862
FA81743-26MSD	C0145974.D	50	12/30/20	SO	n/a	n/a	VC5862
FA81743-26 [a]	C0145960.D	50	12/30/20	SO	n/a	n/a	VC5862

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81935-1

CAS No.	Compound	FA81743-26 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	1300 U		6250	5530	88	6250	5330	85	4	50-147/21
71-43-2	Benzene	50 U		1250	1180	94	1250	1090	87	8	81-122/14
74-97-5	Bromochloromethane	50 U		1250	1170	94	1250	1100	88	6	76-123/14
75-27-4	Bromodichloromethane	50 U		1250	1250	100	1250	1180	94	6	79-123/19
75-25-2	Bromoform	50 U		1250	1180	94	1250	1110	89	6	66-123/21
78-93-3	2-Butanone (MEK)	250 U		6250	5730	92	6250	5260	84	9	56-143/18
75-15-0	Carbon Disulfide	100 U		1250	1100	88	1250	1010	81	9	66-148/23
56-23-5	Carbon Tetrachloride	50 U		1250	1330	106	1250	1230	98	8	76-136/23
108-90-7	Chlorobenzene	50 U		1250	1140	91	1250	1070	86	6	82-124/14
75-00-3	Chloroethane	100 U		1250	1190	95	1250	1100	88	8	62-144/20
67-66-3	Chloroform	50 U		1250	1240	99	1250	1180	94	5	80-124/15
110-82-7	Cyclohexane	50 U		1250	1130	90	1250	1080	86	5	73-138/18
124-48-1	Dibromochloromethane	50 U		1250	1200	96	1250	1120	90	7	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	250 U		1250	1010	81	1250	1000	80	1	64-123/18
106-93-4	1,2-Dibromoethane	100 U		1250	1130	90	1250	1020	82	10	75-120/13
75-71-8	Dichlorodifluoromethane	100 U		1250	1220	98	1250	1120	90	9	42-167/19
95-50-1	1,2-Dichlorobenzene	50 U		1250	1150	92	1250	1080	86	6	82-124/14
541-73-1	1,3-Dichlorobenzene	50 U		1250	1160	93	1250	1100	88	5	84-125/14
106-46-7	1,4-Dichlorobenzene	50 U		1250	1110	89	1250	1050	84	6	78-120/15
75-34-3	1,1-Dichloroethane	50 U		1250	1250	100	1250	1190	95	5	81-122/15
107-06-2	1,2-Dichloroethane	50 U		1250	1220	98	1250	1150	92	6	75-125/14
75-35-4	1,1-Dichloroethylene	50 U		1250	1250	100	1250	1180	94	6	78-137/18
156-59-2	cis-1,2-Dichloroethylene	50 U		1250	1240	99	1250	1150	92	8	78-120/15
156-60-5	trans-1,2-Dichloroethylene	36.5	I	1250	1260	98	1250	1180	91	7	76-127/17
78-87-5	1,2-Dichloropropane	50 U		1250	1160	93	1250	1100	88	5	76-124/14
10061-01-5	cis-1,3-Dichloropropene	50 U		1250	1120	90	1250	1040	83	7	75-118/23
10061-02-6	trans-1,3-Dichloropropene	50 U		1250	1180	94	1250	1080	86	9	80-120/22
100-41-4	Ethylbenzene	50 U		1250	1150	92	1250	1090	87	5	81-121/14
76-13-1	Freon 113	3490		1250	4990	120	1250	4760	102	5	72-134/20
591-78-6	2-Hexanone	500 U		6250	5810	93	6250	5380	86	8	61-129/18
98-82-8	Isopropylbenzene	50 U		1250	1190	95	1250	1140	91	4	83-132/15
79-20-9	Methyl Acetate	1000 U		6250	5690	91	6250	5210	83	9	65-126/18
74-83-9	Methyl Bromide	250 U		1250	747	60	1250	847	68	13	59-143/19
74-87-3	Methyl Chloride	100 U		1250	1180	94	1250	1140	91	3	50-159/19
108-87-2	Methylcyclohexane	50 U		1250	1260	101	1250	1220	98	3	76-129/17
75-09-2	Methylene Chloride	250 U		1250	1110	89	1250	1040	83	7	69-135/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA81743-26MS	C0145973.D	50	12/30/20	SO	n/a	n/a	VC5862
FA81743-26MSD	C0145974.D	50	12/30/20	SO	n/a	n/a	VC5862
FA81743-26 [a]	C0145960.D	50	12/30/20	SO	n/a	n/a	VC5862

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA81935-1

CAS No.	Compound	FA81743-26 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-10-1	4-Methyl-2-pentanone (MIBK)	250 U		6250	6120	98	6250	5520	88	10	66-122/16
1634-04-4	Methyl Tert Butyl Ether	50 U		1250	1110	89	1250	1030	82	7	72-117/14
100-42-5	Styrene	50 U		1250	1160	93	1250	1070	86	8	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	50 U		1250	1060	85	1250	1000	80	6	72-120/14
127-18-4	Tetrachloroethylene	50 U		1250	1250	100	1250	1150	92	8	76-135/16
108-88-3	Toluene	50 U		1250	1130	90	1250	1040	83	8	80-120/14
87-61-6	1,2,3-Trichlorobenzene	100 U		1250	1100	88	1250	1010	81	9	68-131/25
120-82-1	1,2,4-Trichlorobenzene	100 U		1250	1120	90	1250	1050	84	6	73-129/20
71-55-6	1,1,1-Trichloroethane	50 U		1250	1270	102	1250	1230	98	3	75-130/16
79-00-5	1,1,2-Trichloroethane	50 U		1250	1150	92	1250	1070	86	7	76-119/14
79-01-6	Trichloroethylene	50 U		1250	1150	92	1250	1100	88	4	81-126/15
75-69-4	Trichlorofluoromethane	100 U		1250	1520	122	1250	1420	114	7	71-156/21
75-01-4	Vinyl Chloride	133		1250	1390	101	1250	1310	94	6	69-159/18
	m,p-Xylene	100 U		2500	2350	94	2500	2240	90	5	79-126/15
95-47-6	o-Xylene	50 U		1250	1150	92	1250	1100	88	4	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA81743-26	Limits
1868-53-7	Dibromofluoromethane	102%	102%	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	105%	105%	105%	79-125%
2037-26-5	Toluene-D8	100%	99%	97%	85-112%
460-00-4	4-Bromofluorobenzene	99%	100%	100%	83-118%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5857-BFB	**Injection Date:**	12/24/20
Lab File ID:	C0145851.D	**Injection Time:**	07:21
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	81779	20.2		Pass
75	30.0 - 60.0% of mass 95	213995	52.8		Pass
95	Base peak, 100% relative abundance	405163	100.0		Pass
96	5.0 - 9.0% of mass 95	27157	6.70		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	340032	83.9		Pass
175	5.0 - 9.0% of mass 174	27171	6.71	(7.99) [a]	Pass
176	95.0 - 101.0% of mass 174	333291	82.3	(98.0) [a]	Pass
177	5.0 - 9.0% of mass 176	23749	5.86	(7.13) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC5857-IC5857	C0145852.D	12/24/20	07:47	00:26	Initial cal 1
VC5857-IC5857	C0145853.D	12/24/20	08:13	00:52	Initial cal 2
VC5857-IC5857	C0145854.D	12/24/20	08:39	01:18	Initial cal 3
VC5857-IC5857	C0145855.D	12/24/20	09:05	01:44	Initial cal 4
VC5857-ICC5857	C0145856.D	12/24/20	09:32	02:11	Initial cal 5
VC5857-IC5857	C0145857.D	12/24/20	09:59	02:38	Initial cal 6
VC5857-IC5857	C0145858.D	12/24/20	10:25	03:04	Initial cal 7

Instrument Performance Check (BFB)

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5857-BFB	**Injection Date:**	12/24/20
Lab File ID:	C0145859.D	**Injection Time:**	10:52
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	80160	19.6		Pass
75	30.0 - 60.0% of mass 95	207701	50.7		Pass
95	Base peak, 100% relative abundance	409429	100.0		Pass
96	5.0 - 9.0% of mass 95	25979	6.35		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	338624	82.7		Pass
175	5.0 - 9.0% of mass 174	28003	6.84	(8.27) [a]	Pass
176	95.0 - 101.0% of mass 174	329579	80.5	(97.3) [a]	Pass
177	5.0 - 9.0% of mass 176	22541	5.51	(6.84) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC5857-CC5857	C0145860.D	12/24/20	11:19	00:27	Continuing cal 5
VC5857-ICV5857	C0145860A.D	12/24/20	11:19	00:27	Initial cal verification 5
VC5858-BS	C0145861.D	12/24/20	11:46	00:54	Blank Spike
VC5857-ICV5857	C0145861A.D	12/24/20	11:46	00:54	Initial cal verification 4
VC5857-BS	C0145861.D	12/24/20	11:46	00:54	Blank Spike
VC5857-MB	C0145864.D	12/24/20	13:04	02:12	Method Blank
VC5858-MB	C0145864.D	12/24/20	13:04	02:12	Method Blank
ZZZZZZ	C0145865.D	12/24/20	13:30	02:38	(unrelated sample)
ZZZZZZ	C0145866.D	12/24/20	13:57	03:05	(unrelated sample)
FA81700-3	C0145867.D	12/24/20	14:23	03:31	(used for QC only; not part of job FA81935)
ZZZZZZ	C0145868.D	12/24/20	14:49	03:57	(unrelated sample)
ZZZZZZ	C0145869.D	12/24/20	15:15	04:23	(unrelated sample)
ZZZZZZ	C0145870.D	12/24/20	15:41	04:49	(unrelated sample)
ZZZZZZ	C0145871.D	12/24/20	16:07	05:15	(unrelated sample)
ZZZZZZ	C0145872.D	12/24/20	16:34	05:42	(unrelated sample)
ZZZZZZ	C0145873.D	12/24/20	17:00	06:08	(unrelated sample)
ZZZZZZ	C0145874.D	12/24/20	17:26	06:34	(unrelated sample)
ZZZZZZ	C0145875.D	12/24/20	17:53	07:01	(unrelated sample)
ZZZZZZ	C0145876.D	12/24/20	18:19	07:27	(unrelated sample)
ZZZZZZ	C0145877.D	12/24/20	18:45	07:53	(unrelated sample)
ZZZZZZ	C0145878.D	12/24/20	19:10	08:18	(unrelated sample)
FA81720-7	C0145879.D	12/24/20	19:36	08:44	(used for QC only; not part of job FA81935)
ZZZZZZ	C0145880.D	12/24/20	20:02	09:10	(unrelated sample)
ZZZZZZ	C0145881.D	12/24/20	20:27	09:35	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5857-BFB	**Injection Date:**	12/24/20
Lab File ID:	C0145859.D	**Injection Time:**	10:52
Instrument ID:	GCMSC		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	C0145882.D	12/24/20	20:54	10:02	(unrelated sample)
FA81700-3MS	C0145883.D	12/24/20	21:19	10:27	Matrix Spike
FA81700-3MSD	C0145884.D	12/24/20	21:45	10:53	Matrix Spike Duplicate
FA81720-7MS	C0145885.D	12/24/20	22:11	11:19	Matrix Spike
FA81720-7MSD	C0145886.D	12/24/20	22:37	11:45	Matrix Spike Duplicate
VC5857-ECC5857	C0145887.D	12/24/20	23:03	12:11	Ending cal 5

Instrument Performance Check (BFB)

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5862-BFB	**Injection Date:**	12/30/20
Lab File ID:	C0145950.D	**Injection Time:**	08:22
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	81509	20.6		Pass
75	30.0 - 60.0% of mass 95	211029	53.2		Pass
95	Base peak, 100% relative abundance	396352	100.0		Pass
96	5.0 - 9.0% of mass 95	26581	6.71		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	340331	85.9		Pass
175	5.0 - 9.0% of mass 174	27651	6.98	(8.12) [a]	Pass
176	95.0 - 101.0% of mass 174	331115	83.5	(97.3) [a]	Pass
177	5.0 - 9.0% of mass 176	21667	5.47	(6.54) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC5862-CC5857	C0145950.D	12/30/20	08:22	00:00	Continuing cal 5
VC5863-BS	C0145951.D	12/30/20	08:54	00:32	Blank Spike
VC5862-BS	C0145951.D	12/30/20	08:54	00:32	Blank Spike
VC5863-MB	C0145954.D	12/30/20	10:12	01:50	Method Blank
VC5862-MB	C0145954.D	12/30/20	10:12	01:50	Method Blank
ZZZZZZ	C0145955.D	12/30/20	10:38	02:16	(unrelated sample)
ZZZZZZ	C0145956.D	12/30/20	11:05	02:43	(unrelated sample)
ZZZZZZ	C0145957.D	12/30/20	11:31	03:09	(unrelated sample)
ZZZZZZ	C0145958.D	12/30/20	11:57	03:35	(unrelated sample)
ZZZZZZ	C0145959.D	12/30/20	12:23	04:01	(unrelated sample)
FA81743-26	C0145960.D	12/30/20	12:48	04:26	(used for QC only; not part of job FA81935)
ZZZZZZ	C0145961.D	12/30/20	13:13	04:51	(unrelated sample)
FA81935-1	C0145962.D	12/30/20	13:39	05:17	SP1-GW_20201216
ZZZZZZ	C0145963.D	12/30/20	14:05	05:43	(unrelated sample)
ZZZZZZ	C0145964.D	12/30/20	14:31	06:09	(unrelated sample)
ZZZZZZ	C0145965.D	12/30/20	14:56	06:34	(unrelated sample)
ZZZZZZ	C0145966.D	12/30/20	15:22	07:00	(unrelated sample)
ZZZZZZ	C0145967.D	12/30/20	15:48	07:26	(unrelated sample)
ZZZZZZ	C0145968.D	12/30/20	16:13	07:51	(unrelated sample)
ZZZZZZ	C0145969.D	12/30/20	16:39	08:17	(unrelated sample)
ZZZZZZ	C0145970.D	12/30/20	17:04	08:42	(unrelated sample)
ZZZZZZ	C0145971.D	12/30/20	17:29	09:07	(unrelated sample)
FA81911-10	C0145972.D	12/30/20	17:54	09:32	(used for QC only; not part of job FA81935)
FA81743-26MS	C0145973.D	12/30/20	18:20	09:58	Matrix Spike

Instrument Performance Check (BFB)

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5862-BFB	**Injection Date:**	12/30/20
Lab File ID:	C0145950.D	**Injection Time:**	08:22
Instrument ID:	GCMSC		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
FA81743-26MSD	C0145974.D	12/30/20	18:45	10:23	Matrix Spike Duplicate
FA81911-10MS	C0145975.D	12/30/20	19:10	10:48	Matrix Spike
FA81911-10MSD	C0145976.D	12/30/20	19:35	11:13	Matrix Spike Duplicate
VC5862-ECC5857	C0145977.D	12/30/20	20:00	11:38	Ending cal 5
VC5864-BS	C0145981.D	12/31/20	08:54	24:32	Blank Spike

Internal Standard Area Summary

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VC5862-CC5857	**Injection Date:**	12/30/20
Lab File ID:	C0145950.D	**Injection Time:**	08:22
Instrument ID:	GCMSC	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1695466	10.52	1181160	13.42	633567	15.08	218277	6.79
Check Std [b]	1632759	10.52	1143050	13.42	608084	15.08	175005	6.79
Upper Limit [c]	3265518	10.69	2286100	13.59	1216168	15.25	350010	6.96
Lower Limit [d]	816380	10.35	571525	13.25	304042	14.91	87503	6.62

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VC5863-BS	1668944	10.52	1154499	13.42	615065	15.08	159873	6.78
VC5862-BS	1668944	10.52	1154499	13.42	615065	15.08	159873	6.78
VC5862-MB [e]	1668021	10.52	1205697	13.42	635233	15.08	205250	6.76
VC5863-MB	1668021	10.52	1205697	13.42	635233	15.08	205250	6.76
ZZZZZZ	1647916	10.52	1187363	13.42	620104	15.08	170212	6.76
ZZZZZZ	1611308	10.52	1160118	13.42	610672	15.08	192637	6.76
ZZZZZZ	1618501	10.52	1150377	13.42	609200	15.08	183506	6.76
ZZZZZZ	1606224	10.52	1164660	13.42	613111	15.08	153505	6.77
ZZZZZZ	1634116	10.52	1185019	13.42	614943	15.08	176780	6.77
FA81743-26	1654653	10.52	1193303	13.42	621553	15.08	190083	6.77
ZZZZZZ	1605098	10.52	1145272	13.42	590388	15.08	190330	6.76
FA81935-1	1563819	10.53	1122864	13.42	596234	15.08	187483	6.77
ZZZZZZ	1561294	10.52	1130296	13.42	599811	15.08	242374	6.77
ZZZZZZ	1581943	10.53	1134151	13.42	589523	15.08	246275	6.77
ZZZZZZ	1580800	10.52	1149620	13.42	586249	15.08	251992	6.76
ZZZZZZ	1580936	10.52	1134752	13.42	592166	15.08	172056	6.76
ZZZZZZ	1556599	10.52	1140568	13.42	610157	15.08	206375	6.77
ZZZZZZ	1593495	10.53	1134099	13.42	594566	15.08	184166	6.77
ZZZZZZ	1566186	10.52	1137514	13.42	607571	15.08	184156	6.77
ZZZZZZ	1605383	10.52	1141014	13.42	593106	15.08	161659	6.77
ZZZZZZ	1570934	10.53	1124852	13.42	592992	15.08	191449	6.77
FA81911-10	1535642	10.52	1115744	13.42	586193	15.08	187239	6.77
FA81743-26MS	1504723	10.52	1061996	13.42	569773	15.08	171835	6.78
FA81743-26MSD	1539448	10.52	1095217	13.42	588376	15.08	157754	6.79
FA81911-10MS	1481209	10.52	1046989	13.42	559180	15.08	151661	6.78
FA81911-10MSD	1577079	10.52	1116200	13.42	591327	15.08	173014	6.78
VC5862-ECC5857	1588298	10.52	1120212	13.42	598602	15.08	164000	6.79

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

Internal Standard Area Summary

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VC5862-CC5857	**Injection Date:**	12/30/20
Lab File ID:	C0145950.D	**Injection Time:**	08:22
Instrument ID:	GCMSC	**Method:**	SW846 8260B

Lab	IS 1		IS 2		IS 3		IS 4	
Sample ID	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**	**AREA**	**RT**

(a) Initial Cal is: VC5857-ICC5857 C0145856.D 12/24/20 09:32
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.
(e) Sample was treated with an anti-foaming agent.

Surrogate Recovery Summary

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA81935-1	C0145962.D	100	105	97	98
FA81743-26MS	C0145973.D	102	105	100	99
FA81743-26MSD	C0145974.D	102	105	99	100
VC5862-BS	C0145951.D	99	101	99	101
VC5862-MB	C0145954.D	103	105	97	101

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

Initial Calibration Summary

Job Number: FA81935 **Sample:** VC5857-ICC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145856.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Response Factor Report MSVOA5

Method : C:\msdchem\2\METHODS\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Calibration Files
1 =C0145852.D 2 =C0145853.D 3 =C0145854.D 4 =C0145855.D
5 =C0145856.D 6 =C0145857.D 7 =C0145858.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.261	0.249	0.250	0.248	0.262	0.252	0.246	0.253	2.45
3)P Chloromethane	0.470	0.310	0.314	0.304	0.319	0.317	0.310	0.335	17.84
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9993									
Response Ratio = 0.00000 + 0.31814 *A + -0.00322 *A^2									
4) 1,3-butadiene	0.269	0.230	0.222	0.214	0.219	0.214	0.208	0.225	9.13
5)C Vinyl Chloride	0.264	0.299	0.296	0.294	0.302	0.306	0.290	0.293	4.71
6) Bromomethane	0.236	0.106	0.089	0.085	0.090	0.098	0.110	0.116	46.17
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9973									
Response Ratio = 0.00000 + 0.08455 *A + 0.01180 *A^2									
7) Chloroethane	0.150	0.137	0.134	0.127	0.129	0.124	0.113	0.131	8.76
8) Trichlorofluorome	0.323	0.305	0.306	0.312	0.324	0.293	0.251	0.302	8.28
9) Ethyl Ether	0.226	0.207	0.212	0.216	0.221	0.219	0.212	0.216	2.93
10) 1,2-Dichlorotrifl	0.247	0.246	0.256	0.252	0.255	0.255	0.247	0.251	1.73
11)C 1,1-Dichloroethen	0.336	0.335	0.328	0.322	0.332	0.331	0.322	0.329	1.72
12) Freon 113	0.201	0.202	0.201	0.197	0.205	0.198	0.196	0.200	1.59
13) Carbon Disulfide	0.756	0.681	0.686	0.653	0.696	0.697	0.665	0.691	4.76
14) Iodomethane	0.170	0.128	0.132	0.164	0.205	0.227	0.210	0.176	21.97
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9910									
Response Ratio = 0.00000 + 0.16621 *A + 0.02767 *A^2									
15) Acrolein	0.047	0.047	0.048	0.051	0.051	0.051	0.050	0.049	4.23
16) Allyl chloride	0.431	0.396	0.394	0.395	0.400	0.399	0.389	0.401	3.44
17) Methylene Chlorid	0.418	0.324	0.328	0.311	0.312	0.308	0.290	0.327	12.78
18) Acetone	0.080	0.064	0.070	0.074	0.074	0.073	0.070	0.072	6.84
19) Methyl acetate	0.167	0.187	0.191	0.201	0.198	0.193	0.188	0.189	5.86
20) trans-1,2-Dichlor	0.319	0.297	0.324	0.309	0.320	0.320	0.311	0.314	2.95
21) Hexane	0.220	0.199	0.208	0.202	0.201	0.199	0.199	0.204	3.87
22) Methyl Tert Butyl	0.842	0.768	0.752	0.757	0.742	0.753	0.736	0.764	4.71
23) Acetonitrile	0.035	0.033	0.034	0.037	0.037	0.036	0.034	0.035	4.68
24) Di-isopropyl ethe	0.912	0.899	0.916	0.889	0.895	0.894	0.861	0.895	2.02
25) Chloroprene	0.309	0.359	0.355	0.357	0.367	0.366	0.360	0.353	5.67
26)P 1,1-Dichloroethan	0.408	0.411	0.416	0.409	0.420	0.421	0.404	0.413	1.53
27) Acrylonitrile	0.050	0.068	0.070	0.077	0.076	0.078	0.075	0.070	13.75
28) ETBE	0.812	0.836	0.810	0.809	0.811	0.806	0.781	0.809	1.95
29) Vinyl acetate	0.569	0.622	0.607	0.611	0.590	0.563	0.525	0.584	5.79
30) cis-1,2-Dichloroe	0.220	0.216	0.223	0.219	0.222	0.226	0.218	0.221	1.58
31) 2,2-Dichloropropa	0.346	0.345	0.350	0.350	0.361	0.359	0.353	0.352	1.73
32) Bromochloromethan	0.103	0.104	0.111	0.105	0.110	0.113	0.094	0.106	6.04
33) Cyclohexane	0.446	0.425	0.430	0.416	0.429	0.428	0.417	0.427	2.31
34)C Chloroform	0.373	0.385	0.386	0.372	0.378	0.383	0.369	0.378	1.76
35) Ethyl acetate	0.259	0.263	0.263	0.277	0.269	0.262	0.248	0.263	3.40
36) Tetrahydrofuran	0.133	0.096	0.082	0.094	0.094	0.088	0.088	0.096	17.59
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9985									

Response Ratio = 0.00000 + 0.09400 *A + -0.00327 *A^2

37)S	Dibromofluorometh	0.245	0.245	0.245	0.245	0.248	0.250	0.248	0.247	0.87
38)	Carbon Tetrachlor	0.269	0.259	0.264	0.259	0.271	0.272	0.265	0.266	1.98
39)	1,1,1-Trichloroet	0.317	0.309	0.316	0.320	0.329	0.334	0.321	0.321	2.65
40)	2-Butanone	0.131	0.116	0.119	0.129	0.125	0.123	0.118	0.123	4.65
41)	1,1-Dichloroprope	0.312	0.319	0.332	0.327	0.339	0.339	0.330	0.328	3.08
42)	tert-Butyl format	0.253	0.245	0.241	0.251	0.247	0.245	0.234	0.245	2.55
43)	Propionitrile	0.036	0.036	0.035	0.036	0.036	0.036	0.034	0.036	2.20
44)	Methacrylonitrile	0.172	0.171	0.168	0.168	0.163	0.155	0.145	0.163	6.13
45)	Benzene	0.960	0.910	0.934	0.902	0.914	0.913	0.865	0.914	3.20
46)	TAME	0.735	0.772	0.745	0.748	0.745	0.743	0.717	0.744	2.19
47)S	1,2-Dichloroethan	0.319	0.325	0.330	0.323	0.323	0.325	0.323	0.324	1.02
48)	1,2-Dichloroethan	0.280	0.311	0.312	0.314	0.312	0.322	0.308	0.308	4.29
49)	Trichloroethene	0.256	0.241	0.238	0.229	0.234	0.232	0.223	0.236	4.47
50)	Methylcyclohexane	0.371	0.373	0.375	0.369	0.377	0.373	0.368	0.372	0.85
51)	Dibromomethane	0.141	0.135	0.130	0.131	0.134	0.138	0.134	0.135	2.62
52)C	1,2-Dichloropropa	0.253	0.266	0.265	0.257	0.267	0.266	0.258	0.262	2.16
53)	Bromodichlorometh	0.284	0.289	0.289	0.292	0.299	0.298	0.289	0.291	1.86
54)	Methyl methacryla	0.202	0.227	0.242	0.250	0.254	0.250	0.245	0.239	7.68
55)	2-Chloroethyl vin	0.172	0.177	0.173	0.178	0.175	0.169	0.158	0.172	3.92
56)	cis-1,3-Dichlorop	0.421	0.427	0.418	0.430	0.434	0.438	0.418	0.427	1.86
57) I	Chlorobenzene-d5	ISTD								
58)S	Toluene-d8	1.383	1.401	1.405	1.407	1.433	1.424	1.428	1.412	1.24
59)C	Toluene	1.587	1.435	1.429	1.395	1.388	1.351	1.279	1.409	6.70
60)	2-Nitropropane	0.105	0.104	0.104	0.109	0.108	0.105	0.104	0.106	2.10
61)	4-Methyl-2-pentan	0.396	0.387	0.372	0.379	0.360	0.339	0.321	0.365	7.36
62)	trans-1,3-Dichlor	0.471	0.529	0.518	0.540	0.531	0.536	0.525	0.521	4.48
63)	Tetrachloroethene	0.317	0.331	0.326	0.333	0.332	0.337	0.320	0.328	2.23
64)	Ethyl methacrylat	0.444	0.453	0.456	0.479	0.475	0.470	0.457	0.462	2.81
65)	1,1,2-Trichloroet	0.237	0.256	0.262	0.260	0.256	0.257	0.247	0.254	3.38
66)	Dibromochlorometh	0.291	0.299	0.310	0.320	0.320	0.325	0.311	0.311	3.93
67)	1,3-Dichloropropa	0.565	0.573	0.576	0.575	0.569	0.569	0.552	0.568	1.44
68)	1,2-Dibromoethane	0.265	0.297	0.299	0.299	0.297	0.297	0.289	0.292	4.23
69)	2-hexanone	0.296	0.276	0.268	0.271	0.257	0.247	0.242	0.265	6.91
70)	1-Chlorohexane	0.464	0.464	0.469	0.460	0.473	0.470	0.445	0.464	2.01
71)C	Ethylbenzene	1.628	1.531	1.487	1.452	1.455	1.414	1.313	1.469	6.66
72)P	Chlorobenzene	0.903	0.838	0.841	0.831	0.831	0.818	0.772	0.834	4.63
73)	1,1,1,2-Tetrachlo	0.298	0.288	0.298	0.297	0.299	0.301	0.287	0.295	1.94
74)	m,p-Xylene	1.201	1.177	1.140	1.117	1.110	1.049	0.953	1.107	7.57
75)	o-Xylene	1.235	1.206	1.208	1.192	1.190	1.169	1.097	1.185	3.71
76)	Styrene	0.921	0.936	0.921	0.967	0.977	0.969	0.914	0.944	2.79
77)P	Bromoform	0.195	0.213	0.211	0.223	0.230	0.232	0.229	0.219	6.15
78)	Isopropylbenzene	1.379	1.434	1.406	1.389	1.392	1.361	1.271	1.376	3.74
79) I	1,4-Dichlorobenzene-d	ISTD								
80)S	4-Bromofluorobenz	0.839	0.834	0.852	0.842	0.840	0.839	0.851	0.842	0.79
81)	cis-1,4-Dichloro-	0.276	0.280	0.237	0.275	0.269	0.279	0.273	0.270	5.51
82)	n-Propylbenzene	3.378	3.293	3.307	3.201	3.182	3.073	2.873	3.187	5.34
83)	Bromobenzene	0.666	0.686	0.696	0.655	0.665	0.670	0.652	0.670	2.35
84)P	1,1,2,2-Tetrachlo	0.799	0.799	0.754	0.762	0.747	0.735	0.717	0.759	4.04
85)	1,3,5-Trimethylbe	2.227	2.139	2.184	2.121	2.094	2.046	1.947	2.108	4.37
86)	2-Chlorotoluene	2.395	2.132	2.165	2.110	2.116	2.081	1.994	2.142	5.78
87)	trans-1,4-Dichlor	0.234	0.241	0.225	0.247	0.234	0.240	0.252	0.239	3.75
88)	1,2,3-Trichloropr	0.248	0.214	0.206	0.213	0.208	0.211	0.207	0.215	6.76
89)	Cyclohexanone	0.031	0.029	0.027	0.030	0.029	0.027	0.025	0.028	6.69
90)	4-Chlorotoluene	2.016	2.042	1.970	1.944	1.931	1.938	1.831	1.953	3.48
91)	tert-Butylbenzene	1.345	1.226	1.235	1.193	1.207	1.225	1.177	1.230	4.45
92)	a-Methyl styrene								0.000	-1.00

Initial Calibration Summary

Job Number: FA81935 **Sample:** VC5857-ICC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145856.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

93)	1,2,4-Trimethylbe	2.117	2.143	2.183	2.103	2.083	2.053	1.956	2.091	3.47
94)	Pentachloroethane	0.348	0.391	0.383	0.401	0.390	0.411	0.403	0.390	5.29
95)	sec-Butylbenzene	2.665	2.631	2.653	2.533	2.530	2.483	2.356	2.550	4.33
96)	4-Isopropyltoluen	2.273	2.209	2.218	2.155	2.171	2.145	2.044	2.173	3.31
97)	1,3-Dichlorobenze	1.222	1.188	1.172	1.177	1.188	1.205	1.155	1.187	1.86
98)	1,2,3-Trimethylbe	2.733	2.641	2.605	2.524	2.459	2.432	2.316	2.530	5.58
99)	1,4-Dichlorobenze	1.282	1.224	1.232	1.204	1.176	1.205	1.150	1.210	3.49
100)	n-Butylbenzene	1.202	1.124	1.168	1.161	1.167	1.186	1.181	1.170	2.09
101)	Benzyl Chloride	0.256	0.273	0.273	0.302	0.301	0.313	0.316	0.290	7.92
102)	1,2-Dichlorobenze	1.111	1.139	1.127	1.124	1.130	1.136	1.105	1.125	1.12
103)	1,2-Dibromo-3-Chl	0.180	0.134	0.133	0.154	0.144	0.148	0.144	0.148	10.68
104)	Hexachlorobutadie	0.321	0.314	0.326	0.325	0.322	0.327	0.336	0.324	2.13
105)	1,2,4-Trichlorobe	0.570	0.608	0.636	0.643	0.633	0.653	0.659	0.629	4.90
106)	Naphthalene	1.516	1.408	1.332	1.386	1.336	1.314	1.297	1.370	5.50
107)	1,2,3-Trichlorobe	0.526	0.524	0.533	0.533	0.516	0.527	0.518	0.525	1.28
108)	I Tert Butyl Alcohol-d1	----------ISTD----------								
109)	Ethanol	0.123	0.111	0.107	0.109	0.108	0.104	0.110		6.06
110)	Tert Butyl Alcoho	1.287	1.240	1.209	1.219	1.256	1.255	1.162	1.233	3.27
111)	Isobutyl alcohol	0.461	0.204	0.281	0.300	0.311	0.318	0.288	0.309	24.84

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9942
Response Ratio = 0.00000 + 0.30499 *A + -0.00089 *A^2

112)	Tert Amyl Alcohol	0.908	0.846	0.884	0.877	0.874	0.881	0.815	0.869	3.43
113)	1,4-Dioxane	0.070	0.103	0.107	0.102	0.108	0.105	0.095	0.099	13.38
114)	3,3-dimethyl-1-bu	0.506	0.509	0.604	0.686	0.694	0.652	0.637	0.613	12.68

(#) = Out of Range

RTXVMS122420.M Mon Dec 28 08:36:57 2020

Initial Calibration Verification

Job Number: FA81935 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145860A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\DATA\122420\C0145860A.D Vial: 11
Acq On : 24 Dec 2020 11:19 am Operator: SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 24 11:38:23 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	103	0.00	10.52
2	Dichlorodifluoromethane	0.253	0.207	18.2	82	0.00	2.86
	----------	Amount	Calc.	%Drift	----------		
3 P	Chloromethane	40.000	39.160	2.1	100	0.00	3.21
	----------	AvgRF	CCRF	%Dev	----------		
4	1,3-butadiene	0.225	0.281	-24.9#	132	0.00	3.36
5 C	Vinyl Chloride	0.293	0.269	8.2	92	0.00	3.34
	----------	Amount	Calc.	%Drift	----------		
6	Bromomethane	40.000	45.546	-13.9	124	0.00	3.90
	----------	AvgRF	CCRF	%Dev	----------		
7	Chloroethane	0.131	0.115	12.2	92	0.00	4.12
8	Trichlorofluoromethane	0.302	0.292	3.3	93	0.00	4.33
9	Ethyl Ether	0.216	0.191	11.6	89	0.00	4.91
10	1,2-Dichlorotrifluoroetha	0.251	0.249	0.8	101	0.00	5.25
11 C	1,1-Dichloroethene	0.329	0.307	6.7	95	0.00	5.23
12	Freon 113	0.200	0.157	21.5#	79	0.00	5.31
13	Carbon Disulfide	0.691	0.564	18.4	83	0.00	5.27
	----------	Amount	Calc.	%Drift	----------		
14	Iodomethane	40.000	33.450	16.4	78	0.00	5.48
	----------	AvgRF	CCRF	%Dev	----------		
15	Acrolein	0.049	0.031	36.7#	63	0.00	5.83
16	Allyl chloride	0.401	0.405	-1.0	104	0.00	6.06
17	Methylene Chloride	0.327	0.285	12.8	94	0.00	6.26
18	Acetone	0.072	0.070	2.8	97	0.00	6.34
19	Methyl acetate	0.189	0.180	4.8	94	0.00	6.56
20	trans-1,2-Dichloroethene	0.314	0.295	6.1	95	0.00	6.54
21	Hexane	0.204	0.165	19.1	84	0.00	6.68
22	Methyl Tert Butyl Ether	0.764	0.654	14.4	91	0.00	6.72
23	Acetonitrile	0.035	0.033	5.7	93	0.00	7.16
24	Di-isopropyl ether	0.895	0.793	11.4	91	0.00	7.41
25	Chloroprene	0.353	0.358	-1.4	101	0.00	7.60
26 P	1,1-Dichloroethane	0.413	0.400	3.1	98	0.00	7.64
27	Acrylonitrile	0.070	0.074	-5.7	100	0.00	7.73
28	ETBE	0.809	0.683	15.6	87	0.00	8.09
29	Vinyl acetate	0.584	0.518	11.3	90	0.00	8.11
30	cis-1,2-Dichloroethene	0.221	0.207	6.3	96	0.00	8.66

Initial Calibration Verification

Job Number: FA81935 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145860A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

31		2,2-Dichloropropane	0.352	0.342	2.8	97	0.00	8.85
32		Bromochloromethane	0.106	0.098	7.5	92	-0.01	9.02
33		Cyclohexane	0.427	0.365	14.5	88	0.00	9.02
34	C	Chloroform	0.378	0.358	5.3	98	0.00	9.16
35		Ethyl acetate	0.263	0.249	5.3	95	0.00	9.35
		----------	Amount	Calc.	%Drift	----------		
36		Tetrahydrofuran	40.000	35.506	11.2	89	0.00	9.40
		----------	AvgRF	CCRF	%Dev	----------		
37	S	Dibromofluoromethane	0.247	0.250	-1.2	104	0.00	9.45
38		Carbon Tetrachloride	0.266	0.251	5.6	96	0.00	9.37
39		1,1,1-Trichloroethane	0.321	0.301	6.2	94	0.00	9.47
40		2-Butanone	0.123	0.116	5.7	96	0.00	9.63
41		1,1-Dichloropropene	0.328	0.301	8.2	91	0.00	9.66
42		tert-Butyl formate	0.245	0.220	10.2	92	0.00	9.82
43		Propionitrile	0.036	0.034	5.6	95	0.00	10.03
44		Methacrylonitrile	0.163	0.151	7.4	96	0.00	10.05
45		Benzene	0.914	0.832	9.0	94	0.00	10.00
46		TAME	0.744	0.658	11.6	91	0.00	10.15
47	S	1,2-Dichloroethane-d4	0.324	0.324	0.0	103	0.00	10.18
48		1,2-Dichloroethane	0.308	0.284	7.8	94	0.00	10.27
49		Trichloroethene	0.236	0.203	14.0	89	0.00	10.73
50		Methylcyclohexane	0.372	0.339	8.9	93	0.00	10.71
51		Dibromomethane	0.135	0.126	6.7	97	0.00	11.19
52	C	1,2-Dichloropropane	0.262	0.240	8.4	92	0.00	11.29
53		Bromodichloromethane	0.291	0.279	4.1	96	0.00	11.36
54		Methyl methacrylate	0.239	0.233	2.5	94	0.00	11.50
55		2-Chloroethyl vinyl ether	0.172	0.128	25.6#	75	0.00	11.90
56		cis-1,3-Dichloropropene	0.427	0.380	11.0	90	0.00	11.96
57	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00	13.42
58	S	Toluene-d8	1.412	1.421	-0.6	101	0.00	12.13
59	C	Toluene	1.409	1.229	12.8	90	0.00	12.18
60		2-Nitropropane	0.106	0.095	10.4	90	0.00	12.38
61		4-Methyl-2-pentanone	0.365	0.350	4.1	99	0.00	12.49
62		trans-1,3-Dichloropropene	0.521	0.493	5.4	95	0.00	12.54
63		Tetrachloroethene	0.328	0.311	5.2	96	0.00	12.52
64		Ethyl methacrylate	0.462	0.458	0.9	98	0.00	12.64
65		1,1,2-Trichloroethane	0.254	0.233	8.3	93	0.00	12.68
66		Dibromochloromethane	0.311	0.303	2.6	97	0.00	12.83
67		1,3-Dichloropropane	0.568	0.498	12.3	89	0.00	12.90
68		1,2-Dibromoethane	0.292	0.265	9.2	91	0.00	13.03
69		2-hexanone	0.265	0.248	6.4	99	0.00	13.17
70		1-Chlorohexane	0.464	0.413	11.0	89	0.00	13.39
71	C	Ethylbenzene	1.469	1.315	10.5	92	0.00	13.44
72	P	Chlorobenzene	0.834	0.744	10.8	91	0.00	13.44
73		1,1,1,2-Tetrachloroethane	0.295	0.271	8.1	93	0.00	13.48
74		m,p-Xylene	1.107	0.998	9.8	92	0.00	13.54
75		o-Xylene	1.185	1.070	9.7	92	0.00	13.86
76		Styrene	0.944	0.865	8.4	90	0.00	13.90
77	P	Bromoform	0.219	0.213	2.7	95	0.00	13.95
78		Isopropylbenzene	1.376	1.252	9.0	92	0.00	14.08
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	15.08
80	S	4-Bromofluorobenzene	0.842	0.840	0.2	100	0.00	14.31
81		cis-1,4-Dichloro-2-butene	0.270	0.251	7.0	93	0.00	14.34
82		n-Propylbenzene	3.187	2.908	8.8	92	0.00	14.37
83		Bromobenzene	0.670	0.613	8.5	92	0.00	14.40
84	P	1,1,2,2-Tetrachloroethane	0.759	0.665	12.4	89	0.00	14.43

Initial Calibration Verification

Job Number: FA81935 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145860A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

85	1,3,5-Trimethylbenzene	2.108	1.936	8.2	93	0.00	14.49
86	2-Chlorotoluene	2.142	1.935	9.7	92	0.00	14.51
87	trans-1,4-Dichloro-2-Bute	0.239	0.201	15.9	86	0.00	14.55
88	1,2,3-Trichloropropane	0.215	0.183	14.9	88	0.00	14.54
89	Cyclohexanone	0.028	0.025	10.7	86	0.00	14.59
90	4-Chlorotoluene	1.953	1.787	8.5	93	0.00	14.62
91	tert-Butylbenzene	1.230	1.091	11.3	90	0.00	14.73
92	a-Methyl styrene		----------NA----------				
93	1,2,4-Trimethylbenzene	2.091	1.888	9.7	91	0.00	14.77
94	Pentachloroethane	0.390	0.414	-6.2	106	0.00	14.77
95	sec-Butylbenzene	2.550	2.346	8.0	93	0.00	14.85
96	4-Isopropyltoluene	2.173	2.012	7.4	93	0.00	14.93
97	1,3-Dichlorobenzene	1.187	1.101	7.2	93	0.00	15.04
98	1,2,3-Trimethylbenzene	2.530	1.861	26.4#	76	0.00	15.08
99	1,4-Dichlorobenzene	1.210	1.088	10.1	93	0.00	15.10
100	n-Butylbenzene	1.170	1.090	6.8	94	0.00	15.22
101	Benzyl Chloride	0.290	0.261	10.0	87	0.00	15.25
102	1,2-Dichlorobenzene	1.125	1.031	8.4	91	0.00	15.39
103	1,2-Dibromo-3-Chloropropa	0.148	0.132	10.8	92	0.00	15.92
104	Hexachlorobutadiene	0.324	0.301	7.1	93	0.00	16.32
105	1,2,4-Trichlorobenzene	0.629	0.605	3.8	96	0.00	16.37
106	Naphthalene	1.370	1.246	9.1	93	0.00	16.62
107	1,2,3-Trichlorobenzene	0.525	0.483	8.0	94	0.00	16.76
108 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	97	0.00	6.79
109	Ethanol	0.110	0.106	3.6	94	0.00	5.24
110	Tert Butyl Alcohol	1.233	1.023	17.0	79	0.00	6.93
	----------	Amount	Calc.	%Drift	----------		
111	Isobutyl alcohol	800.000	690.897	13.6	82	0.00	10.31
	----------	AvgRF	CCRF	%Dev	----------		
112	Tert Amyl Alcohol	0.869	0.770	11.4	86	0.00	10.41
113	1,4-Dioxane	0.099	0.101	-2.0	91	0.00	11.55
114	3,3-dimethyl-1-butanol	0.613	0.647	-5.5	91	0.00	13.15

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0145856.D RTXVMS122420.M Mon Dec 28 08:36:37 2020

Initial Calibration Verification

Job Number: FA81935 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145861A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\DATA\122420\C0145861A.D Vial: 12
Acq On : 24 Dec 2020 11:46 am Operator: SHANICAO
Sample : ICV5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 24 11:38:23 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	99	0.00	10.52
2	Dichlorodifluoromethane		NA				
	----------	Amount	Calc.	%Drift			
3 P	Chloromethane		NA				
	----------	AvgRF	CCRF	%Dev			
4	1,3-butadiene		NA				
5 C	Vinyl Chloride		NA				
	----------	Amount	Calc.	%Drift			
6	Bromomethane		NA				
	----------	AvgRF	CCRF	%Dev			
7	Chloroethane		NA				
8	Trichlorofluoromethane		NA				
9	Ethyl Ether		NA				
10	1,2-Dichlorotrifluoroetha		NA				
11 C	1,1-Dichloroethene		NA				
12	Freon 113	0.200	0.174	13.0	87	0.00	5.31
13	Carbon Disulfide		NA				
	----------	Amount	Calc.	%Drift			
14	Iodomethane		NA				
	----------	AvgRF	CCRF	%Dev			
15	Acrolein		NA				
16	Allyl chloride		NA				
17	Methylene Chloride		NA				
18	Acetone		NA				
19	Methyl acetate		NA				
20	trans-1,2-Dichloroethene		NA				
21	Hexane		NA				
22	Methyl Tert Butyl Ether		NA				
23	Acetonitrile		NA				
24	Di-isopropyl ether		NA				
25	Chloroprene		NA				
26 P	1,1-Dichloroethane		NA				
27	Acrylonitrile		NA				
28	ETBE		NA				
29	Vinyl acetate		NA				
30	cis-1,2-Dichloroethene		NA				

Initial Calibration Verification

Job Number: FA81935 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145861A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
31		2,2-Dichloropropane		----------NA----------				
32		Bromochloromethane		----------NA----------				
33		Cyclohexane		----------NA----------				
34	C	Chloroform		----------NA----------				
35		Ethyl acetate		----------NA----------				
			Amount	Calc.	%Drift			
36		Tetrahydrofuran		----------NA----------				
			AvgRF	CCRF	%Dev			
37	S	Dibromofluoromethane	0.247	0.248	-0.4	100	0.00	9.45
38		Carbon Tetrachloride		----------NA----------				
39		1,1,1-Trichloroethane		----------NA----------				
40		2-Butanone		----------NA----------				
41		1,1-Dichloropropene		----------NA----------				
42		tert-Butyl formate		----------NA----------				
43		Propionitrile		----------NA----------				
44		Methacrylonitrile		----------NA----------				
45		Benzene		----------NA----------				
46		TAME		----------NA----------				
47	S	1,2-Dichloroethane-d4	0.324	0.324	0.0	99	0.00	10.18
48		1,2-Dichloroethane		----------NA----------				
49		Trichloroethene		----------NA----------				
50		Methylcyclohexane		----------NA----------				
51		Dibromomethane		----------NA----------				
52	C	1,2-Dichloropropane		----------NA----------				
53		Bromodichloromethane		----------NA----------				
54		Methyl methacrylate		----------NA----------				
55		2-Chloroethyl vinyl ether		----------NA----------				
56		cis-1,3-Dichloropropene		----------NA----------				
57	I	Chlorobenzene-d5	1.000	1.000	0.0	99	0.00	13.42
58	S	Toluene-d8	1.412	1.416	-0.3	100	0.00	12.13
59	C	Toluene		----------NA----------				
60		2-Nitropropane		----------NA----------				
61		4-Methyl-2-pentanone		----------NA----------				
62		trans-1,3-Dichloropropene		----------NA----------				
63		Tetrachloroethene		----------NA----------				
64		Ethyl methacrylate		----------NA----------				
65		1,1,2-Trichloroethane		----------NA----------				
66		Dibromochloromethane		----------NA----------				
67		1,3-Dichloropropane		----------NA----------				
68		1,2-Dibromoethane		----------NA----------				
69		2-hexanone		----------NA----------				
70		1-Chlorohexane		----------NA----------				
71	C	Ethylbenzene		----------NA----------				
72	P	Chlorobenzene		----------NA----------				
73		1,1,1,2-Tetrachloroethane		----------NA----------				
74		m,p-Xylene		----------NA----------				
75		o-Xylene		----------NA----------				
76		Styrene		----------NA----------				
77	P	Bromoform		----------NA----------				
78		Isopropylbenzene		----------NA----------				
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	15.08
80	S	4-Bromofluorobenzene	0.842	0.842	0.0	98	0.00	14.31
81		cis-1,4-Dichloro-2-butene		----------NA----------				
82		n-Propylbenzene		----------NA----------				
83		Bromobenzene		----------NA----------				
84	P	1,1,2,2-Tetrachloroethane		----------NA----------				

Initial Calibration Verification

Job Number: FA81935 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145861A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

85	1,3,5-Trimethylbenzene		----------NA----------				
86	2-Chlorotoluene		----------NA----------				
87	trans-1,4-Dichloro-2-Bute		----------NA----------				
88	1,2,3-Trichloropropane		----------NA----------				
89	Cyclohexanone		----------NA----------				
90	4-Chlorotoluene		----------NA----------				
91	tert-Butylbenzene		----------NA----------				
92	a-Methyl styrene		----------NA----------				
93	1,2,4-Trimethylbenzene		----------NA----------				
94	Pentachloroethane		----------NA----------				
95	sec-Butylbenzene		----------NA----------				
96	4-Isopropyltoluene		----------NA----------				
97	1,3-Dichlorobenzene		----------NA----------				
98	1,2,3-Trimethylbenzene		----------NA----------				
99	1,4-Dichlorobenzene		----------NA----------				
100	n-Butylbenzene		----------NA----------				
101	Benzyl Chloride		----------NA----------				
102	1,2-Dichlorobenzene		----------NA----------				
103	1,2-Dibromo-3-Chloropropa		----------NA----------				
104	Hexachlorobutadiene		----------NA----------				
105	1,2,4-Trichlorobenzene		----------NA----------				
106	Naphthalene		----------NA----------				
107	1,2,3-Trichlorobenzene		----------NA----------				
108 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	92	-0.01	6.78
109	Ethanol		----------NA----------				
110	Tert Butyl Alcohol		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
111	Isobutyl alcohol		----------NA----------				
	----------	AvgRF	CCRF	%Dev	----------		
112	Tert Amyl Alcohol		----------NA----------				
113	1,4-Dioxane		----------NA----------				
114	3,3-dimethyl-1-butanol		----------NA----------				

(#) = Out of Range SPCC's out = 4 CCC's out = 6
C0145855.D RTXVMS122420.M Mon Dec 28 10:49:53 2020

Continuing Calibration Summary

Job Number: FA81935 **Sample:** VC5862-CC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145950.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ed...\vc5862-63\C0145950.D Vial: 3
Acq On : 30 Dec 2020 8:22 am Operator: SHANICAO
Sample : CC5857-5 Inst : MSVOA5
Misc : MS48020,VC5862,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\methods\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 24 11:38:23 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	96	0.00	10.52
2	Dichlorodifluoromethane	0.253	0.270	-6.7	99	0.00	2.87
	----------	True	Calc.	% Drift	----------		
3 P	Chloromethane	40.000	42.101	-5.3	100	0.00	3.21
	----------	AvgRF	CCRF	% Dev	----------		
4	1,3-butadiene	0.225	0.197	12.4	87	0.00	3.37
5 C	Vinyl Chloride	0.293	0.290	1.0	92	0.00	3.35
	----------	True	Calc.	% Drift	----------		
6	Bromomethane	40.000	34.248	14.4	85	0.00	3.90
	----------	AvgRF	CCRF	% Dev	----------		
7	Chloroethane	0.131	0.115	12.2	86	0.00	4.12
8	Trichlorofluoromethane	0.302	0.334	-10.6	99	0.00	4.35
9	Ethyl Ether	0.216	0.200	7.4	87	0.00	4.91
10	1,2-Dichlorotrifluoroetha	0.251	0.244	2.8	92	0.00	5.25
11 C	1,1-Dichloroethene	0.329	0.318	3.3	92	0.00	5.23
12	Freon 113	0.200	0.199	0.5	94	0.00	5.31
13	Carbon Disulfide	0.691	0.651	5.8	90	0.00	5.28
	----------	True	Calc.	% Drift	----------		
14	Iodomethane	40.000	29.515	26.2#	63	0.00	5.49
	----------	AvgRF	CCRF	% Dev	----------		
15	Acrolein	0.049	0.047	4.1	89	0.00	5.82
16	Allyl chloride	0.401	0.335	16.5	81	0.00	6.06
17	Methylene Chloride	0.327	0.274	16.2	85	0.00	6.26
18	Acetone	0.072	0.067	6.9	87	0.00	6.33
19	Methyl acetate	0.189	0.172	9.0	84	0.00	6.56
20	trans-1,2-Dichloroethene	0.314	0.304	3.2	91	0.00	6.54
21	Hexane	0.204	0.194	4.9	93	0.00	6.68
22	Methyl Tert Butyl Ether	0.764	0.719	5.9	93	0.00	6.72
23	Acetonitrile	0.035	0.030	14.3	80	0.00	7.16
24	Di-isopropyl ether	0.895	0.822	8.2	88	0.00	7.42
25	Chloroprene	0.353	0.343	2.8	90	0.00	7.60
26 P	1,1-Dichloroethane	0.413	0.387	6.3	89	0.00	7.64
27	Acrylonitrile	0.070	0.070	0.0	89	0.00	7.73
28	ETBE	0.809	0.769	4.9	91	0.00	8.09
29	Vinyl acetate	0.584	0.546	6.5	89	0.00	8.11
30	cis-1,2-Dichloroethene	0.221	0.211	4.5	91	0.00	8.66

Continuing Calibration Summary

Job Number: FA81935 **Sample:** VC5862-CC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145950.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

31		2,2-Dichloropropane	0.352	0.332	5.7	88	0.00	8.85
32		Bromochloromethane	0.106	0.107	-0.9	94	0.00	9.03
33		Cyclohexane	0.427	0.400	6.3	90	0.00	9.02
34	C	Chloroform	0.378	0.365	3.4	93	0.00	9.16
35		Ethyl acetate	0.263	0.242	8.0	87	0.00	9.35
		----------	True	Calc.	% Drift	----------		
36		Tetrahydrofuran	40.000	34.278	14.3	81	0.00	9.40
		----------	AvgRF	CCRF	% Dev	----------		
37	S	Dibromofluoromethane	0.247	0.246	0.4	96	0.00	9.45
38		Carbon Tetrachloride	0.266	0.261	1.9	93	0.00	9.37
39		1,1,1-Trichloroethane	0.321	0.318	0.9	93	0.00	9.47
40		2-Butanone	0.123	0.109	11.4	84	0.00	9.62
41		1,1-Dichloropropene	0.328	0.326	0.6	93	0.00	9.66
42		tert-Butyl formate	0.245	0.205	16.3	80	0.00	9.81
43		Propionitrile	0.036	0.032	11.1	84	0.00	10.03
44		Methacrylonitrile	0.163	0.146	10.4	87	0.00	10.05
45		Benzene	0.914	0.861	5.8	91	0.00	10.00
46		TAME	0.744	0.718	3.5	93	0.00	10.15
47	S	1,2-Dichloroethane-d4	0.324	0.334	-3.1	100	0.00	10.18
48		1,2-Dichloroethane	0.308	0.313	-1.6	97	0.00	10.27
49		Trichloroethene	0.236	0.221	6.4	91	0.00	10.72
50		Methylcyclohexane	0.372	0.365	1.9	93	0.00	10.71
51		Dibromomethane	0.135	0.129	4.4	92	0.00	11.19
52	C	1,2-Dichloropropane	0.262	0.249	5.0	89	0.00	11.28
53		Bromodichloromethane	0.291	0.284	2.4	91	0.00	11.36
54		Methyl methacrylate	0.239	0.223	6.7	84	0.00	11.50
55		2-Chloroethyl vinyl ether	0.172	0.145	15.7	80	0.00	11.90
56		cis-1,3-Dichloropropene	0.427	0.413	3.3	92	0.00	11.96
57	I	Chlorobenzene-d5	1.000	1.000	0.0	97	0.00	13.42
58	S	Toluene-d8	1.412	1.403	0.6	95	0.00	12.13
59	C	Toluene	1.409	1.317	6.5	92	0.00	12.18
60		2-Nitropropane	0.106	0.101	4.7	90	0.00	12.38
61		4-Methyl-2-pentanone	0.365	0.322	11.8	86	0.00	12.49
62		trans-1,3-Dichloropropene	0.521	0.513	1.5	94	0.00	12.54
63		Tetrachloroethene	0.328	0.319	2.7	93	0.00	12.52
64		Ethyl methacrylate	0.462	0.434	6.1	88	0.00	12.64
65		1,1,2-Trichloroethane	0.254	0.242	4.7	91	0.00	12.68
66		Dibromochloromethane	0.311	0.309	0.6	94	0.00	12.83
67		1,3-Dichloropropane	0.568	0.544	4.2	93	0.00	12.90
68		1,2-Dibromoethane	0.292	0.272	6.8	89	0.00	13.03
69		2-hexanone	0.265	0.225	15.1	85	0.00	13.16
70		1-Chlorohexane	0.464	0.445	4.1	91	0.00	13.39
71	C	Ethylbenzene	1.469	1.375	6.4	91	0.00	13.44
72	P	Chlorobenzene	0.834	0.783	6.1	91	0.00	13.44
73		1,1,1,2-Tetrachloroethane	0.295	0.284	3.7	92	0.00	13.48
74		m,p-Xylene	1.107	1.057	4.5	92	0.00	13.54
75		o-Xylene	1.185	1.125	5.1	92	0.00	13.86
76		Styrene	0.944	0.906	4.0	90	0.00	13.90
77	P	Bromoform	0.219	0.221	-0.9	93	0.00	13.95
78		Isopropylbenzene	1.376	1.319	4.1	92	0.00	14.08
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	96	0.00	15.08
80	S	4-Bromofluorobenzene	0.842	0.868	-3.1	99	0.00	14.31
81		cis-1,4-Dichloro-2-butene	0.270	0.248	8.1	88	0.00	14.34
82		n-Propylbenzene	3.187	3.046	4.4	92	0.00	14.37
83		Bromobenzene	0.670	0.640	4.5	92	0.00	14.40
84	P	1,1,2,2-Tetrachloroethane	0.759	0.694	8.6	89	0.00	14.43

Continuing Calibration Summary

Job Number: FA81935 **Sample:** VC5862-CC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145950.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

85	1,3,5-Trimethylbenzene	2.108	1.995	5.4	91	0.00	14.49
86	2-Chlorotoluene	2.142	2.008	6.3	91	0.00	14.51
87	trans-1,4-Dichloro-2-Bute	0.239	0.222	7.1	91	0.00	14.55
88	1,2,3-Trichloropropane	0.215	0.193	10.2	89	0.00	14.54
89	Cyclohexanone	0.028	0.025	10.7	83	0.00	14.59
90	4-Chlorotoluene	1.953	1.842	5.7	92	0.00	14.62
91	tert-Butylbenzene	1.230	1.162	5.5	92	0.00	14.73
92	a-Methyl styrene		----------NA----------				
93	1,2,4-Trimethylbenzene	2.091	1.975	5.5	91	0.00	14.77
94	Pentachloroethane	0.390	0.389	0.3	96	0.00	14.77
95	sec-Butylbenzene	2.550	2.393	6.2	91	0.00	14.85
96	4-Isopropyltoluene	2.173	2.033	6.4	90	0.00	14.93
97	1,3-Dichlorobenzene	1.187	1.142	3.8	92	0.00	15.04
98	1,2,3-Trimethylbenzene	2.530	2.336	7.7	91	0.00	15.08
99	1,4-Dichlorobenzene	1.210	1.146	5.3	94	0.00	15.10
100	n-Butylbenzene	1.170	1.101	5.9	91	0.00	15.22
101	Benzyl Chloride	0.290	0.280	3.4	89	0.00	15.25
102	1,2-Dichlorobenzene	1.125	1.078	4.2	92	0.00	15.39
103	1,2-Dibromo-3-Chloropropa	0.148	0.134	9.5	90	0.00	15.92
104	Hexachlorobutadiene	0.324	0.320	1.2	95	0.00	16.32
105	1,2,4-Trichlorobenzene	0.629	0.590	6.2	90	0.00	16.37
106	Naphthalene	1.370	1.122	18.1	81	0.00	16.62
107	1,2,3-Trichlorobenzene	0.525	0.467	11.0	87	0.00	16.76
108 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	80	0.00	6.79
109	Ethanol	0.110	0.129	-17.3	95	0.02	5.26
110	Tert Butyl Alcohol	1.233	1.156	6.2	74	0.00	6.92
	----------	True	Calc.	% Drift	----------		
111	Isobutyl alcohol	800.000	1111.112	-38.9#	108	0.00	10.30
	----------	AvgRF	CCRF	% Dev	----------		
112	Tert Amyl Alcohol	0.869	0.922	-6.1	85	0.00	10.41
113	1,4-Dioxane	0.099	0.118	-19.2	88	0.00	11.55
114	3,3-dimethyl-1-butanol	0.613	0.873	-42.4#	101	0.00	13.14

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0145856.D RTXVMS122420.M Wed Dec 30 23:29:53 2020

Continuing Calibration Summary

Job Number: FA81935 **Sample:** VC5862-ECC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145977.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ed...\vc5862-63\C0145977.D Vial: 30
Acq On : 30 Dec 2020 8:00 pm Operator: SHANICAO
Sample : ECC5857-5 Inst : MSVOA5
Misc : MS48032,VC5862,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\methods\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 24 11:38:23 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	94	0.00	10.52
2	Dichlorodifluoromethane	0.253	0.278	-9.9	100	0.00	2.87
	----------	True	Calc.	% Drift	----------		
3 P	Chloromethane	40.000	42.235	-5.6	98	0.00	3.22
	----------	AvgRF	CCRF	% Dev	----------		
4	1,3-butadiene	0.225	0.222	1.3	95	0.00	3.37
5 C	Vinyl Chloride	0.293	0.294	-0.3	91	0.01	3.36
	----------	True	Calc.	% Drift	----------		
6	Bromomethane	40.000	37.768	5.6	92	0.00	3.90
	----------	AvgRF	CCRF	% Dev	----------		
7	Chloroethane	0.131	0.113	13.7	82	0.00	4.12
8	Trichlorofluoromethane	0.302	0.343	-13.6	99	0.00	4.35
9	Ethyl Ether	0.216	0.208	3.7	88	0.00	4.91
10	1,2-Dichlorotrifluoroetha	0.251	0.255	-1.6	94	0.00	5.25
11 C	1,1-Dichloroethene	0.329	0.334	-1.5	94	0.00	5.23
12	Freon 113	0.200	0.203	-1.5	93	0.00	5.31
13	Carbon Disulfide	0.691	0.673	2.6	91	0.00	5.28
	----------	True	Calc.	% Drift	----------		
14	Iodomethane	40.000	37.334	6.7	80	0.01	5.50
	----------	AvgRF	CCRF	% Dev	----------		
15	Acrolein	0.049	0.045	8.2	82	0.00	5.83
16	Allyl chloride	0.401	0.354	11.7	83	0.00	6.06
17	Methylene Chloride	0.327	0.288	11.9	86	0.00	6.27
18	Acetone	0.072	0.073	-1.4	92	0.00	6.33
19	Methyl acetate	0.189	0.181	4.2	86	0.00	6.56
20	trans-1,2-Dichloroethene	0.314	0.316	-0.6	93	0.00	6.54
21	Hexane	0.204	0.184	9.8	86	0.00	6.68
22	Methyl Tert Butyl Ether	0.764	0.747	2.2	94	0.00	6.73
23	Acetonitrile	0.035	0.034	2.9	85	0.00	7.17
24	Di-isopropyl ether	0.895	0.863	3.6	90	0.00	7.41
25	Chloroprene	0.353	0.378	-7.1	97	0.00	7.60
26 P	1,1-Dichloroethane	0.413	0.418	-1.2	93	0.00	7.64
27	Acrylonitrile	0.070	0.074	-5.7	92	0.00	7.73
28	ETBE	0.809	0.810	-0.1	94	0.00	8.08
29	Vinyl acetate	0.584	0.573	1.9	91	0.00	8.11
30	cis-1,2-Dichloroethene	0.221	0.223	-0.9	94	0.00	8.66

Continuing Calibration Summary

Job Number: FA81935 **Sample:** VC5862-ECC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145977.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
36		Tetrahydrofuran	40.000	35.619	11.0	81	0.00	9.40

			AvgRF	CCRF	% Dev			
31		2,2-Dichloropropane	0.352	0.317	9.9	82	0.00	8.85
32		Bromochloromethane	0.106	0.113	-6.6	97	0.00	9.02
33		Cyclohexane	0.427	0.416	2.6	91	0.00	9.02
34	C	Chloroform	0.378	0.390	-3.2	97	0.00	9.16
35		Ethyl acetate	0.263	0.253	3.8	88	0.00	9.35
37	S	Dibromofluoromethane	0.247	0.246	0.4	93	0.00	9.45
38		Carbon Tetrachloride	0.266	0.276	-3.8	95	0.00	9.37
39		1,1,1-Trichloroethane	0.321	0.339	-5.6	97	0.00	9.48
40		2-Butanone	0.123	0.117	4.9	88	0.00	9.62
41		1,1-Dichloropropene	0.328	0.333	-1.5	92	0.00	9.66
42		tert-Butyl formate	0.245	0.205	16.3	78	0.00	9.81
43		Propionitrile	0.036	0.035	2.8	90	0.00	10.03
44		Methacrylonitrile	0.163	0.161	1.2	93	0.00	10.05
45		Benzene	0.914	0.901	1.4	92	0.00	10.00
46		TAME	0.744	0.756	-1.6	95	0.00	10.15
47	S	1,2-Dichloroethane-d4	0.324	0.332	-2.5	97	0.00	10.18
48		1,2-Dichloroethane	0.308	0.332	-7.8	100	0.00	10.27
49		Trichloroethene	0.236	0.232	1.7	93	0.00	10.73
50		Methylcyclohexane	0.372	0.373	-0.3	93	0.00	10.71
51		Dibromomethane	0.135	0.136	-0.7	95	0.00	11.19
52	C	1,2-Dichloropropane	0.262	0.260	0.8	91	0.00	11.29
53		Bromodichloromethane	0.291	0.300	-3.1	94	0.00	11.36
54		Methyl methacrylate	0.239	0.243	-1.7	90	0.00	11.50
55		2-Chloroethyl vinyl ether	0.172	0.147	14.5	79	0.00	11.90
56		cis-1,3-Dichloropropene	0.427	0.428	-0.2	93	0.00	11.96
57	I	Chlorobenzene-d5	1.000	1.000	0.0	95	0.00	13.42
58	S	Toluene-d8	1.412	1.393	1.3	92	0.00	12.13
59	C	Toluene	1.409	1.358	3.6	93	0.00	12.18
60		2-Nitropropane	0.106	0.105	0.9	92	0.00	12.38
61		4-Methyl-2-pentanone	0.365	0.344	5.8	91	0.00	12.49
62		trans-1,3-Dichloropropene	0.521	0.517	0.8	92	0.00	12.54
63		Tetrachloroethene	0.328	0.348	-6.1	99	0.00	12.52
64		Ethyl methacrylate	0.462	0.477	-3.2	95	0.00	12.64
65		1,1,2-Trichloroethane	0.254	0.248	2.4	92	0.00	12.68
66		Dibromochloromethane	0.311	0.318	-2.3	94	0.00	12.83
67		1,3-Dichloropropane	0.568	0.559	1.6	93	0.00	12.90
68		1,2-Dibromoethane	0.292	0.286	2.1	91	0.00	13.03
69		2-hexanone	0.265	0.241	9.1	89	0.00	13.16
70		1-Chlorohexane	0.464	0.454	2.2	91	0.00	13.39
71	C	Ethylbenzene	1.469	1.416	3.6	92	0.00	13.44
72	P	Chlorobenzene	0.834	0.811	2.8	93	0.00	13.44
73		1,1,1,2-Tetrachloroethane	0.295	0.296	-0.3	94	0.00	13.48
74		m,p-Xylene	1.107	1.094	1.2	93	0.00	13.54
75		o-Xylene	1.185	1.178	0.6	94	0.00	13.86
76		Styrene	0.944	0.950	-0.6	92	0.00	13.90
77	P	Bromoform	0.219	0.225	-2.7	93	0.00	13.95
78		Isopropylbenzene	1.376	1.363	0.9	93	0.00	14.08
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	94	0.00	15.08
80	S	4-Bromofluorobenzene	0.842	0.843	-0.1	95	0.00	14.31
81		cis-1,4-Dichloro-2-butene	0.270	0.231	14.4	81	0.00	14.34
82		n-Propylbenzene	3.187	3.117	2.2	93	0.00	14.37
83		Bromobenzene	0.670	0.665	0.7	94	0.00	14.40
84	P	1,1,2,2-Tetrachloroethane	0.759	0.718	5.4	91	0.00	14.43

Continuing Calibration Summary

Job Number: FA81935 **Sample:** VC5862-ECC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145977.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

85	1,3,5-Trimethylbenzene	2.108	2.076	1.5	94	0.00	14.49
86	2-Chlorotoluene	2.142	2.084	2.7	93	0.00	14.51
87	trans-1,4-Dichloro-2-Bute	0.239	0.193	19.2	78	0.00	14.55
88	1,2,3-Trichloropropane	0.215	0.205	4.7	93	0.00	14.54
89	Cyclohexanone	0.028	0.027	3.6	87	0.00	14.59
90	4-Chlorotoluene	1.953	1.915	1.9	94	0.00	14.62
91	tert-Butylbenzene	1.230	1.218	1.0	95	0.00	14.73
92	a-Methyl styrene		----------NA----------				
93	1,2,4-Trimethylbenzene	2.091	2.041	2.4	93	0.00	14.77
94	Pentachloroethane	0.390	0.396	-1.5	96	0.00	14.77
95	sec-Butylbenzene	2.550	2.469	3.2	92	0.00	14.85
96	4-Isopropyltoluene	2.173	2.105	3.1	92	0.00	14.93
97	1,3-Dichlorobenzene	1.187	1.175	1.0	93	0.00	15.04
98	1,2,3-Trimethylbenzene	2.530	2.473	2.3	95	0.00	15.08
99	1,4-Dichlorobenzene	1.210	1.188	1.8	95	0.00	15.10
100	n-Butylbenzene	1.170	1.120	4.3	91	0.00	15.22
101	Benzyl Chloride	0.290	0.254	12.4	80	0.00	15.25
102	1,2-Dichlorobenzene	1.125	1.134	-0.8	95	0.00	15.39
103	1,2-Dibromo-3-Chloropropa	0.148	0.137	7.4	90	0.00	15.92
104	Hexachlorobutadiene	0.324	0.323	0.3	95	0.00	16.32
105	1,2,4-Trichlorobenzene	0.629	0.624	0.8	93	0.00	16.37
106	Naphthalene	1.370	1.189	13.2	84	0.00	16.62
107	1,2,3-Trichlorobenzene	0.525	0.493	6.1	90	0.00	16.76
108 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	75	0.00	6.79
109	Ethanol	0.110	0.138	-25.5	95	0.00	5.24
110	Tert Butyl Alcohol	1.233	1.231	0.2	74	0.00	6.92
	----------	True	Calc.	% Drift	----------		
111	Isobutyl alcohol	800.000	1192.664	-49.1	108	0.00	10.30
	----------	AvgRF	CCRF	% Dev	----------		
112	Tert Amyl Alcohol	0.869	1.002	-15.3	86	0.00	10.41
113	1,4-Dioxane	0.099	0.121	-22.2	84	0.00	11.55
114	3,3-dimethyl-1-butanol	0.613	0.902	-47.1	98	0.00	13.14

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0145856.D RTXVMS122420.M Wed Dec 30 23:30:23 2020

Run Sequence Report

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VC5857 **Method:** SW846 8260B **Instrument ID:** GCMSC

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VC5857-BFB	C0145851.D	12/24/20 07:21	n/a	BFB Tune
VC5857-IC5857	C0145852.D	12/24/20 07:47	n/a	Initial cal 1
VC5857-IC5857	C0145853.D	12/24/20 08:13	n/a	Initial cal 2
VC5857-IC5857	C0145854.D	12/24/20 08:39	n/a	Initial cal 3
VC5857-IC5857	C0145855.D	12/24/20 09:05	n/a	Initial cal 4
VC5857-ICC5857	C0145856.D	12/24/20 09:32	n/a	Initial cal 5
VC5857-IC5857	C0145857.D	12/24/20 09:59	n/a	Initial cal 6
VC5857-IC5857	C0145858.D	12/24/20 10:25	n/a	Initial cal 7
VC5857-BFB	C0145859.D	12/24/20 10:52	n/a	BFB Tune
VC5857-CC5857	C0145860.D	12/24/20 11:19	n/a	Continuing cal 5
VC5857-ICV5857	C0145860A.D	12/24/20 11:19	n/a	Initial cal verification 5
VC5857-BS	C0145861.D	12/24/20 11:46	n/a	Blank Spike
VC5857-ICV5857	C0145861A.D	12/24/20 11:46	n/a	Initial cal verification 4
VC5857-MB	C0145864.D	12/24/20 13:04	n/a	Method Blank
ZZZZZZ	C0145865.D	12/24/20 13:30	n/a	(unrelated sample)
ZZZZZZ	C0145866.D	12/24/20 13:57	n/a	(unrelated sample)
FA81700-3	C0145867.D	12/24/20 14:23	n/a	(used for QC only; not part of job FA81935)
ZZZZZZ	C0145868.D	12/24/20 14:49	n/a	(unrelated sample)
ZZZZZZ	C0145869.D	12/24/20 15:15	n/a	(unrelated sample)
ZZZZZZ	C0145870.D	12/24/20 15:41	n/a	(unrelated sample)
ZZZZZZ	C0145871.D	12/24/20 16:07	n/a	(unrelated sample)
ZZZZZZ	C0145872.D	12/24/20 16:34	n/a	(unrelated sample)
ZZZZZZ	C0145873.D	12/24/20 17:00	n/a	(unrelated sample)
ZZZZZZ	C0145874.D	12/24/20 17:26	n/a	(unrelated sample)
FA81700-3MS	C0145883.D	12/24/20 21:19	n/a	Matrix Spike
FA81700-3MSD	C0145884.D	12/24/20 21:45	n/a	Matrix Spike Duplicate
VC5857-ECC5857	C0145887.D	12/24/20 23:03	n/a	Ending cal 5

Run Sequence Report

Job Number: FA81935
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VC5862	**Method:** SW846 8260B	**Instrument ID:** GCMSC

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VC5862-BFB	C0145950.D	12/30/20 08:22	n/a	BFB Tune
VC5862-CC5857	C0145950.D	12/30/20 08:22	n/a	Continuing cal 5
VC5862-BS	C0145951.D	12/30/20 08:54	n/a	Blank Spike
VC5862-MB	C0145954.D	12/30/20 10:12	n/a	Method Blank
ZZZZZZ	C0145955.D	12/30/20 10:38	n/a	(unrelated sample)
ZZZZZZ	C0145956.D	12/30/20 11:05	n/a	(unrelated sample)
ZZZZZZ	C0145957.D	12/30/20 11:31	n/a	(unrelated sample)
ZZZZZZ	C0145958.D	12/30/20 11:57	n/a	(unrelated sample)
ZZZZZZ	C0145959.D	12/30/20 12:23	n/a	(unrelated sample)
FA81743-26	C0145960.D	12/30/20 12:48	n/a	(used for QC only; not part of job FA81935)
ZZZZZZ	C0145961.D	12/30/20 13:13	n/a	(unrelated sample)
FA81935-1	C0145962.D	12/30/20 13:39	n/a	SP1-GW_20201216
FA81743-26MS	C0145973.D	12/30/20 18:20	n/a	Matrix Spike
FA81743-26MSD	C0145974.D	12/30/20 18:45	n/a	Matrix Spike Duplicate
VC5862-ECC5857	C0145977.D	12/30/20 20:00	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145962.D
Acq On : 30 Dec 2020 1:39 pm
Operator : SHANICAO
Sample : FA81935-1
Misc : MS48043,VC5862,,,,,
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 30 22:46:02 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

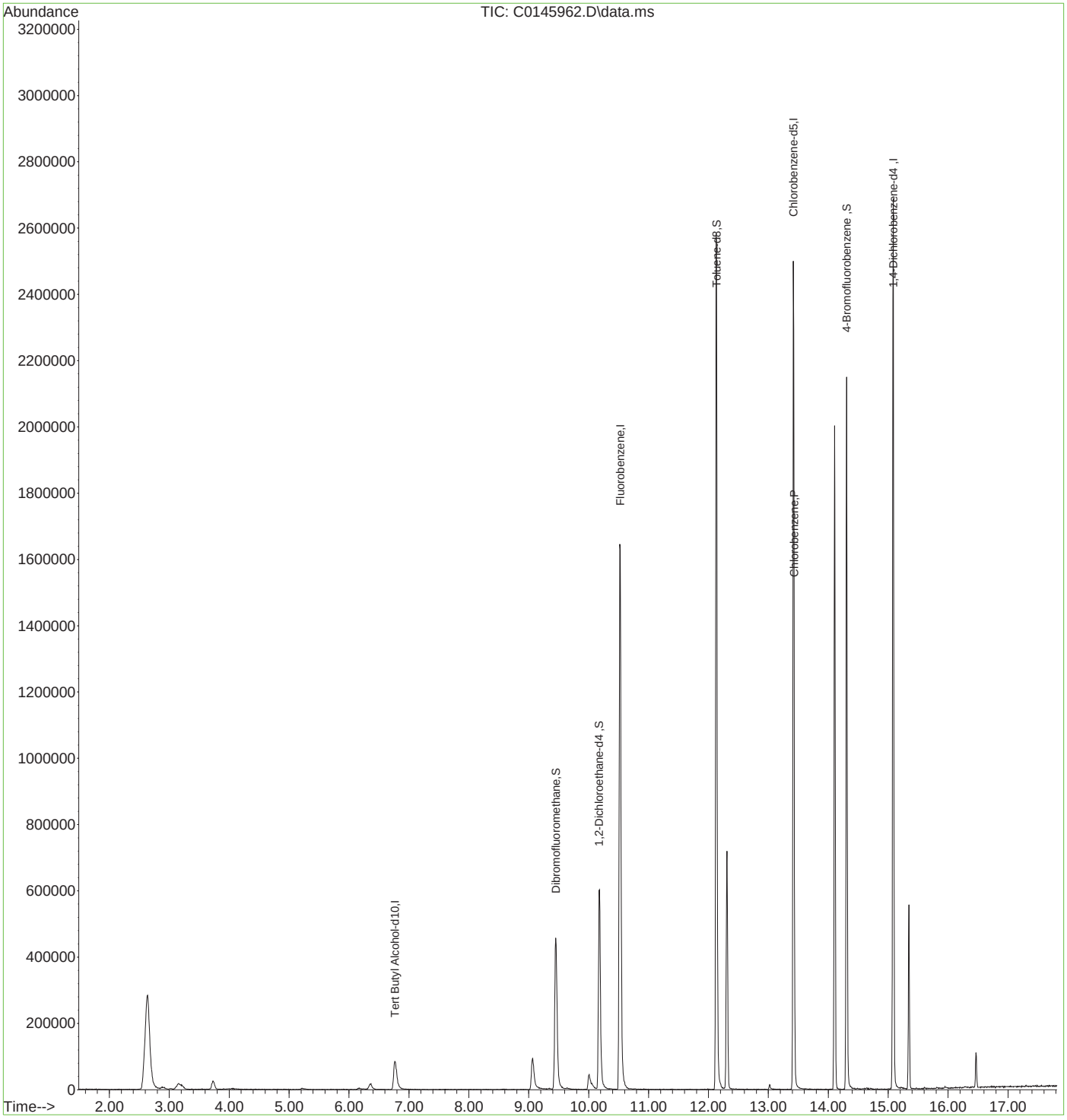
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.527	96	1563819	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1122864	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	596234	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.768	65	187483	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	385163	49.94	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.88%			
47) 1,2-Dichloroethane-d4	10.175	65	530124	52.33	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 104.66%			
58) Toluene-d8	12.134	98	1537304	48.49	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.98%			
80) 4-Bromofluorobenzene	14.305	174	490976	48.87	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.74%			
Target Compounds						Qvalue
72) Chlorobenzene	13.429	112	6716	0.36	ug/L	# 26

(#) = qualifier out of range (m) = manual integration (+) = signals summed

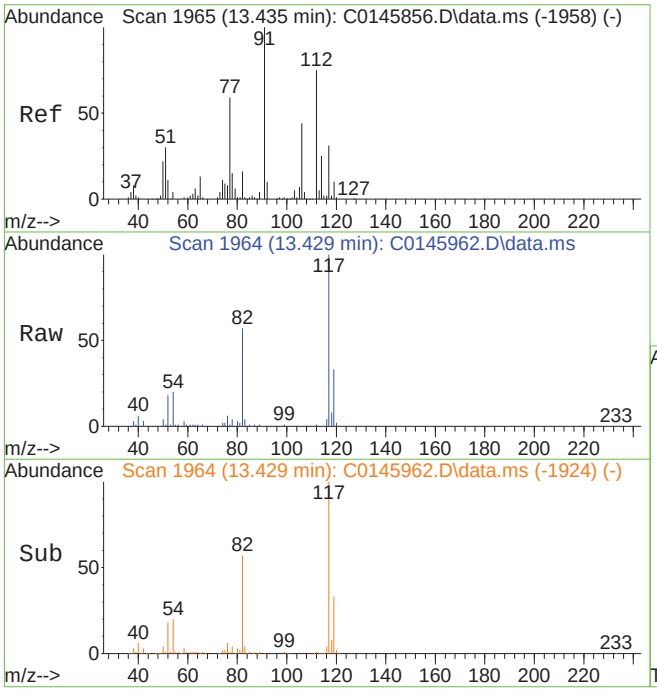
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145962.D
Acq On : 30 Dec 2020 1:39 pm
Operator : SHANICAO
Sample : FA81935-1
Misc : MS48043,VC5862,,,,,
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 30 22:46:02 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



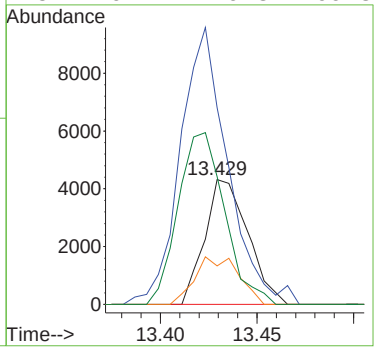
RTXVMS122420.M Wed Dec 30 23:32:18 2020 Page: 2



#72
Chlorobenzene
Concen: 0.36 ug/L
RT: 13.429 min Scan# 1964
Delta R.T. -0.006 min
Lab File: C0145962.D
Acq: 30 Dec 2020 1:39 pm

Tgt Ion:112 Resp: 6716

Ion	Ratio	Lower	Upper
112	100		
77	157.6	48.9	108.9#
114	30.9	2.9	62.9
51	102.2	9.3	69.3#



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145954.D
Acq On : 30 Dec 2020 10:12 am
Operator : SHANICAO
Sample : MB
Misc : MS48032,VC5862,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 30 22:40:23 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

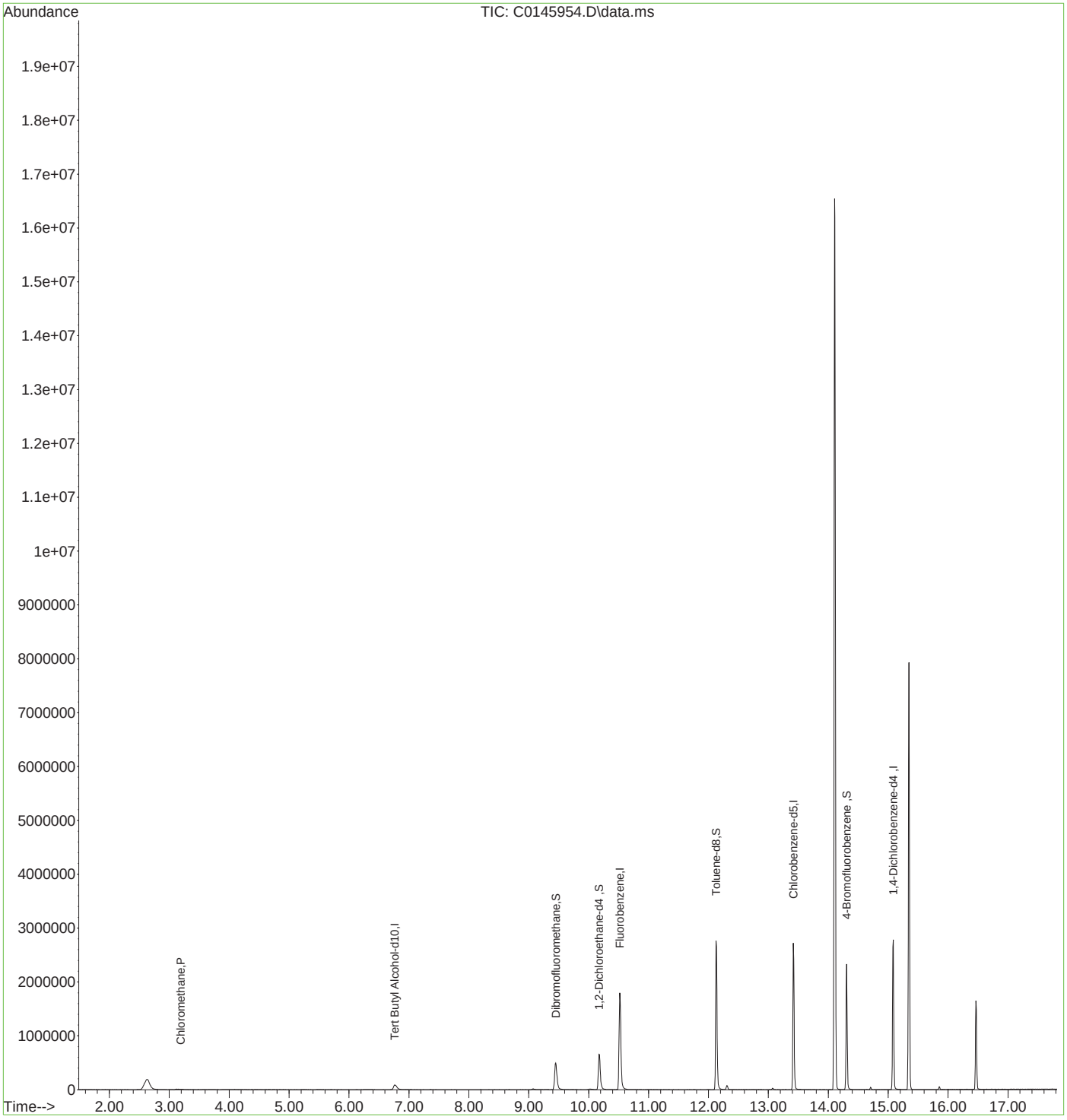
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1668021	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1205697	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	635233	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.762	65	205250	250.00	ug/L	-0.03
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	421693	51.26	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.52%			
47) 1,2-Dichloroethane-d4	10.175	65	567478	52.52	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 105.04%			
58) Toluene-d8	12.127	98	1654857	48.61	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.22%			
80) 4-Bromofluorobenzene	14.305	174	542047	50.65	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.30%			
Target Compounds						Qvalue
3) Chloromethane	3.191	50	6261	0.59	ug/L	66

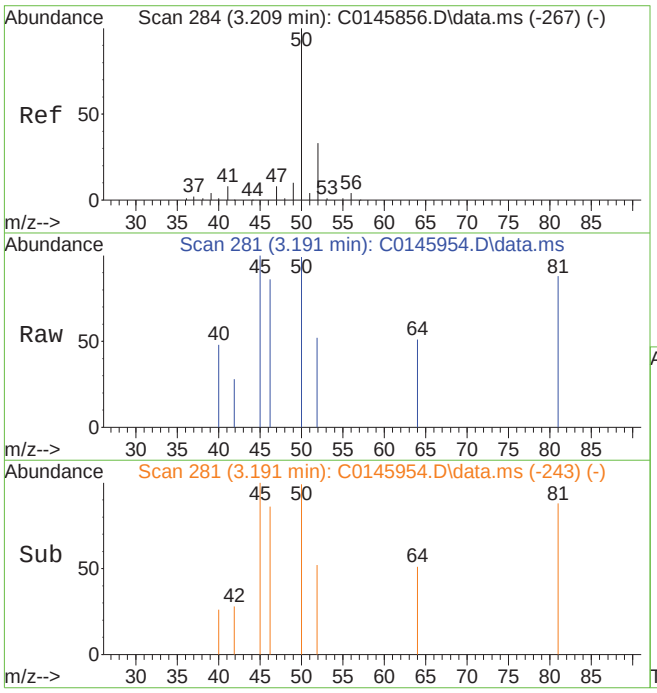
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145954.D
Acq On : 30 Dec 2020 10:12 am
Operator : SHANICAO
Sample : MB
Misc : MS48032,VC5862,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 30 22:40:23 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

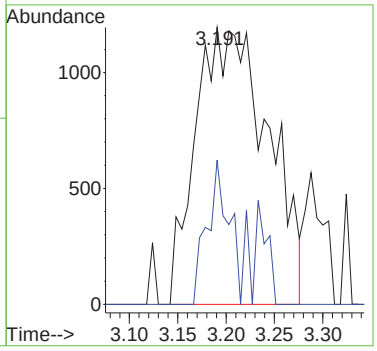




#3
Chloromethane
Concen: 0.59 ug/L
RT: 3.191 min Scan# 281
Delta R.T. -0.018 min
Lab File: C0145954.D
Acq: 30 Dec 2020 10:12 am

Tgt Ion: 50 Resp: 6261

Ion	Ratio	Lower	Upper
50	100		
52	52.1	3.0	63.0



7.2.1

7

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/31/20 12:09

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145951.D
Acq On : 30 Dec 2020 8:54 am
Operator : SHANICAO
Sample : BS
Misc : MS48020,VC5862,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 30 22:37:47 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1668944	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1154499	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	615065	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	159873	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.445	113	408157	49.59	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.18%			
47) 1,2-Dichloroethane-d4	10.175	65	544689	50.38	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.76%			
58) Toluene-d8	12.134	98	1621462	49.74	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.48%			
80) 4-Bromofluorobenzene	14.305	174	523521	50.52	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.868	85	190906	22.65	ug/L	94
3) Chloromethane	3.209	50	265690	25.15	ug/L	97
4) 1,3-butadiene	3.373	39	250620	33.32	ug/L	97
5) Vinyl Chloride	3.349	62	227883	23.29	ug/L	99
6) Bromomethane	3.909	94	66523	22.20	ug/L	91
7) Chloroethane	4.128	64	89623	20.53	ug/L	97
8) Trichlorofluoromethane	4.347	101	287654	28.52	ug/L	96
9) Ethyl Ether	4.906	59	135754	18.82	ug/L	95
10) 1,2-Dichlorotrifluoroe...	5.247	67	200287	23.90	ug/L	98
11) 1,1-Dichloroethene	5.229	61	252196	22.94	ug/L	96
12) Freon 113	5.308	101	133658	20.03	ug/L	97
13) Carbon Disulfide	5.277	76	453607	19.68	ug/L	98
14) Iodomethane	5.490	142	99849	17.03	ug/L	93
15) Acrolein	5.819	56	96409	58.58	ug/L	98
16) Allyl chloride	6.062	41	300836	22.50	ug/L	97
17) Methylene Chloride	6.269	49	203116	18.59	ug/L	97
18) Acetone	6.330	43	238529	99.14	ug/L	96
19) Methyl acetate	6.555	43	602152	95.39	ug/L	98
20) trans-1,2-Dichloroethene	6.537	61	230619	21.98	ug/L	96
21) Hexane	6.683	56	137642	20.22	ug/L	93
22) Methyl Tert Butyl Ether	6.719	73	488635	19.15	ug/L	98
23) Acetonitrile	7.169	41	230764	197.30	ug/L	99
24) Di-isopropyl ether	7.413	45	585359	19.59	ug/L	98
25) Chloroprene	7.601	53	309697	26.27	ug/L	98
26) 1,1-Dichloroethane	7.638	63	308503	22.40	ug/L	99
27) Acrylonitrile	7.729	52	243038	103.33	ug/L	93
28) ETBE	8.088	59	509372	18.85	ug/L	99
29) Vinyl acetate	8.112	43	1870761	95.98	ug/L	99
30) cis-1,2-Dichloroethene	8.666	96	158896	21.58	ug/L	94
31) 2,2-Dichloropropane	8.842	77	264852	22.55	ug/L	99
32) Bromochloromethane	9.025	128	72952	20.64	ug/L	97
33) Cyclohexane	9.013	56	304783	21.38	ug/L	99
34) Chloroform	9.165	83	282172	22.37	ug/L	98
35) Ethyl acetate	9.347	43	868087	98.85	ug/L	99
36) Tetrahydrofuran	9.396	42	59548	19.24	ug/L	92
38) Carbon Tetrachloride	9.366	117	209405	23.63	ug/L	99
39) 1,1,1-Trichloroethane	9.469	97	248532	23.21	ug/L	99
40) 2-Butanone	9.621	43	395983	96.60	ug/L	98
41) 1,1-Dichloropropene	9.658	75	241498	22.03	ug/L	94
42) tert-Butyl formate	9.810	59	711719	86.95	ug/L	99
43) Propionitrile	10.023	54	240169	201.93	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145951.D
Acq On : 30 Dec 2020 8:54 am
Operator : SHANICAO
Sample : BS
Misc : MS48020,VC5862,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 30 22:37:47 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Methacrylonitrile	10.053	41	1146163	210.47	ug/L		99
45) Benzene	9.998	78	647930	21.24	ug/L		97
46) TAME	10.150	73	488010	19.66	ug/L		99
48) 1,2-Dichloroethane	10.266	62	225249	21.88	ug/L		94
49) Trichloroethene	10.728	95	163041	20.69	ug/L		99
50) Methylcyclohexane	10.710	83	295191	23.75	ug/L		96
51) Dibromomethane	11.191	93	90409	20.11	ug/L		91
52) 1,2-Dichloropropane	11.288	63	182170	20.84	ug/L		98
53) Bromodichloromethane	11.361	83	219702	22.58	ug/L		97
54) Methyl methacrylate	11.501	41	177043	22.22	ug/L		97
55) 2-Chloroethyl vinyl ether	11.896	63	415733	72.60	ug/L		99
56) cis-1,3-Dichloropropene	11.963	75	285620	20.06	ug/L		98
59) Toluene	12.176	91	674230	20.72	ug/L		97
60) 2-Nitropropane	12.377	41	239180	98.02	ug/L		96
61) 4-Methyl-2-pentanone	12.493	43	879451	104.38	ug/L		98
62) trans-1,3-Dichloropropene	12.541	75	259056	21.52	ug/L		97
63) Tetrachloroethene	12.523	166	171514	22.64	ug/L		96
64) Ethyl methacrylate	12.645	69	245154	22.99	ug/L		95
65) 1,1,2-Trichloroethane	12.675	83	119954	20.48	ug/L		97
66) Dibromochloromethane	12.833	129	159072	22.17	ug/L		96
67) 1,3-Dichloropropane	12.900	76	262196	19.98	ug/L		96
68) 1,2-Dibromoethane	13.034	107	133284	19.78	ug/L		97
69) 2-hexanone	13.162	43	601261m	98.17	ug/L		
70) 1-Chlorohexane	13.387	91	225234	21.04	ug/L		98
71) Ethylbenzene	13.435	91	734107	21.65	ug/L		99
72) Chlorobenzene	13.435	112	403987	20.99	ug/L		98
73) 1,1,1,2-Tetrachloroethane	13.478	131	147064	21.57	ug/L		99
74) m,p-Xylene	13.539	91	1113234	43.55	ug/L		99
75) o-Xylene	13.861	91	586201	21.42	ug/L		98
76) Styrene	13.898	104	468371	21.50	ug/L		98
77) Bromoform	13.953	173	113129	22.37	ug/L		98
78) Isopropylbenzene	14.080	105	699086	22.01	ug/L		97
81) cis-1,4-Dichloro-2-butene	14.336	53	63546	19.14	ug/L		86
82) n-Propylbenzene	14.372	91	856195	21.84	ug/L		99
83) Bromobenzene	14.397	156	174591	21.18	ug/L		99
84) 1,1,2,2-Tetrachloroethane	14.427	83	178713	19.14	ug/L		98
85) 1,3,5-Trimethylbenzene	14.494	105	552082	21.29	ug/L		98
86) 2-Chlorotoluene	14.506	91	561703	21.32	ug/L		98
87) trans-1,4-Dichloro-2-B...	14.549	53	52548	17.88	ug/L	#	88
88) 1,2,3-Trichloropropane	14.537	110	50322	19.00	ug/L		94
89) Cyclohexanone	14.585	55	31554	90.50	ug/L		96
90) 4-Chlorotoluene	14.622	91	512736	21.34	ug/L		96
91) tert-Butylbenzene	14.725	91	320953	21.22	ug/L		98
93) 1,2,4-Trimethylbenzene	14.768	105	536676	20.86	ug/L		96
94) Pentachloroethane	14.774	167	124272	25.93	ug/L		91
95) sec-Butylbenzene	14.847	105	685675	21.86	ug/L		99
96) 4-Isopropyltoluene	14.926	119	582091	21.77	ug/L		100
97) 1,3-Dichlorobenzene	15.035	146	315063	21.58	ug/L		99
98) 1,2,3-Trimethylbenzene	15.078	105	522586	16.79	ug/L		97
99) 1,4-Dichlorobenzene	15.096	146	311849	20.95	ug/L		98
100) n-Butylbenzene	15.218	92	301781	20.97	ug/L		100
101) Benzyl Chloride	15.248	126	71910	20.12	ug/L		100
102) 1,2-Dichlorobenzene	15.388	146	290964	21.03	ug/L		99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	33236	18.24	ug/L		97
104) Hexachlorobutadiene	16.319	225	93469	23.42	ug/L		99
105) 1,2,4-Trichlorobenzene	16.374	180	163146	21.09	ug/L		98
106) Naphthalene	16.617	128	286274	16.99	ug/L		100
107) 1,2,3-Trichlorobenzene	16.757	180	126387	19.56	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145951.D
Acq On : 30 Dec 2020 8:54 am
Operator : SHANICAO
Sample : BS
Misc : MS48020,VC5862,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 30 22:37:47 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Ethanol	5.241	45	40402	572.84	ug/L	94
110) Tert Butyl Alcohol	6.914	59	145957	185.17	ug/L	94
111) Isobutyl alcohol	10.302	43	119369	616.43	ug/L	99
112) Tert Amyl Alcohol	10.406	59	125926	226.56	ug/L	95
113) 1,4-Dioxane	11.550	88	35871	568.50	ug/L	96
114) 3,3-dimethyl-1-butanol	13.143	57	657532m	1678.33	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

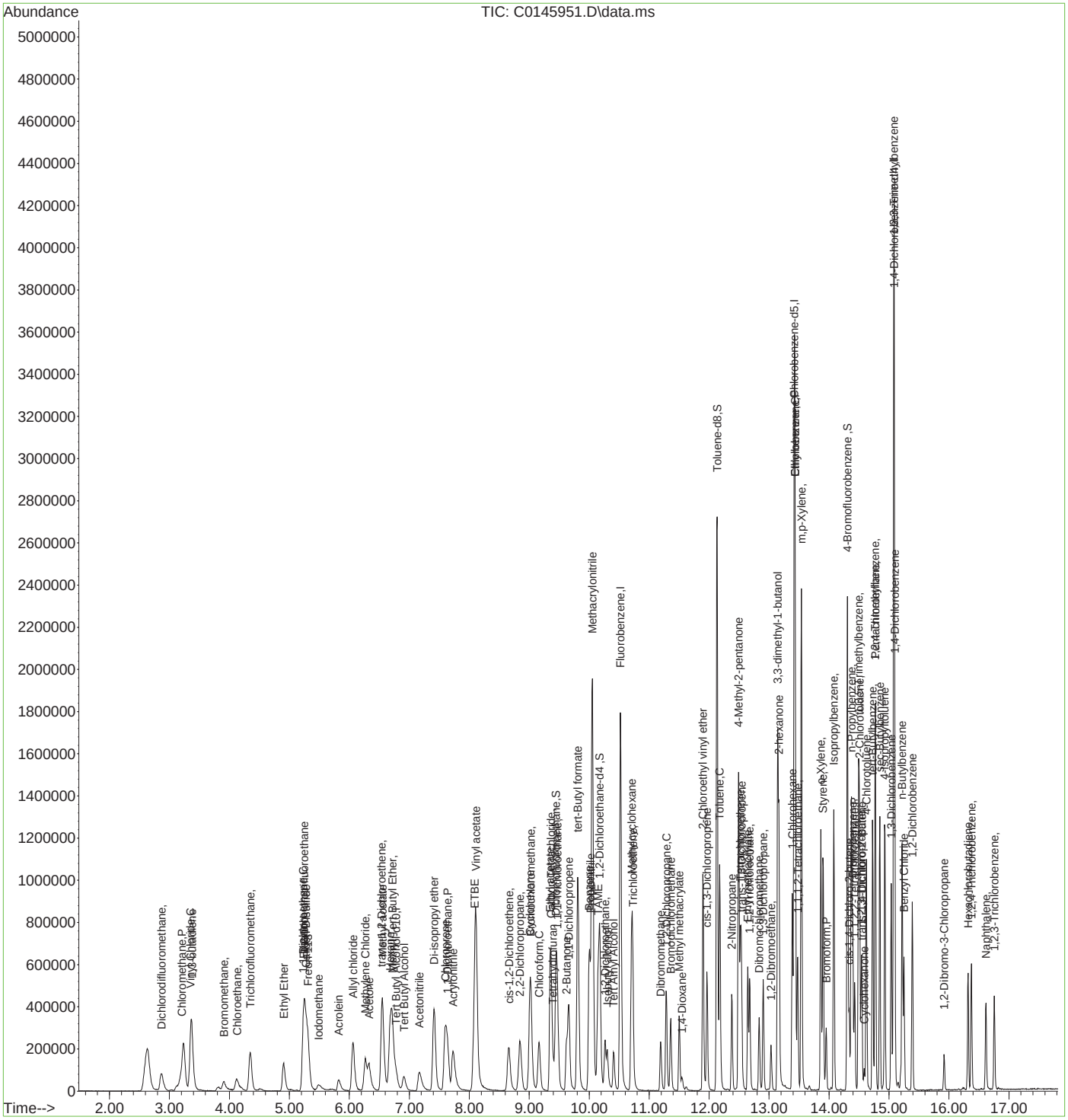
7.3.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145951.D
Acq On : 30 Dec 2020 8:54 am
Operator : SHANICAO
Sample : BS
Misc : MS48020,VC5862,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 30 22:37:47 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



Manual Integration Approval Summary

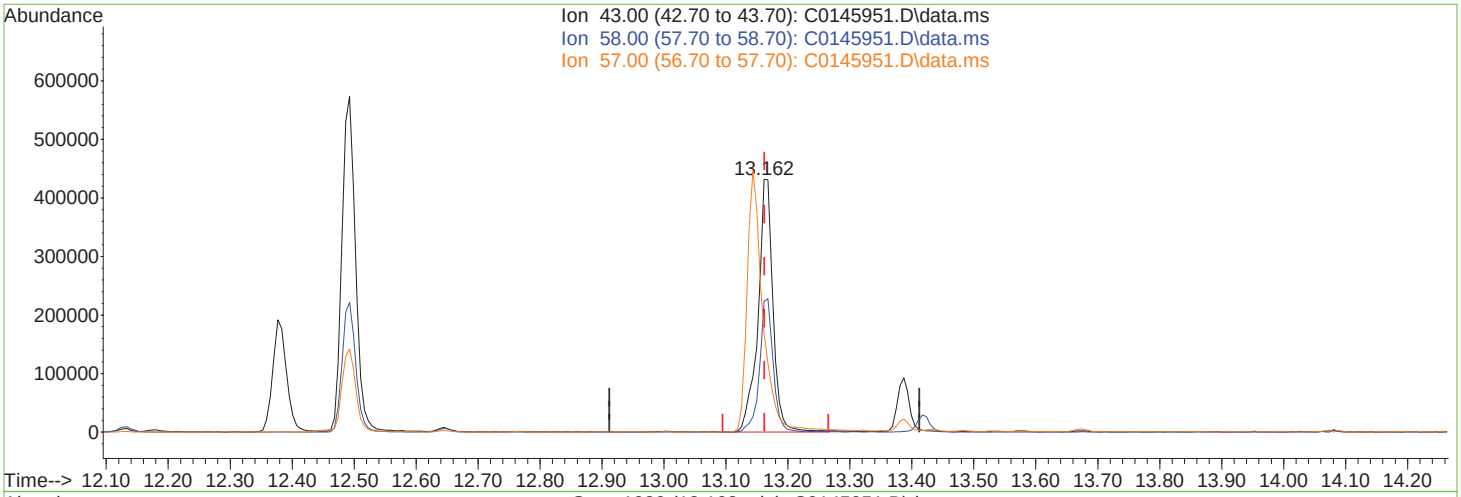
Sample Number: VC5862-BS
Lab FileID: C0145951.D
Injection Time: 12/30/20 08:54
Method: SW846 8260B
Analyst approved: 12/30/20 23:47 Edessa Sumagaysay
Supervisor approved: 12/31/20 12:09 Melissa Mangual

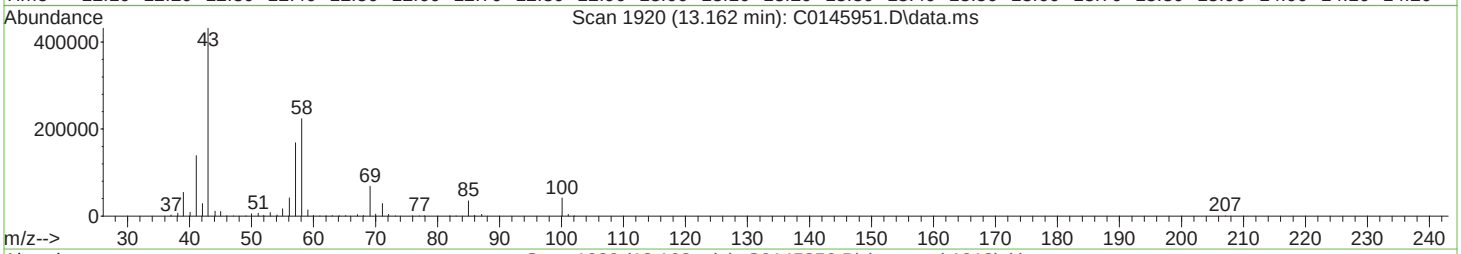
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.16	Overlapping peak

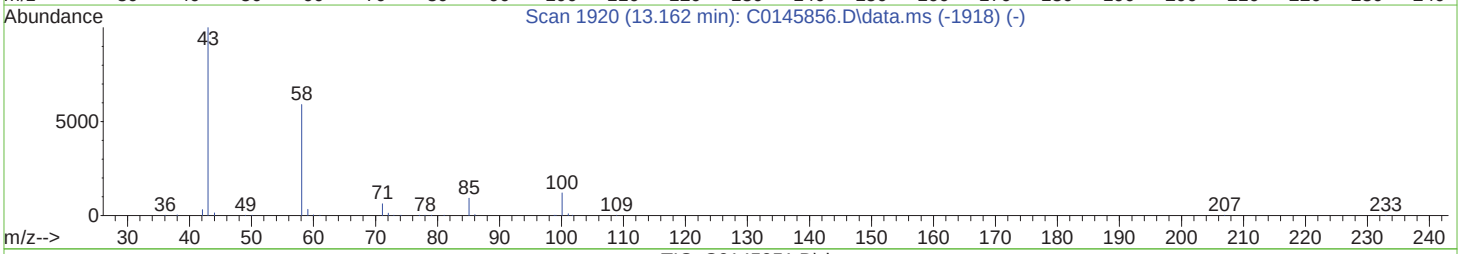
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145951.D
Acq On : 30 Dec 2020 8:54 am
Operator : SHANICAO
Sample : BS
Misc : MS48020,VC5862,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 30 21:33:59 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145951.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 119.81ug/L

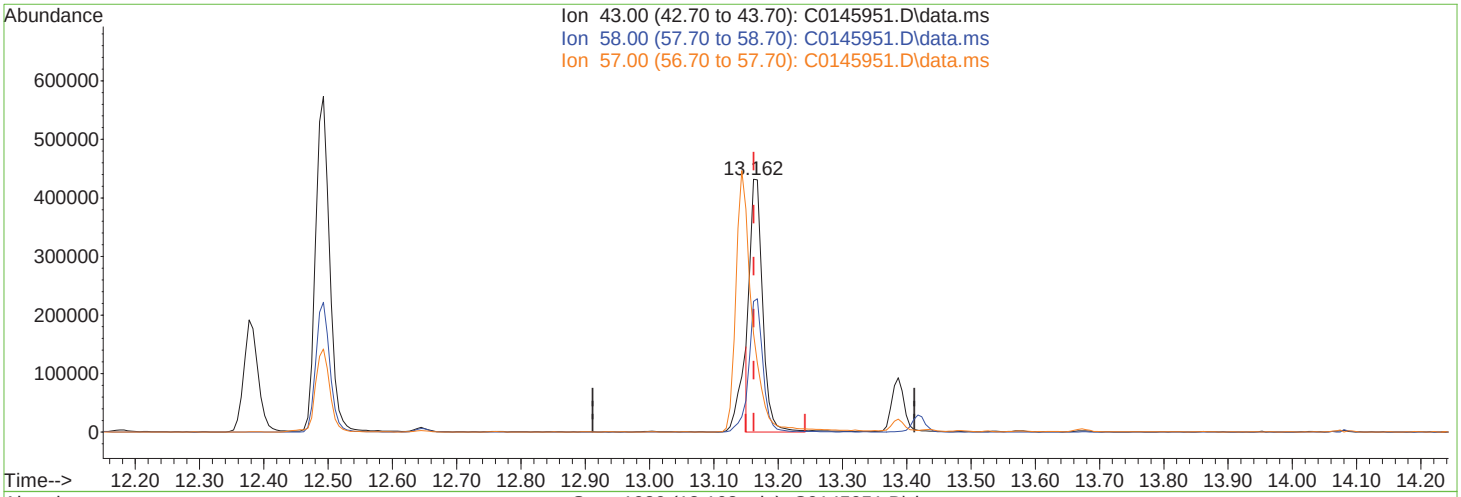
response 733757

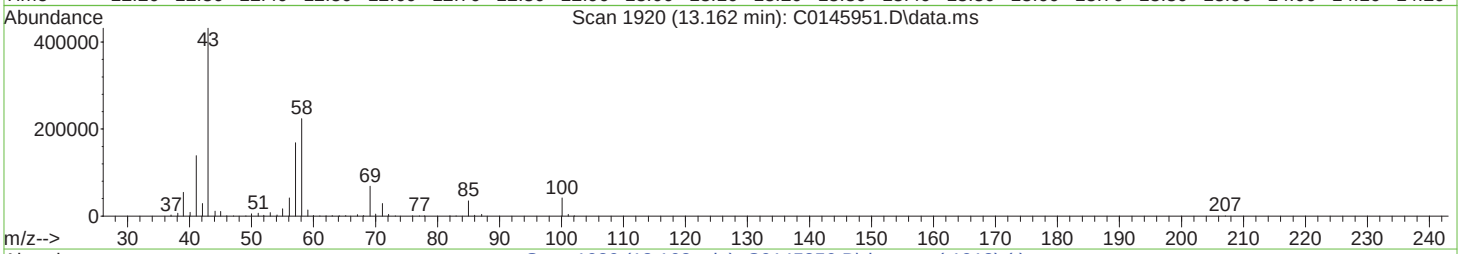
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.74
57.00	46.70	38.94
0.00	0.00	0.00

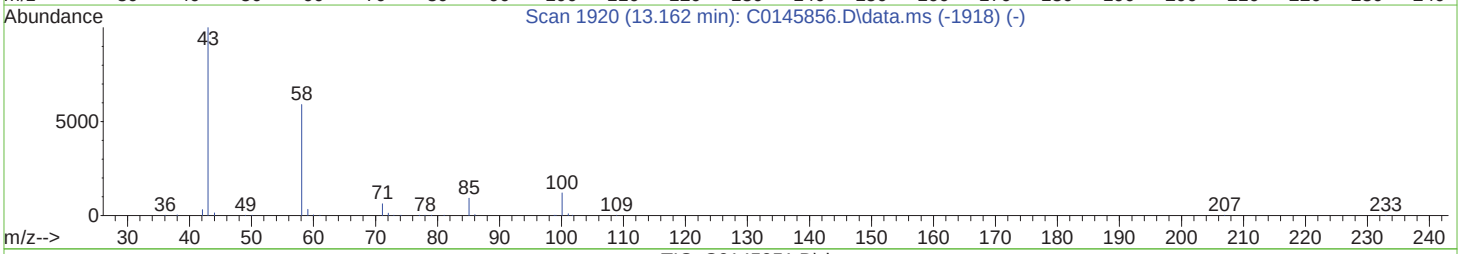
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145951.D
Acq On : 30 Dec 2020 8:54 am
Operator : SHANICAO
Sample : BS
Misc : MS48020,VC5862,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 30 21:33:59 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145951.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 98.17ug/L m

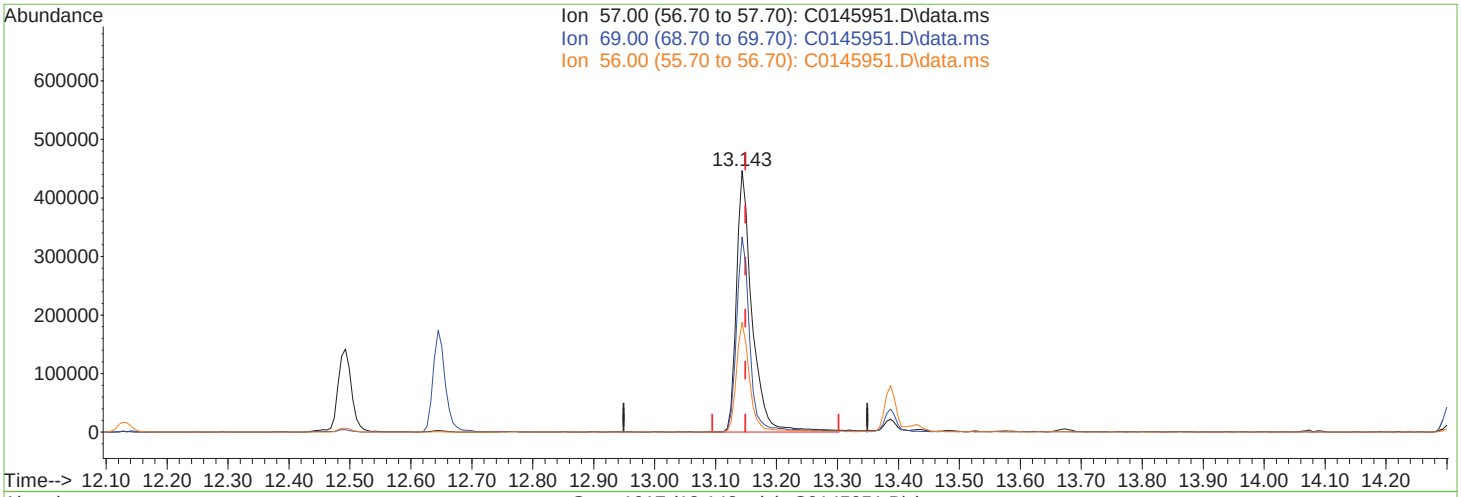
response 601261

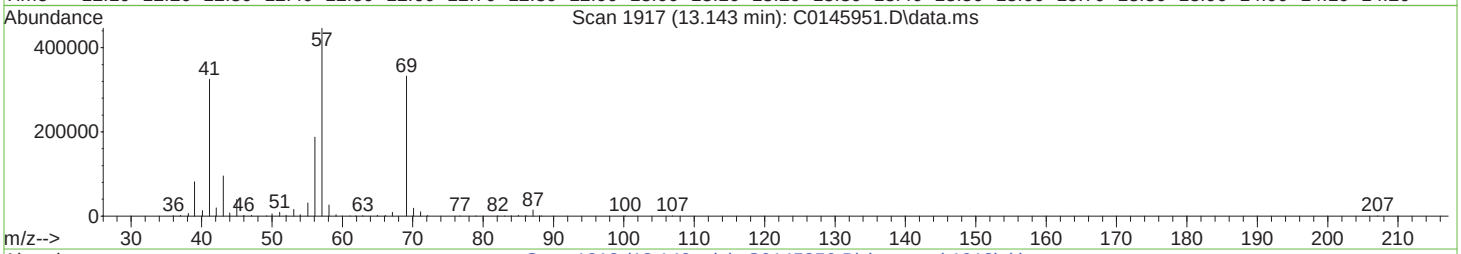
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.74
57.00	46.70	38.94
0.00	0.00	0.00

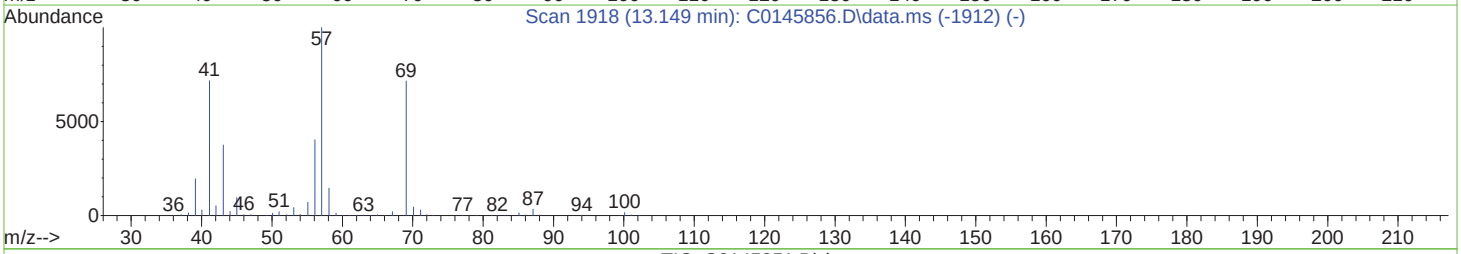
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145951.D
Acq On : 30 Dec 2020 8:54 am
Operator : SHANICAO
Sample : BS
Misc : MS48020,VC5862,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 30 21:33:59 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145951.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (-0.006) 2033.64ug/L

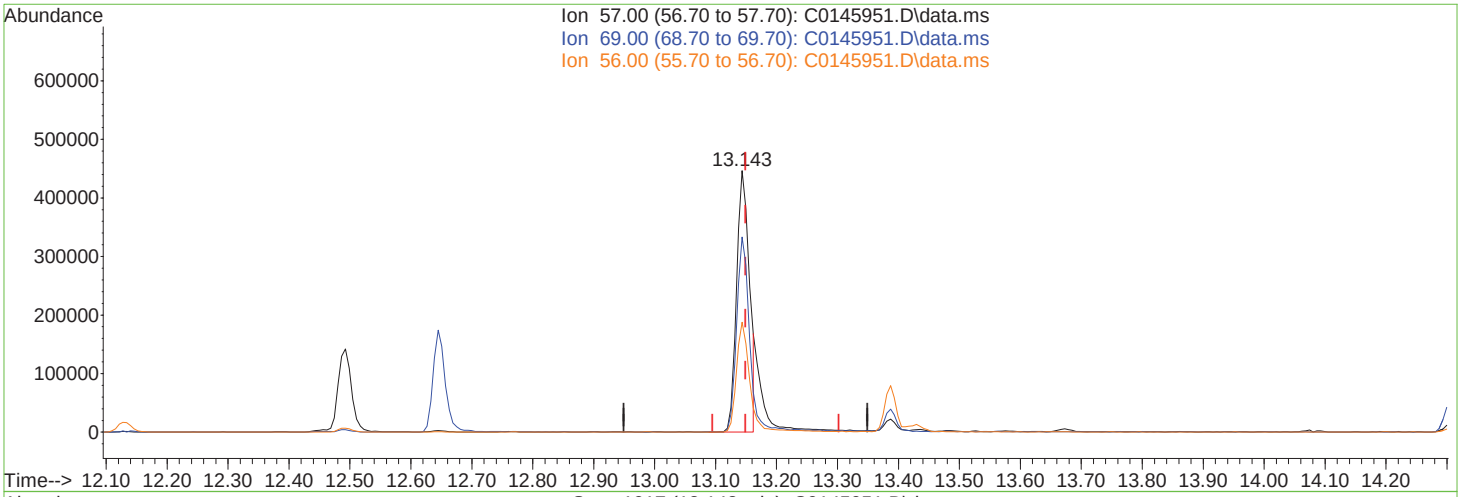
response 796737

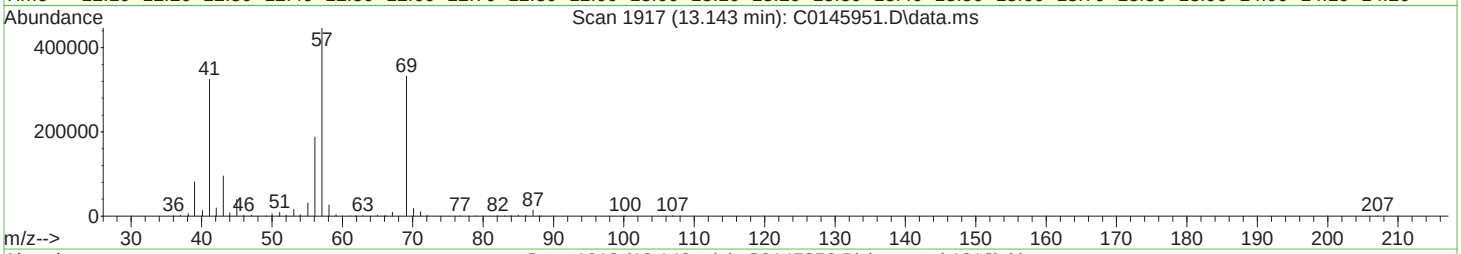
Ion	Exp%	Act%
57.00	100	100
69.00	79.60	62.09
56.00	45.70	36.37
0.00	0.00	0.00

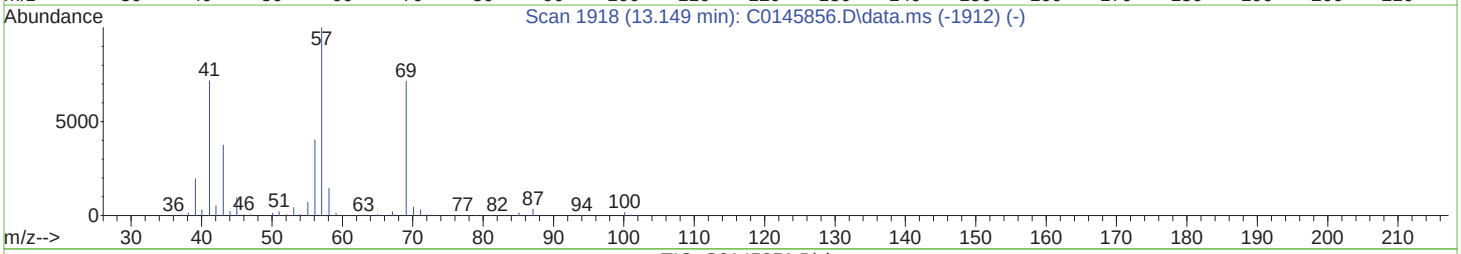
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145951.D
Acq On : 30 Dec 2020 8:54 am
Operator : SHANICAO
Sample : BS
Misc : MS48020,VC5862,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 30 21:33:59 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145951.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (-0.006) 1678.33ug/L m

response 657532

Ion	Exp%	Act%
57.00	100	100
69.00	79.60	75.24
56.00	45.70	44.07
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 12/31/20 12:19

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145973.D
Acq On : 30 Dec 2020 6:20 pm
Operator : SHANICAO
Sample : FA81743-26MS,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 30 22:54:10 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1504723	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1061996	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	569773	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	171835	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	378752	51.04	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.08%			
47) 1,2-Dichloroethane-d4	10.181	65	513085	52.64	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 105.28%			
58) Toluene-d8	12.134	98	1492866	49.79	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.58%			
80) 4-Bromofluorobenzene	14.305	174	476852	49.67	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	186147	24.49	ug/L	98
3) Chloromethane	3.215	50	224518	23.56	ug/L	100
4) 1,3-butadiene	3.367	39	248066	36.58	ug/L	98
5) Vinyl Chloride	3.349	62	245776	27.86	ug/L	93
6) Bromomethane	3.902	94	39601	14.94	ug/L	87
7) Chloroethane	4.121	64	93309	23.70	ug/L	95
8) Trichlorofluoromethane	4.353	101	276335	30.39	ug/L	98
9) Ethyl Ether	4.900	59	136793	21.04	ug/L	96
10) 1,2-Dichlorotrifluoroe...	5.247	67	411366	54.44	ug/L	99
11) 1,1-Dichloroethene	5.235	61	248803	25.10	ug/L	98
12) Freon 113	5.308	101	600948	99.89	ug/L	96
13) Carbon Disulfide	5.277	76	456295	21.96	ug/L	99
14) Iodomethane	5.484	142	62055	11.93	ug/L	93
15) Acrolein	5.825	56	91997	62.00	ug/L	97
16) Allyl chloride	6.062	41	290781	24.12	ug/L	97
17) Methylene Chloride	6.275	49	218353	22.17	ug/L	98
18) Acetone	6.330	43	239944	110.62	ug/L	94
19) Methyl acetate	6.561	43	648215	113.89	ug/L	98
20) trans-1,2-Dichloroethene	6.549	61	237586	25.11	ug/L	99
21) Hexane	6.683	56	128198	20.89	ug/L	95
22) Methyl Tert Butyl Ether	6.719	73	509925	22.17	ug/L	97
23) Acetonitrile	7.169	41	240921	228.46	ug/L	95
24) Di-isopropyl ether	7.413	45	588499	21.85	ug/L	98
25) Chloroprene	7.595	53	292686	27.54	ug/L	96
26) 1,1-Dichloroethane	7.644	63	311202	25.06	ug/L	99
27) Acrylonitrile	7.729	52	271591	128.07	ug/L	99
28) ETBE	8.088	59	521214	21.40	ug/L	96
29) Vinyl acetate	8.112	43	1970853	112.16	ug/L	100
30) cis-1,2-Dichloroethene	8.660	96	164435	24.77	ug/L	98
31) 2,2-Dichloropropane	8.848	77	254886	24.07	ug/L	100
32) Bromochloromethane	9.025	128	74642	23.42	ug/L	92
33) Cyclohexane	9.019	56	291578	22.68	ug/L	92
34) Chloroform	9.171	83	282036	24.80	ug/L	98
35) Ethyl acetate	9.353	43	913258	115.34	ug/L	100
36) Tetrahydrofuran	9.396	42	62871	22.58	ug/L	99
38) Carbon Tetrachloride	9.372	117	212328	26.57	ug/L	98
39) 1,1,1-Trichloroethane	9.469	97	246114	25.49	ug/L	97
40) 2-Butanone	9.621	43	423875	114.69	ug/L	98
41) 1,1-Dichloropropene	9.657	75	240218	24.31	ug/L	95
42) tert-Butyl formate	9.810	59	779720	105.65	ug/L	96
43) Propionitrile	10.023	54	247236	230.56	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145973.D
Acq On : 30 Dec 2020 6:20 pm
Operator : SHANICAO
Sample : FA81743-26MS,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 30 22:54:10 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Methacrylonitrile	10.053	41	1143197	232.83	ug/L		99
45) Benzene	10.004	78	646841	23.52	ug/L		98
46) TAME	10.150	73	507115	22.66	ug/L		98
48) 1,2-Dichloroethane	10.266	62	226413	24.39	ug/L		96
49) Trichloroethene	10.728	95	162771	22.91	ug/L		99
50) Methylcyclohexane	10.710	83	283079	25.26	ug/L		98
51) Dibromomethane	11.191	93	97125	23.96	ug/L		97
52) 1,2-Dichloropropane	11.288	63	182359	23.14	ug/L		97
53) Bromodichloromethane	11.361	83	218611	24.92	ug/L		99
54) Methyl methacrylate	11.501	41	180073	25.06	ug/L		96
55) 2-Chloroethyl vinyl ether	11.896	63	449792	87.13	ug/L		97
56) cis-1,3-Dichloropropene	11.963	75	287613	22.40	ug/L		99
59) Toluene	12.176	91	674036	22.52	ug/L		99
60) 2-Nitropropane	12.377	41	254476	113.37	ug/L		96
61) 4-Methyl-2-pentanone	12.492	43	947985	122.31	ug/L		97
62) trans-1,3-Dichloropropene	12.541	75	260928	23.56	ug/L		97
63) Tetrachloroethene	12.523	166	174064	24.98	ug/L		98
64) Ethyl methacrylate	12.645	69	246376	25.11	ug/L		98
65) 1,1,2-Trichloroethane	12.675	83	123460	22.92	ug/L		99
66) Dibromochloromethane	12.833	129	158735	24.05	ug/L		98
67) 1,3-Dichloropropane	12.900	76	265213	21.97	ug/L		98
68) 1,2-Dibromoethane	13.034	107	140275	22.63	ug/L		97
69) 2-hexanone	13.168	43	654392m	116.15	ug/L		
70) 1-Chlorohexane	13.387	91	226608	23.02	ug/L		98
71) Ethylbenzene	13.435	91	720396	23.09	ug/L		99
72) Chlorobenzene	13.435	112	402725	22.75	ug/L		99
73) 1,1,1,2-Tetrachloroethane	13.478	131	148494	23.68	ug/L		99
74) m,p-Xylene	13.539	91	1106066	47.04	ug/L		98
75) o-Xylene	13.861	91	581065	23.08	ug/L		97
76) Styrene	13.898	104	465923	23.25	ug/L		97
77) Bromoform	13.952	173	110265	23.70	ug/L		96
78) Isopropylbenzene	14.080	105	694682	23.77	ug/L		97
81) cis-1,4-Dichloro-2-butene	14.336	53	58493	19.02	ug/L	#	82
82) n-Propylbenzene	14.372	91	825575	22.73	ug/L		98
83) Bromobenzene	14.397	156	172557	22.60	ug/L		97
84) 1,1,2,2-Tetrachloroethane	14.427	83	183537	21.22	ug/L		97
85) 1,3,5-Trimethylbenzene	14.494	105	554585	23.08	ug/L		98
86) 2-Chlorotoluene	14.506	91	546652	22.40	ug/L		97
87) trans-1,4-Dichloro-2-B...	14.549	53	49530	18.19	ug/L		96
88) 1,2,3-Trichloropropane	14.537	110	52454	21.38	ug/L		97
89) Cyclohexanone	14.585	55	33575	103.95	ug/L		93
90) 4-Chlorotoluene	14.622	91	498069	22.38	ug/L		98
91) tert-Butylbenzene	14.725	91	321118	22.92	ug/L		97
93) 1,2,4-Trimethylbenzene	14.768	105	534162	22.42	ug/L		96
94) Pentachloroethane	14.774	167	122099	27.50	ug/L		94
95) sec-Butylbenzene	14.847	105	669920	23.05	ug/L		98
96) 4-Isopropyltoluene	14.932	119	579419	23.39	ug/L		99
97) 1,3-Dichlorobenzene	15.035	146	313078	23.15	ug/L		98
98) 1,2,3-Trimethylbenzene	15.078	105	518290	17.98	ug/L		98
99) 1,4-Dichlorobenzene	15.096	146	304784	22.10	ug/L		99
100) n-Butylbenzene	15.218	92	296854	22.27	ug/L		99
101) Benzyl Chloride	15.248	126	65368	19.75	ug/L	#	84
102) 1,2-Dichlorobenzene	15.388	146	295120	23.03	ug/L		99
103) 1,2-Dibromo-3-Chloropr...	15.917	75	34040	20.16	ug/L		88
104) Hexachlorobutadiene	16.319	225	89671	24.25	ug/L		98
105) 1,2,4-Trichlorobenzene	16.374	180	160850	22.45	ug/L		100
106) Naphthalene	16.617	128	307948	19.73	ug/L		99
107) 1,2,3-Trichlorobenzene	16.757	180	131266	21.93	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145973.D
Acq On : 30 Dec 2020 6:20 pm
Operator : SHANICAO
Sample : FA81743-26MS,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 30 22:54:10 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

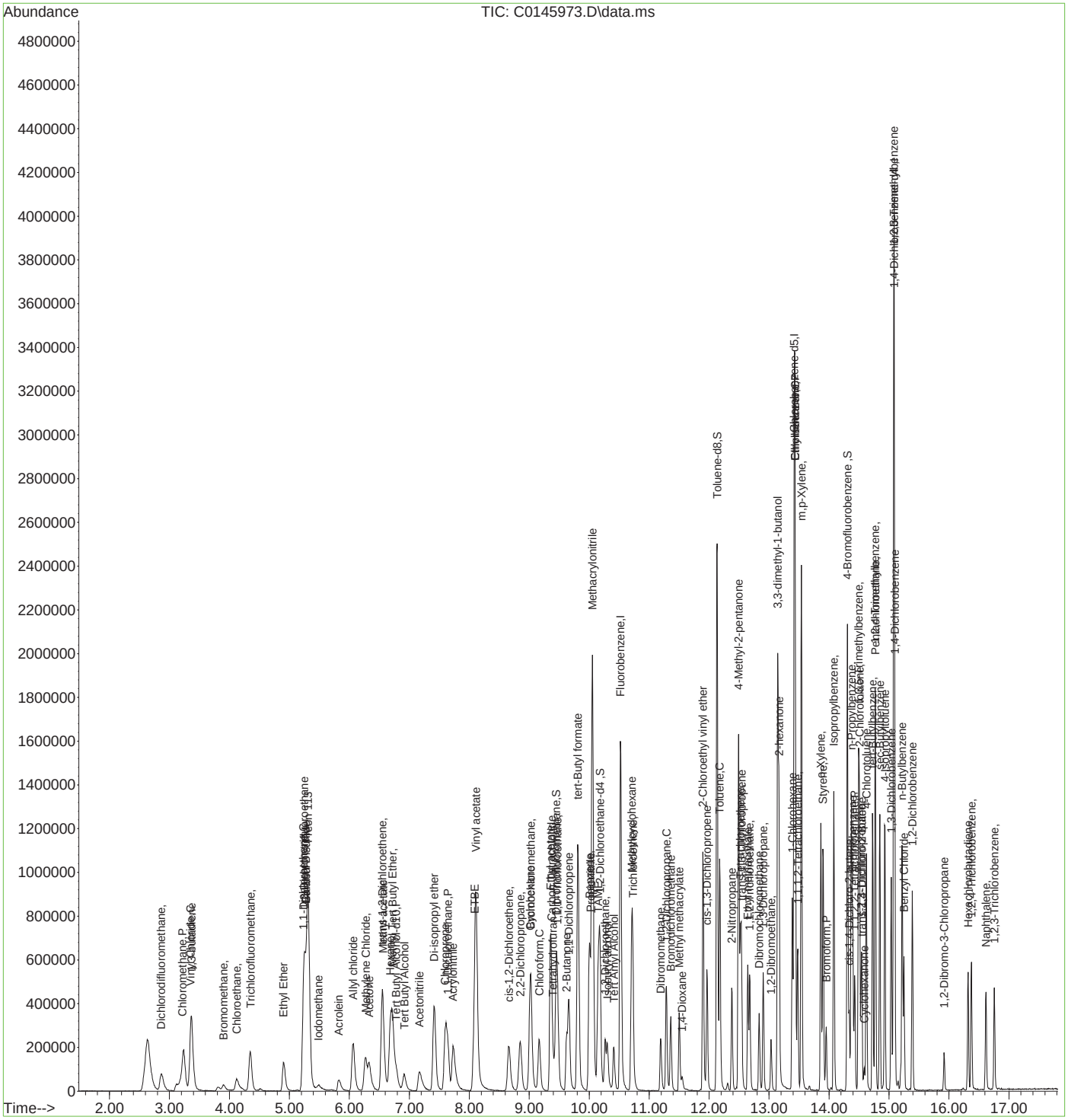
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Ethanol	5.277	45	33918m	447.43	ug/L	
110) Tert Butyl Alcohol	6.920	59	165460	195.30	ug/L	92
111) Isobutyl alcohol	10.302	43	141149	678.66	ug/L	94
112) Tert Amyl Alcohol	10.412	59	141540	236.92	ug/L	98
113) 1,4-Dioxane	11.549	88	37117	547.30	ug/L	95
114) 3,3-dimethyl-1-butanol	13.143	57	754647m	1792.12	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145973.D
Acq On : 30 Dec 2020 6:20 pm
Operator : SHANICAO
Sample : FA81743-26MS,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 30 22:54:10 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



RTXVMS122420.M Wed Dec 30 23:30:54 2020 Page: 4

Manual Integration Approval Summary

Sample Number: FA81743-26MS
Lab FileID: C0145973.D
Injection Time: 12/30/20 18:20
Method: SW846 8260B
Analyst approved: 12/30/20 23:47 Edessa Sumagaysay
Supervisor approved: 12/31/20 12:19 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.28	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145973.D
Acq On : 30 Dec 2020 6:20 pm
Operator : SHANICAO
Sample : FA81743-26MS,50X
Misc : MS48032,VC5862,,,,,50
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Quant Time: Dec 30 21:34:55 2020
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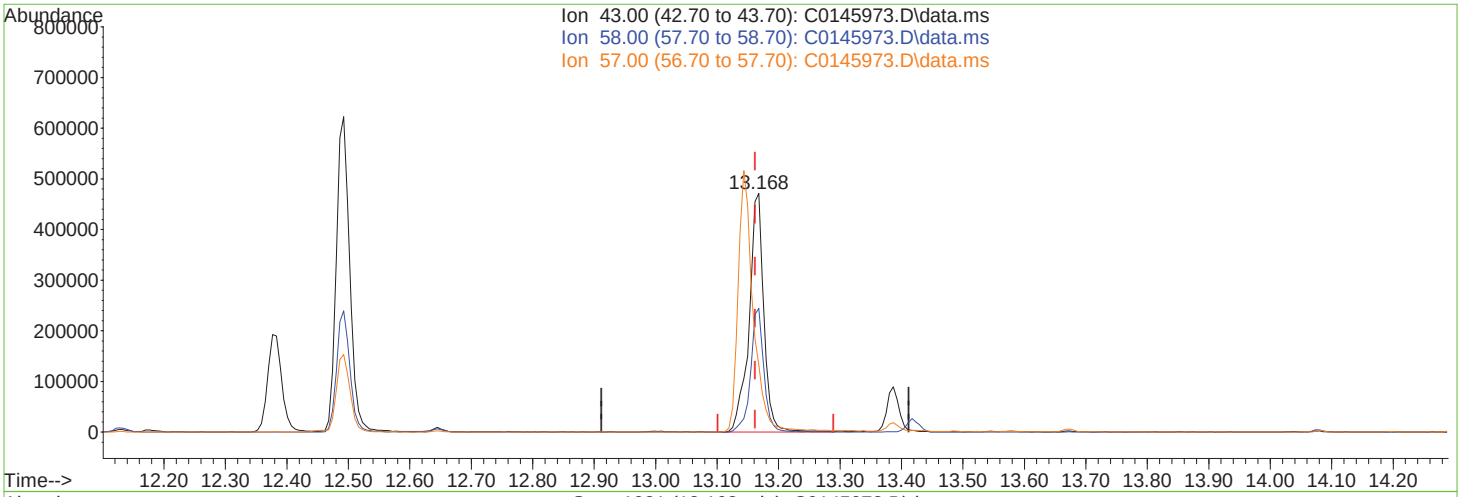

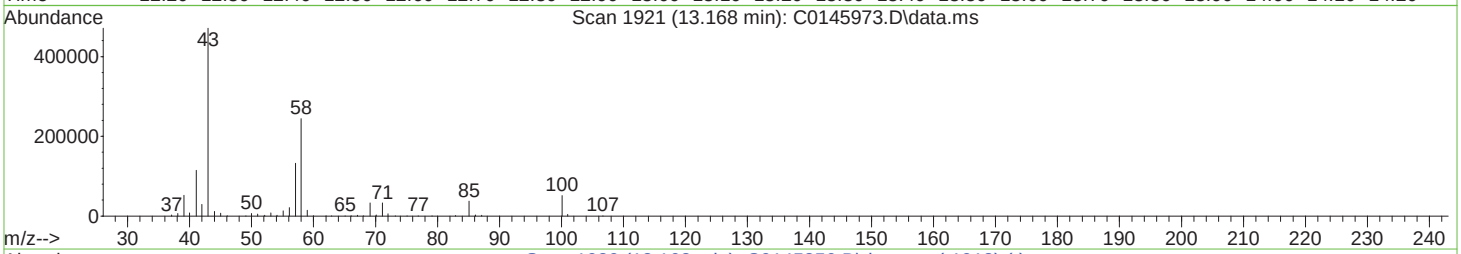

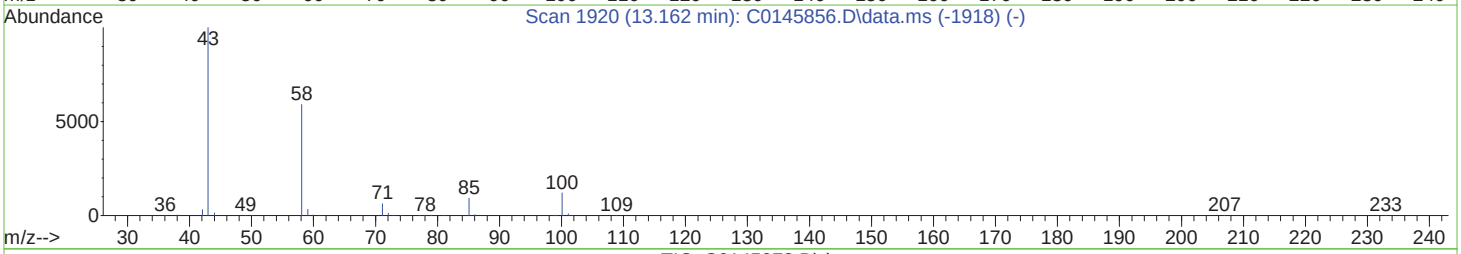

TIC: C0145973.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 141.44ug/L

response 796833

Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.87
57.00	46.70	28.13
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145973.D
Acq On : 30 Dec 2020 6:20 pm
Operator : SHANICAO
Sample : FA81743-26MS,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 30 21:34:55 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
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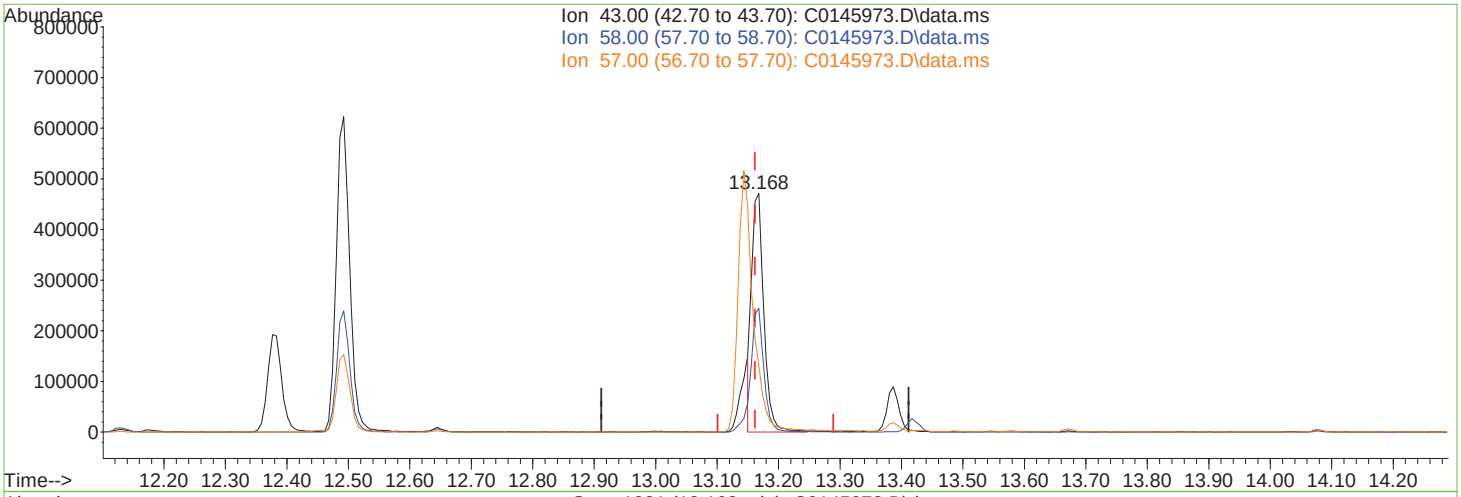
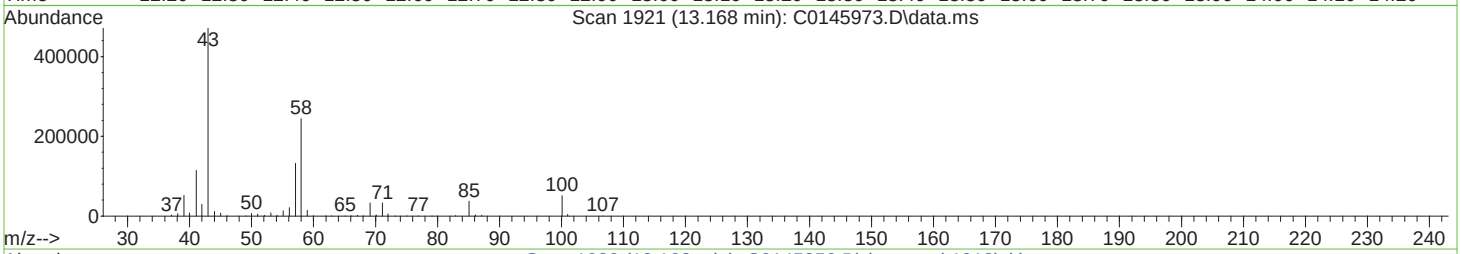
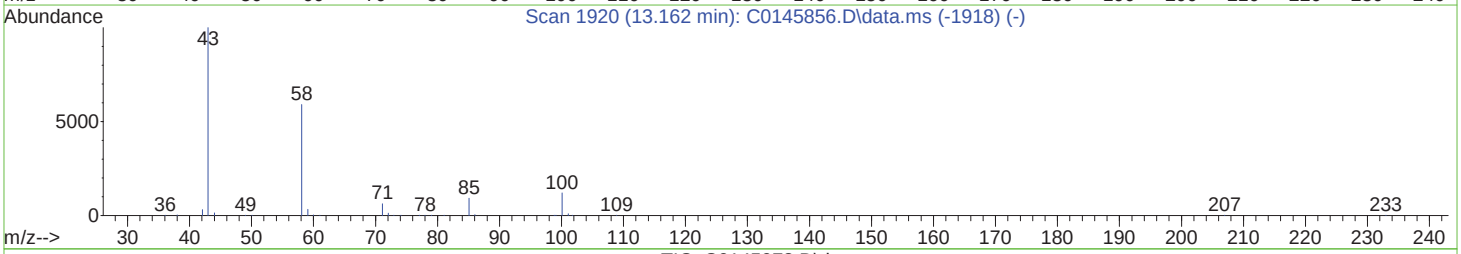






TIC: C0145973.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 116.15ug/L m

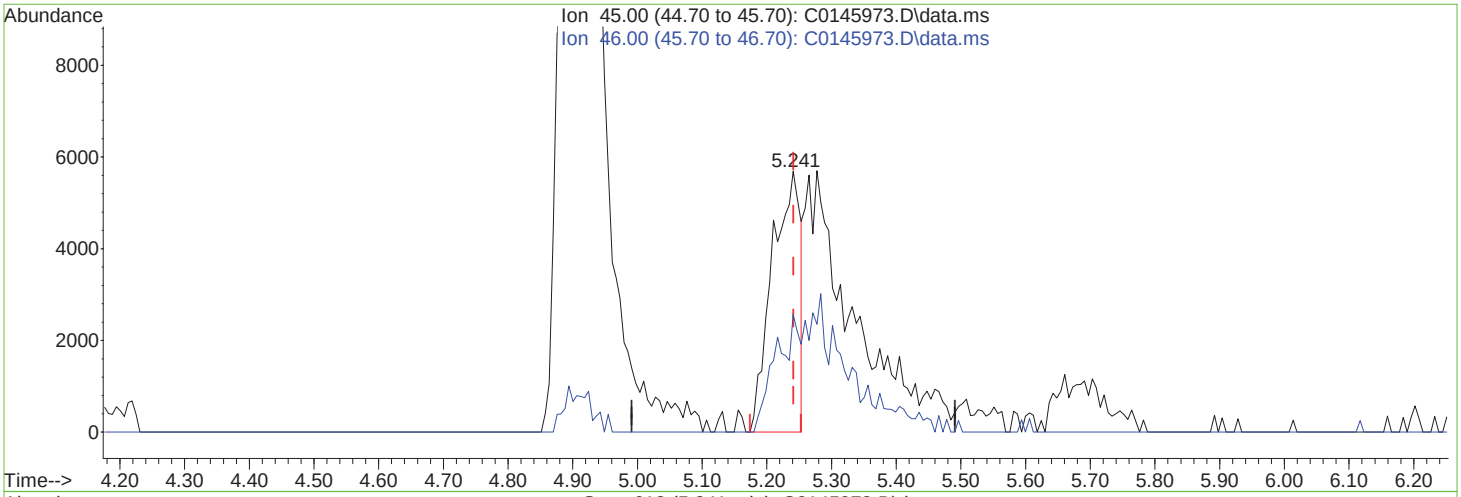
response 654392

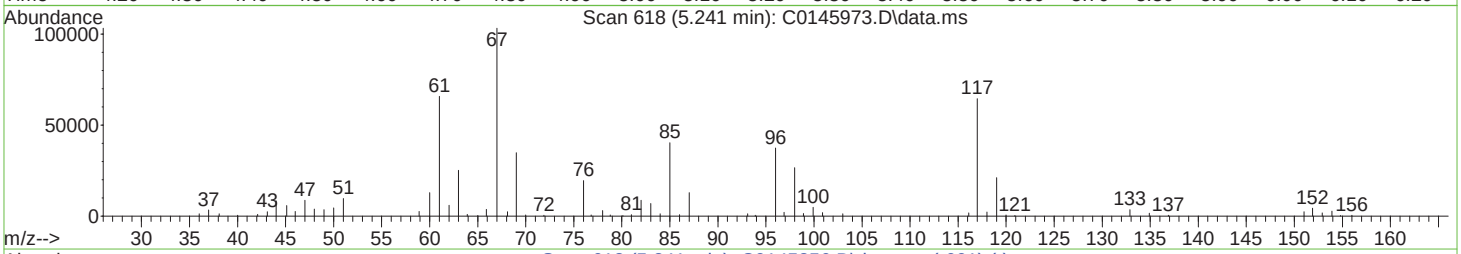
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.87
57.00	46.70	28.13
0.00	0.00	0.00

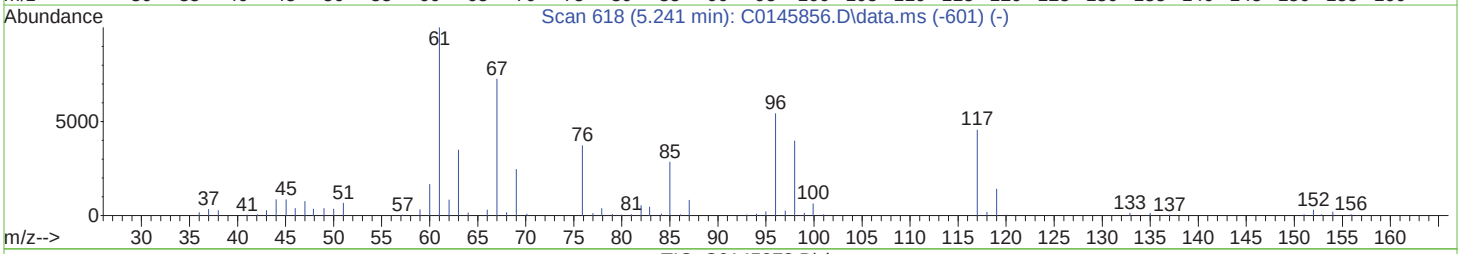
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145973.D
Acq On : 30 Dec 2020 6:20 pm
Operator : SHANICAO
Sample : FA81743-26MS,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 30 21:34:55 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145973.D\data.ms

(109) Ethanol

5.241min (-0.000) 226.30ug/L

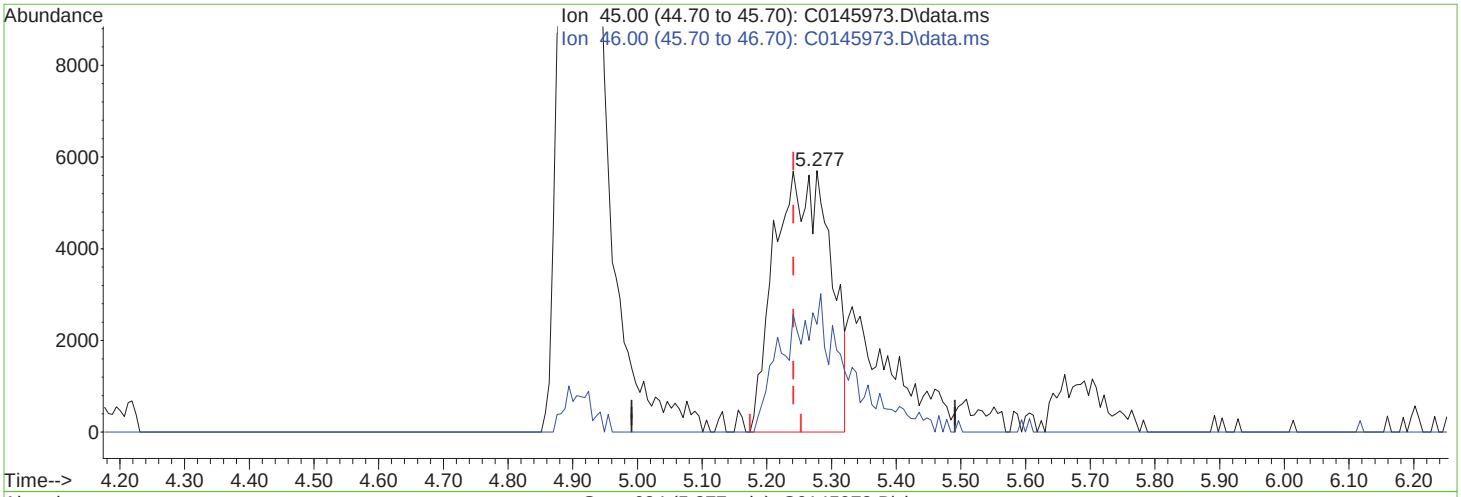
response 17155

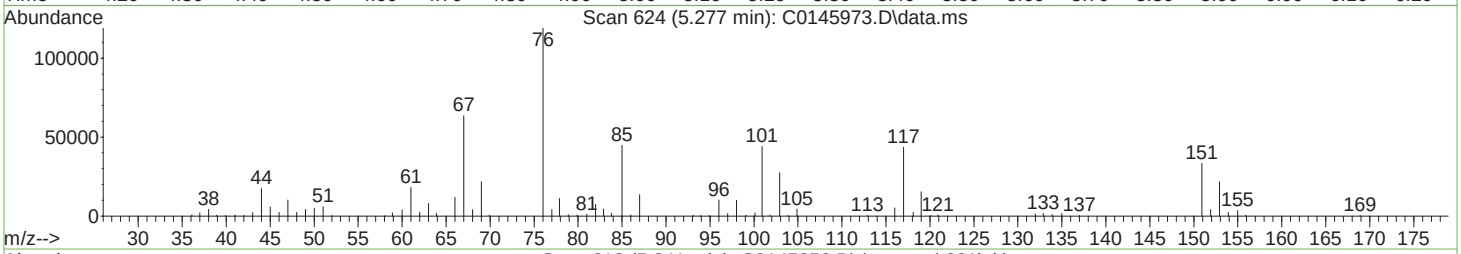
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	45.14
0.00	0.00	0.00
0.00	0.00	0.00

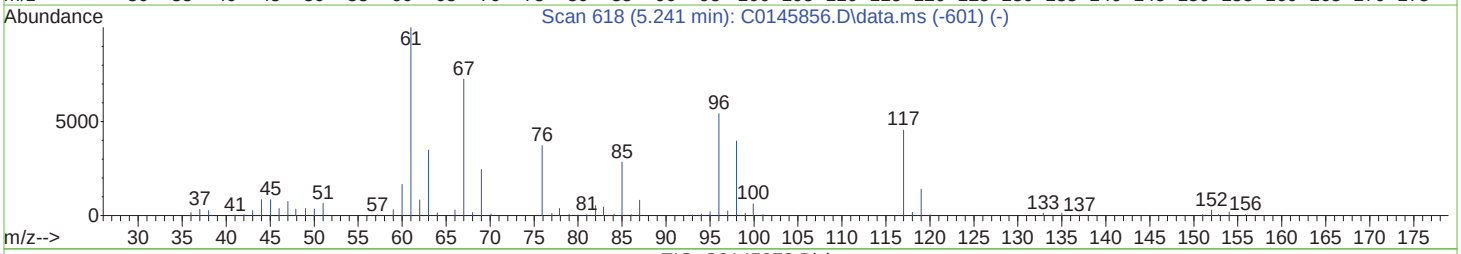
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145973.D
Acq On : 30 Dec 2020 6:20 pm
Operator : SHANICAO
Sample : FA81743-26MS,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 30 21:34:55 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145973.D\data.ms

(109) Ethanol

5.277min (+0.036) 447.43ug/L m

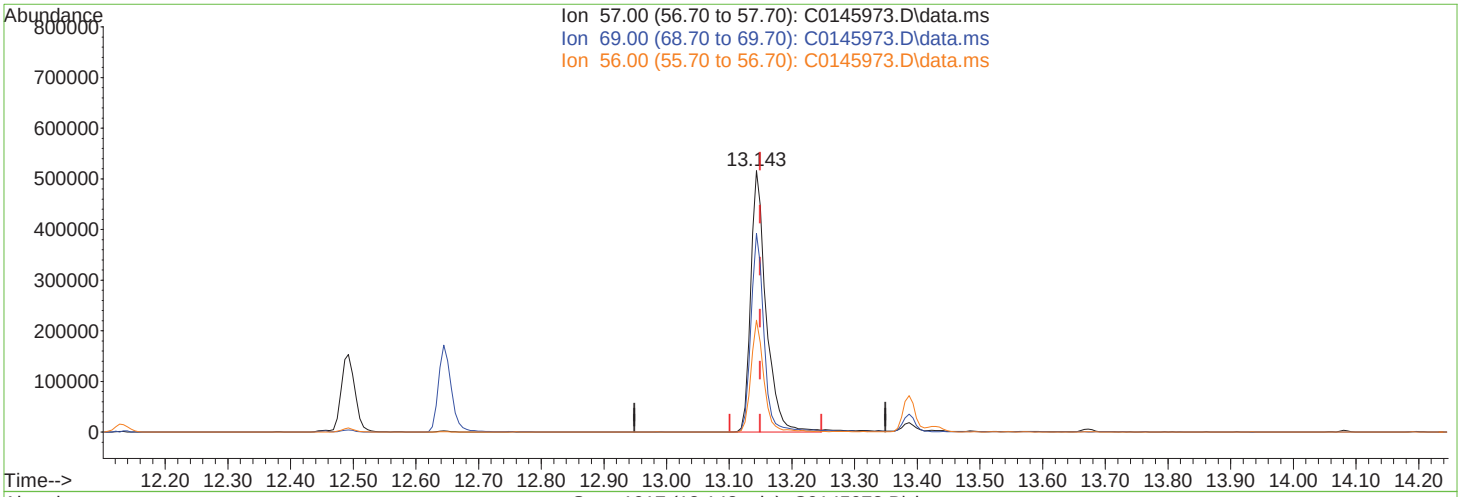
response 33918

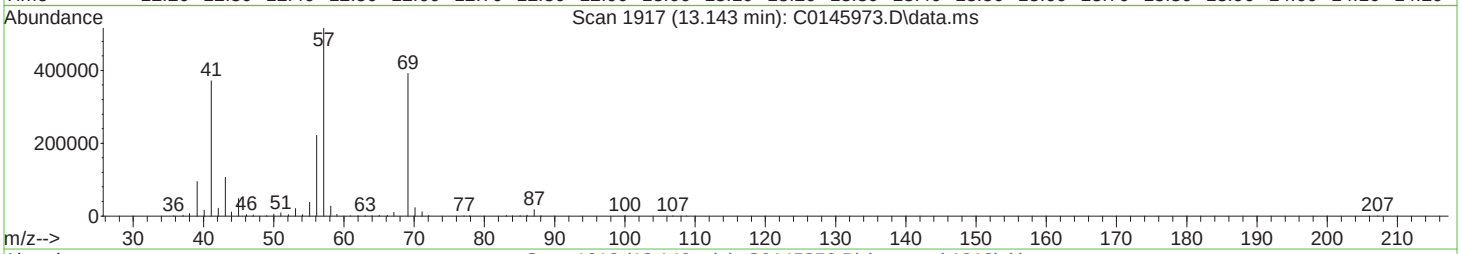
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	41.26
0.00	0.00	0.00
0.00	0.00	0.00

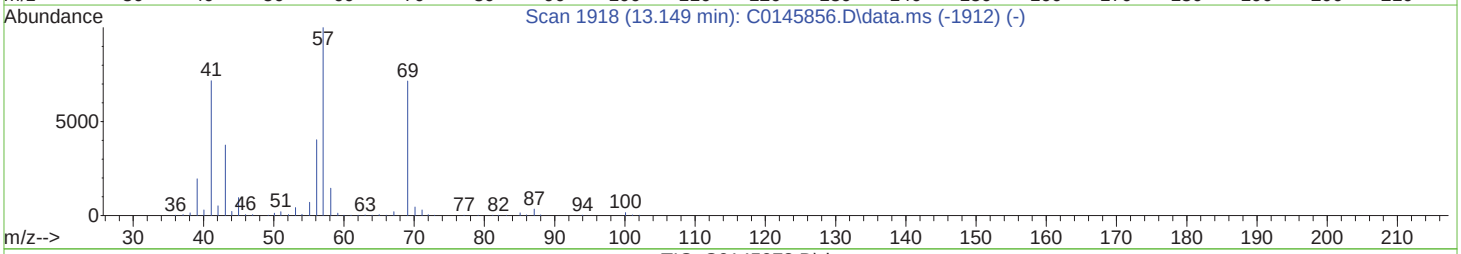
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145973.D
Acq On : 30 Dec 2020 6:20 pm
Operator : SHANICAO
Sample : FA81743-26MS,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 30 21:34:55 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145973.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (-0.006) 2092.65ug/L

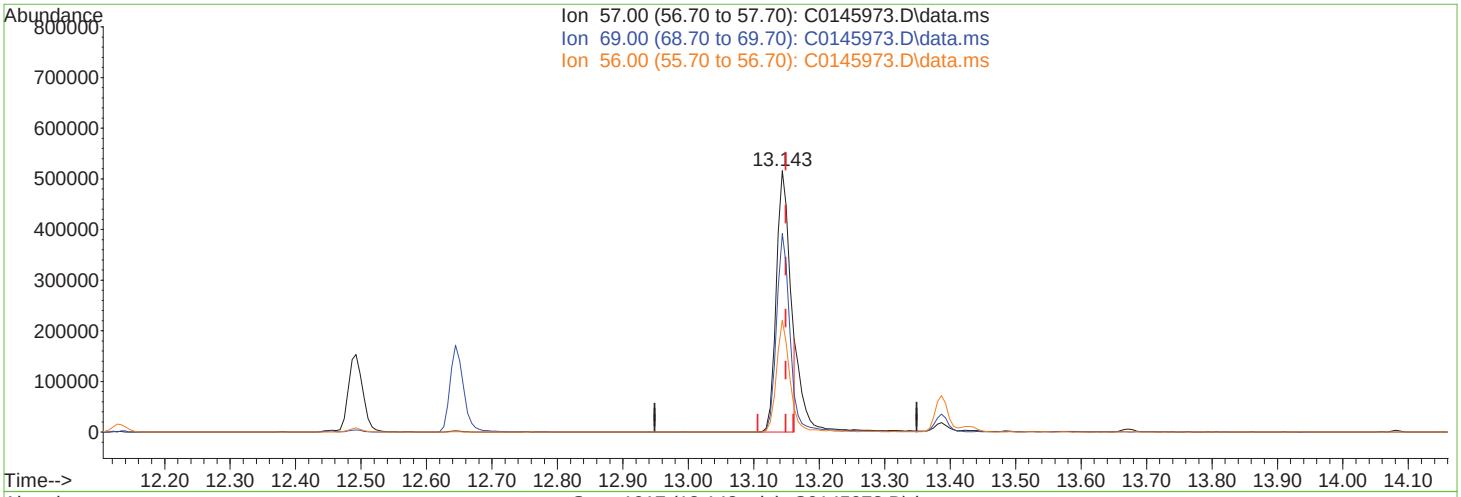
response 881198

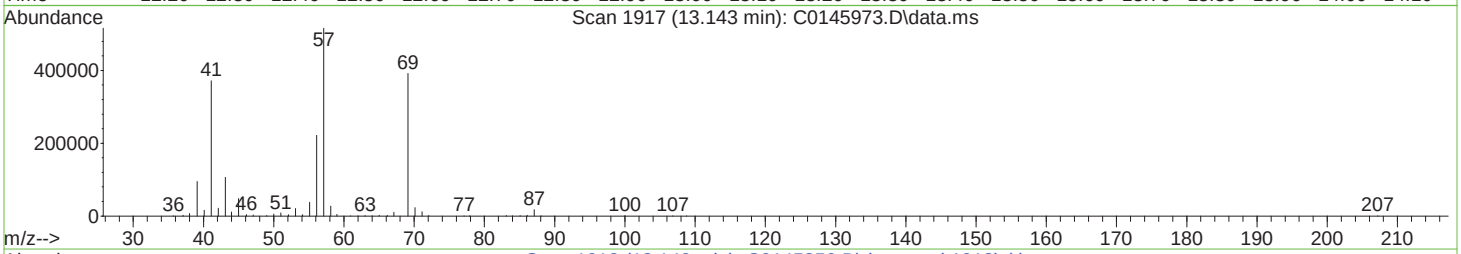
Ion	Exp%	Act%
57.00	100	100
69.00	79.60	65.29
56.00	45.70	36.34
0.00	0.00	0.00

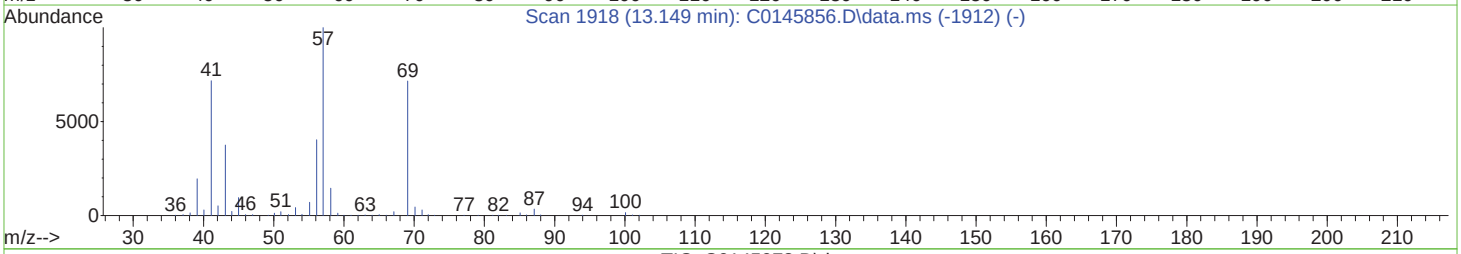
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145973.D
Acq On : 30 Dec 2020 6:20 pm
Operator : SHANICAO
Sample : FA81743-26MS,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Dec 30 21:34:55 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145973.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (-0.006) 1792.12ug/L m

response 754647

Ion	Exp%	Act%
57.00	100	100
69.00	79.60	76.24
56.00	45.70	42.43
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 12/31/20 12:19

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145974.D
Acq On : 30 Dec 2020 6:45 pm
Operator : SHANICAO
Sample : FA81743-26MSD,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 30 22:55:17 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene	10.521	96	1539448	50.00	ug/L		0.00
57) Chlorobenzene-d5	13.417	117	1095217	50.00	ug/L		0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	588376	50.00	ug/L		0.00
108) Tert Butyl Alcohol-d10	6.786	65	157754	250.00	ug/L		0.00
System Monitoring Compounds							
37) Dibromofluoromethane	9.451	113	386762	50.94	ug/L		0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.88%				
47) 1,2-Dichloroethane-d4	10.181	65	523568	52.50	ug/L		0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 105.00%				
58) Toluene-d8	12.134	98	1531191	49.51	ug/L		0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.02%				
80) 4-Bromofluorobenzene	14.305	174	495171	49.95	ug/L		0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.90%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	2.868	85	174779	22.48	ug/L		96
3) Chloromethane	3.227	50	223105	22.88	ug/L		86
4) 1,3-butadiene	3.373	39	233839	33.70	ug/L		96
5) Vinyl Chloride	3.349	62	236731	26.23	ug/L		94
6) Bromomethane	3.909	94	46182	16.94	ug/L		92
7) Chloroethane	4.128	64	88574	21.99	ug/L		93
8) Trichlorofluoromethane	4.347	101	264036	28.38	ug/L		96
9) Ethyl Ether	4.906	59	134228	20.18	ug/L		94
10) 1,2-Dichlorotrifluoroe...	5.253	67	393881	50.95	ug/L		96
11) 1,1-Dichloroethene	5.235	61	238971	23.56	ug/L		97
12) Freon 113	5.314	101	586342	95.26	ug/L		98
13) Carbon Disulfide	5.283	76	429795	20.21	ug/L		96
14) Iodomethane	5.496	142	82998	15.43	ug/L		90
15) Acrolein	5.819	56	92719	61.08	ug/L		93
16) Allyl chloride	6.062	41	270723	21.95	ug/L		99
17) Methylene Chloride	6.263	49	209960	20.84	ug/L		94
18) Acetone	6.336	43	236747	106.68	ug/L		100
19) Methyl acetate	6.555	43	607147	104.27	ug/L		100
20) trans-1,2-Dichloroethene	6.543	61	228047	23.56	ug/L		97
21) Hexane	6.677	56	127875	20.37	ug/L	#	88
22) Methyl Tert Butyl Ether	6.719	73	482991	20.52	ug/L		99
23) Acetonitrile	7.175	41	225961	209.44	ug/L		99
24) Di-isopropyl ether	7.419	45	566025	20.54	ug/L		99
25) Chloroprene	7.601	53	282194	25.95	ug/L		98
26) 1,1-Dichloroethane	7.644	63	301618	23.74	ug/L		98
27) Acrylonitrile	7.735	52	255340	117.69	ug/L		91
28) ETBE	8.088	59	507844	20.38	ug/L		96
29) Vinyl acetate	8.112	43	1899580	105.66	ug/L		100
30) cis-1,2-Dichloroethene	8.660	96	156018	22.98	ug/L		98
31) 2,2-Dichloropropane	8.848	77	242394	22.37	ug/L		95
32) Bromochloromethane	9.019	128	71844	22.03	ug/L		91
33) Cyclohexane	9.019	56	283645	21.57	ug/L		94
34) Chloroform	9.171	83	275382	23.67	ug/L		93
35) Ethyl acetate	9.353	43	887397	109.55	ug/L		99
36) Tetrahydrofuran	9.396	42	55610	19.48	ug/L		94
38) Carbon Tetrachloride	9.365	117	201531	24.65	ug/L		97
39) 1,1,1-Trichloroethane	9.475	97	243139	24.61	ug/L		98
40) 2-Butanone	9.621	43	398124	105.30	ug/L		98
41) 1,1-Dichloropropene	9.664	75	226055	22.36	ug/L		98
42) tert-Butyl formate	9.810	59	709434	93.96	ug/L		99
43) Propionitrile	10.023	54	234069	213.36	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145974.D
Acq On : 30 Dec 2020 6:45 pm
Operator : SHANICAO
Sample : FA81743-26MSD,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 30 22:55:17 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Methacrylonitrile	10.053	41	1120538	223.07	ug/L		98
45) Benzene	10.004	78	614097	21.83	ug/L		99
46) TAME	10.150	73	479958	20.96	ug/L		98
48) 1,2-Dichloroethane	10.266	62	219193	23.08	ug/L		96
49) Trichloroethene	10.728	95	159691	21.97	ug/L		98
50) Methylcyclohexane	10.710	83	279477	24.38	ug/L		99
51) Dibromomethane	11.191	93	93600	22.57	ug/L		97
52) 1,2-Dichloropropane	11.282	63	176672	21.91	ug/L		96
53) Bromodichloromethane	11.361	83	212298	23.66	ug/L		97
54) Methyl methacrylate	11.501	41	163443	22.24	ug/L		91
55) 2-Chloroethyl vinyl ether	11.896	63	410462	77.71	ug/L		99
56) cis-1,3-Dichloropropene	11.963	75	273316	20.81	ug/L		98
59) Toluene	12.176	91	643433	20.84	ug/L		99
60) 2-Nitropropane	12.377	41	238739	103.13	ug/L		96
61) 4-Methyl-2-pentanone	12.492	43	882668	110.43	ug/L		99
62) trans-1,3-Dichloropropene	12.541	75	246593	21.59	ug/L		98
63) Tetrachloroethene	12.523	166	164938	22.95	ug/L		96
64) Ethyl methacrylate	12.645	69	236942	23.42	ug/L		99
65) 1,1,2-Trichloroethane	12.675	83	118590	21.35	ug/L		97
66) Dibromochloromethane	12.833	129	152071	22.34	ug/L		96
67) 1,3-Dichloropropane	12.900	76	254518	20.44	ug/L		99
68) 1,2-Dibromoethane	13.034	107	130972	20.49	ug/L		100
69) 2-hexanone	13.162	43	624906m	107.56	ug/L		
70) 1-Chlorohexane	13.387	91	221002	21.77	ug/L		97
71) Ethylbenzene	13.435	91	703697	21.88	ug/L		99
72) Chlorobenzene	13.435	112	389596	21.34	ug/L		99
73) 1,1,1,2-Tetrachloroethane	13.478	131	140768	21.76	ug/L		98
74) m,p-Xylene	13.539	91	1084358	44.72	ug/L		98
75) o-Xylene	13.861	91	570903	21.99	ug/L		97
76) Styrene	13.904	104	442491	21.41	ug/L		99
77) Bromoform	13.953	173	106838	22.27	ug/L		97
78) Isopropylbenzene	14.080	105	687080	22.80	ug/L		97
81) cis-1,4-Dichloro-2-butene	14.336	53	58351	18.38	ug/L	#	80
82) n-Propylbenzene	14.372	91	826244	22.03	ug/L		100
83) Bromobenzene	14.397	156	170154	21.58	ug/L		97
84) 1,1,2,2-Tetrachloroethane	14.427	83	179145	20.06	ug/L		96
85) 1,3,5-Trimethylbenzene	14.494	105	541905	21.84	ug/L		100
86) 2-Chlorotoluene	14.506	91	537298	21.32	ug/L		99
87) trans-1,4-Dichloro-2-B...	14.549	53	46340	16.48	ug/L	#	90
88) 1,2,3-Trichloropropane	14.537	110	49547	19.56	ug/L		96
89) Cyclohexanone	14.585	55	30223	90.61	ug/L		92
90) 4-Chlorotoluene	14.622	91	491752	21.40	ug/L		98
91) tert-Butylbenzene	14.725	91	320716	22.16	ug/L		95
93) 1,2,4-Trimethylbenzene	14.768	105	511694	20.79	ug/L		98
94) Pentachloroethane	14.774	167	116633	25.44	ug/L		91
95) sec-Butylbenzene	14.847	105	677935	22.59	ug/L		99
96) 4-Isopropyltoluene	14.932	119	574879	22.48	ug/L		99
97) 1,3-Dichlorobenzene	15.035	146	306273	21.93	ug/L		98
98) 1,2,3-Trimethylbenzene	15.078	105	502653	16.88	ug/L		98
99) 1,4-Dichlorobenzene	15.096	146	298060	20.93	ug/L		97
100) n-Butylbenzene	15.218	92	298152	21.66	ug/L		97
101) Benzyl Chloride	15.248	126	66523	19.46	ug/L		93
102) 1,2-Dichlorobenzene	15.388	146	285426	21.57	ug/L		98
103) 1,2-Dibromo-3-Chloropr...	15.918	75	34890	20.01	ug/L		92
104) Hexachlorobutadiene	16.319	225	88507	23.18	ug/L		98
105) 1,2,4-Trichlorobenzene	16.374	180	155828	21.06	ug/L		96
106) Naphthalene	16.617	128	275033	17.06	ug/L		100
107) 1,2,3-Trichlorobenzene	16.757	180	125005	20.22	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145974.D
Acq On : 30 Dec 2020 6:45 pm
Operator : SHANICAO
Sample : FA81743-26MSD,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 30 22:55:17 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

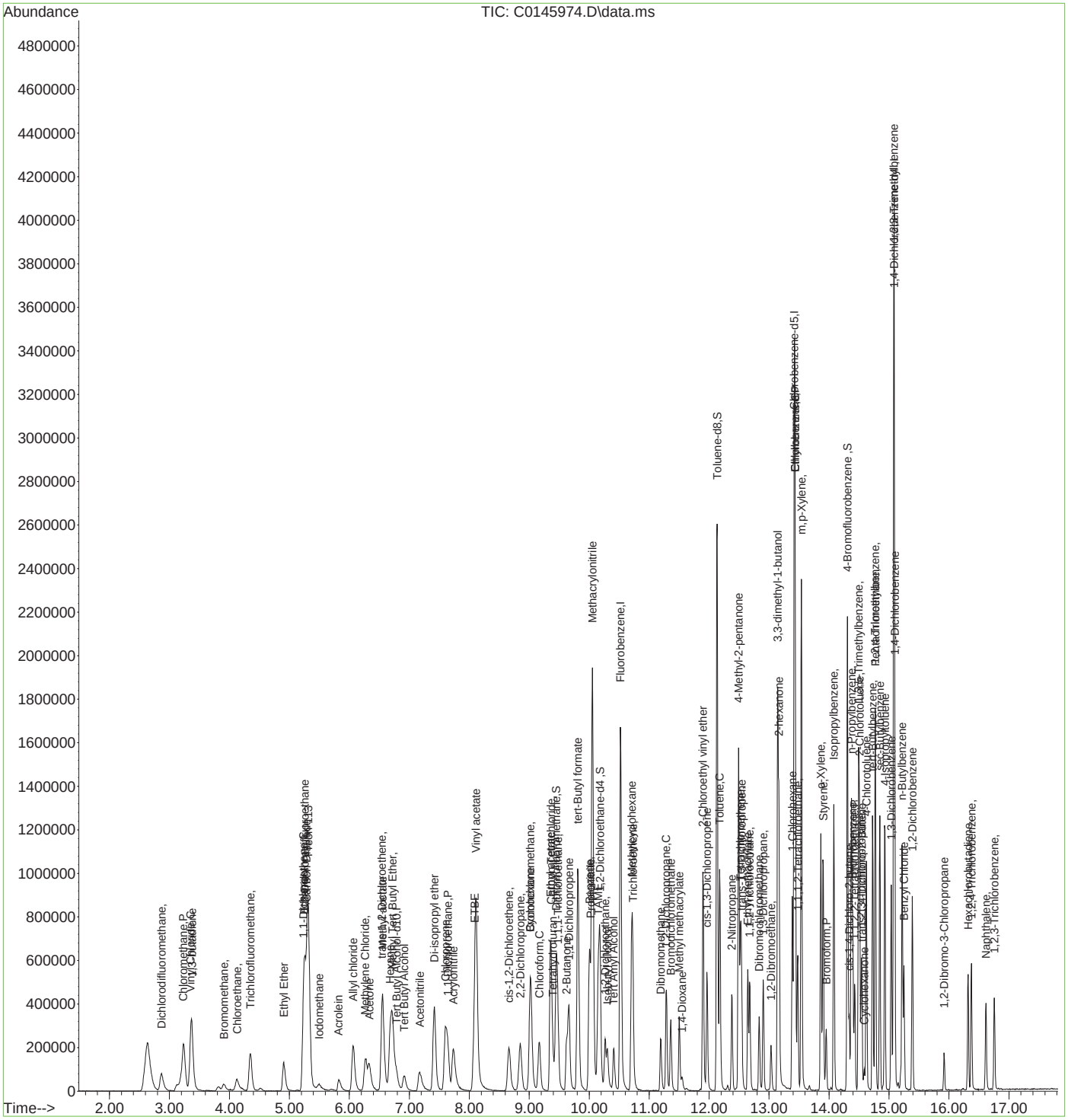
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Ethanol	5.247	45	36795	528.71	ug/L	77
110) Tert Butyl Alcohol	6.914	59	147095	189.12	ug/L	97
111) Isobutyl alcohol	10.302	43	124794	653.38	ug/L	96
112) Tert Amyl Alcohol	10.406	59	134490	245.21	ug/L	97
113) 1,4-Dioxane	11.549	88	35374	568.16	ug/L	95
114) 3,3-dimethyl-1-butanol	13.143	57	701028m	1813.38	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145974.D
Acq On : 30 Dec 2020 6:45 pm
Operator : SHANICAO
Sample : FA81743-26MSD,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 30 22:55:17 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



RTXVMS122420.M Wed Dec 30 23:30:59 2020 Page: 4

Manual Integration Approval Summary

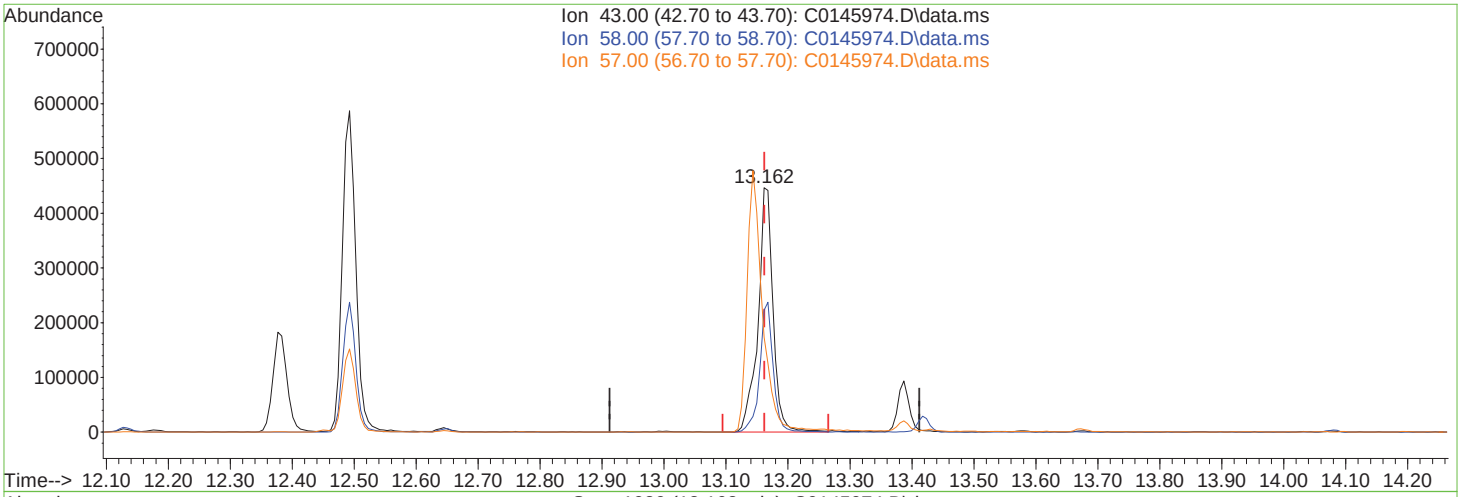
Sample Number: FA81743-26MSD
Lab FileID: C0145974.D
Injection Time: 12/30/20 18:45
Method: SW846 8260B
Analyst approved: 12/30/20 23:47 Edessa Sumagaysay
Supervisor approved: 12/31/20 12:19 Melissa Mangual

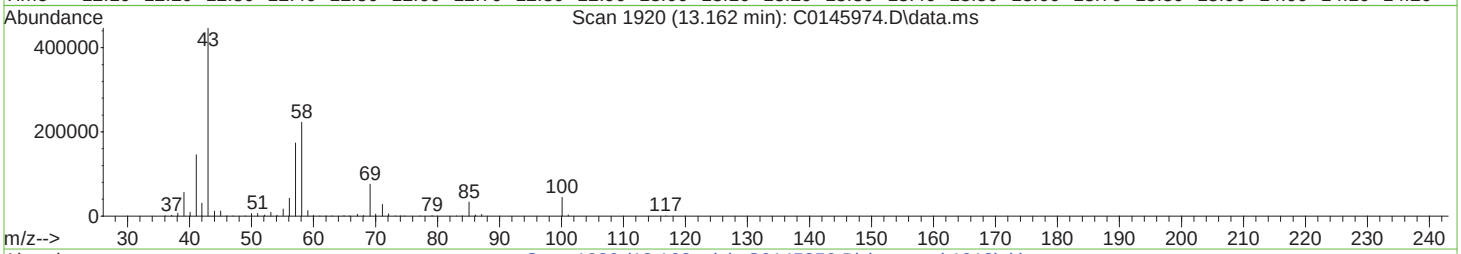
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.16	Overlapping peak

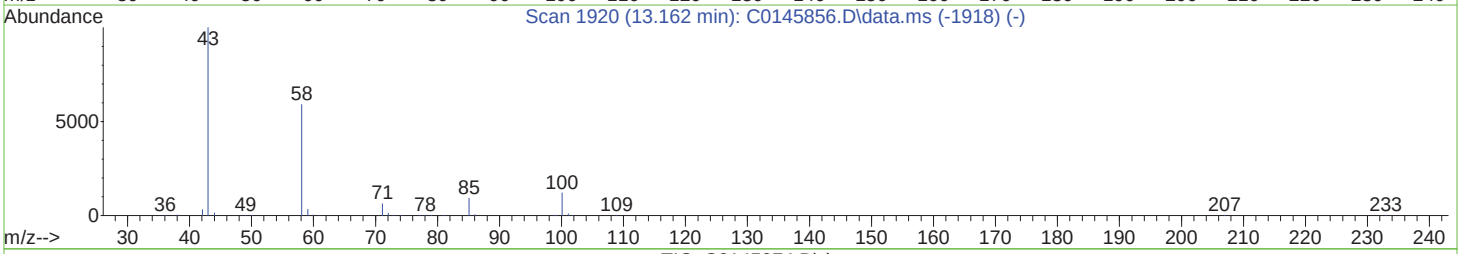
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145974.D
Acq On : 30 Dec 2020 6:45 pm
Operator : SHANICAO
Sample : FA81743-26MSD,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 30 21:34:58 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145974.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 130.61ug/L

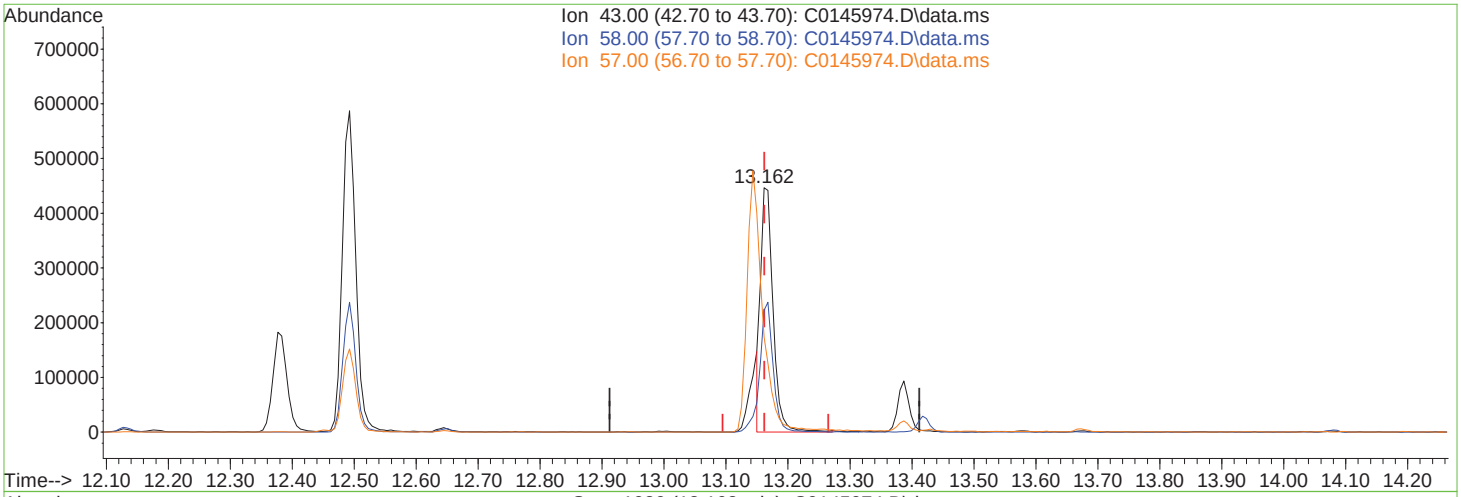
response 758853

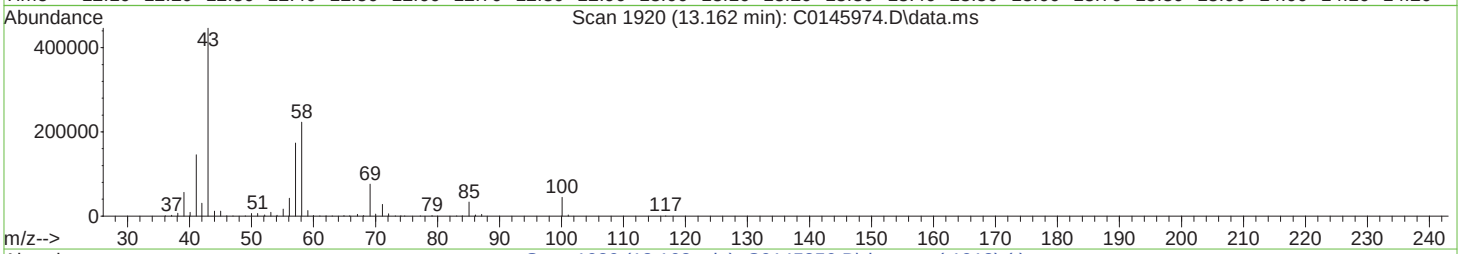
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	49.91
57.00	46.70	38.88
0.00	0.00	0.00

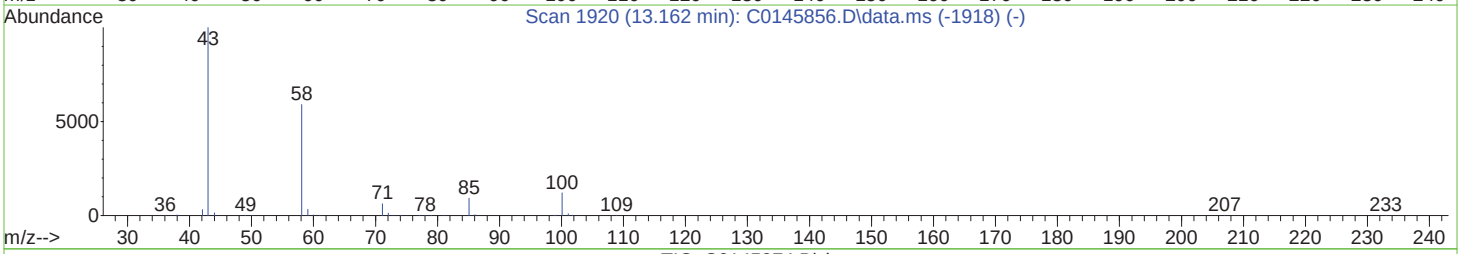
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145974.D
Acq On : 30 Dec 2020 6:45 pm
Operator : SHANICAO
Sample : FA81743-26MSD,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 30 21:34:58 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145974.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 107.56ug/L m

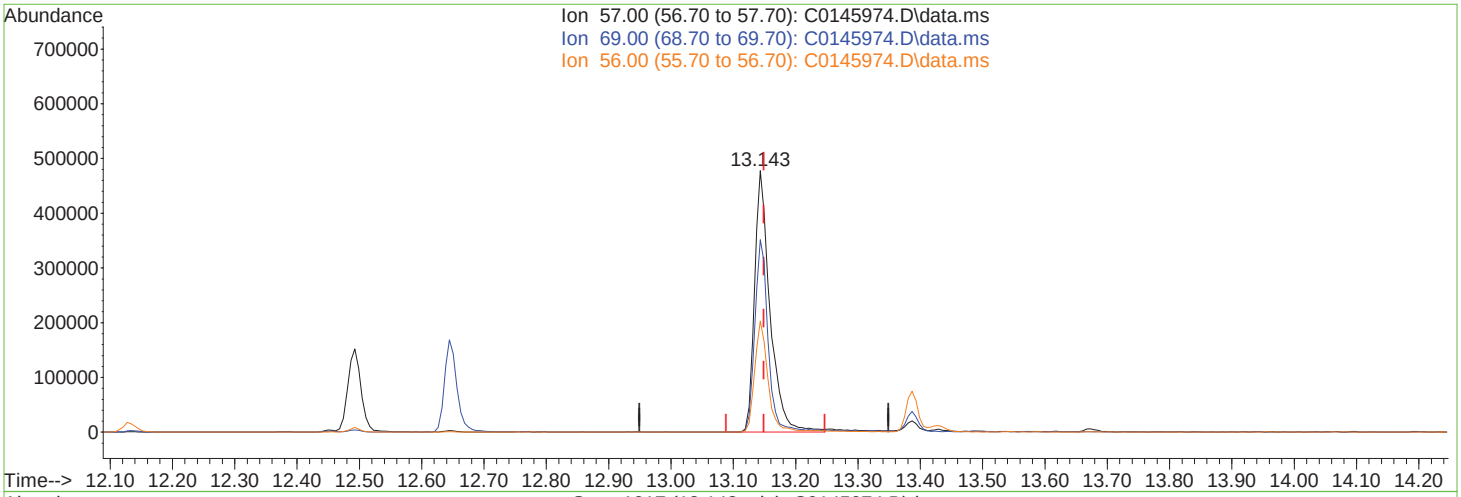
response 624906

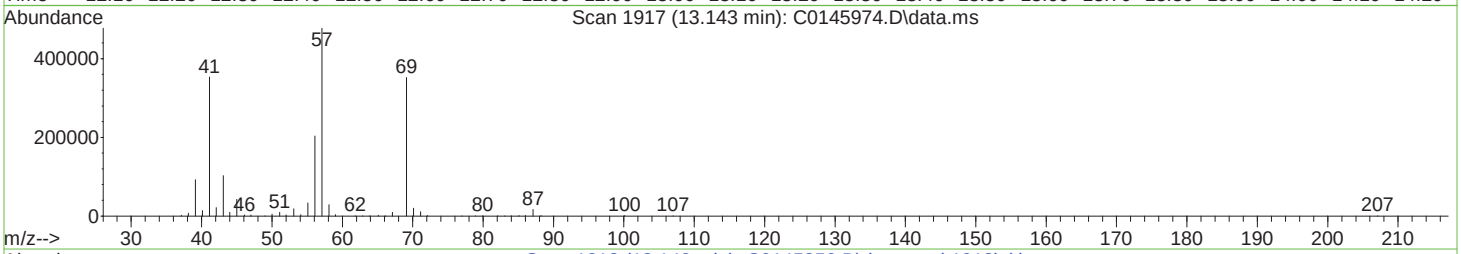
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	49.91
57.00	46.70	38.88
0.00	0.00	0.00

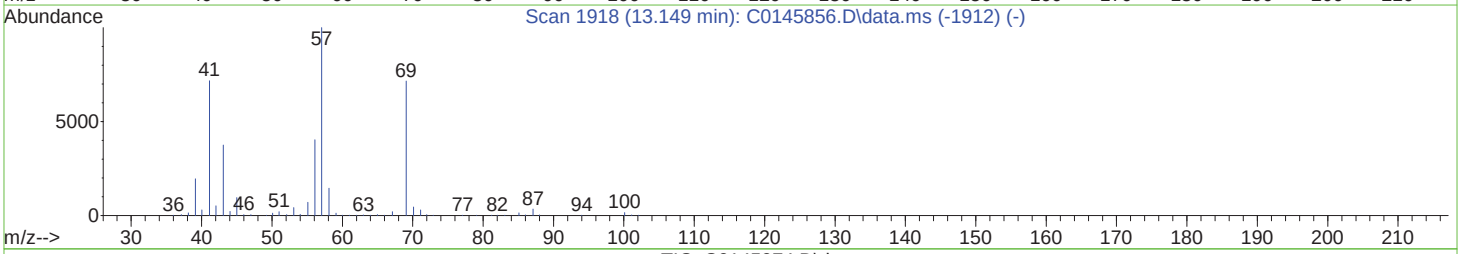
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145974.D
Acq On : 30 Dec 2020 6:45 pm
Operator : SHANICAO
Sample : FA81743-26MSD,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 30 21:34:58 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145974.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (-0.006) 2140.04ug/L

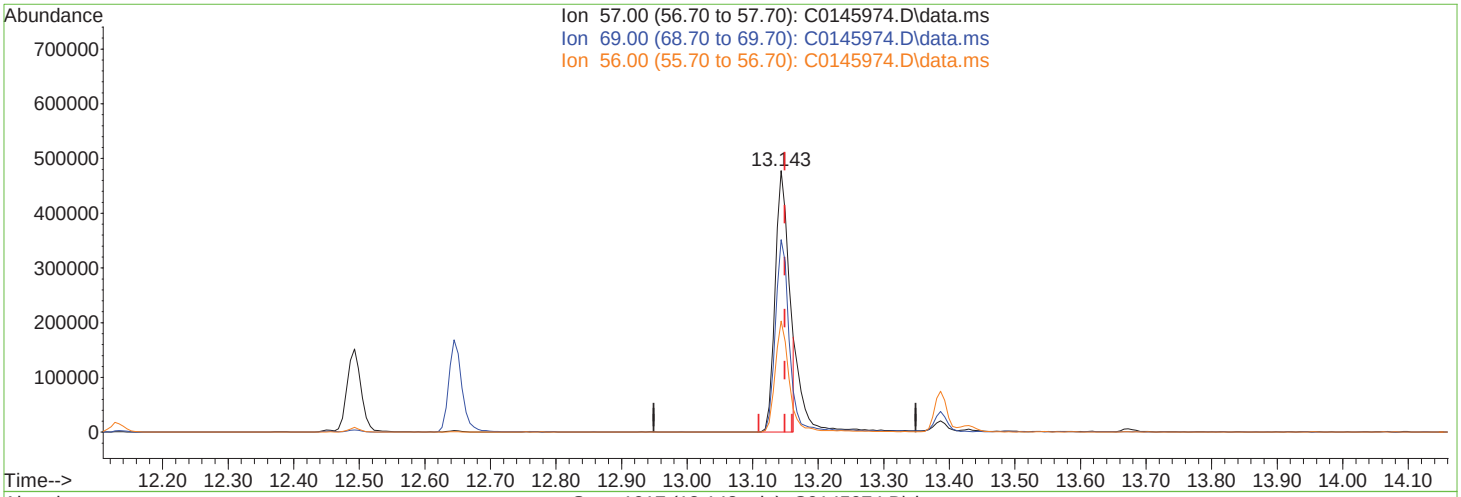
response 827307

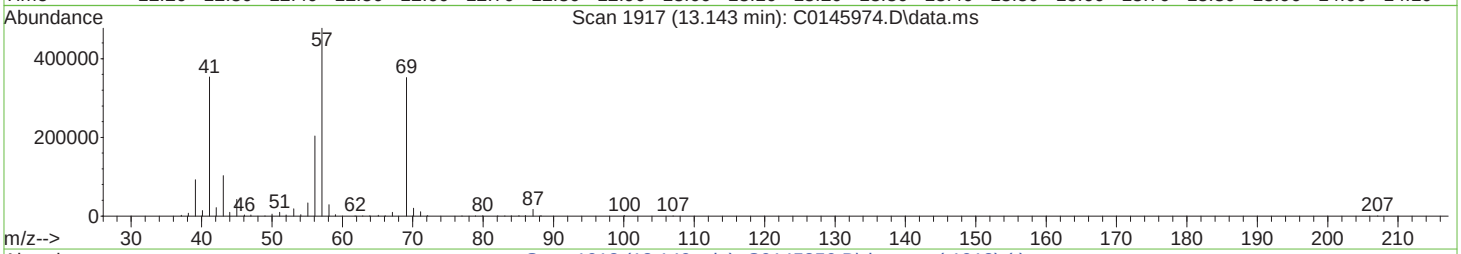
Ion	Exp%	Act%
57.00	100	100
69.00	79.60	64.71
56.00	45.70	37.27
0.00	0.00	0.00

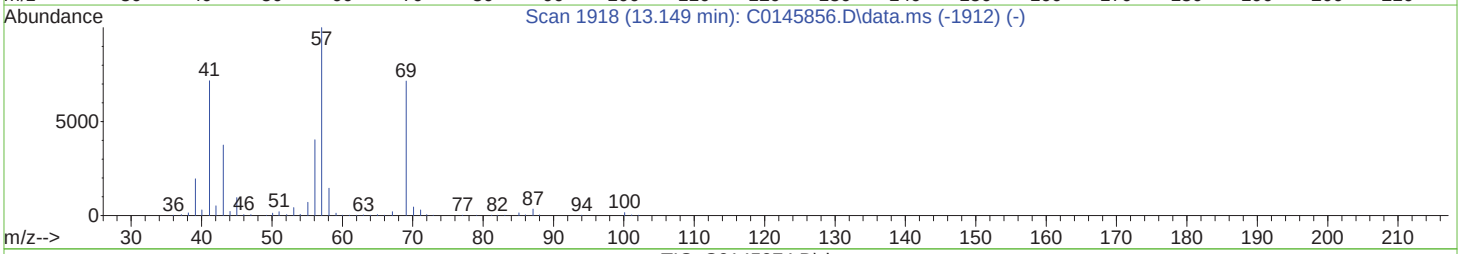
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145974.D
Acq On : 30 Dec 2020 6:45 pm
Operator : SHANICAO
Sample : FA81743-26MSD,50X
Misc : MS48032,VC5862,,,,,50
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Dec 30 21:34:58 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145974.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.143min (-0.006) 1813.38ug/L m

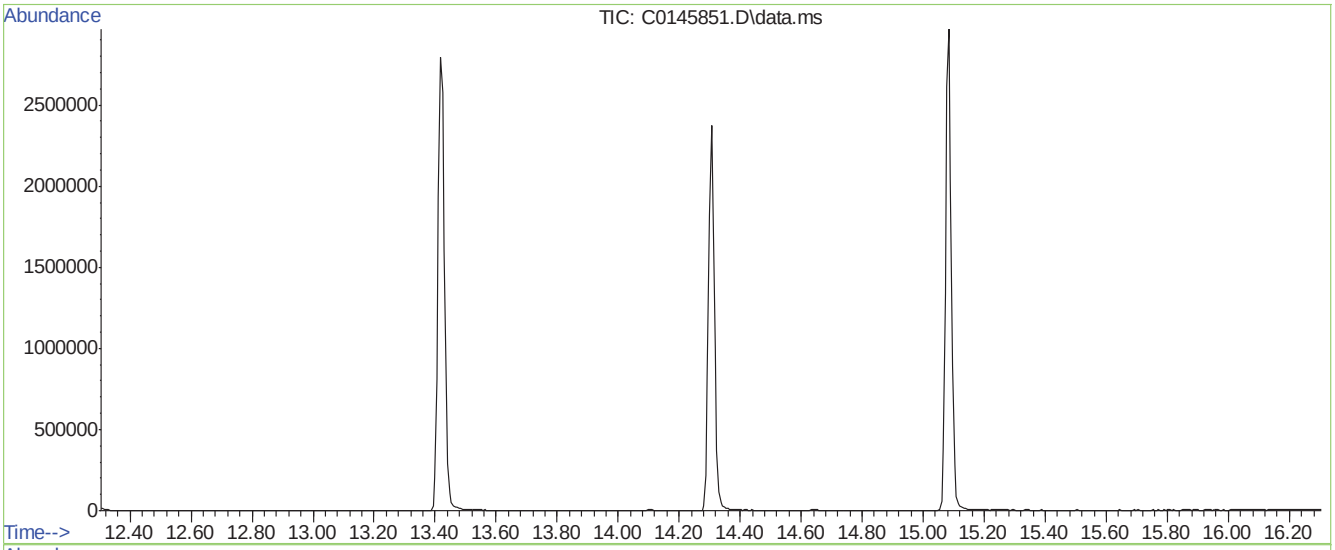
response 701028

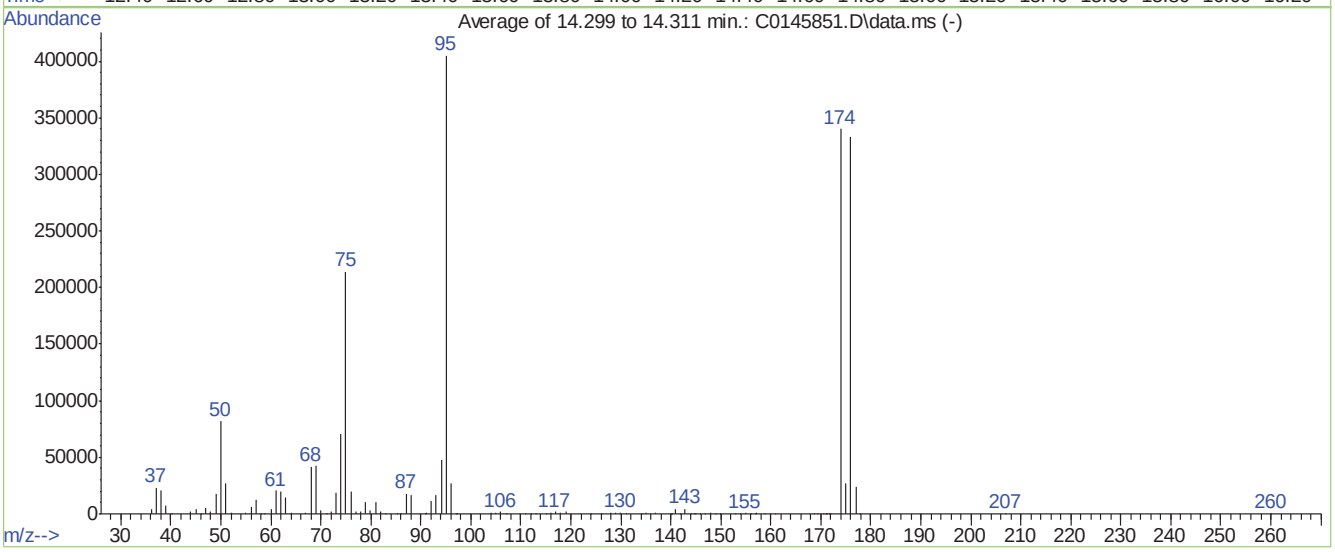
Ion	Exp%	Act%
57.00	100	100
69.00	79.60	76.37
56.00	45.70	43.98
0.00	0.00	0.00

Methods: SW-846 8260B

Data File : C:\msdchem\2\DATA\122420\C0145851.D Vial: 2
Acq On : 24 Dec 2020 7:21 am Operator: SHANICAO
Sample : BFB Inst : MSVOA5
Misc : MS47991,VC5857,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B





AutoFind: Scans 2107, 2108, 2109; Background Corrected with Scan 2100

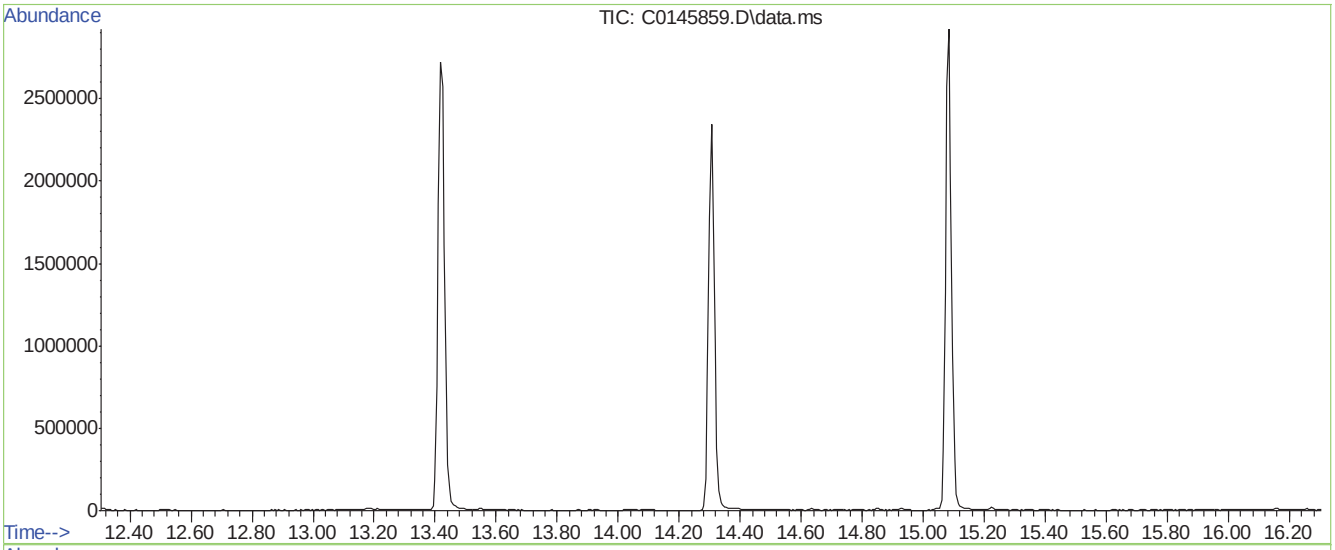
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.2	81779	PASS
75	95	30	60	52.8	213995	PASS
95	95	100	100	100.0	405163	PASS
96	95	5	9	6.7	27157	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	83.9	340032	PASS
175	174	5	9	8.0	27171	PASS
176	174	95	101	98.0	333291	PASS
177	176	5	9	7.1	23749	PASS

C0145851.D RTXVMS122420.M Thu Dec 24 12:36:23 2020

Methods: SW-846 8260B

Data File : C:\msdchem\2\DATA\122420\C0145859.D Vial: 10
Acq On : 24 Dec 2020 10:52 am Operator: SHANICAO
Sample : BFB Inst : MSVOA5
Misc : MS47991,VC5857,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B



AutoFind: Scans 2107, 2108, 2109; Background Corrected with Scan 2100

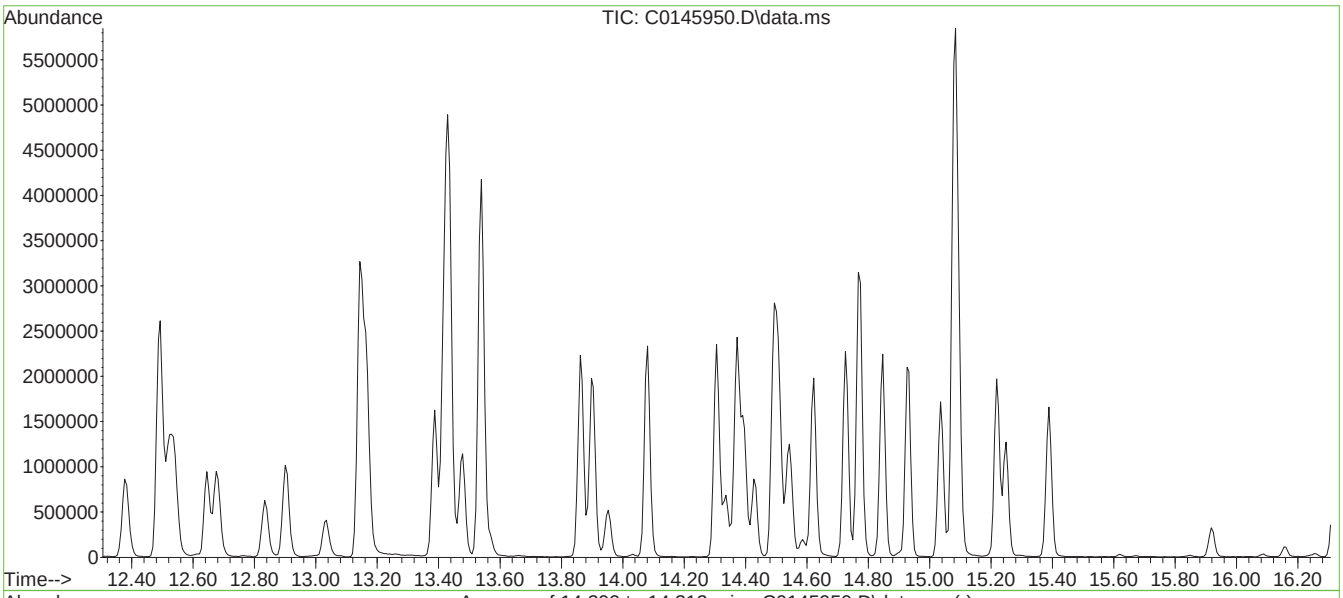
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	80160	PASS
75	95	30	60	50.7	207701	PASS
95	95	100	100	100.0	409429	PASS
96	95	5	9	6.3	25979	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	82.7	338624	PASS
175	174	5	9	8.3	28003	PASS
176	174	95	101	97.3	329579	PASS
177	176	5	9	6.8	22541	PASS

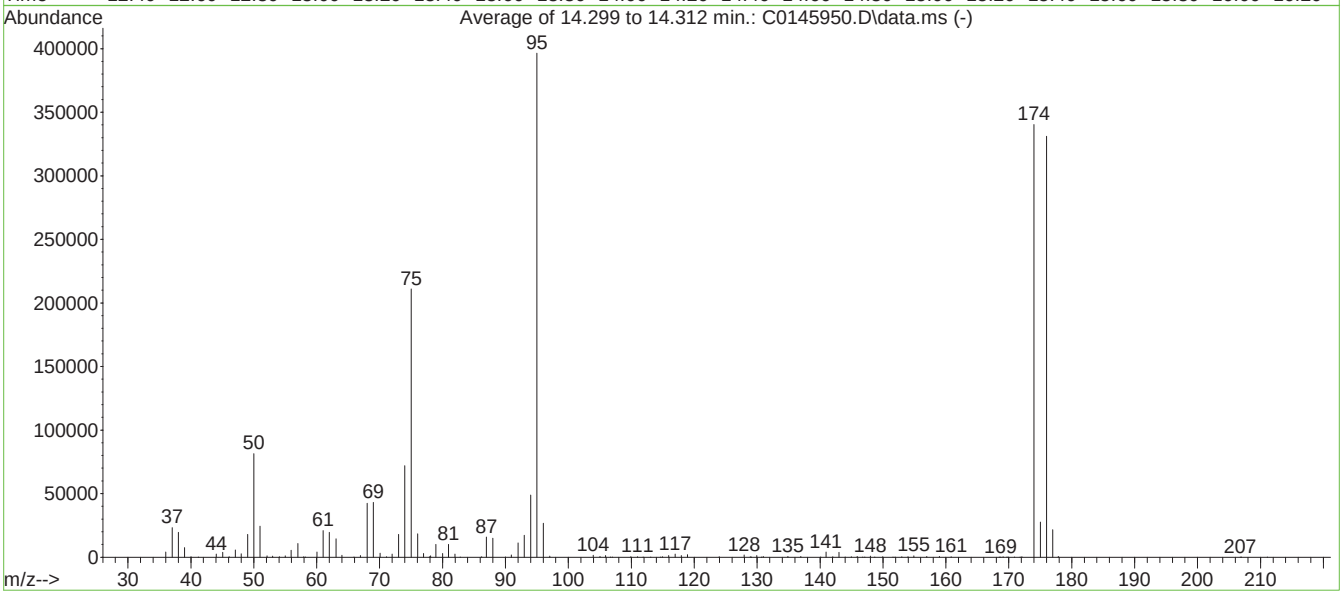
C0145859.D RTXVMS122420.M Thu Dec 24 12:36:17 2020

Methods: SW-846 8260B

Data File : C:\msdchem\1\data\ed...\vc5862-63\C0145950.D Vial: 3
Acq On : 30 Dec 2020 8:22 am Operator: SHANICAO
Sample : BFB Inst : MSVOA5
Misc : MS48020,VC5862,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\methods\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B





AutoFind: Scans 2107, 2108, 2109; Background Corrected with Scan 2100

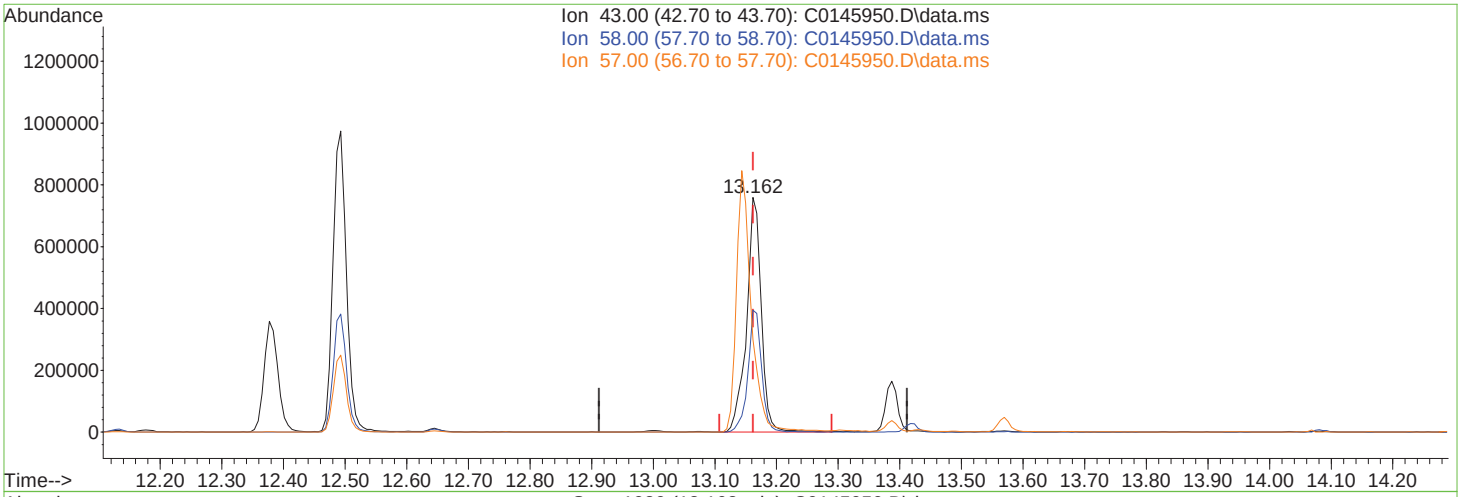
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.6	81509	PASS
75	95	30	60	53.2	211029	PASS
95	95	100	100	100.0	396352	PASS
96	95	5	9	6.7	26581	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	85.9	340331	PASS
175	174	5	9	8.1	27651	PASS
176	174	95	101	97.3	331115	PASS
177	176	5	9	6.5	21667	PASS

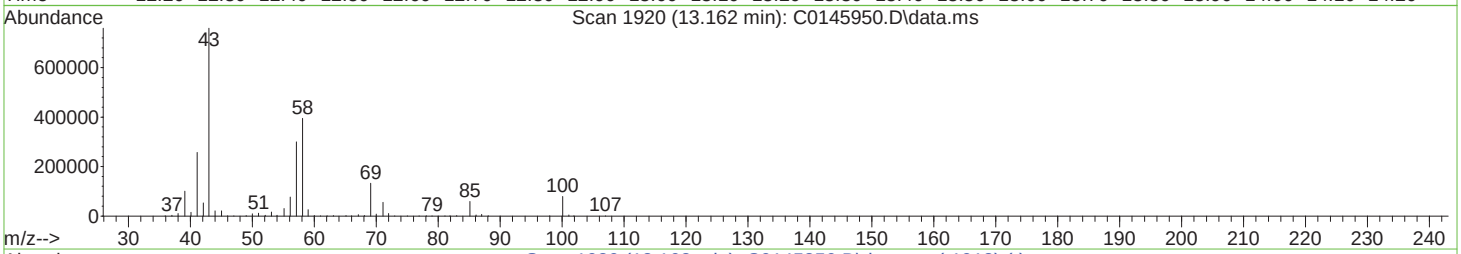
C0145950.D RTXVMS122420.M Wed Dec 30 21:30:07 2020

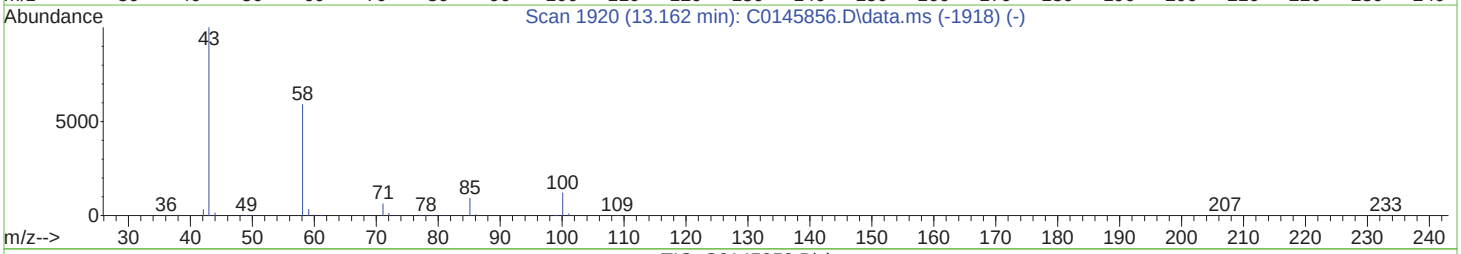
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 21:33:56 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145950.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 208.01ug/L

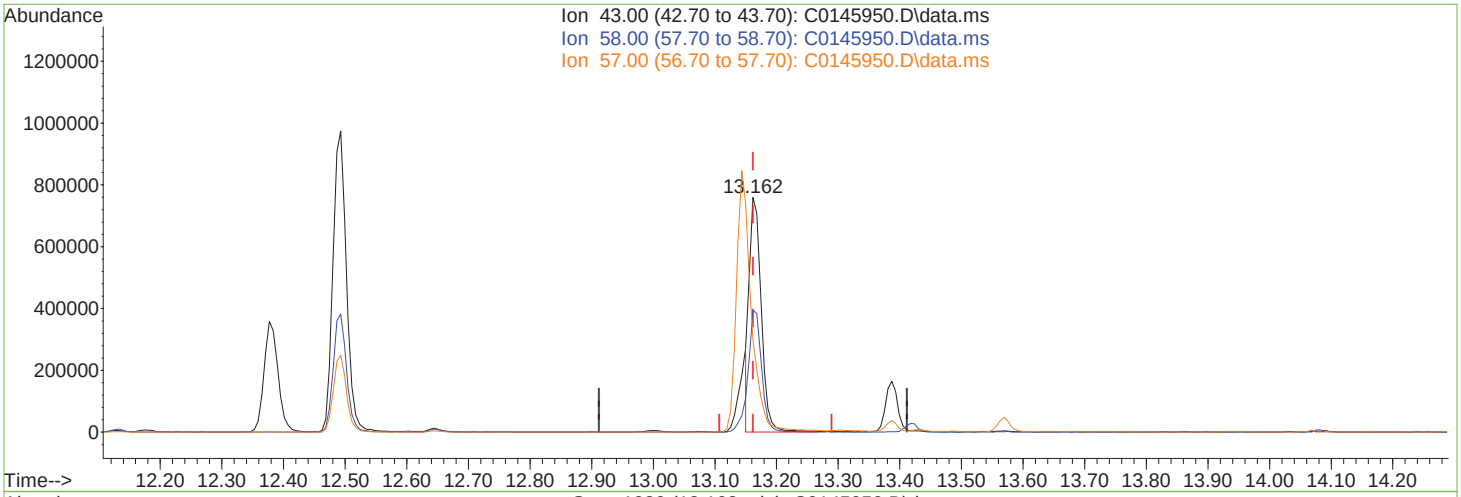
response 1261314

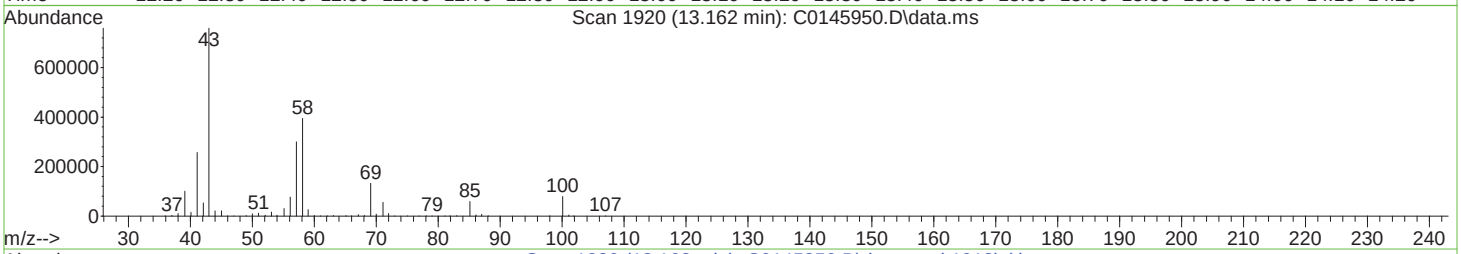
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.95
57.00	46.70	39.50
0.00	0.00	0.00

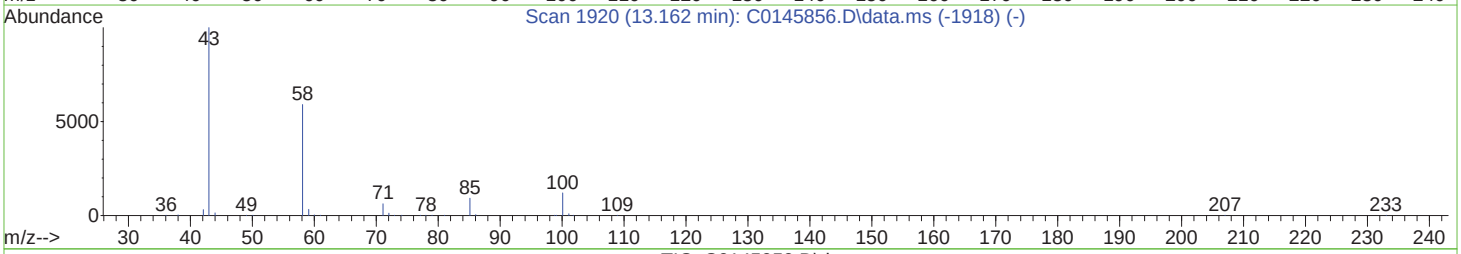
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 21:33:56 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145950.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 169.59ug/L m

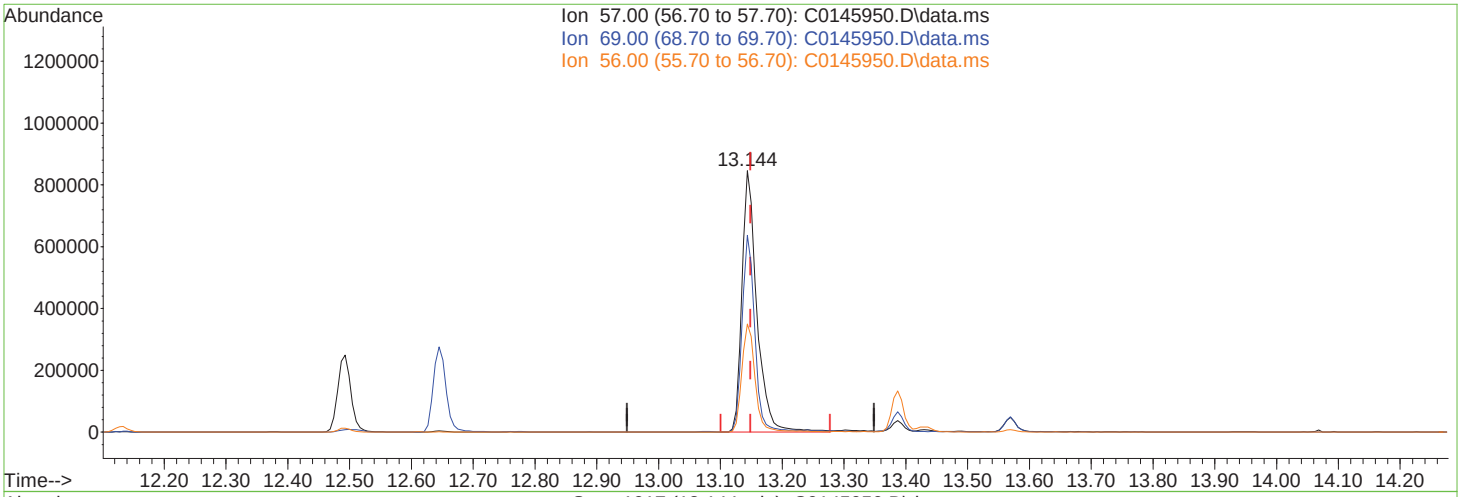
response 1028347

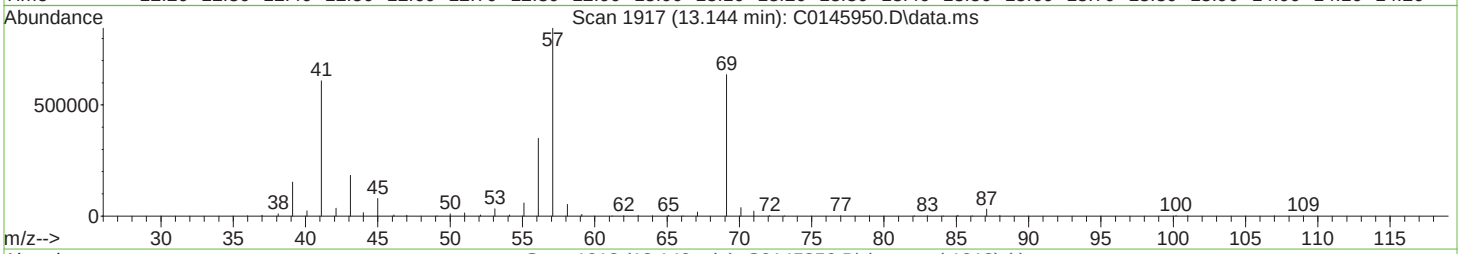
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.91
57.00	46.70	39.47
0.00	0.00	0.00

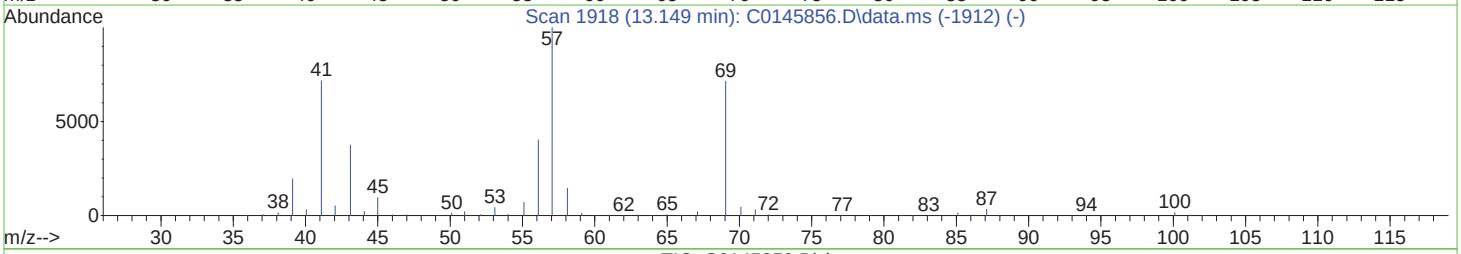
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 21:33:56 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145950.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.005) 3321.62ug/L

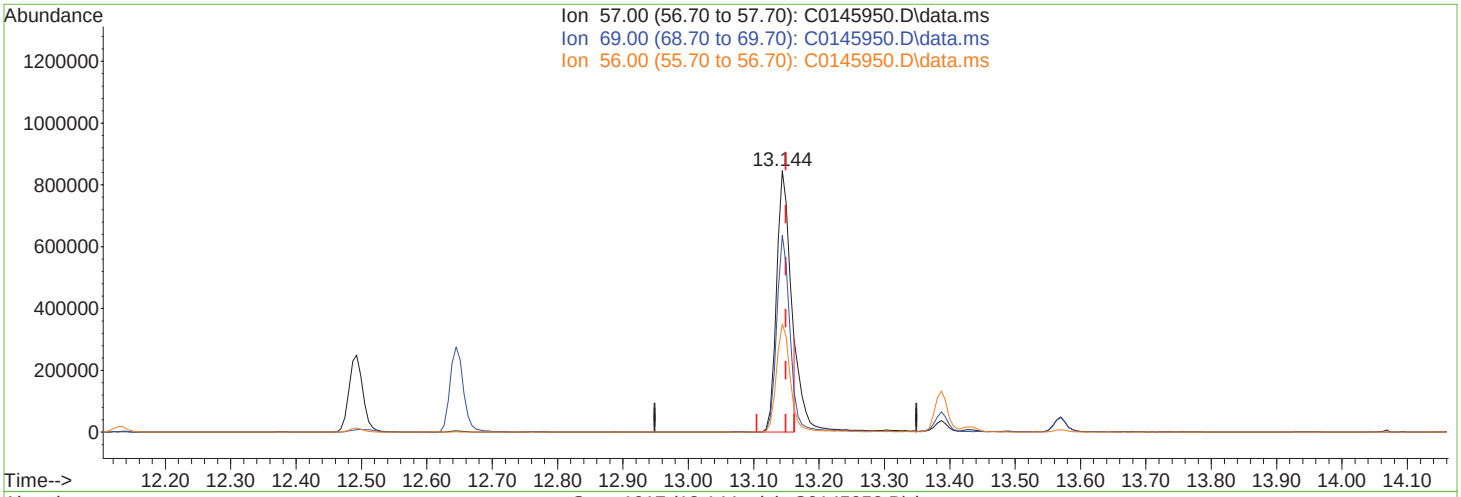
response 1424512

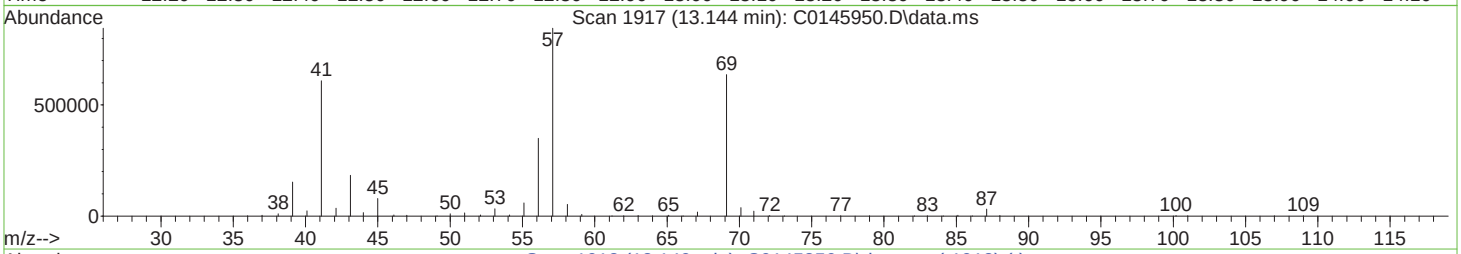
Ion	Exp%	Act%
57.00	100	100
69.00	79.60	65.45
56.00	45.70	37.03
0.00	0.00	0.00

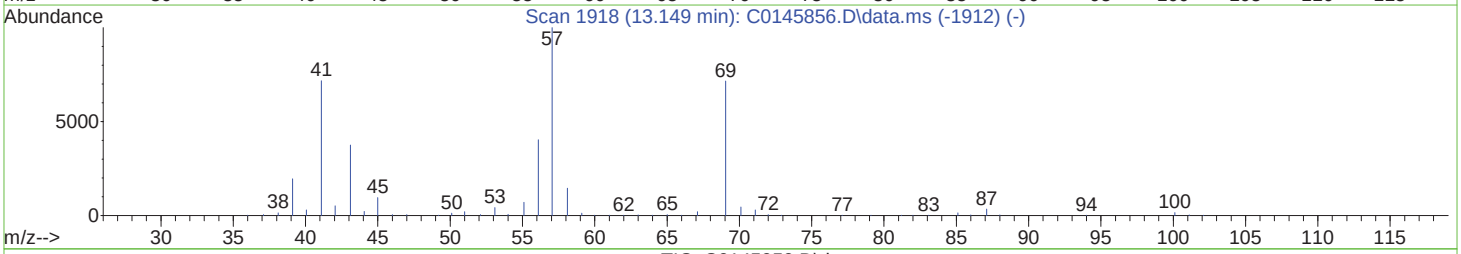
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 21:33:56 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145950.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.005) 2850.05ug/L m

response 1222272

Ion	Exp%	Act%
57.00	100	100
69.00	79.60	76.28
56.00	45.70	43.15
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:14:04 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1797518	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1276521	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	646311	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.774	65	245856	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	440460	46.57	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 93.14%			
47) 1,2-Dichloroethane-d4	10.175	65	573988	49.75	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.50%			
58) Toluene-d8	12.128	98	1766005	54.28	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 108.56%			
80) 4-Bromofluorobenzene	14.306	174	542145	51.17	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	9375	0.83	ug/L	73
3) Chloromethane	3.197	50	16891m	1.34	ug/L	
4) 1,3-butadiene	3.367	39	9681	0.95	ug/L	96
5) Vinyl Chloride	3.355	62	9500	0.75	ug/L	78
6) Bromomethane	3.921	94	8492m	1.80	ug/L	
7) Chloroethane	4.122	64	5400	0.86	ug/L	94
8) Trichlorofluoromethane	4.371	101	11604	0.86	ug/L	95
9) Ethyl Ether	4.919	59	8113m	0.89	ug/L	
10) 1,2-Dichlorotrifluoroe...	5.259	67	8864	0.82	ug/L	92
11) 1,1-Dichloroethene	5.235	61	12081m	0.88	ug/L	
12) Freon 113	5.314	101	7222m	0.81	ug/L	
13) Carbon Disulfide	5.290	76	27170	0.93	ug/L	85
14) Iodomethane	5.484	142	6103m	0.71	ug/L	
15) Acrolein	5.849	56	8372m	4.01	ug/L	
16) Allyl chloride	6.087	41	15485m	0.93	ug/L	
17) Methylene Chloride	6.269	49	15028	1.02	ug/L	84
18) Acetone	6.372	43	14405m	4.78	ug/L	
19) Methyl acetate	6.579	43	29969	3.61	ug/L	88
20) trans-1,2-Dichloroethene	6.549	61	11466	0.85	ug/L	76
21) Hexane	6.689	56	7916	0.91	ug/L #	81
22) Methyl Tert Butyl Ether	6.731	73	30287	0.94	ug/L	96
23) Acetonitrile	7.242	41	12460m	8.31	ug/L	
24) Di-isopropyl ether	7.425	45	32790	0.89	ug/L	94
25) Chloroprene	7.620	53	11100	0.72	ug/L	88
26) 1,1-Dichloroethane	7.644	63	14663	0.83	ug/L	97
27) Acrylonitrile	7.778	52	9021	2.81	ug/L #	71
28) ETBE	8.100	59	29199	0.87	ug/L	84
29) Vinyl acetate	8.137	43	102287	4.34	ug/L	98
30) cis-1,2-Dichloroethene	8.690	96	7907	0.83	ug/L	79
31) 2,2-Dichloropropane	8.855	77	12431	0.80	ug/L	81
32) Bromochloromethane	9.043	128	3695	0.81	ug/L #	76
33) Cyclohexane	9.031	56	16022	0.88	ug/L	85
34) Chloroform	9.177	83	13395	0.82	ug/L	82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:14:04 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
35) Ethyl acetate	9.378	43	46612	3.96 ug/L	97
36) Tetrahydrofuran	9.414	42	4788	1.23 ug/L #	64
38) Carbon Tetrachloride	9.372	117	9685	0.82 ug/L	92
39) 1,1,1-Trichloroethane	9.469	97	11398	0.80 ug/L	89
40) 2-Butanone	9.652	43	23528	4.73 ug/L	68
41) 1,1-Dichloropropene	9.670	75	11219	0.79 ug/L	91
42) tert-Butyl formate	9.816	59	45540	4.25 ug/L	89
43) Propionitrile	10.041	54	12947	8.77 ug/L	94
44) Methacrylonitrile	10.065	41	61888	9.26 ug/L	92
45) Benzene	10.010	78	34530	0.90 ug/L	94
46) TAME	10.150	73	26435	0.84 ug/L	93
48) 1,2-Dichloroethane	10.266	62	10064	0.76 ug/L	85
49) Trichloroethene	10.734	95	9206	0.92 ug/L	87
50) Methylcyclohexane	10.716	83	13355	0.82 ug/L	93
51) Dibromomethane	11.209	93	5053	0.88 ug/L	82
52) 1,2-Dichloropropane	11.294	63	9098	0.82 ug/L	91
53) Bromodichloromethane	11.367	83	10200	0.81 ug/L	93
54) Methyl methacrylate	11.519	41	7269	0.73 ug/L	92
55) 2-Chloroethyl vinyl ether	11.909	63	30896	4.24 ug/L	95
56) cis-1,3-Dichloropropene	11.969	75	15137	0.82 ug/L	96
59) Toluene	12.182	91	40509	1.15 ug/L	94
60) 2-Nitropropane	12.383	41	13386	5.12 ug/L	93
61) 4-Methyl-2-pentanone	12.499	43	50602	5.85 ug/L	93
62) trans-1,3-Dichloropropene	12.547	75	12024	0.92 ug/L	93
63) Tetrachloroethene	12.529	166	8083	0.98 ug/L	96
64) Ethyl methacrylate	12.657	69	11323	1.00 ug/L	92
65) 1,1,2-Trichloroethane	12.681	83	6052	0.93 ug/L	95
66) Dibromochloromethane	12.839	129	7421	0.93 ug/L	96
67) 1,3-Dichloropropane	12.906	76	14418	1.01 ug/L	96
68) 1,2-Dibromoethane	13.040	107	6761	0.90 ug/L	88
69) 2-hexanone	13.174	43	37730	6.04 ug/L	90
70) 1-Chlorohexane	13.393	91	11836	1.02 ug/L	92
71) Ethylbenzene	13.436	91	41562	1.13 ug/L	92
72) Chlorobenzene	13.429	112	23057	1.11 ug/L	77
73) 1,1,1,2-Tetrachloroethane	13.484	131	7609	1.02 ug/L	80
74) m,p-Xylene	13.545	91	61335	2.28 ug/L	94
75) o-Xylene	13.867	91	31530	1.07 ug/L	94
76) Styrene	13.910	104	23518	0.99 ug/L	88
77) Bromoform	13.953	173	4972	0.91 ug/L	94
78) Isopropylbenzene	14.080	105	35194	1.02 ug/L	95
81) cis-1,4-Dichloro-2-butene	14.342	53	3563	1.20 ug/L #	70
82) n-Propylbenzene	14.379	91	43659	1.15 ug/L	95
83) Bromobenzene	14.397	156	8615	1.07 ug/L	91
84) 1,1,2,2-Tetrachloroethane	14.433	83	10322	1.14 ug/L	92
85) 1,3,5-Trimethylbenzene	14.494	105	28788	1.15 ug/L	96
86) 2-Chlorotoluene	14.512	91	30961	1.24 ug/L	97
87) trans-1,4-Dichloro-2-B...	14.549	53	3019	1.15 ug/L	95
88) 1,2,3-Trichloropropane	14.537	110	3200	1.24 ug/L	82
89) Cyclohexanone	14.598	55	2014	6.20 ug/L #	81
90) 4-Chlorotoluene	14.622	91	26057	1.13 ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:14:04 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

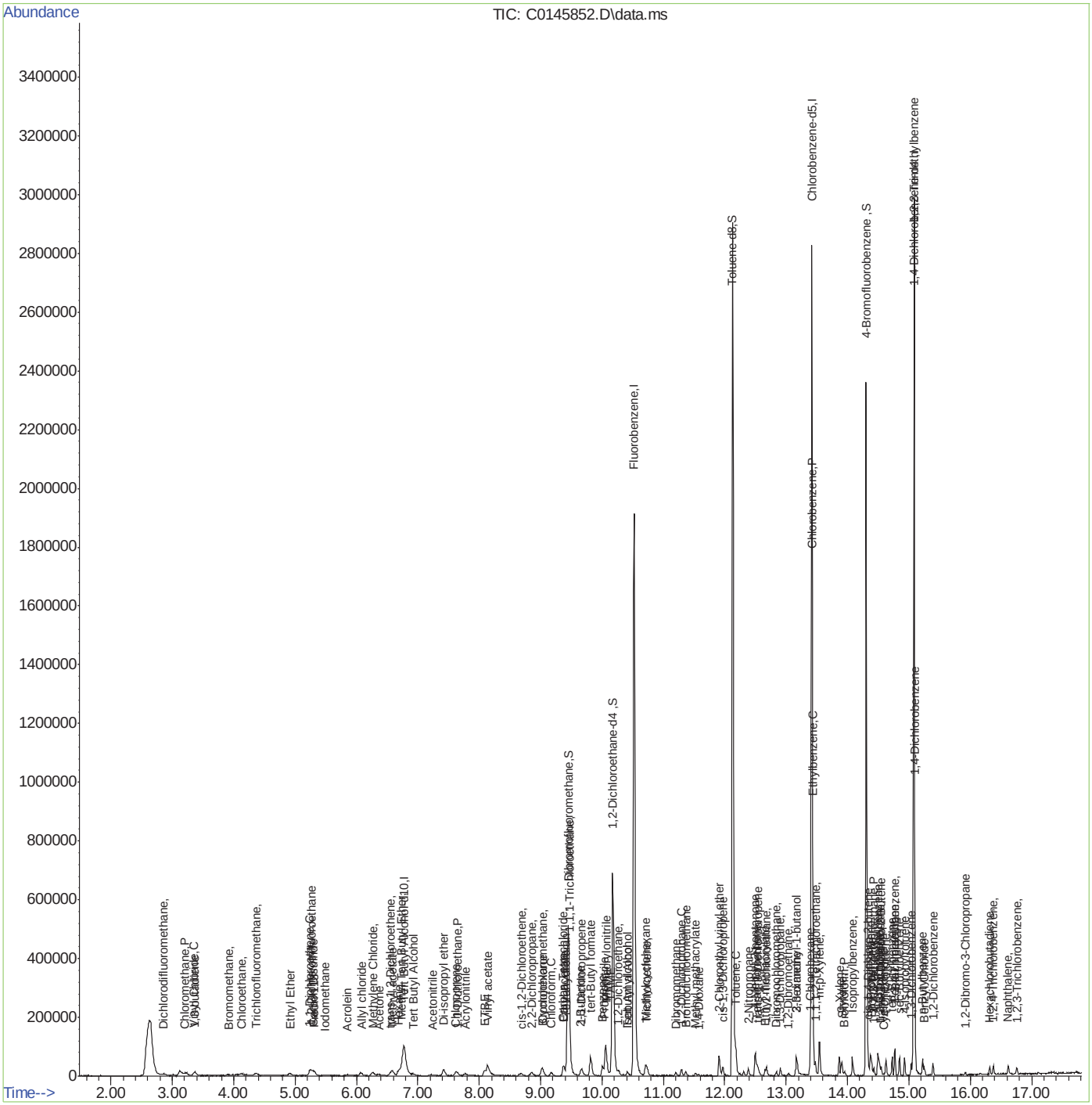
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
91)	tert-Butylbenzene	14.725	91	17384	1.20	ug/L		98
93)	1,2,4-Trimethylbenzene	14.774	105	27360	1.08	ug/L		93
94)	Pentachloroethane	14.774	167	4497	0.93	ug/L	#	69
95)	sec-Butylbenzene	14.847	105	34442	1.15	ug/L		99
96)	4-Isopropyltoluene	14.932	119	29379	1.13	ug/L		97
97)	1,3-Dichlorobenzene	15.042	146	15798	1.13	ug/L		94
98)	1,2,3-Trimethylbenzene	15.078	105	35330	1.17	ug/L		98
99)	1,4-Dichlorobenzene	15.096	146	16568m	1.15	ug/L		
100)	n-Butylbenzene	15.224	92	15537	1.08	ug/L		94
101)	Benzyl Chloride	15.255	126	3310	0.90	ug/L		99
102)	1,2-Dichlorobenzene	15.394	146	14357	1.08	ug/L		90
103)	1,2-Dibromo-3-Chloropr...	15.924	75	2327	1.36	ug/L		81
104)	Hexachlorobutadiene	16.313	225	4147	1.09	ug/L		86
105)	1,2,4-Trichlorobenzene	16.374	180	7368	0.95	ug/L		93
106)	Naphthalene	16.617	128	19597	1.12	ug/L		96
107)	1,2,3-Trichlorobenzene	16.757	180	6801	1.06	ug/L		95
110)	Tert Butyl Alcohol	6.926	59	12652m	12.25	ug/L		
111)	Isobutyl alcohol	10.418	43	9069m	27.13	ug/L		
112)	Tert Amyl Alcohol	10.412	59	8928	12.52	ug/L		89
113)	1,4-Dioxane	11.580	88	1384	15.46	ug/L	#	62
114)	3,3-dimethyl-1-butanol	13.168	57	24890	37.06	ug/L	#	63

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:14:04 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

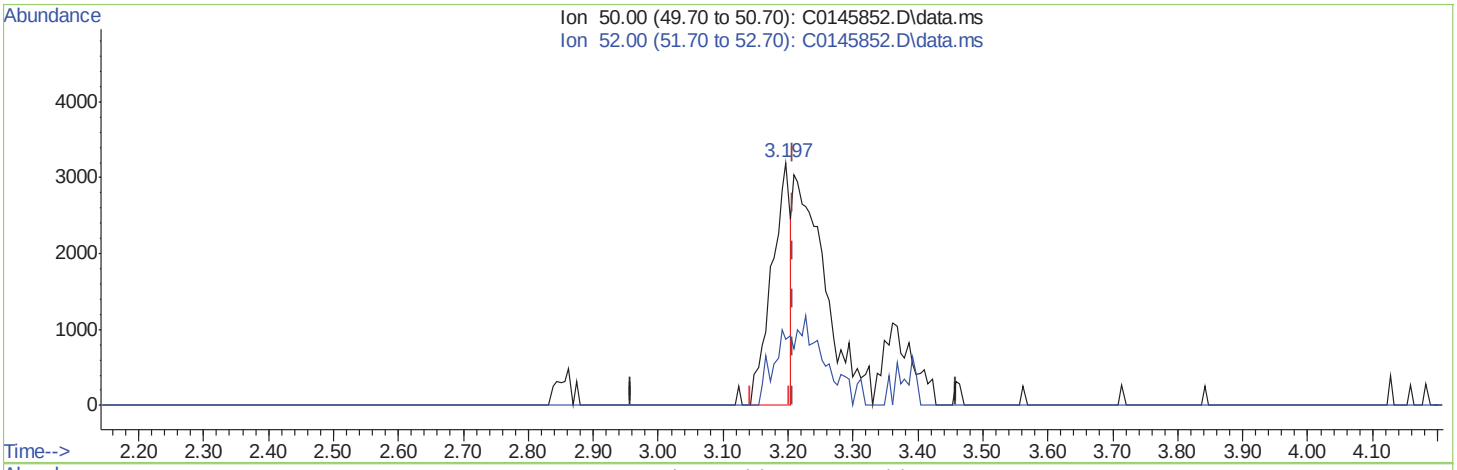
Sample Number: VC5857-IC5857
Lab FileID: C0145852.D
Injection Time: 12/24/20 07:47
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

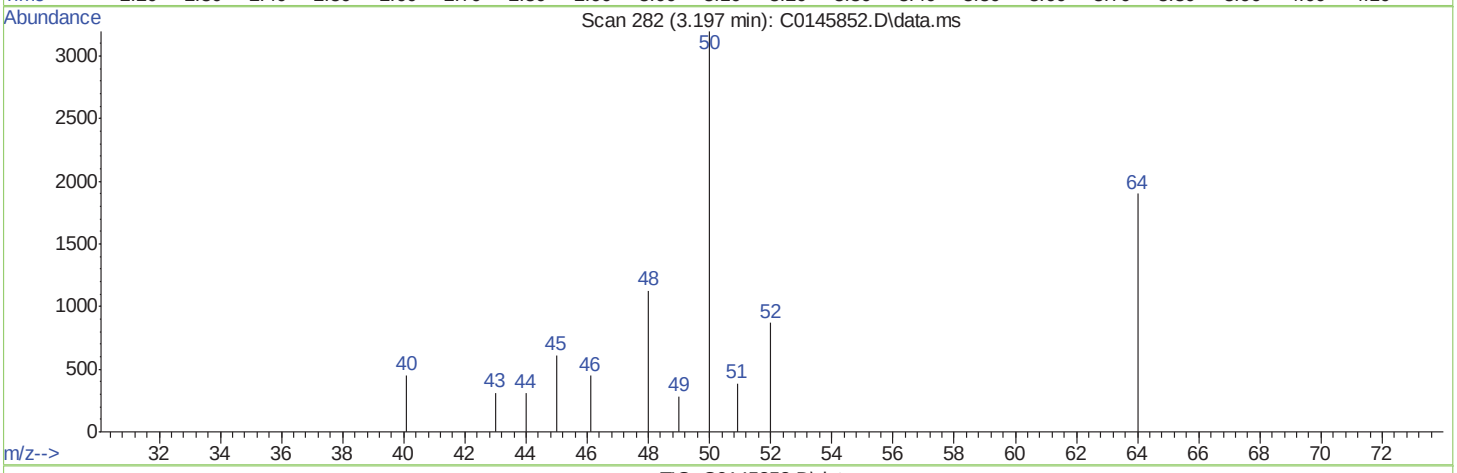
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.20	Split peak
Methyl Bromide	74-83-9		3.92	Split peak
Ethyl Ether	60-29-7		4.92	Split peak
1,1-Dichloroethylene	75-35-4		5.23	Split peak
Freon 113	76-13-1		5.31	Split peak
Methyl Iodide	74-88-4		5.48	Split peak
Acrolein	107-02-8		5.85	Split peak
Allyl Chloride	107-05-1		6.09	Split peak
Acetone	67-64-1		6.37	Split peak
Tert-Butyl Alcohol	75-65-0		6.93	Split peak
Acetonitrile	75-05-8		7.24	Split peak
Isobutyl Alcohol	78-83-1		10.42	Missed peak
1,4-Dichlorobenzene	106-46-7		15.10	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(3) Chloromethane (P)

3.197min (-0.012) 0.50ug/L

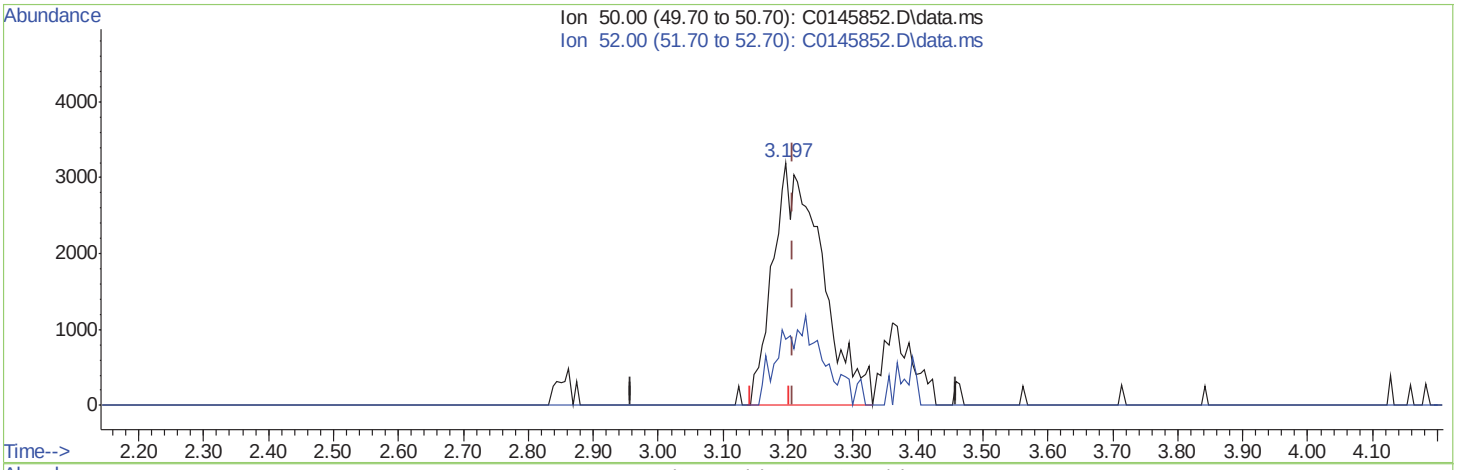
response 6279

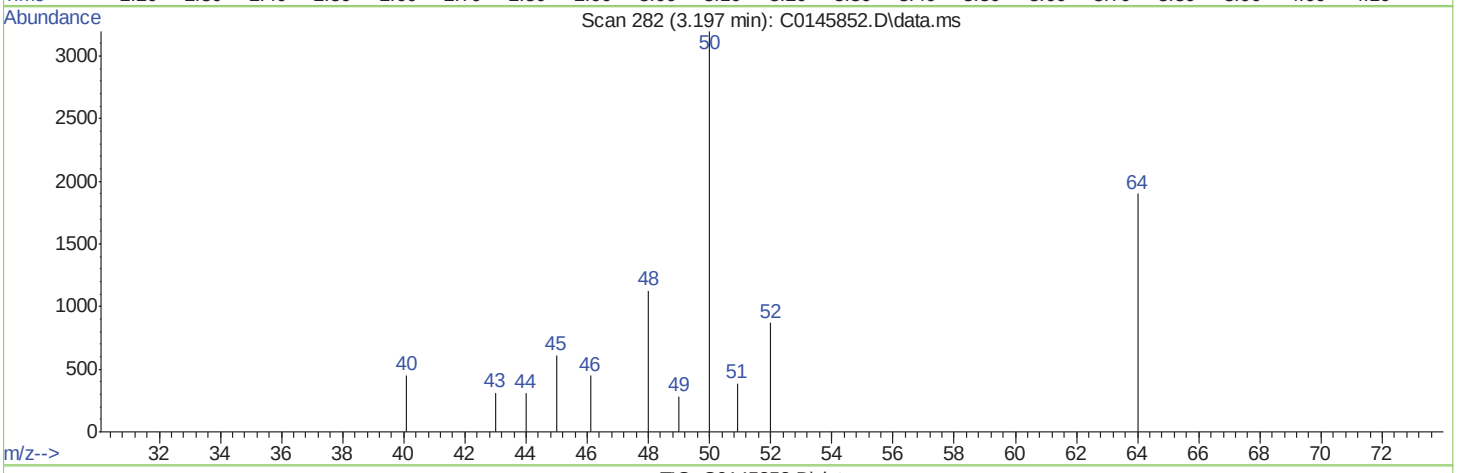
Ion	Exp%	Act%
50.00	100	100
52.00	31.00	27.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(3) Chloromethane (P)

3.197min (-0.012) 1.34ug/L m

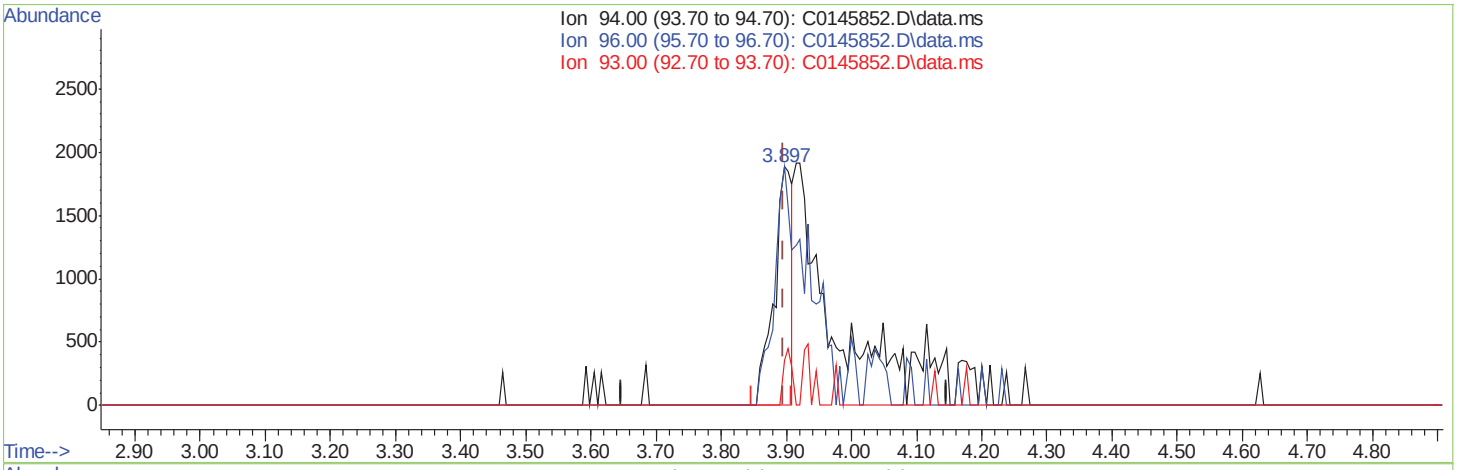
response 16891

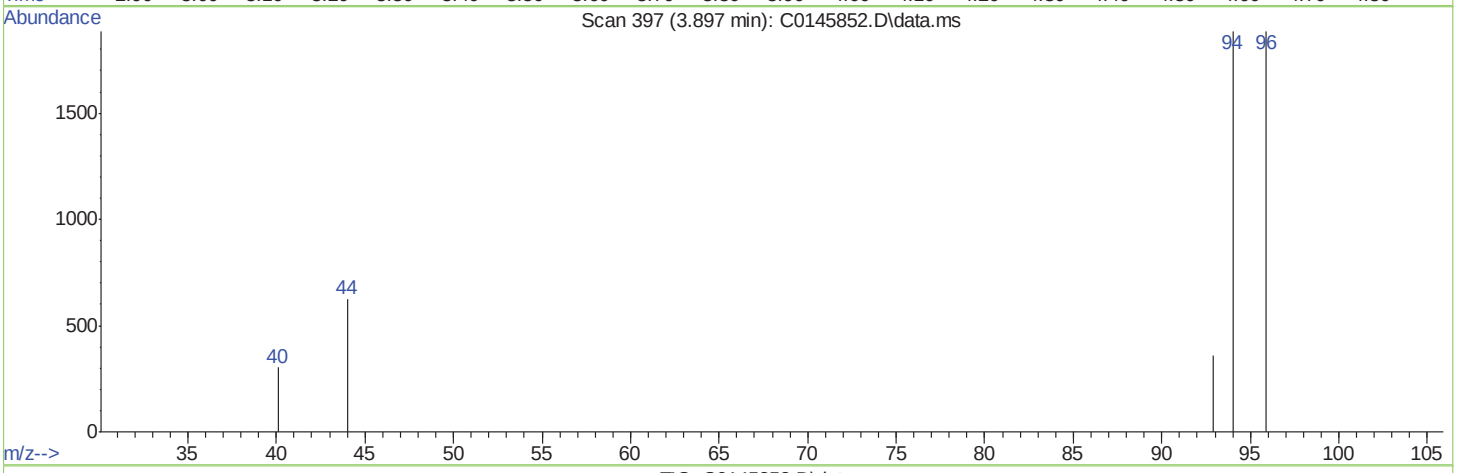
Ion	Exp%	Act%
50.00	100	100
52.00	31.00	27.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(6) Bromomethane ( )

3.897min (-0.000) 0.77ug/L

response 3651

Ion	Exp%	Act%
94.00	100	100
96.00	90.30	99.89
93.00	21.40	19.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
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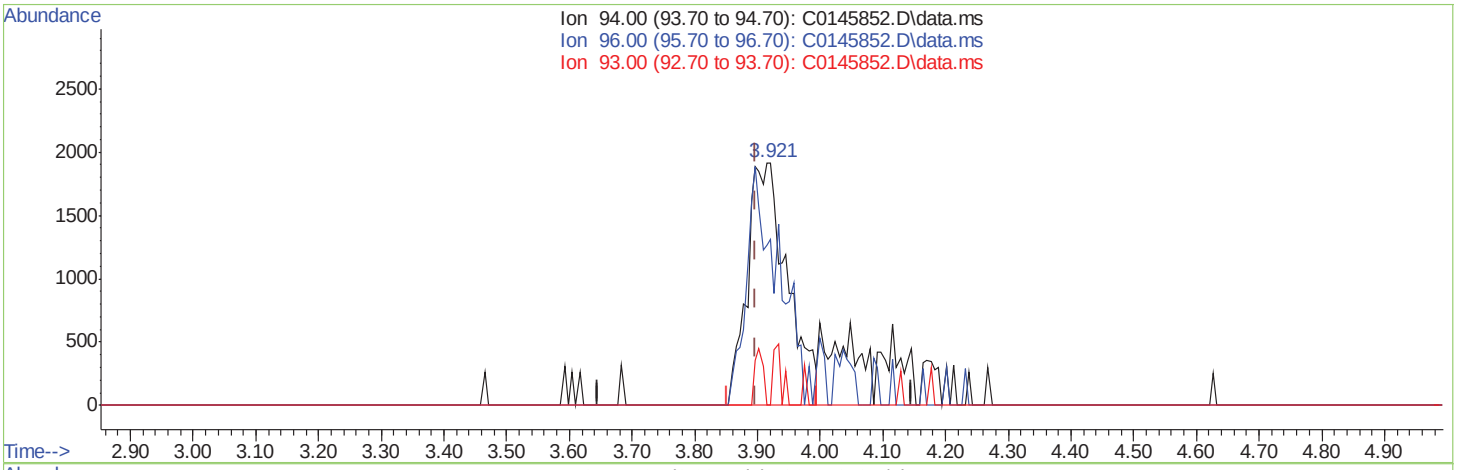

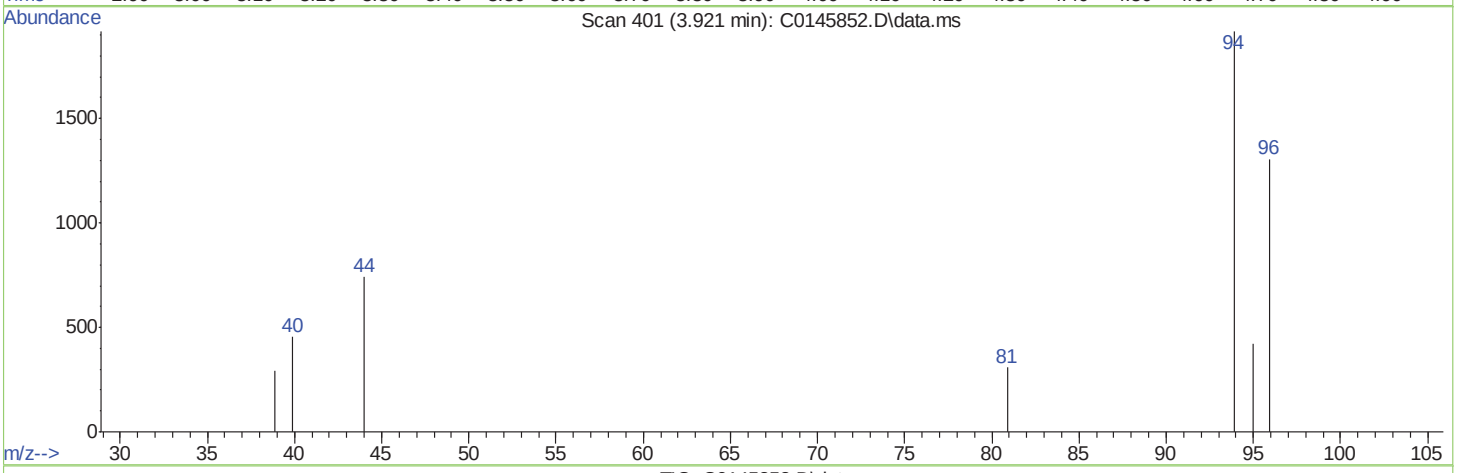

TIC: C0145852.D\data.ms

(6) Bromomethane ( )

3.921min (+0.024) 1.80ug/L m

response 8492

Ion	Exp%	Act%
94.00	100	100
96.00	90.30	68.18
93.00	21.40	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
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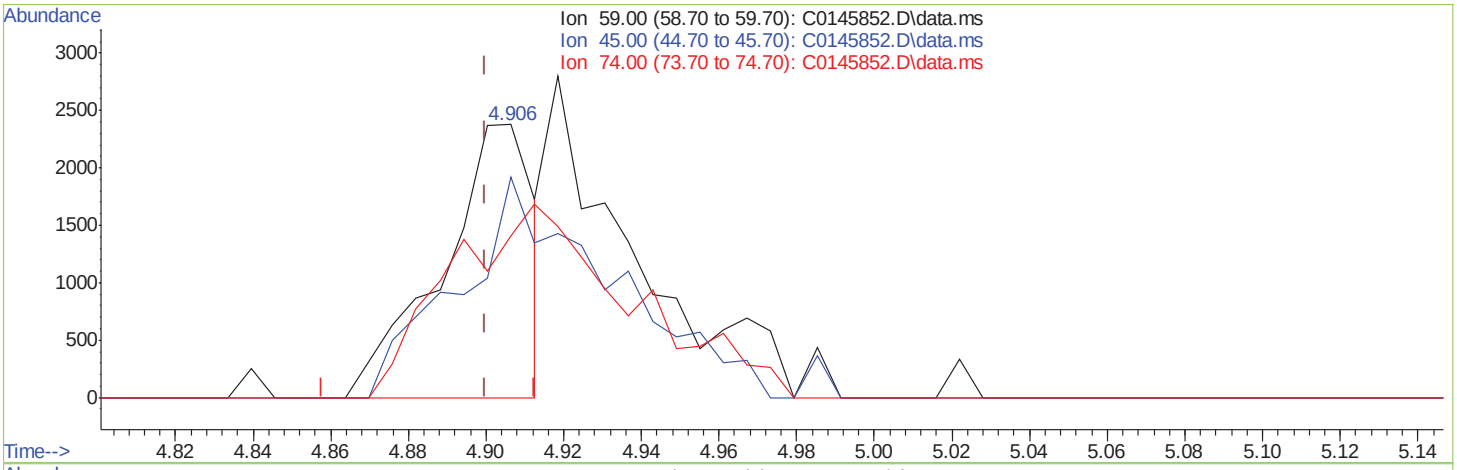

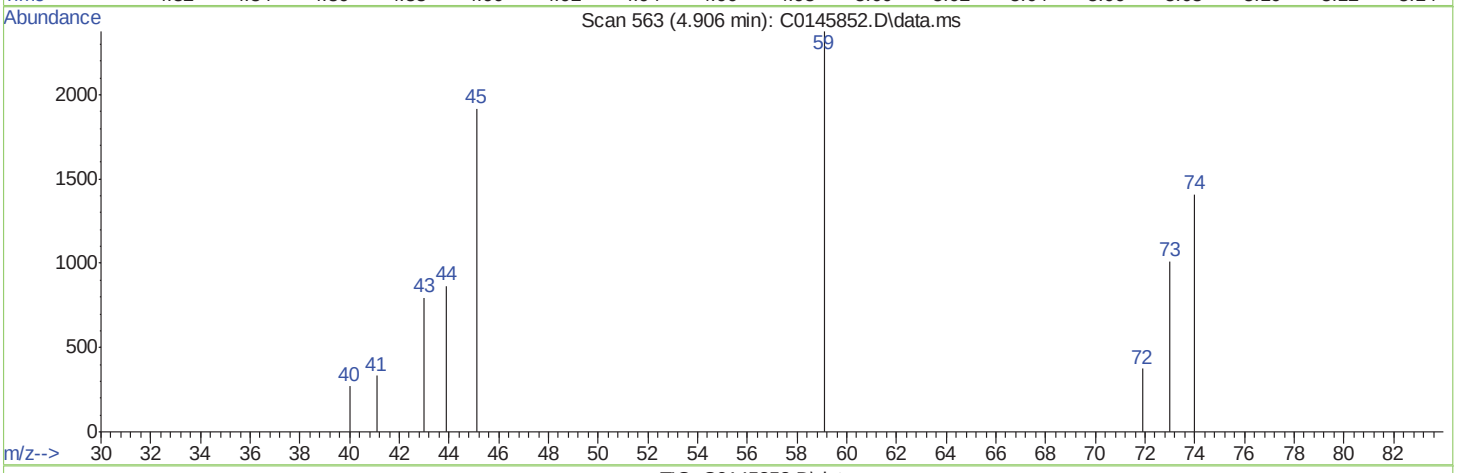

TIC: C0145852.D\data.ms

(9) Ethyl Ether

4.906min (+0.006) 0.43ug/L

response 3903

Ion	Exp%	Act%
59.00	100	100
45.00	75.40	80.76
74.00	71.10	59.33
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
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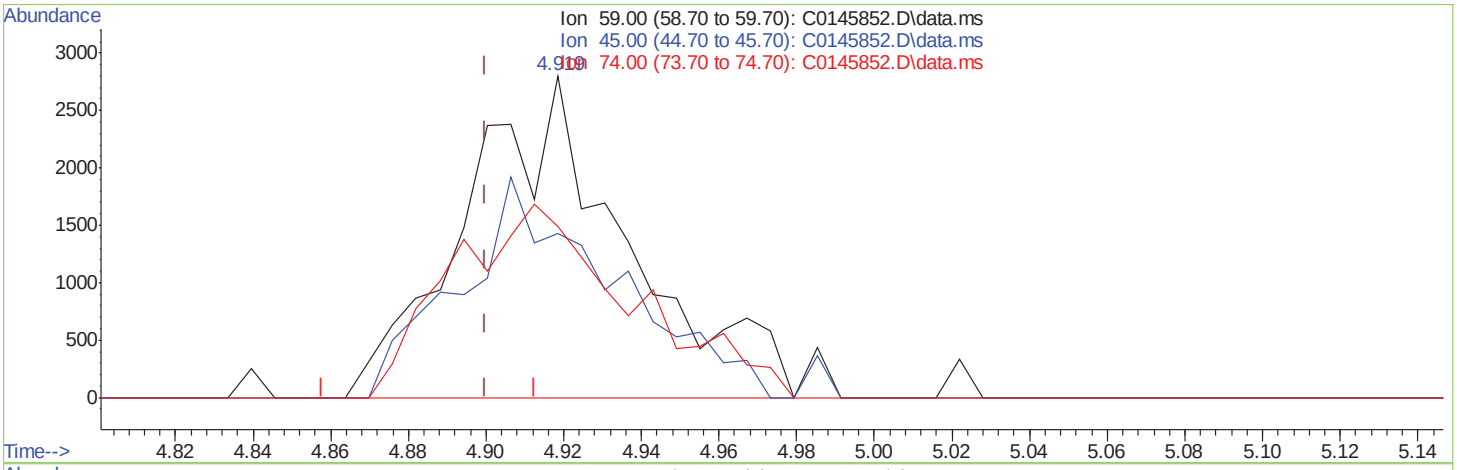
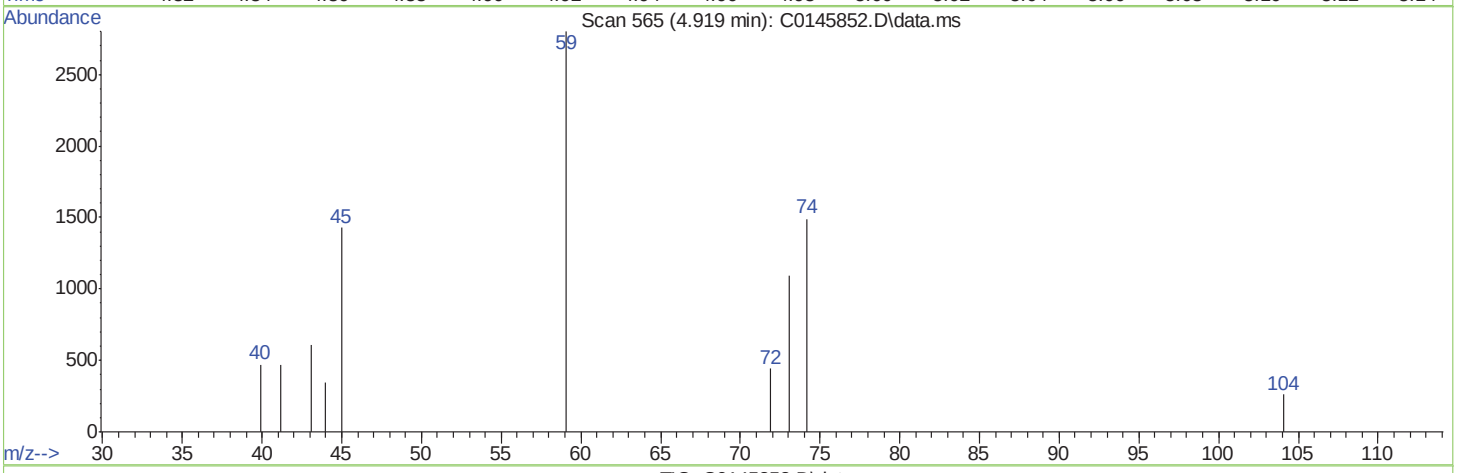




TIC: C0145852.D\data.ms

(9) Ethyl Ether

4.919min (+0.019) 0.89ug/L m

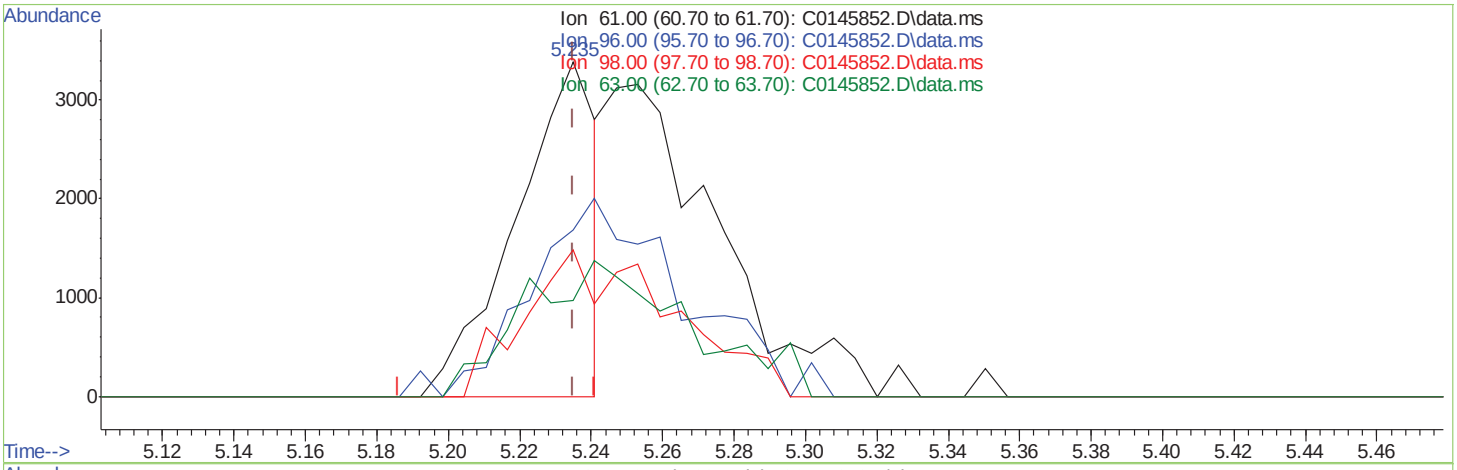
response 8113

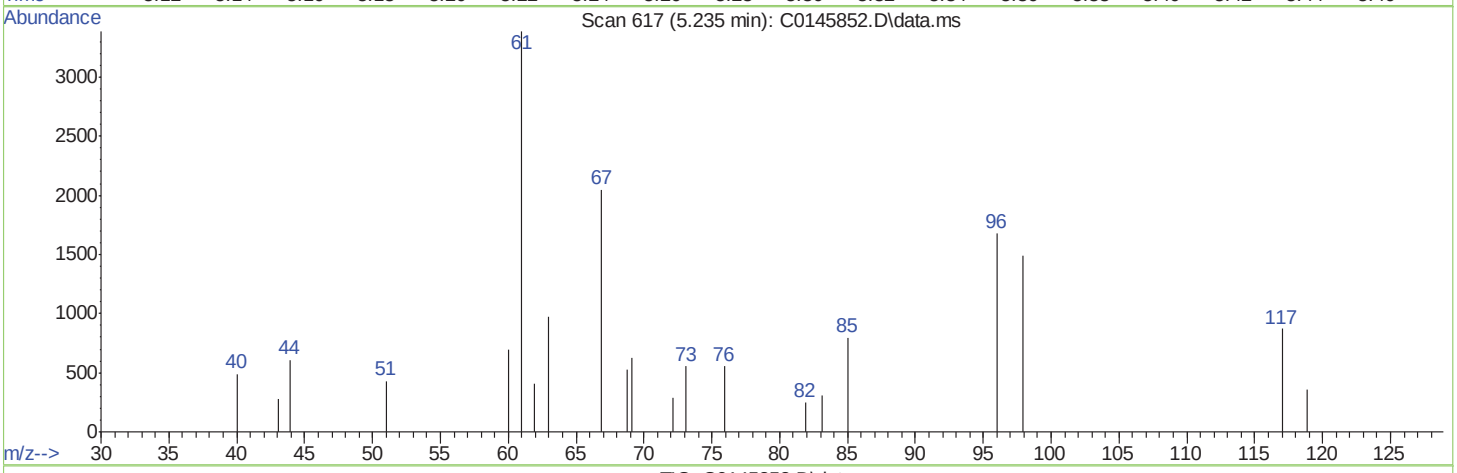
Ion	Exp%	Act%
59.00	100	100
45.00	75.40	50.95#
74.00	71.10	53.20
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(11) 1,1-Dichloroethene (C)

5.235min (-0.000) 0.39ug/L

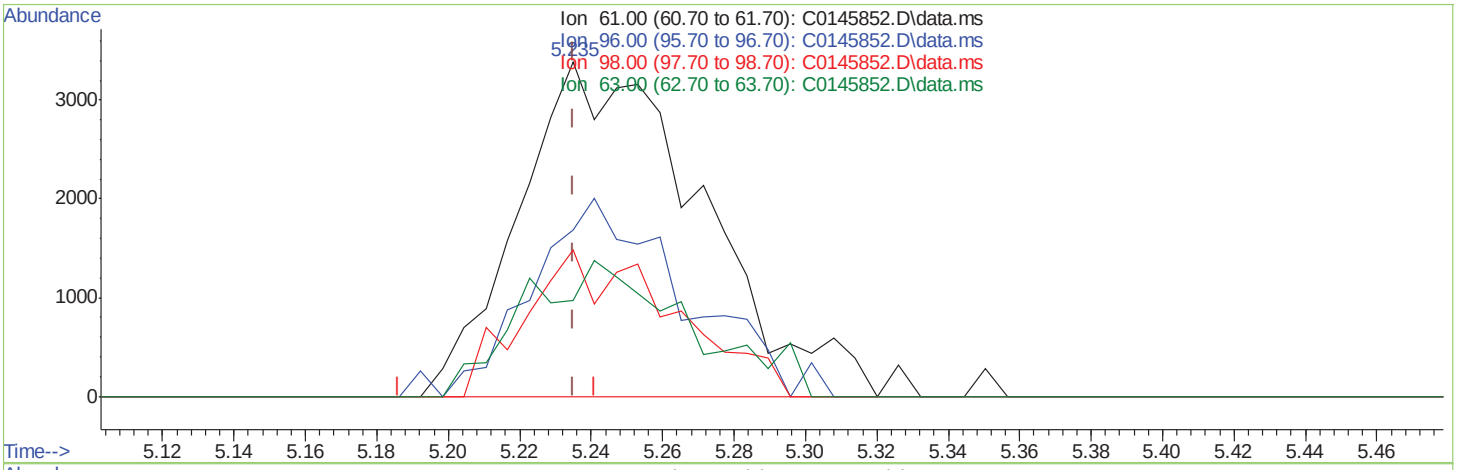
response 5334

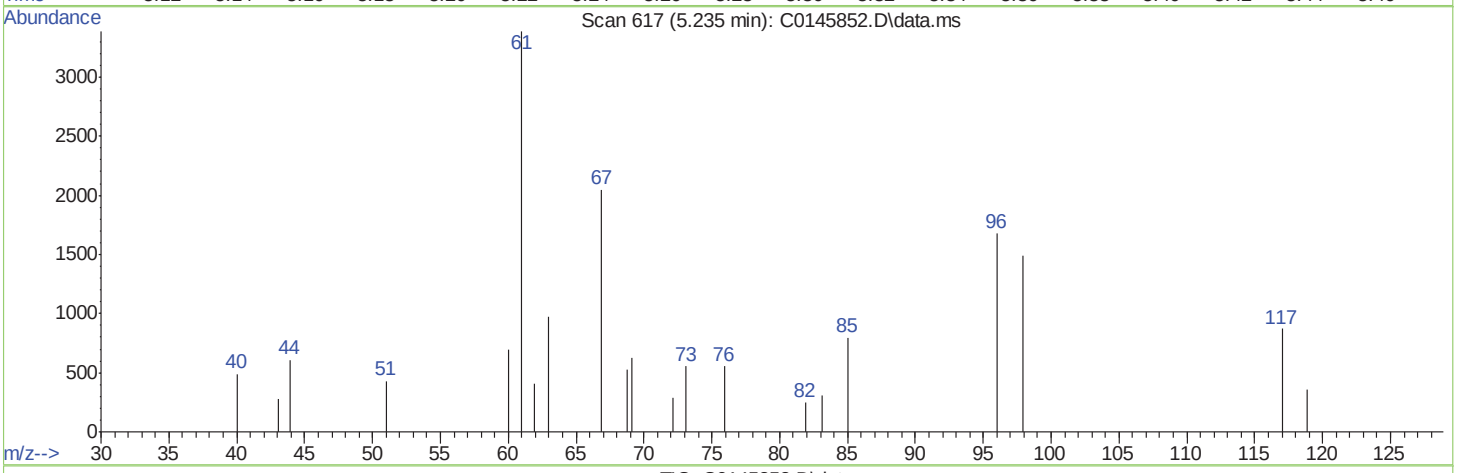
Ion	Exp%	Act%
61.00	100	100
96.00	58.90	49.62
98.00	39.10	43.89
63.00	35.70	28.80

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(11) 1,1-Dichloroethene (C)

5.235min (-0.000) 0.88ug/L m

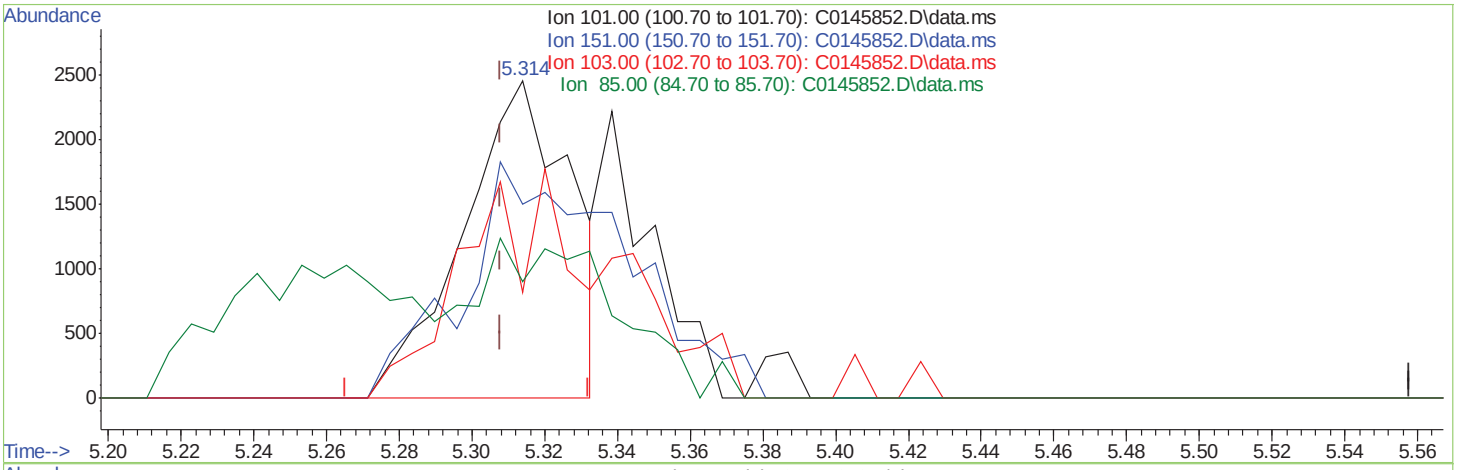
response 12081

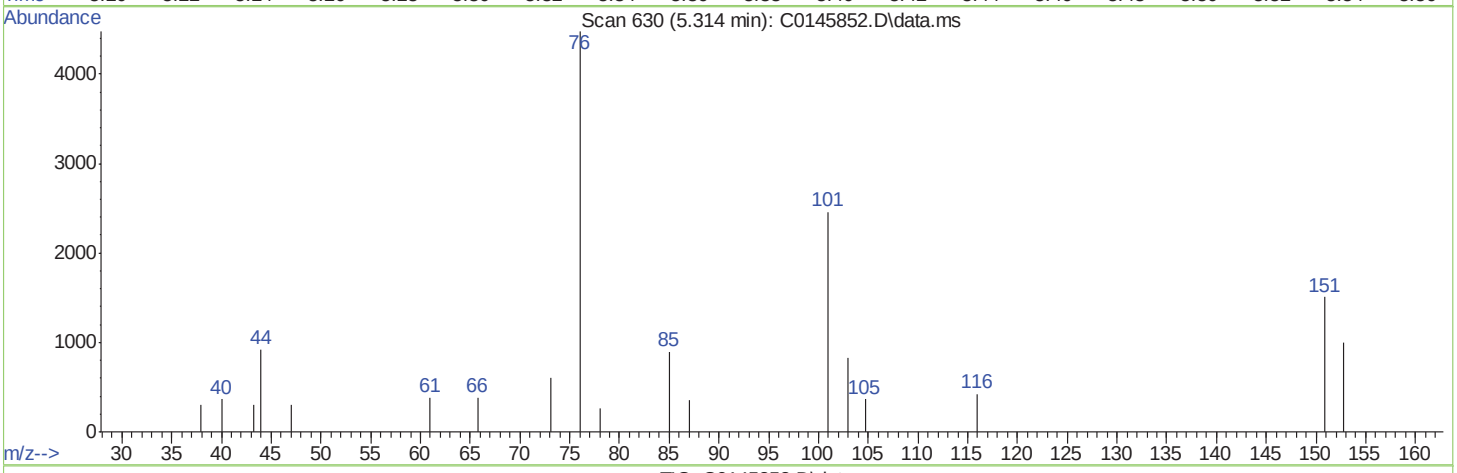
Ion	Exp%	Act%
61.00	100	100
96.00	58.90	49.62
98.00	39.10	43.89
63.00	35.70	28.80

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(12) Freon 113

5.314min (+0.006) 0.57ug/L

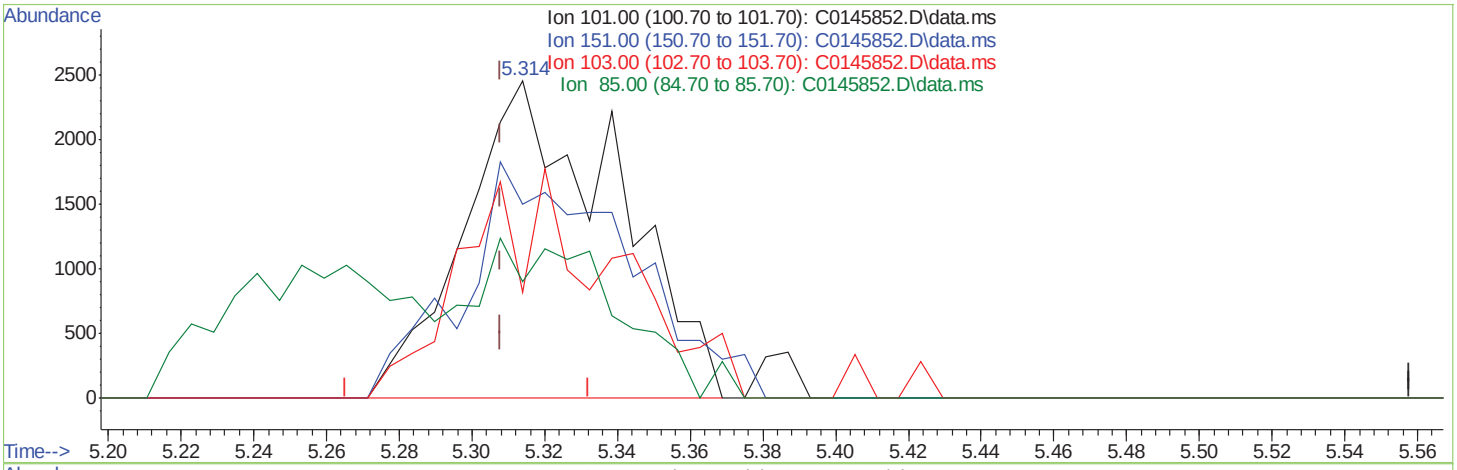
response 5062

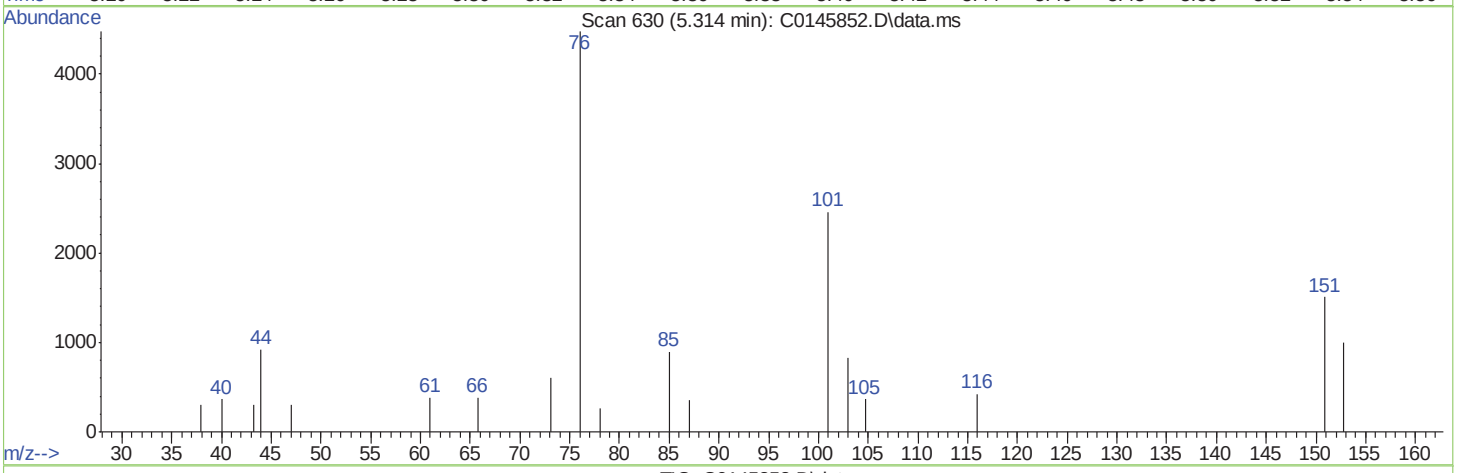
Ion	Exp%	Act%
101.00	100	100
151.00	81.30	61.11#
103.00	66.30	33.44#
85.00	48.20	0.00#

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(12) Freon 113

5.314min (+0.006) 0.81ug/L m

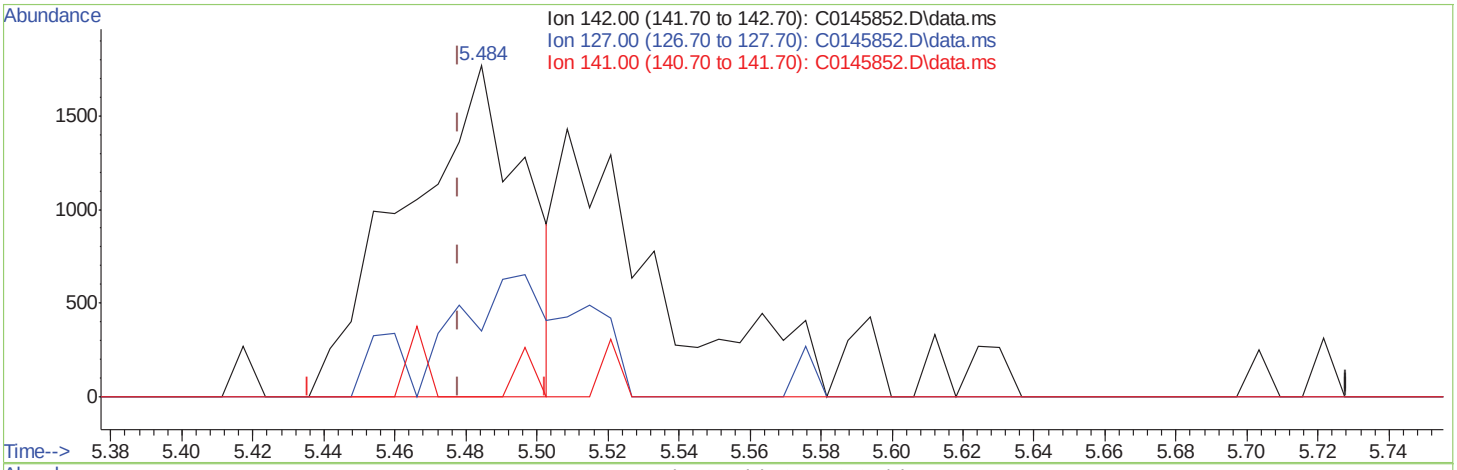
response 7222

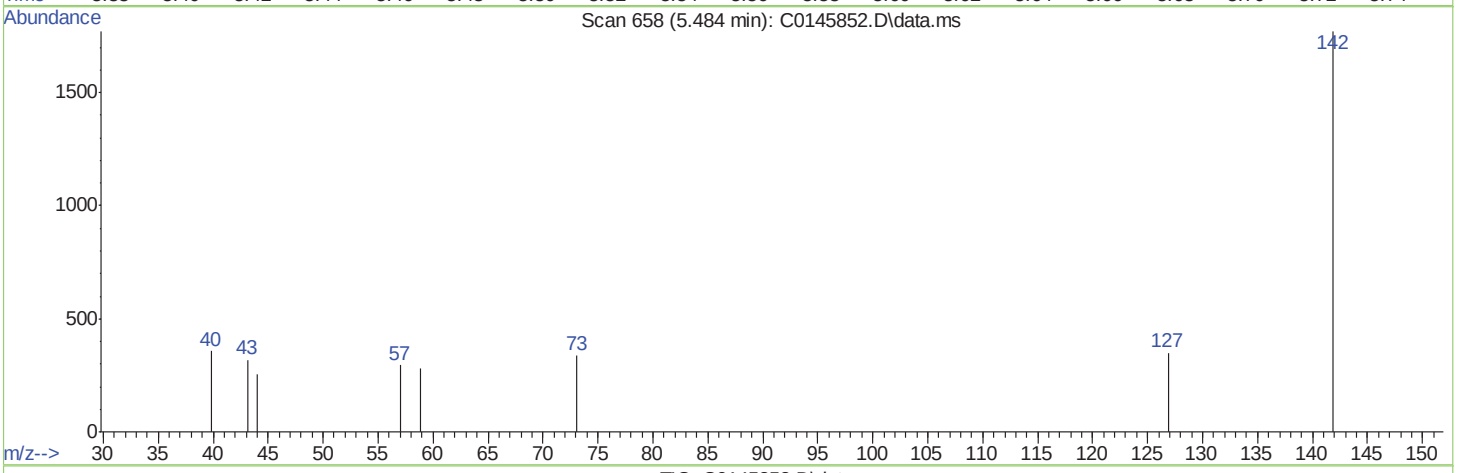
Ion	Exp%	Act%
101.00	100	100
151.00	81.30	61.11#
103.00	66.30	33.44#
85.00	48.20	36.53

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(14) Iodomethane

5.484min (+0.006) 0.48ug/L

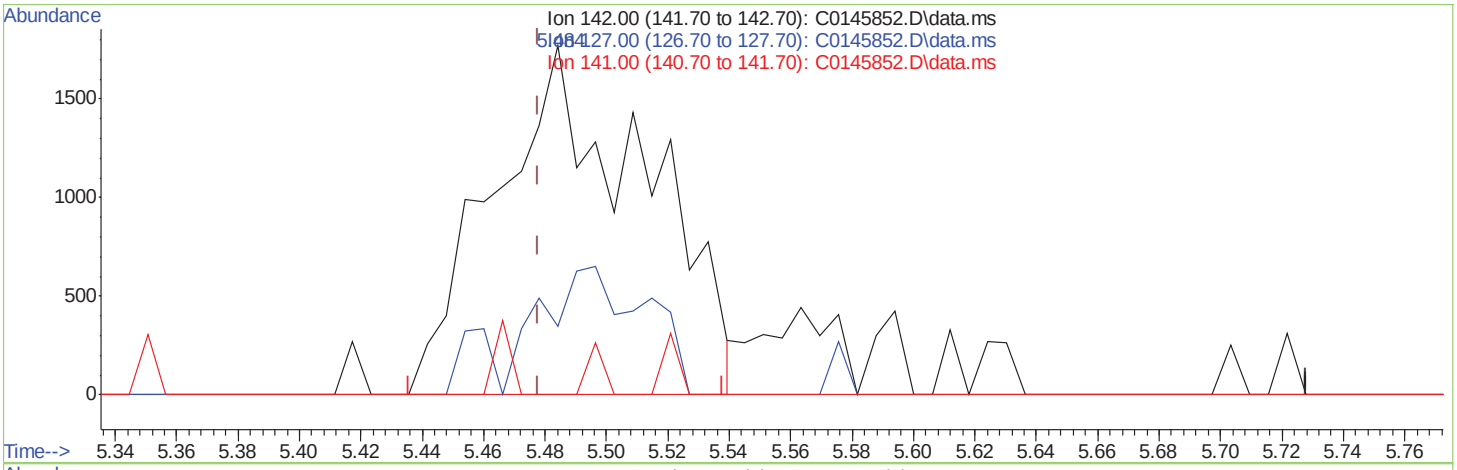
response 4126

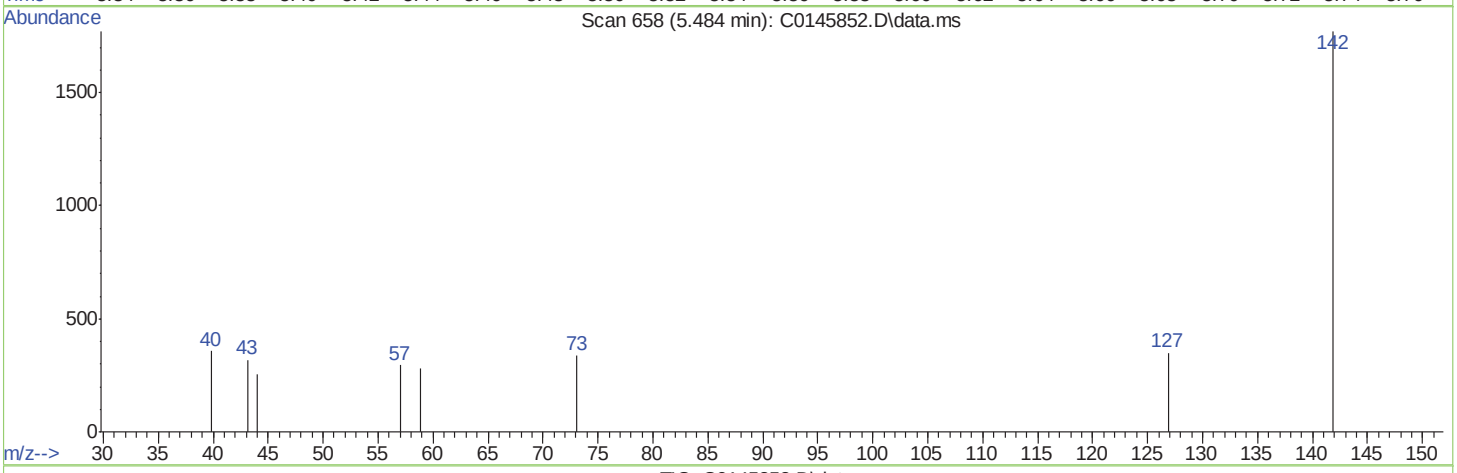
Ion	Exp%	Act%
142.00	100	100
127.00	39.50	19.71
141.00	14.90	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(14) Iodomethane

5.484min (+0.006) 0.71ug/L m

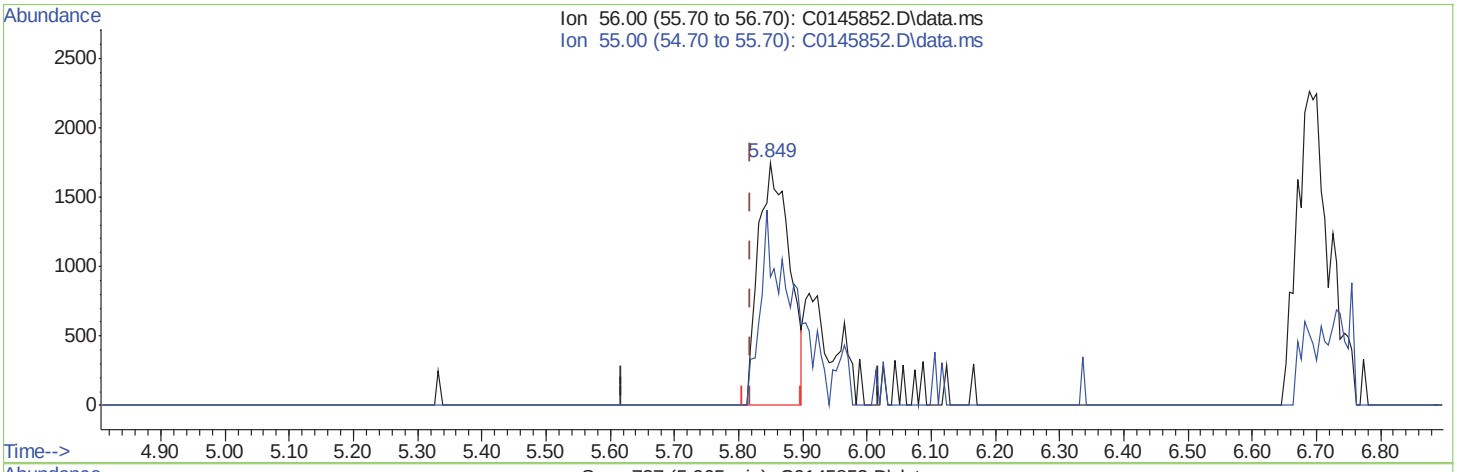
response 6103

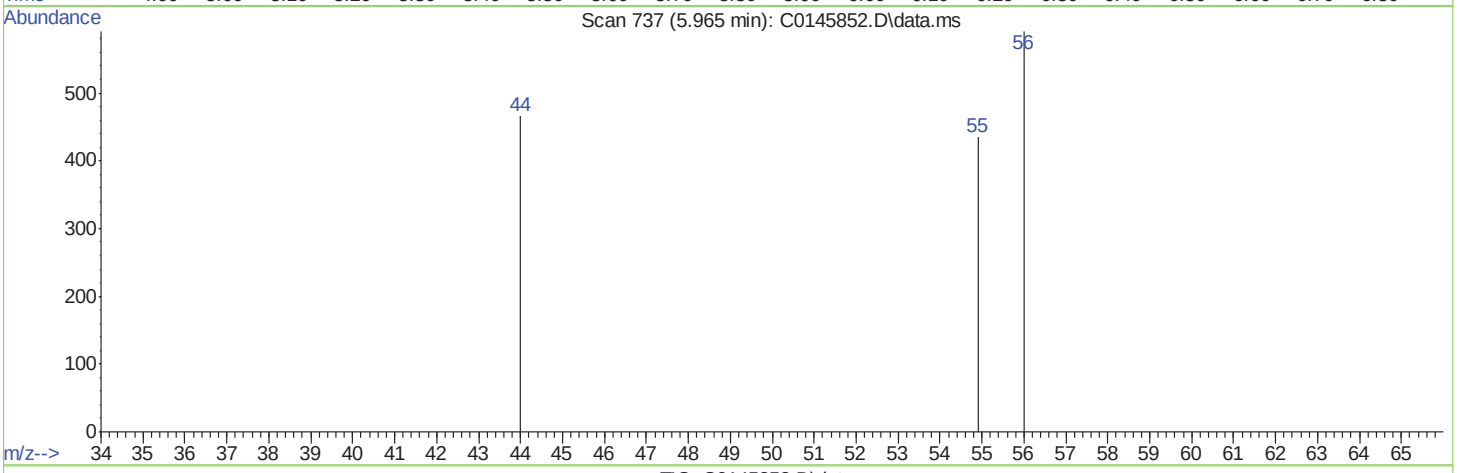
Ion	Exp%	Act%
142.00	100	100
127.00	39.50	19.71
141.00	14.90	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(15) Acrolein

5.849min (+0.030) 2.84ug/L

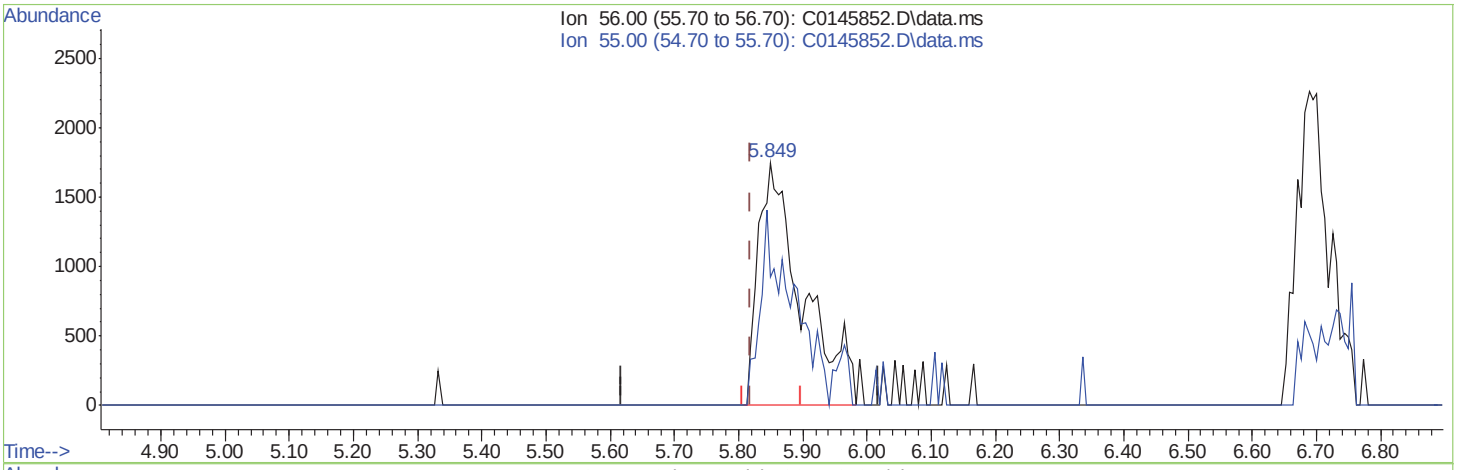
response 5926

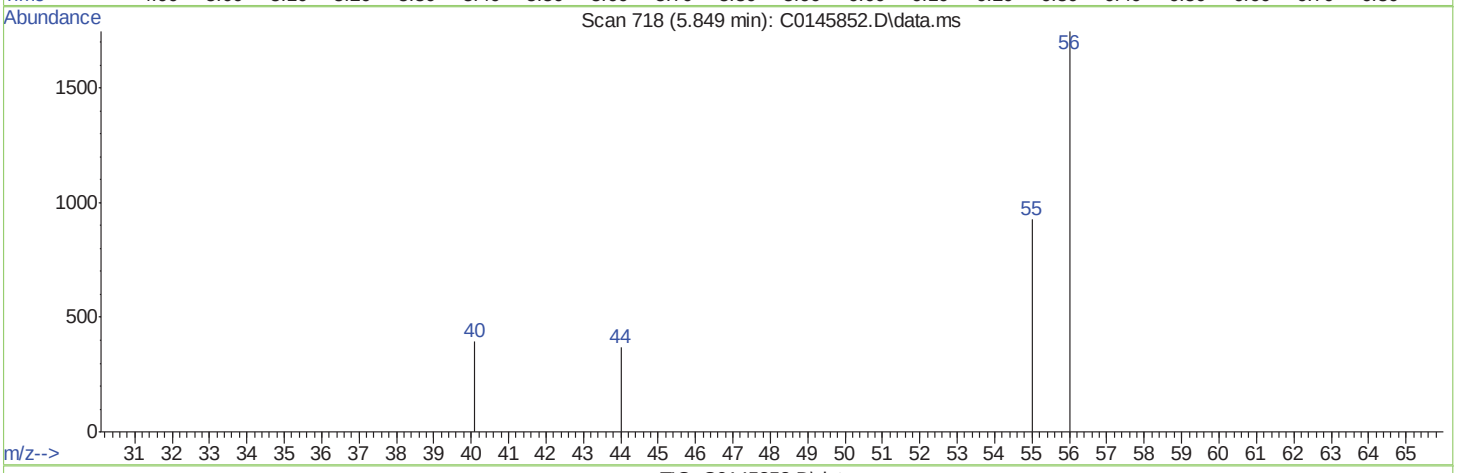
Ion	Exp%	Act%
56.00	100	100
55.00	64.70	52.97
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(15) Acrolein

5.849min (+0.030) 4.01ug/L m

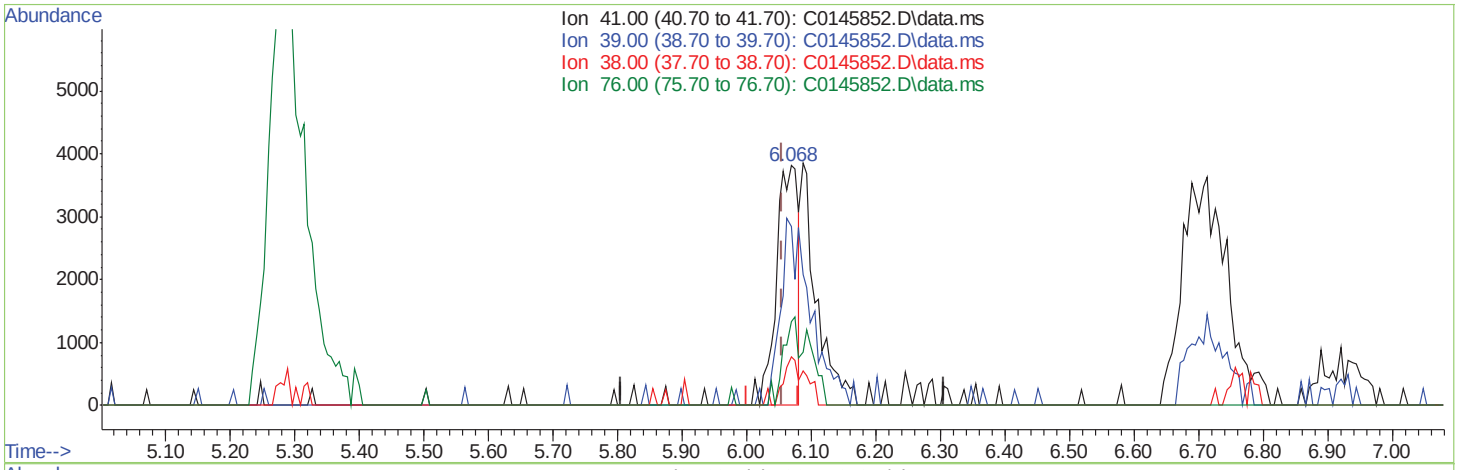
response 8372

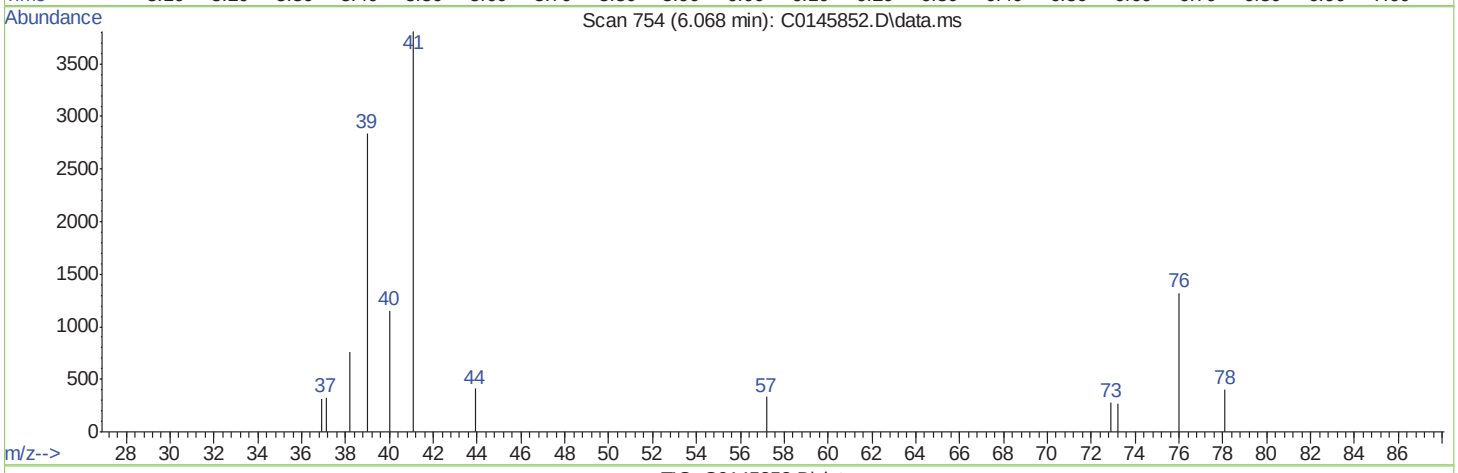
Ion	Exp%	Act%
56.00	100	100
55.00	64.70	52.97
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(16) Allyl chloride

6.068min (+0.012) 0.55ug/L

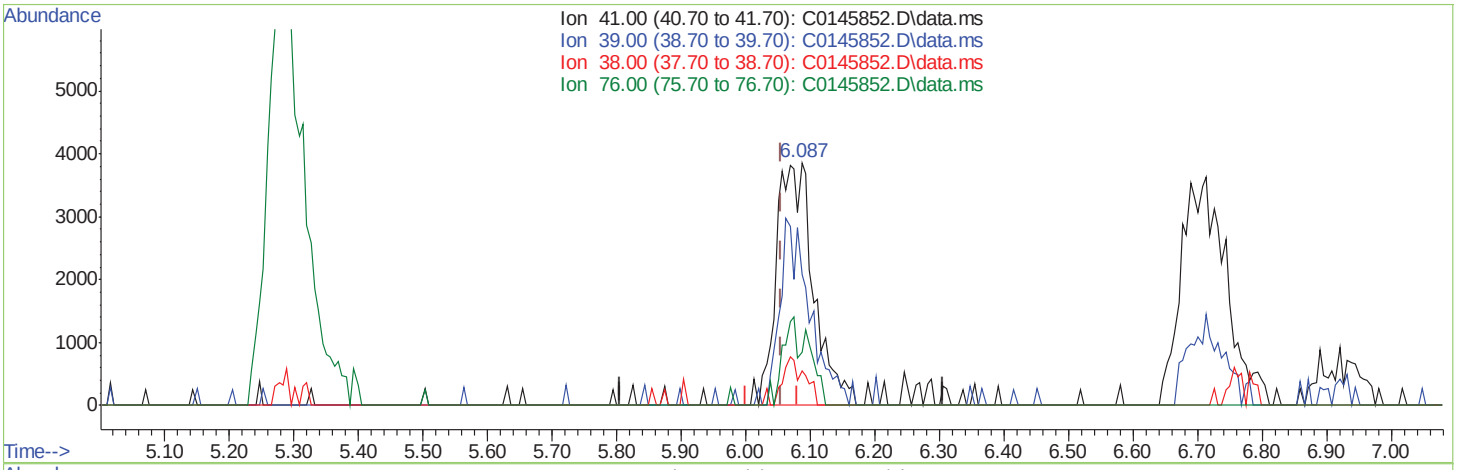
response 9093

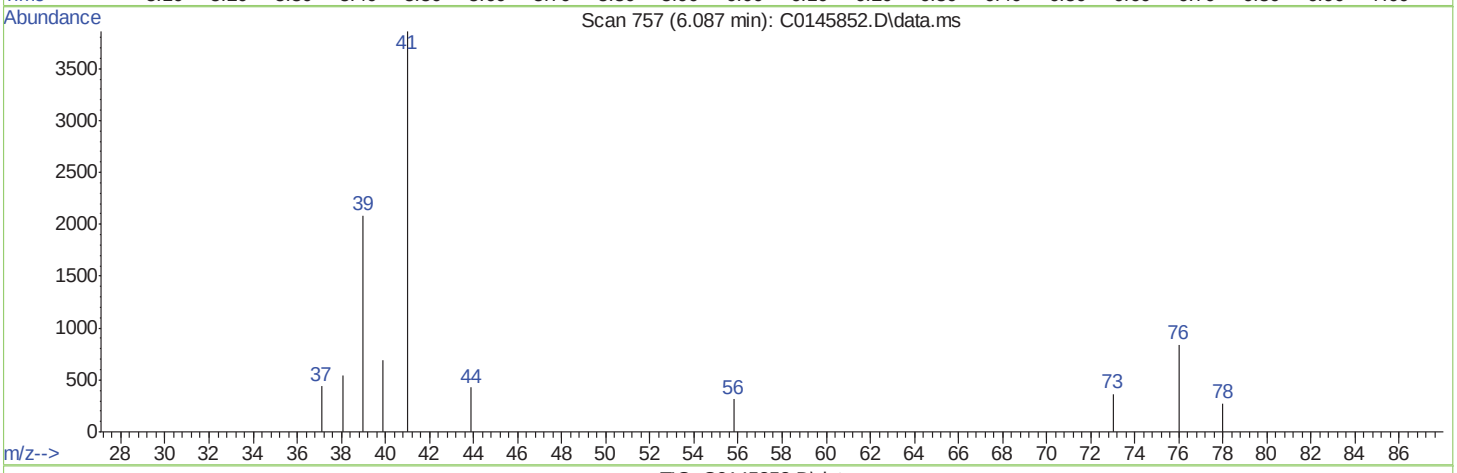
Ion	Exp%	Act%
41.00	100	100
39.00	65.30	74.51
38.00	13.20	20.08
76.00	33.20	34.76

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(16) Allyl chloride

6.087min (+0.031) 0.93ug/L m

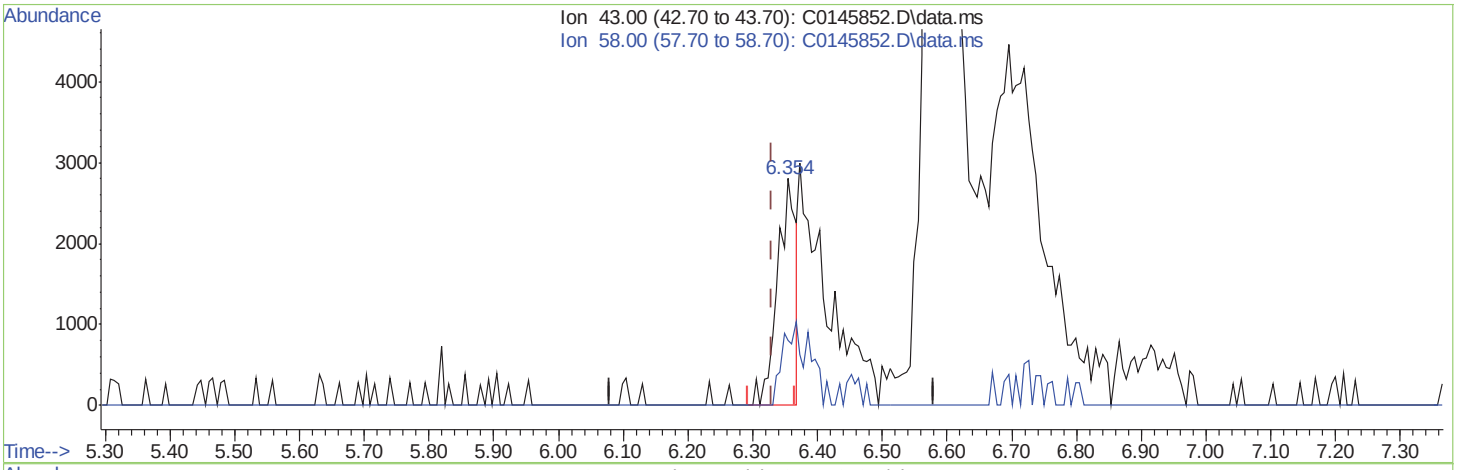
response 15485

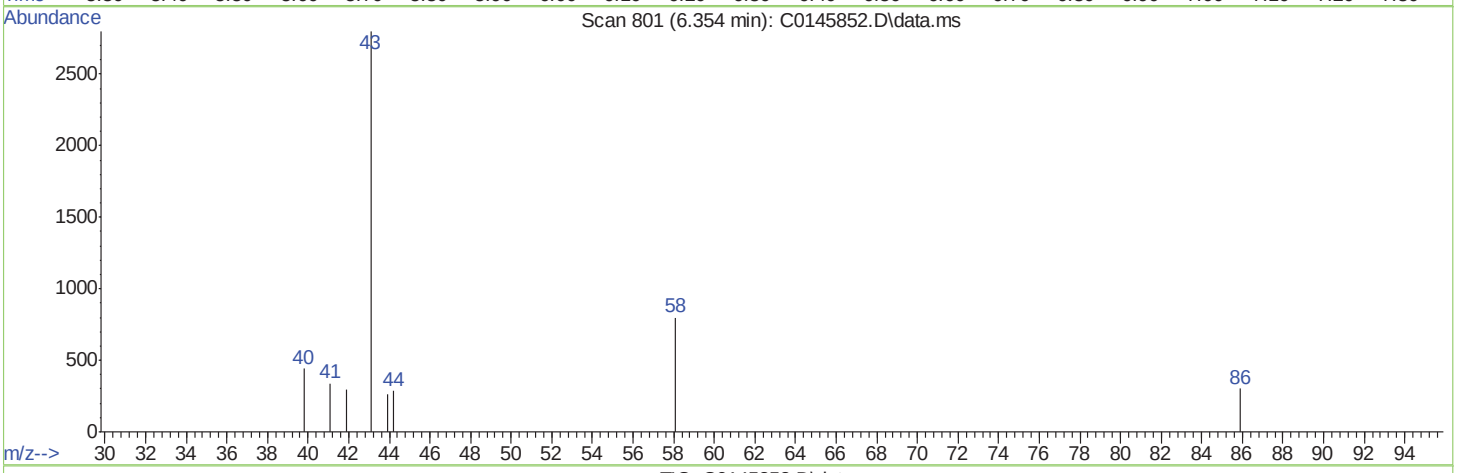
Ion	Exp%	Act%
41.00	100	100
39.00	65.30	54.04
38.00	13.20	14.02
76.00	33.20	21.82

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(18) Acetone

6.354min (+0.024) 1.80ug/L

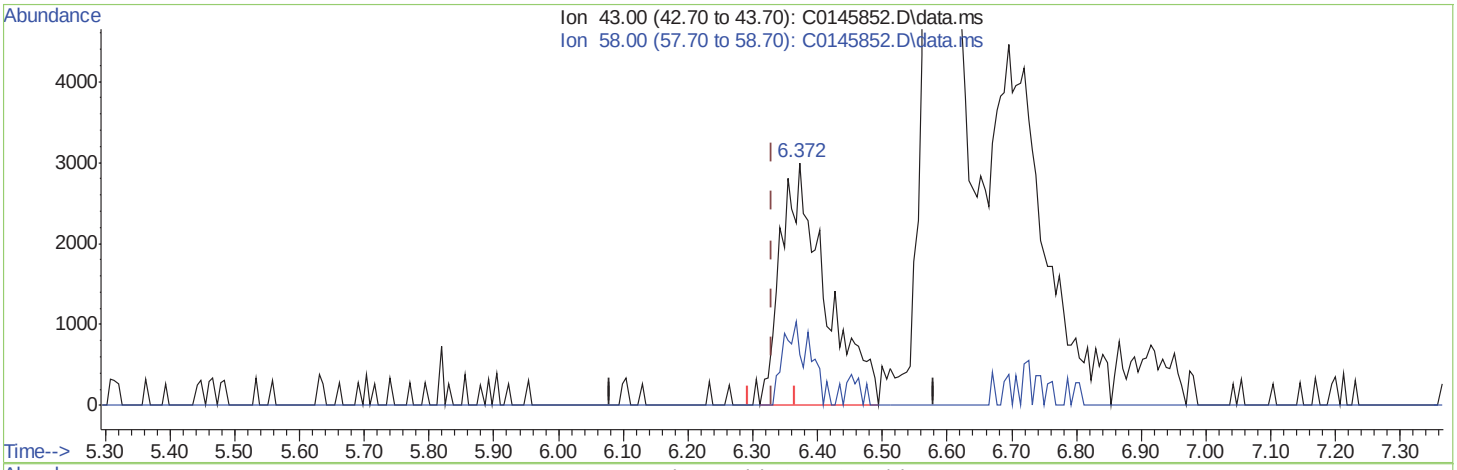
response 5440

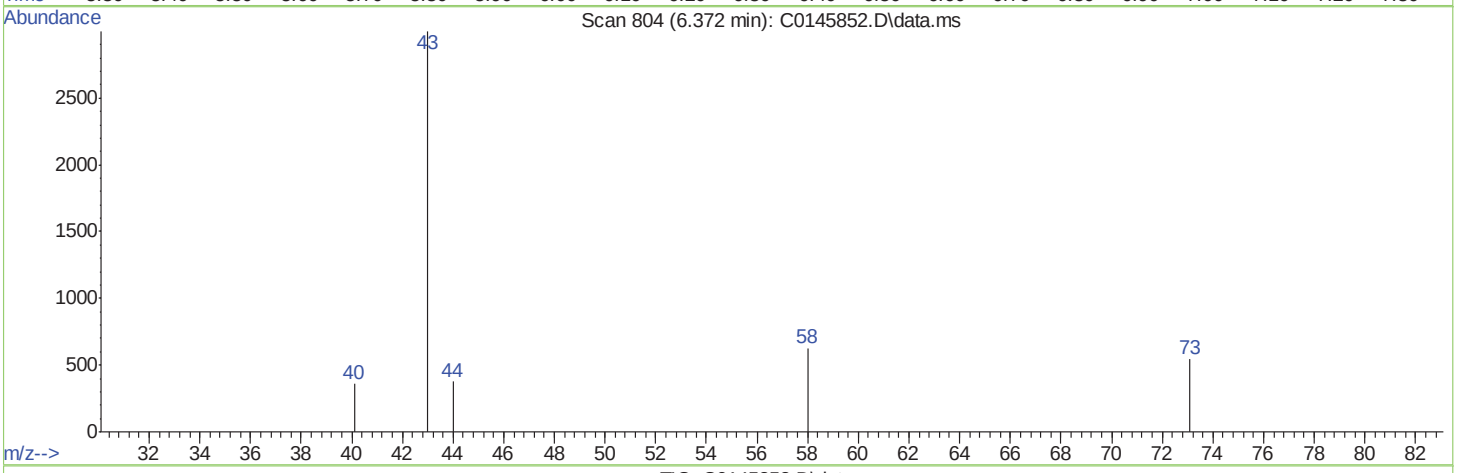
Ion	Exp%	Act%
43.00	100	100
58.00	29.80	28.55
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(18) Acetone

6.372min (+0.042) 4.78ug/L m

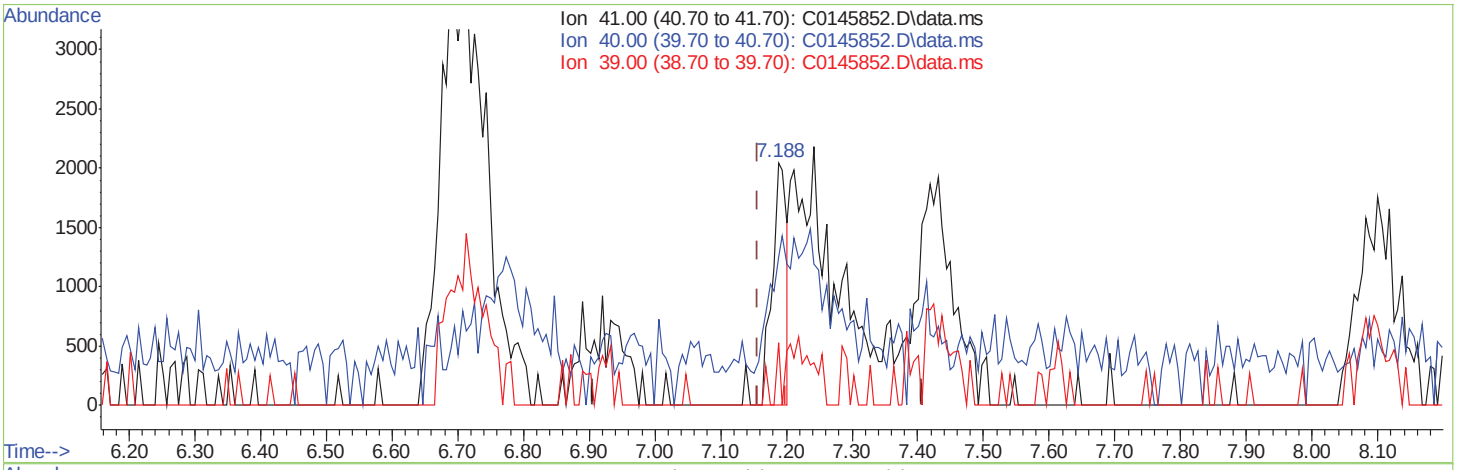
response 14405

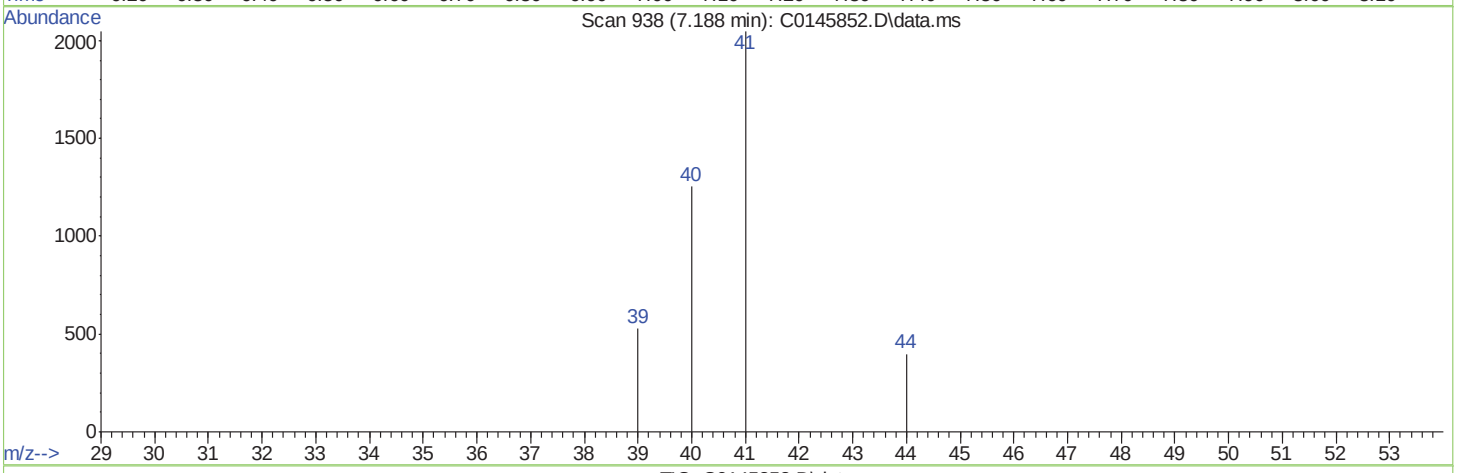
Ion	Exp%	Act%
43.00	100	100
58.00	29.80	20.97
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(23) Acetonitrile

7.188min (+0.031) 2.00ug/L

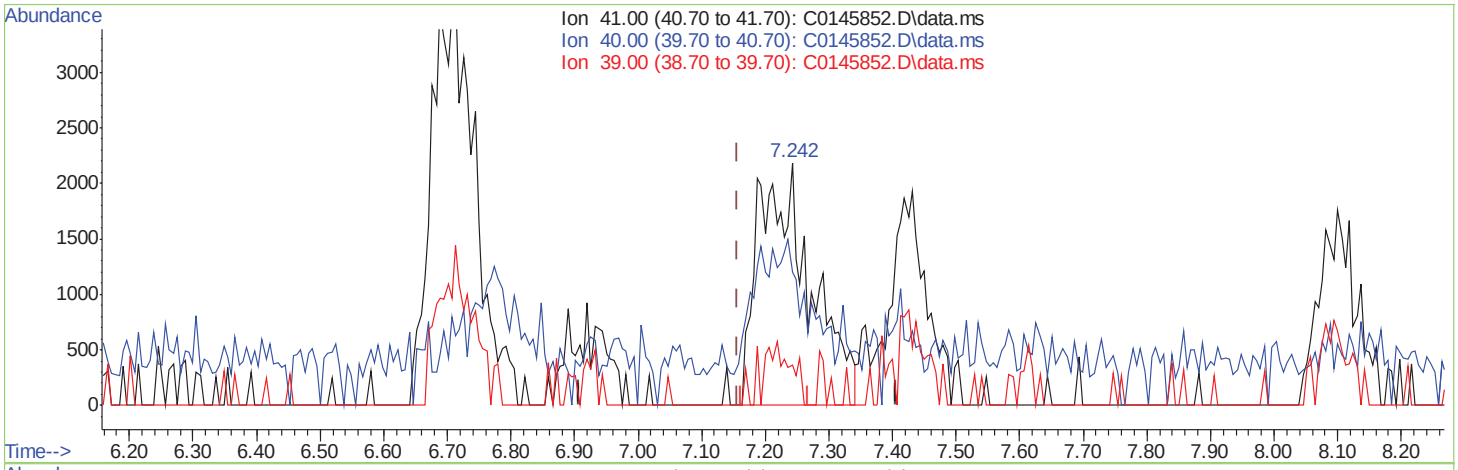
response 2993

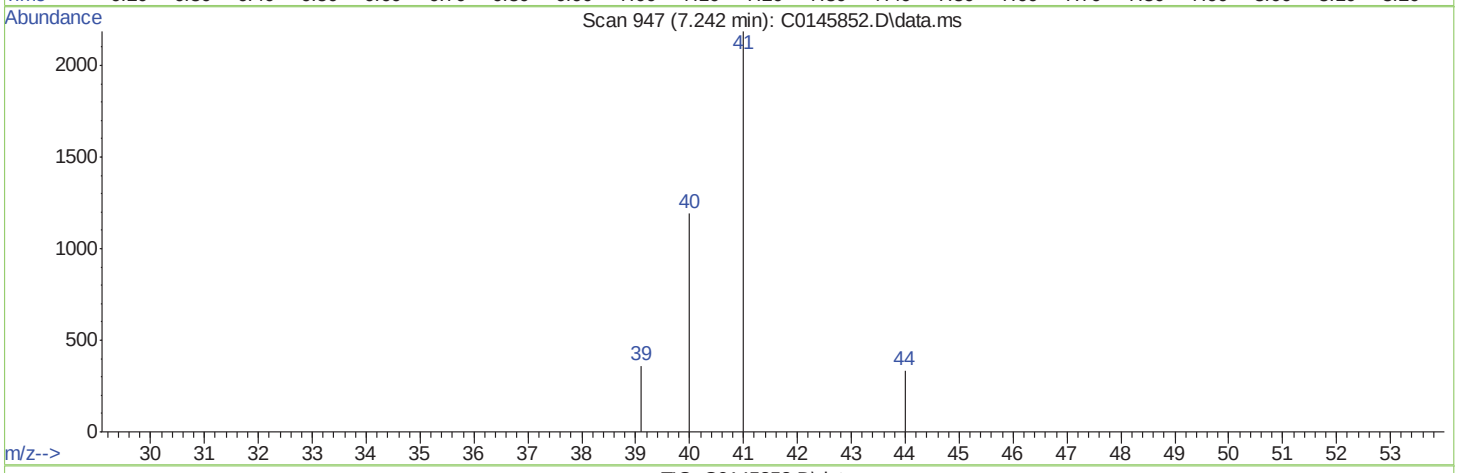
Ion	Exp%	Act%
41.00	100	100
40.00	48.30	43.14
39.00	19.80	25.84
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(23) Acetonitrile

7.242min (+0.085) 8.31ug/L m

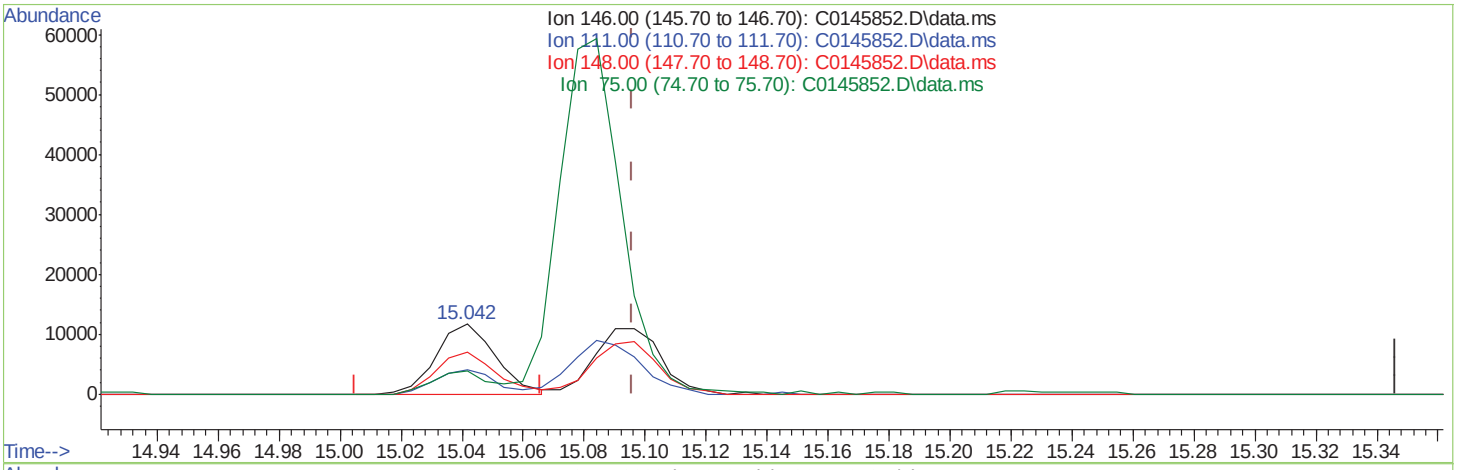
response 12460

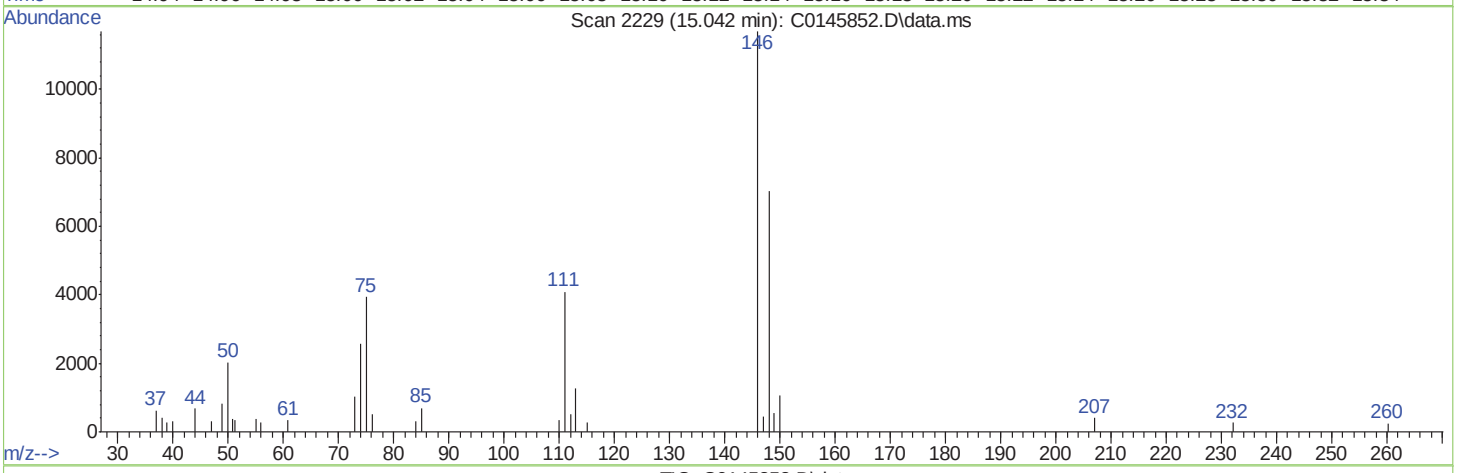
Ion	Exp%	Act%
41.00	100	100
40.00	48.30	54.62
39.00	19.80	16.51
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(99) 1,4-Dichlorobenzene

15.042min (-0.054) 1.10ug/L

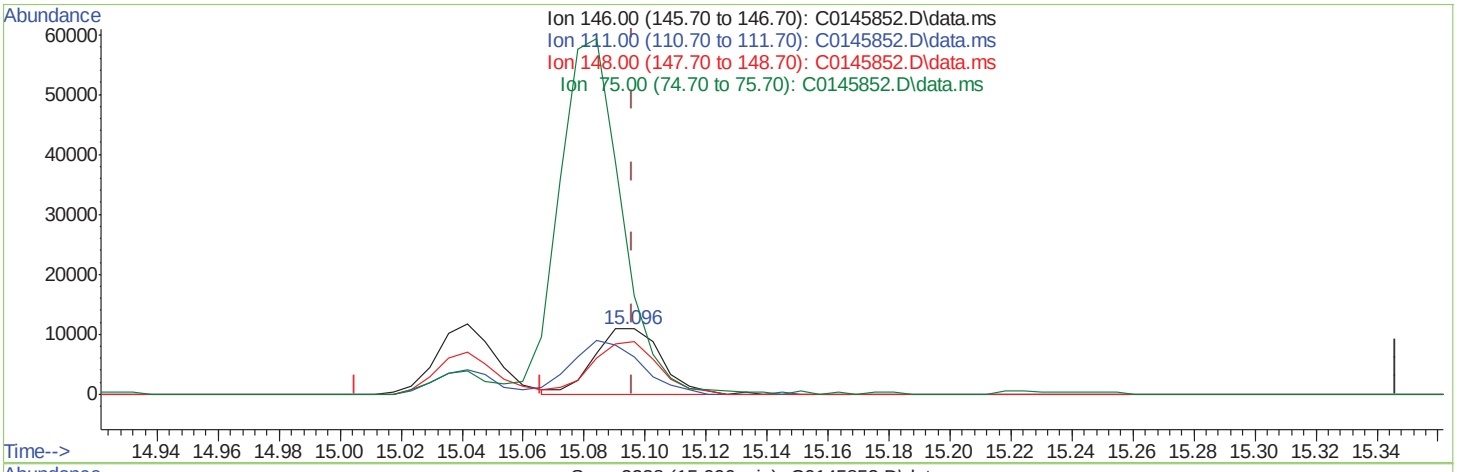
response 15798

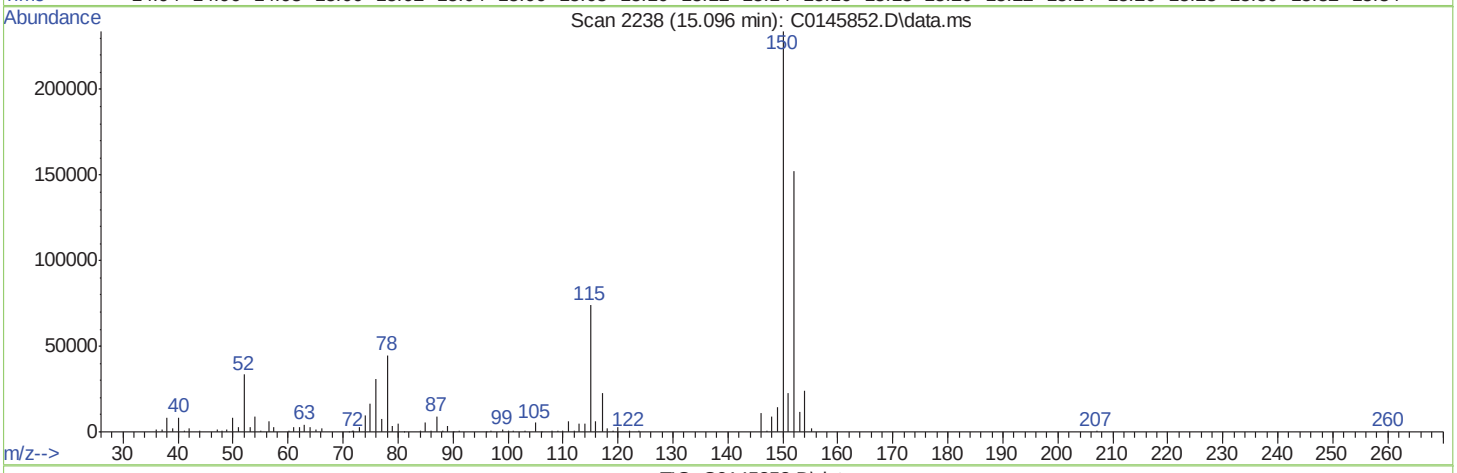
Ion	Exp%	Act%
146.00	100	100
111.00	37.70	35.02
148.00	66.70	60.08
75.00	34.10	33.65

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(99) 1,4-Dichlorobenzene

15.096min (+0.000) 1.15ug/L m

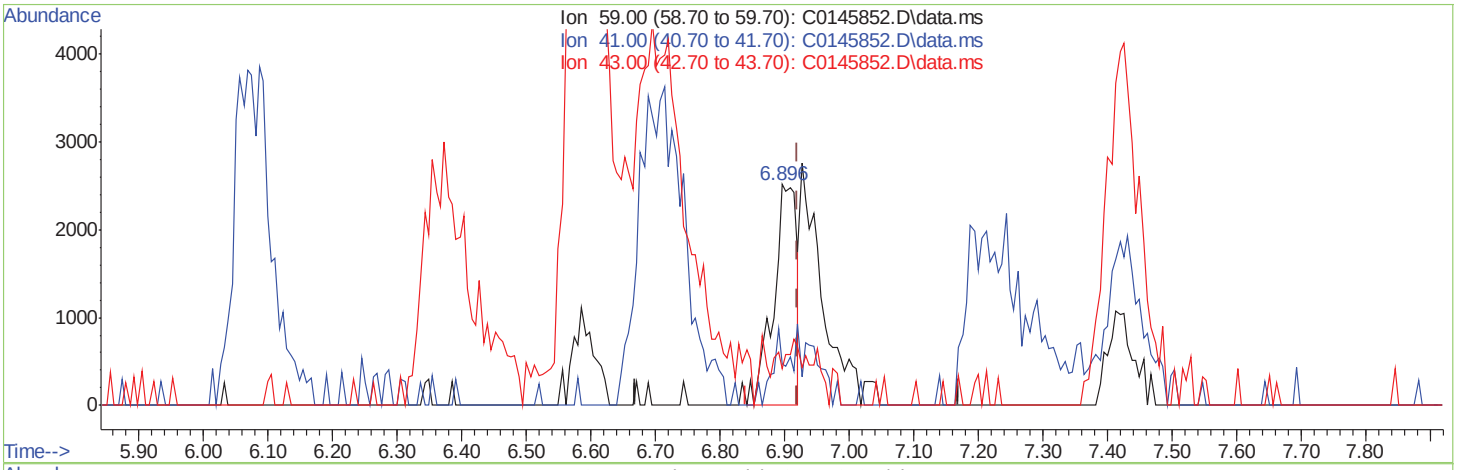
response 16568

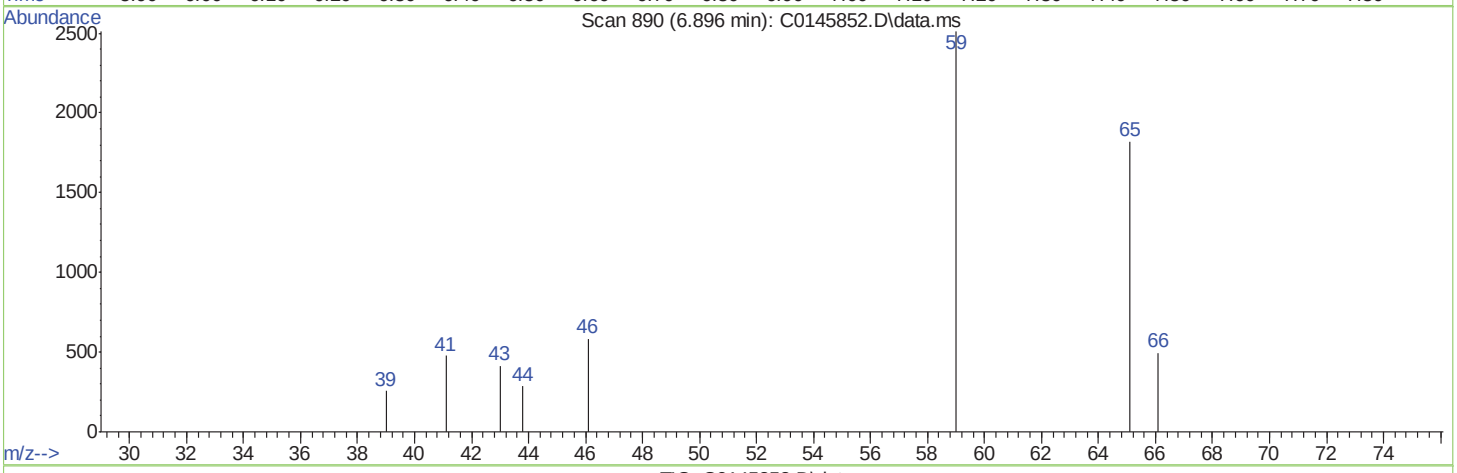
Ion	Exp%	Act%
146.00	100	100
111.00	37.70	56.39
148.00	66.70	80.49
75.00	34.10	150.40#

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(110) Tert Butyl Alcohol

6.896min (-0.024) 6.13ug/L

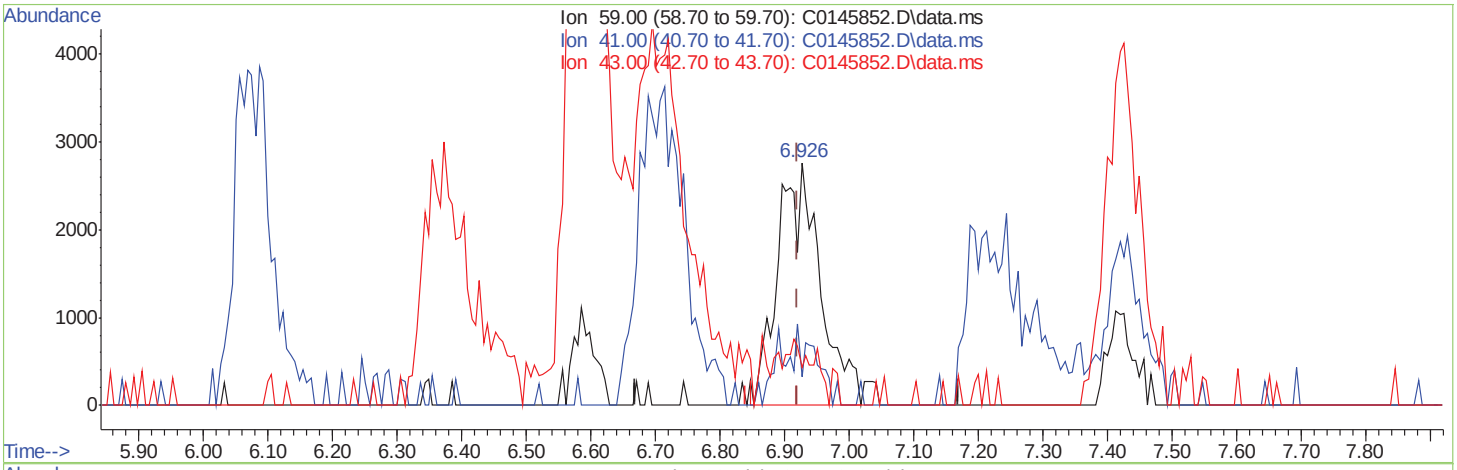
response 6330

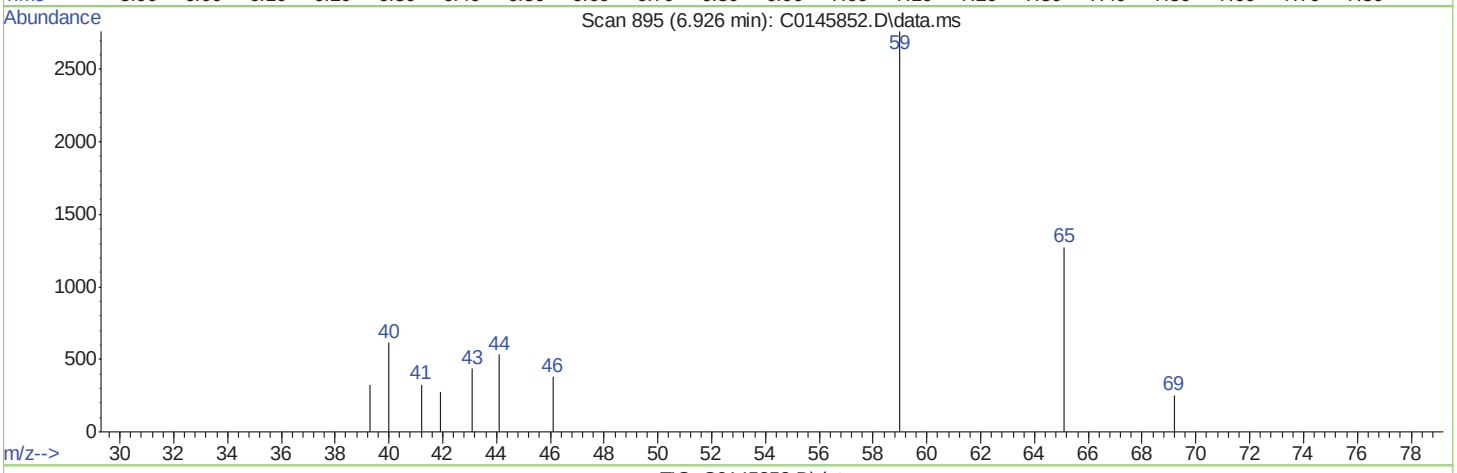
Ion	Exp%	Act%
59.00	100	100
41.00	21.50	18.96
43.00	14.10	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(110) Tert Butyl Alcohol

6.926min (+0.006) 12.25ug/L m

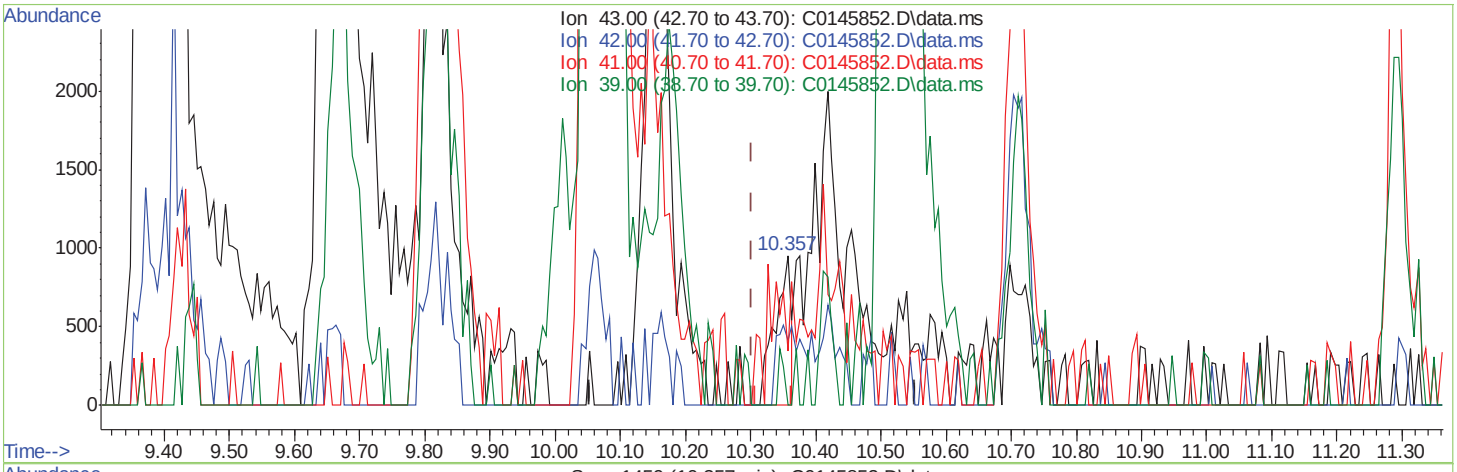
response 12652

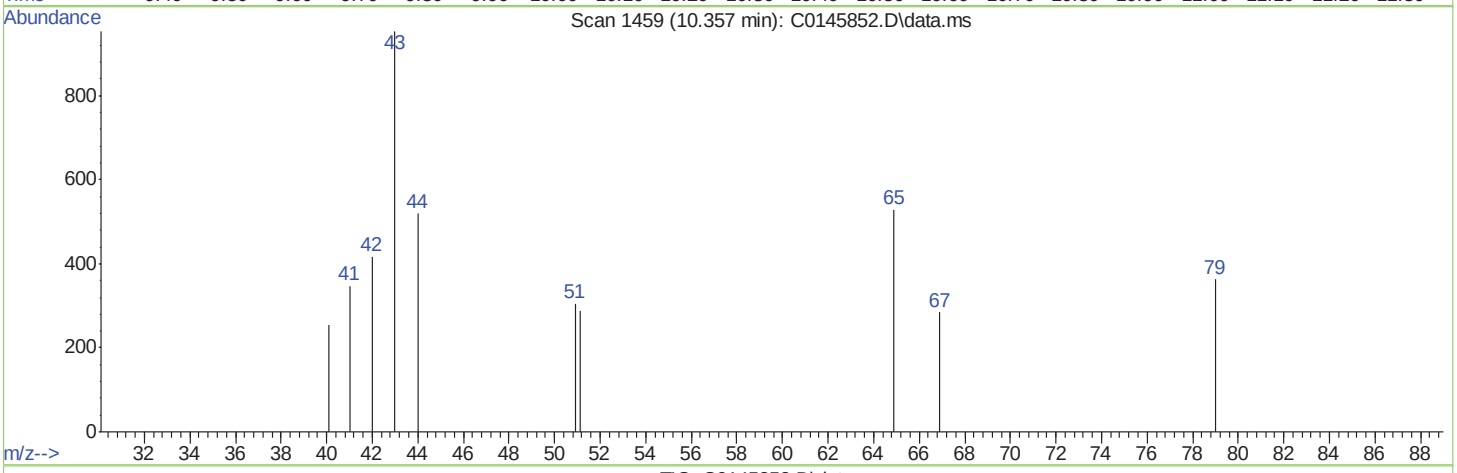
Ion	Exp%	Act%
59.00	100	100
41.00	21.50	11.77
43.00	14.10	15.79
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(111) Isobutyl alcohol

10.357min (+0.054) 4.97ug/L

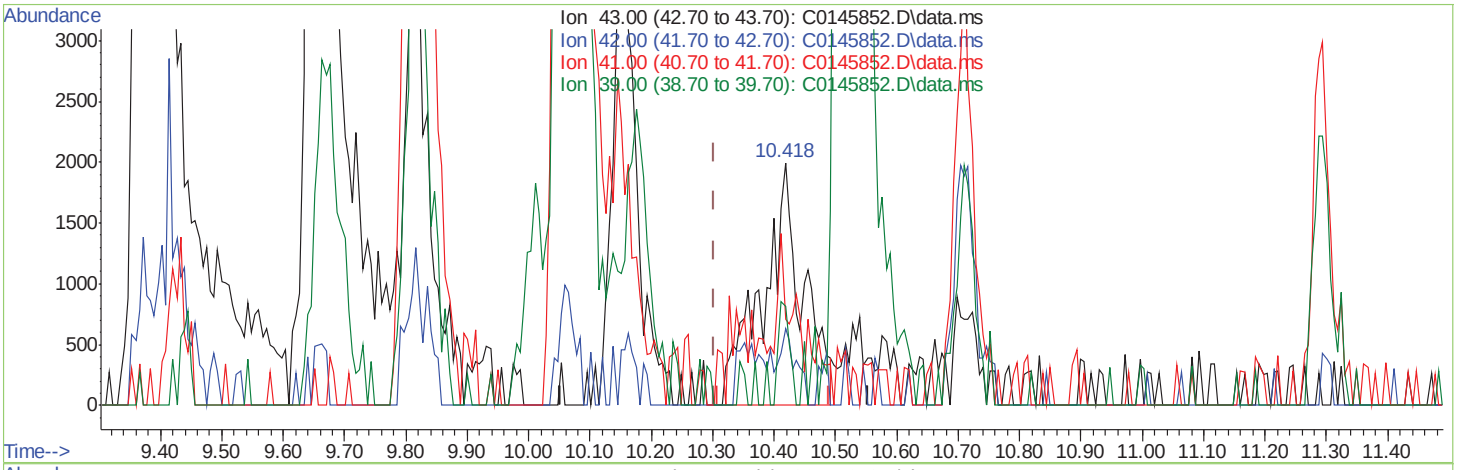
response 1661

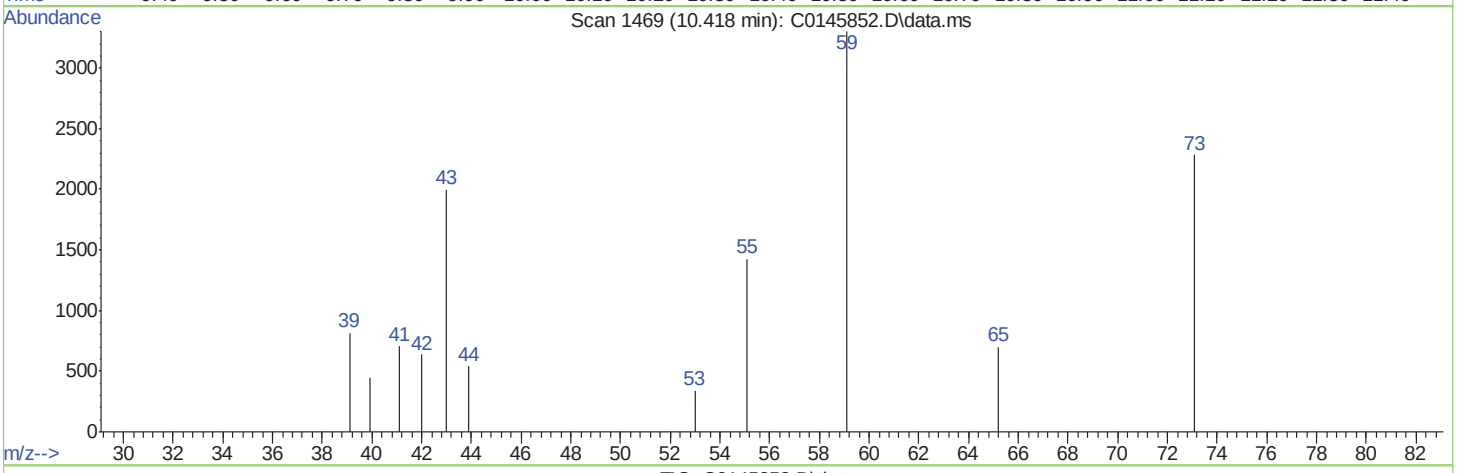
Ion	Exp%	Act%
43.00	100	100
42.00	62.40	43.76
41.00	67.90	0.00
39.00	23.10	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(111) Isobutyl alcohol

10.418min (+0.115) 27.13ug/L m

response 9069

Ion	Exp%	Act%
43.00	100	100
42.00	62.40	31.81
41.00	67.90	35.27
39.00	23.10	40.88

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:41:27 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1805596	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1260318	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	653245	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.774	65	224436	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	442457	46.57	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 93.14%			
47) 1,2-Dichloroethane-d4	10.181	65	587008	50.65	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 101.30%			
58) Toluene-d8	12.134	98	1766267	54.98	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 109.96%			
80) 4-Bromofluorobenzene	14.305	174	544983	50.89	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	45041	3.95	ug/L	94
3) Chloromethane	3.227	50	55921m	4.41	ug/L	
4) 1,3-butadiene	3.367	39	41501	4.05	ug/L	88
5) Vinyl Chloride	3.343	62	53999	4.27	ug/L	94
6) Bromomethane	3.902	94	19094	4.02	ug/L	90
7) Chloroethane	4.121	64	24752	3.95	ug/L	96
8) Trichlorofluoromethane	4.359	101	55134	4.06	ug/L	95
9) Ethyl Ether	4.900	59	37420	4.08	ug/L	94
10) 1,2-Dichlorotrifluoroe...	5.259	67	44452	4.09	ug/L	94
11) 1,1-Dichloroethene	5.241	61	60491	4.37	ug/L	91
12) Freon 113	5.326	101	36400	4.06	ug/L	85
13) Carbon Disulfide	5.277	76	122955	4.20	ug/L	94
14) Iodomethane	5.490	142	23048	2.65	ug/L	95
15) Acrolein	5.831	56	42425	20.15	ug/L	85
16) Allyl chloride	6.068	41	71424	4.28	ug/L	97
17) Methylene Chloride	6.263	49	58501	3.95	ug/L	90
18) Acetone	6.342	43	57889	19.12	ug/L	97
19) Methyl acetate	6.567	43	168973	20.26	ug/L	97
20) trans-1,2-Dichloroethene	6.549	61	53619	3.95	ug/L	95
21) Hexane	6.683	56	35925	4.10	ug/L #	91
22) Methyl Tert Butyl Ether	6.719	73	138689	4.30	ug/L	89
23) Acetonitrile	7.188	41	58781	39.00	ug/L	98
24) Di-isopropyl ether	7.419	45	162292	4.37	ug/L	97
25) Chloroprene	7.613	53	64820	4.20	ug/L	83
26) 1,1-Dichloroethane	7.650	63	74238	4.20	ug/L	88
27) Acrylonitrile	7.747	52	61370	18.99	ug/L	94
28) ETBE	8.088	59	150912	4.46	ug/L	97
29) Vinyl acetate	8.118	43	561349	23.70	ug/L	97
30) cis-1,2-Dichloroethene	8.672	96	38991	4.09	ug/L	91
31) 2,2-Dichloropropane	8.854	77	62322	4.00	ug/L	100
32) Bromochloromethane	9.025	128	18861	4.10	ug/L	90
33) Cyclohexane	9.025	56	76718	4.18	ug/L	98
34) Chloroform	9.171	83	69488	4.25	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:41:27 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) Ethyl acetate	9.359	43	237378	20.13	ug/L	98
36) Tetrahydrofuran	9.408	42	17289	4.42	ug/L	90
38) Carbon Tetrachloride	9.372	117	46711	3.91	ug/L	96
39) 1,1,1-Trichloroethane	9.475	97	55711	3.89	ug/L	95
40) 2-Butanone	9.633	43	104606	20.94	ug/L	100
41) 1,1-Dichloropropene	9.664	75	57514	4.01	ug/L	93
42) tert-Butyl formate	9.816	59	220749	20.53	ug/L	96
43) Propionitrile	10.029	54	64370	43.40	ug/L	97
44) Methacrylonitrile	10.053	41	309531	46.09	ug/L	96
45) Benzene	10.004	78	164235	4.26	ug/L	99
46) TAME	10.150	73	139340	4.42	ug/L	99
48) 1,2-Dichloroethane	10.272	62	56220	4.23	ug/L	99
49) Trichloroethene	10.734	95	43500	4.32	ug/L	94
50) Methylcyclohexane	10.710	83	67336	4.11	ug/L	98
51) Dibromomethane	11.197	93	24331	4.22	ug/L	96
52) 1,2-Dichloropropane	11.288	63	48006	4.33	ug/L	95
53) Bromodichloromethane	11.367	83	52149	4.11	ug/L	100
54) Methyl methacrylate	11.507	41	41057	4.09	ug/L	90
55) 2-Chloroethyl vinyl ether	11.896	63	159374	21.75	ug/L	98
56) cis-1,3-Dichloropropene	11.963	75	77175	4.18	ug/L	98
59) Toluene	12.176	91	180824	5.19	ug/L	91
60) 2-Nitropropane	12.383	41	65724	25.48	ug/L	96
61) 4-Methyl-2-pentanone	12.492	43	243629	28.54	ug/L	94
62) trans-1,3-Dichloropropene	12.541	75	66666	5.15	ug/L	86
63) Tetrachloroethene	12.523	166	41717	5.10	ug/L	94
64) Ethyl methacrylate	12.651	69	57058	5.08	ug/L	95
65) 1,1,2-Trichloroethane	12.681	83	32242	5.01	ug/L	96
66) Dibromochloromethane	12.833	129	37682	4.76	ug/L	98
67) 1,3-Dichloropropane	12.906	76	72250	5.13	ug/L	98
68) 1,2-Dibromoethane	13.034	107	37374	5.02	ug/L	98
69) 2-hexanone	13.168	43	173970m	28.19	ug/L	
70) 1-Chlorohexane	13.387	91	58496	5.12	ug/L	92
71) Ethylbenzene	13.435	91	193014	5.33	ug/L	97
72) Chlorobenzene	13.435	112	105657	5.13	ug/L	96
73) 1,1,1,2-Tetrachloroethane	13.478	131	36241	4.93	ug/L	97
74) m,p-Xylene	13.539	91	296804	11.17	ug/L	94
75) o-Xylene	13.861	91	152051	5.25	ug/L	96
76) Styrene	13.904	104	118009	5.03	ug/L	94
77) Bromoform	13.952	173	26864	5.00	ug/L	97
78) Isopropylbenzene	14.080	105	180706	5.31	ug/L	98
81) cis-1,4-Dichloro-2-butene	14.336	53	18307	6.12	ug/L	89
82) n-Propylbenzene	14.372	91	215125	5.62	ug/L	97
83) Bromobenzene	14.397	156	44793	5.50	ug/L	100
84) 1,1,2,2-Tetrachloroethane	14.433	83	52174	5.68	ug/L	99
85) 1,3,5-Trimethylbenzene	14.494	105	139739	5.53	ug/L	98
86) 2-Chlorotoluene	14.506	91	139298	5.53	ug/L	97
87) trans-1,4-Dichloro-2-B...	14.549	53	15732	5.94	ug/L	94
88) 1,2,3-Trichloropropane	14.543	110	14007	5.37	ug/L	96
89) Cyclohexanone	14.585	55	9451	28.80	ug/L	94
90) 4-Chlorotoluene	14.622	91	133389	5.71	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:41:27 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

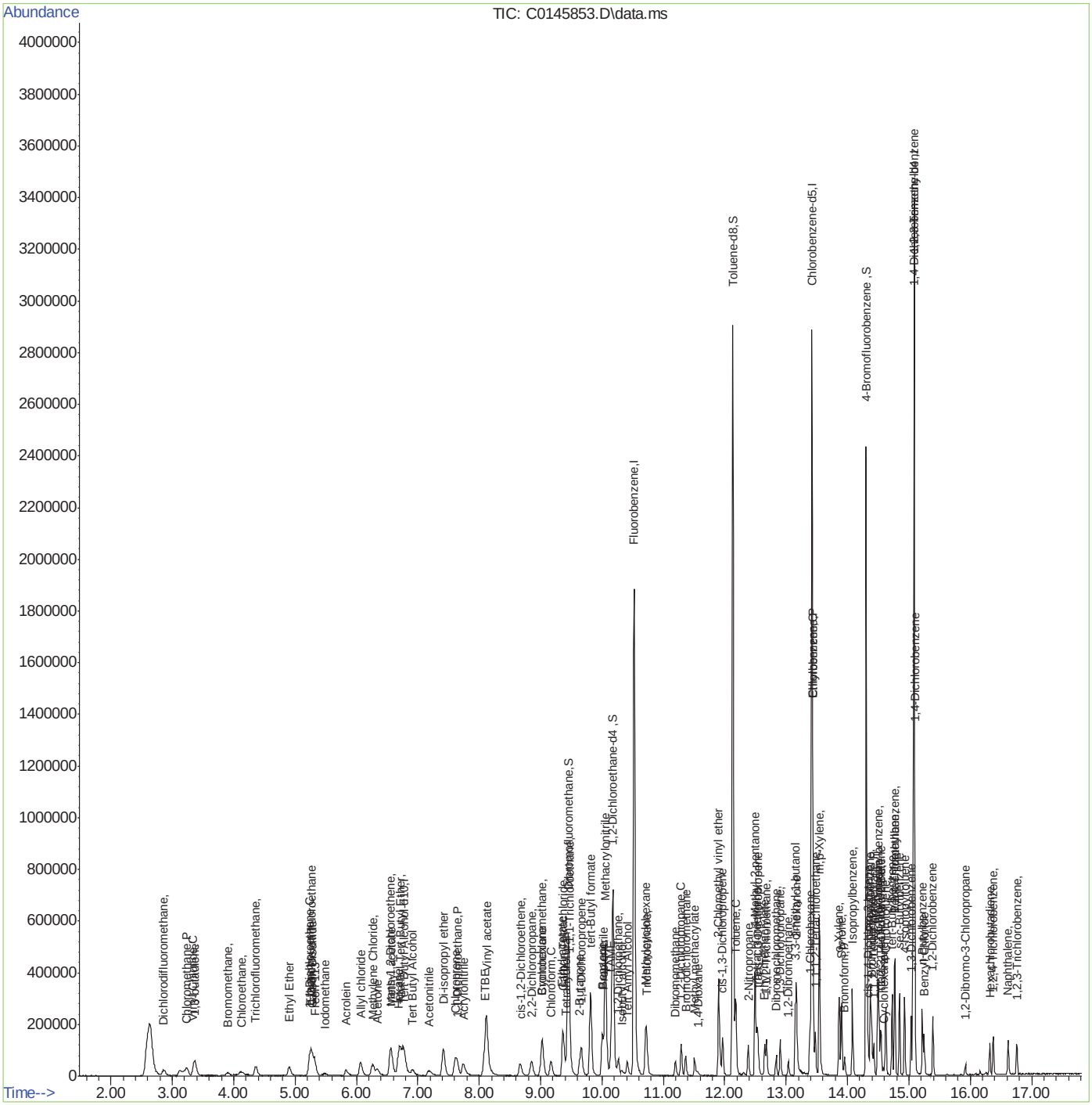
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
91)	tert-Butylbenzene	14.725	91	80118	5.46	ug/L		98
93)	1,2,4-Trimethylbenzene	14.774	105	139976	5.46	ug/L		98
94)	Pentachloroethane	14.774	167	25555	5.21	ug/L		96
95)	sec-Butylbenzene	14.847	105	171891	5.66	ug/L		97
96)	4-Isopropyltoluene	14.932	119	144296	5.51	ug/L		94
97)	1,3-Dichlorobenzene	15.041	146	77638	5.51	ug/L		98
98)	1,2,3-Trimethylbenzene	15.078	105	172530	5.67	ug/L		94
99)	1,4-Dichlorobenzene	15.096	146	79962	5.51	ug/L		86
100)	n-Butylbenzene	15.218	92	73437	5.05	ug/L		98
101)	Benzyl Chloride	15.254	126	17851	4.79	ug/L	#	80
102)	1,2-Dichlorobenzene	15.388	146	74437	5.56	ug/L		99
103)	1,2-Dibromo-3-Chloropr...	15.924	75	8784	5.09	ug/L		98
104)	Hexachlorobutadiene	16.319	225	20484	5.31	ug/L		94
105)	1,2,4-Trichlorobenzene	16.374	180	39712	5.08	ug/L		99
106)	Naphthalene	16.617	128	91945	5.20	ug/L		96
107)	1,2,3-Trichlorobenzene	16.757	180	34260	5.30	ug/L		94
109)	Ethanol	5.253	45	11054m	125.57	ug/L		
110)	Tert Butyl Alcohol	6.908	59	55666	59.04	ug/L		98
111)	Isobutyl alcohol	10.321	43	18355	60.14	ug/L		89
112)	Tert Amyl Alcohol	10.412	59	37970	58.32	ug/L		93
113)	1,4-Dioxane	11.562	88	9276	113.73	ug/L		98
114)	3,3-dimethyl-1-butanol	13.149	57	114350m	186.54	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:41:27 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

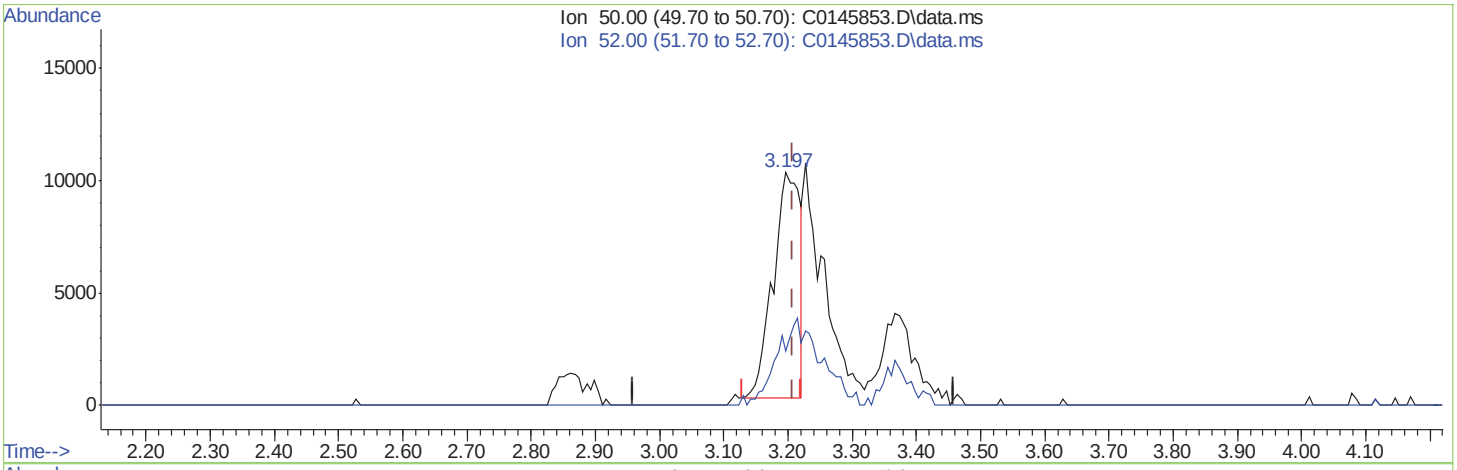
Sample Number: VC5857-IC5857
Lab FileID: C0145853.D
Injection Time: 12/24/20 08:13
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

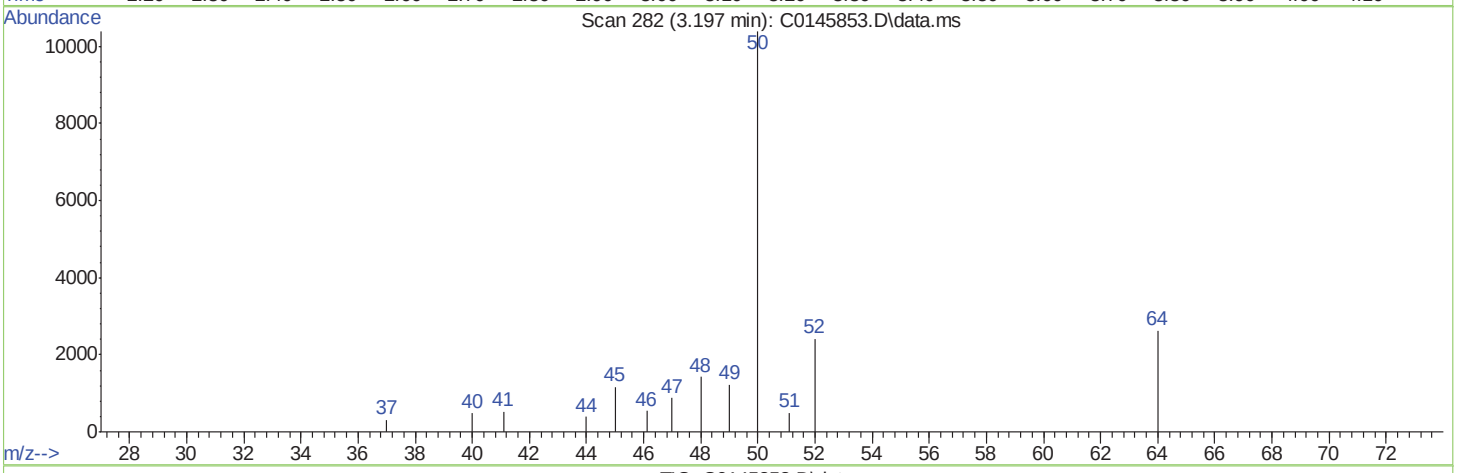
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.23	Split peak
Ethyl Alcohol	64-17-5		5.25	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145853.D\data.ms

(3) Chloromethane (P)

3.197min (-0.012) 2.34ug/L

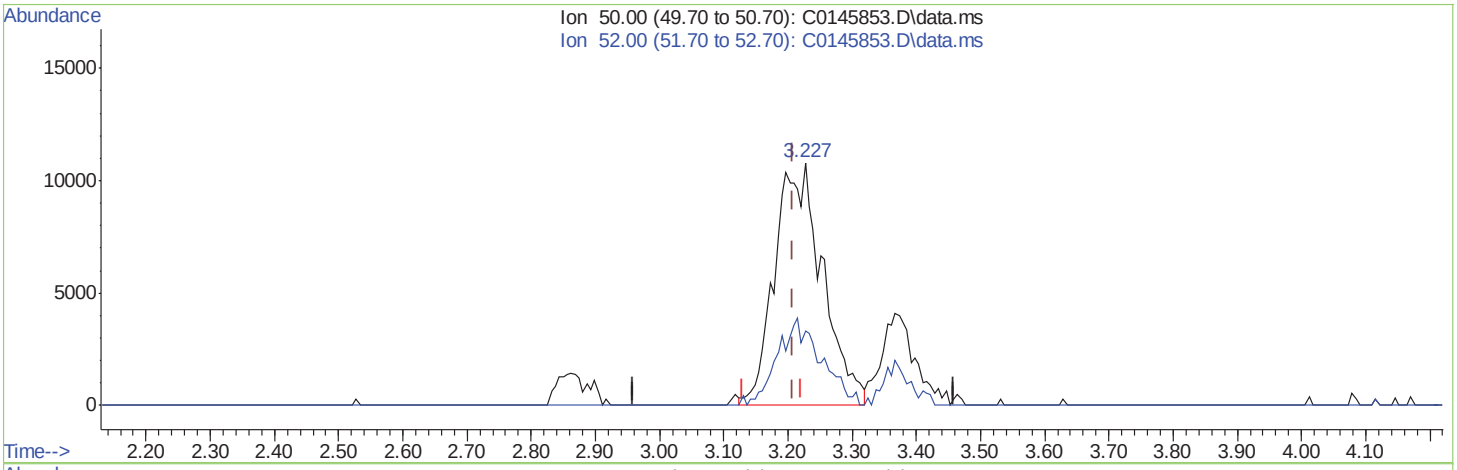
response 29649

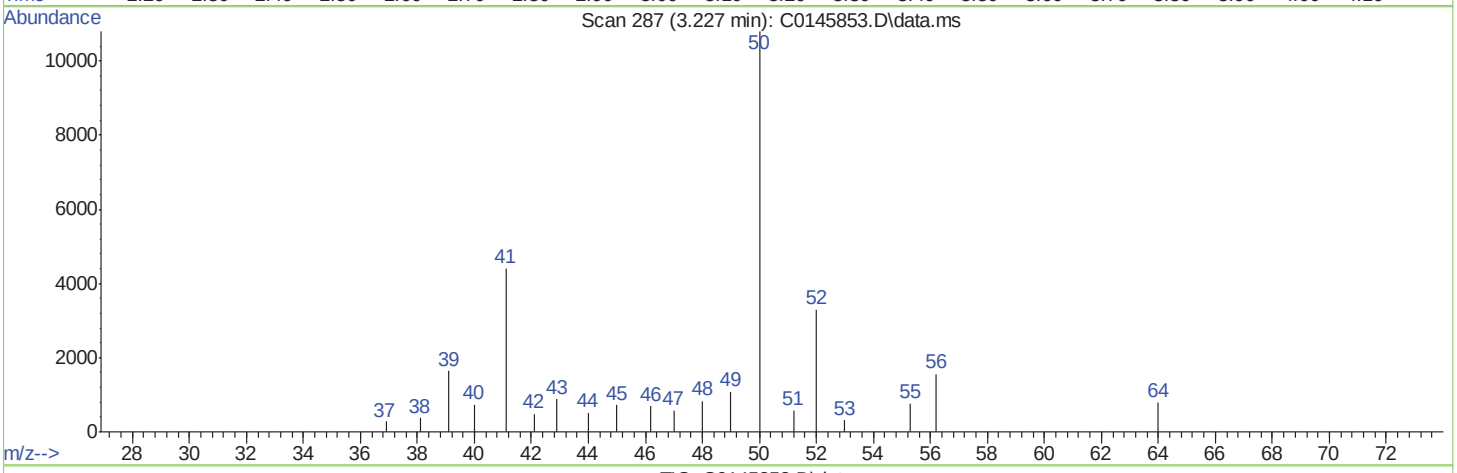
Ion	Exp%	Act%
50.00	100	100
52.00	31.00	19.94
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145853.D\data.ms

(3) Chloromethane (P)

3.227min (+0.018) 4.41ug/L m

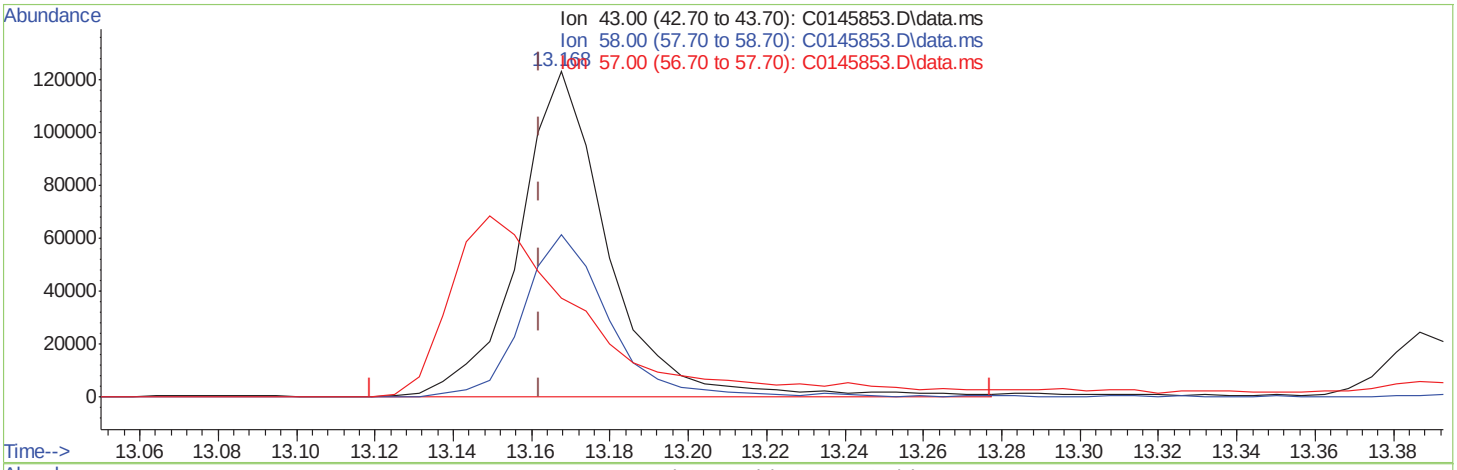
response 55921

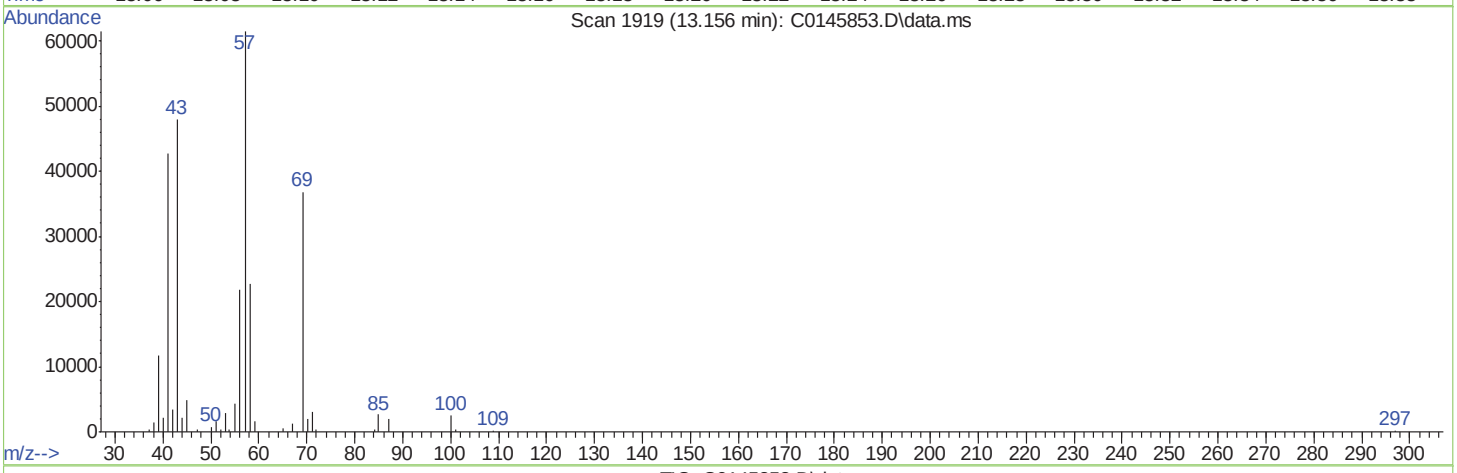
Ion	Exp%	Act%
50.00	100	100
52.00	31.00	30.60
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145853.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 31.87ug/L

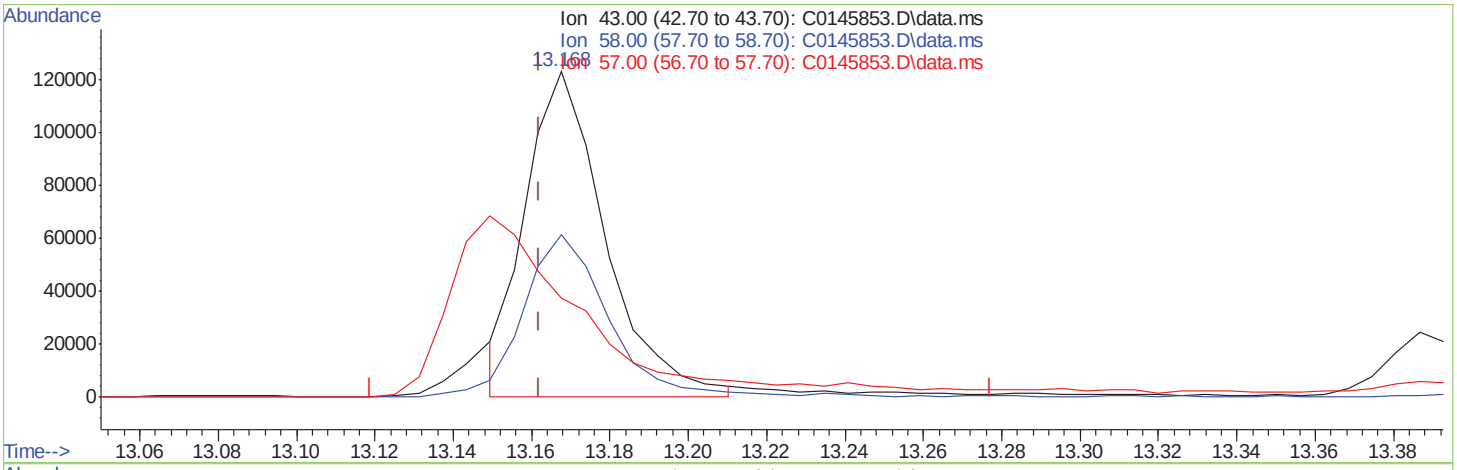
response 196702

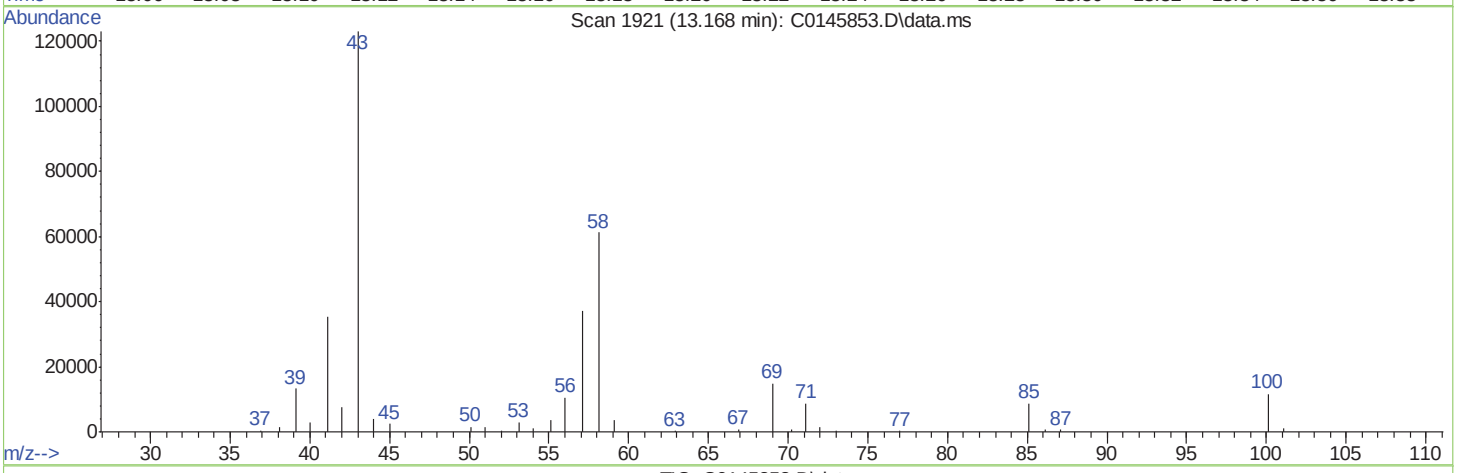
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	49.73
57.00	44.90	30.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145853.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 28.19ug/L m

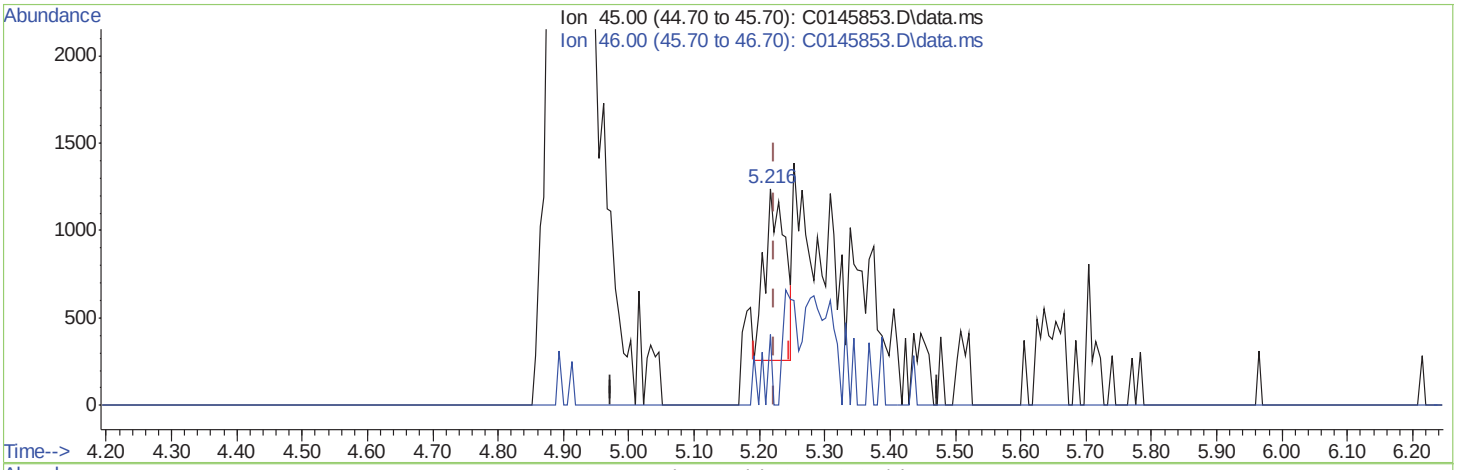
response 173970

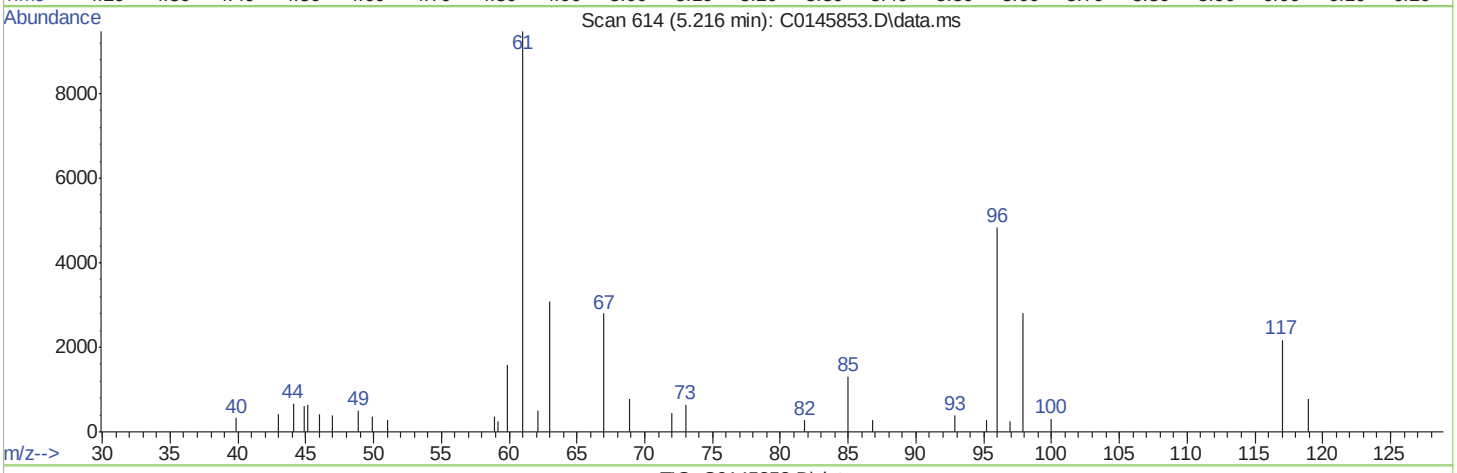
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	49.73
57.00	44.90	30.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145853.D\data.ms

(109) Ethanol

5.216min (-0.007) 23.66ug/L

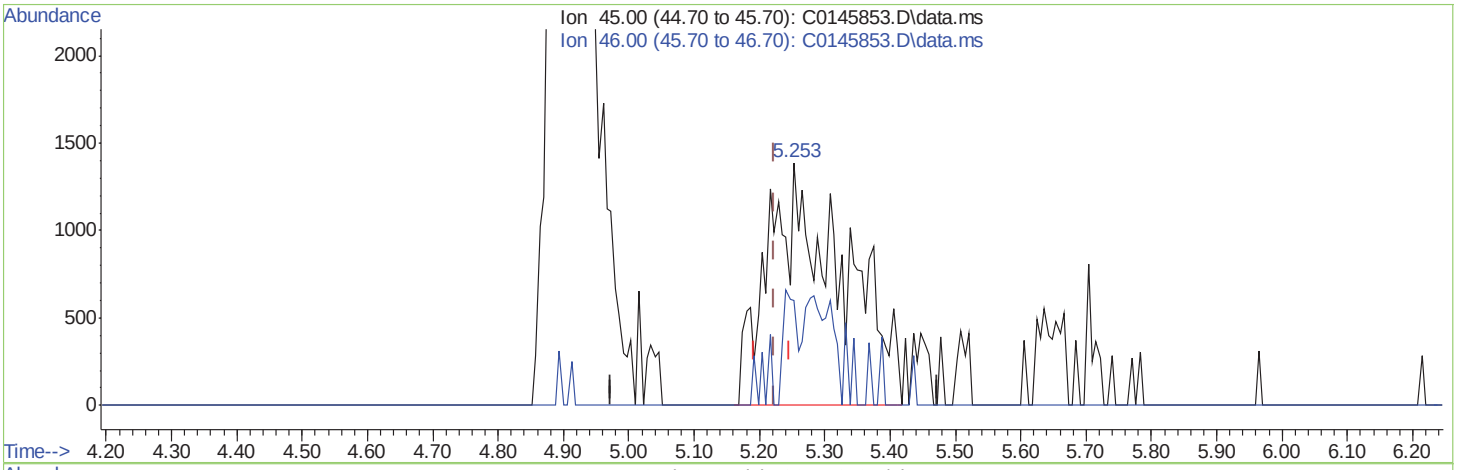
response 2083

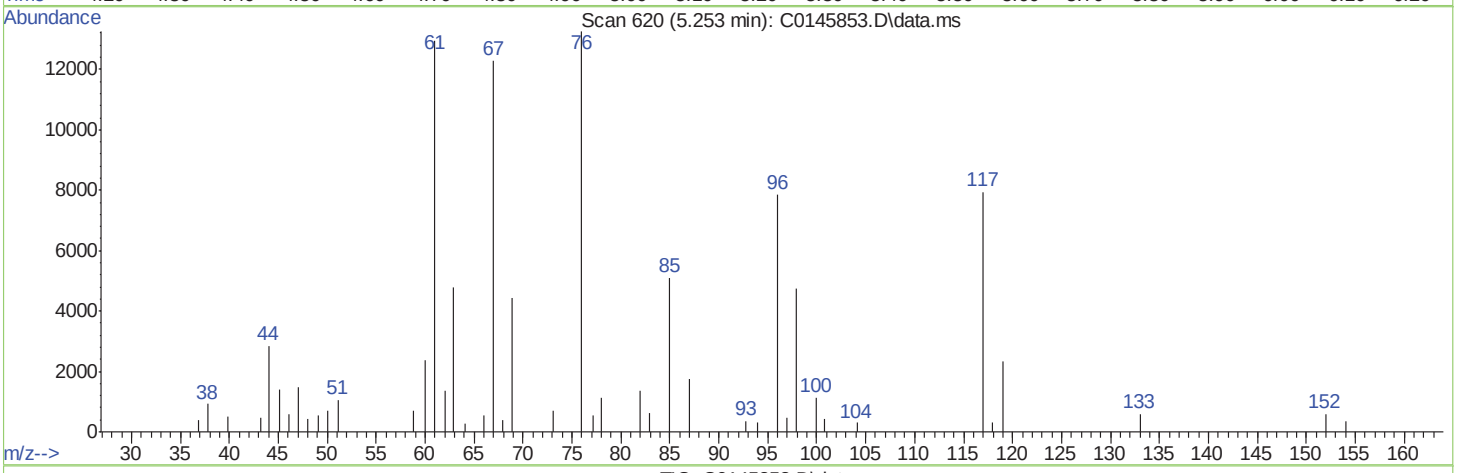
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	12.65#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145853.D\data.ms

(109) Ethanol

5.253min (+0.030) 125.57ug/L m

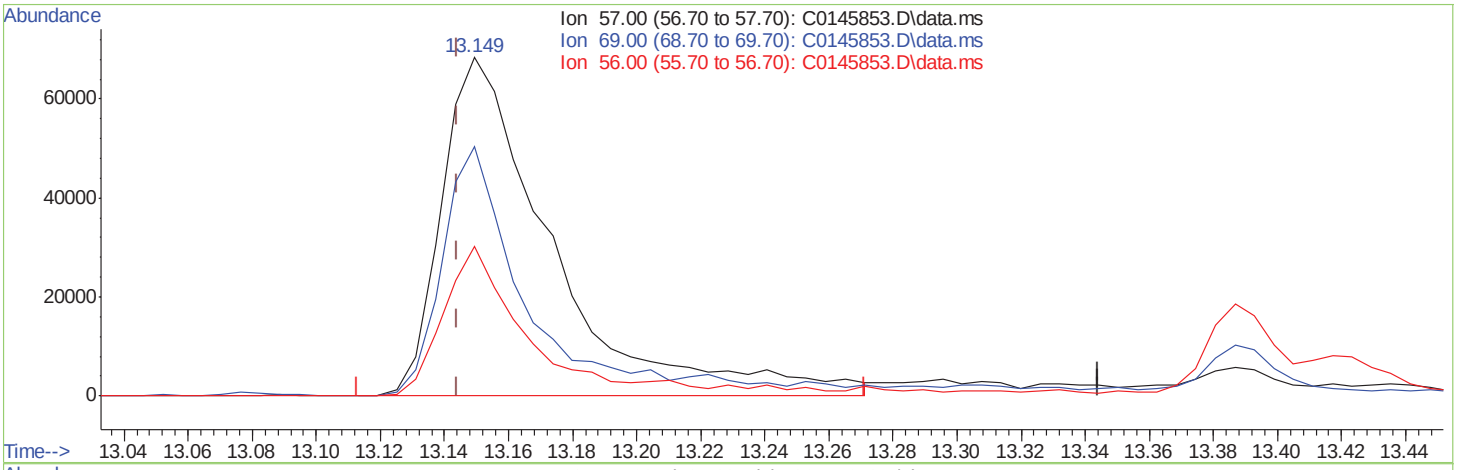
response 11054

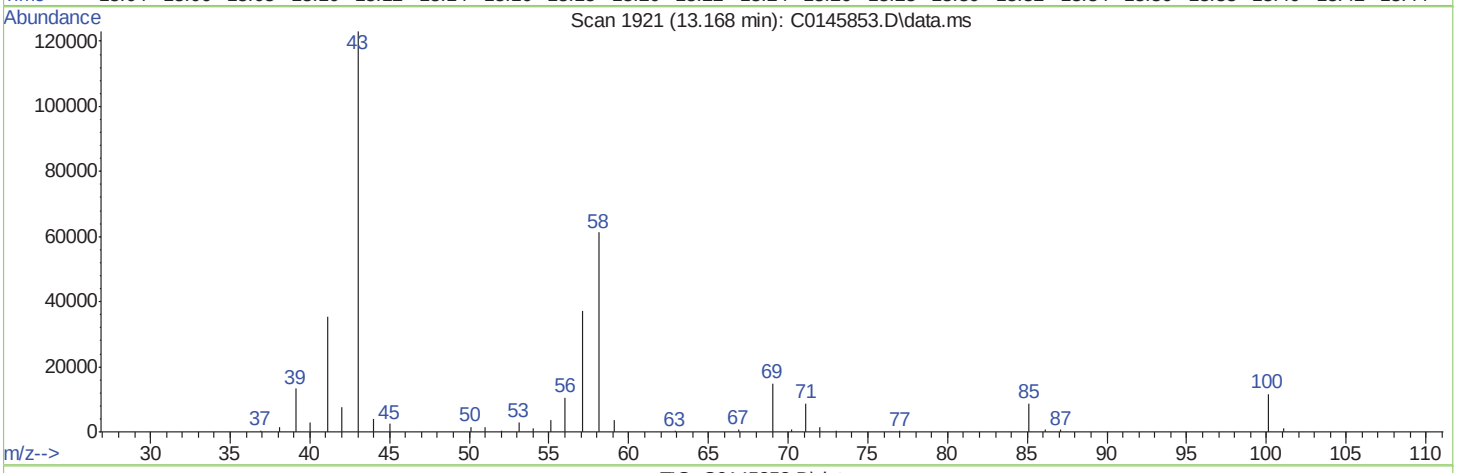
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	43.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145853.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.149min (+0.005) 268.37ug/L

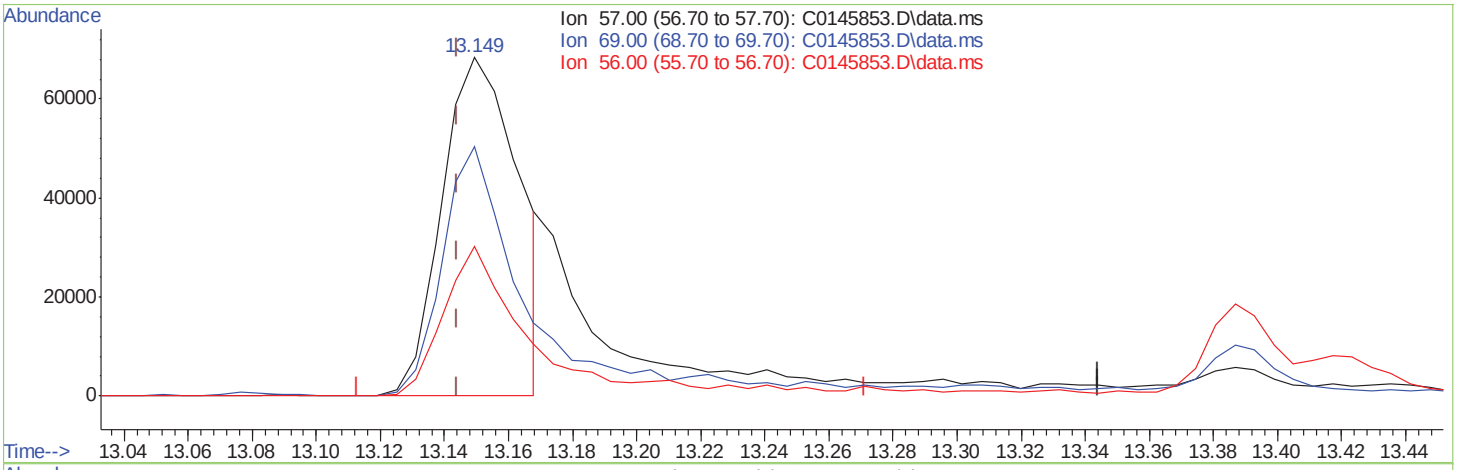
response 164516

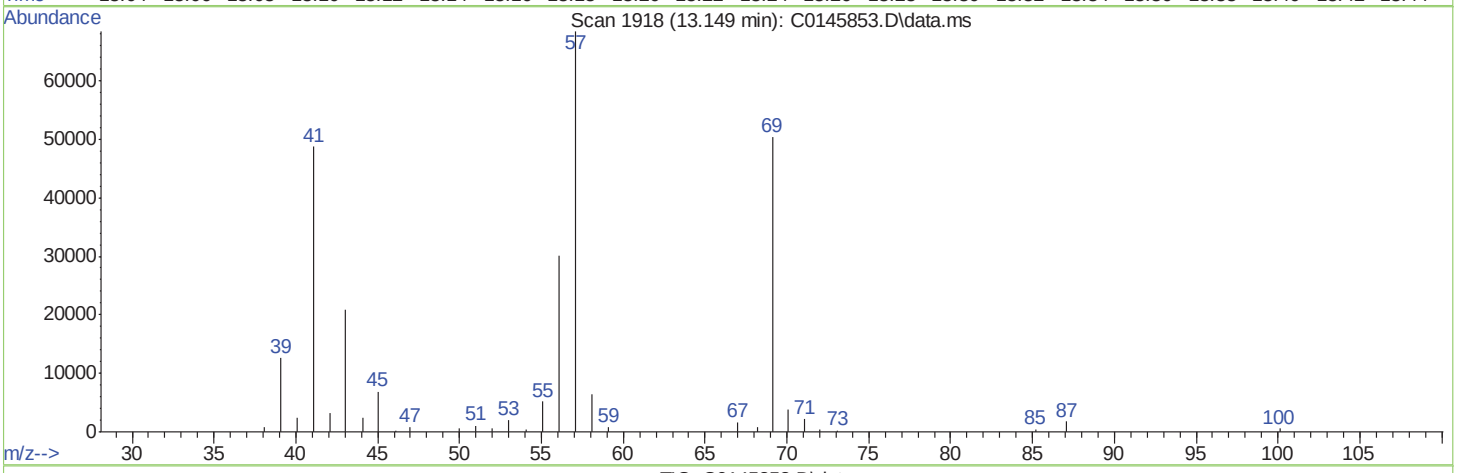
Ion	Exp%	Act%
57.00	100	100
69.00	75.60	56.92
56.00	43.60	30.99
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145853.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.149min (+0.005) 186.54ug/L m

response 114350

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	81.90
56.00	43.60	44.59
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:03:53 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1769388	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1231937	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	632967	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	218253	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	433035	46.51	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 93.02%			
47) 1,2-Dichloroethane-d4	10.181	65	584001	51.42	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 102.84%			
58) Toluene-d8	12.134	98	1731380	55.14	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 110.28%			
80) 4-Bromofluorobenzene	14.306	174	539573	52.00	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 104.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.868	85	88515	7.93	ug/L	97
3) Chloromethane	3.209	50	111123	8.93	ug/L	93
4) 1,3-butadiene	3.367	39	78685	7.84	ug/L	88
5) Vinyl Chloride	3.343	62	104829	8.46	ug/L	97
6) Bromomethane	3.897	94	31361	6.72	ug/L	94
7) Chloroethane	4.128	64	47511	7.73	ug/L	90
8) Trichlorofluoromethane	4.359	101	108439	8.15	ug/L	93
9) Ethyl Ether	4.906	59	74956	8.33	ug/L	94
10) 1,2-Dichlorotrifluoroe...	5.253	67	90634	8.51	ug/L	98
11) 1,1-Dichloroethene	5.241	61	115916	8.54	ug/L	98
12) Freon 113	5.320	101	71255	8.10	ug/L	94
13) Carbon Disulfide	5.284	76	242733	8.46	ug/L	97
14) Iodomethane	5.484	142	46769	5.45	ug/L	96
15) Acrolein	5.819	56	84769	40.90	ug/L	95
16) Allyl chloride	6.068	41	139544	8.54	ug/L	98
17) Methylene Chloride	6.275	49	116038	8.04	ug/L	91
18) Acetone	6.330	43	123707	41.70	ug/L	97
19) Methyl acetate	6.561	43	337097	41.25	ug/L	96
20) trans-1,2-Dichloroethene	6.543	61	114716	8.63	ug/L	97
21) Hexane	6.689	56	73554	8.56	ug/L	96
22) Methyl Tert Butyl Ether	6.719	73	266203	8.42	ug/L	89
23) Acetonitrile	7.170	41	121061	81.81	ug/L	99
24) Di-isopropyl ether	7.413	45	324243	8.91	ug/L	96
25) Chloroprene	7.601	53	125766	8.32	ug/L	94
26) 1,1-Dichloroethane	7.638	63	147351	8.51	ug/L	99
27) Acrylonitrile	7.729	52	123240	38.79	ug/L	96
28) ETBE	8.082	59	286574	8.65	ug/L	95
29) Vinyl acetate	8.119	43	1074175	46.27	ug/L	97
30) cis-1,2-Dichloroethene	8.666	96	79014	8.45	ug/L	98
31) 2,2-Dichloropropane	8.855	77	123690	8.10	ug/L	98
32) Bromochloromethane	9.037	128	39379	8.74	ug/L	93
33) Cyclohexane	9.019	56	152104	8.45	ug/L	96
34) Chloroform	9.171	83	136529	8.52	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:03:53 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
35) Ethyl acetate	9.360	43	465794	40.41	ug/L		98
36) Tetrahydrofuran	9.402	42	28999	7.56	ug/L		93
38) Carbon Tetrachloride	9.372	117	93383	7.99	ug/L		99
39) 1,1,1-Trichloroethane	9.469	97	111973	7.97	ug/L		95
40) 2-Butanone	9.627	43	210174	42.94	ug/L		98
41) 1,1-Dichloropropene	9.664	75	117661	8.37	ug/L		97
42) tert-Butyl formate	9.810	59	426681	40.49	ug/L		98
43) Propionitrile	10.029	54	124753	85.84	ug/L		94
44) Methacrylonitrile	10.053	41	595002	90.41	ug/L		95
45) Benzene	10.004	78	330476	8.75	ug/L		100
46) TAME	10.150	73	263588	8.52	ug/L		99
48) 1,2-Dichloroethane	10.266	62	110402	8.48	ug/L		95
49) Trichloroethene	10.728	95	84090	8.53	ug/L		98
50) Methylcyclohexane	10.710	83	132764	8.27	ug/L		95
51) Dibromomethane	11.191	93	46076	8.16	ug/L		96
52) 1,2-Dichloropropane	11.288	63	93898	8.65	ug/L		97
53) Bromodichloromethane	11.361	83	102358	8.23	ug/L		99
54) Methyl methacrylate	11.507	41	85580	8.70	ug/L		97
55) 2-Chloroethyl vinyl ether	11.903	63	306911	42.74	ug/L		97
56) cis-1,3-Dichloropropene	11.963	75	148034	8.19	ug/L		92
59) Toluene	12.176	91	352126	10.35	ug/L		95
60) 2-Nitropropane	12.383	41	128152	50.83	ug/L		93
61) 4-Methyl-2-pentanone	12.493	43	458855	54.98	ug/L		95
62) trans-1,3-Dichloropropene	12.541	75	127572	10.08	ug/L		88
63) Tetrachloroethene	12.523	166	80434	10.06	ug/L		98
64) Ethyl methacrylate	12.645	69	112365	10.23	ug/L		97
65) 1,1,2-Trichloroethane	12.681	83	64438	10.24	ug/L		93
66) Dibromochloromethane	12.833	129	76397	9.88	ug/L		94
67) 1,3-Dichloropropane	12.906	76	141835	10.30	ug/L		98
68) 1,2-Dibromoethane	13.034	107	73580	10.12	ug/L		97
69) 2-hexanone	13.168	43	329934m	54.69	ug/L		
70) 1-Chlorohexane	13.387	91	115656	10.37	ug/L		98
71) Ethylbenzene	13.436	91	366315	10.36	ug/L		95
72) Chlorobenzene	13.436	112	207104	10.29	ug/L		97
73) 1,1,1,2-Tetrachloroethane	13.478	131	73398	10.22	ug/L		98
74) m,p-Xylene	13.539	91	561998	21.65	ug/L		95
75) o-Xylene	13.861	91	297653	10.51	ug/L		96
76) Styrene	13.904	104	227005	9.90	ug/L		96
77) Bromoform	13.953	173	52098	9.92	ug/L		97
78) Isopropylbenzene	14.080	105	346530	10.41	ug/L		95
81) cis-1,4-Dichloro-2-butene	14.336	53	30023	10.35	ug/L	#	84
82) n-Propylbenzene	14.372	91	418682	11.28	ug/L		96
83) Bromobenzene	14.397	156	88118	11.16	ug/L		98
84) 1,1,2,2-Tetrachloroethane	14.427	83	95399	10.72	ug/L		98
85) 1,3,5-Trimethylbenzene	14.494	105	276496	11.30	ug/L		94
86) 2-Chlorotoluene	14.506	91	274054	11.22	ug/L		99
87) trans-1,4-Dichloro-2-B...	14.549	53	28485	11.11	ug/L		92
88) 1,2,3-Trichloropropane	14.543	110	26116	10.33	ug/L		93
89) Cyclohexanone	14.592	55	17385	54.67	ug/L		98
90) 4-Chlorotoluene	14.622	91	249380	11.02	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:03:53 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

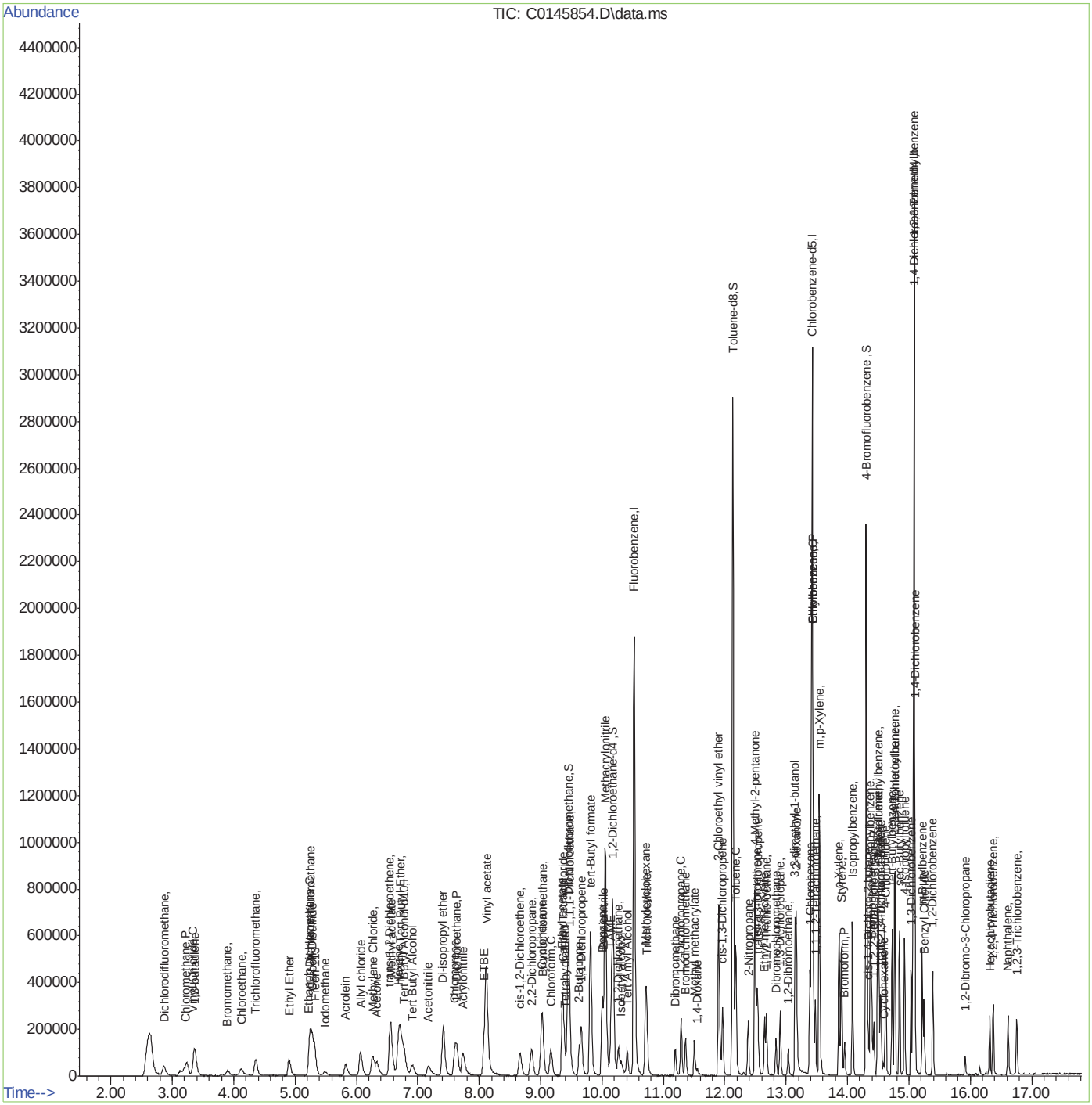
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	156296	10.99	ug/L	96
93) 1,2,4-Trimethylbenzene	14.768	105	276343	11.13	ug/L	94
94) Pentachloroethane	14.774	167	48492	10.21	ug/L	98
95) sec-Butylbenzene	14.847	105	335829	11.42	ug/L	97
96) 4-Isopropyltoluene	14.932	119	280734	11.05	ug/L	97
97) 1,3-Dichlorobenzene	15.036	146	148379	10.87	ug/L	99
98) 1,2,3-Trimethylbenzene	15.078	105	329829	11.18	ug/L	97
99) 1,4-Dichlorobenzene	15.096	146	155904	11.09	ug/L	93
100) n-Butylbenzene	15.218	92	147845	10.50	ug/L	93
101) Benzyl Chloride	15.249	126	34515	9.51	ug/L	98
102) 1,2-Dichlorobenzene	15.388	146	142662	10.99	ug/L	99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	16825	10.06	ug/L	95
104) Hexachlorobutadiene	16.319	225	41312	11.04	ug/L	96
105) 1,2,4-Trichlorobenzene	16.374	180	80470	10.62	ug/L	94
106) Naphthalene	16.617	128	168609	9.84	ug/L	97
107) 1,2,3-Trichlorobenzene	16.757	180	67460	10.77	ug/L	96
109) Ethanol	5.217	45	19345m	225.97	ug/L	
110) Tert Butyl Alcohol	6.914	59	105505	115.06	ug/L	98
111) Isobutyl alcohol	10.309	43	49147	165.60	ug/L	93
112) Tert Amyl Alcohol	10.412	59	77147	121.84	ug/L	97
113) 1,4-Dioxane	11.556	88	18646	235.72	ug/L	98
114) 3,3-dimethyl-1-butanol	13.144	57	263521m	442.05	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:03:53 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



7.6.3

7

Manual Integration Approval Summary

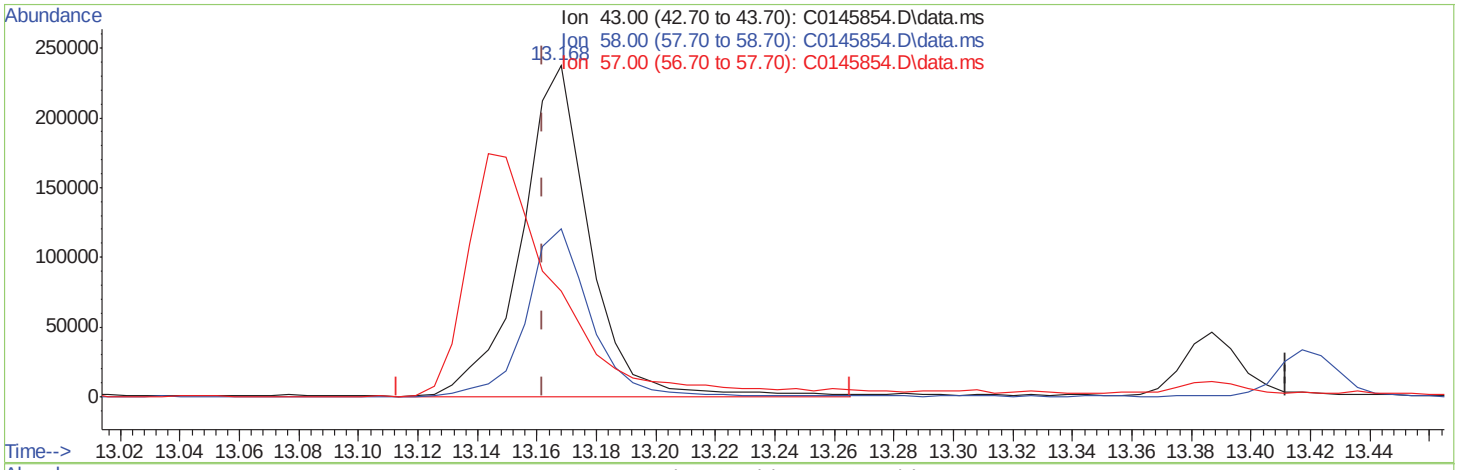
Sample Number: VC5857-IC5857
Lab FileID: C0145854.D
Injection Time: 12/24/20 08:39
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

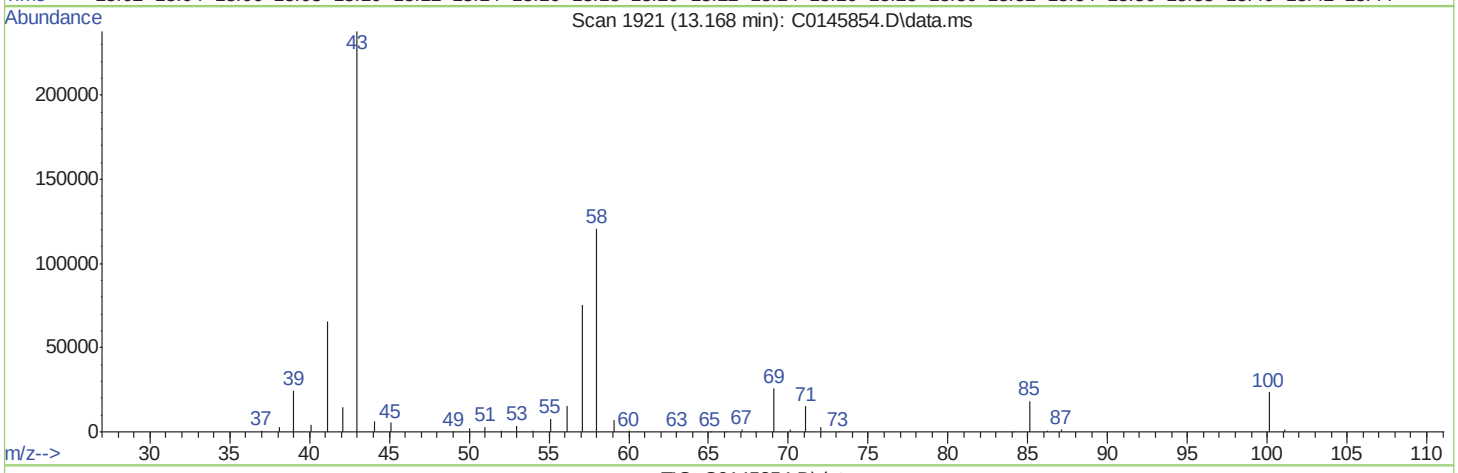
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.22	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145854.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 62.84ug/L

response 379104

Ion	Exp%	Act%
43.00	100	100
58.00	54.70	50.81
57.00	44.90	31.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
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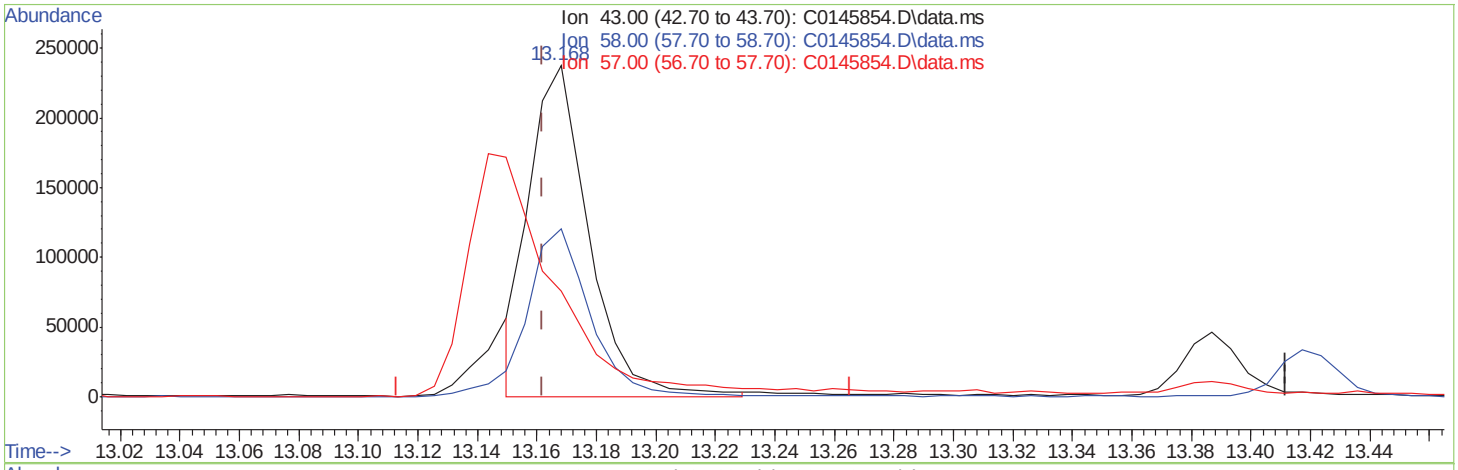

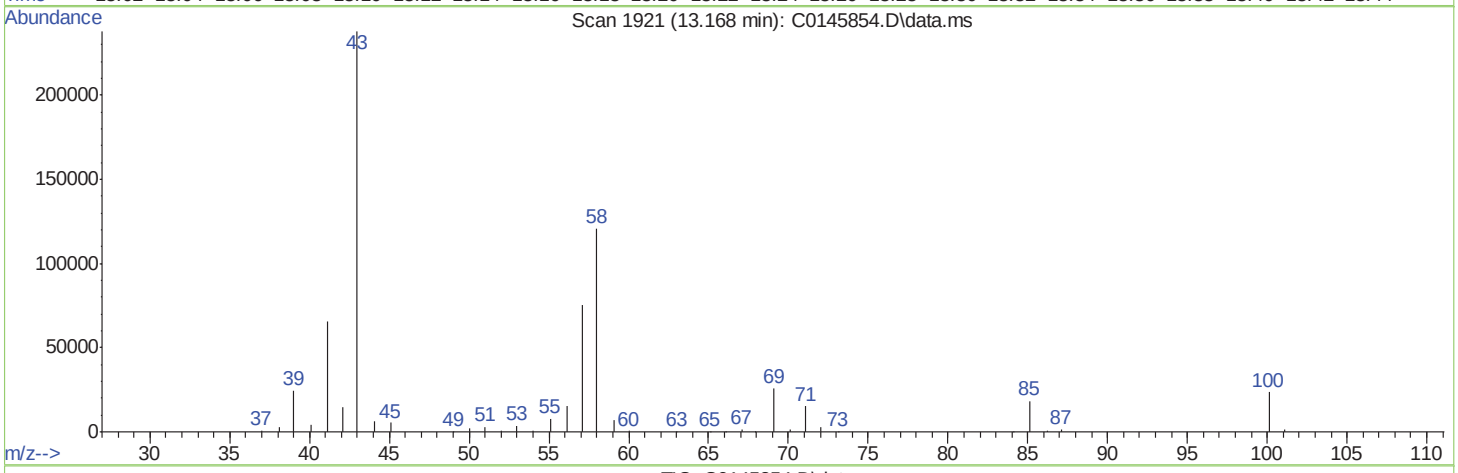

TIC: C0145854.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 54.69ug/L m

response 329934

Ion	Exp%	Act%
43.00	100	100
58.00	54.70	50.81
57.00	44.90	31.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
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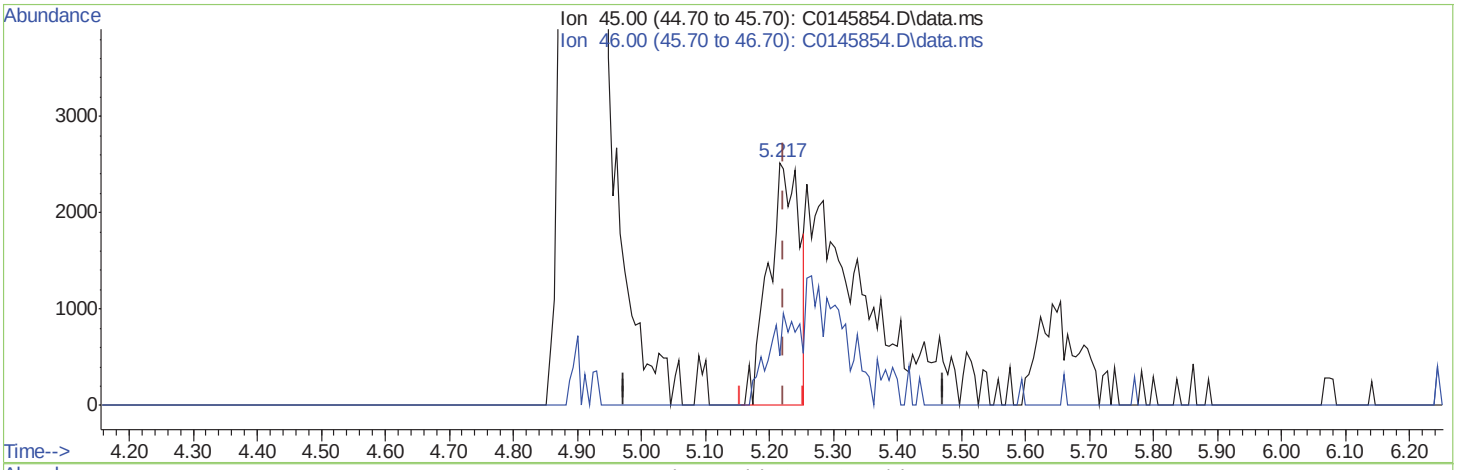

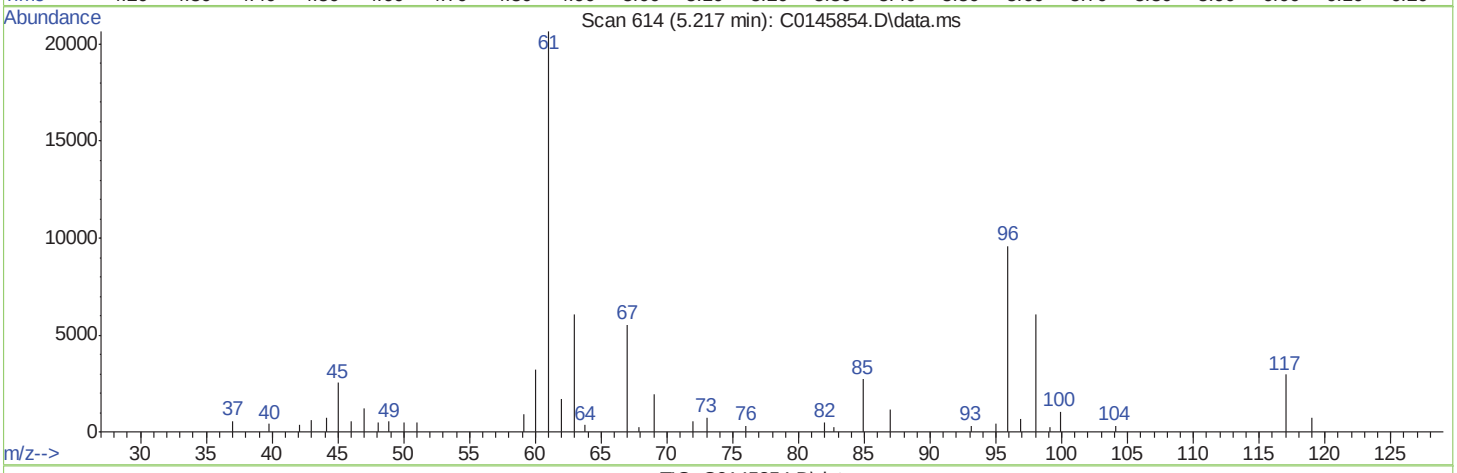

TIC: C0145854.D\data.ms

(109) Ethanol

5.217min (-0.006) 98.37ug/L

response 8421

Ion	Exp%	Act%
45.00	100	100
46.00	37.20	20.64
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
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Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
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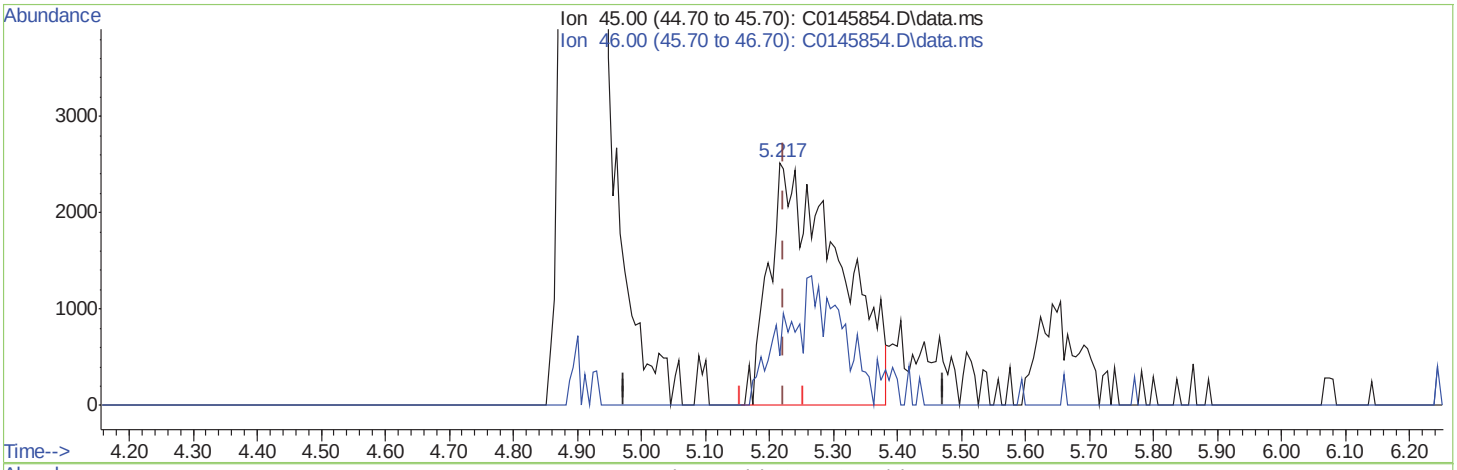
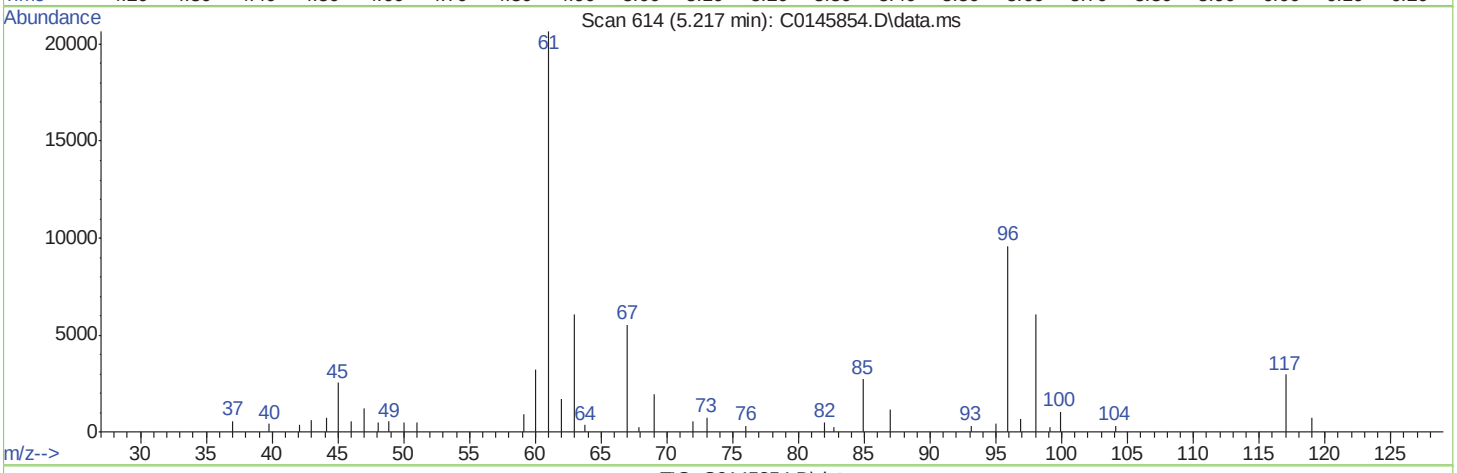




TIC: C0145854.D\data.ms

(109) Ethanol

5.217min (-0.006) 225.97ug/L m

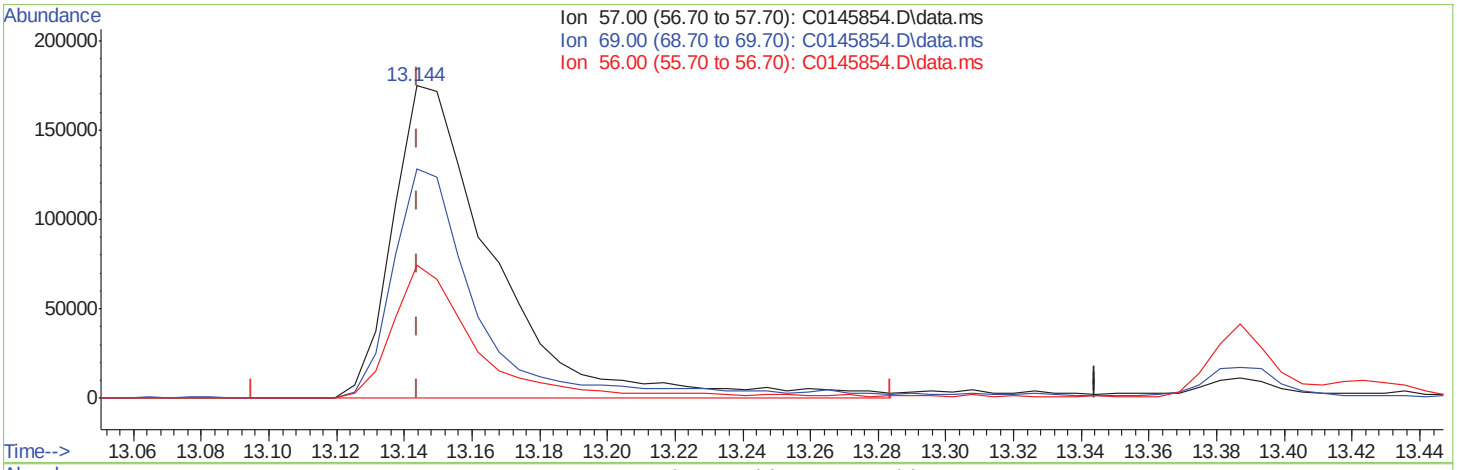
response 19345

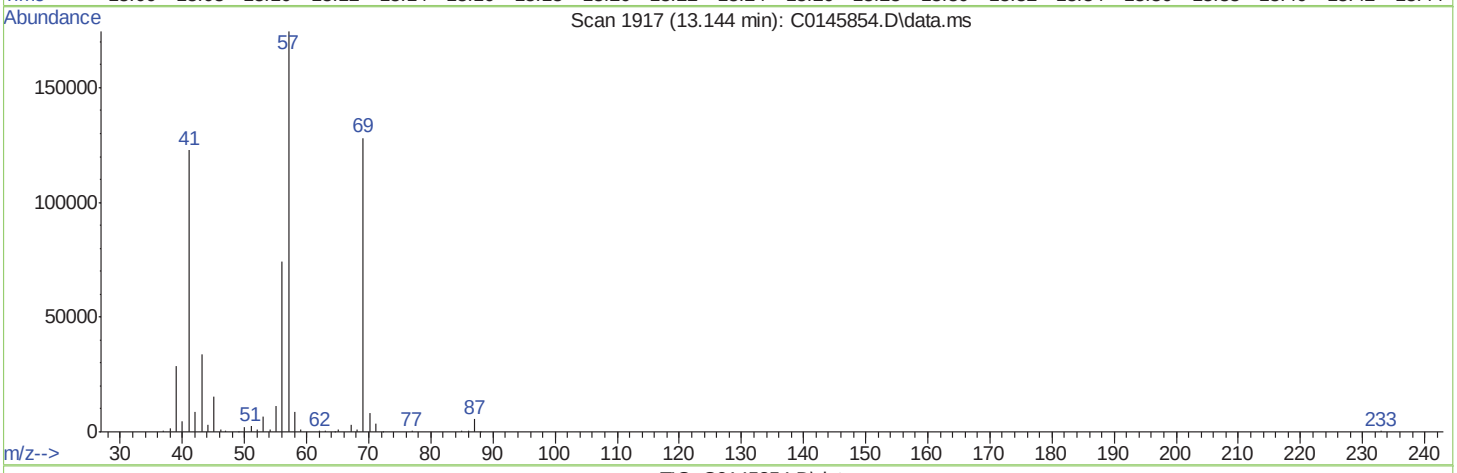
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	20.64
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145854.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.000) 617.35ug/L

response 368021

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	60.52
56.00	43.60	33.13
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
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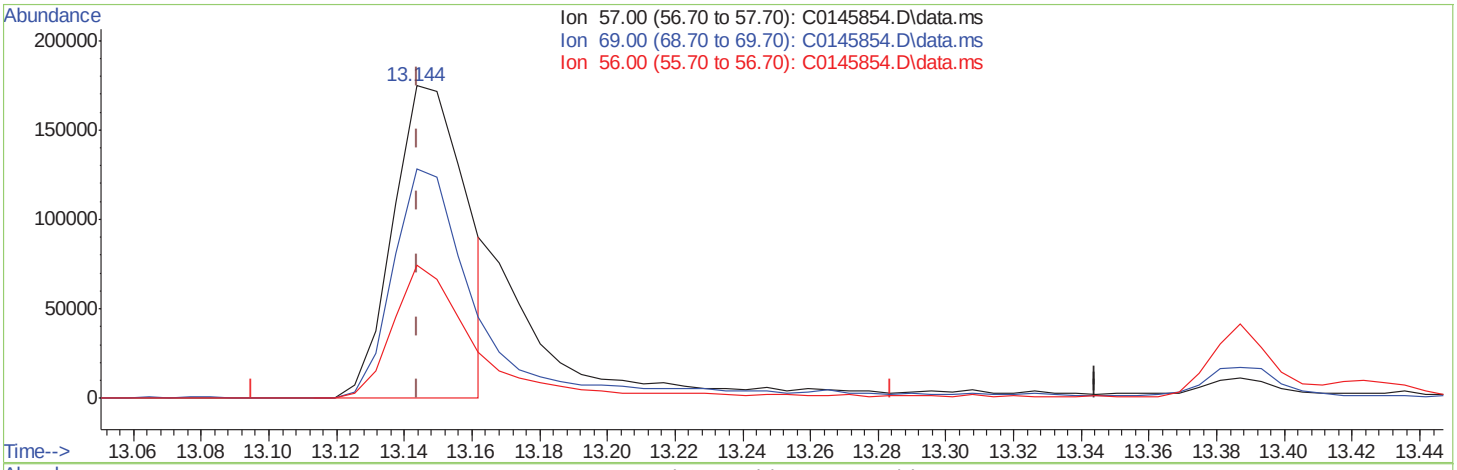
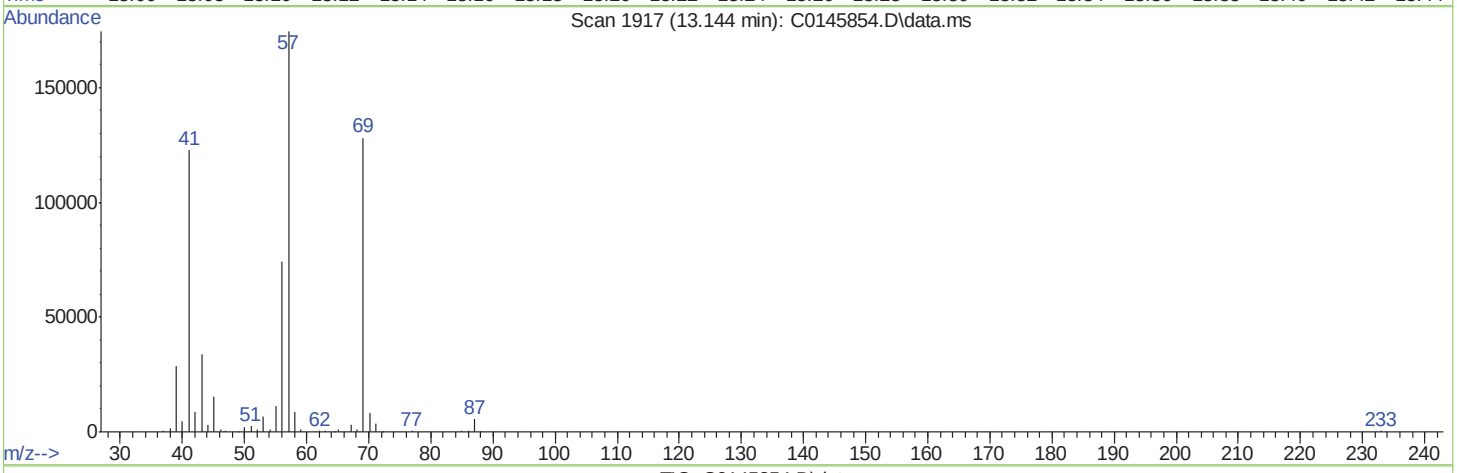




TIC: C0145854.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.000) 442.05ug/L m

response 263521

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	84.52
56.00	43.60	46.27
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:05:16 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1712881	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1183681	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	621279	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	231361	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	420078	46.61	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 93.22%			
47) 1,2-Dichloroethane-d4	10.181	65	552647	50.26	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.52%			
58) Toluene-d8	12.134	98	1665671	55.21	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 110.42%			
80) 4-Bromofluorobenzene	14.306	174	522997	51.35	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.70%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	212188	19.63	ug/L	98
3) Chloromethane	3.209	50	260462	21.63	ug/L	100
4) 1,3-butadiene	3.373	39	183023	18.84	ug/L	98
5) Vinyl Chloride	3.343	62	251452	20.96	ug/L	98
6) Bromomethane	3.909	94	72708	15.92	ug/L	96
7) Chloroethane	4.116	64	109105	18.34	ug/L	98
8) Trichlorofluoromethane	4.347	101	267600	20.78	ug/L	97
9) Ethyl Ether	4.900	59	185049	21.25	ug/L	96
10) 1,2-Dichlorotrifluoroe...	5.253	67	215445	20.89	ug/L	97
11) 1,1-Dichloroethene	5.235	61	275926	21.00	ug/L	98
12) Freon 113	5.314	101	168292	19.77	ug/L	96
13) Carbon Disulfide	5.278	76	559540	20.15	ug/L	100
14) Iodomethane	5.478	142	140096	16.38	ug/L	99
15) Acrolein	5.819	56	220524	108.31	ug/L	97
16) Allyl chloride	6.062	41	338381	21.39	ug/L	96
17) Methylene Chloride	6.263	49	266505	19.34	ug/L	93
18) Acetone	6.336	43	318075	110.74	ug/L	99
19) Methyl acetate	6.555	43	861066	108.92	ug/L	98
20) trans-1,2-Dichloroethene	6.543	61	264993	20.60	ug/L	96
21) Hexane	6.683	56	173082	20.80	ug/L	98
22) Methyl Tert Butyl Ether	6.719	73	648663	21.21	ug/L	92
23) Acetonitrile	7.170	41	315337	218.84	ug/L	96
24) Di-isopropyl ether	7.419	45	761221	21.61	ug/L	95
25) Chloroprene	7.608	53	306041	20.90	ug/L	97
26) 1,1-Dichloroethane	7.638	63	350414	20.91	ug/L	99
27) Acrylonitrile	7.735	52	328721	105.69	ug/L	94
28) ETBE	8.088	59	692749	21.60	ug/L	98
29) Vinyl acetate	8.113	43	2616956	116.45	ug/L	98
30) cis-1,2-Dichloroethene	8.660	96	187551	20.73	ug/L	97
31) 2,2-Dichloropropane	8.855	77	299978	20.29	ug/L	99
32) Bromochloromethane	9.025	128	90253	20.69	ug/L	90
33) Cyclohexane	9.019	56	356602	20.48	ug/L	97
34) Chloroform	9.171	83	318987	20.57	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:05:16 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) Ethyl acetate	9.354	43	1188109	107.41	ug/L	99
36) Tetrahydrofuran	9.402	42	80222	21.60	ug/L	98
38) Carbon Tetrachloride	9.372	117	222164	19.62	ug/L	97
39) 1,1,1-Trichloroethane	9.475	97	273870	20.14	ug/L	97
40) 2-Butanone	9.621	43	552029	116.49	ug/L	99
41) 1,1-Dichloropropene	9.664	75	280410	20.61	ug/L	99
42) tert-Butyl formate	9.810	59	1073695	105.24	ug/L	98
43) Propionitrile	10.023	54	311837	221.65	ug/L	90
44) Methacrylonitrile	10.053	41	1440291	226.08	ug/L	99
45) Benzene	10.005	78	772102	21.12	ug/L	98
46) TAME	10.151	73	640981	21.41	ug/L	99
48) 1,2-Dichloroethane	10.266	62	269010	21.33	ug/L	100
49) Trichloroethene	10.728	95	196227	20.56	ug/L	100
50) Methylcyclohexane	10.710	83	315682	20.31	ug/L	98
51) Dibromomethane	11.191	93	112465	20.57	ug/L	97
52) 1,2-Dichloropropane	11.288	63	219978	20.92	ug/L	95
53) Bromodichloromethane	11.361	83	250104	20.78	ug/L	100
54) Methyl methacrylate	11.501	41	214137	22.49	ug/L	99
55) 2-Chloroethyl vinyl ether	11.897	63	760506	109.40	ug/L	97
56) cis-1,3-Dichloropropene	11.963	75	368201	21.03	ug/L	97
59) Toluene	12.176	91	825724	25.25	ug/L	96
60) 2-Nitropropane	12.377	41	323315	133.46	ug/L	95
61) 4-Methyl-2-pentanone	12.493	43	1120587	139.75	ug/L	97
62) trans-1,3-Dichloropropene	12.541	75	319517	26.28	ug/L	94
63) Tetrachloroethene	12.523	166	196978	25.64	ug/L	99
64) Ethyl methacrylate	12.645	69	283345	26.85	ug/L	98
65) 1,1,2-Trichloroethane	12.675	83	153829	25.44	ug/L	98
66) Dibromochloromethane	12.833	129	189153	25.45	ug/L	93
67) 1,3-Dichloropropane	12.900	76	340435	25.72	ug/L	99
68) 1,2-Dibromoethane	13.034	107	177215	25.36	ug/L	98
69) 2-hexanone	13.162	43	802240m	138.40	ug/L	
70) 1-Chlorohexane	13.387	91	272077	25.38	ug/L	99
71) Ethylbenzene	13.436	91	859330	25.28	ug/L	99
72) Chlorobenzene	13.436	112	491848	25.43	ug/L	98
73) 1,1,1,2-Tetrachloroethane	13.478	131	175855	25.48	ug/L	97
74) m,p-Xylene	13.539	91	1322751	53.02	ug/L	96
75) o-Xylene	13.861	91	705686	25.93	ug/L	97
76) Styrene	13.904	104	572053	25.97	ug/L	95
77) Bromoform	13.953	173	131886	26.14	ug/L	98
78) Isopropylbenzene	14.081	105	821848	25.69	ug/L	99
81) cis-1,4-Dichloro-2-butene	14.336	53	85431	30.01	ug/L	94
82) n-Propylbenzene	14.373	91	994207	27.30	ug/L	97
83) Bromobenzene	14.397	156	203552	26.26	ug/L	96
84) 1,1,2,2-Tetrachloroethane	14.427	83	236650	27.10	ug/L	100
85) 1,3,5-Trimethylbenzene	14.494	105	658748	27.43	ug/L	98
86) 2-Chlorotoluene	14.506	91	655537	27.35	ug/L	97
87) trans-1,4-Dichloro-2-B...	14.549	53	76801	30.52	ug/L	99
88) 1,2,3-Trichloropropane	14.537	110	66269	26.70	ug/L	94
89) Cyclohexanone	14.585	55	46127	147.78	ug/L	95
90) 4-Chlorotoluene	14.622	91	603913	27.20	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:05:16 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

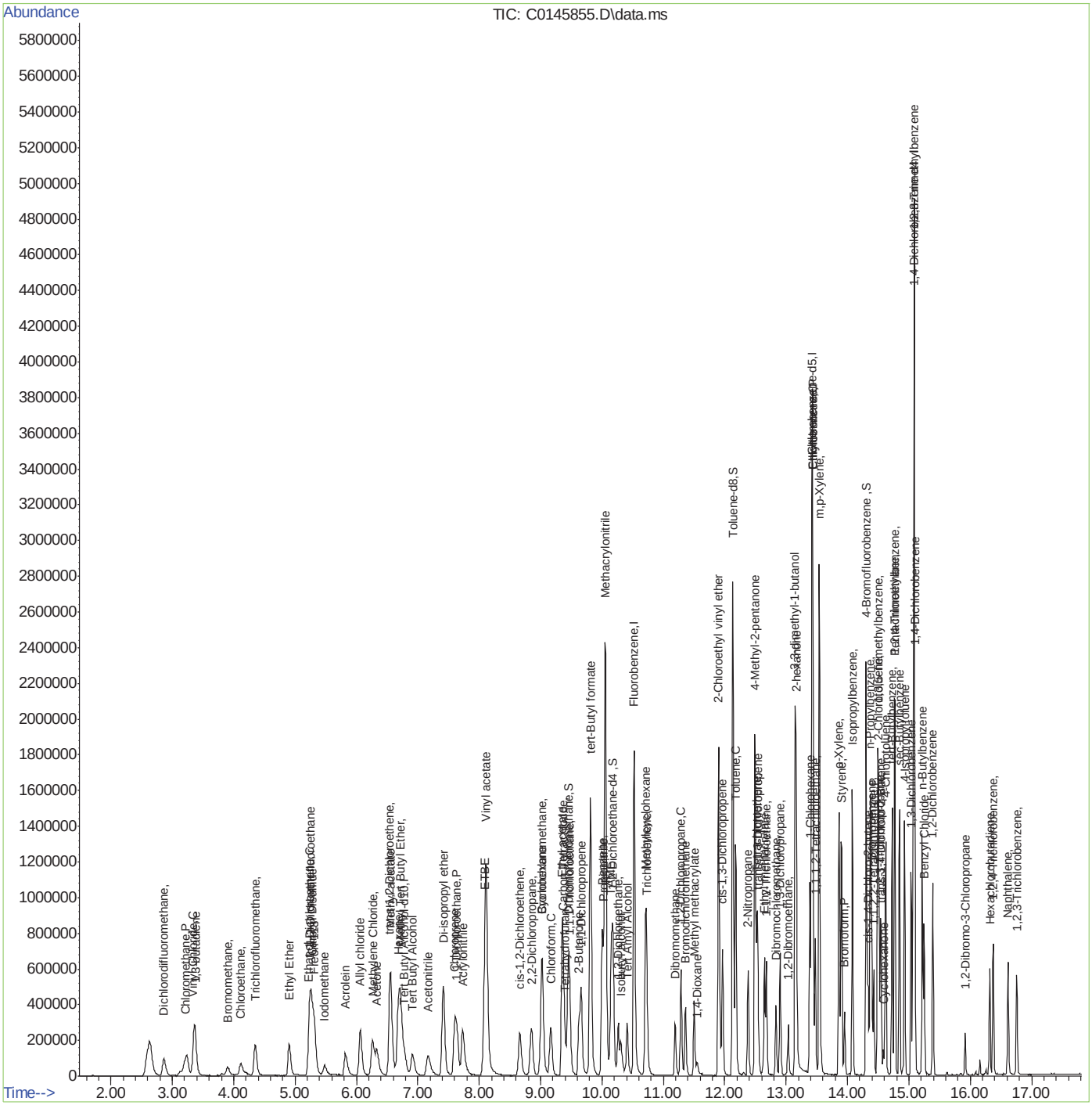
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	370528	26.55	ug/L	99
93) 1,2,4-Trimethylbenzene	14.768	105	653174	26.79	ug/L	99
94) Pentachloroethane	14.774	167	124620	26.72	ug/L	92
95) sec-Butylbenzene	14.847	105	786874	27.26	ug/L	99
96) 4-Isopropyltoluene	14.932	119	669515	26.86	ug/L	98
97) 1,3-Dichlorobenzene	15.036	146	365759	27.29	ug/L	98
98) 1,2,3-Trimethylbenzene	15.078	105	784074	27.08	ug/L	99
99) 1,4-Dichlorobenzene	15.096	146	374039	27.12	ug/L	97
100) n-Butylbenzene	15.218	92	360702	26.09	ug/L	94
101) Benzyl Chloride	15.249	126	93821	25.88	ug/L	98
102) 1,2-Dichlorobenzene	15.388	146	349146	27.40	ug/L	98
103) 1,2-Dibromo-3-Chloropr...	15.918	75	47786	29.10	ug/L	94
104) Hexachlorobutadiene	16.319	225	100985	27.50	ug/L	93
105) 1,2,4-Trichlorobenzene	16.374	180	199668	26.84	ug/L	99
106) Naphthalene	16.617	128	430471	25.58	ug/L	98
107) 1,2,3-Trichlorobenzene	16.757	180	165567	26.92	ug/L	96
109) Ethanol	5.223	45	49346m	543.76	ug/L	
110) Tert Butyl Alcohol	6.914	59	281935	290.06	ug/L	99
111) Isobutyl alcohol	10.309	43	139007	441.86	ug/L	98
112) Tert Amyl Alcohol	10.412	59	202804	302.16	ug/L	98
113) 1,4-Dioxane	11.556	88	47388	569.26	ug/L	99
114) 3,3-dimethyl-1-butanol	13.144	57	793638m	1255.89	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:05:16 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

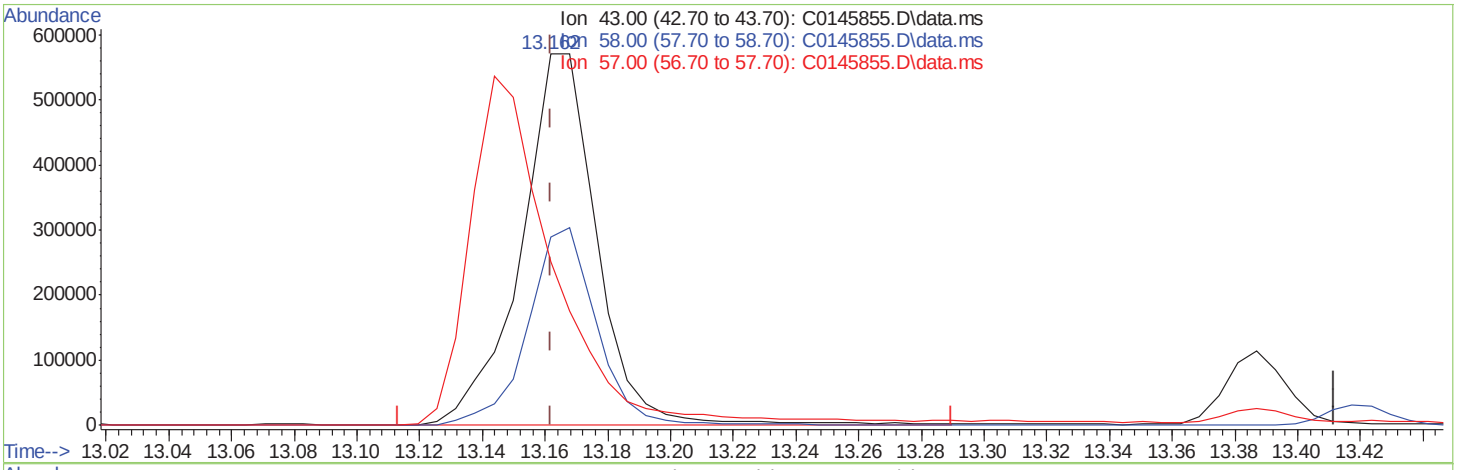
Sample Number: VC5857-IC5857
Lab FileID: C0145855.D
Injection Time: 12/24/20 09:05
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

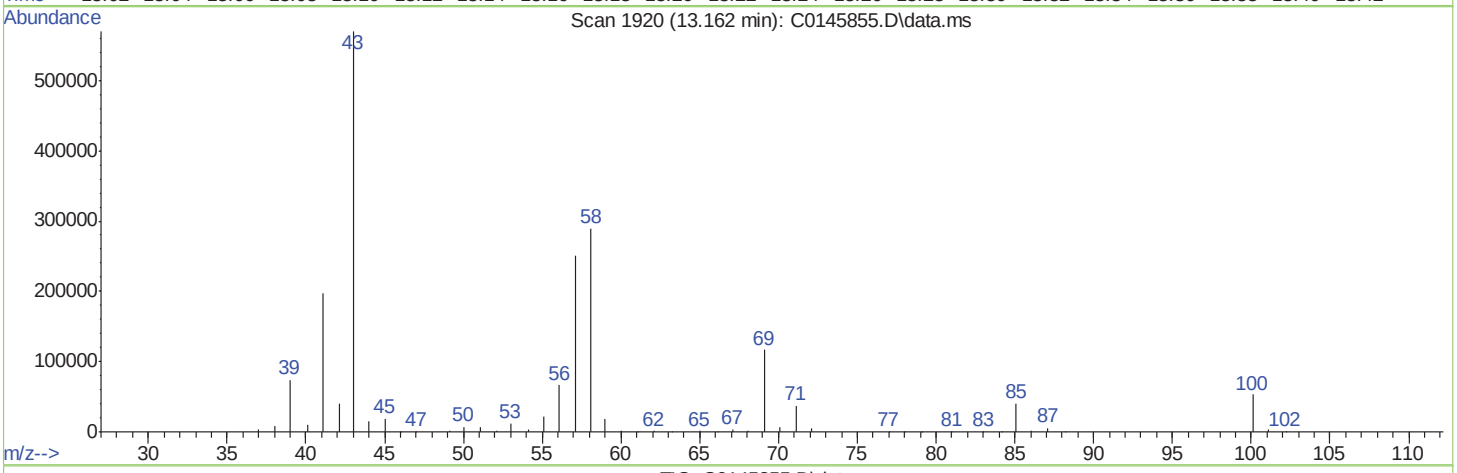
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.22	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.16	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 165.99ug/L

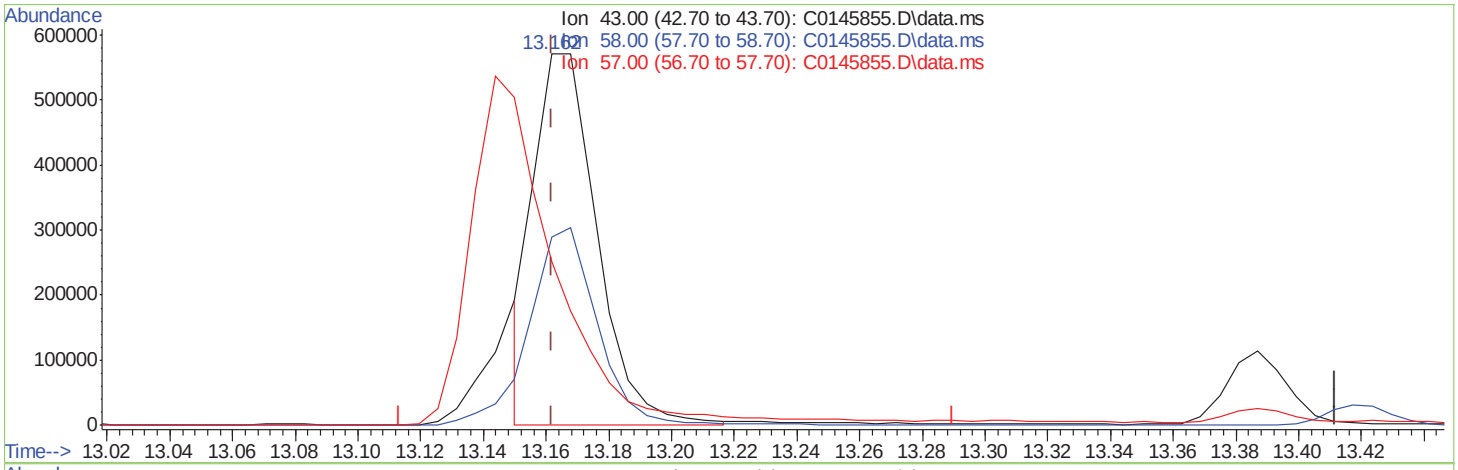
response 962128

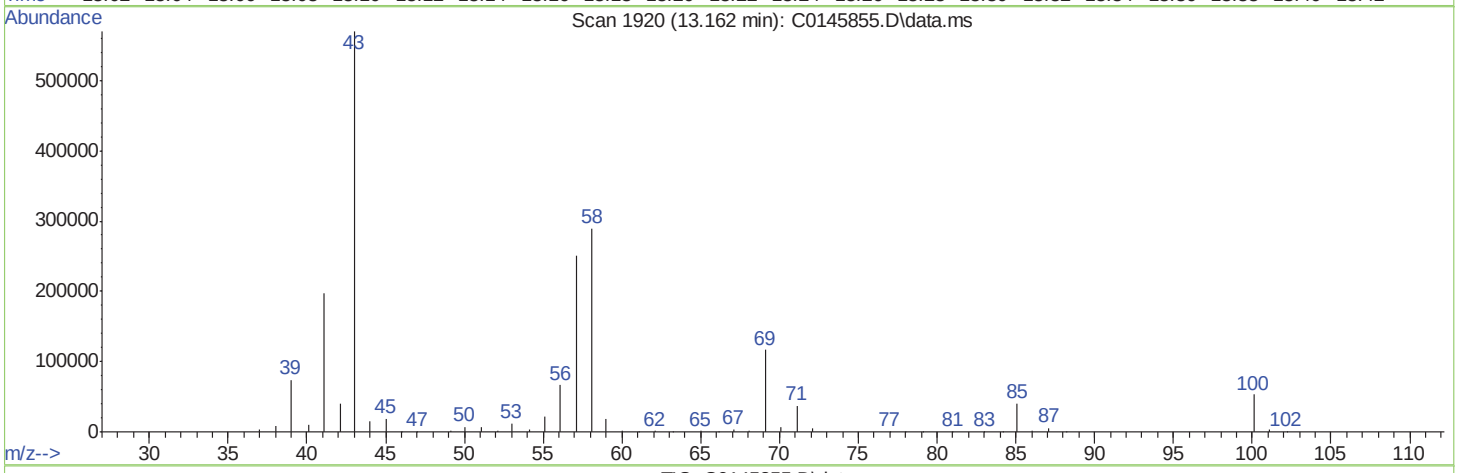
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	50.91
57.00	44.90	43.92
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 138.40ug/L m

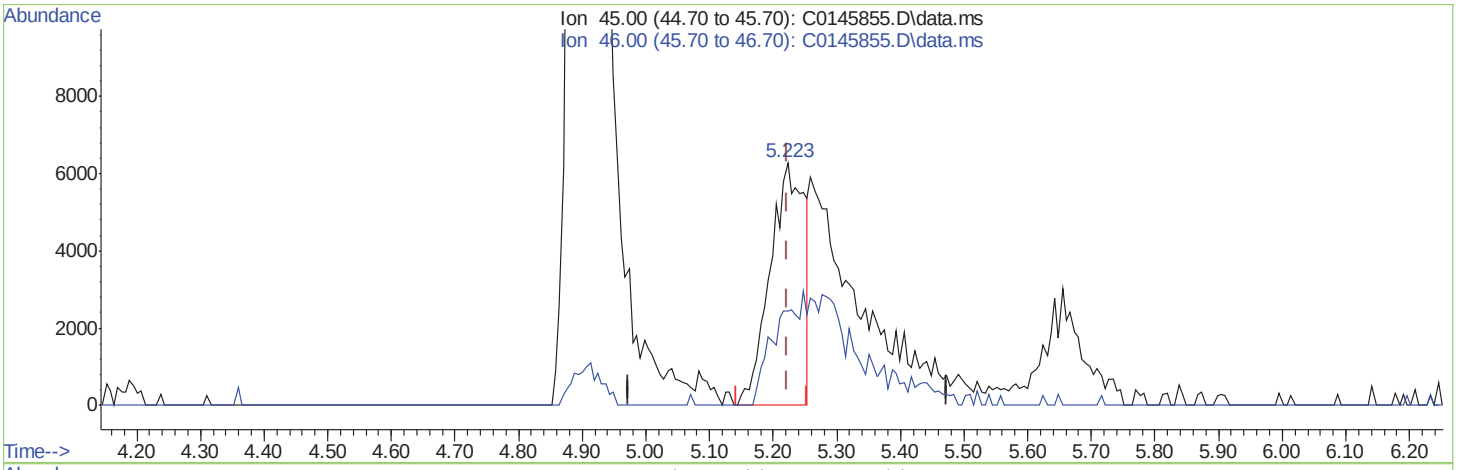
response 802240

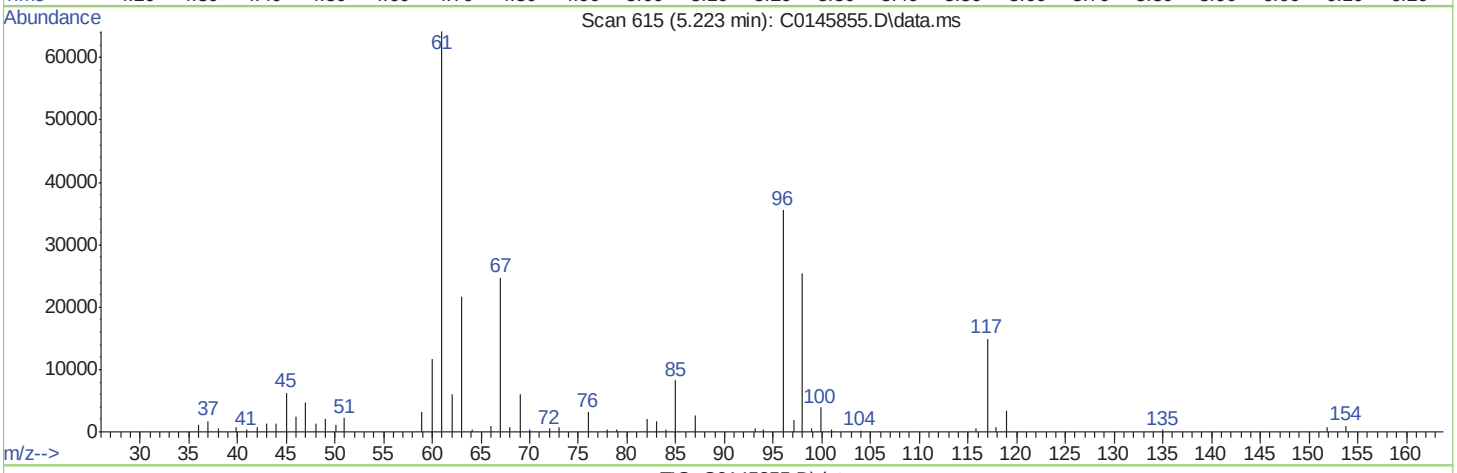
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	50.86
57.00	44.90	43.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(109) Ethanol

5.223min (-0.000) 258.16ug/L

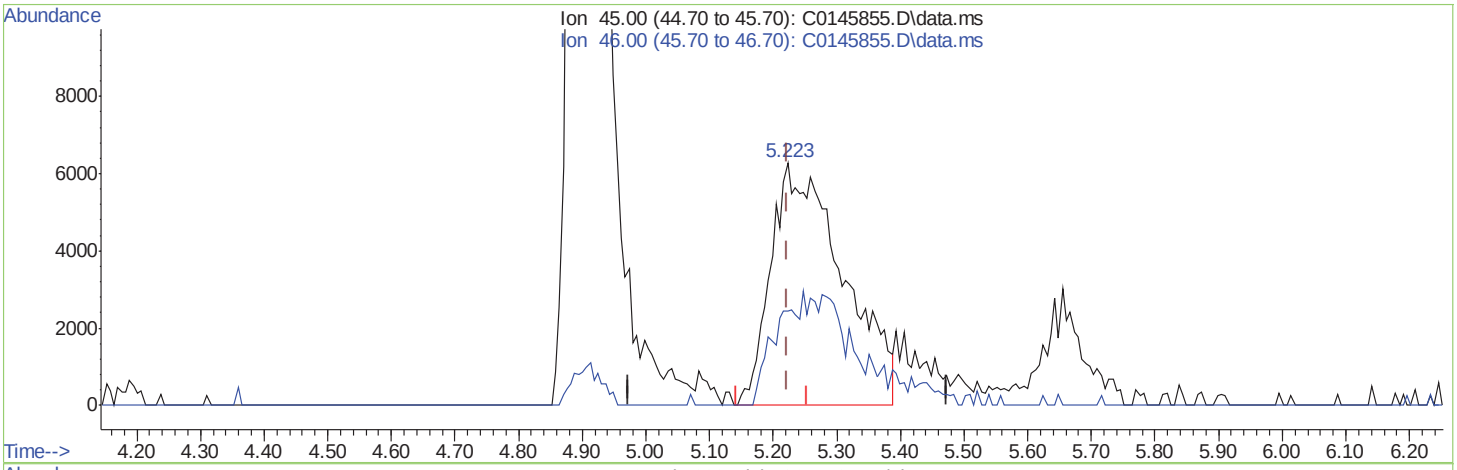
response 23428

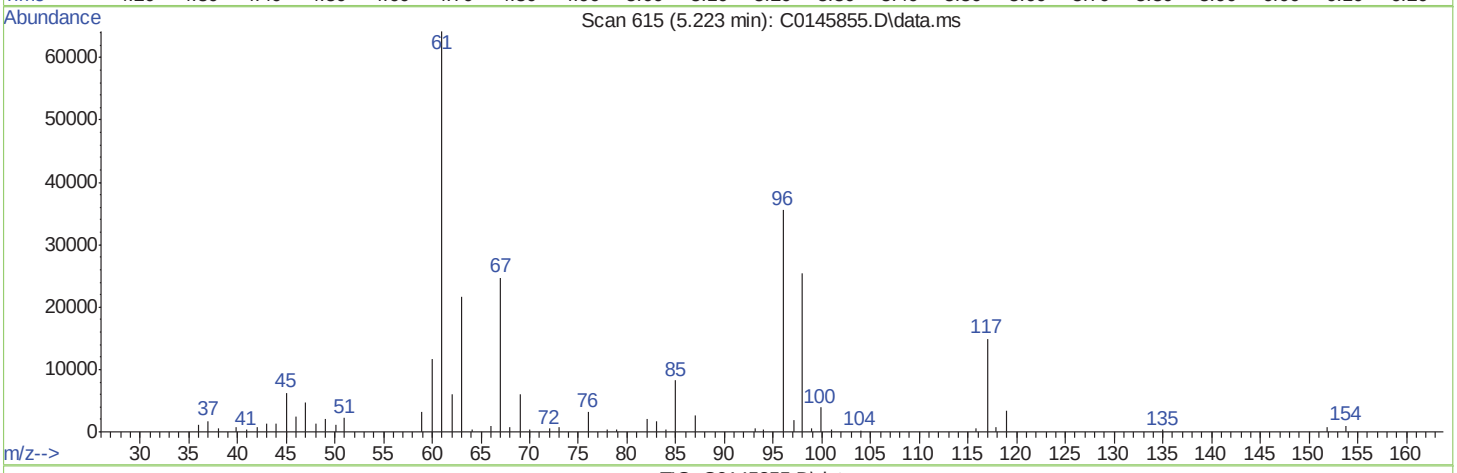
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	39.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(109) Ethanol

5.223min (-0.000) 543.76ug/L m

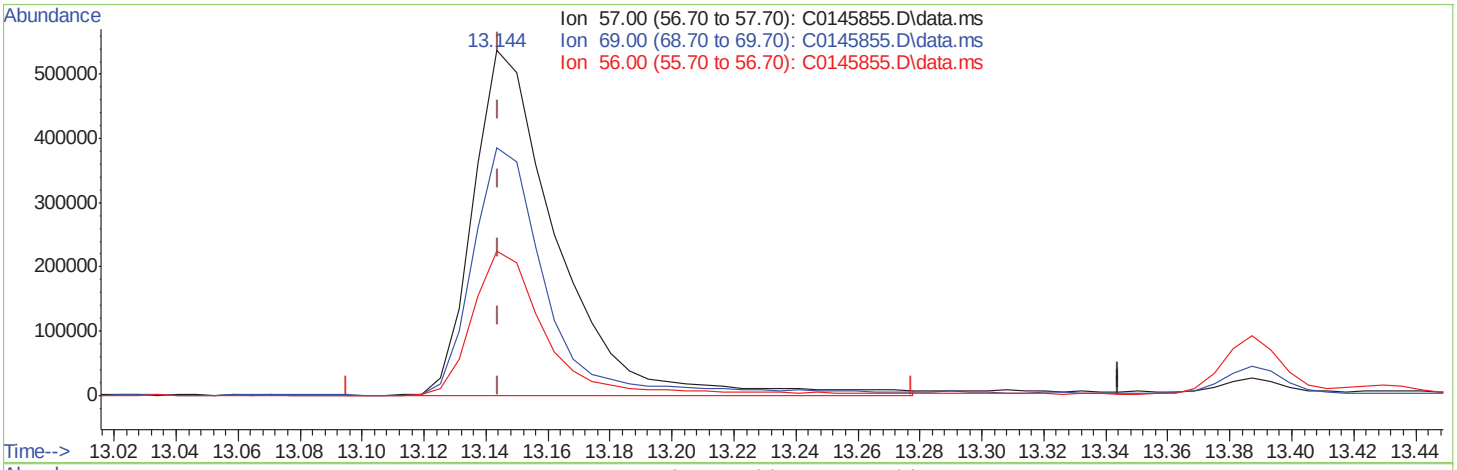
response 49346

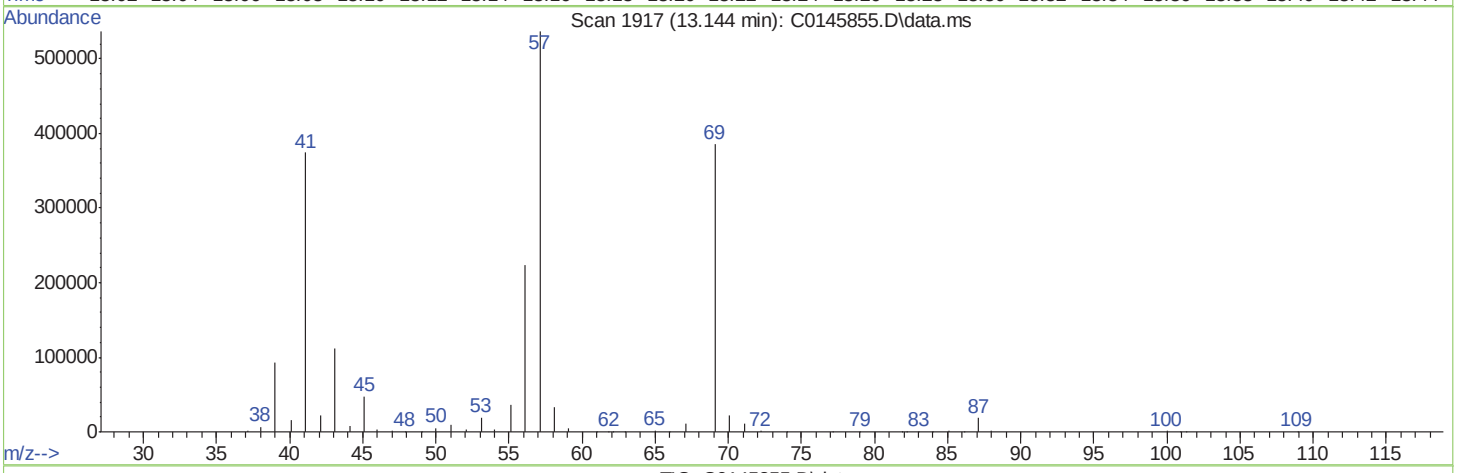
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	39.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.000) 1589.95ug/L

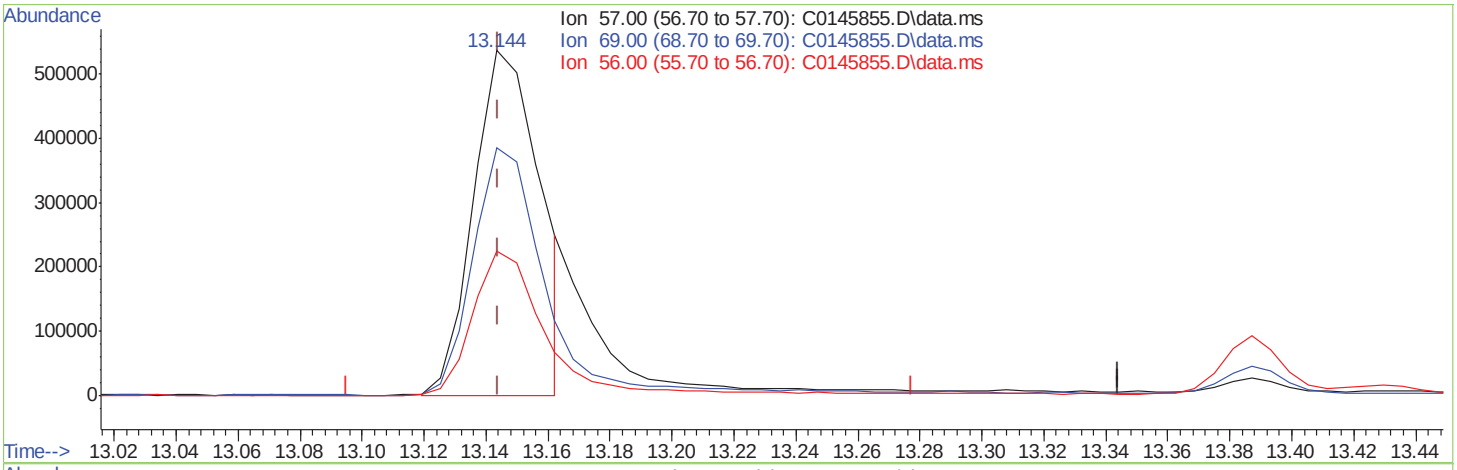
response 1004739

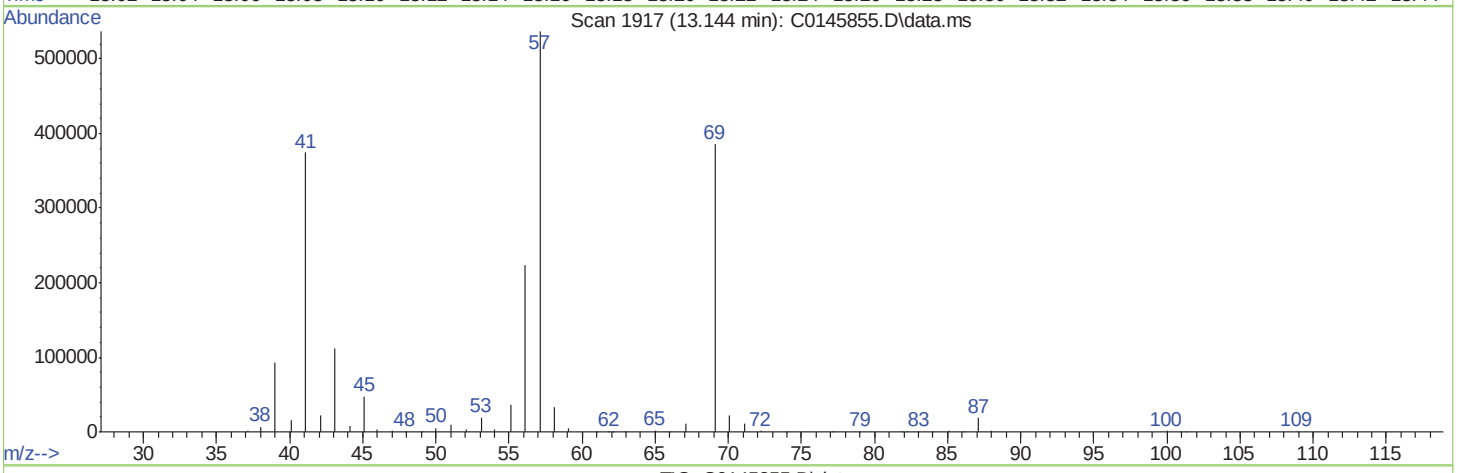
Ion	Exp%	Act%
57.00	100	100
69.00	75.60	63.25
56.00	43.60	36.28
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.000) 1255.89ug/L m

response 793638

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	80.08
56.00	43.60	45.94
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:06:23 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1695466	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1181160	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	633567	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.792	65	218277	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	420760	47.16	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 94.32%			
47) 1,2-Dichloroethane-d4	10.181	65	547100	50.27	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.54%			
58) Toluene-d8	12.134	98	1692398	56.21	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 112.42%#			
80) 4-Bromofluorobenzene	14.305	174	531894	51.21	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.42%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	355019	33.18	ug/L	99
3) Chloromethane	3.209	50	433059	36.33	ug/L	96
4) 1,3-butadiene	3.361	39	297509	30.95	ug/L	95
5) Vinyl Chloride	3.343	62	409895	34.51	ug/L	98
6) Bromomethane	3.902	94	121888	26.65	ug/L	98
7) Chloroethane	4.115	64	174740	29.67	ug/L	96
8) Trichlorofluoromethane	4.340	101	439597	34.49	ug/L	99
9) Ethyl Ether	4.906	59	299451	34.74	ug/L	99
10) 1,2-Dichlorotrifluoroe...	5.247	67	345513	33.85	ug/L	98
11) 1,1-Dichloroethene	5.235	61	449775	34.58	ug/L	96
12) Freon 113	5.308	101	277960	32.98	ug/L	96
13) Carbon Disulfide	5.277	76	944175	34.35	ug/L	99
14) Iodomethane	5.484	142	277916	31.61	ug/L	96
15) Acrolein	5.825	56	345698	169.28	ug/L	93
16) Allyl chloride	6.062	41	542474	34.65	ug/L	98
17) Methylene Chloride	6.263	49	422928	31.49	ug/L	96
18) Acetone	6.336	43	499477	175.69	ug/L	99
19) Methyl acetate	6.555	43	1340203	171.40	ug/L	96
20) trans-1,2-Dichloroethene	6.537	61	433819	34.08	ug/L	97
21) Hexane	6.683	56	272817	33.12	ug/L	96
22) Methyl Tert Butyl Ether	6.719	73	1005883	33.22	ug/L	92
23) Acetonitrile	7.163	41	499481	348.28	ug/L	95
24) Di-isopropyl ether	7.413	45	1213877	34.81	ug/L	99
25) Chloroprene	7.601	53	497130	34.30	ug/L	97
26) 1,1-Dichloroethane	7.644	63	569049	34.30	ug/L	97
27) Acrylonitrile	7.729	52	513259	165.09	ug/L	96
28) ETBE	8.088	59	1100459	34.67	ug/L	96
29) Vinyl acetate	8.112	43	4001228	179.88	ug/L	99
30) cis-1,2-Dichloroethene	8.660	96	301287	33.64	ug/L	99
31) 2,2-Dichloropropane	8.848	77	489698	33.46	ug/L	98
32) Bromochloromethane	9.031	128	149098	34.53	ug/L	96
33) Cyclohexane	9.013	56	581438	33.73	ug/L	98
34) Chloroform	9.165	83	512164	33.37	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:06:23 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
35) Ethyl acetate	9.353	43	1822178	167.75 ug/L	98
36) Tetrahydrofuran	9.402	42	127561	34.70 ug/L	98
38) Carbon Tetrachloride	9.372	117	367037	32.75 ug/L	98
39) 1,1,1-Trichloroethane	9.475	97	445732	33.11 ug/L	97
40) 2-Butanone	9.621	43	845990	180.36 ug/L	100
41) 1,1-Dichloropropene	9.657	75	459773	34.14 ug/L	95
42) tert-Butyl formate	9.810	59	1675939	165.96 ug/L	99
43) Propionitrile	10.029	54	491975	353.29 ug/L	99
44) Methacrylonitrile	10.053	41	2204231	349.55 ug/L	99
45) Benzene	10.004	78	1239493	34.26 ug/L	98
46) TAME	10.150	73	1009902	34.08 ug/L	99
48) 1,2-Dichloroethane	10.266	62	423154	33.90 ug/L	98
49) Trichloroethene	10.728	95	316757	33.54 ug/L	98
50) Methylcyclohexane	10.710	83	510833	33.20 ug/L	97
51) Dibromomethane	11.191	93	182255	33.68 ug/L	99
52) 1,2-Dichloropropane	11.288	63	362740	34.86 ug/L	99
53) Bromodichloromethane	11.361	83	405516	34.04 ug/L	98
54) Methyl methacrylate	11.501	41	344987	36.60 ug/L	97
55) 2-Chloroethyl vinyl ether	11.896	63	1185496	172.29 ug/L	99
56) cis-1,3-Dichloropropene	11.963	75	588526	33.97 ug/L	98
59) Toluene	12.176	91	1311636	40.19 ug/L	97
60) 2-Nitropropane	12.383	41	511709	211.67 ug/L	97
61) 4-Methyl-2-pentanone	12.492	43	1701302	212.63 ug/L	99
62) trans-1,3-Dichloropropene	12.541	75	501503	41.33 ug/L	97
63) Tetrachloroethene	12.523	166	314086	40.97 ug/L	98
64) Ethyl methacrylate	12.645	69	449073	42.65 ug/L	99
65) 1,1,2-Trichloroethane	12.675	83	242357	40.16 ug/L	97
66) Dibromochloromethane	12.833	129	302332	40.77 ug/L	98
67) 1,3-Dichloropropane	12.900	76	537379	40.69 ug/L	98
68) 1,2-Dibromoethane	13.034	107	280513	40.23 ug/L	100
69) 2-hexanone	13.162	43	1215755m	210.19 ug/L	
70) 1-Chlorohexane	13.387	91	446956	41.78 ug/L	99
71) Ethylbenzene	13.435	91	1374984	40.54 ug/L	100
72) Chlorobenzene	13.435	112	785310	40.69 ug/L	98
73) 1,1,1,2-Tetrachloroethane	13.478	131	282455	41.01 ug/L	97
74) m,p-Xylene	13.539	91	2098137	84.29 ug/L	98
75) o-Xylene	13.861	91	1124060	41.39 ug/L	99
76) Styrene	13.904	104	922732	41.98 ug/L	97
77) Bromoform	13.952	173	217152	43.13 ug/L	97
78) Isopropylbenzene	14.080	105	1314980	41.20 ug/L	100
81) cis-1,4-Dichloro-2-butene	14.336	53	136403	46.98 ug/L	97
82) n-Propylbenzene	14.372	91	1613001	43.43 ug/L	98
83) Bromobenzene	14.397	156	336960	42.63 ug/L	98
84) 1,1,2,2-Tetrachloroethane	14.427	83	378644	42.51 ug/L	98
85) 1,3,5-Trimethylbenzene	14.494	105	1061311	43.33 ug/L	99
86) 2-Chlorotoluene	14.506	91	1072728	43.89 ug/L	98
87) trans-1,4-Dichloro-2-B...	14.549	53	118523	46.18 ug/L	95
88) 1,2,3-Trichloropropane	14.537	110	105646	41.74 ug/L	95
89) Cyclohexanone	14.585	55	72989	229.31 ug/L	99
90) 4-Chlorotoluene	14.622	91	978980	43.23 ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:06:23 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

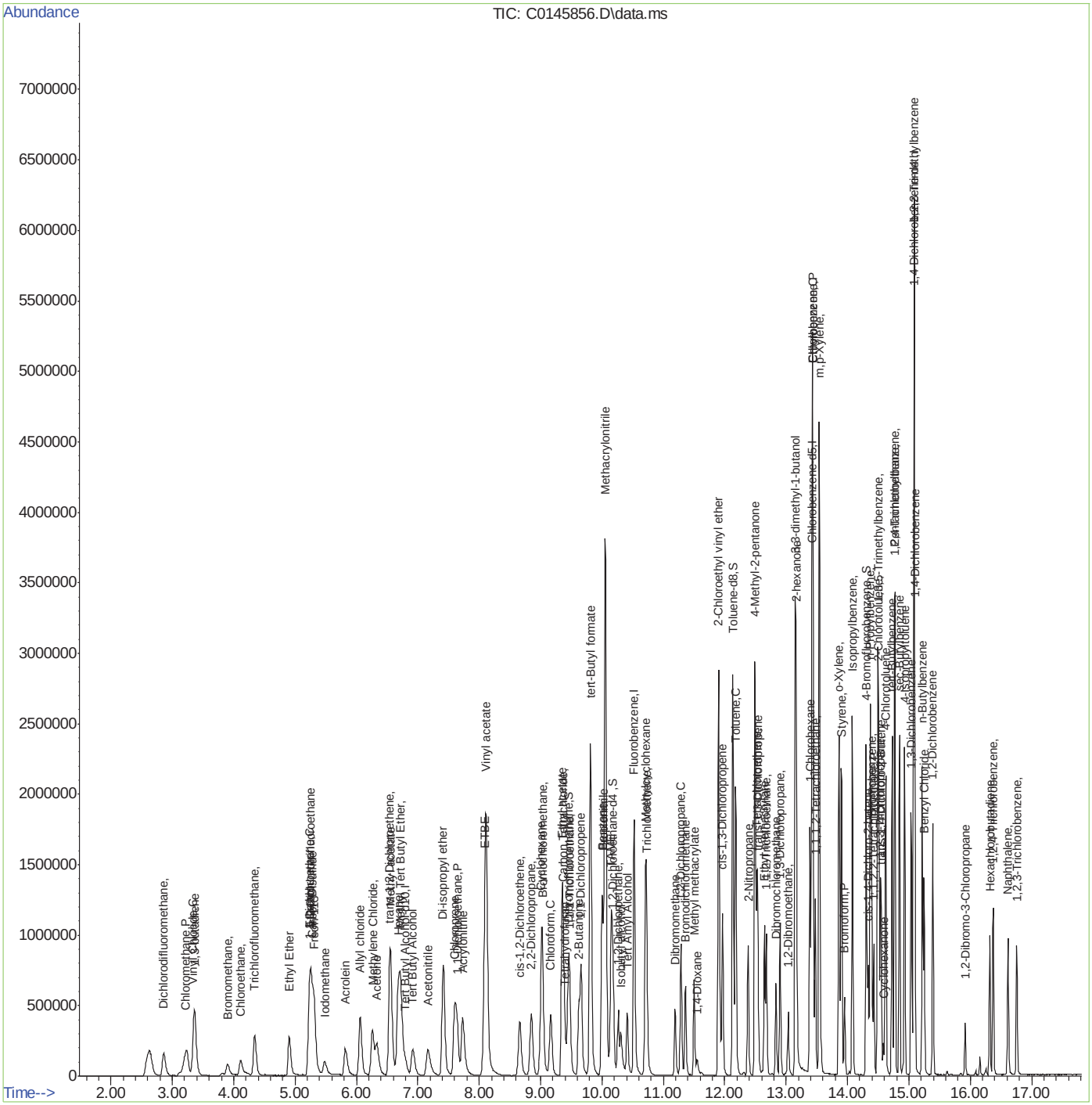
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	611941	43.00	ug/L	99
93) 1,2,4-Trimethylbenzene	14.768	105	1055898	42.47	ug/L	98
94) Pentachloroethane	14.774	167	197790	41.59	ug/L	98
95) sec-Butylbenzene	14.847	105	1282393	43.57	ug/L	100
96) 4-Isopropyltoluene	14.932	119	1100405	43.29	ug/L	98
97) 1,3-Dichlorobenzene	15.035	146	601966	44.05	ug/L	99
98) 1,2,3-Trimethylbenzene	15.078	105	1246426	42.21	ug/L	98
99) 1,4-Dichlorobenzene	15.096	146	595908	42.36	ug/L	98
100) n-Butylbenzene	15.218	92	591682	41.97	ug/L	97
101) Benzyl Chloride	15.248	126	152528	40.60	ug/L	97
102) 1,2-Dichlorobenzene	15.388	146	572717	44.07	ug/L	99
103) 1,2-Dibromo-3-Chloropr...	15.917	75	72753	43.45	ug/L	97
104) Hexachlorobutadiene	16.319	225	163397	43.63	ug/L	95
105) 1,2,4-Trichlorobenzene	16.374	180	320586	42.26	ug/L	95
106) Naphthalene	16.617	128	676998	39.46	ug/L	99
107) 1,2,3-Trichlorobenzene	16.757	180	261328	41.67	ug/L	97
109) Ethanol	5.241	45	76113	889.00	ug/L	91
110) Tert Butyl Alcohol	6.920	59	438806	478.51	ug/L	98
111) Isobutyl alcohol	10.308	43	217015	731.17	ug/L	96
112) Tert Amyl Alcohol	10.412	59	305211	481.99	ug/L	98
113) 1,4-Dioxane	11.549	88	75363	968.07	ug/L	97
114) 3,3-dimethyl-1-butanol	13.149	57	1211881m	2032.69	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:06:23 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

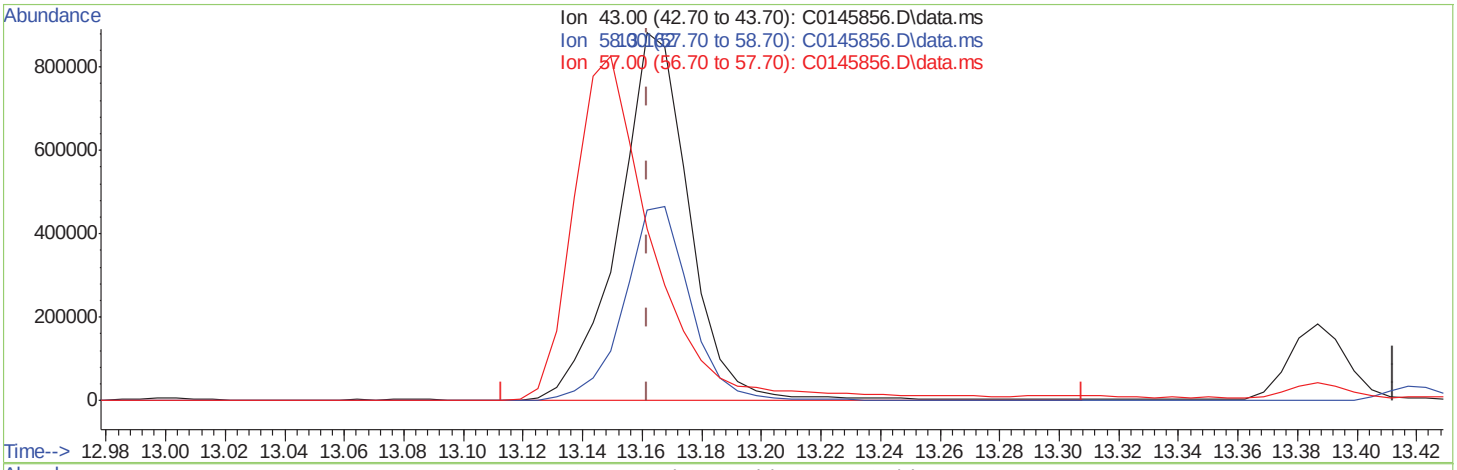
Sample Number: VC5857-ICC5857
Lab FileID: C0145856.D
Injection Time: 12/24/20 09:32
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

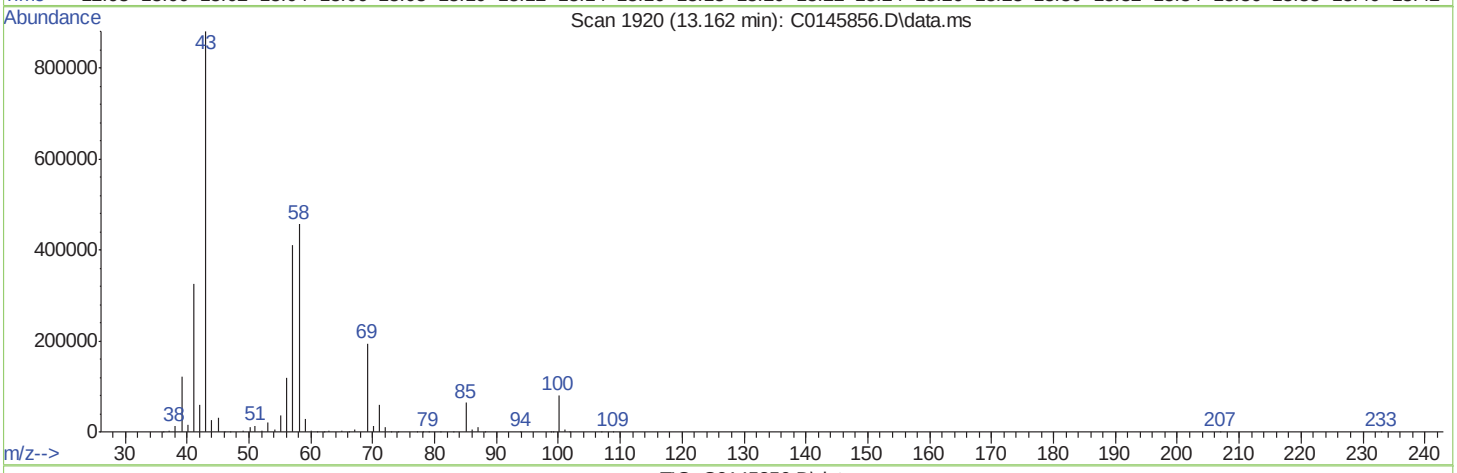
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.16	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:01:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145856.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 253.46ug/L

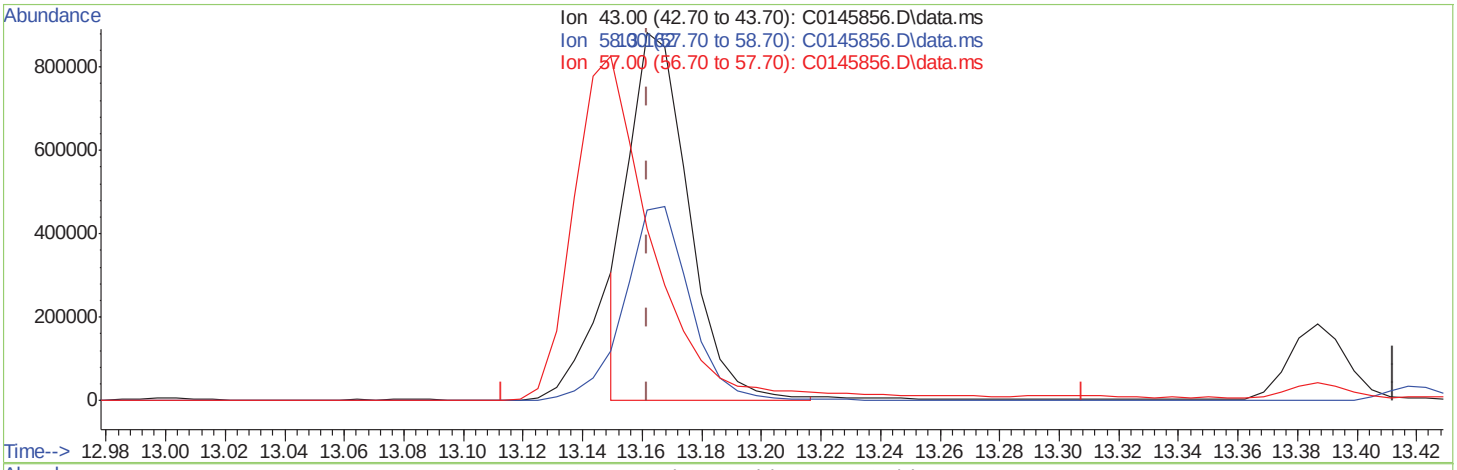
response 1465984

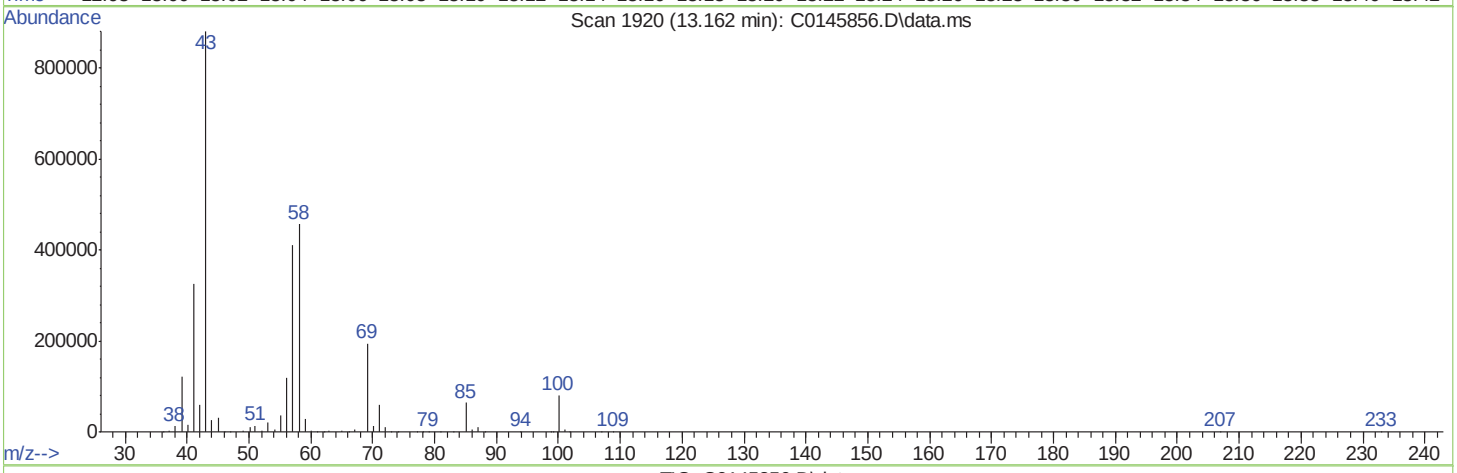
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	51.89
57.00	44.90	46.70
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:01:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145856.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 210.19ug/L m

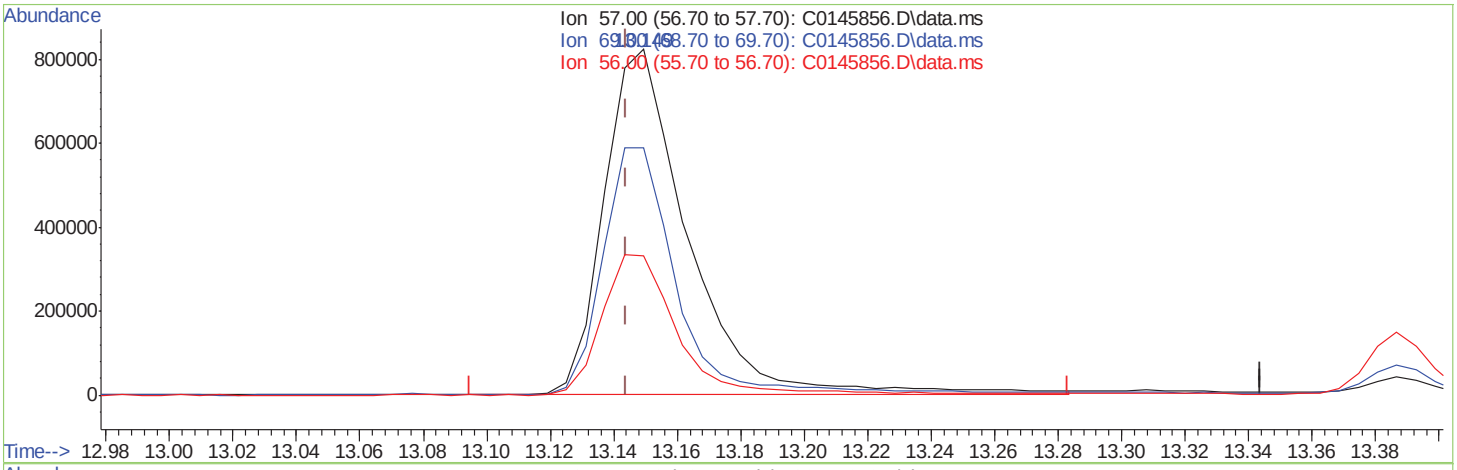
response 1215755

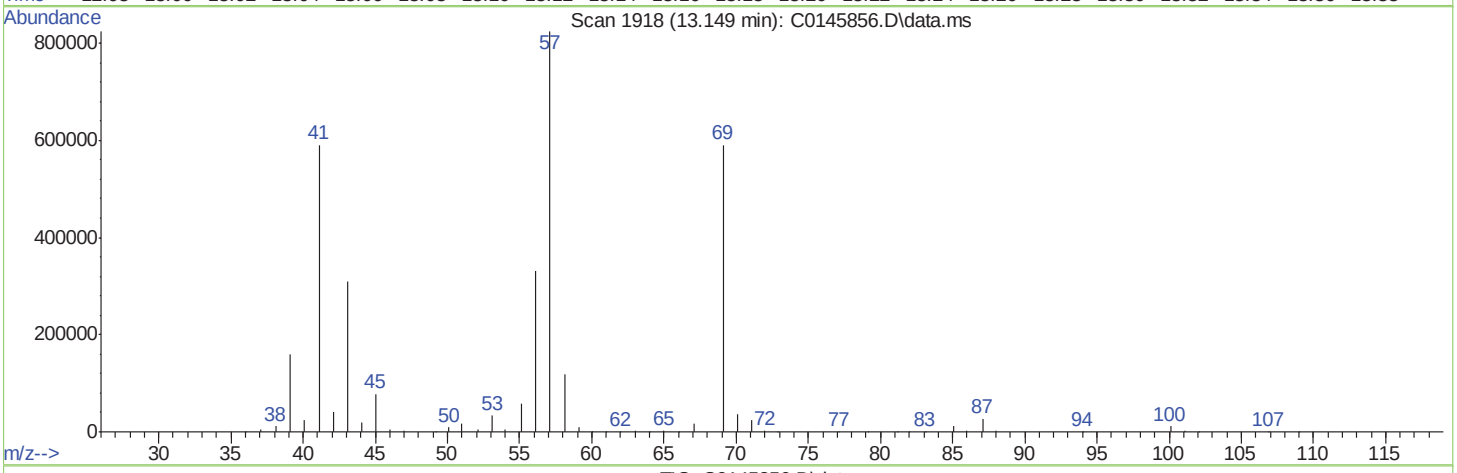
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	51.86
57.00	44.90	46.71
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:01:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145856.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.149min (+0.005) 2557.98ug/L

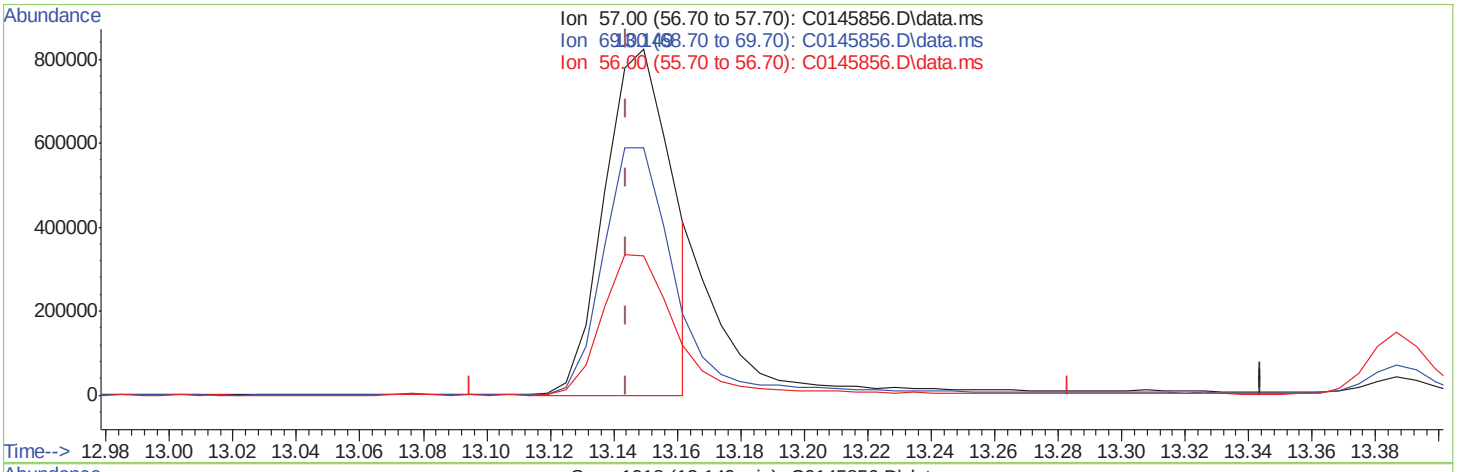
response 1525055

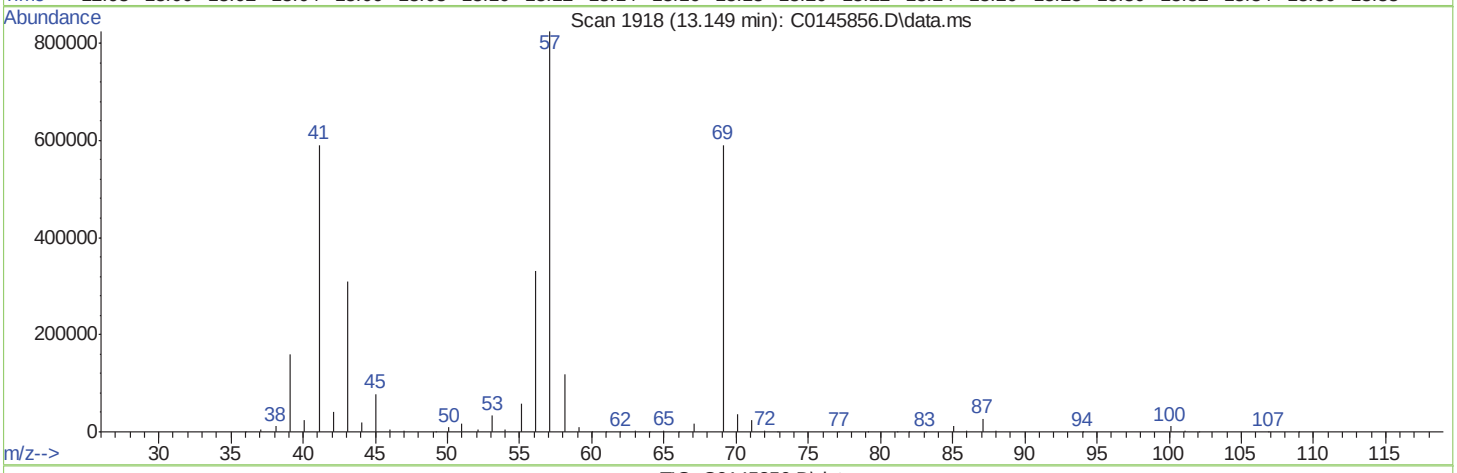
Ion	Exp%	Act%
57.00	100	100
69.00	75.60	63.29
56.00	43.60	36.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:01:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145856.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.149min (+0.005) 2032.69ug/L m

response 1211881

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	79.65
56.00	43.60	45.67
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Steven Heller 12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:22:01 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1677665	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1171374	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	630369	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.805	65	215494	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	420054	47.58	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.16%			
47) 1,2-Dichloroethane-d4	10.181	65	544761	50.59	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 101.18%			
58) Toluene-d8	12.134	98	1667860	55.86	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 111.72%			
80) 4-Bromofluorobenzene	14.306	174	529106	51.20	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	591060	55.83	ug/L	98
3) Chloromethane	3.203	50	743732	63.06	ug/L	99
4) 1,3-butadiene	3.367	39	503696	52.95	ug/L	100
5) Vinyl Chloride	3.349	62	719411	61.21	ug/L	100
6) Bromomethane	3.897	94	231035	49.78	ug/L	98
7) Chloroethane	4.109	64	292330	50.16	ug/L	97
8) Trichlorofluoromethane	4.328	101	688273	54.57	ug/L	97
9) Ethyl Ether	4.912	59	515044	60.39	ug/L	99
10) 1,2-Dichlorotrifluoroe...	5.247	67	599003	59.31	ug/L	98
11) 1,1-Dichloroethene	5.229	61	778141	60.46	ug/L	98
12) Freon 113	5.308	101	464905	55.75	ug/L	97
13) Carbon Disulfide	5.278	76	1636933	60.18	ug/L	99
14) Iodomethane	5.478	142	532950	57.62	ug/L	97
15) Acrolein	5.825	56	599963	289.43	ug/L	94
16) Allyl chloride	6.056	41	938019	60.55	ug/L	99
17) Methylene Chloride	6.263	49	723273	56.21	ug/L	97
18) Acetone	6.336	43	853340	303.35	ug/L	98
19) Methyl acetate	6.555	43	2263198	292.92	ug/L	100
20) trans-1,2-Dichloroethene	6.537	61	751641	59.67	ug/L	99
21) Hexane	6.677	56	466477	57.23	ug/L	95
22) Methyl Tert Butyl Ether	6.725	73	1768961	59.04	ug/L	91
23) Acetonitrile	7.170	41	852254	594.36	ug/L	94
24) Di-isopropyl ether	7.419	45	2100273	60.86	ug/L	99
25) Chloroprene	7.595	53	858648	59.88	ug/L	98
26) 1,1-Dichloroethane	7.638	63	987780	60.18	ug/L	100
27) Acrylonitrile	7.729	52	918157	292.36	ug/L	97
28) ETBE	8.088	59	1893639	60.30	ug/L	98
29) Vinyl acetate	8.112	43	6616035	300.59	ug/L	100
30) cis-1,2-Dichloroethene	8.660	96	530776	59.89	ug/L	98
31) 2,2-Dichloropropane	8.849	77	842518	58.19	ug/L	99
32) Bromochloromethane	9.025	128	265993	62.25	ug/L	95
33) Cyclohexane	9.019	56	1005163	58.93	ug/L	99
34) Chloroform	9.165	83	898776	59.18	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:22:01 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) Ethyl acetate	9.354	43	3077778	291.07	ug/L	100
36) Tetrahydrofuran	9.396	42	206141	56.67	ug/L	95
38) Carbon Tetrachloride	9.366	117	638165	57.55	ug/L	95
39) 1,1,1-Trichloroethane	9.469	97	785608	58.98	ug/L	99
40) 2-Butanone	9.621	43	1440114	310.28	ug/L	98
41) 1,1-Dichloropropene	9.664	75	796973	59.81	ug/L	100
42) tert-Butyl formate	9.816	59	2881109	288.33	ug/L	99
43) Propionitrile	10.029	54	839155	608.99	ug/L	94
44) Methacrylonitrile	10.059	41	3631935	582.07	ug/L	98
45) Benzene	9.998	78	2144014	59.89	ug/L	100
46) TAME	10.150	73	1745817	59.54	ug/L	98
48) 1,2-Dichloroethane	10.266	62	755128	61.14	ug/L	99
49) Trichloroethene	10.728	95	545341	58.35	ug/L	98
50) Methylcyclohexane	10.710	83	876789	57.59	ug/L	99
51) Dibromomethane	11.191	93	323064	60.34	ug/L	97
52) 1,2-Dichloropropane	11.288	63	624962	60.69	ug/L	99
53) Bromodichloromethane	11.361	83	700042	59.38	ug/L	97
54) Methyl methacrylate	11.501	41	587974	63.05	ug/L	97
55) 2-Chloroethyl vinyl ether	11.903	63	1980947	290.95	ug/L	98
56) cis-1,3-Dichloropropene	11.963	75	1029281	60.04	ug/L	98
59) Toluene	12.176	91	2216283	68.48	ug/L	99
60) 2-Nitropropane	12.383	41	864636	360.65	ug/L	98
61) 4-Methyl-2-pentanone	12.493	43	2780630	350.43	ug/L	99
62) trans-1,3-Dichloropropene	12.541	75	879415	73.08	ug/L	90
63) Tetrachloroethene	12.523	166	552593	72.68	ug/L	99
64) Ethyl methacrylate	12.645	69	770779	73.82	ug/L	97
65) 1,1,2-Trichloroethane	12.675	83	421851	70.49	ug/L	98
66) Dibromochloromethane	12.833	129	532274	72.38	ug/L	97
67) 1,3-Dichloropropane	12.900	76	932596	71.20	ug/L	99
68) 1,2-Dibromoethane	13.034	107	487256	70.46	ug/L	100
69) 2-hexanone	13.162	43	2022584m	352.61	ug/L	
70) 1-Chlorohexane	13.387	91	770483	72.63	ug/L	98
71) Ethylbenzene	13.436	91	2318911	68.94	ug/L	98
72) Chlorobenzene	13.436	112	1341967	70.11	ug/L	96
73) 1,1,1,2-Tetrachloroethane	13.478	131	493322	72.22	ug/L	98
74) m,p-Xylene	13.539	91	3440429	139.36	ug/L	98
75) o-Xylene	13.861	91	1916844	71.17	ug/L	100
76) Styrene	13.898	104	1588614	72.89	ug/L	99
77) Bromoform	13.953	173	380570	76.22	ug/L	99
78) Isopropylbenzene	14.080	105	2231191	70.49	ug/L	99
81) cis-1,4-Dichloro-2-butene	14.336	53	245884	85.11	ug/L	97
82) n-Propylbenzene	14.372	91	2712038	73.40	ug/L	100
83) Bromobenzene	14.397	156	591060	75.15	ug/L	98
84) 1,1,2,2-Tetrachloroethane	14.427	83	648686	73.20	ug/L	100
85) 1,3,5-Trimethylbenzene	14.494	105	1805501	74.09	ug/L	99
86) 2-Chlorotoluene	14.506	91	1836279	75.52	ug/L	100
87) trans-1,4-Dichloro-2-B...	14.549	53	211963	83.01	ug/L	94
88) 1,2,3-Trichloropropane	14.537	110	185817	73.79	ug/L	97
89) Cyclohexanone	14.585	55	118695	374.79	ug/L	98
90) 4-Chlorotoluene	14.622	91	1710214	75.91	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:22:01 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

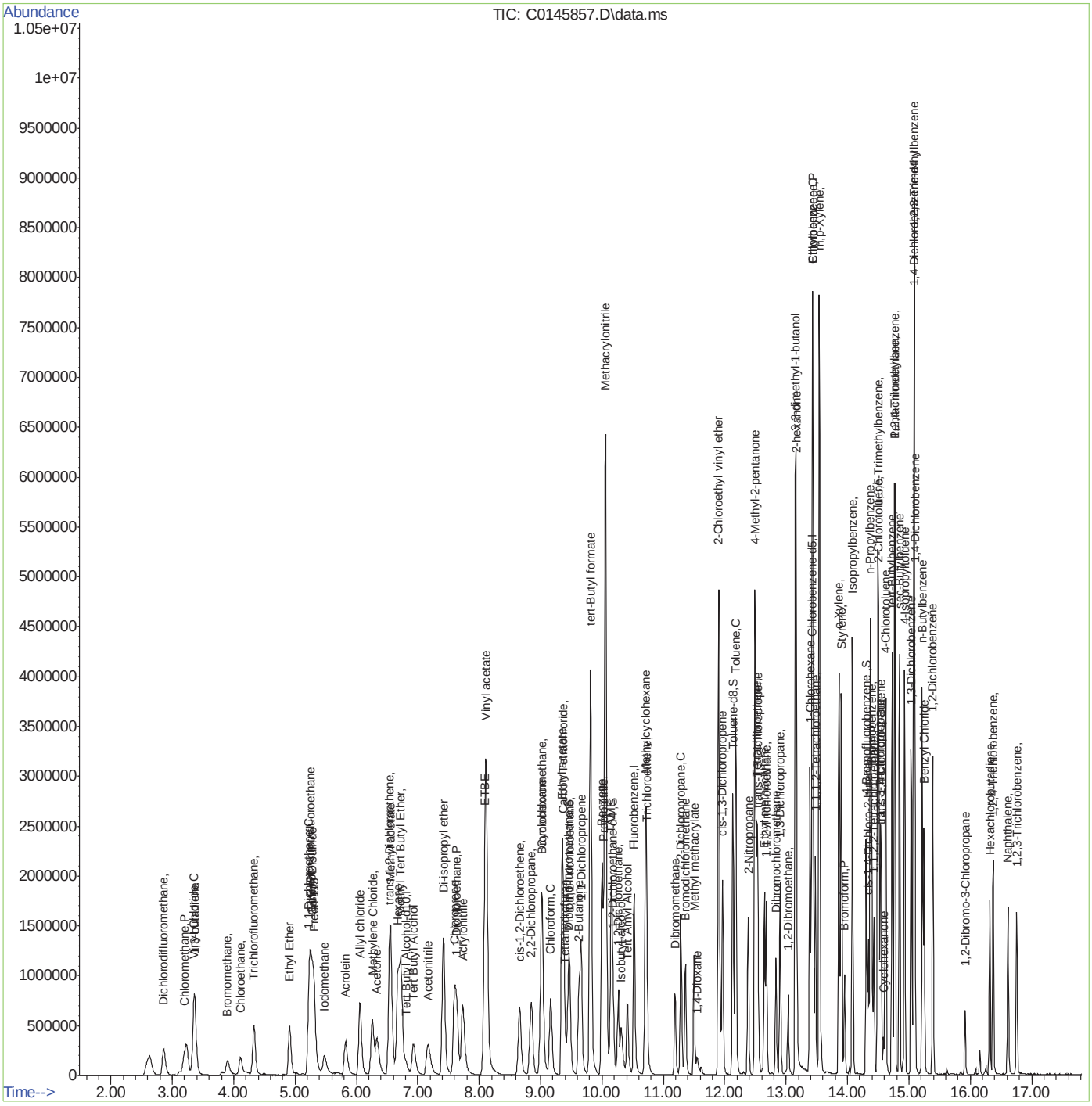
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	1081077	76.35	ug/L	98
93) 1,2,4-Trimethylbenzene	14.768	105	1811810	73.25	ug/L	99
94) Pentachloroethane	14.774	167	362374	76.58	ug/L	95
95) sec-Butylbenzene	14.847	105	2191300	74.82	ug/L	99
96) 4-Isopropyltoluene	14.932	119	1892799	74.84	ug/L	99
97) 1,3-Dichlorobenzene	15.036	146	1063485	78.22	ug/L	99
98) 1,2,3-Trimethylbenzene	15.078	105	2146260	73.06	ug/L	99
99) 1,4-Dichlorobenzene	15.096	146	1063171	75.96	ug/L	98
100) n-Butylbenzene	15.218	92	1047016	74.65	ug/L	99
101) Benzyl Chloride	15.249	126	275908	71.45	ug/L	98
102) 1,2-Dichlorobenzene	15.388	146	1002226	77.51	ug/L	99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	130424	78.29	ug/L	98
104) Hexachlorobutadiene	16.319	225	288261	77.37	ug/L	98
105) 1,2,4-Trichlorobenzene	16.374	180	576636	76.39	ug/L	98
106) Naphthalene	16.617	128	1159855	67.94	ug/L	99
107) 1,2,3-Trichlorobenzene	16.757	180	465491	74.60	ug/L	96
109) Ethanol	5.265	45	130471	1543.57	ug/L	80
110) Tert Butyl Alcohol	6.926	59	757534	836.74	ug/L	96
111) Isobutyl alcohol	10.315	43	383597	1309.11	ug/L	100
112) Tert Amyl Alcohol	10.412	59	531465	850.13	ug/L	99
113) 1,4-Dioxane	11.556	88	126882	1677.26	ug/L	91
114) 3,3-dimethyl-1-butanol	13.150	57	1968524m	3344.45	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:22:01 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



7.6.6

7

Manual Integration Approval Summary

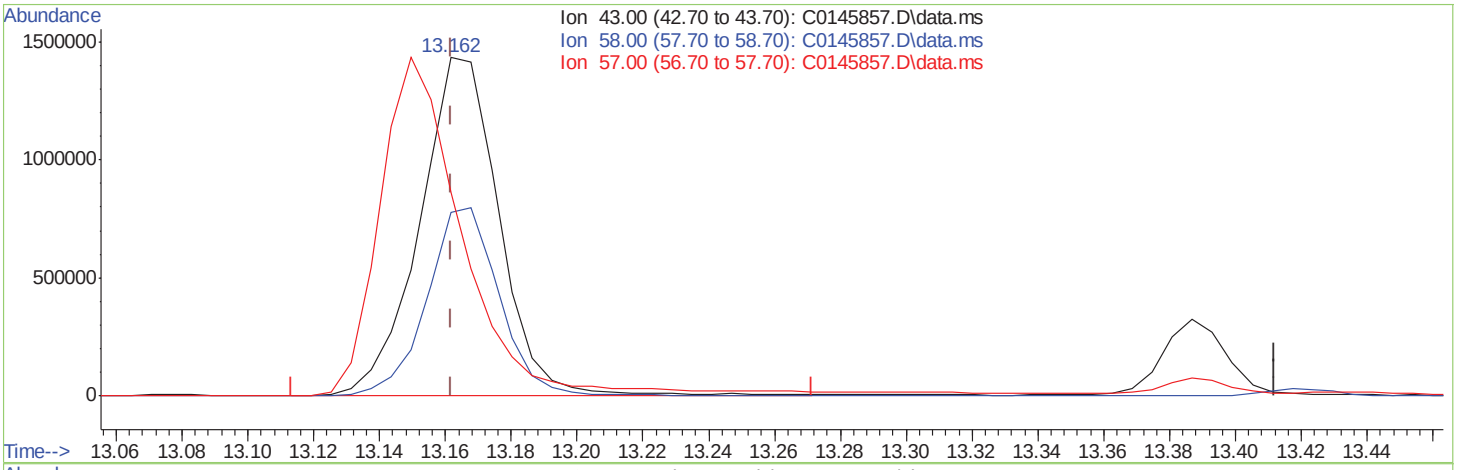
Sample Number: VC5857-IC5857
Lab FileID: C0145857.D
Injection Time: 12/24/20 09:59
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

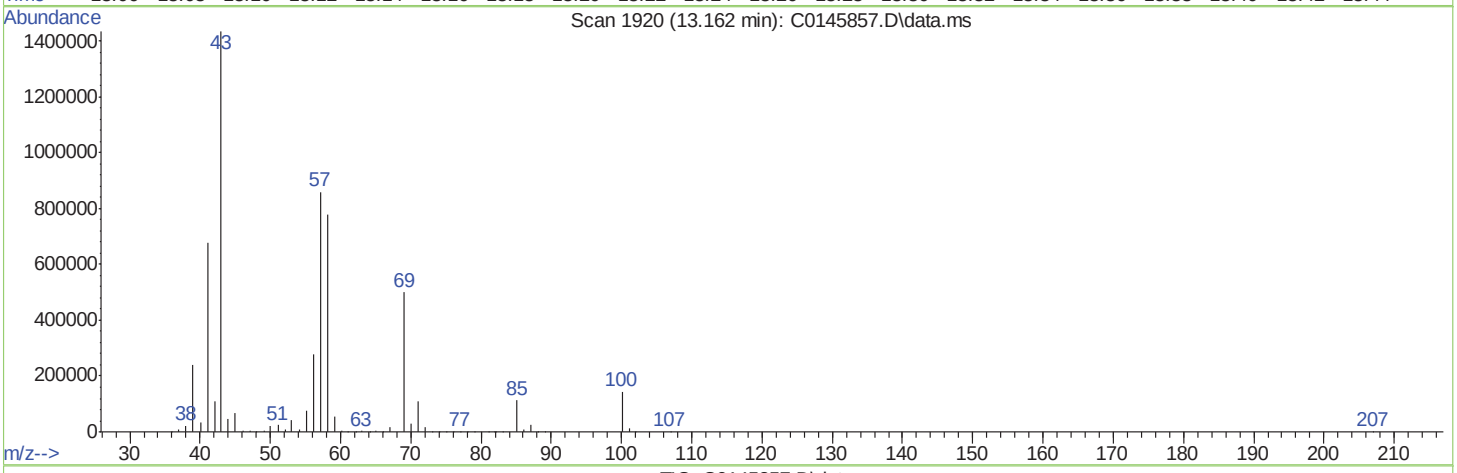
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.16	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:20:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145857.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 416.45ug/L

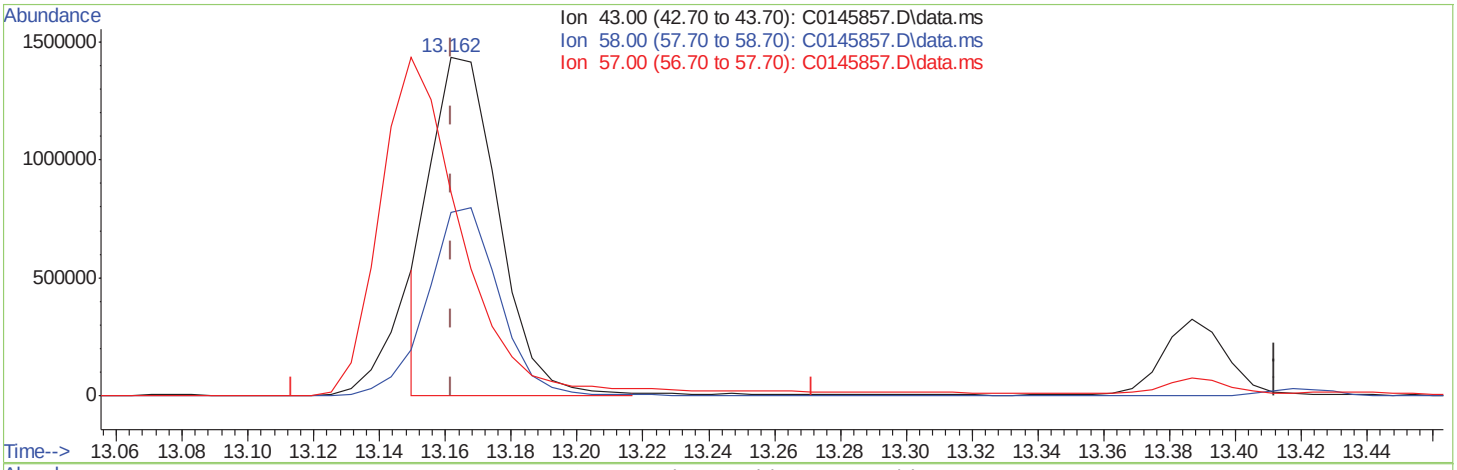
response 2388787

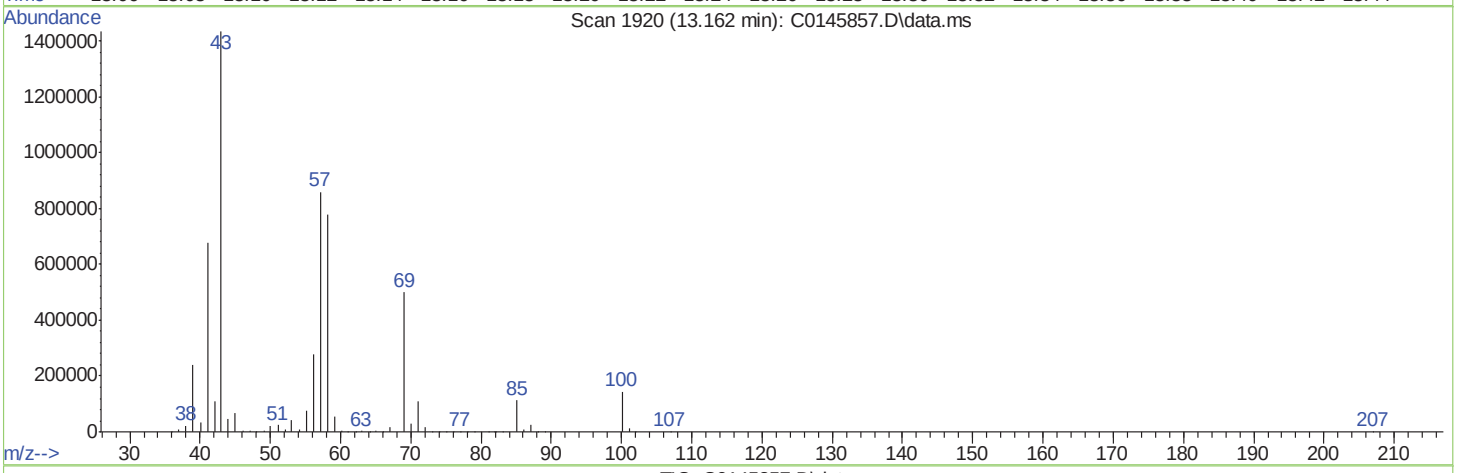
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	54.18
57.00	44.90	59.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:20:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145857.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 352.61ug/L m

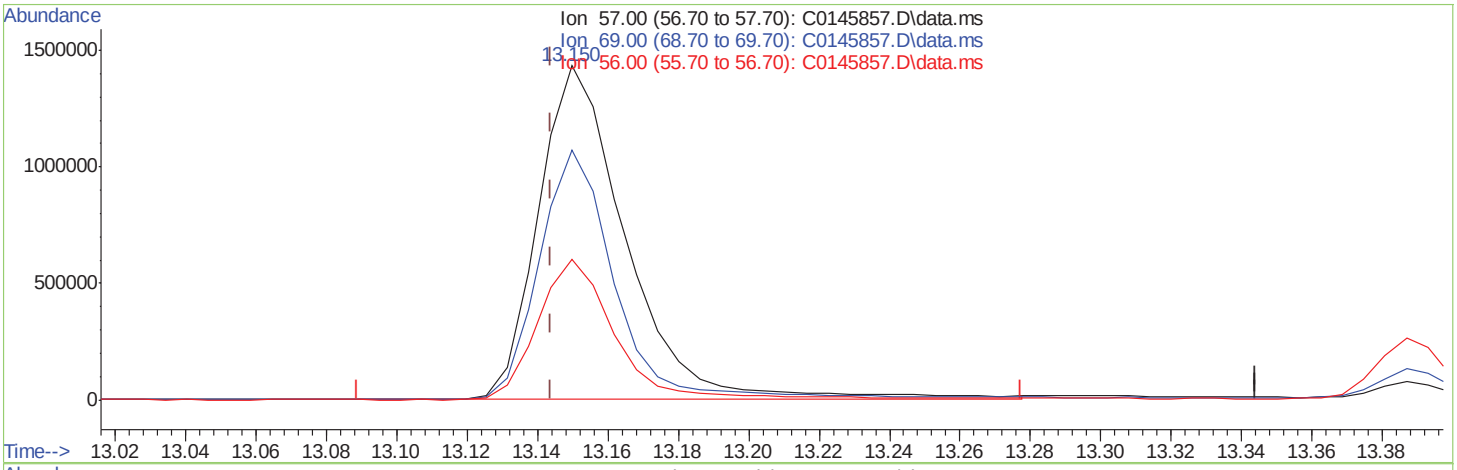
response 2022584

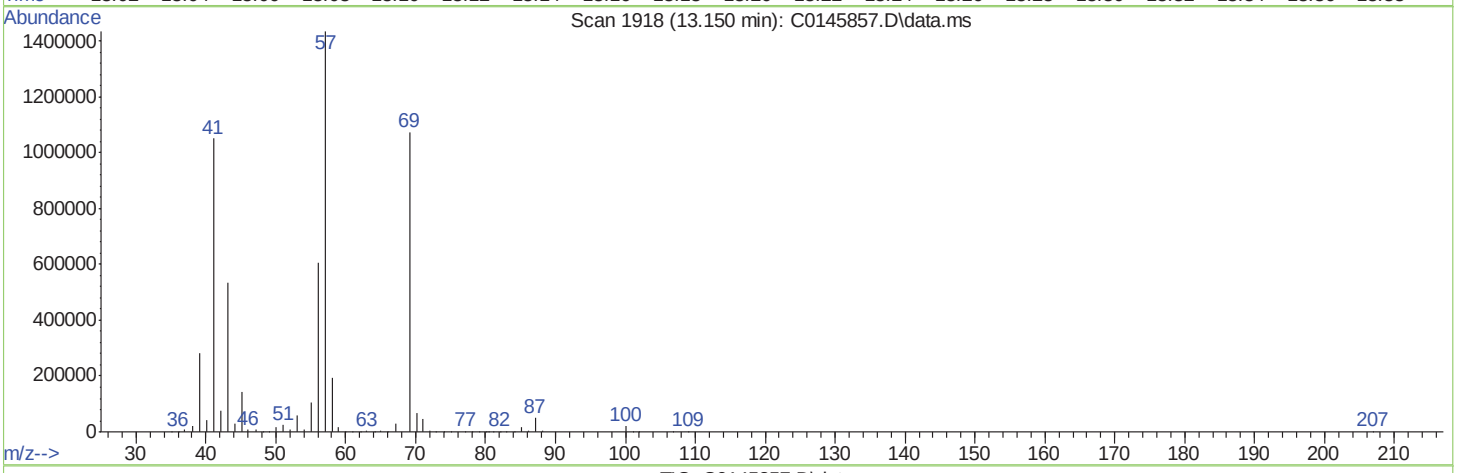
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	54.15
57.00	44.90	59.96
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:20:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145857.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.150min (+0.006) 4262.01ug/L

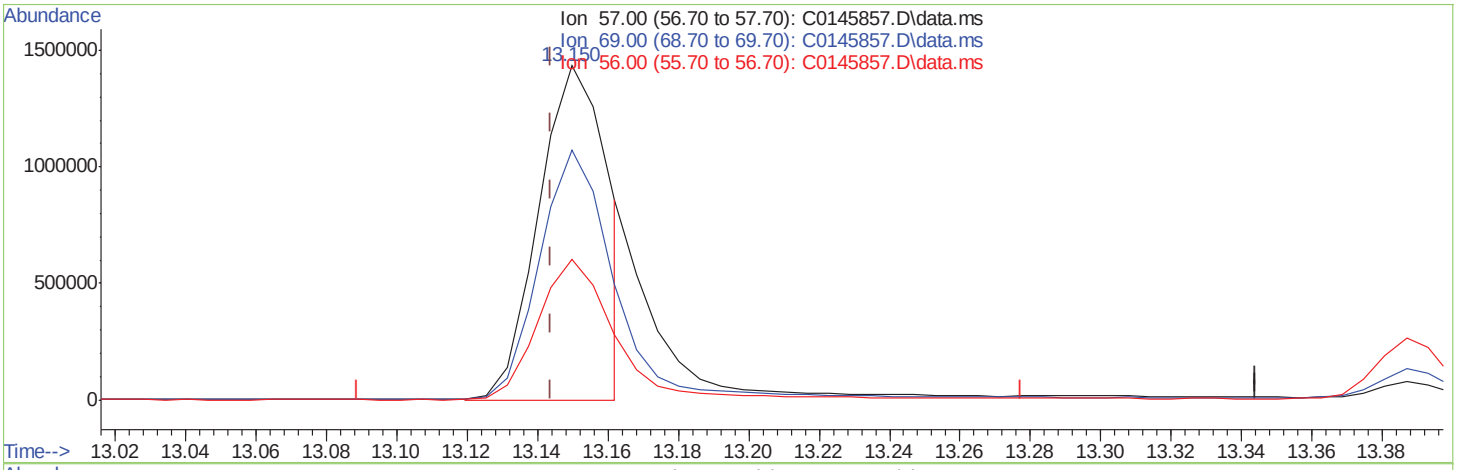
response 2508593

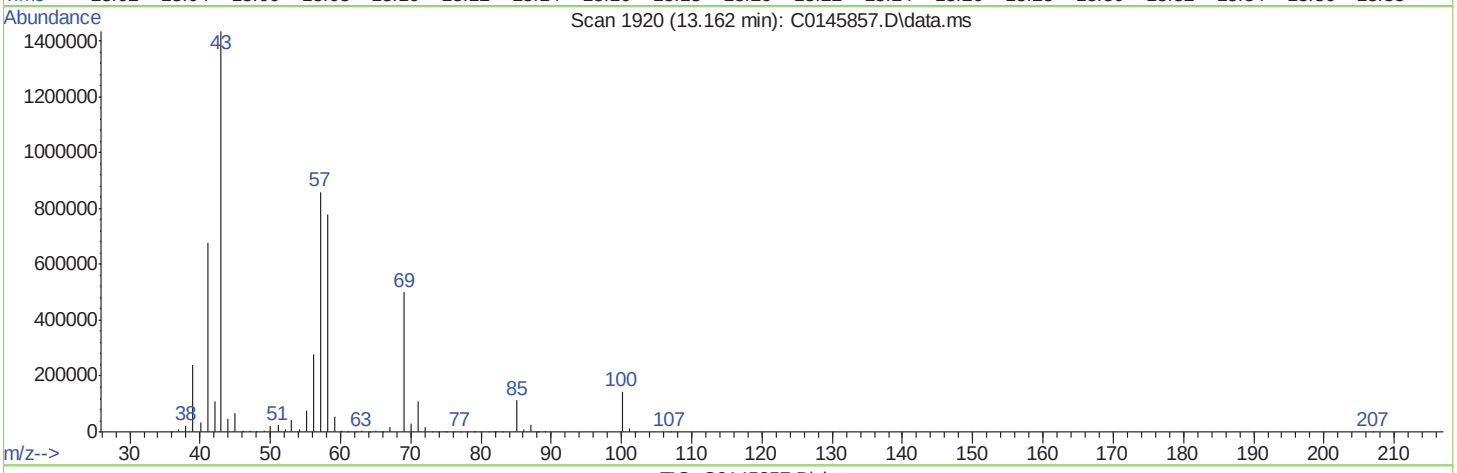
Ion	Exp%	Act%
57.00	100	100
69.00	75.60	65.53
56.00	43.60	37.96
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:20:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145857.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.150min (+0.006) 3344.45ug/L m

response 1968524

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	83.51
56.00	43.60	48.38
0.00	0.00	0.00

C0145858.D

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:43:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1695650	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1167194	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	622052	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.829	65	226945	250.00	ug/L	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	9.457	113	419736	47.04	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 94.08%			
47) 1,2-Dichloroethane-d4	10.181	65	547210	50.27	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.54%			
58) Toluene-d8	12.134	98	1667062	56.03	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 112.06%#			
80) 4-Bromofluorobenzene	14.306	174	529180	51.89	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 103.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	835623	78.09	ug/L	97
3) Chloromethane	3.203	50	1052814	88.32	ug/L	97
4) 1,3-butadiene	3.361	39	706773	73.51	ug/L	97
5) Vinyl Chloride	3.343	62	983796	82.82	ug/L	96
6) Bromomethane	3.897	94	374448	77.53	ug/L	94
7) Chloroethane	4.109	64	384425	65.26	ug/L	94
8) Trichlorofluoromethane	4.322	101	850795	66.74	ug/L	98
9) Ethyl Ether	4.919	59	717733	83.26	ug/L	96
10) 1,2-Dichlorotrifluoroe...	5.247	67	838675	82.16	ug/L	100
11) 1,1-Dichloroethene	5.223	61	1092436	83.99	ug/L	97
12) Freon 113	5.302	101	665192	78.93	ug/L	95
13) Carbon Disulfide	5.271	76	2254869	82.02	ug/L	97
14) Iodomethane	5.484	142	711075	73.40	ug/L	99
15) Acrolein	5.825	56	849529	396.57	ug/L	92
16) Allyl chloride	6.056	41	1318882	84.24	ug/L	97
17) Methylene Chloride	6.257	49	984165	77.91	ug/L	96
18) Acetone	6.342	43	1183157	416.13	ug/L	97
19) Methyl acetate	6.561	43	3188243	408.81	ug/L	99
20) trans-1,2-Dichloroethene	6.531	61	1054965	82.86	ug/L	99
21) Hexane	6.677	56	673362	81.74	ug/L	94
22) Methyl Tert Butyl Ether	6.731	73	2494394	82.37	ug/L	92
23) Acetonitrile	7.169	41	1150784	787.65	ug/L	95
24) Di-isopropyl ether	7.425	45	2919586	83.71	ug/L	99
25) Chloroprene	7.595	53	1219871	84.16	ug/L	98
26) 1,1-Dichloroethane	7.638	63	1369335	82.54	ug/L	97
27) Acrylonitrile	7.735	52	1268592	393.29	ug/L	96
28) ETBE	8.094	59	2650036	83.49	ug/L	99
29) Vinyl acetate	8.119	43	8901483	400.14	ug/L	99
30) cis-1,2-Dichloroethene	8.654	96	737745	82.37	ug/L	99
31) 2,2-Dichloropropane	8.849	77	1197244	81.81	ug/L	98
32) Bromochloromethane	9.025	128	319880	74.06	ug/L	89
33) Cyclohexane	9.013	56	1412707	81.94	ug/L	99
34) Chloroform	9.165	83	1252601	81.60	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:43:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
35) Ethyl acetate	9.353	43	4204843	399.22	ug/L		99
36) Tetrahydrofuran	9.402	42	297947	81.04	ug/L		99
38) Carbon Tetrachloride	9.366	117	898288	80.15	ug/L		97
39) 1,1,1-Trichloroethane	9.469	97	1089238	80.90	ug/L		98
40) 2-Butanone	9.621	43	1997494	425.81	ug/L		98
41) 1,1-Dichloropropene	9.658	75	1118516	83.05	ug/L		97
42) tert-Butyl formate	9.816	59	3974895	393.57	ug/L		99
43) Propionitrile	10.041	54	1156237	830.20	ug/L	#	74
44) Methacrylonitrile	10.065	41	4918401	779.88	ug/L		97
45) Benzene	10.004	78	2933119	81.06	ug/L		99
46) TAME	10.150	73	2431294	82.05	ug/L		97
48) 1,2-Dichloroethane	10.266	62	1046034	83.80	ug/L		100
49) Trichloroethene	10.728	95	756117	80.04	ug/L		98
50) Methylcyclohexane	10.710	83	1248630	81.15	ug/L		97
51) Dibromomethane	11.191	93	454599	84.01	ug/L		97
52) 1,2-Dichloropropane	11.288	63	875884	84.16	ug/L		98
53) Bromodichloromethane	11.361	83	981604	82.38	ug/L		98
54) Methyl methacrylate	11.501	41	830778	88.14	ug/L		97
55) 2-Chloroethyl vinyl ether	11.903	63	2676847	388.98	ug/L		99
56) cis-1,3-Dichloropropene	11.969	75	1416604	81.75	ug/L		98
59) Toluene	12.176	91	2986030	92.59	ug/L		97
60) 2-Nitropropane	12.383	41	1208661	505.95	ug/L		99
61) 4-Methyl-2-pentanone	12.493	43	3746179	473.80	ug/L		97
62) trans-1,3-Dichloropropene	12.541	75	1225742	102.22	ug/L		89
63) Tetrachloroethene	12.523	166	748060	98.74	ug/L		98
64) Ethyl methacrylate	12.645	69	1066409	102.50	ug/L		97
65) 1,1,2-Trichloroethane	12.675	83	577608	96.86	ug/L		99
66) Dibromochloromethane	12.833	129	726182	99.10	ug/L		97
67) 1,3-Dichloropropane	12.900	76	1288812	98.75	ug/L		97
68) 1,2-Dibromoethane	13.034	107	675246	97.99	ug/L		99
69) 2-hexanone	13.168	43	2826859m	494.59	ug/L		
70) 1-Chlorohexane	13.387	91	1038772	98.27	ug/L		95
71) Ethylbenzene	13.436	91	3064890	91.44	ug/L		97
72) Chlorobenzene	13.436	112	1802273	94.50	ug/L		94
73) 1,1,1,2-Tetrachloroethane	13.478	131	669003	98.30	ug/L		99
74) m,p-Xylene	13.539	91	4449979	180.90	ug/L		95
75) o-Xylene	13.861	91	2560728	95.41	ug/L		98
76) Styrene	13.904	104	2133814	98.25	ug/L		99
77) Bromoform	13.953	173	535328	107.60	ug/L		98
78) Isopropylbenzene	14.080	105	2967546	94.09	ug/L		96
81) cis-1,4-Dichloro-2-butene	14.336	53	339712	119.17	ug/L		98
82) n-Propylbenzene	14.372	91	3573975	98.01	ug/L		97
83) Bromobenzene	14.397	156	811640	104.58	ug/L		99
84) 1,1,2,2-Tetrachloroethane	14.427	83	892367	102.04	ug/L		99
85) 1,3,5-Trimethylbenzene	14.494	105	2422860	100.75	ug/L		98
86) 2-Chlorotoluene	14.506	91	2481213	103.41	ug/L		100
87) trans-1,4-Dichloro-2-B...	14.549	53	312990	124.21	ug/L	#	89
88) 1,2,3-Trichloropropane	14.543	110	256975	103.41	ug/L		93
89) Cyclohexanone	14.585	55	158294	506.51	ug/L		97
90) 4-Chlorotoluene	14.622	91	2278052	102.47	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:43:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

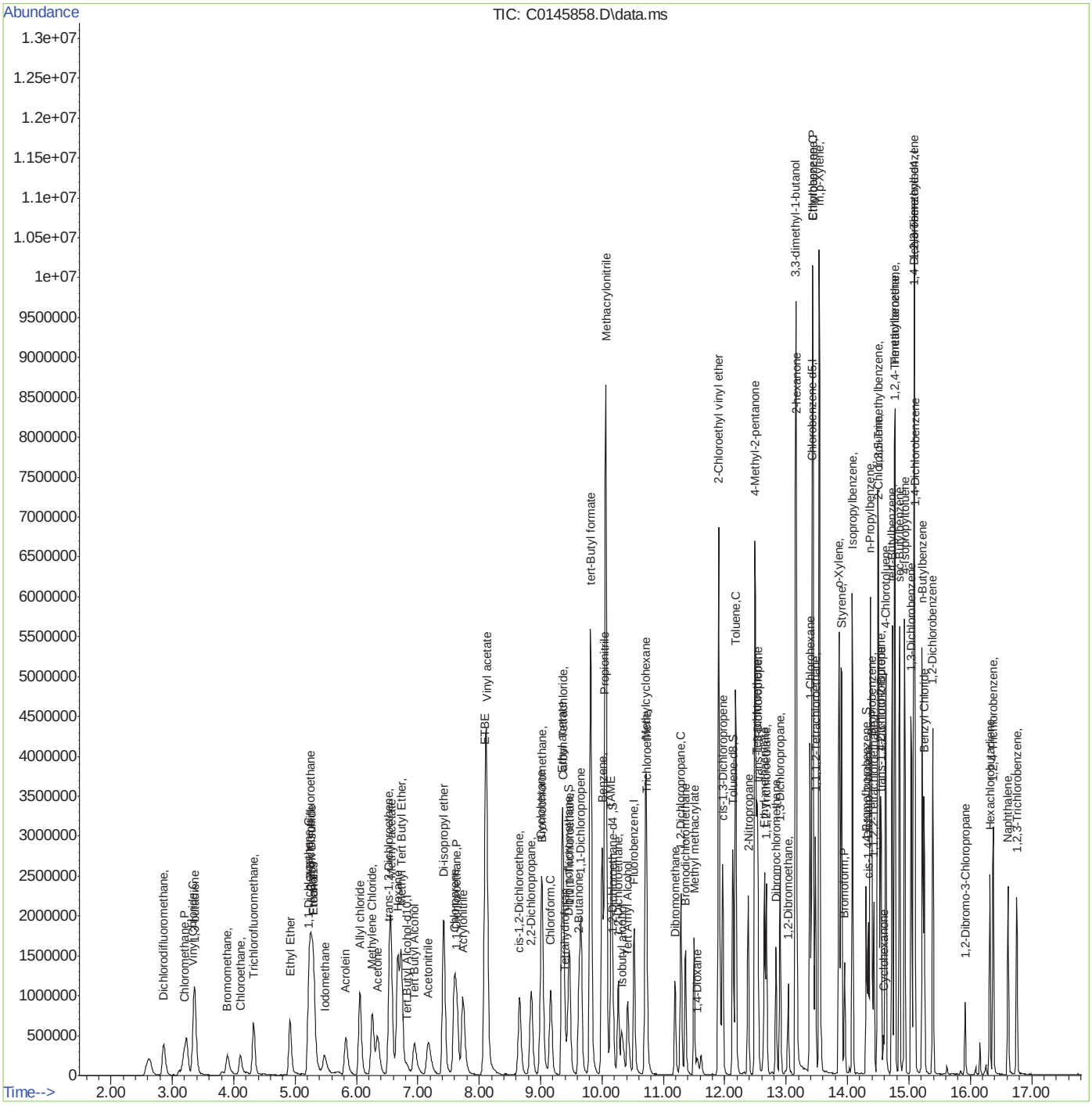
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	1464161	104.79	ug/L	98
93) 1,2,4-Trimethylbenzene	14.768	105	2433994	99.72	ug/L	98
94) Pentachloroethane	14.774	167	501824	107.46	ug/L	99
95) sec-Butylbenzene	14.847	105	2930703	101.41	ug/L	97
96) 4-Isopropyltoluene	14.932	119	2542328	101.87	ug/L	97
97) 1,3-Dichlorobenzene	15.036	146	1436362	107.05	ug/L	96
98) 1,2,3-Trimethylbenzene	15.078	105	2881613	99.40	ug/L	98
99) 1,4-Dichlorobenzene	15.096	146	1430368	103.56	ug/L	98
100) n-Butylbenzene	15.218	92	1469365	106.16	ug/L	95
101) Benzyl Chloride	15.248	126	392871	100.12	ug/L	96
102) 1,2-Dichlorobenzene	15.388	146	1374740	107.74	ug/L	98
103) 1,2-Dibromo-3-Chloropr...	15.918	75	179772	109.35	ug/L	97
104) Hexachlorobutadiene	16.319	225	418521	113.83	ug/L	96
105) 1,2,4-Trichlorobenzene	16.374	180	820468	110.15	ug/L	97
106) Naphthalene	16.617	128	1613647	95.79	ug/L	98
107) 1,2,3-Trichlorobenzene	16.757	180	644212	104.62	ug/L	96
109) Ethanol	5.302	45	188962m	2122.77	ug/L	
110) Tert Butyl Alcohol	6.944	59	1055206	1106.73	ug/L	97
111) Isobutyl alcohol	10.321	43	523694	1697.04	ug/L	97
112) Tert Amyl Alcohol	10.418	59	740269	1124.39	ug/L	99
113) 1,4-Dioxane	11.550	88	172011	2184.01	ug/L	97
114) 3,3-dimethyl-1-butanol	13.156	57	2889115m	4660.83	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:43:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

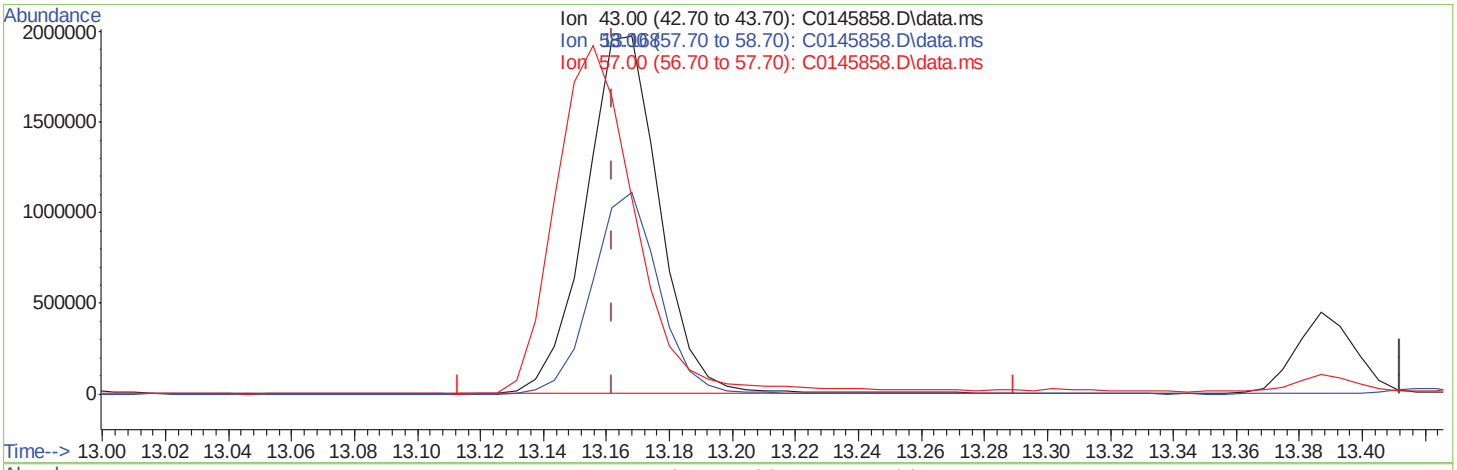
Sample Number: VC5857-IC5857
Lab FileID: C0145858.D
Injection Time: 12/24/20 10:25
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

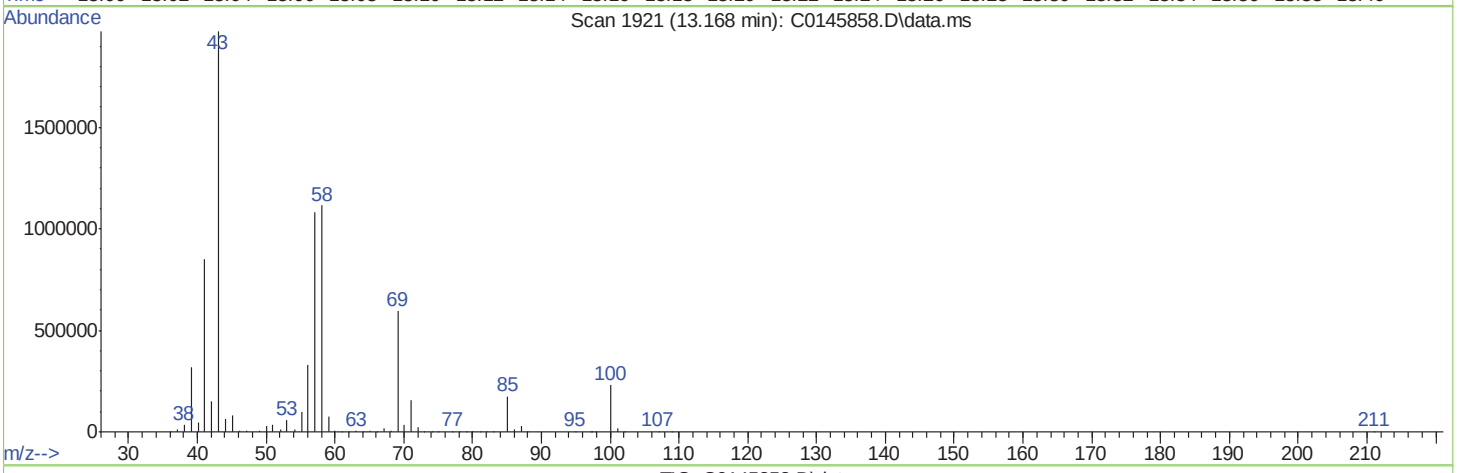
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.30	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.16	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 564.71ug/L

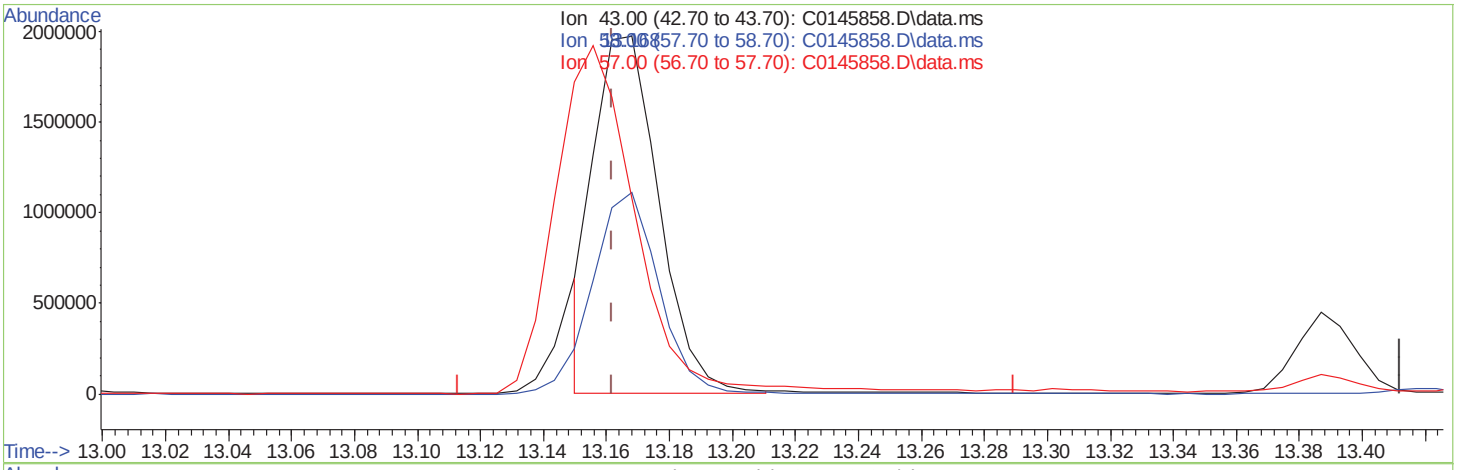
response 3227668

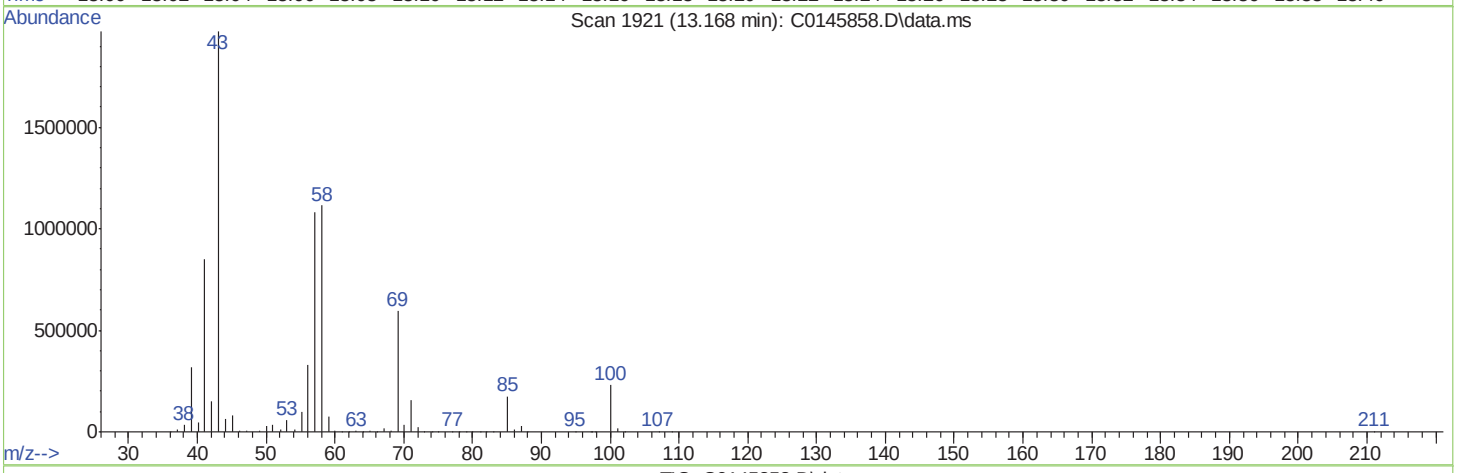
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	56.53
57.00	44.90	54.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 494.59ug/L m

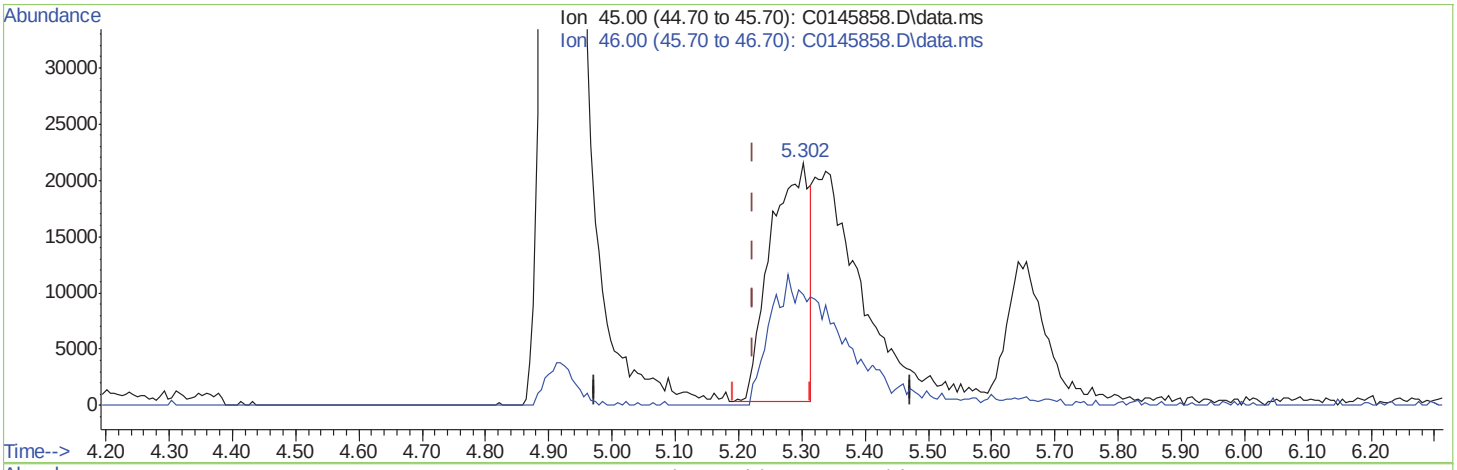
response 2826859

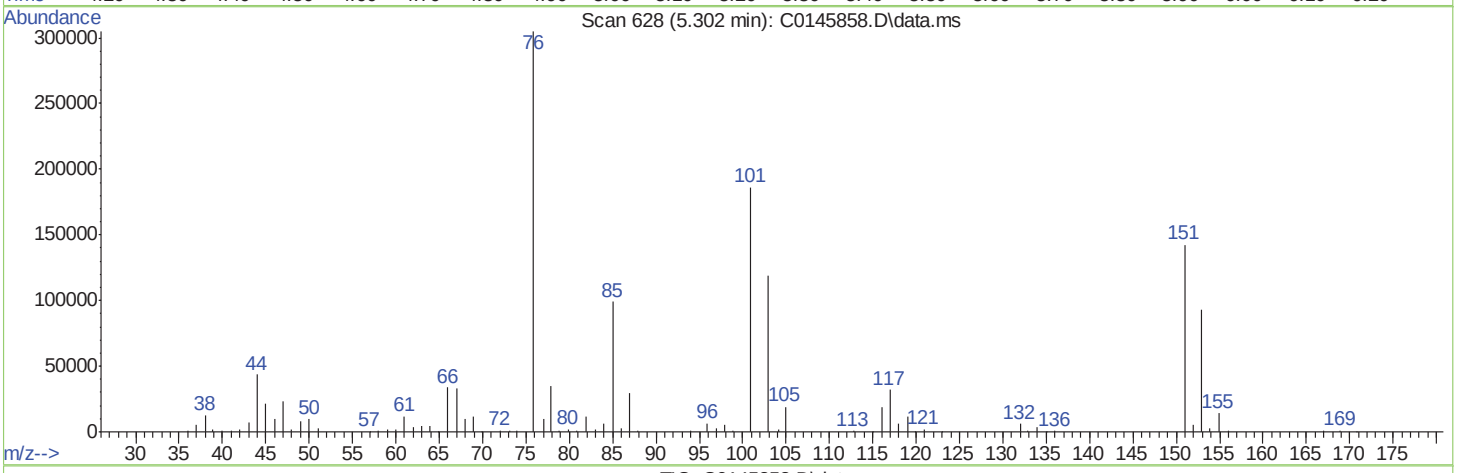
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	56.49
57.00	44.90	54.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(109) Ethanol

5.302min (+0.079) 1011.24ug/L

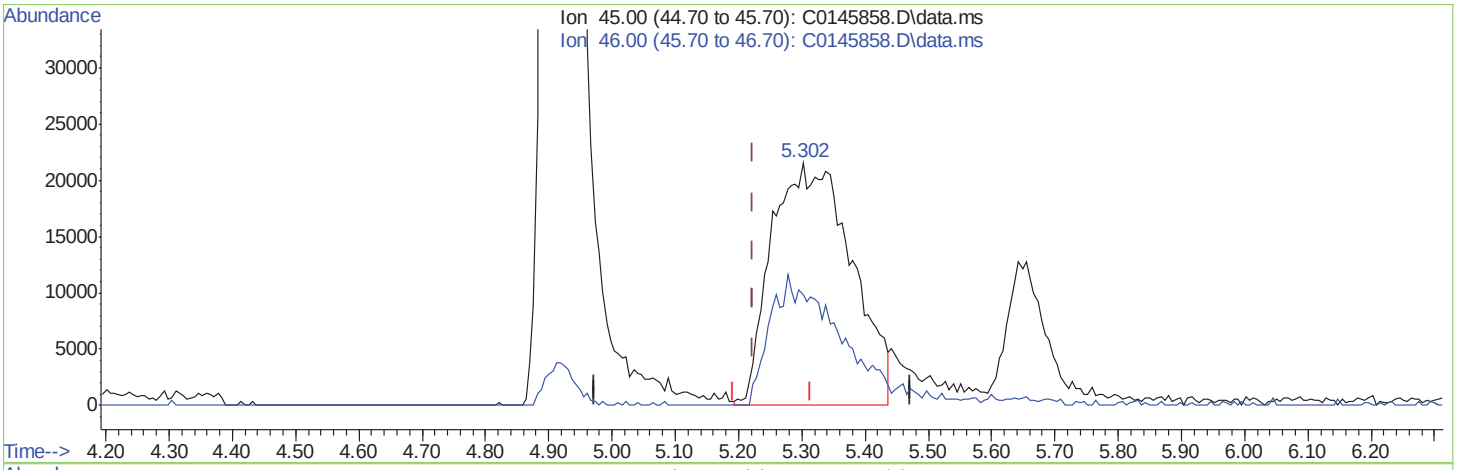
response 90017

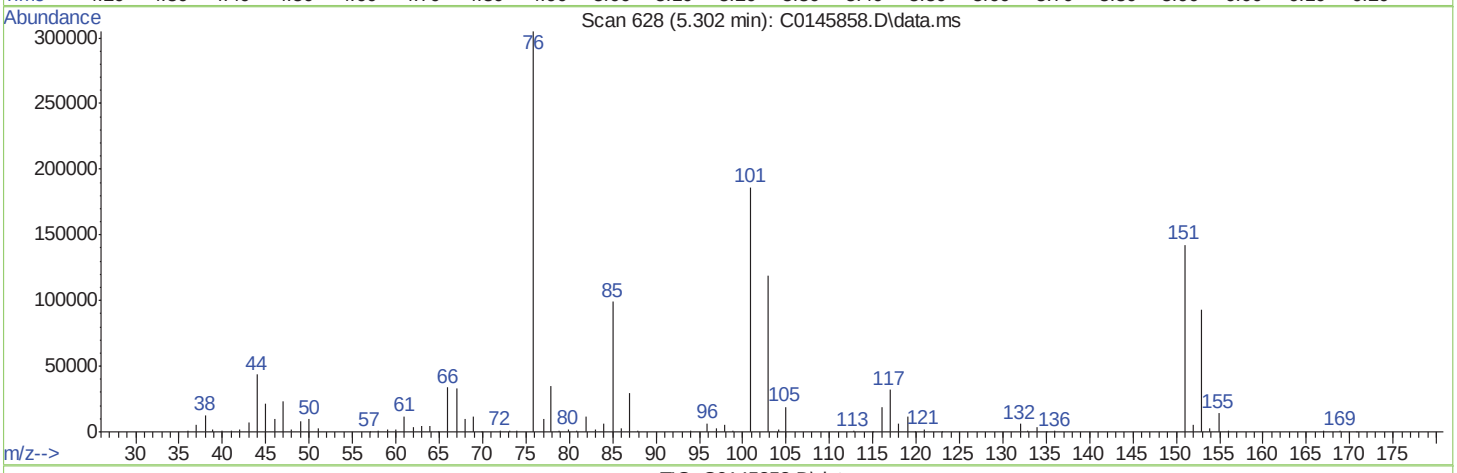
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	46.49
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(109) Ethanol

5.302min (+0.079) 2122.77ug/L m

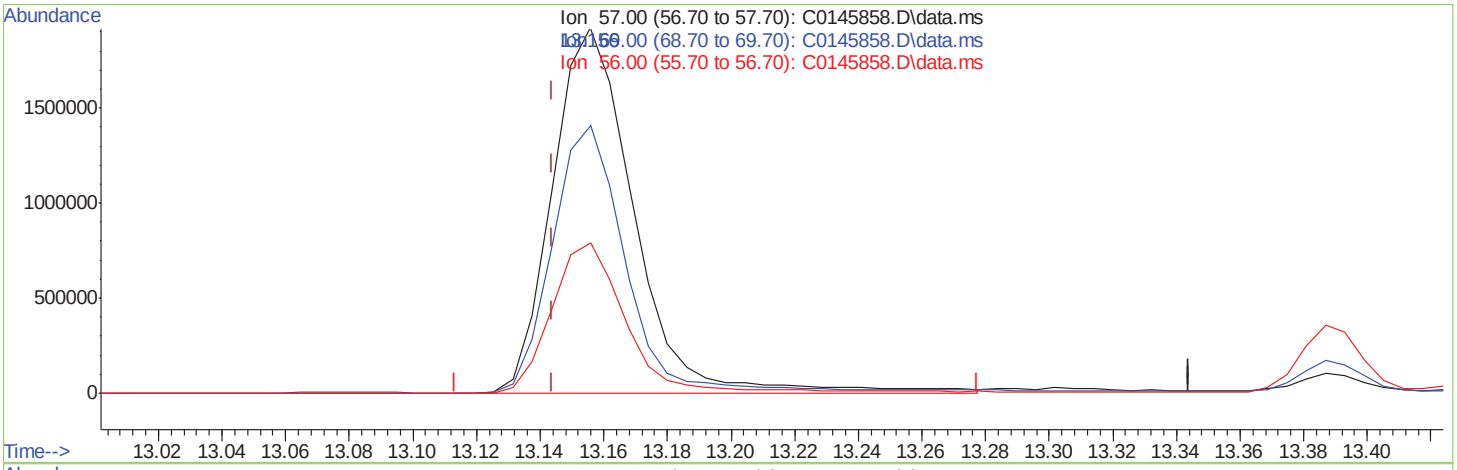
response 188962

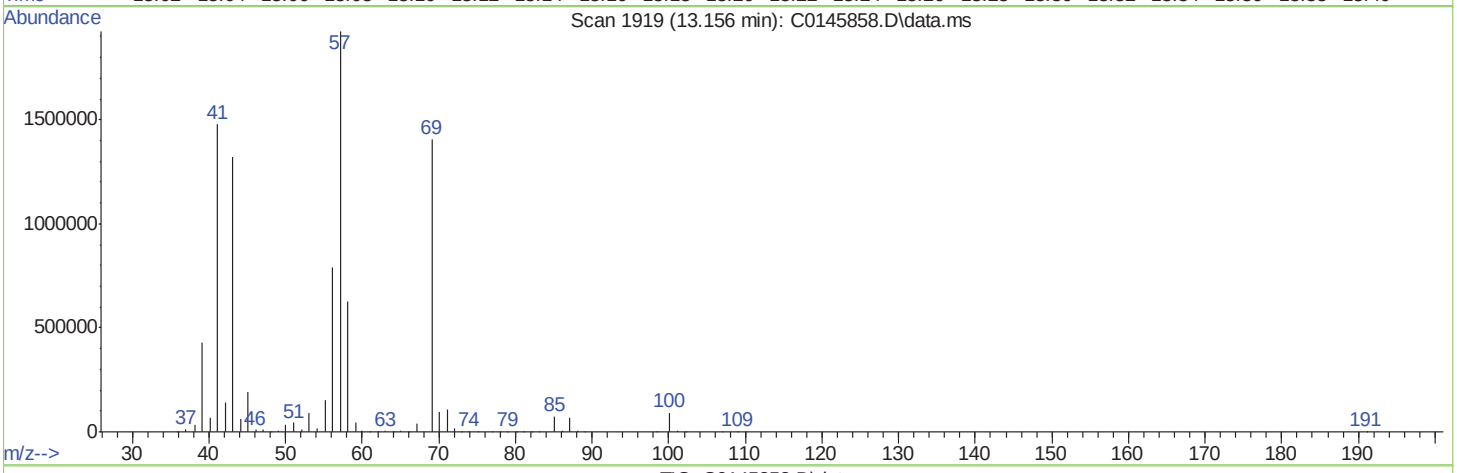
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	45.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.156min (+0.012) 5547.00ug/L

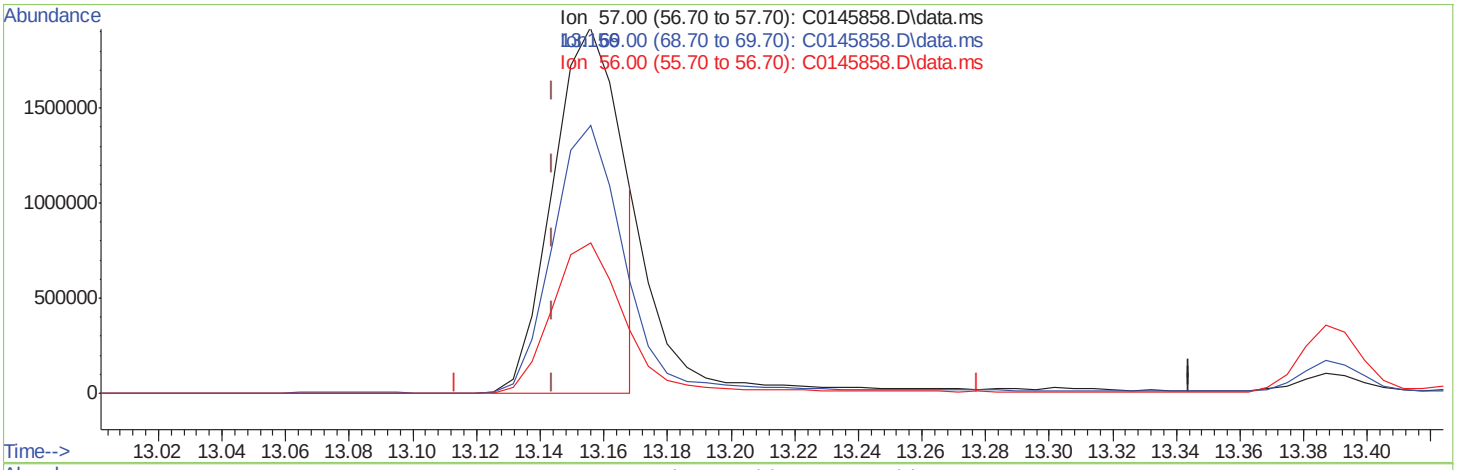
response 3438423

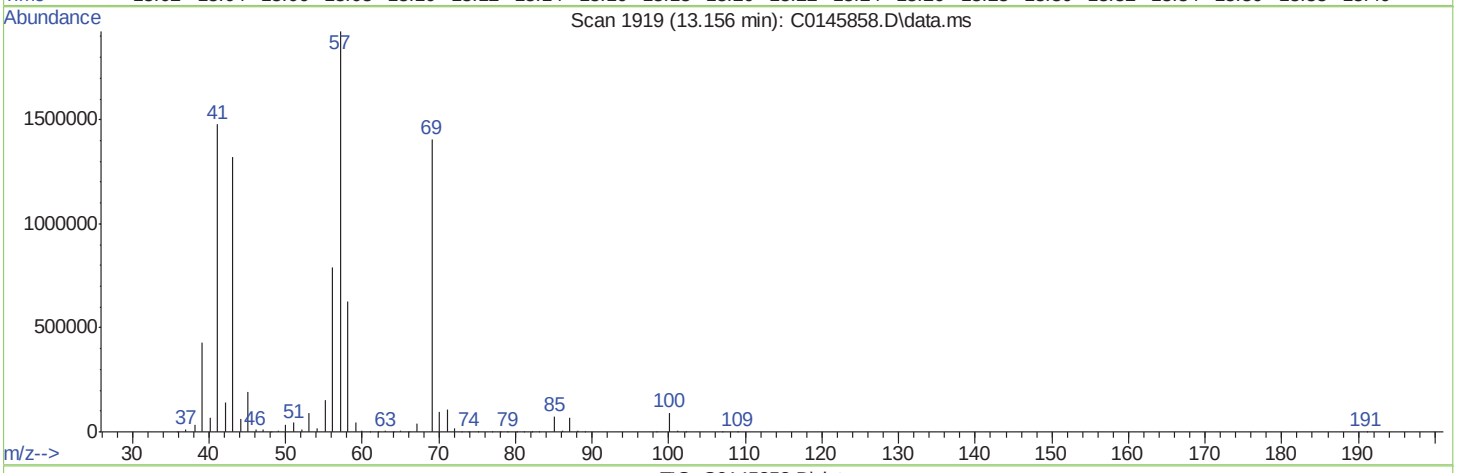
Ion	Exp%	Act%
57.00	100	100
69.00	75.60	65.75
56.00	43.60	37.93
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.156min (+0.012) 4660.83ug/L m

response 2889115

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	78.25
56.00	43.60	45.14
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/28/20 09:47

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 28 08:17:22 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1744522	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1206395	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	634526	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.792	65	212471	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	435634	50.63	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.26%			
47) 1,2-Dichloroethane-d4	10.181	65	564378	49.94	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.88%			
58) Toluene-d8	12.134	98	1714650	50.34	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.68%			
80) 4-Bromofluorobenzene	14.306	174	532730	49.83	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	289502	32.85	ug/L	96
3) Chloromethane	3.209	50	431238	39.16	ug/L	93
4) 1,3-butadiene	3.361	39	391877	49.84	ug/L	93
5) Vinyl Chloride	3.337	62	375341	36.70	ug/L	98
6) Bromomethane	3.897	94	151449	45.55	ug/L	99
7) Chloroethane	4.116	64	160074	35.08	ug/L	93
8) Trichlorofluoromethane	4.335	101	407872	38.69	ug/L	96
9) Ethyl Ether	4.906	59	266743	35.38	ug/L	94
10) 1,2-Dichlorotrifluoroe...	5.253	67	347286	39.64	ug/L	99
11) 1,1-Dichloroethene	5.229	61	427815	37.22	ug/L	97
12) Freon 113	5.308	101	218964	31.39	ug/L	96
13) Carbon Disulfide	5.271	76	787209	32.67	ug/L	99
14) Iodomethane	5.484	142	215589	33.45	ug/L	98
15) Acrolein	5.825	56	216664	125.95	ug/L	99
16) Allyl chloride	6.056	41	564904	40.42	ug/L	96
17) Methylene Chloride	6.263	49	398034	34.86	ug/L	99
18) Acetone	6.336	43	485496	193.05	ug/L	97
19) Methyl acetate	6.555	43	1254667	190.14	ug/L	98
20) trans-1,2-Dichloroethene	6.537	61	411941	37.56	ug/L	98
21) Hexane	6.677	56	230291	32.37	ug/L	97
22) Methyl Tert Butyl Ether	6.719	73	912120	34.20	ug/L	95
23) Acetonitrile	7.163	41	462729	378.48	ug/L	97
24) Di-isopropyl ether	7.413	45	1106268	35.42	ug/L	100
25) Chloroprene	7.601	53	499767	40.56	ug/L	99
26) 1,1-Dichloroethane	7.638	63	558600	38.80	ug/L	98
27) Acrylonitrile	7.729	52	514512	209.27	ug/L	99
28) ETBE	8.088	59	953231	33.76	ug/L	98
29) Vinyl acetate	8.112	43	3617914	177.58	ug/L	100
30) cis-1,2-Dichloroethene	8.660	96	288762	37.53	ug/L	97
31) 2,2-Dichloropropane	8.849	77	477075	38.85	ug/L	97
32) Bromochloromethane	9.019	128	136617	36.97	ug/L	94
33) Cyclohexane	9.019	56	509554	34.19	ug/L	100
34) Chloroform	9.165	83	500287	37.94	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 28 08:17:22 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) Ethyl acetate	9.353	43	1734955	189.00	ug/L	99
36) Tetrahydrofuran	9.402	42	113567	35.51	ug/L	98
38) Carbon Tetrachloride	9.366	117	350738	37.86	ug/L	99
39) 1,1,1-Trichloroethane	9.469	97	420596	37.57	ug/L	96
40) 2-Butanone	9.627	43	812209	189.56	ug/L	97
41) 1,1-Dichloropropene	9.658	75	419881	36.65	ug/L	92
42) tert-Butyl formate	9.816	59	1538415	179.80	ug/L	99
43) Propionitrile	10.029	54	467692	376.20	ug/L	98
44) Methacrylonitrile	10.053	41	2106076	369.98	ug/L	98
45) Benzene	9.998	78	1161266	36.42	ug/L	98
46) TAME	10.150	73	918434	35.40	ug/L	99
48) 1,2-Dichloroethane	10.266	62	396950	36.88	ug/L	98
49) Trichloroethene	10.728	95	283373	34.41	ug/L	96
50) Methylcyclohexane	10.710	83	473079	36.42	ug/L	98
51) Dibromomethane	11.191	93	176507	37.56	ug/L	98
52) 1,2-Dichloropropane	11.288	63	334410	36.60	ug/L	99
53) Bromodichloromethane	11.361	83	389857	38.34	ug/L	99
54) Methyl methacrylate	11.501	41	324666	38.98	ug/L	98
55) 2-Chloroethyl vinyl ether	11.896	63	892853	149.17	ug/L	98
56) cis-1,3-Dichloropropene	11.963	75	530020	35.61	ug/L	99
59) Toluene	12.176	91	1186483	34.90	ug/L	99
60) 2-Nitropropane	12.377	41	459112	180.06	ug/L	97
61) 4-Methyl-2-pentanone	12.493	43	1690704	192.03	ug/L	99
62) trans-1,3-Dichloropropene	12.541	75	475932	37.83	ug/L	83
63) Tetrachloroethene	12.523	166	300372	37.94	ug/L	97
64) Ethyl methacrylate	12.645	69	442172	39.68	ug/L	97
65) 1,1,2-Trichloroethane	12.675	83	224985	36.76	ug/L	99
66) Dibromochloromethane	12.833	129	291994	38.95	ug/L	97
67) 1,3-Dichloropropane	12.900	76	480570	35.05	ug/L	98
68) 1,2-Dibromoethane	13.034	107	255618	36.31	ug/L	99
69) 2-hexanone	13.168	43	1197574m	187.12	ug/L	
70) 1-Chlorohexane	13.387	91	398525	35.63	ug/L	99
71) Ethylbenzene	13.436	91	1269284	35.82	ug/L	99
72) Chlorobenzene	13.436	112	718222	35.71	ug/L	99
73) 1,1,1,2-Tetrachloroethane	13.478	131	261329	36.68	ug/L	98
74) m,p-Xylene	13.539	91	1927179	72.15	ug/L	100
75) o-Xylene	13.861	91	1033140	36.12	ug/L	99
76) Styrene	13.898	104	834854	36.67	ug/L	98
77) Bromoform	13.953	173	205827	38.94	ug/L	97
78) Isopropylbenzene	14.080	105	1208005	36.39	ug/L	98
81) cis-1,4-Dichloro-2-butene	14.336	53	127262	37.16	ug/L	99
82) n-Propylbenzene	14.372	91	1476397	36.51	ug/L	99
83) Bromobenzene	14.397	156	311179	36.59	ug/L	97
84) 1,1,2,2-Tetrachloroethane	14.427	83	337525	35.05	ug/L	98
85) 1,3,5-Trimethylbenzene	14.494	105	982549	36.72	ug/L	99
86) 2-Chlorotoluene	14.506	91	982223	36.13	ug/L	99
87) trans-1,4-Dichloro-2-B...	14.549	53	102150	33.69	ug/L	96
88) 1,2,3-Trichloropropane	14.537	110	92811	33.97	ug/L	96
89) Cyclohexanone	14.585	55	62582	173.98	ug/L	99
90) 4-Chlorotoluene	14.622	91	907107	36.60	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 28 08:17:22 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

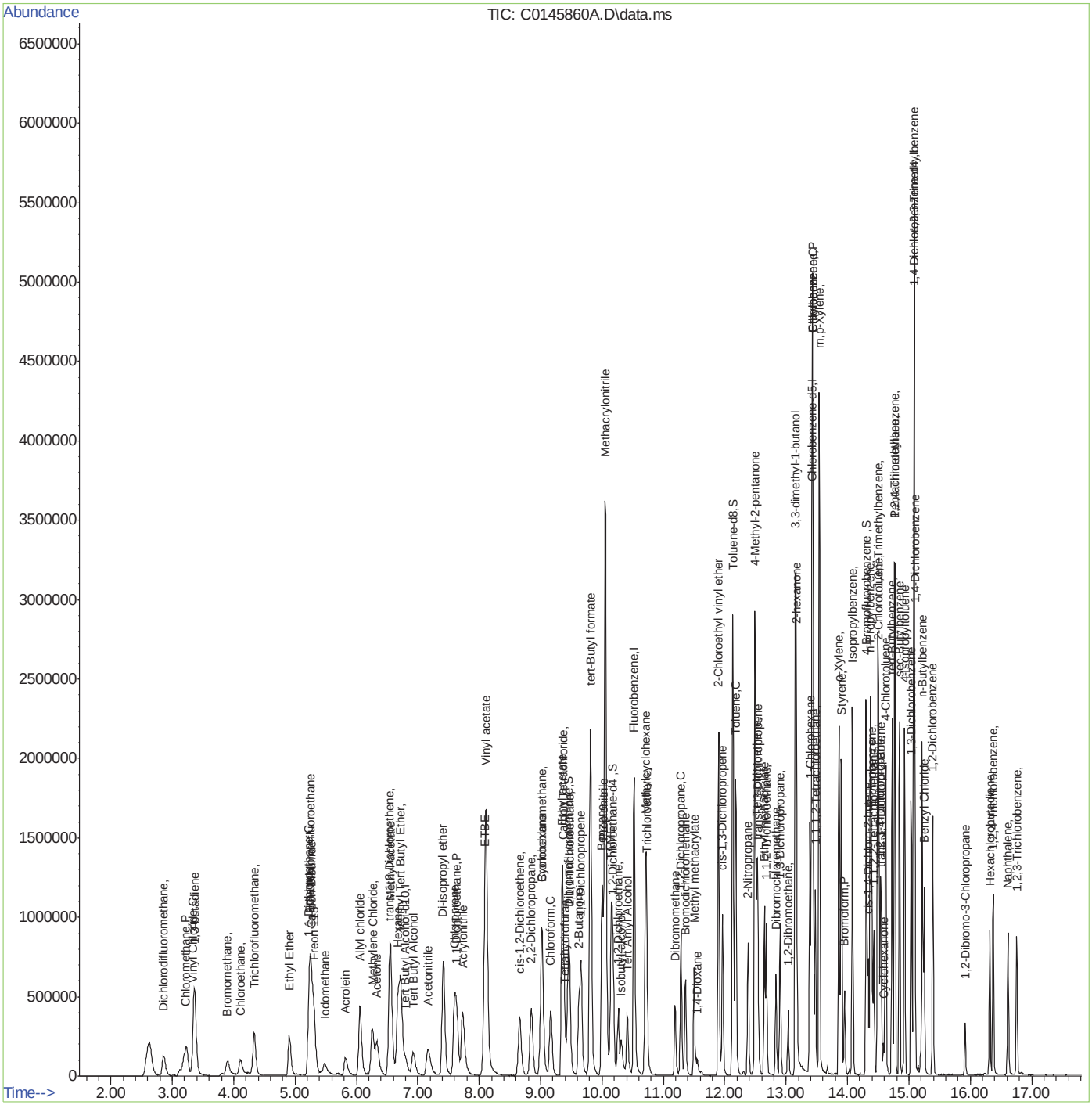
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	553774	35.49	ug/L	99
93) 1,2,4-Trimethylbenzene	14.768	105	958295	36.11	ug/L	97
94) Pentachloroethane	14.774	167	210254	42.52	ug/L	93
95) sec-Butylbenzene	14.847	105	1190908	36.80	ug/L	99
96) 4-Isopropyltoluene	14.932	119	1021136	37.02	ug/L	99
97) 1,3-Dichlorobenzene	15.036	146	559051	37.12	ug/L	97
98) 1,2,3-Trimethylbenzene	15.078	105	944609	29.42	ug/L	98
99) 1,4-Dichlorobenzene	15.096	146	552082	35.95	ug/L	98
100) n-Butylbenzene	15.218	92	553448	37.27	ug/L	98
101) Benzyl Chloride	15.248	126	132655	35.99	ug/L	96
102) 1,2-Dichlorobenzene	15.388	146	523514	36.68	ug/L	99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	67240	35.76	ug/L	98
104) Hexachlorobutadiene	16.319	225	152574	37.05	ug/L	98
105) 1,2,4-Trichlorobenzene	16.374	180	307021	38.47	ug/L	98
106) Naphthalene	16.617	128	632701	36.40	ug/L	100
107) 1,2,3-Trichlorobenzene	16.757	180	245426	36.81	ug/L	95
109) Ethanol	5.241	45	71864m	766.69	ug/L	
110) Tert Butyl Alcohol	6.926	59	347670	331.89	ug/L	95
111) Isobutyl alcohol	10.315	43	177651	690.90	ug/L	95
112) Tert Amyl Alcohol	10.412	59	261851	354.48	ug/L	99
113) 1,4-Dioxane	11.550	88	68538	817.33	ug/L	98
114) 3,3-dimethyl-1-butanol	13.150	57	1100550m	2113.71	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 28 08:17:22 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



Manual Integration Approval Summary

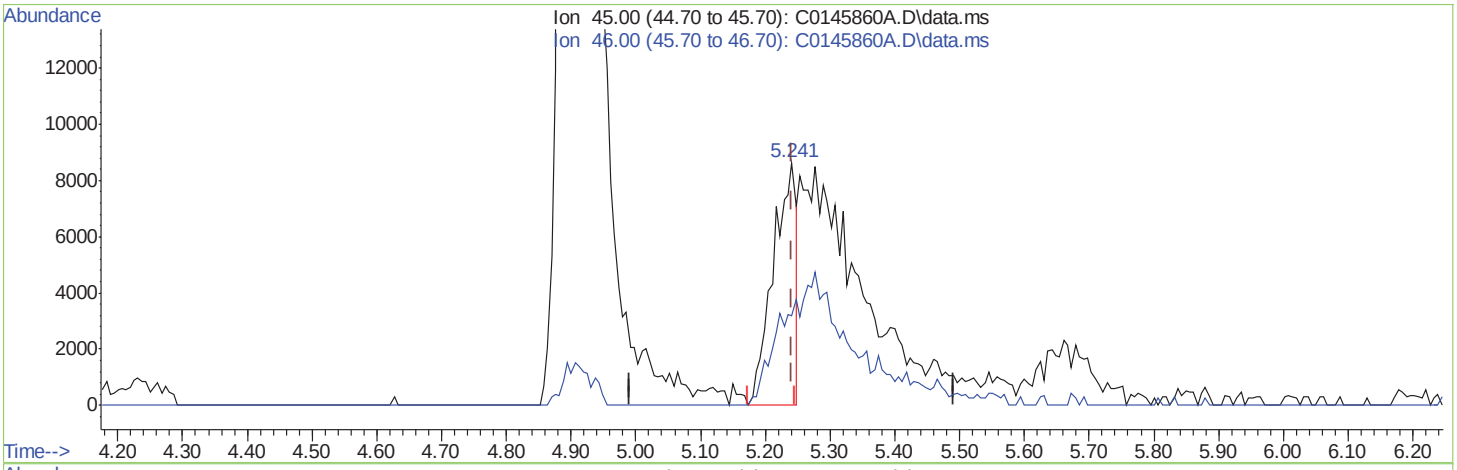
Sample Number: VC5857-ICV5857
Lab FileID: C0145860A.D
Injection Time: 12/24/20 11:19
Method: SW846 8260B
Analyst approved: 12/28/20 08:39 Shanica O'Connor
Supervisor approved: 12/28/20 09:47 Melissa Mangual

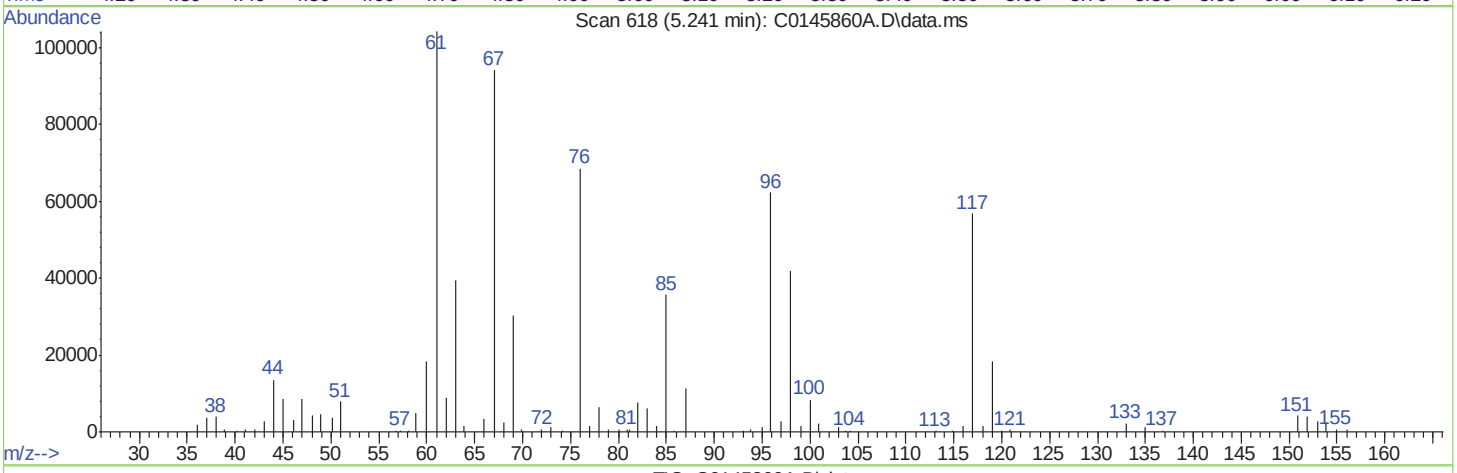
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.24	Split peak
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 24 12:35:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration





TIC: C0145860A.D\data.ms

(109) Ethanol

5.241min (-0.000) 225.30ug/L

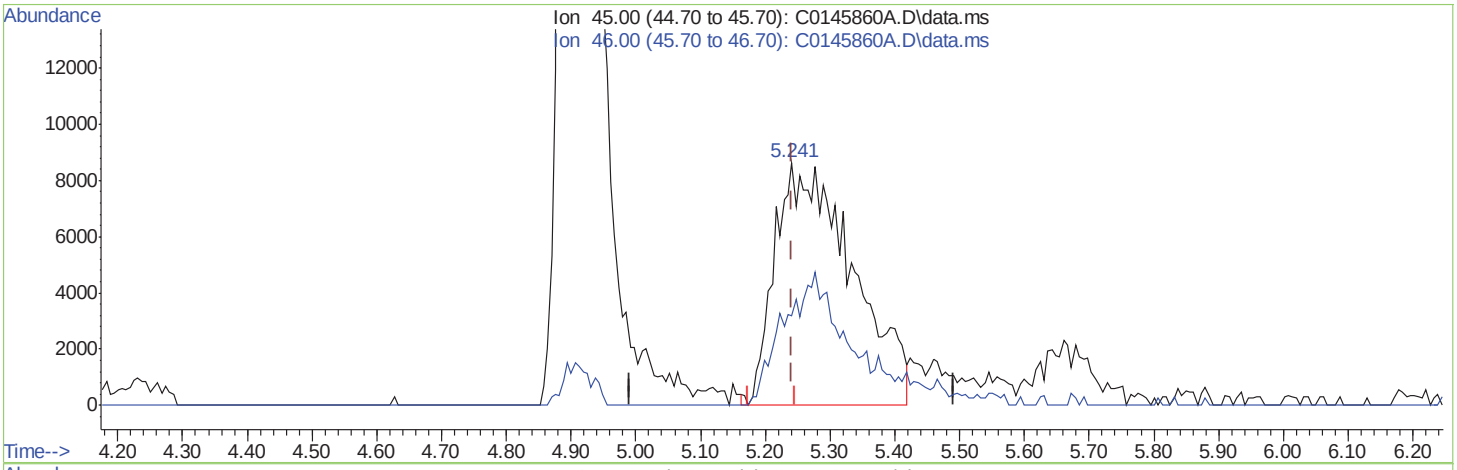
response 21118

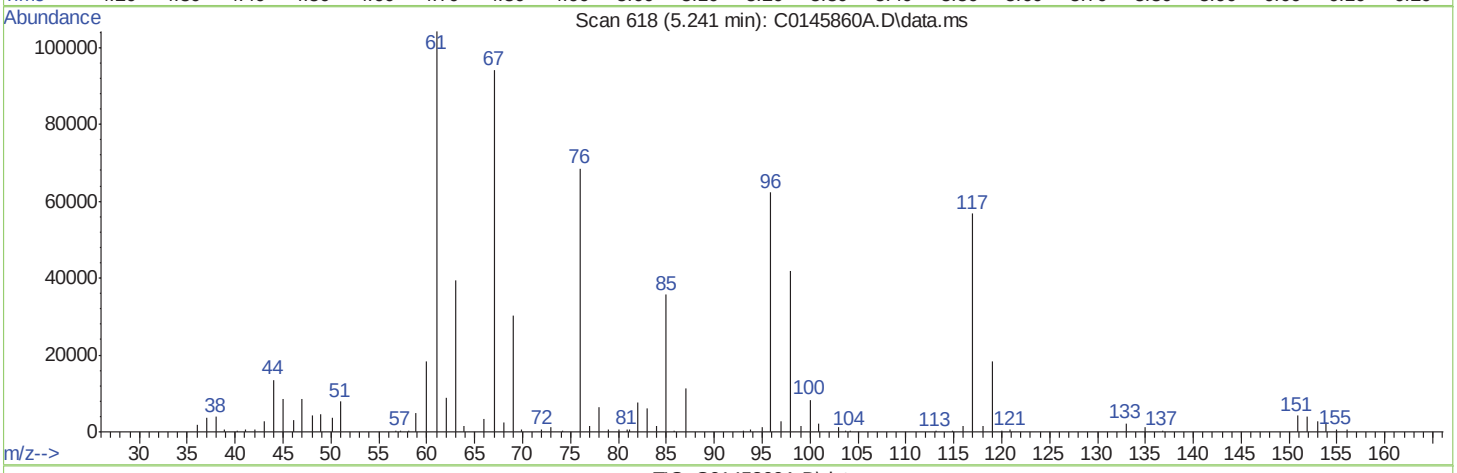
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	36.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 24 12:35:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration





TIC: C0145860A.D\data.ms

(109) Ethanol

5.241min (-0.000) 766.69ug/L m

response 71864

Ion	Exp%	Act%
45.00	100	100
46.00	42.90	36.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145861A.D
Acq On : 24 Dec 2020 11:46 am
Operator : SHANICAO
Sample : ICV5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 24 12:35:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

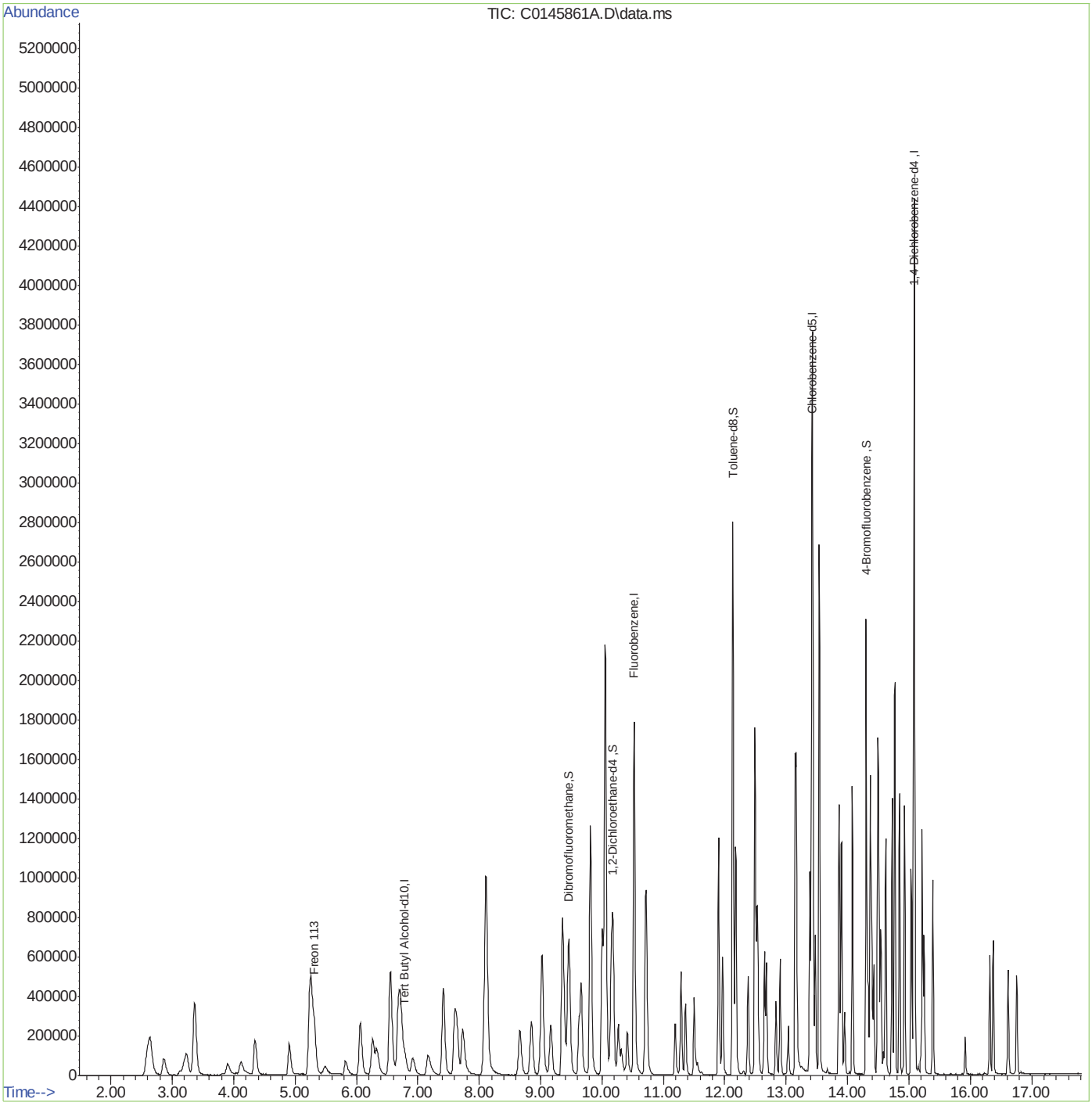
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1692129	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1173152	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	610811	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	211867	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	419778	50.30	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.60%			
47) 1,2-Dichloroethane-d4	10.181	65	548634	50.05	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.10%			
58) Toluene-d8	12.133	98	1660720	50.14	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.28%			
80) 4-Bromofluorobenzene	14.305	174	514414	49.99	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.98%			
Target Compounds						Qvalue
12) Freon 113	5.314	101	147174	21.75	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145861A.D
Acq On : 24 Dec 2020 11:46 am
Operator : SHANICAO
Sample : ICV5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 24 12:35:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/31/20 12:09

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 22:36:19 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1632759	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1143050	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	608084	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.786	65	175005	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	402045	49.93	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.86%			
47) 1,2-Dichloroethane-d4	10.181	65	544983	51.53	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 103.06%			
58) Toluene-d8	12.128	98	1603145	49.67	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.34%			
80) 4-Bromofluorobenzene	14.306	174	527666	51.50	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 103.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.868	85	352394	42.73	ug/L	98
3) Chloromethane	3.209	50	433664	42.10	ug/L	96
4) 1,3-butadiene	3.367	39	257575	35.00	ug/L	92
5) Vinyl Chloride	3.349	62	379106	39.61	ug/L	98
6) Bromomethane	3.903	94	103603	34.25	ug/L	98
7) Chloroethane	4.122	64	150612	35.26	ug/L	97
8) Trichlorofluoromethane	4.347	101	436245	44.21	ug/L	100
9) Ethyl Ether	4.906	59	261610	37.08	ug/L	99
10) 1,2-Dichlorotrifluoroe...	5.253	67	318657	38.87	ug/L	99
11) 1,1-Dichloroethene	5.235	61	415615	38.64	ug/L	97
12) Freon 113	5.308	101	260409	39.89	ug/L	98
13) Carbon Disulfide	5.284	76	850182	37.70	ug/L	99
14) Iodomethane	5.490	142	175936	29.51	ug/L	96
15) Acrolein	5.819	56	306869	190.59	ug/L	94
16) Allyl chloride	6.062	41	437526	33.45	ug/L	97
17) Methylene Chloride	6.263	49	358522	33.54	ug/L	98
18) Acetone	6.330	43	436957	185.65	ug/L	97
19) Methyl acetate	6.555	43	1125891	182.31	ug/L	98
20) trans-1,2-Dichloroethene	6.537	61	396757	38.65	ug/L	97
21) Hexane	6.683	56	253507	38.07	ug/L	95
22) Methyl Tert Butyl Ether	6.719	73	939162	37.63	ug/L	96
23) Acetonitrile	7.163	41	398186	347.98	ug/L	99
24) Di-isopropyl ether	7.419	45	1073779	36.73	ug/L	98
25) Chloroprene	7.595	53	448222	38.86	ug/L	97
26) 1,1-Dichloroethane	7.638	63	505759	37.53	ug/L	99
27) Acrylonitrile	7.729	52	455582	197.99	ug/L	99
28) ETBE	8.088	59	1003903	37.98	ug/L	96
29) Vinyl acetate	8.112	43	3563599	186.89	ug/L	99
30) cis-1,2-Dichloroethene	8.660	96	275583	38.27	ug/L	96
31) 2,2-Dichloropropane	8.849	77	433098	37.69	ug/L	99
32) Bromochloromethane	9.031	128	139653	40.38	ug/L	96
33) Cyclohexane	9.019	56	522336	37.45	ug/L	97
34) Chloroform	9.165	83	476501	38.61	ug/L	97
35) Ethyl acetate	9.354	43	1580660	183.98	ug/L	99
36) Tetrahydrofuran	9.396	42	102706	34.28	ug/L	95
38) Carbon Tetrachloride	9.372	117	340707	39.30	ug/L	99
39) 1,1,1-Trichloroethane	9.469	97	415868	39.69	ug/L	97
40) 2-Butanone	9.621	43	711512	177.43	ug/L	97
41) 1,1-Dichloropropene	9.658	75	425622	39.69	ug/L	95
42) tert-Butyl formate	9.810	59	1340695	167.42	ug/L	98
43) Propionitrile	10.029	54	412708	354.70	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 22:36:19 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) Methacrylonitrile	10.053	41	1908511	358.22 ug/L	99
45) Benzene	9.998	78	1124611	37.69 ug/L	96
46) TAME	10.150	73	937704	38.62 ug/L	98
48) 1,2-Dichloroethane	10.266	62	409316	40.63 ug/L	95
49) Trichloroethene	10.722	95	288291	37.40 ug/L	98
50) Methylcyclohexane	10.710	83	477038	39.24 ug/L	97
51) Dibromomethane	11.191	93	168476	38.31 ug/L	98
52) 1,2-Dichloropropane	11.282	63	324640	37.97 ug/L	97
53) Bromodichloromethane	11.361	83	370968	38.98 ug/L	97
54) Methyl methacrylate	11.501	41	291188	37.35 ug/L	98
55) 2-Chloroethyl vinyl ether	11.896	63	947006	169.05 ug/L	98
56) cis-1,3-Dichloropropene	11.963	75	539644	38.73 ug/L	100
59) Toluene	12.176	91	1204316	37.38 ug/L	99
60) 2-Nitropropane	12.377	41	462585	191.47 ug/L	97
61) 4-Methyl-2-pentanone	12.493	43	1470243	176.24 ug/L	99
62) trans-1,3-Dichloropropene	12.541	75	469144	39.36 ug/L	92
63) Tetrachloroethene	12.523	166	292096	38.94 ug/L	99
64) Ethyl methacrylate	12.645	69	396875	37.59 ug/L	96
65) 1,1,2-Trichloroethane	12.675	83	221185	38.15 ug/L	98
66) Dibromochloromethane	12.833	129	282856	39.82 ug/L	97
67) 1,3-Dichloropropane	12.900	76	497140	38.26 ug/L	97
68) 1,2-Dibromoethane	13.034	107	248905	37.31 ug/L	98
69) 2-hexanone	13.162	43	1028347m	169.59 ug/L	
70) 1-Chlorohexane	13.387	91	407091	38.42 ug/L	99
71) Ethylbenzene	13.436	91	1257581	37.46 ug/L	99
72) Chlorobenzene	13.436	112	715993	37.58 ug/L	99
73) 1,1,1,2-Tetrachloroethane	13.478	131	259935	38.51 ug/L	99
74) m,p-Xylene	13.539	91	1932500	76.36 ug/L	100
75) o-Xylene	13.861	91	1028997	37.97 ug/L	99
76) Styrene	13.898	104	828571	38.41 ug/L	97
77) Bromoform	13.953	173	201786	40.29 ug/L	98
78) Isopropylbenzene	14.080	105	1206528	38.36 ug/L	99
81) cis-1,4-Dichloro-2-butene	14.336	53	120443	36.70 ug/L	95
82) n-Propylbenzene	14.372	91	1481897	38.24 ug/L	100
83) Bromobenzene	14.397	156	311523	38.23 ug/L	99
84) 1,1,2,2-Tetrachloroethane	14.427	83	337832	36.61 ug/L	98
85) 1,3,5-Trimethylbenzene	14.494	105	970281	37.84 ug/L	100
86) 2-Chlorotoluene	14.506	91	976811	37.50 ug/L	99
87) trans-1,4-Dichloro-2-B...	14.549	53	107998	37.17 ug/L	99
88) 1,2,3-Trichloropropane	14.537	110	93933	35.87 ug/L	97
89) Cyclohexanone	14.585	55	60299	174.93 ug/L	93
90) 4-Chlorotoluene	14.622	91	896307	37.73 ug/L	99
91) tert-Butylbenzene	14.725	91	565461	37.81 ug/L	98
93) 1,2,4-Trimethylbenzene	14.768	105	960871	37.78 ug/L	99
94) Pentachloroethane	14.774	167	189028	39.89 ug/L	95
95) sec-Butylbenzene	14.847	105	1164224	37.54 ug/L	99
96) 4-Isopropyltoluene	14.926	119	988927	37.41 ug/L	99
97) 1,3-Dichlorobenzene	15.036	146	555388	38.48 ug/L	98
98) 1,2,3-Trimethylbenzene	15.078	105	1136473	36.93 ug/L	100
99) 1,4-Dichlorobenzene	15.096	146	557399	37.87 ug/L	99
100) n-Butylbenzene	15.218	92	535782	37.65 ug/L	96
101) Benzyl Chloride	15.249	126	136127	38.53 ug/L	94
102) 1,2-Dichlorobenzene	15.388	146	524478	38.35 ug/L	98
103) 1,2-Dibromo-3-Chloropr...	15.918	75	65338	36.26 ug/L	96
104) Hexachlorobutadiene	16.319	225	155673	39.45 ug/L	98
105) 1,2,4-Trichlorobenzene	16.374	180	287111	37.54 ug/L	97
106) Naphthalene	16.617	128	545851	32.77 ug/L	99
107) 1,2,3-Trichlorobenzene	16.757	180	227041	35.54 ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 22:36:19 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

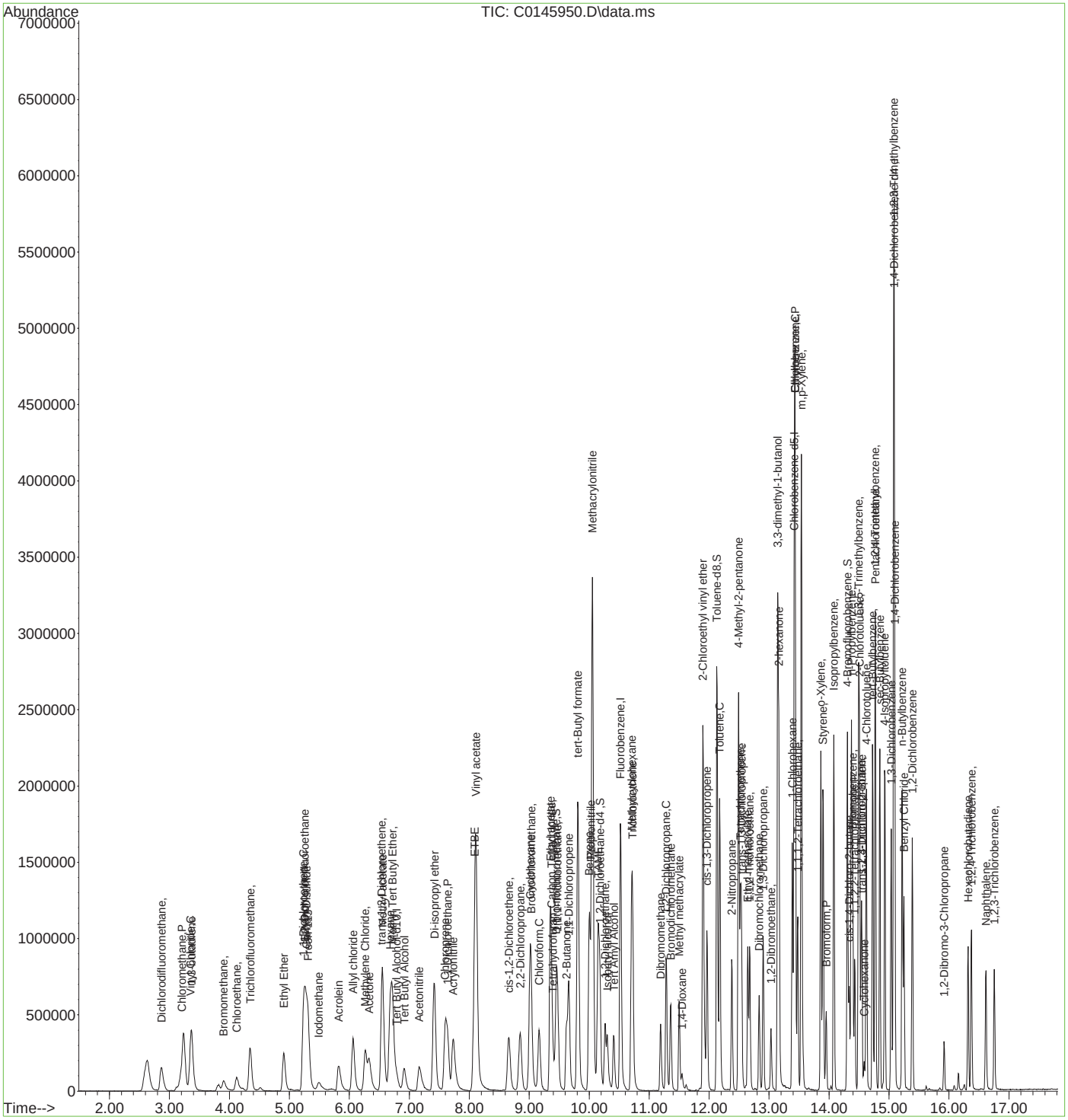
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Ethanol	5.259	45	72190	935.05	ug/L	92
110) Tert Butyl Alcohol	6.920	59	323642	375.09	ug/L	96
111) Isobutyl alcohol	10.303	43	234165	1111.11	ug/L	97
112) Tert Amyl Alcohol	10.412	59	258169	424.31	ug/L	99
113) 1,4-Dioxane	11.550	88	66199	958.44	ug/L	96
114) 3,3-dimethyl-1-butanol	13.144	57	1222272m	2850.05	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 22:36:19 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



Manual Integration Approval Summary

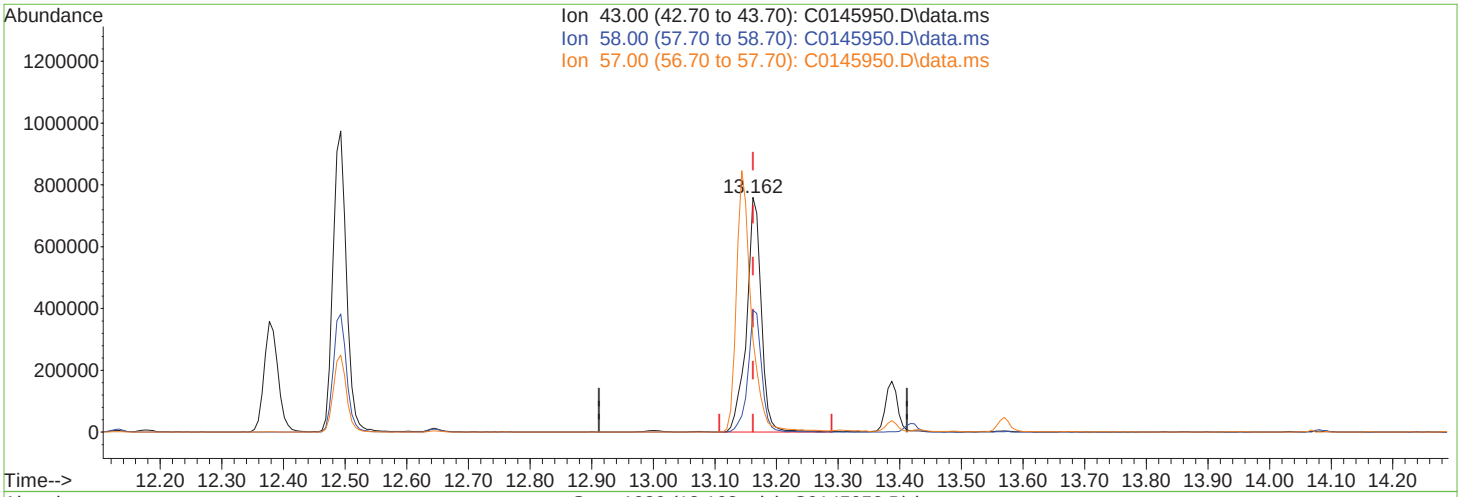
Sample Number: VC5862-CC5857
Lab FileID: C0145950.D
Injection Time: 12/30/20 08:22
Method: SW846 8260B
Analyst approved: 12/30/20 23:47 Edessa Sumagaysay
Supervisor approved: 12/31/20 12:09 Melissa Mangual

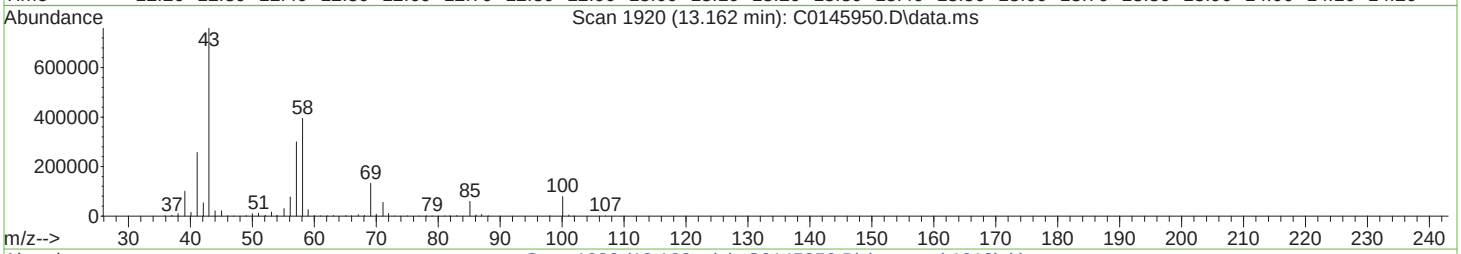
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.16	Overlapping peak

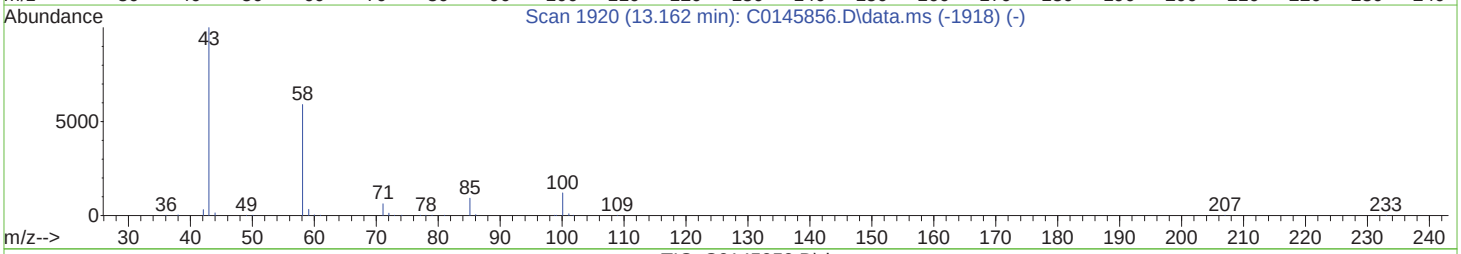
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 21:33:56 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145950.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 208.01ug/L

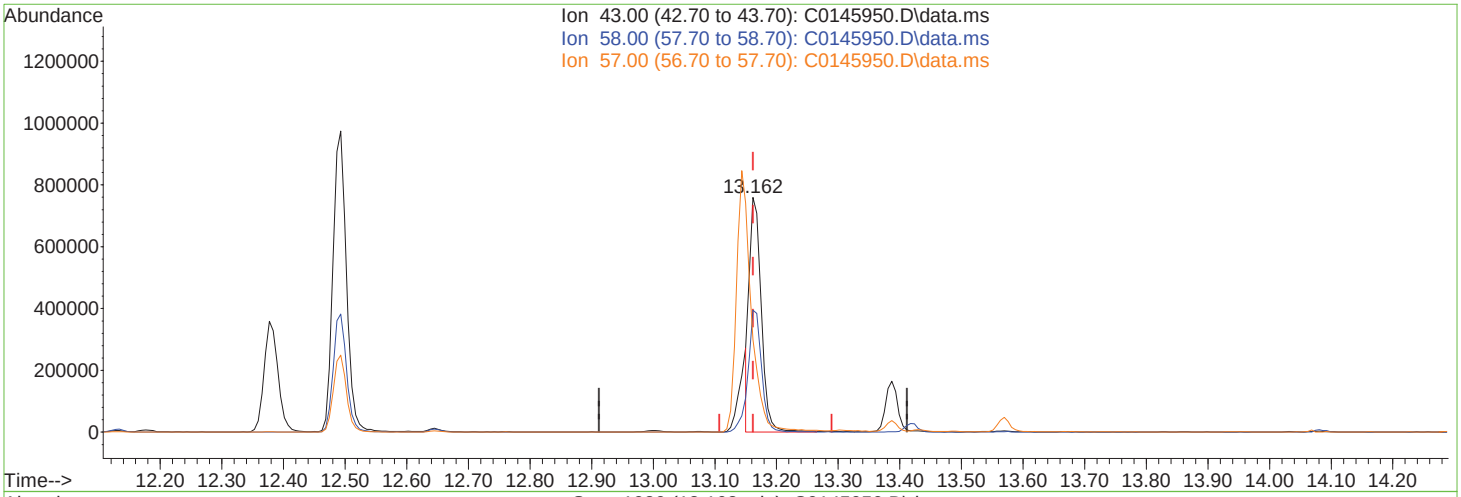
response 1261314

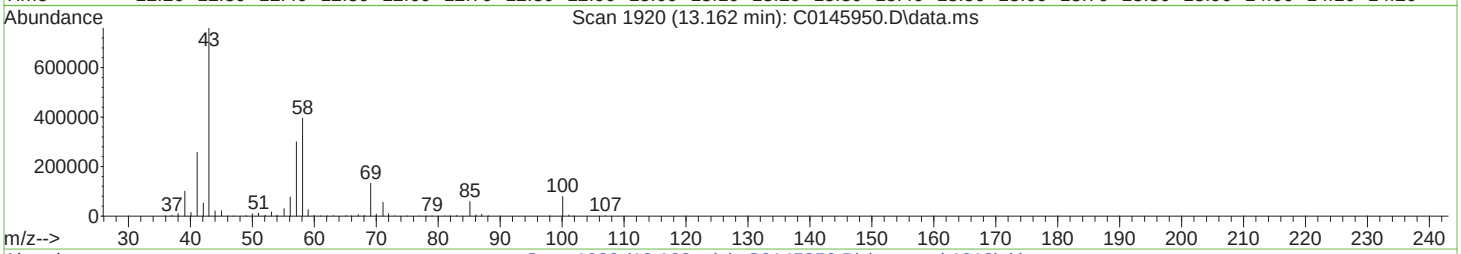
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.95
57.00	46.70	39.50
0.00	0.00	0.00

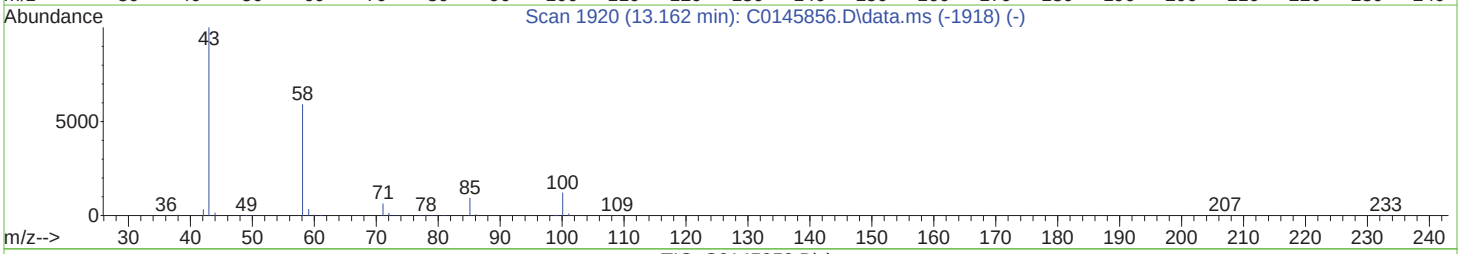
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 21:33:56 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145950.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 169.59ug/L m

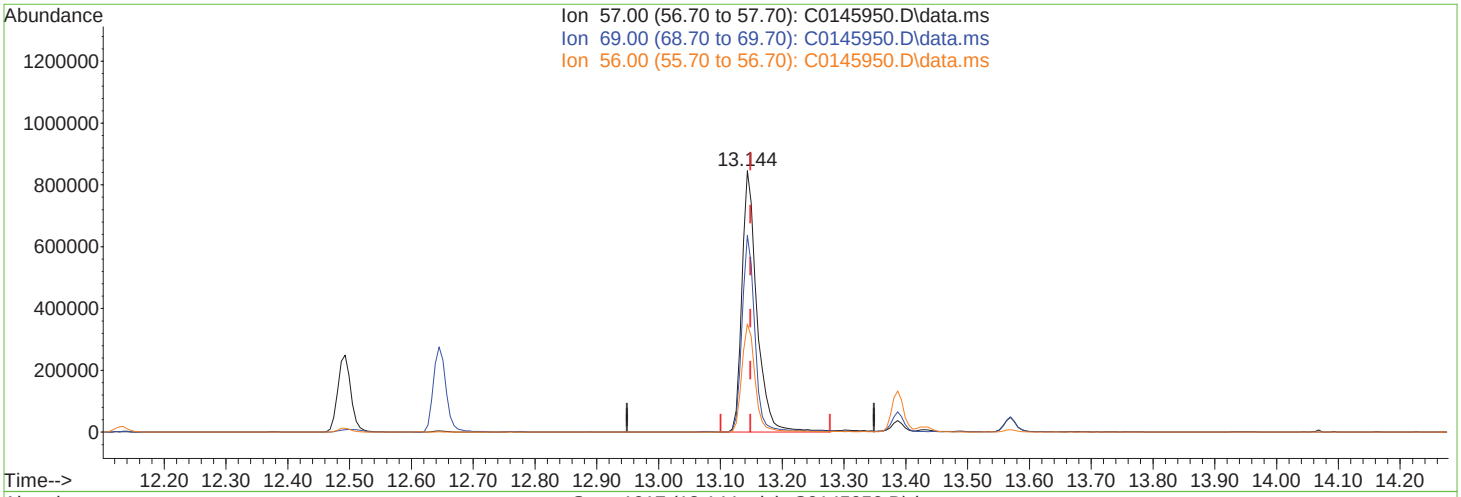
response 1028347

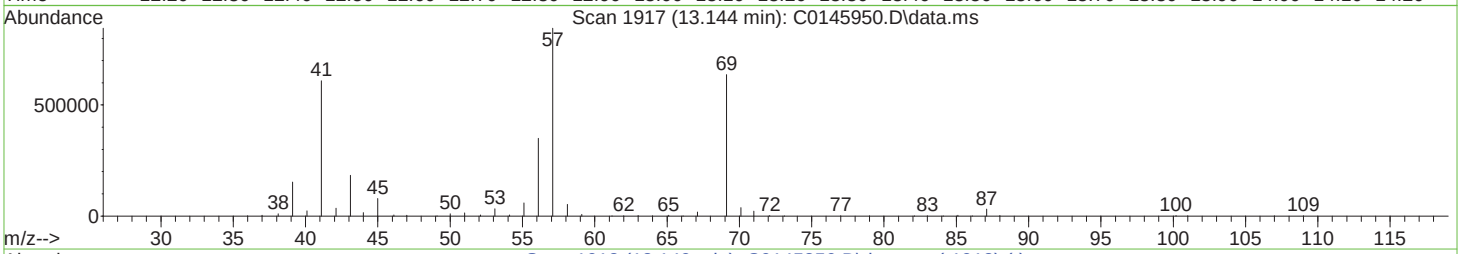
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.91
57.00	46.70	39.47
0.00	0.00	0.00

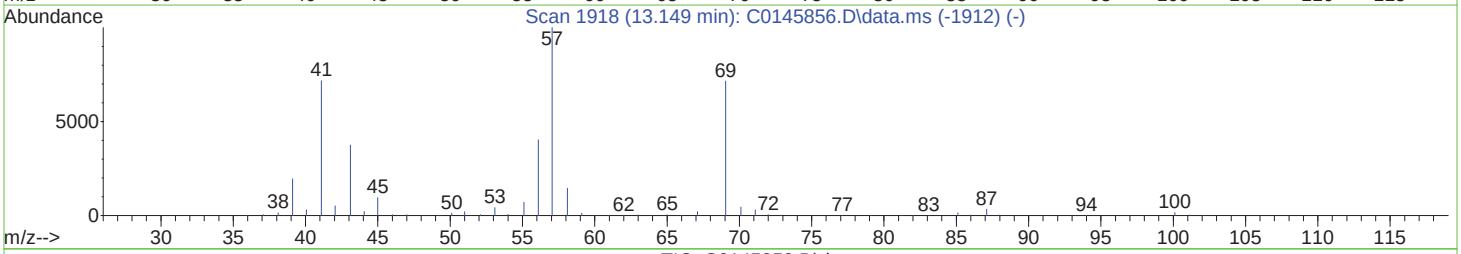
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 21:33:56 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145950.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.005) 3321.62ug/L

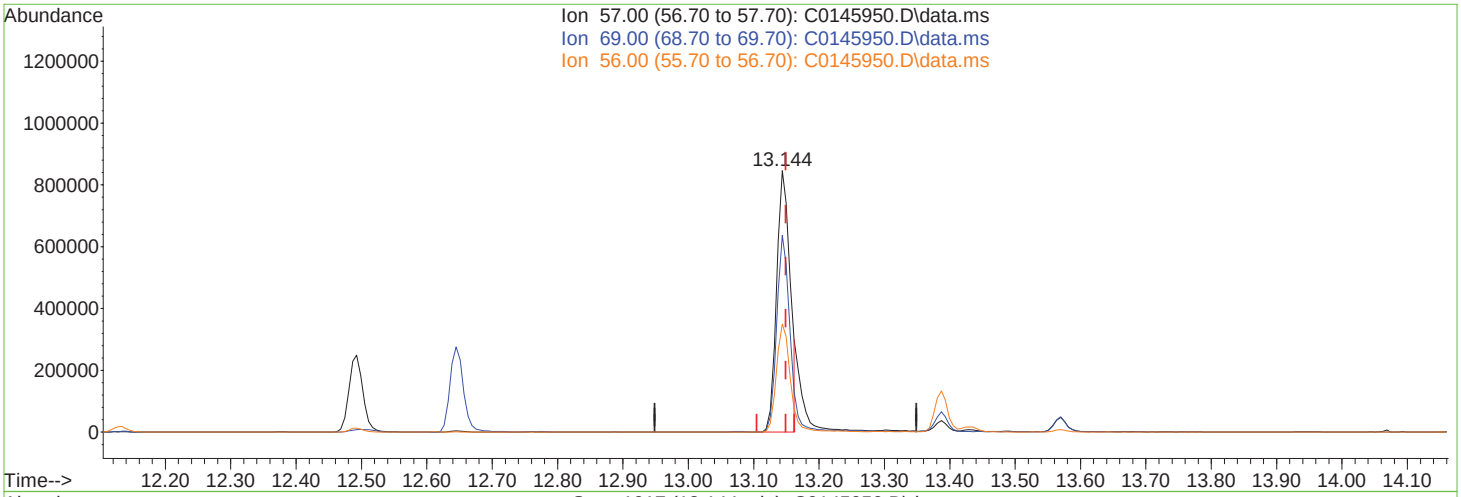
response 1424512

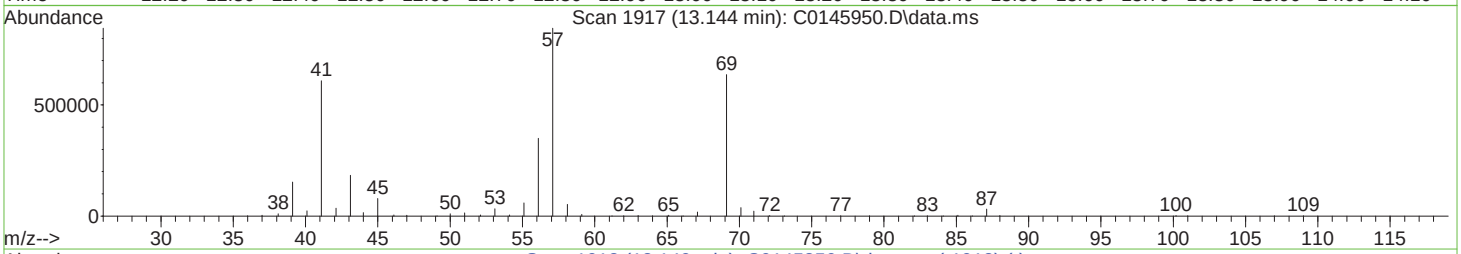
Ion	Exp%	Act%
57.00	100	100
69.00	79.60	65.45
56.00	45.70	37.03
0.00	0.00	0.00

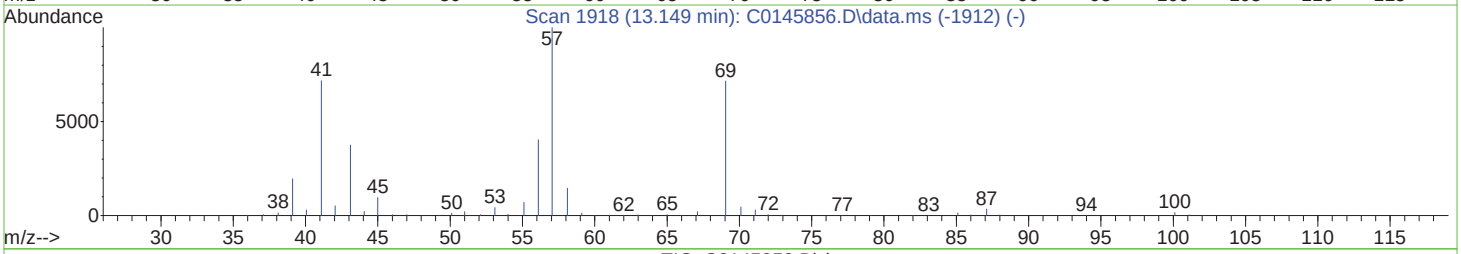
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145950.D
Acq On : 30 Dec 2020 8:22 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48020,VC5862,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 30 21:33:56 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145950.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.005) 2850.05ug/L m

response 1222272

Ion	Exp%	Act%
57.00	100	100
69.00	79.60	76.28
56.00	45.70	43.15
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/31/20 12:19

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145977.D
Acq On : 30 Dec 2020 8:00 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48032,VC5862,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 30 23:28:41 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1588298	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1120212	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	598602	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.786	65	164000	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	391092	49.93	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.86%			
47) 1,2-Dichloroethane-d4	10.181	65	528096	51.33	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 102.66%			
58) Toluene-d8	12.128	98	1560071	49.32	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 98.64%			
80) 4-Bromofluorobenzene	14.306	174	504527	50.03	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.868	85	353564	44.07	ug/L	100
3) Chloromethane	3.215	50	423181	42.23	ug/L	95
4) 1,3-butadiene	3.367	39	281530	39.33	ug/L	98
5) Vinyl Chloride	3.355	62	373708	40.14	ug/L	97
6) Bromomethane	3.903	94	112139	37.77	ug/L	99
7) Chloroethane	4.122	64	143033	34.42	ug/L	97
8) Trichlorofluoromethane	4.347	101	436061	45.43	ug/L	96
9) Ethyl Ether	4.906	59	263668	38.41	ug/L	95
10) 1,2-Dichlorotrifluoroe...	5.253	67	323412	40.55	ug/L	98
11) 1,1-Dichloroethene	5.235	61	424193	40.54	ug/L	98
12) Freon 113	5.314	101	257309	40.52	ug/L	97
13) Carbon Disulfide	5.284	76	854979	38.98	ug/L	98
14) Iodomethane	5.496	142	221623	37.33	ug/L	94
15) Acrolein	5.825	56	284788	181.83	ug/L	99
16) Allyl chloride	6.056	41	450281	35.39	ug/L	94
17) Methylene Chloride	6.269	49	365356	35.14	ug/L	95
18) Acetone	6.330	43	460858	201.28	ug/L	97
19) Methyl acetate	6.555	43	1147701	191.04	ug/L	97
20) trans-1,2-Dichloroethene	6.537	61	401909	40.25	ug/L	98
21) Hexane	6.683	56	233447	36.04	ug/L	93
22) Methyl Tert Butyl Ether	6.725	73	949684	39.11	ug/L	91
23) Acetonitrile	7.169	41	426613	383.26	ug/L	99
24) Di-isopropyl ether	7.413	45	1096469	38.56	ug/L	99
25) Chloroprene	7.595	53	479747	42.76	ug/L	98
26) 1,1-Dichloroethane	7.644	63	531252	40.53	ug/L	99
27) Acrylonitrile	7.729	52	470390	210.15	ug/L	97
28) ETBE	8.082	59	1029119	40.03	ug/L	99
29) Vinyl acetate	8.112	43	3637540	196.11	ug/L	98
30) cis-1,2-Dichloroethene	8.660	96	283824	40.51	ug/L	97
31) 2,2-Dichloropropane	8.849	77	402352	35.99	ug/L	95
32) Bromochloromethane	9.025	128	143929	42.78	ug/L	98
33) Cyclohexane	9.019	56	528787	38.97	ug/L	95
34) Chloroform	9.165	83	495340	41.26	ug/L	98
35) Ethyl acetate	9.353	43	1610244	192.67	ug/L	99
36) Tetrahydrofuran	9.396	42	103720	35.62	ug/L	96
38) Carbon Tetrachloride	9.366	117	350128	41.51	ug/L	98
39) 1,1,1-Trichloroethane	9.475	97	430989	42.28	ug/L	99
40) 2-Butanone	9.621	43	741550	190.09	ug/L	98
41) 1,1-Dichloropropene	9.658	75	423015	40.55	ug/L	96
42) tert-Butyl formate	9.810	59	1304608	167.47	ug/L	99
43) Propionitrile	10.029	54	442828	391.23	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145977.D
Acq On : 30 Dec 2020 8:00 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48032,VC5862,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 30 23:28:41 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
44) Methacrylonitrile	10.053	41	2048623	395.28 ug/L		99
45) Benzene	9.998	78	1145045	39.44 ug/L		99
46) TAME	10.150	73	960145	40.65 ug/L		99
48) 1,2-Dichloroethane	10.266	62	422248	43.09 ug/L		97
49) Trichloroethene	10.728	95	294503	39.27 ug/L		95
50) Methylcyclohexane	10.710	83	473940	40.07 ug/L		98
51) Dibromomethane	11.191	93	173270	40.50 ug/L		96
52) 1,2-Dichloropropane	11.288	63	329916	39.66 ug/L		96
53) Bromodichloromethane	11.361	83	380780	41.13 ug/L		98
54) Methyl methacrylate	11.501	41	308894	40.73 ug/L		95
55) 2-Chloroethyl vinyl ether	11.896	63	933743	171.35 ug/L		97
56) cis-1,3-Dichloropropene	11.963	75	544411	40.17 ug/L		99
59) Toluene	12.176	91	1217365	38.56 ug/L		97
60) 2-Nitropropane	12.377	41	471407	199.10 ug/L		98
61) 4-Methyl-2-pentanone	12.493	43	1541697	188.58 ug/L		99
62) trans-1,3-Dichloropropene	12.541	75	463284	39.66 ug/L		95
63) Tetrachloroethene	12.523	166	311629	42.39 ug/L		99
64) Ethyl methacrylate	12.645	69	427477	41.31 ug/L		97
65) 1,1,2-Trichloroethane	12.675	83	222244	39.11 ug/L		97
66) Dibromochloromethane	12.833	129	285219	40.97 ug/L		100
67) 1,3-Dichloropropane	12.900	76	500653	39.32 ug/L		98
68) 1,2-Dibromoethane	13.034	107	256653	39.26 ug/L		99
69) 2-hexanone	13.162	43	1077829m	181.37 ug/L		
70) 1-Chlorohexane	13.387	91	406771	39.17 ug/L		99
71) Ethylbenzene	13.436	91	1269108	38.57 ug/L		100
72) Chlorobenzene	13.436	112	727003	38.93 ug/L		99
73) 1,1,1,2-Tetrachloroethane	13.478	131	265051	40.07 ug/L		98
74) m,p-Xylene	13.539	91	1961443	79.09 ug/L		100
75) o-Xylene	13.861	91	1055784	39.76 ug/L		98
76) Styrene	13.898	104	851383	40.28 ug/L		96
77) Bromoform	13.953	173	201989	41.16 ug/L		97
78) Isopropylbenzene	14.080	105	1221794	39.64 ug/L		99
81) cis-1,4-Dichloro-2-butene	14.336	53	110676	34.26 ug/L	#	83
82) n-Propylbenzene	14.372	91	1492587	39.12 ug/L		100
83) Bromobenzene	14.397	156	318356	39.69 ug/L		98
84) 1,1,2,2-Tetrachloroethane	14.427	83	343748	37.84 ug/L		95
85) 1,3,5-Trimethylbenzene	14.494	105	993943	39.38 ug/L		98
86) 2-Chlorotoluene	14.506	91	998162	38.92 ug/L		99
87) trans-1,4-Dichloro-2-B...	14.549	53	92635	32.39 ug/L		94
88) 1,2,3-Trichloropropane	14.537	110	98092	38.05 ug/L		97
89) Cyclohexanone	14.585	55	63462	187.02 ug/L		98
90) 4-Chlorotoluene	14.622	91	916889	39.21 ug/L		99
91) tert-Butylbenzene	14.725	91	583224	39.62 ug/L		98
93) 1,2,4-Trimethylbenzene	14.768	105	977404	39.04 ug/L		98
94) Pentachloroethane	14.774	167	189398	40.60 ug/L		94
95) sec-Butylbenzene	14.847	105	1182341	38.73 ug/L		99
96) 4-Isopropyltoluene	14.926	119	1008172	38.75 ug/L		100
97) 1,3-Dichlorobenzene	15.036	146	562595	39.60 ug/L		99
98) 1,2,3-Trimethylbenzene	15.078	105	1184072	39.09 ug/L		100
99) 1,4-Dichlorobenzene	15.096	146	568954	39.27 ug/L		98
100) n-Butylbenzene	15.218	92	536267	38.28 ug/L		95
101) Benzyl Chloride	15.248	126	121586	34.96 ug/L		96
102) 1,2-Dichlorobenzene	15.388	146	543161	40.35 ug/L		99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	65601	36.99 ug/L		98
104) Hexachlorobutadiene	16.319	225	154562	39.79 ug/L		97
105) 1,2,4-Trichlorobenzene	16.374	180	299029	39.72 ug/L		96
106) Naphthalene	16.617	128	569245	34.71 ug/L		100
107) 1,2,3-Trichlorobenzene	16.757	180	236250	37.56 ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145977.D
Acq On : 30 Dec 2020 8:00 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48032,VC5862,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 30 23:28:41 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Ethanol	5.241	45	72638	1003.99	ug/L	95
110) Tert Butyl Alcohol	6.920	59	323041	399.52	ug/L	93
111) Isobutyl alcohol	10.303	43	235320	1192.66	ug/L	96
112) Tert Amyl Alcohol	10.406	59	262975	461.22	ug/L	99
113) 1,4-Dioxane	11.550	88	63328	978.40	ug/L	96
114) 3,3-dimethyl-1-butanol	13.144	57	1183445m	2944.69	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

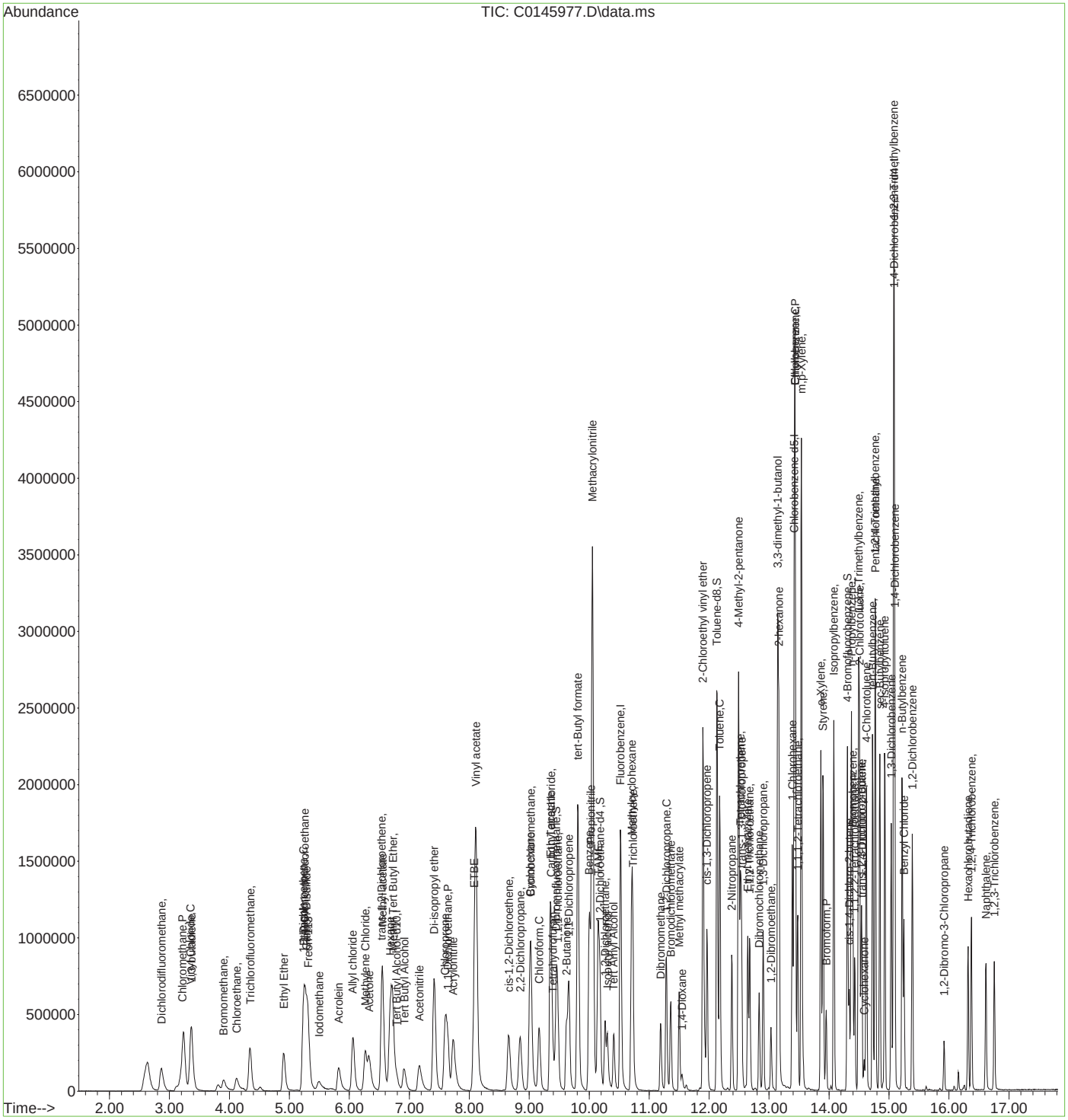
7.9.11

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145977.D
Acq On : 30 Dec 2020 8:00 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48032,VC5862,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 30 23:28:41 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



RTXVMS122420.M Wed Dec 30 23:31:10 2020 Page: 4

Manual Integration Approval Summary

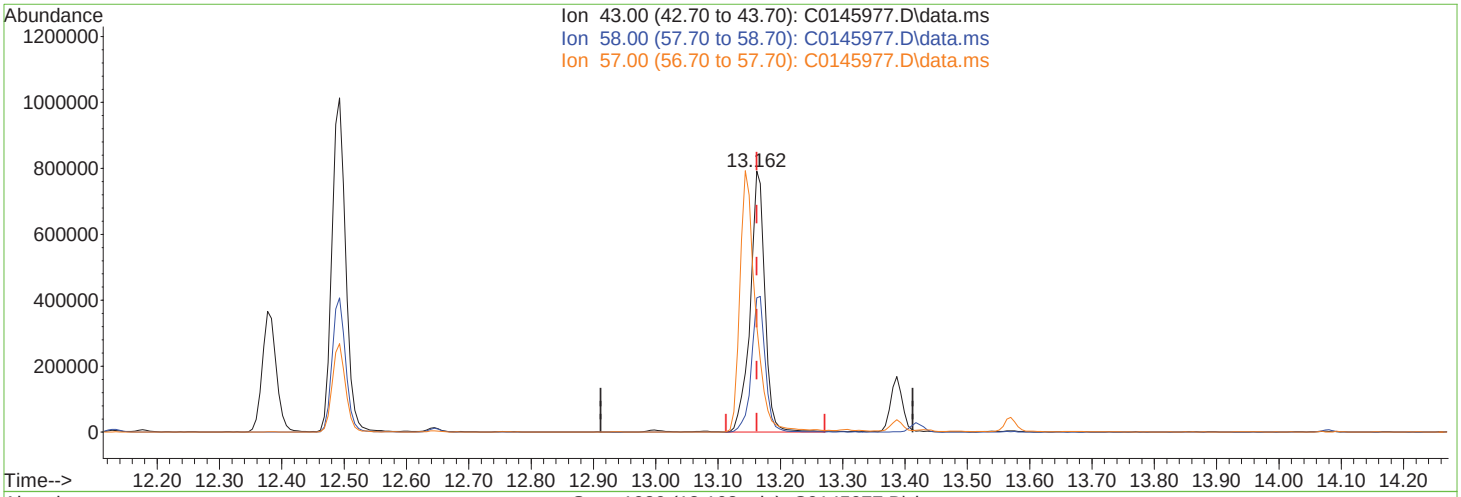
Sample Number: VC5862-ECC5857
Lab FileID: C0145977.D
Injection Time: 12/30/20 20:00
Method: SW846 8260B
Analyst approved: 12/30/20 23:47 Edessa Sumagaysay
Supervisor approved: 12/31/20 12:19 Melissa Mangual

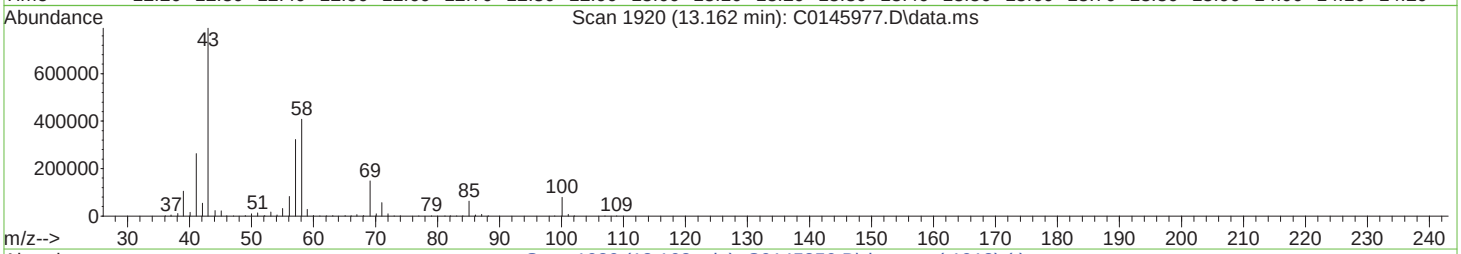
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.16	Overlapping peak

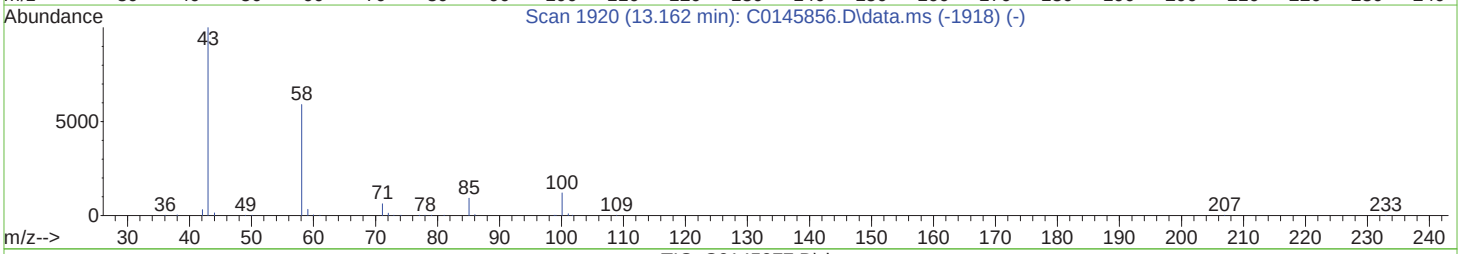
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145977.D
Acq On : 30 Dec 2020 8:00 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48032,VC5862,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 30 21:35:07 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145977.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 220.08ug/L

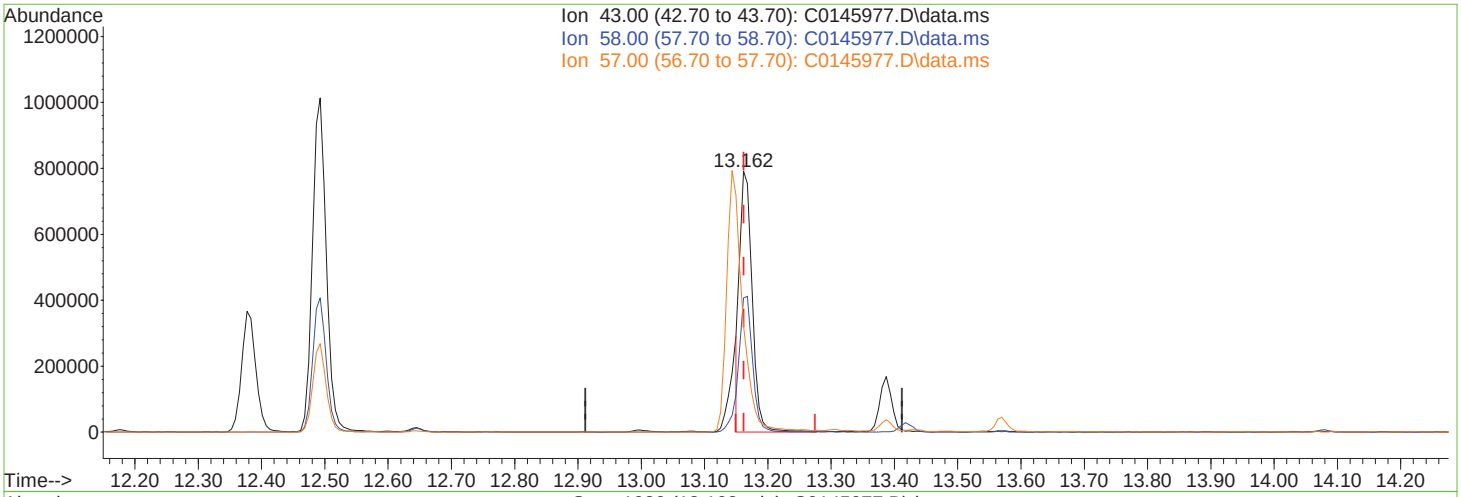
response 1307847

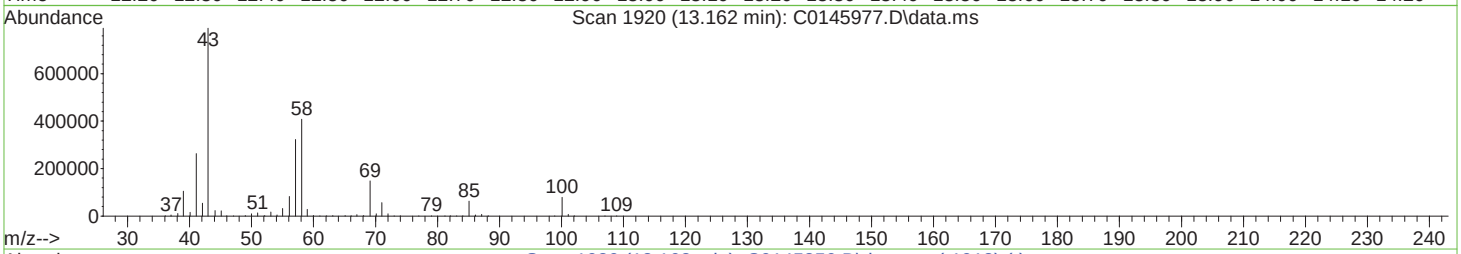
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.45
57.00	46.70	40.63
0.00	0.00	0.00

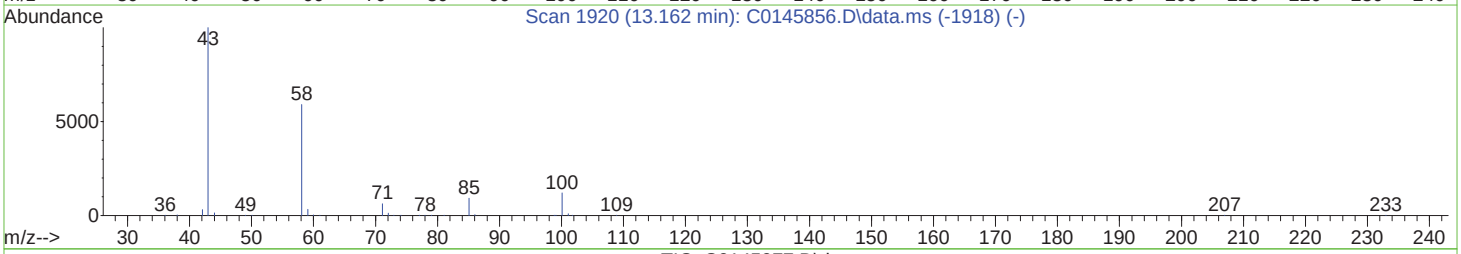
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145977.D
Acq On : 30 Dec 2020 8:00 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48032,VC5862,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 30 21:35:07 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145977.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 181.37ug/L m

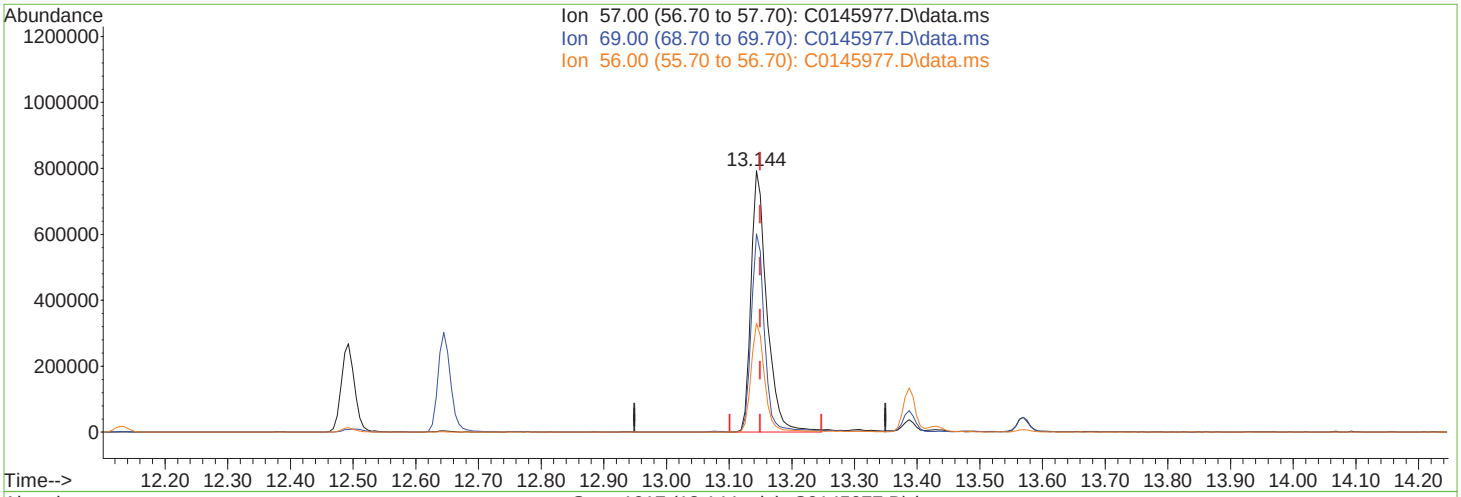
response 1077829

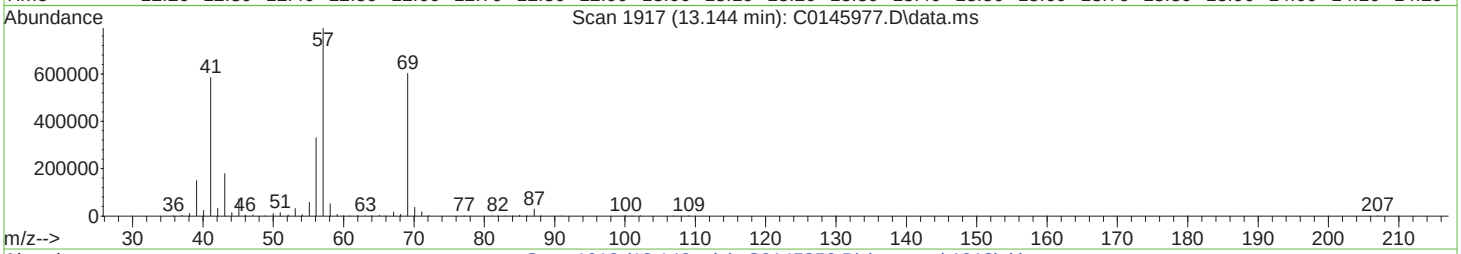
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.45
57.00	46.70	40.72
0.00	0.00	0.00

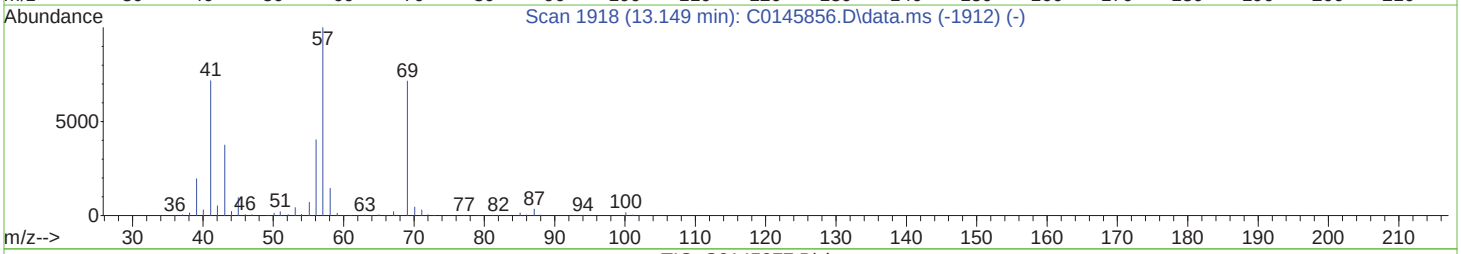
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145977.D
Acq On : 30 Dec 2020 8:00 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48032,VC5862,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 30 21:35:07 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145977.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.005) 3454.35ug/L

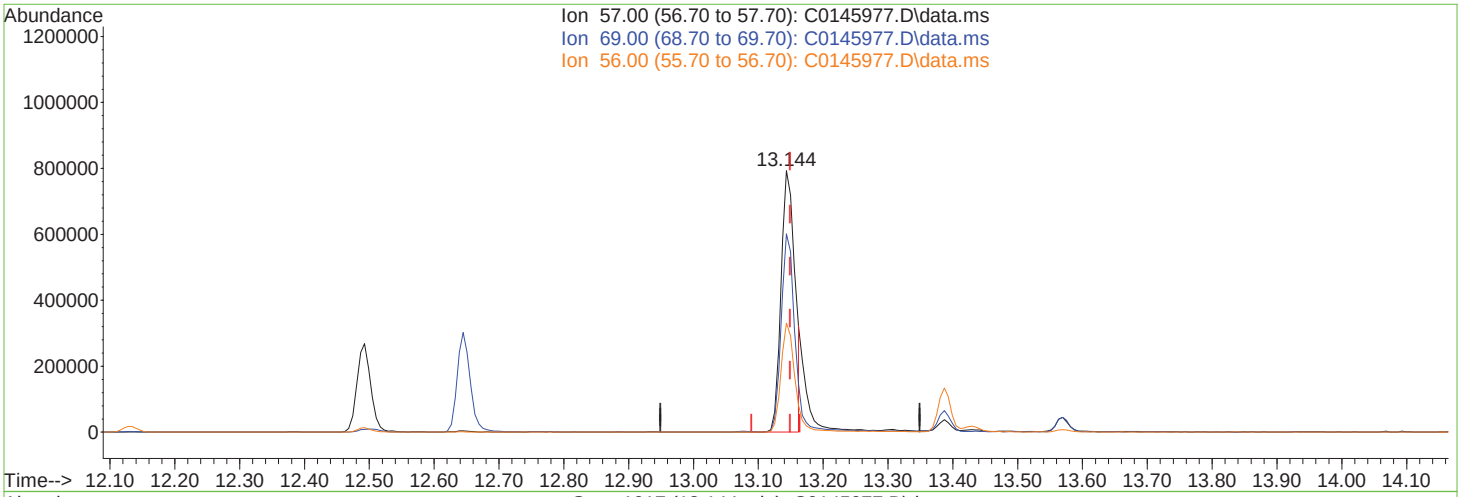
response 1388275

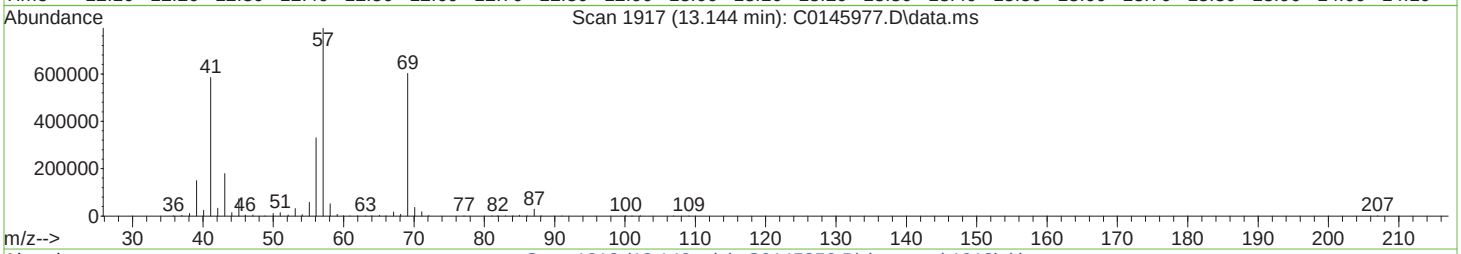
Ion	Exp%	Act%
57.00	100	100
69.00	79.60	65.09
56.00	45.70	36.27
0.00	0.00	0.00

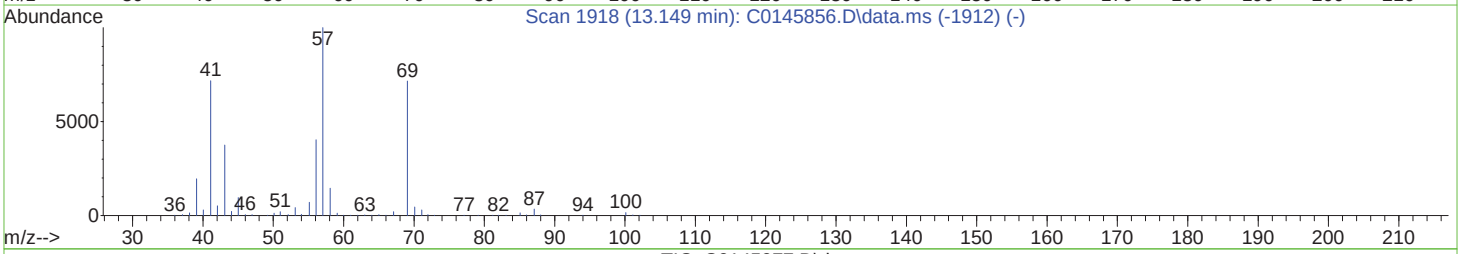
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\12-31-2020\vc5862-63\
Data File : C0145977.D
Acq On : 30 Dec 2020 8:00 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48032,VC5862,,,,,
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Dec 30 21:35:07 2020
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0145977.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.005) 2944.69ug/L m

response 1183445

Ion	Exp%	Act%
57.00	100	100
69.00	79.60	76.36
56.00	45.70	42.55
0.00	0.00	0.00

SGS -ORLANDO

MSVOA5-C-ANALYSIS LOG

DATE:	12/24/2020
COLUMN TYPE:	RTXVMS
DETECTOR:	5973MSD
INSTRUMENT:	MSVOA5-C
PURGE PRESSURE:	1psi
PURGE VOLUME:	5mL
ANALYST:	Shanika O

METHODS:*	8260
METHOD FILE:	RTXVMS122420.M
CALIB. DATE:	12/24/2020
EM VOLTAGE:	2035V
AFA:	V26039D
BFB RESPONSE:	3222113/3205431
VC5857-858	

BFB: VS0973
ICAL/CC: VS0938, VS0964, VS0959, VS0939
VS0965, VS0974
ISTD/SUR: VS0973
ICV/QC: VA0968, VS0969, VS0966,
VS0970, VS0963, VS0975, VS0690

PH LOT: 1-12pH 230814
0-3pH 220416A
KI PAPER LOT: 022018
Data Processed By: SO/EdessaS
SAMPLE ID VERIFIED BY:
SO
Date: 12/28/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
C0145850	BLANK	-	-	W	1	8260		-	-	-	Passed Autofind ✓
C0145851	BLANK/BFB	-	-	W	1	8260		-	-	-	Passed Autofind ✓
C0145852	IC5857-1	-	-	W	2	8260	#3,6,9,11,12,14,15,16,18,23,110(SP) #99,111(MP)	-	-	-	3uL→50mL ✓
C0145853	IC5857-2	-	-	W	3	8260	#3(SP) #69,114(OP) #109(PII)	-	-	-	15uL→50mL ✓
C0145854	IC5857-3	-	-	W	4	8260	#69,114(OP) #109(PII)	-	-	-	30uL→50mL ✓
C0145855	IC5857-4	-	-	W	5	8260	#69,114(OP) #109(PII)	-	-	-	75uL→50mL ✓
C0145856	ICC5857-5	-	-	W	6	8260	#69,114(OP)	-	-	-	120uL→50mL ✓
C0145857	IC5857-6	-	-	W	7	8260	#69,114(OP)	-	-	-	210uL→50mL ✓
C0145858	IC5857-7	-	-	W	8	8260	#69,114(OP) #109(PII)	-	-	-	300uL→50mL ✓
C0145859	BLANK/BFB	-	-	W	9	8260		-	-	-	Passed Autofind ✓
C0145860	ICV5857-5/CCV	-	-	W	10	8260	#69,114(OP) #109(SP)	-	-	-	25uL→50mL ✓
C0145861	ICV5857-4/BS	-	-	W	11	8260	#69,114(OP) #109(SP)	-	-	-	12.5uL→40mL ✓
C0145862	CC5857-1	-	-	W	12	8260		-	-	-	✓
C0145863	MB	-	-	W	13	8260	#3,6(PII)	-	-	-	xNot used
C0145864	MB	-	-	W	14	8260	#3,6(PII)	-	-	-	MCl, MBr✓
C0145865	**FA81700-1**	1X	1	W	15	8260		1	NO	**1x**	MCl,MBr hit
C0145866	FA81700-2	1X	1	W	16	8260		1	NO		ND✓
C0145867	**FA81700-3**	25X	1	W	17	8260	2mL→ 50mL	1	NO	**5x**	cis12dce↓
C0145868	**FA81700-4**	1X	1	W	18	8260	#3,11,109(PII)	1	NO	**1x**	MCl hit
C0145869	**FA81700-5**	50X	1	W	19	8260	1mL→ 50mL	1	NO	**1x**	MCl hit
C0145870	FA81754-6	1X	2	W	20	8260		1	NO		✓
C0145871	FA81754-7	1X	2	W	21	8260		1	NO		✓
C0145872	**FA81754-8**	1X	2	W	22	8260	#6(PII)	6	NO	**1x**	MBr hit
C0145873	FA81754-9	1X	2	W	23	8260		6	NO		✓
C0145874	FA81754-10	1X	2	W	24	8260		6	NO		ND✓
C0145875	FA81720-3	1X	1	W	25	8260D		1	NO		✓
C0145876	FA81720-4	1X	1	W	26	8260D		1	NO		✓
C0145877	FA81720-5	1X	1	W	27	8260D		1	NO		✓
C0145878	FA81720-6	1X	1	W	28	8260D		1	NO		✓
C0145879	**FA81720-7**	20X	2	W	29	8260D	2.5mL→ 50mL	1	NO	**1x**	PCE↓
C0145880	**FA81720-8**	1X	1	W	30	8260D	#3,30(PII)	1	NO	**1x**	MCl hit
C0145881	FA81720-9	1X	1	W	31	8260D		1	NO		✓
C0145882	FA81720-10	1X	1	W	32	8260D		1	NO		✓
C0145883	FA81700-3MS	25X	1	W	33	8260	#69,114(OP) #109(SP)	1	NO		✓
C0145884	FA81700-3MSD	25X	1	W	33	8260	#69,114(OP) #109(SP)	1	NO		✓
C0145885	FA81720-7MS	20X	2	W	34	8260D	#69,114(OP) #109(SP)	1	NO		12.5uL→40mL ✓
C0145886	FA81720-7MSD	20X	2	W	34	8260D	#69,114(OP) #109(SP)	1	NO		12.5uL→40mL ✓
C0145887	ECC5857-5	-	-	W	35	8260	#69,114(OP) #109(SP)	-	-	-	20uL→50mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rational SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument

Analyst's Signature: Shanika O.

SGS -ORLANDO

MSVOA5-C-ANALYSIS LOG

DATE:	12/30/2020
COLUMN TYPE:	RTXVMS
DETECTOR:	5973MSD
INSTRUMENT:	MSVOA5-C
PURGE PRESSURE:	1psi
PURGE VOLUME:	5mL
ANALYST:	Shanika O

METHODS:*	8260
METHOD FILE:	RTXVMS122420.M
CALIB. DATE:	12/24/2020
EM VOLTAGE:	2035V
AFA:	V26039D
BFB RESPONSE:	3935607
VC5862-863	

BFB: VS0973
ICAL/CC: VS0938, VS0964, VS0959, VS0939
VS0965, VS0974
ISTD/SUR: VS0973
ICV/QC: VA0968, VS0969, VS0966,
VS0970, VS0963, VS0975, VS0690

PH LOT: 1-12pH 230814
0-3pH 220416A
KI PAPER LOT: 022018
Data Processed By: EdessaS
SAMPLE ID VERIFIED BY:
SO
Date: 12/31/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
C0145948	BLANK	-	-	W	1	8260		-	-	-	Passed Autofind ✓
C0145949	BLANK	-	-	W	1	8260		-	-	-	Passed Autofind ✓
C0145950	CC5857-5/BFB	-	-	W	2	8260	#69,114(OP)	-	-	-	20uL→50mL ✓
C0145951	BS	-	-	W	1	8260	#69,114(OP)	-	-	-	12.5uL→40mL ✓
C0145952	CC5857-1	-	-	W	2	8260	all peaks present	-	-	-	1uL→100mL ✓
C0145953	MB	-	-	W	3	8260	#3(PII)	-	-	-	
C0145954	MB	-	-	W	4	8260	Treated w/ AFA	-	-	-	MCl✓
C0145955	FA81804-11	1X	1	W	5	8260	#5(PII)	1	NO		ND✓
C0145956	FA81743-27	1X	3	W	6	8260		1	NO		F113✓
C0145957	FA81743-29	1X	3	W	7	8260	Last vials arrived w/ HS	1	NO		trans12DCE,VC✓
C0145958	FA81743-54	1X	3	W	8	8260	Last vials arrived w/ HS #5(SP)	1	NO		trans12DCE,VC✓
C0145959	FA81743-28	5X	2	W	9	8260	10mL→ 50mL	1	NO		E-combine✓
C0145960	FA81743-26	50X	3	W	10	8260	1mL→ 50mL	1	NO		E-combine✓
C0145961	FA81804-1	1X	2	W	11	8260	Treated w/ AFA #3(PII)	1	NO		ND✓
C0145962	FA81935-1	1X	2	W	12	8260		1	NO		✓
C0145963	FA81911-1	1X	1	W	13	8260D		1	NO		ND✓
C0145964	FA81911-2	1X	1	W	14	8260D		1	NO		ND✓
C0145965	FA81911-3	1X	1	W	15	8260D		1	NO		ND✓
C0145966	FA81911-4	1X	1	W	16	8260D		1	NO		ND✓
C0145967	FA81911-5	1X	1	W	17	8260D		1	NO		ND✓
C0145968	FA81911-6	500X	1	W	18	8260D	100uL→ 50mL	1	NO		✓
C0145969	FA81911-7	1X	1	W	19	8260D		1	NO		✓
C0145970	FA81911-8	1X	1	W	20	8260D	#11,20(SP)#99(MP)	1	NO		✓
C0145971	FA81911-9	1X	1	W	21	8260D	#30(PII)	1	NO		✓
C0145972	**FA81911-10**	500X	1	W	22	8260D	100uL→ 50mL#40(PII)	1	NO	**1000x**	Toluene↑
C0145973	FA81743-26MS	50X	3	W	23	8260	#69,114(OP)#109(PII)	1	NO		✓
C0145974	FA81743-26MSD	50X	3	W	23	8260	#69,114(OP)	1	NO		✓
C0145975	FA81911-10MS	500X	1	W	24	8260D	#69,114(OP)	1	NO		12.5uL→40mL ✓
C0145976	FA81911-10MSD	500X	1	W	24	8260D	#69,114(OP)#109(PII)	1	NO		12.5uL→40mL ✓
C0145977	ECC5857-5	-	-	W	25	8260	#69,114(OP)	-	-	-	20uL→50mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rational SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument

Analyst's Signature: Shanika O.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP18-5015 PFAS Removal; Pease AFB, NH

7311180270.6000

SGS Job Number: FA82085

Sampling Dates: 12/23/20 - 12/29/20

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Ave Suite 1200
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Emma Driver

Total number of pages in report: **213**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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EHS.US.CustomerCare@sgs.com

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: FA82085

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FA82085-1	12/23/20	13:00	KM	12/30/20	AQ	Ground Water	SP1-GW_20201223
FA82085-2	12/29/20	11:00	KM	12/30/20	AQ	Ground Water	SP1-GW_20201229

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Wood Environment & Infrastructure Solut. **Job No:** FA82085

Site: ESTCP18-5015 PFAS Removal; Pease AFB, NH **Report Date:** 1/13/2021 11:24:40 AM

2 Samples were collected on between 12/23/2020 and 12/29/2020 and were received at SGS North America Inc - Orlando on 12/30/2020 properly preserved, at 1.1 Deg. C and intact. These Samples received an SGS Orlando job number of FA82085. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** VC5867

All samples were analyzed within the recommended method holding time.

Sample(s) FA82063-1MS, FA82063-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for Methyl Bromide, Methyl Chloride are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for Methyl Bromide, Methyl Chloride are outside control limits for sample FA82063-1MSD. Probable cause is due to sample non-homogeneity.

FA82085-1 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND.

FA82085-2 for Trichlorofluoromethane: Associated CCV outside of control limits high, sample was ND.

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual
FA82063-1MS	MSVOA	C0146089.D	2-Hexanone, Ethyl Alcohol
FA82063-1MSD	MSVOA	C0146090.D	2-Hexanone, Ethyl Alcohol
VC5857-IC5857	MSVOA	C0145852.D	1,1-Dichloroethylene, 1,4-Dichlorobenzene, Acetone, Acetonitrile, Acrolein, Allyl Chloride, Ethyl Ether, Freon 113, Isobutyl Alcohol, Methyl Bromide, Methyl Chloride, Methyl Iodide, Tert-Butyl Alcohol
VC5857-IC5857	MSVOA	C0145853.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol, Methyl Chloride
VC5857-IC5857	MSVOA	C0145854.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5857-IC5857	MSVOA	C0145855.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5857-IC5857	MSVOA	C0145857.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VC5857-IC5857	MSVOA	C0145858.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5857-ICC5857	MSVOA	C0145856.D	2-Hexanone, 3,3-Dimethyl-1-Butanol
VC5857-ICV5857	MSVOA	C0145860A.D	2-Hexanone, 3,3-Dimethyl-1-Butanol, Ethyl Alcohol
VC5867-BS	MSVOA	C0146067.D	2-Hexanone, Ethyl Alcohol
VC5867-CC5857	MSVOA	C0146066.D	2-Hexanone, Ethyl Alcohol

12 Manual Integrations were found for FA82085

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Jenna Kravitz, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA82085
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/23/20 thru 12/29/20

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA82085-1	**SP1-GW_20201223**					
Chlorobenzene		0.44 J	1.0	0.50	ug/l	SW846 8260B
FA82085-2	**SP1-GW_20201229**					
Chlorobenzene		0.54 J	1.0	0.50	ug/l	SW846 8260B

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP1-GW_20201223		
Lab Sample ID:	FA82085-1	**Date Sampled:**	12/23/20
Matrix:	AQ - Ground Water	**Date Received:**	12/30/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0146080.D	1	01/05/21 15:01	SO	n/a	n/a	VC5867
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.44	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP1-GW_20201223		
Lab Sample ID:	FA82085-1	**Date Sampled:**	12/23/20
Matrix:	AQ - Ground Water	**Date Received:**	12/30/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	4.0 U	5.0	4.0	2.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane [a]	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	110%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	102%		83-118%

(a) Associated CCV outside of control limits high, sample was ND.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP1-GW_20201229		
Lab Sample ID:	FA82085-2	**Date Sampled:**	12/29/20
Matrix:	AQ - Ground Water	**Date Received:**	12/30/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0146081.D	1	01/05/21 15:26	SO	n/a	n/a	VC5867
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.54	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP1-GW_20201229		
Lab Sample ID:	FA82085-2	**Date Sampled:**	12/29/20
Matrix:	AQ - Ground Water	**Date Received:**	12/30/20
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	4.0 U	5.0	4.0	2.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane [a]	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	109%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	102%		83-118%

(a) Associated CCV outside of control limits high, sample was ND.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

CHAIN OF CUSTODY

FA82085

DATE: 12/23/20
COC #:
PAGE: 1 OF 1

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	FED EX
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

Sample Information						Methods for Analysis	RUSH				
No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	VOC-8260c	STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES / HOLD All Analyses
1	SP1-GW_2020 1223	12/23/20 13:00	WG	N	N	X	X				3
2	SP1-GW_20201229	12/29/20 11:00	WG	N	N	X	X				3
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

Initial Assessment: NS
Label verification: NS

Sampler's Signature:	Date: 12/29/20	Time: 11:30 pm
Relinquished By/Affiliation: Wood E&IS	Date: 12/29/20	Time: 1321
Received By:	Date: 12/29/20	Time: 1315
Relinquished By/Affiliation:	Date: 12/29/20	Time: 1610
Received By:	Date: 12/29/20	Time: 1610
Relinquished By/Affiliation:	Date: 12/21/20	Time: 18:00
Received By (LAB):	Date:	Time:

For Lab Use	
Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	1.1 °C

Comments:
X=Analyze H=Hold Analysis Request PO # F013200721
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT:

C.S. 13953

12/30/20 1000

SGS-ACCUTEST MARLBOR 12/29

5.1 5

FA82085: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA82085 **Client:** WOOD **Project:** ESTCP SITE 8

Date / Time Received: 12/30/2020 10:00:00 AM **Delivery Method:** FX **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (0.9);

Cooler Temps (Corrected) °C: Cooler 1: (1.1);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 12/30/2020 10:00:00 Reviewer: _____ Date: _____

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FA82085: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82085
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/23/20 thru 12/29/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC5867	SW846 8260B						
VC5867-BS	67-64-1	Acetone	BSP	REC	87	%	39-160
VC5867-BS	71-43-2	Benzene	BSP	REC	95	%	79-120
VC5867-BS	74-97-5	Bromochloromethane	BSP	REC	93	%	78-123
VC5867-BS	75-27-4	Bromodichloromethane	BSP	REC	101	%	79-125
VC5867-BS	75-25-2	Bromoform	BSP	REC	93	%	66-130
VC5867-BS	78-93-3	2-Butanone (MEK)	BSP	REC	76	%	56-143
VC5867-BS	75-15-0	Carbon Disulfide	BSP	REC	92	%	64-133
VC5867-BS	56-23-5	Carbon Tetrachloride	BSP	REC	107	%	72-136
VC5867-BS	108-90-7	Chlorobenzene	BSP	REC	90	%	82-118
VC5867-BS	75-00-3	Chloroethane	BSP	REC	84	%	60-138
VC5867-BS	67-66-3	Chloroform	BSP	REC	102	%	79-124
VC5867-BS	110-82-7	Cyclohexane	BSP	REC	89	%	71-130
VC5867-BS	124-48-1	Dibromochloromethane	BSP	REC	94	%	74-126
VC5867-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	72	%	62-128
VC5867-BS	106-93-4	1,2-Dibromoethane	BSP	REC	83	%	77-121
VC5867-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	90	%	32-152
VC5867-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	87	%	80-119
VC5867-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	90	%	80-119
VC5867-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	87	%	79-118
VC5867-BS	75-34-3	1,1-Dichloroethane	BSP	REC	102	%	77-125
VC5867-BS	107-06-2	1,2-Dichloroethane	BSP	REC	102	%	73-128
VC5867-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	108	%	71-131
VC5867-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	100	%	78-123
VC5867-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	99	%	75-124
VC5867-BS	78-87-5	1,2-Dichloropropane	BSP	REC	93	%	78-122
VC5867-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	90	%	75-124
VC5867-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	91	%	73-127
VC5867-BS	100-41-4	Ethylbenzene	BSP	REC	92	%	79-121
VC5867-BS	76-13-1	Freon 113	BSP	REC	88	%	70-136
VC5867-BS	591-78-6	2-Hexanone	BSP	REC	71	%	57-139
VC5867-BS	98-82-8	Isopropylbenzene	BSP	REC	94	%	72-131
VC5867-BS	79-20-9	Methyl Acetate	BSP	REC	77	%	56-136
VC5867-BS	74-83-9	Methyl Bromide	BSP	REC	106	%	53-141
VC5867-BS	74-87-3	Methyl Chloride	BSP	REC	98	%	50-139
VC5867-BS	108-87-2	Methylcyclohexane	BSP	REC	101	%	72-132
VC5867-BS	75-09-2	Methylene Chloride	BSP	REC	82	%	74-124
VC5867-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	77	%	67-130
VC5867-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	84	%	71-124
VC5867-BS	100-42-5	Styrene	BSP	REC	92	%	78-123
VC5867-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	76	%	71-121
VC5867-BS	127-18-4	Tetrachloroethylene	BSP	REC	101	%	74-129
VC5867-BS	108-88-3	Toluene	BSP	REC	87	%	80-121

* Sample used for QC is not from job FA82085

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82085
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/23/20 thru 12/29/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC5867-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	76	%	69-129
VC5867-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	82	%	69-130
VC5867-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	110	%	74-131
VC5867-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	89	%	80-119
VC5867-BS	79-01-6	Trichloroethylene	BSP	REC	96	%	79-123
VC5867-BS	75-69-4	Trichlorofluoromethane	BSP	REC	112	%	65-141
VC5867-BS	75-01-4	Vinyl Chloride	BSP	REC	90	%	58-137
VC5867-BS		m,p-Xylene	BSP	REC	94	%	80-121
VC5867-BS	95-47-6	o-Xylene	BSP	REC	92	%	78-122
VC5867-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	104	%	80-119
VC5867-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	108	%	81-118
VC5867-BS	2037-26-5	Toluene-D8	BSP	SURR	97	%	89-112
VC5867-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	101	%	85-114
FA82063-1MS*	67-64-1	Acetone	MS	REC	122	%	39-160
FA82063-1MS*	71-43-2	Benzene	MS	REC	107	%	79-120
FA82063-1MS*	74-97-5	Bromochloromethane	MS	REC	104	%	78-123
FA82063-1MS*	75-27-4	Bromodichloromethane	MS	REC	120	%	79-125
FA82063-1MS*	75-25-2	Bromoform	MS	REC	102	%	66-130
FA82063-1MS*	78-93-3	2-Butanone (MEK)	MS	REC	94	%	56-143
FA82063-1MS*	75-15-0	Carbon Disulfide	MS	REC	104	%	64-133
FA82063-1MS*	56-23-5	Carbon Tetrachloride	MS	REC	126	%	72-136
FA82063-1MS*	108-90-7	Chlorobenzene	MS	REC	99	%	82-118
FA82063-1MS*	75-00-3	Chloroethane	MS	REC	104	%	60-138
FA82063-1MS*	67-66-3	Chloroform	MS	REC	116	%	79-124
FA82063-1MS*	110-82-7	Cyclohexane	MS	REC	100	%	71-130
FA82063-1MS*	124-48-1	Dibromochloromethane	MS	REC	106	%	74-126
FA82063-1MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	82	%	62-128
FA82063-1MS*	106-93-4	1,2-Dibromoethane	MS	REC	100	%	77-121
FA82063-1MS*	75-71-8	Dichlorodifluoromethane	MS	REC	106	%	32-152
FA82063-1MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	98	%	80-119
FA82063-1MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	100	%	80-119
FA82063-1MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	96	%	79-118
FA82063-1MS*	75-34-3	1,1-Dichloroethane	MS	REC	116	%	77-125
FA82063-1MS*	107-06-2	1,2-Dichloroethane	MS	REC	119	%	73-128
FA82063-1MS*	75-35-4	1,1-Dichloroethylene	MS	REC	117	%	71-131
FA82063-1MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	114	%	78-123
FA82063-1MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	114	%	75-124
FA82063-1MS*	78-87-5	1,2-Dichloropropane	MS	REC	102	%	78-122
FA82063-1MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	103	%	75-124
FA82063-1MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	104	%	73-127
FA82063-1MS*	100-41-4	Ethylbenzene	MS	REC	102	%	79-121
FA82063-1MS*	76-13-1	Freon 113	MS	REC	100	%	70-136
FA82063-1MS*	591-78-6	2-Hexanone	MS	REC	80	%	57-139
FA82063-1MS*	98-82-8	Isopropylbenzene	MS	REC	104	%	72-131
FA82063-1MS*	79-20-9	Methyl Acetate	MS	REC	90	%	56-136

* Sample used for QC is not from job FA82085

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82085
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/23/20 thru 12/29/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA82063-1MS*	74-83-9	Methyl Bromide	MS	REC	54	%	53-141
FA82063-1MS*	74-87-3	Methyl Chloride	MS	REC	35	%	50-139
FA82063-1MS*	108-87-2	Methylcyclohexane	MS	REC	110	%	72-132
FA82063-1MS*	75-09-2	Methylene Chloride	MS	REC	95	%	74-124
FA82063-1MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	87	%	67-130
FA82063-1MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	100	%	71-124
FA82063-1MS*	100-42-5	Styrene	MS	REC	102	%	78-123
FA82063-1MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	86	%	71-121
FA82063-1MS*	127-18-4	Tetrachloroethylene	MS	REC	111	%	74-129
FA82063-1MS*	108-88-3	Toluene	MS	REC	98	%	80-121
FA82063-1MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	93	%	69-129
FA82063-1MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	98	%	69-130
FA82063-1MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	123	%	74-131
FA82063-1MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	101	%	80-119
FA82063-1MS*	79-01-6	Trichloroethylene	MS	REC	110	%	79-123
FA82063-1MS*	75-69-4	Trichlorofluoromethane	MS	REC	134	%	65-141
FA82063-1MS*	75-01-4	Vinyl Chloride	MS	REC	92	%	58-137
FA82063-1MS*		m,p-Xylene	MS	REC	104	%	80-121
FA82063-1MS*	95-47-6	o-Xylene	MS	REC	103	%	78-122
FA82063-1MS*	1868-53-7	Dibromofluoromethane	MS	SURR	102	%	80-119
FA82063-1MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	112	%	81-118
FA82063-1MS*	2037-26-5	Toluene-D8	MS	SURR	97	%	89-112
FA82063-1MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	102	%	85-114
FA82063-1MSD*	67-64-1	Acetone	MSD	REC	99	%	39-160
FA82063-1MSD*	67-64-1	Acetone	MSD	RPD	8	%	20
FA82063-1MSD*	71-43-2	Benzene	MSD	REC	100	%	79-120
FA82063-1MSD*	71-43-2	Benzene	MSD	RPD	7	%	20
FA82063-1MSD*	74-97-5	Bromochloromethane	MSD	REC	100	%	78-123
FA82063-1MSD*	74-97-5	Bromochloromethane	MSD	RPD	4	%	20
FA82063-1MSD*	75-27-4	Bromodichloromethane	MSD	REC	112	%	79-125
FA82063-1MSD*	75-27-4	Bromodichloromethane	MSD	RPD	7	%	20
FA82063-1MSD*	75-25-2	Bromoform	MSD	REC	97	%	66-130
FA82063-1MSD*	75-25-2	Bromoform	MSD	RPD	6	%	20
FA82063-1MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	85	%	56-143
FA82063-1MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	8	%	20
FA82063-1MSD*	75-15-0	Carbon Disulfide	MSD	REC	95	%	64-133
FA82063-1MSD*	75-15-0	Carbon Disulfide	MSD	RPD	9	%	20
FA82063-1MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	116	%	72-136
FA82063-1MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	9	%	20
FA82063-1MSD*	108-90-7	Chlorobenzene	MSD	REC	94	%	82-118
FA82063-1MSD*	108-90-7	Chlorobenzene	MSD	RPD	5	%	20
FA82063-1MSD*	75-00-3	Chloroethane	MSD	REC	95	%	60-138
FA82063-1MSD*	75-00-3	Chloroethane	MSD	RPD	9	%	20
FA82063-1MSD*	67-66-3	Chloroform	MSD	REC	107	%	79-124
FA82063-1MSD*	67-66-3	Chloroform	MSD	RPD	7	%	20

* Sample used for QC is not from job FA82085

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82085
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/23/20 thru 12/29/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA82063-1MSD*	110-82-7	Cyclohexane	MSD	REC	94	%	71-130
FA82063-1MSD*	110-82-7	Cyclohexane	MSD	RPD	7	%	20
FA82063-1MSD*	124-48-1	Dibromochloromethane	MSD	REC	101	%	74-126
FA82063-1MSD*	124-48-1	Dibromochloromethane	MSD	RPD	5	%	20
FA82063-1MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	81	%	62-128
FA82063-1MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	1	%	20
FA82063-1MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	91	%	77-121
FA82063-1MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	9	%	20
FA82063-1MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	98	%	32-152
FA82063-1MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	9	%	20
FA82063-1MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	96	%	80-119
FA82063-1MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	2	%	20
FA82063-1MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	95	%	80-119
FA82063-1MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	5	%	20
FA82063-1MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	92	%	79-118
FA82063-1MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	5	%	20
FA82063-1MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	109	%	77-125
FA82063-1MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	6	%	20
FA82063-1MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	111	%	73-128
FA82063-1MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	7	%	20
FA82063-1MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	110	%	71-131
FA82063-1MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	7	%	20
FA82063-1MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	103	%	78-123
FA82063-1MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	10	%	20
FA82063-1MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	104	%	75-124
FA82063-1MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	10	%	20
FA82063-1MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	97	%	78-122
FA82063-1MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	5	%	20
FA82063-1MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	98	%	75-124
FA82063-1MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	6	%	20
FA82063-1MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	98	%	73-127
FA82063-1MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	6	%	20
FA82063-1MSD*	100-41-4	Ethylbenzene	MSD	REC	96	%	79-121
FA82063-1MSD*	100-41-4	Ethylbenzene	MSD	RPD	6	%	20
FA82063-1MSD*	76-13-1	Freon 113	MSD	REC	93	%	70-136
FA82063-1MSD*	76-13-1	Freon 113	MSD	RPD	7	%	20
FA82063-1MSD*	591-78-6	2-Hexanone	MSD	REC	75	%	57-139
FA82063-1MSD*	591-78-6	2-Hexanone	MSD	RPD	6	%	20
FA82063-1MSD*	98-82-8	Isopropylbenzene	MSD	REC	99	%	72-131
FA82063-1MSD*	98-82-8	Isopropylbenzene	MSD	RPD	5	%	20
FA82063-1MSD*	79-20-9	Methyl Acetate	MSD	REC	84	%	56-136
FA82063-1MSD*	79-20-9	Methyl Acetate	MSD	RPD	7	%	20
FA82063-1MSD*	74-83-9	Methyl Bromide	MSD	REC	75	%	53-141
FA82063-1MSD*	74-83-9	Methyl Bromide	MSD	RPD	33	%	20
FA82063-1MSD*	74-87-3	Methyl Chloride	MSD	REC	76	%	50-139

* Sample used for QC is not from job FA82085

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82085
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/23/20 thru 12/29/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA82063-1MSD*	74-87-3	Methyl Chloride	MSD	RPD	73	%	20
FA82063-1MSD*	108-87-2	Methylcyclohexane	MSD	REC	108	%	72-132
FA82063-1MSD*	108-87-2	Methylcyclohexane	MSD	RPD	2	%	20
FA82063-1MSD*	75-09-2	Methylene Chloride	MSD	REC	90	%	74-124
FA82063-1MSD*	75-09-2	Methylene Chloride	MSD	RPD	6	%	20
FA82063-1MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	82	%	67-130
FA82063-1MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	7	%	20
FA82063-1MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	94	%	71-124
FA82063-1MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	6	%	20
FA82063-1MSD*	100-42-5	Styrene	MSD	REC	98	%	78-123
FA82063-1MSD*	100-42-5	Styrene	MSD	RPD	4	%	20
FA82063-1MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	81	%	71-121
FA82063-1MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	7	%	20
FA82063-1MSD*	127-18-4	Tetrachloroethylene	MSD	REC	106	%	74-129
FA82063-1MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	5	%	20
FA82063-1MSD*	108-88-3	Toluene	MSD	REC	93	%	80-121
FA82063-1MSD*	108-88-3	Toluene	MSD	RPD	5	%	20
FA82063-1MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	96	%	69-129
FA82063-1MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	3	%	20
FA82063-1MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	103	%	69-130
FA82063-1MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	5	%	20
FA82063-1MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	114	%	74-131
FA82063-1MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	7	%	20
FA82063-1MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	92	%	80-119
FA82063-1MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	10	%	20
FA82063-1MSD*	79-01-6	Trichloroethylene	MSD	REC	101	%	79-123
FA82063-1MSD*	79-01-6	Trichloroethylene	MSD	RPD	8	%	20
FA82063-1MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	123	%	65-141
FA82063-1MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	8	%	20
FA82063-1MSD*	75-01-4	Vinyl Chloride	MSD	REC	86	%	58-137
FA82063-1MSD*	75-01-4	Vinyl Chloride	MSD	RPD	6	%	20
FA82063-1MSD*		m,p-Xylene	MSD	REC	99	%	80-121
FA82063-1MSD*		m,p-Xylene	MSD	RPD	4	%	20
FA82063-1MSD*	95-47-6	o-Xylene	MSD	REC	98	%	78-122
FA82063-1MSD*	95-47-6	o-Xylene	MSD	RPD	5	%	20
FA82063-1MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	103	%	80-119
FA82063-1MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	110	%	81-118
FA82063-1MSD*	2037-26-5	Toluene-D8	MSD	SURR	98	%	89-112
FA82063-1MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	101	%	85-114
VC5867-MB	1868-53-7	Dibromofluoromethane	MB	SURR	104	%	80-119
VC5867-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	112	%	81-118
VC5867-MB	2037-26-5	Toluene-D8	MB	SURR	95	%	89-112
VC5867-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	101	%	85-114
FA82085-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
FA82085-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	110	%	81-118

* Sample used for QC is not from job FA82085

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82085
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 12/23/20 thru 12/29/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA82085-1	2037-26-5	Toluene-D8	SAMP	SURR	97	%	89-112
FA82085-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114
FA82085-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
FA82085-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	109	%	81-118
FA82085-2	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
FA82085-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114

* Sample used for QC is not from job FA82085

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5867-MB	C0146069.D	1	01/05/21	SO	n/a	n/a	VC5867

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82085-1, FA82085-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	

Method Blank Summary

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5867-MB	C0146069.D	1	01/05/21	SO	n/a	n/a	VC5867

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82085-1, FA82085-2

CAS No.	Compound	Result	RL	MDL	Units	Q
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	112%	79-125%
2037-26-5	Toluene-D8	95%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

Blank Spike Summary

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5867-BS	C0146067.D	1	01/05/21	SO	n/a	n/a	VC5867

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82085-1, FA82085-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	109	87	50-147
71-43-2	Benzene	25	23.7	95	81-122
74-97-5	Bromochloromethane	25	23.3	93	76-123
75-27-4	Bromodichloromethane	25	25.3	101	79-123
75-25-2	Bromoform	25	23.3	93	66-123
78-93-3	2-Butanone (MEK)	125	94.5	76	56-143
75-15-0	Carbon Disulfide	25	23.0	92	66-148
56-23-5	Carbon Tetrachloride	25	26.8	107	76-136
108-90-7	Chlorobenzene	25	22.5	90	82-124
75-00-3	Chloroethane	25	21.1	84	62-144
67-66-3	Chloroform	25	25.5	102	80-124
110-82-7	Cyclohexane	25	22.3	89	73-138
124-48-1	Dibromochloromethane	25	23.4	94	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	17.9	72	64-123
106-93-4	1,2-Dibromoethane	25	20.7	83	75-120
75-71-8	Dichlorodifluoromethane	25	22.5	90	42-167
95-50-1	1,2-Dichlorobenzene	25	21.7	87	82-124
541-73-1	1,3-Dichlorobenzene	25	22.5	90	84-125
106-46-7	1,4-Dichlorobenzene	25	21.7	87	78-120
75-34-3	1,1-Dichloroethane	25	25.4	102	81-122
107-06-2	1,2-Dichloroethane	25	25.4	102	75-125
75-35-4	1,1-Dichloroethylene	25	27.1	108	78-137
156-59-2	cis-1,2-Dichloroethylene	25	25.0	100	78-120
156-60-5	trans-1,2-Dichloroethylene	25	24.7	99	76-127
78-87-5	1,2-Dichloropropane	25	23.2	93	76-124
10061-01-5	cis-1,3-Dichloropropene	25	22.6	90	75-118
10061-02-6	trans-1,3-Dichloropropene	25	22.8	91	80-120
100-41-4	Ethylbenzene	25	23.0	92	81-121
76-13-1	Freon 113	25	21.9	88	72-134
591-78-6	2-Hexanone	125	89.2	71	61-129
98-82-8	Isopropylbenzene	25	23.5	94	83-132
79-20-9	Methyl Acetate	125	95.7	77	65-126
74-83-9	Methyl Bromide	25	26.6	106	59-143
74-87-3	Methyl Chloride	25	24.6	98	50-159
108-87-2	Methylcyclohexane	25	25.3	101	76-129
75-09-2	Methylene Chloride	25	20.4	82	69-135

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5867-BS	C0146067.D	1	01/05/21	SO	n/a	n/a	VC5867

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82085-1, FA82085-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
108-10-1	4-Methyl-2-pentanone (MIBK)	125	95.7	77	66-122
1634-04-4	Methyl Tert Butyl Ether	25	20.9	84	72-117
100-42-5	Styrene	25	22.9	92	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	19.1	76	72-120
127-18-4	Tetrachloroethylene	25	25.2	101	76-135
108-88-3	Toluene	25	21.8	87	80-120
87-61-6	1,2,3-Trichlorobenzene	25	19.0	76	68-131
120-82-1	1,2,4-Trichlorobenzene	25	20.5	82	73-129
71-55-6	1,1,1-Trichloroethane	25	27.4	110	75-130
79-00-5	1,1,2-Trichloroethane	25	22.2	89	76-119
79-01-6	Trichloroethylene	25	23.9	96	81-126
75-69-4	Trichlorofluoromethane	25	28.1	112	71-156
75-01-4	Vinyl Chloride	25	22.4	90	69-159
	m,p-Xylene	50	46.9	94	79-126
95-47-6	o-Xylene	25	23.0	92	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	108%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA82063-1MS	C0146089.D	100	01/05/21	SO	n/a	n/a	VC5867
FA82063-1MSD	C0146090.D	100	01/05/21	SO	n/a	n/a	VC5867
FA82063-1	C0146076.D	100	01/05/21	SO	n/a	n/a	VC5867

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82085-1, FA82085-2

CAS No.	Compound	FA82063-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	21900		12500	37200	122	12500	34300	99	8	50-147/21
71-43-2	Benzene	ND		2500	2680	107	2500	2510	100	7	81-122/14
74-97-5	Bromochloromethane	ND		2500	2590	104	2500	2490	100	4	76-123/14
75-27-4	Bromodichloromethane	ND		2500	2990	120	2500	2800	112	7	79-123/19
75-25-2	Bromoform	ND		2500	2560	102	2500	2420	97	6	66-123/21
78-93-3	2-Butanone (MEK)	2950		12500	14700	94	12500	13600	85	8	56-143/18
75-15-0	Carbon Disulfide	ND		2500	2610	104	2500	2380	95	9	66-148/23
56-23-5	Carbon Tetrachloride	ND		2500	3160	126	2500	2900	116	9	76-136/23
108-90-7	Chlorobenzene	ND		2500	2470	99	2500	2360	94	5	82-124/14
75-00-3	Chloroethane	ND		2500	2600	104	2500	2380	95	9	62-144/20
67-66-3	Chloroform	42.4	J	2500	2930	116	2500	2720	107	7	80-124/15
110-82-7	Cyclohexane	ND		2500	2510	100	2500	2350	94	7	73-138/18
124-48-1	Dibromochloromethane	ND		2500	2650	106	2500	2520	101	5	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND		2500	2050	82	2500	2020	81	1	64-123/18
106-93-4	1,2-Dibromoethane	ND		2500	2490	100	2500	2280	91	9	75-120/13
75-71-8	Dichlorodifluoromethane	ND		2500	2660	106	2500	2440	98	9	42-167/19
95-50-1	1,2-Dichlorobenzene	ND		2500	2440	98	2500	2400	96	2	82-124/14
541-73-1	1,3-Dichlorobenzene	ND		2500	2490	100	2500	2380	95	5	84-125/14
106-46-7	1,4-Dichlorobenzene	ND		2500	2410	96	2500	2300	92	5	78-120/15
75-34-3	1,1-Dichloroethane	ND		2500	2900	116	2500	2720	109	6	81-122/15
107-06-2	1,2-Dichloroethane	ND		2500	2970	119	2500	2780	111	7	75-125/14
75-35-4	1,1-Dichloroethylene	ND		2500	2930	117	2500	2740	110	7	78-137/18
156-59-2	cis-1,2-Dichloroethylene	ND		2500	2840	114	2500	2580	103	10	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		2500	2850	114	2500	2590	104	10	76-127/17
78-87-5	1,2-Dichloropropane	ND		2500	2550	102	2500	2430	97	5	76-124/14
10061-01-5	cis-1,3-Dichloropropene	ND		2500	2580	103	2500	2440	98	6	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND		2500	2590	104	2500	2440	98	6	80-120/22
100-41-4	Ethylbenzene	ND		2500	2550	102	2500	2410	96	6	81-121/14
76-13-1	Freon 113	ND		2500	2510	100	2500	2330	93	7	72-134/20
591-78-6	2-Hexanone	ND		12500	9980	80	12500	9360	75	6	61-129/18
98-82-8	Isopropylbenzene	ND		2500	2610	104	2500	2480	99	5	83-132/15
79-20-9	Methyl Acetate	ND		12500	11300	90	12500	10500	84	7	65-126/18
74-83-9	Methyl Bromide	ND		2500	1350	54*	2500	1880	75	33*	59-143/19
74-87-3	Methyl Chloride	ND		2500	885	35*	2500	1910	76	73*	50-159/19
108-87-2	Methylcyclohexane	ND		2500	2760	110	2500	2700	108	2	76-129/17
75-09-2	Methylene Chloride	ND		2500	2380	95	2500	2250	90	6	69-135/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA82063-1MS	C0146089.D	100	01/05/21	SO	n/a	n/a	VC5867
FA82063-1MSD	C0146090.D	100	01/05/21	SO	n/a	n/a	VC5867
FA82063-1	C0146076.D	100	01/05/21	SO	n/a	n/a	VC5867

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82085-1, FA82085-2

CAS No.	Compound	FA82063-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		12500	10900	87	12500	10200	82	7	66-122/16
1634-04-4	Methyl Tert Butyl Ether	ND		2500	2500	100	2500	2350	94	6	72-117/14
100-42-5	Styrene	ND		2500	2560	102	2500	2450	98	4	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	ND		2500	2160	86	2500	2020	81	7	72-120/14
127-18-4	Tetrachloroethylene	ND		2500	2780	111	2500	2650	106	5	76-135/16
108-88-3	Toluene	49.8	J	2500	2500	98	2500	2370	93	5	80-120/14
87-61-6	1,2,3-Trichlorobenzene	ND		2500	2320	93	2500	2390	96	3	68-131/25
120-82-1	1,2,4-Trichlorobenzene	ND		2500	2460	98	2500	2580	103	5	73-129/20
71-55-6	1,1,1-Trichloroethane	ND		2500	3080	123	2500	2860	114	7	75-130/16
79-00-5	1,1,2-Trichloroethane	ND		2500	2530	101	2500	2300	92	10	76-119/14
79-01-6	Trichloroethylene	ND		2500	2750	110	2500	2530	101	8	81-126/15
75-69-4	Trichlorofluoromethane	ND		2500	3340	134	2500	3080	123	8	71-156/21
75-01-4	Vinyl Chloride	ND		2500	2300	92	2500	2160	86	6	69-159/18
	m,p-Xylene	ND		5000	5180	104	5000	4960	99	4	79-126/15
95-47-6	o-Xylene	ND		2500	2570	103	2500	2450	98	5	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA82063-1	Limits
1868-53-7	Dibromofluoromethane	102%	103%	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	112%	110%	110%	79-125%
2037-26-5	Toluene-D8	97%	98%	96%	85-112%
460-00-4	4-Bromofluorobenzene	102%	101%	102%	83-118%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5857-BFB	**Injection Date:**	12/24/20
Lab File ID:	C0145851.D	**Injection Time:**	07:21
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	81779	20.2		Pass
75	30.0 - 60.0% of mass 95	213995	52.8		Pass
95	Base peak, 100% relative abundance	405163	100.0		Pass
96	5.0 - 9.0% of mass 95	27157	6.70		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	340032	83.9		Pass
175	5.0 - 9.0% of mass 174	27171	6.71	(7.99) [a]	Pass
176	95.0 - 101.0% of mass 174	333291	82.3	(98.0) [a]	Pass
177	5.0 - 9.0% of mass 176	23749	5.86	(7.13) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC5857-IC5857	C0145852.D	12/24/20	07:47	00:26	Initial cal 1
VC5857-IC5857	C0145853.D	12/24/20	08:13	00:52	Initial cal 2
VC5857-IC5857	C0145854.D	12/24/20	08:39	01:18	Initial cal 3
VC5857-IC5857	C0145855.D	12/24/20	09:05	01:44	Initial cal 4
VC5857-ICC5857	C0145856.D	12/24/20	09:32	02:11	Initial cal 5
VC5857-IC5857	C0145857.D	12/24/20	09:59	02:38	Initial cal 6
VC5857-IC5857	C0145858.D	12/24/20	10:25	03:04	Initial cal 7

Instrument Performance Check (BFB)

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5857-BFB	**Injection Date:**	12/24/20
Lab File ID:	C0145859.D	**Injection Time:**	10:52
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	80160	19.6		Pass
75	30.0 - 60.0% of mass 95	207701	50.7		Pass
95	Base peak, 100% relative abundance	409429	100.0		Pass
96	5.0 - 9.0% of mass 95	25979	6.35		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	338624	82.7		Pass
175	5.0 - 9.0% of mass 174	28003	6.84	(8.27) [a]	Pass
176	95.0 - 101.0% of mass 174	329579	80.5	(97.3) [a]	Pass
177	5.0 - 9.0% of mass 176	22541	5.51	(6.84) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC5857-CC5857	C0145860.D	12/24/20	11:19	00:27	Continuing cal 5
VC5857-ICV5857	C0145860A.D	12/24/20	11:19	00:27	Initial cal verification 5
VC5858-BS	C0145861.D	12/24/20	11:46	00:54	Blank Spike
VC5857-ICV5857	C0145861A.D	12/24/20	11:46	00:54	Initial cal verification 4
VC5857-BS	C0145861.D	12/24/20	11:46	00:54	Blank Spike
VC5857-MB	C0145864.D	12/24/20	13:04	02:12	Method Blank
VC5858-MB	C0145864.D	12/24/20	13:04	02:12	Method Blank
ZZZZZZ	C0145865.D	12/24/20	13:30	02:38	(unrelated sample)
ZZZZZZ	C0145866.D	12/24/20	13:57	03:05	(unrelated sample)
FA81700-3	C0145867.D	12/24/20	14:23	03:31	(used for QC only; not part of job FA82085)
ZZZZZZ	C0145868.D	12/24/20	14:49	03:57	(unrelated sample)
ZZZZZZ	C0145869.D	12/24/20	15:15	04:23	(unrelated sample)
ZZZZZZ	C0145870.D	12/24/20	15:41	04:49	(unrelated sample)
ZZZZZZ	C0145871.D	12/24/20	16:07	05:15	(unrelated sample)
ZZZZZZ	C0145872.D	12/24/20	16:34	05:42	(unrelated sample)
ZZZZZZ	C0145873.D	12/24/20	17:00	06:08	(unrelated sample)
ZZZZZZ	C0145874.D	12/24/20	17:26	06:34	(unrelated sample)
ZZZZZZ	C0145875.D	12/24/20	17:53	07:01	(unrelated sample)
ZZZZZZ	C0145876.D	12/24/20	18:19	07:27	(unrelated sample)
ZZZZZZ	C0145877.D	12/24/20	18:45	07:53	(unrelated sample)
ZZZZZZ	C0145878.D	12/24/20	19:10	08:18	(unrelated sample)
FA81720-7	C0145879.D	12/24/20	19:36	08:44	(used for QC only; not part of job FA82085)
ZZZZZZ	C0145880.D	12/24/20	20:02	09:10	(unrelated sample)
ZZZZZZ	C0145881.D	12/24/20	20:27	09:35	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5857-BFB	**Injection Date:**	12/24/20
Lab File ID:	C0145859.D	**Injection Time:**	10:52
Instrument ID:	GCMSC		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	C0145882.D	12/24/20	20:54	10:02	(unrelated sample)
FA81700-3MS	C0145883.D	12/24/20	21:19	10:27	Matrix Spike
FA81700-3MSD	C0145884.D	12/24/20	21:45	10:53	Matrix Spike Duplicate
FA81720-7MS	C0145885.D	12/24/20	22:11	11:19	Matrix Spike
FA81720-7MSD	C0145886.D	12/24/20	22:37	11:45	Matrix Spike Duplicate
VC5857-ECC5857	C0145887.D	12/24/20	23:03	12:11	Ending cal 5

Instrument Performance Check (BFB)

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VC5867-BFB	**Injection Date:**	01/05/21
Lab File ID:	C0146065.D	**Injection Time:**	07:54
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	72285	20.7		Pass
75	30.0 - 60.0% of mass 95	192213	55.1		Pass
95	Base peak, 100% relative abundance	348885	100.0		Pass
96	5.0 - 9.0% of mass 95	22371	6.41		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 100.0% of mass 95	307435	88.1		Pass
175	5.0 - 9.0% of mass 174	24821	7.11	(8.07) [a]	Pass
176	95.0 - 101.0% of mass 174	299755	85.9	(97.5) [a]	Pass
177	5.0 - 9.0% of mass 176	20043	5.74	(6.69) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VC5867-CC5857	C0146066.D	01/05/21	08:19	00:25	Continuing cal 5
VC5867-BS	C0146067.D	01/05/21	08:50	00:56	Blank Spike
VC5867-MB	C0146069.D	01/05/21	09:41	01:47	Method Blank
ZZZZZZ	C0146071.D	01/05/21	10:31	02:37	(unrelated sample)
ZZZZZZ	C0146072.D	01/05/21	10:57	03:03	(unrelated sample)
ZZZZZZ	C0146074.D	01/05/21	12:01	04:07	(unrelated sample)
FA82063-1	C0146076.D	01/05/21	13:20	05:26	(used for QC only; not part of job FA82085)
ZZZZZZ	C0146077.D	01/05/21	13:44	05:50	(unrelated sample)
ZZZZZZ	C0146079.D	01/05/21	14:35	06:41	(unrelated sample)
FA82085-1	C0146080.D	01/05/21	15:01	07:07	SP1-GW_20201223
FA82085-2	C0146081.D	01/05/21	15:26	07:32	SP1-GW_20201229
ZZZZZZ	C0146082.D	01/05/21	15:51	07:57	(unrelated sample)
ZZZZZZ	C0146083.D	01/05/21	16:16	08:22	(unrelated sample)
ZZZZZZ	C0146084.D	01/05/21	16:41	08:47	(unrelated sample)
ZZZZZZ	C0146085.D	01/05/21	17:06	09:12	(unrelated sample)
ZZZZZZ	C0146086.D	01/05/21	17:32	09:38	(unrelated sample)
FA82063-1MS	C0146089.D	01/05/21	18:47	10:53	Matrix Spike
FA82063-1MSD	C0146090.D	01/05/21	19:12	11:18	Matrix Spike Duplicate
VC5867-ECC5857	C0146091.D	01/05/21	19:37	11:43	Ending cal 5

Internal Standard Area Summary

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VC5867-CC5857	**Injection Date:**	01/05/21
Lab File ID:	C0146066.D	**Injection Time:**	08:19
Instrument ID:	GCMSC	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	1695466	10.52	1181160	13.42	633567	15.08	218277	6.79
Check Std [b]	1449842	10.52	1022132	13.42	562106	15.08	178821	6.79
Upper Limit [c]	2899684	10.69	2044264	13.59	1124212	15.25	357642	6.96
Lower Limit [d]	724921	10.35	511066	13.25	281053	14.91	89411	6.62

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VC5867-BS	1500886	10.52	1076408	13.42	591062	15.08	143252	6.78
VC5867-MB	1502217	10.52	1118115	13.42	596468	15.08	155174	6.77
ZZZZZZ	1505976	10.52	1105394	13.42	580899	15.08	165356	6.76
ZZZZZZ	1509158	10.53	1107575	13.42	579358	15.08	142867	6.76
ZZZZZZ	1579909	10.52	1173896	13.42	635472	15.08	240545	6.76
FA82063-1	1505510	10.52	1115010	13.42	586133	15.08	161886	6.77
ZZZZZZ	1481262	10.52	1091901	13.42	571217	15.08	192971	6.77
ZZZZZZ	1460557	10.52	1093198	13.42	574521	15.08	182045	6.77
FA82085-1	1474108	10.52	1076574	13.42	582361	15.08	193078	6.76
FA82085-2	1492211	10.52	1099042	13.42	588721	15.08	166709	6.77
ZZZZZZ	1494968	10.53	1098076	13.42	582112	15.08	170056	6.77
ZZZZZZ	1469406	10.52	1104574	13.42	579564	15.08	183048	6.77
ZZZZZZ	1469984	10.52	1104354	13.42	576577	15.08	193805	6.77
ZZZZZZ	1477598	10.52	1102473	13.42	589350	15.08	168880	6.76
ZZZZZZ	1467138	10.52	1085431	13.42	580166	15.08	153209	6.77

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VC5857-ICC5857 C0145856.D 12/24/20 09:32
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA82085-1	C0146080.D	102	110	97	102
FA82085-2	C0146081.D	102	109	95	102
FA82063-1MS	C0146089.D	102	112	97	102
FA82063-1MSD	C0146090.D	103	110	98	101
VC5867-BS	C0146067.D	104	108	97	101
VC5867-MB	C0146069.D	104	112	95	101

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

Initial Calibration Summary

Job Number: FA82085 **Sample:** VC5857-ICC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145856.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Response Factor Report MSVOA5

Method : C:\msdchem\2\METHODS\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Calibration Files
1 =C0145852.D 2 =C0145853.D 3 =C0145854.D 4 =C0145855.D
5 =C0145856.D 6 =C0145857.D 7 =C0145858.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.261	0.249	0.250	0.248	0.262	0.252	0.246	0.253	2.45
3)P Chloromethane	0.470	0.310	0.314	0.304	0.319	0.317	0.310	0.335	17.84
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9993									
Response Ratio = 0.00000 + 0.31814 *A + -0.00322 *A^2									
4) 1,3-butadiene	0.269	0.230	0.222	0.214	0.219	0.214	0.208	0.225	9.13
5)C Vinyl Chloride	0.264	0.299	0.296	0.294	0.302	0.306	0.290	0.293	4.71
6) Bromomethane	0.236	0.106	0.089	0.085	0.090	0.098	0.110	0.116	46.17
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9973									
Response Ratio = 0.00000 + 0.08455 *A + 0.01180 *A^2									
7) Chloroethane	0.150	0.137	0.134	0.127	0.129	0.124	0.113	0.131	8.76
8) Trichlorofluorome	0.323	0.305	0.306	0.312	0.324	0.293	0.251	0.302	8.28
9) Ethyl Ether	0.226	0.207	0.212	0.216	0.221	0.219	0.212	0.216	2.93
10) 1,2-Dichlorotrifl	0.247	0.246	0.256	0.252	0.255	0.255	0.247	0.251	1.73
11)C 1,1-Dichloroethen	0.336	0.335	0.328	0.322	0.332	0.331	0.322	0.329	1.72
12) Freon 113	0.201	0.202	0.201	0.197	0.205	0.198	0.196	0.200	1.59
13) Carbon Disulfide	0.756	0.681	0.686	0.653	0.696	0.697	0.665	0.691	4.76
14) Iodomethane	0.170	0.128	0.132	0.164	0.205	0.227	0.210	0.176	21.97
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9910									
Response Ratio = 0.00000 + 0.16621 *A + 0.02767 *A^2									
15) Acrolein	0.047	0.047	0.048	0.051	0.051	0.051	0.050	0.049	4.23
16) Allyl chloride	0.431	0.396	0.394	0.395	0.400	0.399	0.389	0.401	3.44
17) Methylene Chlorid	0.418	0.324	0.328	0.311	0.312	0.308	0.290	0.327	12.78
18) Acetone	0.080	0.064	0.070	0.074	0.074	0.073	0.070	0.072	6.84
19) Methyl acetate	0.167	0.187	0.191	0.201	0.198	0.193	0.188	0.189	5.86
20) trans-1,2-Dichlor	0.319	0.297	0.324	0.309	0.320	0.320	0.311	0.314	2.95
21) Hexane	0.220	0.199	0.208	0.202	0.201	0.199	0.199	0.204	3.87
22) Methyl Tert Butyl	0.842	0.768	0.752	0.757	0.742	0.753	0.736	0.764	4.71
23) Acetonitrile	0.035	0.033	0.034	0.037	0.037	0.036	0.034	0.035	4.68
24) Di-isopropyl ethe	0.912	0.899	0.916	0.889	0.895	0.894	0.861	0.895	2.02
25) Chloroprene	0.309	0.359	0.355	0.357	0.367	0.366	0.360	0.353	5.67
26)P 1,1-Dichloroethan	0.408	0.411	0.416	0.409	0.420	0.421	0.404	0.413	1.53
27) Acrylonitrile	0.050	0.068	0.070	0.077	0.076	0.078	0.075	0.070	13.75
28) ETBE	0.812	0.836	0.810	0.809	0.811	0.806	0.781	0.809	1.95
29) Vinyl acetate	0.569	0.622	0.607	0.611	0.590	0.563	0.525	0.584	5.79
30) cis-1,2-Dichloroe	0.220	0.216	0.223	0.219	0.222	0.226	0.218	0.221	1.58
31) 2,2-Dichloropropa	0.346	0.345	0.350	0.350	0.361	0.359	0.353	0.352	1.73
32) Bromochloromethan	0.103	0.104	0.111	0.105	0.110	0.113	0.094	0.106	6.04
33) Cyclohexane	0.446	0.425	0.430	0.416	0.429	0.428	0.417	0.427	2.31
34)C Chloroform	0.373	0.385	0.386	0.372	0.378	0.383	0.369	0.378	1.76
35) Ethyl acetate	0.259	0.263	0.263	0.277	0.269	0.262	0.248	0.263	3.40
36) Tetrahydrofuran	0.133	0.096	0.082	0.094	0.094	0.088	0.088	0.096	17.59
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9985									

Response Ratio = 0.00000 + 0.09400 *A + -0.00327 *A^2

37)S	Dibromofluorometh	0.245	0.245	0.245	0.245	0.248	0.250	0.248	0.247	0.87
38)	Carbon Tetrachlor	0.269	0.259	0.264	0.259	0.271	0.272	0.265	0.266	1.98
39)	1,1,1-Trichloroet	0.317	0.309	0.316	0.320	0.329	0.334	0.321	0.321	2.65
40)	2-Butanone	0.131	0.116	0.119	0.129	0.125	0.123	0.118	0.123	4.65
41)	1,1-Dichloroprope	0.312	0.319	0.332	0.327	0.339	0.339	0.330	0.328	3.08
42)	tert-Butyl format	0.253	0.245	0.241	0.251	0.247	0.245	0.234	0.245	2.55
43)	Propionitrile	0.036	0.036	0.035	0.036	0.036	0.036	0.034	0.036	2.20
44)	Methacrylonitrile	0.172	0.171	0.168	0.168	0.163	0.155	0.145	0.163	6.13
45)	Benzene	0.960	0.910	0.934	0.902	0.914	0.913	0.865	0.914	3.20
46)	TAME	0.735	0.772	0.745	0.748	0.745	0.743	0.717	0.744	2.19
47)S	1,2-Dichloroethan	0.319	0.325	0.330	0.323	0.323	0.325	0.323	0.324	1.02
48)	1,2-Dichloroethan	0.280	0.311	0.312	0.314	0.312	0.322	0.308	0.308	4.29
49)	Trichloroethene	0.256	0.241	0.238	0.229	0.234	0.232	0.223	0.236	4.47
50)	Methylcyclohexane	0.371	0.373	0.375	0.369	0.377	0.373	0.368	0.372	0.85
51)	Dibromomethane	0.141	0.135	0.130	0.131	0.134	0.138	0.134	0.135	2.62
52)C	1,2-Dichloropropa	0.253	0.266	0.265	0.257	0.267	0.266	0.258	0.262	2.16
53)	Bromodichlorometh	0.284	0.289	0.289	0.292	0.299	0.298	0.289	0.291	1.86
54)	Methyl methacryla	0.202	0.227	0.242	0.250	0.254	0.250	0.245	0.239	7.68
55)	2-Chloroethyl vin	0.172	0.177	0.173	0.178	0.175	0.169	0.158	0.172	3.92
56)	cis-1,3-Dichlorop	0.421	0.427	0.418	0.430	0.434	0.438	0.418	0.427	1.86
57) I	Chlorobenzene-d5	ISTD								
58)S	Toluene-d8	1.383	1.401	1.405	1.407	1.433	1.424	1.428	1.412	1.24
59)C	Toluene	1.587	1.435	1.429	1.395	1.388	1.351	1.279	1.409	6.70
60)	2-Nitropropane	0.105	0.104	0.104	0.109	0.108	0.105	0.104	0.106	2.10
61)	4-Methyl-2-pentan	0.396	0.387	0.372	0.379	0.360	0.339	0.321	0.365	7.36
62)	trans-1,3-Dichlor	0.471	0.529	0.518	0.540	0.531	0.536	0.525	0.521	4.48
63)	Tetrachloroethene	0.317	0.331	0.326	0.333	0.332	0.337	0.320	0.328	2.23
64)	Ethyl methacrylat	0.444	0.453	0.456	0.479	0.475	0.470	0.457	0.462	2.81
65)	1,1,2-Trichloroet	0.237	0.256	0.262	0.260	0.256	0.257	0.247	0.254	3.38
66)	Dibromochlorometh	0.291	0.299	0.310	0.320	0.320	0.325	0.311	0.311	3.93
67)	1,3-Dichloropropa	0.565	0.573	0.576	0.575	0.569	0.569	0.552	0.568	1.44
68)	1,2-Dibromoethane	0.265	0.297	0.299	0.299	0.297	0.297	0.289	0.292	4.23
69)	2-hexanone	0.296	0.276	0.268	0.271	0.257	0.247	0.242	0.265	6.91
70)	1-Chlorohexane	0.464	0.464	0.469	0.460	0.473	0.470	0.445	0.464	2.01
71)C	Ethylbenzene	1.628	1.531	1.487	1.452	1.455	1.414	1.313	1.469	6.66
72)P	Chlorobenzene	0.903	0.838	0.841	0.831	0.831	0.818	0.772	0.834	4.63
73)	1,1,1,2-Tetrachlo	0.298	0.288	0.298	0.297	0.299	0.301	0.287	0.295	1.94
74)	m,p-Xylene	1.201	1.177	1.140	1.117	1.110	1.049	0.953	1.107	7.57
75)	o-Xylene	1.235	1.206	1.208	1.192	1.190	1.169	1.097	1.185	3.71
76)	Styrene	0.921	0.936	0.921	0.967	0.977	0.969	0.914	0.944	2.79
77)P	Bromoform	0.195	0.213	0.211	0.223	0.230	0.232	0.229	0.219	6.15
78)	Isopropylbenzene	1.379	1.434	1.406	1.389	1.392	1.361	1.271	1.376	3.74
79) I	1,4-Dichlorobenzene-d	ISTD								
80)S	4-Bromofluorobenz	0.839	0.834	0.852	0.842	0.840	0.839	0.851	0.842	0.79
81)	cis-1,4-Dichloro-	0.276	0.280	0.237	0.275	0.269	0.279	0.273	0.270	5.51
82)	n-Propylbenzene	3.378	3.293	3.307	3.201	3.182	3.073	2.873	3.187	5.34
83)	Bromobenzene	0.666	0.686	0.696	0.655	0.665	0.670	0.652	0.670	2.35
84)P	1,1,2,2-Tetrachlo	0.799	0.799	0.754	0.762	0.747	0.735	0.717	0.759	4.04
85)	1,3,5-Trimethylbe	2.227	2.139	2.184	2.121	2.094	2.046	1.947	2.108	4.37
86)	2-Chlorotoluene	2.395	2.132	2.165	2.110	2.116	2.081	1.994	2.142	5.78
87)	trans-1,4-Dichlor	0.234	0.241	0.225	0.247	0.234	0.240	0.252	0.239	3.75
88)	1,2,3-Trichloropr	0.248	0.214	0.206	0.213	0.208	0.211	0.207	0.215	6.76
89)	Cyclohexanone	0.031	0.029	0.027	0.030	0.029	0.027	0.025	0.028	6.69
90)	4-Chlorotoluene	2.016	2.042	1.970	1.944	1.931	1.938	1.831	1.953	3.48
91)	tert-Butylbenzene	1.345	1.226	1.235	1.193	1.207	1.225	1.177	1.230	4.45
92)	a-Methyl styrene								0.000	-1.00

Initial Calibration Summary

Job Number: FA82085 **Sample:** VC5857-ICC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145856.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

93)	1,2,4-Trimethylbe	2.117	2.143	2.183	2.103	2.083	2.053	1.956	2.091	3.47
94)	Pentachloroethane	0.348	0.391	0.383	0.401	0.390	0.411	0.403	0.390	5.29
95)	sec-Butylbenzene	2.665	2.631	2.653	2.533	2.530	2.483	2.356	2.550	4.33
96)	4-Isopropyltoluen	2.273	2.209	2.218	2.155	2.171	2.145	2.044	2.173	3.31
97)	1,3-Dichlorobenze	1.222	1.188	1.172	1.177	1.188	1.205	1.155	1.187	1.86
98)	1,2,3-Trimethylbe	2.733	2.641	2.605	2.524	2.459	2.432	2.316	2.530	5.58
99)	1,4-Dichlorobenze	1.282	1.224	1.232	1.204	1.176	1.205	1.150	1.210	3.49
100)	n-Butylbenzene	1.202	1.124	1.168	1.161	1.167	1.186	1.181	1.170	2.09
101)	Benzyl Chloride	0.256	0.273	0.273	0.302	0.301	0.313	0.316	0.290	7.92
102)	1,2-Dichlorobenze	1.111	1.139	1.127	1.124	1.130	1.136	1.105	1.125	1.12
103)	1,2-Dibromo-3-Chl	0.180	0.134	0.133	0.154	0.144	0.148	0.144	0.148	10.68
104)	Hexachlorobutadie	0.321	0.314	0.326	0.325	0.322	0.327	0.336	0.324	2.13
105)	1,2,4-Trichlorobe	0.570	0.608	0.636	0.643	0.633	0.653	0.659	0.629	4.90
106)	Naphthalene	1.516	1.408	1.332	1.386	1.336	1.314	1.297	1.370	5.50
107)	1,2,3-Trichlorobe	0.526	0.524	0.533	0.533	0.516	0.527	0.518	0.525	1.28
108)	I Tert Butyl Alcohol-d1	----------ISTD----------								
109)	Ethanol	0.123	0.111	0.107	0.109	0.108	0.104	0.110		6.06
110)	Tert Butyl Alcoho	1.287	1.240	1.209	1.219	1.256	1.255	1.162	1.233	3.27
111)	Isobutyl alcohol	0.461	0.204	0.281	0.300	0.311	0.318	0.288	0.309	24.84
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9942									
	Response Ratio = 0.00000 + 0.30499 *A + -0.00089 *A^2									
112)	Tert Amyl Alcohol	0.908	0.846	0.884	0.877	0.874	0.881	0.815	0.869	3.43
113)	1,4-Dioxane	0.070	0.103	0.107	0.102	0.108	0.105	0.095	0.099	13.38
114)	3,3-dimethyl-1-bu	0.506	0.509	0.604	0.686	0.694	0.652	0.637	0.613	12.68

(#) = Out of Range

RTXVMS122420.M Mon Dec 28 08:36:57 2020

Initial Calibration Verification

Job Number: FA82085 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145860A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\DATA\122420\C0145860A.D Vial: 11
Acq On : 24 Dec 2020 11:19 am Operator: SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 24 11:38:23 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	103	0.00	10.52
2	Dichlorodifluoromethane	0.253	0.207	18.2	82	0.00	2.86
		Amount	Calc.	%Drift			
3 P	Chloromethane	40.000	39.160	2.1	100	0.00	3.21
		AvgRF	CCRF	%Dev			
4	1,3-butadiene	0.225	0.281	-24.9#	132	0.00	3.36
5 C	Vinyl Chloride	0.293	0.269	8.2	92	0.00	3.34
		Amount	Calc.	%Drift			
6	Bromomethane	40.000	45.546	-13.9	124	0.00	3.90
		AvgRF	CCRF	%Dev			
7	Chloroethane	0.131	0.115	12.2	92	0.00	4.12
8	Trichlorofluoromethane	0.302	0.292	3.3	93	0.00	4.33
9	Ethyl Ether	0.216	0.191	11.6	89	0.00	4.91
10	1,2-Dichlorotrifluoroetha	0.251	0.249	0.8	101	0.00	5.25
11 C	1,1-Dichloroethene	0.329	0.307	6.7	95	0.00	5.23
12	Freon 113	0.200	0.157	21.5#	79	0.00	5.31
13	Carbon Disulfide	0.691	0.564	18.4	83	0.00	5.27
		Amount	Calc.	%Drift			
14	Iodomethane	40.000	33.450	16.4	78	0.00	5.48
		AvgRF	CCRF	%Dev			
15	Acrolein	0.049	0.031	36.7#	63	0.00	5.83
16	Allyl chloride	0.401	0.405	-1.0	104	0.00	6.06
17	Methylene Chloride	0.327	0.285	12.8	94	0.00	6.26
18	Acetone	0.072	0.070	2.8	97	0.00	6.34
19	Methyl acetate	0.189	0.180	4.8	94	0.00	6.56
20	trans-1,2-Dichloroethene	0.314	0.295	6.1	95	0.00	6.54
21	Hexane	0.204	0.165	19.1	84	0.00	6.68
22	Methyl Tert Butyl Ether	0.764	0.654	14.4	91	0.00	6.72
23	Acetonitrile	0.035	0.033	5.7	93	0.00	7.16
24	Di-isopropyl ether	0.895	0.793	11.4	91	0.00	7.41
25	Chloroprene	0.353	0.358	-1.4	101	0.00	7.60
26 P	1,1-Dichloroethane	0.413	0.400	3.1	98	0.00	7.64
27	Acrylonitrile	0.070	0.074	-5.7	100	0.00	7.73
28	ETBE	0.809	0.683	15.6	87	0.00	8.09
29	Vinyl acetate	0.584	0.518	11.3	90	0.00	8.11
30	cis-1,2-Dichloroethene	0.221	0.207	6.3	96	0.00	8.66

Initial Calibration Verification

Job Number: FA82085 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145860A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

31		2,2-Dichloropropane	0.352	0.342	2.8	97	0.00	8.85
32		Bromochloromethane	0.106	0.098	7.5	92	-0.01	9.02
33		Cyclohexane	0.427	0.365	14.5	88	0.00	9.02
34	C	Chloroform	0.378	0.358	5.3	98	0.00	9.16
35		Ethyl acetate	0.263	0.249	5.3	95	0.00	9.35
		----------	Amount	Calc.	%Drift	----------		
36		Tetrahydrofuran	40.000	35.506	11.2	89	0.00	9.40
		----------	AvgRF	CCRF	%Dev	----------		
37	S	Dibromofluoromethane	0.247	0.250	-1.2	104	0.00	9.45
38		Carbon Tetrachloride	0.266	0.251	5.6	96	0.00	9.37
39		1,1,1-Trichloroethane	0.321	0.301	6.2	94	0.00	9.47
40		2-Butanone	0.123	0.116	5.7	96	0.00	9.63
41		1,1-Dichloropropene	0.328	0.301	8.2	91	0.00	9.66
42		tert-Butyl formate	0.245	0.220	10.2	92	0.00	9.82
43		Propionitrile	0.036	0.034	5.6	95	0.00	10.03
44		Methacrylonitrile	0.163	0.151	7.4	96	0.00	10.05
45		Benzene	0.914	0.832	9.0	94	0.00	10.00
46		TAME	0.744	0.658	11.6	91	0.00	10.15
47	S	1,2-Dichloroethane-d4	0.324	0.324	0.0	103	0.00	10.18
48		1,2-Dichloroethane	0.308	0.284	7.8	94	0.00	10.27
49		Trichloroethene	0.236	0.203	14.0	89	0.00	10.73
50		Methylcyclohexane	0.372	0.339	8.9	93	0.00	10.71
51		Dibromomethane	0.135	0.126	6.7	97	0.00	11.19
52	C	1,2-Dichloropropane	0.262	0.240	8.4	92	0.00	11.29
53		Bromodichloromethane	0.291	0.279	4.1	96	0.00	11.36
54		Methyl methacrylate	0.239	0.233	2.5	94	0.00	11.50
55		2-Chloroethyl vinyl ether	0.172	0.128	25.6#	75	0.00	11.90
56		cis-1,3-Dichloropropene	0.427	0.380	11.0	90	0.00	11.96
57	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00	13.42
58	S	Toluene-d8	1.412	1.421	-0.6	101	0.00	12.13
59	C	Toluene	1.409	1.229	12.8	90	0.00	12.18
60		2-Nitropropane	0.106	0.095	10.4	90	0.00	12.38
61		4-Methyl-2-pentanone	0.365	0.350	4.1	99	0.00	12.49
62		trans-1,3-Dichloropropene	0.521	0.493	5.4	95	0.00	12.54
63		Tetrachloroethene	0.328	0.311	5.2	96	0.00	12.52
64		Ethyl methacrylate	0.462	0.458	0.9	98	0.00	12.64
65		1,1,2-Trichloroethane	0.254	0.233	8.3	93	0.00	12.68
66		Dibromochloromethane	0.311	0.303	2.6	97	0.00	12.83
67		1,3-Dichloropropane	0.568	0.498	12.3	89	0.00	12.90
68		1,2-Dibromoethane	0.292	0.265	9.2	91	0.00	13.03
69		2-hexanone	0.265	0.248	6.4	99	0.00	13.17
70		1-Chlorohexane	0.464	0.413	11.0	89	0.00	13.39
71	C	Ethylbenzene	1.469	1.315	10.5	92	0.00	13.44
72	P	Chlorobenzene	0.834	0.744	10.8	91	0.00	13.44
73		1,1,1,2-Tetrachloroethane	0.295	0.271	8.1	93	0.00	13.48
74		m,p-Xylene	1.107	0.998	9.8	92	0.00	13.54
75		o-Xylene	1.185	1.070	9.7	92	0.00	13.86
76		Styrene	0.944	0.865	8.4	90	0.00	13.90
77	P	Bromoform	0.219	0.213	2.7	95	0.00	13.95
78		Isopropylbenzene	1.376	1.252	9.0	92	0.00	14.08
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	15.08
80	S	4-Bromofluorobenzene	0.842	0.840	0.2	100	0.00	14.31
81		cis-1,4-Dichloro-2-butene	0.270	0.251	7.0	93	0.00	14.34
82		n-Propylbenzene	3.187	2.908	8.8	92	0.00	14.37
83		Bromobenzene	0.670	0.613	8.5	92	0.00	14.40
84	P	1,1,2,2-Tetrachloroethane	0.759	0.665	12.4	89	0.00	14.43

Initial Calibration Verification

Job Number: FA82085 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145860A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

85	1,3,5-Trimethylbenzene	2.108	1.936	8.2	93	0.00	14.49
86	2-Chlorotoluene	2.142	1.935	9.7	92	0.00	14.51
87	trans-1,4-Dichloro-2-Bute	0.239	0.201	15.9	86	0.00	14.55
88	1,2,3-Trichloropropane	0.215	0.183	14.9	88	0.00	14.54
89	Cyclohexanone	0.028	0.025	10.7	86	0.00	14.59
90	4-Chlorotoluene	1.953	1.787	8.5	93	0.00	14.62
91	tert-Butylbenzene	1.230	1.091	11.3	90	0.00	14.73
92	a-Methyl styrene		----------NA----------				
93	1,2,4-Trimethylbenzene	2.091	1.888	9.7	91	0.00	14.77
94	Pentachloroethane	0.390	0.414	-6.2	106	0.00	14.77
95	sec-Butylbenzene	2.550	2.346	8.0	93	0.00	14.85
96	4-Isopropyltoluene	2.173	2.012	7.4	93	0.00	14.93
97	1,3-Dichlorobenzene	1.187	1.101	7.2	93	0.00	15.04
98	1,2,3-Trimethylbenzene	2.530	1.861	26.4#	76	0.00	15.08
99	1,4-Dichlorobenzene	1.210	1.088	10.1	93	0.00	15.10
100	n-Butylbenzene	1.170	1.090	6.8	94	0.00	15.22
101	Benzyl Chloride	0.290	0.261	10.0	87	0.00	15.25
102	1,2-Dichlorobenzene	1.125	1.031	8.4	91	0.00	15.39
103	1,2-Dibromo-3-Chloropropa	0.148	0.132	10.8	92	0.00	15.92
104	Hexachlorobutadiene	0.324	0.301	7.1	93	0.00	16.32
105	1,2,4-Trichlorobenzene	0.629	0.605	3.8	96	0.00	16.37
106	Naphthalene	1.370	1.246	9.1	93	0.00	16.62
107	1,2,3-Trichlorobenzene	0.525	0.483	8.0	94	0.00	16.76
108 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	97	0.00	6.79
109	Ethanol	0.110	0.106	3.6	94	0.00	5.24
110	Tert Butyl Alcohol	1.233	1.023	17.0	79	0.00	6.93
	----------	Amount	Calc.	%Drift	----------		
111	Isobutyl alcohol	800.000	690.897	13.6	82	0.00	10.31
	----------	AvgRF	CCRF	%Dev	----------		
112	Tert Amyl Alcohol	0.869	0.770	11.4	86	0.00	10.41
113	1,4-Dioxane	0.099	0.101	-2.0	91	0.00	11.55
114	3,3-dimethyl-1-butanol	0.613	0.647	-5.5	91	0.00	13.15

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0145856.D RTXVMS122420.M Mon Dec 28 08:36:37 2020

Initial Calibration Verification

Job Number: FA82085 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145861A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\2\DATA\122420\C0145861A.D Vial: 12
Acq On : 24 Dec 2020 11:46 am Operator: SHANICAO
Sample : ICV5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 24 11:38:23 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	99	0.00	10.52
2	Dichlorodifluoromethane		NA				
	----------	Amount	Calc.	%Drift			
3 P	Chloromethane		NA				
	----------	AvgRF	CCRF	%Dev			
4	1,3-butadiene		NA				
5 C	Vinyl Chloride		NA				
	----------	Amount	Calc.	%Drift			
6	Bromomethane		NA				
	----------	AvgRF	CCRF	%Dev			
7	Chloroethane		NA				
8	Trichlorofluoromethane		NA				
9	Ethyl Ether		NA				
10	1,2-Dichlorotrifluoroetha		NA				
11 C	1,1-Dichloroethene		NA				
12	Freon 113	0.200	0.174	13.0	87	0.00	5.31
13	Carbon Disulfide		NA				
	----------	Amount	Calc.	%Drift			
14	Iodomethane		NA				
	----------	AvgRF	CCRF	%Dev			
15	Acrolein		NA				
16	Allyl chloride		NA				
17	Methylene Chloride		NA				
18	Acetone		NA				
19	Methyl acetate		NA				
20	trans-1,2-Dichloroethene		NA				
21	Hexane		NA				
22	Methyl Tert Butyl Ether		NA				
23	Acetonitrile		NA				
24	Di-isopropyl ether		NA				
25	Chloroprene		NA				
26 P	1,1-Dichloroethane		NA				
27	Acrylonitrile		NA				
28	ETBE		NA				
29	Vinyl acetate		NA				
30	cis-1,2-Dichloroethene		NA				

Initial Calibration Verification

Job Number: FA82085 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145861A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
31		2,2-Dichloropropane		NA				
32		Bromochloromethane		NA				
33		Cyclohexane		NA				
34	C	Chloroform		NA				
35		Ethyl acetate		NA				
36		Tetrahydrofuran		NA				

			AvgRF	CCRF	%Dev			
37	S	Dibromofluoromethane	0.247	0.248	-0.4	100	0.00	9.45
38		Carbon Tetrachloride		NA				
39		1,1,1-Trichloroethane		NA				
40		2-Butanone		NA				
41		1,1-Dichloropropene		NA				
42		tert-Butyl formate		NA				
43		Propionitrile		NA				
44		Methacrylonitrile		NA				
45		Benzene		NA				
46		TAME		NA				
47	S	1,2-Dichloroethane-d4	0.324	0.324	0.0	99	0.00	10.18
48		1,2-Dichloroethane		NA				
49		Trichloroethene		NA				
50		Methylcyclohexane		NA				
51		Dibromomethane		NA				
52	C	1,2-Dichloropropane		NA				
53		Bromodichloromethane		NA				
54		Methyl methacrylate		NA				
55		2-Chloroethyl vinyl ether		NA				
56		cis-1,3-Dichloropropene		NA				
57	I	Chlorobenzene-d5	1.000	1.000	0.0	99	0.00	13.42
58	S	Toluene-d8	1.412	1.416	-0.3	100	0.00	12.13
59	C	Toluene		NA				
60		2-Nitropropane		NA				
61		4-Methyl-2-pentanone		NA				
62		trans-1,3-Dichloropropene		NA				
63		Tetrachloroethene		NA				
64		Ethyl methacrylate		NA				
65		1,1,2-Trichloroethane		NA				
66		Dibromochloromethane		NA				
67		1,3-Dichloropropane		NA				
68		1,2-Dibromoethane		NA				
69		2-hexanone		NA				
70		1-Chlorohexane		NA				
71	C	Ethylbenzene		NA				
72	P	Chlorobenzene		NA				
73		1,1,1,2-Tetrachloroethane		NA				
74		m,p-Xylene		NA				
75		o-Xylene		NA				
76		Styrene		NA				
77	P	Bromoform		NA				
78		Isopropylbenzene		NA				
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	15.08
80	S	4-Bromofluorobenzene	0.842	0.842	0.0	98	0.00	14.31
81		cis-1,4-Dichloro-2-butene		NA				
82		n-Propylbenzene		NA				
83		Bromobenzene		NA				
84	P	1,1,2,2-Tetrachloroethane		NA				

Initial Calibration Verification

Job Number: FA82085 **Sample:** VC5857-ICV5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0145861A.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

85	1,3,5-Trimethylbenzene		----------NA----------				
86	2-Chlorotoluene		----------NA----------				
87	trans-1,4-Dichloro-2-Bute		----------NA----------				
88	1,2,3-Trichloropropane		----------NA----------				
89	Cyclohexanone		----------NA----------				
90	4-Chlorotoluene		----------NA----------				
91	tert-Butylbenzene		----------NA----------				
92	a-Methyl styrene		----------NA----------				
93	1,2,4-Trimethylbenzene		----------NA----------				
94	Pentachloroethane		----------NA----------				
95	sec-Butylbenzene		----------NA----------				
96	4-Isopropyltoluene		----------NA----------				
97	1,3-Dichlorobenzene		----------NA----------				
98	1,2,3-Trimethylbenzene		----------NA----------				
99	1,4-Dichlorobenzene		----------NA----------				
100	n-Butylbenzene		----------NA----------				
101	Benzyl Chloride		----------NA----------				
102	1,2-Dichlorobenzene		----------NA----------				
103	1,2-Dibromo-3-Chloropropa		----------NA----------				
104	Hexachlorobutadiene		----------NA----------				
105	1,2,4-Trichlorobenzene		----------NA----------				
106	Naphthalene		----------NA----------				
107	1,2,3-Trichlorobenzene		----------NA----------				
108 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	92	-0.01	6.78
109	Ethanol		----------NA----------				
110	Tert Butyl Alcohol		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
111	Isobutyl alcohol		----------NA----------				
	----------	AvgRF	CCRF	%Dev	----------		
112	Tert Amyl Alcohol		----------NA----------				
113	1,4-Dioxane		----------NA----------				
114	3,3-dimethyl-1-butanol		----------NA----------				

(#) = Out of Range SPCC's out = 4 CCC's out = 6
C0145855.D RTXVMS122420.M Mon Dec 28 10:49:53 2020

Continuing Calibration Summary

Job Number: FA82085 **Sample:** VC5867-CC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0146066.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jo...021\vc5867\C0146066.D Vial: 3
Acq On : 5 Jan 2021 8:19 am Operator: SHANICAO
Sample : CC5857-5 Inst : MSVOA5
Misc : MS48071,VC5867,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\methods\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 24 11:38:23 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	86	0.00	10.52
2	Dichlorodifluoromethane	0.253	0.284	-12.3	93	0.00	2.86
	----------	True	Calc.	% Drift	----------		
3 P	Chloromethane	40.000	39.308	1.7	83	0.00	3.21
	----------	AvgRF	CCRF	% Dev	----------		
4	1,3-butadiene	0.225	0.237	-5.3	93	0.00	3.37
5 C	Vinyl Chloride	0.293	0.294	-0.3	83	0.01	3.35
	----------	True	Calc.	% Drift	----------		
6	Bromomethane	40.000	38.752	3.1	86	0.00	3.91
	----------	AvgRF	CCRF	% Dev	----------		
7	Chloroethane	0.131	0.119	9.2	79	0.00	4.12
8	Trichlorofluoromethane	0.302	0.363	-20.2#	96	0.00	4.35
9	Ethyl Ether	0.216	0.206	4.6	80	0.00	4.91
10	1,2-Dichlorotrifluoroetha	0.251	0.241	4.0	81	0.00	5.25
11 C	1,1-Dichloroethene	0.329	0.321	2.4	83	0.00	5.23
12	Freon 113	0.200	0.200	0.0	84	0.00	5.31
13	Carbon Disulfide	0.691	0.624	9.7	77	0.00	5.28
	----------	True	Calc.	% Drift	----------		
14	Iodomethane	40.000	31.266	21.8#	60	0.01	5.50
	----------	AvgRF	CCRF	% Dev	----------		
15	Acrolein	0.049	0.056	-14.3	93	0.00	5.82
16	Allyl chloride	0.401	0.352	12.2	75	0.00	6.07
17	Methylene Chloride	0.327	0.279	14.7	77	0.00	6.27
18	Acetone	0.072	0.073	-1.4	84	0.00	6.34
19	Methyl acetate	0.189	0.177	6.3	76	0.00	6.55
20	trans-1,2-Dichloroethene	0.314	0.296	5.7	79	0.00	6.54
21	Hexane	0.204	0.191	6.4	81	0.00	6.68
22	Methyl Tert Butyl Ether	0.764	0.773	-1.2	89	0.00	6.72
23	Acetonitrile	0.035	0.033	5.7	76	0.00	7.16
24	Di-isopropyl ether	0.895	0.809	9.6	77	0.00	7.42
25	Chloroprene	0.353	0.341	3.4	79	0.00	7.60
26 P	1,1-Dichloroethane	0.413	0.404	2.2	82	0.00	7.64
27	Acrylonitrile	0.070	0.072	-2.9	81	0.00	7.73
28	ETBE	0.809	0.803	0.7	85	0.00	8.09
29	Vinyl acetate	0.584	0.554	5.1	80	0.00	8.11
30	cis-1,2-Dichloroethene	0.221	0.220	0.5	85	0.00	8.66

Continuing Calibration Summary

Job Number: FA82085 **Sample:** VC5867-CC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0146066.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

31		2,2-Dichloropropane	0.352	0.354	-0.6	84	0.00	8.85
32		Bromochloromethane	0.106	0.109	-2.8	85	0.00	9.03
33		Cyclohexane	0.427	0.387	9.4	77	0.00	9.02
34	C	Chloroform	0.378	0.386	-2.1	87	0.00	9.16
35		Ethyl acetate	0.263	0.254	3.4	81	0.00	9.35
		----------	True	Calc.	% Drift	----------		
36		Tetrahydrofuran	40.000	35.634	10.9	74	0.00	9.40
		----------	AvgRF	CCRF	% Dev	----------		
37	S	Dibromofluoromethane	0.247	0.257	-4.0	89	0.00	9.45
38		Carbon Tetrachloride	0.266	0.279	-4.9	88	0.00	9.37
39		1,1,1-Trichloroethane	0.321	0.338	-5.3	88	0.00	9.47
40		2-Butanone	0.123	0.116	5.7	80	0.00	9.62
41		1,1-Dichloropropene	0.328	0.326	0.6	82	0.00	9.66
42		tert-Butyl formate	0.245	0.252	-2.9	87	0.00	9.81
43		Propionitrile	0.036	0.035	2.8	82	0.00	10.03
44		Methacrylonitrile	0.163	0.158	3.1	83	0.00	10.05
45		Benzene	0.914	0.872	4.6	82	0.00	10.00
46		TAME	0.744	0.762	-2.4	88	0.00	10.15
47	S	1,2-Dichloroethane-d4	0.324	0.358	-10.5	95	0.00	10.18
48		1,2-Dichloroethane	0.308	0.345	-12.0	94	0.00	10.27
49		Trichloroethene	0.236	0.226	4.2	83	0.00	10.73
50		Methylcyclohexane	0.372	0.369	0.8	84	0.00	10.71
51		Dibromomethane	0.135	0.137	-1.5	87	0.00	11.19
52	C	1,2-Dichloropropane	0.262	0.248	5.3	79	0.00	11.29
53		Bromodichloromethane	0.291	0.306	-5.2	88	0.00	11.36
54		Methyl methacrylate	0.239	0.246	-2.9	83	0.00	11.50
55		2-Chloroethyl vinyl ether	0.172	0.154	10.5	75	0.00	11.90
56		cis-1,3-Dichloropropene	0.427	0.429	-0.5	85	0.00	11.96
57	I	Chlorobenzene-d5	1.000	1.000	0.0	87	0.00	13.42
58	S	Toluene-d8	1.412	1.410	0.1	85	0.00	12.13
59	C	Toluene	1.409	1.327	5.8	83	0.00	12.18
60		2-Nitropropane	0.106	0.114	-7.5	91	0.00	12.38
61		4-Methyl-2-pentanone	0.365	0.336	7.9	81	0.00	12.49
62		trans-1,3-Dichloropropene	0.521	0.535	-2.7	87	0.00	12.54
63		Tetrachloroethene	0.328	0.326	0.6	85	0.00	12.52
64		Ethyl methacrylate	0.462	0.467	-1.1	85	0.00	12.64
65		1,1,2-Trichloroethane	0.254	0.250	1.6	85	0.00	12.67
66		Dibromochloromethane	0.311	0.320	-2.9	87	0.00	12.83
67		1,3-Dichloropropane	0.568	0.555	2.3	84	0.00	12.90
68		1,2-Dibromoethane	0.292	0.288	1.4	84	0.00	13.03
69		2-hexanone	0.265	0.235	11.3	79	0.00	13.16
70		1-Chlorohexane	0.464	0.440	5.2	80	0.00	13.39
71	C	Ethylbenzene	1.469	1.399	4.8	83	0.00	13.44
72	P	Chlorobenzene	0.834	0.794	4.8	83	0.00	13.44
73		1,1,1,2-Tetrachloroethane	0.295	0.296	-0.3	86	0.00	13.48
74		m,p-Xylene	1.107	1.066	3.7	83	0.00	13.54
75		o-Xylene	1.185	1.145	3.4	83	0.00	13.86
76		Styrene	0.944	0.905	4.1	80	0.00	13.90
77	P	Bromoform	0.219	0.240	-9.6	90	0.00	13.95
78		Isopropylbenzene	1.376	1.324	3.8	82	0.00	14.08
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	89	0.00	15.08
80	S	4-Bromofluorobenzene	0.842	0.852	-1.2	90	0.00	14.31
81		cis-1,4-Dichloro-2-butene	0.270	0.257	4.8	85	0.00	14.34
82		n-Propylbenzene	3.187	2.908	8.8	81	0.00	14.37
83		Bromobenzene	0.670	0.648	3.3	87	0.00	14.40
84	P	1,1,2,2-Tetrachloroethane	0.759	0.694	8.6	82	0.00	14.43

Continuing Calibration Summary

Job Number: FA82085 **Sample:** VC5867-CC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0146066.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

85	1,3,5-Trimethylbenzene	2.108	1.941	7.9	82	0.00	14.49
86	2-Chlorotoluene	2.142	1.981	7.5	83	0.00	14.51
87	trans-1,4-Dichloro-2-Bute	0.239	0.230	3.8	87	0.00	14.55
88	1,2,3-Trichloropropane	0.215	0.203	5.6	86	0.00	14.54
89	Cyclohexanone	0.028	0.027	3.6	83	0.00	14.59
90	4-Chlorotoluene	1.953	1.803	7.7	83	0.00	14.62
91	tert-Butylbenzene	1.230	1.138	7.5	84	0.00	14.73
92	a-Methyl styrene	0.000	0.000	0.0	0#	0.00	14.85
93	1,2,4-Trimethylbenzene	2.091	1.912	8.6	81	0.00	14.77
94	Pentachloroethane	0.390	0.402	-3.1	91	0.00	14.77
95	sec-Butylbenzene	2.550	2.270	11.0	80	0.00	14.85
96	4-Isopropyltoluene	2.173	1.964	9.6	80	0.00	14.93
97	1,3-Dichlorobenzene	1.187	1.121	5.6	84	0.00	15.04
98	1,2,3-Trimethylbenzene	2.530	2.315	8.5	84	0.00	15.08
99	1,4-Dichlorobenzene	1.210	1.134	6.3	86	0.00	15.10
100	n-Butylbenzene	1.170	1.045	10.7	79	0.00	15.22
101	Benzyl Chloride	0.290	0.292	-0.7	86	0.00	15.25
102	1,2-Dichlorobenzene	1.125	1.072	4.7	84	0.00	15.39
103	1,2-Dibromo-3-Chloropropa	0.148	0.139	6.1	86	0.00	15.92
104	Hexachlorobutadiene	0.324	0.324	0.0	89	0.00	16.32
105	1,2,4-Trichlorobenzene	0.629	0.604	4.0	85	0.00	16.37
106	Naphthalene	1.370	1.145	16.4	76	0.00	16.62
107	1,2,3-Trichlorobenzene	0.525	0.489	6.9	84	0.00	16.76
108 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	82	0.00	6.79
109	Ethanol	0.110	0.129	-17.3	97	0.02	5.27
110	Tert Butyl Alcohol	1.233	1.145	7.1	75	0.00	6.92
		True	Calc.	% Drift			
111	Isobutyl alcohol	800.000	1043.764	-30.5#	104	0.00	10.30
		AvgRF	CCRF	% Dev			
112	Tert Amyl Alcohol	0.869	0.919	-5.8	86	0.00	10.41
113	1,4-Dioxane	0.099	0.110	-11.1	84	0.00	11.55
114	3,3-dimethyl-1-butanol	0.613	0.965	-57.4#	114	0.00	13.14

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0145856.D RTXVMS122420.M Tue Jan 05 23:20:32 2021

Continuing Calibration Summary

Job Number: FA82085 **Sample:** VC5867-ECC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0146091.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\jo...021\vc5867\C0146091.D Vial: 28
Acq On : 5 Jan 2021 7:37 pm Operator: SHANICAO
Sample : ECC5857-5 Inst : MSVOA5
Misc : MS48072,VC5867,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\methods\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Thu Dec 24 11:38:23 2020
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	83	0.00	10.52
2	Dichlorodifluoromethane	0.253	0.303	-19.8	96	0.00	2.86
	----------	True	Calc.	% Drift	----------		
3 P	Chloromethane	40.000	34.149	14.6	70	0.00	3.21
	----------	AvgRF	CCRF	% Dev	----------		
4	1,3-butadiene	0.225	0.262	-16.4	99	0.00	3.37
5 C	Vinyl Chloride	0.293	0.290	1.0	79	0.00	3.34
	----------	True	Calc.	% Drift	----------		
6	Bromomethane	40.000	37.633	5.9	81	0.00	3.90
	----------	AvgRF	CCRF	% Dev	----------		
7	Chloroethane	0.131	0.132	-0.8	84	0.00	4.12
8	Trichlorofluoromethane	0.302	0.377	-24.8	96	0.00	4.35
9	Ethyl Ether	0.216	0.216	0.0	81	0.00	4.91
10	1,2-Dichlorotrifluoroetha	0.251	0.255	-1.6	83	0.00	5.25
11 C	1,1-Dichloroethene	0.329	0.336	-2.1	84	0.00	5.23
12	Freon 113	0.200	0.209	-4.5	84	0.00	5.31
13	Carbon Disulfide	0.691	0.666	3.6	79	0.00	5.28
	----------	True	Calc.	% Drift	----------		
14	Iodomethane	40.000	46.017	-15.0	89	0.00	5.48
	----------	AvgRF	CCRF	% Dev	----------		
15	Acrolein	0.049	0.051	-4.1	82	0.00	5.82
16	Allyl chloride	0.401	0.381	5.0	79	0.00	6.06
17	Methylene Chloride	0.327	0.299	8.6	79	0.00	6.26
18	Acetone	0.072	0.074	-2.8	83	0.00	6.33
19	Methyl acetate	0.189	0.183	3.2	76	0.00	6.55
20	trans-1,2-Dichloroethene	0.314	0.327	-4.1	84	0.00	6.54
21	Hexane	0.204	0.183	10.3	75	0.00	6.68
22	Methyl Tert Butyl Ether	0.764	0.826	-8.1	92	0.00	6.72
23	Acetonitrile	0.035	0.033	5.7	73	0.00	7.16
24	Di-isopropyl ether	0.895	0.858	4.1	79	0.00	7.41
25	Chloroprene	0.353	0.361	-2.3	81	0.00	7.60
26 P	1,1-Dichloroethane	0.413	0.423	-2.4	83	0.00	7.64
27	Acrylonitrile	0.070	0.072	-2.9	79	0.00	7.72
28	ETBE	0.809	0.855	-5.7	87	0.00	8.09
29	Vinyl acetate	0.584	0.551	5.7	77	0.00	8.11
30	cis-1,2-Dichloroethene	0.221	0.231	-4.5	86	0.00	8.66

Continuing Calibration Summary

Job Number: FA82085 **Sample:** VC5867-ECC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0146091.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
31		2,2-Dichloropropane	0.352	0.368	-4.5	84	0.00	8.85
32		Bromochloromethane	0.106	0.122	-15.1	91	-0.01	9.02
33		Cyclohexane	0.427	0.405	5.2	78	0.01	9.02
34	C	Chloroform	0.378	0.422	-11.6	92	0.00	9.16
35		Ethyl acetate	0.263	0.253	3.8	78	0.00	9.35
36		Tetrahydrofuran	40.000	35.313	11.7	71	0.00	9.40

			AvgRF	CCRF	% Dev			
37	S	Dibromofluoromethane	0.247	0.256	-3.6	85	0.00	9.45
38		Carbon Tetrachloride	0.266	0.303	-13.9	92	0.00	9.37
39		1,1,1-Trichloroethane	0.321	0.368	-14.6	93	0.00	9.47
40		2-Butanone	0.123	0.119	3.3	79	0.00	9.62
41		1,1-Dichloropropene	0.328	0.345	-5.2	84	0.00	9.66
42		tert-Butyl formate	0.245	0.280	-14.3	94	0.00	9.82
43		Propionitrile	0.036	0.036	0.0	81	0.00	10.03
44		Methacrylonitrile	0.163	0.162	0.6	83	0.00	10.05
45		Benzene	0.914	0.942	-3.1	85	0.00	10.00
46		TAME	0.744	0.819	-10.1	91	0.00	10.15
47	S	1,2-Dichloroethane-d4	0.324	0.363	-12.0	93	0.00	10.18
48		1,2-Dichloroethane	0.308	0.371	-20.5	98	0.00	10.27
49		Trichloroethene	0.236	0.242	-2.5	86	0.00	10.73
50		Methylcyclohexane	0.372	0.382	-2.7	84	0.00	10.71
51		Dibromomethane	0.135	0.150	-11.1	92	0.00	11.19
52	C	1,2-Dichloropropane	0.262	0.268	-2.3	83	0.00	11.29
53		Bromodichloromethane	0.291	0.334	-14.8	92	0.00	11.36
54		Methyl methacrylate	0.239	0.253	-5.9	82	0.00	11.50
55		2-Chloroethyl vinyl ether	0.172	0.167	2.9	79	0.00	11.90
56		cis-1,3-Dichloropropene	0.427	0.461	-8.0	88	0.00	11.96
57	I	Chlorobenzene-d5	1.000	1.000	0.0	87	0.00	13.42
58	S	Toluene-d8	1.412	1.369	3.0	83	0.00	12.13
59	C	Toluene	1.409	1.366	3.1	86	0.00	12.18
60		2-Nitropropane	0.106	0.114	-7.5	91	0.00	12.38
61		4-Methyl-2-pentanone	0.365	0.339	7.1	82	0.00	12.49
62		trans-1,3-Dichloropropene	0.521	0.556	-6.7	91	0.00	12.54
63		Tetrachloroethene	0.328	0.362	-10.4	95	0.00	12.52
64		Ethyl methacrylate	0.462	0.478	-3.5	87	0.00	12.64
65		1,1,2-Trichloroethane	0.254	0.256	-0.8	87	0.00	12.67
66		Dibromochloromethane	0.311	0.331	-6.4	90	0.00	12.83
67		1,3-Dichloropropane	0.568	0.591	-4.0	90	0.00	12.90
68		1,2-Dibromoethane	0.292	0.297	-1.7	87	0.00	13.03
69		2-hexanone	0.265	0.238	10.2	81	0.00	13.17
70		1-Chlorohexane	0.464	0.448	3.4	82	0.00	13.39
71	C	Ethylbenzene	1.469	1.450	1.3	87	0.00	13.44
72	P	Chlorobenzene	0.834	0.832	0.2	87	0.00	13.44
73		1,1,1,2-Tetrachloroethane	0.295	0.311	-5.4	91	0.00	13.48
74		m,p-Xylene	1.107	1.112	-0.5	87	0.00	13.54
75		o-Xylene	1.185	1.202	-1.4	88	0.00	13.86
76		Styrene	0.944	0.975	-3.3	87	0.00	13.90
77	P	Bromoform	0.219	0.245	-11.9	93	0.00	13.95
78		Isopropylbenzene	1.376	1.375	0.1	86	0.00	14.08
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	89	0.00	15.08
80	S	4-Bromofluorobenzene	0.842	0.844	-0.2	90	0.00	14.31
81		cis-1,4-Dichloro-2-butene	0.270	0.241	10.7	80	0.00	14.34
82		n-Propylbenzene	3.187	3.008	5.6	85	0.00	14.37
83		Bromobenzene	0.670	0.673	-0.4	91	0.00	14.40
84	P	1,1,2,2-Tetrachloroethane	0.759	0.706	7.0	85	0.00	14.43

Continuing Calibration Summary

Job Number: FA82085 **Sample:** VC5867-ECC5857
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** C0146091.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

85	1,3,5-Trimethylbenzene	2.108	2.035	3.5	87	0.00	14.49
86	2-Chlorotoluene	2.142	2.041	4.7	86	0.00	14.51
87	trans-1,4-Dichloro-2-Bute	0.239	0.219	8.4	84	0.00	14.55
88	1,2,3-Trichloropropane	0.215	0.214	0.5	92	0.00	14.54
89	Cyclohexanone	0.028	0.025	10.7	78	0.00	14.59
90	4-Chlorotoluene	1.953	1.894	3.0	88	0.00	14.62
91	tert-Butylbenzene	1.230	1.194	2.9	88	0.00	14.73
92	a-Methyl styrene	0.000	0.000	0.0	0#	0.00	14.85
93	1,2,4-Trimethylbenzene	2.091	2.024	3.2	87	0.00	14.77
94	Pentachloroethane	0.390	0.393	-0.8	90	0.00	14.77
95	sec-Butylbenzene	2.550	2.361	7.4	83	0.00	14.85
96	4-Isopropyltoluene	2.173	2.069	4.8	85	0.00	14.93
97	1,3-Dichlorobenzene	1.187	1.176	0.9	89	0.00	15.04
98	1,2,3-Trimethylbenzene	2.530	2.464	2.6	90	0.00	15.08
99	1,4-Dichlorobenzene	1.210	1.174	3.0	89	0.00	15.10
100	n-Butylbenzene	1.170	1.073	8.3	82	0.00	15.22
101	Benzyl Chloride	0.290	0.254	12.4	76	0.00	15.25
102	1,2-Dichlorobenzene	1.125	1.133	-0.7	90	0.00	15.39
103	1,2-Dibromo-3-Chloropropa	0.148	0.142	4.1	88	0.00	15.92
104	Hexachlorobutadiene	0.324	0.325	-0.3	90	0.00	16.32
105	1,2,4-Trichlorobenzene	0.629	0.653	-3.8	92	0.00	16.37
106	Naphthalene	1.370	1.340	2.2	90	0.00	16.62
107	1,2,3-Trichlorobenzene	0.525	0.548	-4.4	95	0.00	16.76
108 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	84	0.00	6.79
109	Ethanol	0.110	0.125	-13.6	95	0.00	5.23
110	Tert Butyl Alcohol	1.233	1.243	-0.8	83	0.00	6.92
	----------	True	Calc.	% Drift	----------		
111	Isobutyl alcohol	800.000	1020.656	-27.6	103	0.00	10.30
	----------	AvgRF	CCRF	% Dev	----------		
112	Tert Amyl Alcohol	0.869	0.881	-1.4	84	0.00	10.41
113	1,4-Dioxane	0.099	0.105	-6.1	81	0.00	11.56
114	3,3-dimethyl-1-butanol	0.613	0.907	-48.0	109	0.00	13.14

(#) = Out of Range SPCC's out = 0 CCC's out = 0
C0145856.D RTXVMS122420.M Tue Jan 05 23:20:54 2021

Run Sequence Report

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VC5857 **Method:** SW846 8260B **Instrument ID:** GCMSC

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VC5857-BFB	C0145851.D	12/24/20 07:21	n/a	BFB Tune
VC5857-IC5857	C0145852.D	12/24/20 07:47	n/a	Initial cal 1
VC5857-IC5857	C0145853.D	12/24/20 08:13	n/a	Initial cal 2
VC5857-IC5857	C0145854.D	12/24/20 08:39	n/a	Initial cal 3
VC5857-IC5857	C0145855.D	12/24/20 09:05	n/a	Initial cal 4
VC5857-ICC5857	C0145856.D	12/24/20 09:32	n/a	Initial cal 5
VC5857-IC5857	C0145857.D	12/24/20 09:59	n/a	Initial cal 6
VC5857-IC5857	C0145858.D	12/24/20 10:25	n/a	Initial cal 7
VC5857-BFB	C0145859.D	12/24/20 10:52	n/a	BFB Tune
VC5857-CC5857	C0145860.D	12/24/20 11:19	n/a	Continuing cal 5
VC5857-ICV5857	C0145860A.D	12/24/20 11:19	n/a	Initial cal verification 5
VC5857-BS	C0145861.D	12/24/20 11:46	n/a	Blank Spike
VC5857-ICV5857	C0145861A.D	12/24/20 11:46	n/a	Initial cal verification 4
VC5857-MB	C0145864.D	12/24/20 13:04	n/a	Method Blank
ZZZZZZ	C0145865.D	12/24/20 13:30	n/a	(unrelated sample)
ZZZZZZ	C0145866.D	12/24/20 13:57	n/a	(unrelated sample)
FA81700-3	C0145867.D	12/24/20 14:23	n/a	(used for QC only; not part of job FA82085)
ZZZZZZ	C0145868.D	12/24/20 14:49	n/a	(unrelated sample)
ZZZZZZ	C0145869.D	12/24/20 15:15	n/a	(unrelated sample)
ZZZZZZ	C0145870.D	12/24/20 15:41	n/a	(unrelated sample)
ZZZZZZ	C0145871.D	12/24/20 16:07	n/a	(unrelated sample)
ZZZZZZ	C0145872.D	12/24/20 16:34	n/a	(unrelated sample)
ZZZZZZ	C0145873.D	12/24/20 17:00	n/a	(unrelated sample)
ZZZZZZ	C0145874.D	12/24/20 17:26	n/a	(unrelated sample)
FA81700-3MS	C0145883.D	12/24/20 21:19	n/a	Matrix Spike
FA81700-3MSD	C0145884.D	12/24/20 21:45	n/a	Matrix Spike Duplicate
VC5857-ECC5857	C0145887.D	12/24/20 23:03	n/a	Ending cal 5

Run Sequence Report

Job Number: FA82085
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VC5867	**Method:** SW846 8260B	**Instrument ID:** GCMSC

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VC5867-BFB	C0146065.D	01/05/21 07:54	n/a	BFB Tune
VC5867-CC5857	C0146066.D	01/05/21 08:19	n/a	Continuing cal 5
VC5867-BS	C0146067.D	01/05/21 08:50	n/a	Blank Spike
VC5867-MB	C0146069.D	01/05/21 09:41	n/a	Method Blank
ZZZZZZ	C0146071.D	01/05/21 10:31	n/a	(unrelated sample)
ZZZZZZ	C0146072.D	01/05/21 10:57	n/a	(unrelated sample)
ZZZZZZ	C0146074.D	01/05/21 12:01	n/a	(unrelated sample)
FA82063-1	C0146076.D	01/05/21 13:20	n/a	(used for QC only; not part of job FA82085)
ZZZZZZ	C0146077.D	01/05/21 13:44	n/a	(unrelated sample)
ZZZZZZ	C0146079.D	01/05/21 14:35	n/a	(unrelated sample)
FA82085-1	C0146080.D	01/05/21 15:01	n/a	SP1-GW_20201223
FA82085-2	C0146081.D	01/05/21 15:26	n/a	SP1-GW_20201229
ZZZZZZ	C0146082.D	01/05/21 15:51	n/a	(unrelated sample)
ZZZZZZ	C0146083.D	01/05/21 16:16	n/a	(unrelated sample)
ZZZZZZ	C0146084.D	01/05/21 16:41	n/a	(unrelated sample)
ZZZZZZ	C0146085.D	01/05/21 17:06	n/a	(unrelated sample)
ZZZZZZ	C0146086.D	01/05/21 17:32	n/a	(unrelated sample)
FA82063-1MS	C0146089.D	01/05/21 18:47	n/a	Matrix Spike
FA82063-1MSD	C0146090.D	01/05/21 19:12	n/a	Matrix Spike Duplicate
VC5867-ECC5857	C0146091.D	01/05/21 19:37	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146080.D
Acq On : 5 Jan 2021 3:01 pm
Operator : SHANICAO
Sample : FA82085-1
Misc : MS48072,VC5867,,,,,
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 05 23:09:06 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

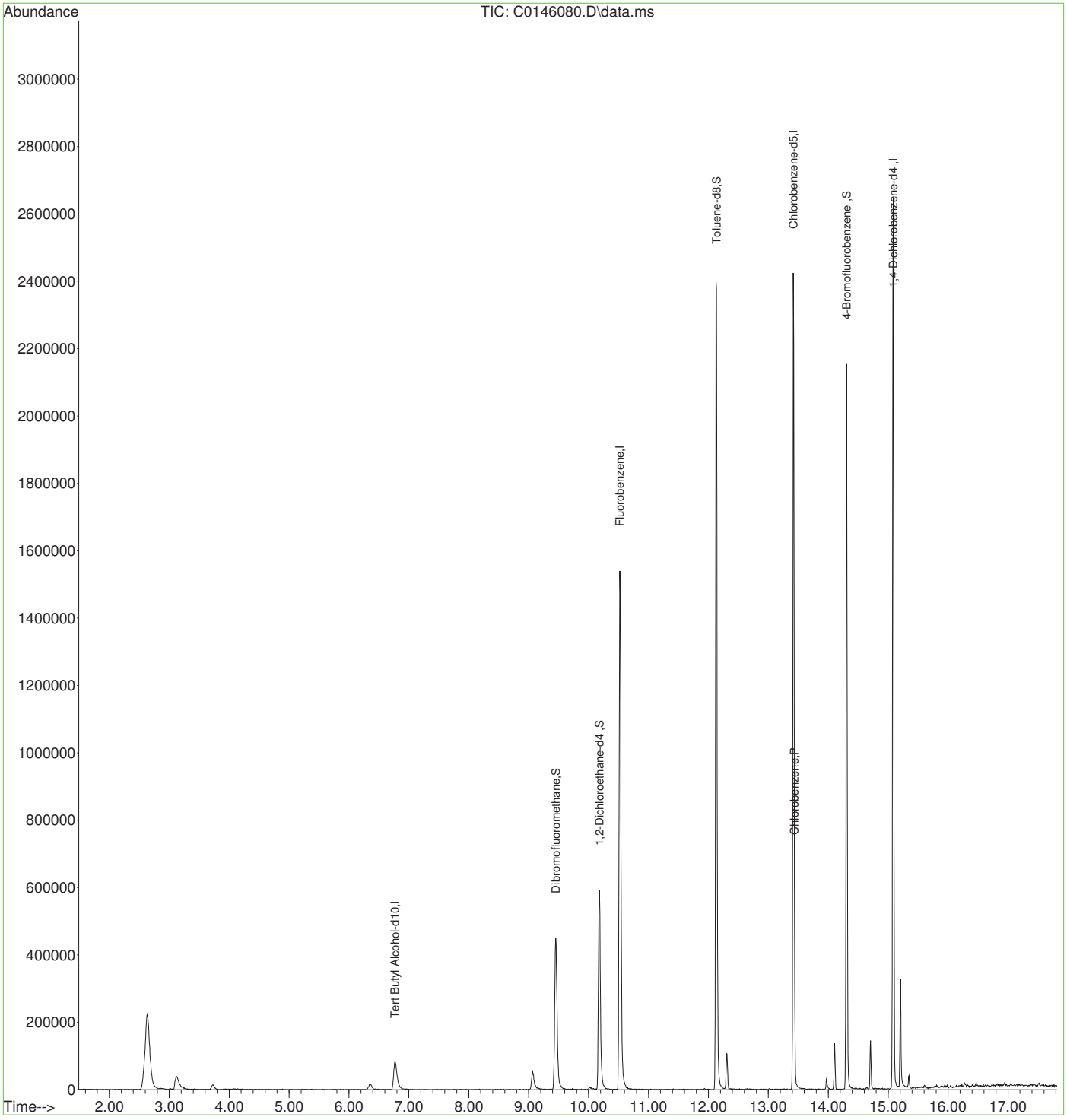
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1474108	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1076574	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	582361	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.762	65	193078	250.00	ug/L	-0.03
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	370068	50.90	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.80%			
47) 1,2-Dichloroethane-d4	10.181	65	527387	55.23	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 110.46%			
58) Toluene-d8	12.134	98	1470914	48.39	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.78%			
80) 4-Bromofluorobenzene	14.306	174	501381	51.10	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.20%			
Target Compounds						Qvalue
72) Chlorobenzene	13.436	112	7910	0.44	ug/L	80

(#) = qualifier out of range (m) = manual integration (+) = signals summed

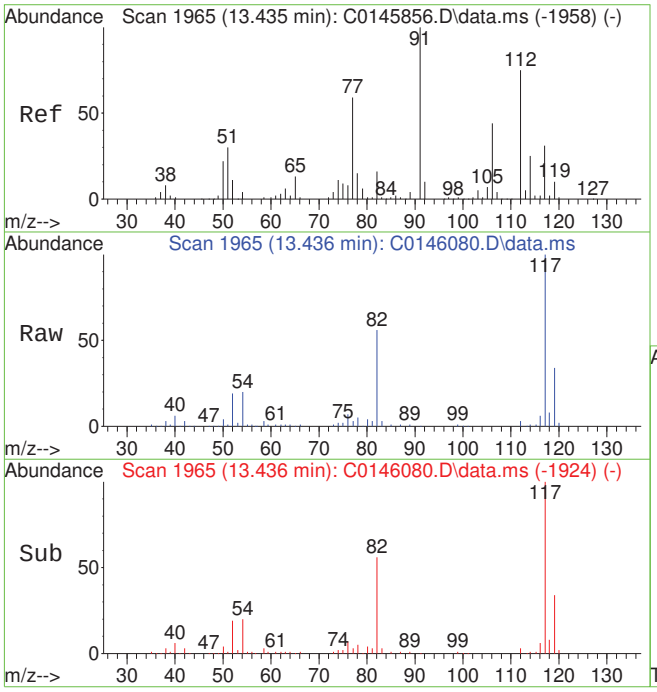
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146080.D
Acq On : 5 Jan 2021 3:01 pm
Operator : SHANICAO
Sample : FA82085-1
Misc : MS48072,VC5867,,,,,
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jan 05 23:09:06 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



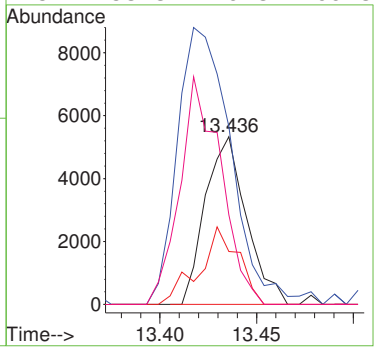
RTXVMS122420.M Tue Jan 05 23:26:12 2021 Page: 2



#72
Chlorobenzene
Concen: 0.44 ug/L
RT: 13.436 min Scan# 1965
Delta R.T. 0.001 min
Lab File: C0146080.D
Acq: 5 Jan 2021 3:01 pm

Tgt Ion:112 Resp: 7910

Ion	Ratio	Lower	Upper
112	100		
77	101.1	48.9	108.9
114	31.6	2.9	62.9
51	53.3	9.3	69.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146081.D
Acq On : 5 Jan 2021 3:26 pm
Operator : SHANICAO
Sample : FA82085-2
Misc : MS48072,VC5867,,,,,
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jan 05 23:09:29 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

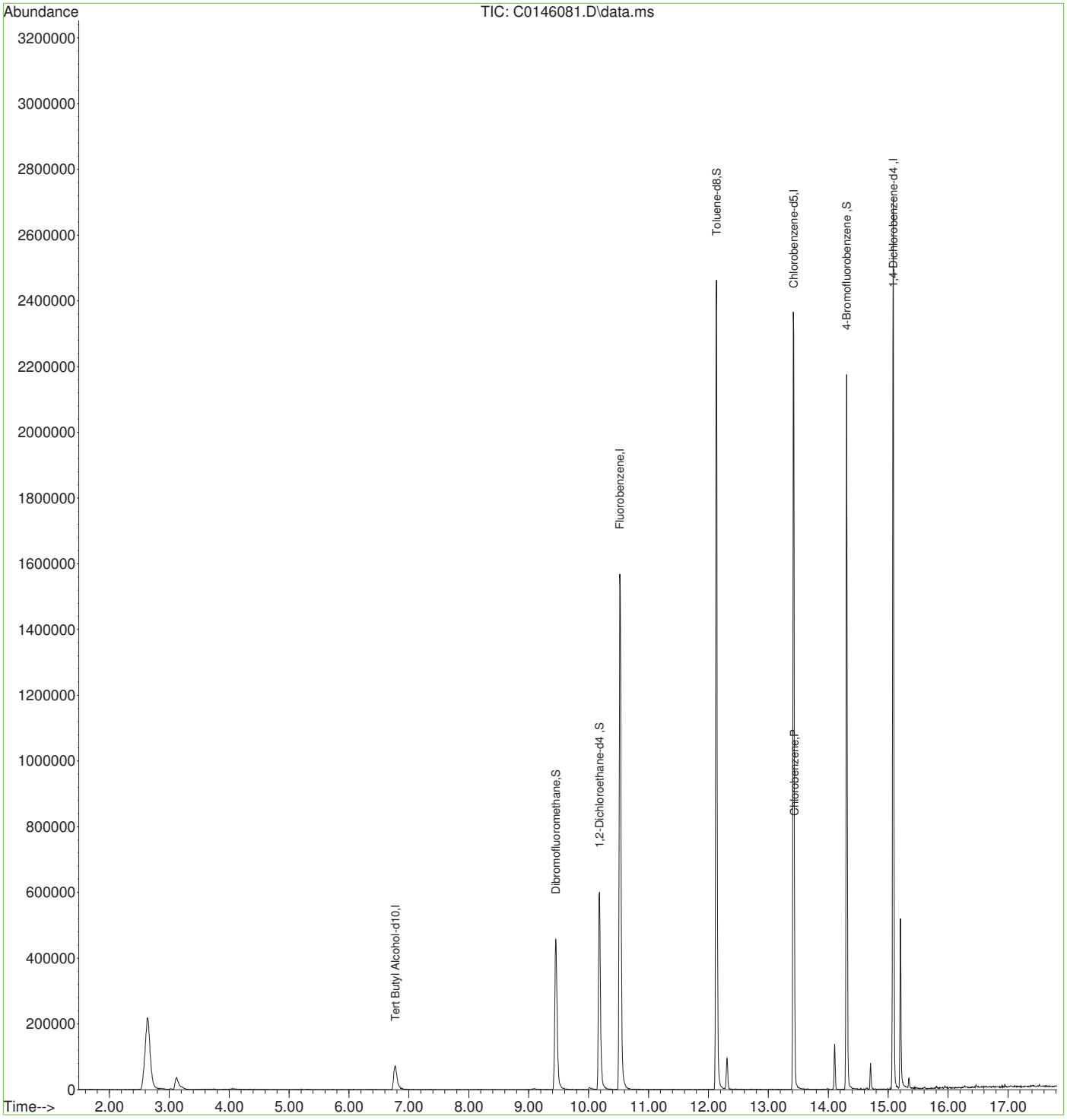
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1492211	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1099042	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	588721	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.774	65	166709	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	376076	51.10	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.20%			
47) 1,2-Dichloroethane-d4	10.181	65	529022	54.73	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 109.46%			
58) Toluene-d8	12.134	98	1471524	47.42	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 94.84%			
80) 4-Bromofluorobenzene	14.306	174	506602	51.07	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.14%			
Target Compounds						Qvalue
72) Chlorobenzene	13.436	112	9983	0.54	ug/L	83

(#) = qualifier out of range (m) = manual integration (+) = signals summed

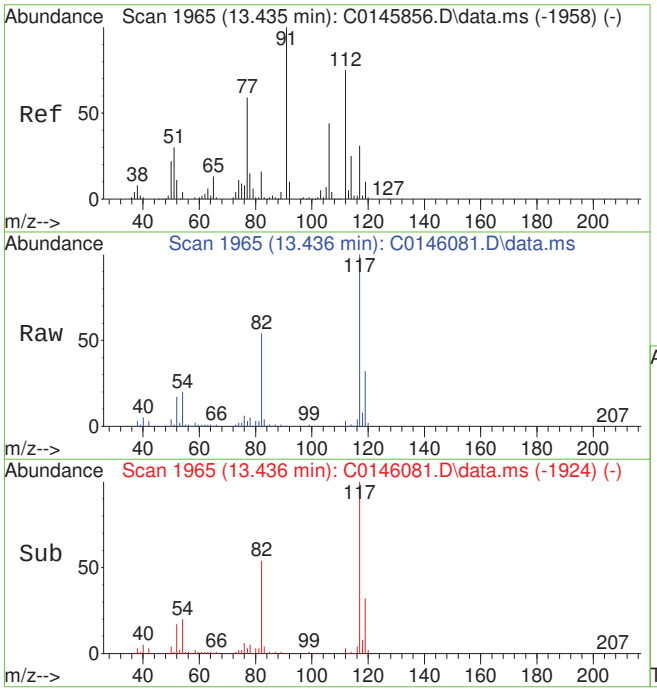
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146081.D
Acq On : 5 Jan 2021 3:26 pm
Operator : SHANICAO
Sample : FA82085-2
Misc : MS48072,VC5867,,,,,
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jan 05 23:09:29 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



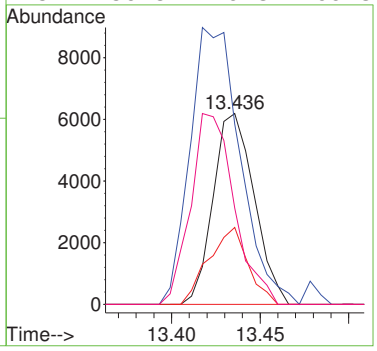
RTXVMS122420.M Tue Jan 05 23:26:15 2021 Page: 2



#72
Chlorobenzene
Concen: 0.54 ug/L
RT: 13.436 min Scan# 1965
Delta R.T. 0.001 min
Lab File: C0146081.D
Acq: 5 Jan 2021 3:26 pm

Tgt Ion:112 Resp: 9983

Ion	Ratio	Lower	Upper
112	100		
77	94.5	48.9	108.9
114	40.4	2.9	62.9
51	50.5	9.3	69.3



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146069.D
Acq On : 5 Jan 2021 9:41 am
Operator : SHANICAO
Sample : MB
Misc : MS48071,VC5867,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 05 23:04:35 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

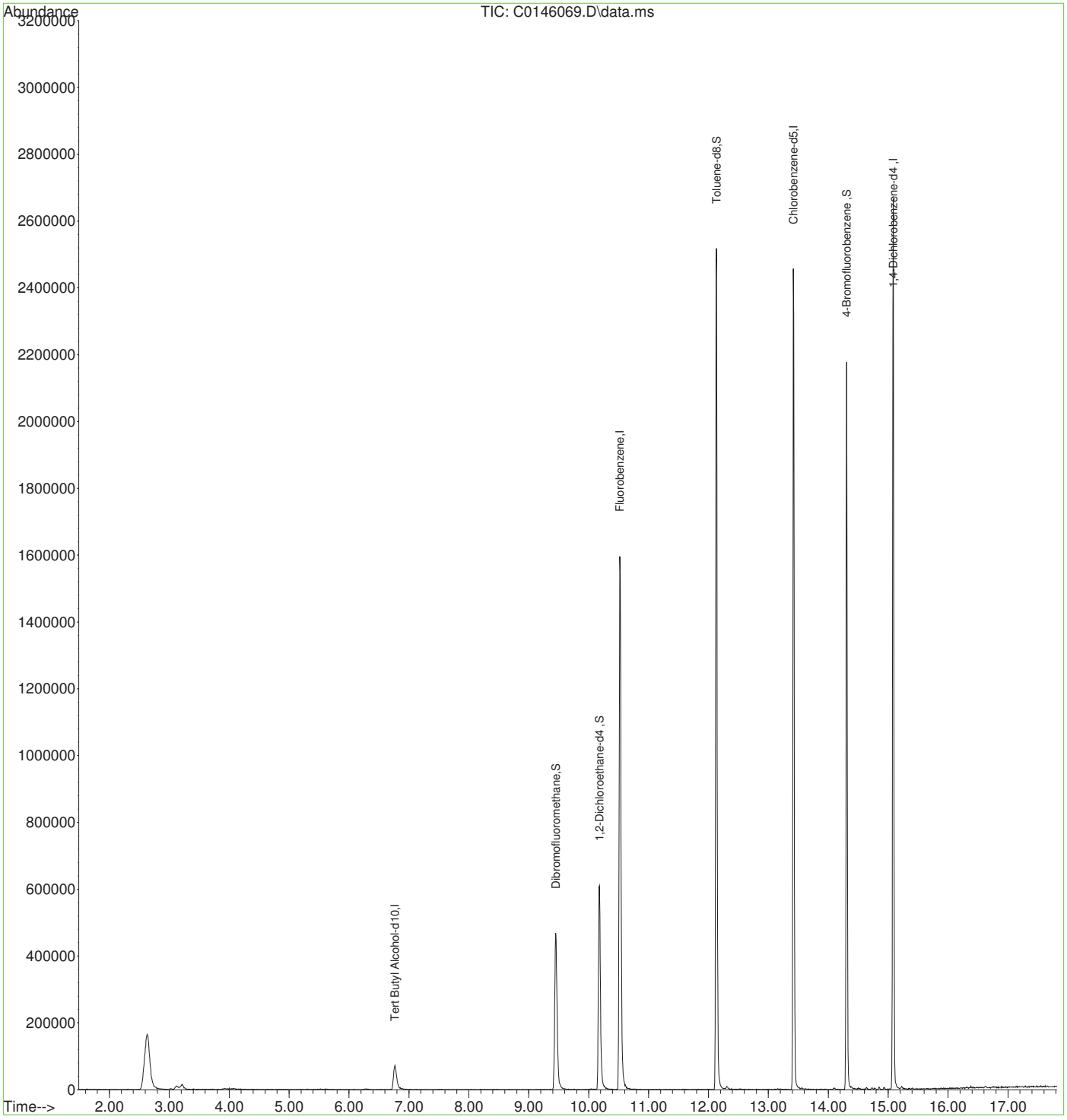
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1502217	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1118115	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	596468	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.768	65	155174	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	386720	52.20	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 104.40%			
47) 1,2-Dichloroethane-d4	10.181	65	543552	55.86	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 111.72%			
58) Toluene-d8	12.134	98	1503500	47.62	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 95.24%			
80) 4-Bromofluorobenzene	14.306	174	505553	50.31	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.62%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146069.D
Acq On : 5 Jan 2021 9:41 am
Operator : SHANICAO
Sample : MB
Misc : MS48071,VC5867,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 05 23:04:35 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



RTXVMS122420.M Tue Jan 05 23:25:41 2021 Page: 2

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/06/21 10:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146067.D
Acq On : 5 Jan 2021 8:50 am
Operator : SHANICAO
Sample : BS
Misc : MS48071,VC5867,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 05 23:03:53 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1500886	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1076408	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	591062	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	143252	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.445	113	384183	51.90	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 103.80%			
47) 1,2-Dichloroethane-d4	10.175	65	524248	53.92	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 107.84%			
58) Toluene-d8	12.128	98	1481623	48.75	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.50%			
80) 4-Bromofluorobenzene	14.306	174	503004	50.51	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.02%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	170730	22.52	ug/L	95
3) Chloromethane	3.215	50	233362	24.56	ug/L	96
4) 1,3-butadiene	3.373	39	209872	31.03	ug/L	97
5) Vinyl Chloride	3.343	62	197446	22.44	ug/L	97
6) Bromomethane	3.909	94	72472	26.58	ug/L	96
7) Chloroethane	4.128	64	82951	21.13	ug/L	98
8) Trichlorofluoromethane	4.353	101	254407	28.05	ug/L	96
9) Ethyl Ether	4.900	59	138915	21.42	ug/L	96
10) 1,2-Dichlorotrifluoroe...	5.253	67	185443	24.61	ug/L	95
11) 1,1-Dichloroethene	5.241	61	267691	27.07	ug/L	98
12) Freon 113	5.314	101	131352	21.89	ug/L	90
13) Carbon Disulfide	5.277	76	477246	23.02	ug/L	98
14) Iodomethane	5.490	142	109069	20.47	ug/L	89
15) Acrolein	5.825	56	103046	69.62	ug/L	97
16) Allyl chloride	6.062	41	261207	21.72	ug/L	93
17) Methylene Chloride	6.269	49	200438	20.40	ug/L	97
18) Acetone	6.330	43	236086	109.12	ug/L	95
19) Methyl acetate	6.555	43	543003	95.65	ug/L	96
20) trans-1,2-Dichloroethene	6.537	61	233381	24.73	ug/L	95
21) Hexane	6.683	56	136185	22.25	ug/L	95
22) Methyl Tert Butyl Ether	6.719	73	480321	20.93	ug/L	97
23) Acetonitrile	7.176	41	194223	184.65	ug/L	96
24) Di-isopropyl ether	7.413	45	553991	20.62	ug/L	97
25) Chloroprene	7.595	53	280969	26.50	ug/L	98
26) 1,1-Dichloroethane	7.644	63	314827	25.42	ug/L	100
27) Acrylonitrile	7.735	52	209003	98.81	ug/L	93
28) ETBE	8.088	59	502163	20.67	ug/L	99
29) Vinyl acetate	8.112	43	1652104	94.26	ug/L	100
30) cis-1,2-Dichloroethene	8.660	96	165509	25.00	ug/L	93
31) 2,2-Dichloropropane	8.842	77	265803	25.16	ug/L	91
32) Bromochloromethane	9.025	128	74034	23.29	ug/L	95
33) Cyclohexane	9.013	56	285574	22.27	ug/L	96
34) Chloroform	9.165	83	289222	25.50	ug/L	98
35) Ethyl acetate	9.353	43	742300	93.99	ug/L	99
36) Tetrahydrofuran	9.402	42	51311	18.42	ug/L	93
38) Carbon Tetrachloride	9.366	117	213754	26.82	ug/L	97
39) 1,1,1-Trichloroethane	9.475	97	263446	27.35	ug/L	96
40) 2-Butanone	9.621	43	348455	94.53	ug/L	95
41) 1,1-Dichloropropene	9.658	75	237156	24.06	ug/L	97
42) tert-Butyl formate	9.810	59	677897	92.09	ug/L	97
43) Propionitrile	10.023	54	212928	199.08	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146067.D
Acq On : 5 Jan 2021 8:50 am
Operator : SHANICAO
Sample : BS
Misc : MS48071,VC5867,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 05 23:03:53 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Methacrylonitrile	10.053	41	993803	202.92	ug/L		98
45) Benzene	9.998	78	651244	23.74	ug/L		96
46) TAME	10.150	73	485047	21.73	ug/L		97
48) 1,2-Dichloroethane	10.266	62	235314	25.41	ug/L		93
49) Trichloroethene	10.728	95	169339	23.90	ug/L		94
50) Methylcyclohexane	10.710	83	282582	25.28	ug/L		97
51) Dibromomethane	11.191	93	89460	22.13	ug/L		92
52) 1,2-Dichloropropane	11.288	63	182528	23.22	ug/L		96
53) Bromodichloromethane	11.361	83	221399	25.30	ug/L		97
54) Methyl methacrylate	11.501	41	156661	21.86	ug/L		96
55) 2-Chloroethyl vinyl ether	11.896	63	388243	75.40	ug/L		94
56) cis-1,3-Dichloropropene	11.963	75	288842	22.55	ug/L		99
59) Toluene	12.176	91	661072	21.79	ug/L		98
60) 2-Nitropropane	12.377	41	230043	101.11	ug/L		99
61) 4-Methyl-2-pentanone	12.493	43	751438	95.65	ug/L		98
62) trans-1,3-Dichloropropene	12.541	75	255728	22.78	ug/L		85
63) Tetrachloroethene	12.523	166	178284	25.24	ug/L		97
64) Ethyl methacrylate	12.645	69	229158	23.05	ug/L		99
65) 1,1,2-Trichloroethane	12.675	83	120983	22.16	ug/L		97
66) Dibromochloromethane	12.833	129	156500	23.40	ug/L		97
67) 1,3-Dichloropropane	12.900	76	258554	21.13	ug/L		98
68) 1,2-Dibromoethane	13.034	107	130298	20.74	ug/L		99
69) 2-hexanone	13.162	43	509368m	89.20	ug/L		
70) 1-Chlorohexane	13.387	91	219188	21.97	ug/L		98
71) Ethylbenzene	13.436	91	726648	22.98	ug/L		98
72) Chlorobenzene	13.436	112	404546	22.55	ug/L		98
73) 1,1,1,2-Tetrachloroethane	13.478	131	149163	23.47	ug/L		99
74) m,p-Xylene	13.539	91	1117580	46.89	ug/L		96
75) o-Xylene	13.861	91	587019	23.00	ug/L		99
76) Styrene	13.904	104	464276	22.86	ug/L		99
77) Bromoform	13.953	173	110041	23.33	ug/L		97
78) Isopropylbenzene	14.080	105	696047	23.50	ug/L		97
81) cis-1,4-Dichloro-2-butene	14.336	53	60730	19.04	ug/L	#	79
82) n-Propylbenzene	14.372	91	832036	22.09	ug/L		99
83) Bromobenzene	14.397	156	180063	22.73	ug/L		96
84) 1,1,2,2-Tetrachloroethane	14.427	83	171186	19.08	ug/L		97
85) 1,3,5-Trimethylbenzene	14.494	105	539360	21.64	ug/L		99
86) 2-Chlorotoluene	14.506	91	553264	21.85	ug/L		98
87) trans-1,4-Dichloro-2-B...	14.549	53	47570	16.85	ug/L	#	89
88) 1,2,3-Trichloropropane	14.537	110	50844	19.98	ug/L		95
89) Cyclohexanone	14.585	55	26034	77.70	ug/L		98
90) 4-Chlorotoluene	14.622	91	509216	22.05	ug/L		99
91) tert-Butylbenzene	14.725	91	312791	21.52	ug/L		96
93) 1,2,4-Trimethylbenzene	14.768	105	520687	21.06	ug/L		97
94) Pentachloroethane	14.774	167	120013	26.06	ug/L		93
95) sec-Butylbenzene	14.847	105	651526	21.61	ug/L		99
96) 4-Isopropyltoluene	14.932	119	552956	21.52	ug/L		100
97) 1,3-Dichlorobenzene	15.036	146	315393	22.48	ug/L		98
98) 1,2,3-Trimethylbenzene	15.078	105	500902	16.75	ug/L		98
99) 1,4-Dichlorobenzene	15.096	146	310145	21.68	ug/L		96
100) n-Butylbenzene	15.218	92	271687	19.64	ug/L		98
101) Benzyl Chloride	15.248	126	67992	19.80	ug/L		97
102) 1,2-Dichlorobenzene	15.388	146	288179	21.68	ug/L		97
103) 1,2-Dibromo-3-Chloropr...	15.918	75	31385	17.92	ug/L		92
104) Hexachlorobutadiene	16.319	225	89617	23.36	ug/L		98
105) 1,2,4-Trichlorobenzene	16.374	180	152721	20.55	ug/L		96
106) Naphthalene	16.617	128	260248	16.07	ug/L		98
107) 1,2,3-Trichlorobenzene	16.757	180	117757	18.96	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146067.D
Acq On : 5 Jan 2021 8:50 am
Operator : SHANICAO
Sample : BS
Misc : MS48071,VC5867,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 05 23:03:53 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
109) Ethanol	5.253	45	41194m	651.84 ug/L	
110) Tert Butyl Alcohol	6.908	59	127562	180.61 ug/L	95
111) Isobutyl alcohol	10.303	43	107301	618.41 ug/L	98
112) Tert Amyl Alcohol	10.406	59	114744	230.39 ug/L	98
113) 1,4-Dioxane	11.550	88	31441	556.11 ug/L	87
114) 3,3-dimethyl-1-butanol	13.144	57	788742	2246.82 ug/L	85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

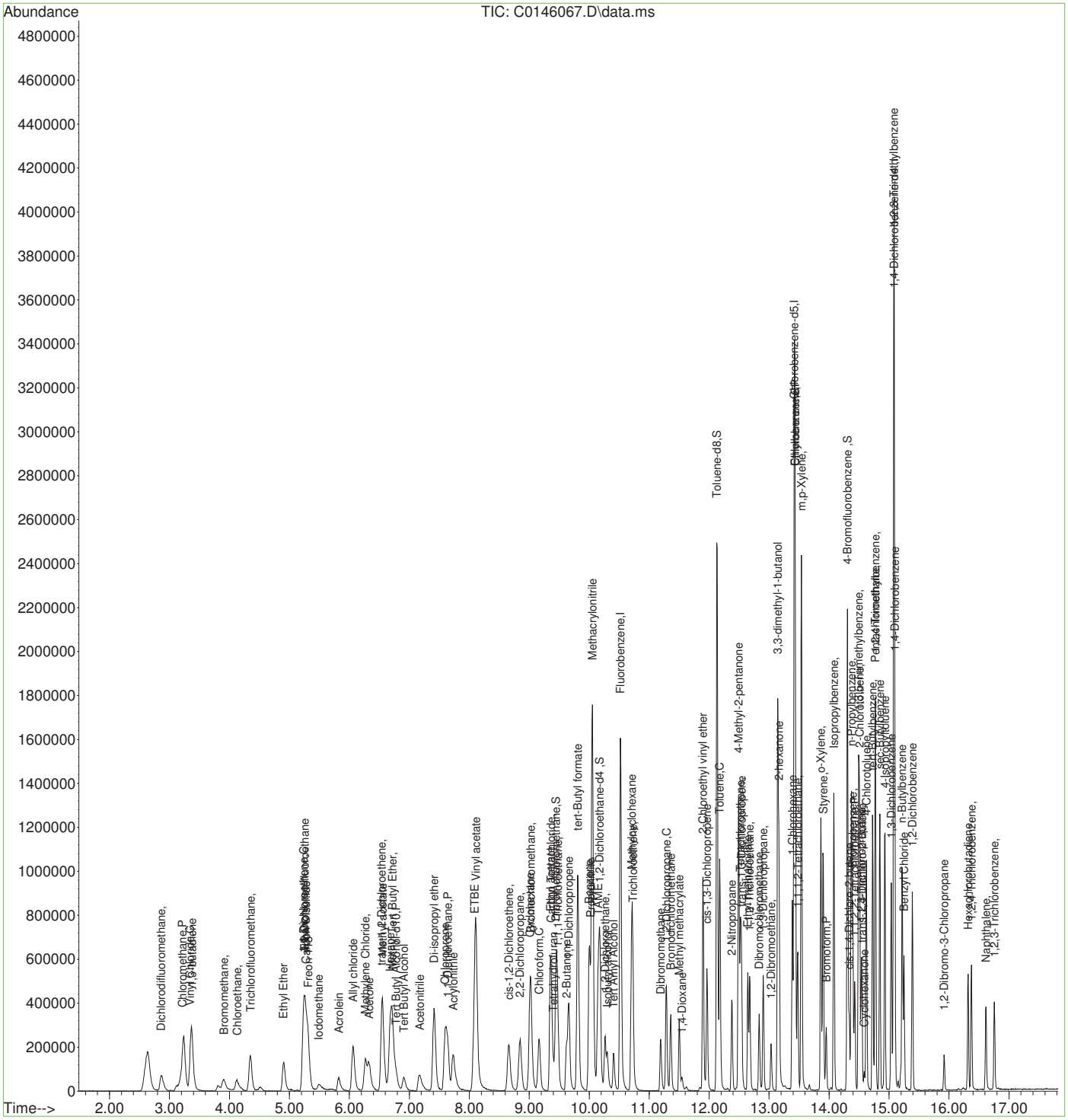
7.3.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146067.D
Acq On : 5 Jan 2021 8:50 am
Operator : SHANICAO
Sample : BS
Misc : MS48071,VC5867,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 05 23:03:53 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



Manual Integration Approval Summary

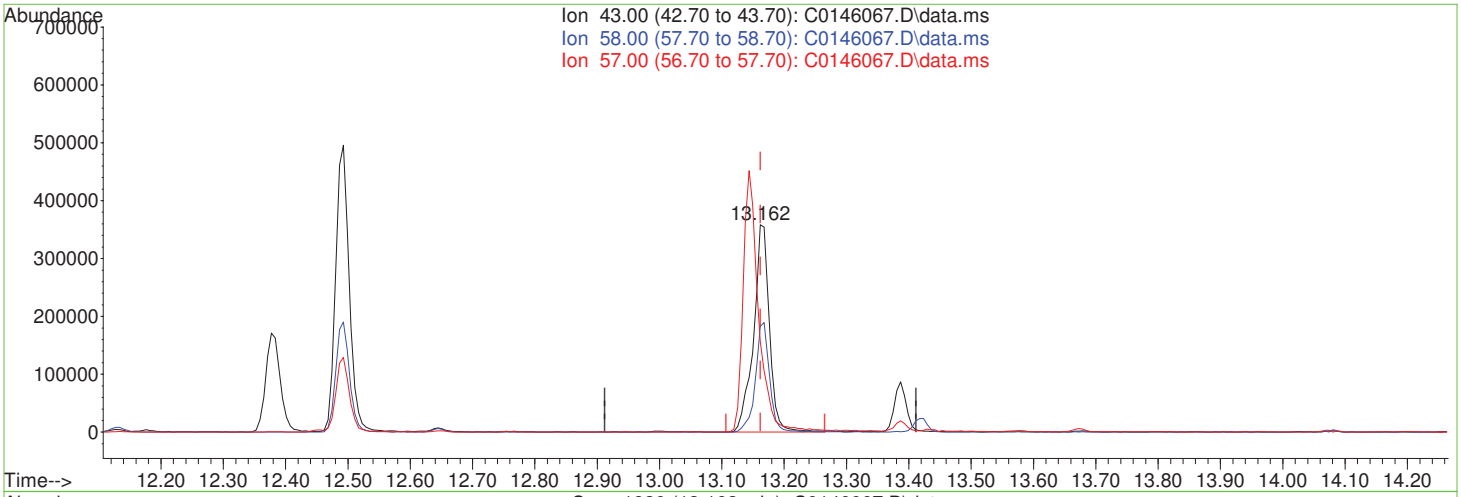
Sample Number: VC5867-BS
Lab FileID: C0146067.D
Injection Time: 01/05/21 08:50
Method: SW846 8260B
Analyst approved: 01/05/21 23:30 John Matthew de Guzman
Supervisor approved: 01/06/21 10:16 Melissa Mangual

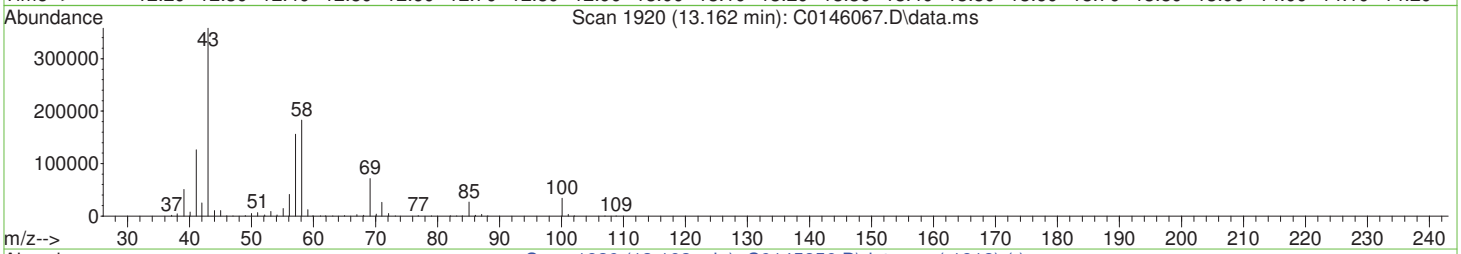
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.25	Poor instrument integration
2-Hexanone	591-78-6		13.16	Overlapping peak

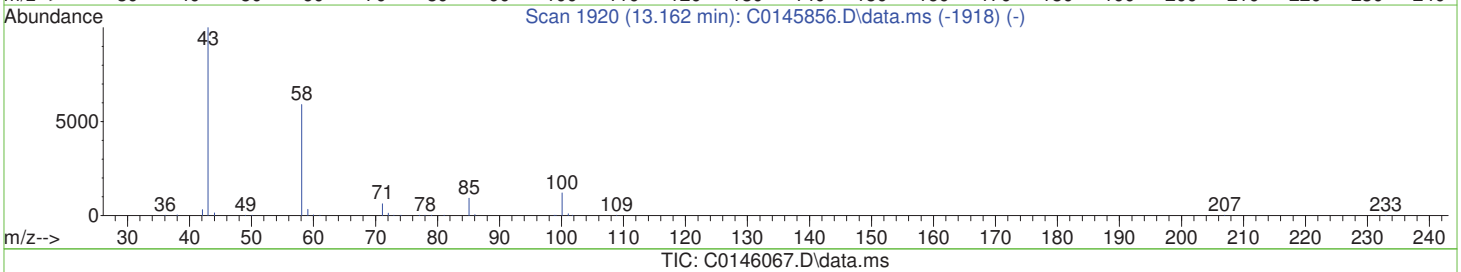
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146067.D
Acq On : 5 Jan 2021 8:50 am
Operator : SHANICAO
Sample : BS
Misc : MS48071,VC5867,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 05 23:00:49 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146067.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 112.17ug/L

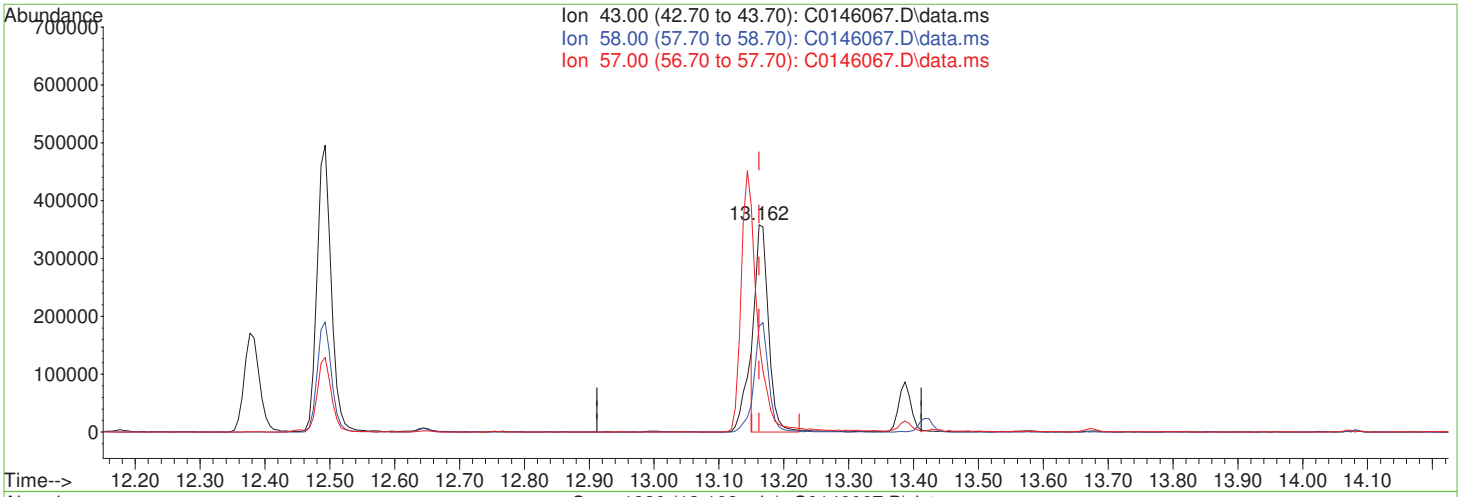
response 640528

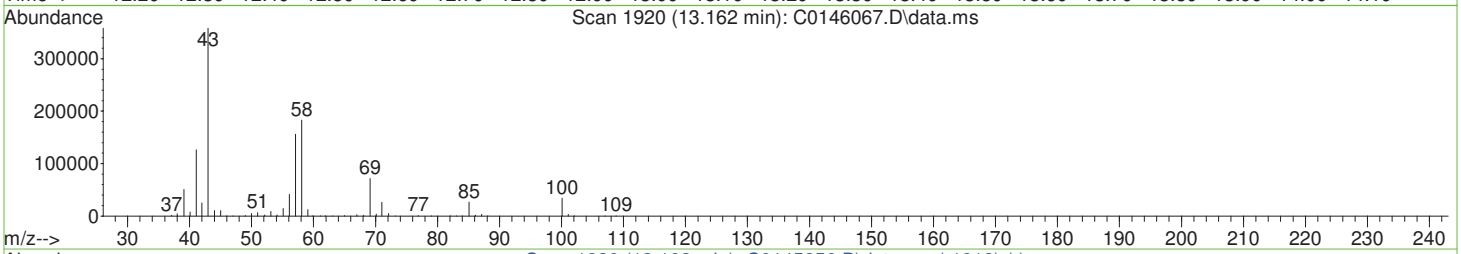
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.05
57.00	46.70	43.34
0.00	0.00	0.00

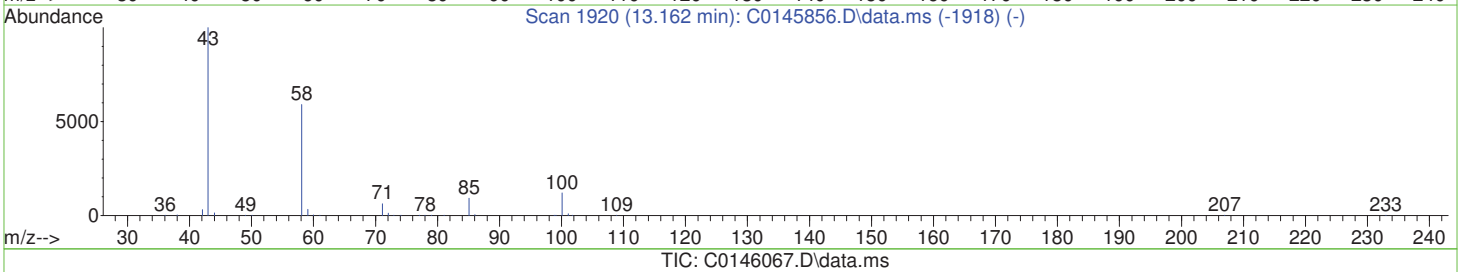
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146067.D
Acq On : 5 Jan 2021 8:50 am
Operator : SHANICAO
Sample : BS
Misc : MS48071,VC5867,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 05 23:00:49 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146067.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 89.20ug/L m

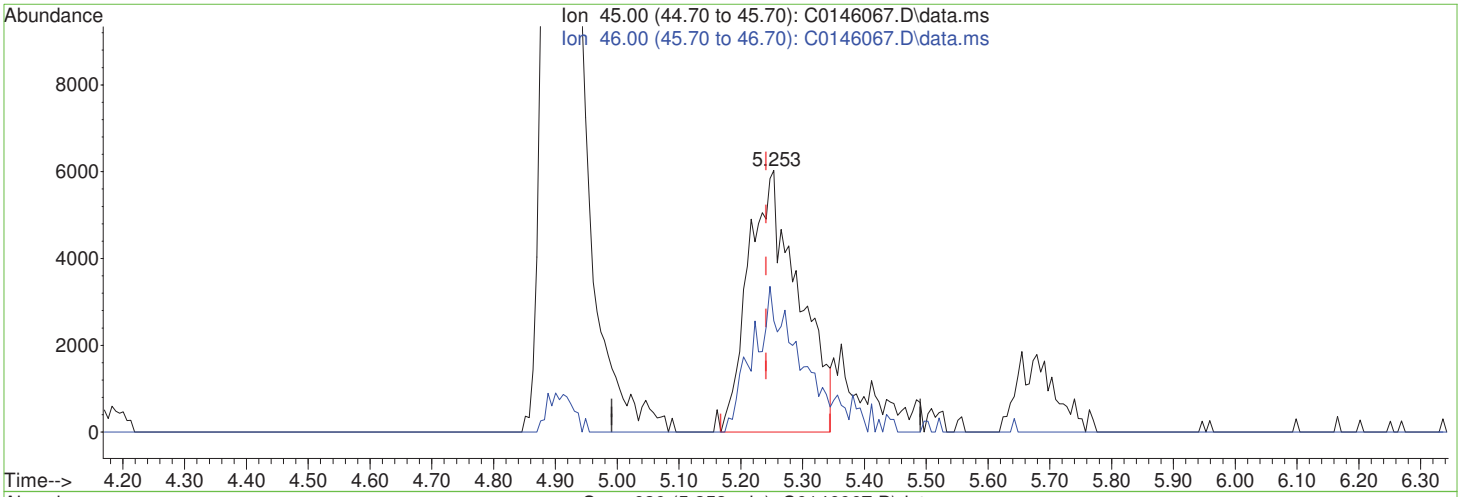
response 509368

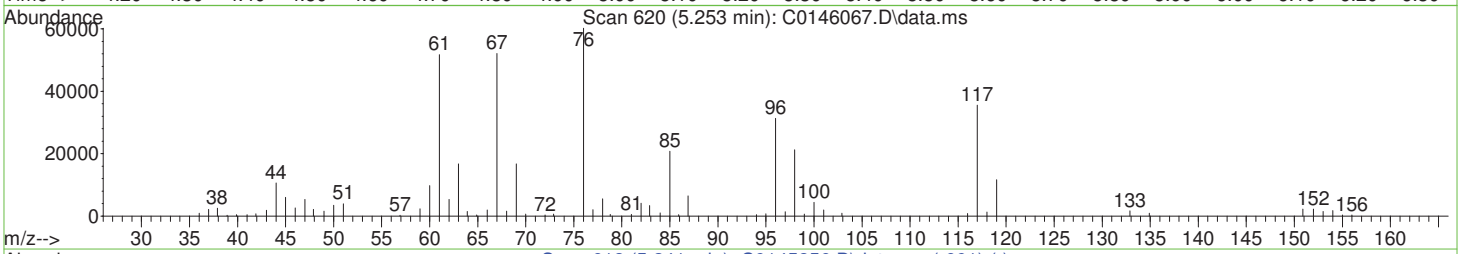
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.05
57.00	46.70	43.50
0.00	0.00	0.00

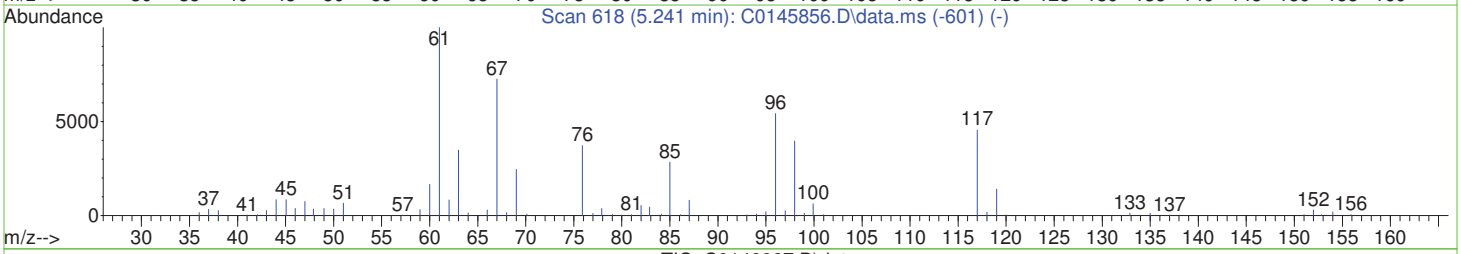
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146067.D
Acq On : 5 Jan 2021 8:50 am
Operator : SHANICAO
Sample : BS
Misc : MS48071,VC5867,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 05 23:00:49 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146067.D\data.ms

(109) Ethanol

5.253min (+0.012) 536.65ug/L

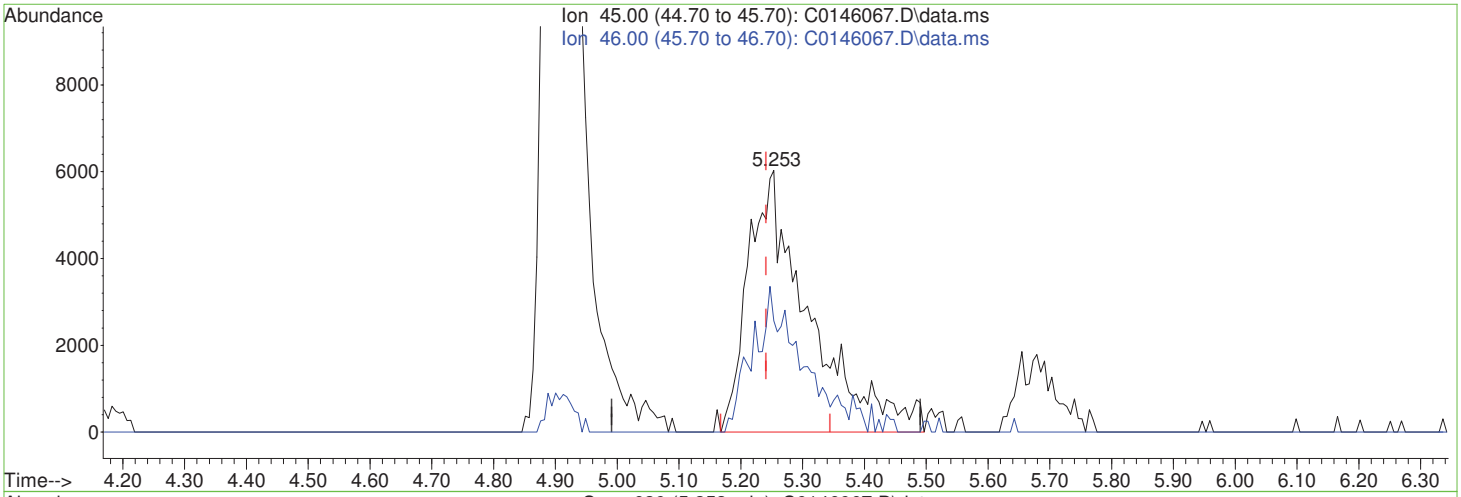
response 33914

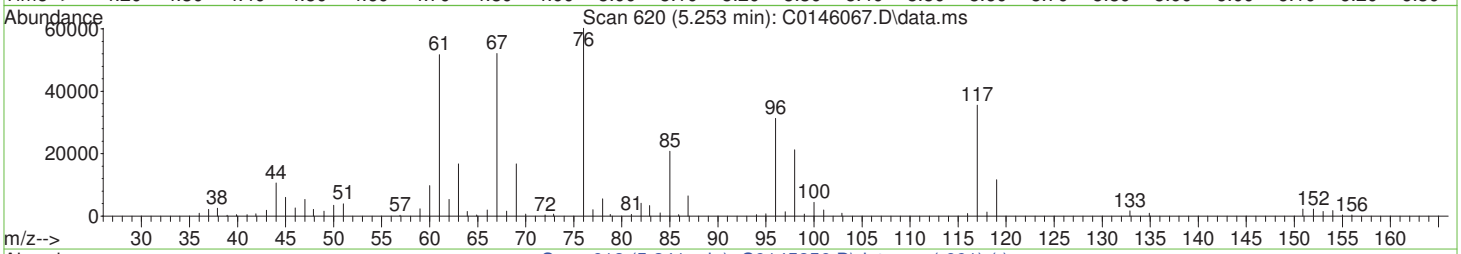
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	42.60
0.00	0.00	0.00
0.00	0.00	0.00

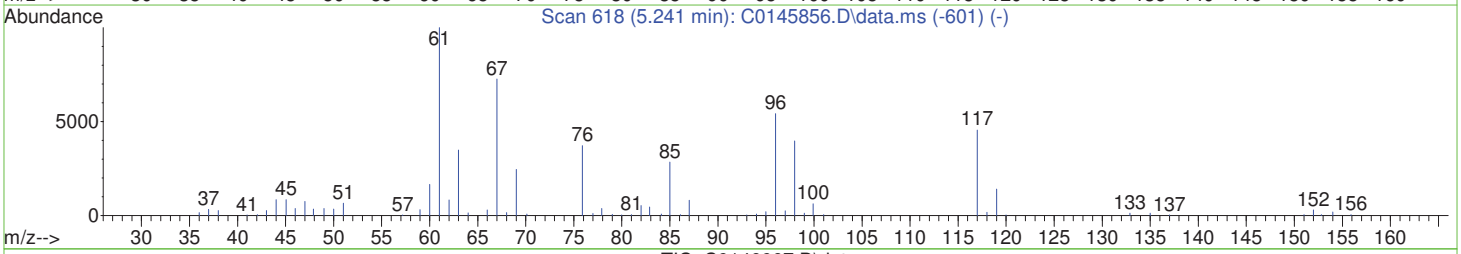
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146067.D
Acq On : 5 Jan 2021 8:50 am
Operator : SHANICAO
Sample : BS
Misc : MS48071,VC5867,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 05 23:00:49 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146067.D\data.ms

(109) Ethanol

5.253min (+0.012) 651.84ug/L m

response 41194

Ion	Exp%	Act%
45.00	100	100
46.00	42.90	42.60
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/06/21 10:24

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146089.D
Acq On : 5 Jan 2021 6:47 pm
Operator : SHANICAO
Sample : FA82063-1MS,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 05 23:19:12 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1350525	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	984635	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	536869	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	156509	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	338329	50.80	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.60%			
47) 1,2-Dichloroethane-d4	10.175	65	489560	55.96	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 111.92%			
58) Toluene-d8	12.128	98	1353553	48.69	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.38%			
80) 4-Bromofluorobenzene	14.306	174	462802	51.16	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	181568	26.62	ug/L	99
3) Chloromethane	3.203	50	75909	8.85	ug/L	96
4) 1,3-butadiene	3.367	39	221614	36.41	ug/L	95
5) Vinyl Chloride	3.349	62	182242	23.02	ug/L	95
6) Bromomethane	3.903	94	31939	13.48	ug/L	96
7) Chloroethane	4.115	64	91841	26.00	ug/L	97
8) Trichlorofluoromethane	4.347	101	272670	33.41	ug/L	93
9) Ethyl Ether	4.906	59	142751	24.46	ug/L	97
10) 1,2-Dichlorotrifluoroe...	5.253	67	190725	28.12	ug/L	94
11) 1,1-Dichloroethene	5.229	61	260587	29.29	ug/L	97
12) Freon 113	5.314	101	135348	25.07	ug/L	97
13) Carbon Disulfide	5.271	76	485965	26.05	ug/L	99
14) Iodomethane	5.496	142	93547	19.56	ug/L	93
15) Acrolein	5.825	56	71111	53.40	ug/L	98
16) Allyl chloride	6.062	41	257670	23.82	ug/L	93
17) Methylene Chloride	6.269	49	210571	23.82	ug/L	92
18) Acetone	6.324	43	724869	372.33	ug/L	99
19) Methyl acetate	6.555	43	579433	113.43	ug/L	95
20) trans-1,2-Dichloroethene	6.537	61	241967	28.50	ug/L	98
21) Hexane	6.689	56	131530	23.88	ug/L	96
22) Methyl Tert Butyl Ether	6.719	73	515369	24.96	ug/L	95
23) Acetonitrile	7.169	41	201335	212.72	ug/L	91
24) Di-isopropyl ether	7.413	45	564186	23.33	ug/L	96
25) Chloroprene	7.601	53	281200	29.48	ug/L	96
26) 1,1-Dichloroethane	7.638	63	323491	29.02	ug/L	100
27) Acrylonitrile	7.735	52	221602	116.43	ug/L	96
28) ETBE	8.082	59	528853	24.19	ug/L	96
29) Vinyl acetate	8.112	43	1710552	108.46	ug/L	100
30) cis-1,2-Dichloroethene	8.660	96	169248	28.41	ug/L	92
31) 2,2-Dichloropropane	8.842	77	285497	30.03	ug/L	93
32) Bromochloromethane	9.025	128	74214	25.94	ug/L	92
33) Cyclohexane	9.019	56	289186	25.07	ug/L	95
34) Chloroform	9.165	83	298586	29.25	ug/L	98
35) Ethyl acetate	9.353	43	783978	110.32	ug/L	99
36) Tetrahydrofuran	9.402	42	54397	21.75	ug/L	84
38) Carbon Tetrachloride	9.366	117	226811	31.63	ug/L	97
39) 1,1,1-Trichloroethane	9.469	97	266703	30.77	ug/L	98
40) 2-Butanone	9.621	43	489038	147.43	ug/L	97
41) 1,1-Dichloropropene	9.658	75	242119	27.30	ug/L	97
42) tert-Butyl formate	9.810	59	827254	124.89	ug/L	96
43) Propionitrile	10.023	54	214454	222.83	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146089.D
Acq On : 5 Jan 2021 6:47 pm
Operator : SHANICAO
Sample : FA82063-1MS,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 05 23:19:12 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
44) Methacrylonitrile	10.053	41	1008005	228.74 ug/L		98
45) Benzene	10.004	78	661152	26.78 ug/L		100
46) TAME	10.150	73	508462	25.32 ug/L		96
48) 1,2-Dichloroethane	10.266	62	247655	29.72 ug/L		91
49) Trichloroethene	10.728	95	175445	27.52 ug/L		96
50) Methylcyclohexane	10.710	83	277767	27.62 ug/L		96
51) Dibromomethane	11.191	93	97931	26.92 ug/L		96
52) 1,2-Dichloropropane	11.288	63	180661	25.54 ug/L		94
53) Bromodichloromethane	11.361	83	235728	29.94 ug/L		93
54) Methyl methacrylate	11.501	41	155254	24.08 ug/L		98
55) 2-Chloroethyl vinyl ether	11.896	63	422228	91.12 ug/L		94
56) cis-1,3-Dichloropropene	11.963	75	296877	25.76 ug/L		98
59) Toluene	12.176	91	694310	25.02 ug/L		98
60) 2-Nitropropane	12.377	41	247524	118.94 ug/L		98
61) 4-Methyl-2-pentanone	12.493	43	784561	109.18 ug/L		99
62) trans-1,3-Dichloropropene	12.541	75	265439	25.85 ug/L		98
63) Tetrachloroethene	12.523	166	179338	27.76 ug/L		97
64) Ethyl methacrylate	12.645	69	225707	24.82 ug/L		99
65) 1,1,2-Trichloroethane	12.675	83	126269	25.28 ug/L		96
66) Dibromochloromethane	12.833	129	161897	26.46 ug/L		99
67) 1,3-Dichloropropane	12.900	76	268949	24.03 ug/L		96
68) 1,2-Dibromoethane	13.034	107	143017	24.89 ug/L		93
69) 2-hexanone	13.162	43	521181m	99.78 ug/L		
70) 1-Chlorohexane	13.387	91	218445	23.93 ug/L		96
71) Ethylbenzene	13.436	91	738791	25.55 ug/L		96
72) Chlorobenzene	13.436	112	404862	24.67 ug/L		98
73) 1,1,1,2-Tetrachloroethane	13.478	131	150792	25.93 ug/L		98
74) m,p-Xylene	13.539	91	1129337	51.80 ug/L		97
75) o-Xylene	13.861	91	600609	25.73 ug/L		98
76) Styrene	13.904	104	475480	25.59 ug/L		98
77) Bromoform	13.953	173	110420	25.60 ug/L		97
78) Isopropylbenzene	14.080	105	707869	26.13 ug/L		99
81) cis-1,4-Dichloro-2-butene	14.336	53	53425	18.44 ug/L	#	84
82) n-Propylbenzene	14.372	91	832229	24.32 ug/L		98
83) Bromobenzene	14.397	156	181047	25.16 ug/L		97
84) 1,1,2,2-Tetrachloroethane	14.427	83	175946	21.59 ug/L		97
85) 1,3,5-Trimethylbenzene	14.494	105	548728	24.24 ug/L		98
86) 2-Chlorotoluene	14.506	91	555992	24.17 ug/L		99
87) trans-1,4-Dichloro-2-B...	14.549	53	44212	17.24 ug/L	#	75
88) 1,2,3-Trichloropropane	14.537	110	53199	23.01 ug/L		97
89) Cyclohexanone	14.585	55	27900	91.67 ug/L		97
90) 4-Chlorotoluene	14.622	91	507366	24.19 ug/L		98
91) tert-Butylbenzene	14.725	91	318075	24.09 ug/L		96
93) 1,2,4-Trimethylbenzene	14.768	105	533739	23.77 ug/L		99
94) Pentachloroethane	14.774	167	115255	27.55 ug/L		93
95) sec-Butylbenzene	14.847	105	666019	24.32 ug/L		98
96) 4-Isopropyltoluene	14.926	119	573798	24.59 ug/L		97
97) 1,3-Dichlorobenzene	15.036	146	317677	24.93 ug/L		98
98) 1,2,3-Trimethylbenzene	15.078	105	528328	19.45 ug/L		96
99) 1,4-Dichlorobenzene	15.096	146	312847	24.08 ug/L		99
100) n-Butylbenzene	15.218	92	276347	22.00 ug/L		98
101) Benzyl Chloride	15.248	126	59568	19.10 ug/L	#	93
102) 1,2-Dichlorobenzene	15.388	146	294880	24.42 ug/L		98
103) 1,2-Dibromo-3-Chloropr...	15.918	75	32686	20.55 ug/L		90
104) Hexachlorobutadiene	16.319	225	94483	27.12 ug/L		96
105) 1,2,4-Trichlorobenzene	16.374	180	165889	24.57 ug/L		99
106) Naphthalene	16.617	128	309287	21.03 ug/L		98
107) 1,2,3-Trichlorobenzene	16.757	180	131110	23.24 ug/L		94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146089.D
Acq On : 5 Jan 2021 6:47 pm
Operator : SHANICAO
Sample : FA82063-1MS,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 05 23:19:12 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
109) Ethanol	5.265	45	41007m	593.92 ug/L	
110) Tert Butyl Alcohol	6.914	59	158395	205.27 ug/L	96
111) Isobutyl alcohol	10.303	43	113196	596.98 ug/L	97
112) Tert Amyl Alcohol	10.412	59	122346	224.85 ug/L	96
113) 1,4-Dioxane	11.556	88	32307	523.02 ug/L	98
114) 3,3-dimethyl-1-butanol	13.144	57	744666	1941.59 ug/L	85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

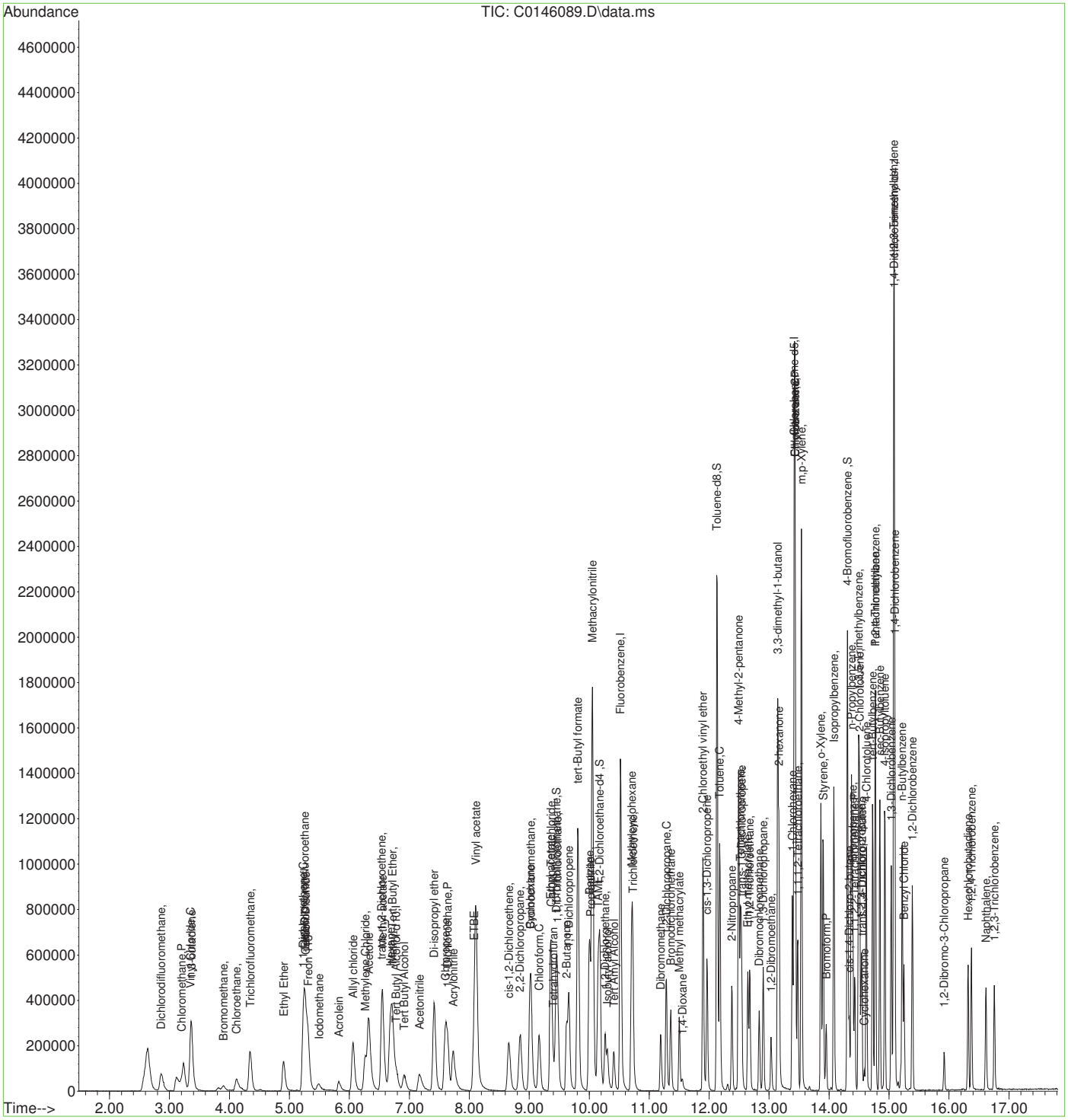
7.4.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146089.D
Acq On : 5 Jan 2021 6:47 pm
Operator : SHANICAO
Sample : FA82063-1MS,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 05 23:19:12 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



Manual Integration Approval Summary

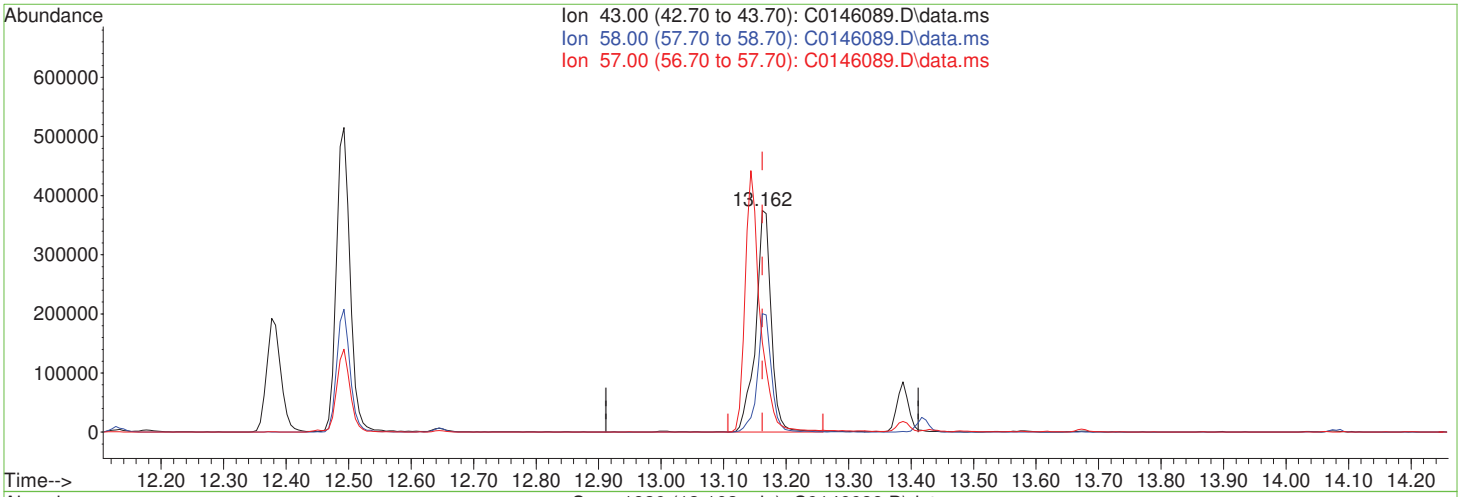
Sample Number: FA82063-1MS
Lab FileID: C0146089.D
Injection Time: 01/05/21 18:47
Method: SW846 8260B
Analyst approved: 01/05/21 23:53 John Matthew de Guzman
Supervisor approved: 01/06/21 10:24 Melissa Mangual

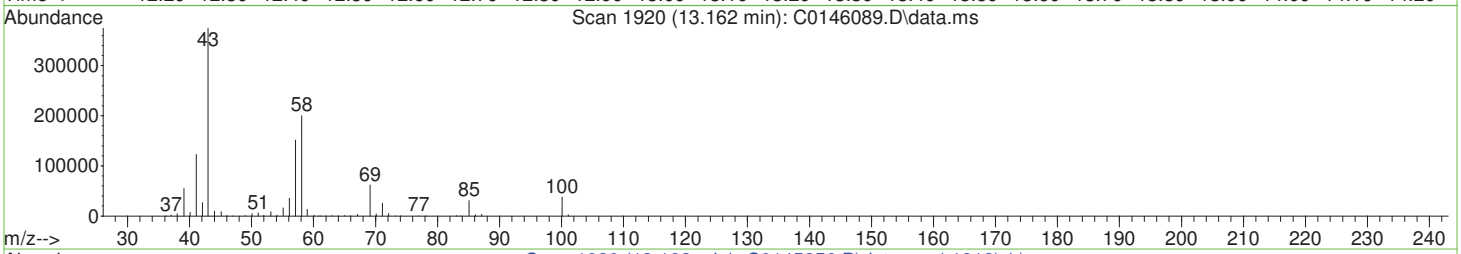
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.27	Poor instrument integration
2-Hexanone	591-78-6		13.16	Overlapping peak

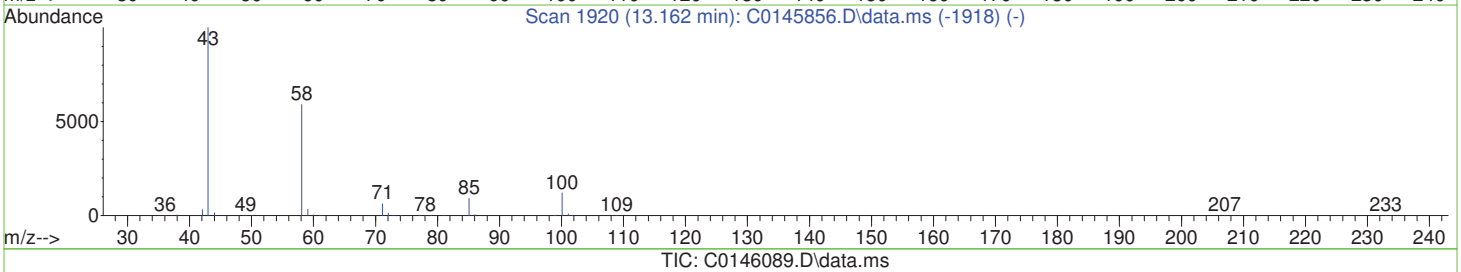
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146089.D
Acq On : 5 Jan 2021 6:47 pm
Operator : SHANICAO
Sample : FA82063-1MS,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 05 23:01:52 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146089.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 123.58ug/L

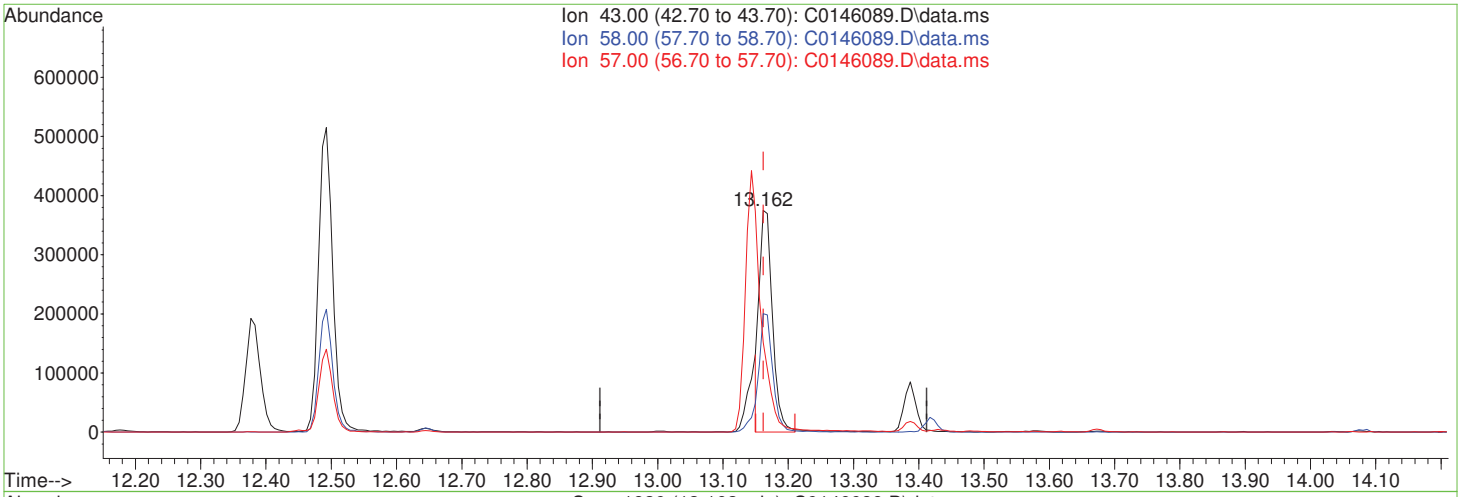
response 645513

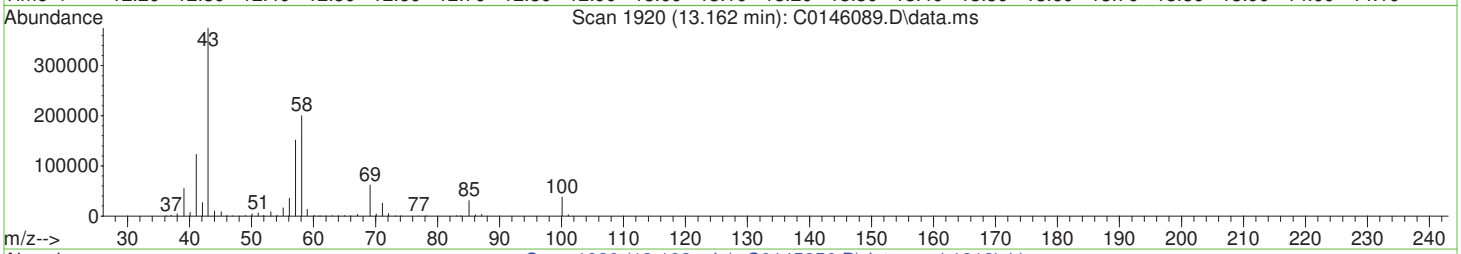
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	53.44
57.00	46.70	40.43
0.00	0.00	0.00

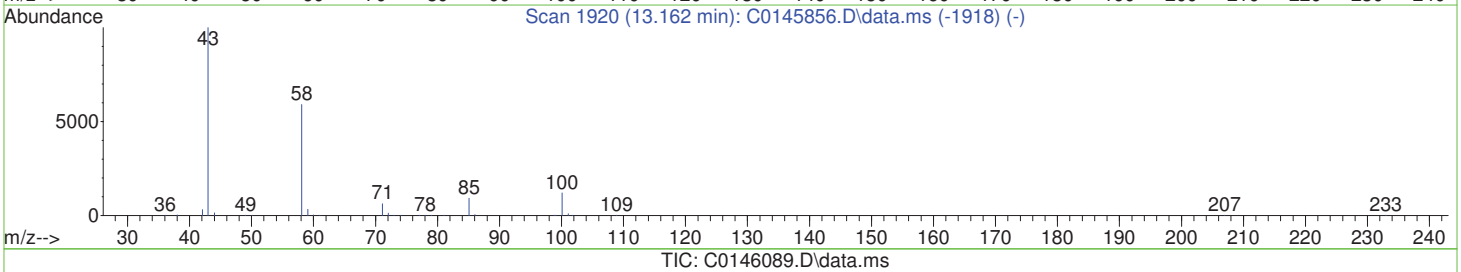
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146089.D
Acq On : 5 Jan 2021 6:47 pm
Operator : SHANICAO
Sample : FA82063-1MS,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 05 23:01:52 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146089.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 99.78ug/L m

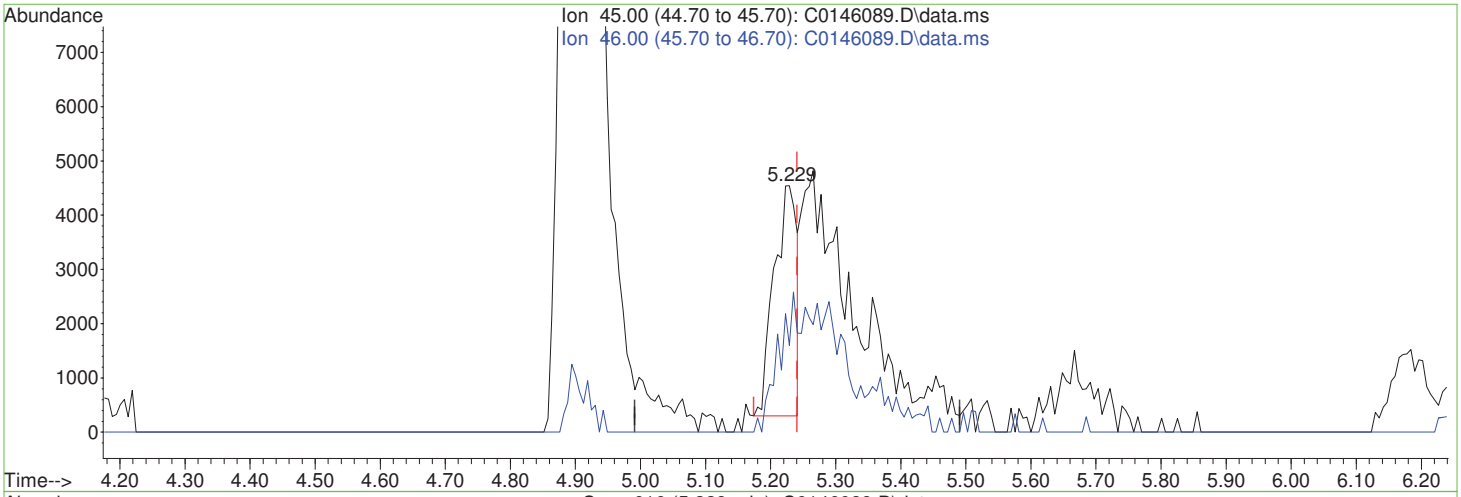
response 521181

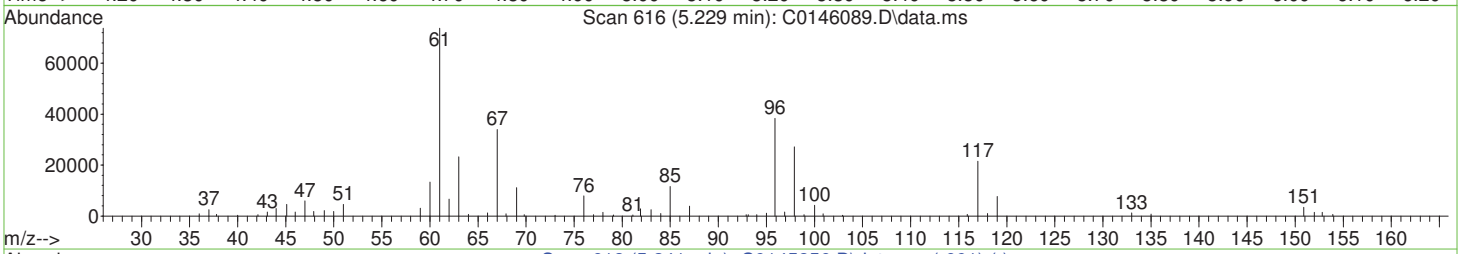
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	53.38
57.00	46.70	40.39
0.00	0.00	0.00

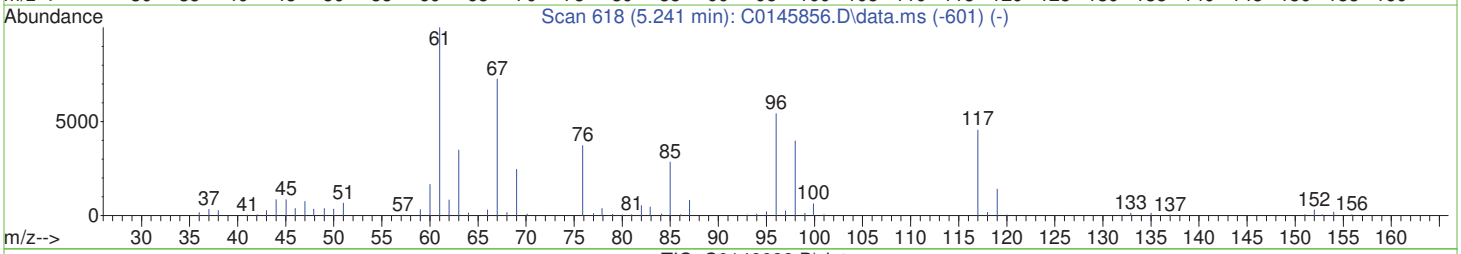
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146089.D
Acq On : 5 Jan 2021 6:47 pm
Operator : SHANICAO
Sample : FA82063-1MS,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 05 23:01:52 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146089.D\data.ms

(109) Ethanol

5.229min (-0.012) 147.46ug/L

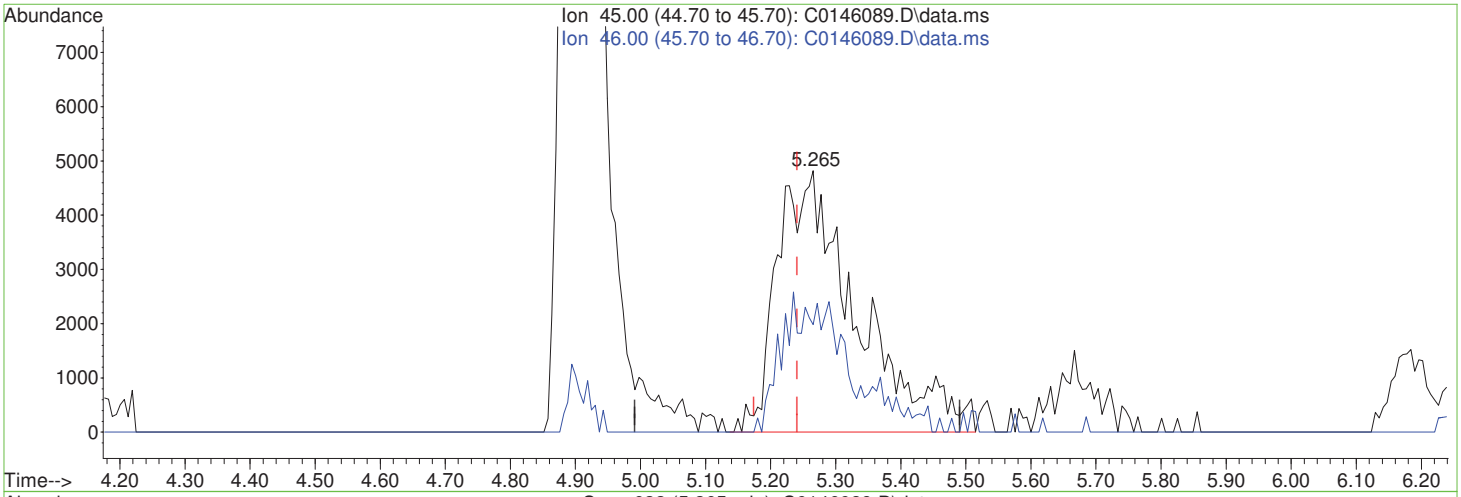
response 10181

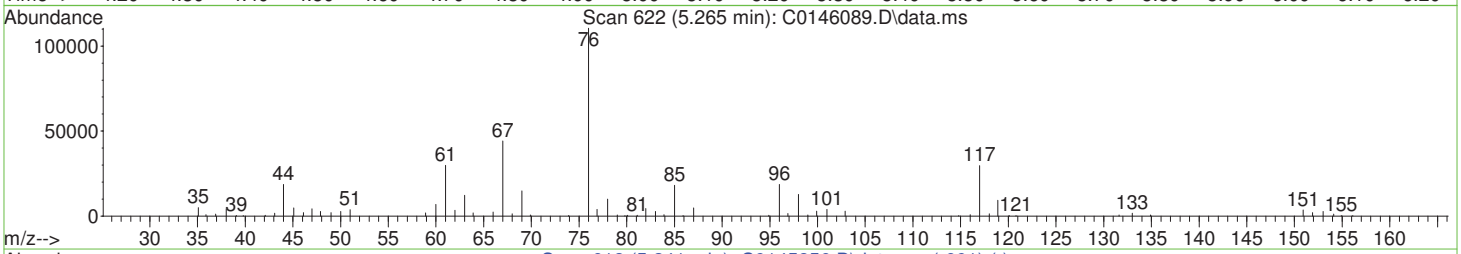
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	37.70
0.00	0.00	0.00
0.00	0.00	0.00

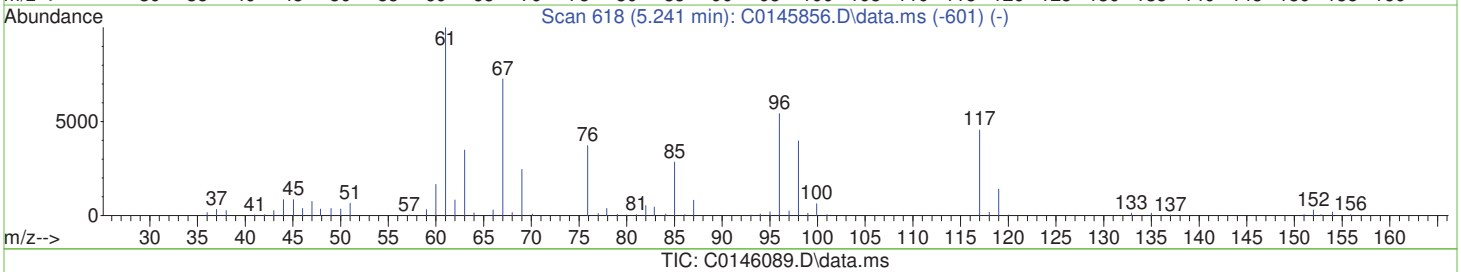
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146089.D
Acq On : 5 Jan 2021 6:47 pm
Operator : SHANICAO
Sample : FA82063-1MS,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 05 23:01:52 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146089.D\data.ms

(109) Ethanol

5.265min (+0.024) 593.92ug/L m

response 41007

Ion	Exp%	Act%
45.00	100	100
46.00	42.90	41.17
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/06/21 10:24

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146090.D
Acq On : 5 Jan 2021 7:12 pm
Operator : SHANICAO
Sample : FA82063-1MSD,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 05 23:19:30 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1424043	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1035210	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	565135	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	156134	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	363339	51.73	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 103.46%			
47) 1,2-Dichloroethane-d4	10.175	65	506259	54.88	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 109.76%			
58) Toluene-d8	12.128	98	1426358	48.80	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.60%			
80) 4-Bromofluorobenzene	14.306	174	483139	50.74	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.48%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	175484	24.40	ug/L	97
3) Chloromethane	3.215	50	172722	19.14	ug/L	96
4) 1,3-butadiene	3.361	39	209002	32.57	ug/L	93
5) Vinyl Chloride	3.349	62	180697	21.65	ug/L	99
6) Bromomethane	3.909	94	47538	18.76	ug/L	93
7) Chloroethane	4.122	64	88843	23.85	ug/L	95
8) Trichlorofluoromethane	4.341	101	265342	30.83	ug/L	97
9) Ethyl Ether	4.900	59	135778	22.06	ug/L	94
10) 1,2-Dichlorotrifluoroe...	5.247	67	187127	26.17	ug/L	96
11) 1,1-Dichloroethene	5.229	61	257182	27.41	ug/L	96
12) Freon 113	5.308	101	132770	23.32	ug/L	95
13) Carbon Disulfide	5.271	76	468922	23.84	ug/L	100
14) Iodomethane	5.478	142	119582	23.43	ug/L	99
15) Acrolein	5.825	56	67527	48.09	ug/L	91
16) Allyl chloride	6.062	41	258762	22.68	ug/L	96
17) Methylene Chloride	6.263	49	209997	22.53	ug/L	95
18) Acetone	6.324	43	703573	342.73	ug/L	96
19) Methyl acetate	6.555	43	563644	104.64	ug/L	94
20) trans-1,2-Dichloroethene	6.531	61	231473	25.85	ug/L	96
21) Hexane	6.683	56	129390	22.28	ug/L	96
22) Methyl Tert Butyl Ether	6.713	73	510833	23.47	ug/L	98
23) Acetonitrile	7.170	41	190041	190.42	ug/L	95
24) Di-isopropyl ether	7.413	45	547523	21.48	ug/L	96
25) Chloroprene	7.595	53	269839	26.83	ug/L	98
26) 1,1-Dichloroethane	7.638	63	319543	27.19	ug/L	95
27) Acrylonitrile	7.729	52	211302	105.29	ug/L	100
28) ETBE	8.088	59	526786	22.85	ug/L	97
29) Vinyl acetate	8.112	43	1678590	100.94	ug/L	99
30) cis-1,2-Dichloroethene	8.660	96	162222	25.83	ug/L	96
31) 2,2-Dichloropropane	8.849	77	272493	27.19	ug/L	100
32) Bromochloromethane	9.025	128	75129	24.91	ug/L	94
33) Cyclohexane	9.019	56	285431	23.46	ug/L	93
34) Chloroform	9.165	83	292832	27.21	ug/L	99
35) Ethyl acetate	9.354	43	764150	101.98	ug/L	99
36) Tetrahydrofuran	9.402	42	48284	18.27	ug/L	90
38) Carbon Tetrachloride	9.366	117	219112	28.98	ug/L	98
39) 1,1,1-Trichloroethane	9.469	97	261418	28.61	ug/L	97
40) 2-Butanone	9.621	43	475632	135.99	ug/L	97
41) 1,1-Dichloropropene	9.658	75	237140	25.36	ug/L	98
42) tert-Butyl formate	9.810	59	813181	116.43	ug/L	98
43) Propionitrile	10.023	54	205246	202.25	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146090.D
Acq On : 5 Jan 2021 7:12 pm
Operator : SHANICAO
Sample : FA82063-1MSD,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 05 23:19:30 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Methacrylonitrile	10.053	41	985623	212.11	ug/L		99
45) Benzene	9.998	78	653730	25.12	ug/L		95
46) TAME	10.150	73	508230	24.00	ug/L		99
48) 1,2-Dichloroethane	10.266	62	244083	27.78	ug/L		93
49) Trichloroethene	10.728	95	169953	25.28	ug/L		97
50) Methylcyclohexane	10.710	83	286412	27.01	ug/L		96
51) Dibromomethane	11.191	93	95281	24.84	ug/L		93
52) 1,2-Dichloropropane	11.282	63	181266	24.31	ug/L		95
53) Bromodichloromethane	11.361	83	232644	28.02	ug/L		99
54) Methyl methacrylate	11.501	41	151029	22.21	ug/L		95
55) 2-Chloroethyl vinyl ether	11.896	63	417457	85.44	ug/L		95
56) cis-1,3-Dichloropropene	11.963	75	296296	24.38	ug/L		100
59) Toluene	12.176	91	691672	23.71	ug/L		99
60) 2-Nitropropane	12.377	41	238757	109.12	ug/L		97
61) 4-Methyl-2-pentanone	12.493	43	769048	101.79	ug/L		97
62) trans-1,3-Dichloropropene	12.541	75	263313	24.39	ug/L		97
63) Tetrachloroethene	12.523	166	180111	26.51	ug/L		97
64) Ethyl methacrylate	12.645	69	223145	23.33	ug/L		98
65) 1,1,2-Trichloroethane	12.675	83	120921	23.03	ug/L		99
66) Dibromochloromethane	12.833	129	162234	25.22	ug/L		96
67) 1,3-Dichloropropane	12.900	76	267719	22.75	ug/L		98
68) 1,2-Dibromoethane	13.034	107	137463	22.75	ug/L		99
69) 2-hexanone	13.168	43	514026m	93.60	ug/L		
70) 1-Chlorohexane	13.387	91	222352	23.17	ug/L		97
71) Ethylbenzene	13.436	91	733172	24.11	ug/L		96
72) Chlorobenzene	13.436	112	406458	23.55	ug/L		99
73) 1,1,1,2-Tetrachloroethane	13.478	131	151944	24.85	ug/L		99
74) m,p-Xylene	13.539	91	1137634	49.64	ug/L		96
75) o-Xylene	13.861	91	602281	24.54	ug/L		97
76) Styrene	13.904	104	477747	24.46	ug/L		98
77) Bromoform	13.953	173	109960	24.25	ug/L		98
78) Isopropylbenzene	14.080	105	706780	24.81	ug/L		97
81) cis-1,4-Dichloro-2-butene	14.336	53	57164	18.74	ug/L	#	74
82) n-Propylbenzene	14.372	91	844957	23.46	ug/L		97
83) Bromobenzene	14.397	156	179365	23.68	ug/L		95
84) 1,1,2,2-Tetrachloroethane	14.427	83	172838	20.15	ug/L		99
85) 1,3,5-Trimethylbenzene	14.494	105	568104	23.84	ug/L		100
86) 2-Chlorotoluene	14.506	91	552088	22.80	ug/L		98
87) trans-1,4-Dichloro-2-B...	14.549	53	45816	16.97	ug/L		91
88) 1,2,3-Trichloropropane	14.537	110	51219	21.05	ug/L		94
89) Cyclohexanone	14.585	55	26660	83.22	ug/L		96
90) 4-Chlorotoluene	14.622	91	513439	23.26	ug/L		96
91) tert-Butylbenzene	14.725	91	328160	23.61	ug/L		94
93) 1,2,4-Trimethylbenzene	14.768	105	553524	23.42	ug/L		96
94) Pentachloroethane	14.774	167	115027	26.12	ug/L		95
95) sec-Butylbenzene	14.847	105	703440	24.41	ug/L		98
96) 4-Isopropyltoluene	14.932	119	606187	24.68	ug/L		99
97) 1,3-Dichlorobenzene	15.036	146	319153	23.79	ug/L		97
98) 1,2,3-Trimethylbenzene	15.078	105	538676	18.84	ug/L		95
99) 1,4-Dichlorobenzene	15.096	146	313987	22.95	ug/L		98
100) n-Butylbenzene	15.218	92	295864	22.37	ug/L		99
101) Benzyl Chloride	15.249	126	59948	18.26	ug/L	#	89
102) 1,2-Dichlorobenzene	15.388	146	305621	24.05	ug/L		98
103) 1,2-Dibromo-3-Chloropr...	15.918	75	33810	20.19	ug/L		97
104) Hexachlorobutadiene	16.319	225	92023	25.09	ug/L		96
105) 1,2,4-Trichlorobenzene	16.374	180	183174	25.77	ug/L		98
106) Naphthalene	16.617	128	322307	20.82	ug/L		98
107) 1,2,3-Trichlorobenzene	16.757	180	142120	23.94	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146090.D
Acq On : 5 Jan 2021 7:12 pm
Operator : SHANICAO
Sample : FA82063-1MSD,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 05 23:19:30 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
109) Ethanol	5.259	45	39425m	572.38 ug/L	
110) Tert Butyl Alcohol	6.914	59	152537	198.15 ug/L	97
111) Isobutyl alcohol	10.303	43	108873	575.42 ug/L	93
112) Tert Amyl Alcohol	10.412	59	126048	232.21 ug/L	98
113) 1,4-Dioxane	11.550	88	31662	513.81 ug/L	93
114) 3,3-dimethyl-1-butanol	13.144	57	726423	1898.57 ug/L	85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

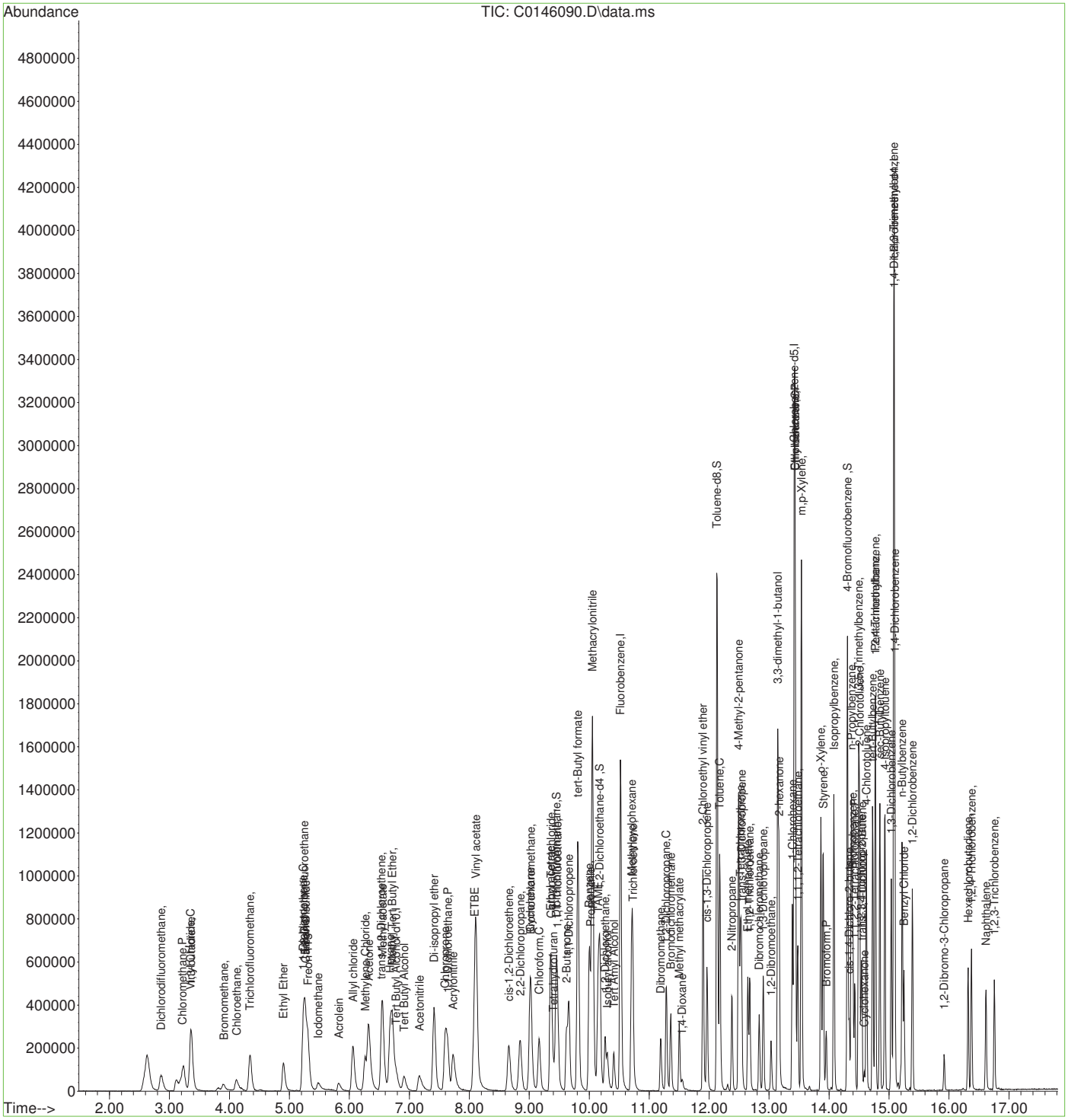
7.4.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146090.D
Acq On : 5 Jan 2021 7:12 pm
Operator : SHANICAO
Sample : FA82063-1MSD,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 05 23:19:30 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



RTXVMS122420.M Tue Jan 05 23:22:00 2021 Page: 4

Manual Integration Approval Summary

Sample Number: FA82063-1MSD
Lab FileID: C0146090.D
Injection Time: 01/05/21 19:12
Method: SW846 8260B
Analyst approved: 01/05/21 23:53 John Matthew de Guzman
Supervisor approved: 01/06/21 10:24 Melissa Mangual

Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.26	Poor instrument integration
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146090.D
Acq On : 5 Jan 2021 7:12 pm
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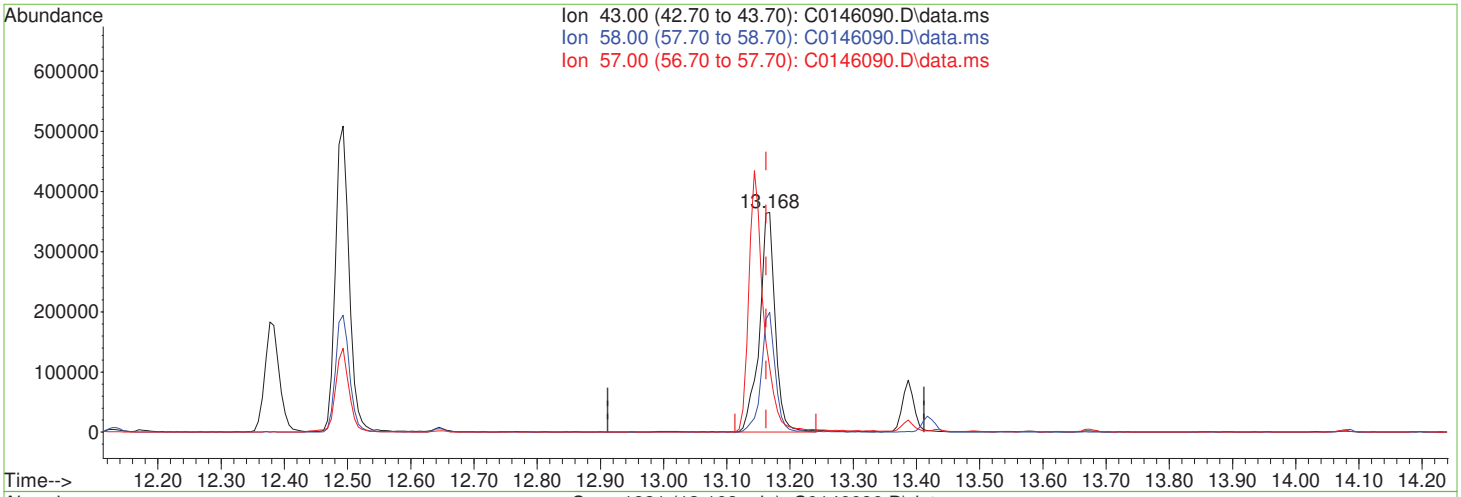

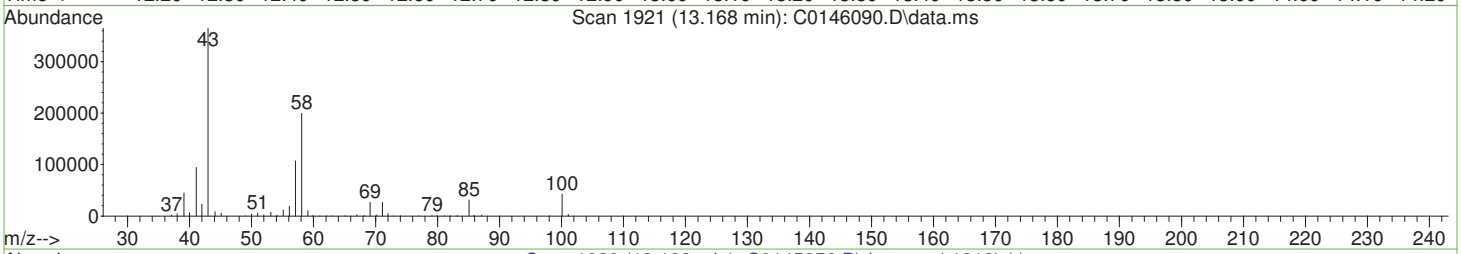

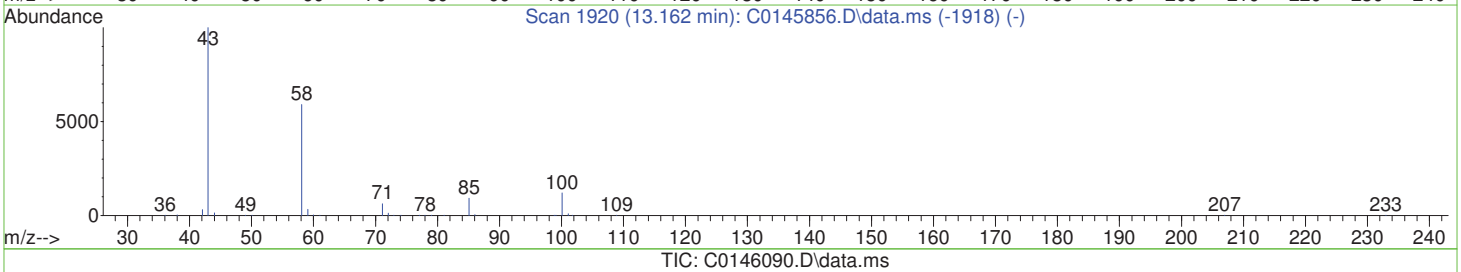

TIC: C0146090.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 115.19ug/L

response 632609

Ion	Exp%	Act%
43.00	100	100
58.00	51.90	54.65
57.00	46.70	29.22
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146090.D
Acq On : 5 Jan 2021 7:12 pm
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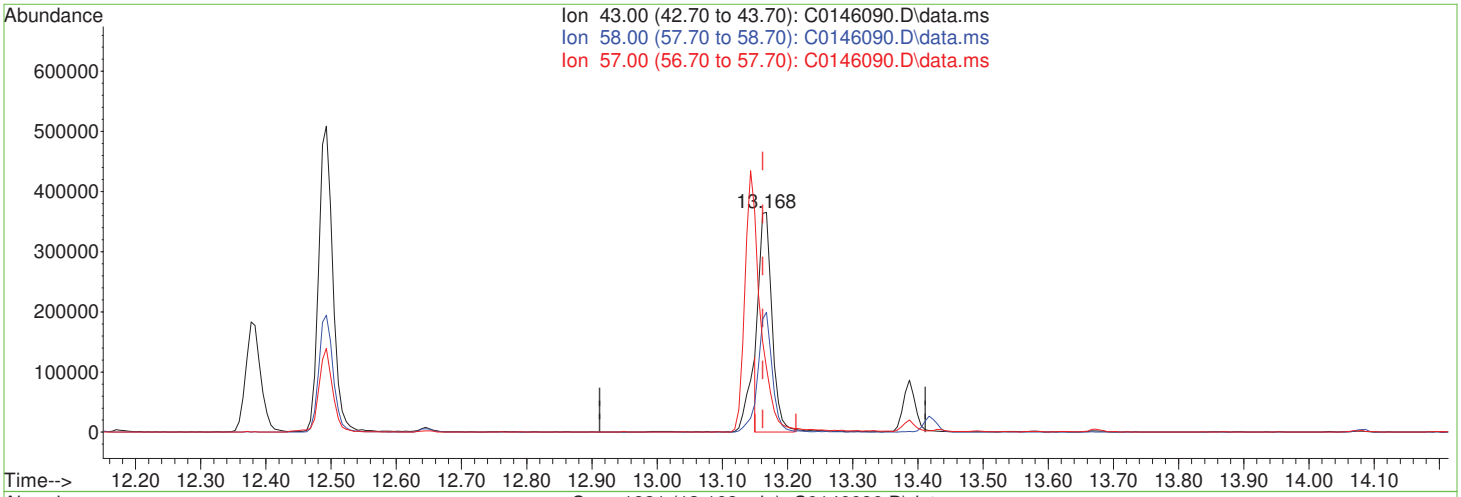
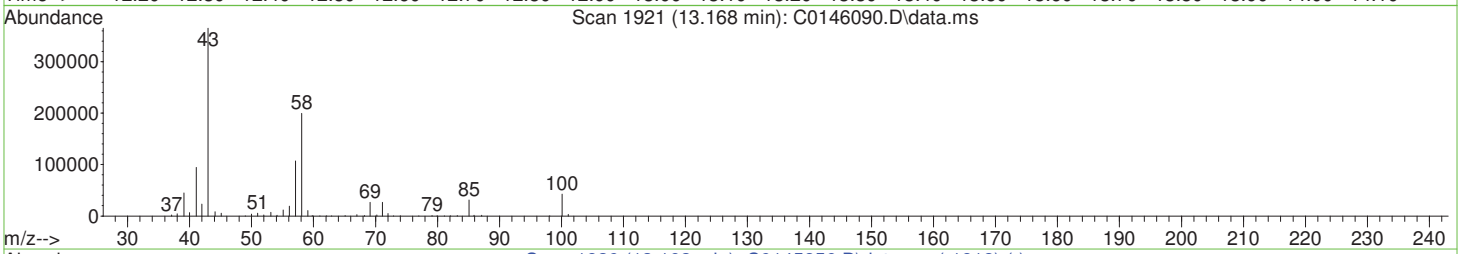
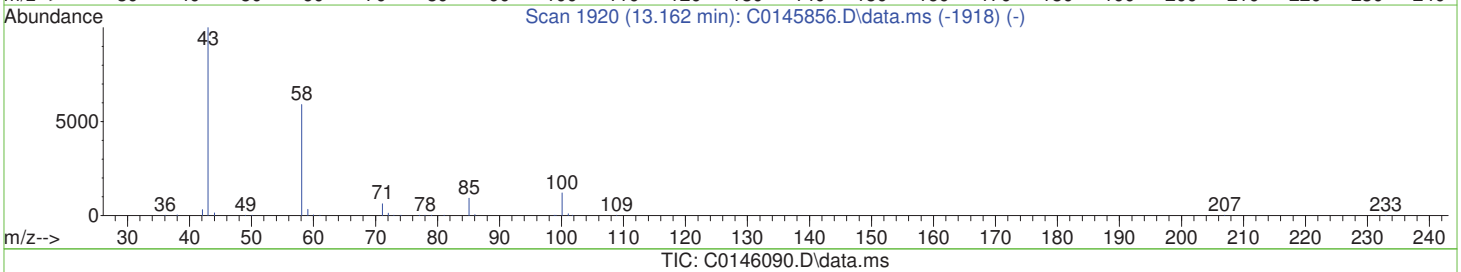






TIC: C0146090.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 93.60ug/L m

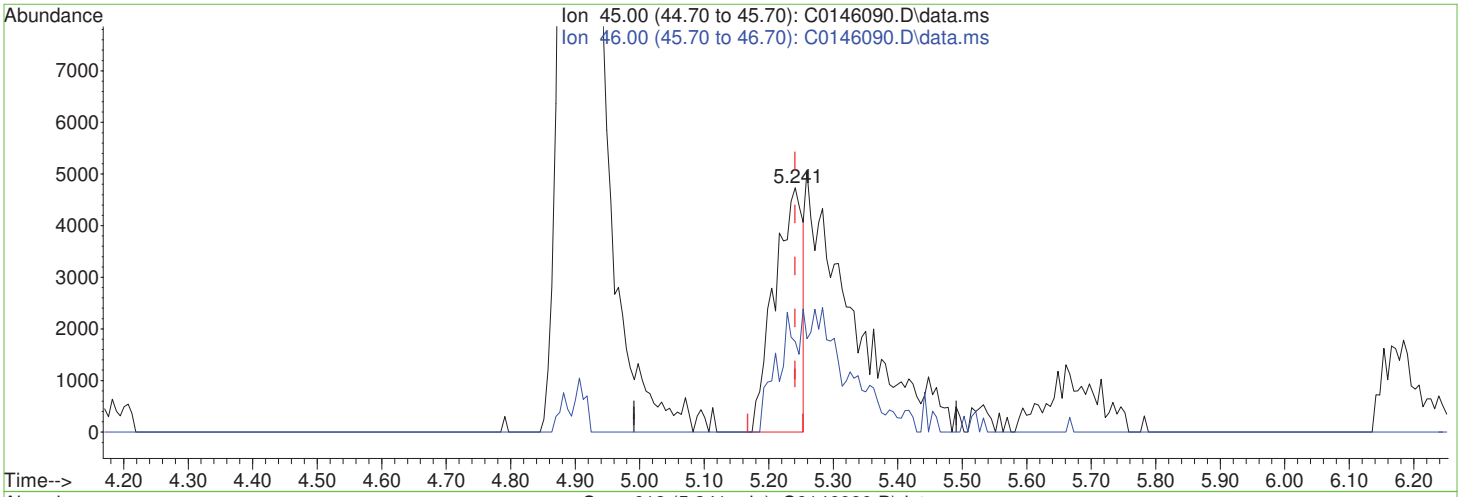
response 514026

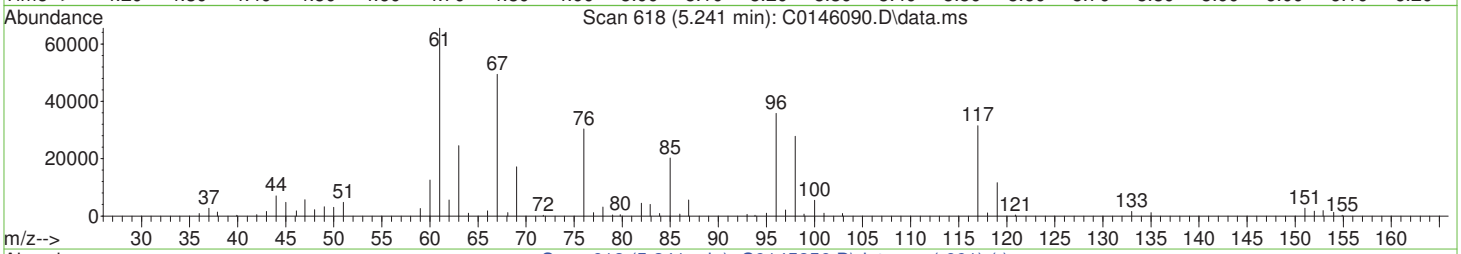
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	54.65
57.00	46.70	29.32
0.00	0.00	0.00

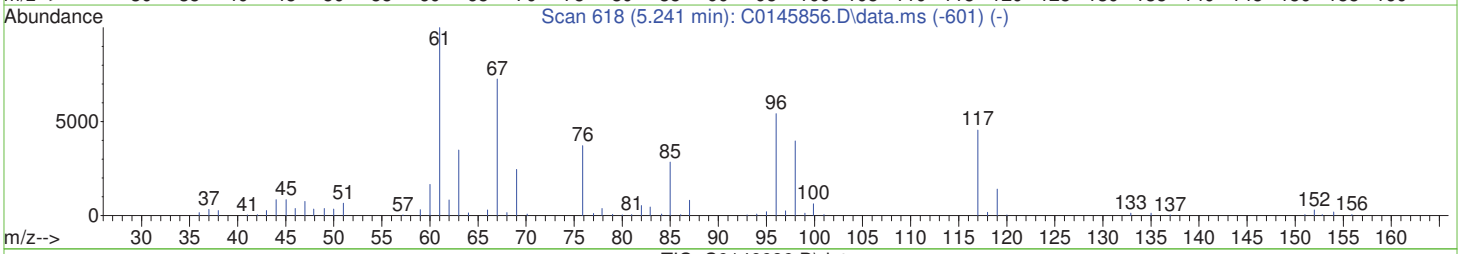
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146090.D
Acq On : 5 Jan 2021 7:12 pm
Operator : SHANICAO
Sample : FA82063-1MSD,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 05 23:01:55 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146090.D\data.ms

(109) Ethanol

5.241min (0.000) 207.84ug/L

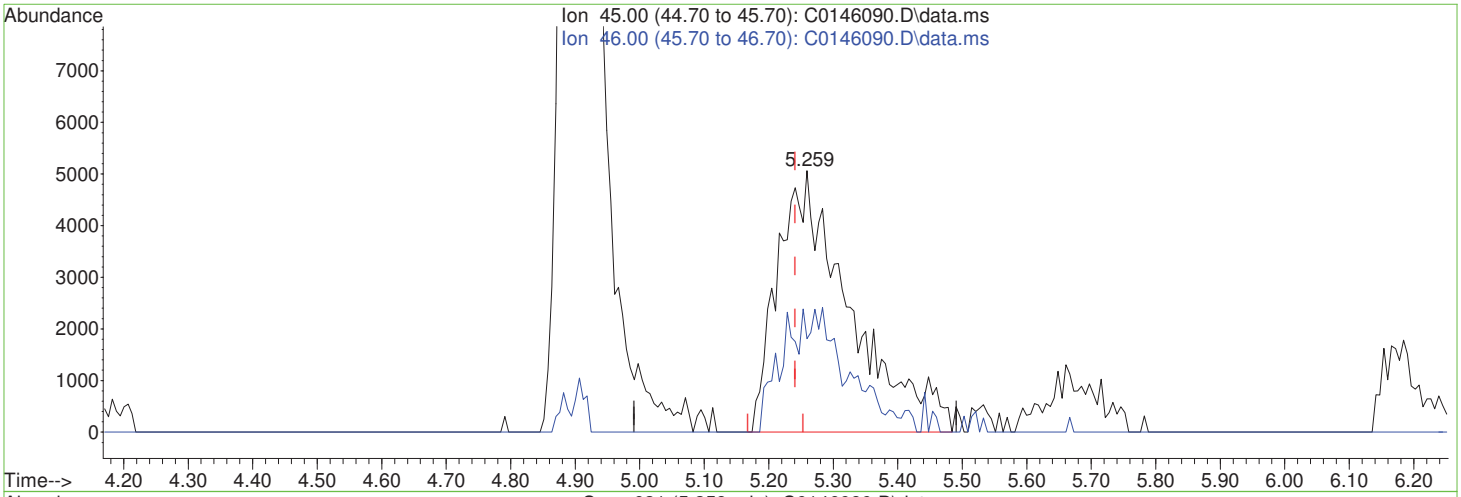
response 14316

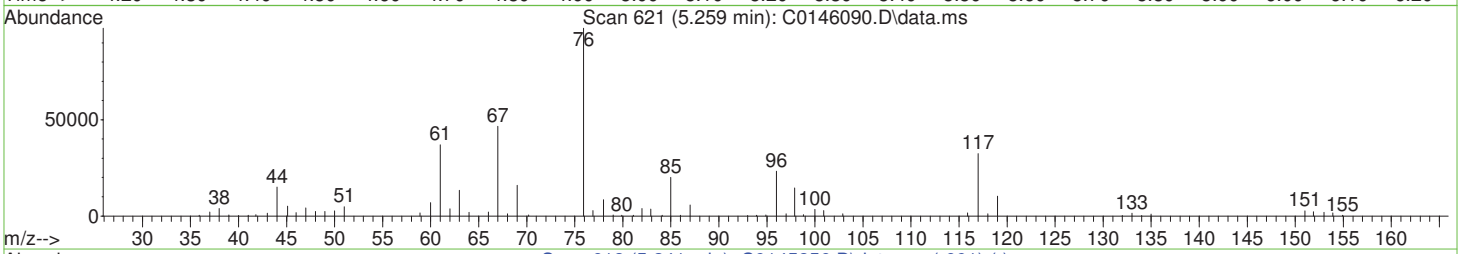
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	37.05
0.00	0.00	0.00
0.00	0.00	0.00

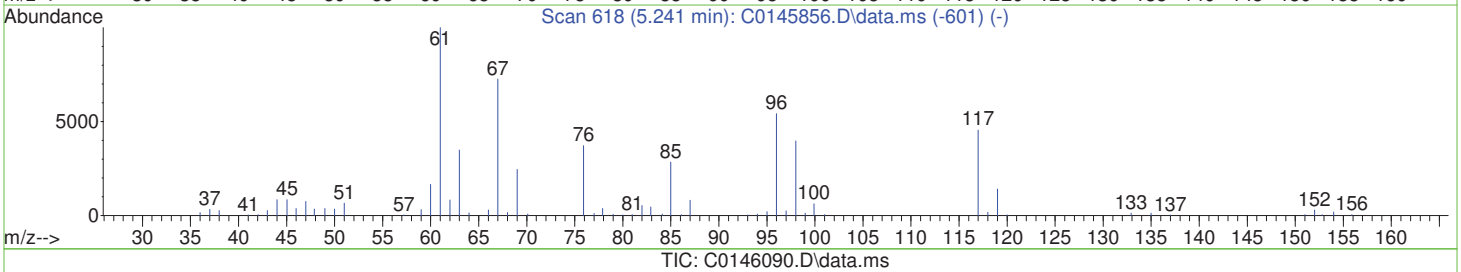
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146090.D
Acq On : 5 Jan 2021 7:12 pm
Operator : SHANICAO
Sample : FA82063-1MSD,100X
Misc : MS48072,VC5867,,,,,100
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 05 23:01:55 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146090.D\data.ms

(109) Ethanol

5.259min (+0.018) 572.38ug/L m

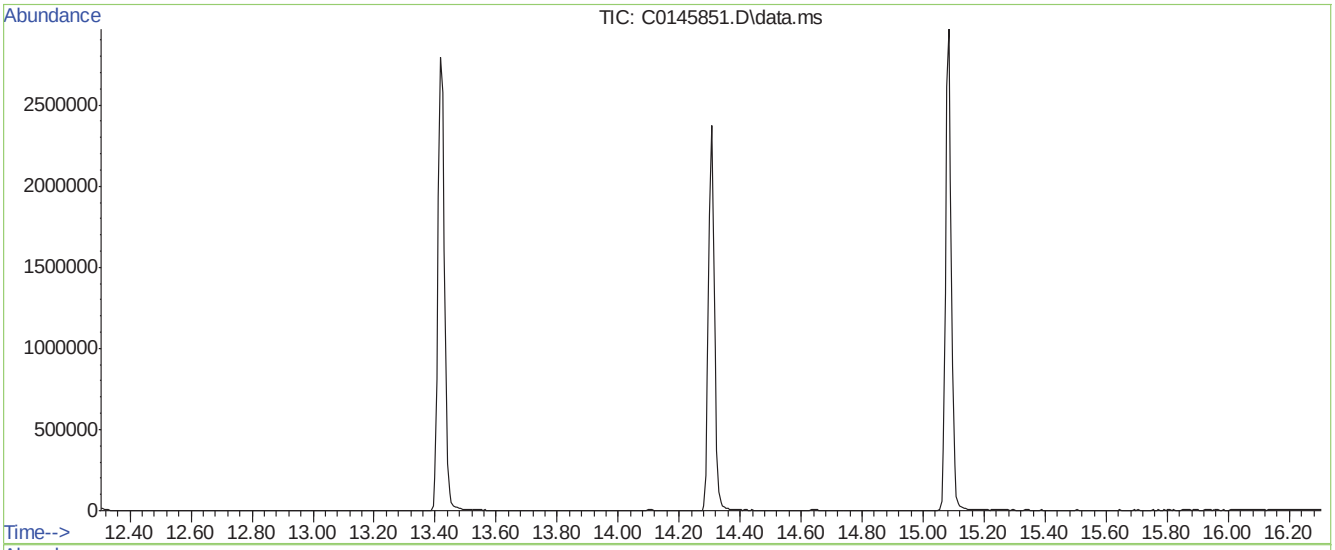
response 39425

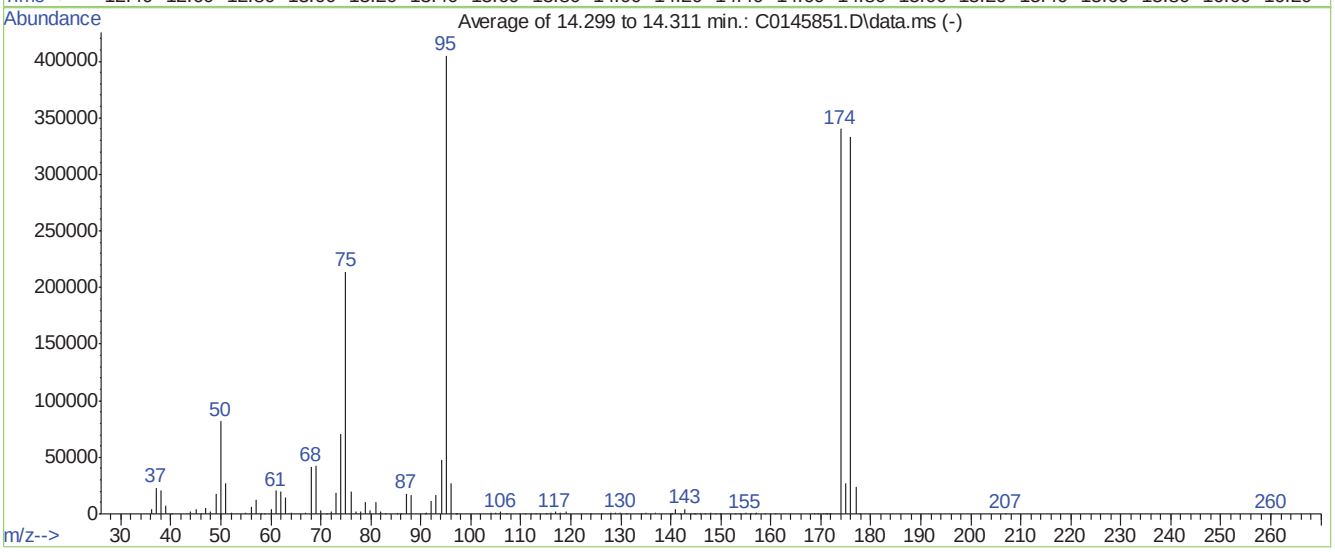
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	35.72
0.00	0.00	0.00
0.00	0.00	0.00

Methods: SW-846 8260B

Data File : C:\msdchem\2\DATA\122420\C0145851.D Vial: 2
Acq On : 24 Dec 2020 7:21 am Operator: SHANICAO
Sample : BFB Inst : MSVOA5
Misc : MS47991,VC5857,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B





AutoFind: Scans 2107, 2108, 2109; Background Corrected with Scan 2100

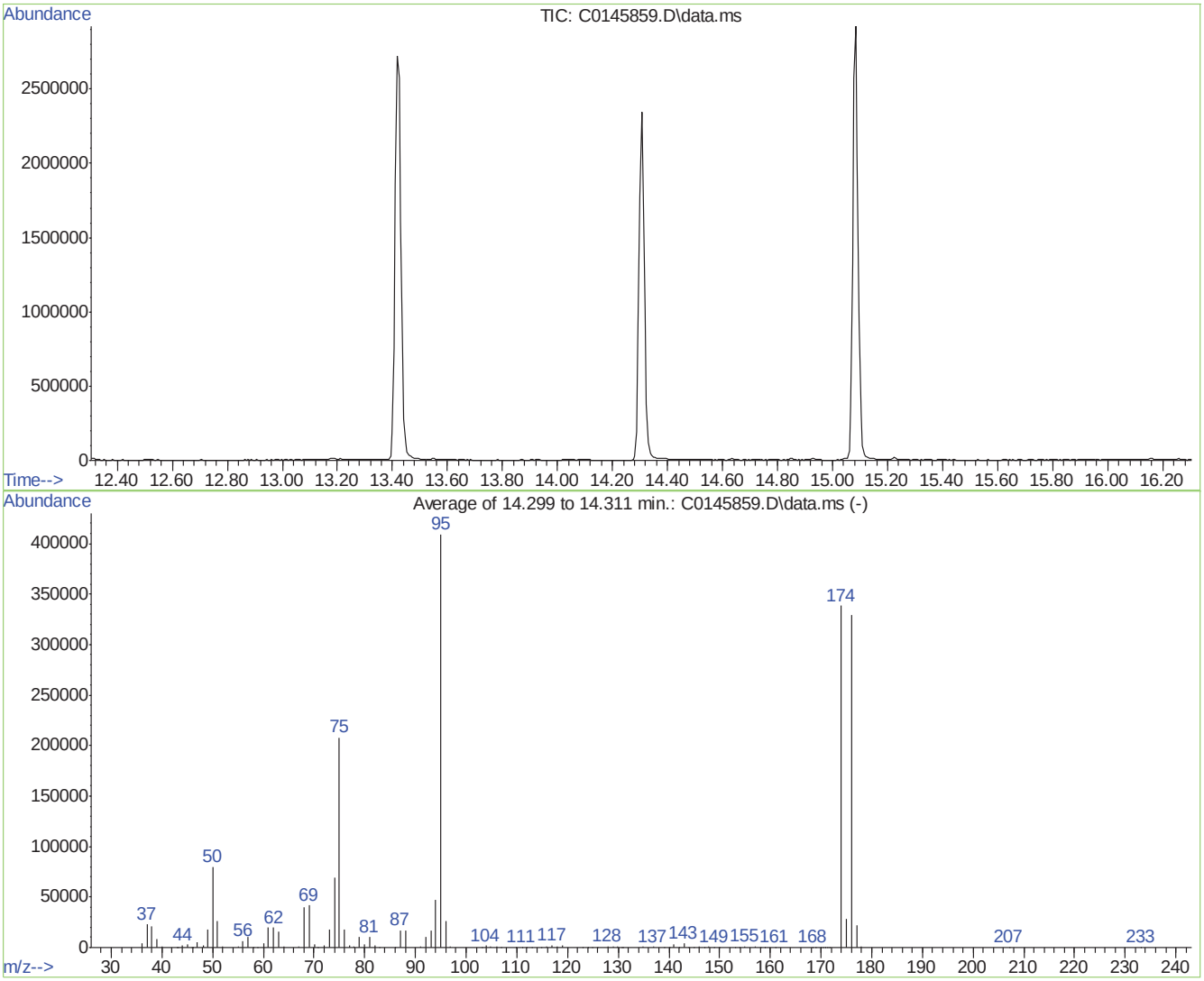
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.2	81779	PASS
75	95	30	60	52.8	213995	PASS
95	95	100	100	100.0	405163	PASS
96	95	5	9	6.7	27157	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	83.9	340032	PASS
175	174	5	9	8.0	27171	PASS
176	174	95	101	98.0	333291	PASS
177	176	5	9	7.1	23749	PASS

C0145851.D RTXVMS122420.M Thu Dec 24 12:36:23 2020

Methods: SW-846 8260B

Data File : C:\msdchem\2\DATA\122420\C0145859.D Vial: 10
Acq On : 24 Dec 2020 10:52 am Operator: SHANICAO
Sample : BFB Inst : MSVOA5
Misc : MS47991,VC5857,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\2\METHODS\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B



AutoFind: Scans 2107, 2108, 2109; Background Corrected with Scan 2100

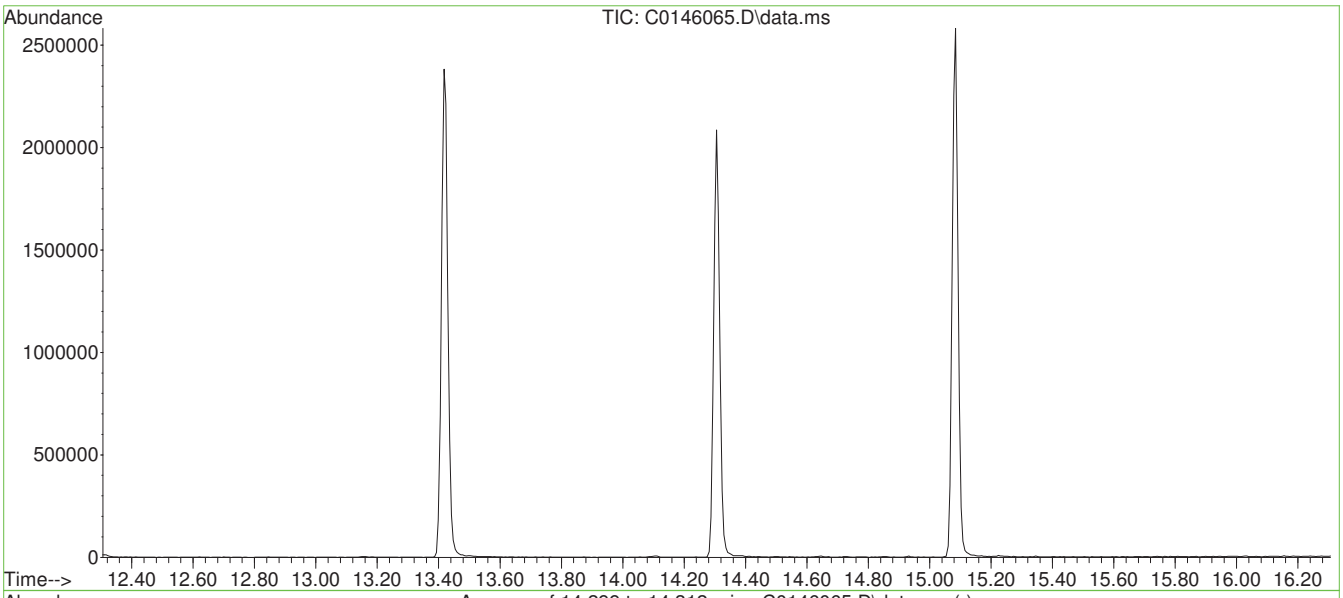
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	80160	PASS
75	95	30	60	50.7	207701	PASS
95	95	100	100	100.0	409429	PASS
96	95	5	9	6.3	25979	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	82.7	338624	PASS
175	174	5	9	8.3	28003	PASS
176	174	95	101	97.3	329579	PASS
177	176	5	9	6.8	22541	PASS

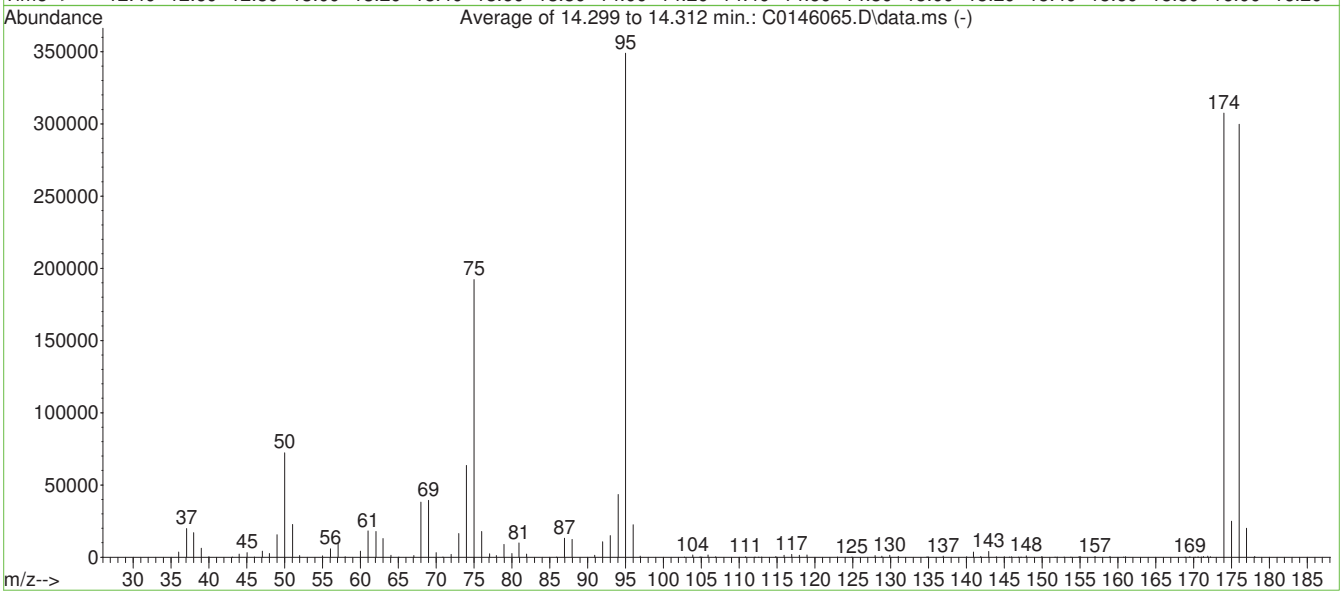
C0145859.D RTXVMS122420.M Thu Dec 24 12:36:17 2020

Methods: SW-846 8260B

Data File : C:\msdchem\1\data\jo...021\vc5867\C0146065.D Vial: 2
Acq On : 5 Jan 2021 7:54 am Operator: SHANICAO
Sample : BFB Inst : MSVOA5
Misc : MS48071,VC5867,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\methods\RTXVMS122420.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B





AutoFind: Scans 2107, 2108, 2109; Background Corrected with Scan 2100

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.7	72285	PASS
75	95	30	60	55.1	192213	PASS
95	95	100	100	100.0	348885	PASS
96	95	5	9	6.4	22371	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	88.1	307435	PASS
175	174	5	9	8.1	24821	PASS
176	174	95	101	97.5	299755	PASS
177	176	5	9	6.7	20043	PASS

C0146065.D RTXVMS122420.M Tue Jan 05 23:02:25 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:14:04 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1797518	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1276521	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	646311	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.774	65	245856	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	440460	46.57	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 93.14%			
47) 1,2-Dichloroethane-d4	10.175	65	573988	49.75	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.50%			
58) Toluene-d8	12.128	98	1766005	54.28	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 108.56%			
80) 4-Bromofluorobenzene	14.306	174	542145	51.17	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	9375	0.83	ug/L	73
3) Chloromethane	3.197	50	16891m	1.34	ug/L	
4) 1,3-butadiene	3.367	39	9681	0.95	ug/L	96
5) Vinyl Chloride	3.355	62	9500	0.75	ug/L	78
6) Bromomethane	3.921	94	8492m	1.80	ug/L	
7) Chloroethane	4.122	64	5400	0.86	ug/L	94
8) Trichlorofluoromethane	4.371	101	11604	0.86	ug/L	95
9) Ethyl Ether	4.919	59	8113m	0.89	ug/L	
10) 1,2-Dichlorotrifluoroe...	5.259	67	8864	0.82	ug/L	92
11) 1,1-Dichloroethene	5.235	61	12081m	0.88	ug/L	
12) Freon 113	5.314	101	7222m	0.81	ug/L	
13) Carbon Disulfide	5.290	76	27170	0.93	ug/L	85
14) Iodomethane	5.484	142	6103m	0.71	ug/L	
15) Acrolein	5.849	56	8372m	4.01	ug/L	
16) Allyl chloride	6.087	41	15485m	0.93	ug/L	
17) Methylene Chloride	6.269	49	15028	1.02	ug/L	84
18) Acetone	6.372	43	14405m	4.78	ug/L	
19) Methyl acetate	6.579	43	29969	3.61	ug/L	88
20) trans-1,2-Dichloroethene	6.549	61	11466	0.85	ug/L	76
21) Hexane	6.689	56	7916	0.91	ug/L #	81
22) Methyl Tert Butyl Ether	6.731	73	30287	0.94	ug/L	96
23) Acetonitrile	7.242	41	12460m	8.31	ug/L	
24) Di-isopropyl ether	7.425	45	32790	0.89	ug/L	94
25) Chloroprene	7.620	53	11100	0.72	ug/L	88
26) 1,1-Dichloroethane	7.644	63	14663	0.83	ug/L	97
27) Acrylonitrile	7.778	52	9021	2.81	ug/L #	71
28) ETBE	8.100	59	29199	0.87	ug/L	84
29) Vinyl acetate	8.137	43	102287	4.34	ug/L	98
30) cis-1,2-Dichloroethene	8.690	96	7907	0.83	ug/L	79
31) 2,2-Dichloropropane	8.855	77	12431	0.80	ug/L	81
32) Bromochloromethane	9.043	128	3695	0.81	ug/L #	76
33) Cyclohexane	9.031	56	16022	0.88	ug/L	85
34) Chloroform	9.177	83	13395	0.82	ug/L	82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:14:04 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
35) Ethyl acetate	9.378	43	46612	3.96 ug/L	97
36) Tetrahydrofuran	9.414	42	4788	1.23 ug/L #	64
38) Carbon Tetrachloride	9.372	117	9685	0.82 ug/L	92
39) 1,1,1-Trichloroethane	9.469	97	11398	0.80 ug/L	89
40) 2-Butanone	9.652	43	23528	4.73 ug/L	68
41) 1,1-Dichloropropene	9.670	75	11219	0.79 ug/L	91
42) tert-Butyl formate	9.816	59	45540	4.25 ug/L	89
43) Propionitrile	10.041	54	12947	8.77 ug/L	94
44) Methacrylonitrile	10.065	41	61888	9.26 ug/L	92
45) Benzene	10.010	78	34530	0.90 ug/L	94
46) TAME	10.150	73	26435	0.84 ug/L	93
48) 1,2-Dichloroethane	10.266	62	10064	0.76 ug/L	85
49) Trichloroethene	10.734	95	9206	0.92 ug/L	87
50) Methylcyclohexane	10.716	83	13355	0.82 ug/L	93
51) Dibromomethane	11.209	93	5053	0.88 ug/L	82
52) 1,2-Dichloropropane	11.294	63	9098	0.82 ug/L	91
53) Bromodichloromethane	11.367	83	10200	0.81 ug/L	93
54) Methyl methacrylate	11.519	41	7269	0.73 ug/L	92
55) 2-Chloroethyl vinyl ether	11.909	63	30896	4.24 ug/L	95
56) cis-1,3-Dichloropropene	11.969	75	15137	0.82 ug/L	96
59) Toluene	12.182	91	40509	1.15 ug/L	94
60) 2-Nitropropane	12.383	41	13386	5.12 ug/L	93
61) 4-Methyl-2-pentanone	12.499	43	50602	5.85 ug/L	93
62) trans-1,3-Dichloropropene	12.547	75	12024	0.92 ug/L	93
63) Tetrachloroethene	12.529	166	8083	0.98 ug/L	96
64) Ethyl methacrylate	12.657	69	11323	1.00 ug/L	92
65) 1,1,2-Trichloroethane	12.681	83	6052	0.93 ug/L	95
66) Dibromochloromethane	12.839	129	7421	0.93 ug/L	96
67) 1,3-Dichloropropane	12.906	76	14418	1.01 ug/L	96
68) 1,2-Dibromoethane	13.040	107	6761	0.90 ug/L	88
69) 2-hexanone	13.174	43	37730	6.04 ug/L	90
70) 1-Chlorohexane	13.393	91	11836	1.02 ug/L	92
71) Ethylbenzene	13.436	91	41562	1.13 ug/L	92
72) Chlorobenzene	13.429	112	23057	1.11 ug/L	77
73) 1,1,1,2-Tetrachloroethane	13.484	131	7609	1.02 ug/L	80
74) m,p-Xylene	13.545	91	61335	2.28 ug/L	94
75) o-Xylene	13.867	91	31530	1.07 ug/L	94
76) Styrene	13.910	104	23518	0.99 ug/L	88
77) Bromoform	13.953	173	4972	0.91 ug/L	94
78) Isopropylbenzene	14.080	105	35194	1.02 ug/L	95
81) cis-1,4-Dichloro-2-butene	14.342	53	3563	1.20 ug/L #	70
82) n-Propylbenzene	14.379	91	43659	1.15 ug/L	95
83) Bromobenzene	14.397	156	8615	1.07 ug/L	91
84) 1,1,2,2-Tetrachloroethane	14.433	83	10322	1.14 ug/L	92
85) 1,3,5-Trimethylbenzene	14.494	105	28788	1.15 ug/L	96
86) 2-Chlorotoluene	14.512	91	30961	1.24 ug/L	97
87) trans-1,4-Dichloro-2-B...	14.549	53	3019	1.15 ug/L	95
88) 1,2,3-Trichloropropane	14.537	110	3200	1.24 ug/L	82
89) Cyclohexanone	14.598	55	2014	6.20 ug/L #	81
90) 4-Chlorotoluene	14.622	91	26057	1.13 ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:14:04 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

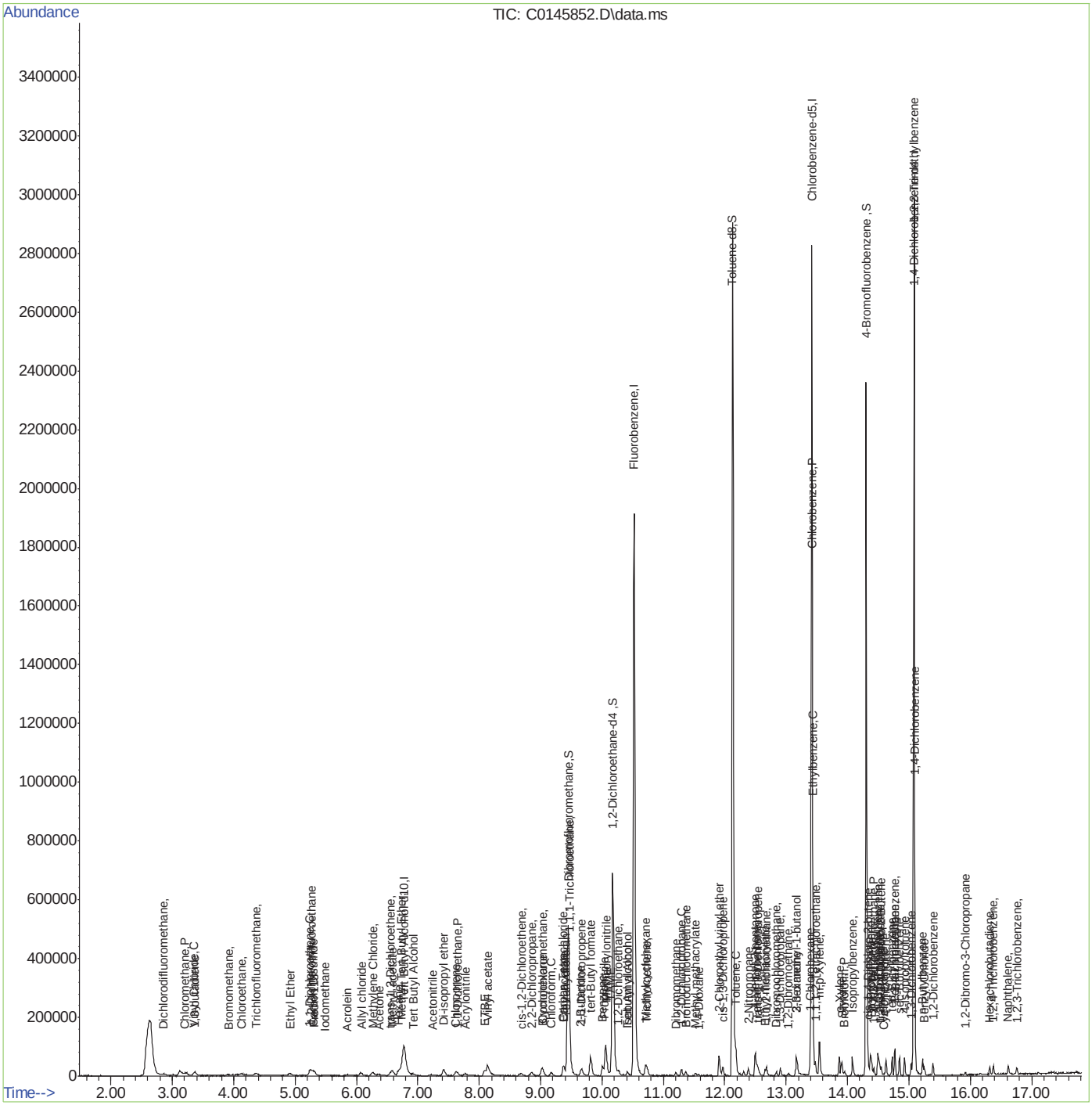
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
91)	tert-Butylbenzene	14.725	91	17384	1.20	ug/L		98
93)	1,2,4-Trimethylbenzene	14.774	105	27360	1.08	ug/L		93
94)	Pentachloroethane	14.774	167	4497	0.93	ug/L	#	69
95)	sec-Butylbenzene	14.847	105	34442	1.15	ug/L		99
96)	4-Isopropyltoluene	14.932	119	29379	1.13	ug/L		97
97)	1,3-Dichlorobenzene	15.042	146	15798	1.13	ug/L		94
98)	1,2,3-Trimethylbenzene	15.078	105	35330	1.17	ug/L		98
99)	1,4-Dichlorobenzene	15.096	146	16568m	1.15	ug/L		
100)	n-Butylbenzene	15.224	92	15537	1.08	ug/L		94
101)	Benzyl Chloride	15.255	126	3310	0.90	ug/L		99
102)	1,2-Dichlorobenzene	15.394	146	14357	1.08	ug/L		90
103)	1,2-Dibromo-3-Chloropr...	15.924	75	2327	1.36	ug/L		81
104)	Hexachlorobutadiene	16.313	225	4147	1.09	ug/L		86
105)	1,2,4-Trichlorobenzene	16.374	180	7368	0.95	ug/L		93
106)	Naphthalene	16.617	128	19597	1.12	ug/L		96
107)	1,2,3-Trichlorobenzene	16.757	180	6801	1.06	ug/L		95
110)	Tert Butyl Alcohol	6.926	59	12652m	12.25	ug/L		
111)	Isobutyl alcohol	10.418	43	9069m	27.13	ug/L		
112)	Tert Amyl Alcohol	10.412	59	8928	12.52	ug/L		89
113)	1,4-Dioxane	11.580	88	1384	15.46	ug/L	#	62
114)	3,3-dimethyl-1-butanol	13.168	57	24890	37.06	ug/L	#	63

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:14:04 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

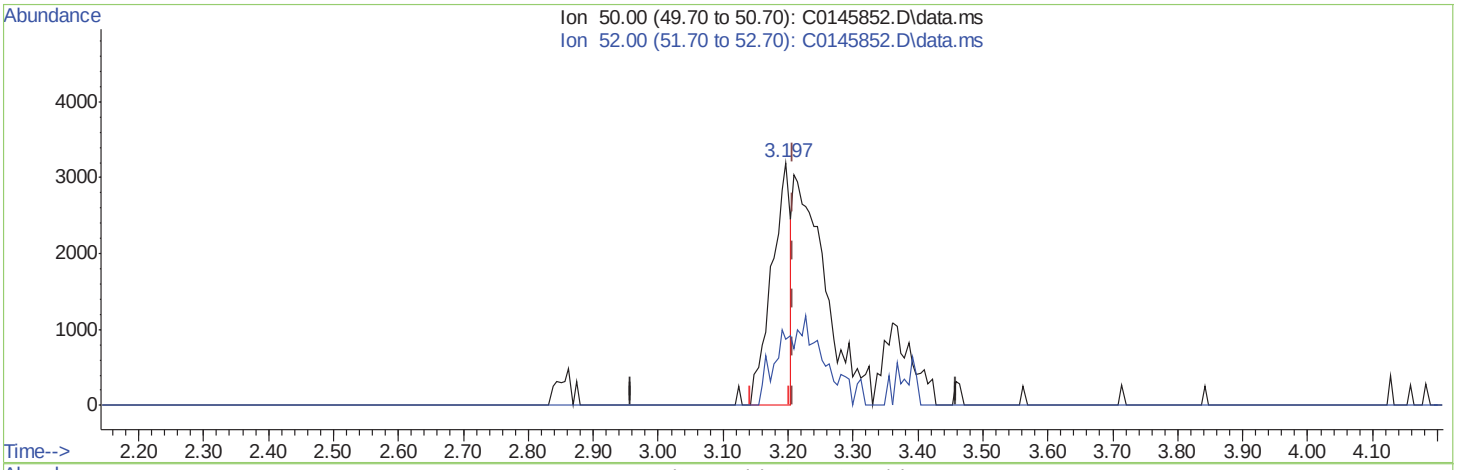
Sample Number: VC5857-IC5857
Lab FileID: C0145852.D
Injection Time: 12/24/20 07:47
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

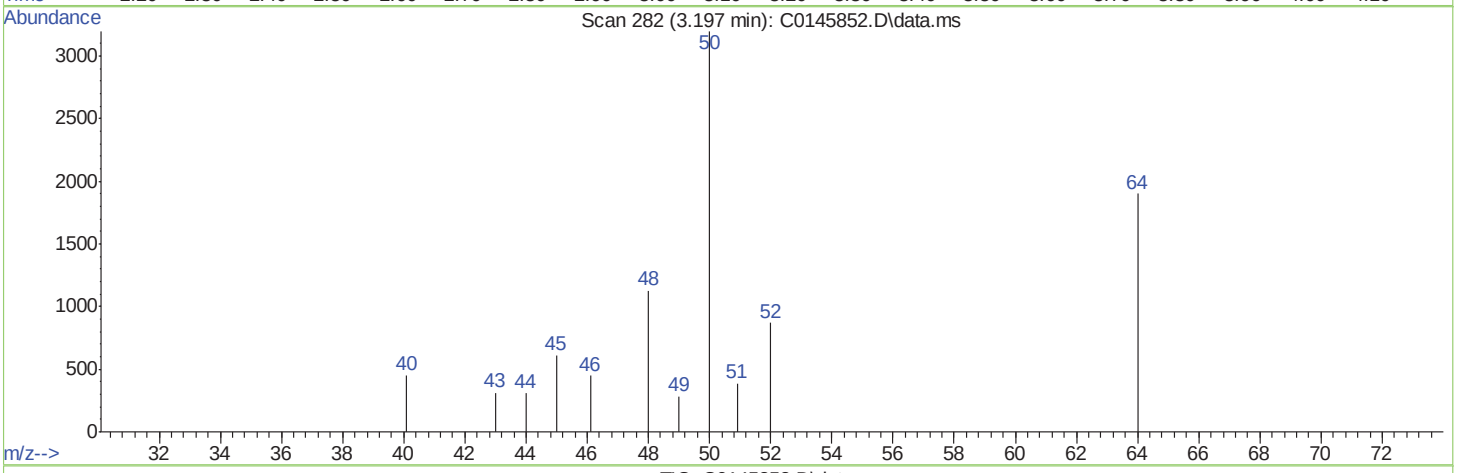
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.20	Split peak
Methyl Bromide	74-83-9		3.92	Split peak
Ethyl Ether	60-29-7		4.92	Split peak
1,1-Dichloroethylene	75-35-4		5.23	Split peak
Freon 113	76-13-1		5.31	Split peak
Methyl Iodide	74-88-4		5.48	Split peak
Acrolein	107-02-8		5.85	Split peak
Allyl Chloride	107-05-1		6.09	Split peak
Acetone	67-64-1		6.37	Split peak
Tert-Butyl Alcohol	75-65-0		6.93	Split peak
Acetonitrile	75-05-8		7.24	Split peak
Isobutyl Alcohol	78-83-1		10.42	Missed peak
1,4-Dichlorobenzene	106-46-7		15.10	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(3) Chloromethane (P)

3.197min (-0.012) 0.50ug/L

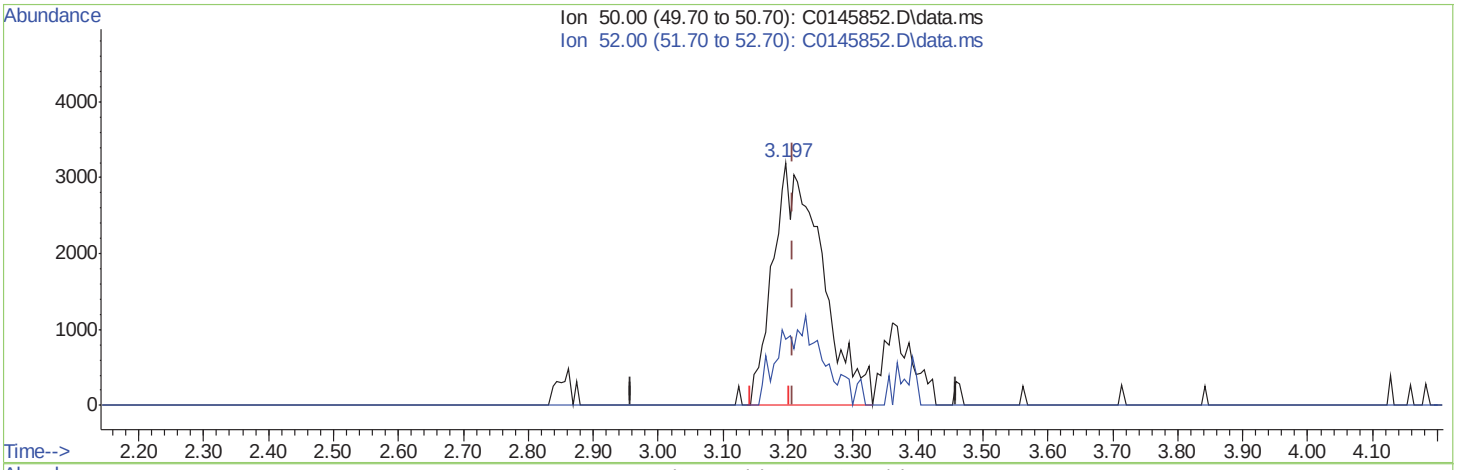
response 6279

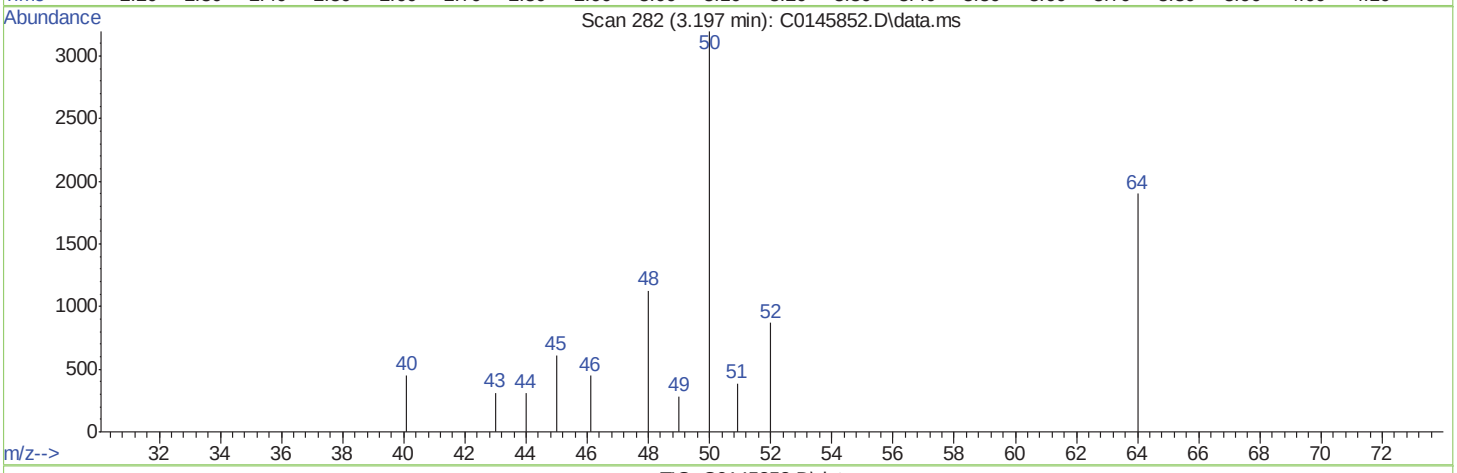
Ion	Exp%	Act%
50.00	100	100
52.00	31.00	27.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(3) Chloromethane (P)

3.197min (-0.012) 1.34ug/L m

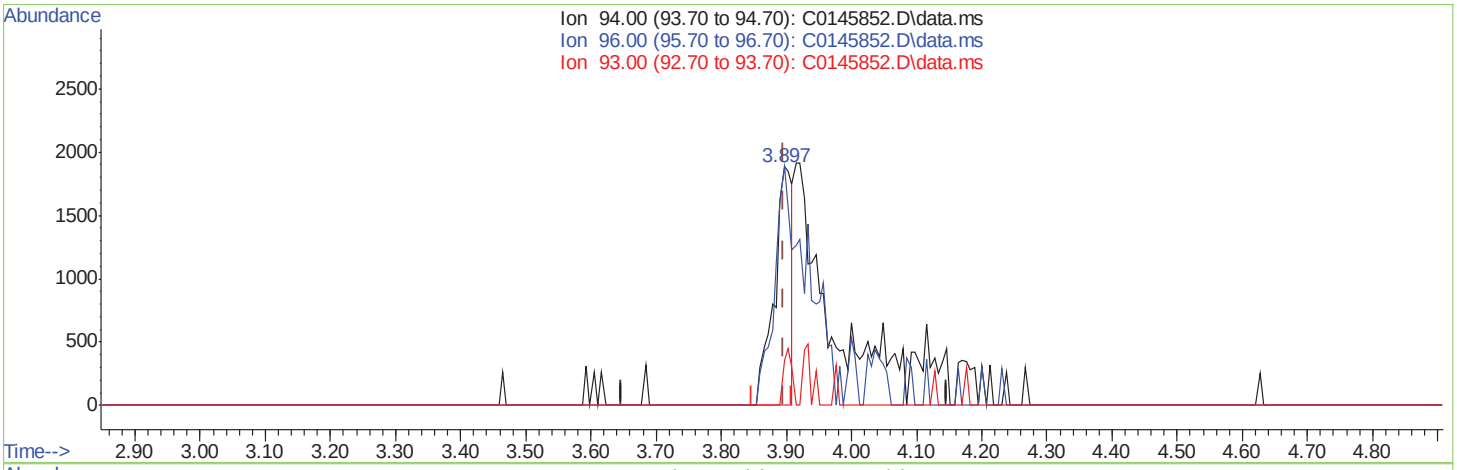
response 16891

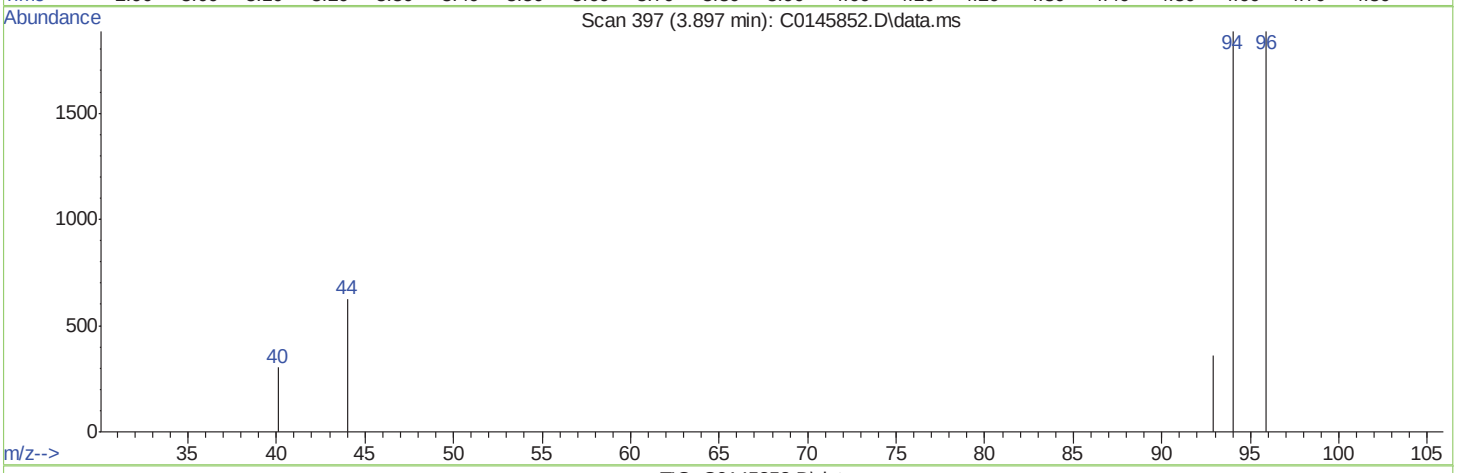
Ion	Exp%	Act%
50.00	100	100
52.00	31.00	27.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(6) Bromomethane ( )

3.897min (-0.000) 0.77ug/L

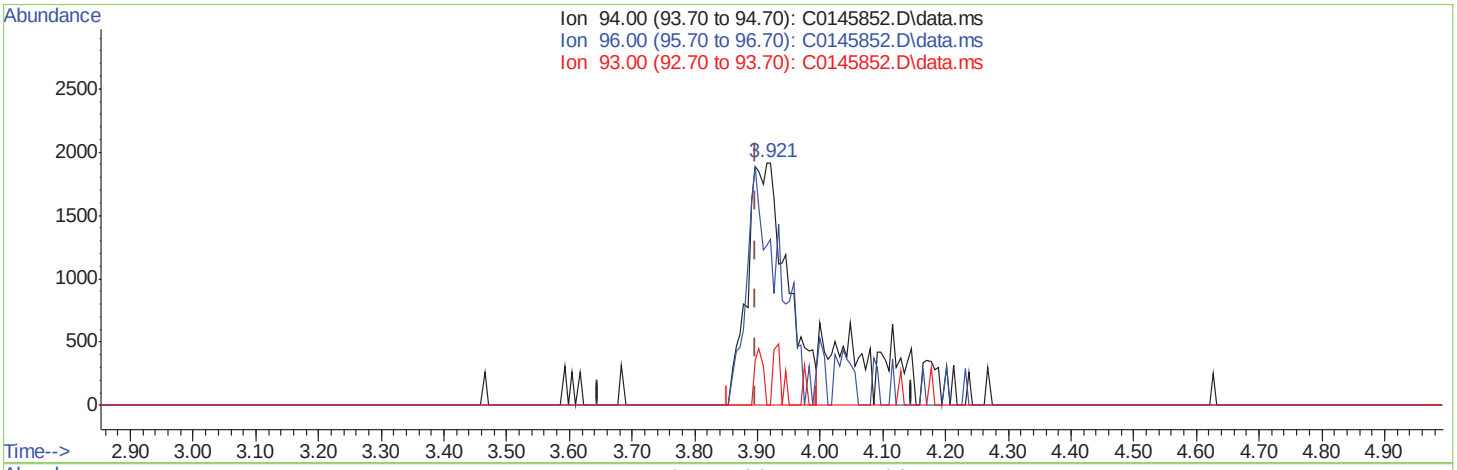
response 3651

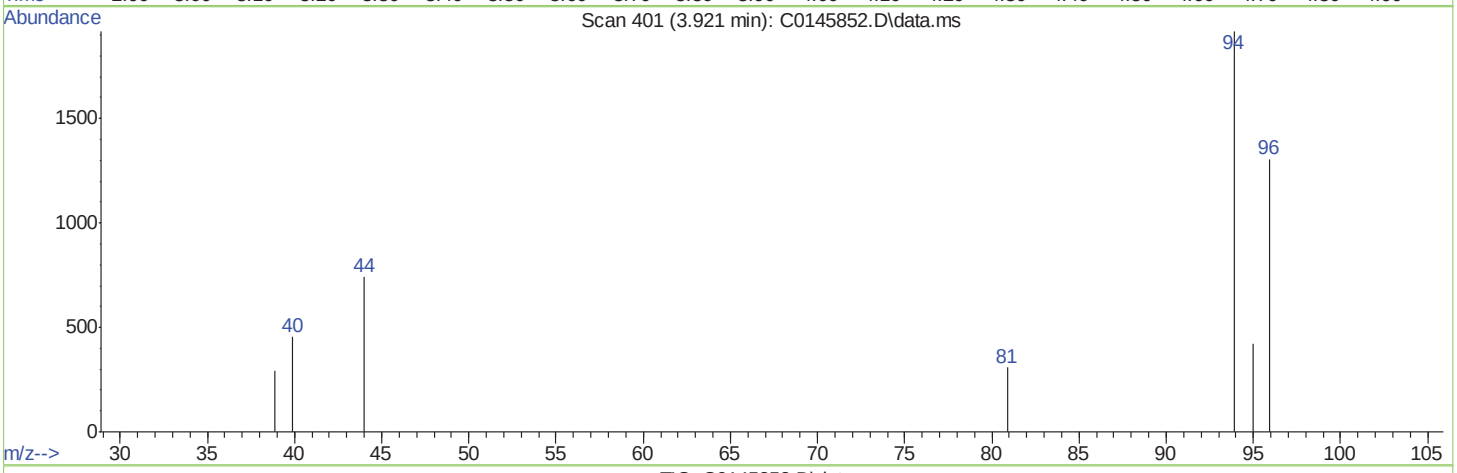
Ion	Exp%	Act%
94.00	100	100
96.00	90.30	99.89
93.00	21.40	19.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(6) Bromomethane ( )

3.921min (+0.024) 1.80ug/L m

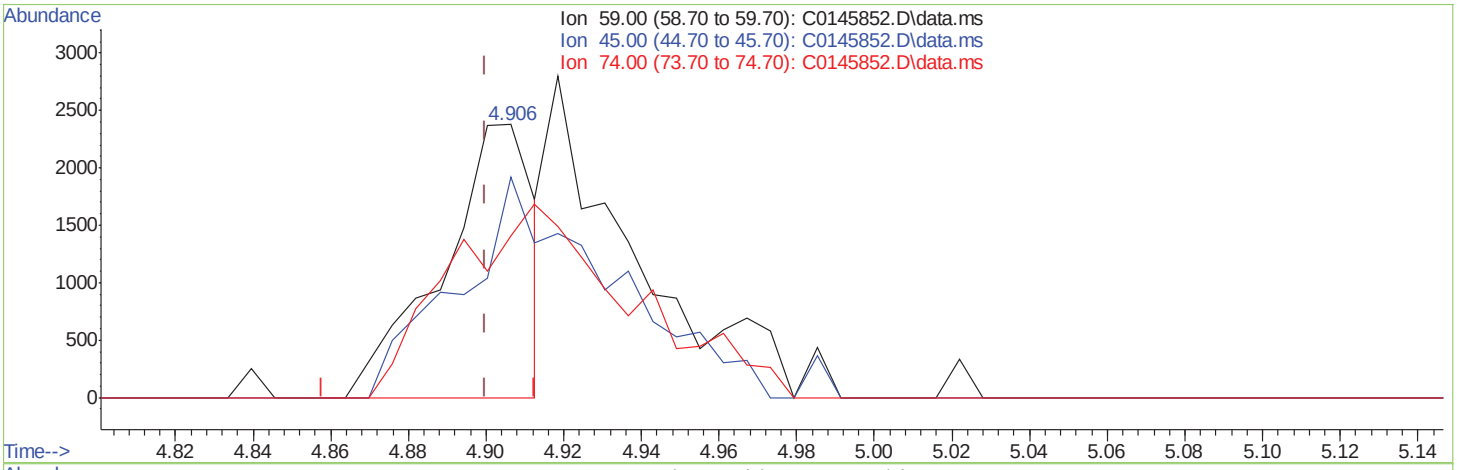
response 8492

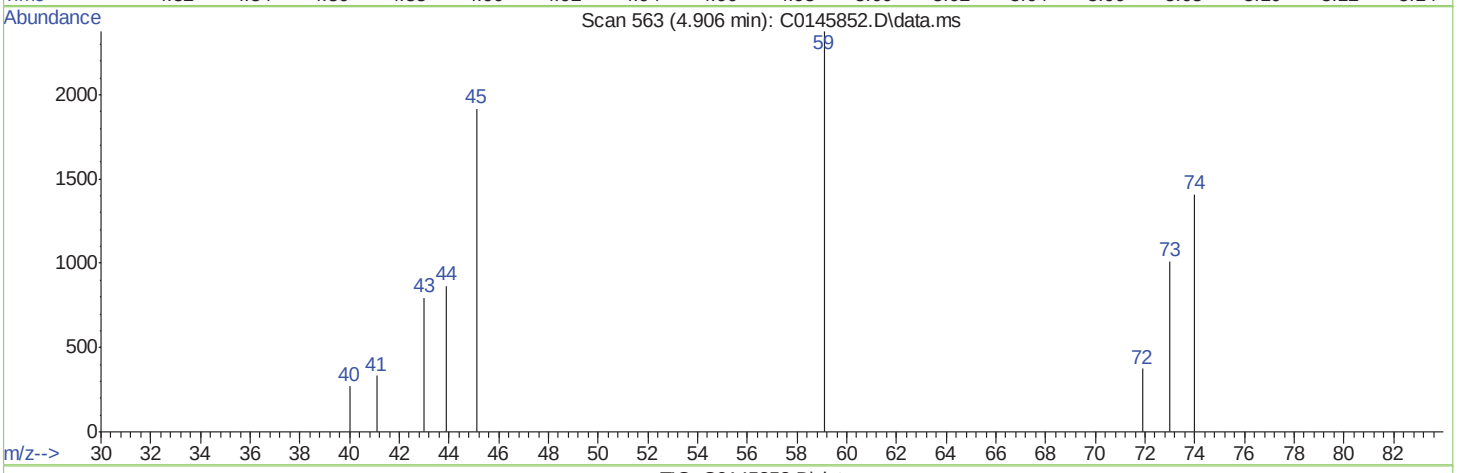
Ion	Exp%	Act%
94.00	100	100
96.00	90.30	68.18
93.00	21.40	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(9) Ethyl Ether

4.906min (+0.006) 0.43ug/L

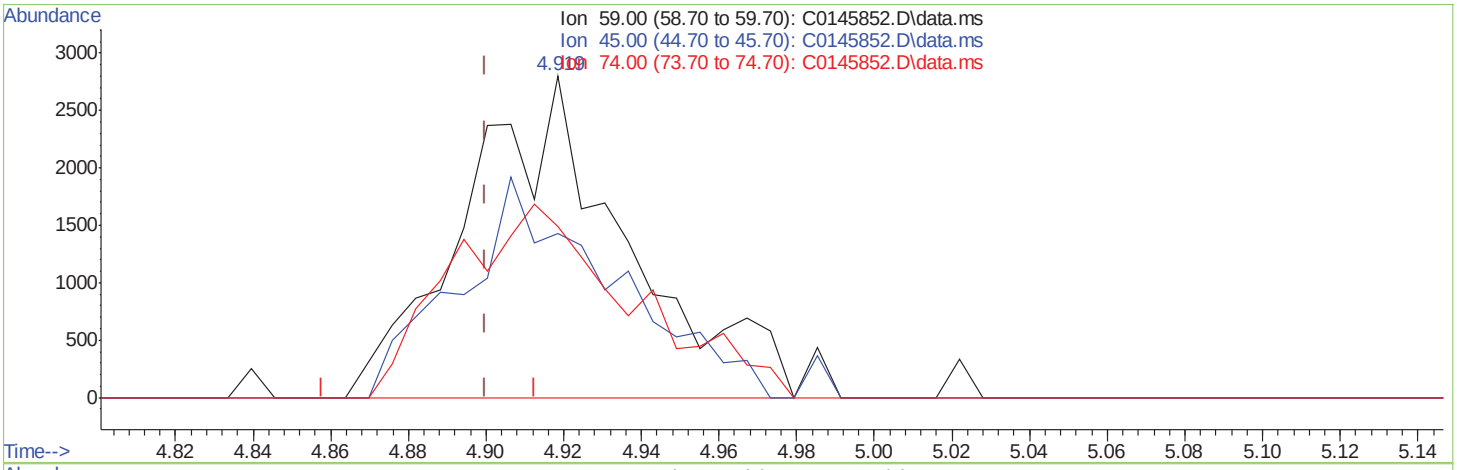
response 3903

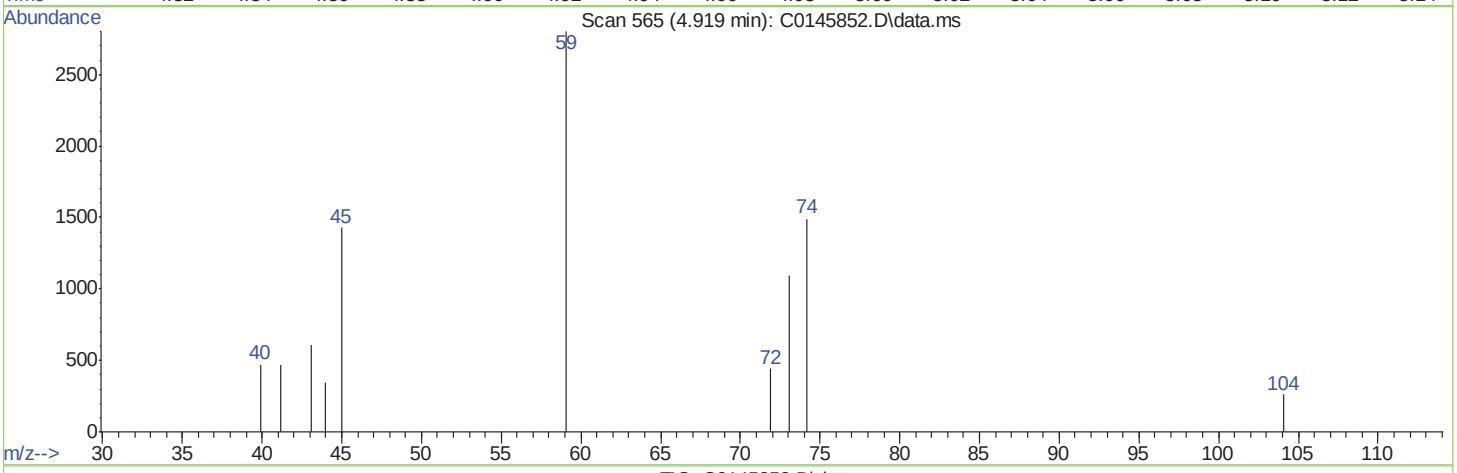
Ion	Exp%	Act%
59.00	100	100
45.00	75.40	80.76
74.00	71.10	59.33
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(9) Ethyl Ether

4.919min (+0.019) 0.89ug/L m

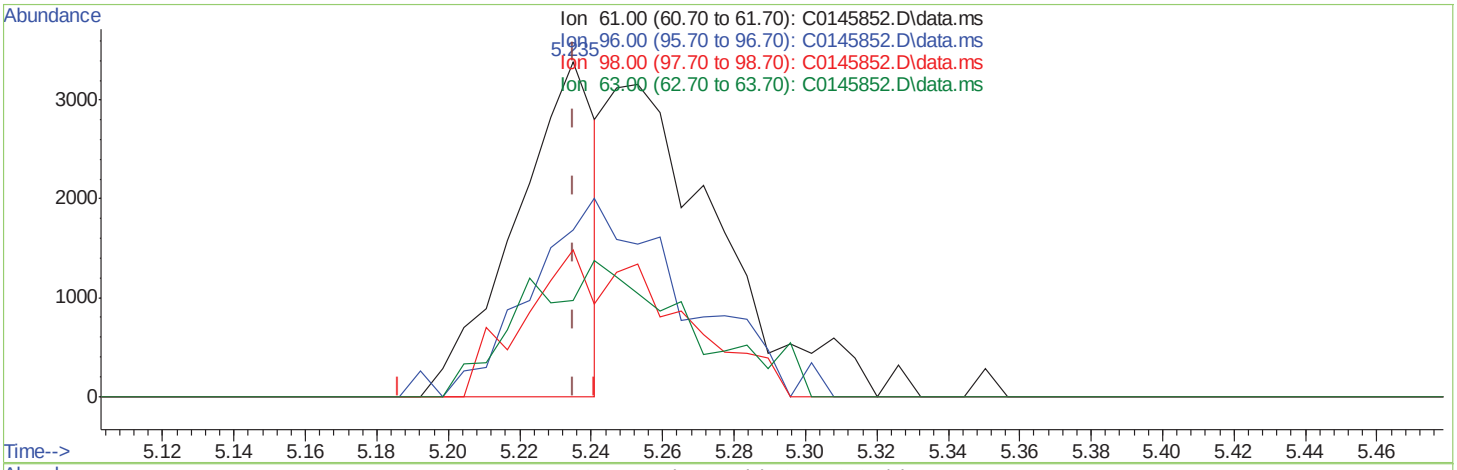
response 8113

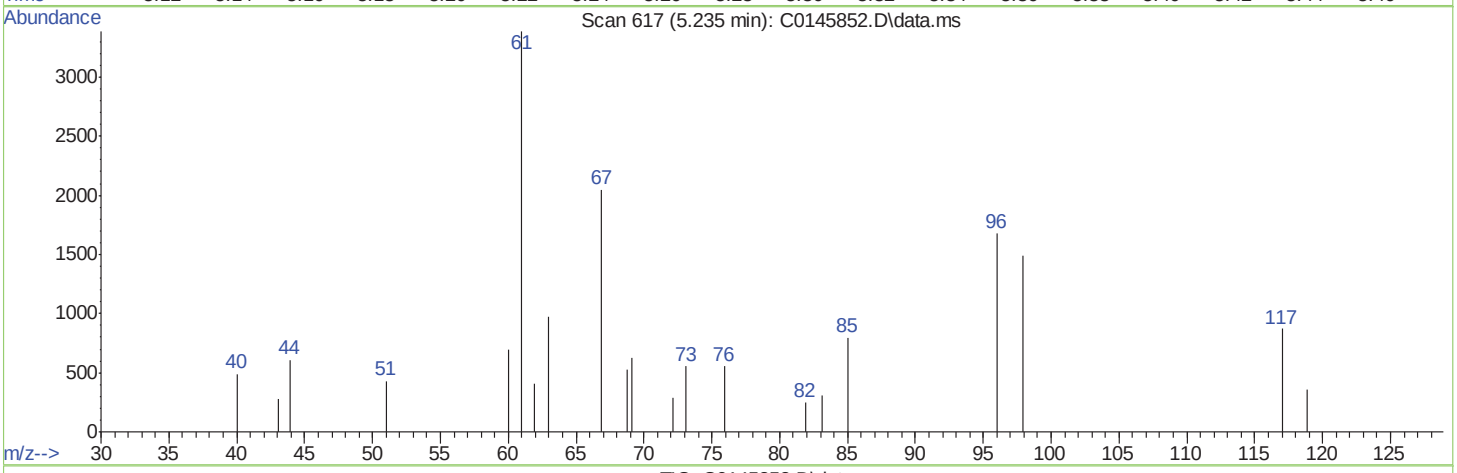
Ion	Exp%	Act%
59.00	100	100
45.00	75.40	50.95#
74.00	71.10	53.20
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(11) 1,1-Dichloroethene (C)

5.235min (-0.000) 0.39ug/L

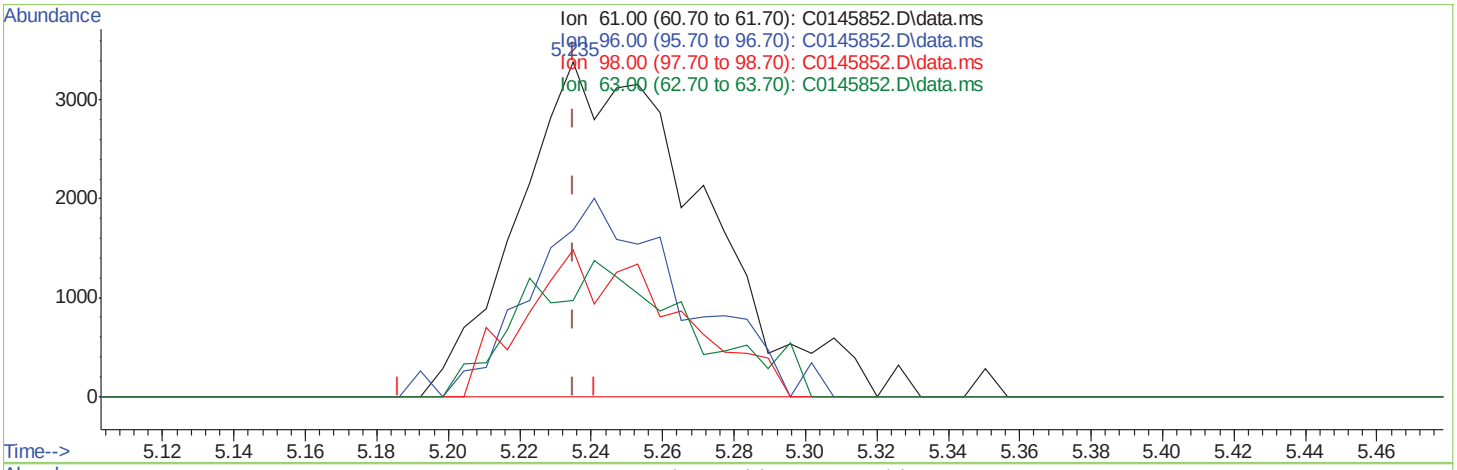
response 5334

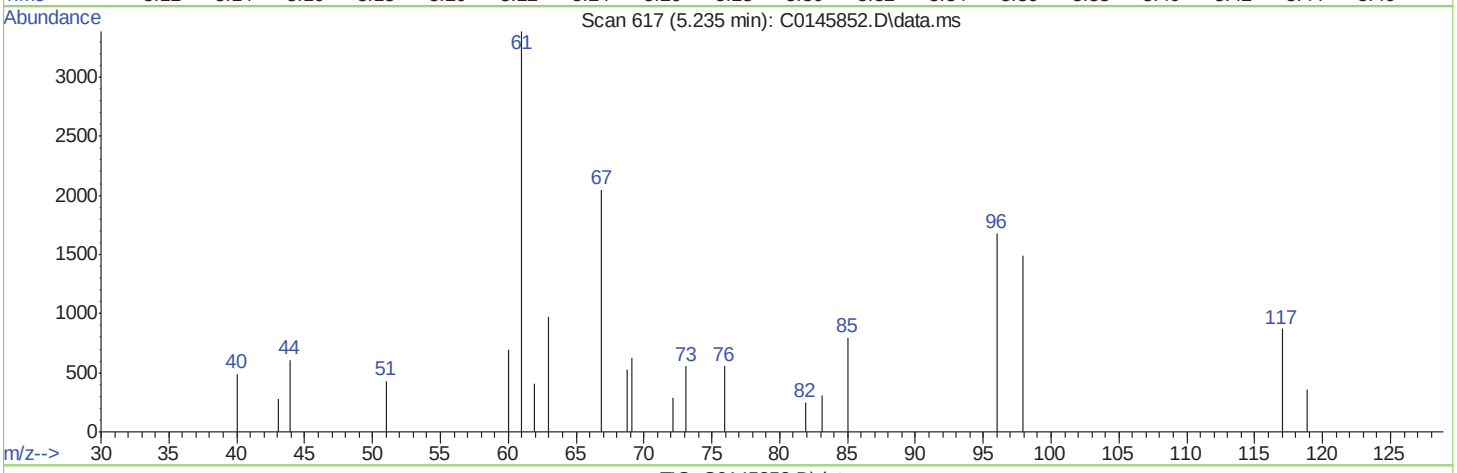
Ion	Exp%	Act%
61.00	100	100
96.00	58.90	49.62
98.00	39.10	43.89
63.00	35.70	28.80

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(11) 1,1-Dichloroethene (C)

5.235min (-0.000) 0.88ug/L m

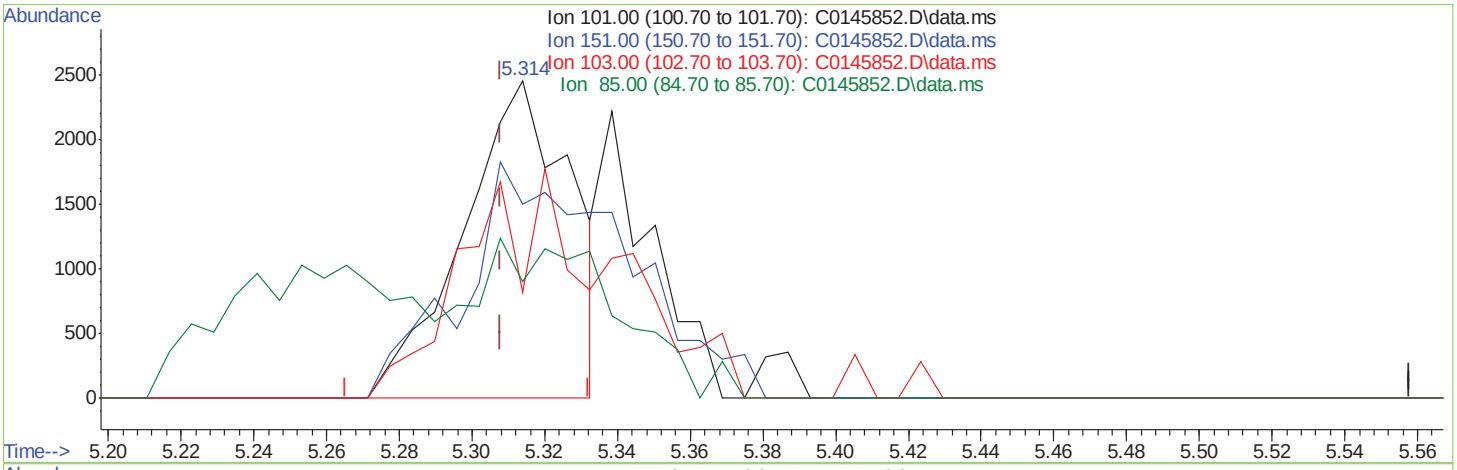
response 12081

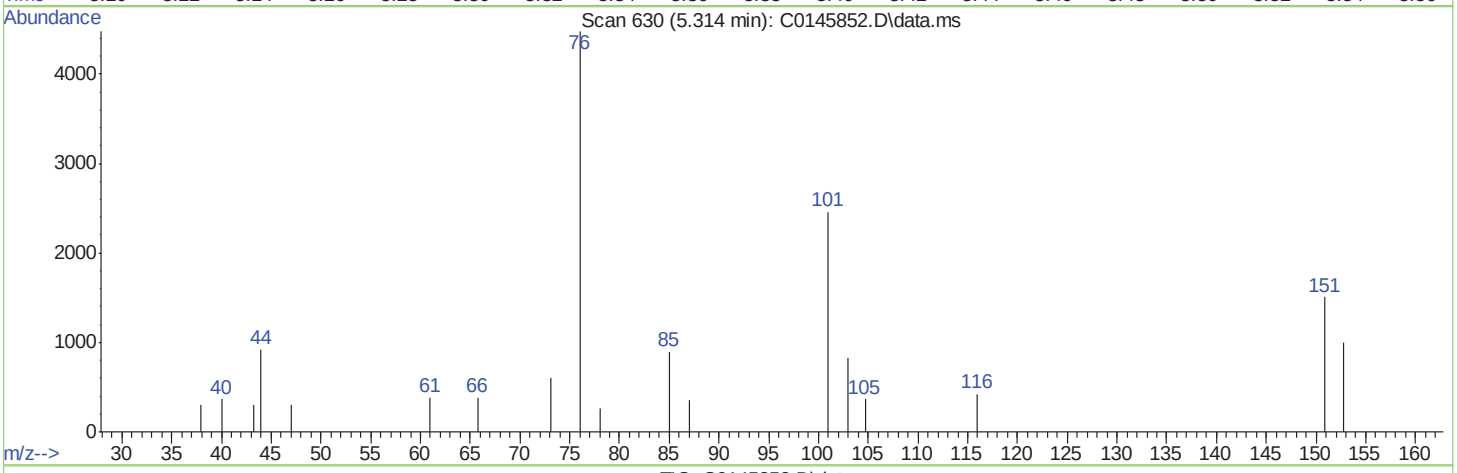
Ion	Exp%	Act%
61.00	100	100
96.00	58.90	49.62
98.00	39.10	43.89
63.00	35.70	28.80

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(12) Freon 113

5.314min (+0.006) 0.57ug/L

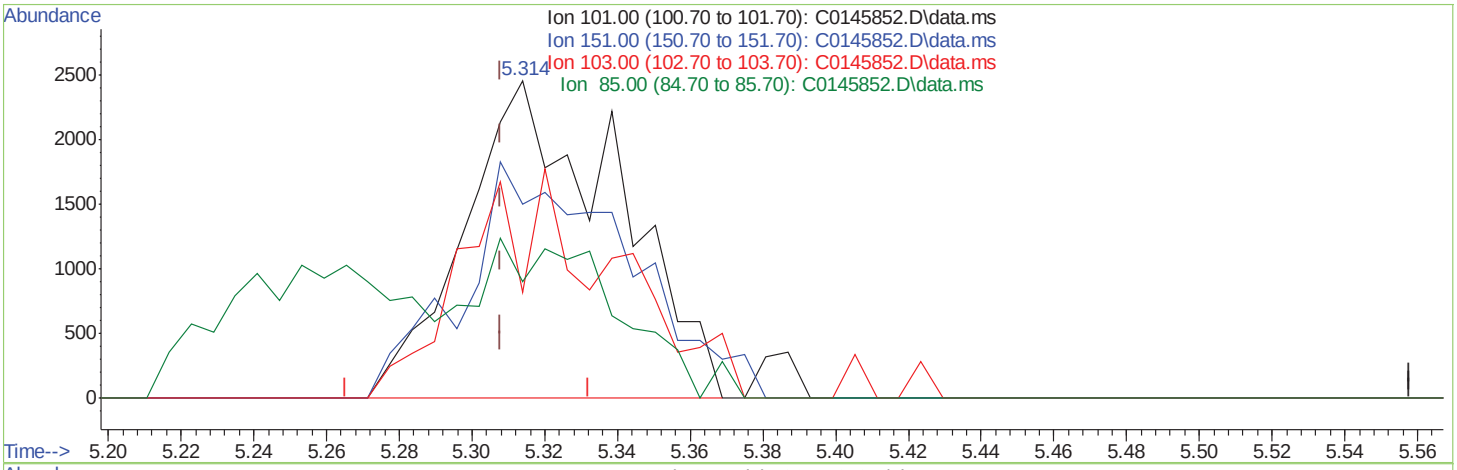
response 5062

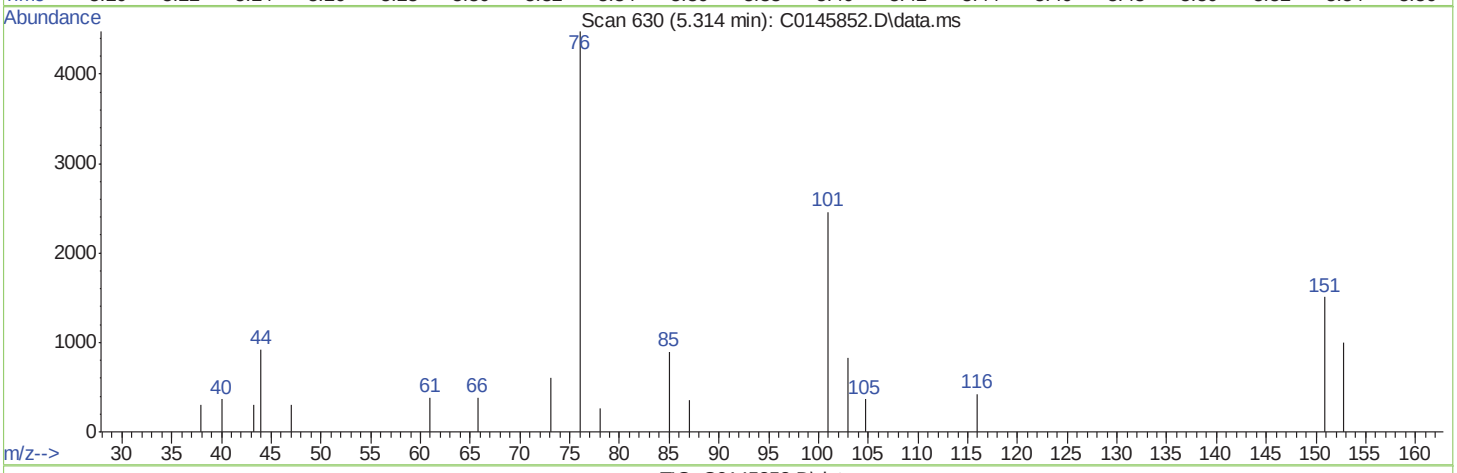
Ion	Exp%	Act%
101.00	100	100
151.00	81.30	61.11#
103.00	66.30	33.44#
85.00	48.20	0.00#

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(12) Freon 113

5.314min (+0.006) 0.81ug/L m

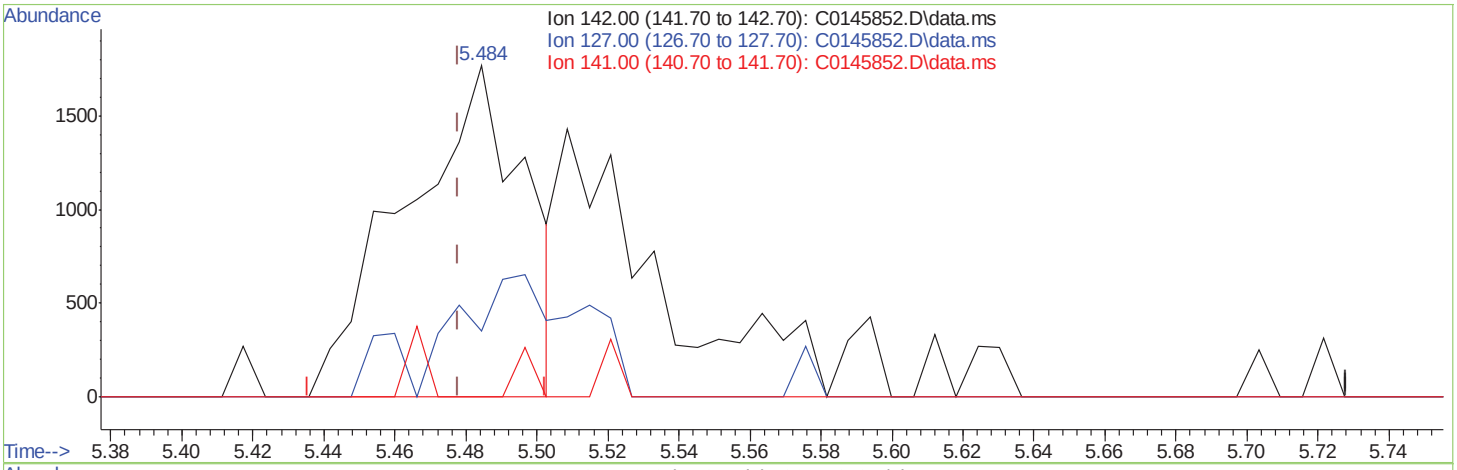
response 7222

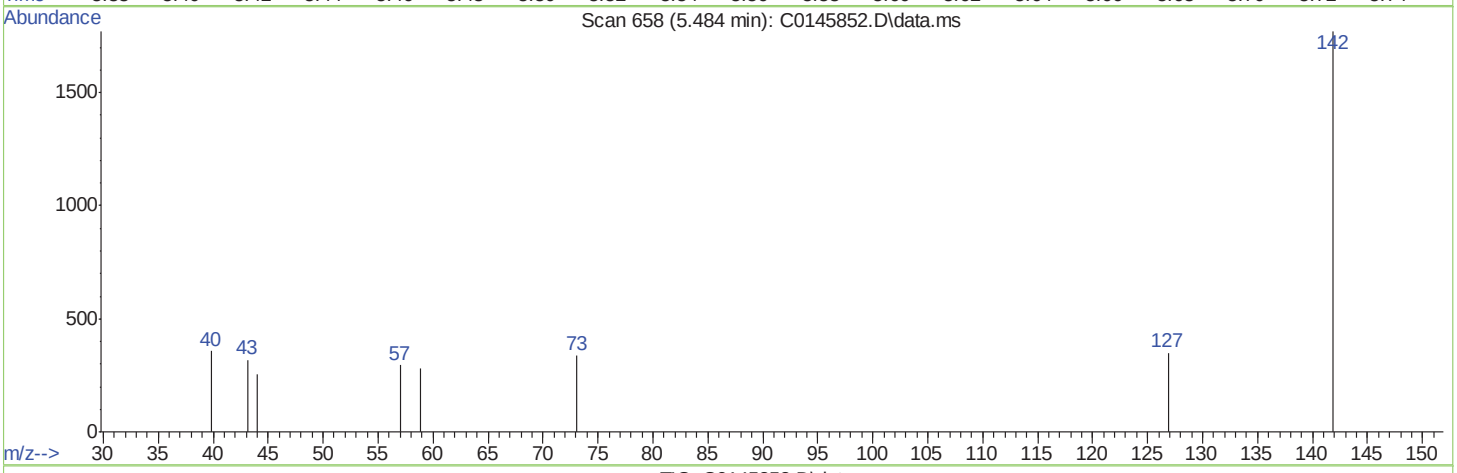
Ion	Exp%	Act%
101.00	100	100
151.00	81.30	61.11#
103.00	66.30	33.44#
85.00	48.20	36.53

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(14) Iodomethane

5.484min (+0.006) 0.48ug/L

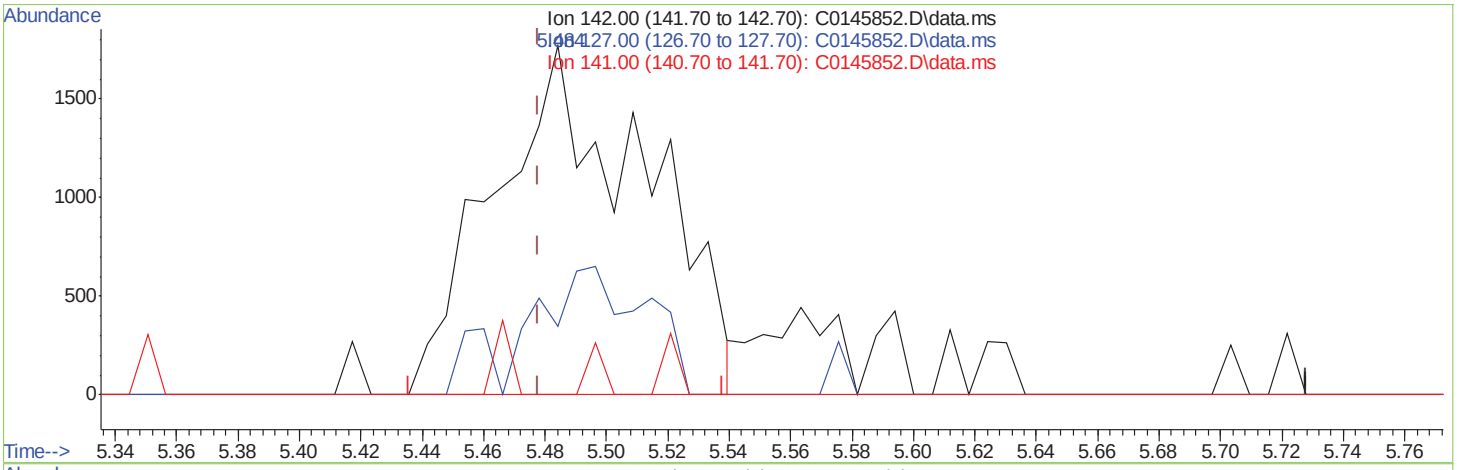
response 4126

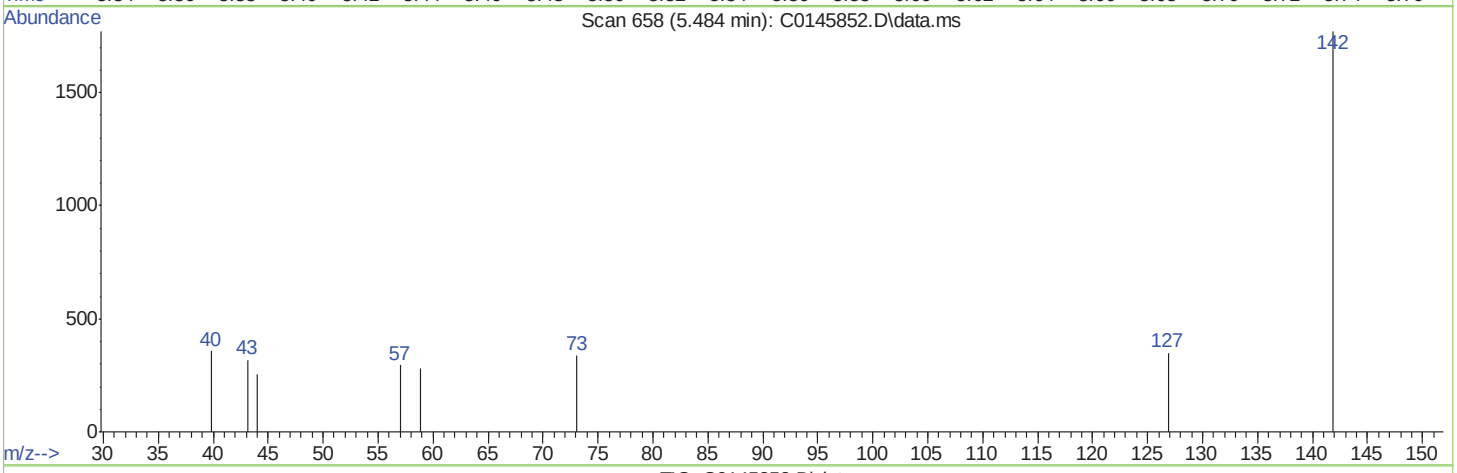
Ion	Exp%	Act%
142.00	100	100
127.00	39.50	19.71
141.00	14.90	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(14) Iodomethane

5.484min (+0.006) 0.71ug/L m

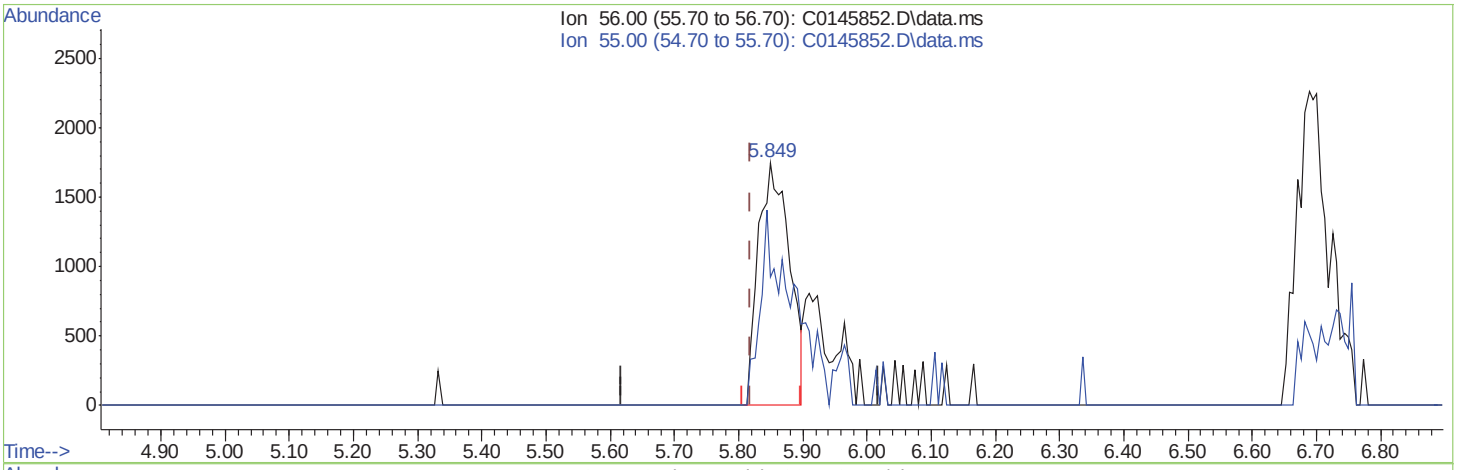
response 6103

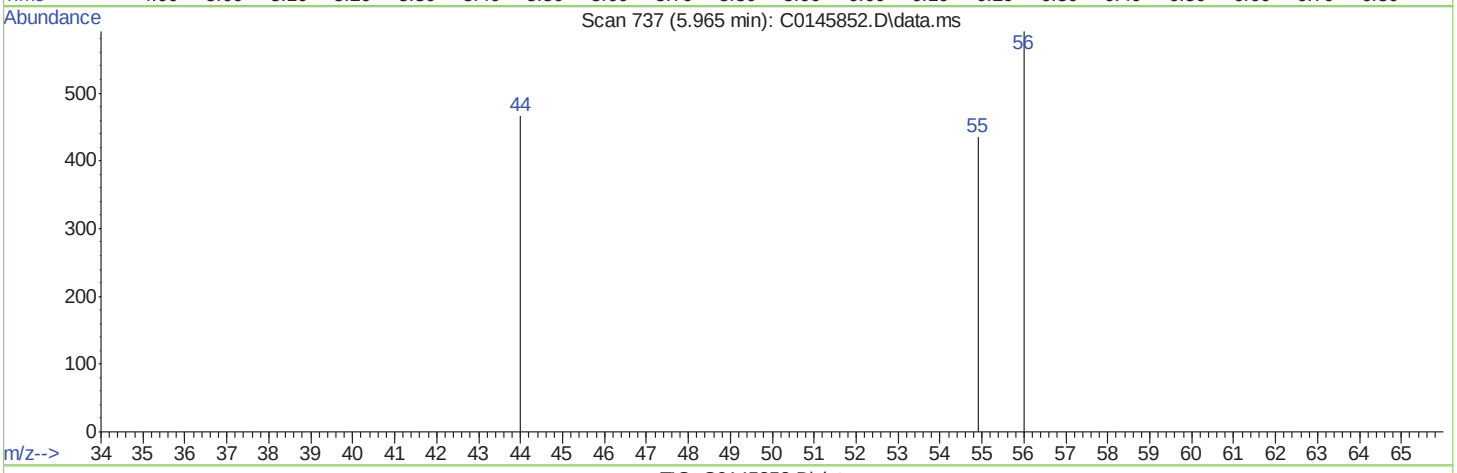
Ion	Exp%	Act%
142.00	100	100
127.00	39.50	19.71
141.00	14.90	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(15) Acrolein

5.849min (+0.030) 2.84ug/L

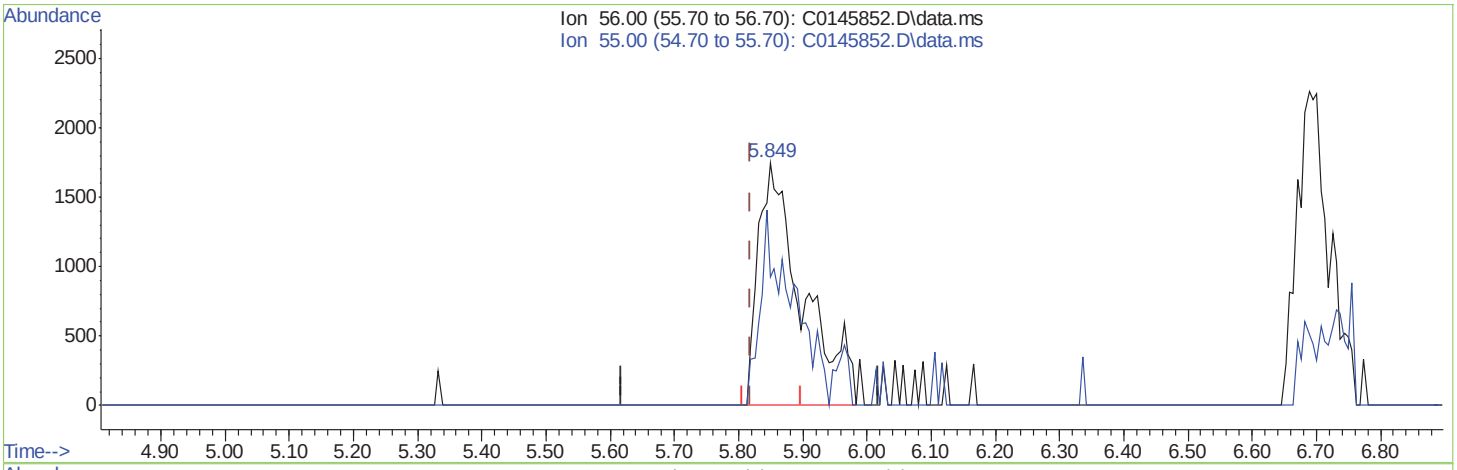
response 5926

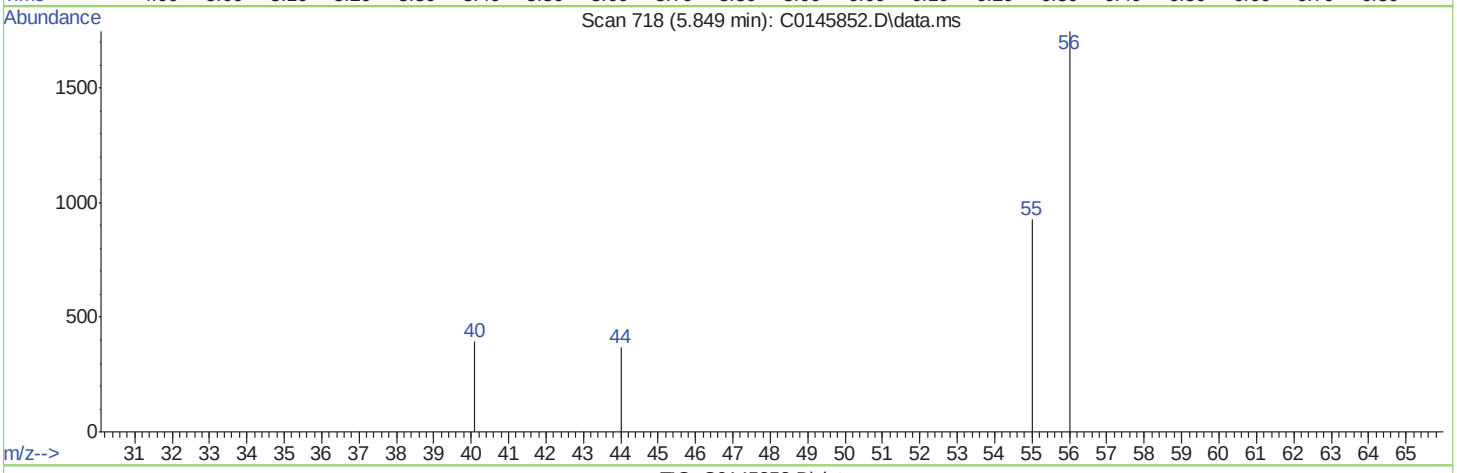
Ion	Exp%	Act%
56.00	100	100
55.00	64.70	52.97
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(15) Acrolein

5.849min (+0.030) 4.01ug/L m

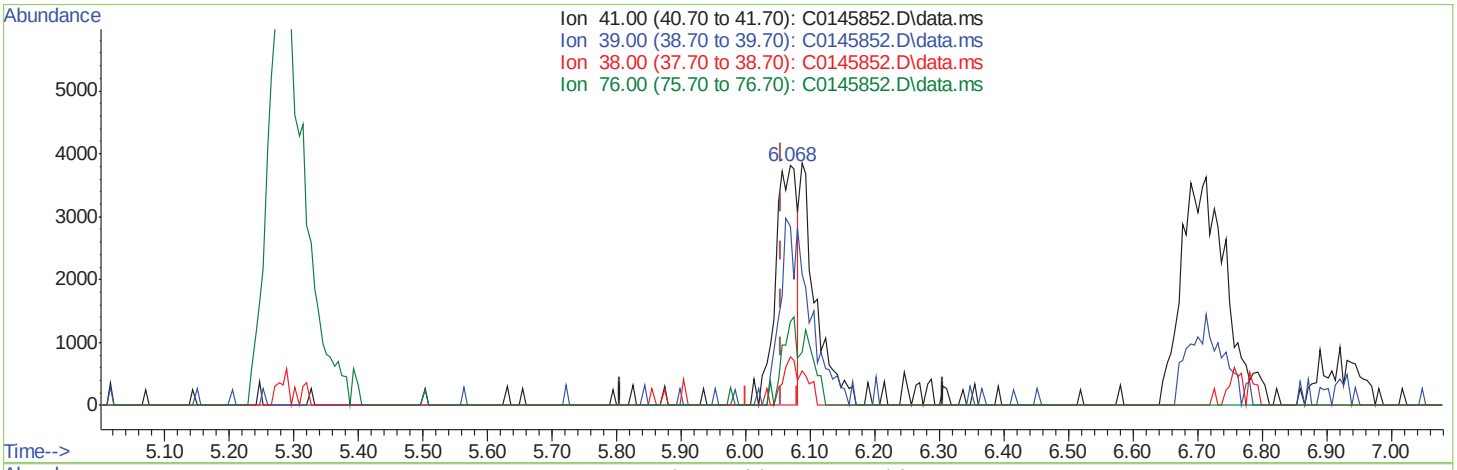
response 8372

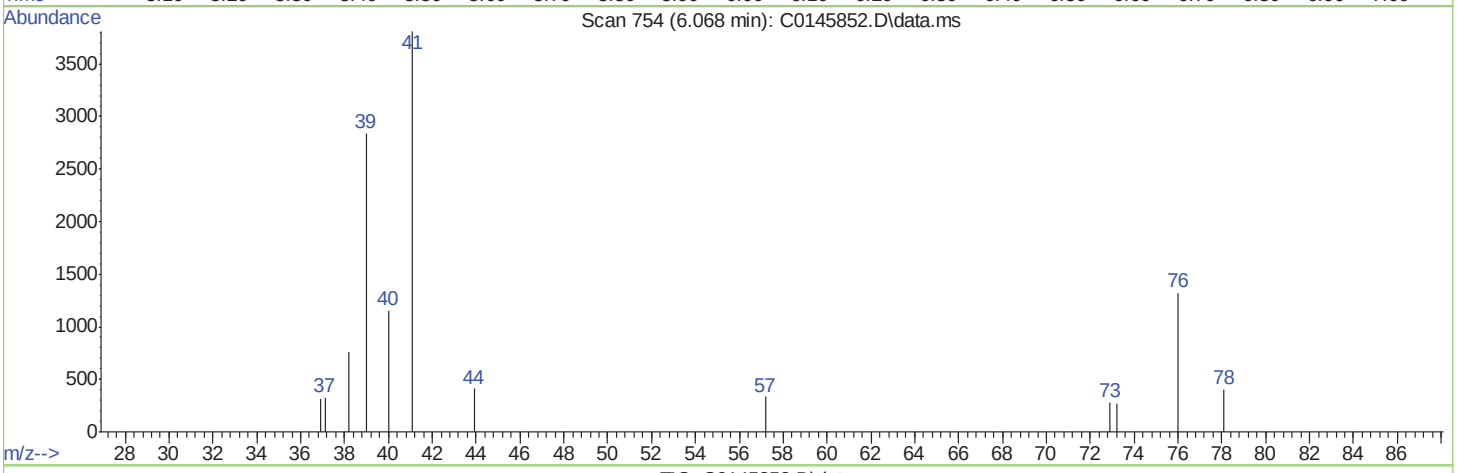
Ion	Exp%	Act%
56.00	100	100
55.00	64.70	52.97
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(16) Allyl chloride

6.068min (+0.012) 0.55ug/L

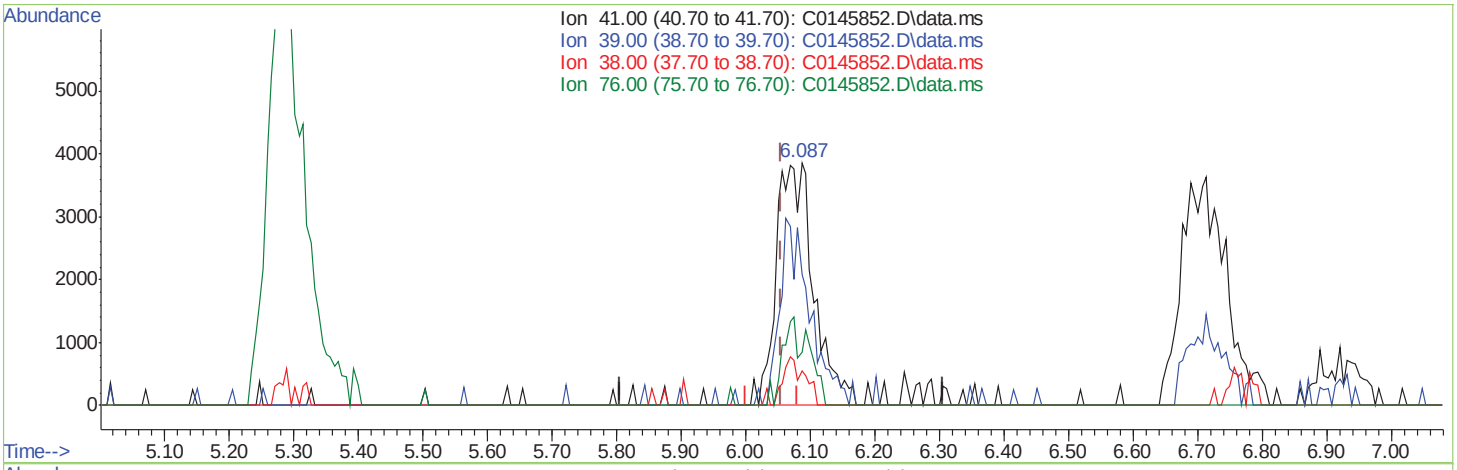
response 9093

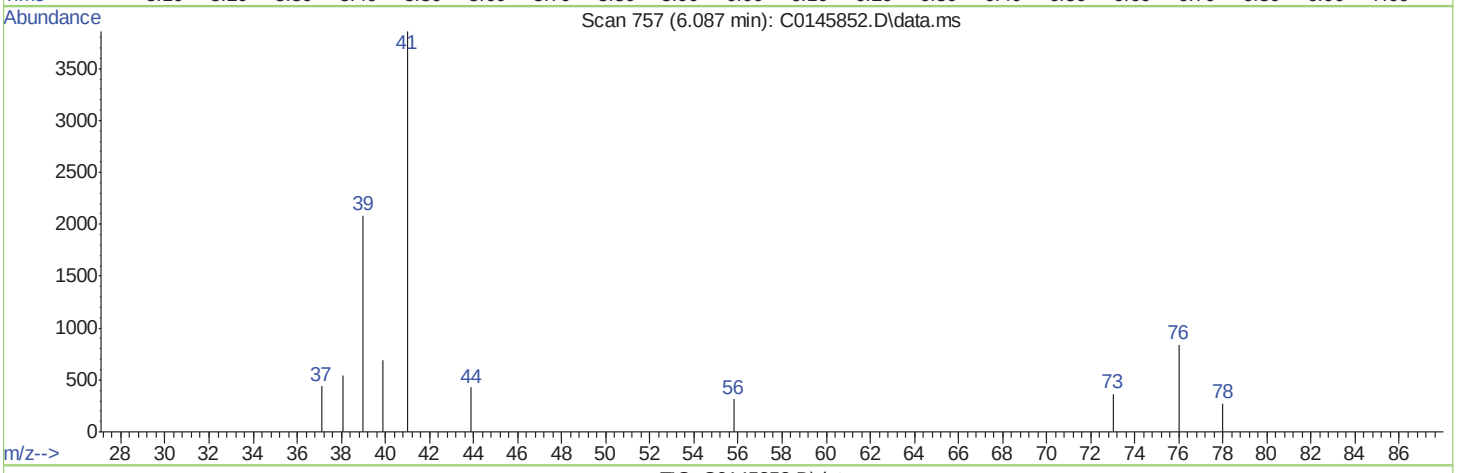
Ion	Exp%	Act%
41.00	100	100
39.00	65.30	74.51
38.00	13.20	20.08
76.00	33.20	34.76

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(16) Allyl chloride

6.087min (+0.031) 0.93ug/L m

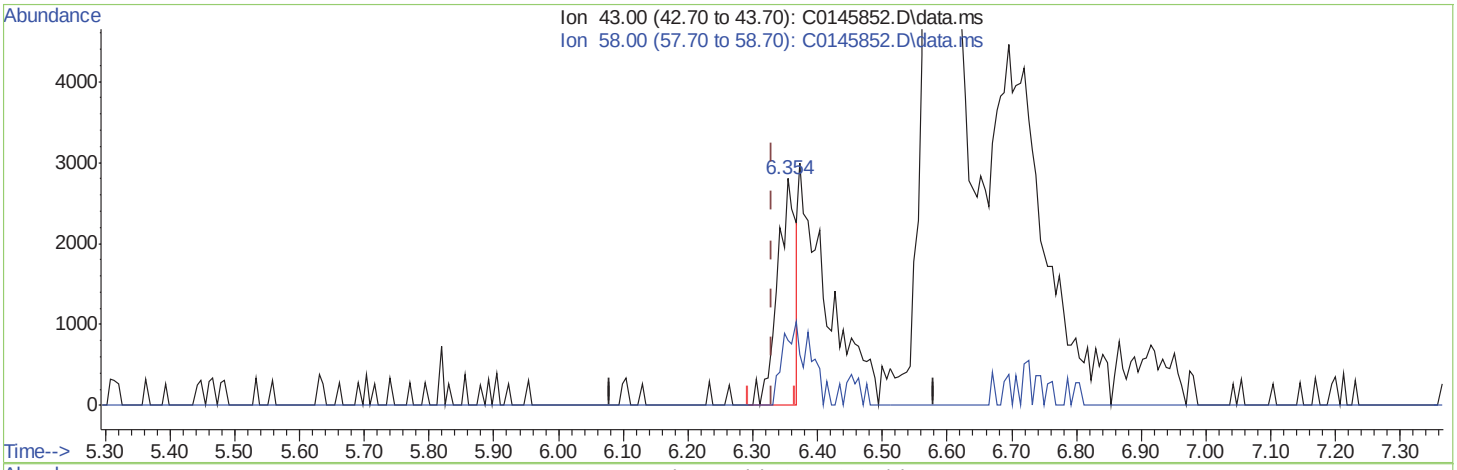
response 15485

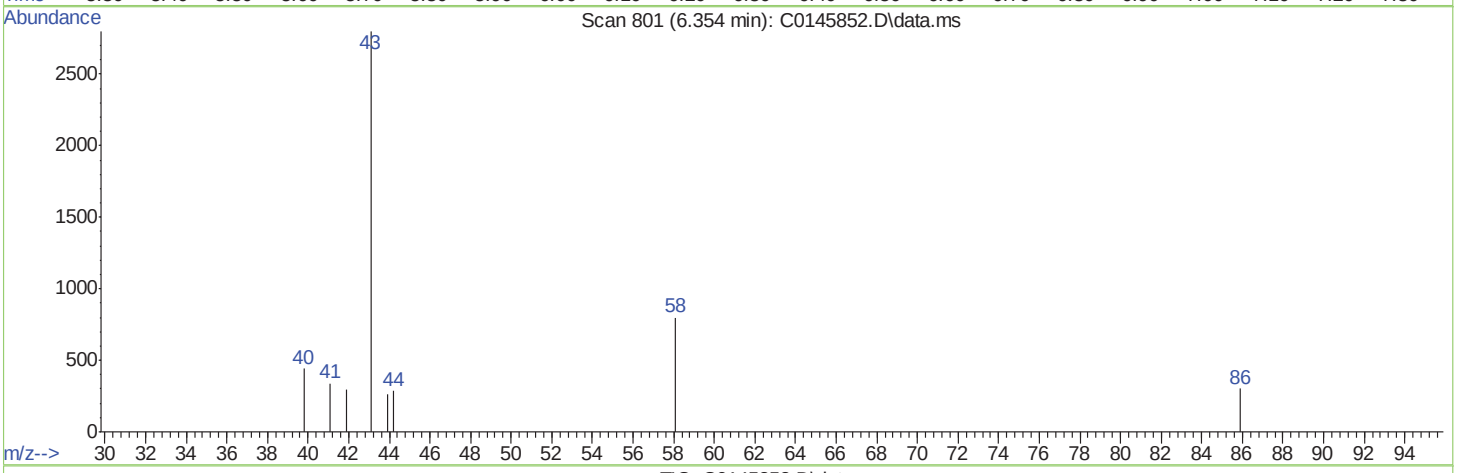
Ion	Exp%	Act%
41.00	100	100
39.00	65.30	54.04
38.00	13.20	14.02
76.00	33.20	21.82

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(18) Acetone

6.354min (+0.024) 1.80ug/L

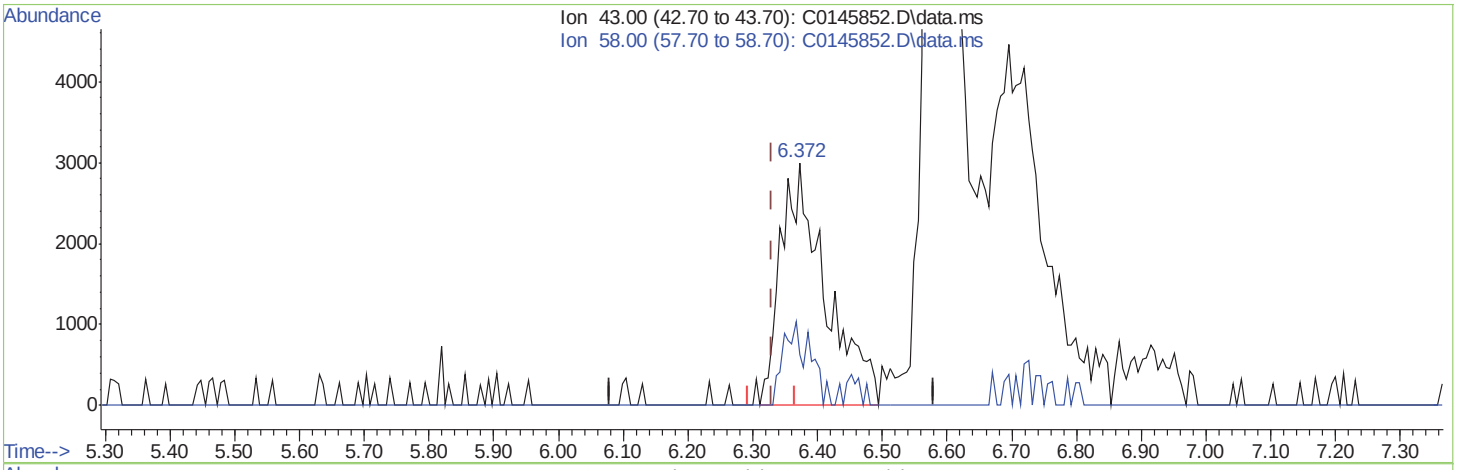
response 5440

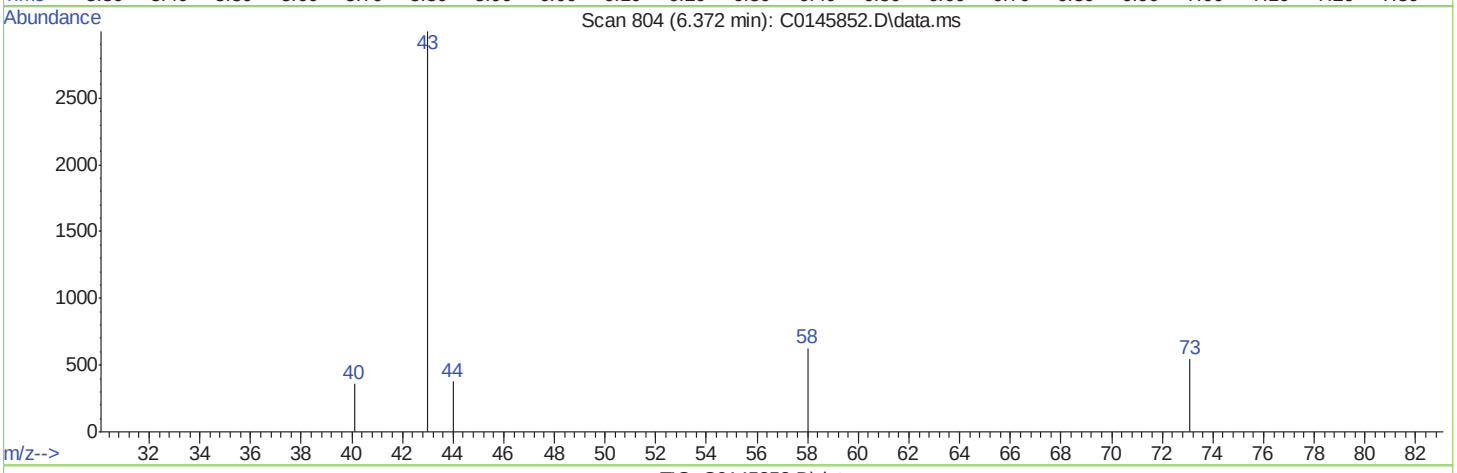
Ion	Exp%	Act%
43.00	100	100
58.00	29.80	28.55
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(18) Acetone

6.372min (+0.042) 4.78ug/L m

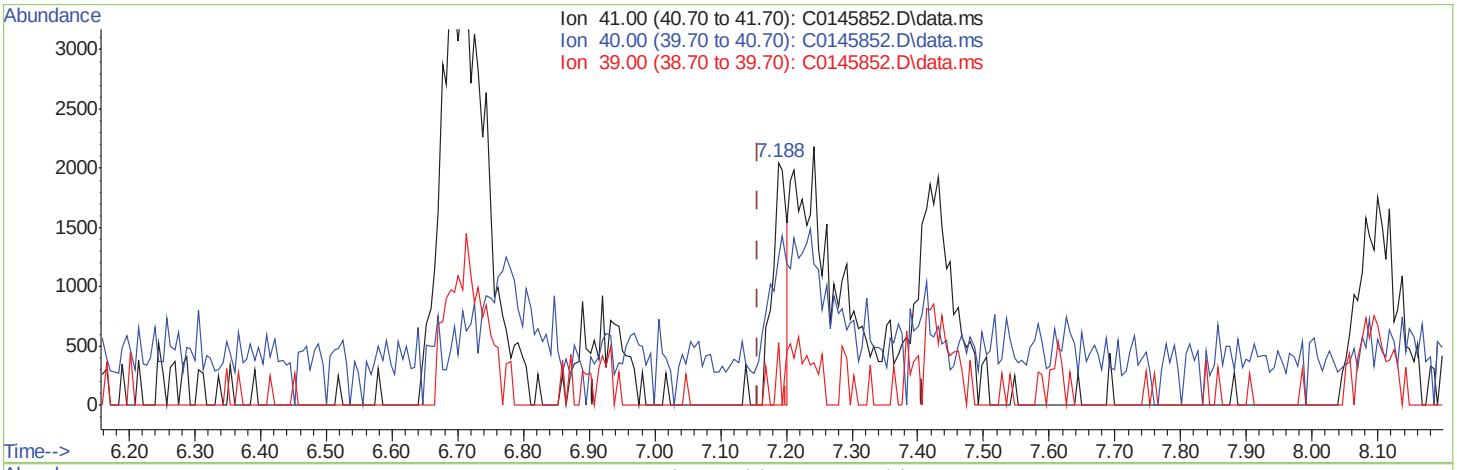
response 14405

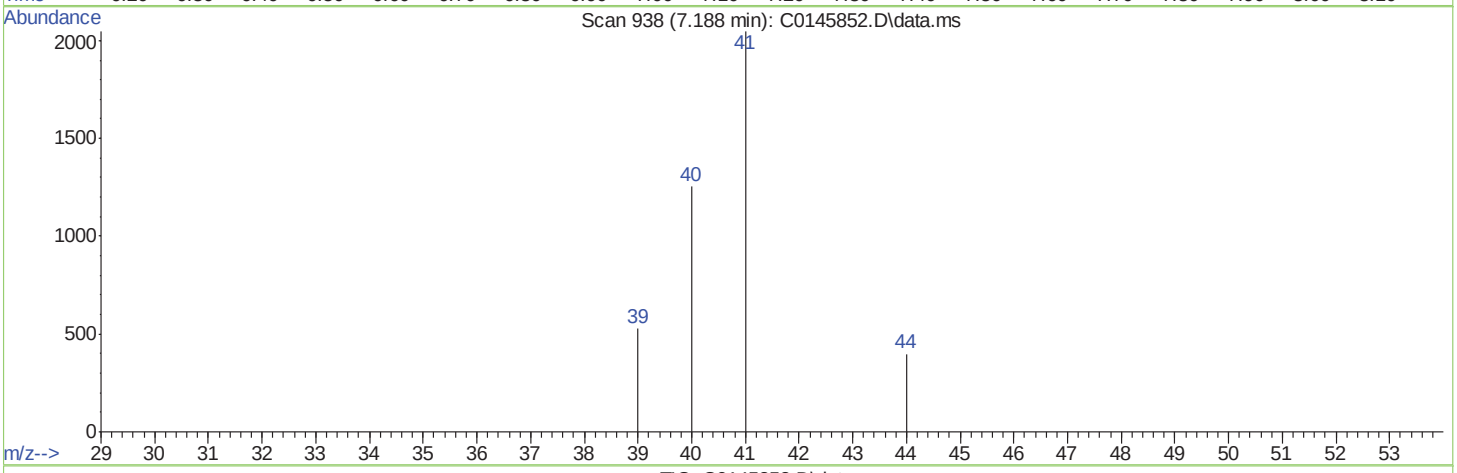
Ion	Exp%	Act%
43.00	100	100
58.00	29.80	20.97
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(23) Acetonitrile

7.188min (+0.031) 2.00ug/L

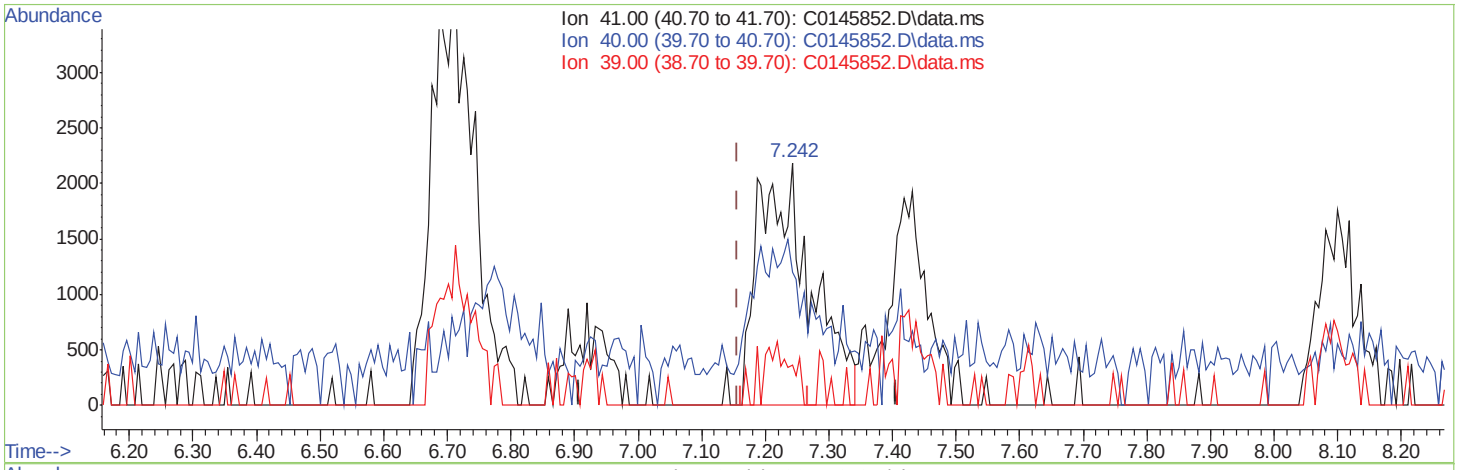
response 2993

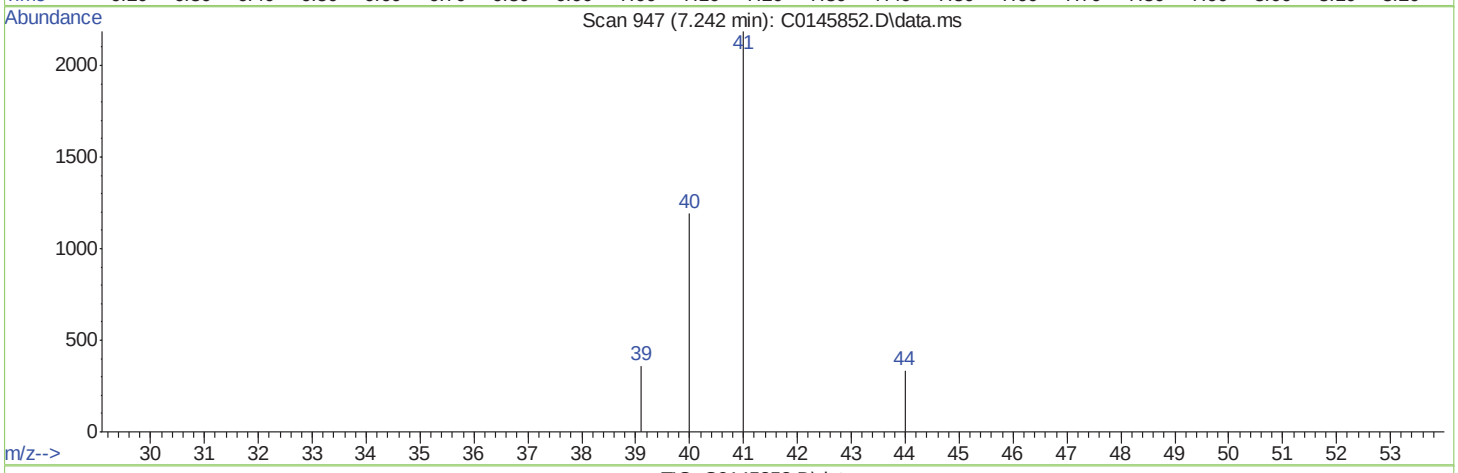
Ion	Exp%	Act%
41.00	100	100
40.00	48.30	43.14
39.00	19.80	25.84
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(23) Acetonitrile

7.242min (+0.085) 8.31ug/L m

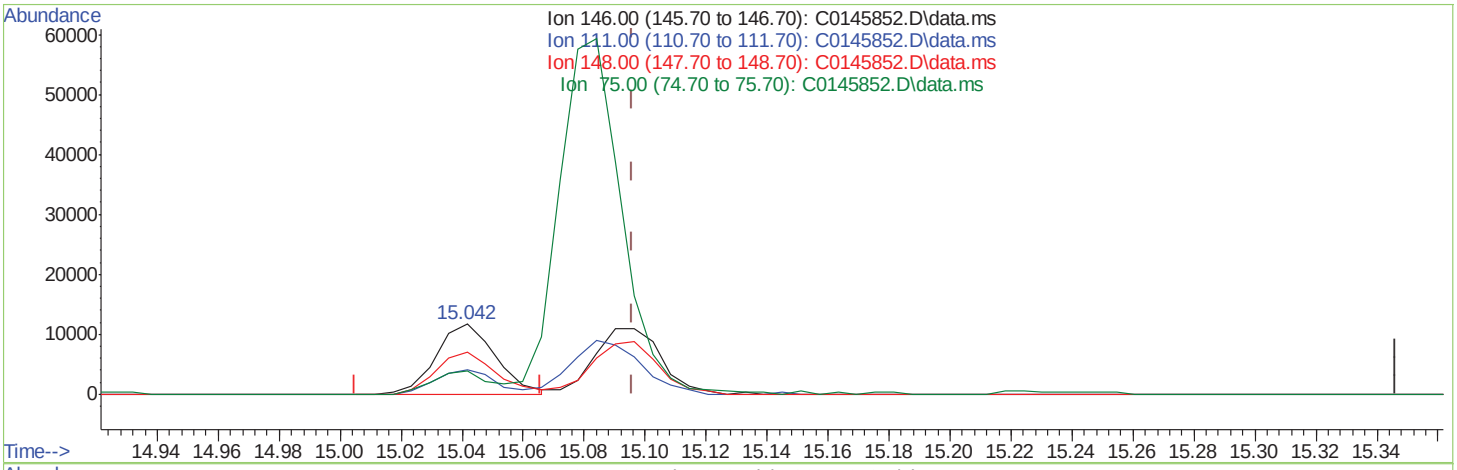
response 12460

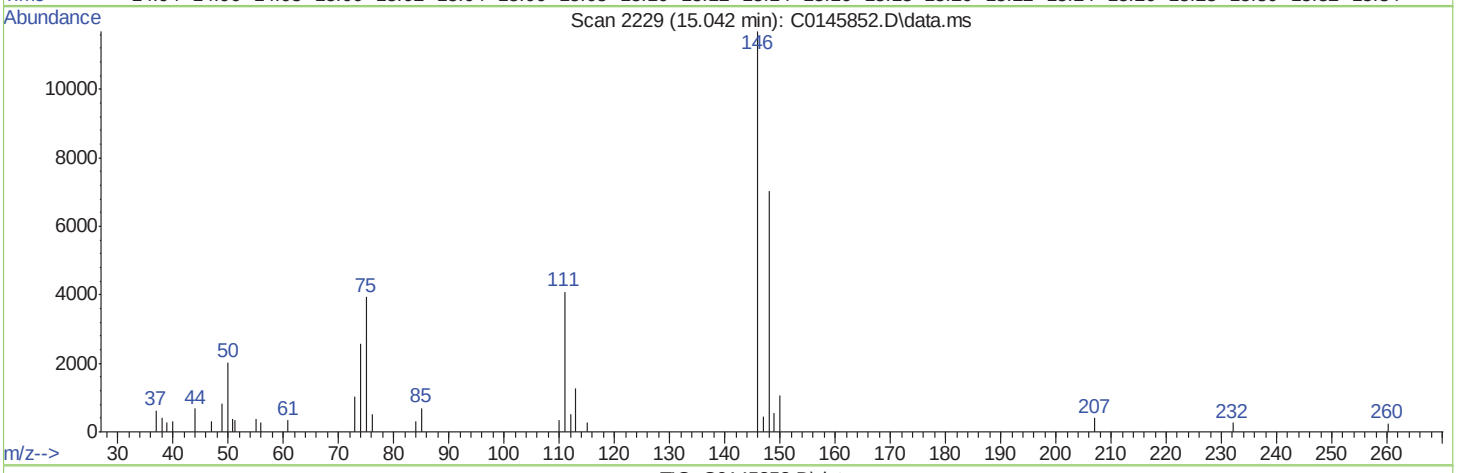
Ion	Exp%	Act%
41.00	100	100
40.00	48.30	54.62
39.00	19.80	16.51
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(99) 1,4-Dichlorobenzene

15.042min (-0.054) 1.10ug/L

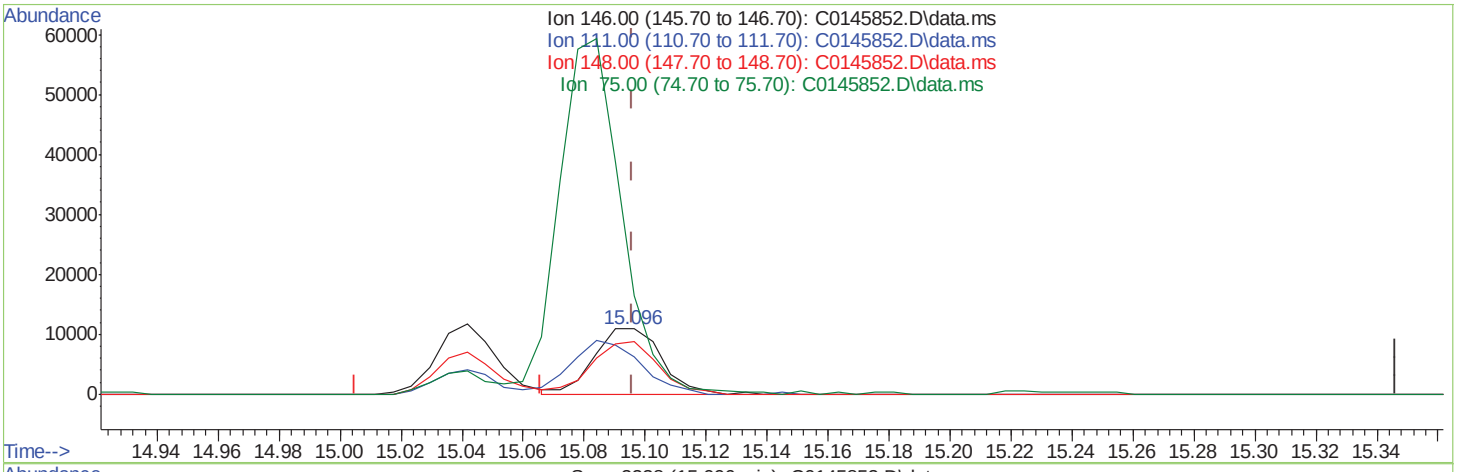
response 15798

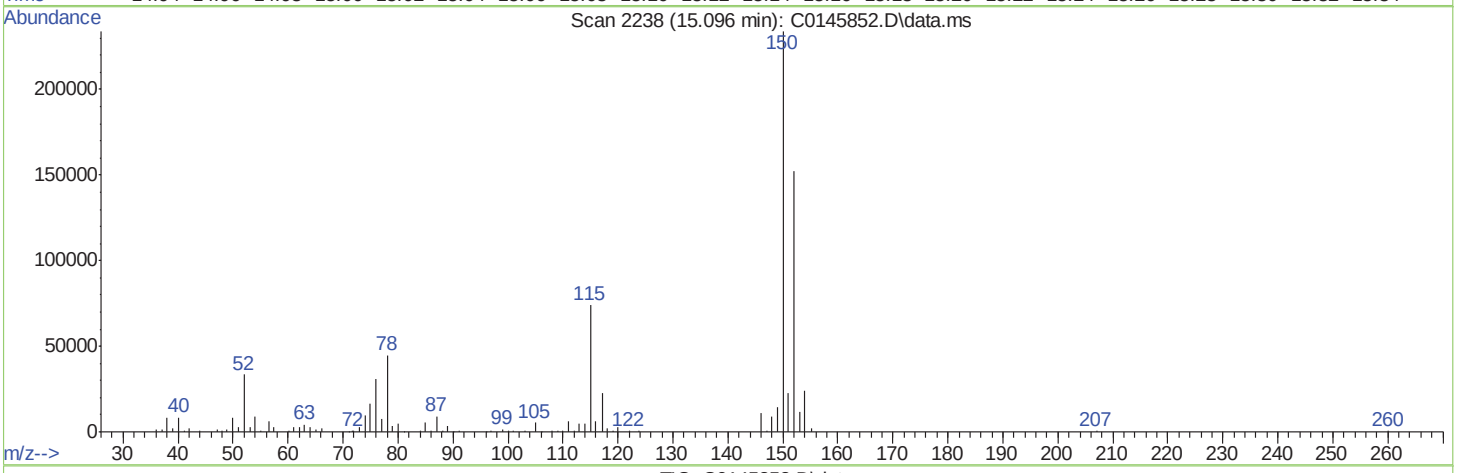
Ion	Exp%	Act%
146.00	100	100
111.00	37.70	35.02
148.00	66.70	60.08
75.00	34.10	33.65

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(99) 1,4-Dichlorobenzene

15.096min (+0.000) 1.15ug/L m

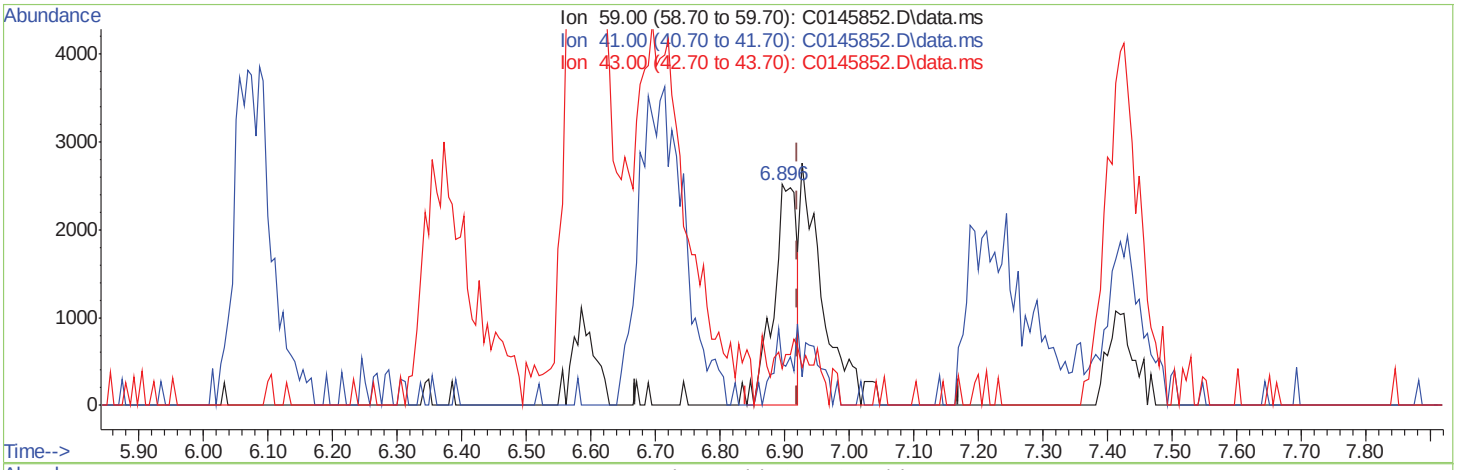
response 16568

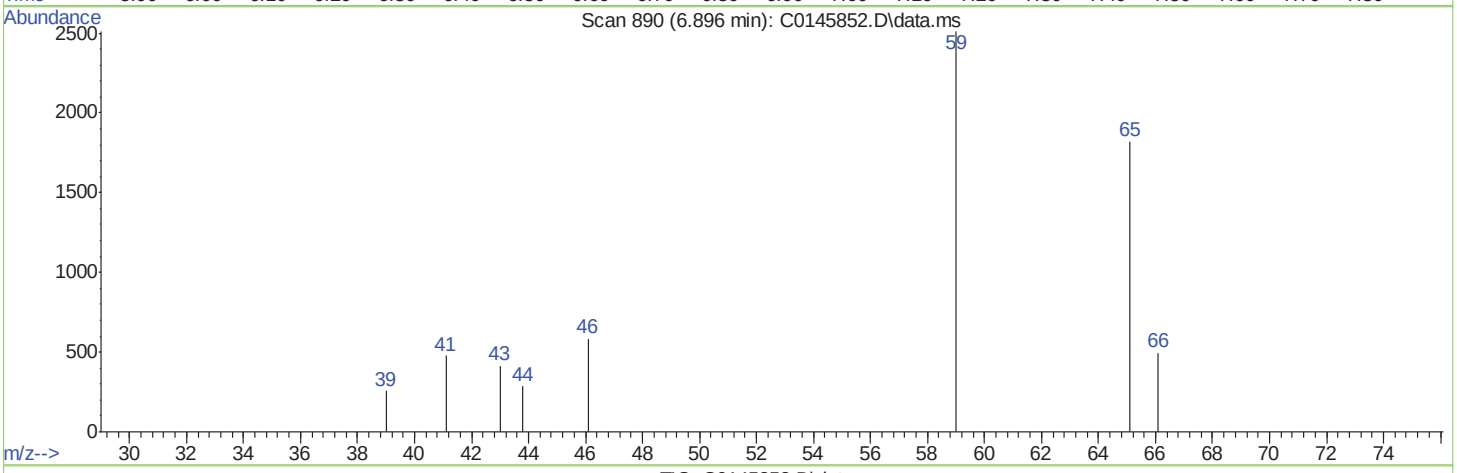
Ion	Exp%	Act%
146.00	100	100
111.00	37.70	56.39
148.00	66.70	80.49
75.00	34.10	150.40#

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(110) Tert Butyl Alcohol

6.896min (-0.024) 6.13ug/L

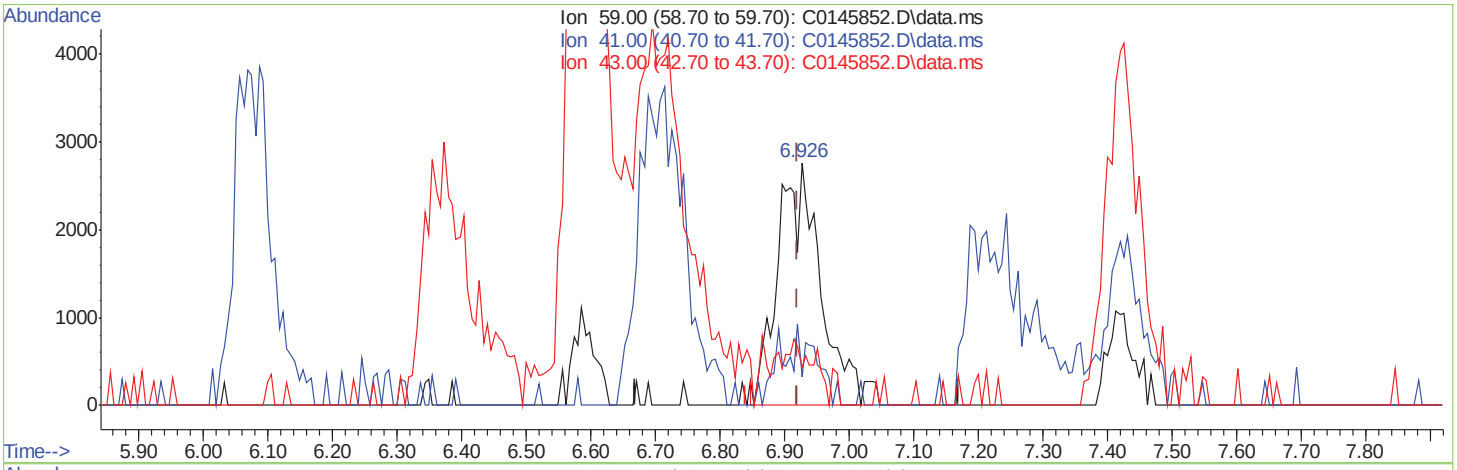
response 6330

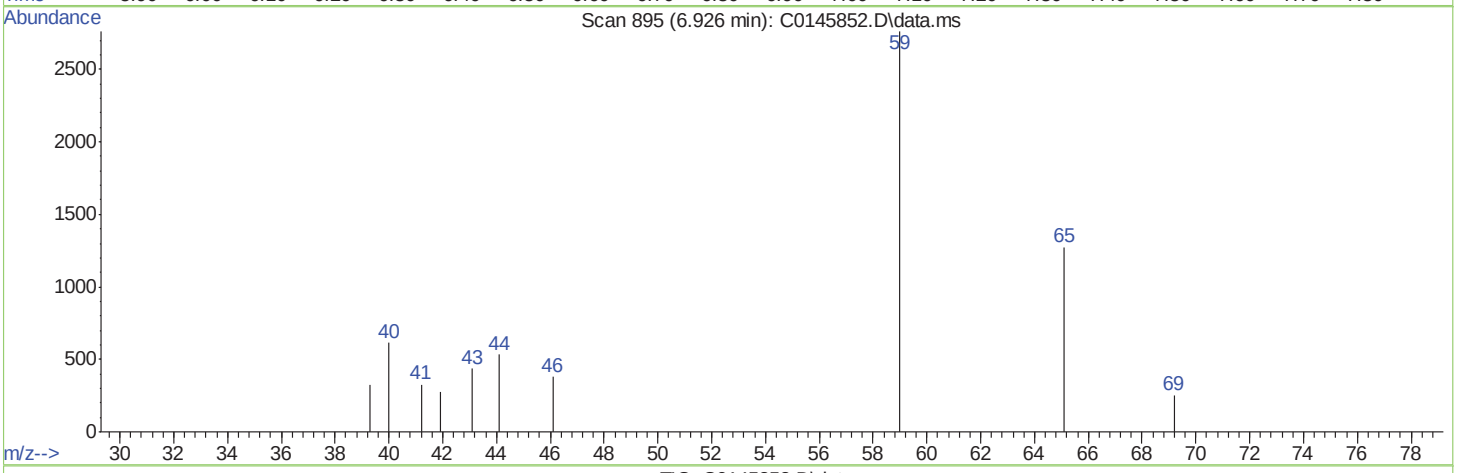
Ion	Exp%	Act%
59.00	100	100
41.00	21.50	18.96
43.00	14.10	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(110) Tert Butyl Alcohol

6.926min (+0.006) 12.25ug/L m

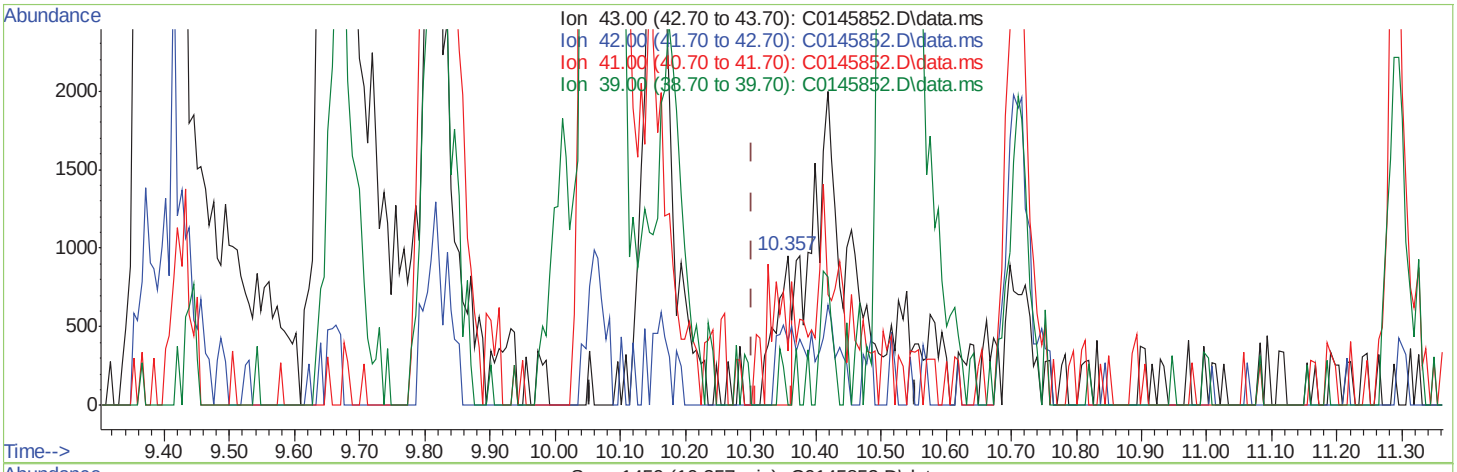
response 12652

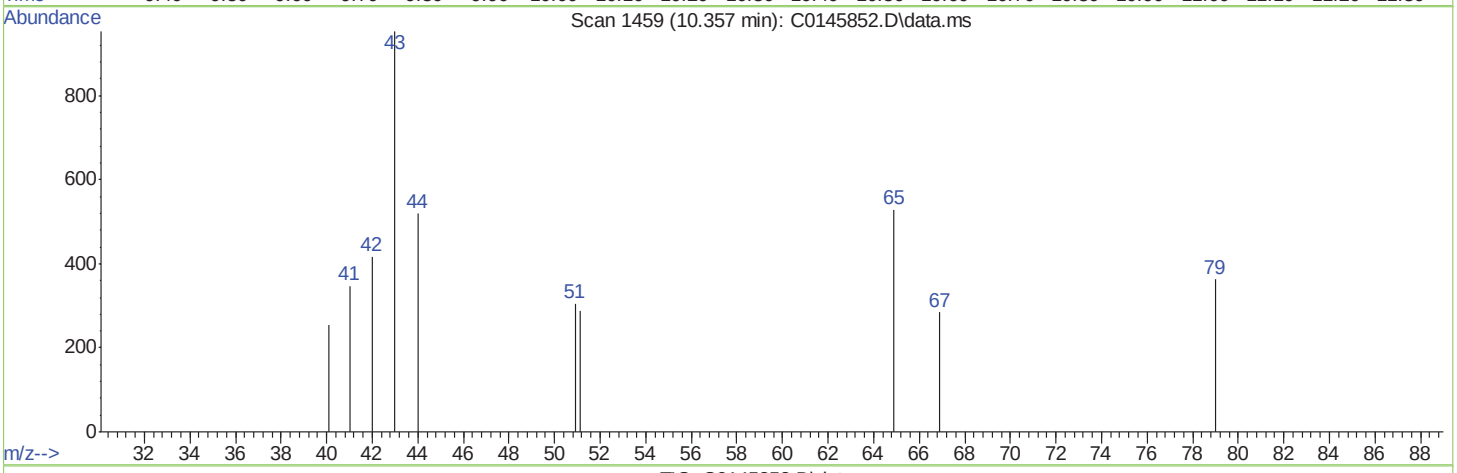
Ion	Exp%	Act%
59.00	100	100
41.00	21.50	11.77
43.00	14.10	15.79
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(111) Isobutyl alcohol

10.357min (+0.054) 4.97ug/L

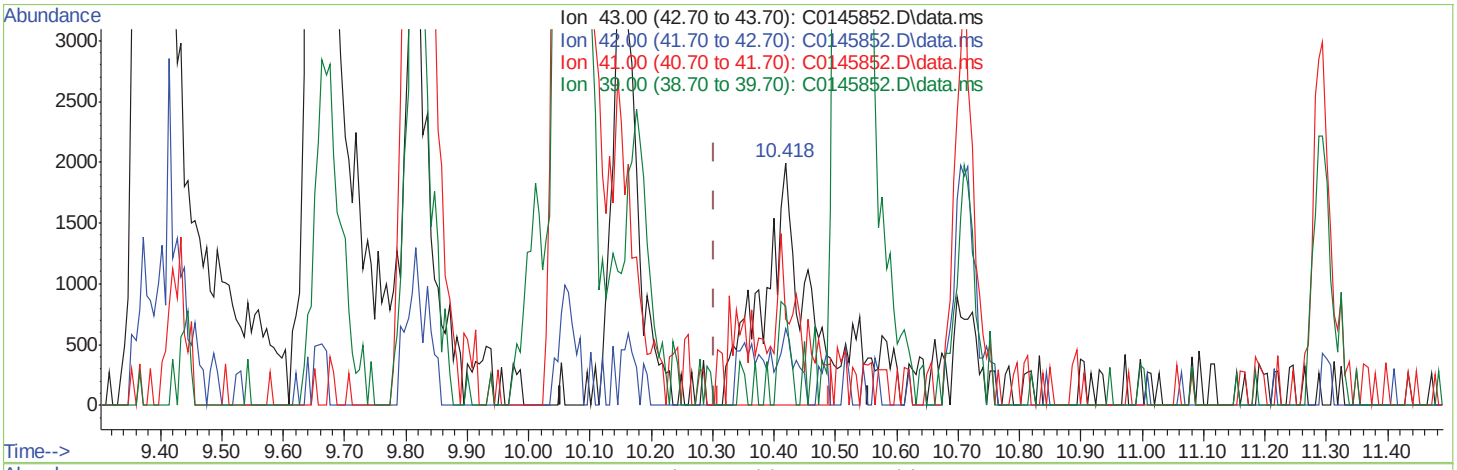
response 1661

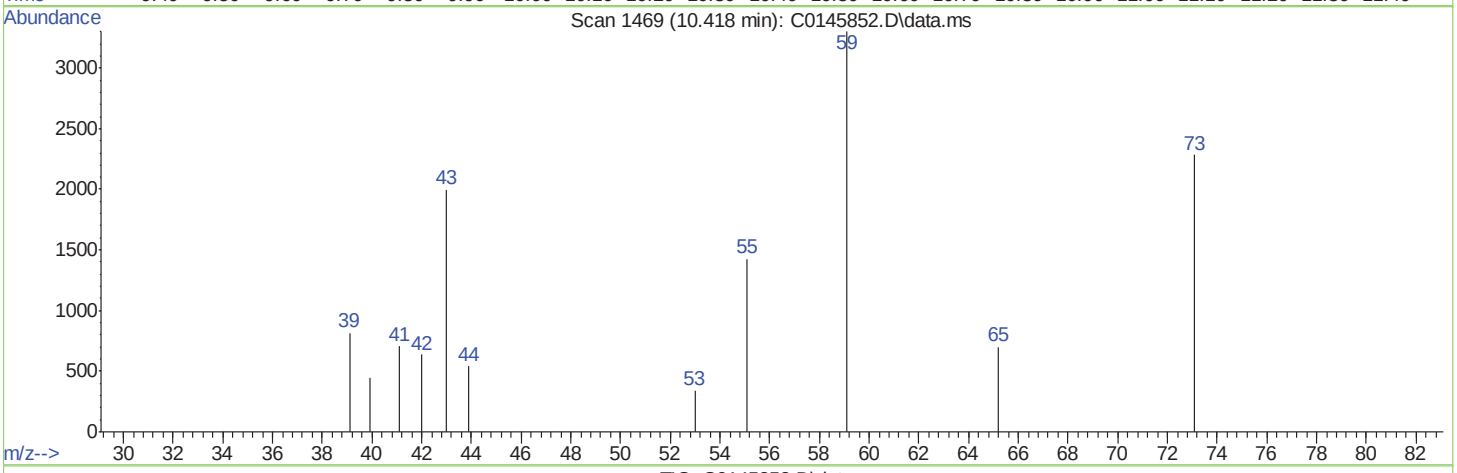
Ion	Exp%	Act%
43.00	100	100
42.00	62.40	43.76
41.00	67.90	0.00
39.00	23.10	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145852.D
Acq On : 24 Dec 2020 7:47 am
Operator : SHANICAO
Sample : IC5857-1 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 24 08:03:38 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145852.D\data.ms

(111) Isobutyl alcohol

10.418min (+0.115) 27.13ug/L m

response 9069

Ion	Exp%	Act%
43.00	100	100
42.00	62.40	31.81
41.00	67.90	35.27
39.00	23.10	40.88

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:41:27 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1805596	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1260318	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	653245	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.774	65	224436	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	442457	46.57	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 93.14%			
47) 1,2-Dichloroethane-d4	10.181	65	587008	50.65	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 101.30%			
58) Toluene-d8	12.134	98	1766267	54.98	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 109.96%			
80) 4-Bromofluorobenzene	14.305	174	544983	50.89	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	45041	3.95	ug/L	94
3) Chloromethane	3.227	50	55921m	4.41	ug/L	
4) 1,3-butadiene	3.367	39	41501	4.05	ug/L	88
5) Vinyl Chloride	3.343	62	53999	4.27	ug/L	94
6) Bromomethane	3.902	94	19094	4.02	ug/L	90
7) Chloroethane	4.121	64	24752	3.95	ug/L	96
8) Trichlorofluoromethane	4.359	101	55134	4.06	ug/L	95
9) Ethyl Ether	4.900	59	37420	4.08	ug/L	94
10) 1,2-Dichlorotrifluoroe...	5.259	67	44452	4.09	ug/L	94
11) 1,1-Dichloroethene	5.241	61	60491	4.37	ug/L	91
12) Freon 113	5.326	101	36400	4.06	ug/L	85
13) Carbon Disulfide	5.277	76	122955	4.20	ug/L	94
14) Iodomethane	5.490	142	23048	2.65	ug/L	95
15) Acrolein	5.831	56	42425	20.15	ug/L	85
16) Allyl chloride	6.068	41	71424	4.28	ug/L	97
17) Methylene Chloride	6.263	49	58501	3.95	ug/L	90
18) Acetone	6.342	43	57889	19.12	ug/L	97
19) Methyl acetate	6.567	43	168973	20.26	ug/L	97
20) trans-1,2-Dichloroethene	6.549	61	53619	3.95	ug/L	95
21) Hexane	6.683	56	35925	4.10	ug/L #	91
22) Methyl Tert Butyl Ether	6.719	73	138689	4.30	ug/L	89
23) Acetonitrile	7.188	41	58781	39.00	ug/L	98
24) Di-isopropyl ether	7.419	45	162292	4.37	ug/L	97
25) Chloroprene	7.613	53	64820	4.20	ug/L	83
26) 1,1-Dichloroethane	7.650	63	74238	4.20	ug/L	88
27) Acrylonitrile	7.747	52	61370	18.99	ug/L	94
28) ETBE	8.088	59	150912	4.46	ug/L	97
29) Vinyl acetate	8.118	43	561349	23.70	ug/L	97
30) cis-1,2-Dichloroethene	8.672	96	38991	4.09	ug/L	91
31) 2,2-Dichloropropane	8.854	77	62322	4.00	ug/L	100
32) Bromochloromethane	9.025	128	18861	4.10	ug/L	90
33) Cyclohexane	9.025	56	76718	4.18	ug/L	98
34) Chloroform	9.171	83	69488	4.25	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:41:27 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) Ethyl acetate	9.359	43	237378	20.13	ug/L	98
36) Tetrahydrofuran	9.408	42	17289	4.42	ug/L	90
38) Carbon Tetrachloride	9.372	117	46711	3.91	ug/L	96
39) 1,1,1-Trichloroethane	9.475	97	55711	3.89	ug/L	95
40) 2-Butanone	9.633	43	104606	20.94	ug/L	100
41) 1,1-Dichloropropene	9.664	75	57514	4.01	ug/L	93
42) tert-Butyl formate	9.816	59	220749	20.53	ug/L	96
43) Propionitrile	10.029	54	64370	43.40	ug/L	97
44) Methacrylonitrile	10.053	41	309531	46.09	ug/L	96
45) Benzene	10.004	78	164235	4.26	ug/L	99
46) TAME	10.150	73	139340	4.42	ug/L	99
48) 1,2-Dichloroethane	10.272	62	56220	4.23	ug/L	99
49) Trichloroethene	10.734	95	43500	4.32	ug/L	94
50) Methylcyclohexane	10.710	83	67336	4.11	ug/L	98
51) Dibromomethane	11.197	93	24331	4.22	ug/L	96
52) 1,2-Dichloropropane	11.288	63	48006	4.33	ug/L	95
53) Bromodichloromethane	11.367	83	52149	4.11	ug/L	100
54) Methyl methacrylate	11.507	41	41057	4.09	ug/L	90
55) 2-Chloroethyl vinyl ether	11.896	63	159374	21.75	ug/L	98
56) cis-1,3-Dichloropropene	11.963	75	77175	4.18	ug/L	98
59) Toluene	12.176	91	180824	5.19	ug/L	91
60) 2-Nitropropane	12.383	41	65724	25.48	ug/L	96
61) 4-Methyl-2-pentanone	12.492	43	243629	28.54	ug/L	94
62) trans-1,3-Dichloropropene	12.541	75	66666	5.15	ug/L	86
63) Tetrachloroethene	12.523	166	41717	5.10	ug/L	94
64) Ethyl methacrylate	12.651	69	57058	5.08	ug/L	95
65) 1,1,2-Trichloroethane	12.681	83	32242	5.01	ug/L	96
66) Dibromochloromethane	12.833	129	37682	4.76	ug/L	98
67) 1,3-Dichloropropane	12.906	76	72250	5.13	ug/L	98
68) 1,2-Dibromoethane	13.034	107	37374	5.02	ug/L	98
69) 2-hexanone	13.168	43	173970m	28.19	ug/L	
70) 1-Chlorohexane	13.387	91	58496	5.12	ug/L	92
71) Ethylbenzene	13.435	91	193014	5.33	ug/L	97
72) Chlorobenzene	13.435	112	105657	5.13	ug/L	96
73) 1,1,1,2-Tetrachloroethane	13.478	131	36241	4.93	ug/L	97
74) m,p-Xylene	13.539	91	296804	11.17	ug/L	94
75) o-Xylene	13.861	91	152051	5.25	ug/L	96
76) Styrene	13.904	104	118009	5.03	ug/L	94
77) Bromoform	13.952	173	26864	5.00	ug/L	97
78) Isopropylbenzene	14.080	105	180706	5.31	ug/L	98
81) cis-1,4-Dichloro-2-butene	14.336	53	18307	6.12	ug/L	89
82) n-Propylbenzene	14.372	91	215125	5.62	ug/L	97
83) Bromobenzene	14.397	156	44793	5.50	ug/L	100
84) 1,1,2,2-Tetrachloroethane	14.433	83	52174	5.68	ug/L	99
85) 1,3,5-Trimethylbenzene	14.494	105	139739	5.53	ug/L	98
86) 2-Chlorotoluene	14.506	91	139298	5.53	ug/L	97
87) trans-1,4-Dichloro-2-B...	14.549	53	15732	5.94	ug/L	94
88) 1,2,3-Trichloropropane	14.543	110	14007	5.37	ug/L	96
89) Cyclohexanone	14.585	55	9451	28.80	ug/L	94
90) 4-Chlorotoluene	14.622	91	133389	5.71	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:41:27 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

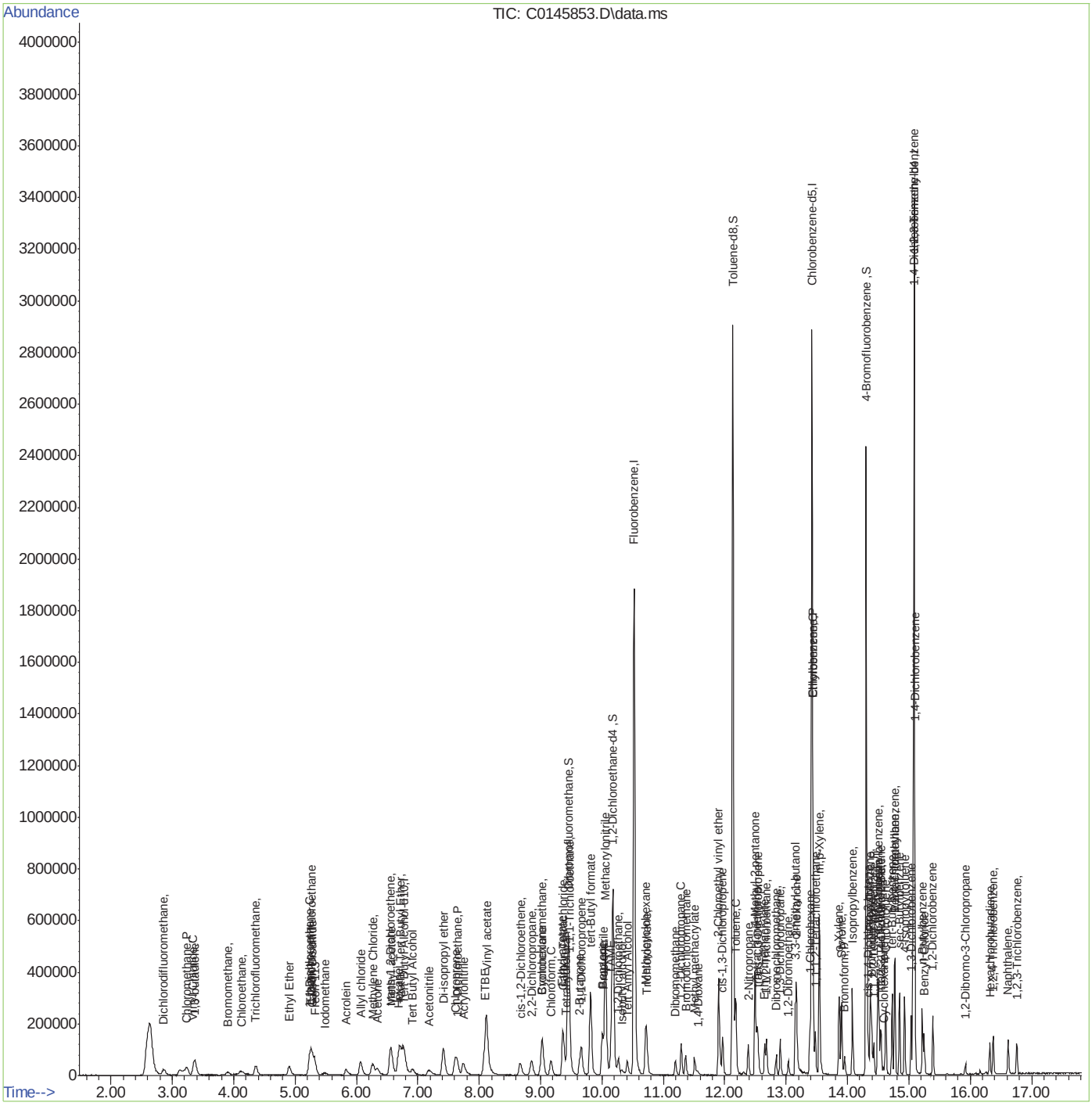
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
91) tert-Butylbenzene	14.725	91	80118	5.46	ug/L		98
93) 1,2,4-Trimethylbenzene	14.774	105	139976	5.46	ug/L		98
94) Pentachloroethane	14.774	167	25555	5.21	ug/L		96
95) sec-Butylbenzene	14.847	105	171891	5.66	ug/L		97
96) 4-Isopropyltoluene	14.932	119	144296	5.51	ug/L		94
97) 1,3-Dichlorobenzene	15.041	146	77638	5.51	ug/L		98
98) 1,2,3-Trimethylbenzene	15.078	105	172530	5.67	ug/L		94
99) 1,4-Dichlorobenzene	15.096	146	79962	5.51	ug/L		86
100) n-Butylbenzene	15.218	92	73437	5.05	ug/L		98
101) Benzyl Chloride	15.254	126	17851	4.79	ug/L	#	80
102) 1,2-Dichlorobenzene	15.388	146	74437	5.56	ug/L		99
103) 1,2-Dibromo-3-Chloropr...	15.924	75	8784	5.09	ug/L		98
104) Hexachlorobutadiene	16.319	225	20484	5.31	ug/L		94
105) 1,2,4-Trichlorobenzene	16.374	180	39712	5.08	ug/L		99
106) Naphthalene	16.617	128	91945	5.20	ug/L		96
107) 1,2,3-Trichlorobenzene	16.757	180	34260	5.30	ug/L		94
109) Ethanol	5.253	45	11054m	125.57	ug/L		
110) Tert Butyl Alcohol	6.908	59	55666	59.04	ug/L		98
111) Isobutyl alcohol	10.321	43	18355	60.14	ug/L		89
112) Tert Amyl Alcohol	10.412	59	37970	58.32	ug/L		93
113) 1,4-Dioxane	11.562	88	9276	113.73	ug/L		98
114) 3,3-dimethyl-1-butanol	13.149	57	114350m	186.54	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:41:27 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

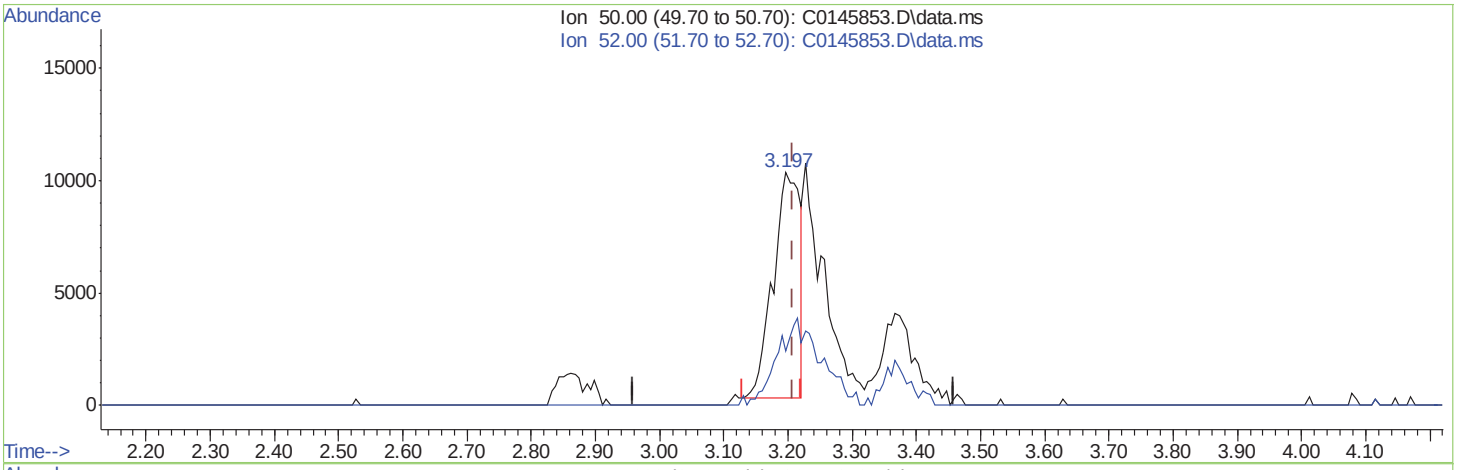
Sample Number: VC5857-IC5857
Lab FileID: C0145853.D
Injection Time: 12/24/20 08:13
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

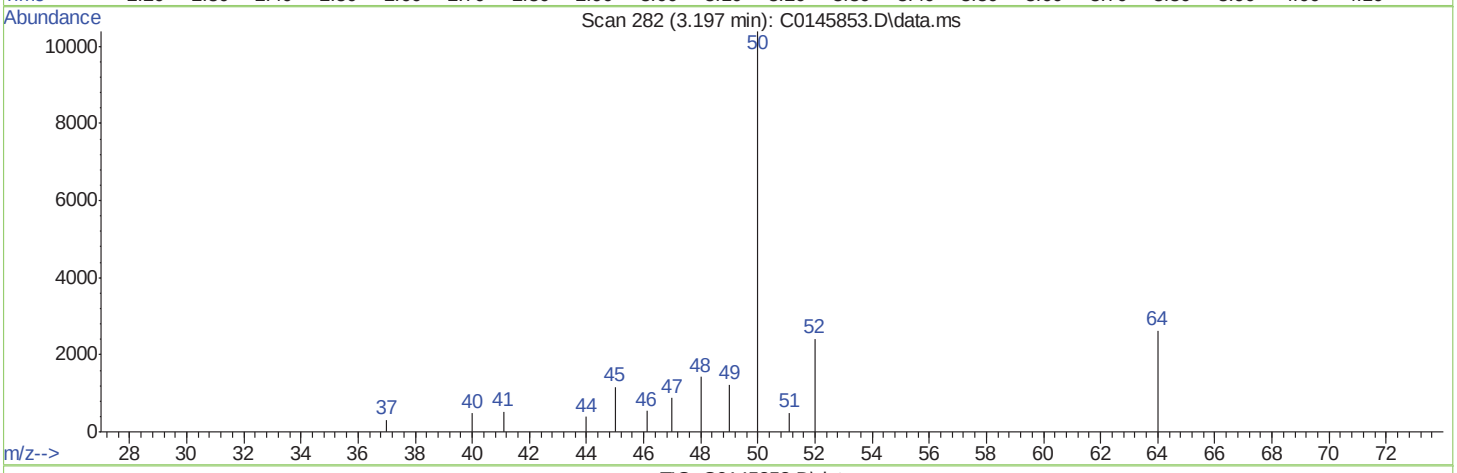
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.23	Split peak
Ethyl Alcohol	64-17-5		5.25	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145853.D\data.ms

(3) Chloromethane (P)

3.197min (-0.012) 2.34ug/L

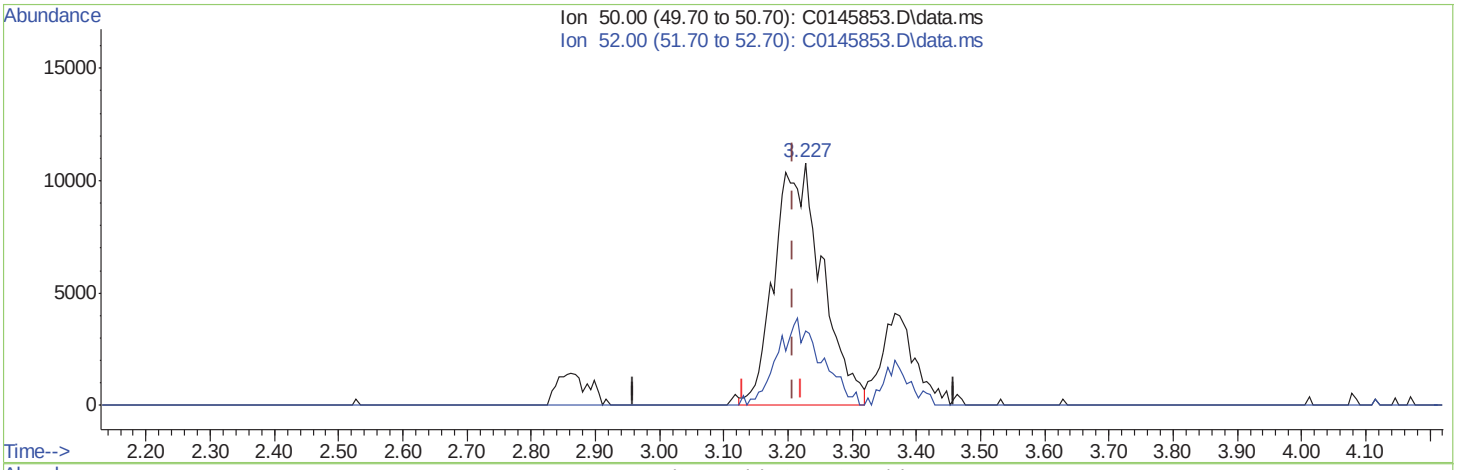
response 29649

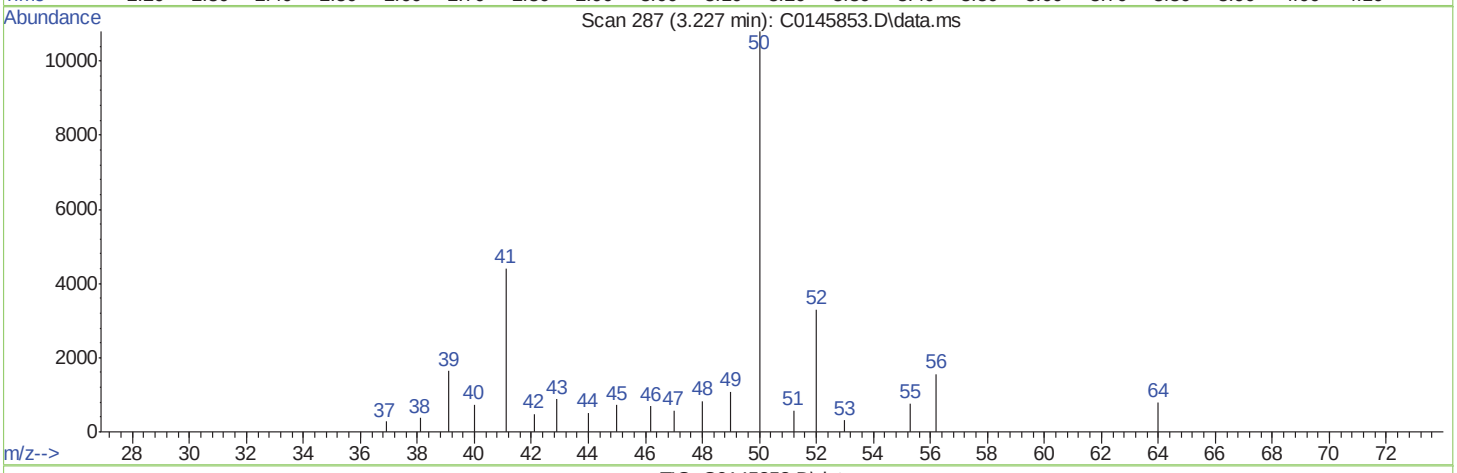
Ion	Exp%	Act%
50.00	100	100
52.00	31.00	19.94
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145853.D\data.ms

(3) Chloromethane (P)

3.227min (+0.018) 4.41ug/L m

response 55921

Ion	Exp%	Act%
50.00	100	100
52.00	31.00	30.60
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
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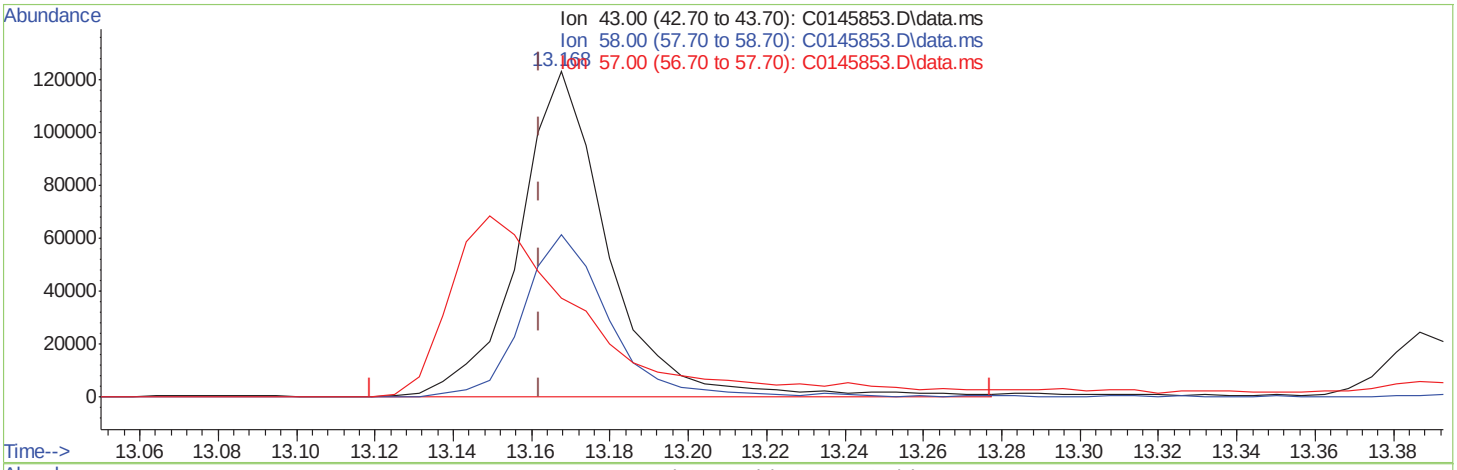

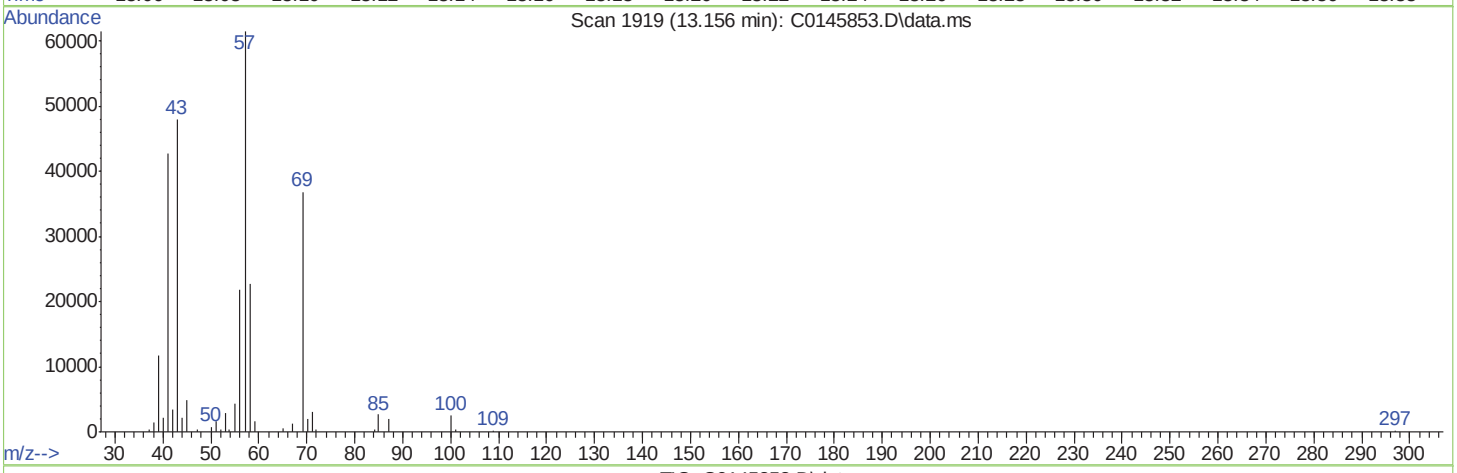

TIC: C0145853.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 31.87ug/L

response 196702

Ion	Exp%	Act%
43.00	100	100
58.00	54.70	49.73
57.00	44.90	30.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
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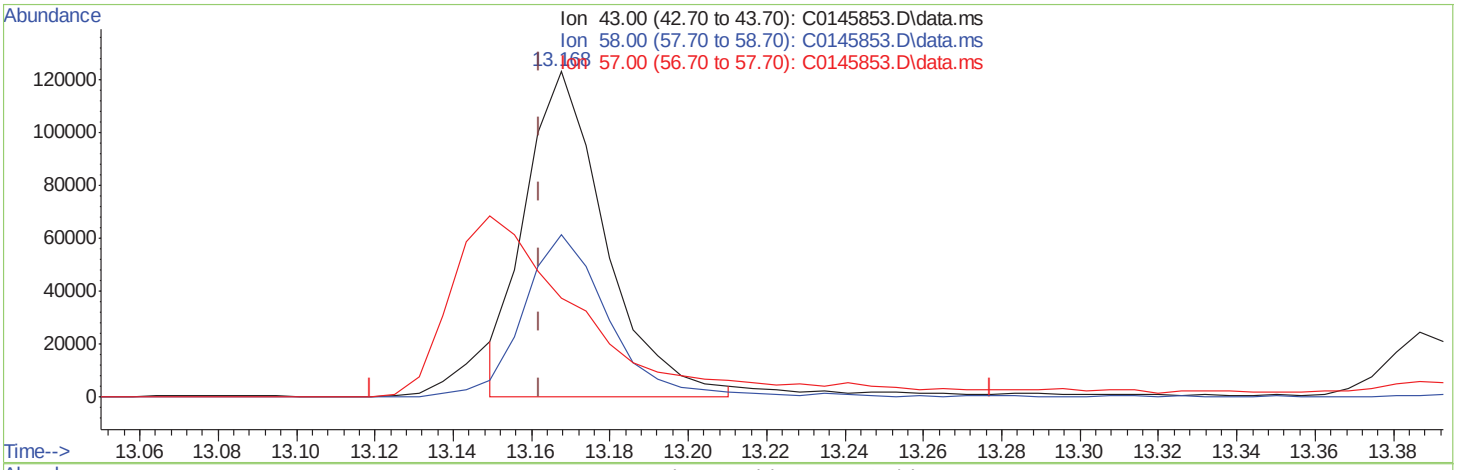

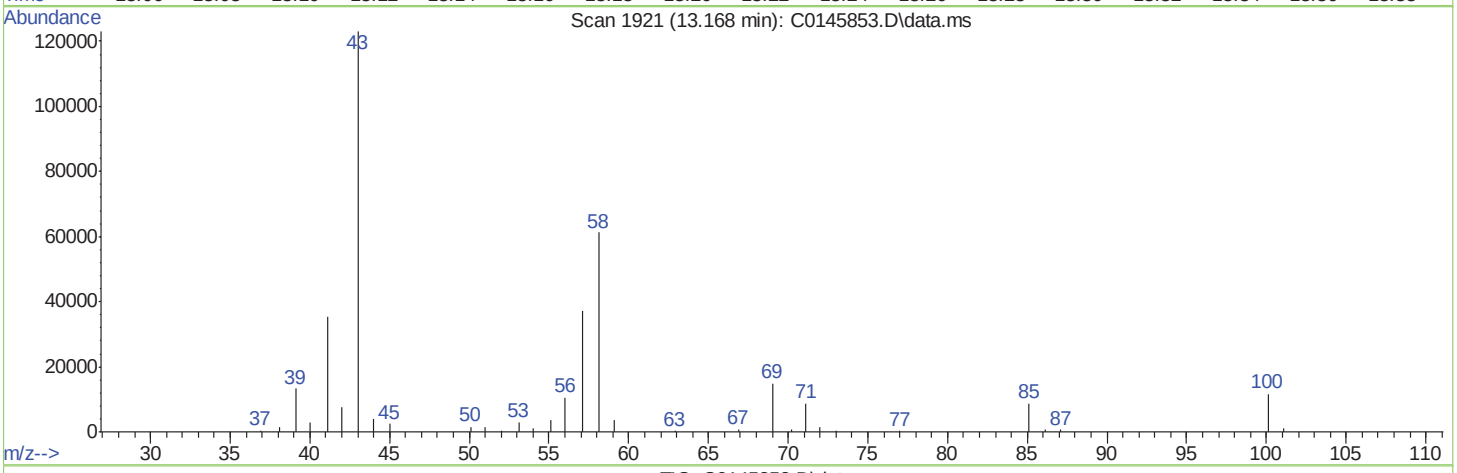

TIC: C0145853.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 28.19ug/L m

response 173970

Ion	Exp%	Act%
43.00	100	100
58.00	54.70	49.73
57.00	44.90	30.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
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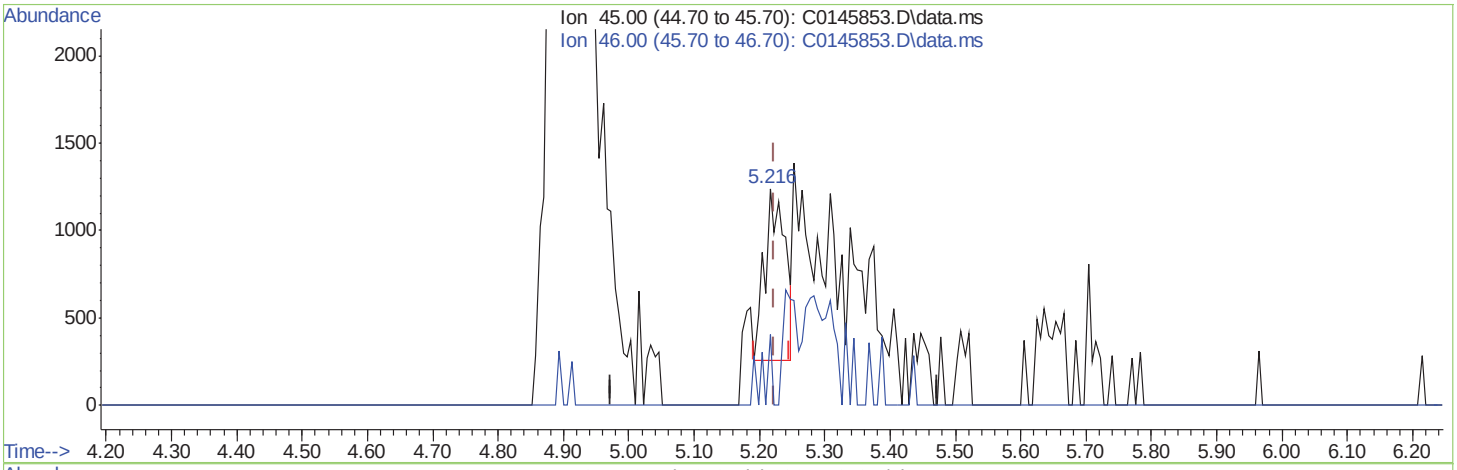

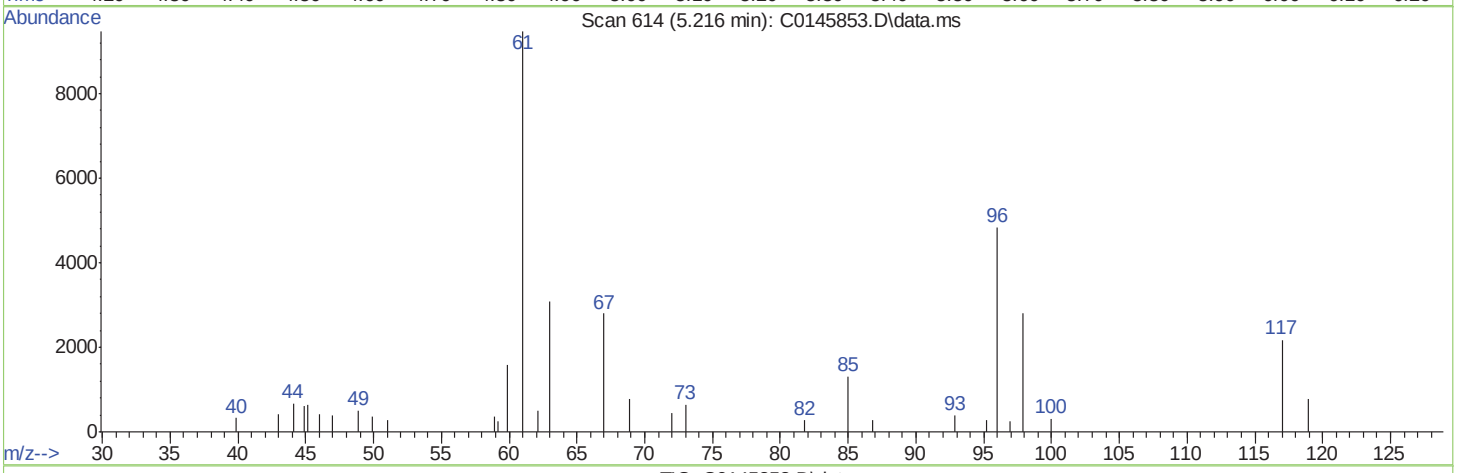

TIC: C0145853.D\data.ms

(109) Ethanol

5.216min (-0.007) 23.66ug/L

response 2083

Ion	Exp%	Act%
45.00	100	100
46.00	37.20	12.65#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
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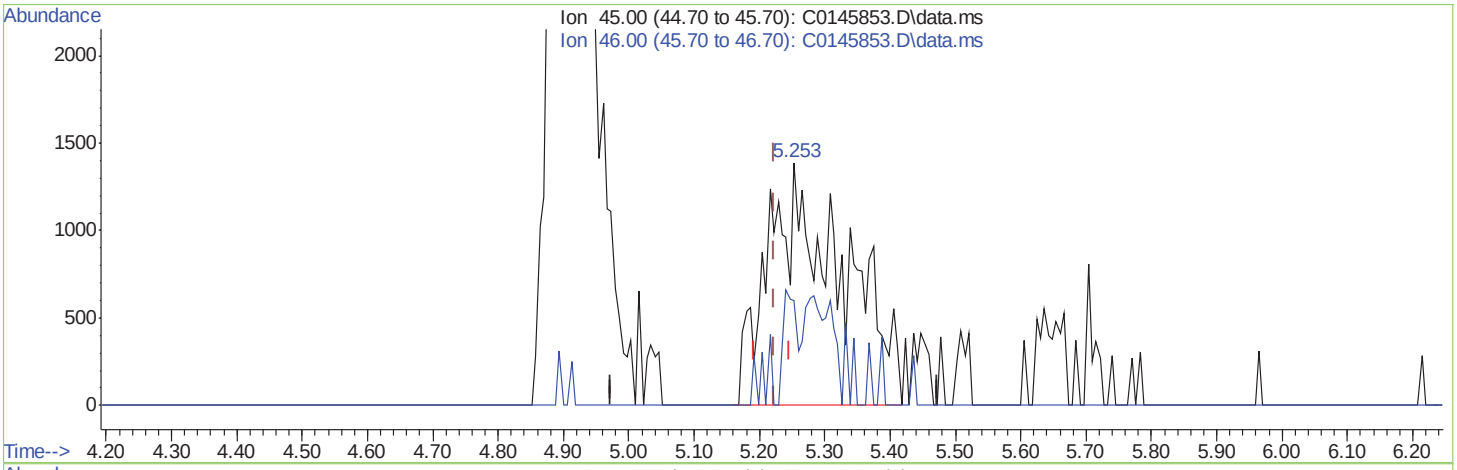

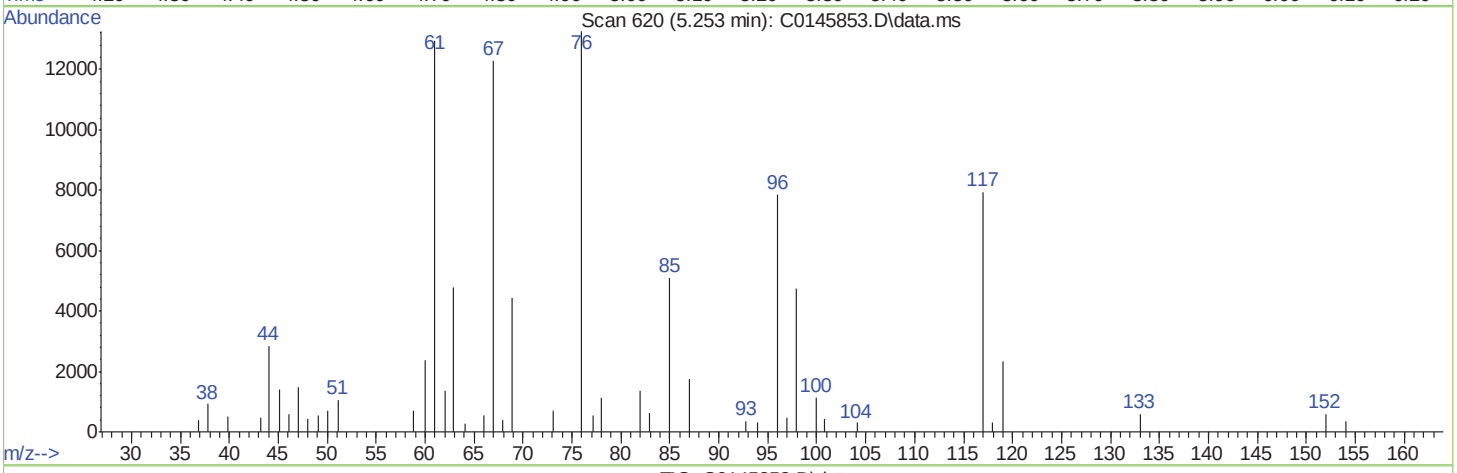

TIC: C0145853.D\data.ms

(109) Ethanol

5.253min (+0.030) 125.57ug/L m

response 11054

Ion	Exp%	Act%
45.00	100	100
46.00	37.20	43.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

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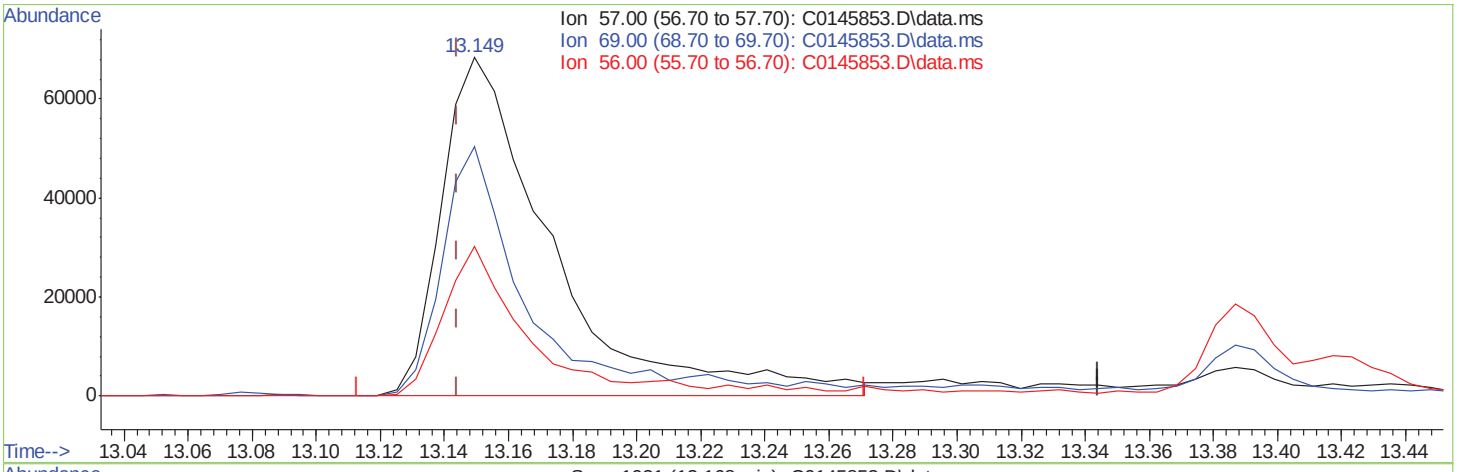

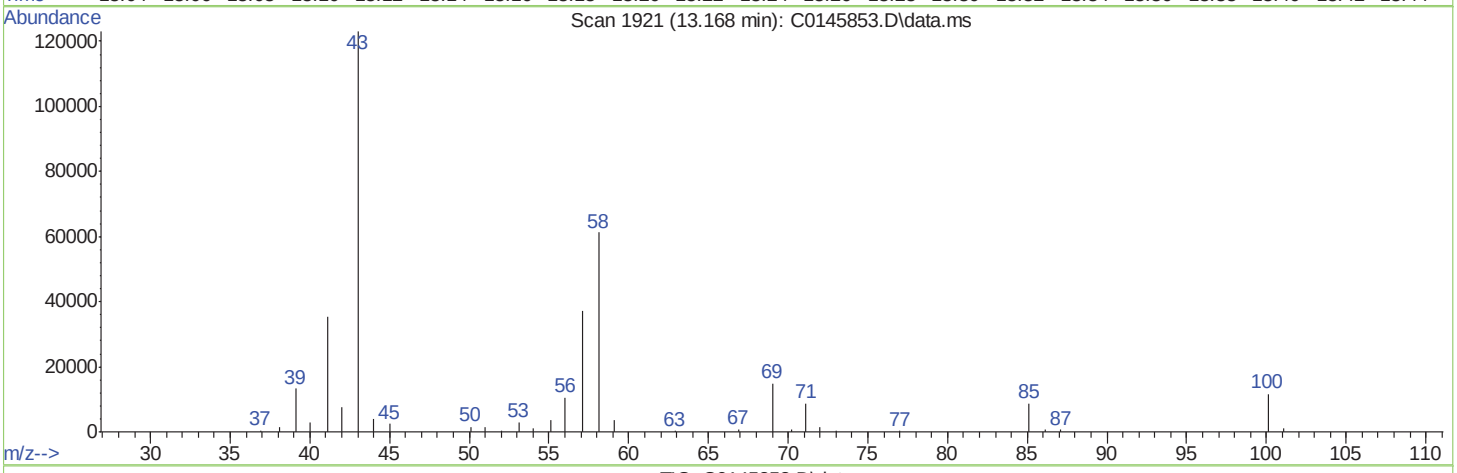

TIC: C0145853.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.149min (+0.005) 268.37ug/L

response 164516

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	56.92
56.00	43.60	30.99
0.00	0.00	0.00

Quantitation Report (Qedit)

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Data File : C0145853.D
Acq On : 24 Dec 2020 8:13 am
Operator : SHANICAO
Sample : IC5857-2 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 24 08:37:57 2020
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QLast Update : Tue Dec 22 12:34:55 2020
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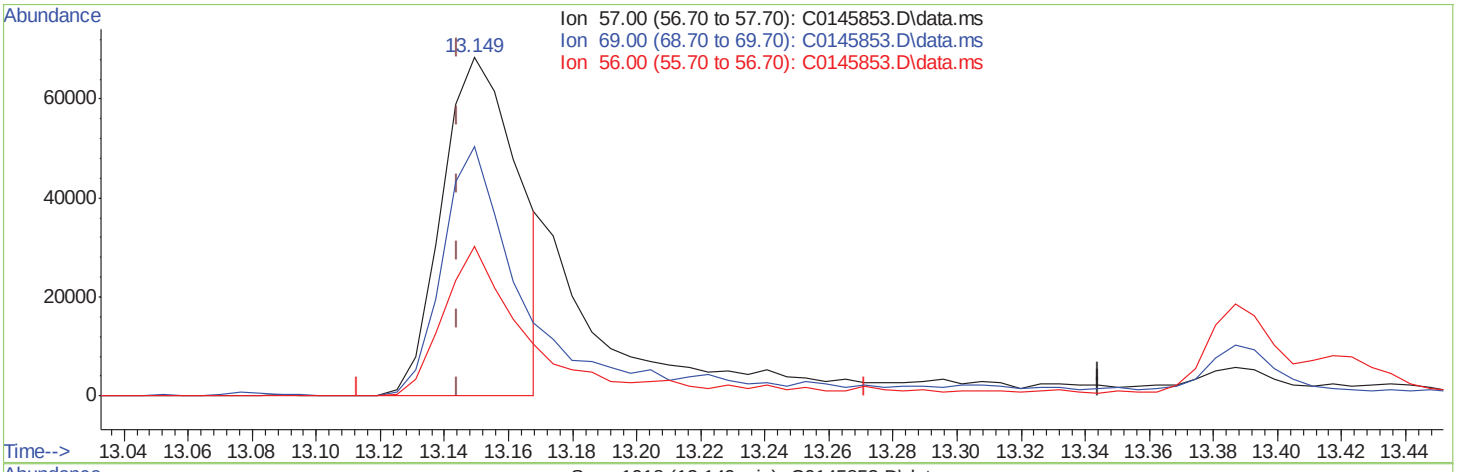
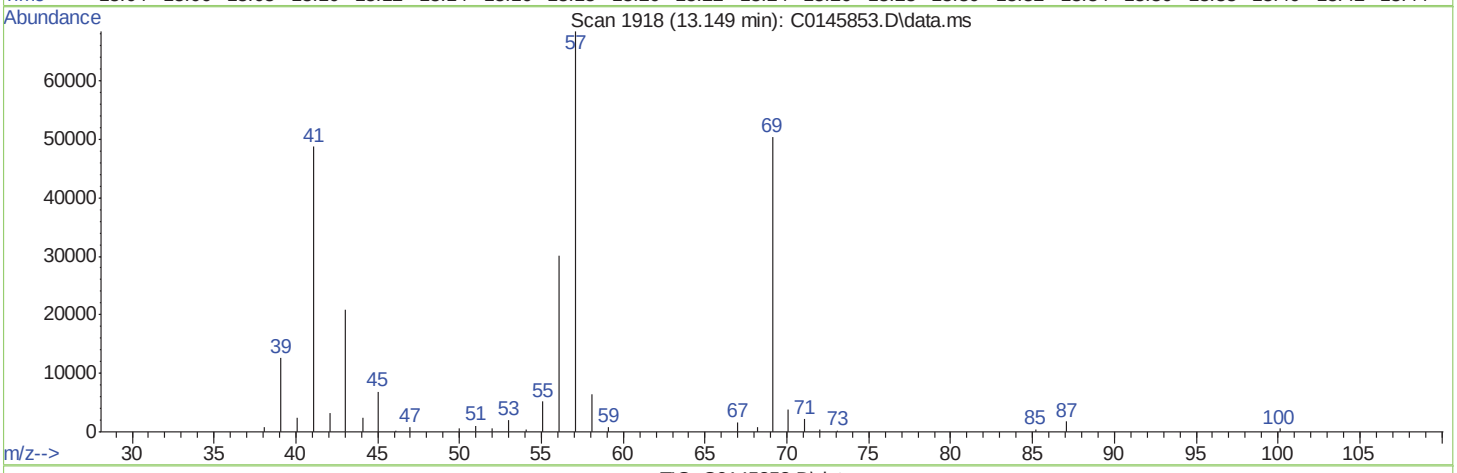




TIC: C0145853.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.149min (+0.005) 186.54ug/L m

response 114350

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	81.90
56.00	43.60	44.59
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:03:53 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1769388	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1231937	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	632967	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	218253	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	433035	46.51	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 93.02%			
47) 1,2-Dichloroethane-d4	10.181	65	584001	51.42	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 102.84%			
58) Toluene-d8	12.134	98	1731380	55.14	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 110.28%			
80) 4-Bromofluorobenzene	14.306	174	539573	52.00	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 104.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.868	85	88515	7.93	ug/L	97
3) Chloromethane	3.209	50	111123	8.93	ug/L	93
4) 1,3-butadiene	3.367	39	78685	7.84	ug/L	88
5) Vinyl Chloride	3.343	62	104829	8.46	ug/L	97
6) Bromomethane	3.897	94	31361	6.72	ug/L	94
7) Chloroethane	4.128	64	47511	7.73	ug/L	90
8) Trichlorofluoromethane	4.359	101	108439	8.15	ug/L	93
9) Ethyl Ether	4.906	59	74956	8.33	ug/L	94
10) 1,2-Dichlorotrifluoroe...	5.253	67	90634	8.51	ug/L	98
11) 1,1-Dichloroethene	5.241	61	115916	8.54	ug/L	98
12) Freon 113	5.320	101	71255	8.10	ug/L	94
13) Carbon Disulfide	5.284	76	242733	8.46	ug/L	97
14) Iodomethane	5.484	142	46769	5.45	ug/L	96
15) Acrolein	5.819	56	84769	40.90	ug/L	95
16) Allyl chloride	6.068	41	139544	8.54	ug/L	98
17) Methylene Chloride	6.275	49	116038	8.04	ug/L	91
18) Acetone	6.330	43	123707	41.70	ug/L	97
19) Methyl acetate	6.561	43	337097	41.25	ug/L	96
20) trans-1,2-Dichloroethene	6.543	61	114716	8.63	ug/L	97
21) Hexane	6.689	56	73554	8.56	ug/L	96
22) Methyl Tert Butyl Ether	6.719	73	266203	8.42	ug/L	89
23) Acetonitrile	7.170	41	121061	81.81	ug/L	99
24) Di-isopropyl ether	7.413	45	324243	8.91	ug/L	96
25) Chloroprene	7.601	53	125766	8.32	ug/L	94
26) 1,1-Dichloroethane	7.638	63	147351	8.51	ug/L	99
27) Acrylonitrile	7.729	52	123240	38.79	ug/L	96
28) ETBE	8.082	59	286574	8.65	ug/L	95
29) Vinyl acetate	8.119	43	1074175	46.27	ug/L	97
30) cis-1,2-Dichloroethene	8.666	96	79014	8.45	ug/L	98
31) 2,2-Dichloropropane	8.855	77	123690	8.10	ug/L	98
32) Bromochloromethane	9.037	128	39379	8.74	ug/L	93
33) Cyclohexane	9.019	56	152104	8.45	ug/L	96
34) Chloroform	9.171	83	136529	8.52	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:03:53 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
35) Ethyl acetate	9.360	43	465794	40.41	ug/L		98
36) Tetrahydrofuran	9.402	42	28999	7.56	ug/L		93
38) Carbon Tetrachloride	9.372	117	93383	7.99	ug/L		99
39) 1,1,1-Trichloroethane	9.469	97	111973	7.97	ug/L		95
40) 2-Butanone	9.627	43	210174	42.94	ug/L		98
41) 1,1-Dichloropropene	9.664	75	117661	8.37	ug/L		97
42) tert-Butyl formate	9.810	59	426681	40.49	ug/L		98
43) Propionitrile	10.029	54	124753	85.84	ug/L		94
44) Methacrylonitrile	10.053	41	595002	90.41	ug/L		95
45) Benzene	10.004	78	330476	8.75	ug/L		100
46) TAME	10.150	73	263588	8.52	ug/L		99
48) 1,2-Dichloroethane	10.266	62	110402	8.48	ug/L		95
49) Trichloroethene	10.728	95	84090	8.53	ug/L		98
50) Methylcyclohexane	10.710	83	132764	8.27	ug/L		95
51) Dibromomethane	11.191	93	46076	8.16	ug/L		96
52) 1,2-Dichloropropane	11.288	63	93898	8.65	ug/L		97
53) Bromodichloromethane	11.361	83	102358	8.23	ug/L		99
54) Methyl methacrylate	11.507	41	85580	8.70	ug/L		97
55) 2-Chloroethyl vinyl ether	11.903	63	306911	42.74	ug/L		97
56) cis-1,3-Dichloropropene	11.963	75	148034	8.19	ug/L		92
59) Toluene	12.176	91	352126	10.35	ug/L		95
60) 2-Nitropropane	12.383	41	128152	50.83	ug/L		93
61) 4-Methyl-2-pentanone	12.493	43	458855	54.98	ug/L		95
62) trans-1,3-Dichloropropene	12.541	75	127572	10.08	ug/L		88
63) Tetrachloroethene	12.523	166	80434	10.06	ug/L		98
64) Ethyl methacrylate	12.645	69	112365	10.23	ug/L		97
65) 1,1,2-Trichloroethane	12.681	83	64438	10.24	ug/L		93
66) Dibromochloromethane	12.833	129	76397	9.88	ug/L		94
67) 1,3-Dichloropropane	12.906	76	141835	10.30	ug/L		98
68) 1,2-Dibromoethane	13.034	107	73580	10.12	ug/L		97
69) 2-hexanone	13.168	43	329934m	54.69	ug/L		
70) 1-Chlorohexane	13.387	91	115656	10.37	ug/L		98
71) Ethylbenzene	13.436	91	366315	10.36	ug/L		95
72) Chlorobenzene	13.436	112	207104	10.29	ug/L		97
73) 1,1,1,2-Tetrachloroethane	13.478	131	73398	10.22	ug/L		98
74) m,p-Xylene	13.539	91	561998	21.65	ug/L		95
75) o-Xylene	13.861	91	297653	10.51	ug/L		96
76) Styrene	13.904	104	227005	9.90	ug/L		96
77) Bromoform	13.953	173	52098	9.92	ug/L		97
78) Isopropylbenzene	14.080	105	346530	10.41	ug/L		95
81) cis-1,4-Dichloro-2-butene	14.336	53	30023	10.35	ug/L	#	84
82) n-Propylbenzene	14.372	91	418682	11.28	ug/L		96
83) Bromobenzene	14.397	156	88118	11.16	ug/L		98
84) 1,1,2,2-Tetrachloroethane	14.427	83	95399	10.72	ug/L		98
85) 1,3,5-Trimethylbenzene	14.494	105	276496	11.30	ug/L		94
86) 2-Chlorotoluene	14.506	91	274054	11.22	ug/L		99
87) trans-1,4-Dichloro-2-B...	14.549	53	28485	11.11	ug/L		92
88) 1,2,3-Trichloropropane	14.543	110	26116	10.33	ug/L		93
89) Cyclohexanone	14.592	55	17385	54.67	ug/L		98
90) 4-Chlorotoluene	14.622	91	249380	11.02	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:03:53 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

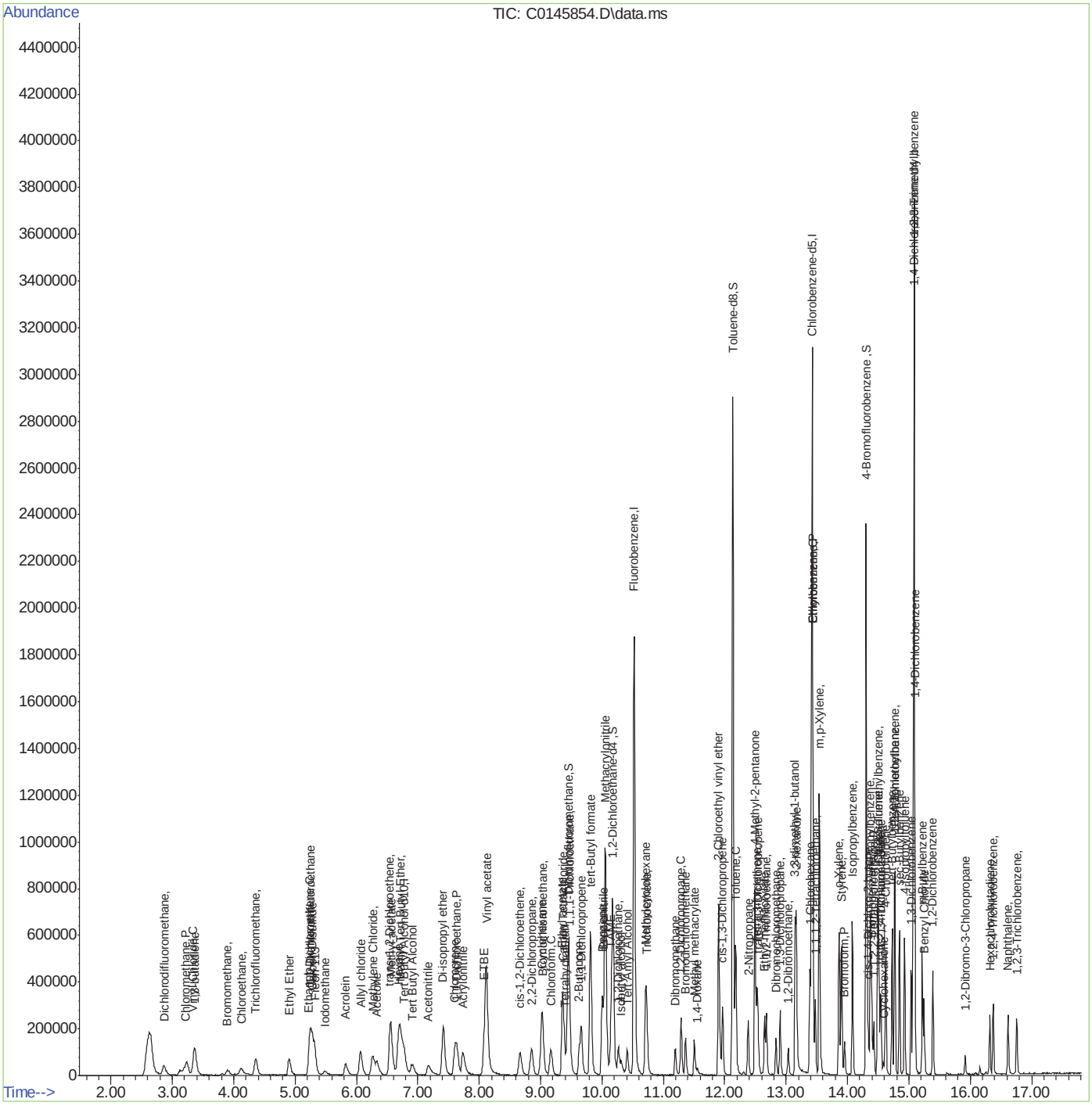
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	156296	10.99	ug/L	96
93) 1,2,4-Trimethylbenzene	14.768	105	276343	11.13	ug/L	94
94) Pentachloroethane	14.774	167	48492	10.21	ug/L	98
95) sec-Butylbenzene	14.847	105	335829	11.42	ug/L	97
96) 4-Isopropyltoluene	14.932	119	280734	11.05	ug/L	97
97) 1,3-Dichlorobenzene	15.036	146	148379	10.87	ug/L	99
98) 1,2,3-Trimethylbenzene	15.078	105	329829	11.18	ug/L	97
99) 1,4-Dichlorobenzene	15.096	146	155904	11.09	ug/L	93
100) n-Butylbenzene	15.218	92	147845	10.50	ug/L	93
101) Benzyl Chloride	15.249	126	34515	9.51	ug/L	98
102) 1,2-Dichlorobenzene	15.388	146	142662	10.99	ug/L	99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	16825	10.06	ug/L	95
104) Hexachlorobutadiene	16.319	225	41312	11.04	ug/L	96
105) 1,2,4-Trichlorobenzene	16.374	180	80470	10.62	ug/L	94
106) Naphthalene	16.617	128	168609	9.84	ug/L	97
107) 1,2,3-Trichlorobenzene	16.757	180	67460	10.77	ug/L	96
109) Ethanol	5.217	45	19345m	225.97	ug/L	
110) Tert Butyl Alcohol	6.914	59	105505	115.06	ug/L	98
111) Isobutyl alcohol	10.309	43	49147	165.60	ug/L	93
112) Tert Amyl Alcohol	10.412	59	77147	121.84	ug/L	97
113) 1,4-Dioxane	11.556	88	18646	235.72	ug/L	98
114) 3,3-dimethyl-1-butanol	13.144	57	263521m	442.05	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:03:53 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

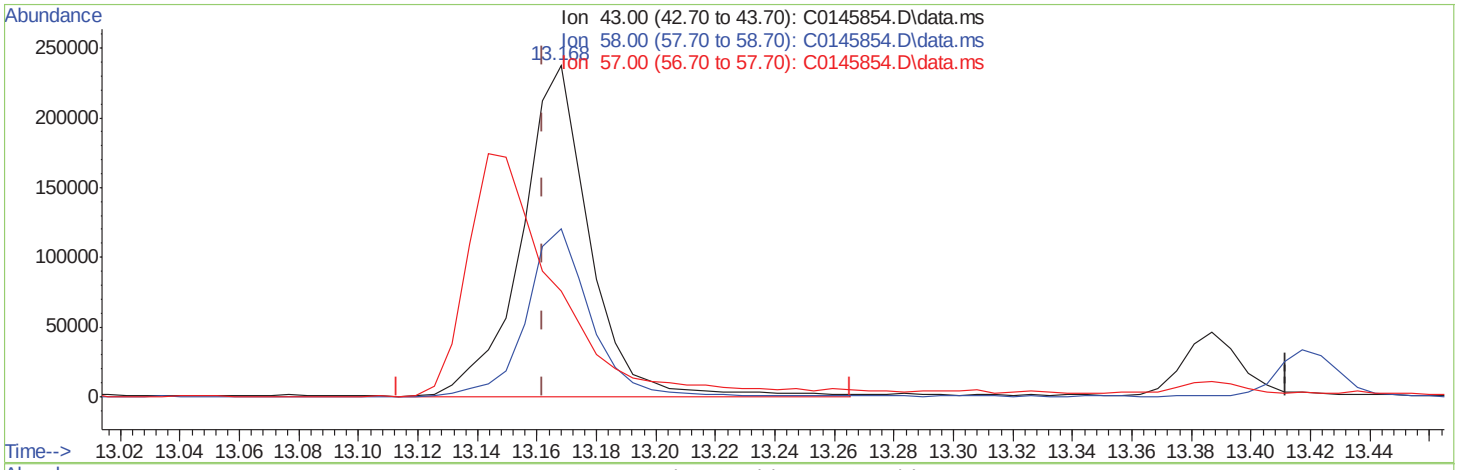
Sample Number: VC5857-IC5857
Lab FileID: C0145854.D
Injection Time: 12/24/20 08:39
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

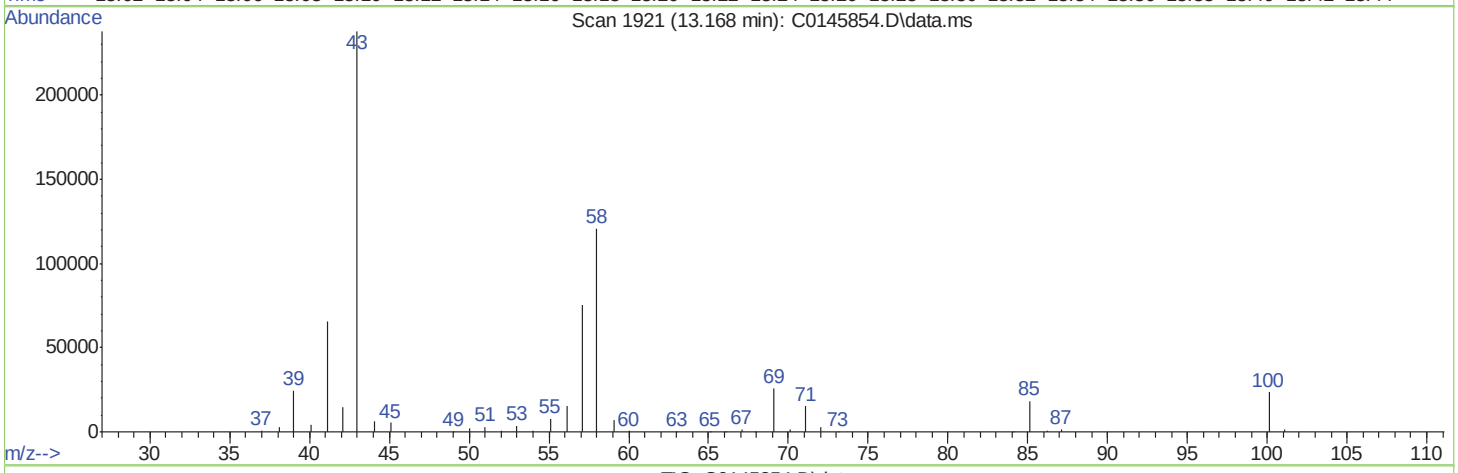
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.22	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145854.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 62.84ug/L

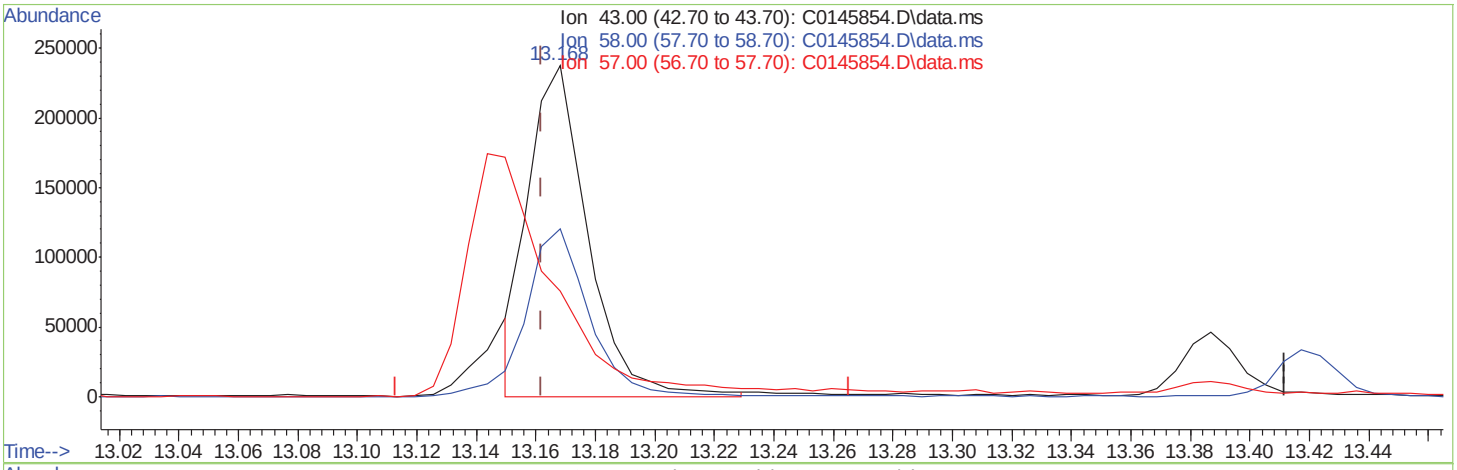
response 379104

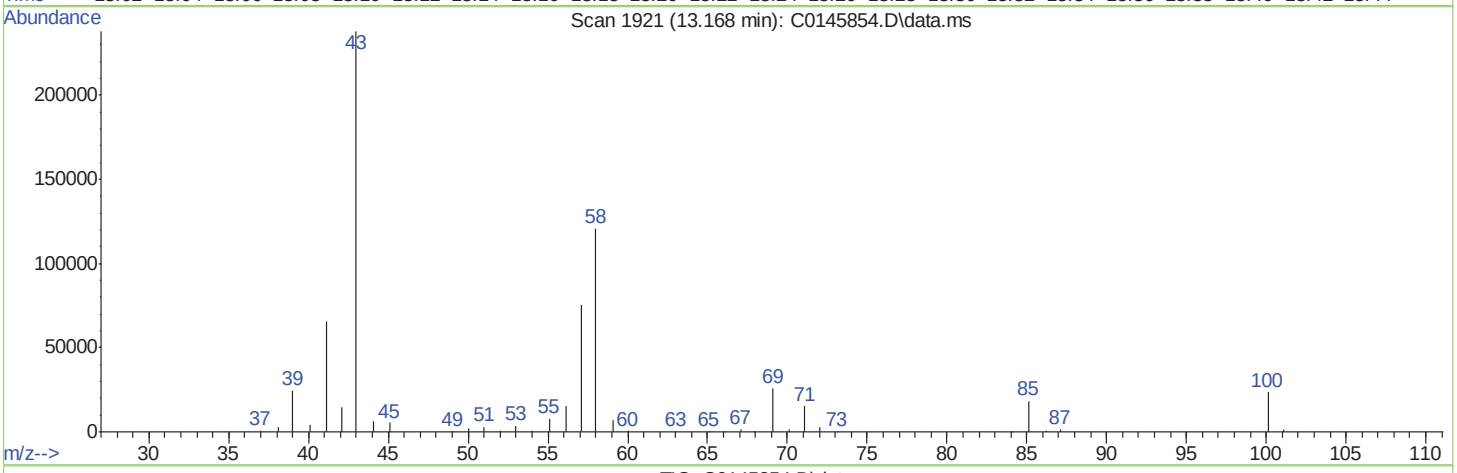
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	50.81
57.00	44.90	31.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145854.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 54.69ug/L m

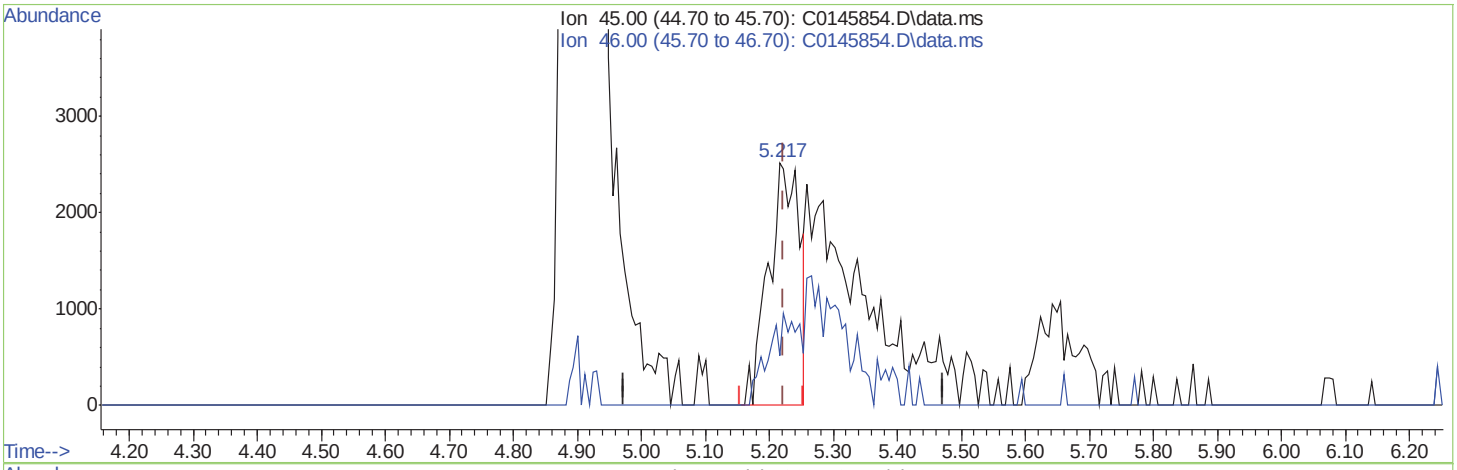
response 329934

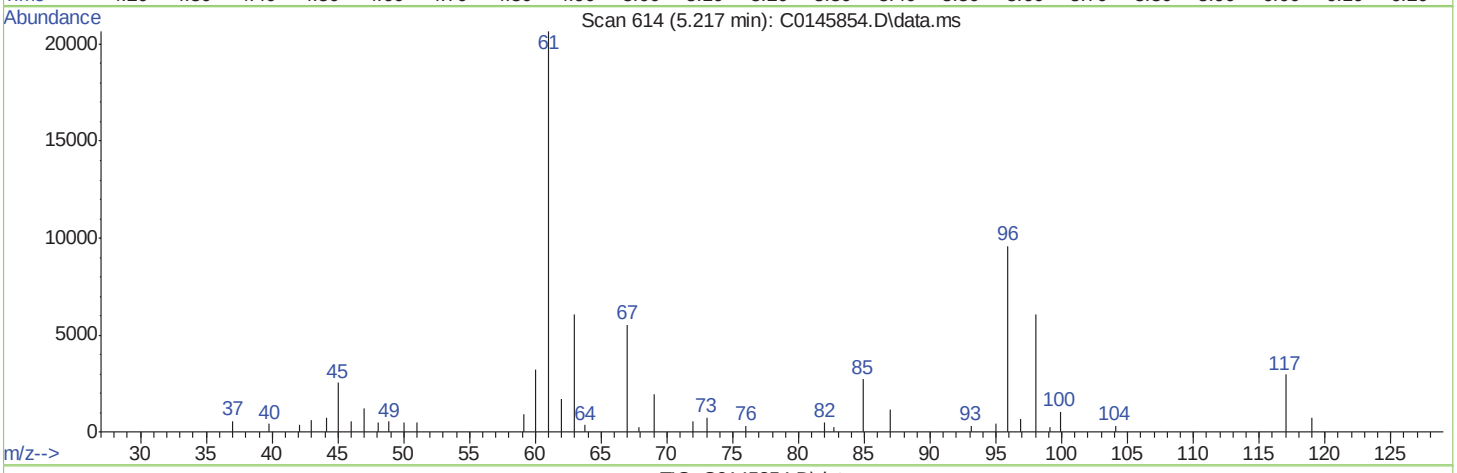
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	50.81
57.00	44.90	31.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145854.D\data.ms

(109) Ethanol

5.217min (-0.006) 98.37ug/L

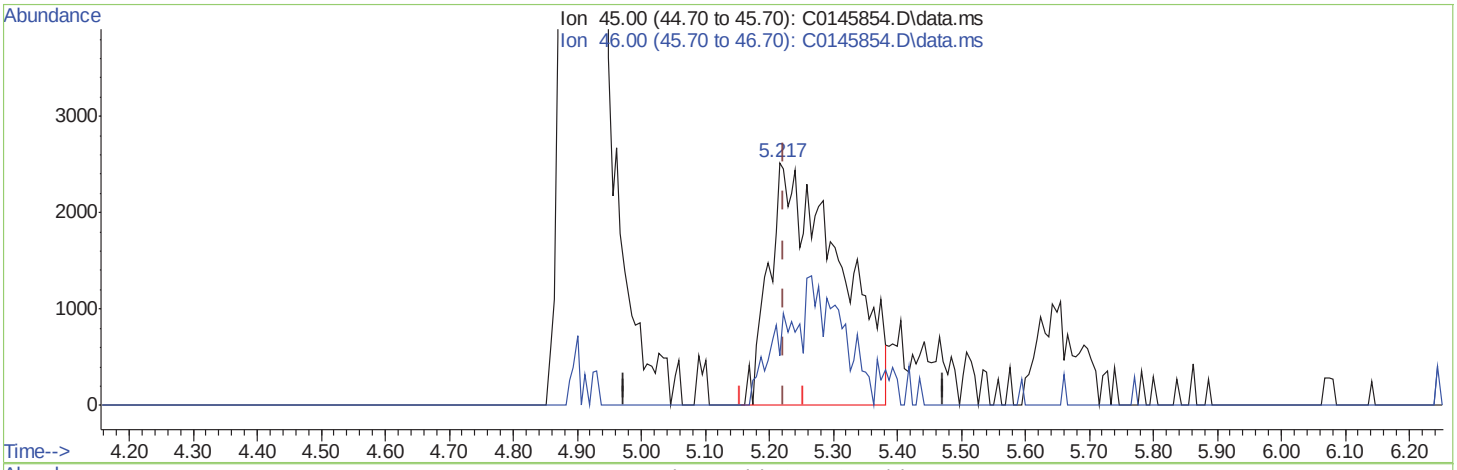
response 8421

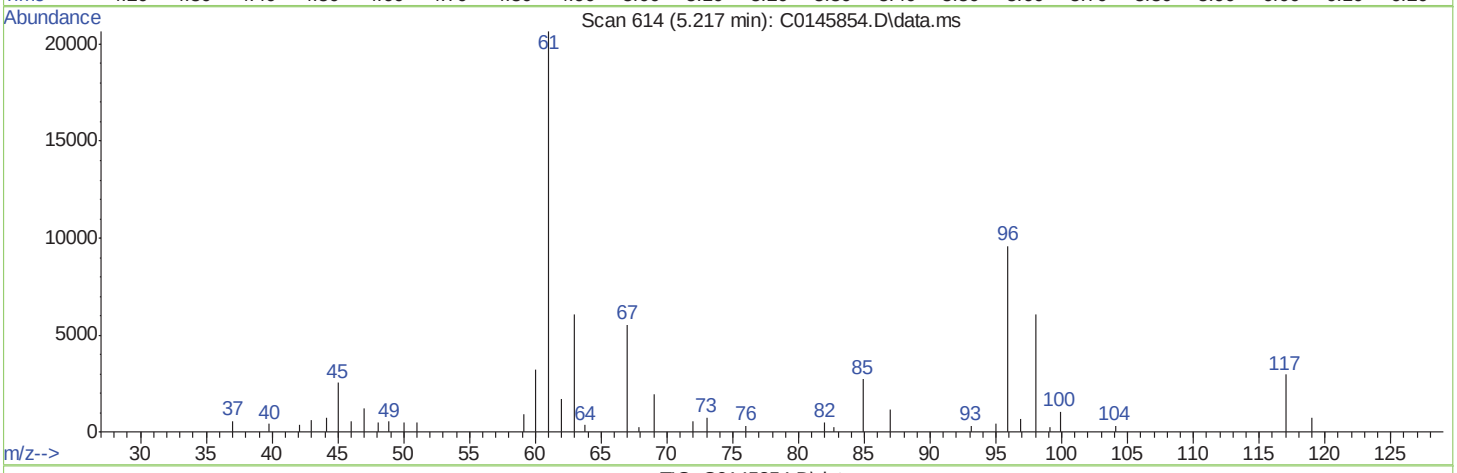
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	20.64
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145854.D\data.ms

(109) Ethanol

5.217min (-0.006) 225.97ug/L m

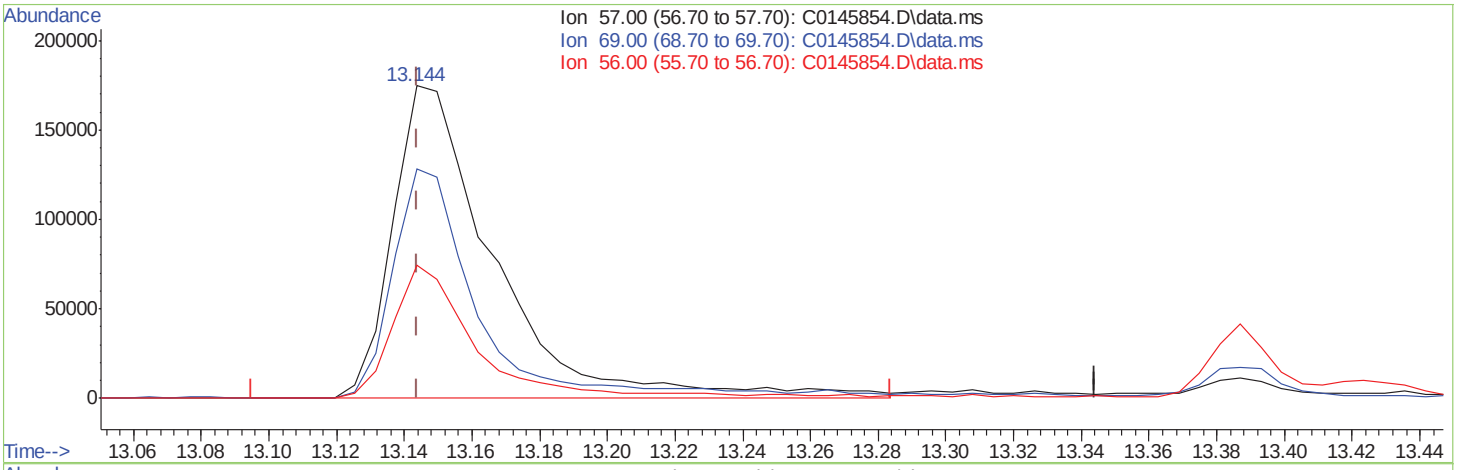
response 19345

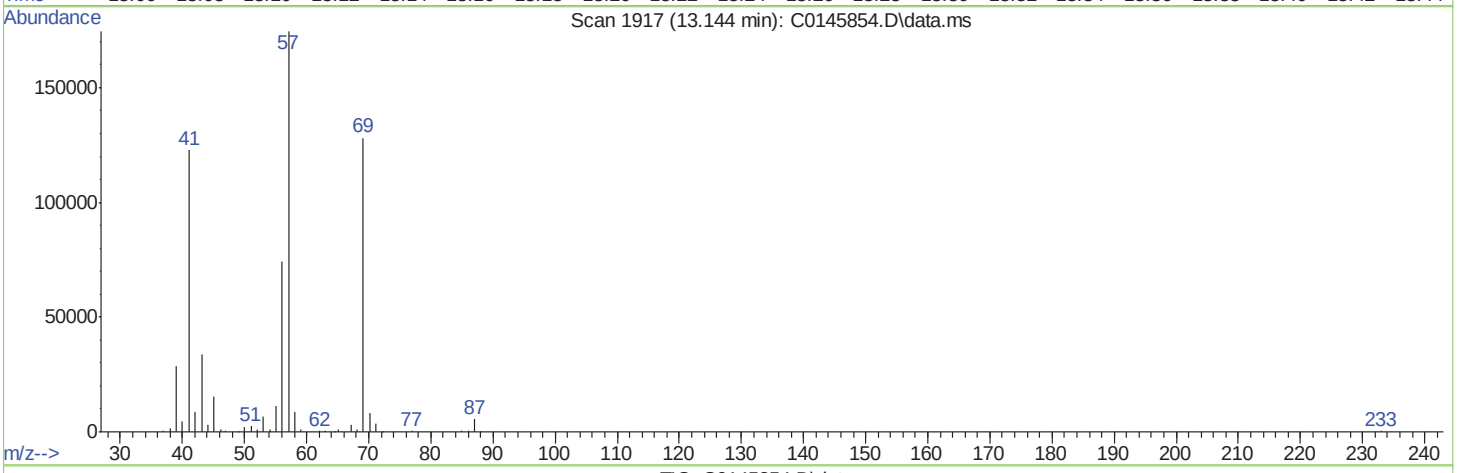
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	20.64
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145854.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.000) 617.35ug/L

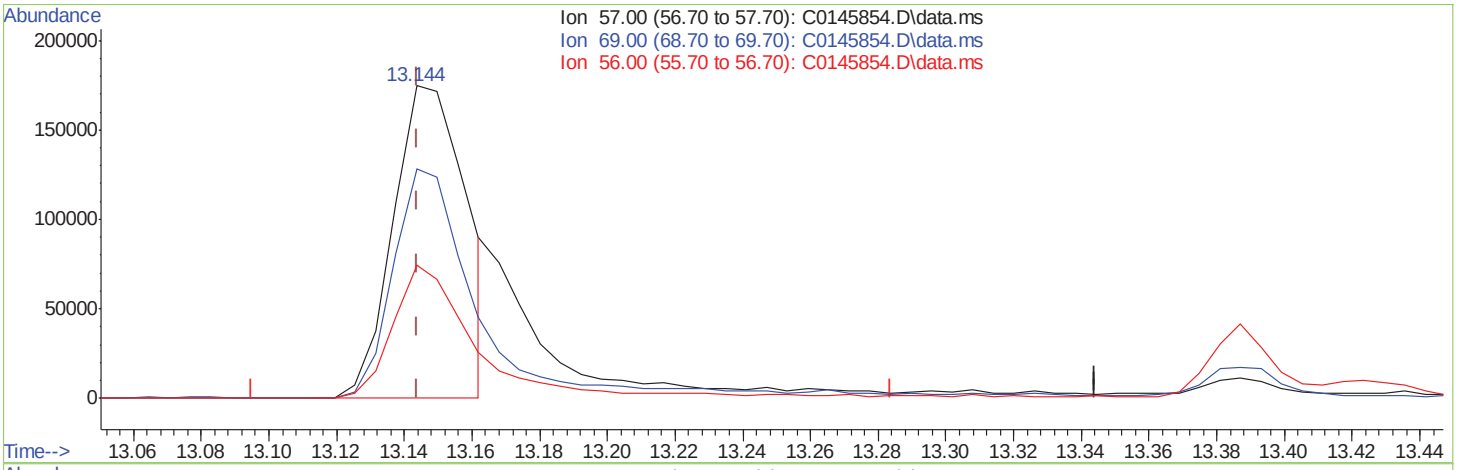
response 368021

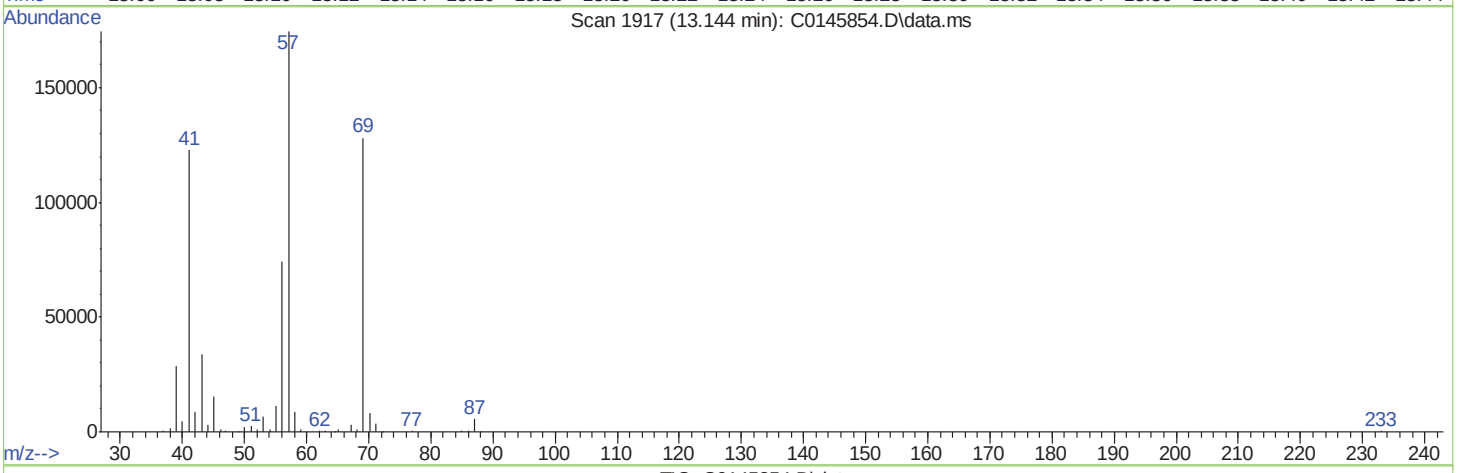
Ion	Exp%	Act%
57.00	100	100
69.00	75.60	60.52
56.00	43.60	33.13
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145854.D
Acq On : 24 Dec 2020 8:39 am
Operator : SHANICAO
Sample : IC5857-3 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 24 10:01:51 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145854.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.000) 442.05ug/L m

response 263521

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	84.52
56.00	43.60	46.27
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:05:16 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1712881	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1183681	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	621279	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	231361	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	420078	46.61	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 93.22%			
47) 1,2-Dichloroethane-d4	10.181	65	552647	50.26	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.52%			
58) Toluene-d8	12.134	98	1665671	55.21	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 110.42%			
80) 4-Bromofluorobenzene	14.306	174	522997	51.35	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.70%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	212188	19.63	ug/L	98
3) Chloromethane	3.209	50	260462	21.63	ug/L	100
4) 1,3-butadiene	3.373	39	183023	18.84	ug/L	98
5) Vinyl Chloride	3.343	62	251452	20.96	ug/L	98
6) Bromomethane	3.909	94	72708	15.92	ug/L	96
7) Chloroethane	4.116	64	109105	18.34	ug/L	98
8) Trichlorofluoromethane	4.347	101	267600	20.78	ug/L	97
9) Ethyl Ether	4.900	59	185049	21.25	ug/L	96
10) 1,2-Dichlorotrifluoroe...	5.253	67	215445	20.89	ug/L	97
11) 1,1-Dichloroethene	5.235	61	275926	21.00	ug/L	98
12) Freon 113	5.314	101	168292	19.77	ug/L	96
13) Carbon Disulfide	5.278	76	559540	20.15	ug/L	100
14) Iodomethane	5.478	142	140096	16.38	ug/L	99
15) Acrolein	5.819	56	220524	108.31	ug/L	97
16) Allyl chloride	6.062	41	338381	21.39	ug/L	96
17) Methylene Chloride	6.263	49	266505	19.34	ug/L	93
18) Acetone	6.336	43	318075	110.74	ug/L	99
19) Methyl acetate	6.555	43	861066	108.92	ug/L	98
20) trans-1,2-Dichloroethene	6.543	61	264993	20.60	ug/L	96
21) Hexane	6.683	56	173082	20.80	ug/L	98
22) Methyl Tert Butyl Ether	6.719	73	648663	21.21	ug/L	92
23) Acetonitrile	7.170	41	315337	218.84	ug/L	96
24) Di-isopropyl ether	7.419	45	761221	21.61	ug/L	95
25) Chloroprene	7.608	53	306041	20.90	ug/L	97
26) 1,1-Dichloroethane	7.638	63	350414	20.91	ug/L	99
27) Acrylonitrile	7.735	52	328721	105.69	ug/L	94
28) ETBE	8.088	59	692749	21.60	ug/L	98
29) Vinyl acetate	8.113	43	2616956	116.45	ug/L	98
30) cis-1,2-Dichloroethene	8.660	96	187551	20.73	ug/L	97
31) 2,2-Dichloropropane	8.855	77	299978	20.29	ug/L	99
32) Bromochloromethane	9.025	128	90253	20.69	ug/L	90
33) Cyclohexane	9.019	56	356602	20.48	ug/L	97
34) Chloroform	9.171	83	318987	20.57	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:05:16 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) Ethyl acetate	9.354	43	1188109	107.41	ug/L	99
36) Tetrahydrofuran	9.402	42	80222	21.60	ug/L	98
38) Carbon Tetrachloride	9.372	117	222164	19.62	ug/L	97
39) 1,1,1-Trichloroethane	9.475	97	273870	20.14	ug/L	97
40) 2-Butanone	9.621	43	552029	116.49	ug/L	99
41) 1,1-Dichloropropene	9.664	75	280410	20.61	ug/L	99
42) tert-Butyl formate	9.810	59	1073695	105.24	ug/L	98
43) Propionitrile	10.023	54	311837	221.65	ug/L	90
44) Methacrylonitrile	10.053	41	1440291	226.08	ug/L	99
45) Benzene	10.005	78	772102	21.12	ug/L	98
46) TAME	10.151	73	640981	21.41	ug/L	99
48) 1,2-Dichloroethane	10.266	62	269010	21.33	ug/L	100
49) Trichloroethene	10.728	95	196227	20.56	ug/L	100
50) Methylcyclohexane	10.710	83	315682	20.31	ug/L	98
51) Dibromomethane	11.191	93	112465	20.57	ug/L	97
52) 1,2-Dichloropropane	11.288	63	219978	20.92	ug/L	95
53) Bromodichloromethane	11.361	83	250104	20.78	ug/L	100
54) Methyl methacrylate	11.501	41	214137	22.49	ug/L	99
55) 2-Chloroethyl vinyl ether	11.897	63	760506	109.40	ug/L	97
56) cis-1,3-Dichloropropene	11.963	75	368201	21.03	ug/L	97
59) Toluene	12.176	91	825724	25.25	ug/L	96
60) 2-Nitropropane	12.377	41	323315	133.46	ug/L	95
61) 4-Methyl-2-pentanone	12.493	43	1120587	139.75	ug/L	97
62) trans-1,3-Dichloropropene	12.541	75	319517	26.28	ug/L	94
63) Tetrachloroethene	12.523	166	196978	25.64	ug/L	99
64) Ethyl methacrylate	12.645	69	283345	26.85	ug/L	98
65) 1,1,2-Trichloroethane	12.675	83	153829	25.44	ug/L	98
66) Dibromochloromethane	12.833	129	189153	25.45	ug/L	93
67) 1,3-Dichloropropane	12.900	76	340435	25.72	ug/L	99
68) 1,2-Dibromoethane	13.034	107	177215	25.36	ug/L	98
69) 2-hexanone	13.162	43	802240m	138.40	ug/L	
70) 1-Chlorohexane	13.387	91	272077	25.38	ug/L	99
71) Ethylbenzene	13.436	91	859330	25.28	ug/L	99
72) Chlorobenzene	13.436	112	491848	25.43	ug/L	98
73) 1,1,1,2-Tetrachloroethane	13.478	131	175855	25.48	ug/L	97
74) m,p-Xylene	13.539	91	1322751	53.02	ug/L	96
75) o-Xylene	13.861	91	705686	25.93	ug/L	97
76) Styrene	13.904	104	572053	25.97	ug/L	95
77) Bromoform	13.953	173	131886	26.14	ug/L	98
78) Isopropylbenzene	14.081	105	821848	25.69	ug/L	99
81) cis-1,4-Dichloro-2-butene	14.336	53	85431	30.01	ug/L	94
82) n-Propylbenzene	14.373	91	994207	27.30	ug/L	97
83) Bromobenzene	14.397	156	203552	26.26	ug/L	96
84) 1,1,2,2-Tetrachloroethane	14.427	83	236650	27.10	ug/L	100
85) 1,3,5-Trimethylbenzene	14.494	105	658748	27.43	ug/L	98
86) 2-Chlorotoluene	14.506	91	655537	27.35	ug/L	97
87) trans-1,4-Dichloro-2-B...	14.549	53	76801	30.52	ug/L	99
88) 1,2,3-Trichloropropane	14.537	110	66269	26.70	ug/L	94
89) Cyclohexanone	14.585	55	46127	147.78	ug/L	95
90) 4-Chlorotoluene	14.622	91	603913	27.20	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:05:16 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

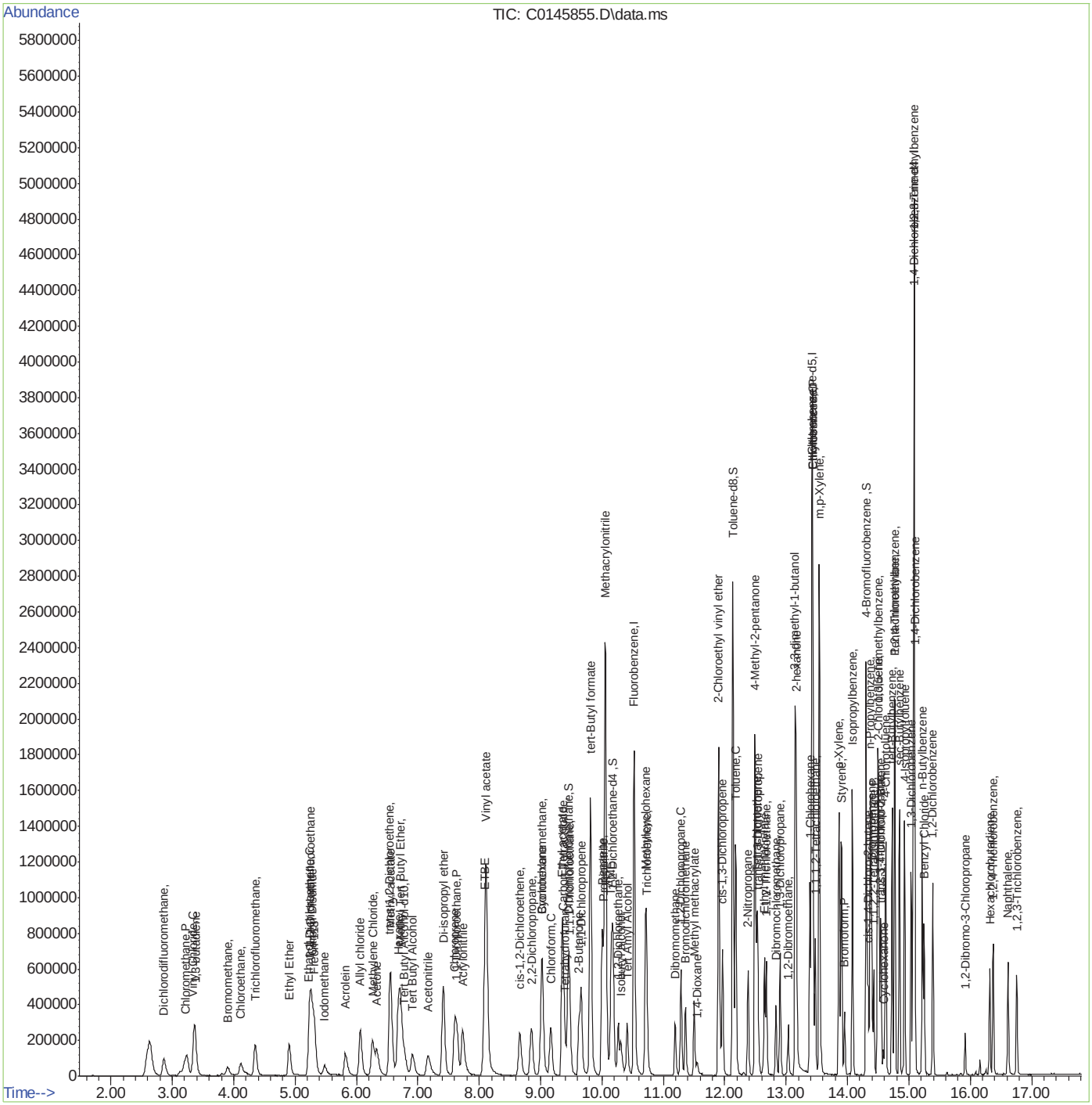
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	370528	26.55	ug/L	99
93) 1,2,4-Trimethylbenzene	14.768	105	653174	26.79	ug/L	99
94) Pentachloroethane	14.774	167	124620	26.72	ug/L	92
95) sec-Butylbenzene	14.847	105	786874	27.26	ug/L	99
96) 4-Isopropyltoluene	14.932	119	669515	26.86	ug/L	98
97) 1,3-Dichlorobenzene	15.036	146	365759	27.29	ug/L	98
98) 1,2,3-Trimethylbenzene	15.078	105	784074	27.08	ug/L	99
99) 1,4-Dichlorobenzene	15.096	146	374039	27.12	ug/L	97
100) n-Butylbenzene	15.218	92	360702	26.09	ug/L	94
101) Benzyl Chloride	15.249	126	93821	25.88	ug/L	98
102) 1,2-Dichlorobenzene	15.388	146	349146	27.40	ug/L	98
103) 1,2-Dibromo-3-Chloropr...	15.918	75	47786	29.10	ug/L	94
104) Hexachlorobutadiene	16.319	225	100985	27.50	ug/L	93
105) 1,2,4-Trichlorobenzene	16.374	180	199668	26.84	ug/L	99
106) Naphthalene	16.617	128	430471	25.58	ug/L	98
107) 1,2,3-Trichlorobenzene	16.757	180	165567	26.92	ug/L	96
109) Ethanol	5.223	45	49346m	543.76	ug/L	
110) Tert Butyl Alcohol	6.914	59	281935	290.06	ug/L	99
111) Isobutyl alcohol	10.309	43	139007	441.86	ug/L	98
112) Tert Amyl Alcohol	10.412	59	202804	302.16	ug/L	98
113) 1,4-Dioxane	11.556	88	47388	569.26	ug/L	99
114) 3,3-dimethyl-1-butanol	13.144	57	793638m	1255.89	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:05:16 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

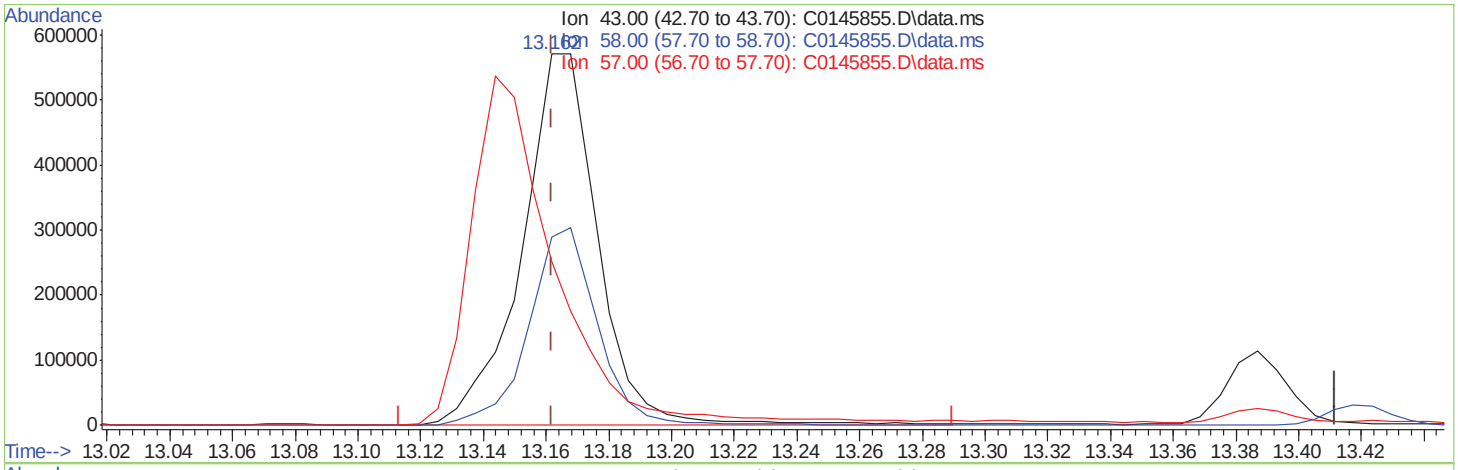
Sample Number: VC5857-IC5857
Lab FileID: C0145855.D
Injection Time: 12/24/20 09:05
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

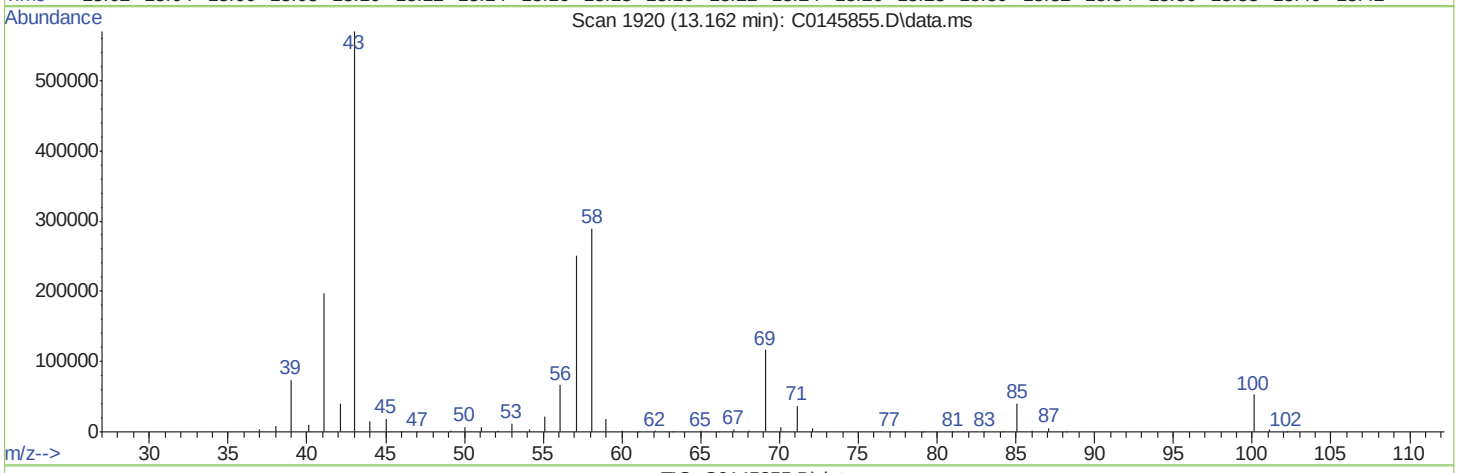
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.22	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.14	Overlapping peak
2-Hexanone	591-78-6		13.16	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 165.99ug/L

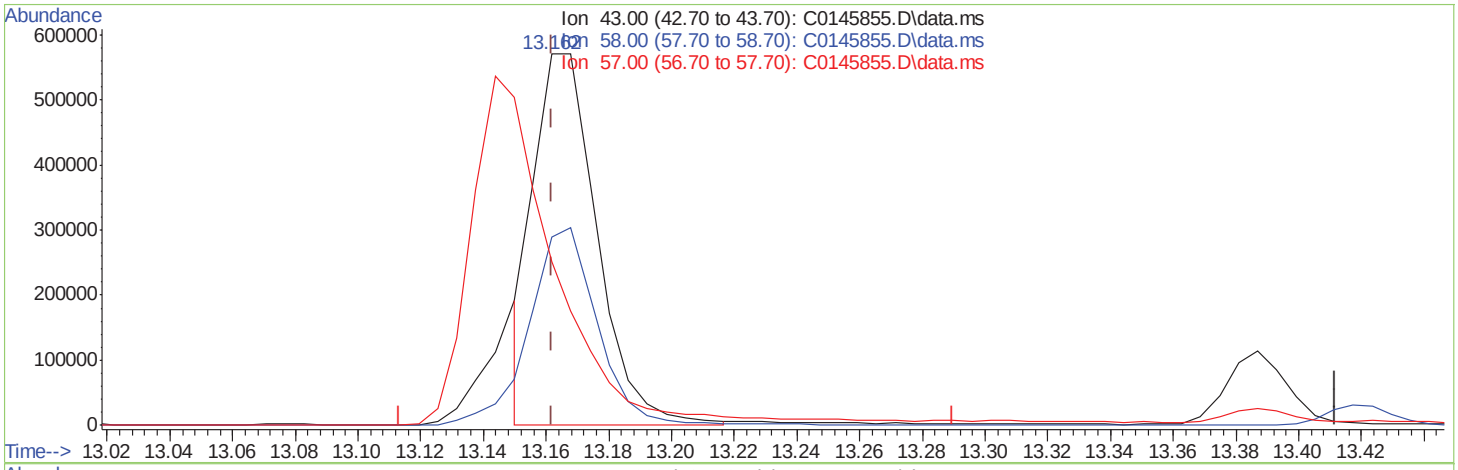
response 962128

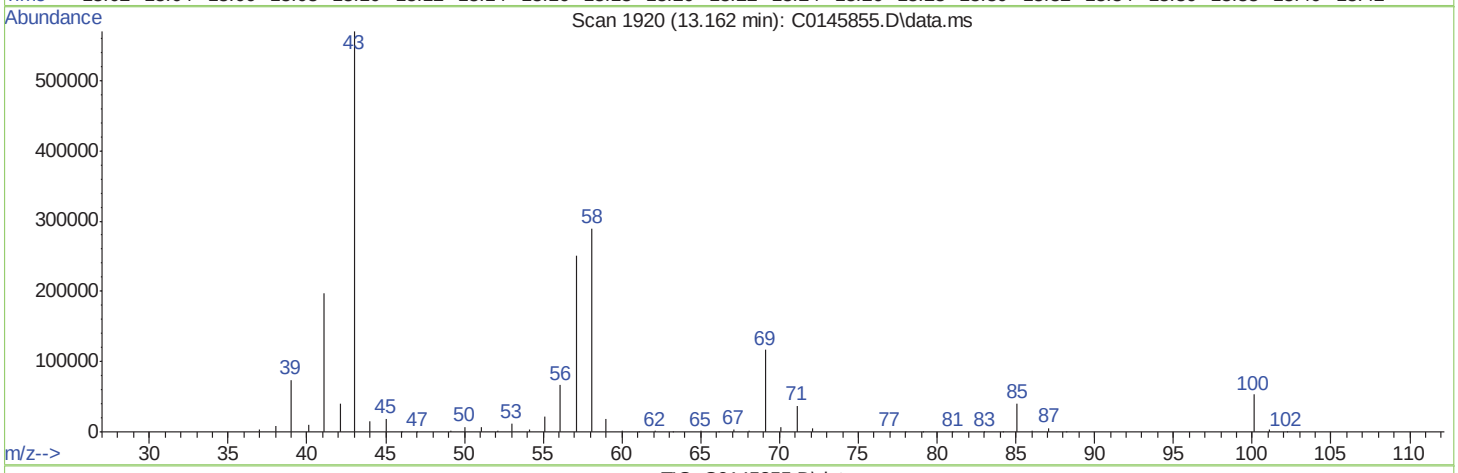
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	50.91
57.00	44.90	43.92
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 138.40ug/L m

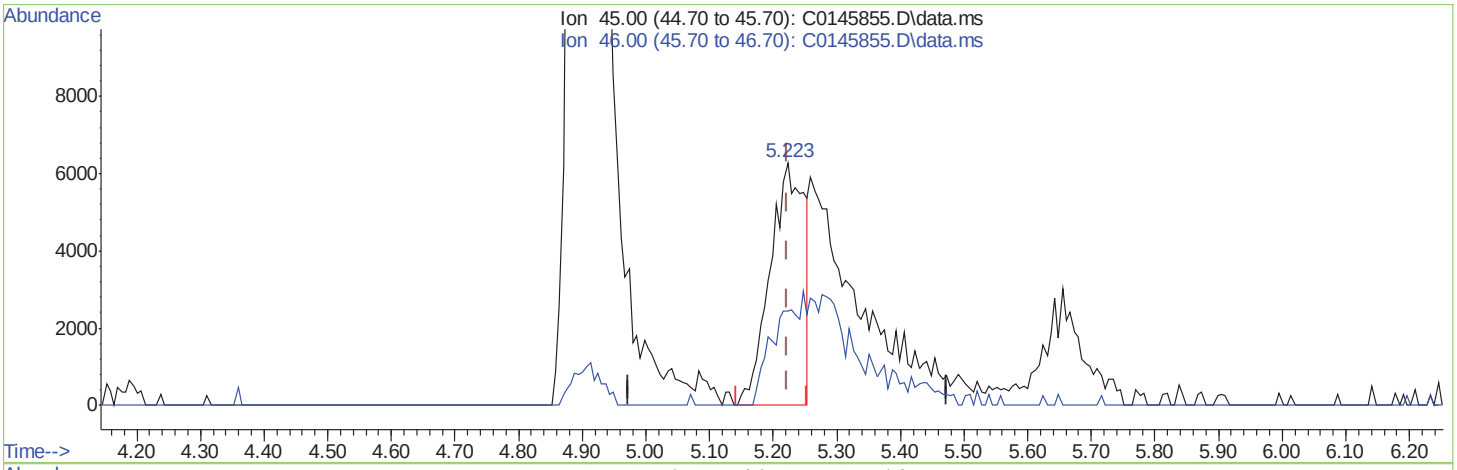
response 802240

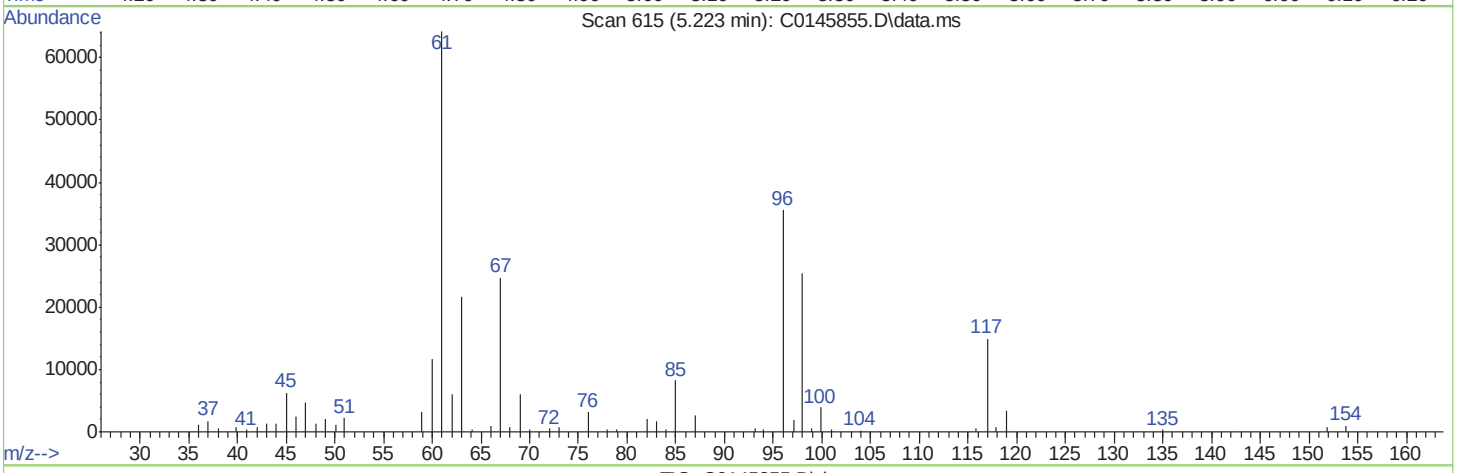
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	50.86
57.00	44.90	43.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(109) Ethanol

5.223min (-0.000) 258.16ug/L

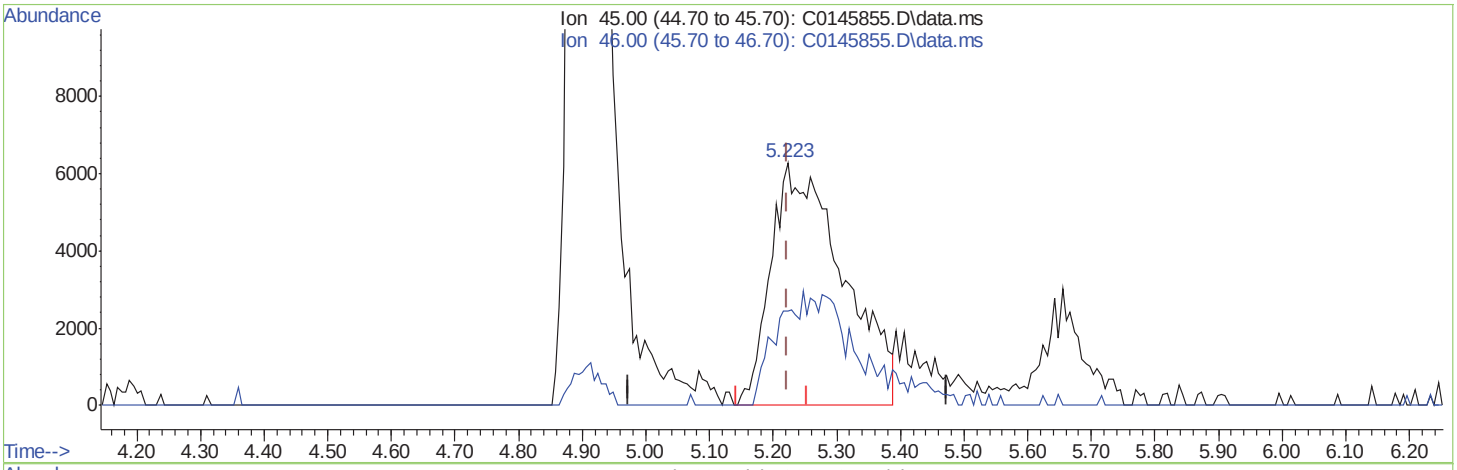
response 23428

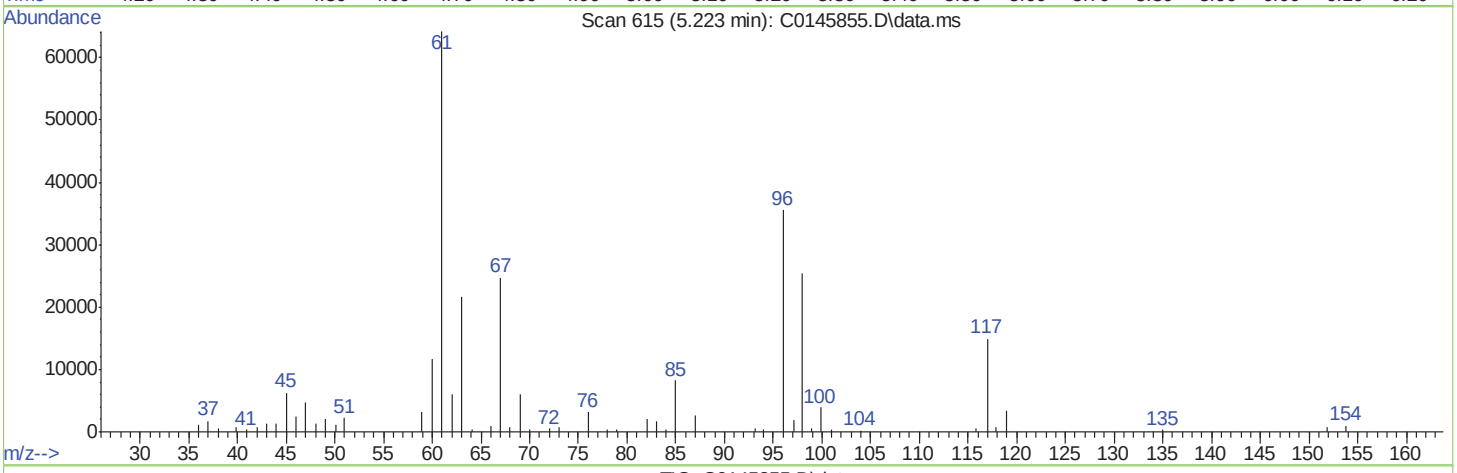
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	39.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(109) Ethanol

5.223min (-0.000) 543.76ug/L m

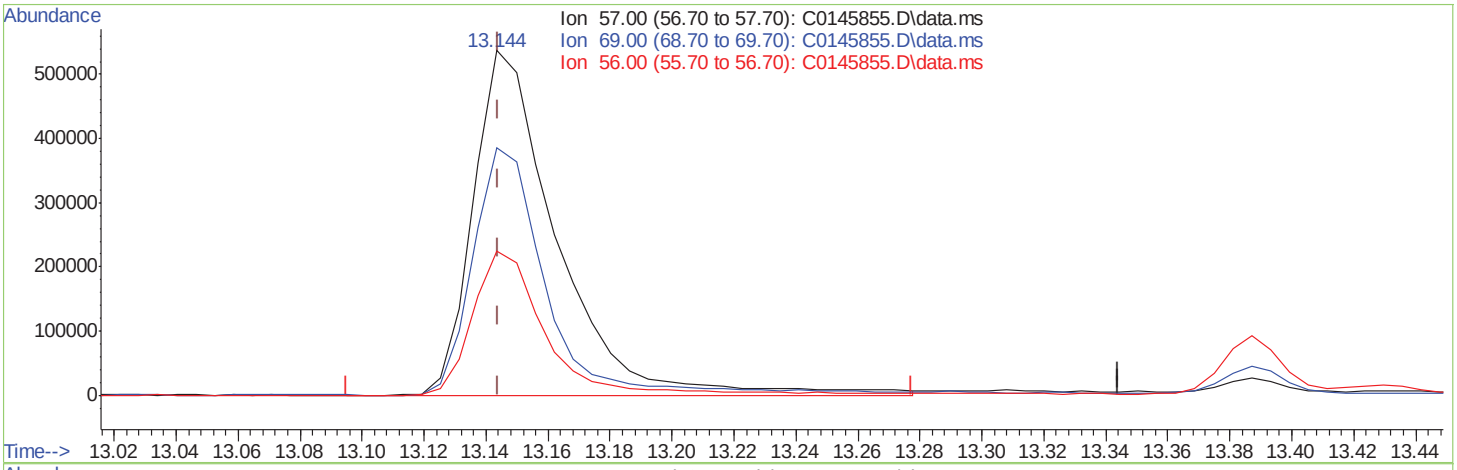
response 49346

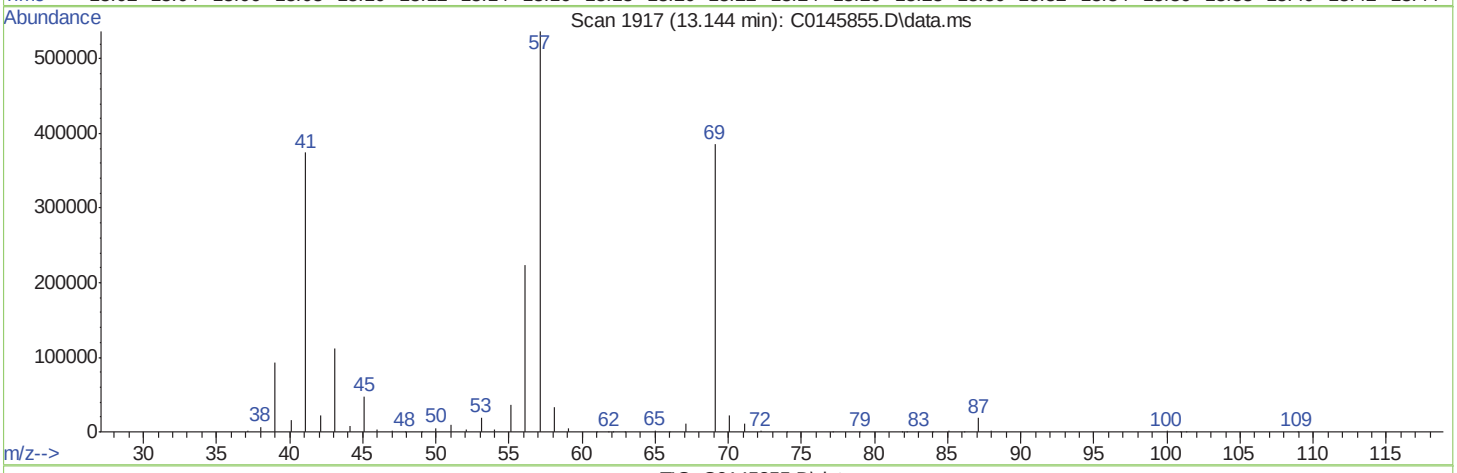
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	39.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.000) 1589.95ug/L

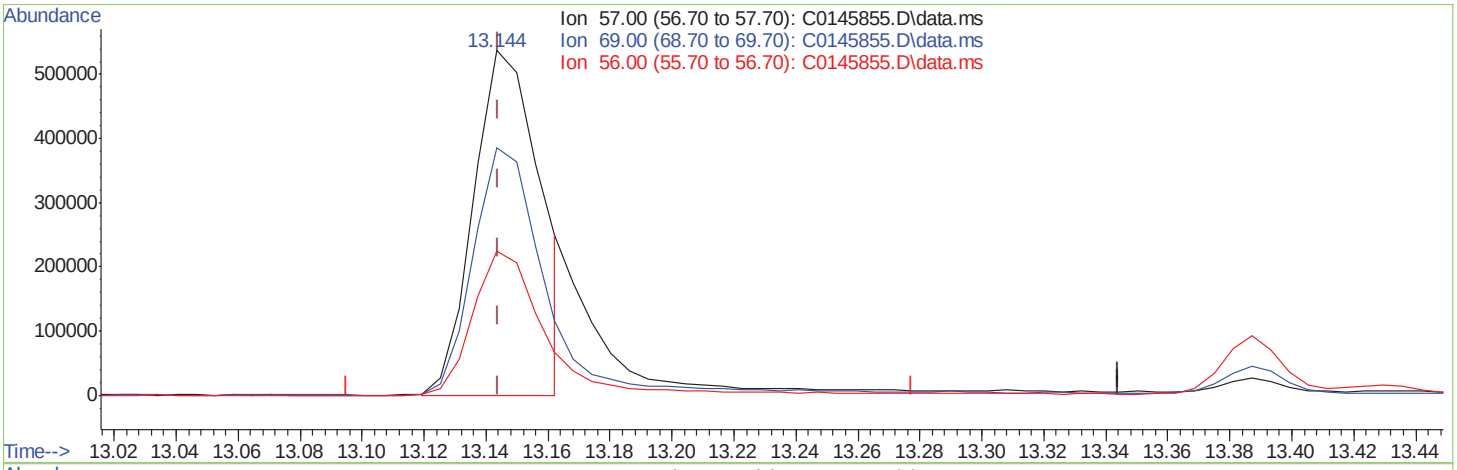
response 1004739

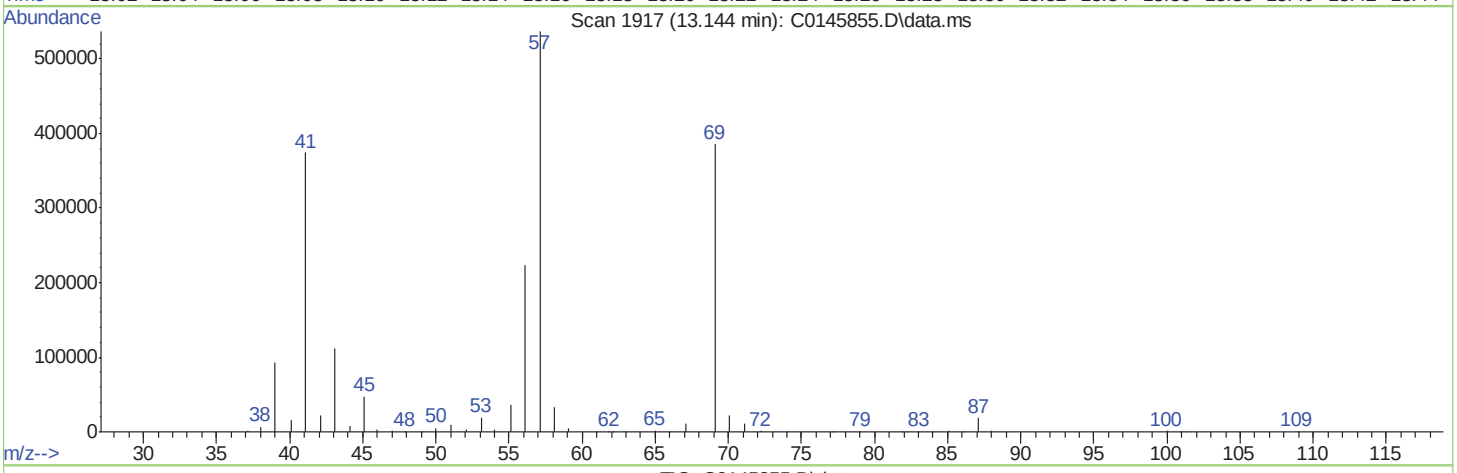
Ion	Exp%	Act%
57.00	100	100
69.00	75.60	63.25
56.00	43.60	36.28
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145855.D
Acq On : 24 Dec 2020 9:05 am
Operator : SHANICAO
Sample : IC5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 24 10:01:54 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145855.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.144min (-0.000) 1255.89ug/L m

response 793638

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	80.08
56.00	43.60	45.94
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:06:23 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1695466	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1181160	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	633567	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.792	65	218277	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	420760	47.16	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 94.32%			
47) 1,2-Dichloroethane-d4	10.181	65	547100	50.27	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.54%			
58) Toluene-d8	12.134	98	1692398	56.21	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 112.42%#			
80) 4-Bromofluorobenzene	14.305	174	531894	51.21	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.42%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	355019	33.18	ug/L	99
3) Chloromethane	3.209	50	433059	36.33	ug/L	96
4) 1,3-butadiene	3.361	39	297509	30.95	ug/L	95
5) Vinyl Chloride	3.343	62	409895	34.51	ug/L	98
6) Bromomethane	3.902	94	121888	26.65	ug/L	98
7) Chloroethane	4.115	64	174740	29.67	ug/L	96
8) Trichlorofluoromethane	4.340	101	439597	34.49	ug/L	99
9) Ethyl Ether	4.906	59	299451	34.74	ug/L	99
10) 1,2-Dichlorotrifluoroe...	5.247	67	345513	33.85	ug/L	98
11) 1,1-Dichloroethene	5.235	61	449775	34.58	ug/L	96
12) Freon 113	5.308	101	277960	32.98	ug/L	96
13) Carbon Disulfide	5.277	76	944175	34.35	ug/L	99
14) Iodomethane	5.484	142	277916	31.61	ug/L	96
15) Acrolein	5.825	56	345698	169.28	ug/L	93
16) Allyl chloride	6.062	41	542474	34.65	ug/L	98
17) Methylene Chloride	6.263	49	422928	31.49	ug/L	96
18) Acetone	6.336	43	499477	175.69	ug/L	99
19) Methyl acetate	6.555	43	1340203	171.40	ug/L	96
20) trans-1,2-Dichloroethene	6.537	61	433819	34.08	ug/L	97
21) Hexane	6.683	56	272817	33.12	ug/L	96
22) Methyl Tert Butyl Ether	6.719	73	1005883	33.22	ug/L	92
23) Acetonitrile	7.163	41	499481	348.28	ug/L	95
24) Di-isopropyl ether	7.413	45	1213877	34.81	ug/L	99
25) Chloroprene	7.601	53	497130	34.30	ug/L	97
26) 1,1-Dichloroethane	7.644	63	569049	34.30	ug/L	97
27) Acrylonitrile	7.729	52	513259	165.09	ug/L	96
28) ETBE	8.088	59	1100459	34.67	ug/L	96
29) Vinyl acetate	8.112	43	4001228	179.88	ug/L	99
30) cis-1,2-Dichloroethene	8.660	96	301287	33.64	ug/L	99
31) 2,2-Dichloropropane	8.848	77	489698	33.46	ug/L	98
32) Bromochloromethane	9.031	128	149098	34.53	ug/L	96
33) Cyclohexane	9.013	56	581438	33.73	ug/L	98
34) Chloroform	9.165	83	512164	33.37	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:06:23 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) Ethyl acetate	9.353	43	1822178	167.75	ug/L	98
36) Tetrahydrofuran	9.402	42	127561	34.70	ug/L	98
38) Carbon Tetrachloride	9.372	117	367037	32.75	ug/L	98
39) 1,1,1-Trichloroethane	9.475	97	445732	33.11	ug/L	97
40) 2-Butanone	9.621	43	845990	180.36	ug/L	100
41) 1,1-Dichloropropene	9.657	75	459773	34.14	ug/L	95
42) tert-Butyl formate	9.810	59	1675939	165.96	ug/L	99
43) Propionitrile	10.029	54	491975	353.29	ug/L	99
44) Methacrylonitrile	10.053	41	2204231	349.55	ug/L	99
45) Benzene	10.004	78	1239493	34.26	ug/L	98
46) TAME	10.150	73	1009902	34.08	ug/L	99
48) 1,2-Dichloroethane	10.266	62	423154	33.90	ug/L	98
49) Trichloroethene	10.728	95	316757	33.54	ug/L	98
50) Methylcyclohexane	10.710	83	510833	33.20	ug/L	97
51) Dibromomethane	11.191	93	182255	33.68	ug/L	99
52) 1,2-Dichloropropane	11.288	63	362740	34.86	ug/L	99
53) Bromodichloromethane	11.361	83	405516	34.04	ug/L	98
54) Methyl methacrylate	11.501	41	344987	36.60	ug/L	97
55) 2-Chloroethyl vinyl ether	11.896	63	1185496	172.29	ug/L	99
56) cis-1,3-Dichloropropene	11.963	75	588526	33.97	ug/L	98
59) Toluene	12.176	91	1311636	40.19	ug/L	97
60) 2-Nitropropane	12.383	41	511709	211.67	ug/L	97
61) 4-Methyl-2-pentanone	12.492	43	1701302	212.63	ug/L	99
62) trans-1,3-Dichloropropene	12.541	75	501503	41.33	ug/L	97
63) Tetrachloroethene	12.523	166	314086	40.97	ug/L	98
64) Ethyl methacrylate	12.645	69	449073	42.65	ug/L	99
65) 1,1,2-Trichloroethane	12.675	83	242357	40.16	ug/L	97
66) Dibromochloromethane	12.833	129	302332	40.77	ug/L	98
67) 1,3-Dichloropropane	12.900	76	537379	40.69	ug/L	98
68) 1,2-Dibromoethane	13.034	107	280513	40.23	ug/L	100
69) 2-hexanone	13.162	43	1215755m	210.19	ug/L	
70) 1-Chlorohexane	13.387	91	446956	41.78	ug/L	99
71) Ethylbenzene	13.435	91	1374984	40.54	ug/L	100
72) Chlorobenzene	13.435	112	785310	40.69	ug/L	98
73) 1,1,1,2-Tetrachloroethane	13.478	131	282455	41.01	ug/L	97
74) m,p-Xylene	13.539	91	2098137	84.29	ug/L	98
75) o-Xylene	13.861	91	1124060	41.39	ug/L	99
76) Styrene	13.904	104	922732	41.98	ug/L	97
77) Bromoform	13.952	173	217152	43.13	ug/L	97
78) Isopropylbenzene	14.080	105	1314980	41.20	ug/L	100
81) cis-1,4-Dichloro-2-butene	14.336	53	136403	46.98	ug/L	97
82) n-Propylbenzene	14.372	91	1613001	43.43	ug/L	98
83) Bromobenzene	14.397	156	336960	42.63	ug/L	98
84) 1,1,2,2-Tetrachloroethane	14.427	83	378644	42.51	ug/L	98
85) 1,3,5-Trimethylbenzene	14.494	105	1061311	43.33	ug/L	99
86) 2-Chlorotoluene	14.506	91	1072728	43.89	ug/L	98
87) trans-1,4-Dichloro-2-B...	14.549	53	118523	46.18	ug/L	95
88) 1,2,3-Trichloropropane	14.537	110	105646	41.74	ug/L	95
89) Cyclohexanone	14.585	55	72989	229.31	ug/L	99
90) 4-Chlorotoluene	14.622	91	978980	43.23	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:06:23 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

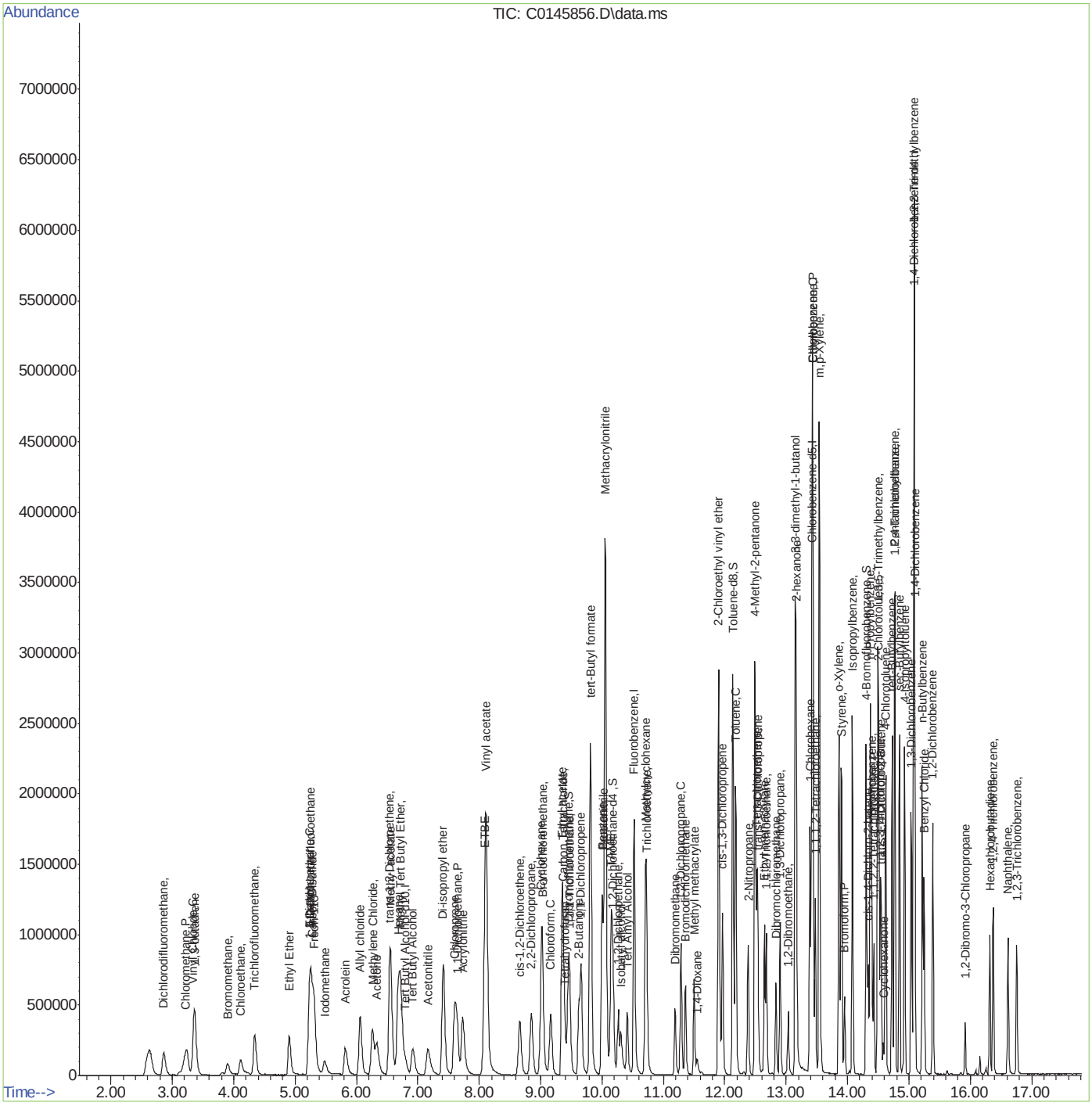
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	611941	43.00	ug/L	99
93) 1,2,4-Trimethylbenzene	14.768	105	1055898	42.47	ug/L	98
94) Pentachloroethane	14.774	167	197790	41.59	ug/L	98
95) sec-Butylbenzene	14.847	105	1282393	43.57	ug/L	100
96) 4-Isopropyltoluene	14.932	119	1100405	43.29	ug/L	98
97) 1,3-Dichlorobenzene	15.035	146	601966	44.05	ug/L	99
98) 1,2,3-Trimethylbenzene	15.078	105	1246426	42.21	ug/L	98
99) 1,4-Dichlorobenzene	15.096	146	595908	42.36	ug/L	98
100) n-Butylbenzene	15.218	92	591682	41.97	ug/L	97
101) Benzyl Chloride	15.248	126	152528	40.60	ug/L	97
102) 1,2-Dichlorobenzene	15.388	146	572717	44.07	ug/L	99
103) 1,2-Dibromo-3-Chloropr...	15.917	75	72753	43.45	ug/L	97
104) Hexachlorobutadiene	16.319	225	163397	43.63	ug/L	95
105) 1,2,4-Trichlorobenzene	16.374	180	320586	42.26	ug/L	95
106) Naphthalene	16.617	128	676998	39.46	ug/L	99
107) 1,2,3-Trichlorobenzene	16.757	180	261328	41.67	ug/L	97
109) Ethanol	5.241	45	76113	889.00	ug/L	91
110) Tert Butyl Alcohol	6.920	59	438806	478.51	ug/L	98
111) Isobutyl alcohol	10.308	43	217015	731.17	ug/L	96
112) Tert Amyl Alcohol	10.412	59	305211	481.99	ug/L	98
113) 1,4-Dioxane	11.549	88	75363	968.07	ug/L	97
114) 3,3-dimethyl-1-butanol	13.149	57	1211881m	2032.69	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:06:23 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

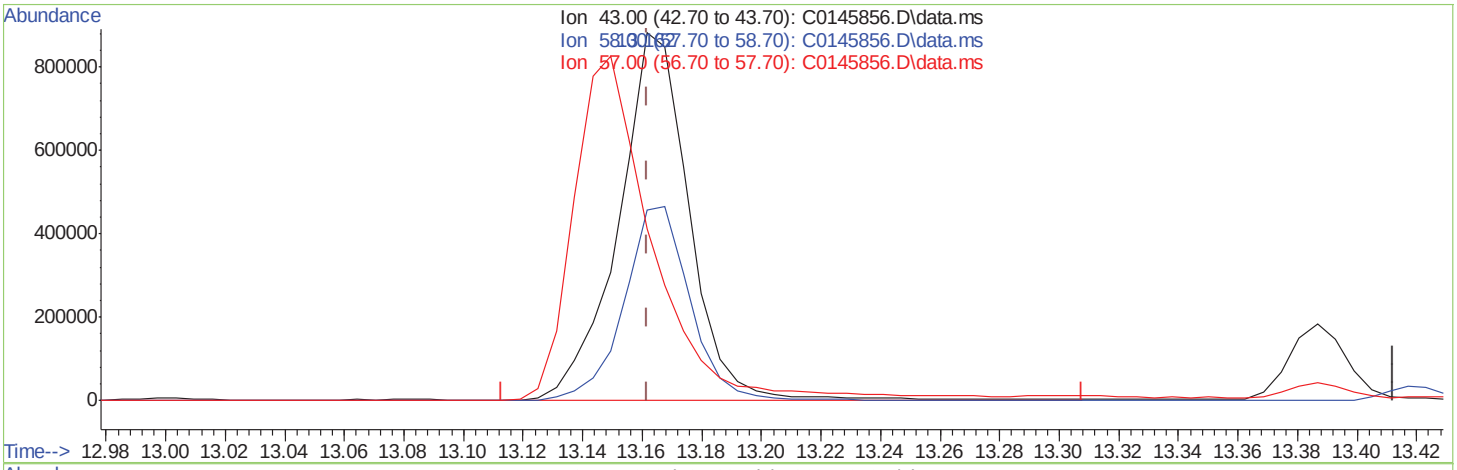
Sample Number: VC5857-ICC5857
Lab FileID: C0145856.D
Injection Time: 12/24/20 09:32
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

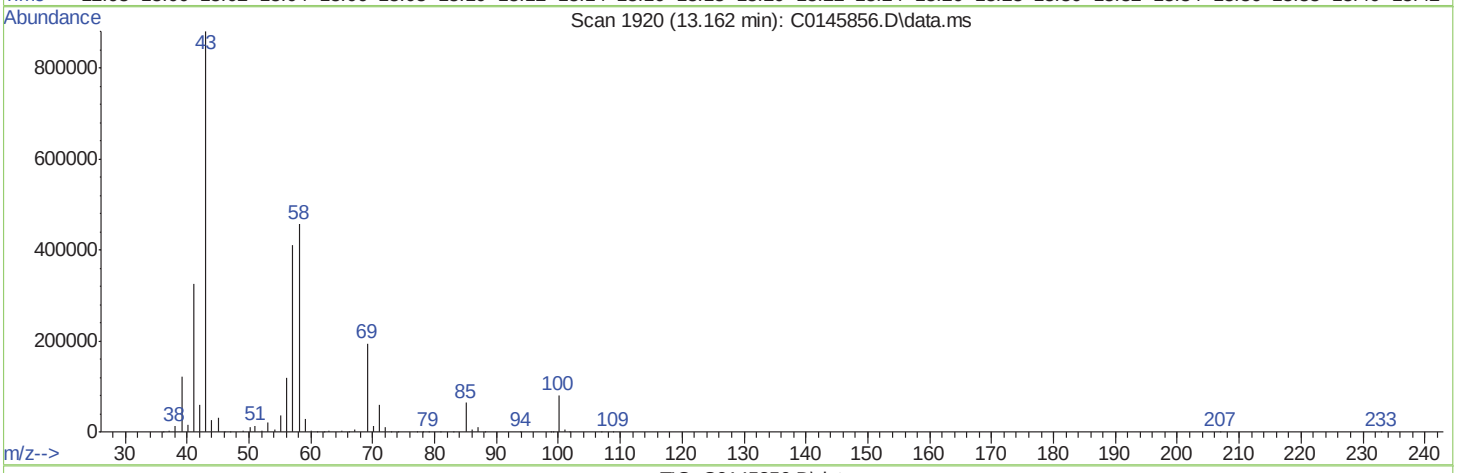
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.16	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:01:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145856.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 253.46ug/L

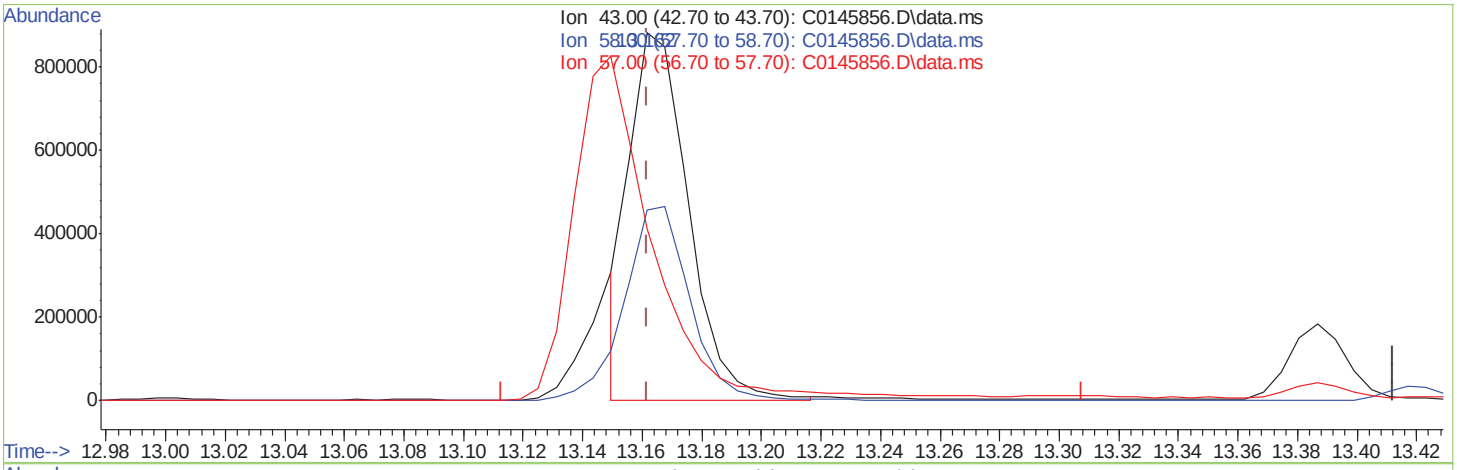
response 1465984

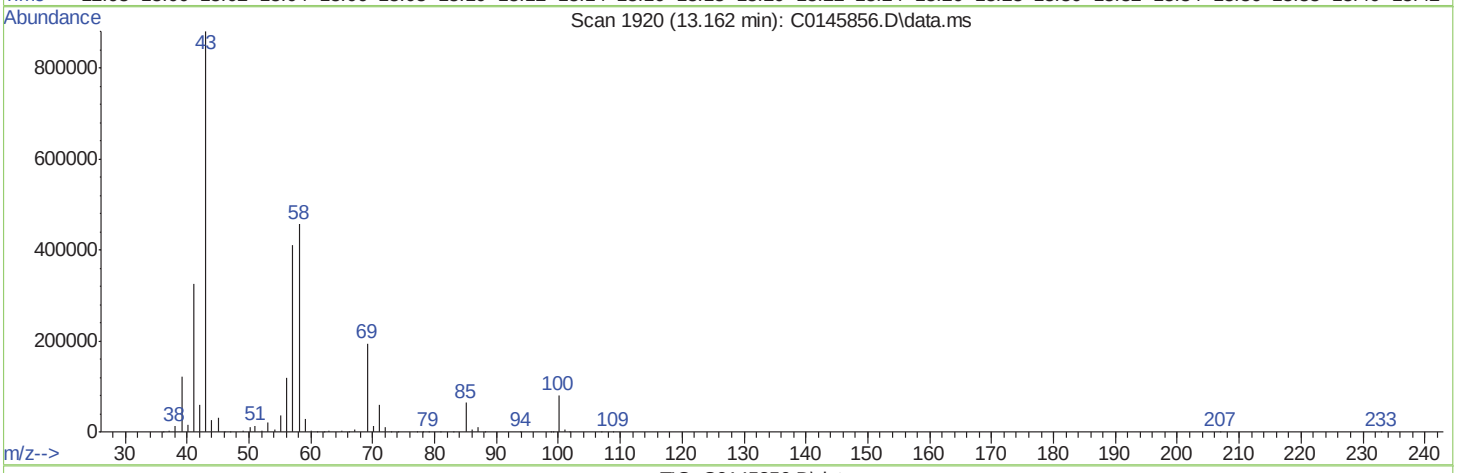
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	51.89
57.00	44.90	46.70
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:01:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145856.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 210.19ug/L m

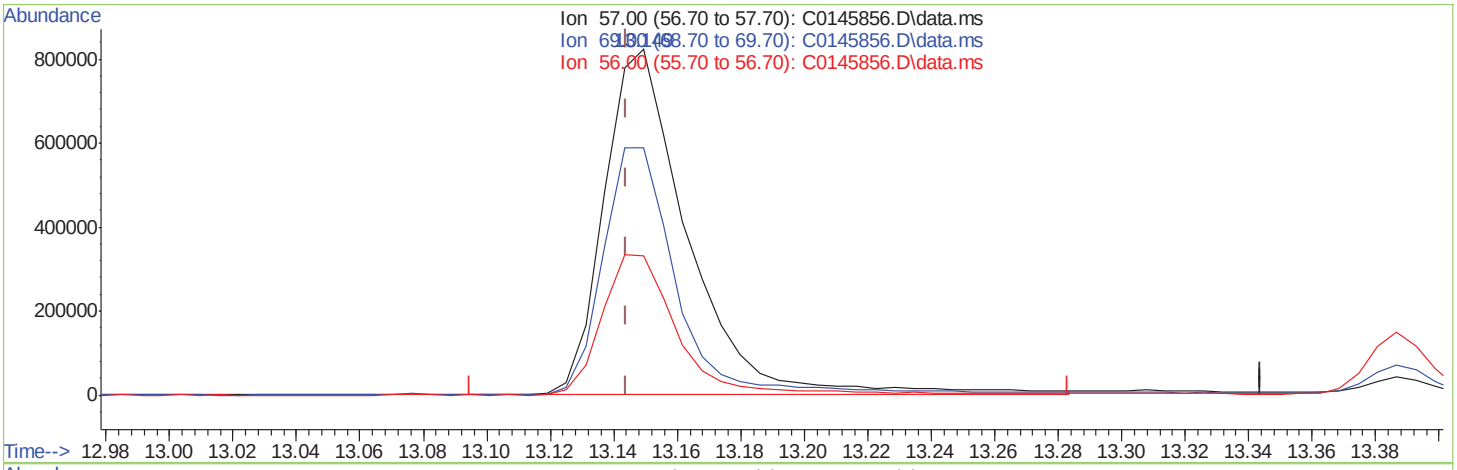
response 1215755

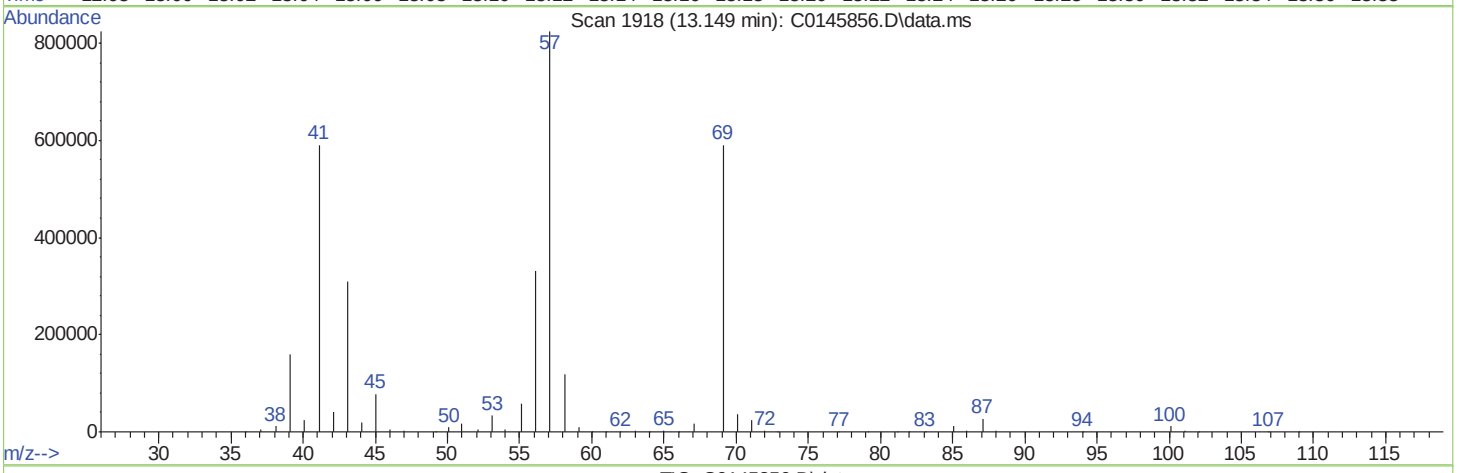
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	51.86
57.00	44.90	46.71
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:01:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145856.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.149min (+0.005) 2557.98ug/L

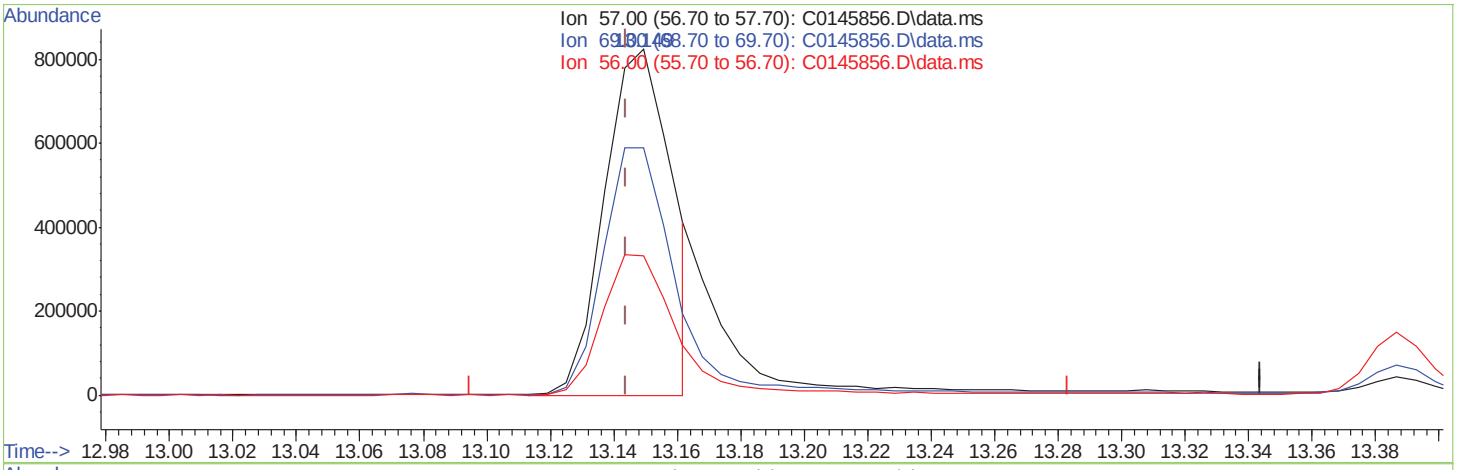
response 1525055

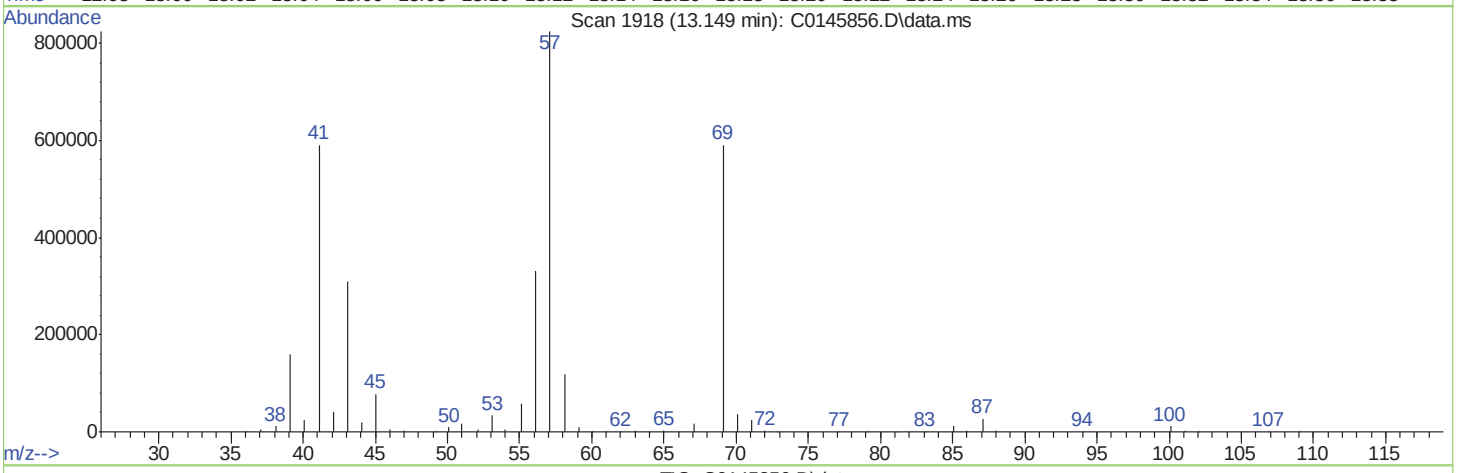
Ion	Exp%	Act%
57.00	100	100
69.00	75.60	63.29
56.00	43.60	36.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145856.D
Acq On : 24 Dec 2020 9:32 am
Operator : SHANICAO
Sample : ICC5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 24 10:01:57 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145856.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.149min (+0.005) 2032.69ug/L m

response 1211881

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	79.65
56.00	43.60	45.67
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Steven Heller 12/24/20 14:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:22:01 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1677665	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1171374	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	630369	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.805	65	215494	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	420054	47.58	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.16%			
47) 1,2-Dichloroethane-d4	10.181	65	544761	50.59	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 101.18%			
58) Toluene-d8	12.134	98	1667860	55.86	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 111.72%			
80) 4-Bromofluorobenzene	14.306	174	529106	51.20	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	591060	55.83	ug/L	98
3) Chloromethane	3.203	50	743732	63.06	ug/L	99
4) 1,3-butadiene	3.367	39	503696	52.95	ug/L	100
5) Vinyl Chloride	3.349	62	719411	61.21	ug/L	100
6) Bromomethane	3.897	94	231035	49.78	ug/L	98
7) Chloroethane	4.109	64	292330	50.16	ug/L	97
8) Trichlorofluoromethane	4.328	101	688273	54.57	ug/L	97
9) Ethyl Ether	4.912	59	515044	60.39	ug/L	99
10) 1,2-Dichlorotrifluoroe...	5.247	67	599003	59.31	ug/L	98
11) 1,1-Dichloroethene	5.229	61	778141	60.46	ug/L	98
12) Freon 113	5.308	101	464905	55.75	ug/L	97
13) Carbon Disulfide	5.278	76	1636933	60.18	ug/L	99
14) Iodomethane	5.478	142	532950	57.62	ug/L	97
15) Acrolein	5.825	56	599963	289.43	ug/L	94
16) Allyl chloride	6.056	41	938019	60.55	ug/L	99
17) Methylene Chloride	6.263	49	723273	56.21	ug/L	97
18) Acetone	6.336	43	853340	303.35	ug/L	98
19) Methyl acetate	6.555	43	2263198	292.92	ug/L	100
20) trans-1,2-Dichloroethene	6.537	61	751641	59.67	ug/L	99
21) Hexane	6.677	56	466477	57.23	ug/L	95
22) Methyl Tert Butyl Ether	6.725	73	1768961	59.04	ug/L	91
23) Acetonitrile	7.170	41	852254	594.36	ug/L	94
24) Di-isopropyl ether	7.419	45	2100273	60.86	ug/L	99
25) Chloroprene	7.595	53	858648	59.88	ug/L	98
26) 1,1-Dichloroethane	7.638	63	987780	60.18	ug/L	100
27) Acrylonitrile	7.729	52	918157	292.36	ug/L	97
28) ETBE	8.088	59	1893639	60.30	ug/L	98
29) Vinyl acetate	8.112	43	6616035	300.59	ug/L	100
30) cis-1,2-Dichloroethene	8.660	96	530776	59.89	ug/L	98
31) 2,2-Dichloropropane	8.849	77	842518	58.19	ug/L	99
32) Bromochloromethane	9.025	128	265993	62.25	ug/L	95
33) Cyclohexane	9.019	56	1005163	58.93	ug/L	99
34) Chloroform	9.165	83	898776	59.18	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:22:01 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) Ethyl acetate	9.354	43	3077778	291.07	ug/L	100
36) Tetrahydrofuran	9.396	42	206141	56.67	ug/L	95
38) Carbon Tetrachloride	9.366	117	638165	57.55	ug/L	95
39) 1,1,1-Trichloroethane	9.469	97	785608	58.98	ug/L	99
40) 2-Butanone	9.621	43	1440114	310.28	ug/L	98
41) 1,1-Dichloropropene	9.664	75	796973	59.81	ug/L	100
42) tert-Butyl formate	9.816	59	2881109	288.33	ug/L	99
43) Propionitrile	10.029	54	839155	608.99	ug/L	94
44) Methacrylonitrile	10.059	41	3631935	582.07	ug/L	98
45) Benzene	9.998	78	2144014	59.89	ug/L	100
46) TAME	10.150	73	1745817	59.54	ug/L	98
48) 1,2-Dichloroethane	10.266	62	755128	61.14	ug/L	99
49) Trichloroethene	10.728	95	545341	58.35	ug/L	98
50) Methylcyclohexane	10.710	83	876789	57.59	ug/L	99
51) Dibromomethane	11.191	93	323064	60.34	ug/L	97
52) 1,2-Dichloropropane	11.288	63	624962	60.69	ug/L	99
53) Bromodichloromethane	11.361	83	700042	59.38	ug/L	97
54) Methyl methacrylate	11.501	41	587974	63.05	ug/L	97
55) 2-Chloroethyl vinyl ether	11.903	63	1980947	290.95	ug/L	98
56) cis-1,3-Dichloropropene	11.963	75	1029281	60.04	ug/L	98
59) Toluene	12.176	91	2216283	68.48	ug/L	99
60) 2-Nitropropane	12.383	41	864636	360.65	ug/L	98
61) 4-Methyl-2-pentanone	12.493	43	2780630	350.43	ug/L	99
62) trans-1,3-Dichloropropene	12.541	75	879415	73.08	ug/L	90
63) Tetrachloroethene	12.523	166	552593	72.68	ug/L	99
64) Ethyl methacrylate	12.645	69	770779	73.82	ug/L	97
65) 1,1,2-Trichloroethane	12.675	83	421851	70.49	ug/L	98
66) Dibromochloromethane	12.833	129	532274	72.38	ug/L	97
67) 1,3-Dichloropropane	12.900	76	932596	71.20	ug/L	99
68) 1,2-Dibromoethane	13.034	107	487256	70.46	ug/L	100
69) 2-hexanone	13.162	43	2022584m	352.61	ug/L	
70) 1-Chlorohexane	13.387	91	770483	72.63	ug/L	98
71) Ethylbenzene	13.436	91	2318911	68.94	ug/L	98
72) Chlorobenzene	13.436	112	1341967	70.11	ug/L	96
73) 1,1,1,2-Tetrachloroethane	13.478	131	493322	72.22	ug/L	98
74) m,p-Xylene	13.539	91	3440429	139.36	ug/L	98
75) o-Xylene	13.861	91	1916844	71.17	ug/L	100
76) Styrene	13.898	104	1588614	72.89	ug/L	99
77) Bromoform	13.953	173	380570	76.22	ug/L	99
78) Isopropylbenzene	14.080	105	2231191	70.49	ug/L	99
81) cis-1,4-Dichloro-2-butene	14.336	53	245884	85.11	ug/L	97
82) n-Propylbenzene	14.372	91	2712038	73.40	ug/L	100
83) Bromobenzene	14.397	156	591060	75.15	ug/L	98
84) 1,1,2,2-Tetrachloroethane	14.427	83	648686	73.20	ug/L	100
85) 1,3,5-Trimethylbenzene	14.494	105	1805501	74.09	ug/L	99
86) 2-Chlorotoluene	14.506	91	1836279	75.52	ug/L	100
87) trans-1,4-Dichloro-2-B...	14.549	53	211963	83.01	ug/L	94
88) 1,2,3-Trichloropropane	14.537	110	185817	73.79	ug/L	97
89) Cyclohexanone	14.585	55	118695	374.79	ug/L	98
90) 4-Chlorotoluene	14.622	91	1710214	75.91	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:22:01 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

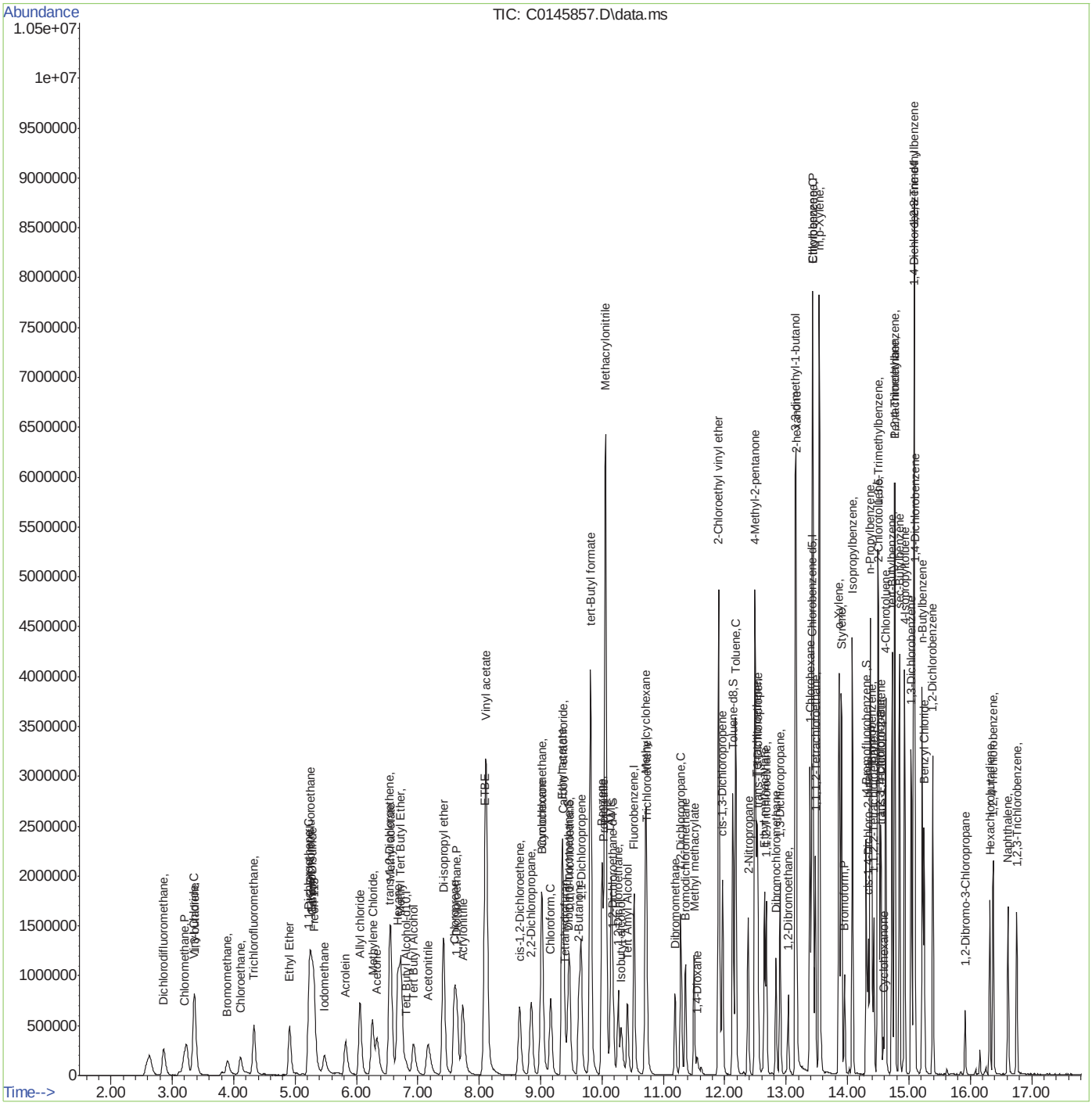
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	1081077	76.35	ug/L	98
93) 1,2,4-Trimethylbenzene	14.768	105	1811810	73.25	ug/L	99
94) Pentachloroethane	14.774	167	362374	76.58	ug/L	95
95) sec-Butylbenzene	14.847	105	2191300	74.82	ug/L	99
96) 4-Isopropyltoluene	14.932	119	1892799	74.84	ug/L	99
97) 1,3-Dichlorobenzene	15.036	146	1063485	78.22	ug/L	99
98) 1,2,3-Trimethylbenzene	15.078	105	2146260	73.06	ug/L	99
99) 1,4-Dichlorobenzene	15.096	146	1063171	75.96	ug/L	98
100) n-Butylbenzene	15.218	92	1047016	74.65	ug/L	99
101) Benzyl Chloride	15.249	126	275908	71.45	ug/L	98
102) 1,2-Dichlorobenzene	15.388	146	1002226	77.51	ug/L	99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	130424	78.29	ug/L	98
104) Hexachlorobutadiene	16.319	225	288261	77.37	ug/L	98
105) 1,2,4-Trichlorobenzene	16.374	180	576636	76.39	ug/L	98
106) Naphthalene	16.617	128	1159855	67.94	ug/L	99
107) 1,2,3-Trichlorobenzene	16.757	180	465491	74.60	ug/L	96
109) Ethanol	5.265	45	130471	1543.57	ug/L	80
110) Tert Butyl Alcohol	6.926	59	757534	836.74	ug/L	96
111) Isobutyl alcohol	10.315	43	383597	1309.11	ug/L	100
112) Tert Amyl Alcohol	10.412	59	531465	850.13	ug/L	99
113) 1,4-Dioxane	11.556	88	126882	1677.26	ug/L	91
114) 3,3-dimethyl-1-butanol	13.150	57	1968524m	3344.45	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:22:01 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



RTXVMS122420.M Thu Dec 24 12:40:06 2020 Page: 4

Manual Integration Approval Summary

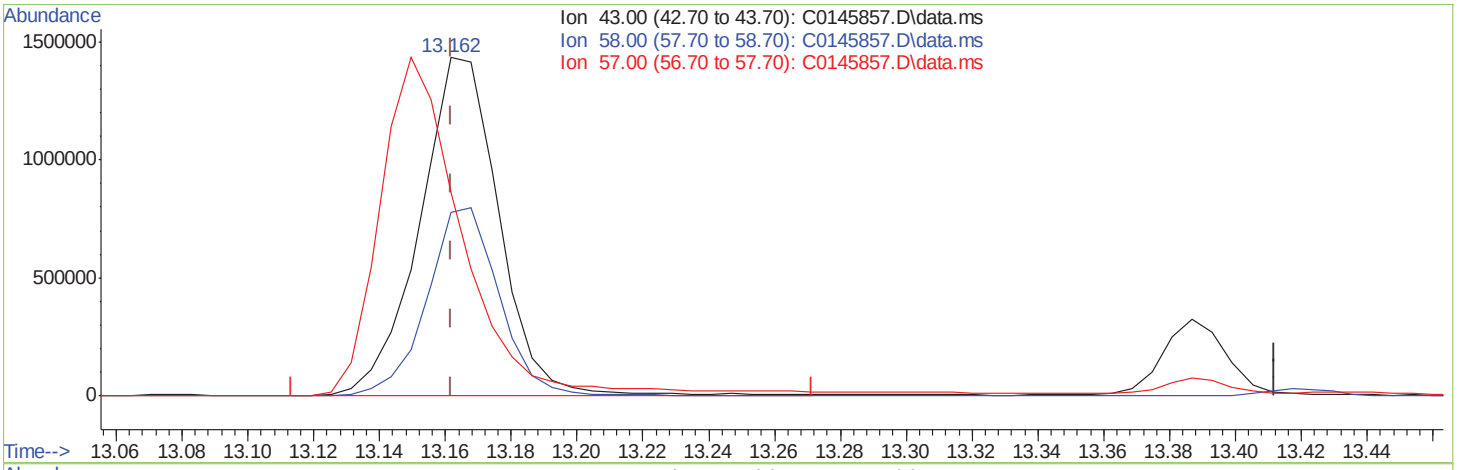
Sample Number: VC5857-IC5857
Lab FileID: C0145857.D
Injection Time: 12/24/20 09:59
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

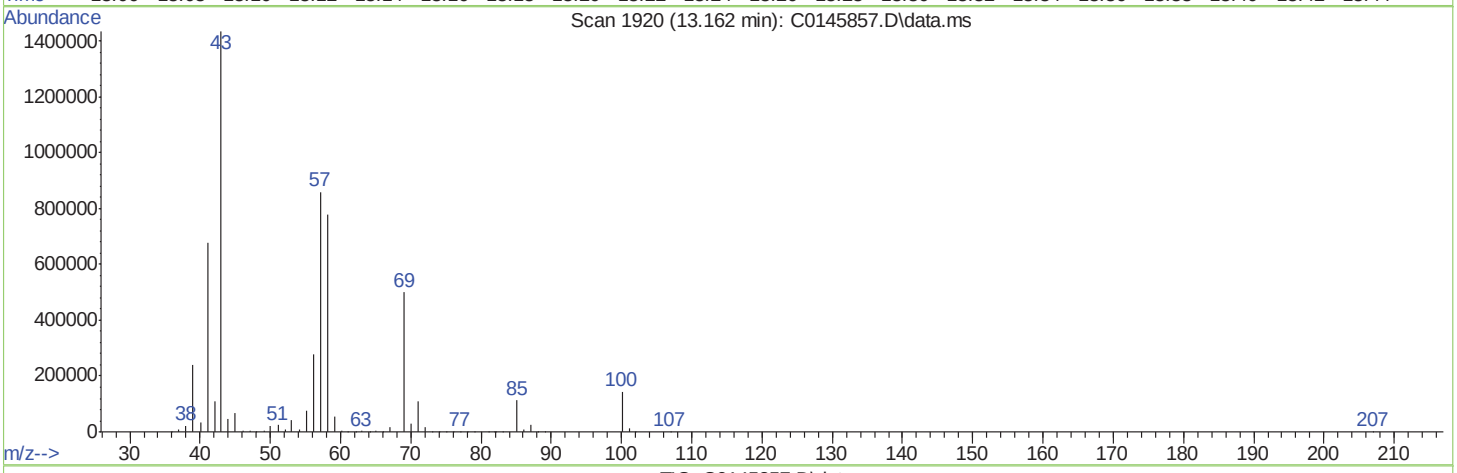
Parameter	CAS	Sig#	R.T. (min.)	Reason
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.16	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:20:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145857.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 416.45ug/L

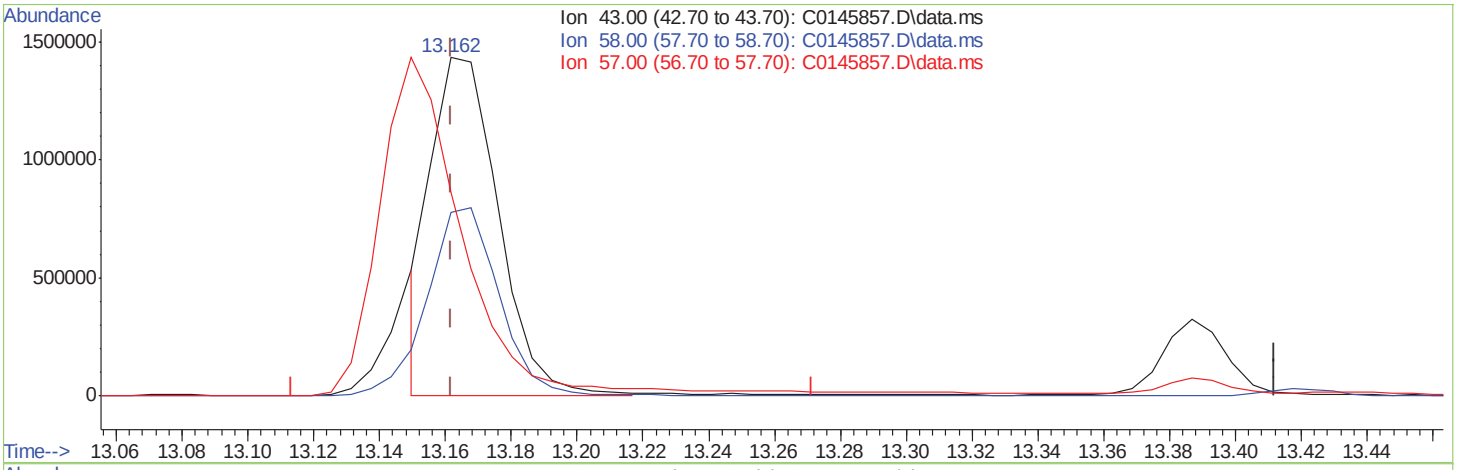
response 2388787

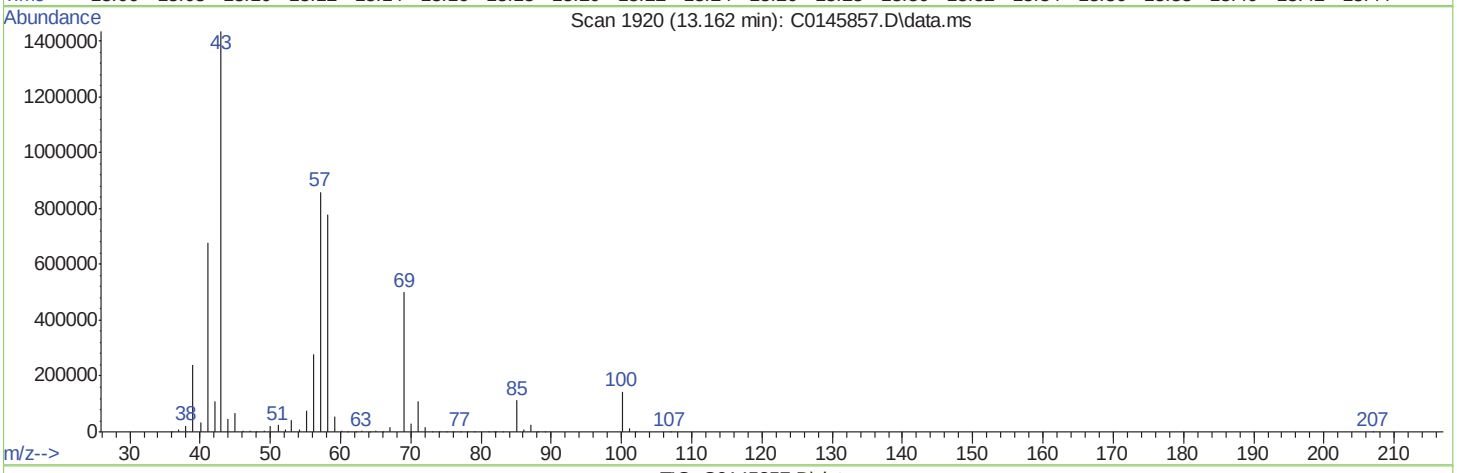
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	54.18
57.00	44.90	59.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:20:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145857.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 352.61ug/L m

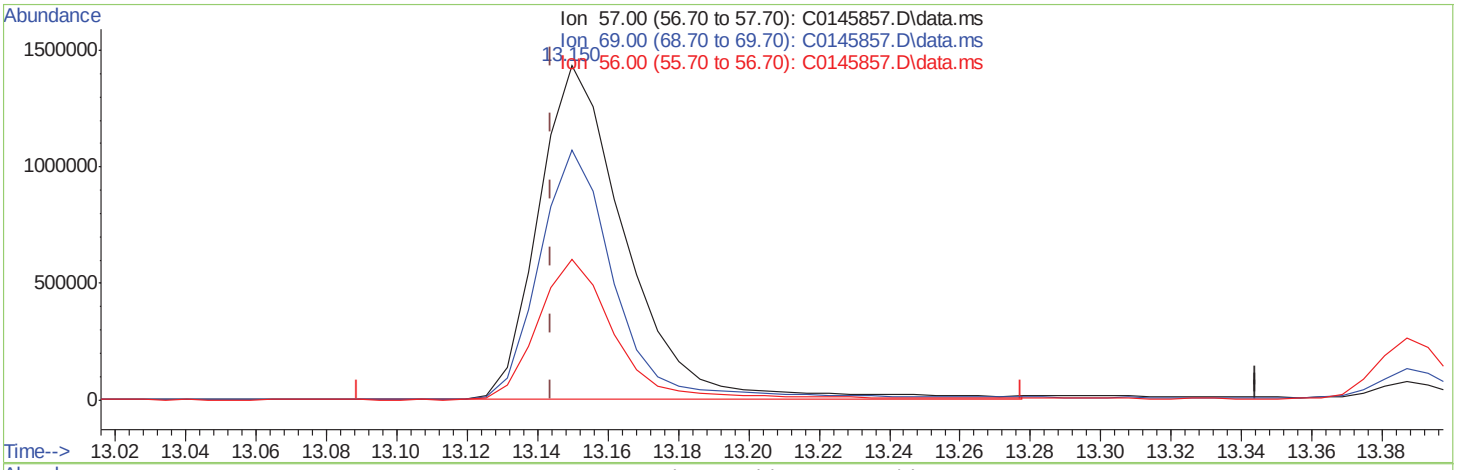
response 2022584

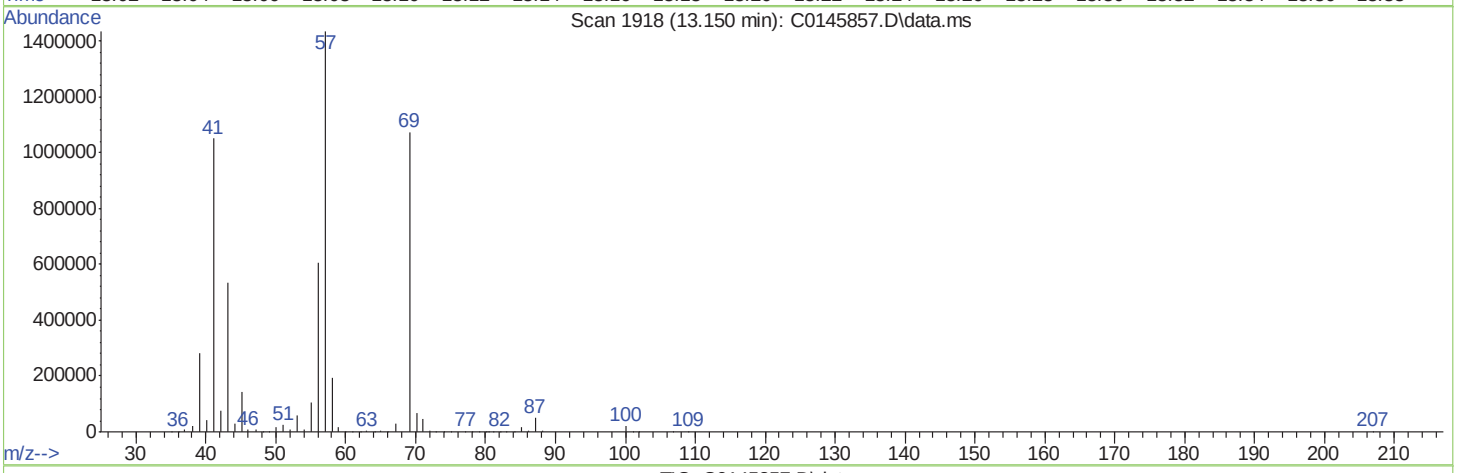
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	54.15
57.00	44.90	59.96
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:20:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145857.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.150min (+0.006) 4262.01ug/L

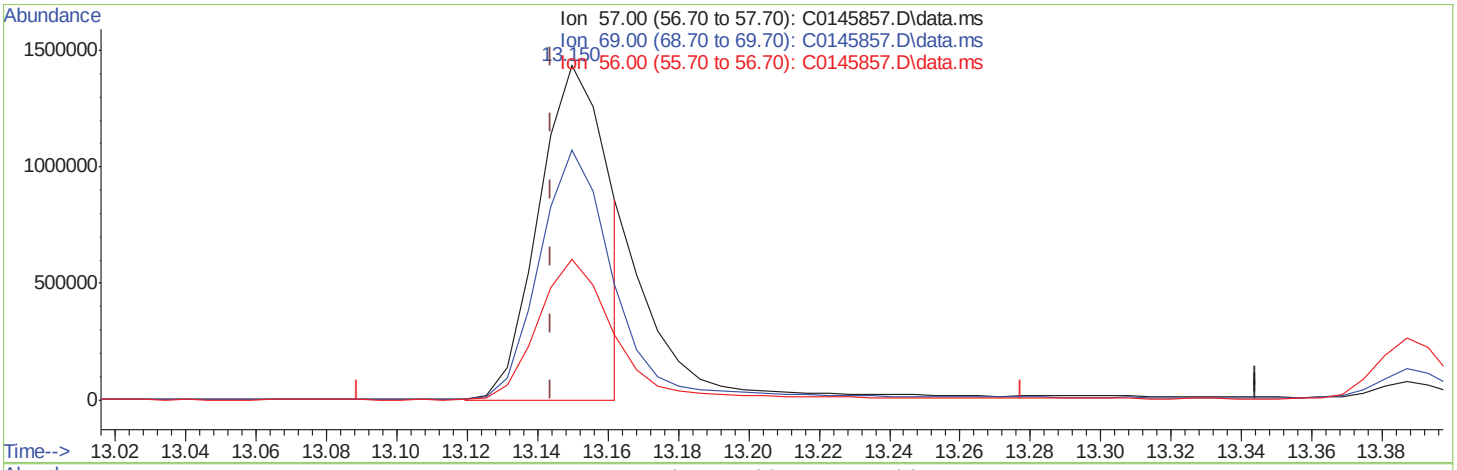
response 2508593

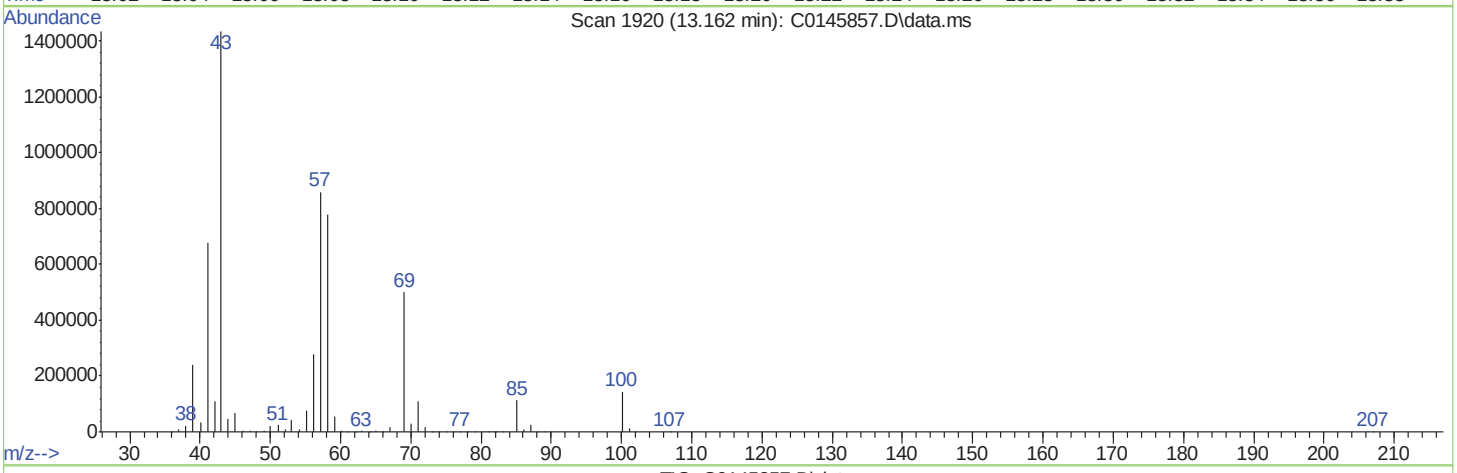
Ion	Exp%	Act%
57.00	100	100
69.00	75.60	65.53
56.00	43.60	37.96
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145857.D
Acq On : 24 Dec 2020 9:59 am
Operator : SHANICAO
Sample : IC5857-6 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 24 10:20:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145857.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.150min (+0.006) 3344.45ug/L m

response 1968524

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	83.51
56.00	43.60	48.38
0.00	0.00	0.00

C0145858.D

Manual Integrations APPROVED
(compounds with "m" flag)
Steven Heller
12/24/20 14:16

7.6.7

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:43:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1695650	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1167194	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	622052	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.829	65	226945	250.00	ug/L	0.03
System Monitoring Compounds						
37) Dibromofluoromethane	9.457	113	419736	47.04	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 94.08%			
47) 1,2-Dichloroethane-d4	10.181	65	547210	50.27	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.54%			
58) Toluene-d8	12.134	98	1667062	56.03	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 112.06%#			
80) 4-Bromofluorobenzene	14.306	174	529180	51.89	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 103.78%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	835623	78.09	ug/L	97
3) Chloromethane	3.203	50	1052814	88.32	ug/L	97
4) 1,3-butadiene	3.361	39	706773	73.51	ug/L	97
5) Vinyl Chloride	3.343	62	983796	82.82	ug/L	96
6) Bromomethane	3.897	94	374448	77.53	ug/L	94
7) Chloroethane	4.109	64	384425	65.26	ug/L	94
8) Trichlorofluoromethane	4.322	101	850795	66.74	ug/L	98
9) Ethyl Ether	4.919	59	717733	83.26	ug/L	96
10) 1,2-Dichlorotrifluoroe...	5.247	67	838675	82.16	ug/L	100
11) 1,1-Dichloroethene	5.223	61	1092436	83.99	ug/L	97
12) Freon 113	5.302	101	665192	78.93	ug/L	95
13) Carbon Disulfide	5.271	76	2254869	82.02	ug/L	97
14) Iodomethane	5.484	142	711075	73.40	ug/L	99
15) Acrolein	5.825	56	849529	396.57	ug/L	92
16) Allyl chloride	6.056	41	1318882	84.24	ug/L	97
17) Methylene Chloride	6.257	49	984165	77.91	ug/L	96
18) Acetone	6.342	43	1183157	416.13	ug/L	97
19) Methyl acetate	6.561	43	3188243	408.81	ug/L	99
20) trans-1,2-Dichloroethene	6.531	61	1054965	82.86	ug/L	99
21) Hexane	6.677	56	673362	81.74	ug/L	94
22) Methyl Tert Butyl Ether	6.731	73	2494394	82.37	ug/L	92
23) Acetonitrile	7.169	41	1150784	787.65	ug/L	95
24) Di-isopropyl ether	7.425	45	2919586	83.71	ug/L	99
25) Chloroprene	7.595	53	1219871	84.16	ug/L	98
26) 1,1-Dichloroethane	7.638	63	1369335	82.54	ug/L	97
27) Acrylonitrile	7.735	52	1268592	393.29	ug/L	96
28) ETBE	8.094	59	2650036	83.49	ug/L	99
29) Vinyl acetate	8.119	43	8901483	400.14	ug/L	99
30) cis-1,2-Dichloroethene	8.654	96	737745	82.37	ug/L	99
31) 2,2-Dichloropropane	8.849	77	1197244	81.81	ug/L	98
32) Bromochloromethane	9.025	128	319880	74.06	ug/L	89
33) Cyclohexane	9.013	56	1412707	81.94	ug/L	99
34) Chloroform	9.165	83	1252601	81.60	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:43:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
35) Ethyl acetate	9.353	43	4204843	399.22 ug/L		99
36) Tetrahydrofuran	9.402	42	297947	81.04 ug/L		99
38) Carbon Tetrachloride	9.366	117	898288	80.15 ug/L		97
39) 1,1,1-Trichloroethane	9.469	97	1089238	80.90 ug/L		98
40) 2-Butanone	9.621	43	1997494	425.81 ug/L		98
41) 1,1-Dichloropropene	9.658	75	1118516	83.05 ug/L		97
42) tert-Butyl formate	9.816	59	3974895	393.57 ug/L		99
43) Propionitrile	10.041	54	1156237	830.20 ug/L	#	74
44) Methacrylonitrile	10.065	41	4918401	779.88 ug/L		97
45) Benzene	10.004	78	2933119	81.06 ug/L		99
46) TAME	10.150	73	2431294	82.05 ug/L		97
48) 1,2-Dichloroethane	10.266	62	1046034	83.80 ug/L		100
49) Trichloroethene	10.728	95	756117	80.04 ug/L		98
50) Methylcyclohexane	10.710	83	1248630	81.15 ug/L		97
51) Dibromomethane	11.191	93	454599	84.01 ug/L		97
52) 1,2-Dichloropropane	11.288	63	875884	84.16 ug/L		98
53) Bromodichloromethane	11.361	83	981604	82.38 ug/L		98
54) Methyl methacrylate	11.501	41	830778	88.14 ug/L		97
55) 2-Chloroethyl vinyl ether	11.903	63	2676847	388.98 ug/L		99
56) cis-1,3-Dichloropropene	11.969	75	1416604	81.75 ug/L		98
59) Toluene	12.176	91	2986030	92.59 ug/L		97
60) 2-Nitropropane	12.383	41	1208661	505.95 ug/L		99
61) 4-Methyl-2-pentanone	12.493	43	3746179	473.80 ug/L		97
62) trans-1,3-Dichloropropene	12.541	75	1225742	102.22 ug/L		89
63) Tetrachloroethene	12.523	166	748060	98.74 ug/L		98
64) Ethyl methacrylate	12.645	69	1066409	102.50 ug/L		97
65) 1,1,2-Trichloroethane	12.675	83	577608	96.86 ug/L		99
66) Dibromochloromethane	12.833	129	726182	99.10 ug/L		97
67) 1,3-Dichloropropane	12.900	76	1288812	98.75 ug/L		97
68) 1,2-Dibromoethane	13.034	107	675246	97.99 ug/L		99
69) 2-hexanone	13.168	43	2826859m	494.59 ug/L		
70) 1-Chlorohexane	13.387	91	1038772	98.27 ug/L		95
71) Ethylbenzene	13.436	91	3064890	91.44 ug/L		97
72) Chlorobenzene	13.436	112	1802273	94.50 ug/L		94
73) 1,1,1,2-Tetrachloroethane	13.478	131	669003	98.30 ug/L		99
74) m,p-Xylene	13.539	91	4449979	180.90 ug/L		95
75) o-Xylene	13.861	91	2560728	95.41 ug/L		98
76) Styrene	13.904	104	2133814	98.25 ug/L		99
77) Bromoform	13.953	173	535328	107.60 ug/L		98
78) Isopropylbenzene	14.080	105	2967546	94.09 ug/L		96
81) cis-1,4-Dichloro-2-butene	14.336	53	339712	119.17 ug/L		98
82) n-Propylbenzene	14.372	91	3573975	98.01 ug/L		97
83) Bromobenzene	14.397	156	811640	104.58 ug/L		99
84) 1,1,2,2-Tetrachloroethane	14.427	83	892367	102.04 ug/L		99
85) 1,3,5-Trimethylbenzene	14.494	105	2422860	100.75 ug/L		98
86) 2-Chlorotoluene	14.506	91	2481213	103.41 ug/L		100
87) trans-1,4-Dichloro-2-B...	14.549	53	312990	124.21 ug/L	#	89
88) 1,2,3-Trichloropropane	14.543	110	256975	103.41 ug/L		93
89) Cyclohexanone	14.585	55	158294	506.51 ug/L		97
90) 4-Chlorotoluene	14.622	91	2278052	102.47 ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:43:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration

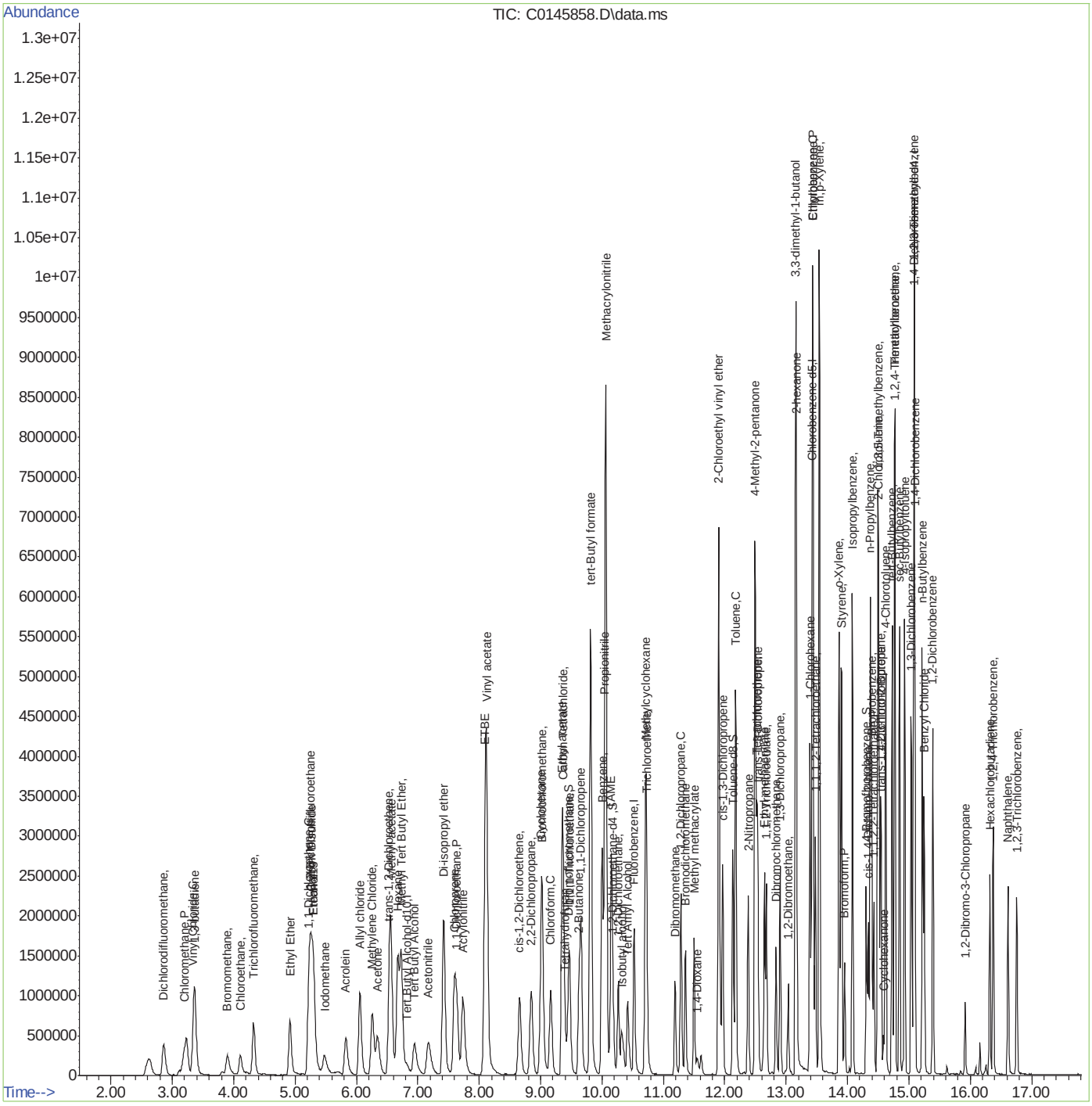
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	1464161	104.79	ug/L	98
93) 1,2,4-Trimethylbenzene	14.768	105	2433994	99.72	ug/L	98
94) Pentachloroethane	14.774	167	501824	107.46	ug/L	99
95) sec-Butylbenzene	14.847	105	2930703	101.41	ug/L	97
96) 4-Isopropyltoluene	14.932	119	2542328	101.87	ug/L	97
97) 1,3-Dichlorobenzene	15.036	146	1436362	107.05	ug/L	96
98) 1,2,3-Trimethylbenzene	15.078	105	2881613	99.40	ug/L	98
99) 1,4-Dichlorobenzene	15.096	146	1430368	103.56	ug/L	98
100) n-Butylbenzene	15.218	92	1469365	106.16	ug/L	95
101) Benzyl Chloride	15.248	126	392871	100.12	ug/L	96
102) 1,2-Dichlorobenzene	15.388	146	1374740	107.74	ug/L	98
103) 1,2-Dibromo-3-Chloropr...	15.918	75	179772	109.35	ug/L	97
104) Hexachlorobutadiene	16.319	225	418521	113.83	ug/L	96
105) 1,2,4-Trichlorobenzene	16.374	180	820468	110.15	ug/L	97
106) Naphthalene	16.617	128	1613647	95.79	ug/L	98
107) 1,2,3-Trichlorobenzene	16.757	180	644212	104.62	ug/L	96
109) Ethanol	5.302	45	188962m	2122.77	ug/L	
110) Tert Butyl Alcohol	6.944	59	1055206	1106.73	ug/L	97
111) Isobutyl alcohol	10.321	43	523694	1697.04	ug/L	97
112) Tert Amyl Alcohol	10.418	59	740269	1124.39	ug/L	99
113) 1,4-Dioxane	11.550	88	172011	2184.01	ug/L	97
114) 3,3-dimethyl-1-butanol	13.156	57	2889115m	4660.83	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:43:14 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration



Manual Integration Approval Summary

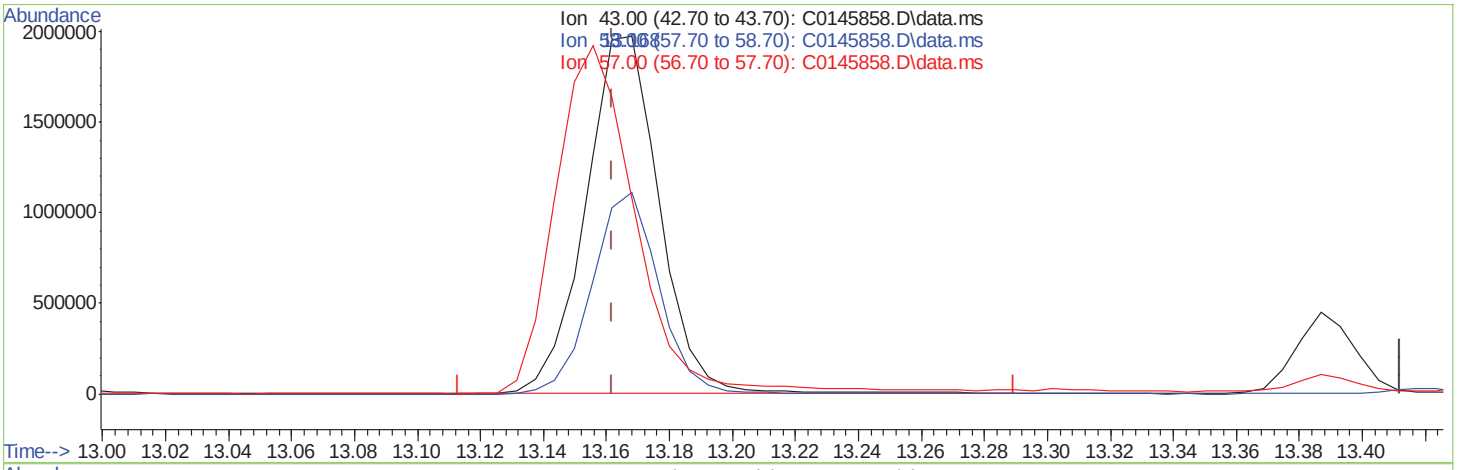
Sample Number: VC5857-IC5857
Lab FileID: C0145858.D
Injection Time: 12/24/20 10:25
Method: SW846 8260B
Analyst approved: 12/24/20 12:40 Shanica O'Connor
Supervisor approved: 12/24/20 14:16 Steven Heller

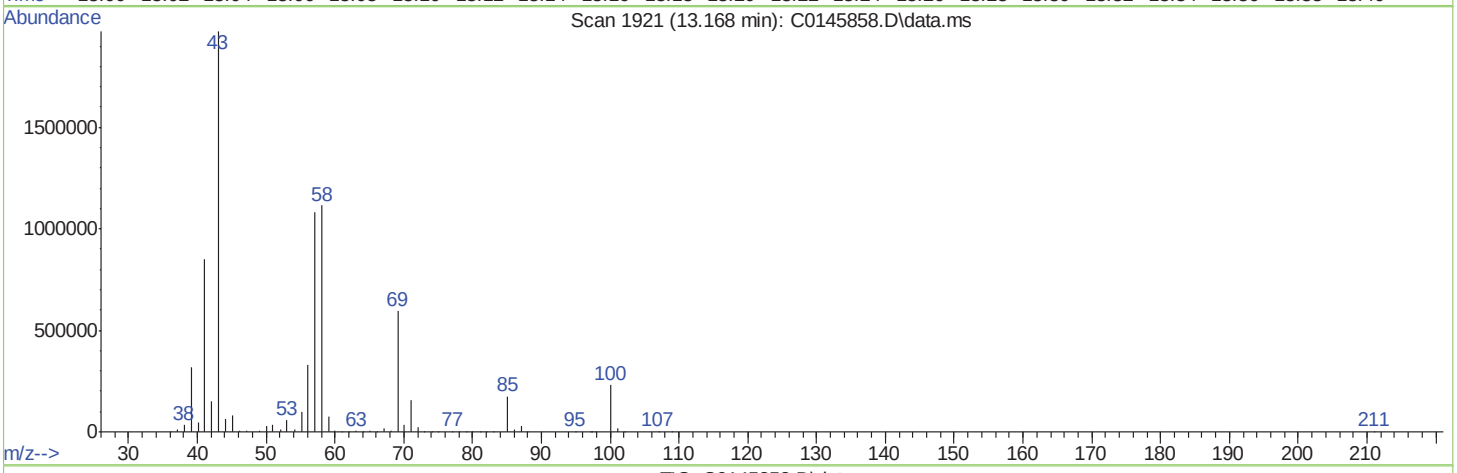
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.30	Poor instrument integration
3,3-Dimethyl-1-Butanol	624-95-3		13.16	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 564.71ug/L

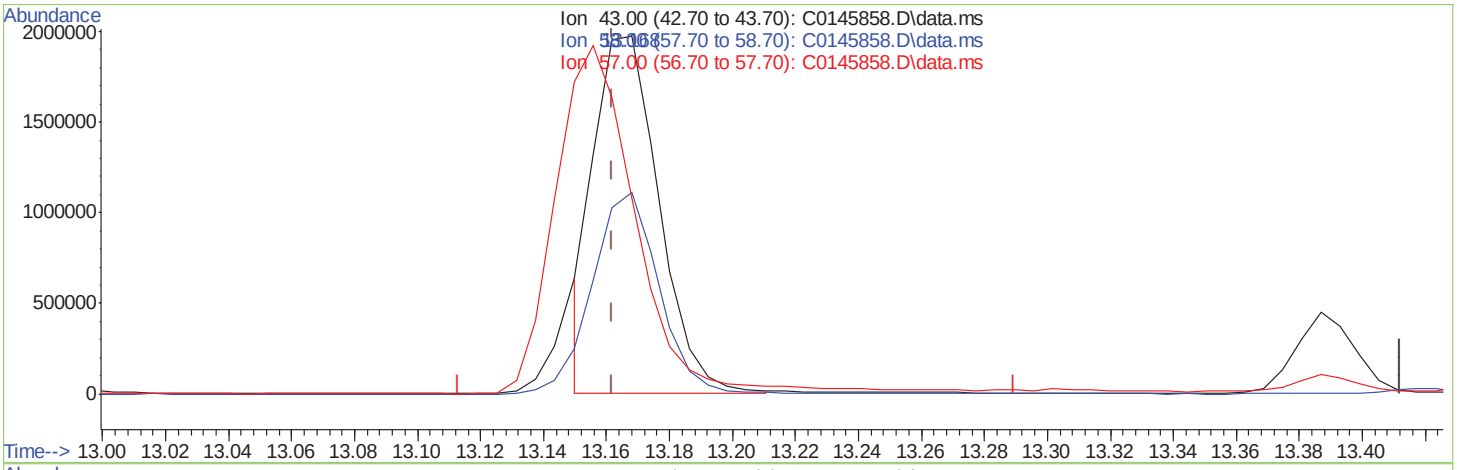
response 3227668

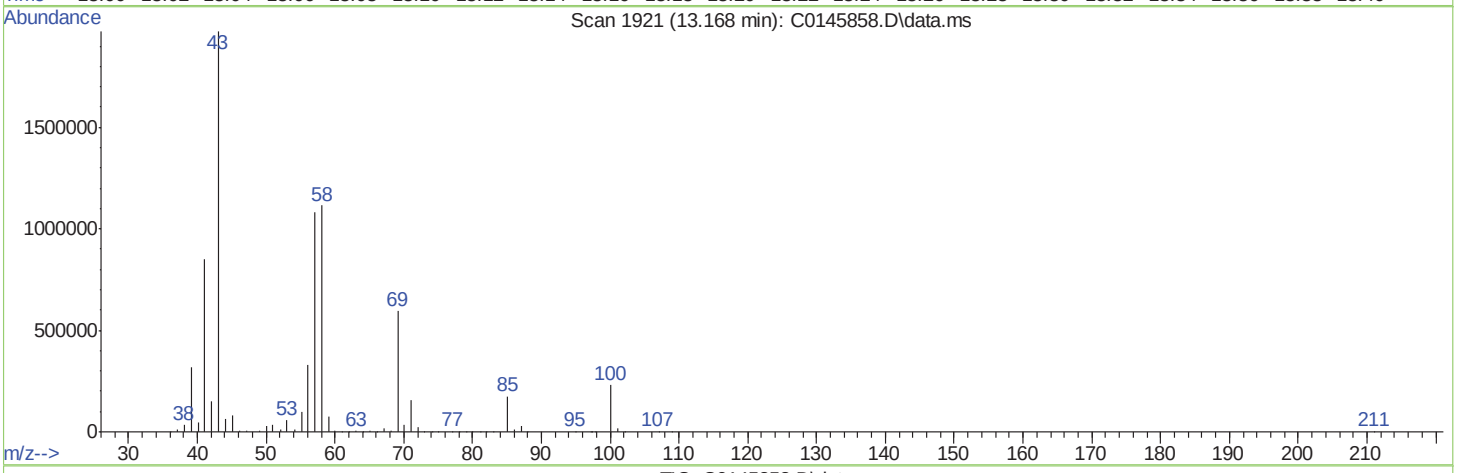
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	56.53
57.00	44.90	54.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 494.59ug/L m

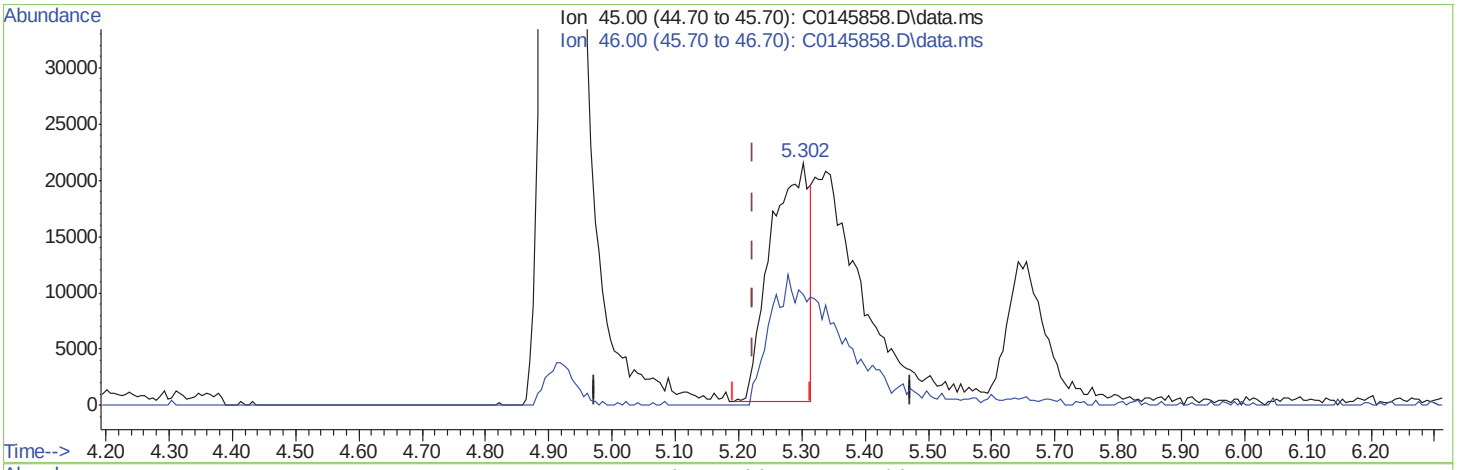
response 2826859

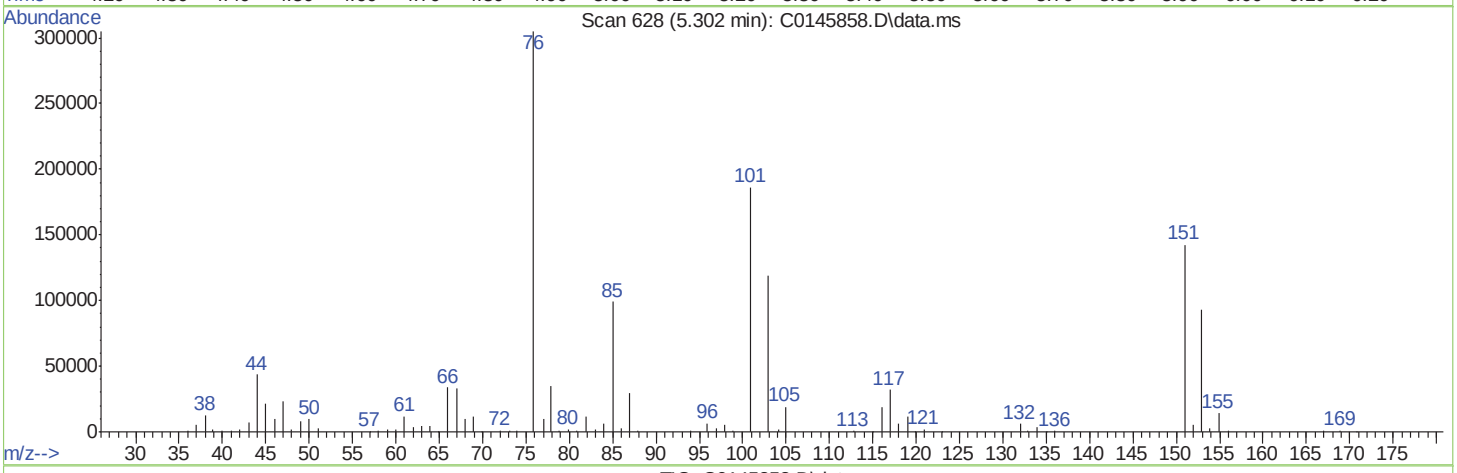
Ion	Exp%	Act%
43.00	100	100
58.00	54.70	56.49
57.00	44.90	54.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(109) Ethanol

5.302min (+0.079) 1011.24ug/L

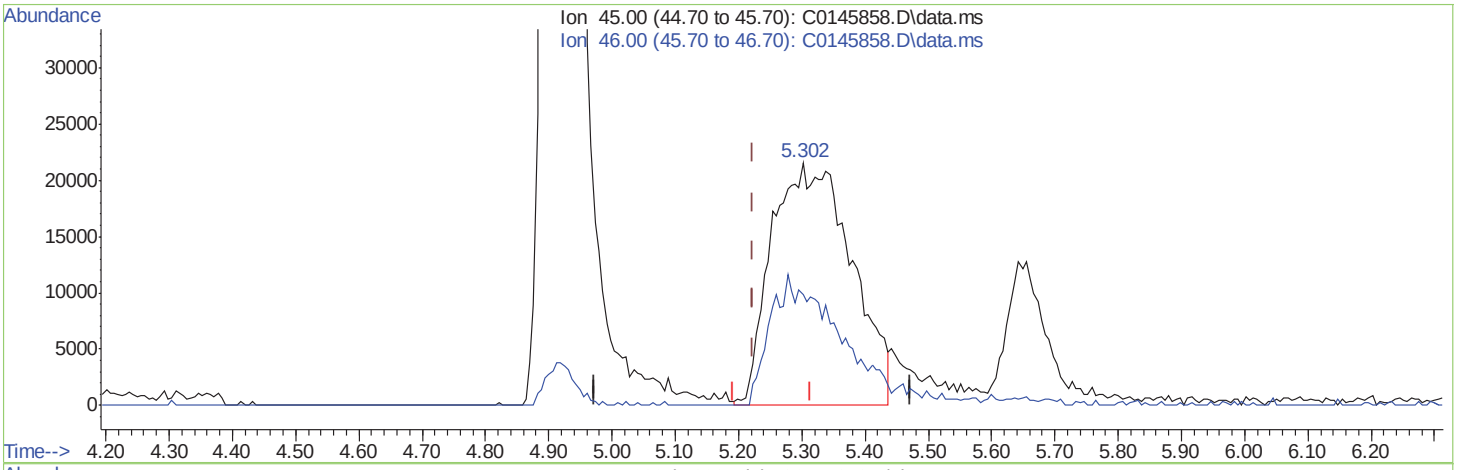
response 90017

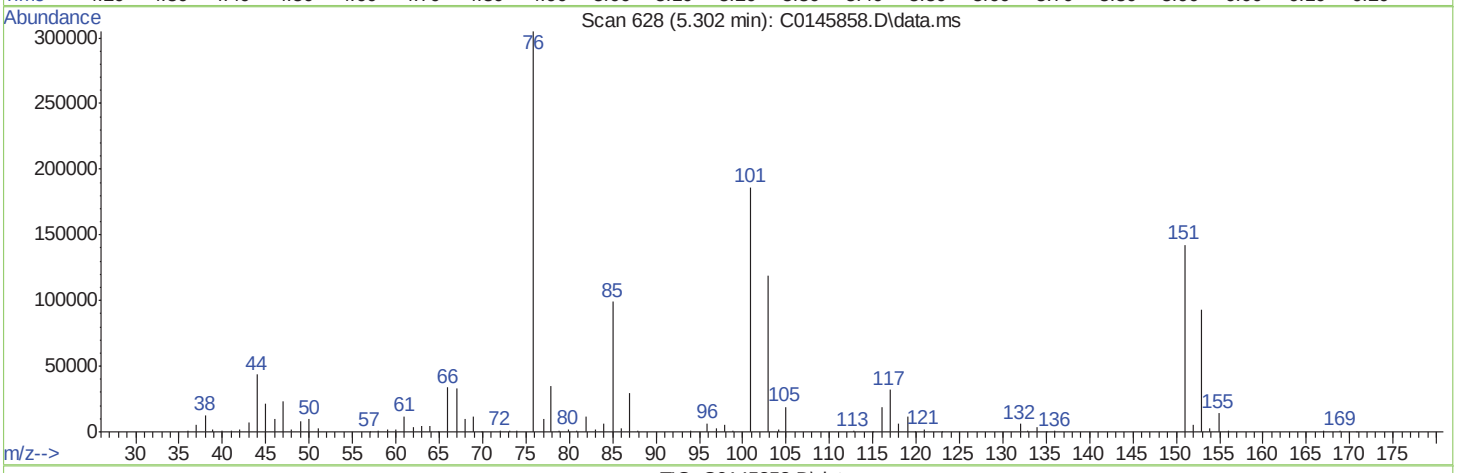
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	46.49
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(109) Ethanol

5.302min (+0.079) 2122.77ug/L m

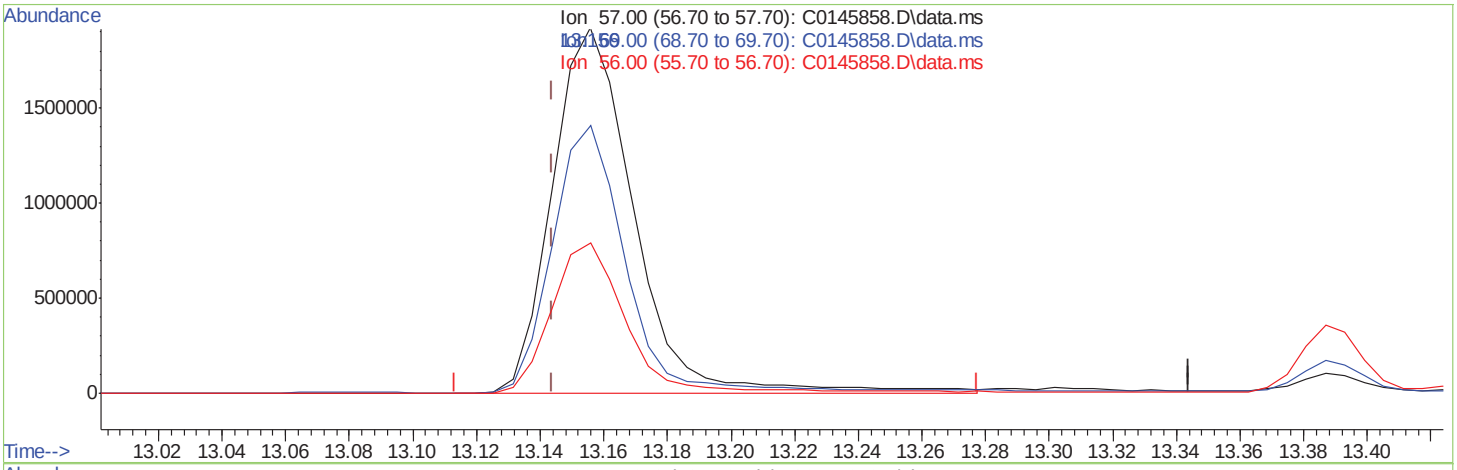
response 188962

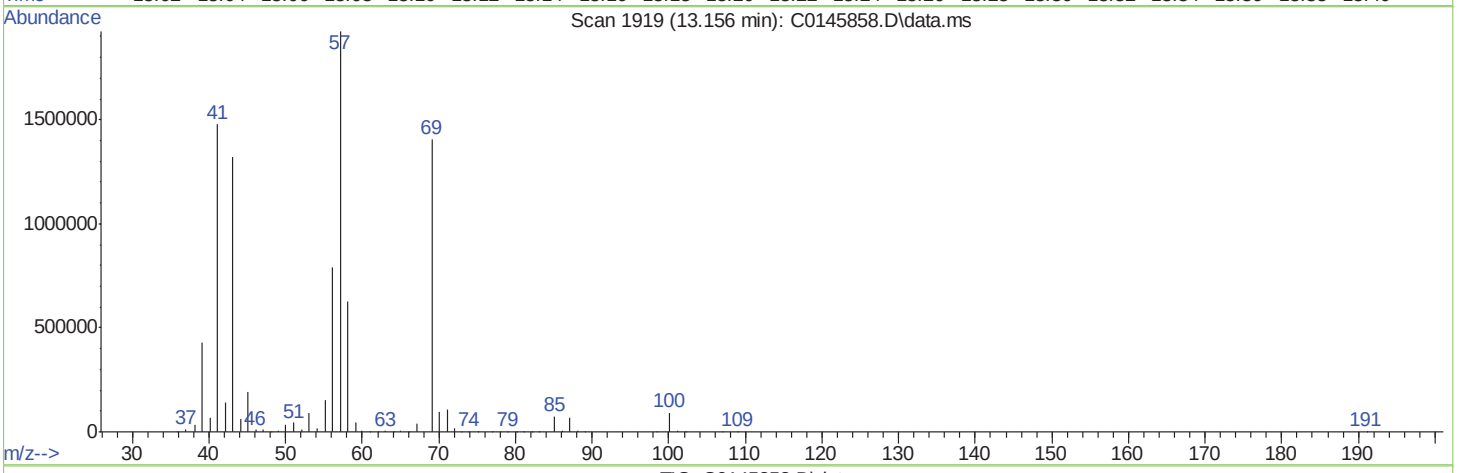
Ion	Exp%	Act%
45.00	100	100
46.00	37.20	45.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.156min (+0.012) 5547.00ug/L

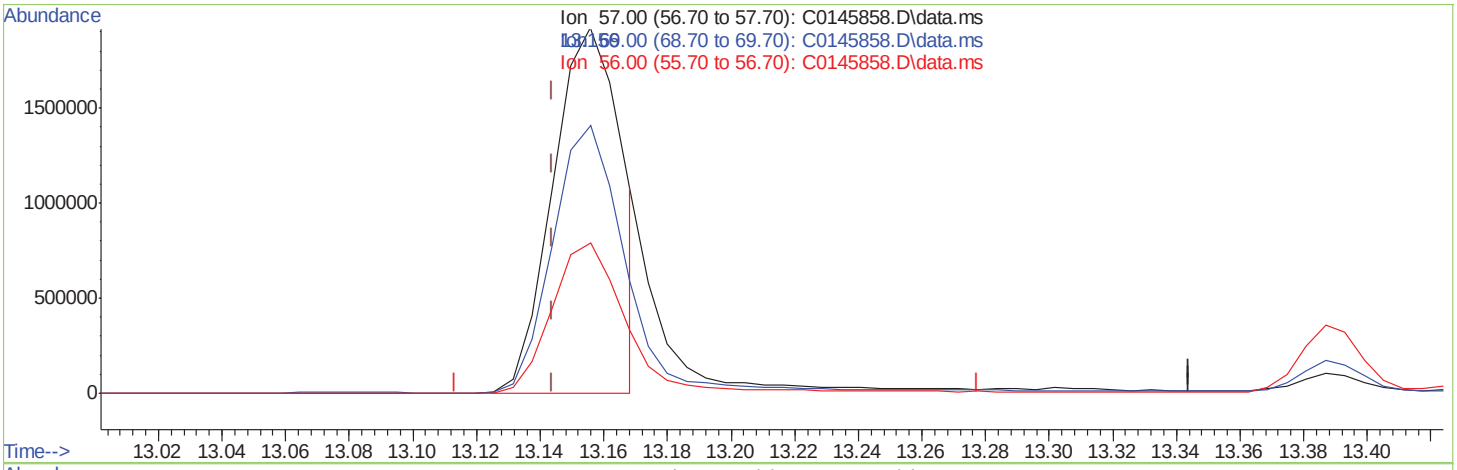
response 3438423

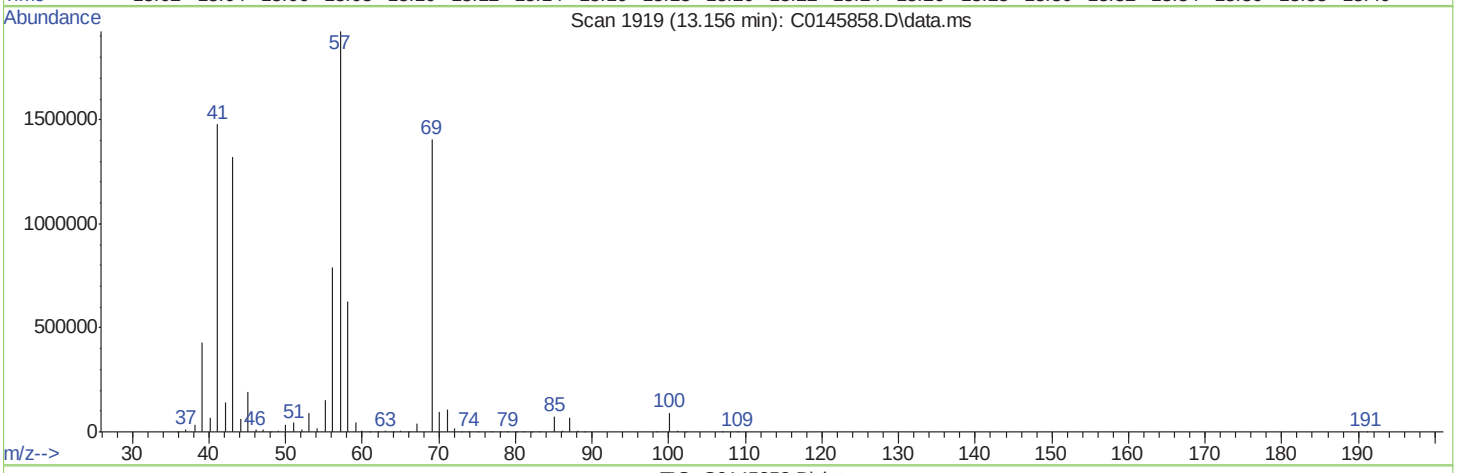
Ion	Exp%	Act%
57.00	100	100
69.00	75.60	65.75
56.00	43.60	37.93
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145858.D
Acq On : 24 Dec 2020 10:25 am
Operator : SHANICAO
Sample : IC5857-7 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 24 10:41:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Dec 22 12:34:55 2020
Response via : Initial Calibration





TIC: C0145858.D\data.ms

(114) 3,3-dimethyl-1-butanol

13.156min (+0.012) 4660.83ug/L m

response 2889115

Ion	Exp%	Act%
57.00	100	100
69.00	75.60	78.25
56.00	43.60	45.14
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
12/28/20 09:47

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 28 08:17:22 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.522	96	1744522	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1206395	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	634526	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.792	65	212471	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	435634	50.63	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.26%			
47) 1,2-Dichloroethane-d4	10.181	65	564378	49.94	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.88%			
58) Toluene-d8	12.134	98	1714650	50.34	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.68%			
80) 4-Bromofluorobenzene	14.306	174	532730	49.83	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	289502	32.85	ug/L	96
3) Chloromethane	3.209	50	431238	39.16	ug/L	93
4) 1,3-butadiene	3.361	39	391877	49.84	ug/L	93
5) Vinyl Chloride	3.337	62	375341	36.70	ug/L	98
6) Bromomethane	3.897	94	151449	45.55	ug/L	99
7) Chloroethane	4.116	64	160074	35.08	ug/L	93
8) Trichlorofluoromethane	4.335	101	407872	38.69	ug/L	96
9) Ethyl Ether	4.906	59	266743	35.38	ug/L	94
10) 1,2-Dichlorotrifluoroe...	5.253	67	347286	39.64	ug/L	99
11) 1,1-Dichloroethene	5.229	61	427815	37.22	ug/L	97
12) Freon 113	5.308	101	218964	31.39	ug/L	96
13) Carbon Disulfide	5.271	76	787209	32.67	ug/L	99
14) Iodomethane	5.484	142	215589	33.45	ug/L	98
15) Acrolein	5.825	56	216664	125.95	ug/L	99
16) Allyl chloride	6.056	41	564904	40.42	ug/L	96
17) Methylene Chloride	6.263	49	398034	34.86	ug/L	99
18) Acetone	6.336	43	485496	193.05	ug/L	97
19) Methyl acetate	6.555	43	1254667	190.14	ug/L	98
20) trans-1,2-Dichloroethene	6.537	61	411941	37.56	ug/L	98
21) Hexane	6.677	56	230291	32.37	ug/L	97
22) Methyl Tert Butyl Ether	6.719	73	912120	34.20	ug/L	95
23) Acetonitrile	7.163	41	462729	378.48	ug/L	97
24) Di-isopropyl ether	7.413	45	1106268	35.42	ug/L	100
25) Chloroprene	7.601	53	499767	40.56	ug/L	99
26) 1,1-Dichloroethane	7.638	63	558600	38.80	ug/L	98
27) Acrylonitrile	7.729	52	514512	209.27	ug/L	99
28) ETBE	8.088	59	953231	33.76	ug/L	98
29) Vinyl acetate	8.112	43	3617914	177.58	ug/L	100
30) cis-1,2-Dichloroethene	8.660	96	288762	37.53	ug/L	97
31) 2,2-Dichloropropane	8.849	77	477075	38.85	ug/L	97
32) Bromochloromethane	9.019	128	136617	36.97	ug/L	94
33) Cyclohexane	9.019	56	509554	34.19	ug/L	100
34) Chloroform	9.165	83	500287	37.94	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 28 08:17:22 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
35) Ethyl acetate	9.353	43	1734955	189.00	ug/L	99
36) Tetrahydrofuran	9.402	42	113567	35.51	ug/L	98
38) Carbon Tetrachloride	9.366	117	350738	37.86	ug/L	99
39) 1,1,1-Trichloroethane	9.469	97	420596	37.57	ug/L	96
40) 2-Butanone	9.627	43	812209	189.56	ug/L	97
41) 1,1-Dichloropropene	9.658	75	419881	36.65	ug/L	92
42) tert-Butyl formate	9.816	59	1538415	179.80	ug/L	99
43) Propionitrile	10.029	54	467692	376.20	ug/L	98
44) Methacrylonitrile	10.053	41	2106076	369.98	ug/L	98
45) Benzene	9.998	78	1161266	36.42	ug/L	98
46) TAME	10.150	73	918434	35.40	ug/L	99
48) 1,2-Dichloroethane	10.266	62	396950	36.88	ug/L	98
49) Trichloroethene	10.728	95	283373	34.41	ug/L	96
50) Methylcyclohexane	10.710	83	473079	36.42	ug/L	98
51) Dibromomethane	11.191	93	176507	37.56	ug/L	98
52) 1,2-Dichloropropane	11.288	63	334410	36.60	ug/L	99
53) Bromodichloromethane	11.361	83	389857	38.34	ug/L	99
54) Methyl methacrylate	11.501	41	324666	38.98	ug/L	98
55) 2-Chloroethyl vinyl ether	11.896	63	892853	149.17	ug/L	98
56) cis-1,3-Dichloropropene	11.963	75	530020	35.61	ug/L	99
59) Toluene	12.176	91	1186483	34.90	ug/L	99
60) 2-Nitropropane	12.377	41	459112	180.06	ug/L	97
61) 4-Methyl-2-pentanone	12.493	43	1690704	192.03	ug/L	99
62) trans-1,3-Dichloropropene	12.541	75	475932	37.83	ug/L	83
63) Tetrachloroethene	12.523	166	300372	37.94	ug/L	97
64) Ethyl methacrylate	12.645	69	442172	39.68	ug/L	97
65) 1,1,2-Trichloroethane	12.675	83	224985	36.76	ug/L	99
66) Dibromochloromethane	12.833	129	291994	38.95	ug/L	97
67) 1,3-Dichloropropane	12.900	76	480570	35.05	ug/L	98
68) 1,2-Dibromoethane	13.034	107	255618	36.31	ug/L	99
69) 2-hexanone	13.168	43	1197574m	187.12	ug/L	
70) 1-Chlorohexane	13.387	91	398525	35.63	ug/L	99
71) Ethylbenzene	13.436	91	1269284	35.82	ug/L	99
72) Chlorobenzene	13.436	112	718222	35.71	ug/L	99
73) 1,1,1,2-Tetrachloroethane	13.478	131	261329	36.68	ug/L	98
74) m,p-Xylene	13.539	91	1927179	72.15	ug/L	100
75) o-Xylene	13.861	91	1033140	36.12	ug/L	99
76) Styrene	13.898	104	834854	36.67	ug/L	98
77) Bromoform	13.953	173	205827	38.94	ug/L	97
78) Isopropylbenzene	14.080	105	1208005	36.39	ug/L	98
81) cis-1,4-Dichloro-2-butene	14.336	53	127262	37.16	ug/L	99
82) n-Propylbenzene	14.372	91	1476397	36.51	ug/L	99
83) Bromobenzene	14.397	156	311179	36.59	ug/L	97
84) 1,1,2,2-Tetrachloroethane	14.427	83	337525	35.05	ug/L	98
85) 1,3,5-Trimethylbenzene	14.494	105	982549	36.72	ug/L	99
86) 2-Chlorotoluene	14.506	91	982223	36.13	ug/L	99
87) trans-1,4-Dichloro-2-B...	14.549	53	102150	33.69	ug/L	96
88) 1,2,3-Trichloropropane	14.537	110	92811	33.97	ug/L	96
89) Cyclohexanone	14.585	55	62582	173.98	ug/L	99
90) 4-Chlorotoluene	14.622	91	907107	36.60	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 28 08:17:22 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

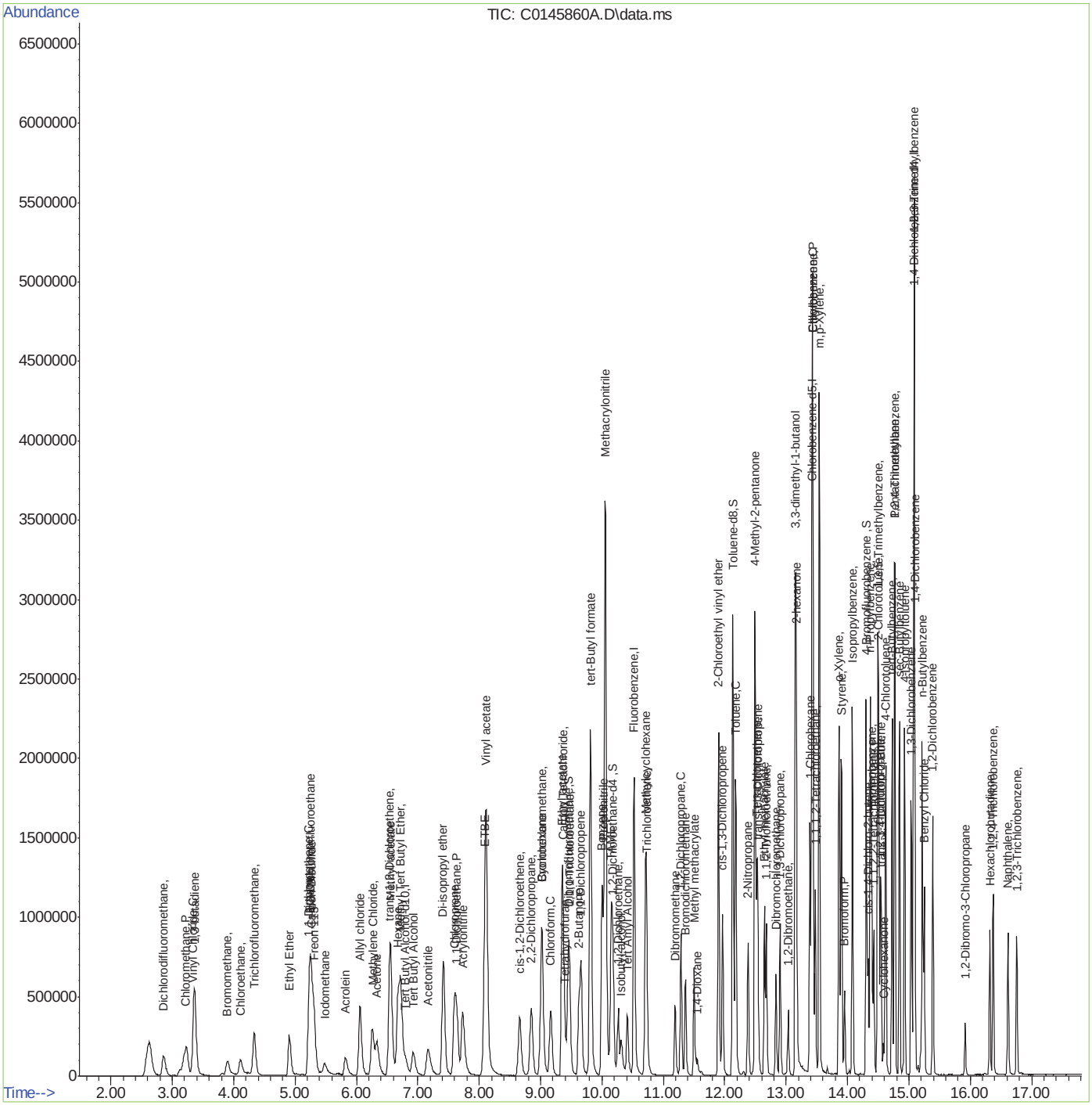
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
91) tert-Butylbenzene	14.725	91	553774	35.49	ug/L	99
93) 1,2,4-Trimethylbenzene	14.768	105	958295	36.11	ug/L	97
94) Pentachloroethane	14.774	167	210254	42.52	ug/L	93
95) sec-Butylbenzene	14.847	105	1190908	36.80	ug/L	99
96) 4-Isopropyltoluene	14.932	119	1021136	37.02	ug/L	99
97) 1,3-Dichlorobenzene	15.036	146	559051	37.12	ug/L	97
98) 1,2,3-Trimethylbenzene	15.078	105	944609	29.42	ug/L	98
99) 1,4-Dichlorobenzene	15.096	146	552082	35.95	ug/L	98
100) n-Butylbenzene	15.218	92	553448	37.27	ug/L	98
101) Benzyl Chloride	15.248	126	132655	35.99	ug/L	96
102) 1,2-Dichlorobenzene	15.388	146	523514	36.68	ug/L	99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	67240	35.76	ug/L	98
104) Hexachlorobutadiene	16.319	225	152574	37.05	ug/L	98
105) 1,2,4-Trichlorobenzene	16.374	180	307021	38.47	ug/L	98
106) Naphthalene	16.617	128	632701	36.40	ug/L	100
107) 1,2,3-Trichlorobenzene	16.757	180	245426	36.81	ug/L	95
109) Ethanol	5.241	45	71864m	766.69	ug/L	
110) Tert Butyl Alcohol	6.926	59	347670	331.89	ug/L	95
111) Isobutyl alcohol	10.315	43	177651	690.90	ug/L	95
112) Tert Amyl Alcohol	10.412	59	261851	354.48	ug/L	99
113) 1,4-Dioxane	11.550	88	68538	817.33	ug/L	98
114) 3,3-dimethyl-1-butanol	13.150	57	1100550m	2113.71	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 28 08:17:22 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



Manual Integration Approval Summary

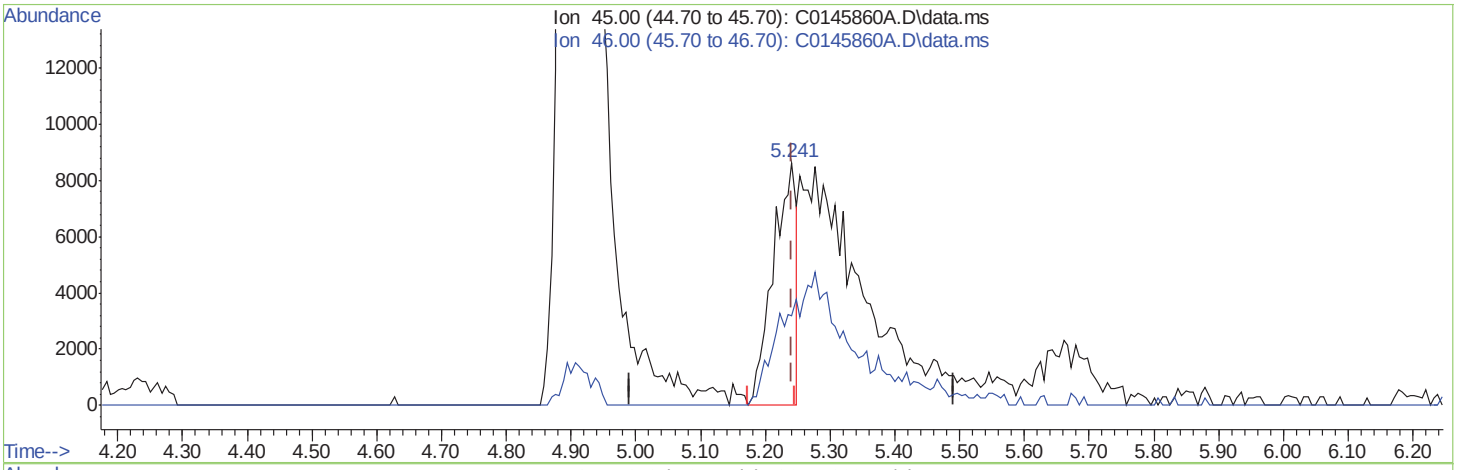
Sample Number: VC5857-ICV5857
Lab FileID: C0145860A.D
Injection Time: 12/24/20 11:19
Method: SW846 8260B
Analyst approved: 12/28/20 08:39 Shanica O'Connor
Supervisor approved: 12/28/20 09:47 Melissa Mangual

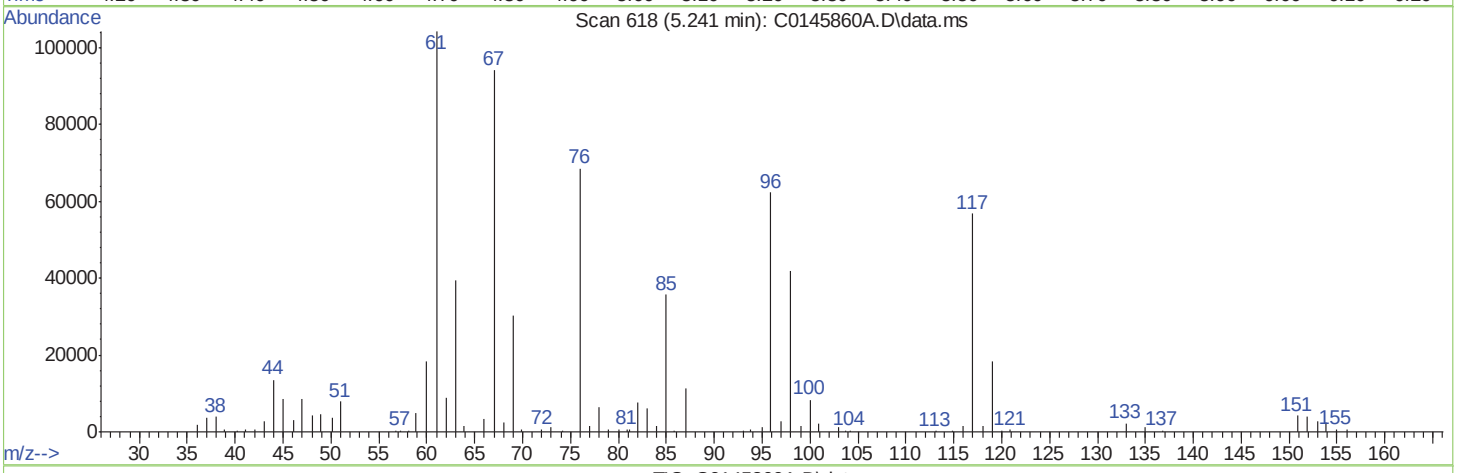
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.24	Split peak
3,3-Dimethyl-1-Butanol	624-95-3		13.15	Overlapping peak
2-Hexanone	591-78-6		13.17	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 24 12:35:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration





TIC: C0145860A.D\data.ms

(109) Ethanol

5.241min (-0.000) 225.30ug/L

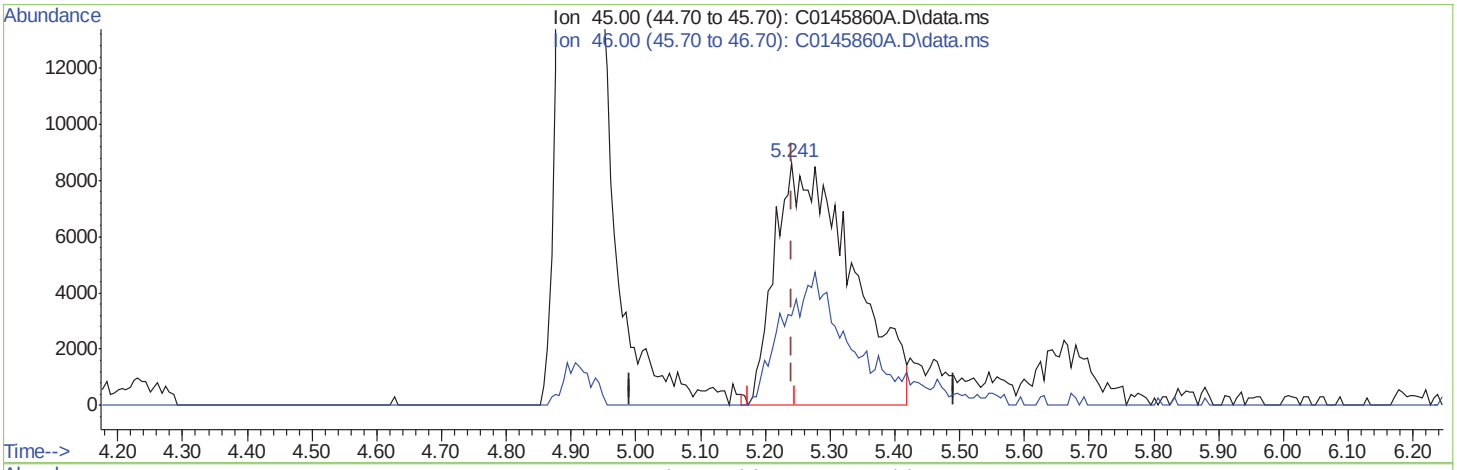
response 21118

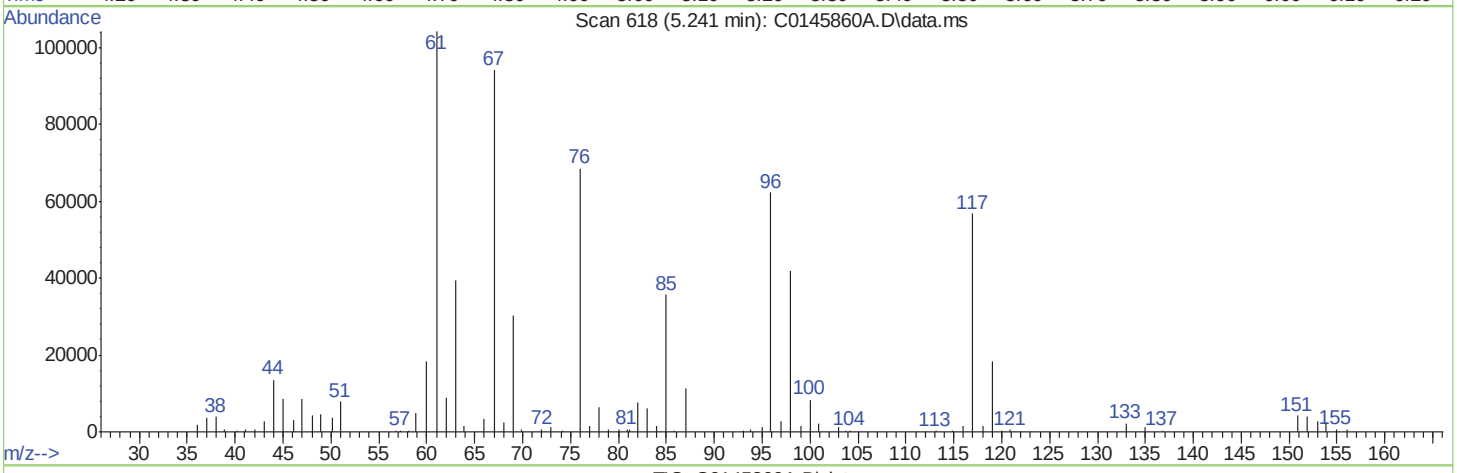
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	36.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145860A.D
Acq On : 24 Dec 2020 11:19 am
Operator : SHANICAO
Sample : ICV5857-5 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 24 12:35:52 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration





TIC: C0145860A.D\data.ms

(109) Ethanol

5.241min (-0.000) 766.69ug/L m

response 71864

Ion	Exp%	Act%
45.00	100	100
46.00	42.90	36.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145861A.D
Acq On : 24 Dec 2020 11:46 am
Operator : SHANICAO
Sample : ICV5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 24 12:35:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

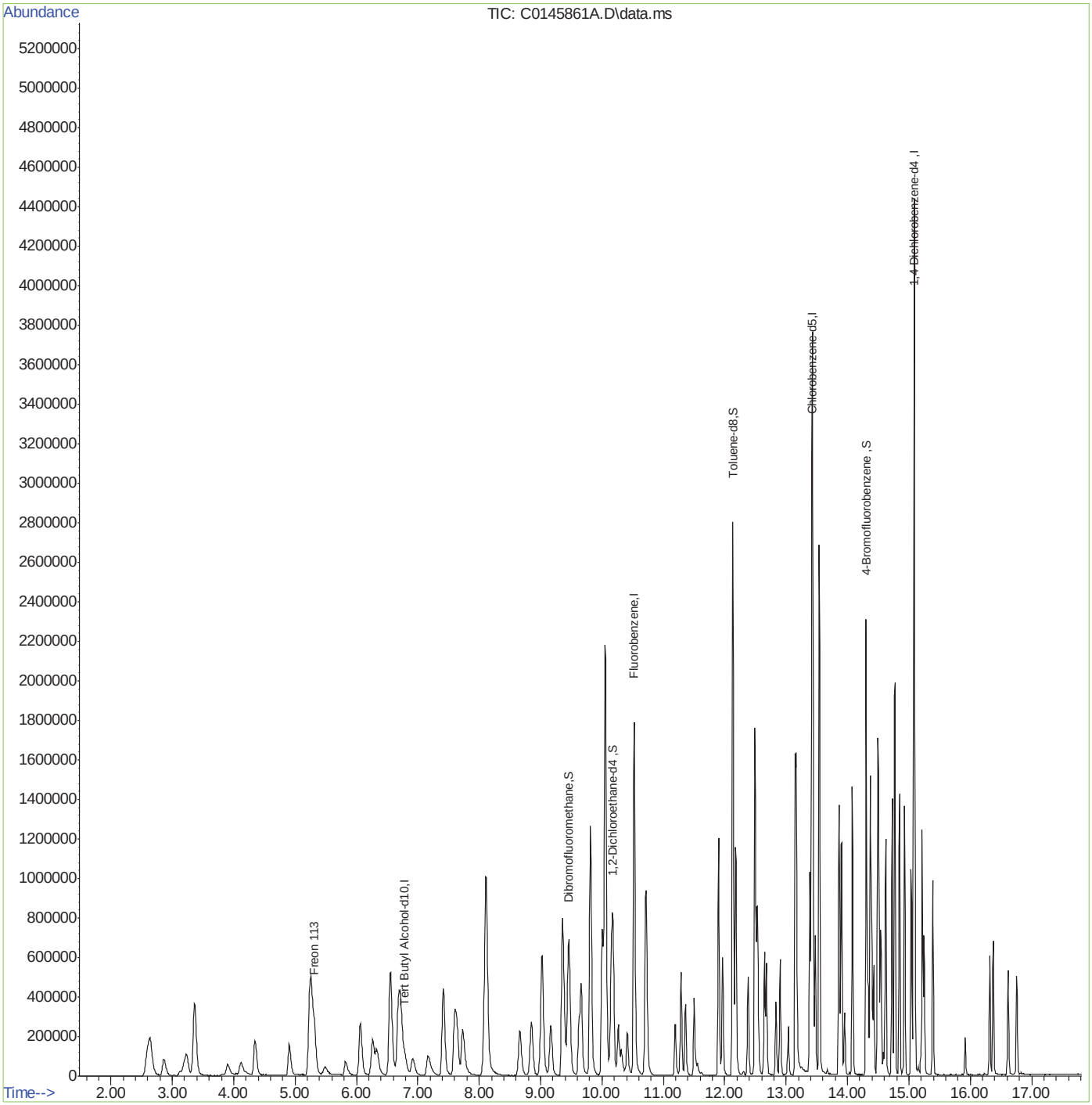
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1692129	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1173152	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	610811	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.780	65	211867	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	419778	50.30	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.60%			
47) 1,2-Dichloroethane-d4	10.181	65	548634	50.05	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.10%			
58) Toluene-d8	12.133	98	1660720	50.14	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.28%			
80) 4-Bromofluorobenzene	14.305	174	514414	49.99	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.98%			
Target Compounds						Qvalue
12) Freon 113	5.314	101	147174	21.75	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\DATA\122420\
Data File : C0145861A.D
Acq On : 24 Dec 2020 11:46 am
Operator : SHANICAO
Sample : ICV5857-4 Inst : MSVOA5
Misc : MS47991,VC5857,,,,,
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 24 12:35:34 2020
Quant Method : C:\msdchem\2\METHODS\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
01/06/21 10:16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146066.D
Acq On : 5 Jan 2021 8:19 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48071,VC5867,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 05 23:03:34 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1449842	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.417	117	1022132	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	562106	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.786	65	178821	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	372719	52.13	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 104.26%			
47) 1,2-Dichloroethane-d4	10.181	65	518984	55.26	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 110.52%			
58) Toluene-d8	12.127	98	1440757	49.92	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.84%			
80) 4-Bromofluorobenzene	14.305	174	478982	50.58	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.862	85	328906	44.91	ug/L	95
3) Chloromethane	3.215	50	359733	39.31	ug/L	94
4) 1,3-butadiene	3.367	39	275368	42.14	ug/L	97
5) Vinyl Chloride	3.355	62	341503	40.18	ug/L	99
6) Bromomethane	3.909	94	105289	38.75	ug/L	98
7) Chloroethane	4.115	64	138554	36.53	ug/L	99
8) Trichlorofluoromethane	4.347	101	420684	48.02	ug/L	95
9) Ethyl Ether	4.912	59	238530	38.07	ug/L	96
10) 1,2-Dichlorotrifluoroe...	5.253	67	279517	38.39	ug/L	94
11) 1,1-Dichloroethene	5.235	61	372211	38.97	ug/L	99
12) Freon 113	5.314	101	232389	40.09	ug/L	98
13) Carbon Disulfide	5.283	76	723842	36.15	ug/L	99
14) Iodomethane	5.496	142	166373	31.27	ug/L	98
15) Acrolein	5.825	56	322234	225.39	ug/L	99
16) Allyl chloride	6.068	41	408751	35.19	ug/L	97
17) Methylene Chloride	6.269	49	324113	34.15	ug/L	98
18) Acetone	6.336	43	421765	201.80	ug/L	96
19) Methyl acetate	6.555	43	1024218	186.77	ug/L	96
20) trans-1,2-Dichloroethene	6.537	61	342904	37.62	ug/L	97
21) Hexane	6.683	56	221057	37.39	ug/L	96
22) Methyl Tert Butyl Ether	6.719	73	897062	40.47	ug/L	96
23) Acetonitrile	7.163	41	379359	373.36	ug/L	100
24) Di-isopropyl ether	7.419	45	938544	36.16	ug/L	98
25) Chloroprene	7.595	53	395063	38.58	ug/L	96
26) 1,1-Dichloroethane	7.644	63	468881	39.19	ug/L	98
27) Acrylonitrile	7.729	52	416770	203.97	ug/L	95
28) ETBE	8.088	59	930911	39.66	ug/L	98
29) Vinyl acetate	8.112	43	3215097	189.89	ug/L	98
30) cis-1,2-Dichloroethene	8.660	96	255245	39.91	ug/L	95
31) 2,2-Dichloropropane	8.848	77	410209	40.20	ug/L	98
32) Bromochloromethane	9.031	128	126813	41.29	ug/L	96
33) Cyclohexane	9.019	56	448945	36.25	ug/L	95
34) Chloroform	9.165	83	447255	40.82	ug/L	99
35) Ethyl acetate	9.353	43	1472653	193.03	ug/L	99
36) Tetrahydrofuran	9.396	42	94716	35.63	ug/L	98
38) Carbon Tetrachloride	9.372	117	323223	41.98	ug/L	96
39) 1,1,1-Trichloroethane	9.475	97	392071	42.14	ug/L	97
40) 2-Butanone	9.621	43	675041	189.57	ug/L	98
41) 1,1-Dichloropropene	9.657	75	377882	39.69	ug/L	95
42) tert-Butyl formate	9.810	59	1461718	205.56	ug/L	96
43) Propionitrile	10.029	54	403225	390.27	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146066.D
Acq On : 5 Jan 2021 8:19 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48071,VC5867,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 05 23:03:34 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) Methacrylonitrile	10.053	41	1833131	387.48	ug/L	99
45) Benzene	9.998	78	1011316	38.16	ug/L	98
46) TAME	10.150	73	884093	41.00	ug/L	97
48) 1,2-Dichloroethane	10.266	62	399661	44.68	ug/L	96
49) Trichloroethene	10.728	95	262234	38.31	ug/L	96
50) Methylcyclohexane	10.710	83	428118	39.65	ug/L	96
51) Dibromomethane	11.191	93	159192	40.76	ug/L	98
52) 1,2-Dichloropropane	11.288	63	287567	37.87	ug/L	95
53) Bromodichloromethane	11.361	83	354973	42.00	ug/L	99
54) Methyl methacrylate	11.501	41	285669	41.27	ug/L	97
55) 2-Chloroethyl vinyl ether	11.896	63	894591	179.84	ug/L	97
56) cis-1,3-Dichloropropene	11.963	75	497824	40.24	ug/L	98
59) Toluene	12.176	91	1085154	37.67	ug/L	99
60) 2-Nitropropane	12.377	41	464107	214.83	ug/L	98
61) 4-Methyl-2-pentanone	12.492	43	1374883	184.31	ug/L	99
62) trans-1,3-Dichloropropene	12.541	75	437331	41.03	ug/L	95
63) Tetrachloroethene	12.523	166	266886	39.79	ug/L	97
64) Ethyl methacrylate	12.645	69	382157	40.47	ug/L	97
65) 1,1,2-Trichloroethane	12.675	83	204822	39.50	ug/L	98
66) Dibromochloromethane	12.833	129	262047	41.26	ug/L	98
67) 1,3-Dichloropropane	12.900	76	453478	39.03	ug/L	96
68) 1,2-Dibromoethane	13.034	107	235690	39.51	ug/L	97
69) 2-hexanone	13.162	43	960952m	177.22	ug/L	
70) 1-Chlorohexane	13.387	91	359422	37.93	ug/L	99
71) Ethylbenzene	13.435	91	1143678	38.09	ug/L	98
72) Chlorobenzene	13.435	112	649280	38.11	ug/L	99
73) 1,1,1,2-Tetrachloroethane	13.478	131	242383	40.15	ug/L	97
74) m,p-Xylene	13.539	91	1743658	77.05	ug/L	97
75) o-Xylene	13.861	91	936009	38.63	ug/L	96
76) Styrene	13.898	104	740050	38.37	ug/L	98
77) Bromoform	13.952	173	195903	43.75	ug/L	98
78) Isopropylbenzene	14.080	105	1082275	38.48	ug/L	98
81) cis-1,4-Dichloro-2-butene	14.336	53	115366	38.03	ug/L	92
82) n-Propylbenzene	14.372	91	1307766	36.50	ug/L	100
83) Bromobenzene	14.397	156	291594	38.71	ug/L	95
84) 1,1,2,2-Tetrachloroethane	14.427	83	312000	36.57	ug/L	98
85) 1,3,5-Trimethylbenzene	14.494	105	872632	36.82	ug/L	100
86) 2-Chlorotoluene	14.506	91	890912	37.00	ug/L	100
87) trans-1,4-Dichloro-2-B...	14.549	53	103473	38.53	ug/L	98
88) 1,2,3-Trichloropropane	14.537	110	91107	37.64	ug/L	95
89) Cyclohexanone	14.585	55	60471	189.77	ug/L	96
90) 4-Chlorotoluene	14.622	91	810799	36.93	ug/L	100
91) tert-Butylbenzene	14.725	91	511592	37.01	ug/L	96
93) 1,2,4-Trimethylbenzene	14.768	105	859582	36.56	ug/L	98
94) Pentachloroethane	14.774	167	180622	41.23	ug/L	96
95) sec-Butylbenzene	14.847	105	1020792	35.61	ug/L	99
96) 4-Isopropyltoluene	14.932	119	883285	36.15	ug/L	99
97) 1,3-Dichlorobenzene	15.035	146	504181	37.79	ug/L	99
98) 1,2,3-Trimethylbenzene	15.078	105	1041114	36.60	ug/L	98
99) 1,4-Dichlorobenzene	15.096	146	510046	37.49	ug/L	99
100) n-Butylbenzene	15.218	92	470017	35.73	ug/L	97
101) Benzyl Chloride	15.248	126	131482	40.26	ug/L	96
102) 1,2-Dichlorobenzene	15.388	146	482249	38.15	ug/L	97
103) 1,2-Dibromo-3-Chloropr...	15.917	75	62625	37.60	ug/L	98
104) Hexachlorobutadiene	16.319	225	145530	39.90	ug/L	98
105) 1,2,4-Trichlorobenzene	16.374	180	271680	38.43	ug/L	98
106) Naphthalene	16.617	128	514931	33.44	ug/L	100
107) 1,2,3-Trichlorobenzene	16.757	180	219704	37.20	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146066.D
Acq On : 5 Jan 2021 8:19 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48071,VC5867,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 05 23:03:34 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

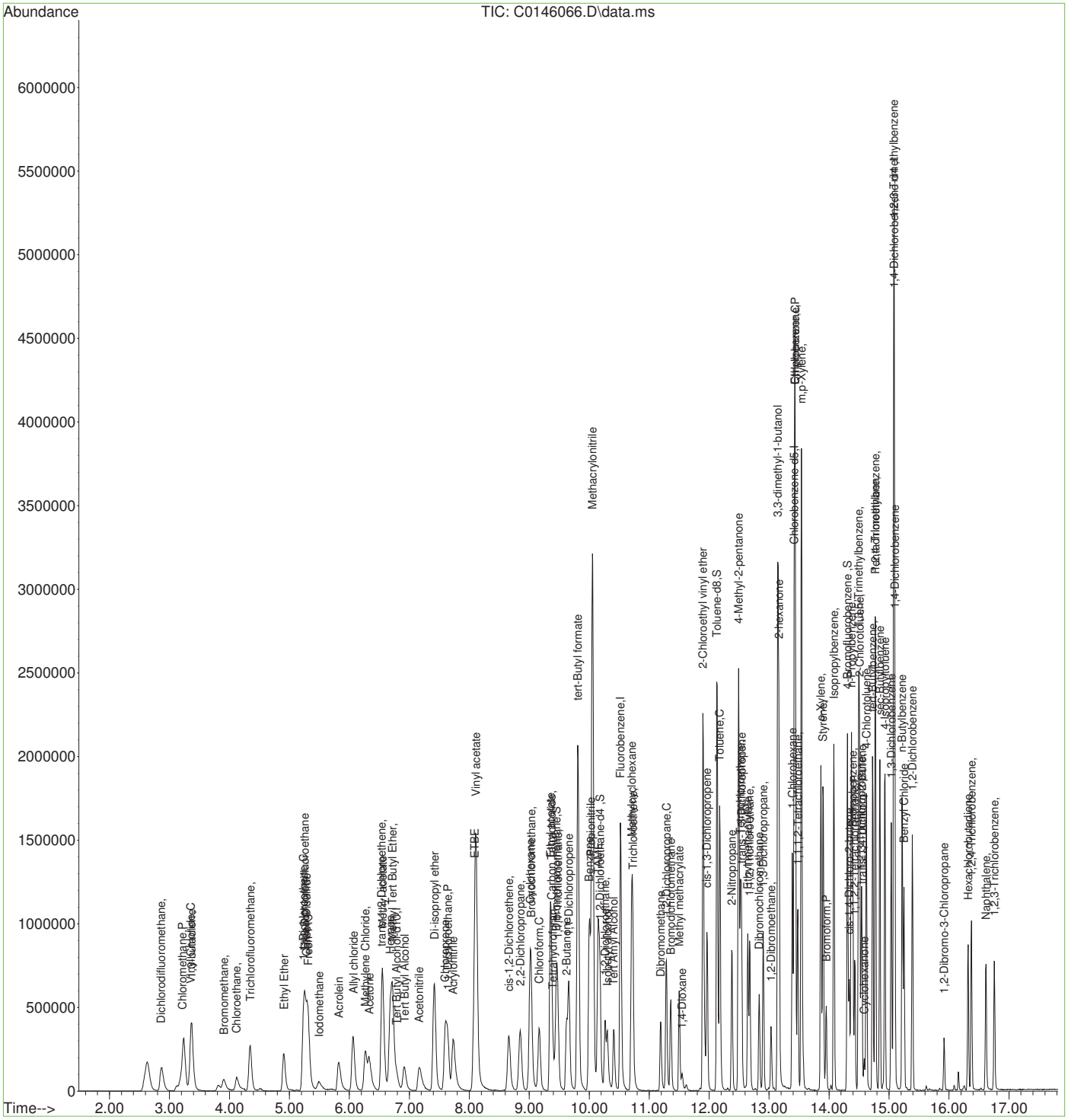
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
109) Ethanol	5.265	45	73983m	937.83 ug/L	
110) Tert Butyl Alcohol	6.920	59	327501	371.46 ug/L	95
111) Isobutyl alcohol	10.302	43	224946	1043.76 ug/L	99
112) Tert Amyl Alcohol	10.406	59	263042	423.10 ug/L	99
113) 1,4-Dioxane	11.549	88	63126	894.45 ug/L	89
114) 3,3-dimethyl-1-butanol	13.143	57	1380091	3149.37 ug/L	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146066.D
Acq On : 5 Jan 2021 8:19 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48071,VC5867,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 05 23:03:34 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



RTXVMS122420.M Tue Jan 05 23:21:47 2021 Page: 4

Manual Integration Approval Summary

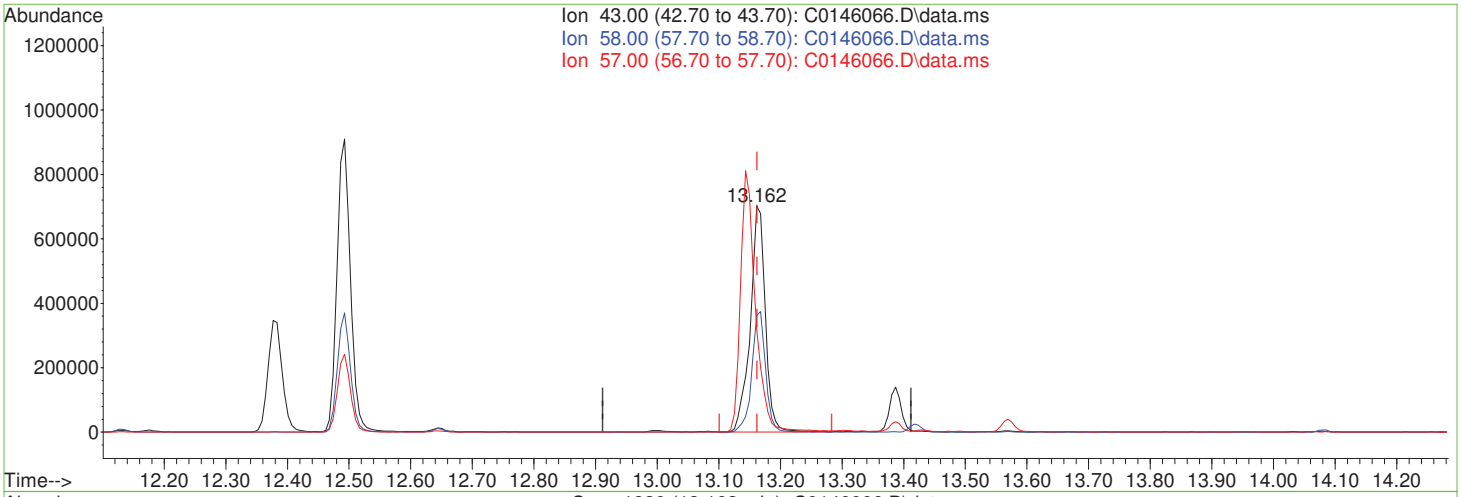
Sample Number: VC5867-CC5857
Lab FileID: C0146066.D
Injection Time: 01/05/21 08:19
Method: SW846 8260B
Analyst approved: 01/05/21 23:53 John Matthew de Guzman
Supervisor approved: 01/06/21 10:16 Melissa Mangual

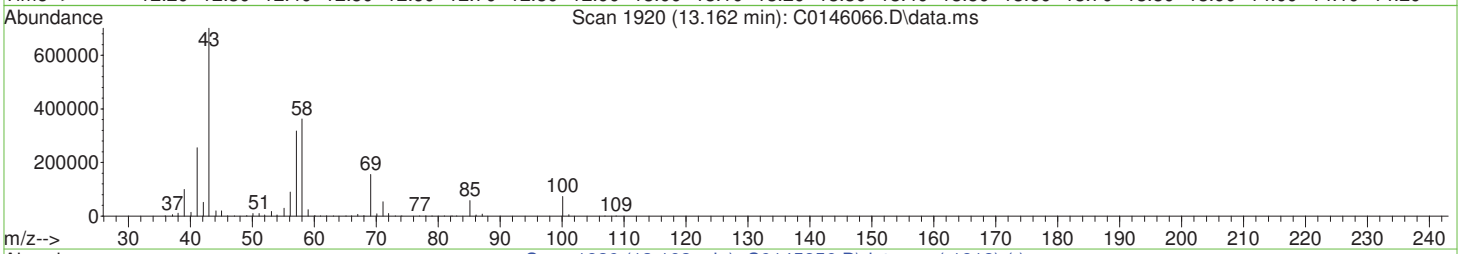
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.27	Poor instrument integration
2-Hexanone	591-78-6		13.16	Overlapping peak

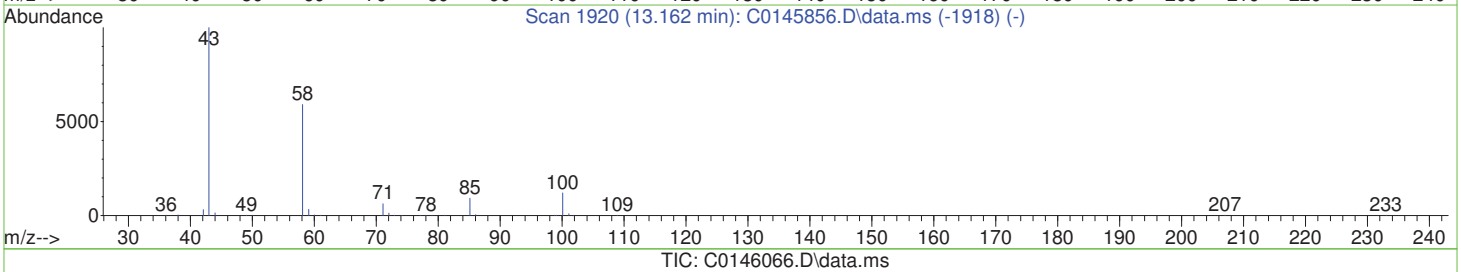
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146066.D
Acq On : 5 Jan 2021 8:19 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48071,VC5867,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 05 23:00:46 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146066.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 219.95ug/L

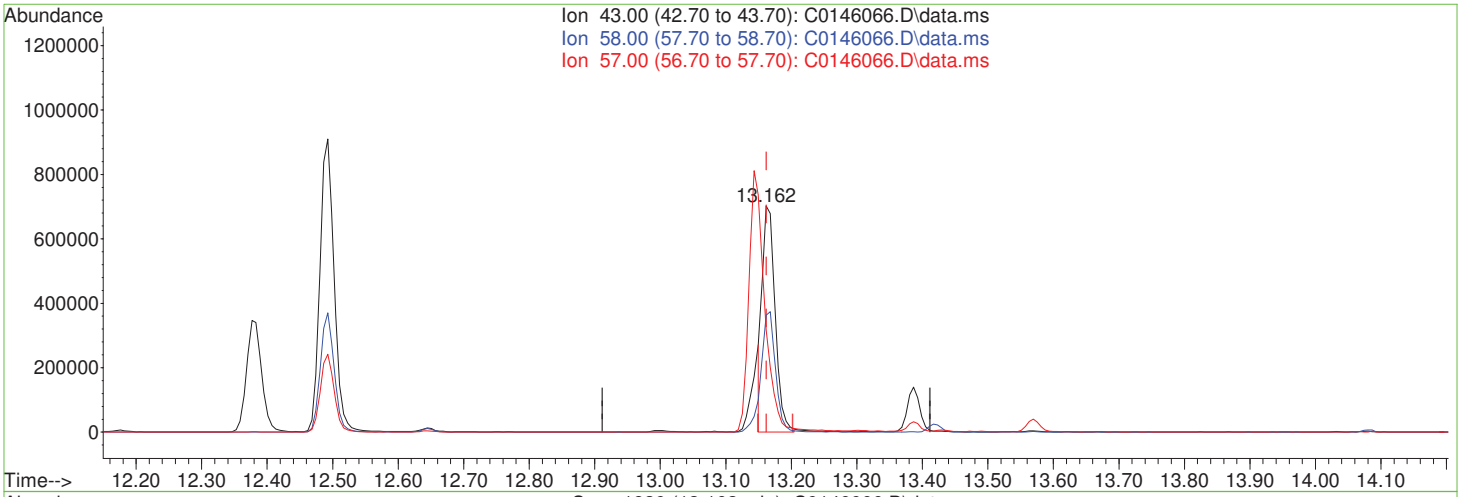
response 1192638

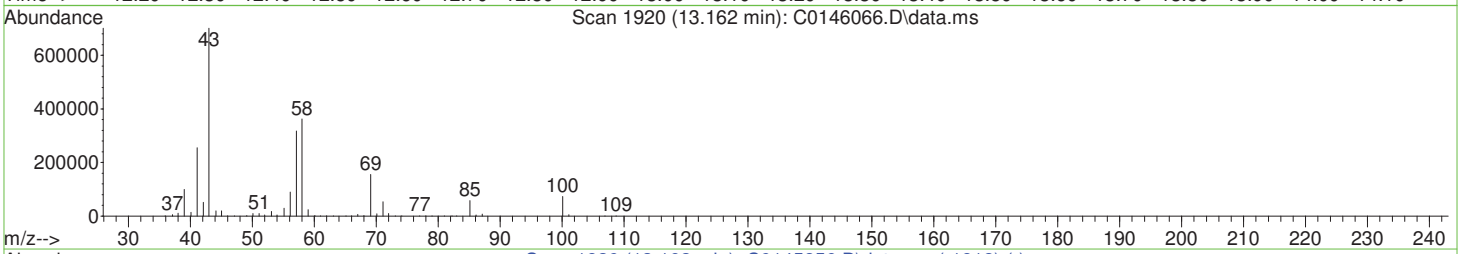
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.74
57.00	46.70	45.33
0.00	0.00	0.00

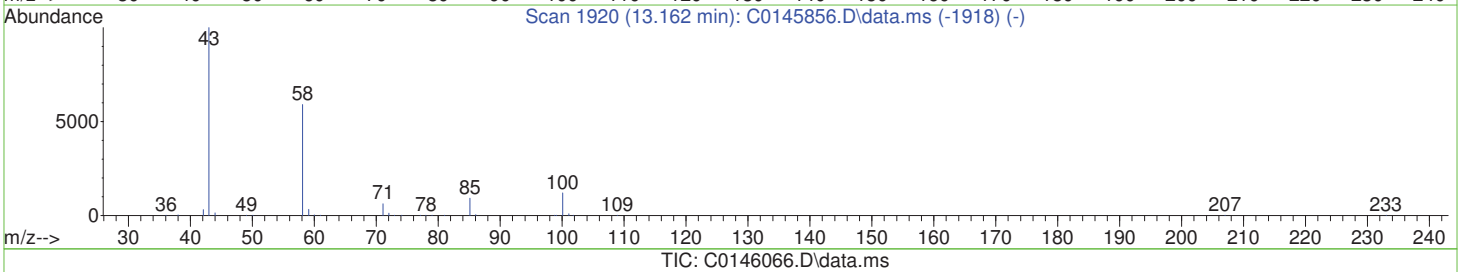
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146066.D
Acq On : 5 Jan 2021 8:19 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48071,VC5867,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 05 23:00:46 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146066.D\data.ms

(69) 2-hexanone

13.162min (-0.000) 177.22ug/L m

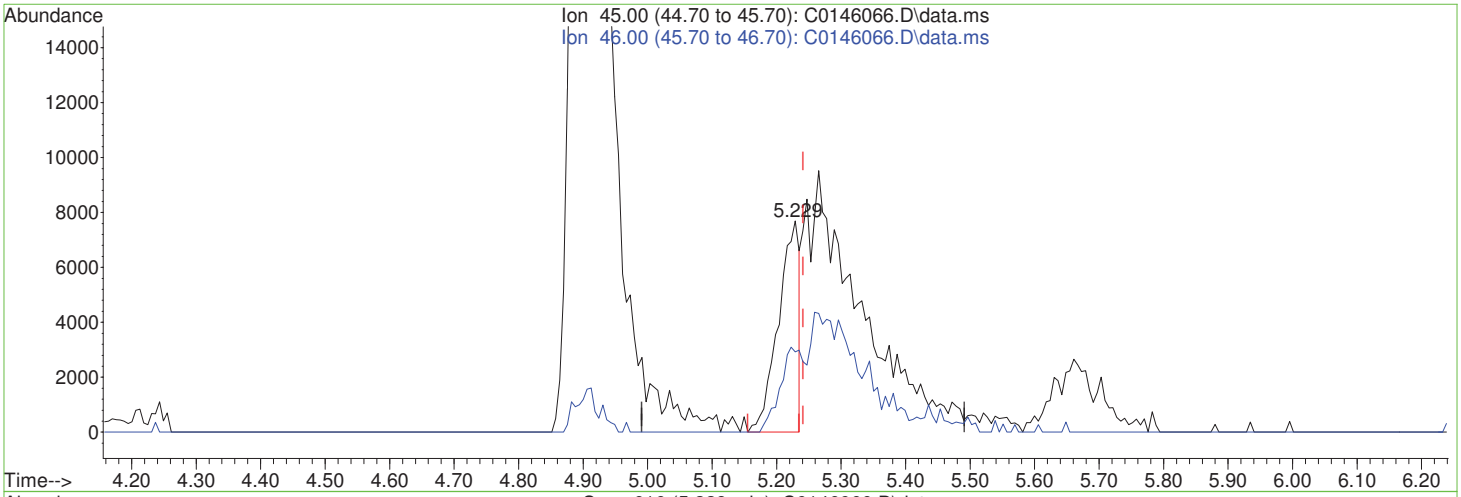
response 960952

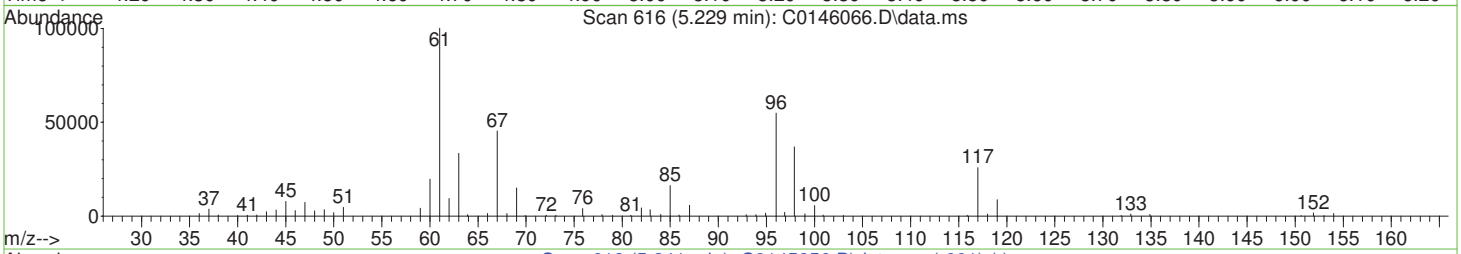
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	51.68
57.00	46.70	45.27
0.00	0.00	0.00

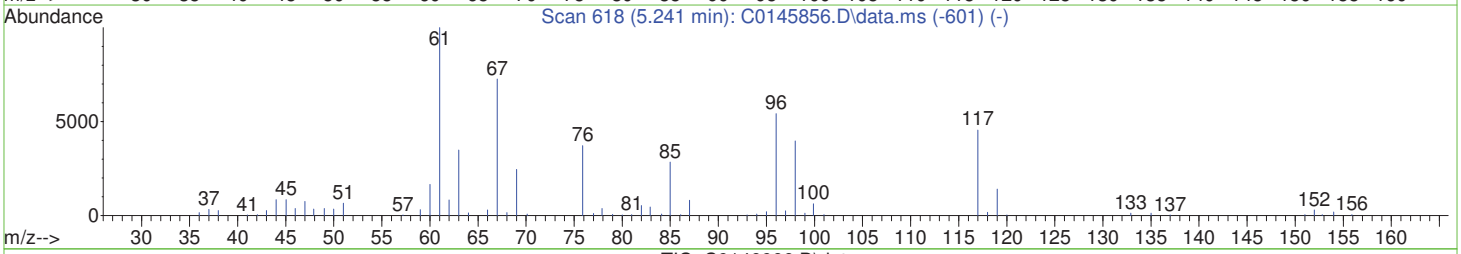
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146066.D
Acq On : 5 Jan 2021 8:19 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48071,VC5867,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 05 23:00:46 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146066.D\data.ms

(109) Ethanol

5.229min (-0.012) 220.19ug/L

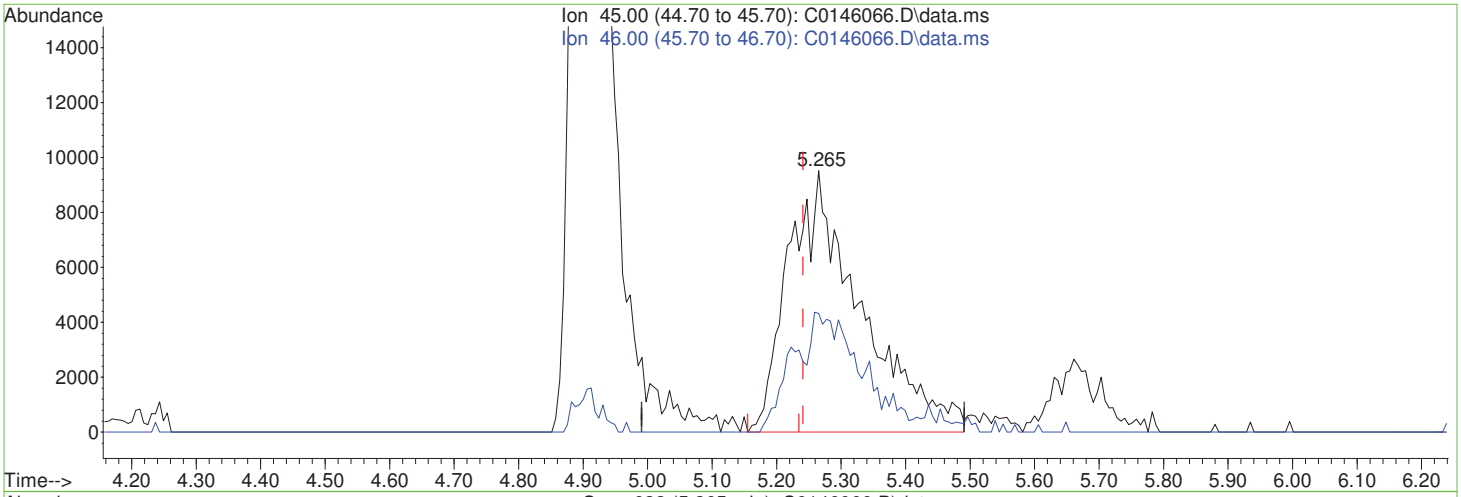
response 17370

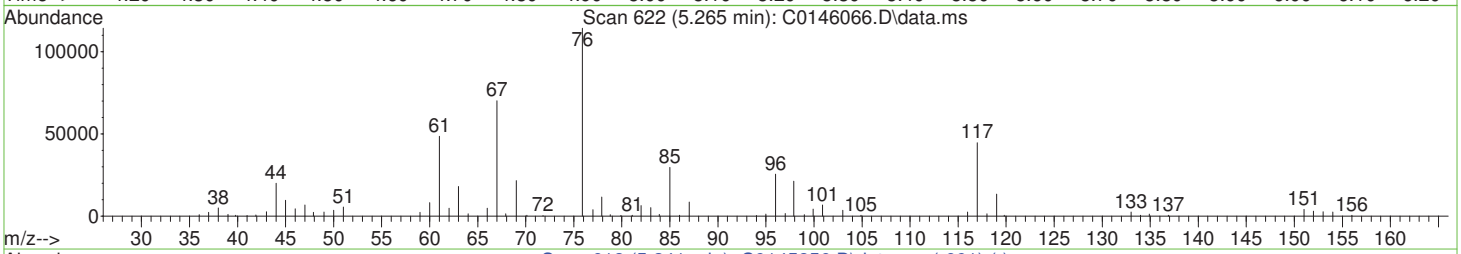
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	37.94
0.00	0.00	0.00
0.00	0.00	0.00

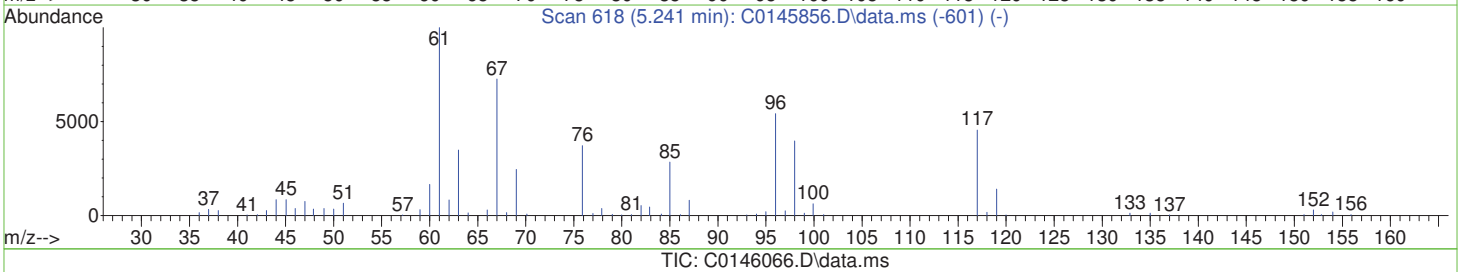
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146066.D
Acq On : 5 Jan 2021 8:19 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48071,VC5867,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 05 23:00:46 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146066.D\data.ms

(109) Ethanol

5.265min (+0.024) 937.83ug/L m

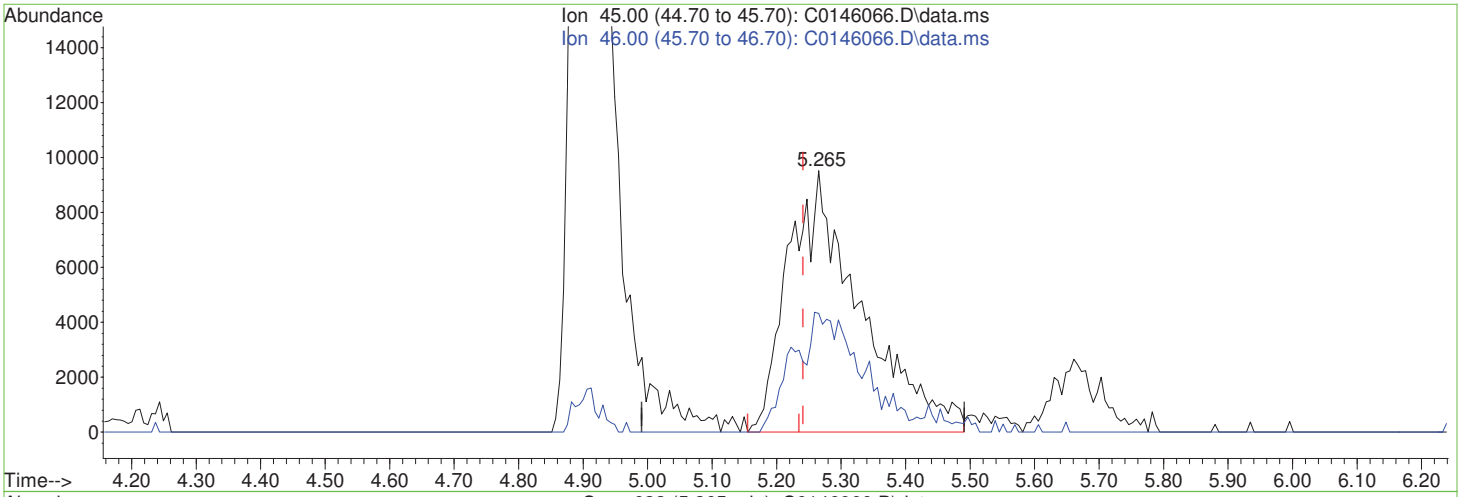
response 73983

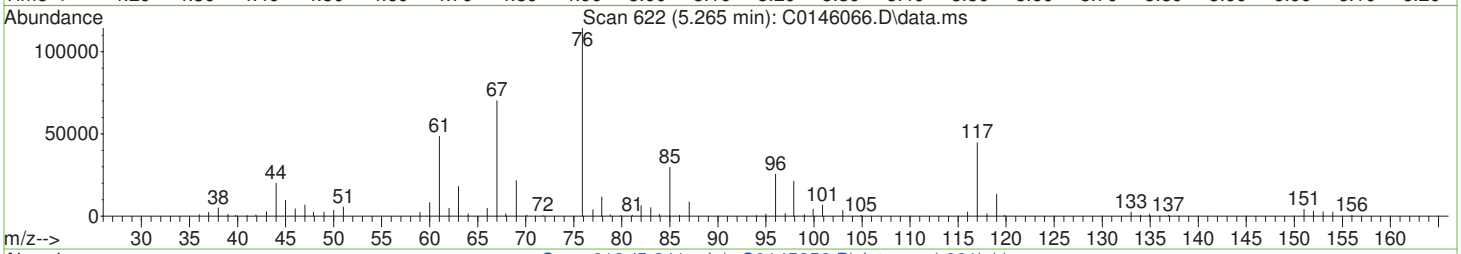
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	45.39
0.00	0.00	0.00
0.00	0.00	0.00

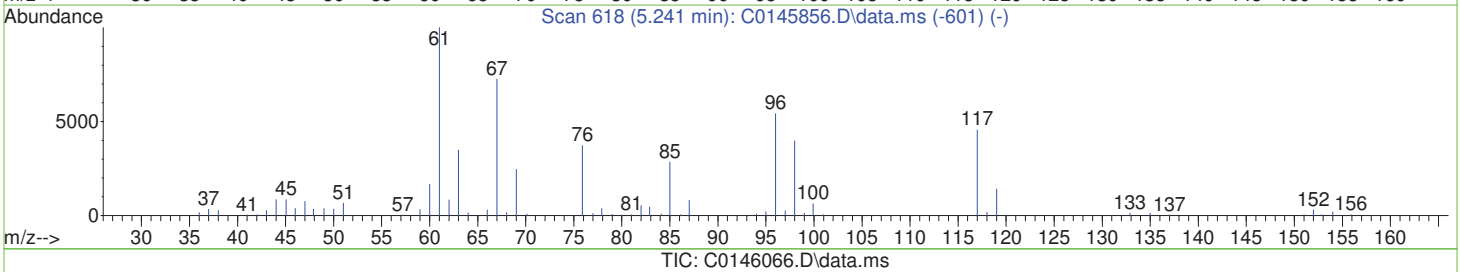
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146066.D
Acq On : 5 Jan 2021 8:19 am
Operator : SHANICAO
Sample : CC5857-5
Misc : MS48071,VC5867,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 05 23:00:46 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146066.D\data.ms

(109) Ethanol

5.265min (+0.024) 937.83ug/L m

response 73983

Ion	Exp%	Act%
45.00	100	100
46.00	42.90	45.39
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
01/06/21 10:24

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146091.D
Acq On : 5 Jan 2021 7:37 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48072,VC5867,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jan 05 23:19:53 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	10.521	96	1400473	50.00	ug/L	0.00
57) Chlorobenzene-d5	13.423	117	1027413	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	15.084	152	566800	50.00	ug/L	0.00
108) Tert Butyl Alcohol-d10	6.786	65	182338	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	9.451	113	357980	51.83	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 103.66%			
47) 1,2-Dichloroethane-d4	10.181	65	508404	56.04	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 112.08%			
58) Toluene-d8	12.134	98	1406445	48.48	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.96%			
80) 4-Bromofluorobenzene	14.305	174	478637	50.12	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.24%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.856	85	339094	47.94	ug/L	98
3) Chloromethane	3.209	50	302203	34.15	ug/L	94
4) 1,3-butadiene	3.367	39	293554	46.51	ug/L	95
5) Vinyl Chloride	3.343	62	324603	39.54	ug/L	100
6) Bromomethane	3.902	94	98489	37.63	ug/L	98
7) Chloroethane	4.115	64	147468	40.25	ug/L	95
8) Trichlorofluoromethane	4.347	101	422250	49.89	ug/L	99
9) Ethyl Ether	4.906	59	242468	40.06	ug/L	95
10) 1,2-Dichlorotrifluoroe...	5.253	67	286171	40.69	ug/L	97
11) 1,1-Dichloroethene	5.235	61	376125	40.77	ug/L	97
12) Freon 113	5.308	101	234034	41.80	ug/L	97
13) Carbon Disulfide	5.283	76	746346	38.59	ug/L	100
14) Iodomethane	5.478	142	247058	46.02	ug/L	91
15) Acrolein	5.819	56	283119	205.01	ug/L	94
16) Allyl chloride	6.056	41	427153	38.07	ug/L	93
17) Methylene Chloride	6.263	49	335477	36.59	ug/L	95
18) Acetone	6.330	43	416718	206.41	ug/L	97
19) Methyl acetate	6.555	43	1023673	193.25	ug/L	95
20) trans-1,2-Dichloroethene	6.537	61	366386	41.61	ug/L	98
21) Hexane	6.683	56	205491	35.98	ug/L	95
22) Methyl Tert Butyl Ether	6.719	73	925826	43.24	ug/L	93
23) Acetonitrile	7.163	41	366582	373.50	ug/L	99
24) Di-isopropyl ether	7.413	45	960756	38.32	ug/L	97
25) Chloroprene	7.601	53	404641	40.90	ug/L	97
26) 1,1-Dichloroethane	7.644	63	473907	41.00	ug/L	99
27) Acrylonitrile	7.723	52	403465	204.42	ug/L	92
28) ETBE	8.088	59	958075	42.26	ug/L	98
29) Vinyl acetate	8.112	43	3088437	188.84	ug/L	99
30) cis-1,2-Dichloroethene	8.660	96	258858	41.90	ug/L	99
31) 2,2-Dichloropropane	8.854	77	412610	41.86	ug/L	94
32) Bromochloromethane	9.019	128	136389	45.98	ug/L	89
33) Cyclohexane	9.025	56	454254	37.97	ug/L	97
34) Chloroform	9.165	83	472378	44.63	ug/L	98
35) Ethyl acetate	9.353	43	1415892	192.13	ug/L	100
36) Tetrahydrofuran	9.396	42	90687	35.31	ug/L	97
38) Carbon Tetrachloride	9.372	117	339247	45.62	ug/L	98
39) 1,1,1-Trichloroethane	9.469	97	412426	45.89	ug/L	96
40) 2-Butanone	9.621	43	666706	193.83	ug/L	98
41) 1,1-Dichloropropene	9.664	75	386807	42.06	ug/L	98
42) tert-Butyl formate	9.816	59	1567537	228.21	ug/L	94
43) Propionitrile	10.029	54	400536	401.33	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146091.D
Acq On : 5 Jan 2021 7:37 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48072,VC5867,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jan 05 23:19:53 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) Methacrylonitrile	10.053	41	1820064	398.28 ug/L	97
45) Benzene	9.998	78	1054891	41.21 ug/L	98
46) TAME	10.150	73	917149	44.04 ug/L	98
48) 1,2-Dichloroethane	10.266	62	415925	48.14 ug/L	91
49) Trichloroethene	10.728	95	271145	41.01 ug/L	96
50) Methylcyclohexane	10.710	83	427900	41.03 ug/L	96
51) Dibromomethane	11.191	93	167663	44.44 ug/L	98
52) 1,2-Dichloropropane	11.288	63	299800	40.88 ug/L	91
53) Bromodichloromethane	11.361	83	374197	45.84 ug/L	97
54) Methyl methacrylate	11.501	41	283404	42.38 ug/L	97
55) 2-Chloroethyl vinyl ether	11.896	63	937925	195.20 ug/L	97
56) cis-1,3-Dichloropropene	11.963	75	516053	43.18 ug/L	97
59) Toluene	12.176	91	1122412	38.76 ug/L	100
60) 2-Nitropropane	12.383	41	466612	214.88 ug/L	97
61) 4-Methyl-2-pentanone	12.492	43	1393617	185.86 ug/L	99
62) trans-1,3-Dichloropropene	12.541	75	456902	42.65 ug/L	98
63) Tetrachloroethene	12.523	166	297163	44.08 ug/L	97
64) Ethyl methacrylate	12.645	69	392889	41.40 ug/L	100
65) 1,1,2-Trichloroethane	12.675	83	210093	40.31 ug/L	95
66) Dibromochloromethane	12.833	129	271938	42.59 ug/L	98
67) 1,3-Dichloropropane	12.900	76	485750	41.59 ug/L	97
68) 1,2-Dibromoethane	13.034	107	243876	40.67 ug/L	98
69) 2-hexanone	13.168	43	978716m	179.57 ug/L	
70) 1-Chlorohexane	13.387	91	368364	38.67 ug/L	98
71) Ethylbenzene	13.435	91	1191914	39.50 ug/L	99
72) Chlorobenzene	13.435	112	684115	39.94 ug/L	99
73) 1,1,1,2-Tetrachloroethane	13.478	131	255784	42.16 ug/L	96
74) m,p-Xylene	13.539	91	1828154	80.37 ug/L	99
75) o-Xylene	13.861	91	987681	40.55 ug/L	97
76) Styrene	13.904	104	801171	41.32 ug/L	98
77) Bromoform	13.953	173	201644	44.80 ug/L	97
78) Isopropylbenzene	14.080	105	1130498	39.99 ug/L	98
81) cis-1,4-Dichloro-2-butene	14.336	53	109158	35.69 ug/L	90
82) n-Propylbenzene	14.372	91	1364056	37.76 ug/L	98
83) Bromobenzene	14.397	156	305309	40.19 ug/L	96
84) 1,1,2,2-Tetrachloroethane	14.427	83	320241	37.23 ug/L	99
85) 1,3,5-Trimethylbenzene	14.494	105	922856	38.61 ug/L	98
86) 2-Chlorotoluene	14.506	91	925585	38.12 ug/L	99
87) trans-1,4-Dichloro-2-B...	14.549	53	99138	36.61 ug/L	94
88) 1,2,3-Trichloropropane	14.537	110	97168	39.81 ug/L	98
89) Cyclohexanone	14.585	55	57009	177.43 ug/L	97
90) 4-Chlorotoluene	14.622	91	858623	38.78 ug/L	97
91) tert-Butylbenzene	14.725	91	541478	38.84 ug/L	94
93) 1,2,4-Trimethylbenzene	14.768	105	917937	38.72 ug/L	99
94) Pentachloroethane	14.774	167	178401	40.39 ug/L	90
95) sec-Butylbenzene	14.847	105	1070667	37.04 ug/L	99
96) 4-Isopropyltoluene	14.932	119	938328	38.08 ug/L	100
97) 1,3-Dichlorobenzene	15.035	146	533343	39.64 ug/L	98
98) 1,2,3-Trimethylbenzene	15.078	105	1117424	38.96 ug/L	98
99) 1,4-Dichlorobenzene	15.096	146	532216	38.79 ug/L	99
100) n-Butylbenzene	15.218	92	486490	36.68 ug/L	98
101) Benzyl Chloride	15.248	126	115256	35.00 ug/L	95
102) 1,2-Dichlorobenzene	15.388	146	513643	40.29 ug/L	99
103) 1,2-Dibromo-3-Chloropr...	15.918	75	64216	38.24 ug/L	96
104) Hexachlorobutadiene	16.319	225	147537	40.11 ug/L	95
105) 1,2,4-Trichlorobenzene	16.374	180	296199	41.55 ug/L	99
106) Naphthalene	16.617	128	607687	39.14 ug/L	97
107) 1,2,3-Trichlorobenzene	16.757	180	248637	41.75 ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146091.D
Acq On : 5 Jan 2021 7:37 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48072,VC5867,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jan 05 23:19:53 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration

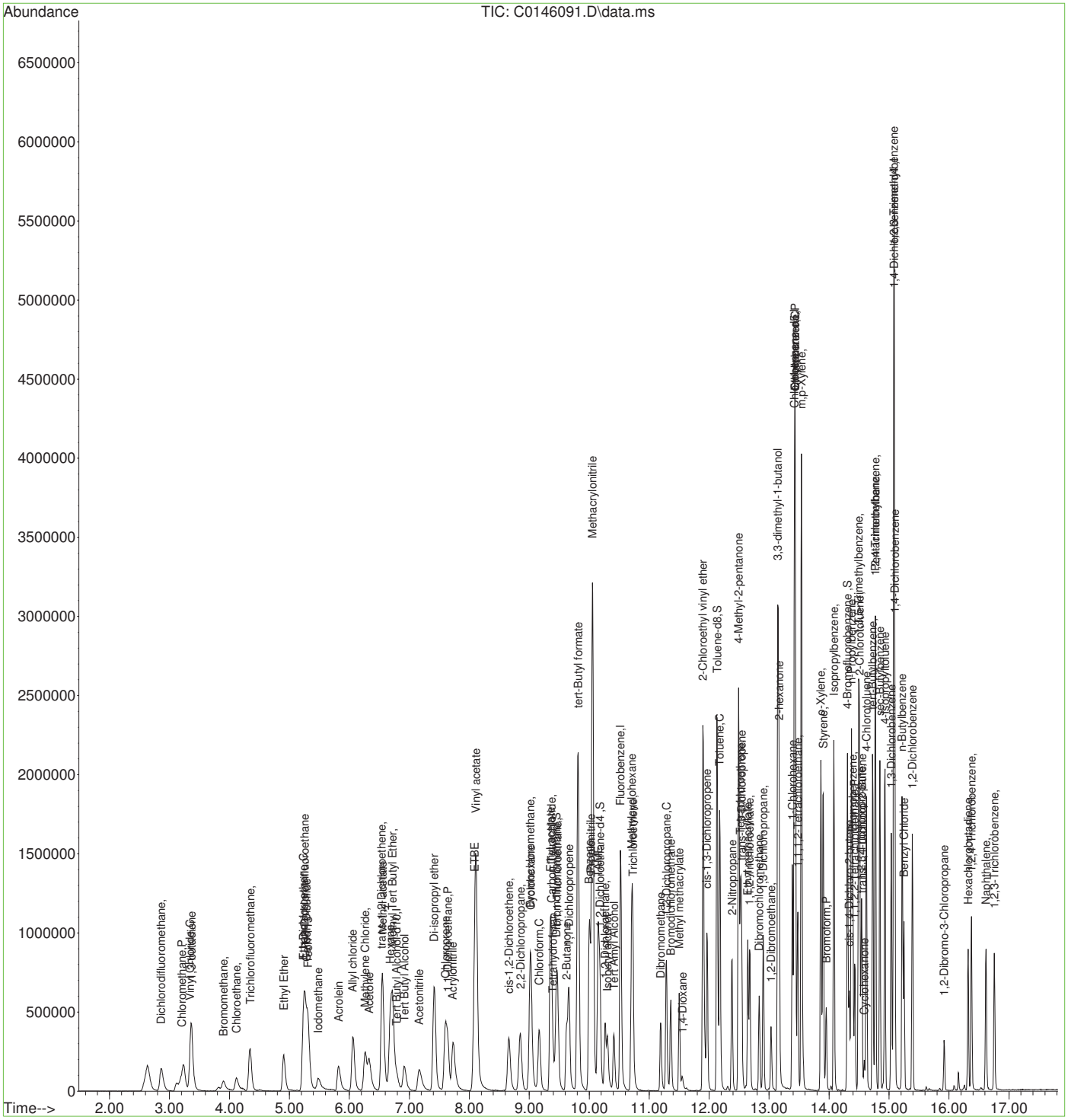
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Ethanol	5.235	45	72679m	903.53	ug/L	
110) Tert Butyl Alcohol	6.920	59	362646	403.39	ug/L	97
111) Isobutyl alcohol	10.302	43	224353	1020.66	ug/L	96
112) Tert Amyl Alcohol	10.412	59	257107	405.57	ug/L	98
113) 1,4-Dioxane	11.556	88	61219	850.69	ug/L	92
114) 3,3-dimethyl-1-butanol	13.143	57	1323576	2962.15	ug/L	86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146091.D
Acq On : 5 Jan 2021 7:37 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48072,VC5867,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jan 05 23:19:53 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration



RTXVMS122420.M Tue Jan 05 23:22:03 2021 Page: 4

Manual Integration Approval Summary

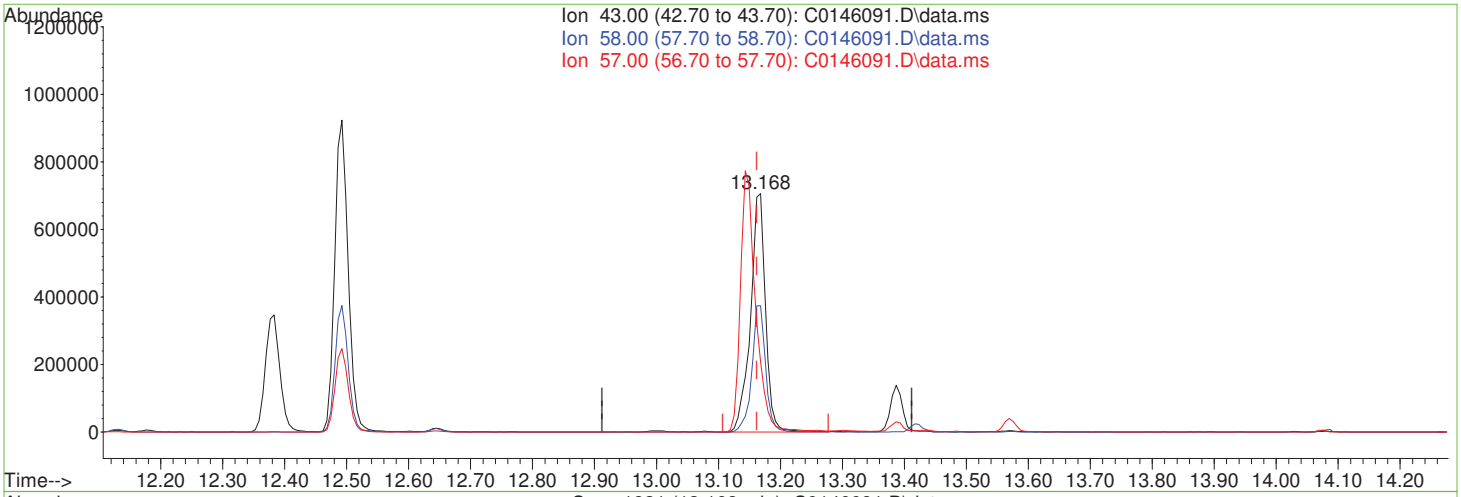
Sample Number: VC5867-ECC5857
Lab FileID: C0146091.D
Injection Time: 01/05/21 19:37
Method: SW846 8260B
Analyst approved: 01/05/21 23:53 John Matthew de Guzman
Supervisor approved: 01/06/21 10:24 Melissa Mangual

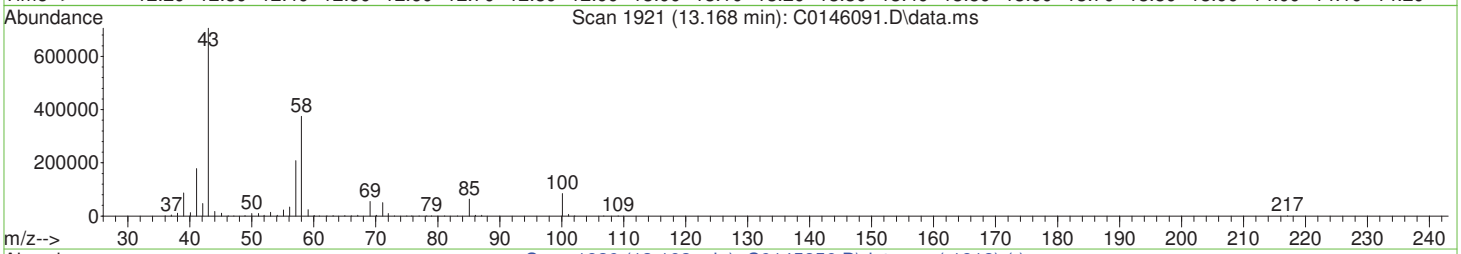
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		5.23	Poor instrument integration
2-Hexanone	591-78-6		13.17	Overlapping peak

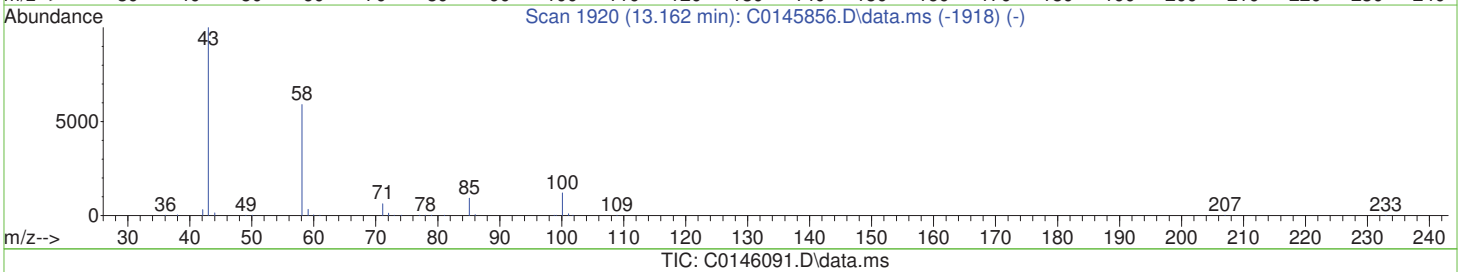
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146091.D
Acq On : 5 Jan 2021 7:37 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48072,VC5867,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jan 05 23:01:58 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146091.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 219.74ug/L

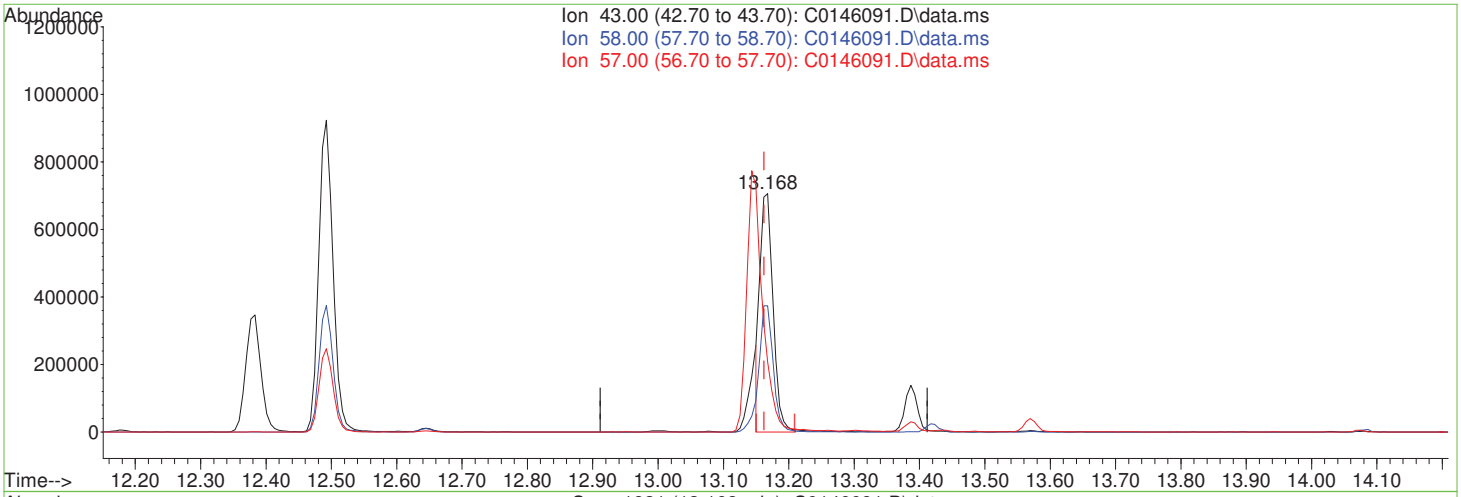
response 1197685

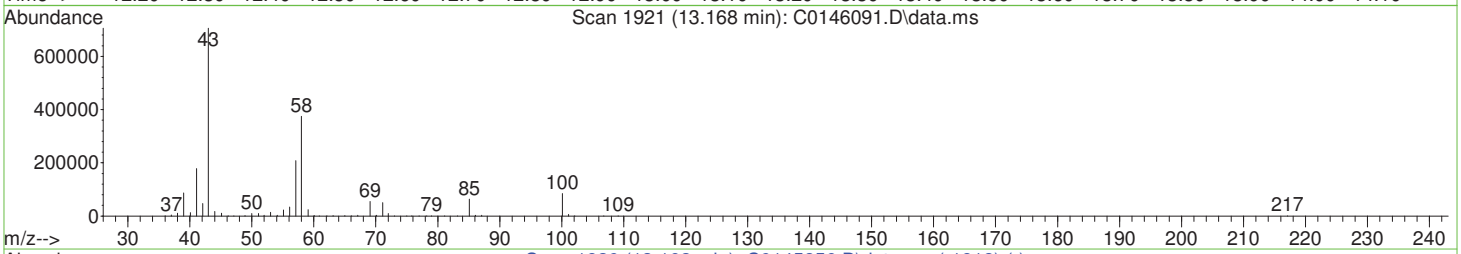
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	53.06
57.00	46.70	29.47
0.00	0.00	0.00

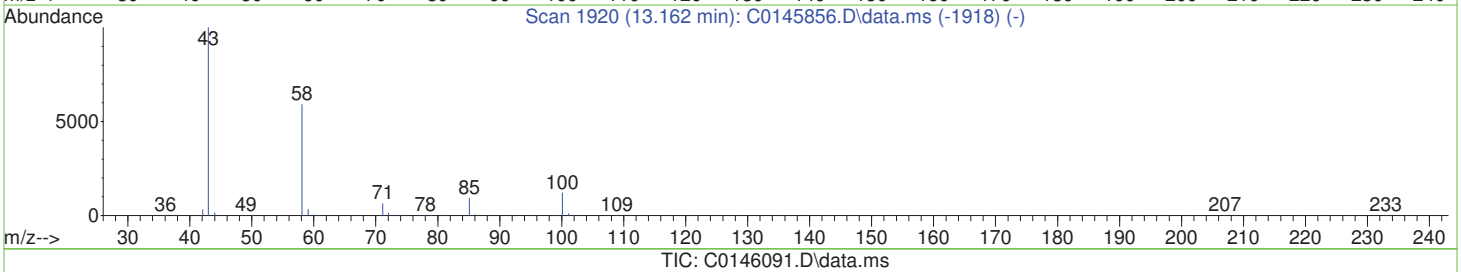
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146091.D
Acq On : 5 Jan 2021 7:37 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48072,VC5867,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jan 05 23:01:58 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146091.D\data.ms

(69) 2-hexanone

13.168min (+0.006) 179.57ug/L m

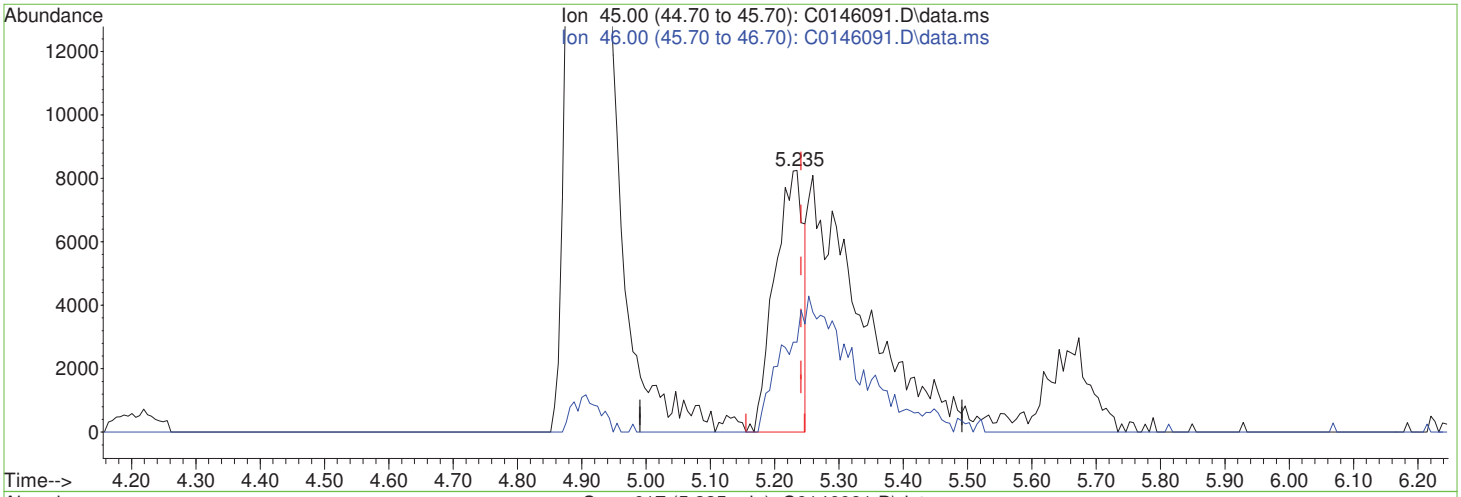
response 978716

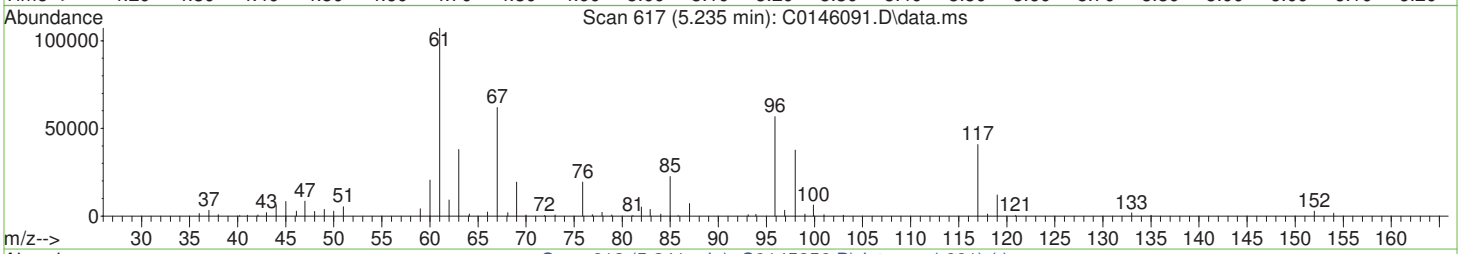
Ion	Exp%	Act%
43.00	100	100
58.00	51.90	53.02
57.00	46.70	29.50
0.00	0.00	0.00

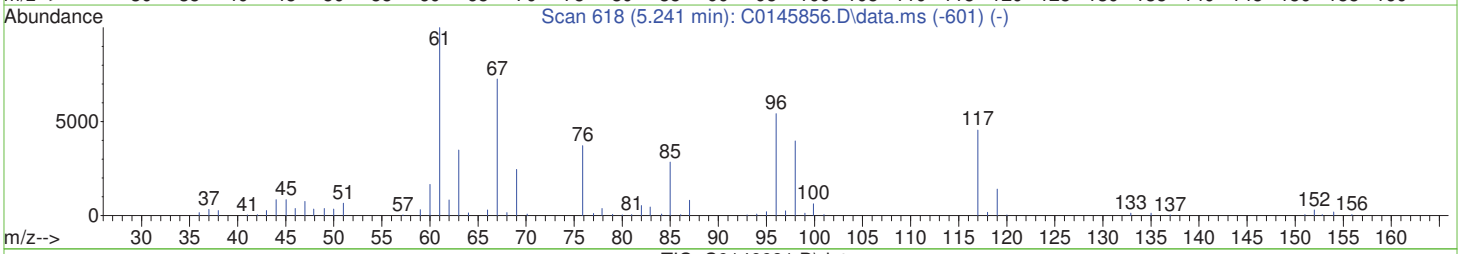
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146091.D
Acq On : 5 Jan 2021 7:37 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48072,VC5867,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jan 05 23:01:58 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146091.D\data.ms

(109) Ethanol

5.235min (-0.006) 318.22ug/L

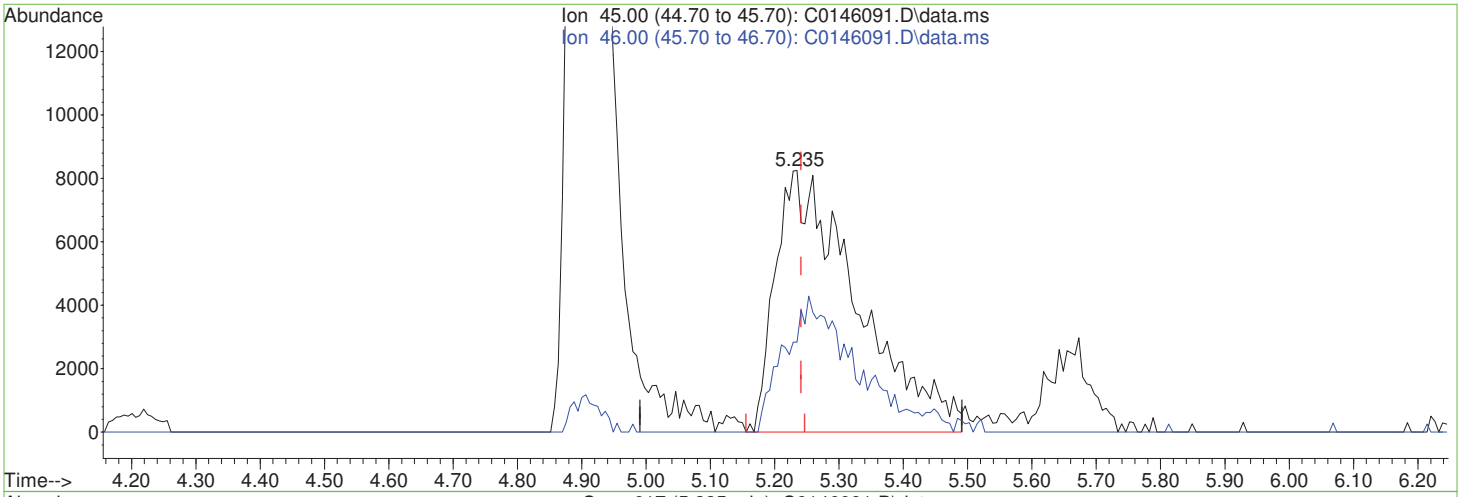
response 25597

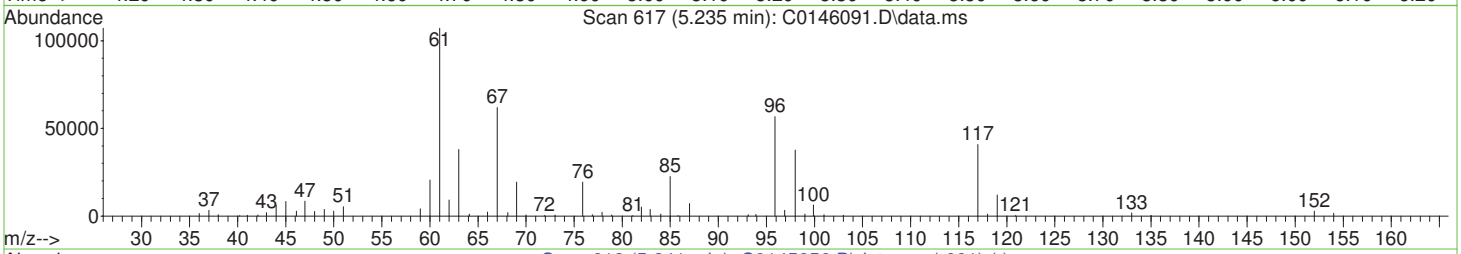
Ion	Exp%	Act%
45.00	100	100
46.00	42.90	34.37
0.00	0.00	0.00
0.00	0.00	0.00

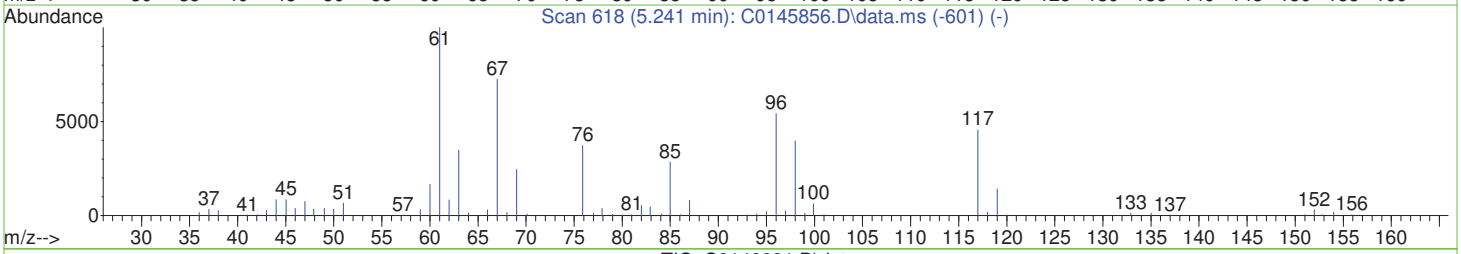
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\johnm\January 2021\01-06-2021\vc5867\
Data File : C0146091.D
Acq On : 5 Jan 2021 7:37 pm
Operator : SHANICAO
Sample : ECC5857-5
Misc : MS48072,VC5867,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jan 05 23:01:58 2021
Quant Method : C:\msdchem\1\methods\RTXVMS122420.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu Dec 24 11:38:23 2020
Response via : Initial Calibration







TIC: C0146091.D\data.ms

(109) Ethanol

5.235min (-0.006) 903.53ug/L m

response 72679

Ion	Exp%	Act%
45.00	100	100
46.00	42.90	34.37
0.00	0.00	0.00
0.00	0.00	0.00

SGS -ORLANDO

MSVOA5-C-ANALYSIS LOG

DATE:	12/24/2020
COLUMN TYPE:	RTXVMS
DETECTOR:	5973MSD
INSTRUMENT:	MSVOA5-C
PURGE PRESSURE:	1psi
PURGE VOLUME:	5mL
ANALYST:	Shanika O

METHODS:*	8260
METHOD FILE:	RTXVMS122420.M
CALIB. DATE:	12/24/2020
EM VOLTAGE:	2035V
AFA:	V26039D
BFB RESPONSE:	3222113/3205431
VC5857-858	

BFB: VS0973
ICAL/CC: VS0938, VS0964, VS0959, VS0939
VS0965, VS0974
ISTD/SUR: VS0973
ICV/QC: VA0968, VS0969, VS0966,
VS0970, VS0963, VS0975, VS0690

PH LOT: 1-12pH 230814
0-3pH 220416A
KI PAPER LOT: 022018
Data Processed By: SO/EdessaS
SAMPLE ID VERIFIED BY:
SO
Date: 12/28/2020

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
C0145850	BLANK	-	-	W	1	8260		-	-	-	Passed Autofind ✓
C0145851	BLANK/BFB	-	-	W	1	8260		-	-	-	Passed Autofind ✓
C0145852	IC5857-1	-	-	W	2	8260	#3,6,9,11,12,14,15,16,18,23,110(SP) #99,111(MP)	-	-	-	3uL→50mL ✓
C0145853	IC5857-2	-	-	W	3	8260	#3(SP) #69,114(OP) #109(PII)	-	-	-	15uL→50mL ✓
C0145854	IC5857-3	-	-	W	4	8260	#69,114(OP) #109(PII)	-	-	-	30uL→50mL ✓
C0145855	IC5857-4	-	-	W	5	8260	#69,114(OP) #109(PII)	-	-	-	75uL→50mL ✓
C0145856	ICC5857-5	-	-	W	6	8260	#69,114(OP)	-	-	-	120uL→50mL ✓
C0145857	IC5857-6	-	-	W	7	8260	#69,114(OP)	-	-	-	210uL→50mL ✓
C0145858	IC5857-7	-	-	W	8	8260	#69,114(OP) #109(PII)	-	-	-	300uL→50mL ✓
C0145859	BLANK/BFB	-	-	W	9	8260		-	-	-	Passed Autofind ✓
C0145860	ICV5857-5/CCV	-	-	W	10	8260	#69,114(OP) #109(SP)	-	-	-	25uL→50mL ✓
C0145861	ICV5857-4/BS	-	-	W	11	8260	#69,114(OP) #109(SP)	-	-	-	12.5uL→40mL ✓
C0145862	CC5857-1	-	-	W	12	8260		-	-	-	✓
C0145863	MB	-	-	W	13	8260	#3,6(PII)	-	-	-	xNot used
C0145864	MB	-	-	W	14	8260	#3,6(PII)	-	-	-	MCl, MBr✓
C0145865	**FA81700-1**	1X	1	W	15	8260		1	NO	**1x**	MCl,MBr hit
C0145866	FA81700-2	1X	1	W	16	8260		1	NO		ND✓
C0145867	**FA81700-3**	25X	1	W	17	8260	2mL→ 50mL	1	NO	**5x**	cis12dce↓
C0145868	**FA81700-4**	1X	1	W	18	8260	#3,11,109(PII)	1	NO	**1x**	MCl hit
C0145869	**FA81700-5**	50X	1	W	19	8260	1mL→ 50mL	1	NO	**1x**	MCl hit
C0145870	FA81754-6	1X	2	W	20	8260		1	NO		✓
C0145871	FA81754-7	1X	2	W	21	8260		1	NO		✓
C0145872	**FA81754-8**	1X	2	W	22	8260	#6(PII)	6	NO	**1x**	MBr hit
C0145873	FA81754-9	1X	2	W	23	8260		6	NO		✓
C0145874	FA81754-10	1X	2	W	24	8260		6	NO		ND✓
C0145875	FA81720-3	1X	1	W	25	8260D		1	NO		✓
C0145876	FA81720-4	1X	1	W	26	8260D		1	NO		✓
C0145877	FA81720-5	1X	1	W	27	8260D		1	NO		✓
C0145878	FA81720-6	1X	1	W	28	8260D		1	NO		✓
C0145879	**FA81720-7**	20X	2	W	29	8260D	2.5mL→ 50mL	1	NO	**1x**	PCE↓
C0145880	**FA81720-8**	1X	1	W	30	8260D	#3,30(PII)	1	NO	**1x**	MCl hit
C0145881	FA81720-9	1X	1	W	31	8260D		1	NO		✓
C0145882	FA81720-10	1X	1	W	32	8260D		1	NO		✓
C0145883	FA81700-3MS	25X	1	W	33	8260	#69,114(OP) #109(SP)	1	NO		✓
C0145884	FA81700-3MSD	25X	1	W	33	8260	#69,114(OP) #109(SP)	1	NO		✓
C0145885	FA81720-7MS	20X	2	W	34	8260D	#69,114(OP) #109(SP)	1	NO		12.5uL→40mL ✓
C0145886	FA81720-7MSD	20X	2	W	34	8260D	#69,114(OP) #109(SP)	1	NO		12.5uL→40mL ✓
C0145887	ECC5857-5	-	-	W	35	8260	#69,114(OP) #109(SP)	-	-	-	20uL→50mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rational SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument

Analyst's Signature: Shanika O.

SGS -ORLANDO

MSVOA5-C-ANALYSIS LOG

DATE:	1/5/2021
COLUMN TYPE:	RTXVMS
DETECTOR:	5973MSD
INSTRUMENT:	MSVOA5-C
PURGE PRESSURE:	1psi
PURGE VOLUME:	5mL
ANALYST:	Shanika O

METHODS:*	8260
METHOD FILE:	RTXVMS122420.M
CALIB. DATE:	12/24/2020
EM VOLTAGE:	2035V
AFA:	V26039D
BFB RESPONSE:	2849644
VC5867	

BFB: VS0973
ICAL/CC: VS0986, VS0964, VS0978, VS0987
VS0965, VS0979
ISTD/SUR: VS0973
ICV/QC: VA0968, VS0969, VS0966,
VS0970, VS0990, VS0980, VS0983

PH LOT: 1-12pH 230814
0-3pH 220416A
KI PAPER LOT: 022018
Data Processed By: johnm
SAMPLE ID VERIFIED BY:
SO
Date: 01/06/2021

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
C0146064	BLANK	-	-	W	1	8260		-	-	-	Passed Autofind ✓
C0146065	BLANK/BFB	-	-	W	1	8260		-	-	-	Passed Autofind ✓
C0146066	CC5857-5	-	-	W	2	8260	#69(OP) #109(PII)	-	-	-	20uL→50mL ✓
C0146067	BS	-	-	W	1	8260	#69(OP) #109(PII)	-	-	-	12.5uL→40mL ✓
C0146068	CC5857-1	-	-	W	2	8260		-	-	-	1uL→100mL ✓
C0146069	MB	-	-	W	3	8260		-	-	-	
C0146070	MB	-	-	W	4	8260		-	-	-	
C0146071	FA82082-2	1X	2	W	5	8260		1	NO		ND✓
C0146072	FA82055-7	1X	1	W	6	8260		1	NO		ND✓
C0146073	**FA82055-8**	1X	1	W	7	8260	no data avalibale	1	NO	**1X**	Power outage
C0146074	FA82059-1	1X	2	W	8	8260		1	NO		ND✓
C0146075	**FA82059-2**	1X	2	W	9	8260	HS	1	NO	**1X**	Autosampler error
C0146076	FA82063-1	100X	1	W	10	8260	2.5mL → 50mL	1	NO		✓
C0146077	**FA82063-2**	20X	1	W	11	8260		1	NO	**50x**	Acetone↑
C0146078	FA82063-3	1X	1	W	12	8260	#18(PII)	1	NO		✓
C0146079	FA82082-1	1X	1	W	13	8260		1	NO		ND✓
C0146080	FA82085-1	1X	2	W	14	8260		1	NO		✓
C0146081	FA82085-2	1X	2	W	15	8260		1	NO		✓
C0146082	FA82091-1	1X	1	W	16	8260		1	NO		ND✓
C0146083	FA82091-2	1X	1	W	17	8260		1	NO		ND✓
C0146084	FA82120-1	2X	2	W	18	8260	25mL → 50mL	1	NO		✓
C0146085	FA82120-2	1X	1	W	19	8260		1	NO		✓
C0146086	FA82120-3	1X	1	W	20	8260		1	NO		✓
C0146087	**FA82120-4**	50X	1	W	21	8260	1mL → 50mL	1	NO	**1x**	Target Comps ↓
C0146088	**FA82120-5**	2X	1	W	22	8260	25mL → 50mL	1	NO	**1x**	Target Comps ↓
C0146089	FA82063-1MS	100X	1	W	23	8260	#69(OP) #109(PII)	1	NO		12.5uL→40mL ✓
C0146090	FA82063-1MSD	100X	1		24	8260	#69(OP) #109(PII)	1	NO		12.5uL→40mL ✓
C0146091	ECC5857-5	-	-	W	25	8260	#69(OP) #109(PII)	-	-	-	20uL→50mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rational SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument

Analyst's Signature:

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP18-5015 PFAS Removal; Pease AFB, NH

7311180270.6000

SGS Job Number: FA82390

Sampling Date: 01/11/21

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Ave Suite 1200
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Emma Driver

Total number of pages in report: **197**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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Test results relate only to samples analyzed.

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: FA82390

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FA82390-1	01/11/21	10:00	KJ	01/15/21	AQ	Ground Water	SP1-GW_20210111
FA82390-2	01/11/21	10:00	KJ	01/15/21	AQ	Ground Water	FIELD BLANK_20210111

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Wood Environment & Infrastructure Solut.	**Job No:**	FA82390
Site:	ESTCP18-5015 PFAS Removal; Pease AFB, NH	**Report Date**	1/23/2021 4:30:41 PM

2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 01/11/2021 and were received at SGS North America Inc - Orlando on 01/15/2021 properly preserved, at 0.6 Deg. C and intact. These Samples received an SGS Orlando job number of FA82390. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** VY2294

All samples were analyzed within the recommended method holding time.

Sample(s) FA82333-2MS, FA82333-2MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, Methyl Acetate, Methyl Tert Butyl Ether, trans-1,3-Dichloropropene are outside control limits. Probable cause is due to matrix interference.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Ariel Hartney, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA82390
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 01/11/21

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA82390-1	**SP1-GW_20210111**					
Chlorobenzene		0.25 J	1.0	0.50	ug/l	SW846 8260B
FA82390-2	**FIELD BLANK_20210111**					

No hits reported in this sample.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP1-GW_20210111		
Lab Sample ID:	FA82390-1	**Date Sampled:**	01/11/21
Matrix:	AQ - Ground Water	**Date Received:**	01/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y55247.D	1	01/18/21 19:05	SO	n/a	n/a	VY2294
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.25	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP1-GW_20210111		
Lab Sample ID:	FA82390-1	**Date Sampled:**	01/11/21
Matrix:	AQ - Ground Water	**Date Received:**	01/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	4.0 U	5.0	4.0	2.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	92%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	105%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID: FIELD BLANK_20210111
Lab Sample ID: FA82390-2
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Date Sampled: 01/11/21
Date Received: 01/15/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y55231.D	1	01/18/21 11:38	SO	n/a	n/a	VY2294
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	0.20	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	FIELD BLANK_20210111		
Lab Sample ID:	FA82390-2	**Date Sampled:**	01/11/21
Matrix:	AQ - Ground Water	**Date Received:**	01/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	4.0 U	5.0	4.0	2.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	95%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	103%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

wood.

Wood E&IS
511 Congress Street
Portland, ME 04101
(207) 828-3367

CHAIN OF CUSTODY

FA82390

DATE: 1/11/21
COC #:
PAGE: 1 OF 1

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	FED EX
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

Sample Information						Methods for Analysis	RUSH				
No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	VOC-8260c	STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
1	SP1-GW_20210111	1/11/21 10:00	WG	N	N	X	X				3	
2	Field Blank-20210111	1/11/21 10:00	WG	N	N	X	X				3	
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

Sampler's Signature:		Date: 1/11/21	Time: 1:15 pm
Relinquished By/Affiliation: Wood E&IS		Date: 1/14/21	Time: 1252
Received By:		Date: 1/14/21	Time: 1255
Relinquished By/Affiliation:		Date: 1/14/21	Time: 1625
Received By:		Date: 1/14/21	Time: 16:25
Relinquished By/Affiliation:		Date: 1/14/21	Time: 19:00
Received By (LAB):	Fed Ex	Date:	Time:

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
WSDOT contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	°C

Comments:
X=Analyze H=Hold Analysis Request PO # F013200721
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT:

INITIAL ASSESSMENT MK
LABEL VERIFICATION DG

CS 15536

FX

0.6

1/15/21 945

SGS-ACCUTEST MARLBOR 1/14

FA82390: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA82390 **Client:** WOOD **Project:** ESTCP SITE 8 PILOT

Date / Time Received: 1/15/2021 9:45:00 AM **Delivery Method:** FX **Airbill #'s:** 9304 4369 8110

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (0.4);

Cooler Temps (Corrected) °C: Cooler 1: (0.6);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 1/15/2021 9:45:00 AM Reviewer: _____ Date: _____

FA82390: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82390
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 01/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VY2294	SW846 8260B						
VY2294-BS	67-64-1	Acetone	BSP	REC	88	%	39-160
VY2294-BS	71-43-2	Benzene	BSP	REC	89	%	79-120
VY2294-BS	74-97-5	Bromochloromethane	BSP	REC	84	%	78-123
VY2294-BS	75-27-4	Bromodichloromethane	BSP	REC	94	%	79-125
VY2294-BS	75-25-2	Bromoform	BSP	REC	87	%	66-130
VY2294-BS	78-93-3	2-Butanone (MEK)	BSP	REC	88	%	56-143
VY2294-BS	75-15-0	Carbon Disulfide	BSP	REC	91	%	64-133
VY2294-BS	56-23-5	Carbon Tetrachloride	BSP	REC	102	%	72-136
VY2294-BS	108-90-7	Chlorobenzene	BSP	REC	83	%	82-118
VY2294-BS	75-00-3	Chloroethane	BSP	REC	96	%	60-138
VY2294-BS	67-66-3	Chloroform	BSP	REC	90	%	79-124
VY2294-BS	110-82-7	Cyclohexane	BSP	REC	94	%	71-130
VY2294-BS	124-48-1	Dibromochloromethane	BSP	REC	90	%	74-126
VY2294-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	81	%	62-128
VY2294-BS	106-93-4	1,2-Dibromoethane	BSP	REC	84	%	77-121
VY2294-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	83	%	32-152
VY2294-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	87	%	80-119
VY2294-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	88	%	80-119
VY2294-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	85	%	79-118
VY2294-BS	75-34-3	1,1-Dichloroethane	BSP	REC	98	%	77-125
VY2294-BS	107-06-2	1,2-Dichloroethane	BSP	REC	83	%	73-128
VY2294-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	100	%	71-131
VY2294-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	92	%	78-123
VY2294-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	96	%	75-124
VY2294-BS	78-87-5	1,2-Dichloropropane	BSP	REC	87	%	78-122
VY2294-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	87	%	75-124
VY2294-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	92	%	73-127
VY2294-BS	100-41-4	Ethylbenzene	BSP	REC	88	%	79-121
VY2294-BS	76-13-1	Freon 113	BSP	REC	87	%	70-136
VY2294-BS	591-78-6	2-Hexanone	BSP	REC	86	%	57-139
VY2294-BS	98-82-8	Isopropylbenzene	BSP	REC	93	%	72-131
VY2294-BS	79-20-9	Methyl Acetate	BSP	REC	80	%	56-136
VY2294-BS	74-83-9	Methyl Bromide	BSP	REC	95	%	53-141
VY2294-BS	74-87-3	Methyl Chloride	BSP	REC	89	%	50-139
VY2294-BS	108-87-2	Methylcyclohexane	BSP	REC	100	%	72-132
VY2294-BS	75-09-2	Methylene Chloride	BSP	REC	82	%	74-124
VY2294-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	86	%	67-130
VY2294-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	90	%	71-124
VY2294-BS	100-42-5	Styrene	BSP	REC	91	%	78-123
VY2294-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	80	%	71-121
VY2294-BS	127-18-4	Tetrachloroethylene	BSP	REC	95	%	74-129
VY2294-BS	108-88-3	Toluene	BSP	REC	84	%	80-121

* Sample used for QC is not from job FA82390

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82390
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 01/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VY2294-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	91	%	69-129
VY2294-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	93	%	69-130
VY2294-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	97	%	74-131
VY2294-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	85	%	80-119
VY2294-BS	79-01-6	Trichloroethylene	BSP	REC	90	%	79-123
VY2294-BS	75-69-4	Trichlorofluoromethane	BSP	REC	100	%	65-141
VY2294-BS	75-01-4	Vinyl Chloride	BSP	REC	92	%	58-137
VY2294-BS		m,p-Xylene	BSP	REC	90	%	80-121
VY2294-BS	95-47-6	o-Xylene	BSP	REC	92	%	78-122
VY2294-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	101	%	80-119
VY2294-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	98	%	81-118
VY2294-BS	2037-26-5	Toluene-D8	BSP	SURR	100	%	89-112
VY2294-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	100	%	85-114
FA82333-2MS*	67-64-1	Acetone	MS	REC	70	%	39-160
FA82333-2MS*	71-43-2	Benzene	MS	REC	93	%	79-120
FA82333-2MS*	74-97-5	Bromochloromethane	MS	REC	83	%	78-123
FA82333-2MS*	75-27-4	Bromodichloromethane	MS	REC	92	%	79-125
FA82333-2MS*	75-25-2	Bromoform	MS	REC	70	%	66-130
FA82333-2MS*	78-93-3	2-Butanone (MEK)	MS	REC	66	%	56-143
FA82333-2MS*	75-15-0	Carbon Disulfide	MS	REC	100	%	64-133
FA82333-2MS*	56-23-5	Carbon Tetrachloride	MS	REC	107	%	72-136
FA82333-2MS*	108-90-7	Chlorobenzene	MS	REC	88	%	82-118
FA82333-2MS*	75-00-3	Chloroethane	MS	REC	140	%	60-138
FA82333-2MS*	67-66-3	Chloroform	MS	REC	95	%	79-124
FA82333-2MS*	110-82-7	Cyclohexane	MS	REC	104	%	71-130
FA82333-2MS*	124-48-1	Dibromochloromethane	MS	REC	80	%	74-126
FA82333-2MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	61	%	62-128
FA82333-2MS*	106-93-4	1,2-Dibromoethane	MS	REC	73	%	77-121
FA82333-2MS*	75-71-8	Dichlorodifluoromethane	MS	REC	96	%	32-152
FA82333-2MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	89	%	80-119
FA82333-2MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	94	%	80-119
FA82333-2MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	92	%	79-118
FA82333-2MS*	75-34-3	1,1-Dichloroethane	MS	REC	101	%	77-125
FA82333-2MS*	107-06-2	1,2-Dichloroethane	MS	REC	81	%	73-128
FA82333-2MS*	75-35-4	1,1-Dichloroethylene	MS	REC	109	%	71-131
FA82333-2MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	96	%	78-123
FA82333-2MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	99	%	75-124
FA82333-2MS*	78-87-5	1,2-Dichloropropane	MS	REC	91	%	78-122
FA82333-2MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	77	%	75-124
FA82333-2MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	78	%	73-127
FA82333-2MS*	100-41-4	Ethylbenzene	MS	REC	92	%	79-121
FA82333-2MS*	76-13-1	Freon 113	MS	REC	94	%	70-136
FA82333-2MS*	591-78-6	2-Hexanone	MS	REC	68	%	57-139
FA82333-2MS*	98-82-8	Isopropylbenzene	MS	REC	90	%	72-131
FA82333-2MS*	79-20-9	Methyl Acetate	MS	REC	63	%	56-136

* Sample used for QC is not from job FA82390

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82390
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 01/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA82333-2MS*	74-83-9	Methyl Bromide	MS	REC	87	%	53-141
FA82333-2MS*	74-87-3	Methyl Chloride	MS	REC	92	%	50-139
FA82333-2MS*	108-87-2	Methylcyclohexane	MS	REC	101	%	72-132
FA82333-2MS*	75-09-2	Methylene Chloride	MS	REC	86	%	74-124
FA82333-2MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	70	%	67-130
FA82333-2MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	71	%	71-124
FA82333-2MS*	100-42-5	Styrene	MS	REC	90	%	78-123
FA82333-2MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	73	%	71-121
FA82333-2MS*	127-18-4	Tetrachloroethylene	MS	REC	97	%	74-129
FA82333-2MS*	108-88-3	Toluene	MS	REC	88	%	80-121
FA82333-2MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	72	%	69-129
FA82333-2MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	80	%	69-130
FA82333-2MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	102	%	74-131
FA82333-2MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	80	%	80-119
FA82333-2MS*	79-01-6	Trichloroethylene	MS	REC	95	%	79-123
FA82333-2MS*	75-69-4	Trichlorofluoromethane	MS	REC	113	%	65-141
FA82333-2MS*	75-01-4	Vinyl Chloride	MS	REC	104	%	58-137
FA82333-2MS*		m,p-Xylene	MS	REC	92	%	80-121
FA82333-2MS*	95-47-6	o-Xylene	MS	REC	93	%	78-122
FA82333-2MS*	1868-53-7	Dibromofluoromethane	MS	SURR	99	%	80-119
FA82333-2MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	87	%	81-118
FA82333-2MS*	2037-26-5	Toluene-D8	MS	SURR	102	%	89-112
FA82333-2MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	101	%	85-114
FA82333-2MSD*	67-64-1	Acetone	MSD	REC	75	%	39-160
FA82333-2MSD*	67-64-1	Acetone	MSD	RPD	7	%	20
FA82333-2MSD*	71-43-2	Benzene	MSD	REC	91	%	79-120
FA82333-2MSD*	71-43-2	Benzene	MSD	RPD	2	%	20
FA82333-2MSD*	74-97-5	Bromochloromethane	MSD	REC	85	%	78-123
FA82333-2MSD*	74-97-5	Bromochloromethane	MSD	RPD	2	%	20
FA82333-2MSD*	75-27-4	Bromodichloromethane	MSD	REC	93	%	79-125
FA82333-2MSD*	75-27-4	Bromodichloromethane	MSD	RPD	1	%	20
FA82333-2MSD*	75-25-2	Bromoform	MSD	REC	74	%	66-130
FA82333-2MSD*	75-25-2	Bromoform	MSD	RPD	7	%	20
FA82333-2MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	76	%	56-143
FA82333-2MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	14	%	20
FA82333-2MSD*	75-15-0	Carbon Disulfide	MSD	REC	94	%	64-133
FA82333-2MSD*	75-15-0	Carbon Disulfide	MSD	RPD	7	%	20
FA82333-2MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	106	%	72-136
FA82333-2MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	1	%	20
FA82333-2MSD*	108-90-7	Chlorobenzene	MSD	REC	86	%	82-118
FA82333-2MSD*	108-90-7	Chlorobenzene	MSD	RPD	2	%	20
FA82333-2MSD*	75-00-3	Chloroethane	MSD	REC	140	%	60-138
FA82333-2MSD*	75-00-3	Chloroethane	MSD	RPD	0	%	20
FA82333-2MSD*	67-66-3	Chloroform	MSD	REC	94	%	79-124
FA82333-2MSD*	67-66-3	Chloroform	MSD	RPD	2	%	20

* Sample used for QC is not from job FA82390

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82390
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 01/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA82333-2MSD*	110-82-7	Cyclohexane	MSD	REC	104	%	71-130
FA82333-2MSD*	110-82-7	Cyclohexane	MSD	RPD	0	%	20
FA82333-2MSD*	124-48-1	Dibromochloromethane	MSD	REC	83	%	74-126
FA82333-2MSD*	124-48-1	Dibromochloromethane	MSD	RPD	3	%	20
FA82333-2MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	66	%	62-128
FA82333-2MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	7	%	20
FA82333-2MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	76	%	77-121
FA82333-2MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	4	%	20
FA82333-2MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	93	%	32-152
FA82333-2MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	3	%	20
FA82333-2MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	89	%	80-119
FA82333-2MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	0	%	20
FA82333-2MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	92	%	80-119
FA82333-2MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	2	%	20
FA82333-2MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	89	%	79-118
FA82333-2MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	3	%	20
FA82333-2MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	101	%	77-125
FA82333-2MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	0	%	20
FA82333-2MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	82	%	73-128
FA82333-2MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	2	%	20
FA82333-2MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	107	%	71-131
FA82333-2MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	2	%	20
FA82333-2MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	96	%	78-123
FA82333-2MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	0	%	20
FA82333-2MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	98	%	75-124
FA82333-2MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	2	%	20
FA82333-2MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	90	%	78-122
FA82333-2MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	1	%	20
FA82333-2MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	77	%	75-124
FA82333-2MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	0	%	20
FA82333-2MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	82	%	73-127
FA82333-2MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	5	%	20
FA82333-2MSD*	100-41-4	Ethylbenzene	MSD	REC	91	%	79-121
FA82333-2MSD*	100-41-4	Ethylbenzene	MSD	RPD	1	%	20
FA82333-2MSD*	76-13-1	Freon 113	MSD	REC	89	%	70-136
FA82333-2MSD*	76-13-1	Freon 113	MSD	RPD	5	%	20
FA82333-2MSD*	591-78-6	2-Hexanone	MSD	REC	76	%	57-139
FA82333-2MSD*	591-78-6	2-Hexanone	MSD	RPD	12	%	20
FA82333-2MSD*	98-82-8	Isopropylbenzene	MSD	REC	94	%	72-131
FA82333-2MSD*	98-82-8	Isopropylbenzene	MSD	RPD	3	%	20
FA82333-2MSD*	79-20-9	Methyl Acetate	MSD	REC	70	%	56-136
FA82333-2MSD*	79-20-9	Methyl Acetate	MSD	RPD	11	%	20
FA82333-2MSD*	74-83-9	Methyl Bromide	MSD	REC	90	%	53-141
FA82333-2MSD*	74-83-9	Methyl Bromide	MSD	RPD	4	%	20
FA82333-2MSD*	74-87-3	Methyl Chloride	MSD	REC	92	%	50-139

* Sample used for QC is not from job FA82390

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82390
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 01/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA82333-2MSD*	74-87-3	Methyl Chloride	MSD	RPD	0	%	20
FA82333-2MSD*	108-87-2	Methylcyclohexane	MSD	REC	111	%	72-132
FA82333-2MSD*	108-87-2	Methylcyclohexane	MSD	RPD	10	%	20
FA82333-2MSD*	75-09-2	Methylene Chloride	MSD	REC	85	%	74-124
FA82333-2MSD*	75-09-2	Methylene Chloride	MSD	RPD	1	%	20
FA82333-2MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	78	%	67-130
FA82333-2MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	11	%	20
FA82333-2MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	80	%	71-124
FA82333-2MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	12	%	20
FA82333-2MSD*	100-42-5	Styrene	MSD	REC	89	%	78-123
FA82333-2MSD*	100-42-5	Styrene	MSD	RPD	2	%	20
FA82333-2MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	76	%	71-121
FA82333-2MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	4	%	20
FA82333-2MSD*	127-18-4	Tetrachloroethylene	MSD	REC	98	%	74-129
FA82333-2MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	0	%	20
FA82333-2MSD*	108-88-3	Toluene	MSD	REC	87	%	80-121
FA82333-2MSD*	108-88-3	Toluene	MSD	RPD	1	%	20
FA82333-2MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	82	%	69-129
FA82333-2MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	13	%	20
FA82333-2MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	88	%	69-130
FA82333-2MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	9	%	20
FA82333-2MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	102	%	74-131
FA82333-2MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	0	%	20
FA82333-2MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	82	%	80-119
FA82333-2MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	2	%	20
FA82333-2MSD*	79-01-6	Trichloroethylene	MSD	REC	94	%	79-123
FA82333-2MSD*	79-01-6	Trichloroethylene	MSD	RPD	1	%	20
FA82333-2MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	109	%	65-141
FA82333-2MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	3	%	20
FA82333-2MSD*	75-01-4	Vinyl Chloride	MSD	REC	100	%	58-137
FA82333-2MSD*	75-01-4	Vinyl Chloride	MSD	RPD	4	%	20
FA82333-2MSD*		m,p-Xylene	MSD	REC	91	%	80-121
FA82333-2MSD*		m,p-Xylene	MSD	RPD	1	%	20
FA82333-2MSD*	95-47-6	o-Xylene	MSD	REC	91	%	78-122
FA82333-2MSD*	95-47-6	o-Xylene	MSD	RPD	2	%	20
FA82333-2MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	99	%	80-119
FA82333-2MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	90	%	81-118
FA82333-2MSD*	2037-26-5	Toluene-D8	MSD	SURR	101	%	89-112
FA82333-2MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	100	%	85-114
VY2294-MB	1868-53-7	Dibromofluoromethane	MB	SURR	100	%	80-119
VY2294-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	100	%	81-118
VY2294-MB	2037-26-5	Toluene-D8	MB	SURR	99	%	89-112
VY2294-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	102	%	85-114
FA82390-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	98	%	80-119
FA82390-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	92	%	81-118

* Sample used for QC is not from job FA82390

QC Evaluation: DOD QSM5.x Limits

Job Number: FA82390
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 01/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA82390-1	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
FA82390-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	105	%	85-114
FA82390-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
FA82390-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	95	%	81-118
FA82390-2	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
FA82390-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	103	%	85-114

* Sample used for QC is not from job FA82390

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2294-MB	Y55229.D	1	01/18/21	SO	n/a	n/a	VY2294

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82390-1, FA82390-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	

Method Blank Summary

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2294-MB	Y55229.D	1	01/18/21	SO	n/a	n/a	VY2294

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82390-1, FA82390-2

CAS No.	Compound	Result	RL	MDL	Units	Q
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

Blank Spike Summary

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2294-BS	Y55227.D	1	01/18/21	SO	n/a	n/a	VY2294

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82390-1, FA82390-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	110	88	50-147
71-43-2	Benzene	25	22.2	89	81-122
74-97-5	Bromochloromethane	25	21.0	84	76-123
75-27-4	Bromodichloromethane	25	23.6	94	79-123
75-25-2	Bromoform	25	21.7	87	66-123
78-93-3	2-Butanone (MEK)	125	110	88	56-143
75-15-0	Carbon Disulfide	25	22.7	91	66-148
56-23-5	Carbon Tetrachloride	25	25.5	102	76-136
108-90-7	Chlorobenzene	25	20.8	83	82-124
75-00-3	Chloroethane	25	24.0	96	62-144
67-66-3	Chloroform	25	22.4	90	80-124
110-82-7	Cyclohexane	25	23.6	94	73-138
124-48-1	Dibromochloromethane	25	22.4	90	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	20.3	81	64-123
106-93-4	1,2-Dibromoethane	25	21.1	84	75-120
75-71-8	Dichlorodifluoromethane	25	20.7	83	42-167
95-50-1	1,2-Dichlorobenzene	25	21.8	87	82-124
541-73-1	1,3-Dichlorobenzene	25	22.1	88	84-125
106-46-7	1,4-Dichlorobenzene	25	21.3	85	78-120
75-34-3	1,1-Dichloroethane	25	24.4	98	81-122
107-06-2	1,2-Dichloroethane	25	20.8	83	75-125
75-35-4	1,1-Dichloroethylene	25	24.9	100	78-137
156-59-2	cis-1,2-Dichloroethylene	25	23.1	92	78-120
156-60-5	trans-1,2-Dichloroethylene	25	23.9	96	76-127
78-87-5	1,2-Dichloropropane	25	21.7	87	76-124
10061-01-5	cis-1,3-Dichloropropene	25	21.8	87	75-118
10061-02-6	trans-1,3-Dichloropropene	25	23.1	92	80-120
100-41-4	Ethylbenzene	25	22.0	88	81-121
76-13-1	Freon 113	25	21.8	87	72-134
591-78-6	2-Hexanone	125	107	86	61-129
98-82-8	Isopropylbenzene	25	23.3	93	83-132
79-20-9	Methyl Acetate	125	100	80	65-126
74-83-9	Methyl Bromide	25	23.7	95	59-143
74-87-3	Methyl Chloride	25	22.2	89	50-159
108-87-2	Methylcyclohexane	25	25.0	100	76-129
75-09-2	Methylene Chloride	25	20.5	82	69-135

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2294-BS	Y55227.D	1	01/18/21	SO	n/a	n/a	VY2294

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82390-1, FA82390-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
108-10-1	4-Methyl-2-pentanone (MIBK)	125	107	86	66-122
1634-04-4	Methyl Tert Butyl Ether	25	22.5	90	72-117
100-42-5	Styrene	25	22.7	91	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	19.9	80	72-120
127-18-4	Tetrachloroethylene	25	23.8	95	76-135
108-88-3	Toluene	25	21.1	84	80-120
87-61-6	1,2,3-Trichlorobenzene	25	22.7	91	68-131
120-82-1	1,2,4-Trichlorobenzene	25	23.3	93	73-129
71-55-6	1,1,1-Trichloroethane	25	24.2	97	75-130
79-00-5	1,1,2-Trichloroethane	25	21.3	85	76-119
79-01-6	Trichloroethylene	25	22.4	90	81-126
75-69-4	Trichlorofluoromethane	25	25.0	100	71-156
75-01-4	Vinyl Chloride	25	22.9	92	69-159
	m,p-Xylene	50	45.2	90	79-126
95-47-6	o-Xylene	25	22.9	92	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA82333-2MS	Y55248.D	1	01/18/21	SO	n/a	n/a	VY2294
FA82333-2MSD	Y55249.D	1	01/18/21	SO	n/a	n/a	VY2294
FA82333-2	Y55243.D	1	01/18/21	SO	n/a	n/a	VY2294

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82390-1, FA82390-2

CAS No.	Compound	FA82333-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	25 U		125	88.0	70	125	94.1	75	7	50-147/21
71-43-2	Benzene	1.0 U		25	23.2	93	25	22.8	91	2	81-122/14
74-97-5	Bromochloromethane	1.0 U		25	20.8	83	25	21.2	85	2	76-123/14
75-27-4	Bromodichloromethane	1.0 U		25	23.1	92	25	23.3	93	1	79-123/19
75-25-2	Bromoform	1.0 U		25	17.4	70	25	18.6	74	7	66-123/21
78-93-3	2-Butanone (MEK)	5.0 U		125	82.6	66	125	94.7	76	14	56-143/18
75-15-0	Carbon Disulfide	2.0 U		25	25.1	100	25	23.5	94	7	66-148/23
56-23-5	Carbon Tetrachloride	1.0 U		25	26.8	107	25	26.6	106	1	76-136/23
108-90-7	Chlorobenzene	1.0 U		25	21.9	88	25	21.5	86	2	82-124/14
75-00-3	Chloroethane	2.0 U		25	35.1	140	25	35.1	140	0	62-144/20
67-66-3	Chloroform	1.0 U		25	23.8	95	25	23.4	94	2	80-124/15
110-82-7	Cyclohexane	1.0 U		25	25.9	104	25	26.0	104	0	73-138/18
124-48-1	Dibromochloromethane	1.0 U		25	20.1	80	25	20.7	83	3	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		25	15.3	61*	25	16.4	66	7	64-123/18
106-93-4	1,2-Dibromoethane	2.0 U		25	18.3	73*	25	19.0	76	4	75-120/13
75-71-8	Dichlorodifluoromethane	2.0 U		25	24.1	96	25	23.3	93	3	42-167/19
95-50-1	1,2-Dichlorobenzene	1.0 U		25	22.2	89	25	22.2	89	0	82-124/14
541-73-1	1,3-Dichlorobenzene	1.0 U		25	23.4	94	25	23.0	92	2	84-125/14
106-46-7	1,4-Dichlorobenzene	1.0 U		25	22.9	92	25	22.3	89	3	78-120/15
75-34-3	1,1-Dichloroethane	1.0 U		25	25.3	101	25	25.2	101	0	81-122/15
107-06-2	1,2-Dichloroethane	1.0 U		25	20.2	81	25	20.6	82	2	75-125/14
75-35-4	1,1-Dichloroethylene	1.0 U		25	27.3	109	25	26.7	107	2	78-137/18
156-59-2	cis-1,2-Dichloroethylene	1.0 U		25	24.0	96	25	23.9	96	0	78-120/15
156-60-5	trans-1,2-Dichloroethylene	1.0 U		25	24.8	99	25	24.4	98	2	76-127/17
78-87-5	1,2-Dichloropropane	1.0 U		25	22.7	91	25	22.4	90	1	76-124/14
10061-01-5	cis-1,3-Dichloropropene	1.0 U		25	19.3	77	25	19.3	77	0	75-118/23
10061-02-6	trans-1,3-Dichloropropene	1.0 U		25	19.5	78*	25	20.4	82	5	80-120/22
100-41-4	Ethylbenzene	1.0 U		25	23.1	92	25	22.8	91	1	81-121/14
76-13-1	Freon 113	1.0 U		25	23.4	94	25	22.3	89	5	72-134/20
591-78-6	2-Hexanone	10 U		125	84.9	68	125	95.4	76	12	61-129/18
98-82-8	Isopropylbenzene	1.0 U		25	22.6	90	25	23.4	94	3	83-132/15
79-20-9	Methyl Acetate	20 U		125	78.2	63*	125	86.9	70	11	65-126/18
74-83-9	Methyl Bromide	5.0 U		25	21.8	87	25	22.6	90	4	59-143/19
74-87-3	Methyl Chloride	2.0 U		25	23.0	92	25	22.9	92	0	50-159/19
108-87-2	Methylcyclohexane	1.0 U		25	25.2	101	25	27.8	111	10	76-129/17
75-09-2	Methylene Chloride	5.0 U		25	21.6	86	25	21.3	85	1	69-135/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA82333-2MS	Y55248.D	1	01/18/21	SO	n/a	n/a	VY2294
FA82333-2MSD	Y55249.D	1	01/18/21	SO	n/a	n/a	VY2294
FA82333-2	Y55243.D	1	01/18/21	SO	n/a	n/a	VY2294

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA82390-1, FA82390-2

CAS No.	Compound	FA82333-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		125	87.2	70	125	97.2	78	11	66-122/16
1634-04-4	Methyl Tert Butyl Ether	1.0 U		25	17.7	71*	25	19.9	80	12	72-117/14
100-42-5	Styrene	1.0 U		25	22.6	90	25	22.2	89	2	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U		25	18.3	73	25	19.0	76	4	72-120/14
127-18-4	Tetrachloroethylene	1.0 U		25	24.3	97	25	24.4	98	0	76-135/16
108-88-3	Toluene	1.0 U		25	22.1	88	25	21.8	87	1	80-120/14
87-61-6	1,2,3-Trichlorobenzene	2.0 U		25	18.1	72	25	20.6	82	13	68-131/25
120-82-1	1,2,4-Trichlorobenzene	2.0 U		25	20.1	80	25	22.0	88	9	73-129/20
71-55-6	1,1,1-Trichloroethane	1.0 U		25	25.6	102	25	25.6	102	0	75-130/16
79-00-5	1,1,2-Trichloroethane	1.0 U		25	20.1	80	25	20.6	82	2	76-119/14
79-01-6	Trichloroethylene	1.0 U		25	23.7	95	25	23.5	94	1	81-126/15
75-69-4	Trichlorofluoromethane	2.0 U		25	28.2	113	25	27.3	109	3	71-156/21
75-01-4	Vinyl Chloride	1.0 U		25	26.1	104	25	25.0	100	4	69-159/18
	m,p-Xylene	2.0 U		50	45.9	92	50	45.4	91	1	79-126/15
95-47-6	o-Xylene	1.0 U		25	23.2	93	25	22.8	91	2	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA82333-2	Limits
1868-53-7	Dibromofluoromethane	99%	99%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	87%	90%	92%	79-125%
2037-26-5	Toluene-D8	102%	101%	100%	85-112%
460-00-4	4-Bromofluorobenzene	101%	100%	105%	83-118%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VY2293-BFB	**Injection Date:**	01/15/21
Lab File ID:	Y55213.D	**Injection Time:**	10:32
Instrument ID:	GCMSY		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	106562	19.6		Pass
75	30.0 - 60.0% of mass 95	236928	43.5		Pass
95	Base peak, 100% relative abundance	544725	100.0		Pass
96	5.0 - 9.0% of mass 95	37536	6.89		Pass
173	Less than 2.0% of mass 174	2039	0.37	(0.41) [a]	Pass
174	50.0 - 100.0% of mass 95	502293	92.2		Pass
175	5.0 - 9.0% of mass 174	35784	6.57	(7.12) [a]	Pass
176	95.0 - 101.0% of mass 174	488810	89.7	(97.3) [a]	Pass
177	5.0 - 9.0% of mass 176	33021	6.06	(6.76) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY2293-IC2293	Y55214.D	01/15/21	10:59	00:27	Initial cal 1
VY2293-IC2293	Y55215.D	01/15/21	11:26	00:54	Initial cal 2
VY2293-IC2293	Y55216.D	01/15/21	11:53	01:21	Initial cal 3
VY2293-IC2293	Y55217.D	01/15/21	12:20	01:48	Initial cal 4
VY2293-ICC2293	Y55218.D	01/15/21	12:47	02:15	Initial cal 5
VY2293-IC2293	Y55219.D	01/15/21	13:13	02:41	Initial cal 6
VY2293-IC2293	Y55220.D	01/15/21	13:40	03:08	Initial cal 7
VY2293-ICV2293	Y55222.D	01/15/21	15:00	04:28	Initial cal verification 5
VY2293-ICV2293	Y55223.D	01/15/21	15:27	04:55	Initial cal verification 4

Instrument Performance Check (BFB)

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample: VY2294-BFB
Lab File ID: Y55226.D
Instrument ID: GCMSY
Injection Date: 01/18/21
Injection Time: 09:16

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	103221	18.2		Pass
75	30.0 - 60.0% of mass 95	237525	42.0		Pass
95	Base peak, 100% relative abundance	566016	100.0		Pass
96	5.0 - 9.0% of mass 95	37931	6.70		Pass
173	Less than 2.0% of mass 174	1054	0.19	(0.19) [a]	Pass
174	50.0 - 100.0% of mass 95	553621	97.8		Pass
175	5.0 - 9.0% of mass 174	38419	6.79	(6.94) [a]	Pass
176	95.0 - 101.0% of mass 174	539392	95.3	(97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	35672	6.30	(6.61) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY2294-CC2293	Y55226.D	01/18/21	09:16	00:00	Continuing cal 5
VY2294-BS	Y55227.D	01/18/21	09:51	00:35	Blank Spike
VY2294-MB	Y55229.D	01/18/21	10:44	01:28	Method Blank
ZZZZZZ	Y55230.D	01/18/21	11:11	01:55	(unrelated sample)
FA82390-2	Y55231.D	01/18/21	11:38	02:22	FIELD BLANK_20210111
ZZZZZZ	Y55232.D	01/18/21	12:05	02:49	(unrelated sample)
ZZZZZZ	Y55233.D	01/18/21	12:32	03:16	(unrelated sample)
ZZZZZZ	Y55234.D	01/18/21	12:59	03:43	(unrelated sample)
ZZZZZZ	Y55235.D	01/18/21	13:26	04:10	(unrelated sample)
ZZZZZZ	Y55236.D	01/18/21	13:53	04:37	(unrelated sample)
ZZZZZZ	Y55237.D	01/18/21	14:36	05:20	(unrelated sample)
ZZZZZZ	Y55238.D	01/18/21	15:03	05:47	(unrelated sample)
ZZZZZZ	Y55239.D	01/18/21	15:30	06:14	(unrelated sample)
ZZZZZZ	Y55240.D	01/18/21	15:57	06:41	(unrelated sample)
ZZZZZZ	Y55241.D	01/18/21	16:23	07:07	(unrelated sample)
ZZZZZZ	Y55242.D	01/18/21	16:50	07:34	(unrelated sample)
FA82333-2	Y55243.D	01/18/21	17:17	08:01	(used for QC only; not part of job FA82390)
ZZZZZZ	Y55244.D	01/18/21	17:44	08:28	(unrelated sample)
ZZZZZZ	Y55245.D	01/18/21	18:11	08:55	(unrelated sample)
ZZZZZZ	Y55246.D	01/18/21	18:39	09:23	(unrelated sample)
FA82390-1	Y55247.D	01/18/21	19:05	09:49	SP1-GW_20210111
FA82333-2MS	Y55248.D	01/18/21	19:32	10:16	Matrix Spike
FA82333-2MSD	Y55249.D	01/18/21	19:59	10:43	Matrix Spike Duplicate
VY2294-ECC2293	Y55250.D	01/18/21	20:25	11:09	Ending cal 5

Internal Standard Area Summary

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VY2294-CC2293	**Injection Date:**	01/18/21
Lab File ID:	Y55226.D	**Injection Time:**	09:16
Instrument ID:	GCMSY	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	2040922	11.52	1884518	14.58	1034707	16.27	96765	7.40
Check Std [b]	2091442	11.52	1927473	14.58	1051076	16.27	87891	7.40
Upper Limit [c]	4182884	11.69	3854946	14.75	2102152	16.44	175782	7.57
Lower Limit [d]	1045721	11.35	963737	14.41	525538	16.10	43946	7.23

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VY2294-BS	2095335	11.52	1922412	14.58	1054535	16.27	99997	7.40
VY2294-MB	2033435	11.52	1892209	14.58	983371	16.27	79079	7.40
ZZZZZZ	1976679	11.52	1841599	14.58	950435	16.27	75514	7.40
FA82390-2	2014491	11.52	1878373	14.58	955690	16.27	67466	7.39
ZZZZZZ	2033220	11.52	1899473	14.58	952566	16.27	82163	7.40
ZZZZZZ	1792462	11.52	1651528	14.58	838983	16.27	57835	7.40
ZZZZZZ	1834259	11.52	1683321	14.58	841452	16.27	60211	7.40
ZZZZZZ	1753355	11.52	1635508	14.58	816997	16.27	63989	7.39
ZZZZZZ	1770417	11.52	1627063	14.58	823938	16.27	82080	7.40
ZZZZZZ	1853922	11.52	1714916	14.58	882864	16.27	151286	7.39
ZZZZZZ	1746917	11.52	1618845	14.58	808690	16.27	63285	7.40
ZZZZZZ	1731917	11.52	1613881	14.58	801767	16.27	65249	7.40
ZZZZZZ	1733911	11.52	1618907	14.58	802107	16.27	68118	7.40
ZZZZZZ	1704735	11.52	1579246	14.58	775824	16.27	67175	7.40
ZZZZZZ	1715236	11.52	1578719	14.58	767372	16.27	44134	7.40
FA82333-2	1721137	11.52	1594526	14.58	764695	16.27	48444	7.40
ZZZZZZ	1668440	11.52	1549521	14.58	744114	16.27	43681*	7.40
ZZZZZZ	1699712	11.52	1584961	14.58	762225	16.27	53155	7.39
ZZZZZZ	1629995	11.52	1517475	14.58	718863	16.27	41246*	7.40
FA82390-1	1699554	11.52	1574286	14.58	766059	16.27	49919	7.40
FA82333-2MS	1687602	11.52	1533033	14.58	790475	16.27	50443	7.40
FA82333-2MSD	1708241	11.52	1565834	14.58	826600	16.27	63246	7.40
VY2294-ECC2293	1703374	11.52	1537366	14.58	812473	16.27	54166	7.39

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VY2293-ICC2293 Y55218.D 01/15/21 12:47
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA82390-1	Y55247.D	98	92	101	105
FA82390-2	Y55231.D	99	95	99	103
FA82333-2MS	Y55248.D	99	87	102	101
FA82333-2MSD	Y55249.D	99	90	101	100
VY2294-BS	Y55227.D	101	98	100	100
VY2294-MB	Y55229.D	100	100	99	102

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

Initial Calibration Summary

Job Number: FA82390 **Sample:** VY2293-ICC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55218.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Response Factor Report MSVOA14-Y

Method : C:\msdchem\1\MET...\RESTEK011521w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Jan 15 14:38:30 2021
Response via : Initial Calibration

Calibration Files
1 =Y55214.D 2 =Y55215.D 3 =Y55216.D 4 =Y55217.D
5 =Y55218.D 6 =Y55219.D 7 =Y55220.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.252	0.291	0.275	0.289	0.292	0.303	0.294	0.285	5.91
3) Acrolein	0.027	0.029	0.028	0.031	0.032	0.034	0.031	0.030	7.75
4)P Chloromethane	0.360	0.303	0.300	0.309	0.325	0.306	0.299	0.314	7.02
5) 1,3-butadiene	0.210	0.228	0.220	0.226	0.236	0.237	0.229	0.227	4.15
6)C Vinyl Chloride	0.259	0.264	0.255	0.274	0.270	0.275	0.270	0.267	2.87
7) Bromomethane	0.152	0.137	0.144	0.149	0.161	0.161	0.163	0.152	6.28
8) Chloroethane	0.161	0.152	0.145	0.117	0.091	0.082	0.079	0.118	29.58
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9918									
Response Ratio = 0.00000 + 0.10886 *A + -0.01596 *A^2									
9) Trichlorofluorome	0.368	0.402	0.376	0.411	0.409	0.413	0.413	0.399	4.73
10) Ethyl Ether	0.142	0.156	0.154	0.160	0.160	0.168	0.158	0.157	4.88
11) 1,2-Dichlorotrifl	0.208	0.218	0.205	0.207	0.212	0.212	0.206	0.210	2.20
12)C 1,1-Dichloroethen	0.284	0.309	0.297	0.299	0.310	0.317	0.307	0.303	3.62
13) Freon 113	0.224	0.245	0.236	0.232	0.237	0.239	0.230	0.235	2.90
14) Carbon Disulfide	0.532	0.526	0.515	0.529	0.545	0.549	0.533	0.533	2.17
15) Iodomethane	0.298	0.228	0.236	0.275	0.303	0.330	0.334	0.286	14.69
16) Allyl chloride	0.235	0.304	0.334	0.349	0.376	0.386	0.383	0.338	16.05
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9993									
Response Ratio = 0.00000 + 0.34325 *A + 0.02330 *A^2									
17) Methylene Chlorid	0.526	0.336	0.325	0.302	0.295	0.290	0.280	0.336	25.56
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995									
Response Ratio = 0.00000 + 0.32013 *A + -0.02098 *A^2									
18) Acetone	0.040	0.037	0.041	0.041	0.040	0.043	0.038	0.040	5.18
19) Methyl acetate	0.085	0.102	0.101	0.104	0.106	0.114	0.100	0.102	8.51
20) trans-1,2-Dichlor	0.283	0.287	0.291	0.290	0.296	0.299	0.293	0.291	1.88
21) Hexane	0.163	0.186	0.175	0.171	0.178	0.178	0.175	0.175	4.05
22) Methyl Tert Butyl	0.346	0.390	0.438	0.403	0.447	0.455	0.426	0.415	9.27
23) Acetonitrile	0.013	0.019	0.019	0.019	0.019	0.020	0.018	0.018	13.59
24) Di-isopropyl ethe	0.653	0.700	0.727	0.768	0.781	0.813	0.793	0.748	7.62
25) Chloroprene	0.267	0.354	0.359	0.382	0.403	0.416	0.412	0.370	14.02
26)P 1,1-Dichloroethan	0.310	0.345	0.354	0.352	0.355	0.357	0.351	0.346	4.78
27) Acrylonitrile	0.037	0.048	0.051	0.055	0.056	0.059	0.051	0.051	14.03
28) ETBE	0.467	0.531	0.588	0.569	0.613	0.630	0.603	0.572	9.86
29) Vinyl acetate	0.246	0.361	0.398	0.421	0.436	0.456	0.422	0.391	18.10
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9983									
Response Ratio = 0.00000 + 0.42147 *A + 0.00134 *A^2									
30) cis-1,2-Dichloroe	0.228	0.245	0.247	0.247	0.247	0.252	0.249	0.245	3.20
31) 2,2-Dichloropropa	0.157	0.203	0.269	0.244	0.292	0.291	0.285	0.249	20.73
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9973									
Response Ratio = 0.00000 + 0.25703 *A + 0.01743 *A^2									

Initial Calibration Summary

Job Number: FA82390 **Sample:** VY2293-ICC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55218.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
32)  Bromochloromethan 0.117 0.133 0.137 0.134 0.134 0.137 0.131 0.132   5.38
33)  Cyclohexane       0.399 0.436 0.422 0.429 0.444 0.453 0.440 0.432   4.08
34)C Chloroform        0.353 0.357 0.370 0.367 0.366 0.375 0.366 0.365   2.06
35)  Ethyl acetate     0.091 0.140 0.148 0.153 0.153 0.164 0.148 0.142  16.83
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9979
              Response Ratio = 0.00000 + 0.15450 *A + -0.00015 *A^2

36)  Tetrahydrofuran         0.037 0.040 0.042 0.045 0.051 0.043 0.043  10.80
37)S Dibromofluorometh 0.258 0.261 0.263 0.267 0.263 0.261 0.260 0.262   1.06
38)  Carbon Tetrachlor 0.303 0.330 0.333 0.340 0.356 0.364 0.358 0.340   6.23
39)  1,1,1-Trichloroet 0.345 0.378 0.378 0.376 0.383 0.391 0.384 0.377   3.89
40)  2-Butanone        0.043 0.054 0.059 0.061 0.062 0.068 0.060 0.058  13.51
41)  1,1-Dichloroprope 0.255 0.286 0.287 0.292 0.298 0.304 0.295 0.288   5.58
42)  tert-Butyl format 0.027 0.030 0.045 0.037 0.060 0.059 0.058 0.045  30.90
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9922
              Response Ratio = 0.00000 + 0.05163 *A + 0.00069 *A^2

43)  Propionitrile     0.015 0.020 0.020 0.019 0.020 0.021 0.019 0.019  10.63
44)  Methacrylonitrile 0.077 0.103 0.103 0.102 0.104 0.108 0.097 0.099  10.43
45)  Benzene           0.832 0.872 0.879 0.865 0.873 0.892 0.873 0.869   2.14
46)  TAME              0.386 0.430 0.456 0.439 0.470 0.492 0.466 0.448   7.64
47)S 1,2-Dichloroethan 0.243 0.244 0.237 0.232 0.230 0.228 0.221 0.233   3.60
48)  1,2-Dichloroethan 0.276 0.278 0.279 0.269 0.270 0.278 0.261 0.273   2.45
49)  Trichloroethene   0.265 0.265 0.260 0.256 0.258 0.262 0.256 0.260   1.54
50)  Methylcyclohexane 0.344 0.379 0.363 0.367 0.384 0.396 0.387 0.374   4.68
51)  Dibromomethane    0.101 0.111 0.114 0.111 0.113 0.116 0.109 0.111   4.29
52)C 1,2-Dichloropropa 0.179 0.204 0.202 0.207 0.209 0.212 0.208 0.203   5.41
53)  Bromodichlorometh 0.204 0.237 0.245 0.254 0.259 0.269 0.263 0.247   8.89
54)  Methyl methacryla 0.097 0.119 0.118 0.129 0.143 0.161 0.147 0.131  16.56
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9956
              Response Ratio = 0.00000 + 0.13057 *A + 0.01170 *A^2

55)  2-Chloroethyl vin 0.037 0.046 0.052 0.052 0.059 0.063 0.059 0.053  17.04
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9971
              Response Ratio = 0.00000 + 0.05372 *A + 0.00076 *A^2

56)  cis-1,3-Dichlorop 0.238 0.290 0.311 0.322 0.332 0.345 0.334 0.310  11.74

57) I   Chlorobenzene-d5      ----------------ISTD--------------------
58)S Toluene-d8        1.141 1.145 1.136 1.151 1.145 1.147 1.151 1.145   0.47
59)C Toluene           1.197 1.191 1.172 1.171 1.190 1.231 1.210 1.195   1.76
60)  2-Nitropropane    0.031 0.036 0.041 0.043 0.046 0.051 0.046 0.042  15.86
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9959
              Response Ratio = 0.00000 + 0.04341 *A + 0.00043 *A^2

61)  4-Methyl-2-pentan 0.148 0.148 0.159 0.161 0.163 0.179 0.160 0.160   6.65
62)  trans-1,3-Dichlor 0.187 0.244 0.271 0.273 0.284 0.299 0.288 0.264  14.39
63)  Tetrachloroethene 0.339 0.354 0.348 0.348 0.349 0.362 0.356 0.351   2.12
64)  Ethyl methacrylat 0.095 0.156 0.167 0.181 0.194 0.217 0.206 0.174  23.36
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9976
              Response Ratio = 0.00000 + 0.17593 *A + 0.01865 *A^2

65)  1,1,2-Trichloroet 0.129 0.151 0.150 0.147 0.147 0.152 0.142 0.145   5.43
66)  Dibromochlorometh 0.190 0.230 0.246 0.255 0.267 0.284 0.274 0.249  12.83
67)  1,3-Dichloropropa 0.295 0.321 0.320 0.314 0.320 0.330 0.312 0.316   3.40
68)  1,2-Dibromoethane 0.174 0.198 0.202 0.202 0.204 0.216 0.203 0.200   6.40
69)  2-hexanone        0.098 0.103 0.114 0.115 0.112 0.124 0.118 0.112   7.89
70)  1-Chlorohexane    0.278 0.338 0.353 0.359 0.381 0.395 0.383 0.355  11.10
71)C Ethylbenzene      1.309 1.282 1.260 1.284 1.299 1.338 1.320 1.299   2.01
72)P Chlorobenzene     0.971 0.836 0.827 0.821 0.832 0.855 0.838 0.854   6.15
```

Initial Calibration Summary

Job Number: FA82390 **Sample:** VY2293-ICC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55218.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

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 73)  1,1,1,2-Tetrachlo 0.237 0.279 0.291 0.291 0.300 0.316 0.311 0.289   9.06
 74)  m,p-Xylene        0.912 0.984 0.994 1.004 1.032 1.066 1.043 1.005   4.99
 75)  o-Xylene          0.836 0.954 0.973 1.003 1.034 1.063 1.050 0.988   7.89
 76)  Styrene           0.605 0.735 0.783 0.819 0.859 0.898 0.893 0.799  12.98
 77)P Bromoform         0.092 0.115 0.120 0.130 0.138 0.151 0.143 0.127  15.82
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9980
               Response Ratio = 0.00000 + 0.12770 *A + 0.01007 *A^2

 78)  Isopropylbenzene  1.175 1.330 1.358 1.380 1.426 1.489 1.463 1.374   7.61

 79) I   1,4-Dichlorobenzene-d ----------------ISTD--------------------
 80)S 4-Bromofluorobenz 0.764 0.752 0.754 0.759 0.741 0.749 0.755 0.753   0.96
 81)  cis-1,4-Dichloro- 0.086 0.110 0.126 0.125 0.137 0.136 0.125 0.121  14.58
 82)  n-Propylbenzene   2.452 2.619 2.623 2.652 2.681 2.815 2.799 2.663   4.61
 83)  Bromobenzene      0.623 0.640 0.648 0.640 0.639 0.653 0.647 0.642   1.53
 84)P 1,1,2,2-Tetrachlo 0.355 0.384 0.375 0.369 0.363 0.384 0.353 0.369   3.48
 85)  1,3,5-Trimethylbe 1.663 1.899 1.908 1.965 1.982 2.048 2.062 1.932   6.94
 86)  2-Chlorotoluene   1.680 1.722 1.748 1.726 1.711 1.751 1.741 1.726   1.44
 87)  trans-1,4-Dichlor 0.064 0.093 0.103 0.105 0.111 0.123 0.111 0.102  18.65
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9966
               Response Ratio = 0.00000 + 0.10661 *A + 0.00472 *A^2

 88)  1,2,3-Trichloropr 0.148 0.150 0.148 0.145 0.142 0.151 0.137 0.146   3.37
 89)  Cyclohexanone           0.009 0.009 0.009 0.010 0.010 0.009 0.009   7.03
 90)  4-Chlorotoluene   1.491 1.556 1.586 1.606 1.606 1.658 1.668 1.596   3.78
 91)  tert-Butylbenzene 0.916 0.981 0.983 0.994 1.000 1.025 1.020 0.989   3.66
 92)  1,2,4-Trimethylbe 1.685 1.926 1.966 2.000 2.021 2.082 2.073 1.965   6.89
 93)  Pentachloroethane 0.248 0.304 0.310 0.325 0.341 0.355 0.352 0.319  11.60
 94)  sec-Butylbenzene  1.985 2.243 2.240 2.269 2.296 2.408 2.410 2.265   6.30
 95)  4-Isopropyltoluen 1.776 2.019 2.051 2.117 2.166 2.279 2.278 2.098   8.31
 96)  1,3-Dichlorobenze 1.224 1.198 1.237 1.218 1.236 1.273 1.279 1.238   2.35
 97)  1,2,3-Trimethylbe 2.111 2.275 2.326 2.316 2.352 2.398 2.389 2.310   4.23
 98)  1,4-Dichlorobenze 1.285 1.237 1.264 1.245 1.250 1.278 1.277 1.262   1.48
 99)  n-Butylbenzene    0.672 0.758 0.797 0.783 0.816 0.853 0.899 0.797   9.07
100)  Benzyl Chloride   0.109 0.138 0.161 0.185 0.207 0.231 0.217 0.178  24.92
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9957
               Response Ratio = 0.00000 + 0.17899 *A + 0.02376 *A^2

101)  1,2-Dichlorobenze 1.096 1.117 1.148 1.139 1.158 1.187 1.177 1.146   2.79
102)  1,2-Dibromo-3-Chl 0.056 0.049 0.051 0.052 0.054 0.061 0.057 0.054   7.17
103)  Hexachlorobutadie 0.186 0.179 0.187 0.182 0.192 0.196 0.192 0.188   3.14
104)  1,2,4-Trichlorobe 0.448 0.525 0.554 0.570 0.584 0.614 0.591 0.555   9.94
105)  Naphthalene       1.087 1.173 1.252 1.373 1.452 1.586 1.473 1.342  13.31
106)  1,2,3-Trichlorobe 0.440 0.476 0.486 0.484 0.502 0.528 0.495 0.487   5.49

107) I   Tert Butyl Alcohol-d1 ----------------ISTD--------------------
108)  Ethanol                 0.180 0.177 0.195 0.183 0.172 0.172 0.180   4.75
109)  Tert Butyl Alcoho 1.286 1.102 1.239 1.182 1.287 1.312 1.267 1.239   5.94
110)  Isobutyl alcohol  0.216 0.277 0.288 0.318 0.324 0.360 0.346 0.304  16.03
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9985
               Response Ratio = 0.00000 + 0.30415 *A + 0.00640 *A^2

111)  Tert Amyl Alcohol 0.627 0.707 0.728 0.784 0.807 0.879 0.845 0.768  11.31
112)  1,4-Dioxane             0.151 0.148 0.158 0.157 0.165 0.155 0.156   3.71
113)  3,3-dimethyl-1-bu 1.039 1.058 1.029 1.256 1.276 1.440 1.469 1.224  15.29
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9989
               Response Ratio = 0.00000 + 1.13047 *A + 0.01826 *A^2

 ------------------------------------------------------------------------------
 (#) = Out of Range
```

Initial Calibration Summary

Job Number: FA82390 **Sample:** VY2293-ICC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55218.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

RESTEK011521w.M Mon Jan 18 09:59:30 2021

Initial Calibration Verification

Job Number: FA82390 **Sample:** VY2293-ICV2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55222.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\011521\Y55222.D Vial: 10
Acq On : 15 Jan 2021 3:00 pm Operator: chelseav
Sample : ICV2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK011521w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Jan 15 14:38:30 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	102	0.00	11.52
2	Dichlorodifluoromethane		----------NA----------				
3	Acrolein	0.030	0.027	10.0	85	0.00	6.30
4 P	Chloromethane	0.314	0.284	9.6	89	-0.01	3.38
5	1,3-butadiene	0.227	0.263	-15.9	113	0.00	3.58
6 C	Vinyl Chloride	0.267	0.252	5.6	95	0.00	3.55
7	Bromomethane	0.152	0.155	-2.0	98	0.00	4.16
	----------	Amount	Calc.	%Drift			
8	Chloroethane	40.000	34.290	14.3	94	0.00	4.39
	----------	AvgRF	CCRF	%Dev			
9	Trichlorofluoromethane	0.399	0.383	4.0	95	0.00	4.66
10	Ethyl Ether	0.157	0.151	3.8	96	0.00	5.29
11	1,2-Dichlorotrifluoroetha	0.210	0.214	-1.9	103	0.00	5.67
12 C	1,1-Dichloroethene	0.303	0.318	-5.0	104	0.00	5.64
13	Freon 113	0.235	0.191	18.7	82	0.00	5.73
14	Carbon Disulfide	0.533	0.513	3.8	96	0.00	5.67
15	Iodomethane	0.286	0.271	5.2	91	0.00	5.90
	----------	Amount	Calc.	%Drift			
16	Allyl chloride	40.000	42.001	-5.0	103	0.00	6.56
17	Methylene Chloride	40.000	37.383	6.5	98	0.00	6.78
	----------	AvgRF	CCRF	%Dev			
18	Acetone	0.040	0.042	-5.0	105	0.00	6.88
19	Methyl acetate	0.102	0.104	-2.0	100	0.00	7.14
20	trans-1,2-Dichloroethene	0.291	0.299	-2.7	103	0.00	7.09
21	Hexane	0.175	0.146	16.6	83	0.00	7.25
22	Methyl Tert Butyl Ether	0.415	0.387	6.7	88	0.00	7.31
23	Acetonitrile	0.018	0.018	0.0	94	0.00	7.79
24	Di-isopropyl ether	0.748	0.728	2.7	95	0.00	8.08
25	Chloroprene	0.370	0.389	-5.1	98	0.00	8.26
26 P	1,1-Dichloroethane	0.346	0.368	-6.4	106	0.00	8.31
27	Acrylonitrile	0.051	0.050	2.0	92	0.00	8.42
28	ETBE	0.572	0.528	7.7	88	0.00	8.82
	----------	Amount	Calc.	%Drift			
29	Vinyl acetate	200.000	164.667	17.7	82	0.00	8.85
	----------	AvgRF	CCRF	%Dev			
30	cis-1,2-Dichloroethene	0.245	0.249	-1.6	103	0.00	9.42

Initial Calibration Verification

Job Number: FA82390 **Sample:** VY2293-ICV2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55222.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
31		2,2-Dichloropropane	40.000	40.441	-1.1	96	0.00	9.64
			AvgRF	CCRF	%Dev			
32		Bromochloromethane	0.132	0.127	3.8	97	0.00	9.83
33		Cyclohexane	0.432	0.388	10.2	89	0.00	9.82
34	C	Chloroform	0.365	0.363	0.5	101	0.00	10.00
			Amount	Calc.	%Drift			
35		Ethyl acetate	200.000	176.072	12.0	90	0.00	10.25
			AvgRF	CCRF	%Dev			
36		Tetrahydrofuran	0.043	0.040	7.0	91	0.00	10.25
37	S	Dibromofluoromethane	0.262	0.261	0.4	101	0.00	10.32
38		Carbon Tetrachloride	0.340	0.352	-3.5	101	0.00	10.23
39		1,1,1-Trichloroethane	0.377	0.383	-1.6	102	0.00	10.35
40		2-Butanone	0.058	0.060	-3.4	98	0.00	10.54
41		1,1-Dichloropropene	0.288	0.279	3.1	95	0.00	10.56
			Amount	Calc.	%Drift			
42		tert-Butyl formate	200.000	139.026	30.5#	64	0.00	10.74
			AvgRF	CCRF	%Dev			
43		Propionitrile	0.019	0.019	0.0	95	0.00	10.99
44		Methacrylonitrile	0.099	0.097	2.0	95	0.00	11.02
45		Benzene	0.869	0.849	2.3	99	0.00	10.94
46		TAME	0.448	0.422	5.8	92	0.00	11.12
47	S	1,2-Dichloroethane-d4	0.233	0.226	3.0	100	0.00	11.14
48		1,2-Dichloroethane	0.273	0.259	5.1	98	0.00	11.24
49		Trichloroethene	0.260	0.249	4.2	98	0.00	11.74
50		Methylcyclohexane	0.374	0.344	8.0	91	0.00	11.71
51		Dibromomethane	0.111	0.106	4.5	96	0.00	12.23
52	C	1,2-Dichloropropane	0.203	0.203	0.0	99	0.00	12.34
53		Bromodichloromethane	0.247	0.265	-7.3	104	0.00	12.42
			Amount	Calc.	%Drift			
54		Methyl methacrylate	40.000	40.854	-2.1	102	0.00	12.58
55		2-Chloroethyl vinyl ether	200.000	147.448	26.3#	71	0.00	13.00
			AvgRF	CCRF	%Dev			
56		cis-1,3-Dichloropropene	0.310	0.307	1.0	94	0.00	13.06
57	I	Chlorobenzene-d5	1.000	1.000	0.0	101	0.00	14.58
58	S	Toluene-d8	1.145	1.146	-0.1	101	0.00	13.24
59	C	Toluene	1.195	1.116	6.6	95	0.00	13.29
			Amount	Calc.	%Drift			
60		2-Nitropropane	200.000	187.515	6.2	93	0.00	13.51
			AvgRF	CCRF	%Dev			
61		4-Methyl-2-pentanone	0.160	0.159	0.6	99	0.00	13.63
62		trans-1,3-Dichloropropene	0.264	0.276	-4.5	98	0.00	13.67
63		Tetrachloroethene	0.351	0.347	1.1	101	0.00	13.65
			Amount	Calc.	%Drift			
64		Ethyl methacrylate	40.000	40.971	-2.4	102	0.00	13.79
			AvgRF	CCRF	%Dev			
65		1,1,2-Trichloroethane	0.145	0.139	4.1	96	0.00	13.81

Initial Calibration Verification

Job Number: FA82390 **Sample:** VY2293-ICV2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55222.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

66		Dibromochloromethane	0.249	0.258	-3.6	98	0.00	13.97
67		1,3-Dichloropropane	0.316	0.293	7.3	93	0.00	14.05
68		1,2-Dibromoethane	0.200	0.192	4.0	95	0.00	14.18
69		2-hexanone	0.112	0.107	4.5	96	0.00	14.33
70		1-Chlorohexane	0.355	0.355	0.0	94	0.00	14.55
71	C	Ethylbenzene	1.299	1.242	4.4	97	0.00	14.60
72	P	Chlorobenzene	0.854	0.792	7.3	96	0.00	14.59
73		1,1,1,2-Tetrachloroethane	0.289	0.294	-1.7	99	0.00	14.64
74		m,p-Xylene	1.005	0.981	2.4	96	0.00	14.70
75		o-Xylene	0.988	0.985	0.3	96	0.00	15.03
76		Styrene	0.799	0.814	-1.9	96	0.00	15.07
		----------	Amount	Calc.	%Drift			
77	P	Bromoform	40.000	38.791	3.0	96	0.00	15.12
		----------	AvgRF	CCRF	%Dev			
78		Isopropylbenzene	1.374	1.341	2.4	95	0.00	15.25
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	98	0.00	16.27
80	S	4-Bromofluorobenzene	0.753	0.759	-0.8	100	0.00	15.48
81		cis-1,4-Dichloro-2-butene	0.121	0.131	-8.3	94	0.00	15.51
82		n-Propylbenzene	2.663	2.567	3.6	94	0.00	15.55
83		Bromobenzene	0.642	0.630	1.9	97	0.00	15.57
84	P	1,1,2,2-Tetrachloroethane	0.369	0.341	7.6	92	0.00	15.61
85		1,3,5-Trimethylbenzene	1.932	1.940	-0.4	96	0.00	15.67
86		2-Chlorotoluene	1.726	1.644	4.8	94	0.00	15.69
		----------	Amount	Calc.	%Drift			
87		trans-1,4-Dichloro-2-Bute	40.000	35.890	10.3	88	0.00	15.73
		----------	AvgRF	CCRF	%Dev			
88		1,2,3-Trichloropropane	0.146	0.132	9.6	91	0.00	15.72
89		Cyclohexanone	0.009	0.008	11.1	81	0.00	15.78
90		4-Chlorotoluene	1.596	1.563	2.1	95	0.00	15.81
91		tert-Butylbenzene	0.989	0.949	4.0	93	0.00	15.91
92		1,2,4-Trimethylbenzene	1.965	1.908	2.9	93	0.00	15.95
93		Pentachloroethane	0.319	0.365	-14.4	105	0.00	15.96
94		sec-Butylbenzene	2.265	2.223	1.9	95	0.00	16.03
95		4-Isopropyltoluene	2.098	2.136	-1.8	97	0.00	16.12
96		1,3-Dichlorobenzene	1.238	1.218	1.6	97	0.00	16.23
97		1,2,3-Trimethylbenzene	2.310	1.887	18.3	79	0.00	16.27
98		1,4-Dichlorobenzene	1.262	1.214	3.8	95	0.00	16.28
99		n-Butylbenzene	0.797	0.758	4.9	91	0.00	16.41
		----------	Amount	Calc.	%Drift			
100		Benzyl Chloride	40.000	37.598	6.0	88	0.00	16.44
		----------	AvgRF	CCRF	%Dev			
101		1,2-Dichlorobenzene	1.146	1.114	2.8	94	0.00	16.58
102		1,2-Dibromo-3-Chloropropa	0.054	0.051	5.6	92	0.00	17.11
103		Hexachlorobutadiene	0.188	0.187	0.5	96	0.00	17.53
104		1,2,4-Trichlorobenzene	0.555	0.576	-3.8	97	0.00	17.58
105		Naphthalene	1.342	1.340	0.1	90	0.00	17.83
106		1,2,3-Trichlorobenzene	0.487	0.483	0.8	94	0.00	17.98
107	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	92	0.00	7.41
108		Ethanol	0.180	0.171	5.0	85	0.00	5.63
109		Tert Butyl Alcohol	1.239	1.079	12.9	77	0.00	7.55
		----------	Amount	Calc.	%Drift			

Initial Calibration Verification

Job Number: FA82390 **Sample:** VY2293-ICV2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55222.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

110	Isobutyl alcohol	800.000	811.275	-1.4	93	0.00	11.30
		AvgRF	CCRF	%Dev			
111	Tert Amyl Alcohol	0.768	0.771	-0.4	87	0.00	11.42
112	1,4-Dioxane	0.156	0.163	-4.5	95	0.00	12.64
		Amount	Calc.	%Drift			
113	3,3-dimethyl-1-butanol	2000.000	2074.799	-3.7	95	0.00	14.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y55218.D RESTEK011521w.M Mon Jan 18 09:58:54 2021

Initial Calibration Verification

Job Number: FA82390 **Sample:** VY2293-ICV2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55223.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\011521\Y55223.D Vial: 11
Acq On : 15 Jan 2021 3:27 pm Operator: chelseav
Sample : ICV2293-4 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK011521w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Jan 15 14:38:30 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Fluorobenzene	1.000	1.000	0.0	99	0.00	11.52
2		Dichlorodifluoromethane	0.285	0.261	8.4	90	0.00	3.04
3		Acrolein		----------NA----------				
4	P	Chloromethane		----------NA----------				
5		1,3-butadiene		----------NA----------				
6	C	Vinyl Chloride		----------NA----------				
7		Bromomethane		----------NA----------				
		---------- Amount	Calc.	%Drift ----------				
8		Chloroethane		----------NA----------				
		---------- AvgRF	CCRF	%Dev ----------				
9		Trichlorofluoromethane		----------NA----------				
10		Ethyl Ether		----------NA----------				
11		1,2-Dichlorotrifluoroetha		----------NA----------				
12	C	1,1-Dichloroethene		----------NA----------				
13		Freon 113		----------NA----------				
14		Carbon Disulfide		----------NA----------				
15		Iodomethane		----------NA----------				
		---------- Amount	Calc.	%Drift ----------				
16		Allyl chloride		----------NA----------				
17		Methylene Chloride		----------NA----------				
		---------- AvgRF	CCRF	%Dev ----------				
18		Acetone		----------NA----------				
19		Methyl acetate		----------NA----------				
20		trans-1,2-Dichloroethene		----------NA----------				
21		Hexane		----------NA----------				
22		Methyl Tert Butyl Ether		----------NA----------				
23		Acetonitrile		----------NA----------				
24		Di-isopropyl ether		----------NA----------				
25		Chloroprene		----------NA----------				
26	P	1,1-Dichloroethane		----------NA----------				
27		Acrylonitrile		----------NA----------				
28		ETBE		----------NA----------				
		---------- Amount	Calc.	%Drift ----------				
29		Vinyl acetate		----------NA----------				
		---------- AvgRF	CCRF	%Dev ----------				
30		cis-1,2-Dichloroethene		----------NA----------				

			Amount	Calc.	%Drift			
31		2,2-Dichloropropane		NA				
			AvgRF	CCRF	%Dev			
32		Bromochloromethane		NA				
33		Cyclohexane		NA				
34	C	Chloroform		NA				
			Amount	Calc.	%Drift			
35		Ethyl acetate		NA				
			AvgRF	CCRF	%Dev			
36		Tetrahydrofuran		NA				
37	S	Dibromofluoromethane	0.262	0.264	-0.8	98	0.00	10.33
38		Carbon Tetrachloride		NA				
39		1,1,1-Trichloroethane		NA				
40		2-Butanone		NA				
41		1,1-Dichloropropene		NA				
			Amount	Calc.	%Drift			
42		tert-Butyl formate		NA				
			AvgRF	CCRF	%Dev			
43		Propionitrile		NA				
44		Methacrylonitrile		NA				
45		Benzene		NA				
46		TAME		NA				
47	S	1,2-Dichloroethane-d4	0.233	0.228	2.1	98	0.00	11.14
48		1,2-Dichloroethane		NA				
49		Trichloroethene		NA				
50		Methylcyclohexane		NA				
51		Dibromomethane		NA				
52	C	1,2-Dichloropropane		NA				
53		Bromodichloromethane		NA				
			Amount	Calc.	%Drift			
54		Methyl methacrylate		NA				
55		2-Chloroethyl vinyl ether		NA				
			AvgRF	CCRF	%Dev			
56		cis-1,3-Dichloropropene		NA				
57	I	Chlorobenzene-d5	1.000	1.000	0.0	99	0.00	14.58
58	S	Toluene-d8	1.145	1.148	-0.3	99	0.00	13.24
59	C	Toluene		NA				
			Amount	Calc.	%Drift			
60		2-Nitropropane		NA				
			AvgRF	CCRF	%Dev			
61		4-Methyl-2-pentanone		NA				
62		trans-1,3-Dichloropropene		NA				
63		Tetrachloroethene		NA				
			Amount	Calc.	%Drift			
64		Ethyl methacrylate		NA				
			AvgRF	CCRF	%Dev			
65		1,1,2-Trichloroethane		NA				

Initial Calibration Verification

Job Number: FA82390 **Sample:** VY2293-ICV2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55223.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

66		Dibromochloromethane		----------NA----------					
67		1,3-Dichloropropane		----------NA----------					
68		1,2-Dibromoethane		----------NA----------					
69		2-hexanone		----------NA----------					
70		1-Chlorohexane		----------NA----------					
71	C	Ethylbenzene		----------NA----------					
72	P	Chlorobenzene		----------NA----------					
73		1,1,1,2-Tetrachloroethane		----------NA----------					
74		m,p-Xylene		----------NA----------					
75		o-Xylene		----------NA----------					
76		Styrene		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
77	P	Bromoform		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
78		Isopropylbenzene		----------NA----------					
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	16.27	
80	S	4-Bromofluorobenzene	0.753	0.756	-0.4	99	0.00	15.48	
81		cis-1,4-Dichloro-2-butene		----------NA----------					
82		n-Propylbenzene		----------NA----------					
83		Bromobenzene		----------NA----------					
84	P	1,1,2,2-Tetrachloroethane		----------NA----------					
85		1,3,5-Trimethylbenzene		----------NA----------					
86		2-Chlorotoluene		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
87		trans-1,4-Dichloro-2-Bute		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
88		1,2,3-Trichloropropane		----------NA----------					
89		Cyclohexanone		----------NA----------					
90		4-Chlorotoluene		----------NA----------					
91		tert-Butylbenzene		----------NA----------					
92		1,2,4-Trimethylbenzene		----------NA----------					
93		Pentachloroethane		----------NA----------					
94		sec-Butylbenzene		----------NA----------					
95		4-Isopropyltoluene		----------NA----------					
96		1,3-Dichlorobenzene		----------NA----------					
97		1,2,3-Trimethylbenzene		----------NA----------					
98		1,4-Dichlorobenzene		----------NA----------					
99		n-Butylbenzene		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			
100		Benzyl Chloride		----------NA----------					
		----------	AvgRF	CCRF	%Dev	----------			
101		1,2-Dichlorobenzene		----------NA----------					
102		1,2-Dibromo-3-Chloropropa		----------NA----------					
103		Hexachlorobutadiene		----------NA----------					
104		1,2,4-Trichlorobenzene		----------NA----------					
105		Naphthalene		----------NA----------					
106		1,2,3-Trichlorobenzene		----------NA----------					
107	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	99	0.00	7.40	
108		Ethanol		----------NA----------					
109		Tert Butyl Alcohol		----------NA----------					
		----------	Amount	Calc.	%Drift	----------			

Initial Calibration Verification

Job Number: FA82390 **Sample:** VY2293-ICV2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55223.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
110     Isobutyl alcohol                    ----------NA----------

            ----------------------- AvgRF   CCRF      %Dev   --------------
111     Tert Amyl Alcohol                   ----------NA----------
112     1,4-Dioxane                         ----------NA----------

            ----------------------- Amount  Calc.    %Drift   -------------
113     3,3-dimethyl-1-butanol              ----------NA----------
 ------------------------------------------------------------------------------
 ------------------------------------------------------------------------------

    (#) = Out of Range              SPCC's out = 4  CCC's out = 6
     Y55217.D   RESTEK011521w.M       Mon Jan 18 09:59:14 2021
```

Continuing Calibration Summary

Job Number: FA82390 **Sample:** VY2294-CC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55226.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ed...-2021\vy2294\Y55226.D Vial: 3
Acq On : 18 Jan 2021 9:16 am Operator: shanicao
Sample : CC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2294,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\met...\RESTEK011521w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Sep 14 08:38:11 2018
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	102	0.00	11.52
2	Dichlorodifluoromethane	0.285	0.299	-4.9	105	0.00	3.04
3	Acrolein	0.030	0.027	10.0	86	0.00	6.31
4 P	Chloromethane	0.314	0.308	1.9	97	0.00	3.39
5	1,3-butadiene	0.227	0.230	-1.3	100	0.00	3.59
6 C	Vinyl Chloride	0.267	0.269	-0.7	102	0.00	3.55
7	Bromomethane	0.152	0.163	-7.2	104	0.00	4.16
	----------	True	Calc.	% Drift	----------		
8	Chloroethane	40.000	43.346	-8.4	116	0.00	4.40
	----------	AvgRF	CCRF	% Dev	----------		
9	Trichlorofluoromethane	0.399	0.418	-4.8	105	0.00	4.67
10	Ethyl Ether	0.157	0.147	6.4	94	0.00	5.29
11	1,2-Dichlorotrifluoroetha	0.210	0.212	-1.0	102	0.00	5.67
12 C	1,1-Dichloroethene	0.303	0.310	-2.3	102	0.00	5.64
13	Freon 113	0.235	0.239	-1.7	104	0.00	5.73
14	Carbon Disulfide	0.533	0.544	-2.1	102	0.00	5.67
15	Iodomethane	0.286	0.276	3.5	93	0.00	5.90
	----------	True	Calc.	% Drift	----------		
16	Allyl chloride	40.000	39.373	1.6	97	0.00	6.57
17	Methylene Chloride	40.000	37.243	6.9	98	0.00	6.77
	----------	AvgRF	CCRF	% Dev	----------		
18	Acetone	0.040	0.033	17.5	83	0.00	6.88
19	Methyl acetate	0.102	0.091	10.8	88	0.00	7.14
20	trans-1,2-Dichloroethene	0.291	0.288	1.0	99	0.00	7.09
21	Hexane	0.175	0.180	-2.9	103	0.00	7.25
22	Methyl Tert Butyl Ether	0.415	0.400	3.6	92	0.00	7.32
23	Acetonitrile	0.018	0.015	16.7	82	0.00	7.79
24	Di-isopropyl ether	0.748	0.748	0.0	98	0.00	8.08
25	Chloroprene	0.370	0.396	-7.0	101	0.00	8.26
26 P	1,1-Dichloroethane	0.346	0.343	0.9	99	0.00	8.31
27	Acrylonitrile	0.051	0.046	9.8	85	0.00	8.42
28	ETBE	0.572	0.573	-0.2	96	0.00	8.82
	----------	True	Calc.	% Drift	----------		
29	Vinyl acetate	200.000	178.960	10.5	90	0.00	8.85
	----------	AvgRF	CCRF	% Dev	----------		
30	cis-1,2-Dichloroethene	0.245	0.243	0.8	101	0.00	9.43

Continuing Calibration Summary

Job Number: FA82390 **Sample:** VY2294-CC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55226.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
31		2,2-Dichloropropane	40.000	42.270	-5.7	101	0.00	9.63
			AvgRF	CCRF	% Dev			
32		Bromochloromethane	0.132	0.129	2.3	99	0.00	9.83
33		Cyclohexane	0.432	0.441	-2.1	102	0.00	9.82
34	C	Chloroform	0.365	0.361	1.1	101	0.00	10.00
			True	Calc.	% Drift			
35		Ethyl acetate	200.000	169.488	15.3	87	0.00	10.25
			AvgRF	CCRF	% Dev			
36		Tetrahydrofuran	0.043	0.041	4.7	93	0.00	10.25
37	S	Dibromofluoromethane	0.262	0.265	-1.1	103	0.00	10.33
38		Carbon Tetrachloride	0.340	0.364	-7.1	105	0.00	10.23
39		1,1,1-Trichloroethane	0.377	0.387	-2.7	103	0.00	10.34
40		2-Butanone	0.058	0.050	13.8	83	0.00	10.55
41		1,1-Dichloropropene	0.288	0.299	-3.8	103	0.00	10.56
			True	Calc.	% Drift			
42		tert-Butyl formate	200.000	174.530	12.7	81	0.00	10.75
			AvgRF	CCRF	% Dev			
43		Propionitrile	0.019	0.016	15.8	84	0.00	10.98
44		Methacrylonitrile	0.099	0.088	11.1	86	0.00	11.01
45		Benzene	0.869	0.845	2.8	99	0.00	10.94
46		TAME	0.448	0.439	2.0	96	0.00	11.12
47	S	1,2-Dichloroethane-d4	0.233	0.221	5.2	99	0.00	11.14
48		1,2-Dichloroethane	0.273	0.253	7.3	96	0.00	11.23
49		Trichloroethene	0.260	0.253	2.7	100	0.00	11.74
50		Methylcyclohexane	0.374	0.386	-3.2	103	0.00	11.71
51		Dibromomethane	0.111	0.103	7.2	94	0.00	12.24
52	C	1,2-Dichloropropane	0.203	0.203	0.0	100	0.00	12.34
53		Bromodichloromethane	0.247	0.254	-2.8	100	0.00	12.42
			True	Calc.	% Drift			
54		Methyl methacrylate	40.000	36.323	9.2	90	0.00	12.58
55		2-Chloroethyl vinyl ether	200.000	178.276	10.9	87	0.00	13.00
			AvgRF	CCRF	% Dev			
56		cis-1,3-Dichloropropene	0.310	0.320	-3.2	99	0.00	13.06
57	I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00	14.58
58	S	Toluene-d8	1.145	1.140	0.4	102	0.00	13.23
59	C	Toluene	1.195	1.166	2.4	100	0.00	13.28
			True	Calc.	% Drift			
60		2-Nitropropane	200.000	180.899	9.6	91	0.00	13.51
			AvgRF	CCRF	% Dev			
61		4-Methyl-2-pentanone	0.160	0.137	14.4	86	0.00	13.62
62		trans-1,3-Dichloropropene	0.264	0.269	-1.9	97	0.00	13.67
63		Tetrachloroethene	0.351	0.354	-0.9	104	0.00	13.65
			True	Calc.	% Drift			
64		Ethyl methacrylate	40.000	36.712	8.2	92	0.00	13.79
			AvgRF	CCRF	% Dev			
65		1,1,2-Trichloroethane	0.145	0.137	5.5	95	0.00	13.81

Continuing Calibration Summary

Job Number: FA82390 **Sample:** VY2294-CC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55226.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

66		Dibromochloromethane	0.249	0.256	-2.8	98	0.00	13.97
67		1,3-Dichloropropane	0.316	0.296	6.3	95	0.00	14.04
68		1,2-Dibromoethane	0.200	0.192	4.0	96	0.00	14.18
69		2-hexanone	0.112	0.098	12.5	90	0.00	14.32
70		1-Chlorohexane	0.355	0.378	-6.5	101	0.00	14.55
71	C	Ethylbenzene	1.299	1.286	1.0	101	0.00	14.59
72	P	Chlorobenzene	0.854	0.815	4.6	100	0.00	14.59
73		1,1,1,2-Tetrachloroethane	0.289	0.299	-3.5	102	0.00	14.64
74		m,p-Xylene	1.005	1.019	-1.4	101	0.00	14.70
75		o-Xylene	0.988	1.024	-3.6	101	0.00	15.03
76		Styrene	0.799	0.848	-6.1	101	0.00	15.07
		----------	True	Calc.	% Drift	----------		
77	P	Bromoform	40.000	38.846	2.9	98	0.00	15.12
		----------	AvgRF	CCRF	% Dev	----------		
78		Isopropylbenzene	1.374	1.408	-2.5	101	0.00	15.25
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	102	0.00	16.27
80	S	4-Bromofluorobenzene	0.753	0.760	-0.9	104	0.00	15.49
81		cis-1,4-Dichloro-2-butene	0.121	0.106	12.4	79	0.00	15.52
82		n-Propylbenzene	2.663	2.655	0.3	101	0.00	15.55
83		Bromobenzene	0.642	0.630	1.9	100	0.00	15.58
84	P	1,1,2,2-Tetrachloroethane	0.369	0.328	11.1	92	0.00	15.61
85		1,3,5-Trimethylbenzene	1.932	1.975	-2.2	101	0.00	15.67
86		2-Chlorotoluene	1.726	1.689	2.1	100	0.00	15.69
		----------	True	Calc.	% Drift	----------		
87		trans-1,4-Dichloro-2-Bute	40.000	36.583	8.5	93	0.00	15.73
		----------	AvgRF	CCRF	% Dev	----------		
88		1,2,3-Trichloropropane	0.146	0.127	13.0	91	0.00	15.72
89		Cyclohexanone	0.009	0.008	11.1	82	0.00	15.78
90		4-Chlorotoluene	1.596	1.598	-0.1	101	0.00	15.80
91		tert-Butylbenzene	0.989	0.993	-0.4	101	0.00	15.91
92		1,2,4-Trimethylbenzene	1.965	2.014	-2.5	101	0.00	15.95
93		Pentachloroethane	0.319	0.332	-4.1	99	0.00	15.96
94		sec-Butylbenzene	2.265	2.301	-1.6	102	0.00	16.03
95		4-Isopropyltoluene	2.098	2.179	-3.9	102	0.00	16.11
96		1,3-Dichlorobenzene	1.238	1.234	0.3	101	0.00	16.22
97		1,2,3-Trimethylbenzene	2.310	2.319	-0.4	100	0.00	16.26
98		1,4-Dichlorobenzene	1.262	1.246	1.3	101	0.00	16.28
99		n-Butylbenzene	0.797	0.798	-0.1	99	0.00	16.40
		----------	True	Calc.	% Drift	----------		
100		Benzyl Chloride	40.000	39.168	2.1	95	0.00	16.44
		----------	AvgRF	CCRF	% Dev	----------		
101		1,2-Dichlorobenzene	1.146	1.133	1.1	99	0.00	16.58
102		1,2-Dibromo-3-Chloropropa	0.054	0.049	9.3	92	0.00	17.12
103		Hexachlorobutadiene	0.188	0.200	-6.4	106	0.00	17.52
104		1,2,4-Trichlorobenzene	0.555	0.584	-5.2	102	0.00	17.58
105		Naphthalene	1.342	1.308	2.5	92	0.00	17.83
106		1,2,3-Trichlorobenzene	0.487	0.482	1.0	98	0.00	17.98
107	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	91	0.00	7.40
108		Ethanol	0.180	0.175	2.8	87	0.00	5.63
109		Tert Butyl Alcohol	1.239	1.194	3.6	84	0.00	7.55
		----------	True	Calc.	% Drift	----------		

Continuing Calibration Summary

Job Number: FA82390 **Sample:** VY2294-CC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55226.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

110	Isobutyl alcohol	800.000	736.001	8.0	83	0.00	11.31
		AvgRF	CCRF	% Dev			
111	Tert Amyl Alcohol	0.768	0.793	-3.3	89	0.00	11.42
112	1,4-Dioxane	0.156	0.147	5.8	85	0.00	12.64
		True	Calc.	% Drift			
113	3,3-dimethyl-1-butanol	2000.000	1935.717	3.2	88	0.00	14.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y55218.D RESTEK011521w.M Mon Jan 18 22:01:30 2021

6.7.4

6

Continuing Calibration Summary

Job Number: FA82390 **Sample:** VY2294-ECC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55250.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\ed...-2021\vy2294\Y55250.D Vial: 27
Acq On : 18 Jan 2021 8:25 pm Operator: shanicao
Sample : ECC2293-5 Inst : MSVOA14-Y
Misc : MS48127,VY2294,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\met...\RESTEK011521w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Fri Sep 14 08:38:11 2018
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	83	0.00	11.52
2	Dichlorodifluoromethane	0.285	0.348	-22.1	100	0.00	3.04
3	Acrolein	0.030	0.026	13.3	68	0.00	6.30
4 P	Chloromethane	0.314	0.348	-10.8	89	0.00	3.39
5	1,3-butadiene	0.227	0.283	-24.7	100	0.00	3.58
6 C	Vinyl Chloride	0.267	0.314	-17.6	97	0.00	3.55
7	Bromomethane	0.152	0.161	-5.9	84	0.00	4.16
		True	Calc.	% Drift			
8	Chloroethane	40.000	49.976	-24.9	107	0.02	4.42
		AvgRF	CCRF	% Dev			
9	Trichlorofluoromethane	0.399	0.493	-23.6	101	0.00	4.67
10	Ethyl Ether	0.157	0.150	4.5	78	0.00	5.28
11	1,2-Dichlorotrifluoroetha	0.210	0.249	-18.6	98	0.00	5.67
12 C	1,1-Dichloroethene	0.303	0.358	-18.2	96	0.00	5.64
13	Freon 113	0.235	0.278	-18.3	98	0.00	5.73
14	Carbon Disulfide	0.533	0.601	-12.8	92	0.00	5.68
15	Iodomethane	0.286	0.249	12.9	69	0.00	5.91
		True	Calc.	% Drift			
16	Allyl chloride	40.000	42.029	-5.1	85	0.00	6.57
17	Methylene Chloride	40.000	39.875	0.3	86	0.00	6.78
		AvgRF	CCRF	% Dev			
18	Acetone	0.040	0.035	12.5	72	0.00	6.88
19	Methyl acetate	0.102	0.090	11.8	71	0.00	7.14
20	trans-1,2-Dichloroethene	0.291	0.322	-10.7	91	0.00	7.09
21	Hexane	0.175	0.184	-5.1	86	0.00	7.25
22	Methyl Tert Butyl Ether	0.415	0.388	6.5	72	0.00	7.31
23	Acetonitrile	0.018	0.016	11.1	70	0.00	7.79
24	Di-isopropyl ether	0.748	0.784	-4.8	84	0.00	8.08
25	Chloroprene	0.370	0.457	-23.5	94	0.00	8.26
26 P	1,1-Dichloroethane	0.346	0.373	-7.8	88	0.00	8.31
27	Acrylonitrile	0.051	0.048	5.9	72	0.00	8.41
28	ETBE	0.572	0.565	1.2	77	0.00	8.82
		True	Calc.	% Drift			
29	Vinyl acetate	200.000	178.827	10.6	73	0.00	8.85
		AvgRF	CCRF	% Dev			
30	cis-1,2-Dichloroethene	0.245	0.261	-6.5	88	0.00	9.42

Continuing Calibration Summary

Job Number: FA82390 **Sample:** VY2294-ECC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55250.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
31		2,2-Dichloropropane	40.000	39.304	1.7	76	0.00	9.63
			AvgRF	CCRF	% Dev			
32		Bromochloromethane	0.132	0.137	-3.8	85	0.00	9.83
33		Cyclohexane	0.432	0.512	-18.5	96	0.00	9.82
34	C	Chloroform	0.365	0.388	-6.3	88	0.00	10.00
			True	Calc.	% Drift			
35		Ethyl acetate	200.000	171.012	14.5	72	0.00	10.25
			AvgRF	CCRF	% Dev			
36		Tetrahydrofuran	0.043	0.040	7.0	75	0.00	10.25
37	S	Dibromofluoromethane	0.262	0.255	2.7	81	0.00	10.32
38		Carbon Tetrachloride	0.340	0.402	-18.2	94	0.00	10.23
39		1,1,1-Trichloroethane	0.377	0.433	-14.9	94	0.00	10.35
40		2-Butanone	0.058	0.051	12.1	69	0.00	10.54
41		1,1-Dichloropropene	0.288	0.340	-18.1	95	0.00	10.56
			True	Calc.	% Drift			
42		tert-Butyl formate	200.000	119.189	40.4	44	0.00	10.74
			AvgRF	CCRF	% Dev			
43		Propionitrile	0.019	0.017	10.5	70	0.00	10.98
44		Methacrylonitrile	0.099	0.091	8.1	74	0.00	11.01
45		Benzene	0.869	0.918	-5.6	88	0.00	10.94
46		TAME	0.448	0.422	5.8	75	0.00	11.12
47	S	1,2-Dichloroethane-d4	0.233	0.207	11.2	75	0.00	11.14
48		1,2-Dichloroethane	0.273	0.267	2.2	83	0.00	11.24
49		Trichloroethene	0.260	0.280	-7.7	91	0.00	11.74
50		Methylcyclohexane	0.374	0.420	-12.3	91	0.00	11.71
51		Dibromomethane	0.111	0.107	3.6	79	0.00	12.24
52	C	1,2-Dichloropropane	0.203	0.216	-6.4	86	0.00	12.34
53		Bromodichloromethane	0.247	0.263	-6.5	85	0.00	12.42
			True	Calc.	% Drift			
54		Methyl methacrylate	40.000	35.798	10.5	72	0.00	12.58
55		2-Chloroethyl vinyl ether	200.000	162.682	18.7	64	0.00	13.00
			AvgRF	CCRF	% Dev			
56		cis-1,3-Dichloropropene	0.310	0.326	-5.2	82	0.00	13.06
57	I	Chlorobenzene-d5	1.000	1.000	0.0	82	0.00	14.58
58	S	Toluene-d8	1.145	1.169	-2.1	83	0.00	13.24
59	C	Toluene	1.195	1.282	-7.3	88	0.00	13.29
			True	Calc.	% Drift			
60		2-Nitropropane	200.000	173.701	13.1	70	0.00	13.51
			AvgRF	CCRF	% Dev			
61		4-Methyl-2-pentanone	0.160	0.147	8.1	73	0.00	13.63
62		trans-1,3-Dichloropropene	0.264	0.271	-2.7	78	0.00	13.67
63		Tetrachloroethene	0.351	0.412	-17.4	96	0.00	13.65
			True	Calc.	% Drift			
64		Ethyl methacrylate	40.000	37.665	5.8	75	0.00	13.79
			AvgRF	CCRF	% Dev			
65		1,1,2-Trichloroethane	0.145	0.144	0.7	80	0.00	13.81

Continuing Calibration Summary

Job Number: FA82390 **Sample:** VY2294-ECC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55250.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

66		Dibromochloromethane	0.249	0.260	-4.4	80	0.00	13.98
67		1,3-Dichloropropane	0.316	0.311	1.6	79	0.00	14.05
68		1,2-Dibromoethane	0.200	0.193	3.5	77	0.00	14.18
69		2-hexanone	0.112	0.099	11.6	72	0.00	14.32
70		1-Chlorohexane	0.355	0.398	-12.1	85	0.00	14.55
71	C	Ethylbenzene	1.299	1.408	-8.4	88	0.00	14.59
72	P	Chlorobenzene	0.854	0.898	-5.2	88	0.00	14.59
73		1,1,1,2-Tetrachloroethane	0.289	0.317	-9.7	86	0.00	14.64
74		m,p-Xylene	1.005	1.103	-9.8	87	0.00	14.70
75		o-Xylene	0.988	1.103	-11.6	87	0.00	15.03
76		Styrene	0.799	0.908	-13.6	86	0.00	15.07
		----------	True	Calc.	% Drift	----------		
77	P	Bromoform	40.000	37.201	7.0	74	0.00	15.12
		----------	AvgRF	CCRF	% Dev	----------		
78		Isopropylbenzene	1.374	1.512	-10.0	87	0.00	15.25
79	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	79	0.00	16.27
80	S	4-Bromofluorobenzene	0.753	0.751	0.3	80	0.00	15.48
81		cis-1,4-Dichloro-2-butene	0.121	0.099	18.2	56	0.00	15.51
82		n-Propylbenzene	2.663	2.916	-9.5	85	0.00	15.55
83		Bromobenzene	0.642	0.696	-8.4	86	0.00	15.58
84	P	1,1,2,2-Tetrachloroethane	0.369	0.348	5.7	75	0.00	15.61
85		1,3,5-Trimethylbenzene	1.932	2.189	-13.3	87	0.00	15.67
86		2-Chlorotoluene	1.726	1.892	-9.6	87	0.00	15.69
		----------	True	Calc.	% Drift	----------		
87		trans-1,4-Dichloro-2-Bute	40.000	32.347	19.1	63	0.00	15.73
		----------	AvgRF	CCRF	% Dev	----------		
88		1,2,3-Trichloropropane	0.146	0.135	7.5	75	0.00	15.72
89		Cyclohexanone	0.009	0.009	0.0	70	0.00	15.78
90		4-Chlorotoluene	1.596	1.781	-11.6	87	0.00	15.80
91		tert-Butylbenzene	0.989	1.094	-10.6	86	0.00	15.91
92		1,2,4-Trimethylbenzene	1.965	2.259	-15.0	88	0.00	15.95
93		Pentachloroethane	0.319	0.340	-6.6	78	0.00	15.96
94		sec-Butylbenzene	2.265	2.473	-9.2	85	0.00	16.03
95		4-Isopropyltoluene	2.098	2.373	-13.1	86	0.00	16.12
96		1,3-Dichlorobenzene	1.238	1.360	-9.9	86	0.00	16.23
97		1,2,3-Trimethylbenzene	2.310	2.616	-13.2	87	0.00	16.26
98		1,4-Dichlorobenzene	1.262	1.379	-9.3	87	0.00	16.28
99		n-Butylbenzene	0.797	0.896	-12.4	86	0.00	16.41
		----------	True	Calc.	% Drift	----------		
100		Benzyl Chloride	40.000	30.656	23.4	56	0.00	16.44
		----------	AvgRF	CCRF	% Dev	----------		
101		1,2-Dichlorobenzene	1.146	1.239	-8.1	84	0.00	16.58
102		1,2-Dibromo-3-Chloropropa	0.054	0.047	13.0	67	0.00	17.11
103		Hexachlorobutadiene	0.188	0.208	-10.6	85	0.00	17.53
104		1,2,4-Trichlorobenzene	0.555	0.606	-9.2	82	0.00	17.58
105		Naphthalene	1.342	1.211	9.8	65	0.00	17.83
106		1,2,3-Trichlorobenzene	0.487	0.488	-0.2	76	0.00	17.98
107	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	56	-0.01	7.39
108		Ethanol	0.180	0.261	-45.0	80	0.00	5.63
109		Tert Butyl Alcohol	1.239	1.377	-11.1	60	0.00	7.54
		----------	True	Calc.	% Drift	----------		

Continuing Calibration Summary

Job Number: FA82390 **Sample:** VY2294-ECC2293
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** Y55250.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

110	Isobutyl alcohol	800.000	941.491	-17.7	67	0.00	11.30
		AvgRF	CCRF	% Dev			
111	Tert Amyl Alcohol	0.768	0.891	-16.0	62	0.00	11.42
112	1,4-Dioxane	0.156	0.205	-31.4	73	0.00	12.64
		True	Calc.	% Drift			
113	3,3-dimethyl-1-butanol	2000.000	2337.938	-16.9	67	0.00	14.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y55218.D RESTEK011521w.M Mon Jan 18 22:15:17 2021

Run Sequence Report

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VY2293	**Method:** SW846 8260B	**Instrument ID:** GCMSY

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VY2293-BFB	Y55213.D	01/15/21 10:32	n/a	BFB Tune
VY2293-IC2293	Y55214.D	01/15/21 10:59	n/a	Initial cal 1
VY2293-IC2293	Y55215.D	01/15/21 11:26	n/a	Initial cal 2
VY2293-IC2293	Y55216.D	01/15/21 11:53	n/a	Initial cal 3
VY2293-IC2293	Y55217.D	01/15/21 12:20	n/a	Initial cal 4
VY2293-ICC2293	Y55218.D	01/15/21 12:47	n/a	Initial cal 5
VY2293-IC2293	Y55219.D	01/15/21 13:13	n/a	Initial cal 6
VY2293-IC2293	Y55220.D	01/15/21 13:40	n/a	Initial cal 7
VY2293-ICV2293	Y55222.D	01/15/21 15:00	n/a	Initial cal verification 5
VY2293-ICV2293	Y55223.D	01/15/21 15:27	n/a	Initial cal verification 4

Run Sequence Report

Job Number: FA82390
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VY2294 **Method:** SW846 8260B **Instrument ID:** GCMSY

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VY2294-BFB	Y55226.D	01/18/21 09:16	n/a	BFB Tune
VY2294-CC2293	Y55226.D	01/18/21 09:16	n/a	Continuing cal 5
VY2294-BS	Y55227.D	01/18/21 09:51	n/a	Blank Spike
VY2294-MB	Y55229.D	01/18/21 10:44	n/a	Method Blank
ZZZZZZ	Y55230.D	01/18/21 11:11	n/a	(unrelated sample)
FA82390-2	Y55231.D	01/18/21 11:38	n/a	FIELD BLANK_20210111
ZZZZZZ	Y55232.D	01/18/21 12:05	n/a	(unrelated sample)
ZZZZZZ	Y55233.D	01/18/21 12:32	n/a	(unrelated sample)
ZZZZZZ	Y55234.D	01/18/21 12:59	n/a	(unrelated sample)
ZZZZZZ	Y55235.D	01/18/21 13:26	n/a	(unrelated sample)
ZZZZZZ	Y55236.D	01/18/21 13:53	n/a	(unrelated sample)
ZZZZZZ	Y55237.D	01/18/21 14:36	n/a	(unrelated sample)
ZZZZZZ	Y55238.D	01/18/21 15:03	n/a	(unrelated sample)
ZZZZZZ	Y55239.D	01/18/21 15:30	n/a	(unrelated sample)
ZZZZZZ	Y55240.D	01/18/21 15:57	n/a	(unrelated sample)
ZZZZZZ	Y55241.D	01/18/21 16:23	n/a	(unrelated sample)
ZZZZZZ	Y55242.D	01/18/21 16:50	n/a	(unrelated sample)
FA82333-2	Y55243.D	01/18/21 17:17	n/a	(used for QC only; not part of job FA82390)
ZZZZZZ	Y55244.D	01/18/21 17:44	n/a	(unrelated sample)
ZZZZZZ	Y55245.D	01/18/21 18:11	n/a	(unrelated sample)
ZZZZZZ	Y55246.D	01/18/21 18:39	n/a	(unrelated sample)
FA82390-1	Y55247.D	01/18/21 19:05	n/a	SP1-GW_20210111
FA82333-2MS	Y55248.D	01/18/21 19:32	n/a	Matrix Spike
FA82333-2MSD	Y55249.D	01/18/21 19:59	n/a	Matrix Spike Duplicate
VY2294-ECC2293	Y55250.D	01/18/21 20:25	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55247.D
Acq On : 18 Jan 2021 7:05 pm
Operator : shanicao
Sample : FA82390-1
Misc : MS48127,VY2294,,,,,
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jan 18 22:05:29 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

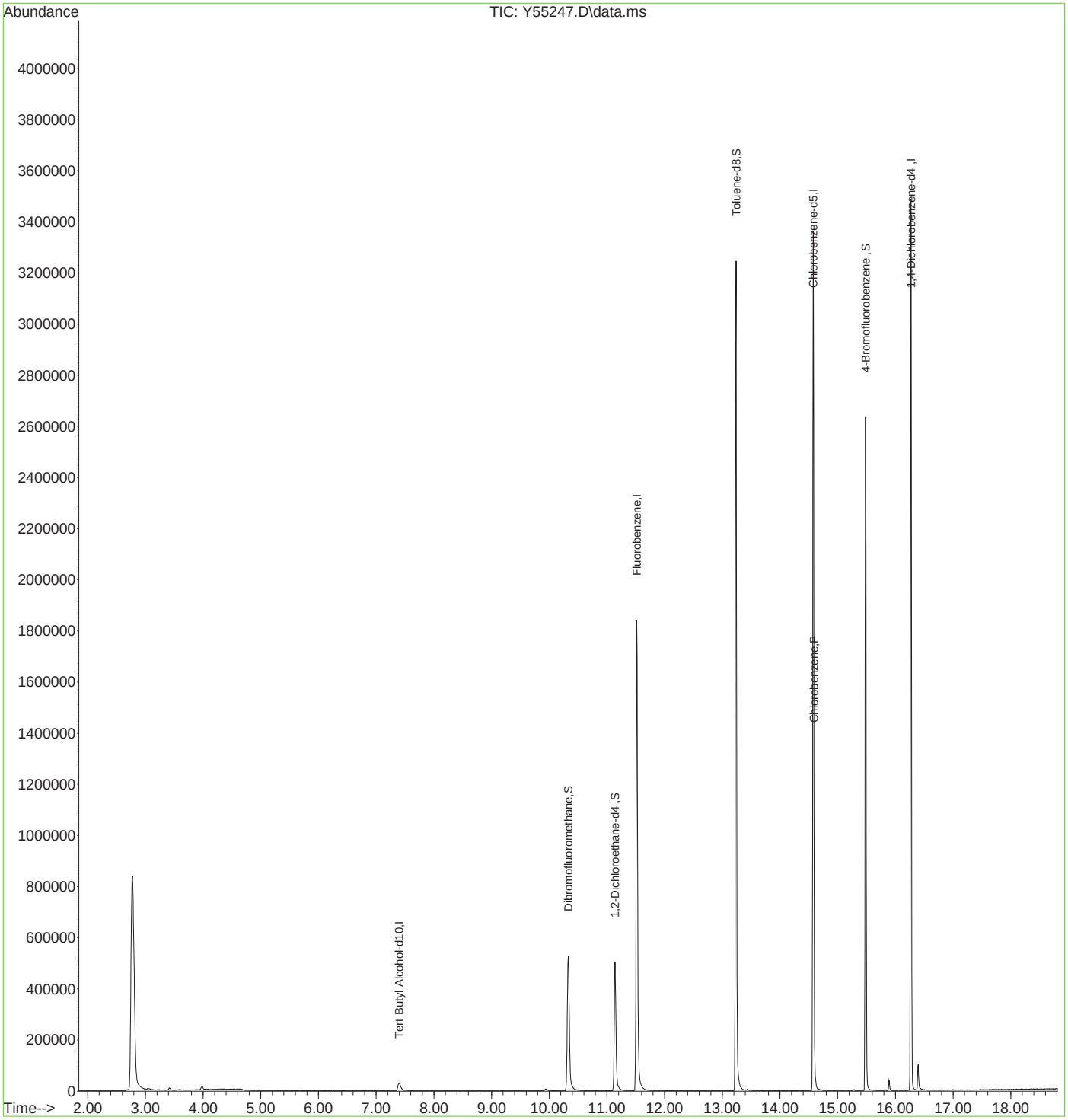
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.516	96	1699554	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	1574286	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	766059	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.398	65	49919	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	435299	48.87	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.74%			
47) 1,2-Dichloroethane-d4	11.139	65	364664	45.96	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 91.92%			
58) Toluene-d8	13.238	98	1812190	50.26	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.52%			
80) 4-Bromofluorobenzene	15.483	174	604528	52.37	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 104.74%			
Target Compounds						Qvalue
72) Chlorobenzene	14.589	112	6827	0.25	ug/L	# 53

(#) = qualifier out of range (m) = manual integration (+) = signals summed

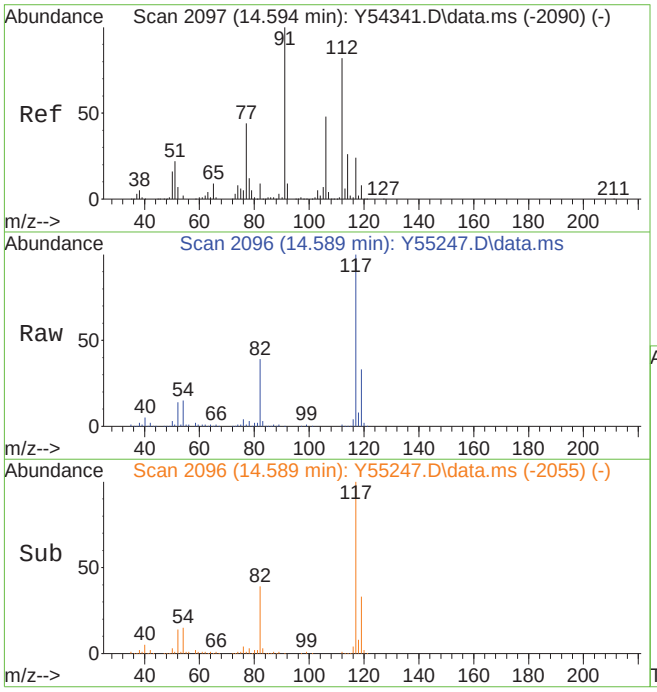
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55247.D
Acq On : 18 Jan 2021 7:05 pm
Operator : shanicao
Sample : FA82390-1
Misc : MS48127,VY2294,,,,,
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jan 18 22:05:29 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



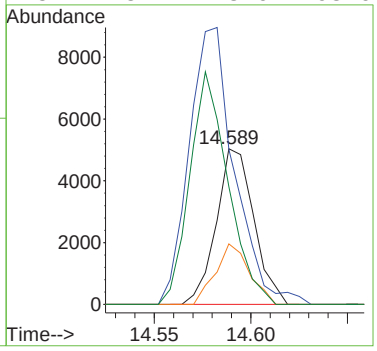
RESTEK011521w.M Mon Jan 18 22:17:03 2021 Page: 2



#72
Chlorobenzene
Concen: 0.25 ug/L
RT: 14.589 min Scan# 2096
Delta R.T. -0.000 min
Lab File: Y55247.D
Acq: 18 Jan 2021 7:05 pm

Tgt Ion:112 Resp: 6827

Ion	Ratio	Lower	Upper
112	100		
77	94.6	27.4	87.4#
114	38.8	2.8	62.8
51	75.7	3.0	63.0#



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55231.D
Acq On : 18 Jan 2021 11:38 am
Operator : shanicao
Sample : FA82390-2
Misc : MS48127,VY2294,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 18 22:02:10 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

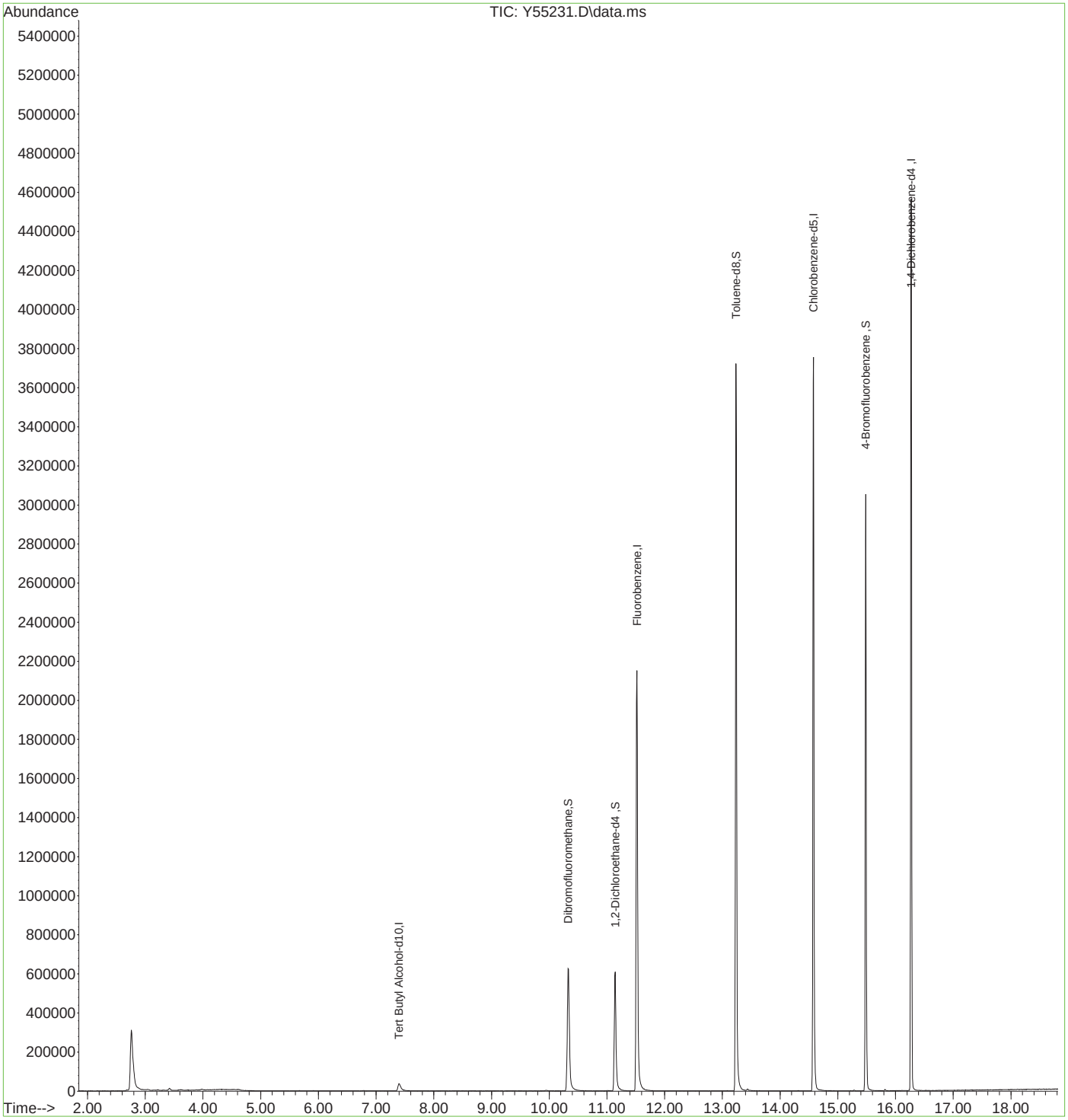
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.519	96	2014491	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	1878373	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.270	152	955690	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.395	65	67466	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.327	113	524359	49.66	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.32%			
47) 1,2-Dichloroethane-d4	11.142	65	445819	47.40	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 94.80%			
58) Toluene-d8	13.235	98	2124031	49.37	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 98.74%			
80) 4-Bromofluorobenzene	15.486	174	741645	51.50	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 103.00%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55231.D
Acq On : 18 Jan 2021 11:38 am
Operator : shanicao
Sample : FA82390-2
Misc : MS48127,VY2294,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 18 22:02:10 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



RESTEK011521w.M Mon Jan 18 22:16:14 2021 Page: 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55229.D
Acq On : 18 Jan 2021 10:44 am
Operator : shanicao
Sample : MB
Misc : MS47821,VY2294,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 18 22:01:52 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

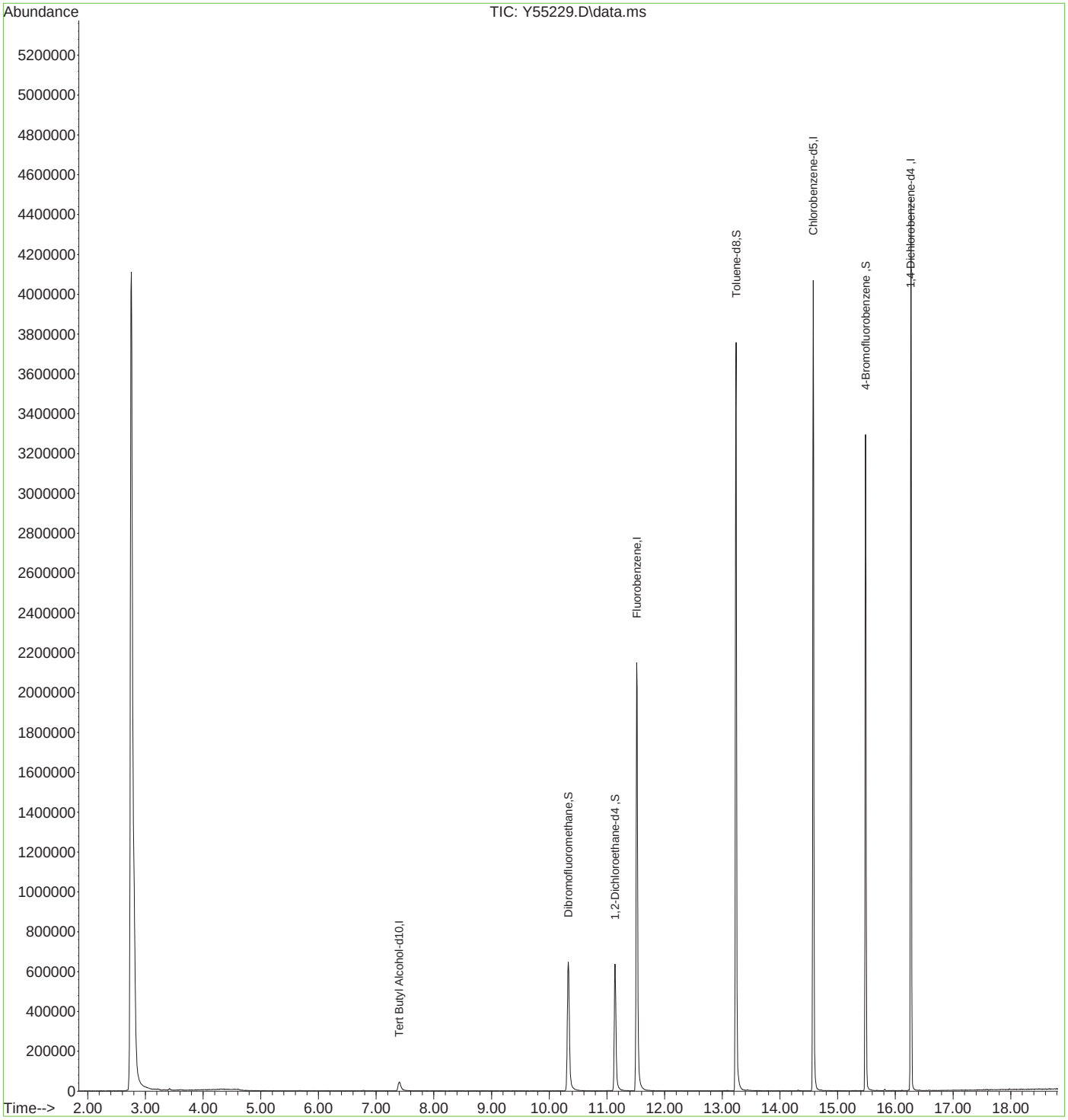
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.517	96	2033435	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1892209	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.268	152	983371	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.398	65	79079	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	535410	50.24	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.48%			
47) 1,2-Dichloroethane-d4	11.140	65	474119	49.94	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.88%			
58) Toluene-d8	13.238	98	2137299	49.32	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 98.64%			
80) 4-Bromofluorobenzene	15.483	174	757785	51.14	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.28%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55229.D
Acq On : 18 Jan 2021 10:44 am
Operator : shanicao
Sample : MB
Misc : MS47821,VY2294,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 18 22:01:52 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
01/19/21 09:34

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55227.D
Acq On : 18 Jan 2021 9:51 am
Operator : shanicao
Sample : BS
Misc : MS47821,VY2294,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 18 22:00:14 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.516	96	2095335	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	1922412	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	1054535	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.403	65	99997	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	552366	50.30	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.60%			
47) 1,2-Dichloroethane-d4	11.139	65	478209	48.89	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.78%			
58) Toluene-d8	13.238	98	2198137	49.93	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.86%			
80) 4-Bromofluorobenzene	15.482	174	795250	50.04	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.08%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	247167	20.68	ug/L	99
3) Acrolein	6.308	56	112772	88.75	ug/L	97
4) Chloromethane	3.394	50	292571m	22.21	ug/L	
5) 1,3-butadiene	3.583	39	274669	28.90	ug/L	99
6) Vinyl Chloride	3.553	62	256248	22.91	ug/L	99
7) Bromomethane	4.161	94	151483	23.73	ug/L	100
8) Chloroethane	4.398	64	101939	24.04	ug/L	95
9) Trichlorofluoromethane	4.666	101	418307	25.03	ug/L	99
10) Ethyl Ether	5.286	59	138924	21.12	ug/L	99
11) 1,2-Dichlorotrifluoroe...	5.670	67	220185	25.07	ug/L	95
12) 1,1-Dichloroethene	5.639	61	316907	24.94	ug/L	99
13) Freon 113	5.731	101	214108	21.76	ug/L	99
14) Carbon Disulfide	5.676	76	506375	22.68	ug/L	100
15) Iodomethane	5.907	142	251614	20.98	ug/L	99
16) Allyl chloride	6.564	41	355723	23.95	ug/L	98
17) Methylene Chloride	6.777	49	267990	20.53	ug/L	99
18) Acetone	6.886	43	184317	110.33	ug/L	99
19) Methyl acetate	7.136	43	428316	100.38	ug/L	99
20) trans-1,2-Dichloroethene	7.093	61	291473	23.86	ug/L	99
21) Hexane	7.251	56	167861m	22.89	ug/L	
22) Methyl Tert Butyl Ether	7.312	73	390790	22.48	ug/L	98
23) Acetonitrile	7.799	41	156598	207.78	ug/L	99
24) Di-isopropyl ether	8.085	45	662335	21.14	ug/L	98
25) Chloroprene	8.267	53	378663	24.40	ug/L	98
26) 1,1-Dichloroethane	8.310	63	354479	24.43	ug/L	99
27) Acrylonitrile	8.419	53	238458	111.48	ug/L	98
28) ETBE	8.821	59	507515	21.19	ug/L	99
29) Vinyl acetate	8.851	43	3336693	186.71	ug/L	100
30) cis-1,2-Dichloroethene	9.423	96	237189	23.11	ug/L	99
31) 2,2-Dichloropropane	9.636	77	304469	27.26	ug/L	100
32) Bromochloromethane	9.837	128	115989	20.98	ug/L	97
33) Cyclohexane	9.819	56	427828	23.65	ug/L	99
34) Chloroform	10.001	83	343206	22.45	ug/L	98
35) Ethyl acetate	10.244	43	1282460	198.84	ug/L	100
36) Tetrahydrofuran	10.244	42	79619	44.12	ug/L	95
38) Carbon Tetrachloride	10.226	117	363581	25.49	ug/L	99
39) 1,1,1-Trichloroethane	10.348	97	382640	24.24	ug/L	99
40) 2-Butanone	10.549	43	265552	109.53	ug/L	96
41) 1,1-Dichloropropene	10.561	75	279929	23.19	ug/L	99
42) tert-Butyl formate	10.749	59	241633	108.53	ug/L	97
43) Propionitrile	10.987	54	167067	209.69	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55227.D
Acq On : 18 Jan 2021 9:51 am
Operator : shanicao
Sample : BS
Misc : MS47821,VY2294,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 18 22:00:14 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	Methacrylonitrile	11.017	41	867363	208.71	ug/L	99
45)	Benzene	10.938	78	810633	22.25	ug/L	100
46)	TAME	11.120	73	404094	21.51	ug/L	99
48)	1,2-Dichloroethane	11.236	62	238479	20.84	ug/L	99
49)	Trichloroethene	11.735	95	244149	22.39	ug/L	98
50)	Methylcyclohexane	11.711	83	392292	25.01	ug/L	99
51)	Dibromomethane	12.234	93	98182	21.19	ug/L	98
52)	1,2-Dichloropropane	12.337	63	184659	21.70	ug/L	98
53)	Bromodichloromethane	12.416	83	244602	23.61	ug/L	99
54)	Methyl methacrylate	12.581	41	119626	21.07	ug/L	97
55)	2-Chloroethyl vinyl ether	13.000	63	203449	88.16	ug/L	98
56)	cis-1,3-Dichloropropene	13.067	75	283479	21.80	ug/L	97
59)	Toluene	13.286	91	970413	21.13	ug/L	98
60)	2-Nitropropane	13.505	41	172991	101.59	ug/L	99
61)	4-Methyl-2-pentanone	13.627	43	658374	107.15	ug/L	99
62)	trans-1,3-Dichloropropene	13.669	75	234048	23.08	ug/L	96
63)	Tetrachloroethene	13.645	166	320527	23.77	ug/L	99
64)	Ethyl methacrylate	13.785	69	158814	22.41	ug/L	99
65)	1,1,2-Trichloroethane	13.809	83	119206	21.32	ug/L	98
66)	Dibromochloromethane	13.974	129	214874	22.41	ug/L	97
67)	1,3-Dichloropropane	14.047	76	249633	20.54	ug/L	99
68)	1,2-Dibromoethane	14.174	107	162220	21.12	ug/L	98
69)	2-hexanone	14.326	43	460186m	106.90	ug/L	
70)	1-Chlorohexane	14.545	91	331744	24.28	ug/L	99
71)	Ethylbenzene	14.594	91	1099626	22.02	ug/L	100
72)	Chlorobenzene	14.588	112	682500	20.78	ug/L	98
73)	1,1,1,2-Tetrachloroethane	14.637	131	252936	22.74	ug/L	99
74)	m,p-Xylene	14.698	91	1744934	45.15	ug/L	99
75)	o-Xylene	15.032	91	870400	22.92	ug/L	99
76)	Styrene	15.069	104	697950	22.72	ug/L	99
77)	Bromoform	15.123	173	110240	21.71	ug/L	100
78)	Isopropylbenzene	15.251	105	1228922	23.26	ug/L	100
81)	cis-1,4-Dichloro-2-butene	15.513	53	51735	20.34	ug/L	94
82)	n-Propylbenzene	15.549	91	1244004	22.15	ug/L	99
83)	Bromobenzene	15.574	156	292603	21.63	ug/L	98
84)	1,1,2,2-Tetrachloroethane	15.610	83	154736	19.87	ug/L	99
85)	1,3,5-Trimethylbenzene	15.671	105	927543	22.76	ug/L	99
86)	2-Chlorotoluene	15.689	91	782419	21.50	ug/L	99
87)	trans-1,4-Dichloro-2-B...	15.732	53	46433	20.29	ug/L	99
88)	1,2,3-Trichloropropane	15.720	110	61344	19.95	ug/L	97
89)	Cyclohexanone	15.774	55	37350	191.12	ug/L	98
90)	4-Chlorotoluene	15.805	91	739361	21.97	ug/L	100
91)	tert-Butylbenzene	15.908	91	469378	22.51	ug/L	99
92)	1,2,4-Trimethylbenzene	15.951	105	909090	21.94	ug/L	99
93)	Pentachloroethane	15.957	167	169261	25.13	ug/L	97
94)	sec-Butylbenzene	16.030	105	1110938	23.26	ug/L	98
95)	4-Isopropyltoluene	16.115	119	1050619	23.75	ug/L	100
96)	1,3-Dichlorobenzene	16.224	146	577619	22.12	ug/L	99
97)	1,2,3-Trimethylbenzene	16.267	105	879988	18.06	ug/L	99
98)	1,4-Dichlorobenzene	16.285	146	566494	21.28	ug/L	99
99)	n-Butylbenzene	16.407	92	370552	22.05	ug/L	100
100)	Benzyl Chloride	16.437	126	83936	21.06	ug/L	97
101)	1,2-Dichlorobenzene	16.577	146	526823	21.80	ug/L	98
102)	1,2-Dibromo-3-Chloropr...	17.113	75	23174	20.27	ug/L	96
103)	Hexachlorobutadiene	17.526	225	95300	24.05	ug/L	98
104)	1,2,4-Trichlorobenzene	17.581	180	273081	23.33	ug/L	99
105)	Naphthalene	17.831	128	627301	22.16	ug/L	99
106)	1,2,3-Trichlorobenzene	17.977	180	233076	22.68	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55227.D
Acq On : 18 Jan 2021 9:51 am
Operator : shanicao
Sample : BS
Misc : MS47821,VY2294,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 18 22:00:14 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

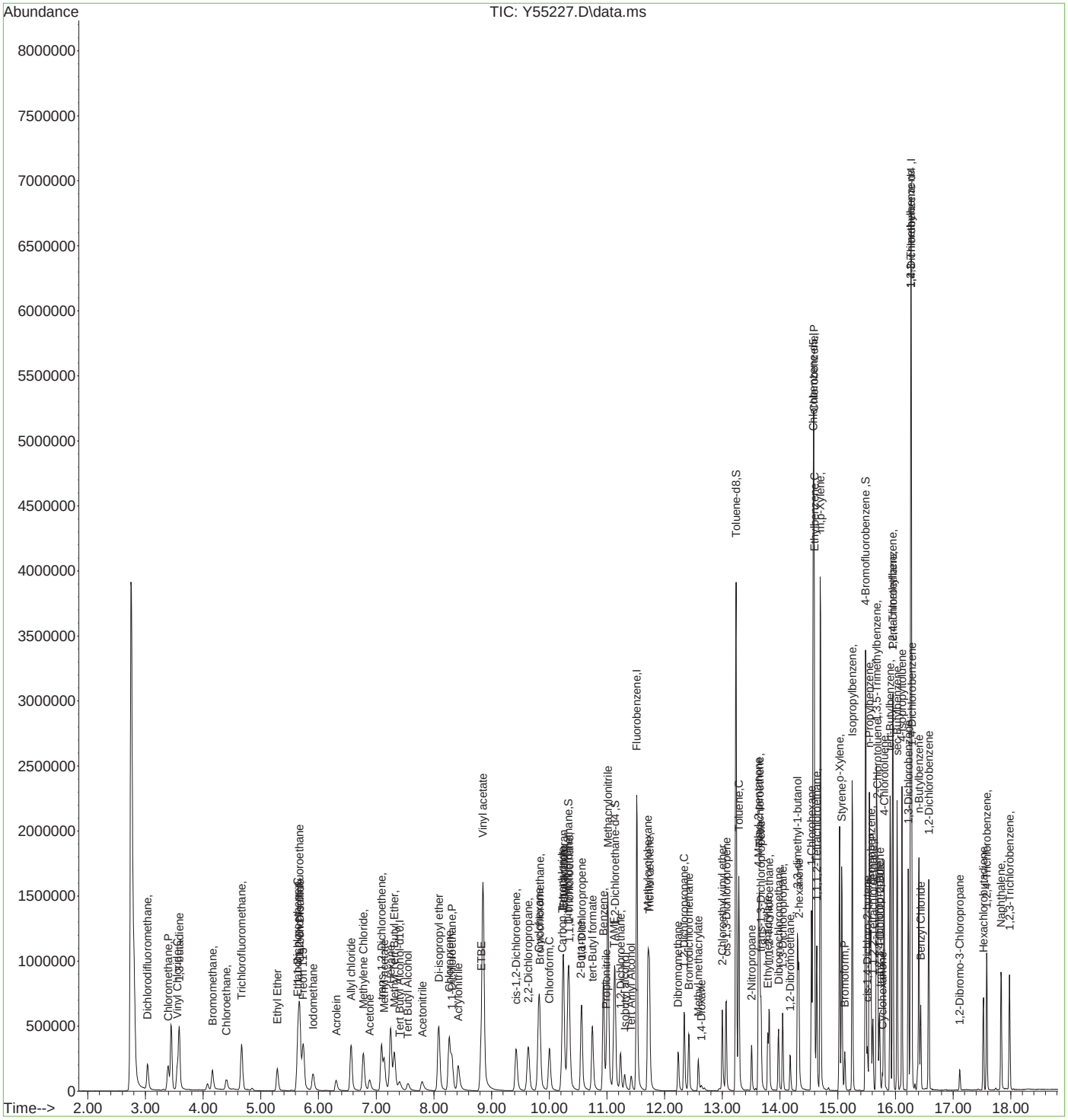
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.633	45	28065	390.34	ug/L	89
109) Tert Butyl Alcohol	7.549	59	96887	195.45	ug/L	98
110) Isobutyl alcohol	11.309	42	52316	415.50	ug/L	92
111) Tert Amyl Alcohol	11.419	59	66889	217.68	ug/L	94
112) 1,4-Dioxane	12.635	88	27126	435.78	ug/L	92
113) 3,3-dimethyl-1-butanol	14.302	57	518474	1072.34	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55227.D
Acq On : 18 Jan 2021 9:51 am
Operator : shanicao
Sample : BS
Misc : MS47821,VY2294,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 18 22:00:14 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



RESTEK011521w.M Mon Jan 18 22:15:41 2021 Page: 4

Manual Integration Approval Summary

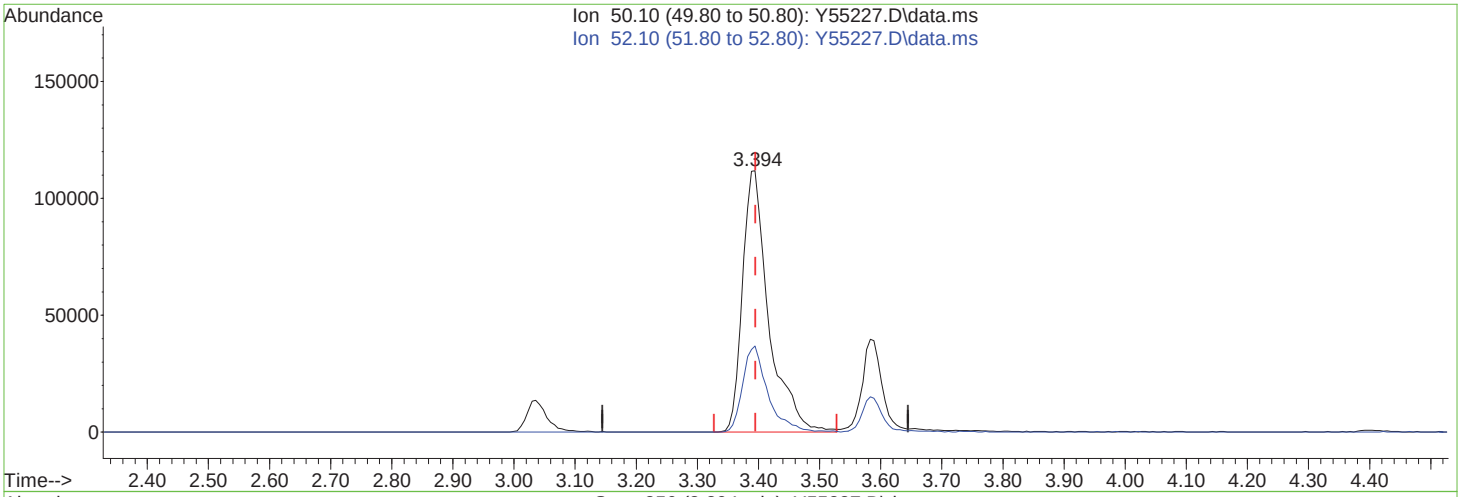
Sample Number: VY2294-BS
Lab FileID: Y55227.D
Injection Time: 01/18/21 09:51
Method: SW846 8260B
Analyst approved: 01/18/21 22:35 Edessa Sumagaysay
Supervisor approved: 01/19/21 09:34 Melissa Mangual

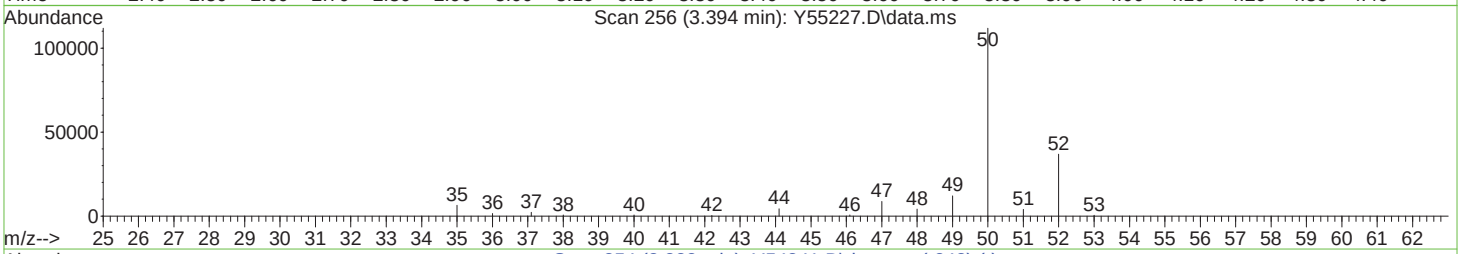
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
Hexane	110-54-3		7.25	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

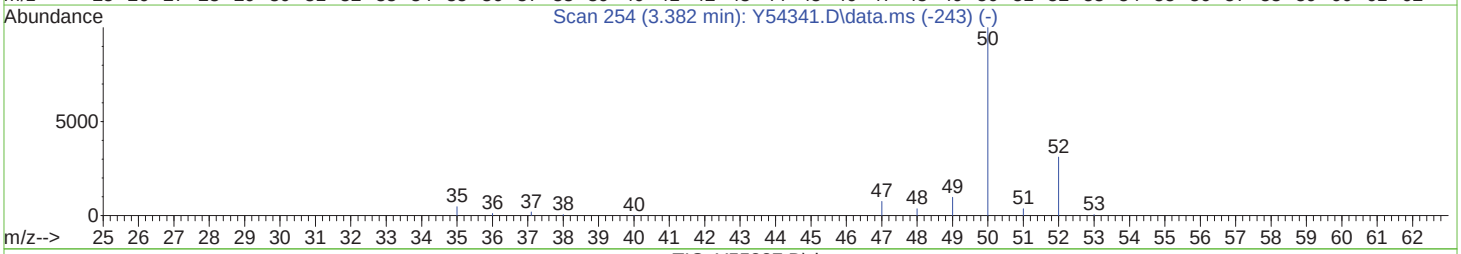
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55227.D
Acq On : 18 Jan 2021 9:51 am
Operator : shanicao
Sample : BS
Misc : MS47821,VY2294,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 18 21:53:07 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55227.D\data.ms

(4) Chloromethane (P)

3.394min (-0.001) 25.41ug/L

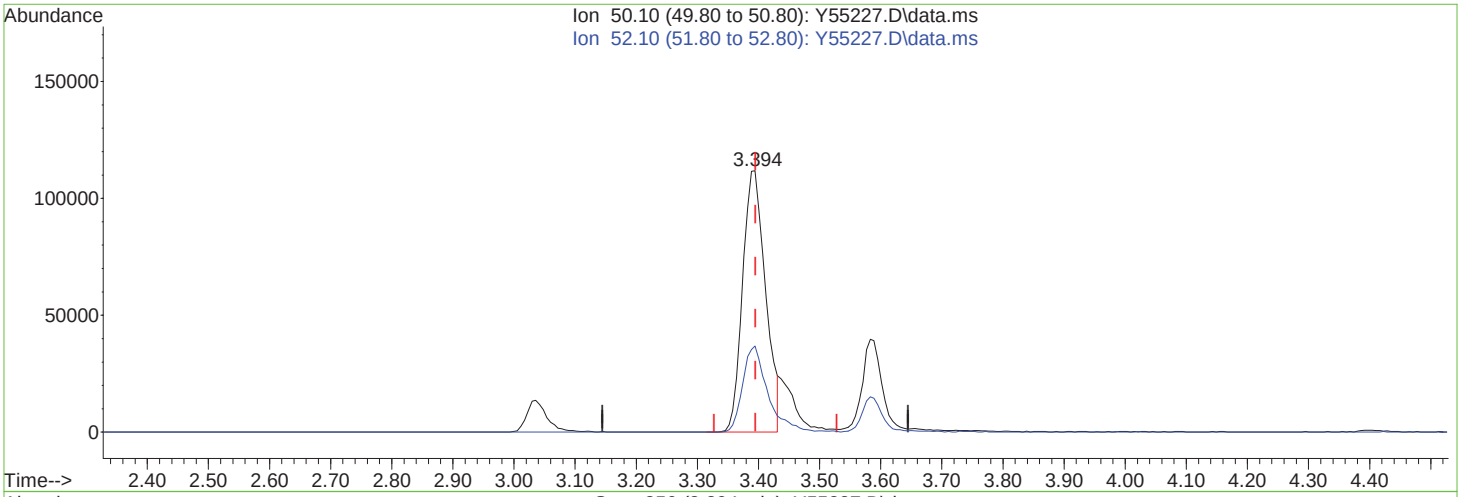
response 334832

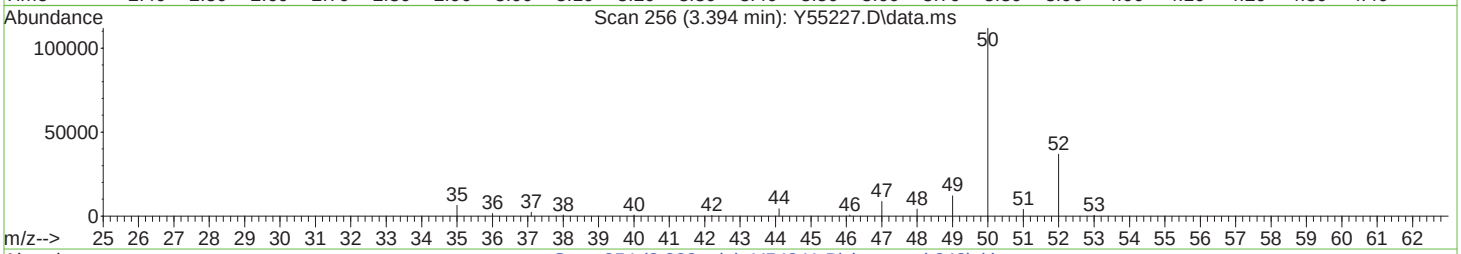
Ion	Exp%	Act%
50.10	100	100
52.10	31.90	32.95
0.00	0.00	0.00
0.00	0.00	0.00

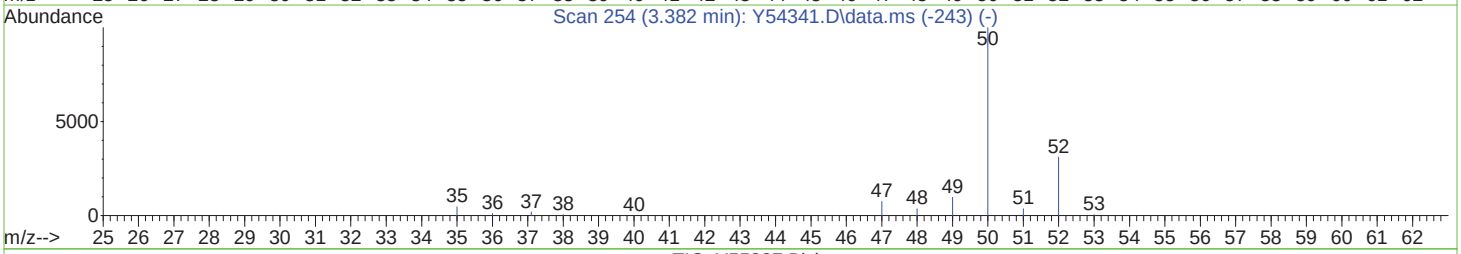
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55227.D
Acq On : 18 Jan 2021 9:51 am
Operator : shanicao
Sample : BS
Misc : MS47821,VY2294,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 18 21:53:07 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55227.D\data.ms

(4) Chloromethane (P)

3.394min (-0.001) 22.21ug/L m

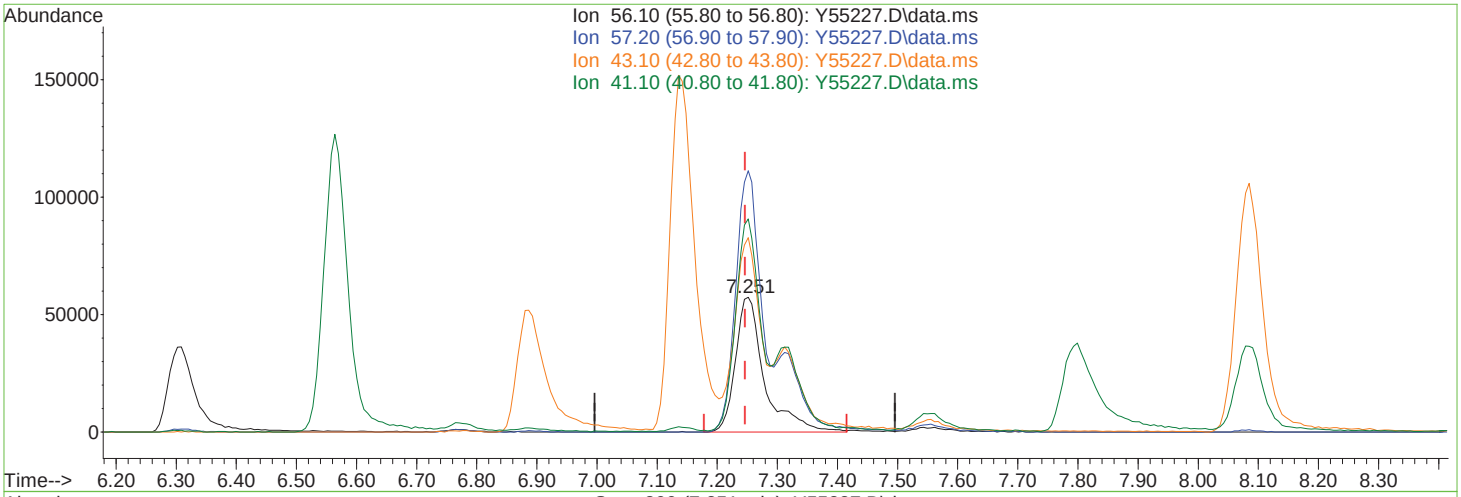
response 292571

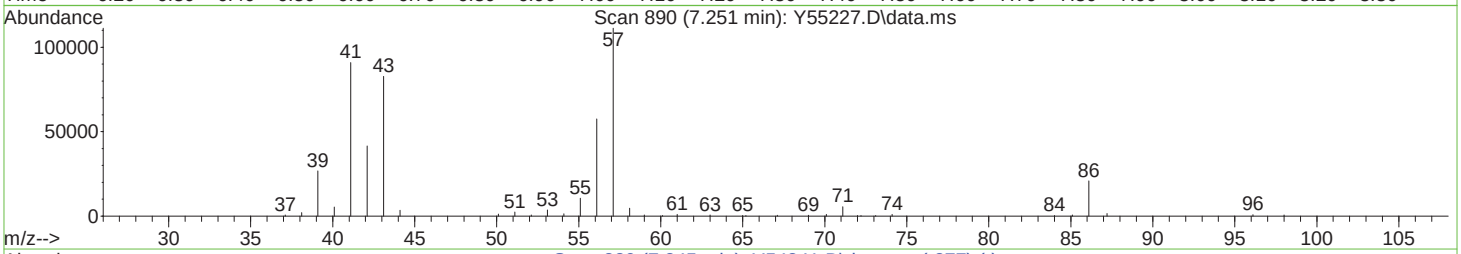
Ion	Exp%	Act%
50.10	100	100
52.10	31.90	32.95
0.00	0.00	0.00
0.00	0.00	0.00

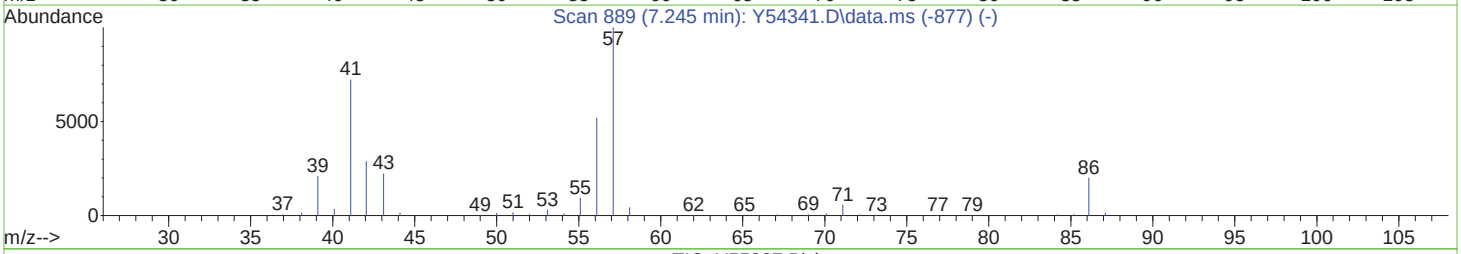
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55227.D
Acq On : 18 Jan 2021 9:51 am
Operator : shanicao
Sample : BS
Misc : MS47821,VY2294,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 18 21:53:07 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55227.D\data.ms

(21) Hexane

7.251min (+0.005) 26.39ug/L

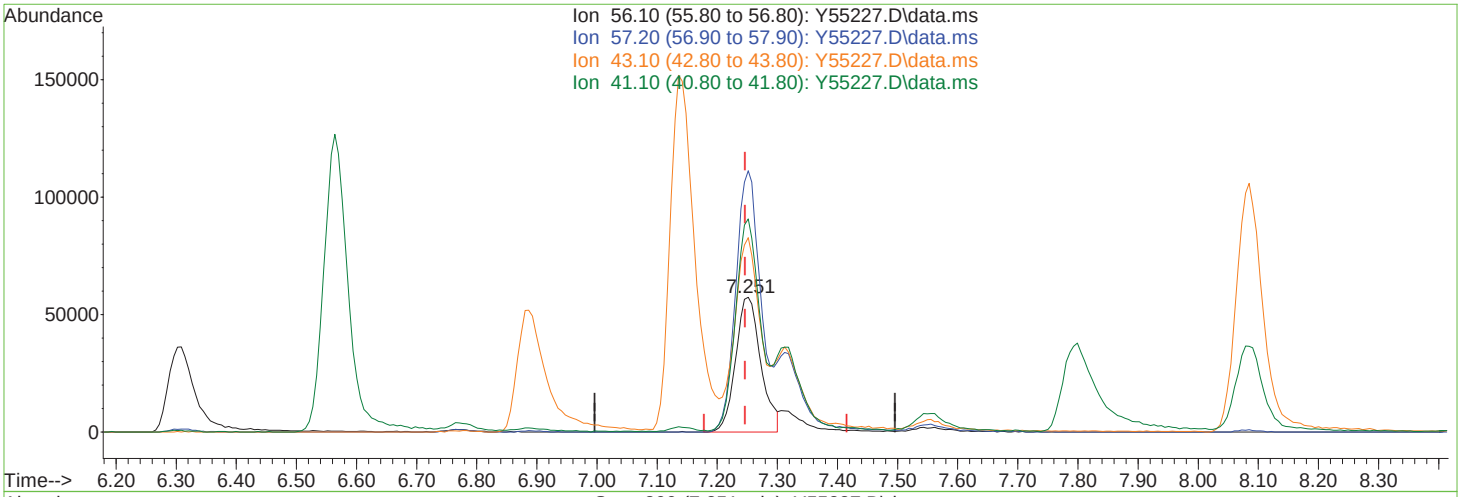
response 193508

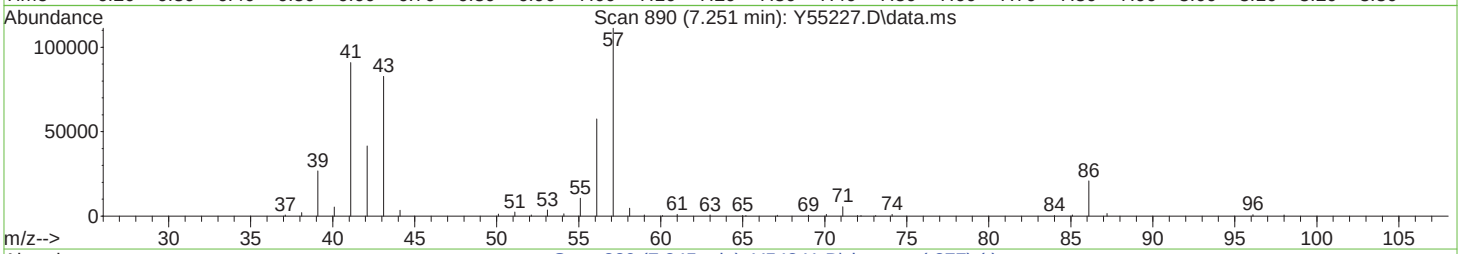
Ion	Exp%	Act%
56.10	100	100
57.20	189.10	193.78
43.10	141.60	139.32
41.10	153.50	156.66

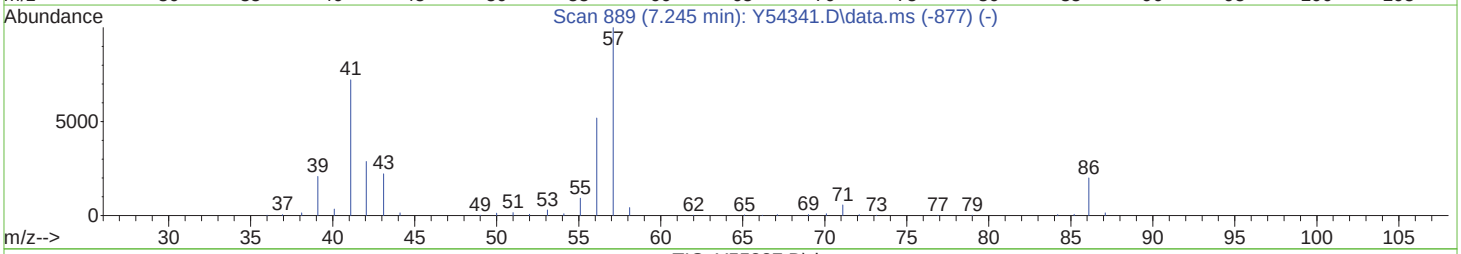
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55227.D
Acq On : 18 Jan 2021 9:51 am
Operator : shanicao
Sample : BS
Misc : MS47821,VY2294,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 18 21:53:07 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55227.D\data.ms

(21) Hexane

7.251min (+0.005) 22.89ug/L m

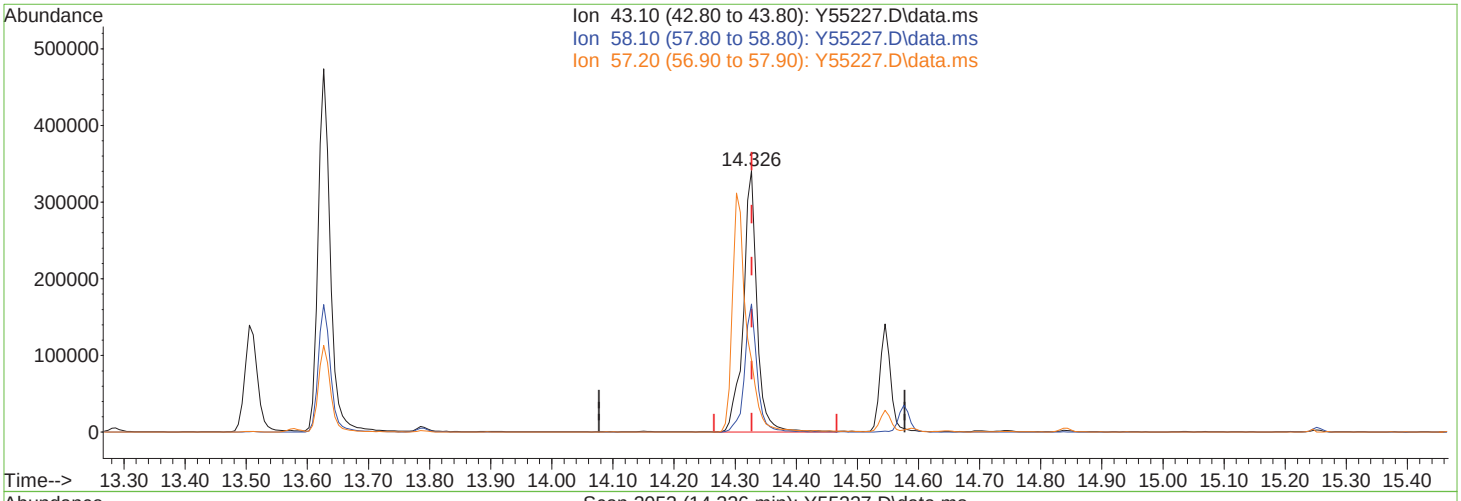
response 167861

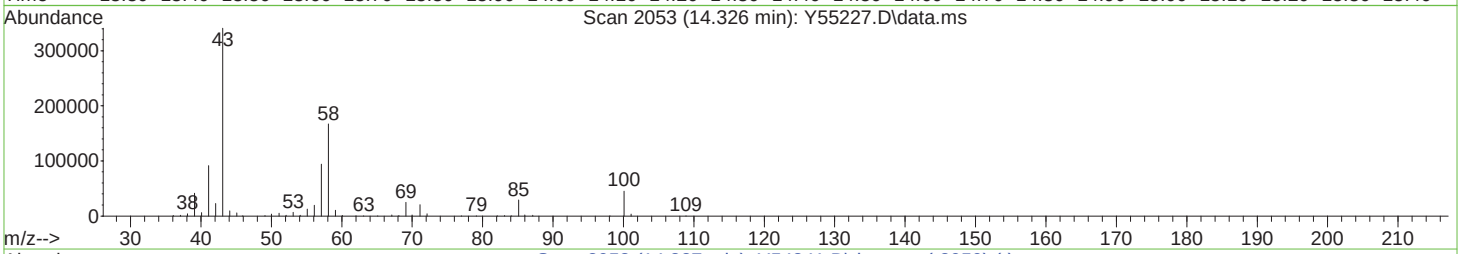
Ion	Exp%	Act%
56.10	100	100
57.20	189.10	193.78
43.10	141.60	144.03
41.10	153.50	158.08

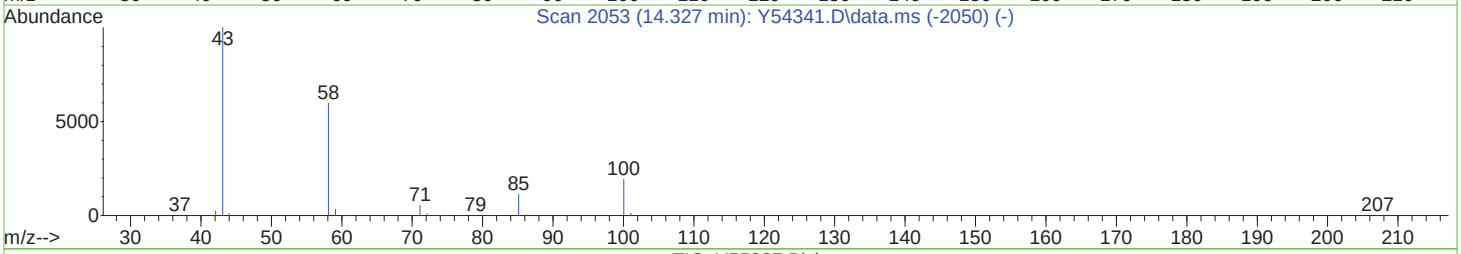
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55227.D
Acq On : 18 Jan 2021 9:51 am
Operator : shanicao
Sample : BS
Misc : MS47821,VY2294,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 18 21:53:07 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55227.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 123.72ug/L

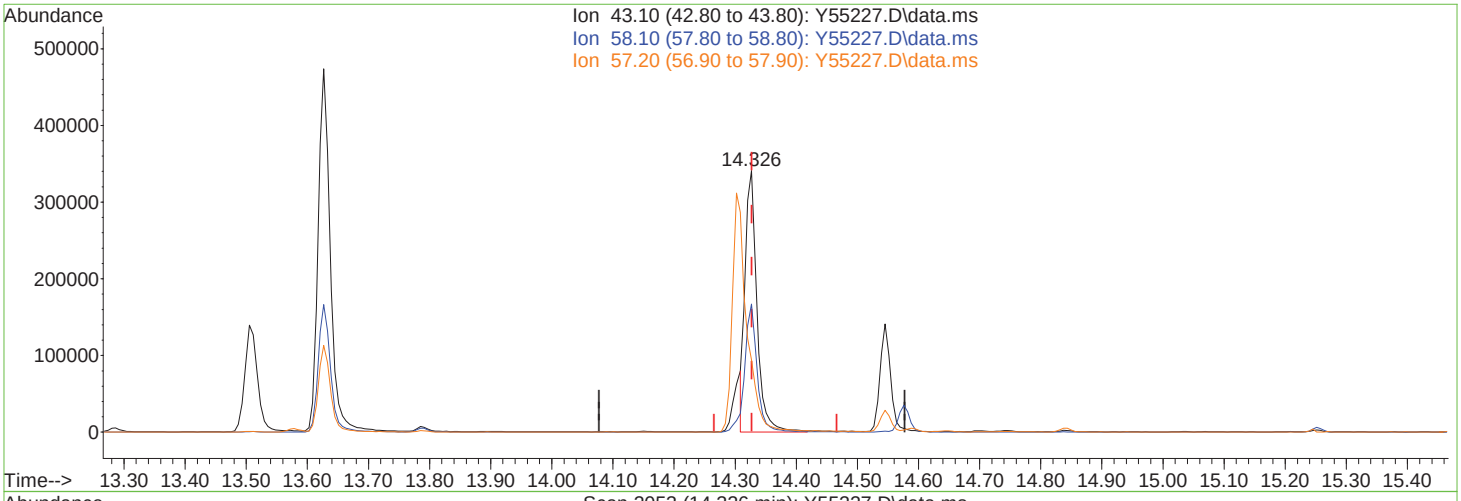
response 532608

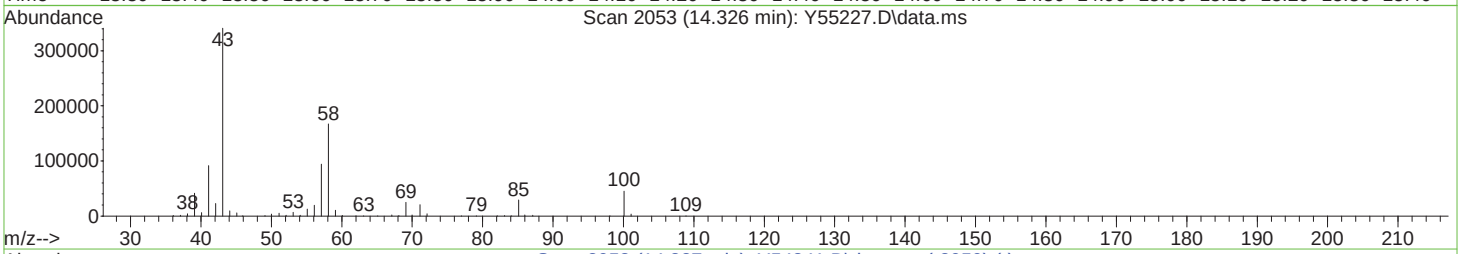
Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.03
57.20	26.80	27.64
0.00	0.00	0.00

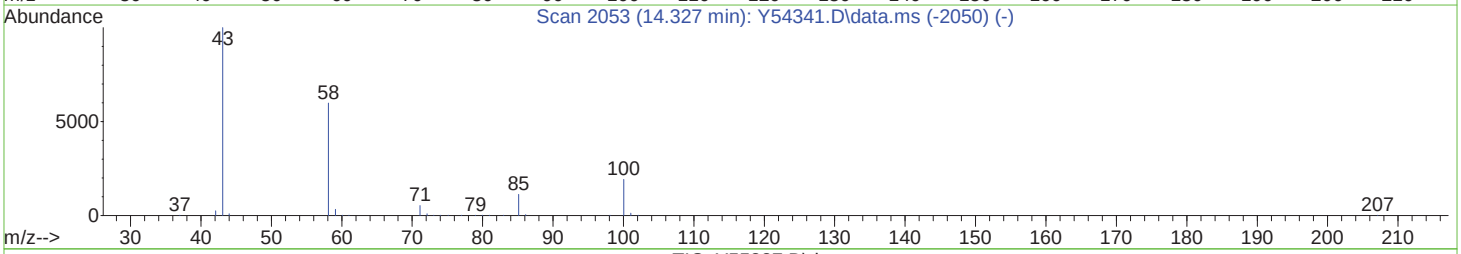
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55227.D
Acq On : 18 Jan 2021 9:51 am
Operator : shanicao
Sample : BS
Misc : MS47821,VY2294,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 18 21:53:07 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55227.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 106.90ug/L m

response 460186

Ion	Exp%	Act%
43.10	100	100
58.10	50.60	48.99
57.20	26.80	27.61
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
01/19/21 09:41

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55248.D
Acq On : 18 Jan 2021 7:32 pm
Operator : shanicao
Sample : FA82333-2MS
Misc : MS48127,VY2294,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jan 18 22:11:24 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.517	96	1687602	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1533033	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.268	152	790475	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.398	65	50443	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.324	113	437177	49.43	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.86%			
47) 1,2-Dichloroethane-d4	11.140	65	343372	43.58	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 87.16%			
58) Toluene-d8	13.238	98	1786313	50.88	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 101.76%			
80) 4-Bromofluorobenzene	15.483	174	600471	50.41	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.82%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	231574	24.05	ug/L	99
3) Acrolein	6.303	56	73680	72.00	ug/L	89
4) Chloromethane	3.389	50	244081m	23.00	ug/L	
5) 1,3-butadiene	3.584	39	255484	33.37	ug/L	100
6) Vinyl Chloride	3.554	62	235200	26.11	ug/L	99
7) Bromomethane	4.162	94	112092	21.80	ug/L	99
8) Chloroethane	4.405	64	115683	35.10	ug/L	96
9) Trichlorofluoromethane	4.667	101	379315	28.18	ug/L	99
10) Ethyl Ether	5.281	59	100736	19.02	ug/L	96
11) 1,2-Dichlorotrifluoroe...	5.671	67	201092	28.42	ug/L	99
12) 1,1-Dichloroethene	5.640	61	279780	27.33	ug/L	100
13) Freon 113	5.731	101	185777	23.44	ug/L	98
14) Carbon Disulfide	5.677	76	452070	25.14	ug/L	99
15) Iodomethane	5.908	142	141949	14.69	ug/L	99
16) Allyl chloride	6.565	41	283702	23.72	ug/L	98
17) Methylene Chloride	6.778	49	227141	21.64	ug/L	99
18) Acetone	6.887	43	118361	87.96	ug/L	98
19) Methyl acetate	7.137	43	268904	78.24	ug/L	99
20) trans-1,2-Dichloroethene	7.088	61	243620	24.76	ug/L	99
21) Hexane	7.252	56	139995m	23.70	ug/L	
22) Methyl Tert Butyl Ether	7.313	73	248124	17.72	ug/L	96
23) Acetonitrile	7.800	41	104384	171.97	ug/L	100
24) Di-isopropyl ether	8.080	45	524062	20.77	ug/L	98
25) Chloroprene	8.262	53	321029	25.68	ug/L	97
26) 1,1-Dichloroethane	8.311	63	295490	25.28	ug/L	98
27) Acrylonitrile	8.420	53	155719	90.39	ug/L	95
28) ETBE	8.822	59	360779	18.70	ug/L	98
29) Vinyl acetate	8.852	43	2203426	153.40	ug/L	100
30) cis-1,2-Dichloroethene	9.424	96	198396	24.00	ug/L	97
31) 2,2-Dichloropropane	9.637	77	194215	21.75	ug/L	97
32) Bromochloromethane	9.832	128	92455	20.76	ug/L	97
33) Cyclohexane	9.819	56	378026	25.95	ug/L	99
34) Chloroform	10.002	83	292457	23.75	ug/L	99
35) Ethyl acetate	10.245	43	816281	157.01	ug/L	99
36) Tetrahydrofuran	10.245	42	50742	34.91	ug/L	97
38) Carbon Tetrachloride	10.227	117	307650	26.78	ug/L	100
39) 1,1,1-Trichloroethane	10.349	97	324981	25.56	ug/L	98
40) 2-Butanone	10.550	43	161244	82.57	ug/L	90
41) 1,1-Dichloropropene	10.562	75	239500	24.64	ug/L	98
42) tert-Butyl formate	10.750	59	12179	6.98	ug/L	88
43) Propionitrile	10.988	54	108267	168.72	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55248.D
Acq On : 18 Jan 2021 7:32 pm
Operator : shanicao
Sample : FA82333-2MS
Misc : MS48127,VY2294,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jan 18 22:11:24 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Methacrylonitrile	11.012	41	589019	175.98	ug/L		100
45)	Benzene	10.939	78	681121	23.21	ug/L		99
46)	TAME	11.121	73	276060	18.24	ug/L		96
48)	1,2-Dichloroethane	11.237	62	185966	20.18	ug/L		98
49)	Trichloroethene	11.736	95	207858	23.66	ug/L		99
50)	Methylcyclohexane	11.711	83	318500	25.21	ug/L		99
51)	Dibromomethane	12.235	93	74438	19.95	ug/L		99
52)	1,2-Dichloropropane	12.338	63	155920	22.75	ug/L		98
53)	Bromodichloromethane	12.417	83	193081	23.14	ug/L		99
54)	Methyl methacrylate	12.587	41	74327	16.39	ug/L		99
55)	2-Chloroethyl vinyl ether	13.062	63	1051	0.58	ug/L	#	48
56)	cis-1,3-Dichloropropene	13.068	75	202383	19.32	ug/L		98
59)	Toluene	13.287	91	810483	22.13	ug/L		100
60)	2-Nitropropane	13.506	41	95425	70.70	ug/L		93
61)	4-Methyl-2-pentanone	13.628	43	427420	87.23	ug/L		99
62)	trans-1,3-Dichloropropene	13.670	75	158052	19.55	ug/L		97
63)	Tetrachloroethene	13.646	166	260885	24.26	ug/L		99
64)	Ethyl methacrylate	13.786	69	101203	18.07	ug/L		99
65)	1,1,2-Trichloroethane	13.810	83	89683	20.11	ug/L		98
66)	Dibromochloromethane	13.974	129	153837	20.12	ug/L		100
67)	1,3-Dichloropropane	14.047	76	184293	19.01	ug/L		100
68)	1,2-Dibromoethane	14.175	107	112403	18.35	ug/L		99
69)	2-hexanone	14.327	43	291331m	84.86	ug/L		
70)	1-Chlorohexane	14.546	91	246006	22.58	ug/L		97
71)	Ethylbenzene	14.589	91	918080	23.05	ug/L		99
72)	Chlorobenzene	14.589	112	574243	21.92	ug/L		99
73)	1,1,1,2-Tetrachloroethane	14.638	131	199471	22.49	ug/L		98
74)	m,p-Xylene	14.698	91	1414440	45.90	ug/L		99
75)	o-Xylene	15.033	91	702398	23.20	ug/L		100
76)	Styrene	15.070	104	554810	22.65	ug/L		100
77)	Bromoform	15.124	173	70108	17.43	ug/L		99
78)	Isopropylbenzene	15.252	105	952159	22.59	ug/L		99
81)	cis-1,4-Dichloro-2-butene	15.514	53	28166	14.77	ug/L	#	81
82)	n-Propylbenzene	15.550	91	972285	23.09	ug/L		98
83)	Bromobenzene	15.574	156	234346	23.11	ug/L		99
84)	1,1,2,2-Tetrachloroethane	15.611	83	106756	18.29	ug/L		99
85)	1,3,5-Trimethylbenzene	15.672	105	734844	24.05	ug/L		100
86)	2-Chlorotoluene	15.690	91	653022	23.94	ug/L		99
87)	trans-1,4-Dichloro-2-B...	15.733	53	24924	14.60	ug/L		95
88)	1,2,3-Trichloropropane	15.720	110	42152	18.29	ug/L		96
89)	Cyclohexanone	15.775	55	21777	148.66	ug/L		94
90)	4-Chlorotoluene	15.806	91	598615	23.73	ug/L		97
91)	tert-Butylbenzene	15.909	91	363047	23.23	ug/L		98
92)	1,2,4-Trimethylbenzene	15.952	105	737077	23.73	ug/L		99
93)	Pentachloroethane	15.958	167	132298	26.21	ug/L		93
94)	sec-Butylbenzene	16.031	105	840844	23.49	ug/L		99
95)	4-Isopropyltoluene	16.116	119	800699	24.14	ug/L		99
96)	1,3-Dichlorobenzene	16.225	146	458663	23.44	ug/L		99
97)	1,2,3-Trimethylbenzene	16.268	105	715668	19.60	ug/L		99
98)	1,4-Dichlorobenzene	16.280	146	456367	22.87	ug/L		97
99)	n-Butylbenzene	16.408	92	288833	22.93	ug/L		99
100)	Benzyl Chloride	16.438	126	40390	13.77	ug/L		94
101)	1,2-Dichlorobenzene	16.578	146	401407	22.16	ug/L		98
102)	1,2-Dibromo-3-Chloropr...	17.114	75	13070	15.25	ug/L		95
103)	Hexachlorobutadiene	17.527	225	74561	25.11	ug/L		97
104)	1,2,4-Trichlorobenzene	17.582	180	176064	20.06	ug/L		99
105)	Naphthalene	17.831	128	306716	14.45	ug/L		99
106)	1,2,3-Trichlorobenzene	17.977	180	139721	18.14	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55248.D
Acq On : 18 Jan 2021 7:32 pm
Operator : shanicao
Sample : FA82333-2MS
Misc : MS48127,VY2294,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jan 18 22:11:24 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.634	45	19372	534.12	ug/L	100
109) Tert Butyl Alcohol	7.550	59	58758	234.97	ug/L	95
110) Isobutyl alcohol	11.310	42	28691	450.44	ug/L	96
111) Tert Amyl Alcohol	11.419	59	32875	212.09	ug/L	87
112) 1,4-Dioxane	12.636	88	16270	518.15	ug/L	98
113) 3,3-dimethyl-1-butanol	14.303	57	323898	1309.26	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55248.D
Acq On : 18 Jan 2021 7:32 pm
Operator : shanicao
Sample : FA82333-2MS
Misc : MS48127,VY2294,,,,,
ALS Vial : 25 Sample Multiplier: 1

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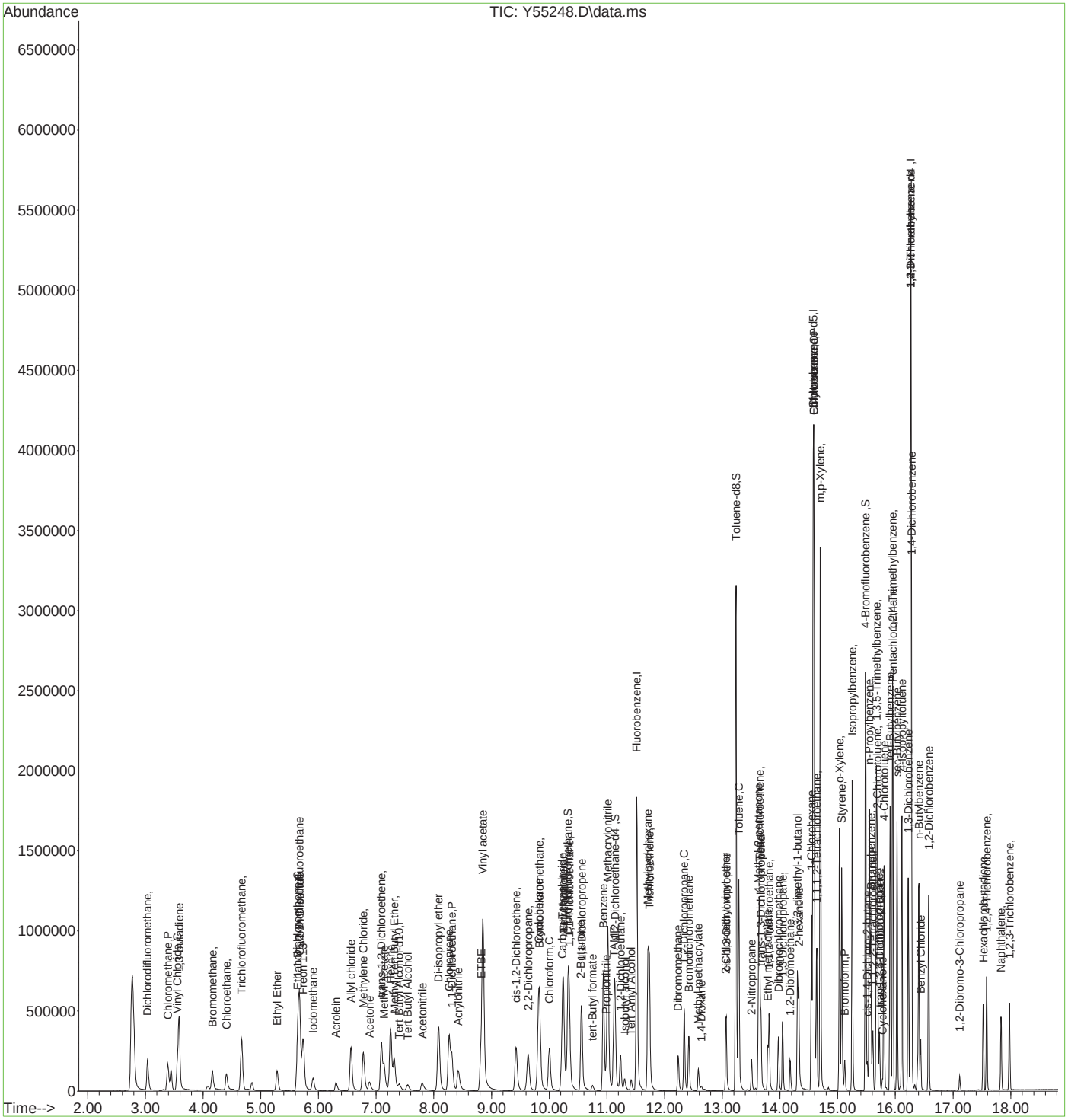
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



Manual Integration Approval Summary

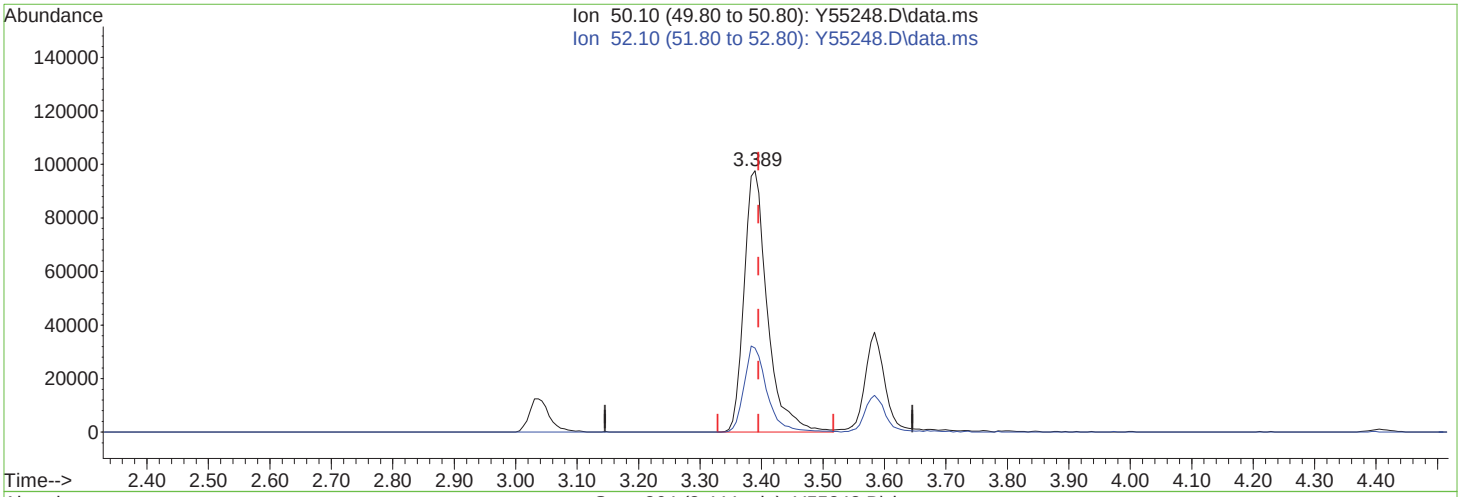
Sample Number: FA82333-2MS
Lab FileID: Y55248.D
Injection Time: 01/18/21 19:32
Method: SW846 8260B
Analyst approved: 01/18/21 22:50 Edessa Sumagaysay
Supervisor approved: 01/19/21 09:41 Melissa Mangual

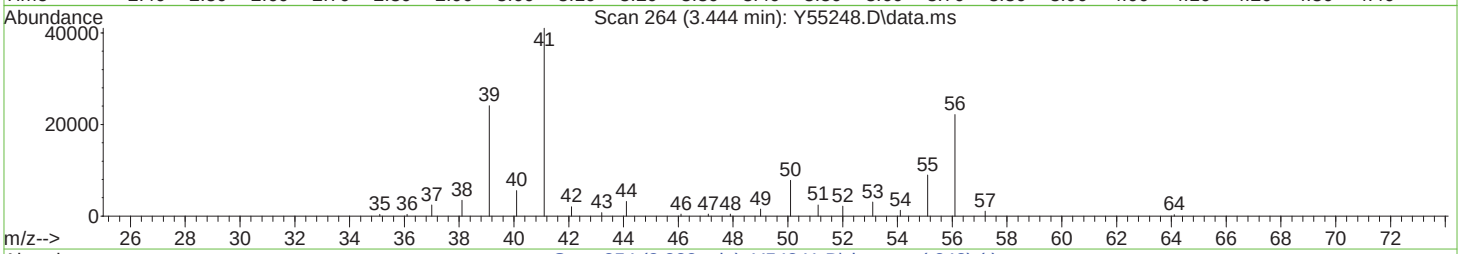
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
Hexane	110-54-3		7.25	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

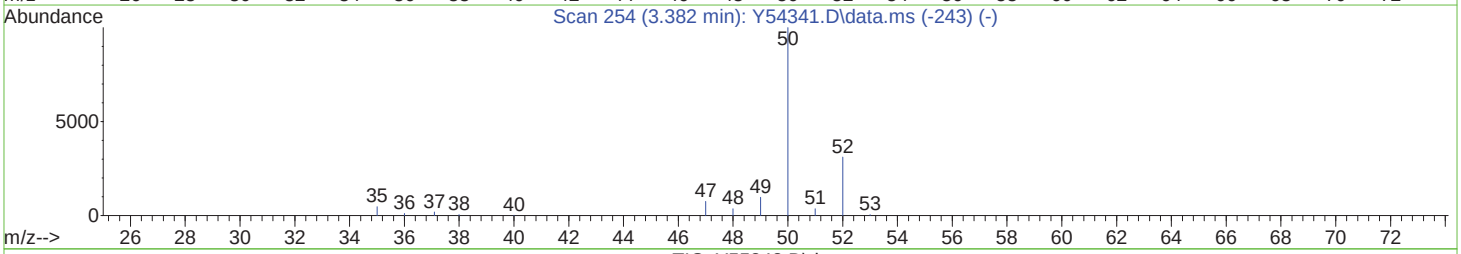
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55248.D
Acq On : 18 Jan 2021 7:32 pm
Operator : shanicao
Sample : FA82333-2MS
Misc : MS48127,VY2294,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jan 18 21:53:58 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55248.D\data.ms

(4) Chloromethane (P)

3.389min (-0.006) 24.24ug/L

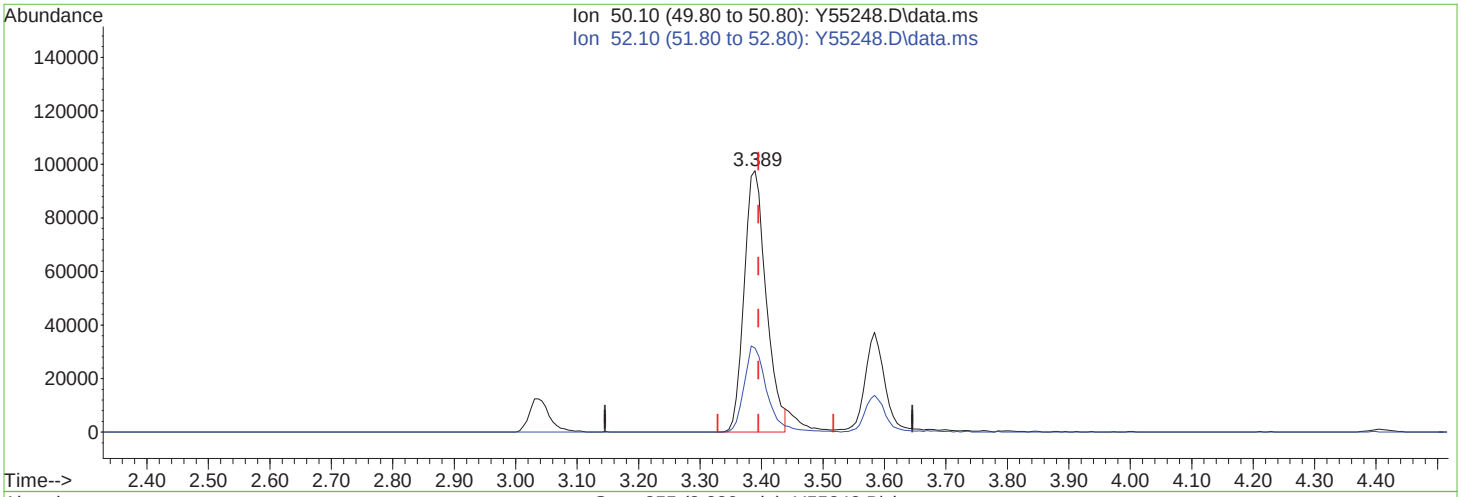
response 257251

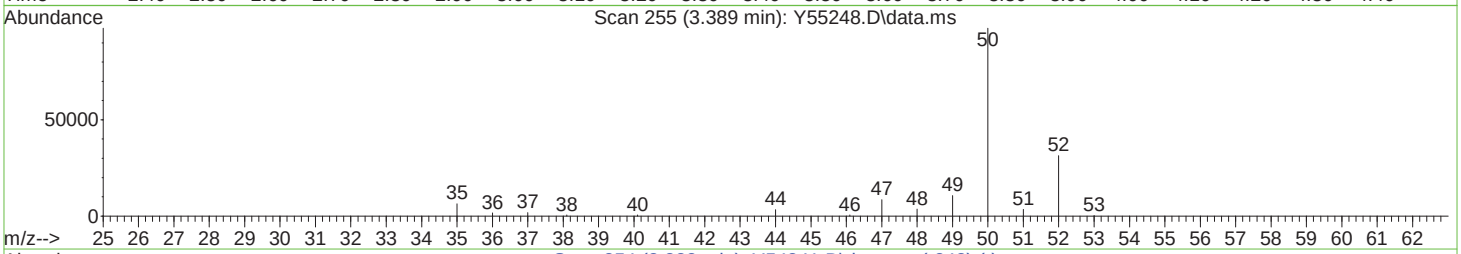
Ion	Exp%	Act%
50.10	100	100
52.10	31.90	32.13
0.00	0.00	0.00
0.00	0.00	0.00

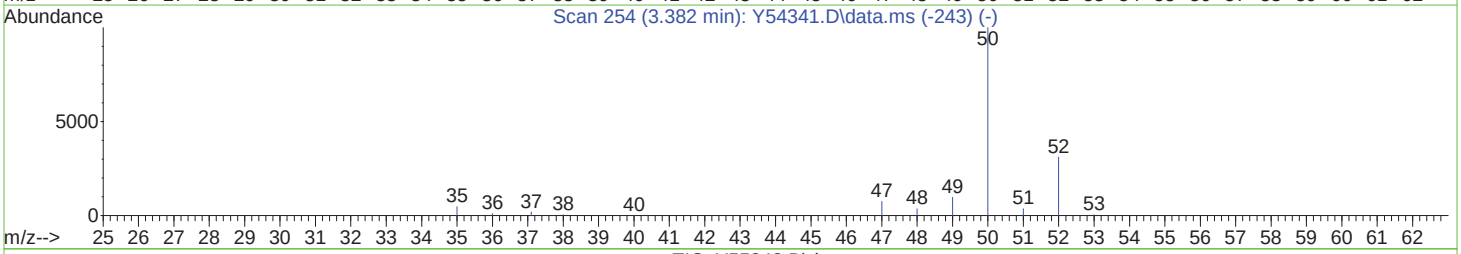
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55248.D
Acq On : 18 Jan 2021 7:32 pm
Operator : shanicao
Sample : FA82333-2MS
Misc : MS48127,VY2294,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jan 18 21:53:58 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55248.D\data.ms

(4) Chloromethane (P)

3.389min (-0.006) 23.00ug/L m

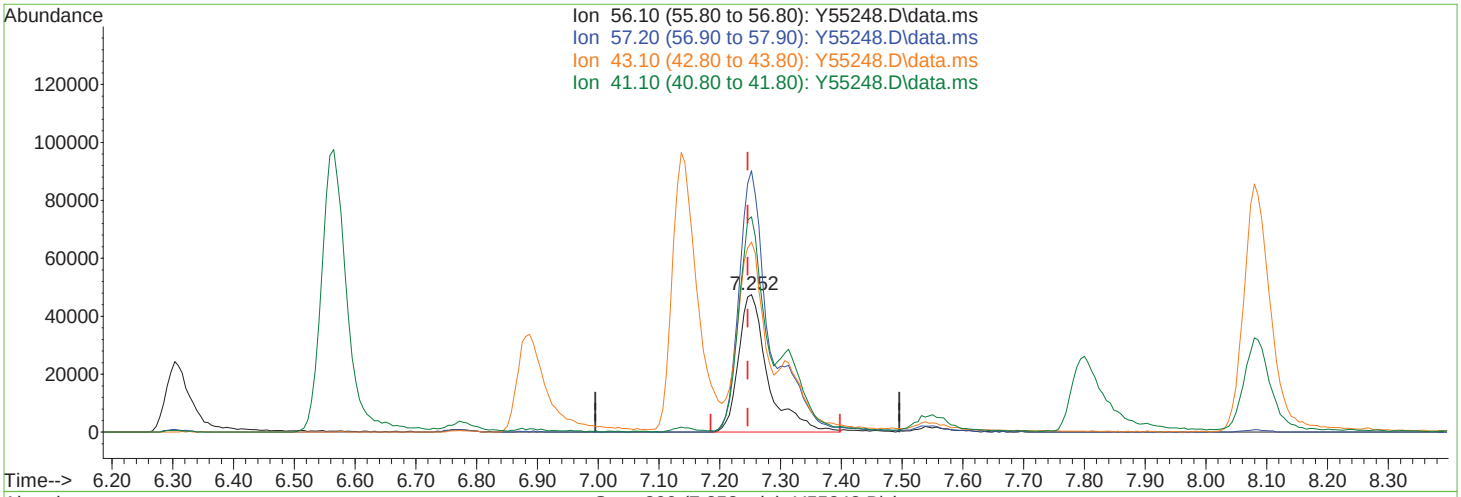
response 244081

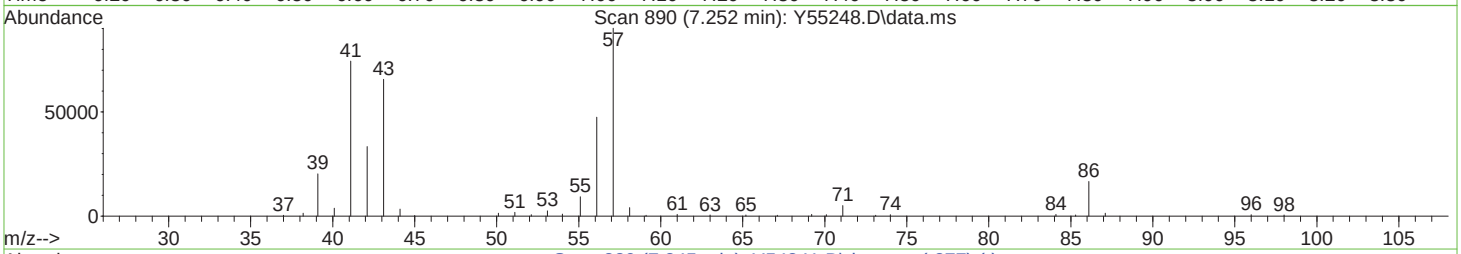
Ion	Exp%	Act%
50.10	100	100
52.10	31.90	32.13
0.00	0.00	0.00
0.00	0.00	0.00

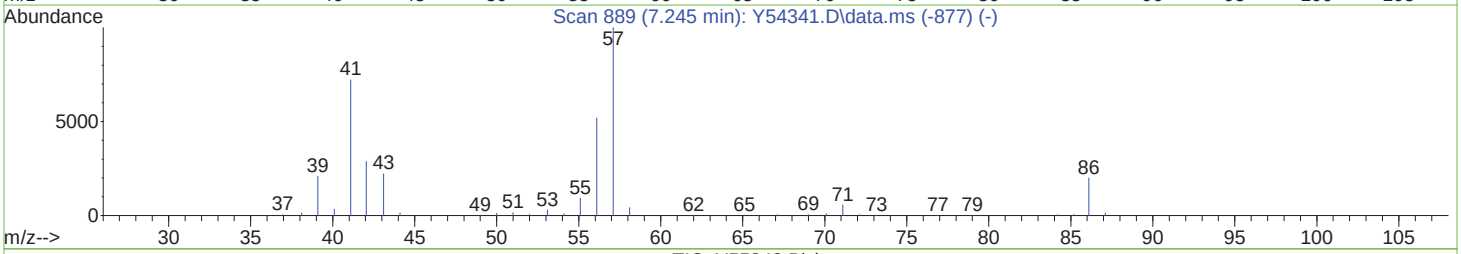
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55248.D
Acq On : 18 Jan 2021 7:32 pm
Operator : shanicao
Sample : FA82333-2MS
Misc : MS48127,VY2294,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jan 18 21:53:58 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55248.D\data.ms

(21) Hexane

7.252min (+0.006) 27.05ug/L

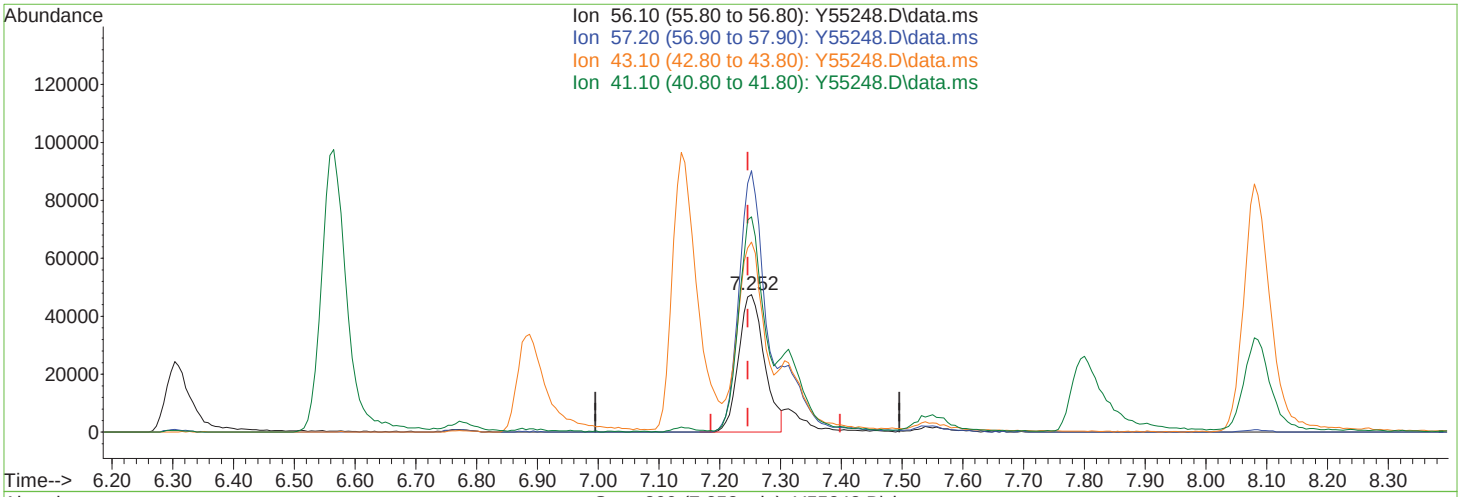
response 159773

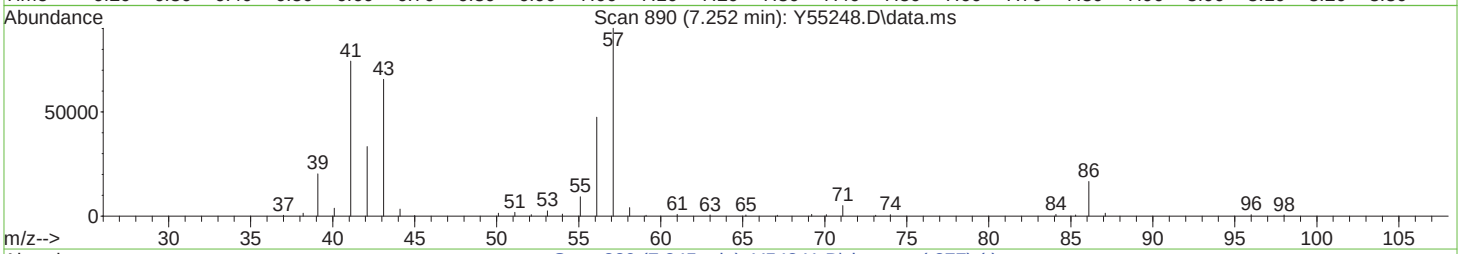
Ion	Exp%	Act%
56.10	100	100
57.20	189.10	190.29
43.10	141.60	132.93
41.10	153.50	155.51

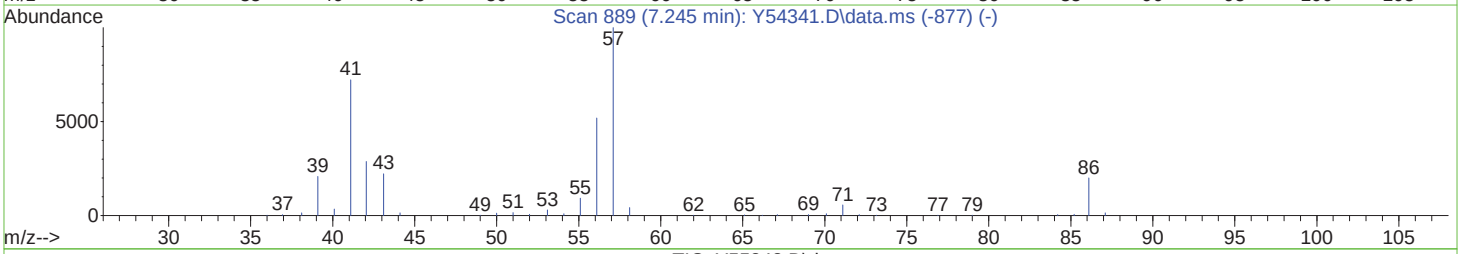
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55248.D
Acq On : 18 Jan 2021 7:32 pm
Operator : shanicao
Sample : FA82333-2MS
Misc : MS48127,VY2294,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jan 18 21:53:58 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55248.D\data.ms

(21) Hexane

7.252min (+0.006) 23.70ug/L m

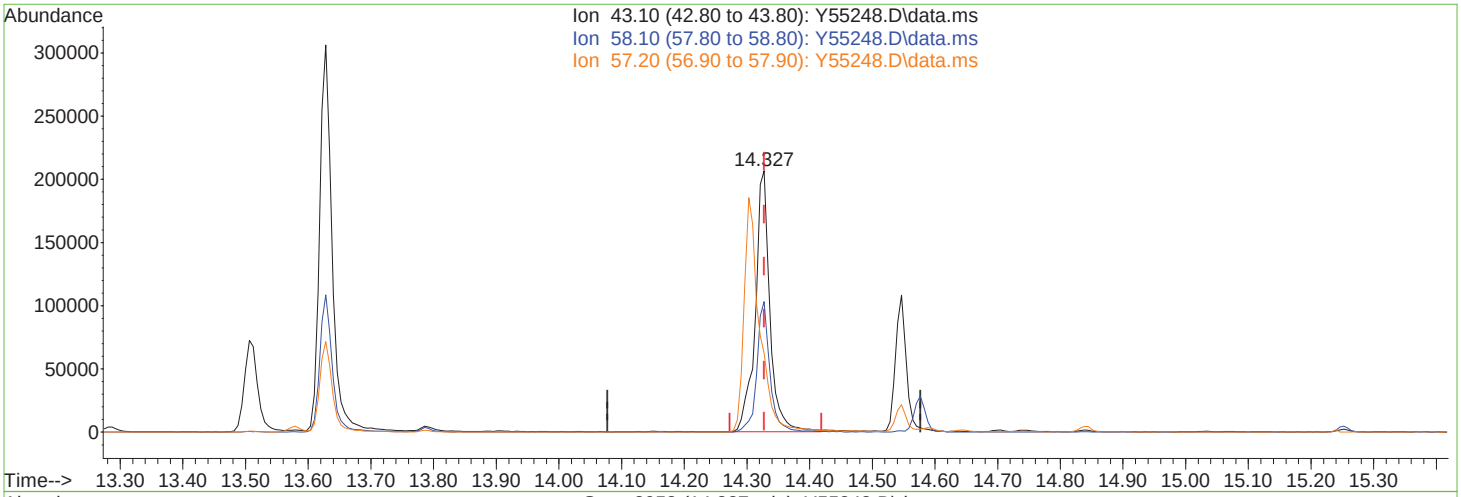
response 139995

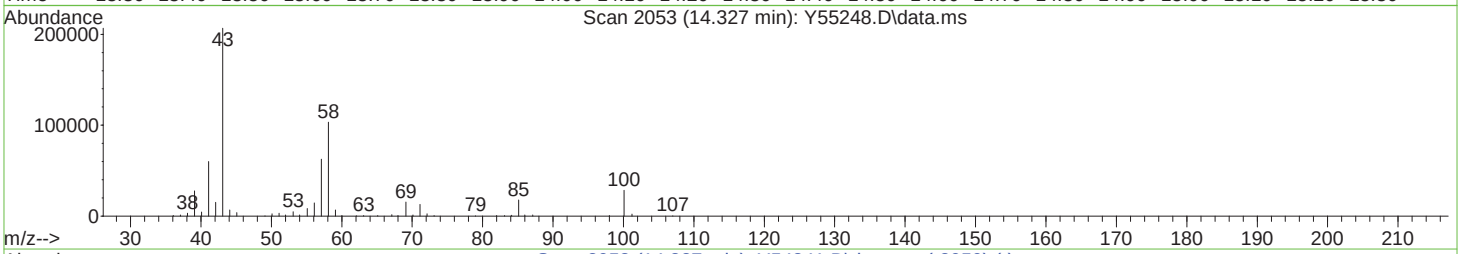
Ion	Exp%	Act%
56.10	100	100
57.20	189.10	190.29
43.10	141.60	138.33
41.10	153.50	156.73

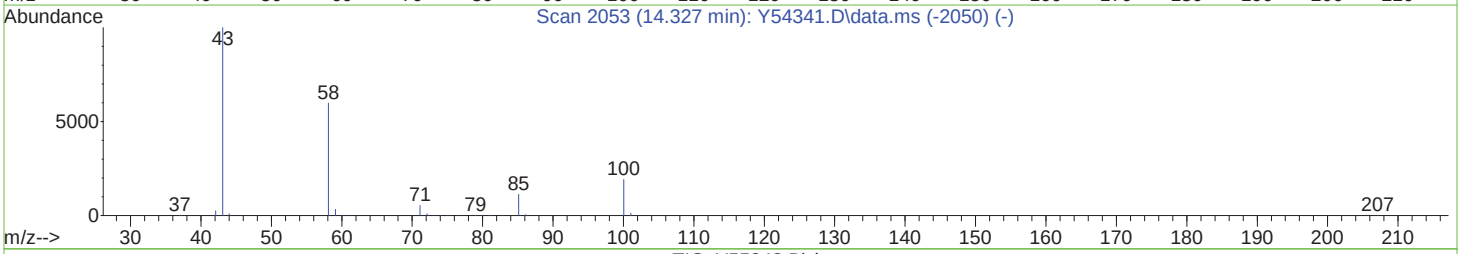
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55248.D
Acq On : 18 Jan 2021 7:32 pm
Operator : shanicao
Sample : FA82333-2MS
Misc : MS48127,VY2294,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jan 18 21:53:58 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55248.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 97.74ug/L

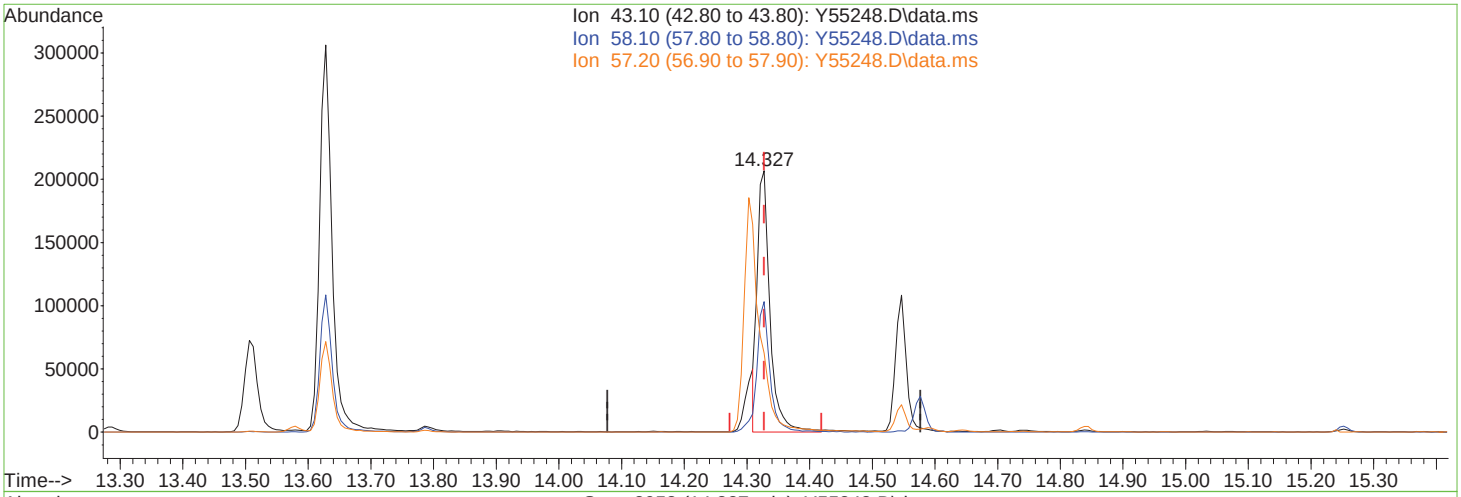
response 335521

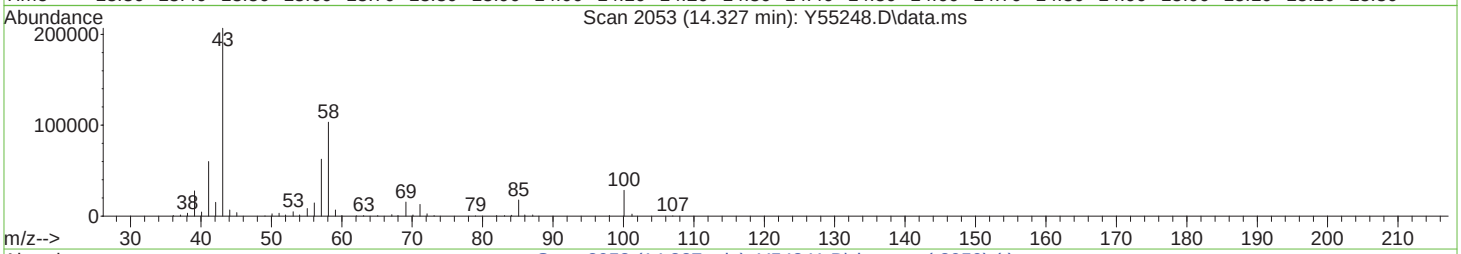
Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.99
57.20	26.80	30.26
0.00	0.00	0.00

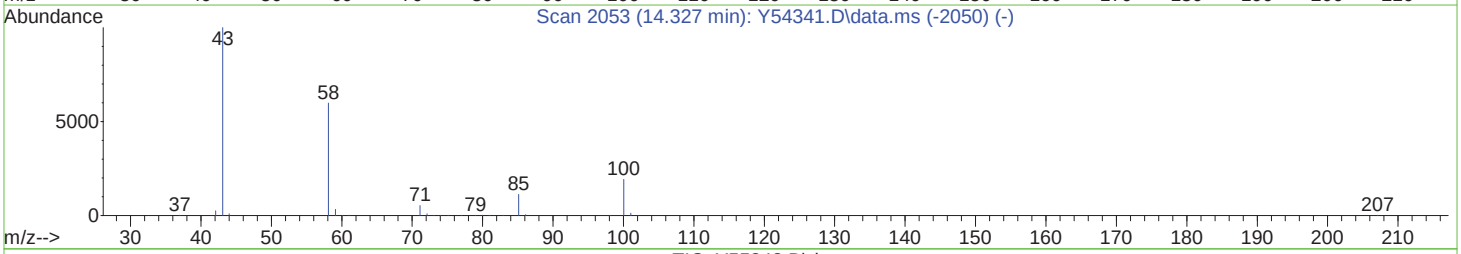
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55248.D
Acq On : 18 Jan 2021 7:32 pm
Operator : shanicao
Sample : FA82333-2MS
Misc : MS48127,VY2294,,,,,
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jan 18 21:53:58 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55248.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 84.86ug/L m

response 291331

Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.91
57.20	26.80	30.21
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/19/21 09:41

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55249.D
Acq On : 18 Jan 2021 7:59 pm
Operator : shanicao
Sample : FA82333-2MSD
Misc : MS48127,VY2294,,,,,
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 18 22:13:10 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.517	96	1708241	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1565834	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.268	152	826600	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.399	65	63246	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	444651	49.66	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.32%			
47) 1,2-Dichloroethane-d4	11.140	65	359466	45.07	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 90.14%			
58) Toluene-d8	13.239	98	1810075	50.47	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.94%			
80) 4-Bromofluorobenzene	15.484	174	620186	49.79	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.58%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.037	85	226943	23.29	ug/L	100
3) Acrolein	6.304	56	78528	75.81	ug/L	100
4) Chloromethane	3.390	50	246371m	22.94	ug/L	
5) 1,3-butadiene	3.584	39	250518	32.33	ug/L	100
6) Vinyl Chloride	3.554	62	228071	25.01	ug/L	99
7) Bromomethane	4.162	94	117430	22.56	ug/L	100
8) Chloroethane	4.406	64	117124	35.11	ug/L	98
9) Trichlorofluoromethane	4.667	101	371748	27.28	ug/L	99
10) Ethyl Ether	5.282	59	105589	19.69	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.671	67	200482	28.00	ug/L	96
12) 1,1-Dichloroethene	5.640	61	276805	26.72	ug/L	99
13) Freon 113	5.738	101	178963	22.31	ug/L	99
14) Carbon Disulfide	5.677	76	428255	23.53	ug/L	98
15) Iodomethane	5.908	142	159095	16.27	ug/L	99
16) Allyl chloride	6.565	41	287393	23.74	ug/L	99
17) Methylene Chloride	6.778	49	226789	21.33	ug/L	99
18) Acetone	6.882	43	128201	94.13	ug/L	96
19) Methyl acetate	7.137	43	302222	86.88	ug/L	99
20) trans-1,2-Dichloroethene	7.088	61	243271	24.43	ug/L	100
21) Hexane	7.253	56	151489m	25.34	ug/L	
22) Methyl Tert Butyl Ether	7.313	73	281963	19.89	ug/L	97
23) Acetonitrile	7.800	41	113677	185.01	ug/L	97
24) Di-isopropyl ether	8.086	45	546167	21.38	ug/L	100
25) Chloroprene	8.262	53	317634	25.10	ug/L	98
26) 1,1-Dichloroethane	8.311	63	298350	25.22	ug/L	99
27) Acrylonitrile	8.421	53	169929	97.44	ug/L	98
28) ETBE	8.828	59	390739	20.01	ug/L	99
29) Vinyl acetate	8.853	43	2359585	162.20	ug/L	100
30) cis-1,2-Dichloroethene	9.424	96	200049	23.91	ug/L	98
31) 2,2-Dichloropropane	9.637	77	200679	22.18	ug/L	99
32) Bromochloromethane	9.838	128	95468	21.18	ug/L	99
33) Cyclohexane	9.820	56	383688	26.02	ug/L	99
34) Chloroform	10.002	83	291844	23.41	ug/L	98
35) Ethyl acetate	10.246	43	927073	176.24	ug/L	99
36) Tetrahydrofuran	10.246	42	58609	39.84	ug/L	97
38) Carbon Tetrachloride	10.227	117	309467	26.61	ug/L	98
39) 1,1,1-Trichloroethane	10.349	97	328912	25.56	ug/L	97
40) 2-Butanone	10.544	43	187124	94.67	ug/L	99
41) 1,1-Dichloropropene	10.562	75	241318	24.52	ug/L	98
42) tert-Butyl formate	10.751	59	12419	7.03	ug/L #	84
43) Propionitrile	10.988	54	120924	186.16	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55249.D
Acq On : 18 Jan 2021 7:59 pm
Operator : shanicao
Sample : FA82333-2MSD
Misc : MS48127,VY2294,,,,,
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 18 22:13:10 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Methacrylonitrile	11.018	41	641692	189.40	ug/L		99
45)	Benzene	10.939	78	677823	22.82	ug/L		98
46)	TAME	11.122	73	292695	19.11	ug/L		96
48)	1,2-Dichloroethane	11.237	62	192478	20.64	ug/L		99
49)	Trichloroethene	11.736	95	208926	23.50	ug/L		99
50)	Methylcyclohexane	11.712	83	355274	27.78	ug/L		99
51)	Dibromomethane	12.235	93	75882	20.09	ug/L		99
52)	1,2-Dichloropropane	12.338	63	155097	22.36	ug/L		99
53)	Bromodichloromethane	12.417	83	196652	23.28	ug/L		98
54)	Methyl methacrylate	12.582	41	88345	19.15	ug/L		94
55)	2-Chloroethyl vinyl ether	13.062	63	1128	0.61	ug/L	#	18
56)	cis-1,3-Dichloropropene	13.068	75	204731	19.31	ug/L		98
59)	Toluene	13.287	91	815192	21.79	ug/L		99
60)	2-Nitropropane	13.506	41	109799	79.51	ug/L		94
61)	4-Methyl-2-pentanone	13.628	43	486683	97.24	ug/L		99
62)	trans-1,3-Dichloropropene	13.671	75	168851	20.44	ug/L		80
63)	Tetrachloroethene	13.646	166	268032	24.40	ug/L		99
64)	Ethyl methacrylate	13.786	69	111836	19.49	ug/L		99
65)	1,1,2-Trichloroethane	13.811	83	93591	20.55	ug/L		99
66)	Dibromochloromethane	13.975	129	161364	20.66	ug/L		99
67)	1,3-Dichloropropane	14.048	76	191828	19.37	ug/L		98
68)	1,2-Dibromoethane	14.176	107	119013	19.02	ug/L		100
69)	2-hexanone	14.328	43	334389m	95.37	ug/L		
70)	1-Chlorohexane	14.547	91	265253	23.83	ug/L		99
71)	Ethylbenzene	14.589	91	928293	22.82	ug/L		99
72)	Chlorobenzene	14.589	112	575068	21.49	ug/L		98
73)	1,1,1,2-Tetrachloroethane	14.638	131	204993	22.63	ug/L		99
74)	m,p-Xylene	14.699	91	1429910	45.43	ug/L		99
75)	o-Xylene	15.033	91	706164	22.83	ug/L		99
76)	Styrene	15.070	104	554266	22.15	ug/L		99
77)	Bromoform	15.125	173	76439	18.57	ug/L		98
78)	Isopropylbenzene	15.252	105	1006199	23.38	ug/L		100
81)	cis-1,4-Dichloro-2-butene	15.514	53	32001	16.05	ug/L	#	80
82)	n-Propylbenzene	15.550	91	1028747	23.37	ug/L		99
83)	Bromobenzene	15.575	156	239052	22.54	ug/L		99
84)	1,1,2,2-Tetrachloroethane	15.611	83	115904	18.99	ug/L		98
85)	1,3,5-Trimethylbenzene	15.672	105	769597	24.09	ug/L		99
86)	2-Chlorotoluene	15.690	91	662707	23.23	ug/L		98
87)	trans-1,4-Dichloro-2-B...	15.733	53	28452	15.92	ug/L		95
88)	1,2,3-Trichloropropane	15.721	110	45414	18.84	ug/L		95
89)	Cyclohexanone	15.776	55	25381	165.69	ug/L		98
90)	4-Chlorotoluene	15.806	91	605466	22.95	ug/L		98
91)	tert-Butylbenzene	15.909	91	392861	24.04	ug/L		99
92)	1,2,4-Trimethylbenzene	15.952	105	760256	23.41	ug/L		99
93)	Pentachloroethane	15.958	167	134921	25.56	ug/L		95
94)	sec-Butylbenzene	16.031	105	930643	24.86	ug/L		98
95)	4-Isopropyltoluene	16.116	119	873874	25.20	ug/L		100
96)	1,3-Dichlorobenzene	16.226	146	470864	23.01	ug/L		99
97)	1,2,3-Trimethylbenzene	16.268	105	736909	19.30	ug/L		98
98)	1,4-Dichlorobenzene	16.280	146	465878	22.32	ug/L		97
99)	n-Butylbenzene	16.408	92	319590	24.26	ug/L		99
100)	Benzyl Chloride	16.439	126	44372	14.44	ug/L		97
101)	1,2-Dichlorobenzene	16.579	146	420405	22.19	ug/L		98
102)	1,2-Dibromo-3-Chloropr...	17.114	75	14711	16.42	ug/L		98
103)	Hexachlorobutadiene	17.528	225	71357	22.98	ug/L		99
104)	1,2,4-Trichlorobenzene	17.582	180	201572	21.97	ug/L		98
105)	Naphthalene	17.832	128	360489	16.25	ug/L		100
106)	1,2,3-Trichlorobenzene	17.978	180	166145	20.62	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55249.D
Acq On : 18 Jan 2021 7:59 pm
Operator : shanicao
Sample : FA82333-2MSD
Misc : MS48127,VY2294,,,,,
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 18 22:13:10 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
108) Ethanol	5.640	45	22546	495.79 ug/L	93
109) Tert Butyl Alcohol	7.545	59	70267	224.11 ug/L	94
110) Isobutyl alcohol	11.304	42	34765	435.83 ug/L	96
111) Tert Amyl Alcohol	11.420	59	42979	221.14 ug/L	94
112) 1,4-Dioxane	12.636	88	18679	474.45 ug/L	91
113) 3,3-dimethyl-1-butanol	14.303	57	386882	1251.58 ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
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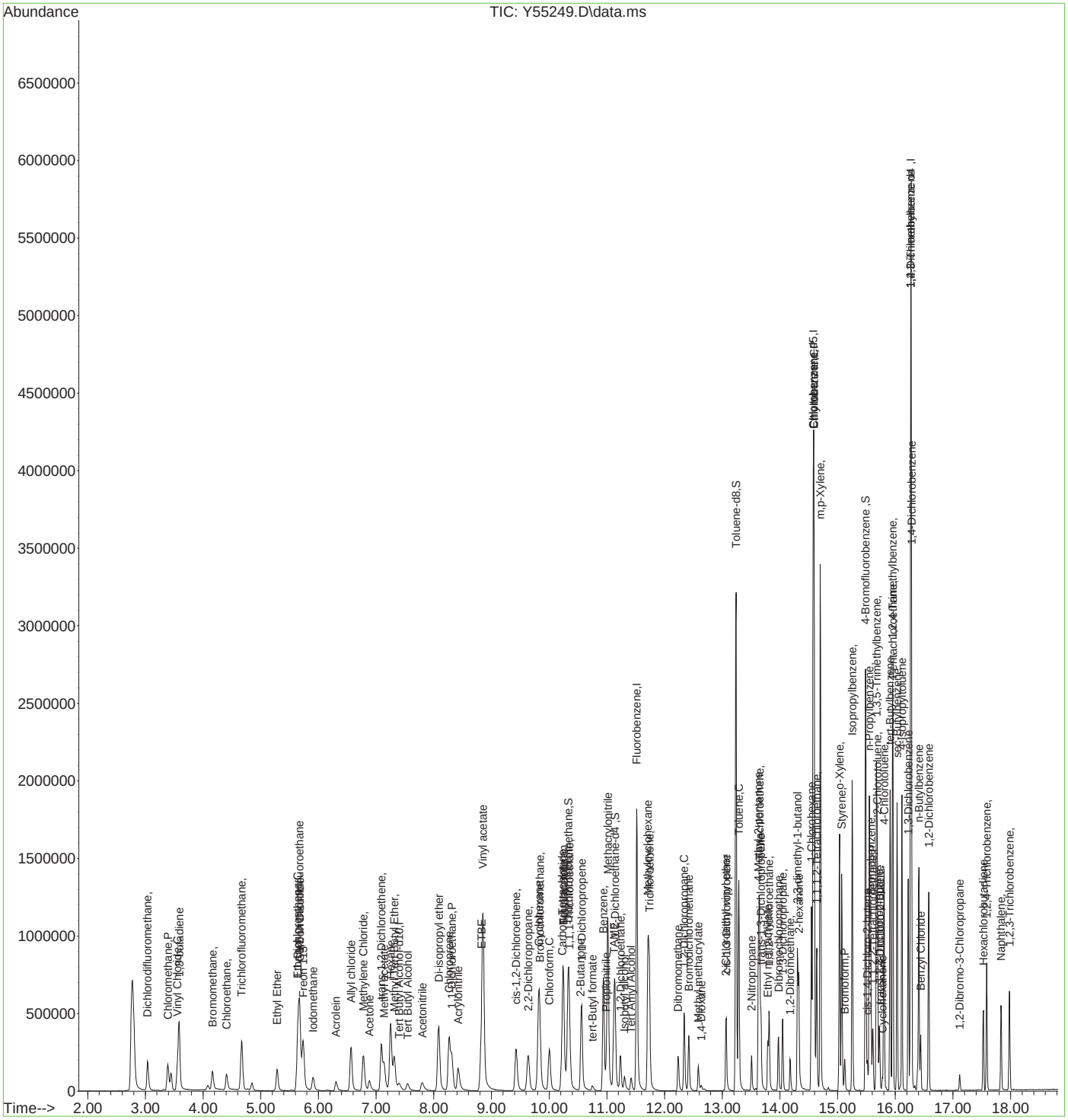


RESTEK011521w.M Mon Jan 18 22:15:50 2021 Page: 4

Manual Integration Approval Summary

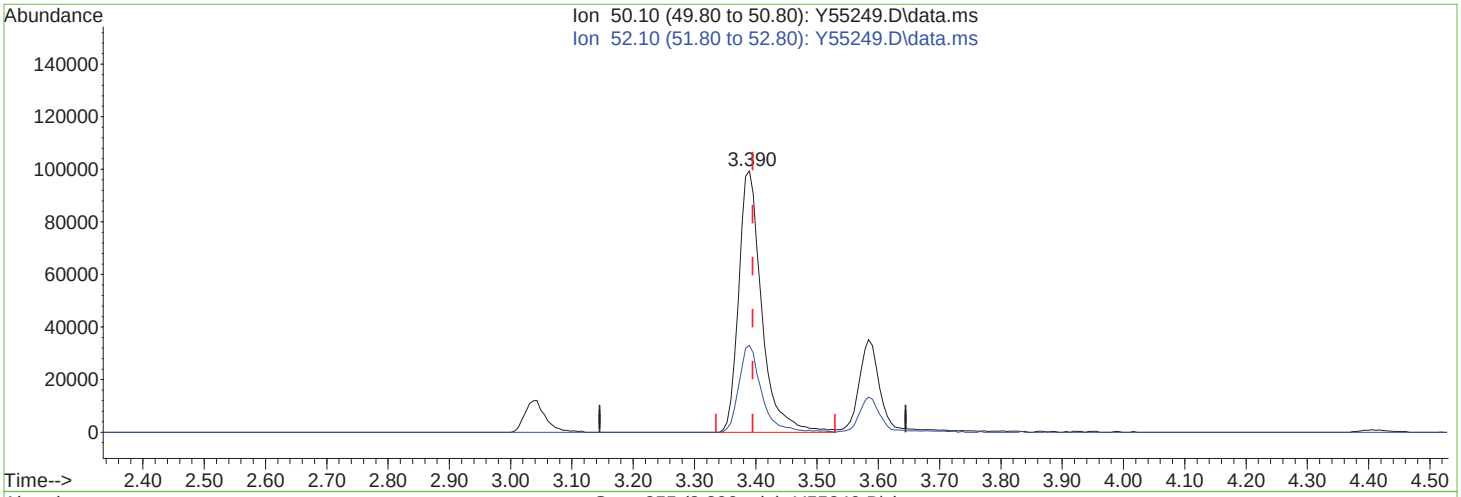
Sample Number: FA82333-2MSD
Lab FileID: Y55249.D
Injection Time: 01/18/21 19:59
Method: SW846 8260B
Analyst approved: 01/18/21 22:50 Edessa Sumagaysay
Supervisor approved: 01/19/21 09:41 Melissa Mangual

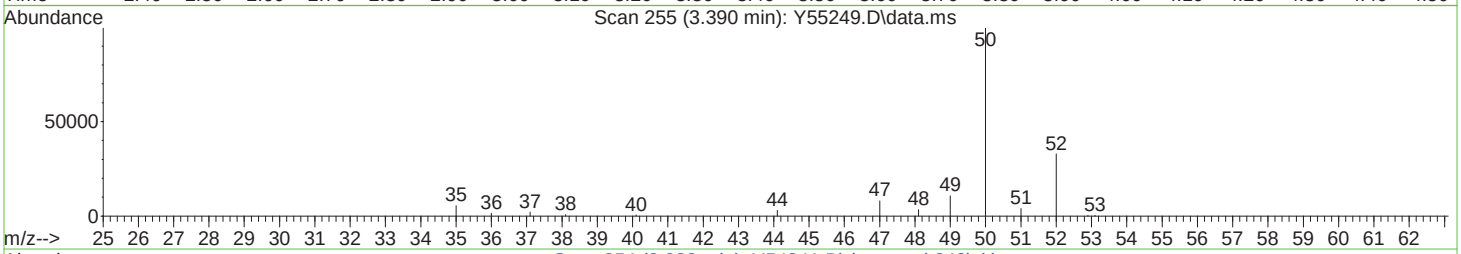
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.39	Overlapping peak
Hexane	110-54-3		7.25	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

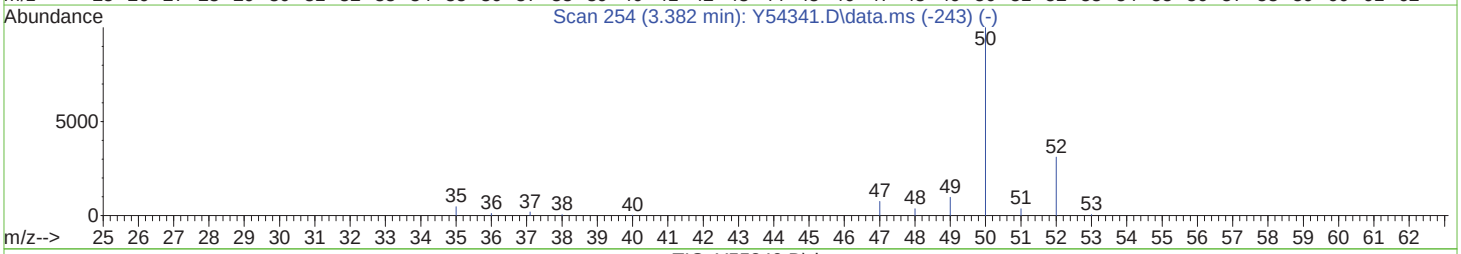
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55249.D
Acq On : 18 Jan 2021 7:59 pm
Operator : shanicao
Sample : FA82333-2MSD
Misc : MS48127,VY2294,,,,,
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 18 21:54:01 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55249.D\data.ms

(4) Chloromethane (P)

3.390min (-0.006) 24.21ug/L

response 260060

Ion	Exp%	Act%
50.10	100	100
52.10	31.90	33.12
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55249.D
Acq On : 18 Jan 2021 7:59 pm
Operator : shanicao
Sample : FA82333-2MSD
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Quant Title : SW-846 Method 5035A/8260B
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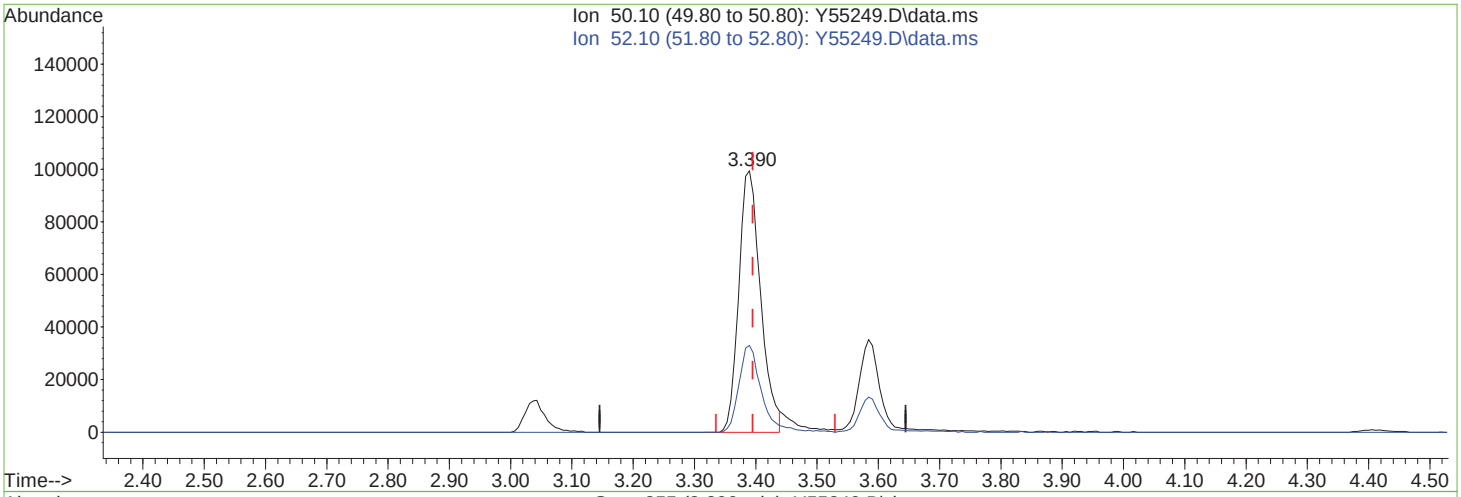

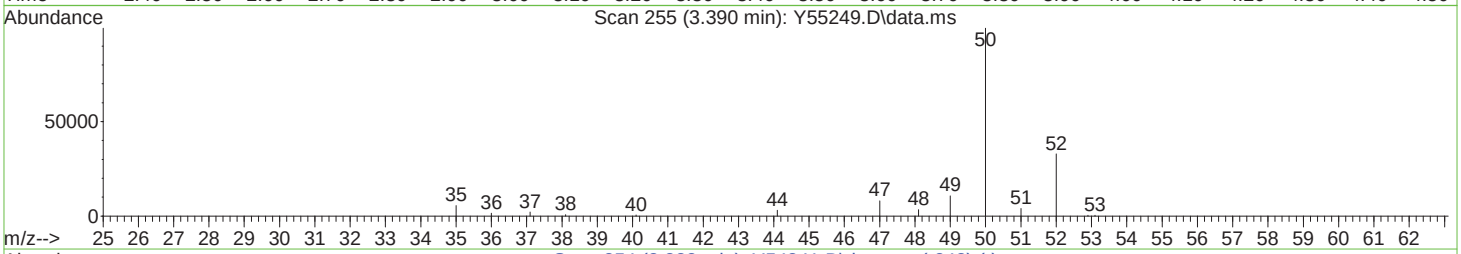

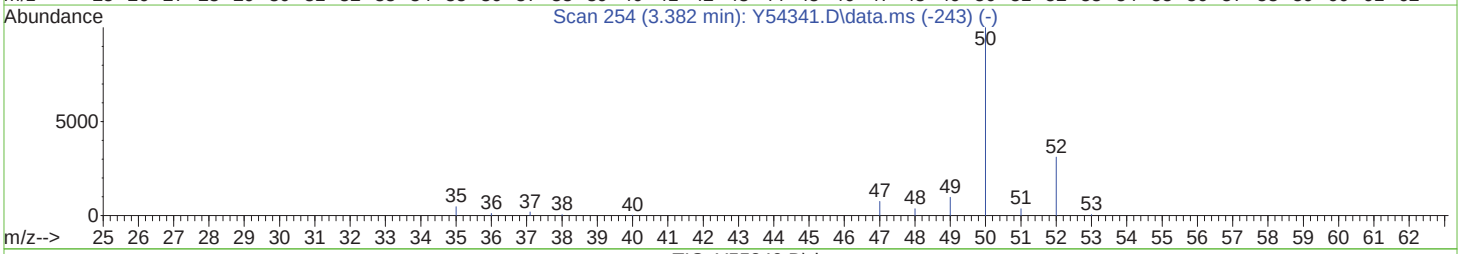

TIC: Y55249.D\data.ms

(4) Chloromethane (P)

3.390min (-0.006) 22.94ug/L m

response 246371

Ion	Exp%	Act%
50.10	100	100
52.10	31.90	33.12
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55249.D
Acq On : 18 Jan 2021 7:59 pm
Operator : shanicao
Sample : FA82333-2MSD
Misc : MS48127,VY2294,,,,,
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 18 21:54:01 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
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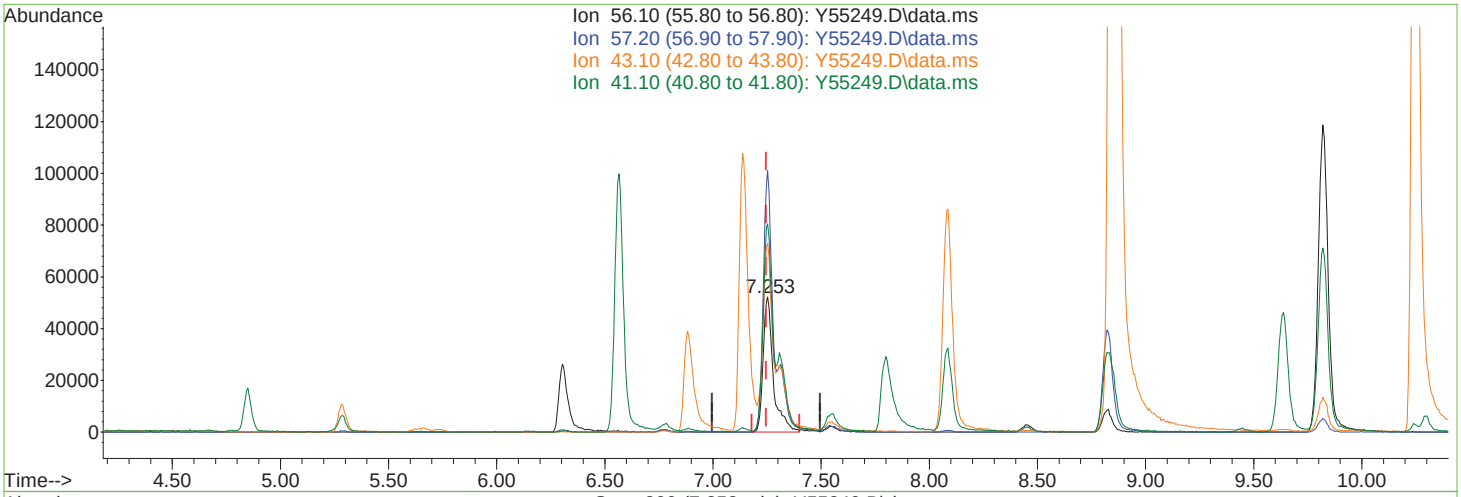

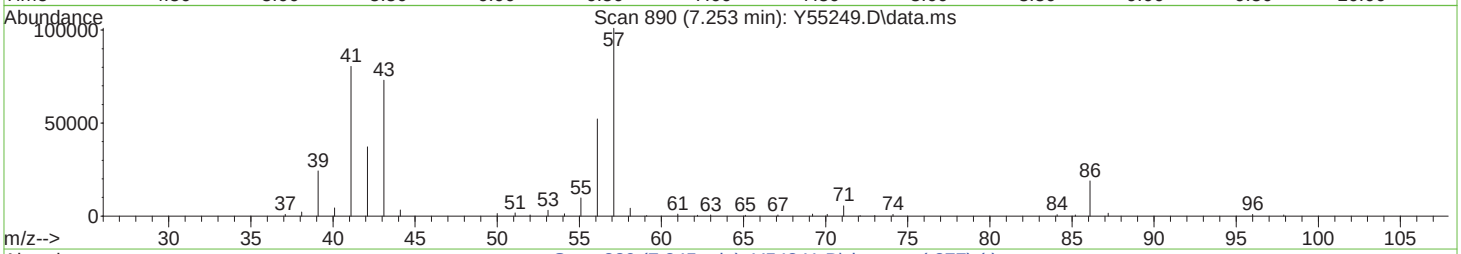

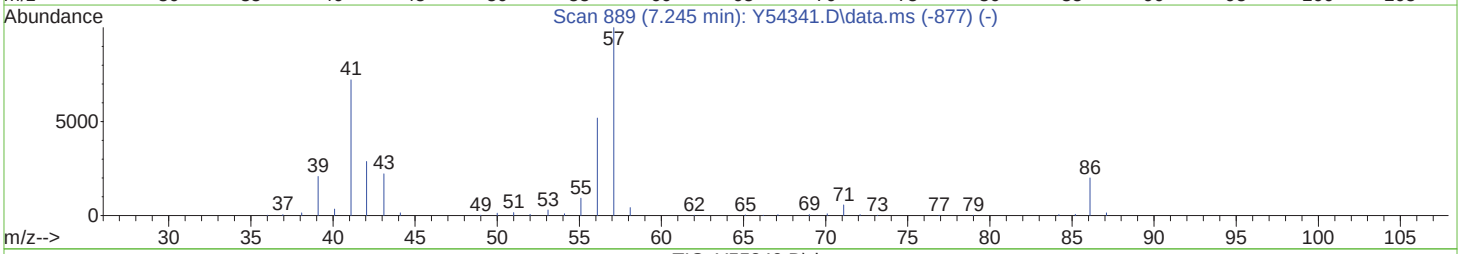

TIC: Y55249.D\data.ms

(21) Hexane

7.253min (+0.007) 28.82ug/L

response 172295

Ion	Exp%	Act%
56.10	100	100
57.20	189.10	193.59
43.10	141.60	134.39
41.10	153.50	153.31

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55249.D
Acq On : 18 Jan 2021 7:59 pm
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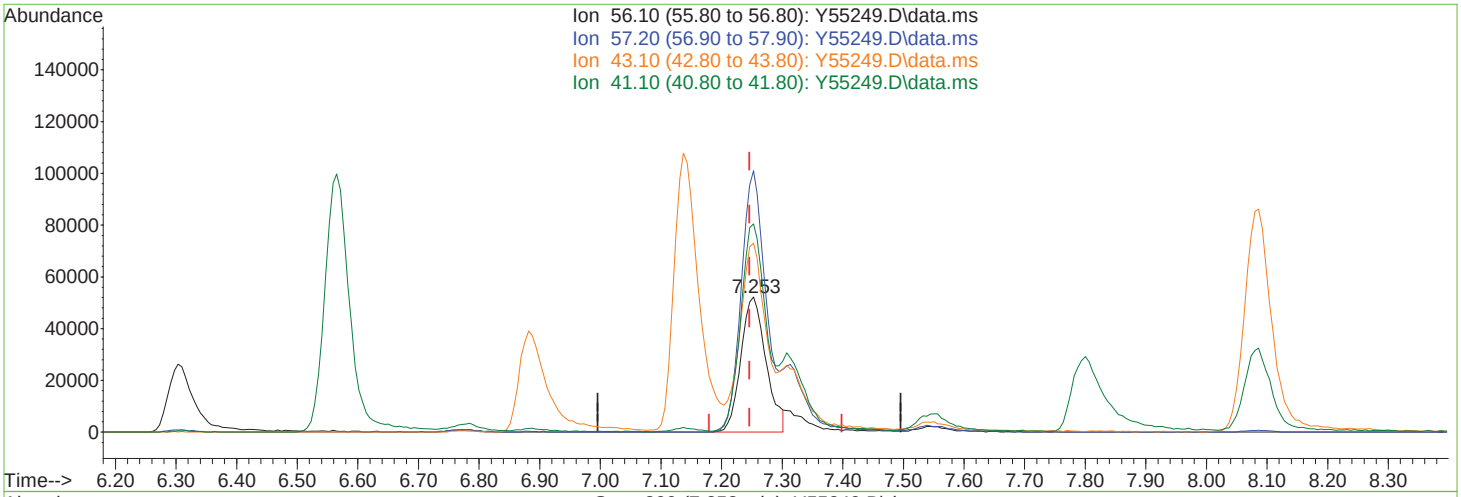

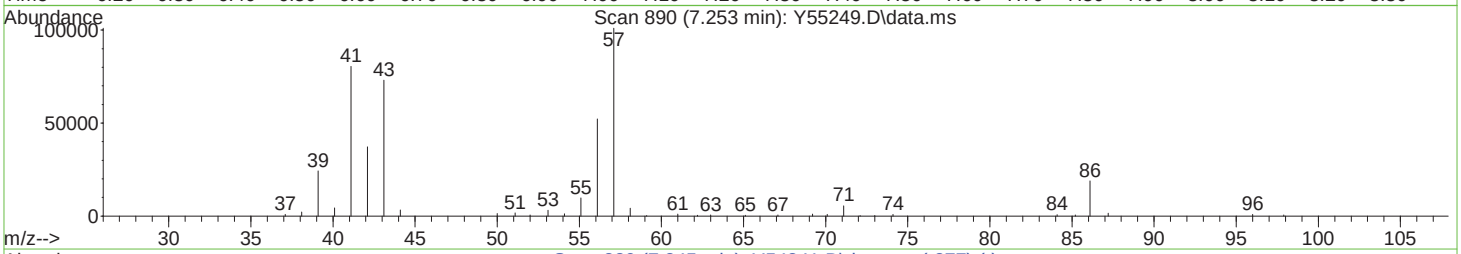

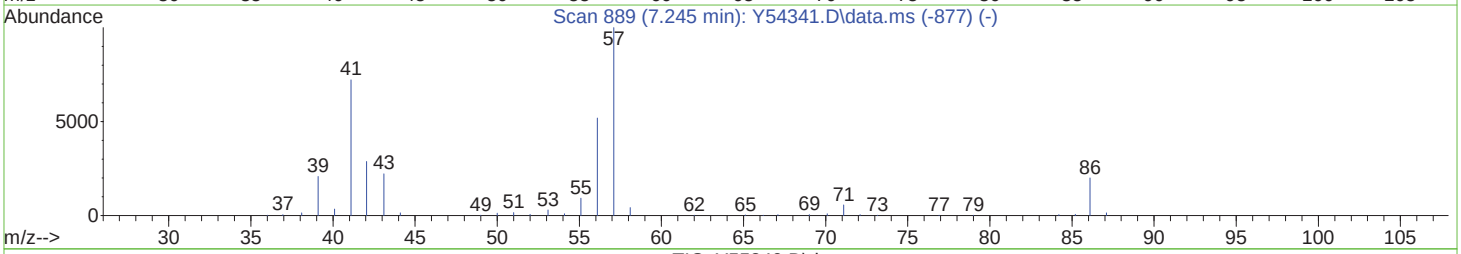

TIC: Y55249.D\data.ms

(21) Hexane

7.253min (+0.007) 25.34ug/L m

response 151489

Ion	Exp%	Act%
56.10	100	100
57.20	189.10	193.59
43.10	141.60	139.87
41.10	153.50	154.14

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55249.D
Acq On : 18 Jan 2021 7:59 pm
Operator : shanicao
Sample : FA82333-2MSD
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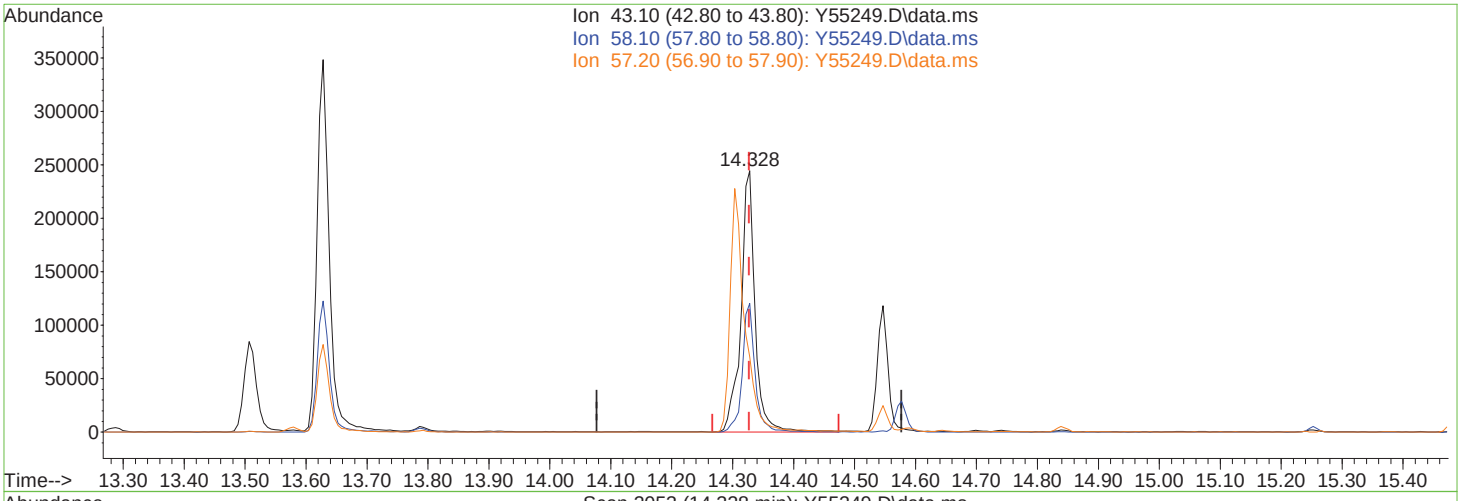
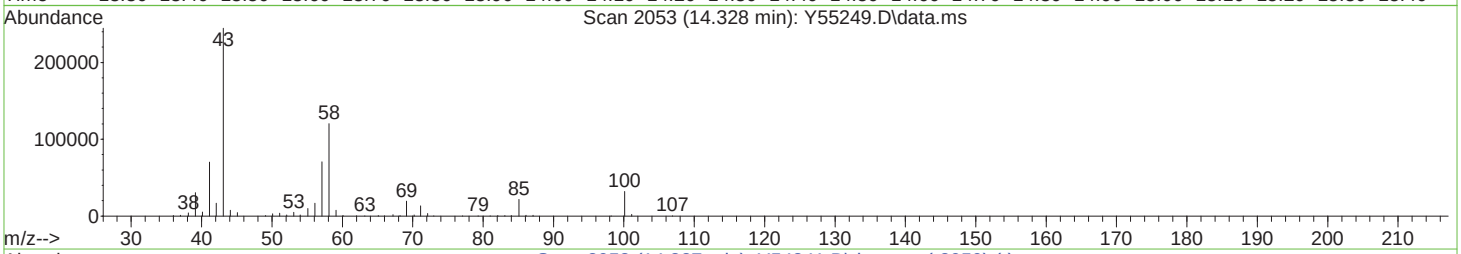
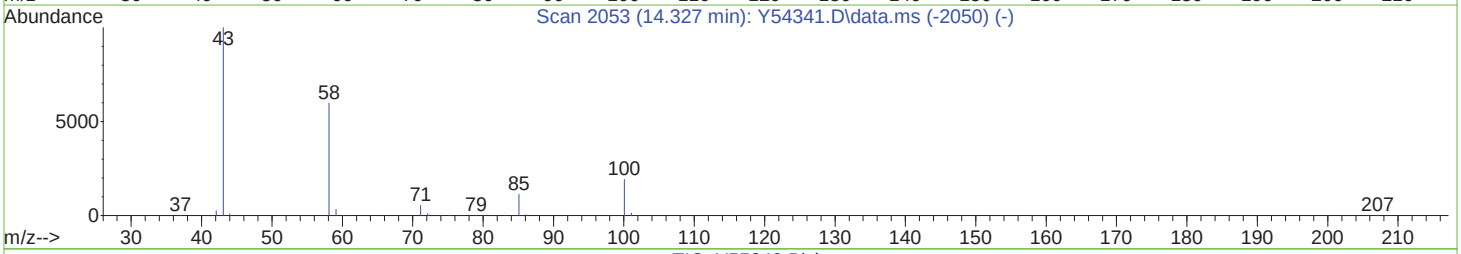






TIC: Y55249.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 113.04ug/L

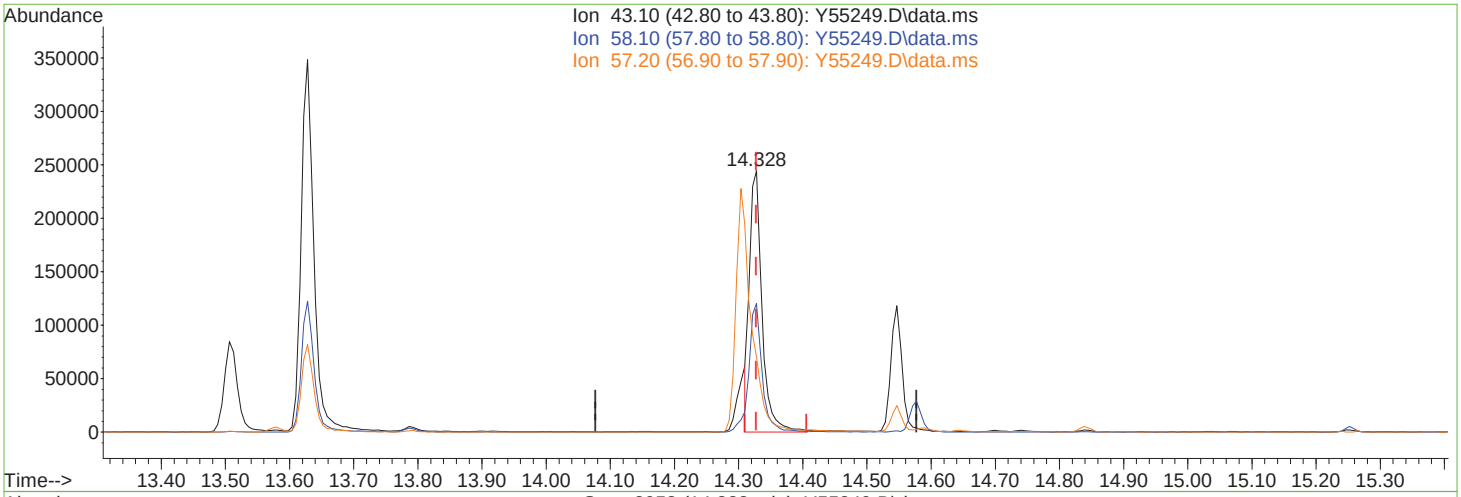
response 396368

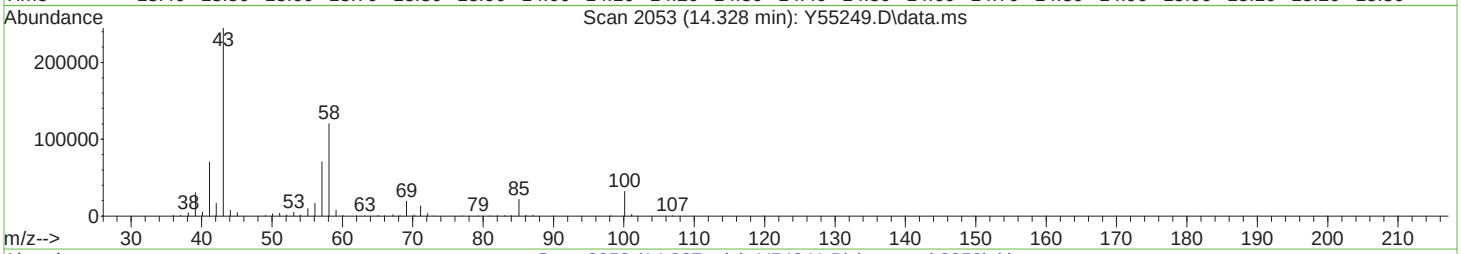
Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.18
57.20	26.80	28.81
0.00	0.00	0.00

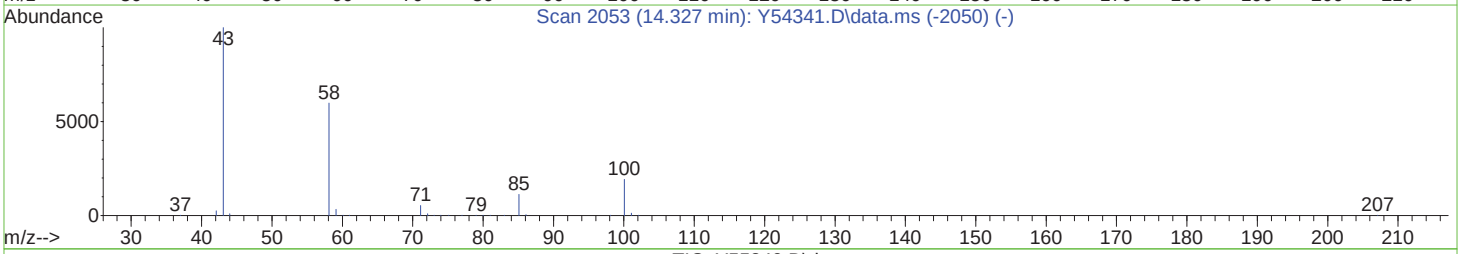
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55249.D
Acq On : 18 Jan 2021 7:59 pm
Operator : shanicao
Sample : FA82333-2MSD
Misc : MS48127,VY2294,,,,,
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 18 21:54:01 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55249.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 95.37ug/L m

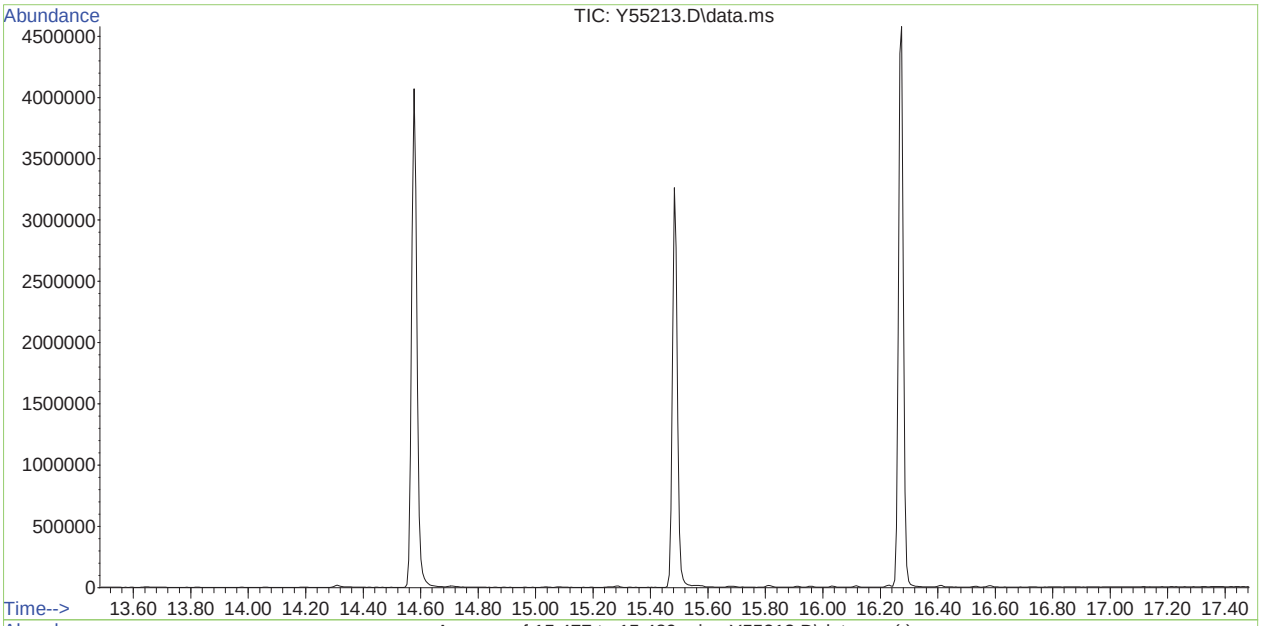
response 334389

Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.18
57.20	26.80	28.81
0.00	0.00	0.00

Methods: SW-846 8260B

Data File : C:\msdchem\1\DATA\011521\Y55213.D Vial: 1
Acq On : 15 Jan 2021 10:32 am Operator: chelseav
Sample : BFB Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...\RESTEK011521w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B



AutoFind: Scans 2242, 2243, 2244; Background Corrected with Scan 2236

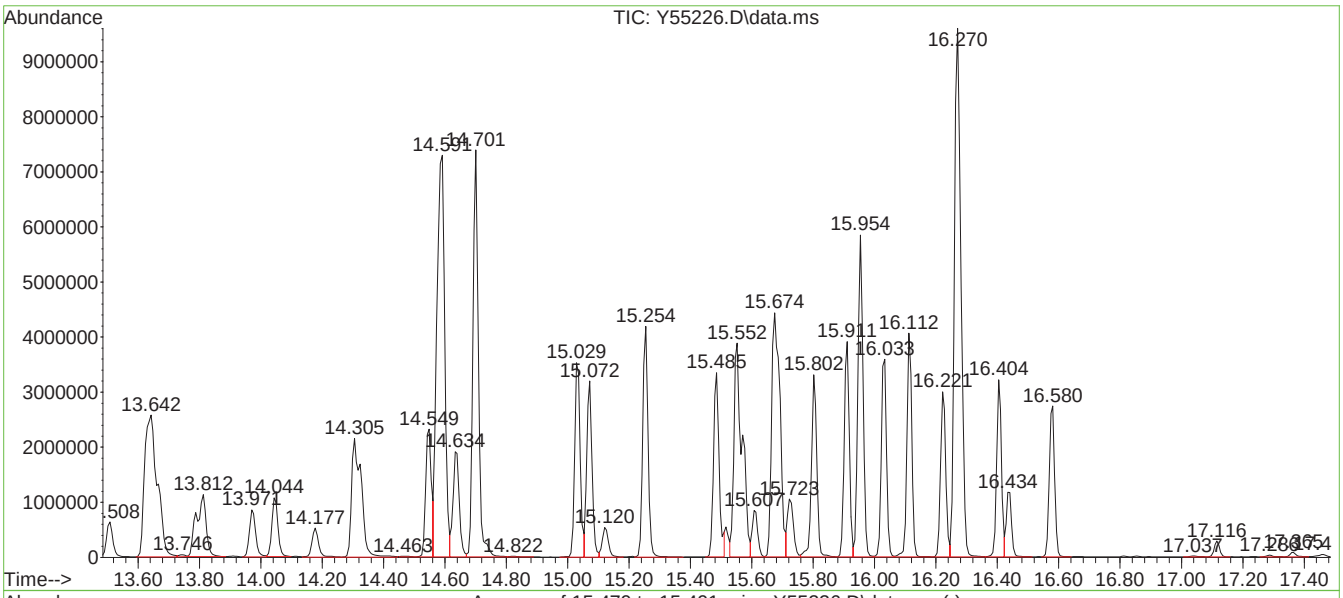
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	106562	PASS
75	95	30	60	43.5	236928	PASS
95	95	100	100	100.0	544725	PASS
96	95	5	9	6.9	37536	PASS
173	174	0.00	2	0.4	2039	PASS
174	95	50	100	92.2	502293	PASS
175	174	5	9	7.1	35784	PASS
176	174	95	101	97.3	488810	PASS
177	176	5	9	6.8	33021	PASS

Y55213.D RESTEK011521w.M Mon Jan 18 09:56:29 2021

Methods: SW-846 8260B

Data File : C:\msdchem\1\data\ed...-2021\vy2294\Y55226.D Vial: 3
Acq On : 18 Jan 2021 9:16 am Operator: shanicao
Sample : BFB Inst : MSVOA14-Y
Misc : MS47821,VY2294,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\met...\RESTEK011521w.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B



AutoFind: Scans 2242, 2243, 2244; Background Corrected with Scan 2235

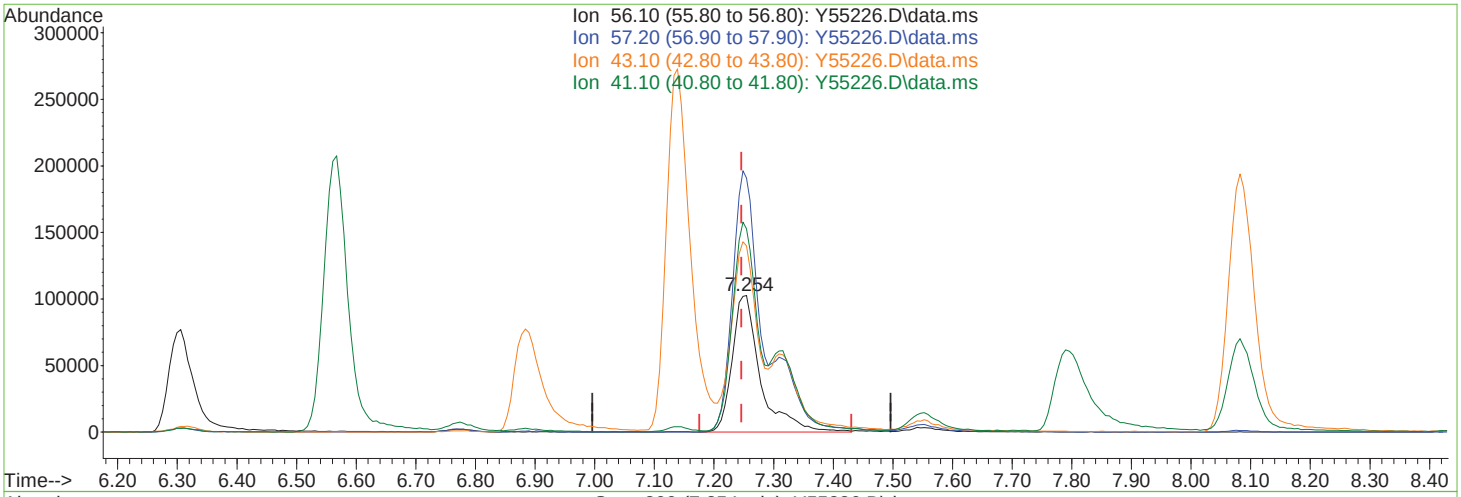
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	103221	PASS
75	95	30	60	42.0	237525	PASS
95	95	100	100	100.0	566016	PASS
96	95	5	9	6.7	37931	PASS
173	174	0.00	2	0.2	1054	PASS
174	95	50	100	97.8	553621	PASS
175	174	5	9	6.9	38419	PASS
176	174	95	101	97.4	539392	PASS
177	176	5	9	6.6	35672	PASS

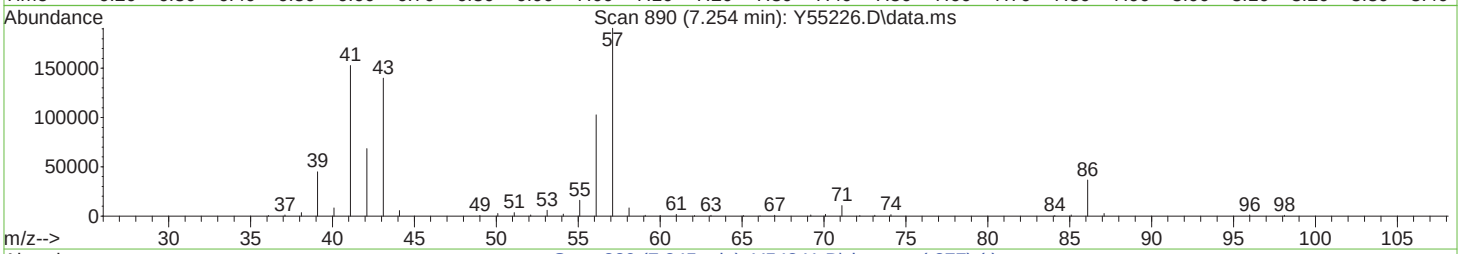
Y55226.D RESTEK011521w.M Mon Jan 18 21:51:36 2021

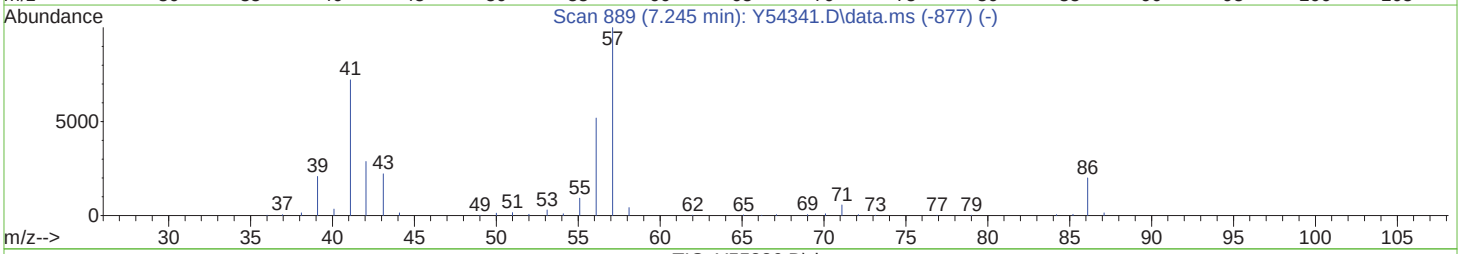
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:53:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55226.D\data.ms

(21) Hexane

7.254min (+0.008) 46.46ug/L

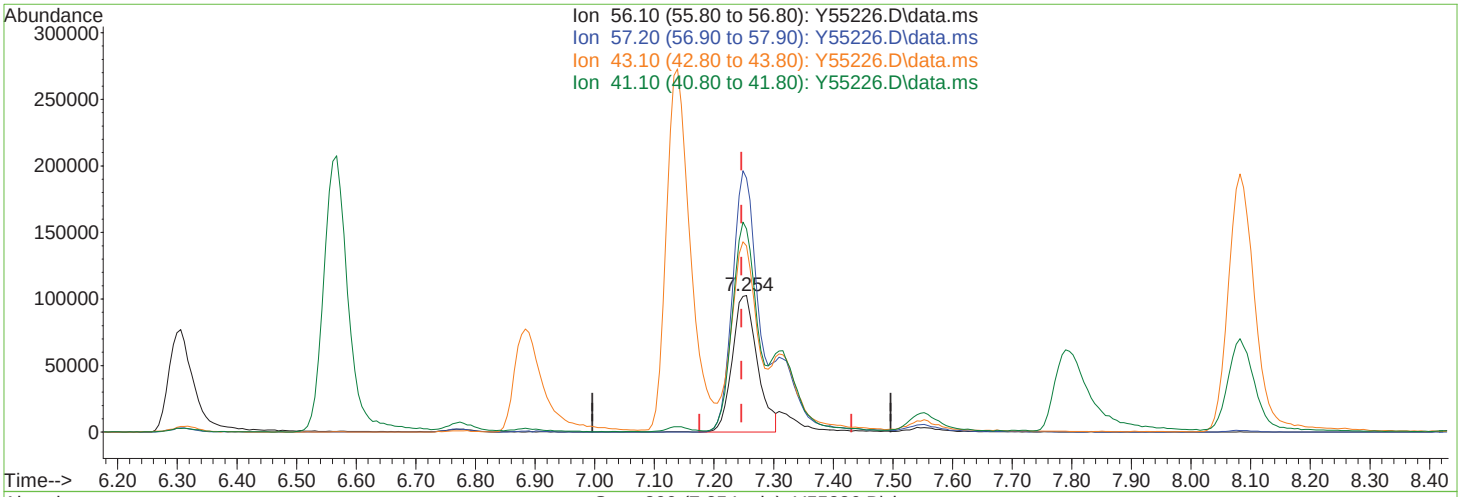
response 340072

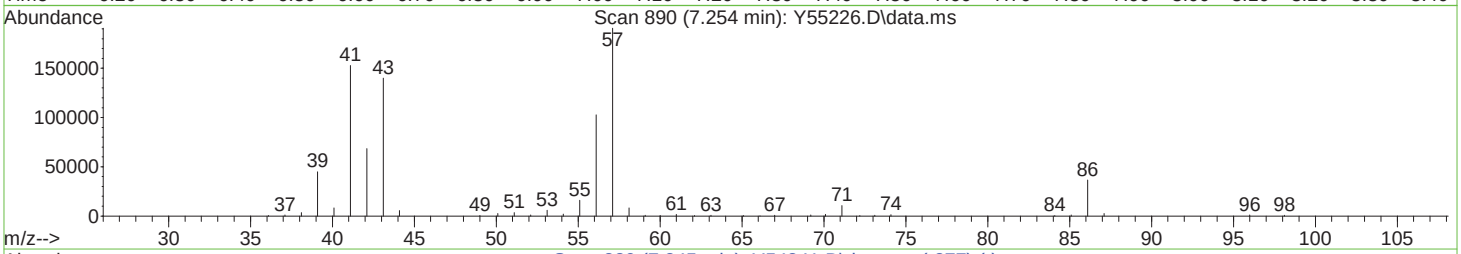
Ion	Exp%	Act%
56.10	100	100
57.20	189.10	185.67
43.10	141.60	132.71
41.10	153.50	147.48

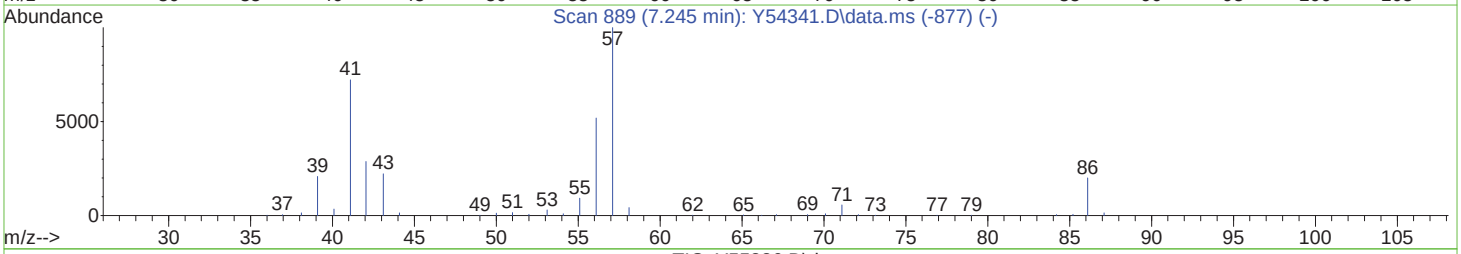
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:53:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55226.D\data.ms

(21) Hexane

7.254min (+0.008) 41.04ug/L m

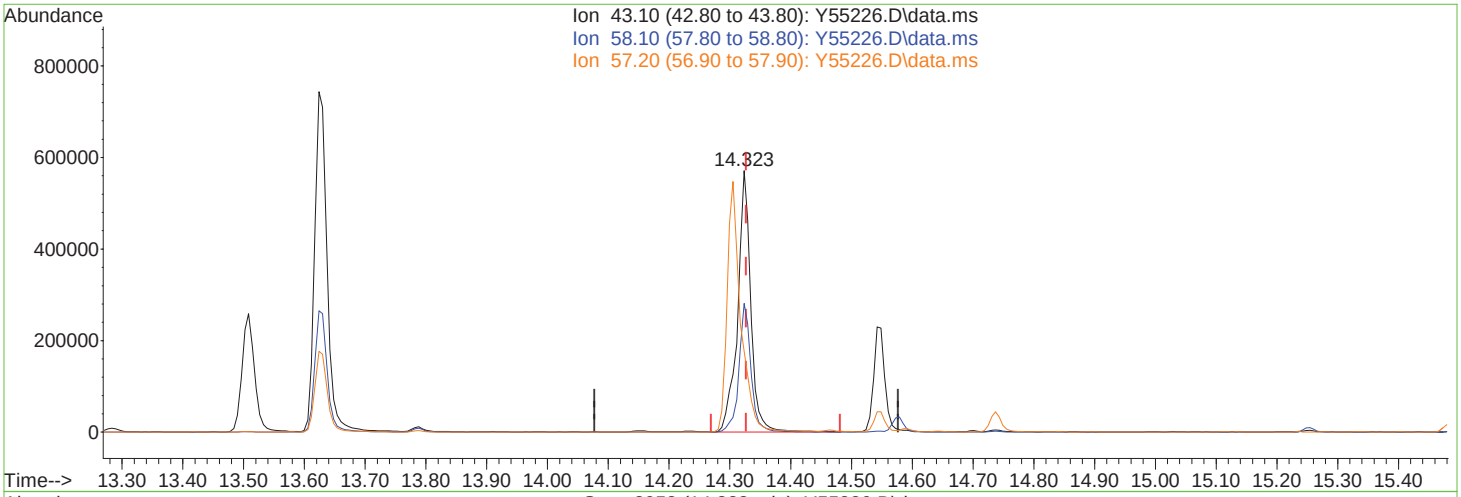
response 300406

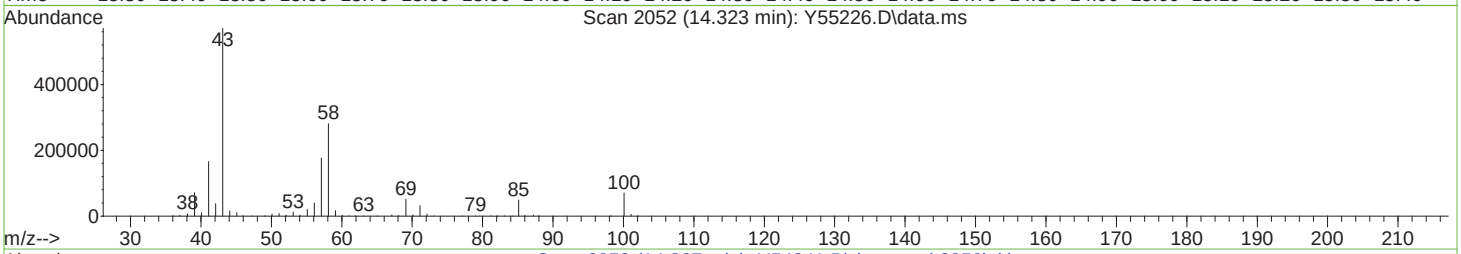
Ion	Exp%	Act%
56.10	100	100
57.20	189.10	185.67
43.10	141.60	136.16
41.10	153.50	148.61

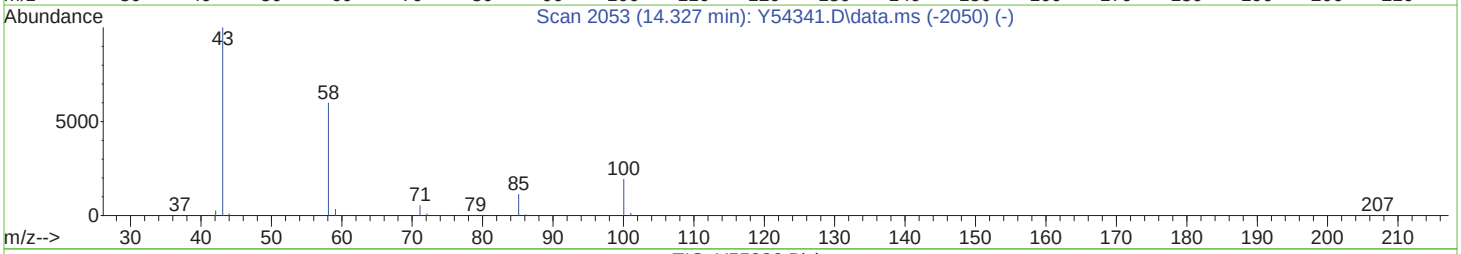
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:53:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55226.D\data.ms

(69) 2-hexanone

14.323min (-0.004) 199.50ug/L

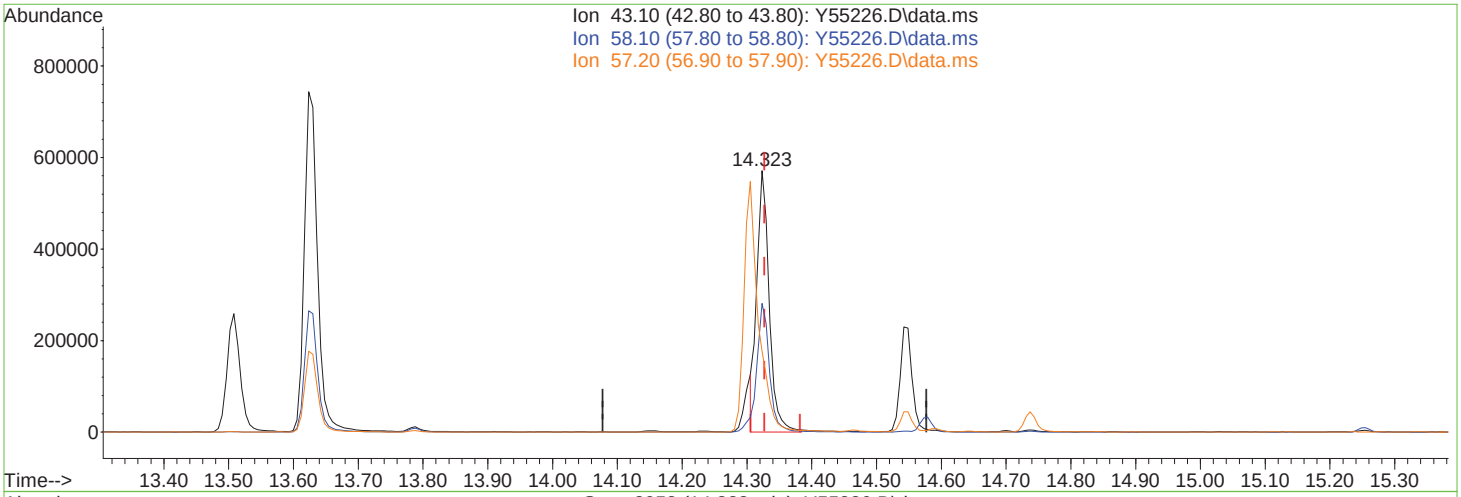
response 861066

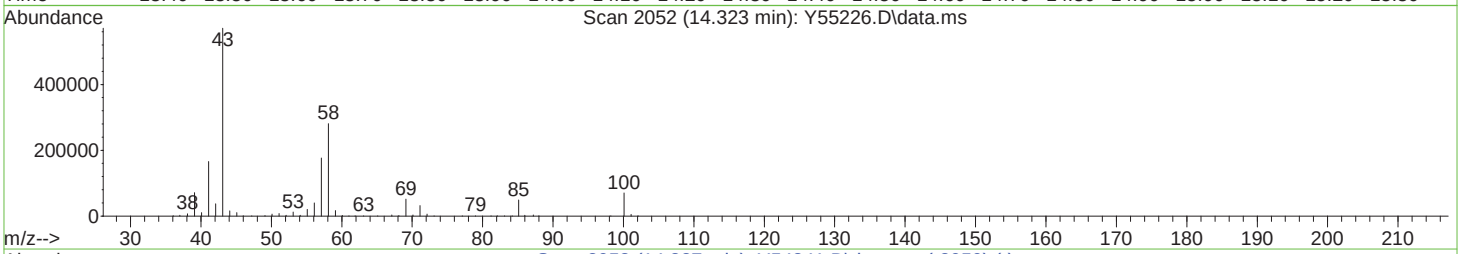
Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.21
57.20	26.80	30.96
0.00	0.00	0.00

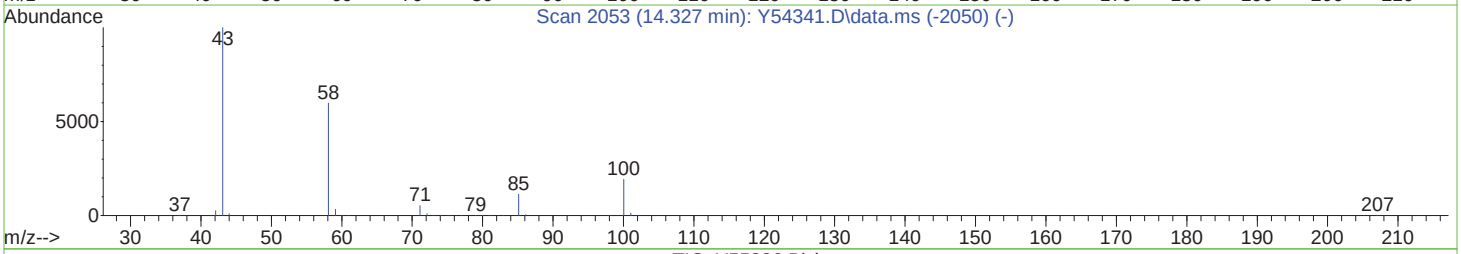
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:53:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55226.D\data.ms

(69) 2-hexanone

14.323min (-0.004) 175.38ug/L m

response 756990

Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.17
57.20	26.80	30.93
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/18/21 10:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:27:35 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.517	96	2038619	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1873218	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	963864	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.398	65	83120	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	526832	49.57	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.14%			
47) 1,2-Dichloroethane-d4	11.140	65	496134	57.64	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 115.28%			
58) Toluene-d8	13.238	98	2137902	48.27	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.54%			
80) 4-Bromofluorobenzene	15.483	174	736473	49.00	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 98.00%			

Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	10268	0.88	ug/L	94
3) Acrolein	6.322	56	5525	5.80	ug/L	88
4) Chloromethane	3.389	50	14694	1.16	ug/L	95
5) 1,3-butadiene	3.584	39	8578	0.89	ug/L	96
6) Vinyl Chloride	3.554	62	10578	0.97	ug/L	97
7) Bromomethane	4.156	94	6196	0.81	ug/L	90
8) Chloroethane	4.411	64	6561	0.91	ug/L	94
9) Trichlorofluoromethane	4.667	101	15010	0.95	ug/L	98
10) Ethyl Ether	5.293	59	5810	1.04	ug/L	94
11) 1,2-Dichlorotrifluoroe...	5.671	67	8471	1.00	ug/L	86
12) 1,1-Dichloroethene	5.640	61	11568	0.91	ug/L	98
13) Freon 113	5.738	101	9142	0.98	ug/L	96
14) Carbon Disulfide	5.677	76	21677	0.95	ug/L	94
15) Iodomethane	5.914	142	12170	0.73	ug/L	91
16) Allyl chloride	6.577	41	9582	0.67	ug/L	94
17) Methylene Chloride	6.784	49	21446	1.80	ug/L	96
18) Acetone	6.906	43	8096	6.26	ug/L	86
19) Methyl acetate	7.161	43	17413	5.48	ug/L	97
20) trans-1,2-Dichloroethene	7.094	61	11544	0.96	ug/L	92
21) Hexane	7.258	56	6634	0.96	ug/L #	72
22) Methyl Tert Butyl Ether	7.325	73	14096	0.95	ug/L	96
23) Acetonitrile	7.842	41	5173m	9.56	ug/L	
24) Di-isopropyl ether	8.098	45	26607	0.89	ug/L	96
25) Chloroprene	8.274	53	10879	0.76	ug/L	93
26) 1,1-Dichloroethane	8.317	63	12630	0.90	ug/L	95
27) Acrylonitrile	8.457	53	7533	4.71	ug/L	85
28) ETBE	8.840	59	19026	0.86	ug/L	93
29) Vinyl acetate	8.871	43	50124	3.89	ug/L	97
30) cis-1,2-Dichloroethene	9.448	96	9287	0.94	ug/L	87
31) 2,2-Dichloropropane	9.637	77	6395	0.62	ug/L	98
32) Bromochloromethane	9.844	128	4754	0.94	ug/L	93
33) Cyclohexane	9.832	56	16262	0.92	ug/L	93
34) Chloroform	10.008	83	14380	0.99	ug/L	97
35) Ethyl acetate	10.264	43	18505	4.08	ug/L	97
38) Carbon Tetrachloride	10.227	117	12334	0.87	ug/L	88
39) 1,1,1-Trichloroethane	10.355	97	14084	0.91	ug/L	97
40) 2-Butanone	10.580	43	8734	4.78	ug/L	89
41) 1,1-Dichloropropene	10.568	75	10377	0.87	ug/L	84
42) tert-Butyl formate	10.750	59	5547	6.12	ug/L	82
43) Propionitrile	11.006	54	6020	10.39	ug/L #	74
44) Methacrylonitrile	11.024	41	31420	9.64	ug/L	97
45) Benzene	10.945	78	33917	0.98	ug/L	99
46) TAME	11.134	73	15737	0.94	ug/L	90
48) 1,2-Dichloroethane	11.243	62	11236	1.14	ug/L	96
49) Trichloroethene	11.742	95	10822	1.03	ug/L	91
50) Methylcyclohexane	11.718	83	14016	0.94	ug/L	97
51) Dibromomethane	12.241	93	4120	1.06	ug/L	89

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:27:35 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

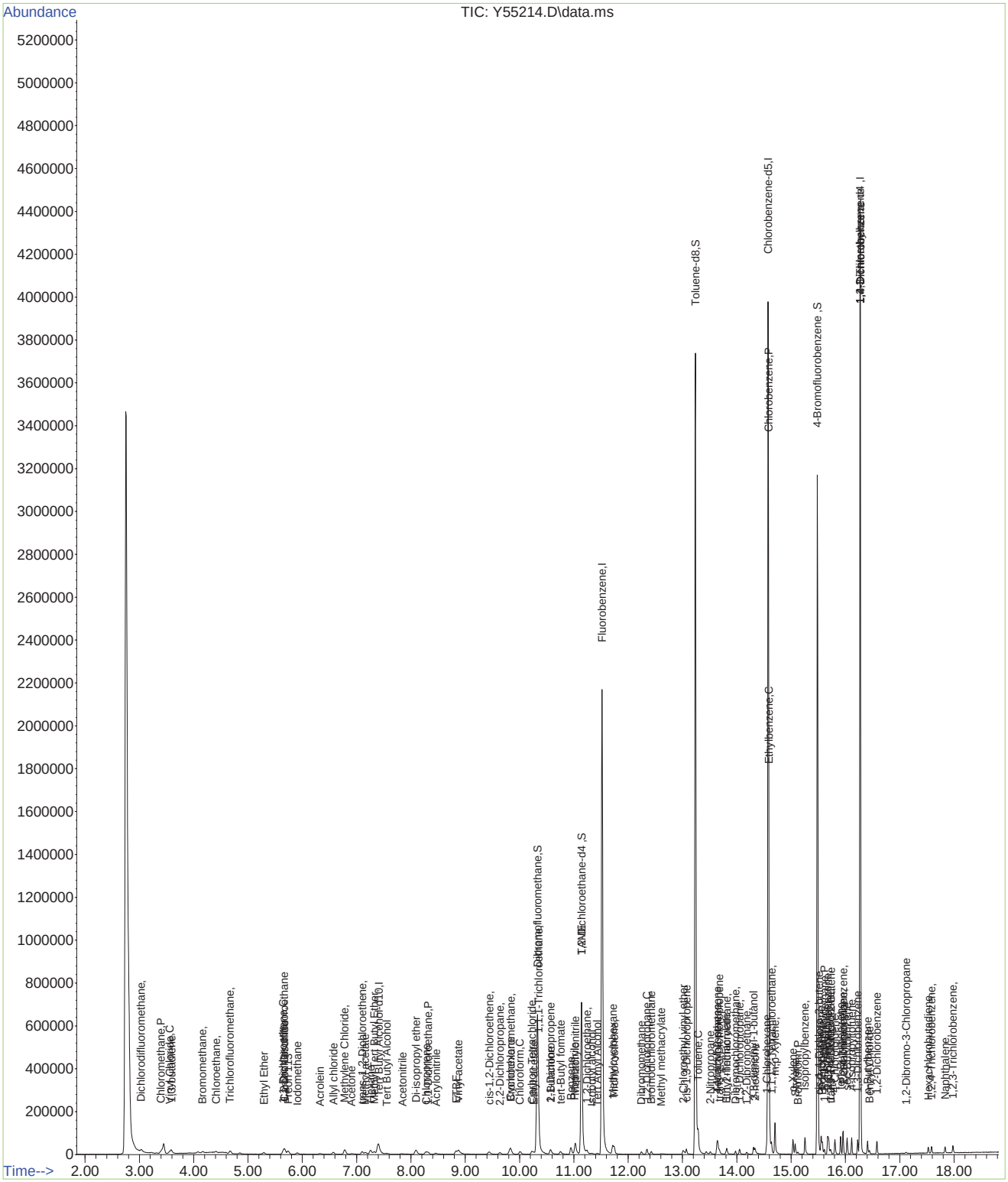
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
52) 1,2-Dichloropropane	12.344	63	7302	0.91 ug/L	94
53) Bromodichloromethane	12.423	83	8311	0.85 ug/L	92
54) Methyl methacrylate	12.612	41	3942m	0.87 ug/L	
55) 2-Chloroethyl vinyl ether	13.007	63	7576	3.36 ug/L	98
56) cis-1,3-Dichloropropene	13.074	75	9709	0.79 ug/L	92
59) Toluene	13.287	91	44854	0.98 ug/L	95
60) 2-Nitropropane	13.512	41	5774	4.47 ug/L	95
61) 4-Methyl-2-pentanone	13.634	43	27755	5.77 ug/L	96
62) trans-1,3-Dichloropropene	13.676	75	7015	0.76 ug/L	93
63) Tetrachloroethene	13.646	166	12687	0.92 ug/L	98
64) Ethyl methacrylate	13.798	69	3574	0.60 ug/L	90
65) 1,1,2-Trichloroethane	13.816	83	4835	1.00 ug/L	93
66) Dibromochloromethane	13.981	129	7107	0.80 ug/L	93
67) 1,3-Dichloropropane	14.048	76	11061	1.05 ug/L	99
68) 1,2-Dibromoethane	14.181	107	6509	0.98 ug/L	92
69) 2-hexanone	14.333	43	18388m	5.76 ug/L	
70) 1-Chlorohexane	14.546	91	10413	0.74 ug/L	97
71) Ethylbenzene	14.595	91	49047	0.98 ug/L	97
72) Chlorobenzene	14.589	112	36378	1.17 ug/L	91
73) 1,1,1,2-Tetrachloroethane	14.638	131	8878	0.81 ug/L #	71
74) m,p-Xylene	14.705	91	68348	1.76 ug/L	95
75) o-Xylene	15.033	91	31302	0.81 ug/L	96
76) Styrene	15.076	104	22676	0.72 ug/L	94
77) Bromoform	15.124	173	3430	0.83 ug/L	96
78) Isopropylbenzene	15.258	105	44026	0.83 ug/L	94
81) cis-1,4-Dichloro-2-butene	15.520	53	1665	0.92 ug/L #	19
82) n-Propylbenzene	15.550	91	47259	0.87 ug/L	97
83) Bromobenzene	15.575	156	12004	0.94 ug/L	94
84) 1,1,2,2-Tetrachloroethane	15.611	83	6846	1.15 ug/L	97
85) 1,3,5-Trimethylbenzene	15.672	105	32060	0.80 ug/L	100
86) 2-Chlorotoluene	15.690	91	32381	0.92 ug/L	94
87) trans-1,4-Dichloro-2-B...	15.739	53	1232	0.72 ug/L #	77
88) 1,2,3-Trichloropropane	15.720	110	2857	1.22 ug/L	91
90) 4-Chlorotoluene	15.806	91	28750	0.87 ug/L	97
91) tert-Butylbenzene	15.909	91	17662	0.86 ug/L	97
92) 1,2,4-Trimethylbenzene	15.958	105	32476	0.80 ug/L	95
93) Pentachloroethane	15.958	167	4787	0.72 ug/L	82
94) sec-Butylbenzene	16.031	105	38268	0.83 ug/L	99
95) 4-Isopropyltoluene	16.116	119	34227	0.79 ug/L	100
96) 1,3-Dichlorobenzene	16.225	146	23588	0.95 ug/L	98
97) 1,2,3-Trimethylbenzene	16.268	105	40688	0.86 ug/L	91
98) 1,4-Dichlorobenzene	16.280	146	24775m	0.99 ug/L	
99) n-Butylbenzene	16.408	92	12949	0.80 ug/L	94
100) Benzyl Chloride	16.438	126	2098	0.71 ug/L	98
101) 1,2-Dichlorobenzene	16.584	146	21132	0.94 ug/L	97
102) 1,2-Dibromo-3-Chloropr...	17.120	75	1073m	1.32 ug/L	
103) Hexachlorobutadiene	17.527	225	3595	0.91 ug/L	83
104) 1,2,4-Trichlorobenzene	17.588	180	8630	0.78 ug/L	94
105) Naphthalene	17.838	128	20959	0.98 ug/L	98
106) 1,2,3-Trichlorobenzene	17.984	180	8488	0.94 ug/L	97
109) Tert Butyl Alcohol	7.556	59	4275	10.48 ug/L #	54
110) Isobutyl alcohol	11.334	42	1434	13.79 ug/L #	75
111) Tert Amyl Alcohol	11.438	59	2084	7.97 ug/L	87
113) 3,3-dimethyl-1-butanol	14.309	57	17280	41.99 ug/L	87

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:27:35 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration



RESTEK011521w.M Mon Jan 18 09:59:52 2021 Page: 3

Manual Integration Approval Summary

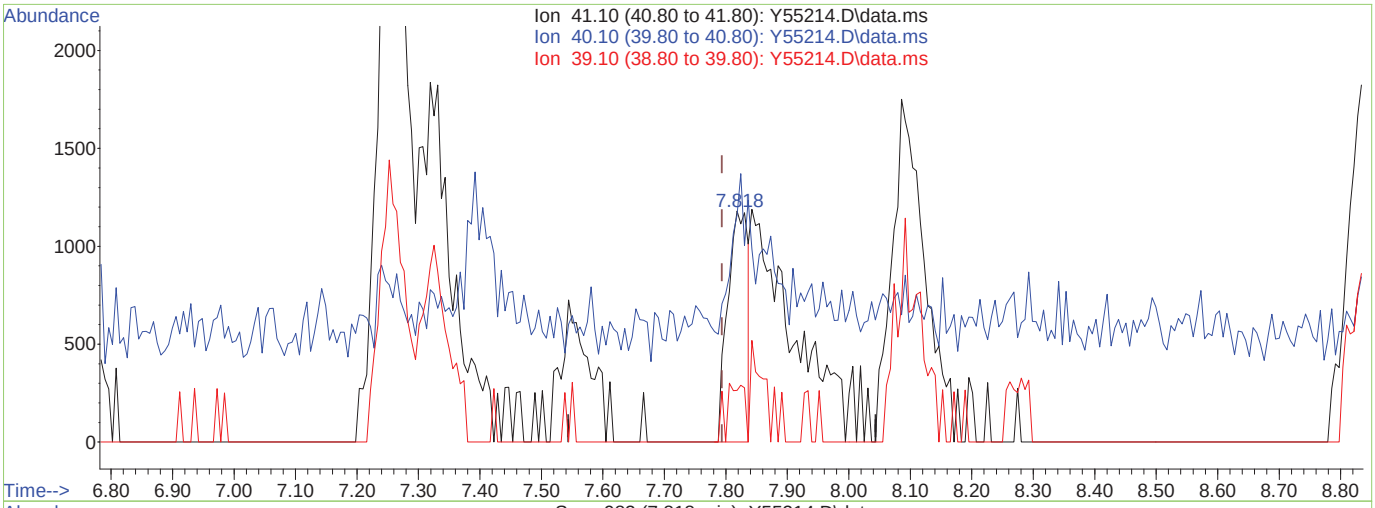
Sample Number: VY2293-IC2293
Lab FileID: Y55214.D
Injection Time: 01/15/21 10:59
Method: SW846 8260B
Analyst approved: 01/18/21 10:02 Shanica O'Connor
Supervisor approved: 01/18/21 10:25 Melissa Mangual

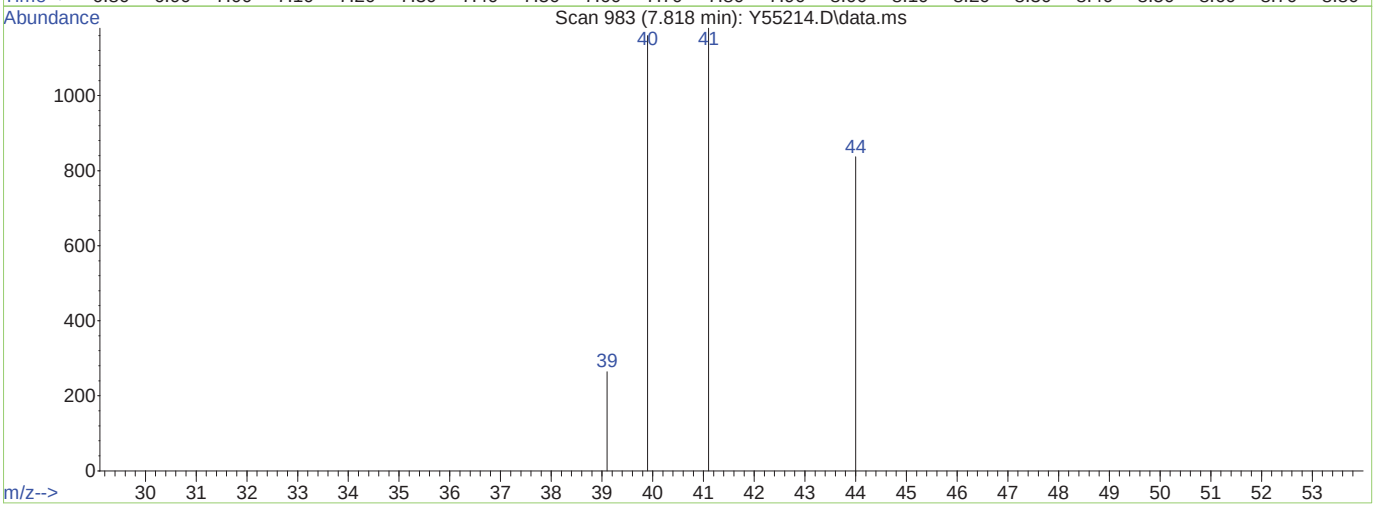
Parameter	CAS	Sig#	R.T. (min.)	Reason
Acetonitrile	75-05-8		7.84	Poor instrument integration
Methyl Methacrylate	80-62-6		12.61	Poor instrument integration
2-Hexanone	591-78-6		14.33	Overlapping peak
1,4-Dichlorobenzene	106-46-7		16.28	Missed peak
1,2-Dibromo-3-chloropropane	96-12-8		17.12	Missed peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:24:31 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55214.D\data.ms

(23) Acetonitrile

7.818min (+0.024) 4.96ug/L

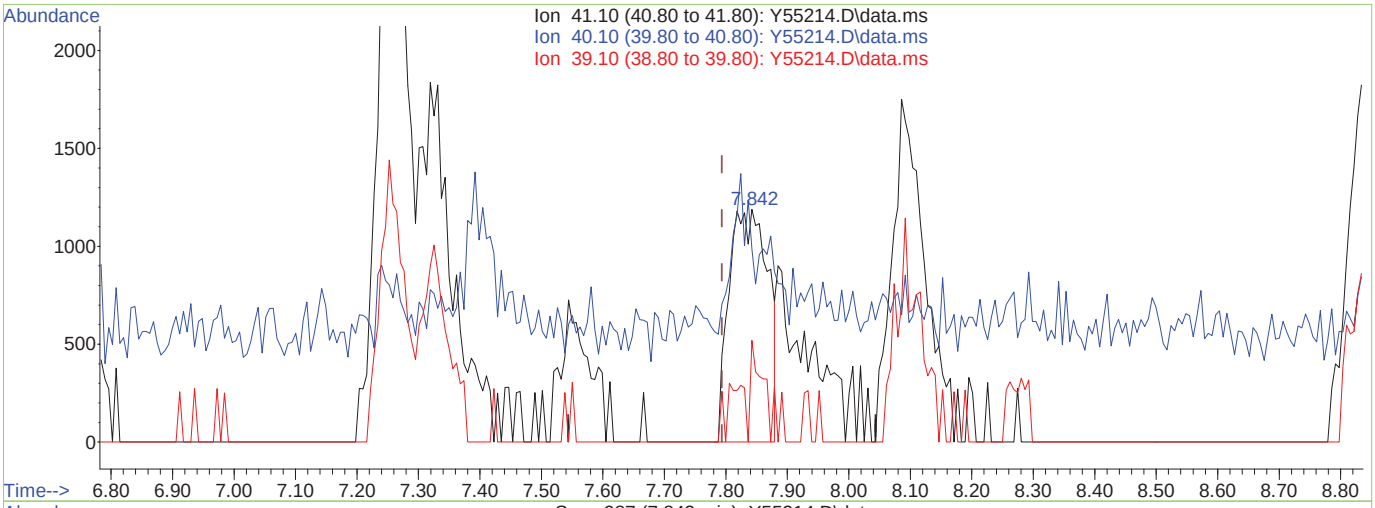
response 2687

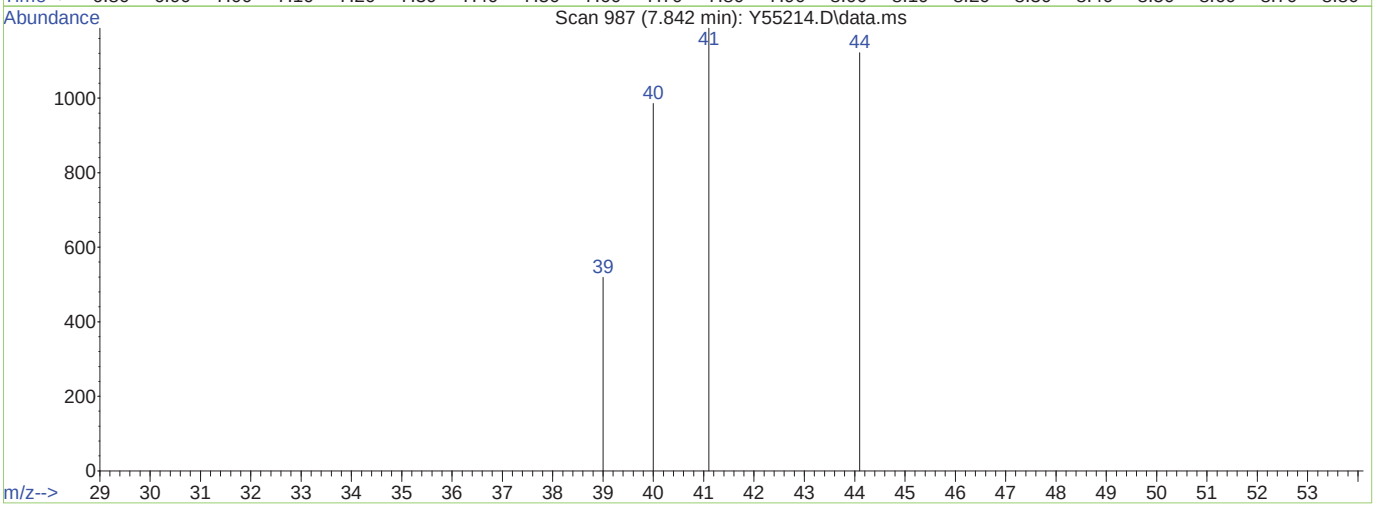
Ion	Exp%	Act%
41.10	100	100
40.10	51.20	50.51
39.10	20.10	22.37
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:24:31 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55214.D\data.ms

(23) Acetonitrile

7.842min (+0.049) 9.56ug/L m

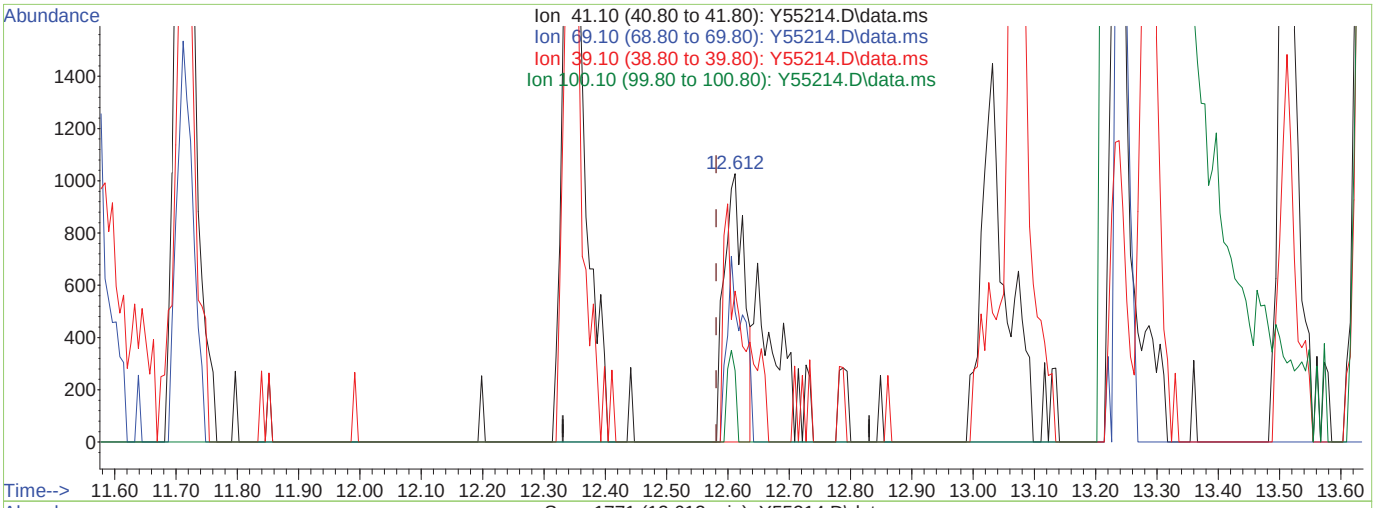
response 5173

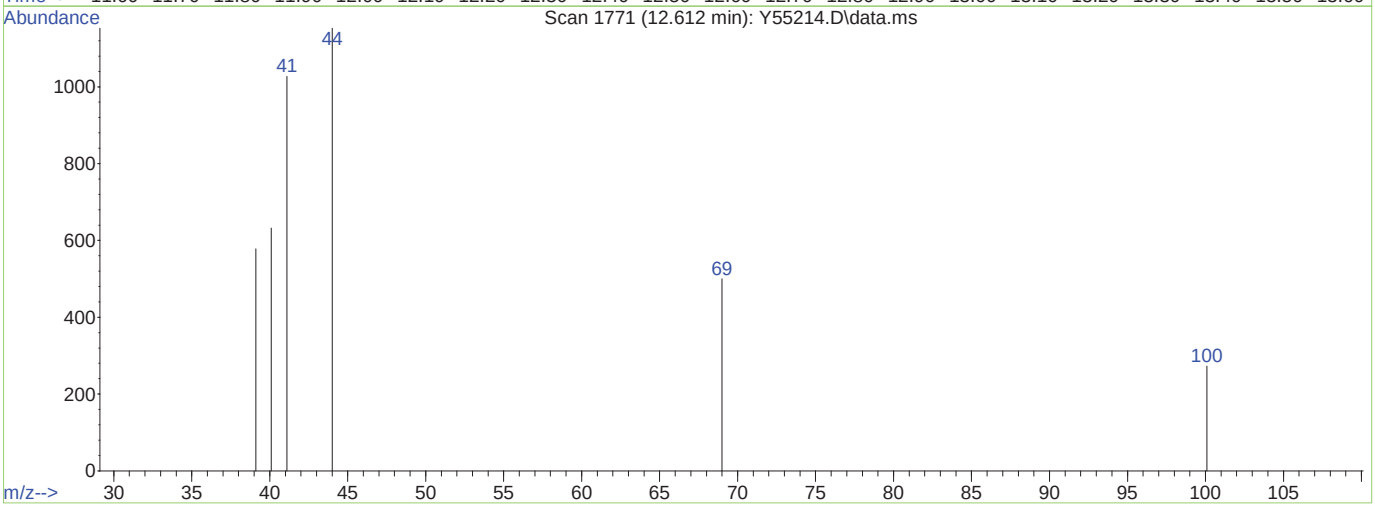
Ion	Exp%	Act%
41.10	100	100
40.10	51.20	83.00#
39.10	20.10	43.69#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:24:31 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55214.D\data.ms

(54) Methyl methacrylate

12.612min (+0.031) 0.52ug/L

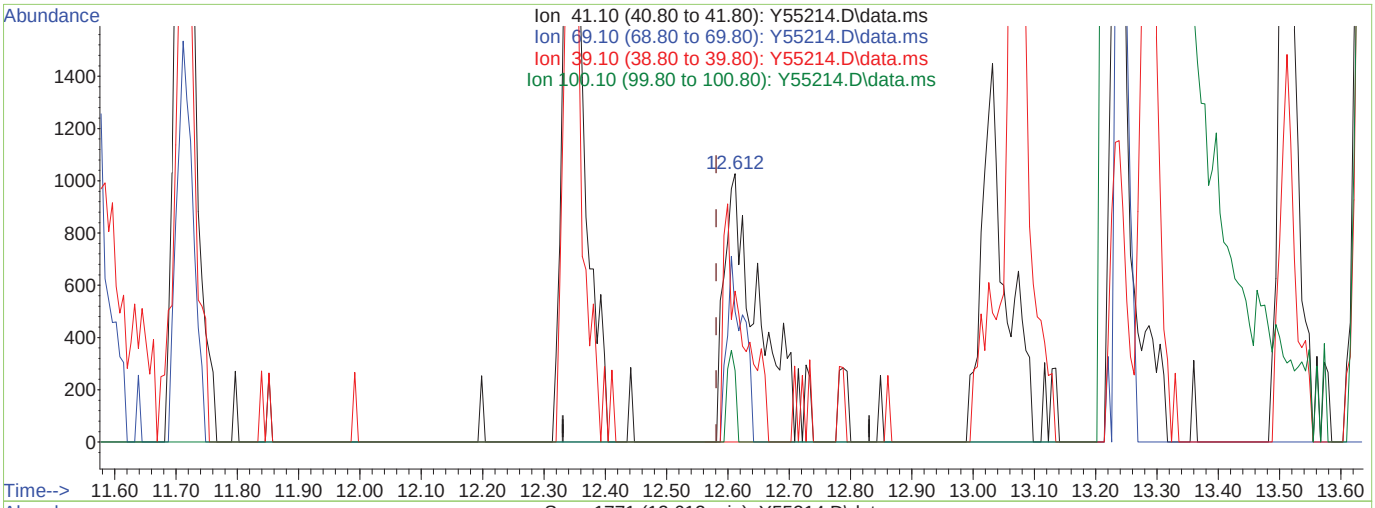
response 2350

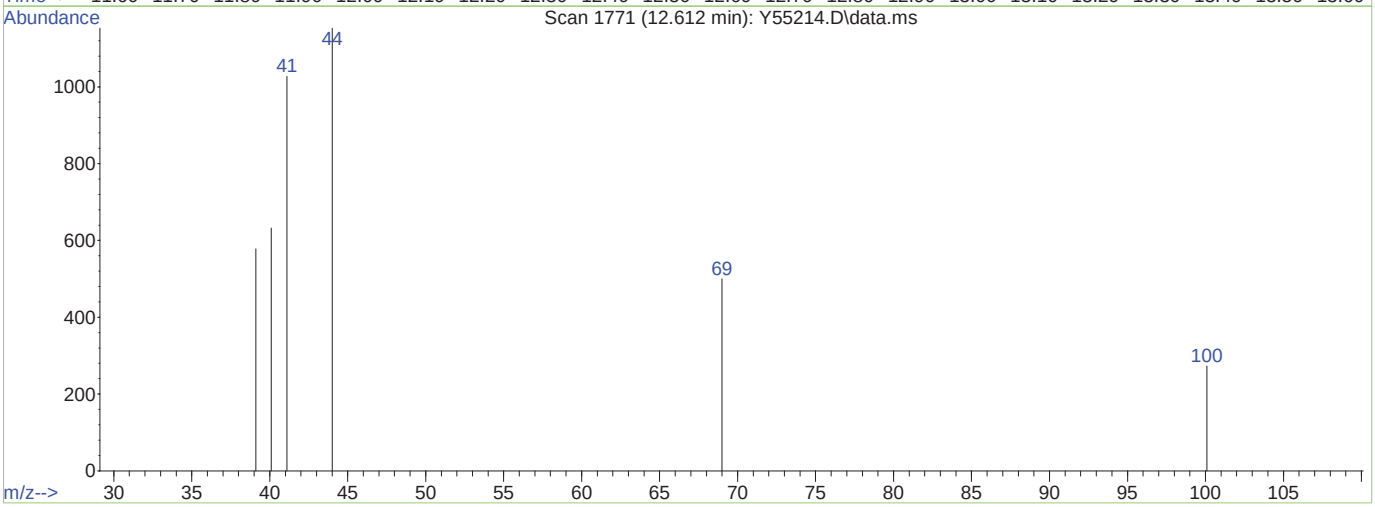
Ion	Exp%	Act%
41.10	100	100
69.10	62.30	48.69
39.10	57.00	56.28
100.10	30.20	26.58

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:24:31 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55214.D\data.ms

(54) Methyl methacrylate

12.612min (+0.031) 0.87ug/L m

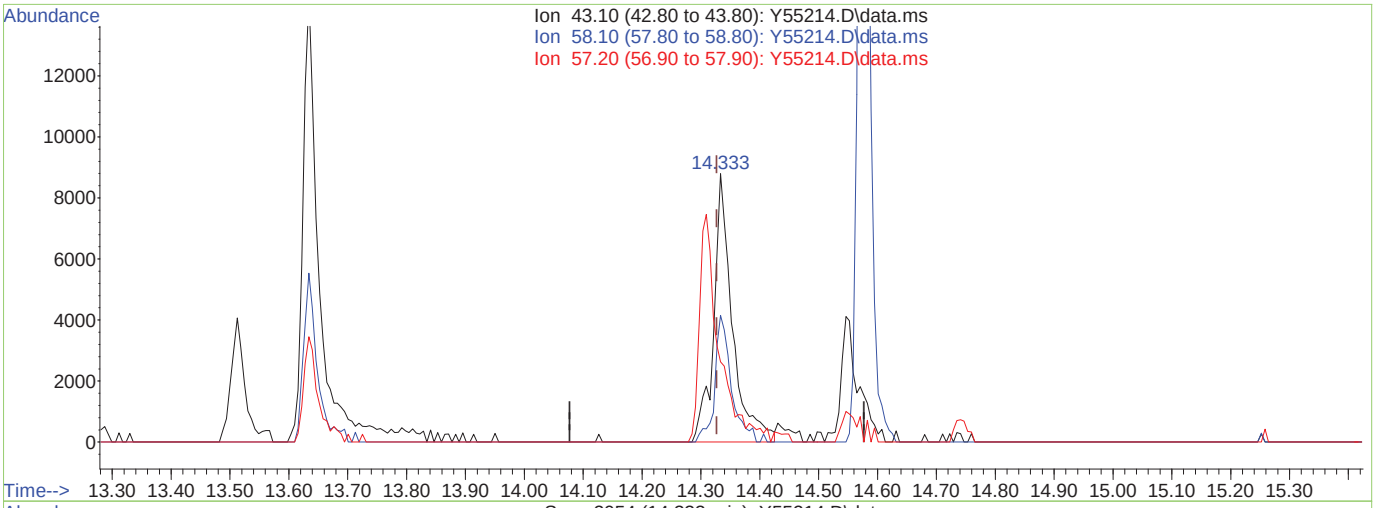
response 3942

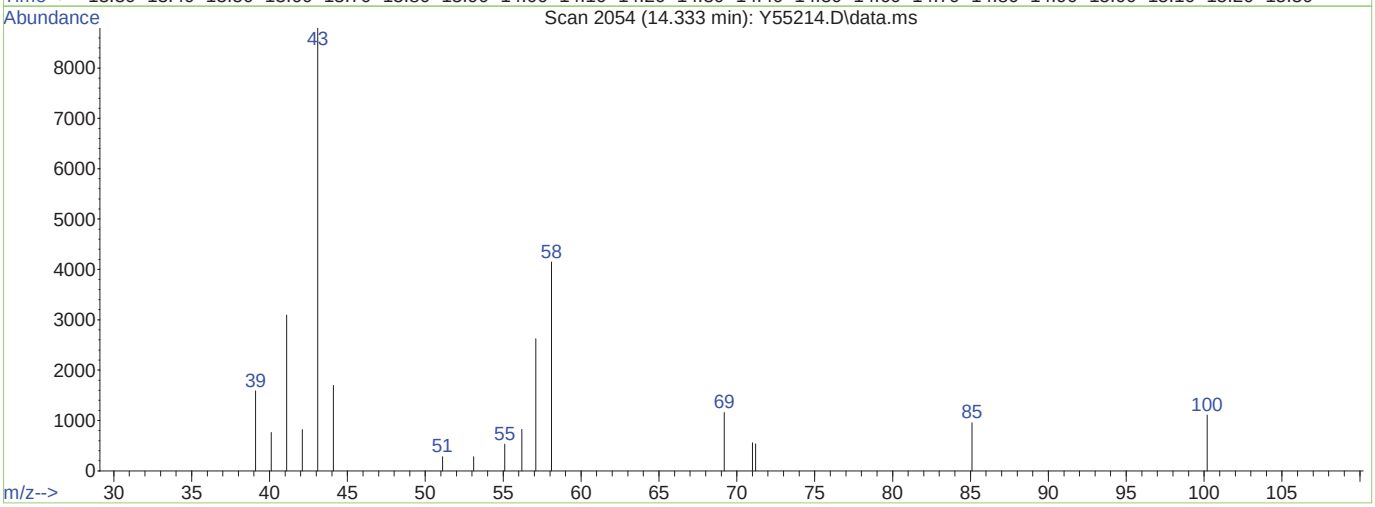
Ion	Exp%	Act%
41.10	100	100
69.10	62.30	48.69
39.10	57.00	56.28
100.10	30.20	26.58

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:24:31 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55214.D\data.ms

(69) 2-hexanone

14.333min (+0.006) 6.09ug/L

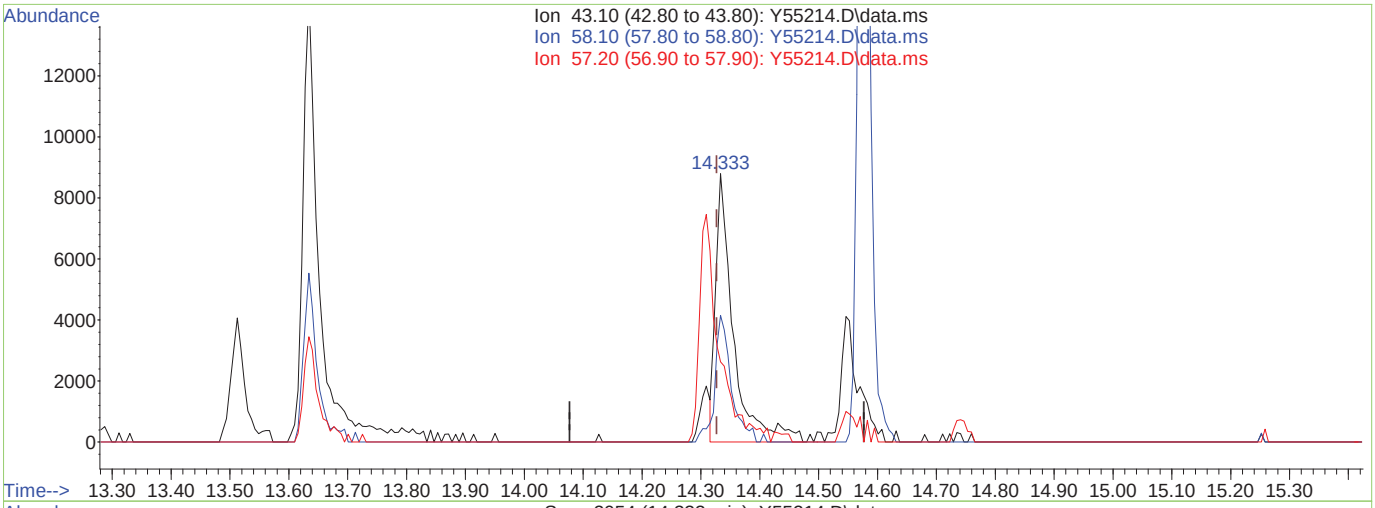
response 19455

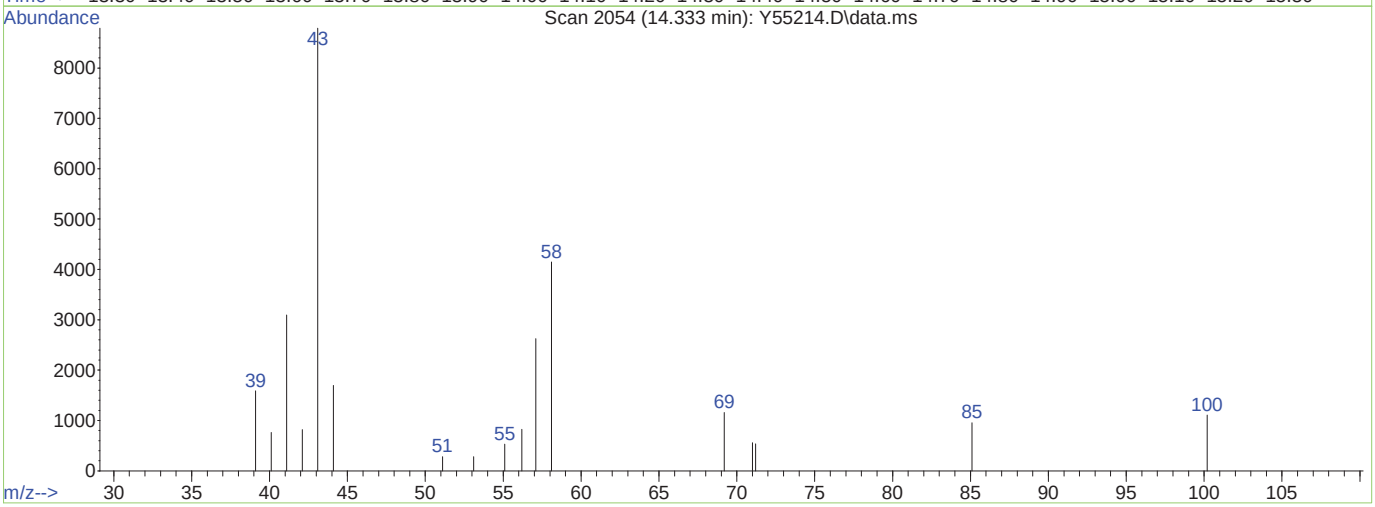
Ion	Exp%	Act%
43.10	100	100
58.10	49.60	47.19
57.20	27.30	29.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:24:31 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55214.D\data.ms

(69) 2-hexanone

14.333min (+0.006) 5.76ug/L m

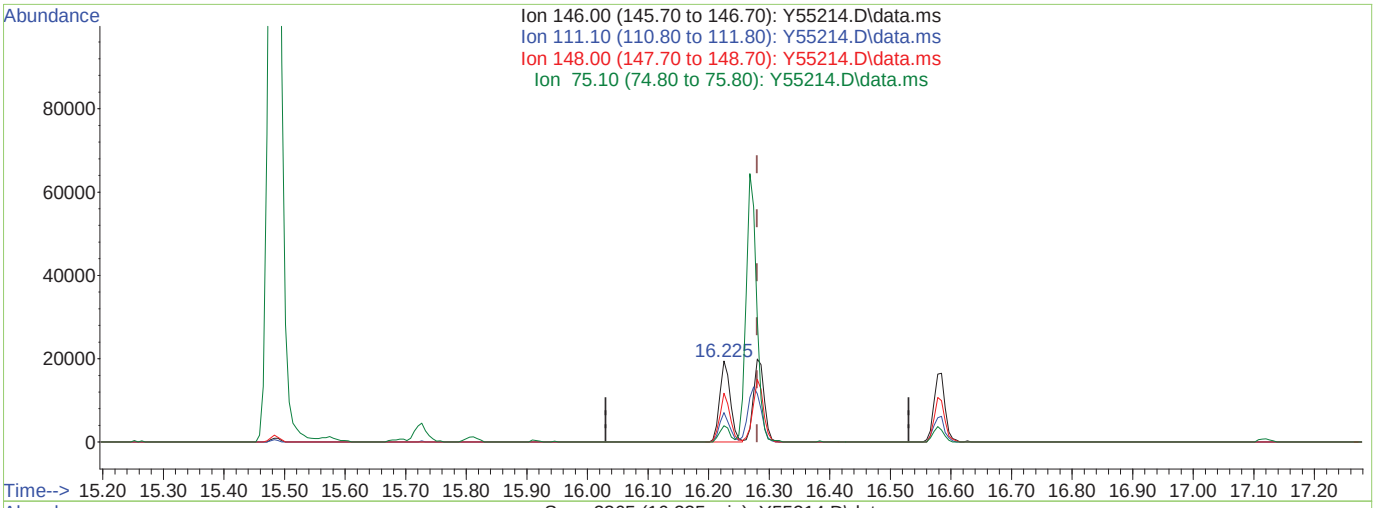
response 18388

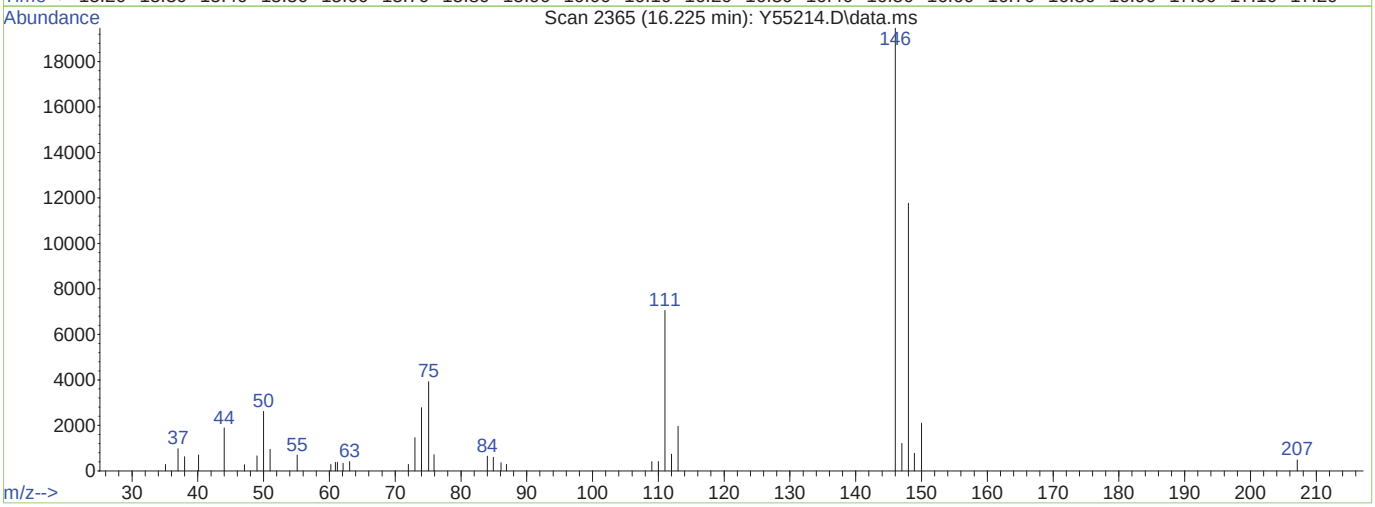
Ion	Exp%	Act%
43.10	100	100
58.10	49.60	47.19
57.20	27.30	29.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:24:31 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55214.D\data.ms

(98) 1,4-Dichlorobenzene

16.225min (-0.055) 0.94ug/L

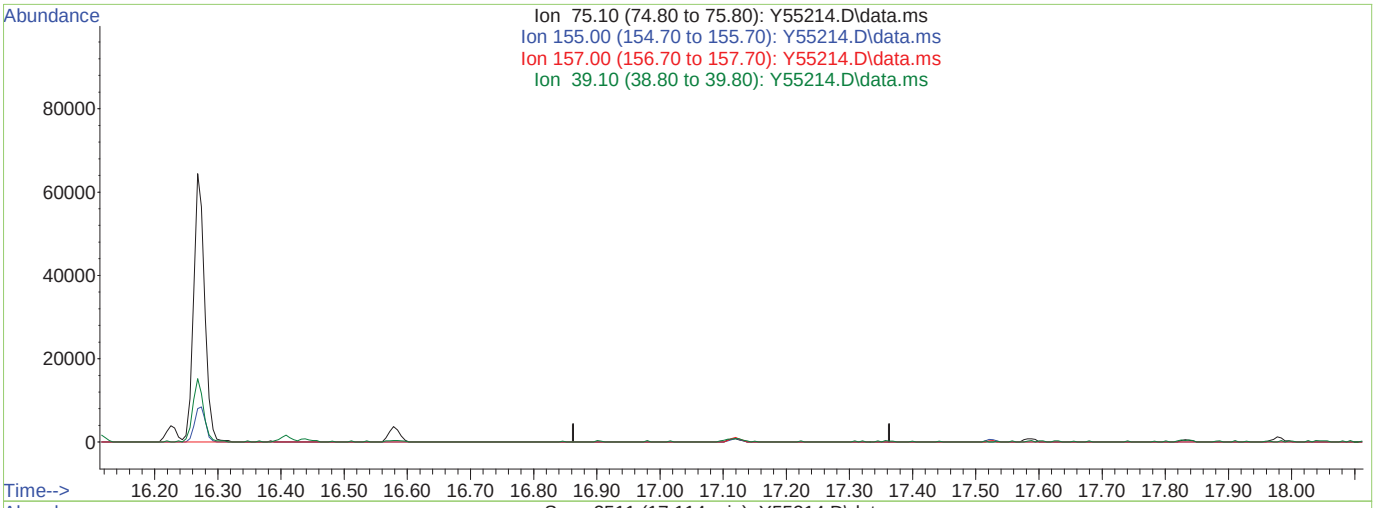
response 23588

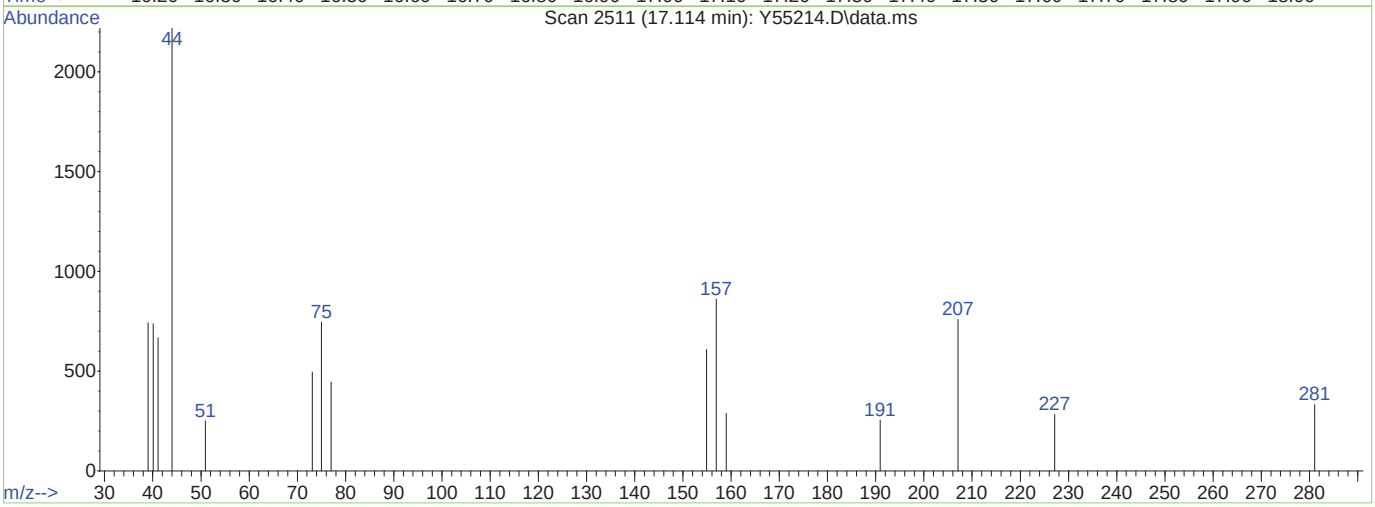
Ion	Exp%	Act%
146.00	100	100
111.10	35.90	36.21
148.00	63.20	60.40
75.10	24.00	20.12

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:24:31 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55214.D\data.ms

(102) 1,2-Dibromo-3-Chloropropane

17.113min (-17.113) 0.00ug/L

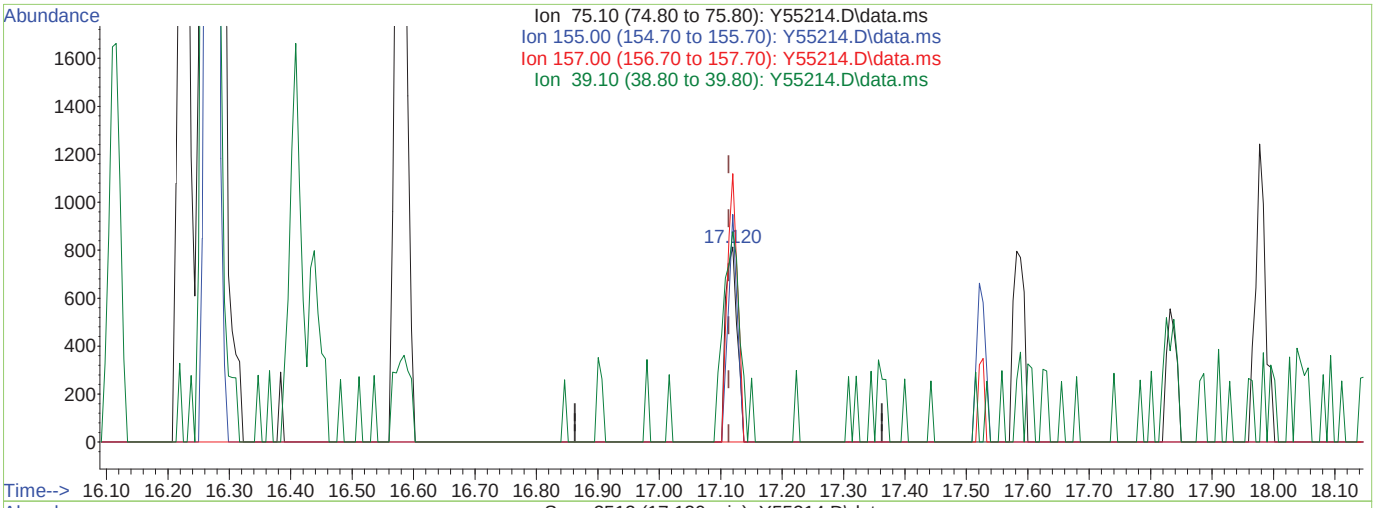
response 0

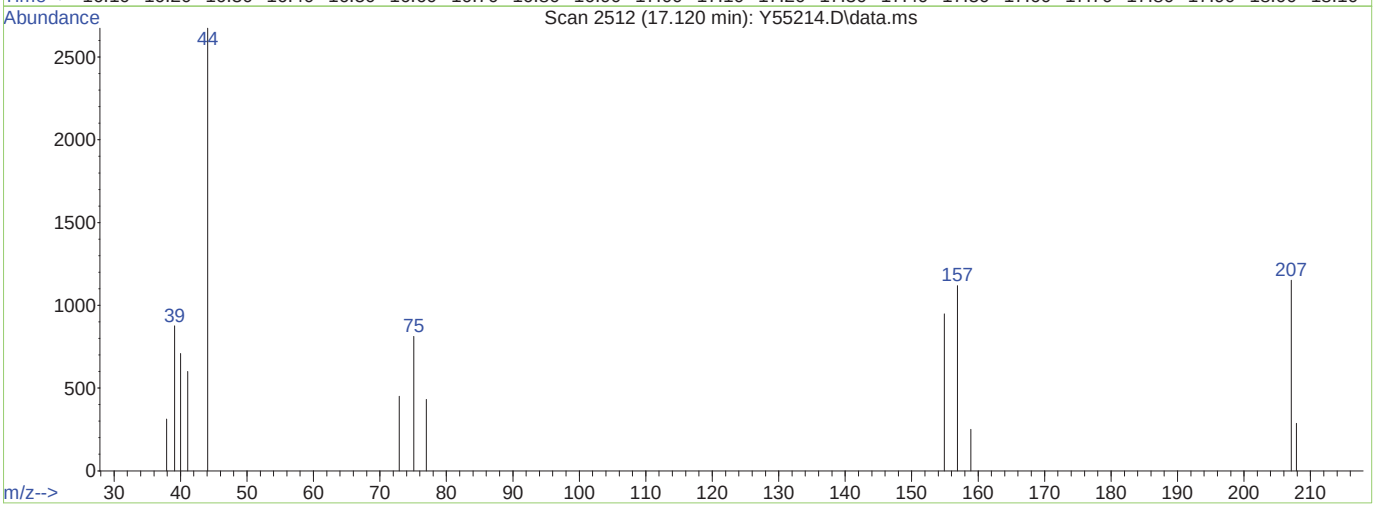
Ion	Exp%	Act%
75.10	100	0.00
155.00	108.10	0.00#
157.00	146.10	0.00#
39.10	96.90	0.00#

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:24:31 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55214.D\data.ms

(102) 1,2-Dibromo-3-Chloropropane

17.120min (+0.007) 1.32ug/L m

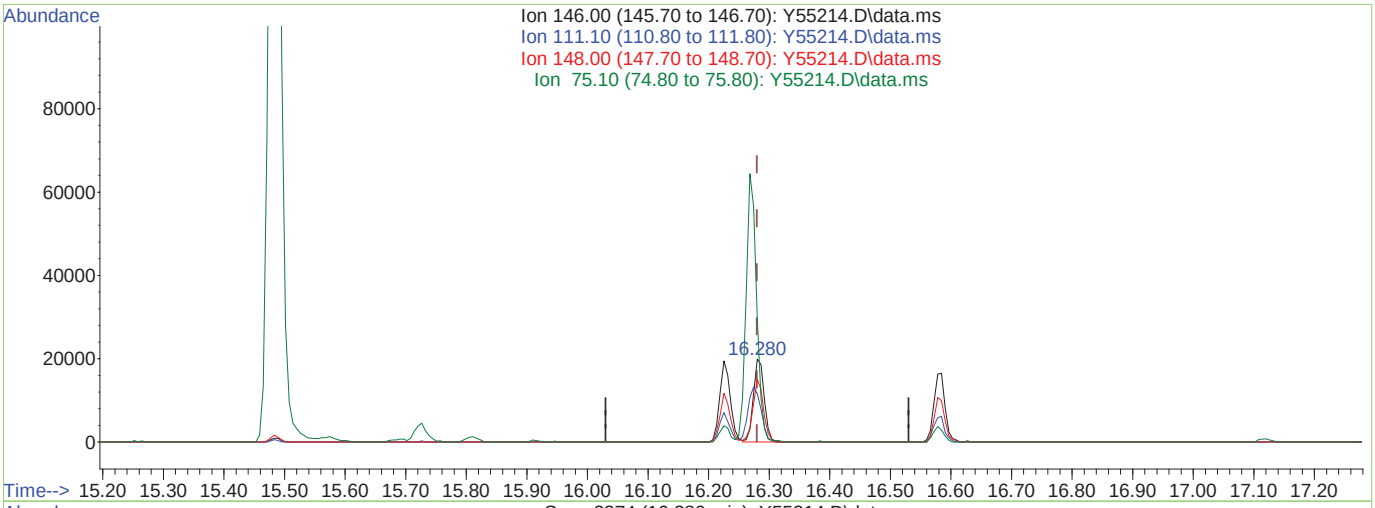
response 1073

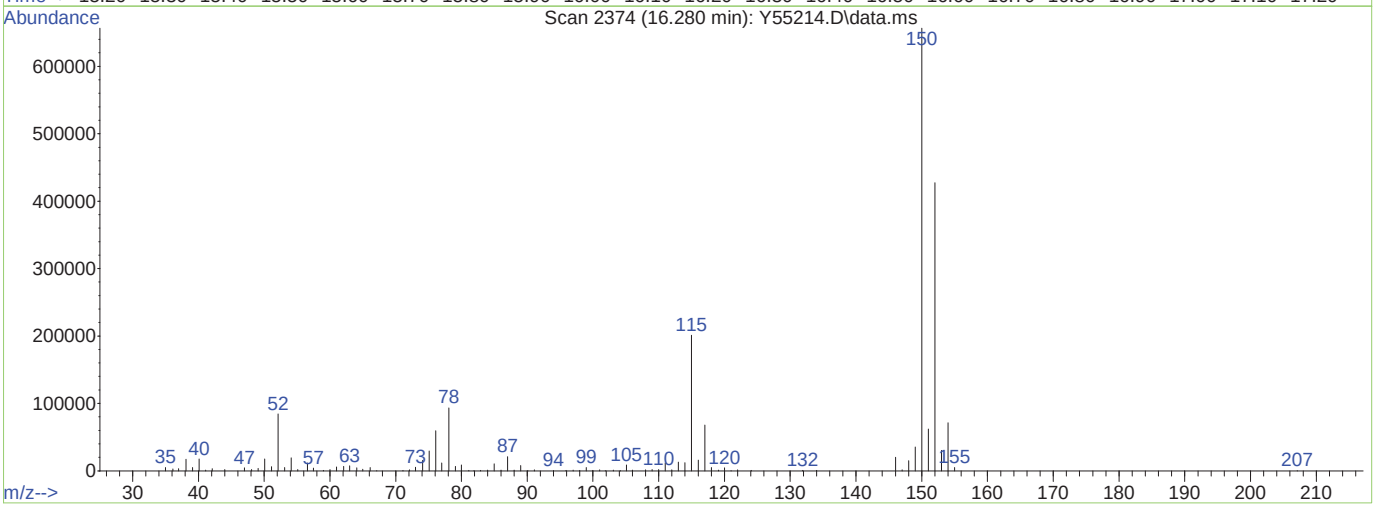
Ion	Exp%	Act%
75.10	100	100
155.00	108.10	116.73
157.00	146.10	137.64
39.10	96.90	107.75

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55214.D
Acq On : 15 Jan 2021 10:59 am
Operator : chelseav
Sample : IC2293-1 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 15 11:24:31 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55214.D\data.ms

(98) 1,4-Dichlorobenzene

16.280min (+0.000) 0.99ug/L m

response 24775

Ion	Exp%	Act%
146.00	100	100
111.10	35.90	58.13
148.00	63.20	75.19
75.10	24.00	147.41#

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/18/21 10:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55215.D
Acq On : 15 Jan 2021 11:26 am
Operator : chelseav
Sample : IC2293-2 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 15 12:06:49 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.516	96	2053715	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	1886589	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	991160	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.398	65	93692	250.00	ug/L	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	537006	50.16	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.32%			
47) 1,2-Dichloroethane-d4	11.139	65	500146	57.68	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 115.36%			
58) Toluene-d8	13.238	98	2160832	48.44	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.88%			
80) 4-Bromofluorobenzene	15.483	174	745154	48.21	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.42%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	59818	5.09	ug/L	96
3) Acrolein	6.303	56	30040	31.30	ug/L	90
4) Chloromethane	3.395	50	62196	4.88	ug/L	98
5) 1,3-butadiene	3.584	39	46924	4.83	ug/L	91
6) Vinyl Chloride	3.553	62	54267	4.96	ug/L	97
7) Bromomethane	4.161	94	28159	3.67	ug/L	96
8) Chloroethane	4.405	64	31159	4.38	ug/L	99
9) Trichlorofluoromethane	4.672	101	82518	5.16	ug/L	94
10) Ethyl Ether	5.287	59	32022	5.69	ug/L	95
11) 1,2-Dichlorotrifluoroe...	5.676	67	44756	5.26	ug/L	91
12) 1,1-Dichloroethene	5.646	61	63459	4.96	ug/L	97
13) Freon 113	5.737	101	50417	5.34	ug/L	99
14) Carbon Disulfide	5.676	76	107966	4.68	ug/L	98
15) Iodomethane	5.907	142	46892	2.79	ug/L	98
16) Allyl chloride	6.571	41	62408	4.36	ug/L	100
17) Methylene Chloride	6.777	49	68905	5.74	ug/L	97
18) Acetone	6.899	43	37805	29.01	ug/L	93
19) Methyl acetate	7.148	43	104286	32.21	ug/L	99
20) trans-1,2-Dichloroethene	7.094	61	58940	4.88	ug/L	98
21) Hexane	7.258	56	38165m	5.49	ug/L	
22) Methyl Tert Butyl Ether	7.319	73	80074	5.29	ug/L	89
23) Acetonitrile	7.805	41	38350	70.32	ug/L	95
24) Di-isopropyl ether	8.091	45	143848	4.78	ug/L	93
25) Chloroprene	8.274	53	72621	5.02	ug/L	99
26) 1,1-Dichloroethane	8.316	63	70805	5.03	ug/L	100
27) Acrylonitrile	8.432	53	49444	30.42	ug/L	99
28) ETBE	8.827	59	109026	4.87	ug/L	97
29) Vinyl acetate	8.858	43	370544	28.35	ug/L	97
30) cis-1,2-Dichloroethene	9.430	96	50389	5.05	ug/L	97
31) 2,2-Dichloropropane	9.643	77	41675	3.99	ug/L	99
32) Bromochloromethane	9.837	128	27379	5.38	ug/L	95
33) Cyclohexane	9.825	56	89460	5.04	ug/L	96
34) Chloroform	10.008	83	73322	5.02	ug/L	98
35) Ethyl acetate	10.257	43	143278	31.36	ug/L	96
36) Tetrahydrofuran	10.257	42	7566	5.41	ug/L	94
38) Carbon Tetrachloride	10.227	117	67732	4.72	ug/L	99
39) 1,1,1-Trichloroethane	10.348	97	77641	4.96	ug/L	97
40) 2-Butanone	10.561	43	55111	29.61	ug/L	95
41) 1,1-Dichloropropene	10.561	75	58664	4.89	ug/L	96
42) tert-Butyl formate	10.750	59	30741	30.12	ug/L #	85
43) Propionitrile	10.993	54	40346	69.14	ug/L	92
44) Methacrylonitrile	11.018	41	212113	64.57	ug/L	99
45) Benzene	10.938	78	179140	5.15	ug/L	99
46) TAME	11.127	73	88307	5.23	ug/L	91
48) 1,2-Dichloroethane	11.237	62	57094	5.77	ug/L	99
49) Trichloroethene	11.741	95	54460	5.13	ug/L	97
50) Methylcyclohexane	11.717	83	77755	5.19	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55215.D
Acq On : 15 Jan 2021 11:26 am
Operator : chelseav
Sample : IC2293-2 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 15 12:06:49 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

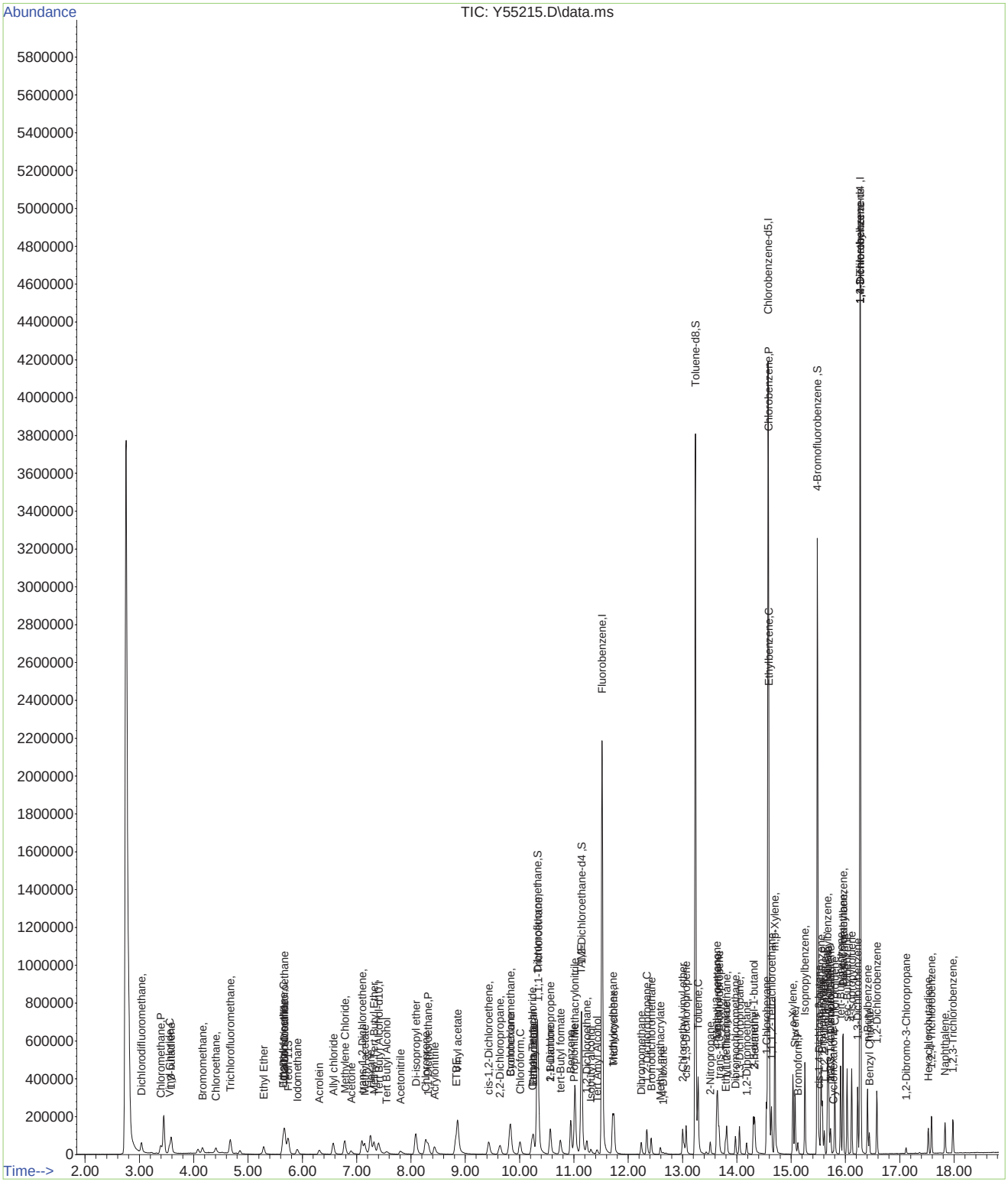
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.240	93	22800	5.81	ug/L		98
52) 1,2-Dichloropropane	12.344	63	41964	5.22	ug/L		99
53) Bromodichloromethane	12.423	83	48615	4.92	ug/L		97
54) Methyl methacrylate	12.587	41	24433	5.33	ug/L		96
55) 2-Chloroethyl vinyl ether	13.001	63	47096	20.52	ug/L		97
56) cis-1,3-Dichloropropene	13.068	75	59656	4.80	ug/L		98
59) Toluene	13.287	91	224623	4.86	ug/L		98
60) 2-Nitropropane	13.512	41	34192	25.92	ug/L		91
61) 4-Methyl-2-pentanone	13.627	43	139444	28.57	ug/L		96
62) trans-1,3-Dichloropropene	13.670	75	46038	4.90	ug/L		93
63) Tetrachloroethene	13.646	166	66832	4.81	ug/L		99
64) Ethyl methacrylate	13.792	69	29358	4.86	ug/L		92
65) 1,1,2-Trichloroethane	13.816	83	28403	5.82	ug/L		98
66) Dibromochloromethane	13.974	129	43317	4.79	ug/L		98
67) 1,3-Dichloropropane	14.047	76	60621	5.69	ug/L		98
68) 1,2-Dibromoethane	14.181	107	37343	5.61	ug/L		95
69) 2-hexanone	14.327	43	96979m	29.75	ug/L		
70) 1-Chlorohexane	14.546	91	63850	4.50	ug/L		94
71) Ethylbenzene	14.595	91	241867	4.82	ug/L		96
72) Chlorobenzene	14.589	112	157730	5.03	ug/L		98
73) 1,1,1,2-Tetrachloroethane	14.637	131	52663	4.77	ug/L		97
74) m,p-Xylene	14.698	91	371343	9.51	ug/L		100
75) o-Xylene	15.033	91	180005	4.60	ug/L		99
76) Styrene	15.075	104	138688	4.36	ug/L		98
77) Bromoform	15.124	173	21677	5.12	ug/L		98
78) Isopropylbenzene	15.252	105	251000	4.68	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.519	53	10866	5.73	ug/L	#	64
82) n-Propylbenzene	15.550	91	259624	4.66	ug/L		100
83) Bromobenzene	15.574	156	63419	4.84	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.611	83	38076	6.23	ug/L		98
85) 1,3,5-Trimethylbenzene	15.671	105	188229	4.55	ug/L		100
86) 2-Chlorotoluene	15.690	91	170727	4.70	ug/L		99
87) trans-1,4-Dichloro-2-B...	15.732	53	9267	5.25	ug/L	#	70
88) 1,2,3-Trichloropropane	15.720	110	14868	6.16	ug/L		93
89) Cyclohexanone	15.775	55	4236	30.56	ug/L		89
90) 4-Chlorotoluene	15.805	91	154218	4.55	ug/L		99
91) tert-Butylbenzene	15.909	91	97201	4.61	ug/L		98
92) 1,2,4-Trimethylbenzene	15.951	105	190859	4.56	ug/L		100
93) Pentachloroethane	15.957	167	30100	4.42	ug/L		90
94) sec-Butylbenzene	16.030	105	222300	4.68	ug/L		99
95) 4-Isopropyltoluene	16.115	119	200131	4.47	ug/L		100
96) 1,3-Dichlorobenzene	16.225	146	118779	4.64	ug/L		98
97) 1,2,3-Trimethylbenzene	16.268	105	225478	4.65	ug/L		100
98) 1,4-Dichlorobenzene	16.280	146	122558	4.75	ug/L		87
99) n-Butylbenzene	16.407	92	75091	4.49	ug/L		98
100) Benzyl Chloride	16.438	126	13710	4.45	ug/L		97
101) 1,2-Dichlorobenzene	16.578	146	110711	4.81	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.113	75	4888	5.78	ug/L		88
103) Hexachlorobutadiene	17.527	225	17761	4.38	ug/L		94
104) 1,2,4-Trichlorobenzene	17.588	180	52047	4.56	ug/L		98
105) Naphthalene	17.837	128	116228	5.22	ug/L		99
106) 1,2,3-Trichlorobenzene	17.977	180	47173	5.07	ug/L		99
108) Ethanol	5.640	45	6737	100.65	ug/L		82
109) Tert Butyl Alcohol	7.556	59	20658	44.92	ug/L		86
110) Isobutyl alcohol	11.310	42	10370	88.44	ug/L		90
111) Tert Amyl Alcohol	11.431	59	13252	44.95	ug/L		78
112) 1,4-Dioxane	12.642	88	5660	107.85	ug/L		91
113) 3,3-dimethyl-1-butanol	14.309	57	99098	213.62	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55215.D
Acq On : 15 Jan 2021 11:26 am
Operator : chelseav
Sample : IC2293-2 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 15 12:06:49 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration



RESTEK011521w.M Mon Jan 18 09:59:53 2021 Page: 3

Manual Integration Approval Summary

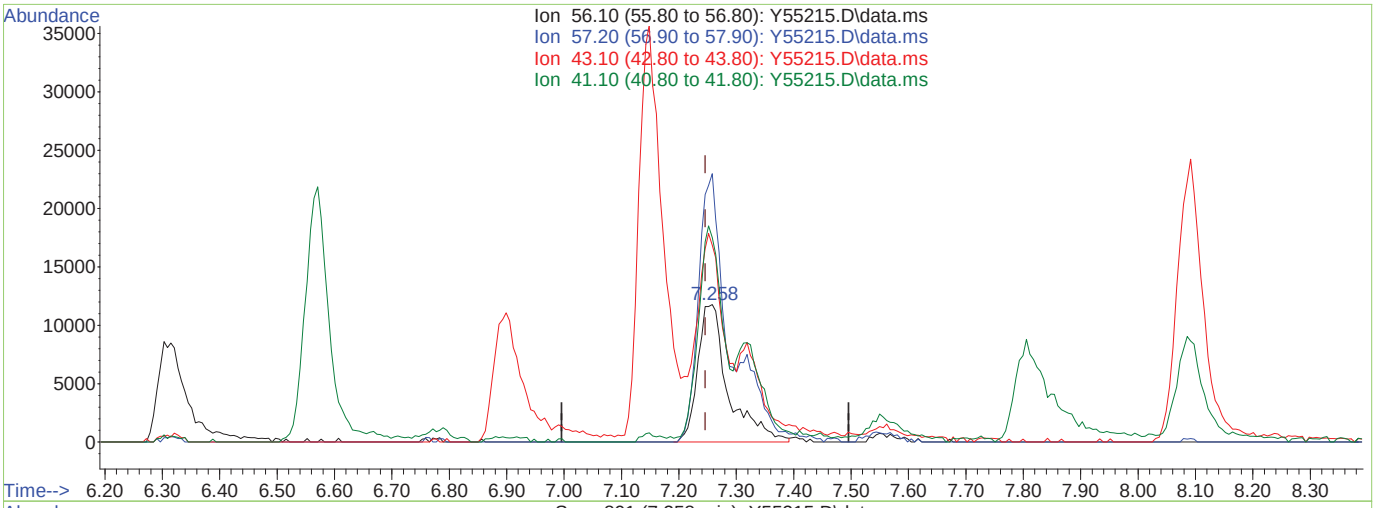
Sample Number: VY2293-IC2293
Lab FileID: Y55215.D
Injection Time: 01/15/21 11:26
Method: SW846 8260B
Analyst approved: 01/18/21 10:02 Shanica O'Connor
Supervisor approved: 01/18/21 10:25 Melissa Mangual

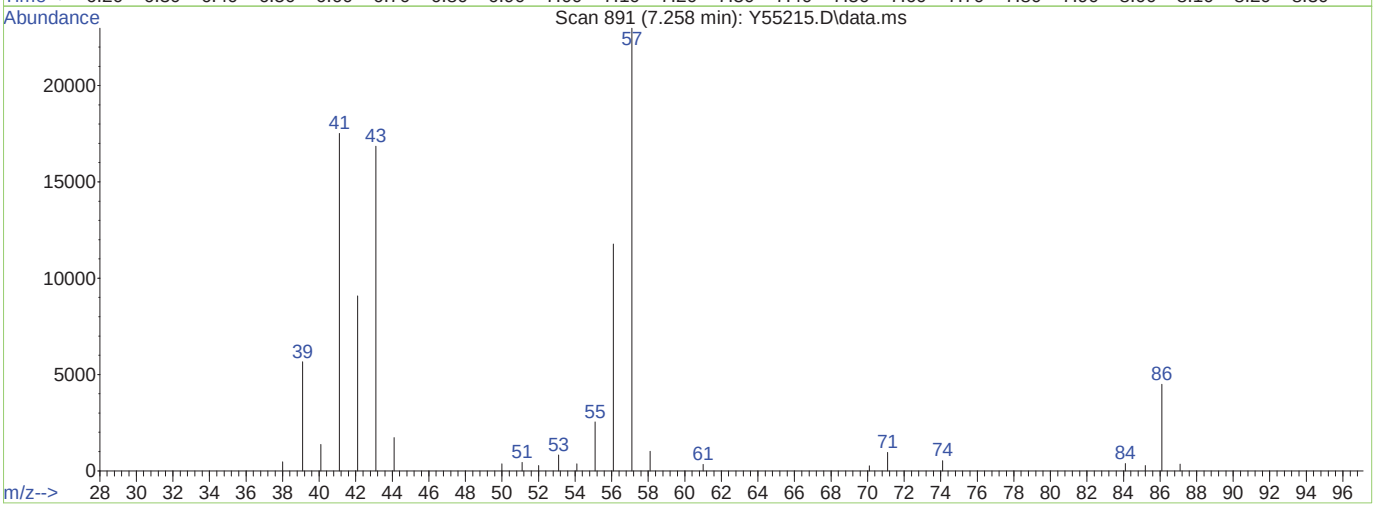
Parameter	CAS	Sig#	R.T. (min.)	Reason
Hexane	110-54-3		7.26	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55215.D
Acq On : 15 Jan 2021 11:26 am
Operator : chelseav
Sample : IC2293-2 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 15 12:06:17 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55215.D\data.ms

(21) Hexane

7.258min (+0.012) 6.28ug/L

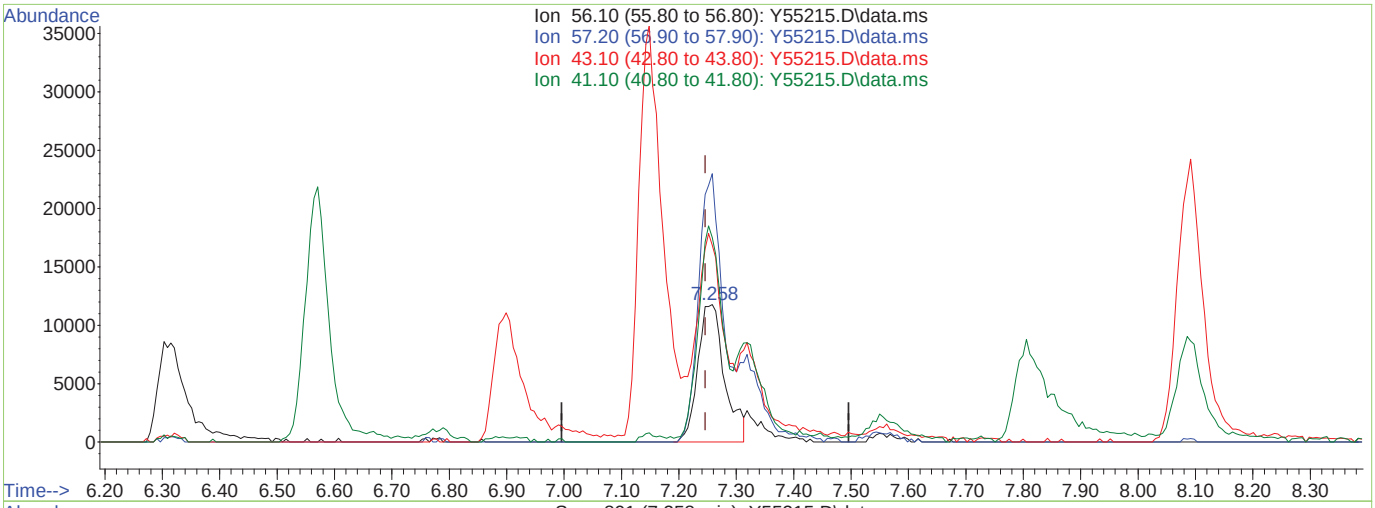
response 43661

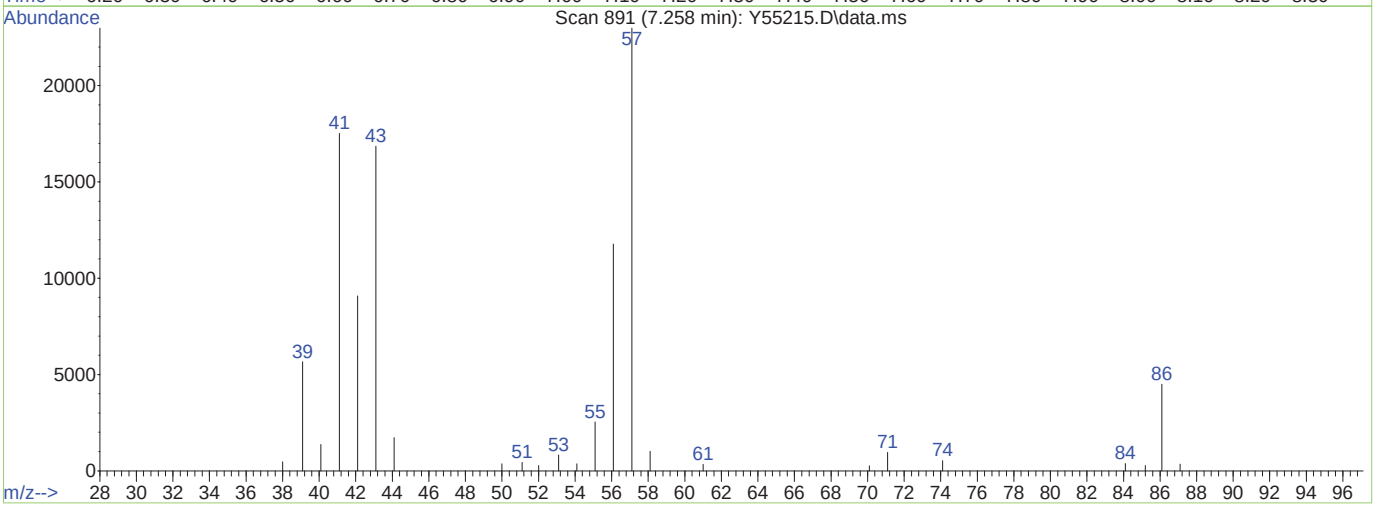
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	195.11
43.10	143.60	130.38
41.10	156.00	145.86

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55215.D
Acq On : 15 Jan 2021 11:26 am
Operator : chelseav
Sample : IC2293-2 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 15 12:06:17 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55215.D\data.ms

(21) Hexane

7.258min (+0.012) 5.49ug/L m

response 38165

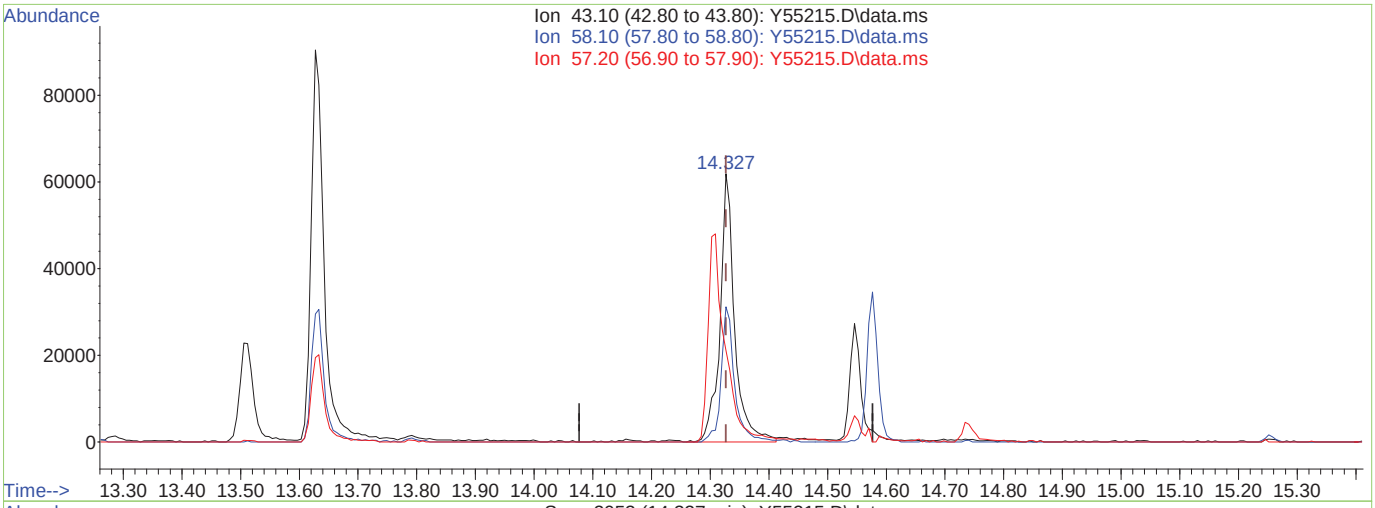
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	195.11
43.10	143.60	143.02
41.10	156.00	148.66

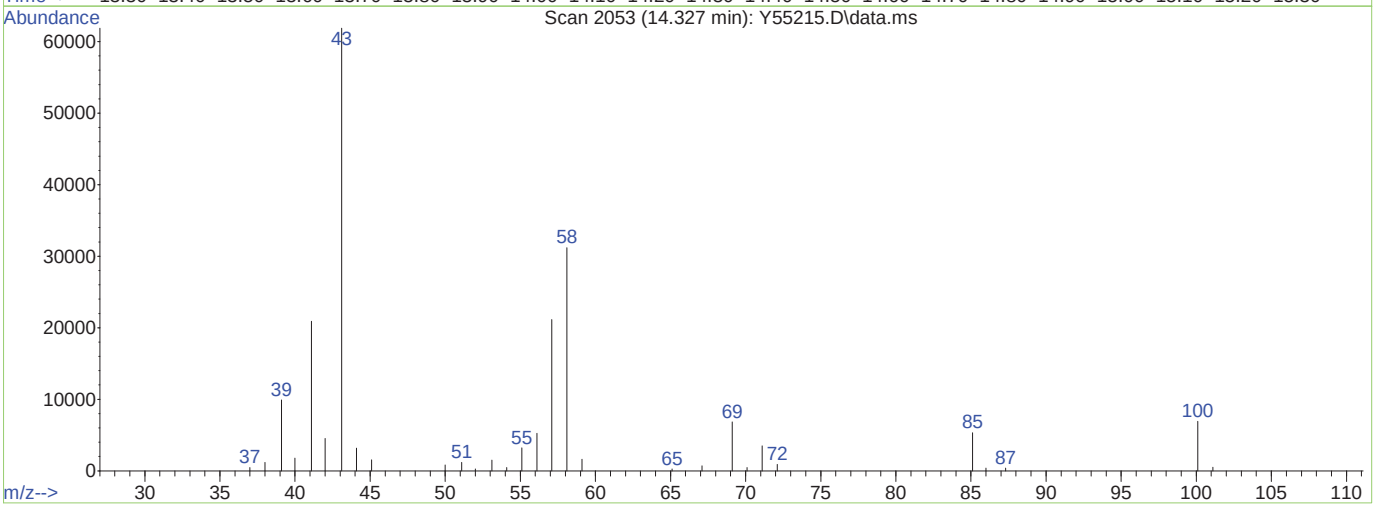
Y55215.D edits: Hexane

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55215.D
Acq On : 15 Jan 2021 11:26 am
Operator : chelseav
Sample : IC2293-2 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 15 12:06:17 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55215.D\data.ms

(69) 2-hexanone

14.327min (-0.000) 33.09ug/L

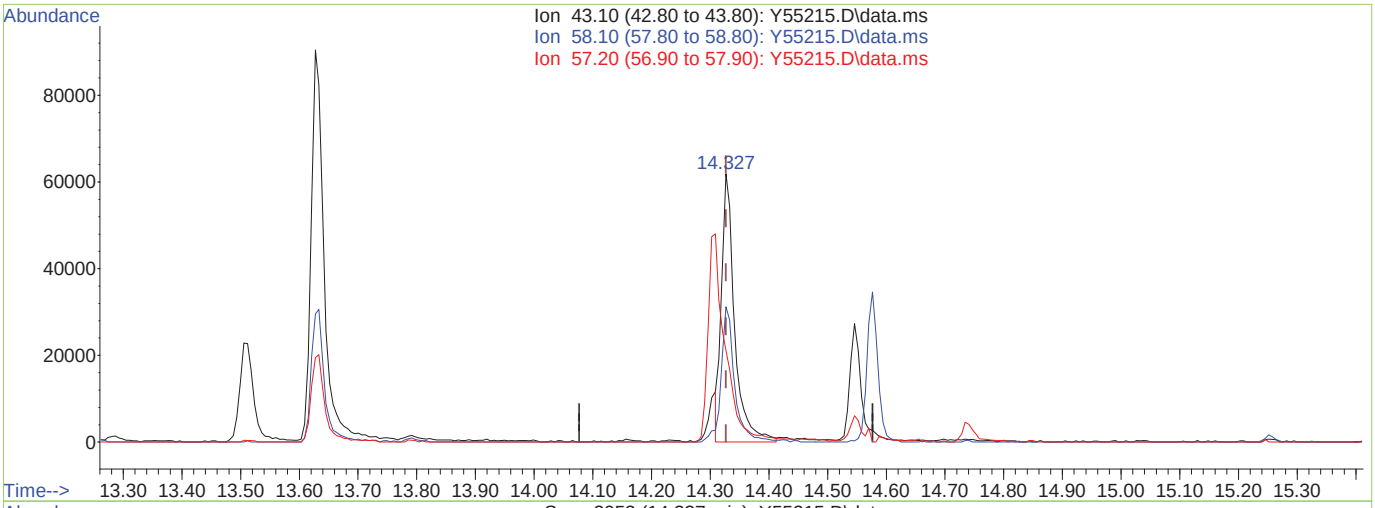
response 108058

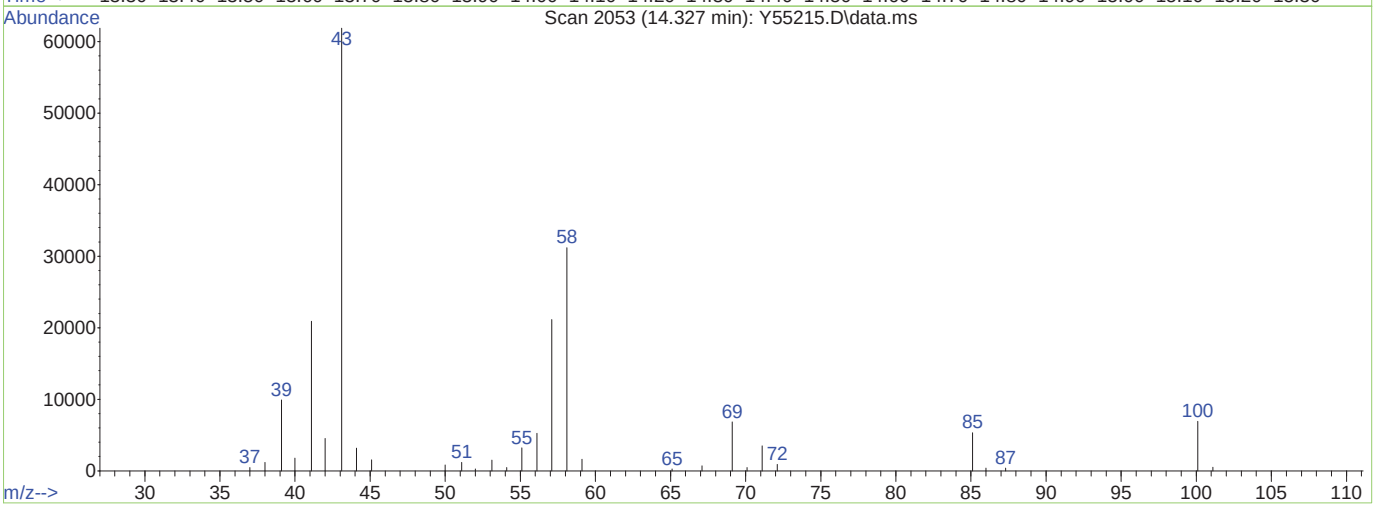
Ion	Exp%	Act%
43.10	100	100
58.10	49.60	50.41
57.20	27.30	34.16
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55215.D
Acq On : 15 Jan 2021 11:26 am
Operator : chelseav
Sample : IC2293-2 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 15 12:06:17 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55215.D\data.ms

(69) 2-hexanone

14.327min (-0.000) 29.75ug/L m

response 96979

Ion	Exp%	Act%
43.10	100	100
58.10	49.60	50.41
57.20	27.30	34.16
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/18/21 10:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:32:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.517	96	2030876	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1869652	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	995455	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.405	65	96843	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	534284	50.47	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.94%			
47) 1,2-Dichloroethane-d4	11.140	65	481399	56.14	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 112.28%			
58) Toluene-d8	13.239	98	2123318	48.03	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.06%			
80) 4-Bromofluorobenzene	15.483	174	750447	48.34	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.68%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.037	85	111894	9.63	ug/L	98
3) Acrolein	6.309	56	57625	60.72	ug/L	99
4) Chloromethane	3.396	50	121677m	9.65	ug/L	
5) 1,3-butadiene	3.590	39	89215	9.28	ug/L	97
6) Vinyl Chloride	3.554	62	103499	9.56	ug/L	100
7) Bromomethane	4.168	94	58534	7.72	ug/L	95
8) Chloroethane	4.411	64	58785	8.59	ug/L	96
9) Trichlorofluoromethane	4.679	101	152635	9.66	ug/L	99
10) Ethyl Ether	5.287	59	62707	11.27	ug/L	99
11) 1,2-Dichlorotrifluoroe...	5.677	67	83294	9.90	ug/L	96
12) 1,1-Dichloroethene	5.646	61	120441	9.52	ug/L	98
13) Freon 113	5.738	101	95872	10.26	ug/L	97
14) Carbon Disulfide	5.677	76	209268	9.18	ug/L	100
15) Iodomethane	5.908	142	95774	5.75	ug/L	99
16) Allyl chloride	6.571	41	135727	9.59	ug/L	99
17) Methylene Chloride	6.778	49	131837	11.11	ug/L	98
18) Acetone	6.887	43	82504	64.02	ug/L	96
19) Methyl acetate	7.143	43	205221	63.28	ug/L	97
20) trans-1,2-Dichloroethene	7.094	61	118151	9.88	ug/L	96
21) Hexane	7.259	56	71078m	10.34	ug/L	
22) Methyl Tert Butyl Ether	7.313	73	177768	11.72	ug/L	93
23) Acetonitrile	7.800	41	78964	146.41	ug/L	94
24) Di-isopropyl ether	8.086	45	295268	9.92	ug/L	97
25) Chloroprene	8.268	53	145761	10.18	ug/L	99
26) 1,1-Dichloroethane	8.317	63	143962	10.33	ug/L	95
27) Acrylonitrile	8.427	53	103542	63.63	ug/L	96
28) ETBE	8.828	59	238924	10.78	ug/L	98
29) Vinyl acetate	8.858	43	808845	61.94	ug/L	98
30) cis-1,2-Dichloroethene	9.430	96	100160	10.15	ug/L	95
31) 2,2-Dichloropropane	9.637	77	109205	10.37	ug/L	97
32) Bromochloromethane	9.838	128	55624	11.05	ug/L	95
33) Cyclohexane	9.826	56	171404	9.76	ug/L	98
34) Chloroform	10.008	83	150142	10.39	ug/L	100
35) Ethyl acetate	10.252	43	300910	66.60	ug/L	99
36) Tetrahydrofuran	10.252	42	16350	11.81	ug/L	91
38) Carbon Tetrachloride	10.227	117	135327	9.54	ug/L	98
39) 1,1,1-Trichloroethane	10.355	97	153477	9.92	ug/L	99
40) 2-Butanone	10.550	43	119144	63.84	ug/L	96
41) 1,1-Dichloropropene	10.562	75	116473	9.81	ug/L	98
42) tert-Butyl formate	10.750	59	91866	75.85	ug/L #	87
43) Propionitrile	10.994	54	80135	138.86	ug/L	95
44) Methacrylonitrile	11.018	41	418898	128.95	ug/L	99
45) Benzene	10.945	78	357010	10.37	ug/L	99
46) TAME	11.122	73	185201	11.09	ug/L	91
48) 1,2-Dichloroethane	11.237	62	113451	11.59	ug/L	100
49) Trichloroethene	11.736	95	105503	10.05	ug/L	96
50) Methylcyclohexane	11.712	83	147560	9.96	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:32:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

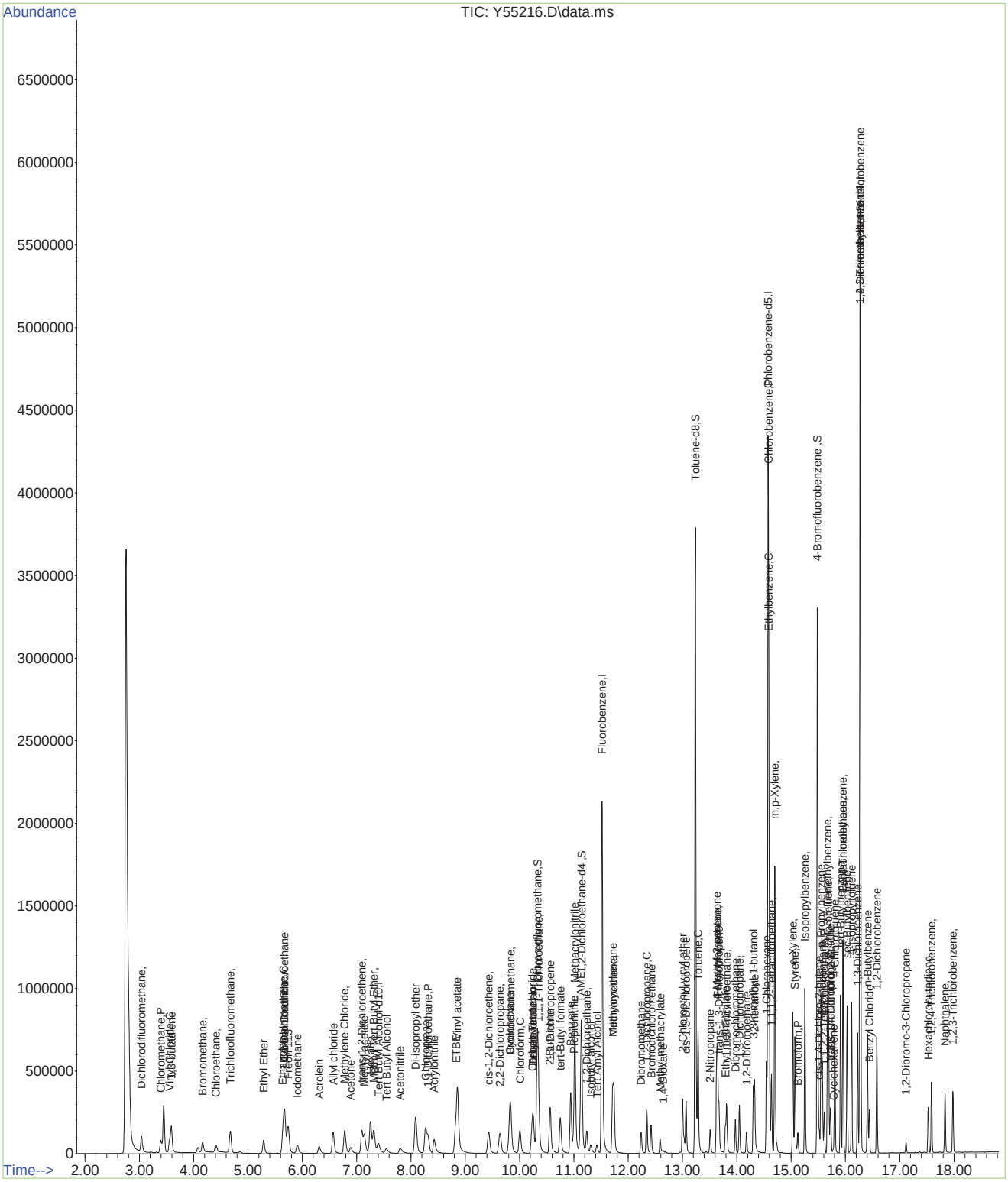
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.235	93	46221	11.90	ug/L		95
52) 1,2-Dichloropropane	12.344	63	82238	10.34	ug/L		98
53) Bromodichloromethane	12.423	83	99490	10.19	ug/L		98
54) Methyl methacrylate	12.588	41	47894	10.47	ug/L		97
55) 2-Chloroethyl vinyl ether	13.001	63	105803	45.95	ug/L		98
56) cis-1,3-Dichloropropene	13.068	75	126290	10.22	ug/L		98
59) Toluene	13.287	91	438307	9.56	ug/L		99
60) 2-Nitropropane	13.506	41	76603	57.49	ug/L		96
61) 4-Methyl-2-pentanone	13.628	43	298066	61.00	ug/L		98
62) trans-1,3-Dichloropropene	13.671	75	101237	10.75	ug/L		84
63) Tetrachloroethene	13.646	166	130092	9.44	ug/L		98
64) Ethyl methacrylate	13.792	69	62326	10.29	ug/L		98
65) 1,1,2-Trichloroethane	13.810	83	56145	11.61	ug/L		98
66) Dibromochloromethane	13.975	129	91943	10.15	ug/L		99
67) 1,3-Dichloropropane	14.048	76	119836	11.35	ug/L		99
68) 1,2-Dibromoethane	14.182	107	75558	11.45	ug/L		98
69) 2-hexanone	14.328	43	213173m	64.78	ug/L		
70) 1-Chlorohexane	14.547	91	131820	9.36	ug/L		95
71) Ethylbenzene	14.595	91	471288	9.48	ug/L		97
72) Chlorobenzene	14.589	112	309422	9.96	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.638	131	108820	9.95	ug/L		97
74) m,p-Xylene	14.699	91	743506	19.22	ug/L		100
75) o-Xylene	15.033	91	363975	9.38	ug/L		99
76) Styrene	15.070	104	292901	9.23	ug/L		99
77) Bromoform	15.124	173	44923	10.52	ug/L		96
78) Isopropylbenzene	15.252	105	507755	9.55	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.514	53	25038	12.89	ug/L	#	79
82) n-Propylbenzene	15.550	91	522179	9.34	ug/L		100
83) Bromobenzene	15.575	156	129091	9.81	ug/L		98
84) 1,1,2,2-Tetrachloroethane	15.611	83	74716	12.16	ug/L		100
85) 1,3,5-Trimethylbenzene	15.672	105	379802	9.13	ug/L		99
86) 2-Chlorotoluene	15.690	91	348037	9.53	ug/L		99
87) trans-1,4-Dichloro-2-B...	15.733	53	20453	11.37	ug/L		89
88) 1,2,3-Trichloropropane	15.721	110	29415	12.14	ug/L		98
89) Cyclohexanone	15.775	55	8579	60.56	ug/L		93
90) 4-Chlorotoluene	15.806	91	315801	9.27	ug/L		98
91) tert-Butylbenzene	15.909	91	195732	9.25	ug/L		99
92) 1,2,4-Trimethylbenzene	15.952	105	391332	9.32	ug/L		99
93) Pentachloroethane	15.958	167	61815	9.04	ug/L		95
94) sec-Butylbenzene	16.031	105	446034	9.35	ug/L		98
95) 4-Isopropyltoluene	16.116	119	408319	9.08	ug/L		99
96) 1,3-Dichlorobenzene	16.226	146	246298	9.57	ug/L		99
97) 1,2,3-Trimethylbenzene	16.268	105	463128	9.51	ug/L		99
98) 1,4-Dichlorobenzene	16.280	146	251707	9.72	ug/L		95
99) n-Butylbenzene	16.408	92	158598	9.43	ug/L		99
100) Benzyl Chloride	16.438	126	31979	10.09	ug/L	#	90
101) 1,2-Dichlorobenzene	16.578	146	228524	9.89	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.114	75	10133	11.71	ug/L		89
103) Hexachlorobutadiene	17.527	225	37185	9.13	ug/L		97
104) 1,2,4-Trichlorobenzene	17.588	180	110293	9.55	ug/L		97
105) Naphthalene	17.838	128	249191	10.93	ug/L		98
106) 1,2,3-Trichlorobenzene	17.978	180	96699	10.25	ug/L		98
108) Ethanol	5.628	45	13688m	197.84	ug/L		
109) Tert Butyl Alcohol	7.551	59	48010	101.00	ug/L		89
110) Isobutyl alcohol	11.310	42	22338	184.31	ug/L	#	82
111) Tert Amyl Alcohol	11.426	59	28210	92.57	ug/L		80
112) 1,4-Dioxane	12.648	88	11487	211.75	ug/L		86
113) 3,3-dimethyl-1-butanol	14.303	57	199326	415.70	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:32:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration



RESTEK011521w.M Mon Jan 18 09:59:55 2021 Page: 3

Manual Integration Approval Summary

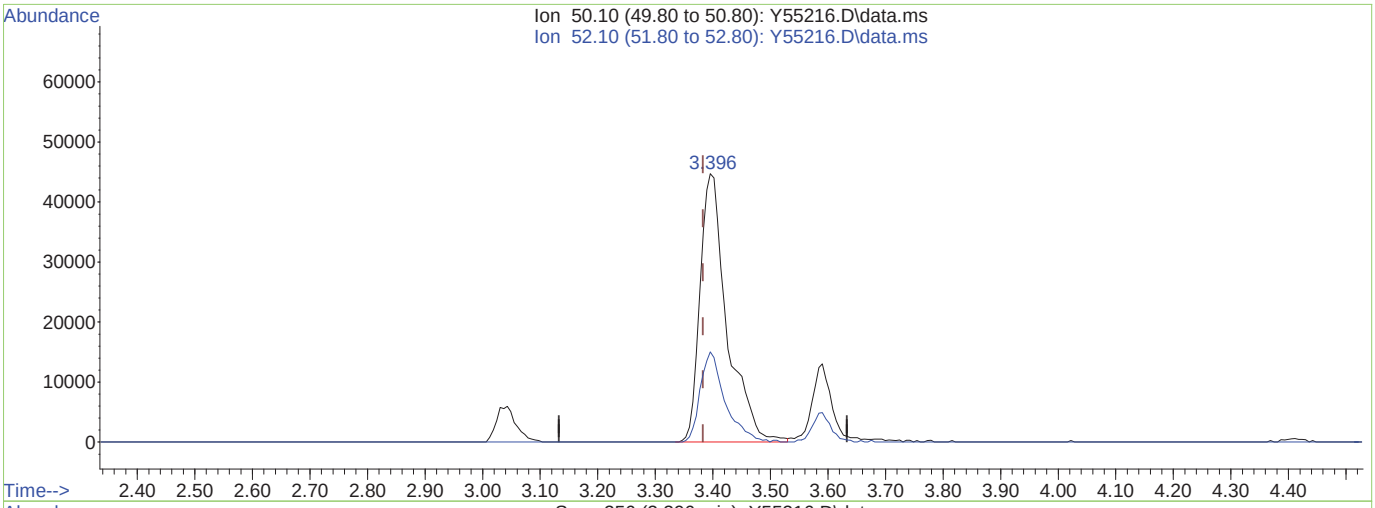
Sample Number: VY2293-IC2293
Lab FileID: Y55216.D
Injection Time: 01/15/21 11:53
Method: SW846 8260B
Analyst approved: 01/18/21 10:02 Shanica O'Connor
Supervisor approved: 01/18/21 10:25 Melissa Mangual

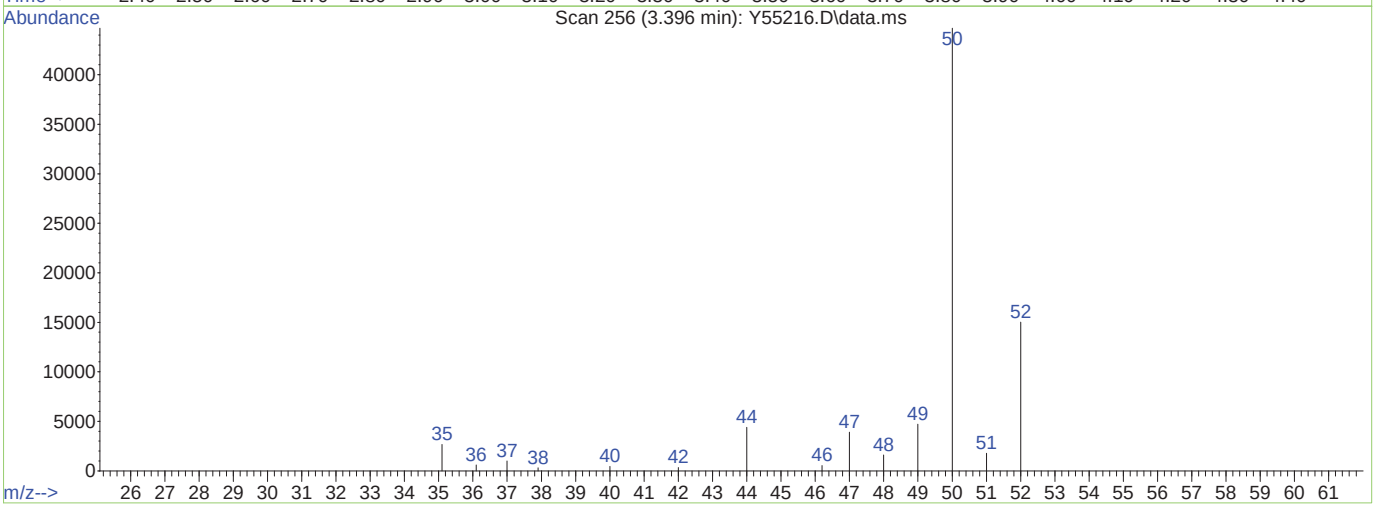
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.40	Poor instrument integration
Ethyl Alcohol	64-17-5		5.63	Poor instrument integration
Hexane	110-54-3		7.26	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:31:46 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55216.D\data.ms

(4) Chloromethane (P)

3.396min (+0.012) 11.55ug/L

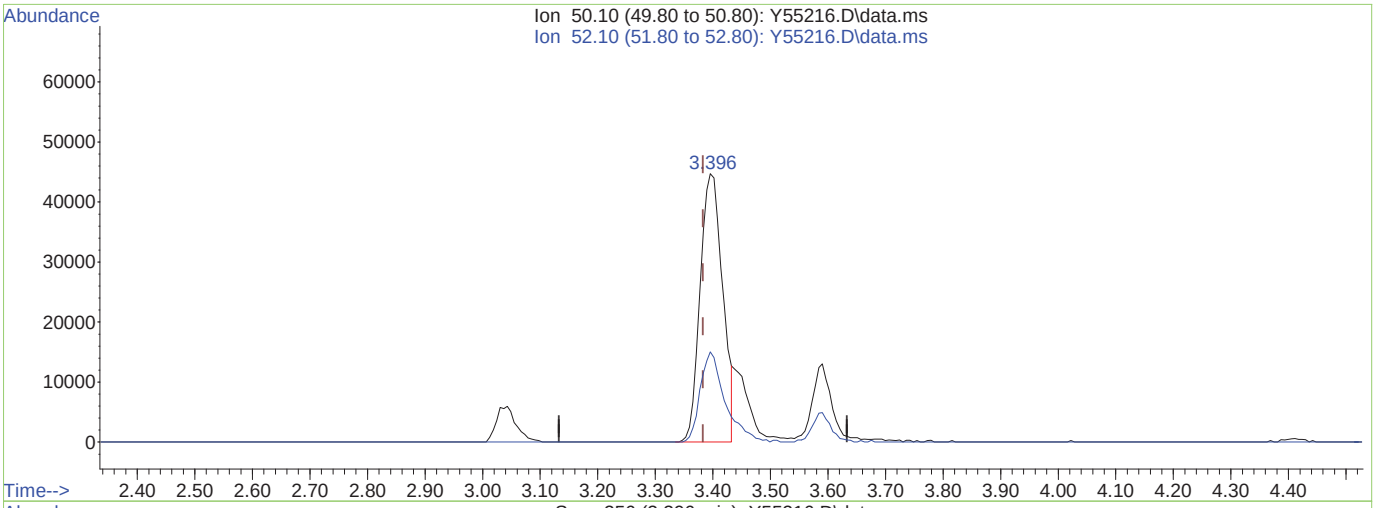
response 145627

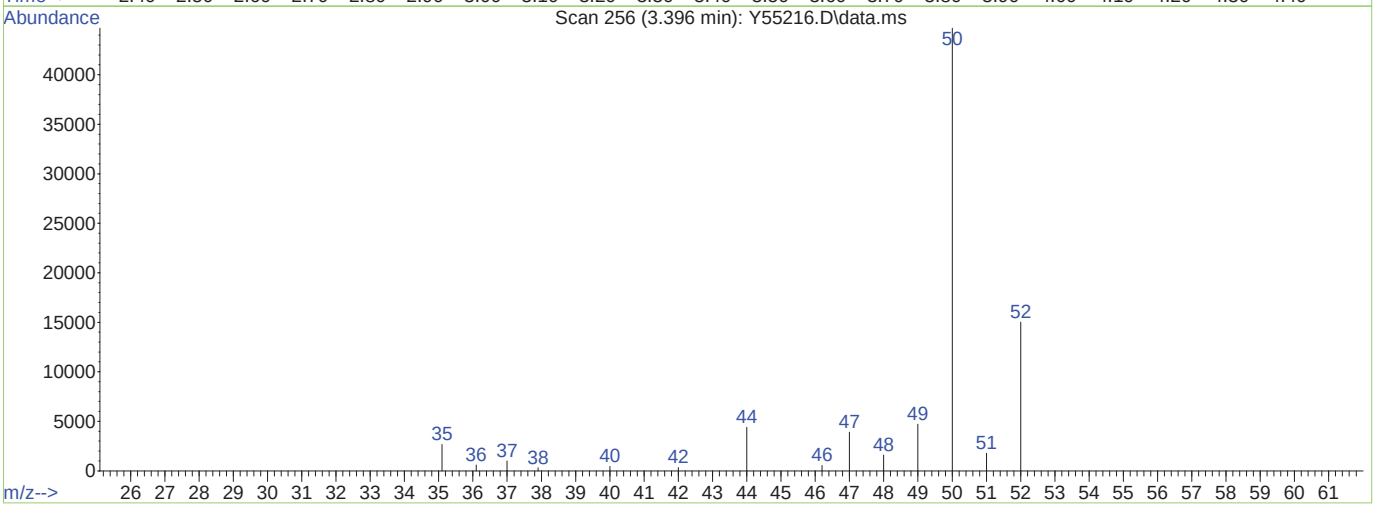
Ion	Exp%	Act%
50.10	100	100
52.10	32.70	33.59
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:31:46 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55216.D\data.ms

(4) Chloromethane (P)

3.396min (+0.012) 9.65ug/L m

response 121677

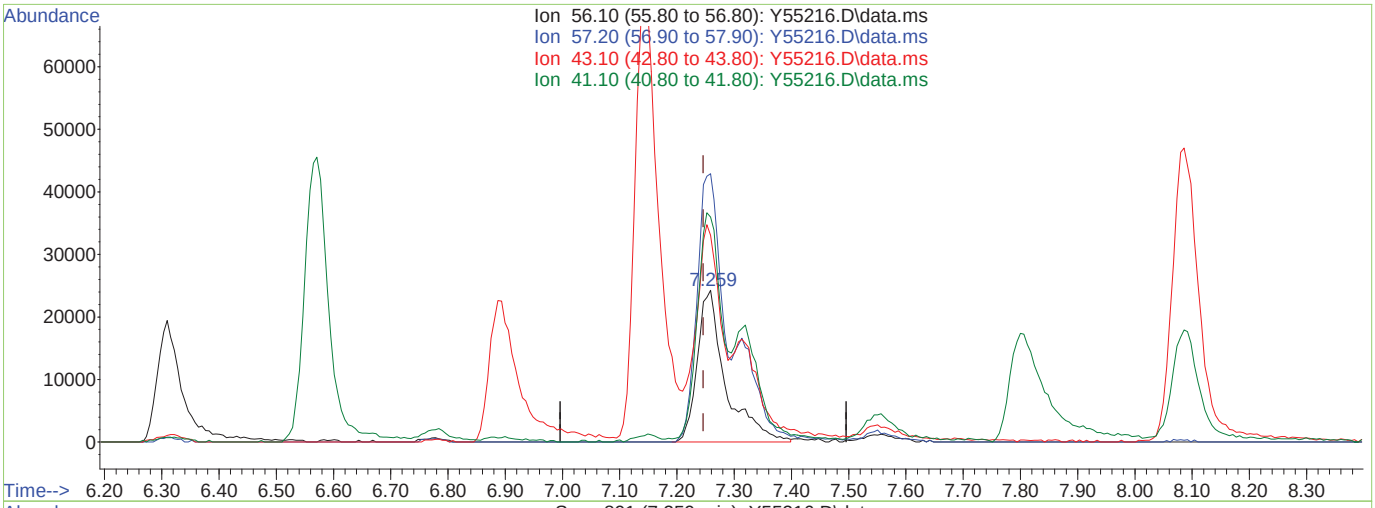
Ion	Exp%	Act%
50.10	100	100
52.10	32.70	33.59
0.00	0.00	0.00
0.00	0.00	0.00

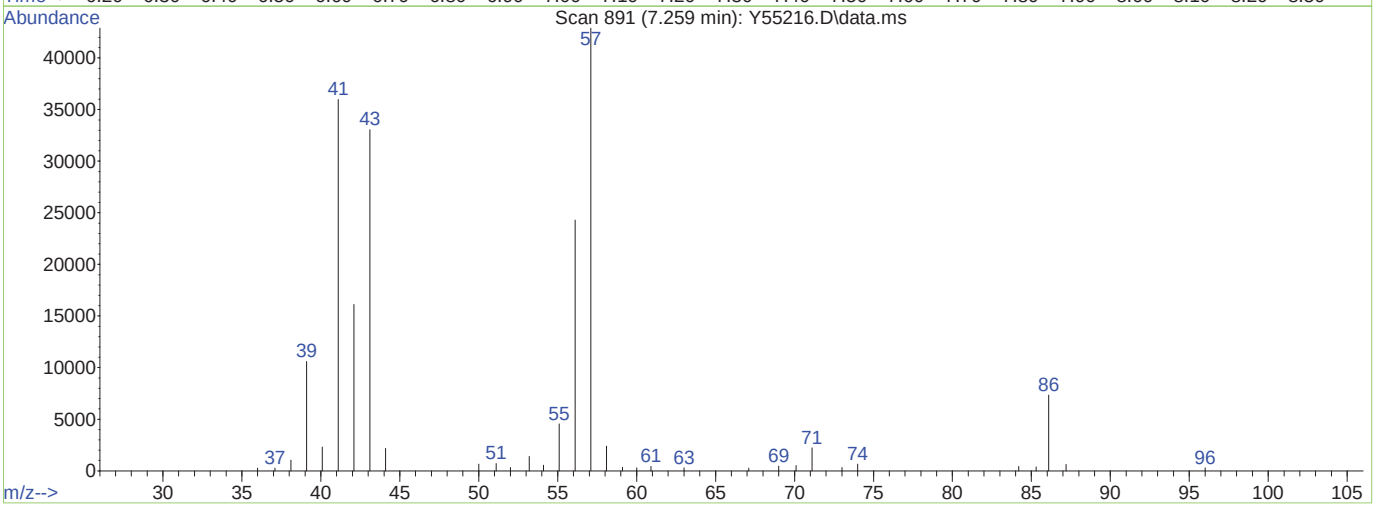
Y55216.D edits: Chloromethane

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:31:46 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55216.D\data.ms

(21) Hexane

7.259min (+0.012) 12.14ug/L

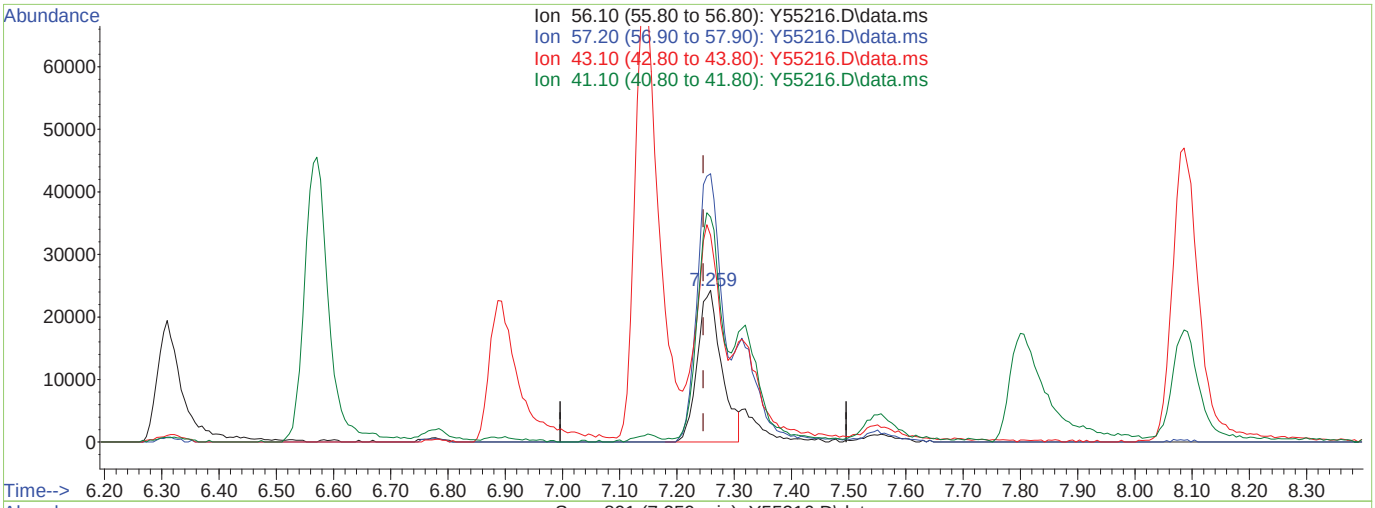
response 83438

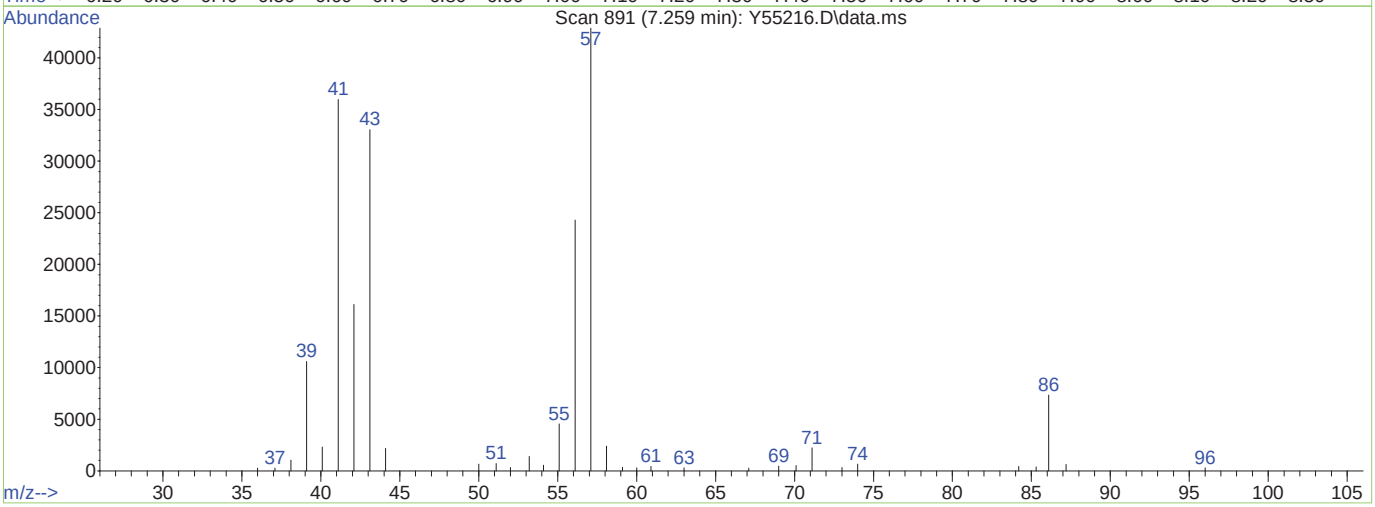
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	176.61
43.10	143.60	127.88
41.10	156.00	145.98

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:31:46 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55216.D\data.ms

(21) Hexane

7.259min (+0.012) 10.34ug/L m

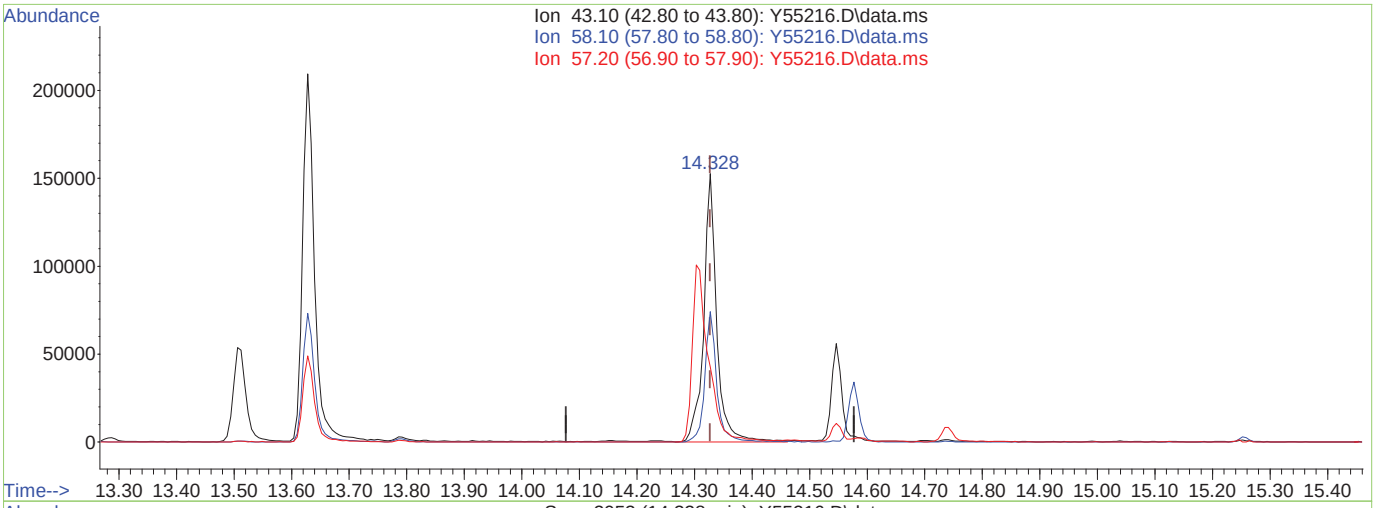
response 71078

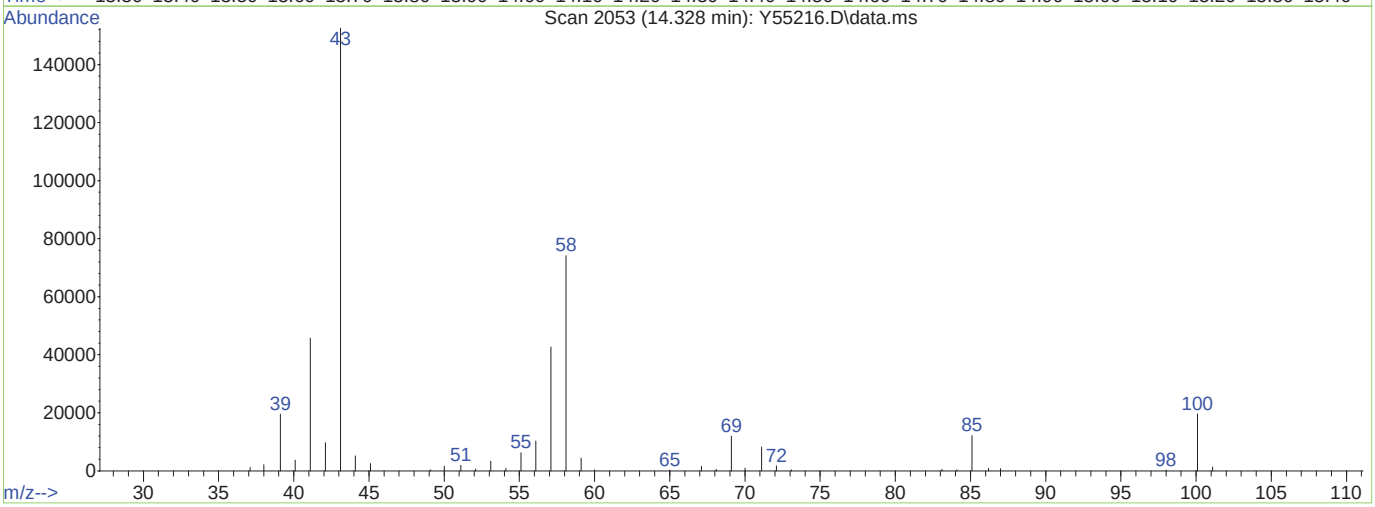
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	176.61
43.10	143.60	136.03
41.10	156.00	148.09

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:31:46 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55216.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 72.95ug/L

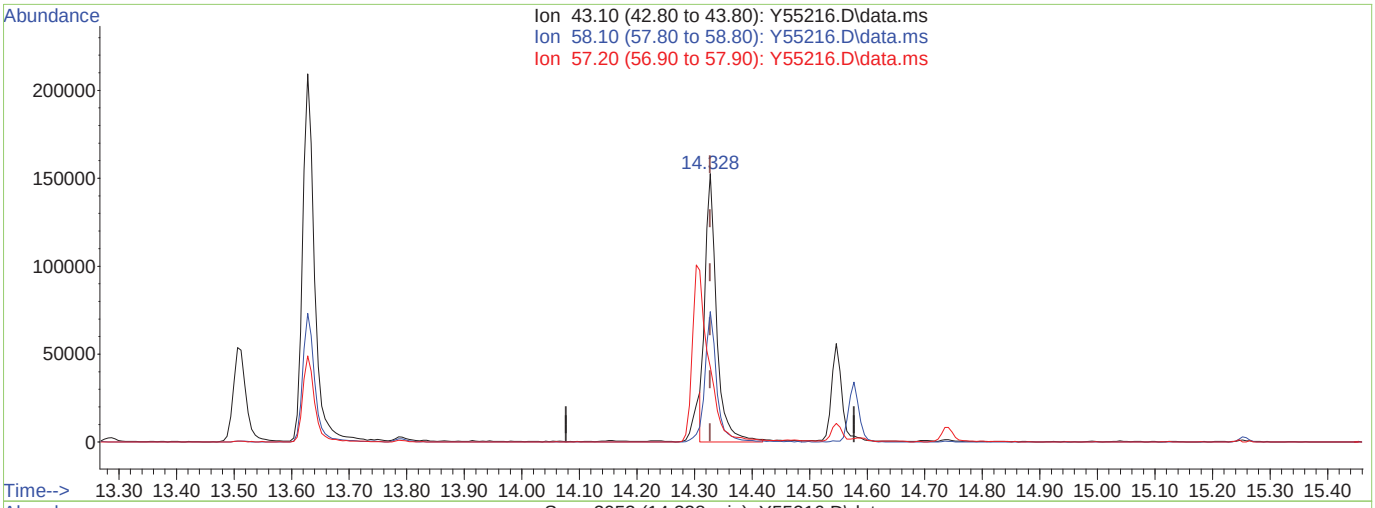
response 241105

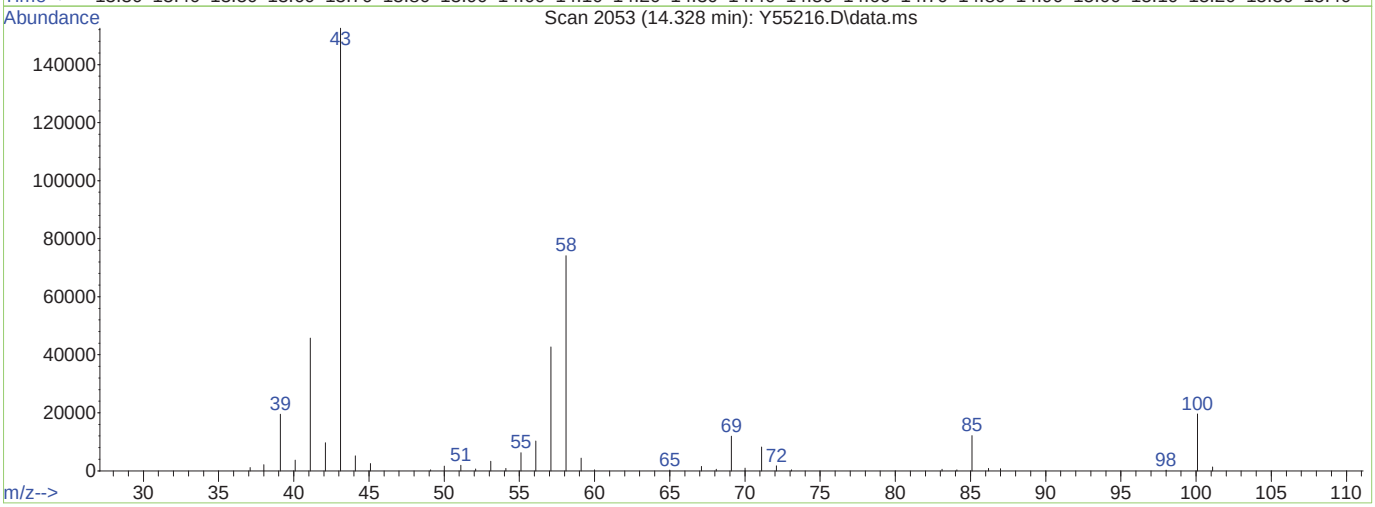
Ion	Exp%	Act%
43.10	100	100
58.10	49.60	48.56
57.20	27.30	27.99
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:31:46 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55216.D\data.ms

(69) 2-hexanone

14.328min (+0.001) 64.78ug/L m

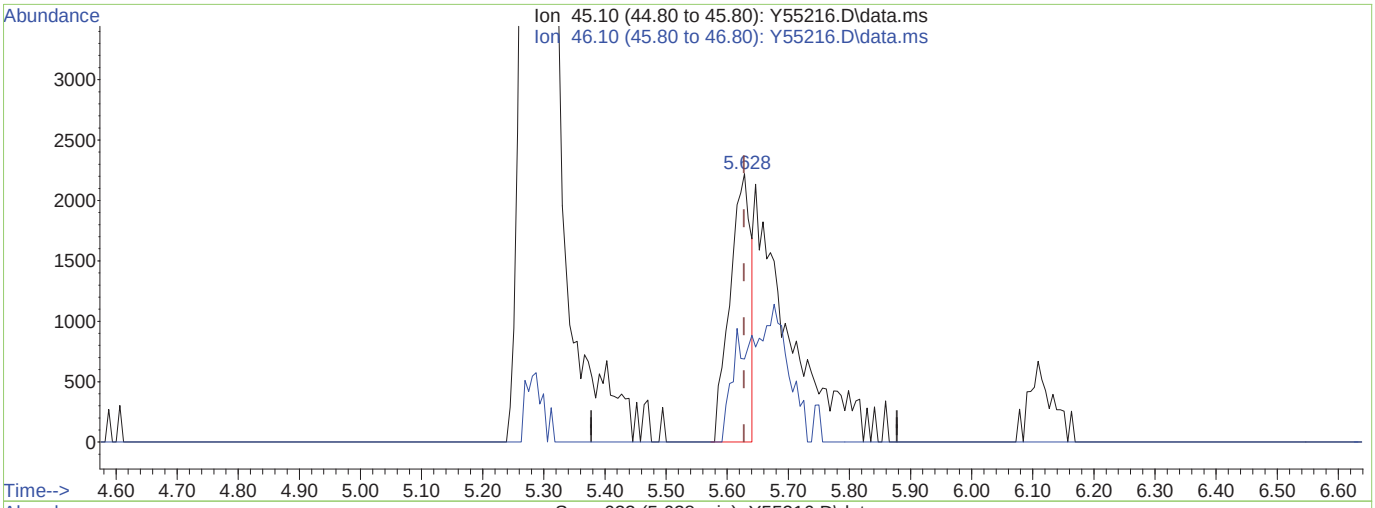
response 213173

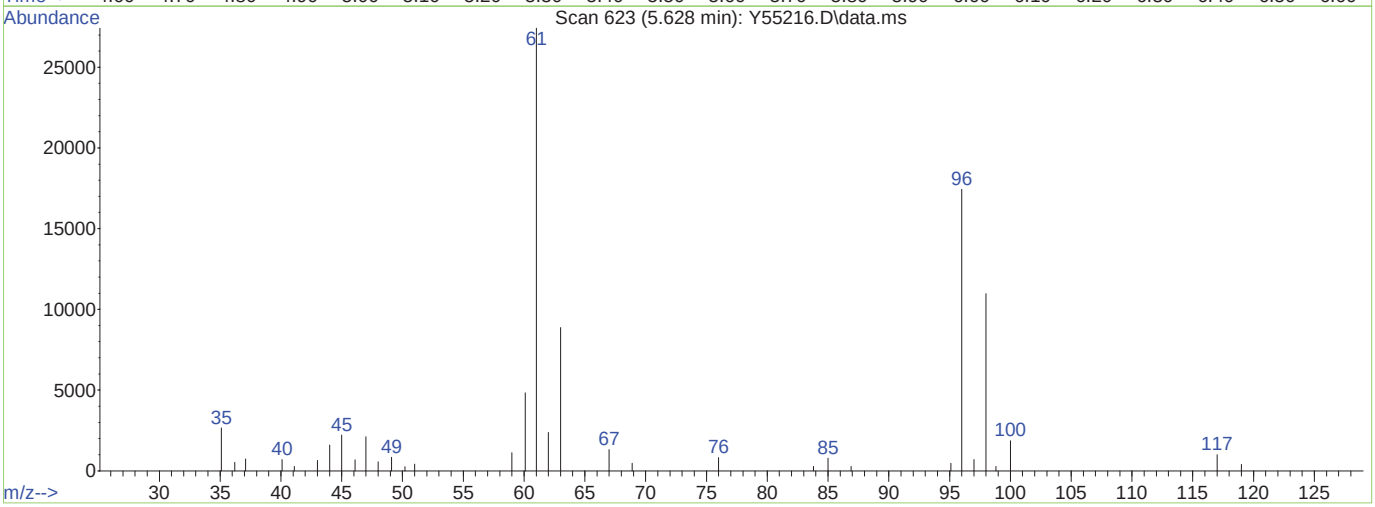
Ion	Exp%	Act%
43.10	100	100
58.10	49.60	48.56
57.20	27.30	27.99
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:31:46 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55216.D\data.ms

(108) Ethanol

5.628min (+0.000) 76.37ug/L

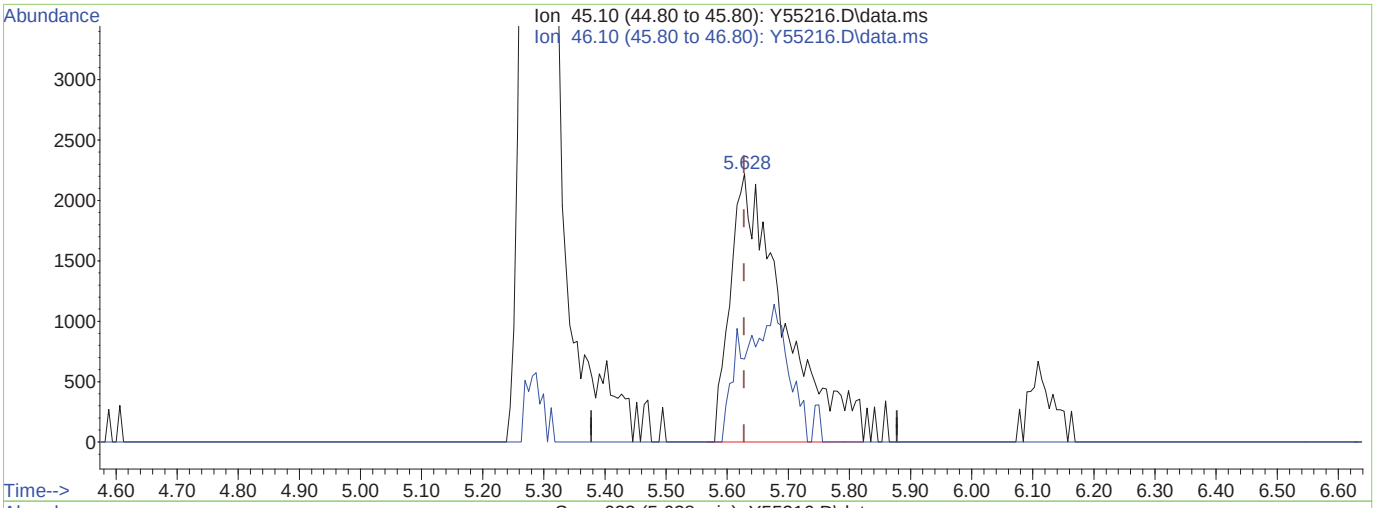
response 5284

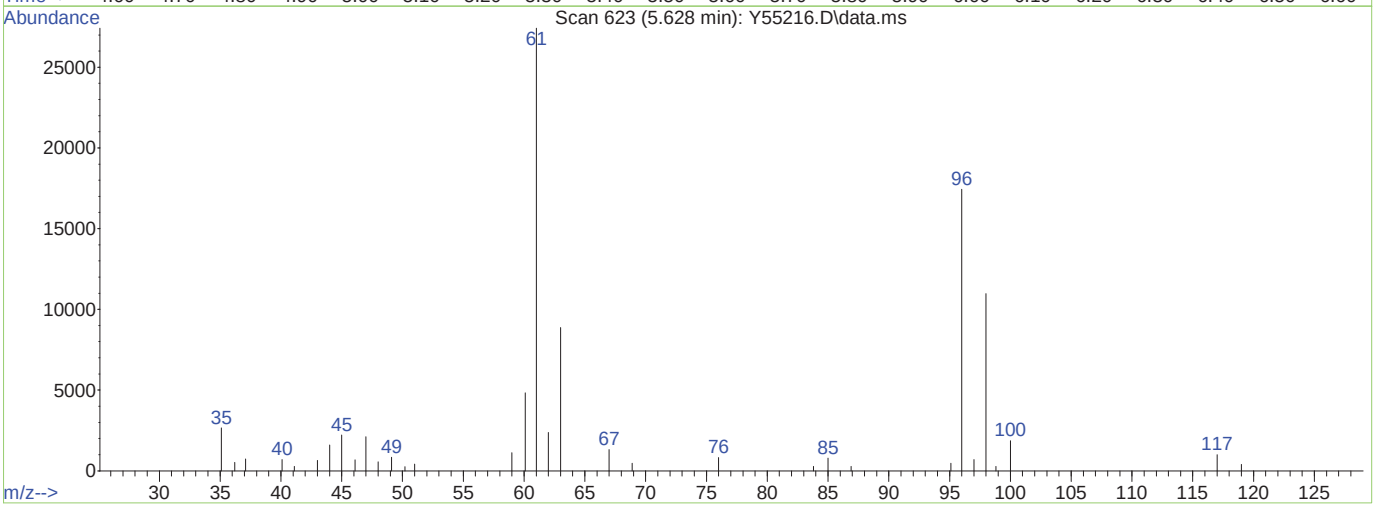
Ion	Exp%	Act%
45.10	100	100
46.10	45.00	31.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55216.D
Acq On : 15 Jan 2021 11:53 am
Operator : chelseav
Sample : IC2293-3 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 15 14:31:46 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55216.D\data.ms

(108) Ethanol

5.628min (+0.000) 197.84ug/L m

response 13688

Ion	Exp%	Act%
45.10	100	100
46.10	45.00	31.02
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/18/21 10:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55217.D
Acq On : 15 Jan 2021 12:20 pm
Operator : chelseav
Sample : IC2293-4 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 15 14:33:32 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.516	96	2070180	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	1910313	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.273	152	1017900	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.403	65	90061	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.329	113	552680	51.21	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.42%			
47) 1,2-Dichloroethane-d4	11.139	65	479402	54.85	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 109.70%			
58) Toluene-d8	13.237	98	2197855	48.66	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.32%			
80) 4-Bromofluorobenzene	15.488	174	772419	48.66	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.035	85	299468	25.27	ug/L	96
3) Acrolein	6.302	56	159392	164.77	ug/L	99
4) Chloromethane	3.388	50	319354	24.85	ug/L	98
5) 1,3-butadiene	3.583	39	234280	23.91	ug/L	99
6) Vinyl Chloride	3.553	62	283756	25.71	ug/L	98
7) Bromomethane	4.161	94	154744	20.03	ug/L	98
8) Chloroethane	4.404	64	120642	18.52	ug/L	98
9) Trichlorofluoromethane	4.666	101	425794	26.43	ug/L	100
10) Ethyl Ether	5.286	59	165535	29.18	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.676	67	214118	24.96	ug/L	95
12) 1,1-Dichloroethene	5.645	61	309761	24.02	ug/L	98
13) Freon 113	5.736	101	239935	25.20	ug/L	99
14) Carbon Disulfide	5.676	76	547425	23.55	ug/L	100
15) Iodomethane	5.907	142	284137	16.75	ug/L	99
16) Allyl chloride	6.564	41	361149	25.02	ug/L	97
17) Methylene Chloride	6.777	49	312434	25.91	ug/L	99
18) Acetone	6.880	43	210970	160.60	ug/L	95
19) Methyl acetate	7.136	43	539871	157.24	ug/L	99
20) trans-1,2-Dichloroethene	7.093	61	300510	24.66	ug/L	100
21) Hexane	7.251	56	176995m	25.27	ug/L	
22) Methyl Tert Butyl Ether	7.318	73	416714	26.19	ug/L	96
23) Acetonitrile	7.793	41	192973	351.01	ug/L	96
24) Di-isopropyl ether	8.079	45	794538	26.19	ug/L	99
25) Chloroprene	8.261	53	394977	27.07	ug/L	99
26) 1,1-Dichloroethane	8.310	63	364370	25.66	ug/L	96
27) Acrylonitrile	8.425	53	286754	166.56	ug/L	99
28) ETBE	8.821	59	589174	26.09	ug/L	100
29) Vinyl acetate	8.851	43	2179848	159.02	ug/L	98
30) cis-1,2-Dichloroethene	9.429	96	255281	25.39	ug/L	97
31) 2,2-Dichloropropane	9.636	77	252464	22.69	ug/L	99
32) Bromochloromethane	9.837	128	138990	27.10	ug/L	97
33) Cyclohexane	9.825	56	443591	24.77	ug/L	99
34) Chloroform	10.007	83	379910	25.80	ug/L	100
35) Ethyl acetate	10.250	43	789300	171.38	ug/L	99
36) Tetrahydrofuran	10.244	42	43737	30.87	ug/L	96
38) Carbon Tetrachloride	10.226	117	351727	24.33	ug/L	99
39) 1,1,1-Trichloroethane	10.348	97	389635	24.70	ug/L	97
40) 2-Butanone	10.549	43	313591	158.76	ug/L	98
41) 1,1-Dichloropropene	10.561	75	302248	24.97	ug/L	99
42) tert-Butyl formate	10.749	59	193708	130.73	ug/L	91
43) Propionitrile	10.987	54	199760	339.58	ug/L	95
44) Methacrylonitrile	11.017	41	1054900	318.56	ug/L	99
45) Benzene	10.938	78	895083	25.50	ug/L	99
46) TAME	11.120	73	454713	26.71	ug/L	95
48) 1,2-Dichloroethane	11.236	62	278622	27.93	ug/L	99
49) Trichloroethene	11.735	95	264954	24.76	ug/L	99
50) Methylcyclohexane	11.710	83	380180	25.17	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55217.D
Acq On : 15 Jan 2021 12:20 pm
Operator : chelseav
Sample : IC2293-4 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 15 14:33:32 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

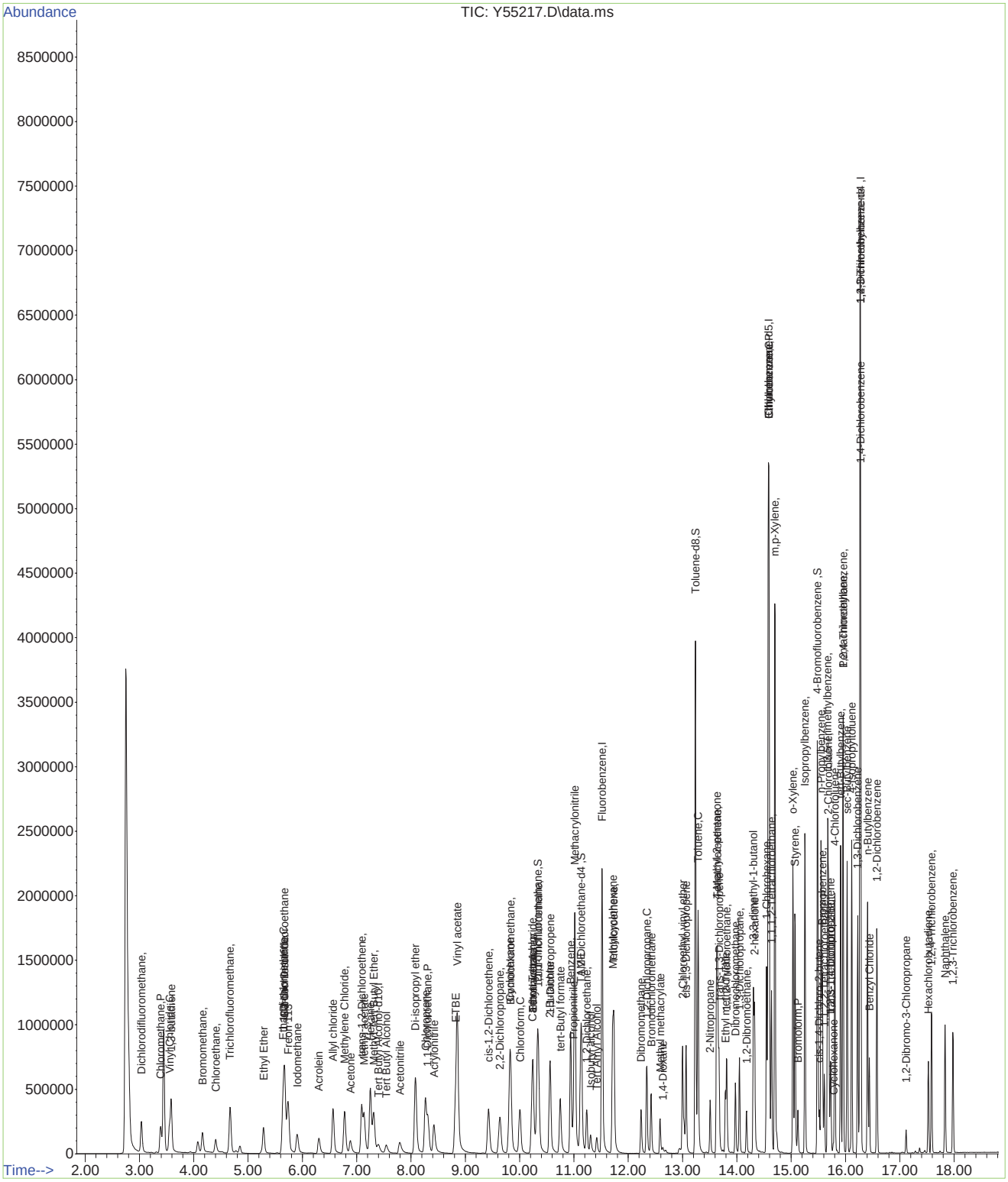
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.234	93	114582	28.95	ug/L		95
52) 1,2-Dichloropropane	12.343	63	214120	26.40	ug/L		99
53) Bromodichloromethane	12.422	83	263014	26.43	ug/L		99
54) Methyl methacrylate	12.586	41	133265	27.71	ug/L		98
55) 2-Chloroethyl vinyl ether	13.000	63	269147	110.67	ug/L		98
56) cis-1,3-Dichloropropene	13.067	75	333399	26.04	ug/L		95
59) Toluene	13.286	91	1118697	23.88	ug/L		99
60) 2-Nitropropane	13.505	41	204398	142.85	ug/L		99
61) 4-Methyl-2-pentanone	13.627	43	768578	149.74	ug/L		99
62) trans-1,3-Dichloropropene	13.669	75	260319	26.23	ug/L		87
63) Tetrachloroethene	13.645	166	331934	23.57	ug/L		99
64) Ethyl methacrylate	13.791	69	172867	26.97	ug/L		94
65) 1,1,2-Trichloroethane	13.815	83	140352	28.41	ug/L		97
66) Dibromochloromethane	13.974	129	243794	25.57	ug/L		99
67) 1,3-Dichloropropane	14.047	76	300314	27.85	ug/L		98
68) 1,2-Dibromoethane	14.180	107	193046	28.62	ug/L		99
69) 2-hexanone	14.326	43	547278m	155.37	ug/L		
70) 1-Chlorohexane	14.545	91	343053	23.85	ug/L		97
71) Ethylbenzene	14.594	91	1225982	24.13	ug/L		98
72) Chlorobenzene	14.594	112	784284	24.70	ug/L		97
73) 1,1,1,2-Tetrachloroethane	14.637	131	278219	24.89	ug/L		99
74) m,p-Xylene	14.697	91	1918368	48.54	ug/L		100
75) o-Xylene	15.032	91	958228	24.17	ug/L		99
76) Styrene	15.069	104	782624	23.61	ug/L		99
77) Bromoform	15.123	173	123881	27.02	ug/L		99
78) Isopropylbenzene	15.251	105	1317723	24.27	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.513	53	63381	30.42	ug/L	#	83
82) n-Propylbenzene	15.549	91	1349765	23.61	ug/L		99
83) Bromobenzene	15.573	156	325699	24.20	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.610	83	187686	29.88	ug/L		99
85) 1,3,5-Trimethylbenzene	15.671	105	1000223	23.52	ug/L		98
86) 2-Chlorotoluene	15.689	91	878444	23.53	ug/L		98
87) trans-1,4-Dichloro-2-B...	15.732	53	53651	28.11	ug/L		90
88) 1,2,3-Trichloropropane	15.726	110	73962	29.86	ug/L		99
89) Cyclohexanone	15.774	55	23031	151.20	ug/L		95
90) 4-Chlorotoluene	15.805	91	817400	23.47	ug/L		98
91) tert-Butylbenzene	15.908	91	505739	23.37	ug/L		97
92) 1,2,4-Trimethylbenzene	15.951	105	1018146	23.71	ug/L		99
93) Pentachloroethane	15.957	167	165241	23.64	ug/L		94
94) sec-Butylbenzene	16.030	105	1154831	23.68	ug/L		99
95) 4-Isopropyltoluene	16.115	119	1077287	23.43	ug/L		100
96) 1,3-Dichlorobenzene	16.224	146	619811	23.56	ug/L		99
97) 1,2,3-Trimethylbenzene	16.267	105	1178799	23.67	ug/L		100
98) 1,4-Dichlorobenzene	16.285	146	633648	23.92	ug/L		96
99) n-Butylbenzene	16.407	92	398699	23.19	ug/L		97
100) Benzyl Chloride	16.437	126	93982	27.06	ug/L		94
101) 1,2-Dichlorobenzene	16.577	146	579621	24.54	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.119	75	26438	28.39	ug/L		92
103) Hexachlorobutadiene	17.526	225	92878	22.29	ug/L		95
104) 1,2,4-Trichlorobenzene	17.587	180	289852	24.00	ug/L		98
105) Naphthalene	17.837	128	698775	28.30	ug/L		99
106) 1,2,3-Trichlorobenzene	17.976	180	246532	24.96	ug/L		98
108) Ethanol	5.639	45	35059	544.87	ug/L		86
109) Tert Butyl Alcohol	7.543	59	106433	240.76	ug/L		89
110) Isobutyl alcohol	11.303	42	57363	508.94	ug/L		99
111) Tert Amyl Alcohol	11.418	59	70606	249.13	ug/L		89
112) 1,4-Dioxane	12.641	88	28451	563.97	ug/L		85
113) 3,3-dimethyl-1-butanol	14.302	57	565663	1268.55	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55217.D
Acq On : 15 Jan 2021 12:20 pm
Operator : chelseav
Sample : IC2293-4 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 15 14:33:32 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration



RESTEK011521w.M Mon Jan 18 09:59:57 2021 Page: 3

Manual Integration Approval Summary

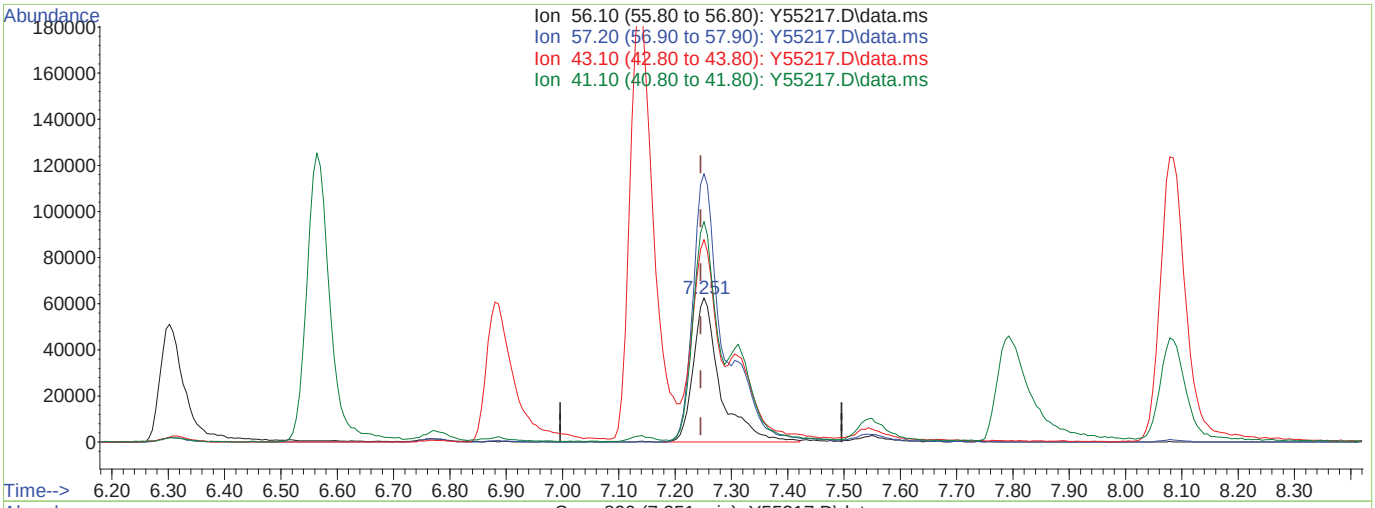
Sample Number: VY2293-IC2293
Lab FileID: Y55217.D
Injection Time: 01/15/21 12:20
Method: SW846 8260B
Analyst approved: 01/18/21 10:02 Shanica O'Connor
Supervisor approved: 01/18/21 10:25 Melissa Mangual

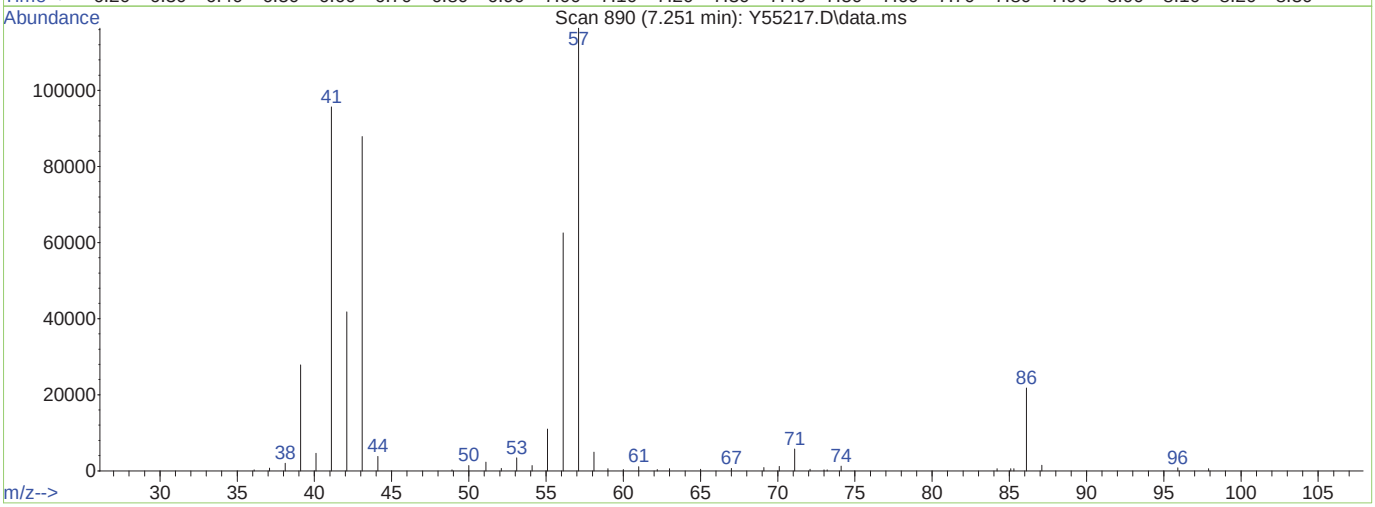
Parameter	CAS	Sig#	R.T. (min.)	Reason
Hexane	110-54-3		7.25	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55217.D
Acq On : 15 Jan 2021 12:20 pm
Operator : chelseav
Sample : IC2293-4 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 15 14:31:48 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55217.D\data.ms

(21) Hexane

7.251min (+0.005) 29.69ug/L

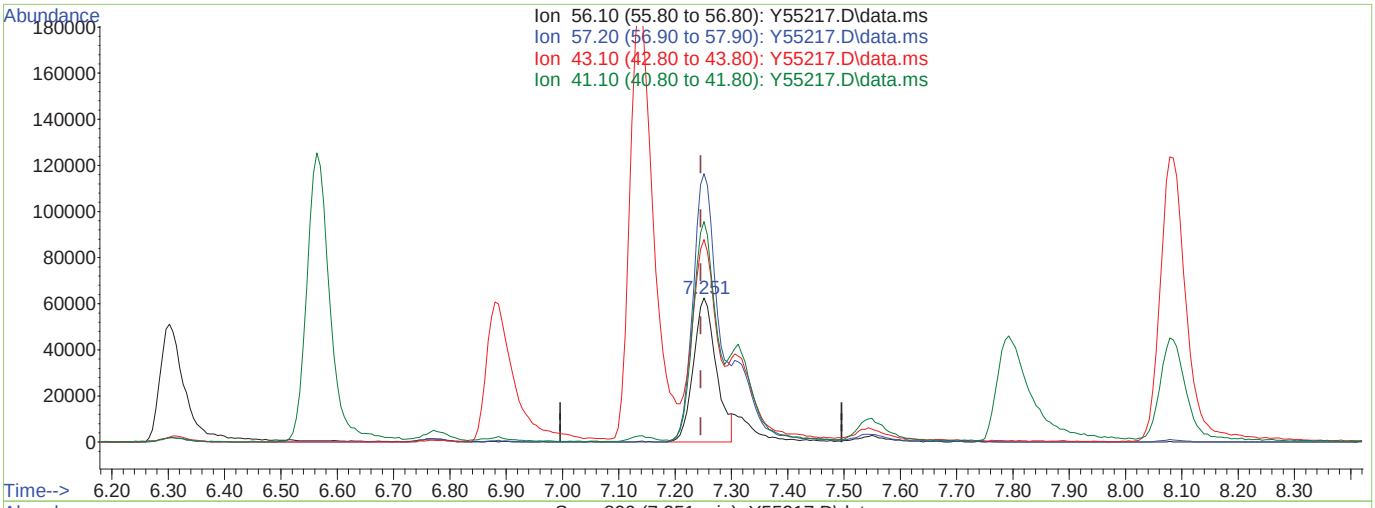
response 207966

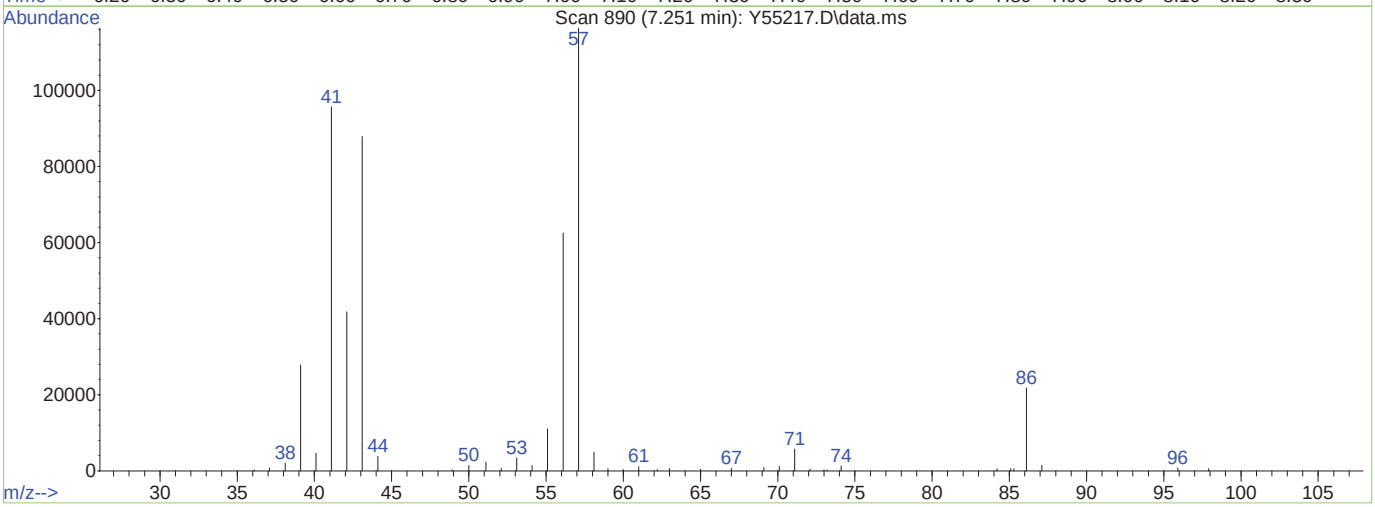
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	186.05
43.10	143.60	135.31
41.10	156.00	151.66

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55217.D
Acq On : 15 Jan 2021 12:20 pm
Operator : chelseav
Sample : IC2293-4 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 15 14:31:48 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55217.D\data.ms

(21) Hexane

7.251min (+0.005) 25.27ug/L m

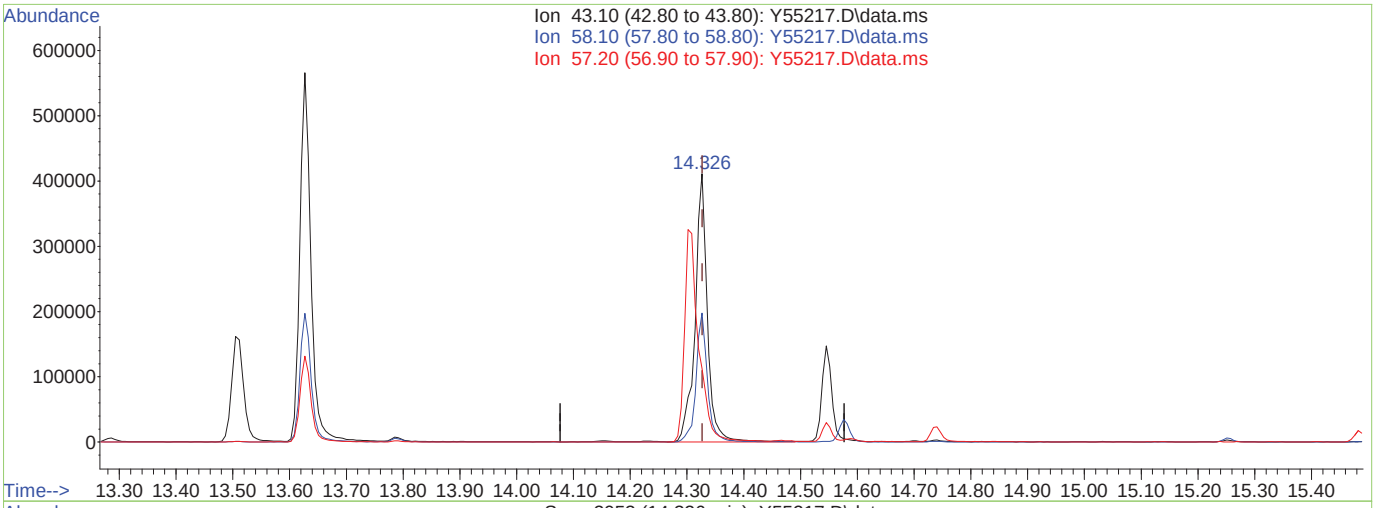
response 176995

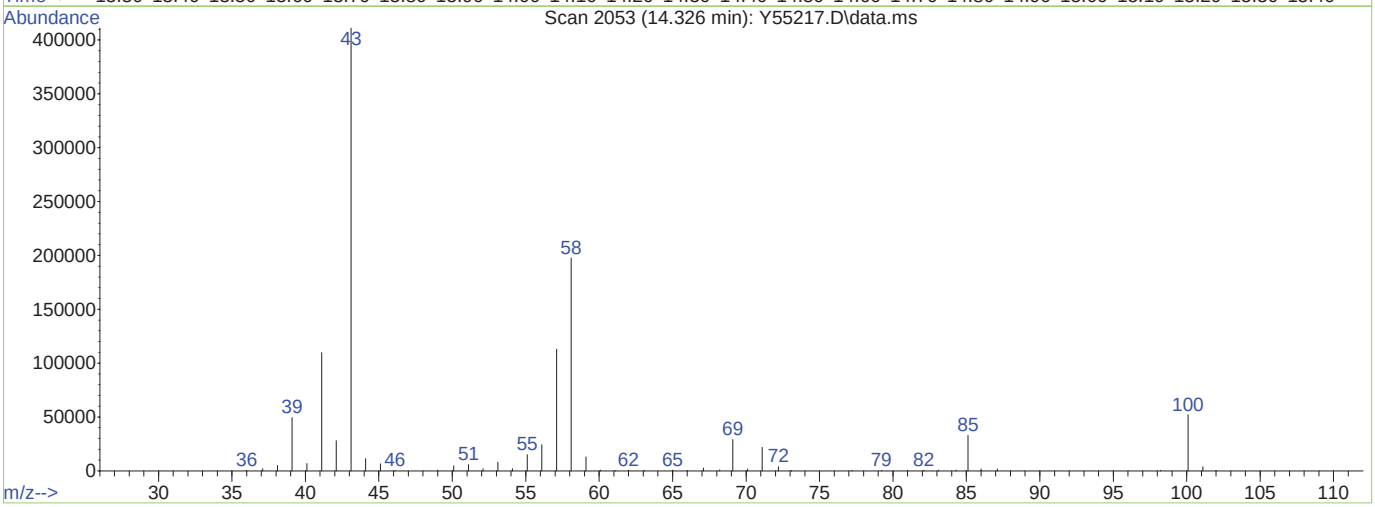
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	186.05
43.10	143.60	140.47
41.10	156.00	152.94

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55217.D
Acq On : 15 Jan 2021 12:20 pm
Operator : chelseav
Sample : IC2293-4 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 15 14:31:48 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55217.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 175.47ug/L

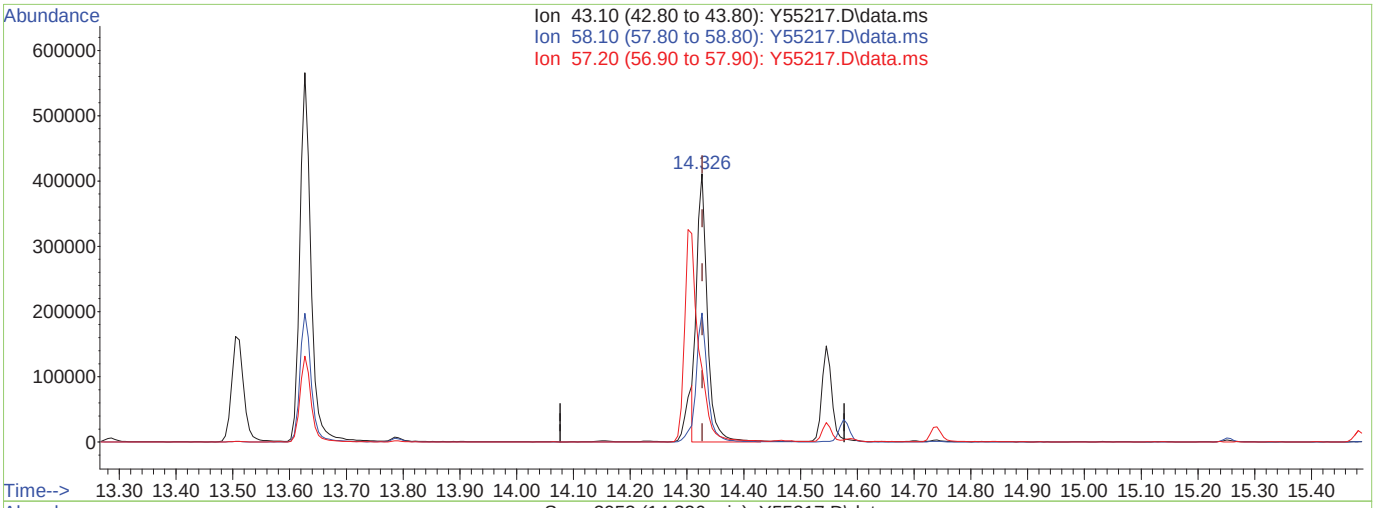
response 624312

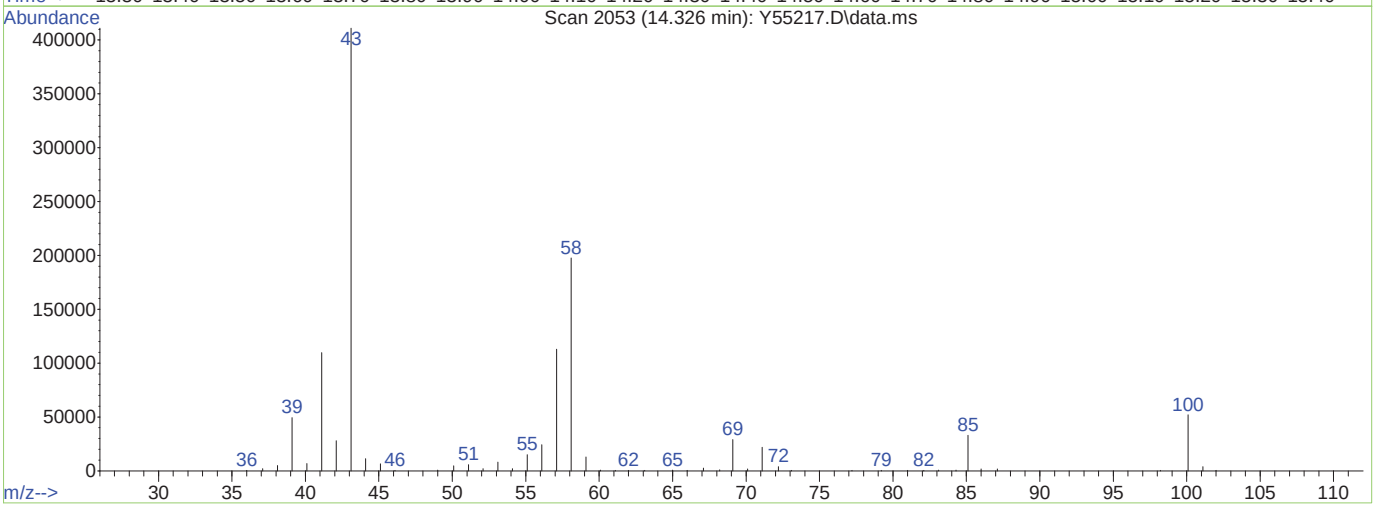
Ion	Exp%	Act%
43.10	100	100
58.10	49.60	48.10
57.20	27.30	27.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55217.D
Acq On : 15 Jan 2021 12:20 pm
Operator : chelseav
Sample : IC2293-4 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 15 14:31:48 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55217.D\data.ms

(69) 2-hexanone

14.326min (-0.001) 155.37ug/L m

response 547278

Ion	Exp%	Act%
43.10	100	100
58.10	49.60	48.06
57.20	27.30	27.46
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/18/21 10:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:34:37 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.517	96	2040922	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1884518	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1034707	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.404	65	96765	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	537715	50.54	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.08%			
47) 1,2-Dichloroethane-d4	11.139	65	469465	54.48	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 108.96%			
58) Toluene-d8	13.238	98	2157739	48.42	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.84%			
80) 4-Bromofluorobenzene	15.483	174	767124	47.54	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.08%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	476032	40.75	ug/L	100
3) Acrolein	6.303	56	261466	274.16	ug/L	98
4) Chloromethane	3.395	50	529879m	41.82	ug/L	
5) 1,3-butadiene	3.584	39	385660	39.92	ug/L	97
6) Vinyl Chloride	3.553	62	441604	40.59	ug/L	99
7) Bromomethane	4.162	94	262061	34.41	ug/L	97
8) Chloroethane	4.399	64	148477	24.07	ug/L	98
9) Trichlorofluoromethane	4.667	101	668025	42.06	ug/L	99
10) Ethyl Ether	5.287	59	261657	46.79	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.670	67	346585	40.98	ug/L	95
12) 1,1-Dichloroethene	5.640	61	506362	39.82	ug/L	99
13) Freon 113	5.737	101	386406	41.17	ug/L	98
14) Carbon Disulfide	5.676	76	890371	38.85	ug/L	100
15) Iodomethane	5.908	142	494927	29.59	ug/L	99
16) Allyl chloride	6.565	41	613660	43.13	ug/L	97
17) Methylene Chloride	6.778	49	481762	40.63	ug/L	99
18) Acetone	6.881	43	330318	255.06	ug/L	97
19) Methyl acetate	7.136	43	862021	246.03	ug/L	99
20) trans-1,2-Dichloroethene	7.094	61	483680	40.26	ug/L	99
21) Hexane	7.246	56	290939m	42.13	ug/L	
22) Methyl Tert Butyl Ether	7.313	73	729665	44.87	ug/L	96
23) Acetonitrile	7.793	41	311939	575.54	ug/L	98
24) Di-isopropyl ether	8.085	45	1274674	42.62	ug/L	99
25) Chloroprene	8.262	53	658469	45.77	ug/L	98
26) 1,1-Dichloroethane	8.311	63	579366	41.38	ug/L	98
27) Acrylonitrile	8.420	53	453890	258.95	ug/L	96
28) ETBE	8.822	59	1000353	44.93	ug/L	99
29) Vinyl acetate	8.852	43	3563433	256.27	ug/L	99
30) cis-1,2-Dichloroethene	9.430	96	403088	40.67	ug/L	97
31) 2,2-Dichloropropane	9.637	77	475978	41.18	ug/L	100
32) Bromochloromethane	9.831	128	218462	43.20	ug/L	97
33) Cyclohexane	9.825	56	724797	41.05	ug/L	98
34) Chloroform	10.002	83	598002	41.20	ug/L	99
35) Ethyl acetate	10.245	43	1252780	275.91	ug/L	100
36) Tetrahydrofuran	10.245	42	73855	52.62	ug/L	98
38) Carbon Tetrachloride	10.227	117	580517	40.73	ug/L	99
39) 1,1,1-Trichloroethane	10.349	97	625766	40.23	ug/L	100
40) 2-Butanone	10.543	43	506237	250.97	ug/L	99
41) 1,1-Dichloropropene	10.561	75	487343	40.84	ug/L	99
42) tert-Butyl formate	10.744	59	486696	246.47	ug/L	94
43) Propionitrile	10.987	54	326285	562.62	ug/L	96
44) Methacrylonitrile	11.018	41	1694172	518.95	ug/L	99
45) Benzene	10.939	78	1425021	41.19	ug/L	99
46) TAME	11.121	73	766947	45.70	ug/L	98
48) 1,2-Dichloroethane	11.237	62	440483	44.79	ug/L	99
49) Trichloroethene	11.736	95	421019	39.91	ug/L	99
50) Methylcyclohexane	11.711	83	627151	42.11	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:34:37 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

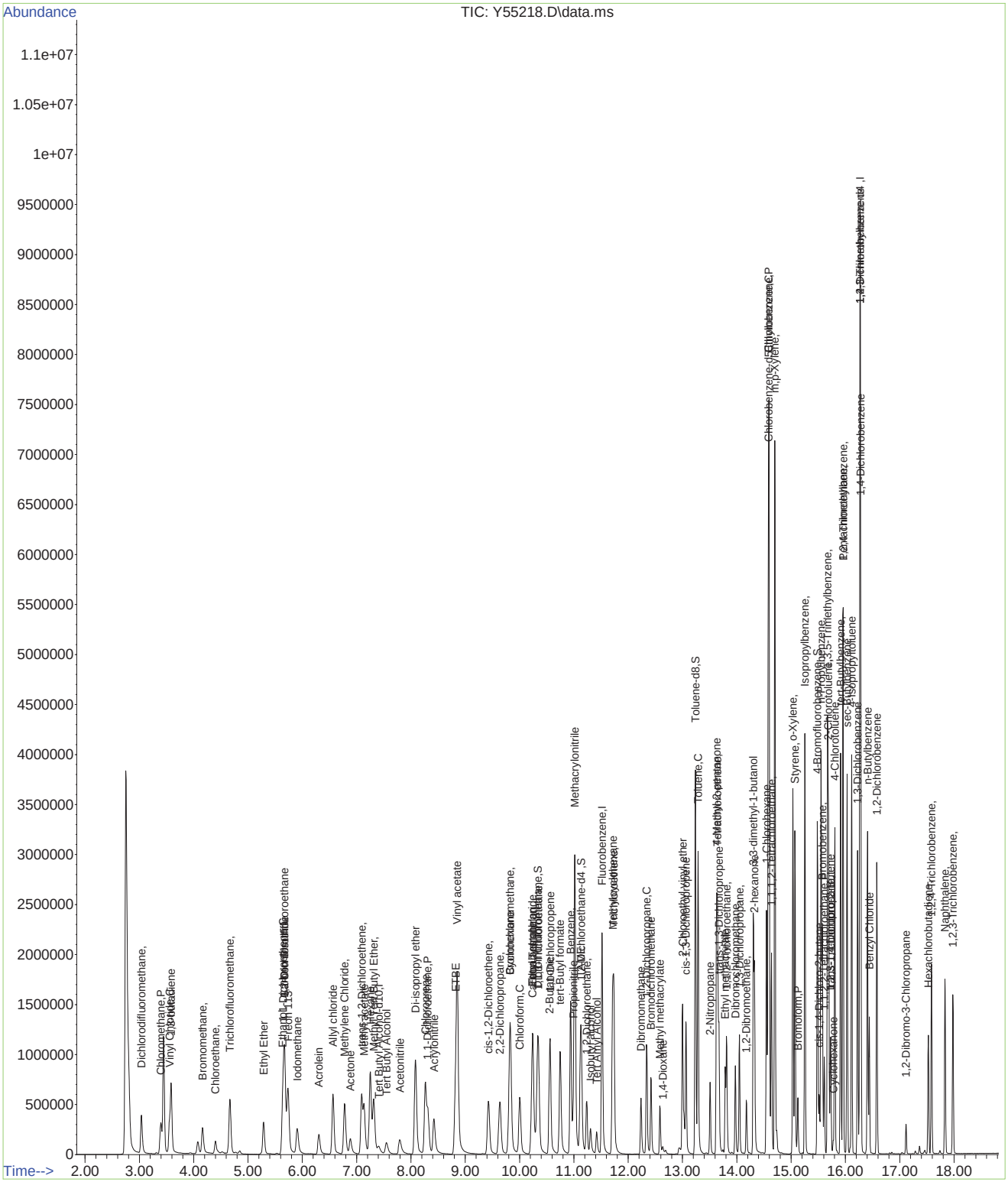
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) Dibromomethane	12.234	93	184217	47.21	ug/L	97
52) 1,2-Dichloropropane	12.338	63	340505	42.59	ug/L	98
53) Bromodichloromethane	12.417	83	423552	43.17	ug/L	99
54) Methyl methacrylate	12.581	41	234038	47.68	ug/L	99
55) 2-Chloroethyl vinyl ether	13.001	63	483867	193.22	ug/L	99
56) cis-1,3-Dichloropropene	13.068	75	541581	42.22	ug/L	97
59) Toluene	13.287	91	1793655	38.82	ug/L	99
60) 2-Nitropropane	13.506	41	344635	232.36	ug/L	98
61) 4-Methyl-2-pentanone	13.628	43	1230541	236.70	ug/L	99
62) trans-1,3-Dichloropropene	13.670	75	428638	42.44	ug/L	98
63) Tetrachloroethene	13.646	166	526249	37.88	ug/L	99
64) Ethyl methacrylate	13.786	69	292274	44.60	ug/L	99
65) 1,1,2-Trichloroethane	13.810	83	221822	45.51	ug/L	99
66) Dibromochloromethane	13.974	129	402193	41.51	ug/L	100
67) 1,3-Dichloropropane	14.047	76	482040	45.32	ug/L	99
68) 1,2-Dibromoethane	14.175	107	307894	46.27	ug/L	98
69) 2-hexanone	14.327	43	845102m	233.98	ug/L	
70) 1-Chlorohexane	14.546	91	574598	40.50	ug/L	98
71) Ethylbenzene	14.595	91	1958282	39.08	ug/L	97
72) Chlorobenzene	14.589	112	1253635	40.02	ug/L	99
73) 1,1,1,2-Tetrachloroethane	14.637	131	452847	41.06	ug/L	100
74) m,p-Xylene	14.698	91	3112107	79.82	ug/L	100
75) o-Xylene	15.033	91	1558159	39.84	ug/L	99
76) Styrene	15.069	104	1294532	38.73	ug/L	100
77) Bromoform	15.124	173	207868	43.81	ug/L	98
78) Isopropylbenzene	15.252	105	2149362	40.12	ug/L	100
81) cis-1,4-Dichloro-2-butene	15.513	53	113615	50.87	ug/L	86
82) n-Propylbenzene	15.550	91	2219212	38.18	ug/L	99
83) Bromobenzene	15.574	156	529236	38.68	ug/L	100
84) 1,1,2,2-Tetrachloroethane	15.611	83	300731	47.10	ug/L	98
85) 1,3,5-Trimethylbenzene	15.672	105	1640413	37.95	ug/L	99
86) 2-Chlorotoluene	15.690	91	1416537	37.32	ug/L	98
87) trans-1,4-Dichloro-2-B...	15.732	53	91490	45.43	ug/L	95
88) 1,2,3-Trichloropropane	15.720	110	117402	46.62	ug/L	97
89) Cyclohexanone	15.775	55	39919	245.32	ug/L	95
90) 4-Chlorotoluene	15.805	91	1329208	37.54	ug/L	98
91) tert-Butylbenzene	15.909	91	827779	37.63	ug/L	98
92) 1,2,4-Trimethylbenzene	15.951	105	1673100	38.33	ug/L	99
93) Pentachloroethane	15.958	167	281881	39.67	ug/L	97
94) sec-Butylbenzene	16.031	105	1900904	38.34	ug/L	99
95) 4-Isopropyltoluene	16.116	119	1792564	38.35	ug/L	99
96) 1,3-Dichlorobenzene	16.225	146	1023363	38.26	ug/L	99
97) 1,2,3-Trimethylbenzene	16.268	105	1947158	38.46	ug/L	99
98) 1,4-Dichlorobenzene	16.286	146	1034997	38.43	ug/L	97
99) n-Butylbenzene	16.408	92	675518	38.65	ug/L	99
100) Benzyl Chloride	16.438	126	171174	45.25	ug/L	96
101) 1,2-Dichlorobenzene	16.578	146	958911	39.93	ug/L	99
102) 1,2-Dibromo-3-Chloropr...	17.113	75	44843	45.11	ug/L	93
103) Hexachlorobutadiene	17.527	225	158883	37.52	ug/L	98
104) 1,2,4-Trichlorobenzene	17.582	180	483274	38.50	ug/L	99
105) Naphthalene	17.831	128	1201864	45.39	ug/L	100
106) 1,2,3-Trichlorobenzene	17.977	180	415138	40.35	ug/L	99
108) Ethanol	5.628	45	56792m	821.49	ug/L	
109) Tert Butyl Alcohol	7.550	59	199316	419.63	ug/L	93
110) Isobutyl alcohol	11.304	42	100226	827.63	ug/L	96
111) Tert Amyl Alcohol	11.419	59	125017	410.55	ug/L	90
112) 1,4-Dioxane	12.636	88	48664	897.80	ug/L	98
113) 3,3-dimethyl-1-butanol	14.303	57	987635	2061.40	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:34:37 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration



RESTEK011521w.M Mon Jan 18 09:59:59 2021 Page: 3

Manual Integration Approval Summary

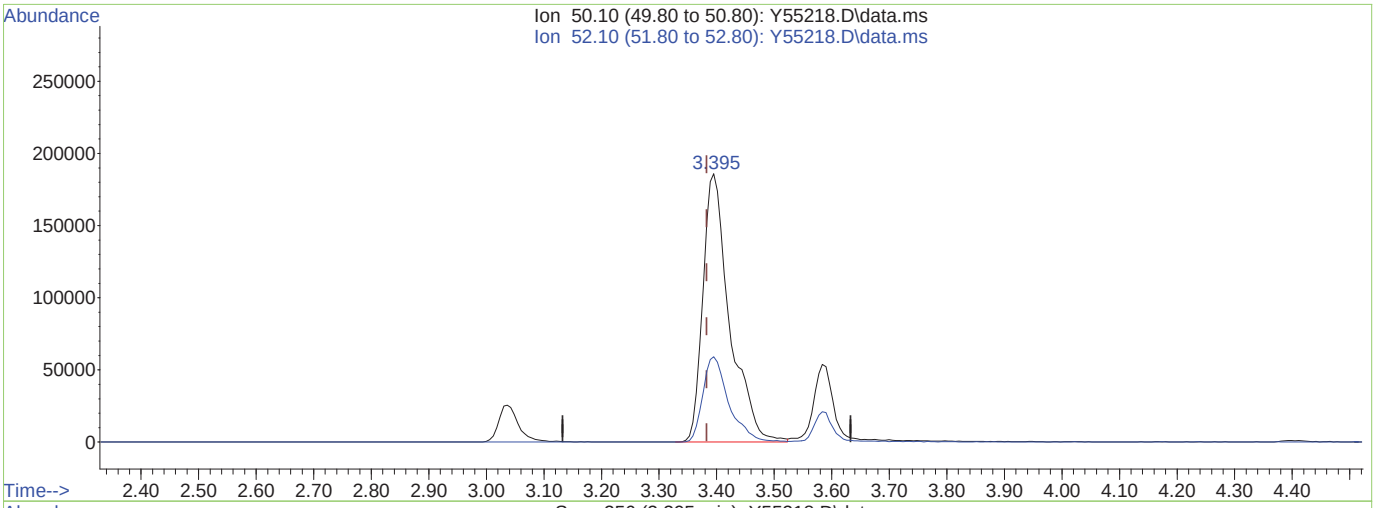
Sample Number: VY2293-ICC2293
Lab FileID: Y55218.D
Injection Time: 01/15/21 12:47
Method: SW846 8260B
Analyst approved: 01/18/21 10:02 Shanica O'Connor
Supervisor approved: 01/18/21 10:25 Melissa Mangual

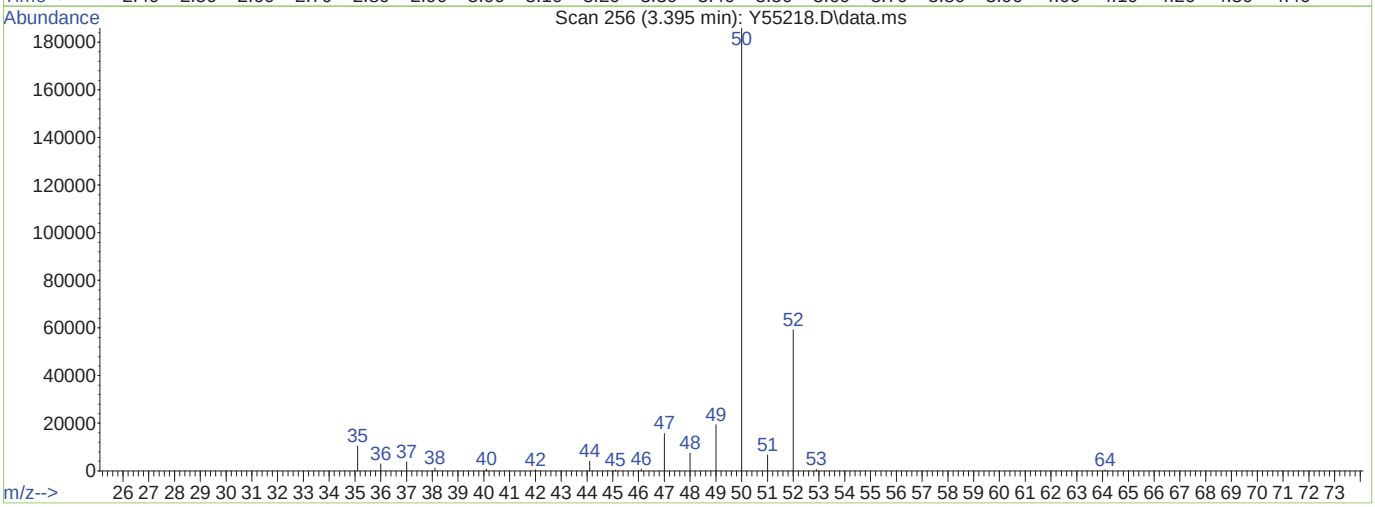
Parameter	CAS	Sig#	R.T. (min.)	Reason
Methyl Chloride	74-87-3		3.40	Overlapping peak
Ethyl Alcohol	64-17-5		5.63	Poor instrument integration
Hexane	110-54-3		7.25	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:31:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55218.D\data.ms

(4) Chloromethane (P)

3.395min (+0.012) 47.49ug/L

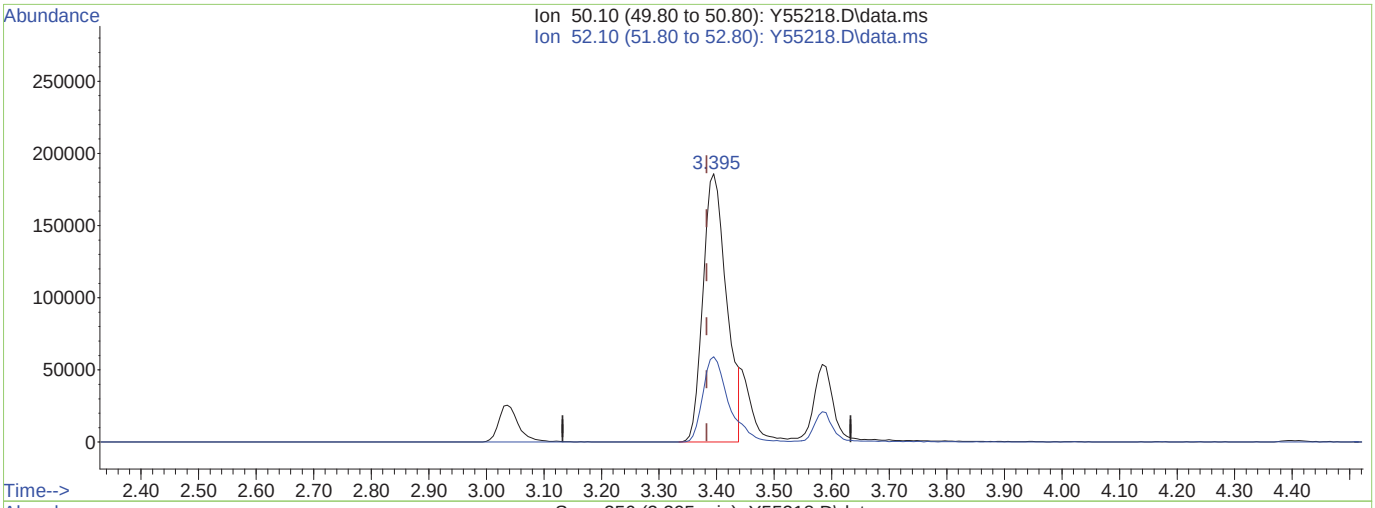
response 601645

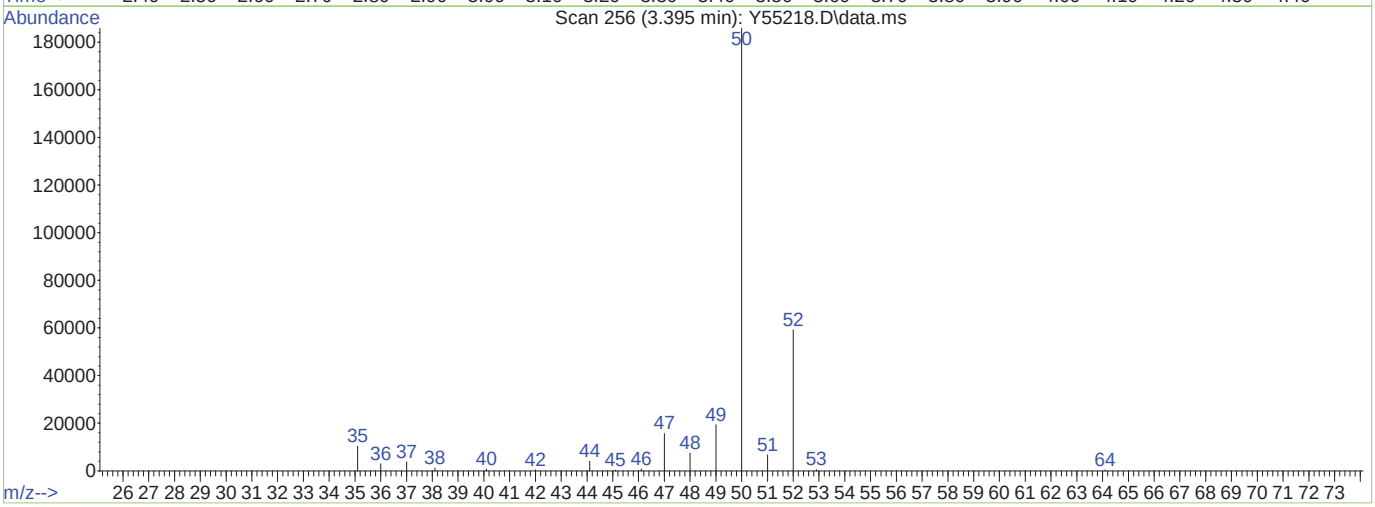
Ion	Exp%	Act%
50.10	100	100
52.10	32.70	31.86
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:31:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55218.D\data.ms

(4) Chloromethane (P)

3.395min (+0.012) 41.82ug/L m

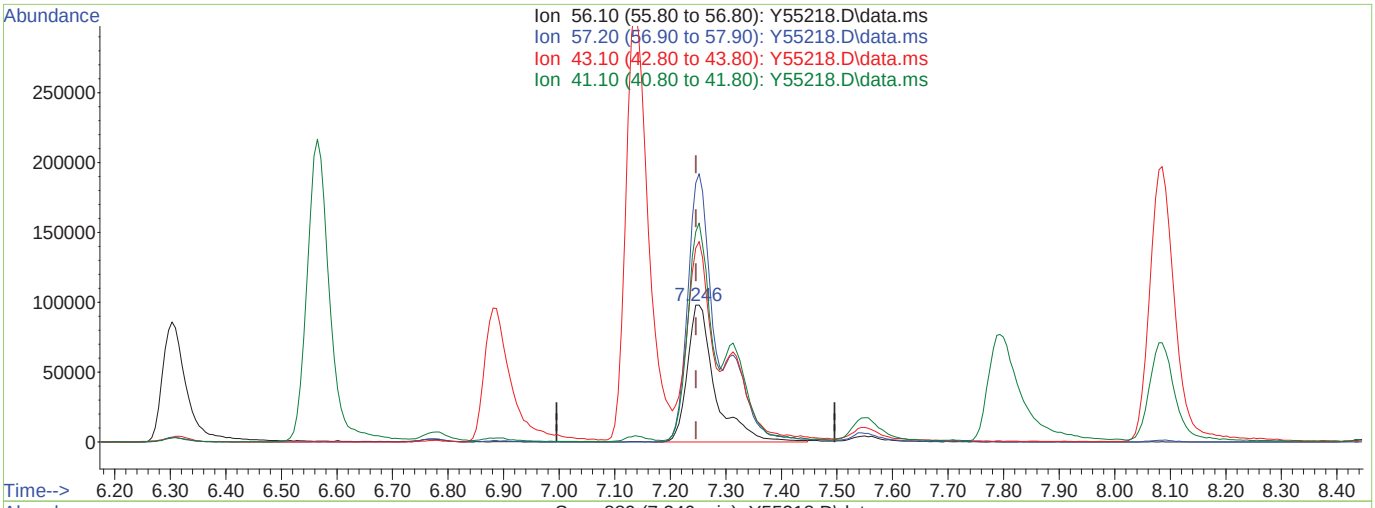
response 529879

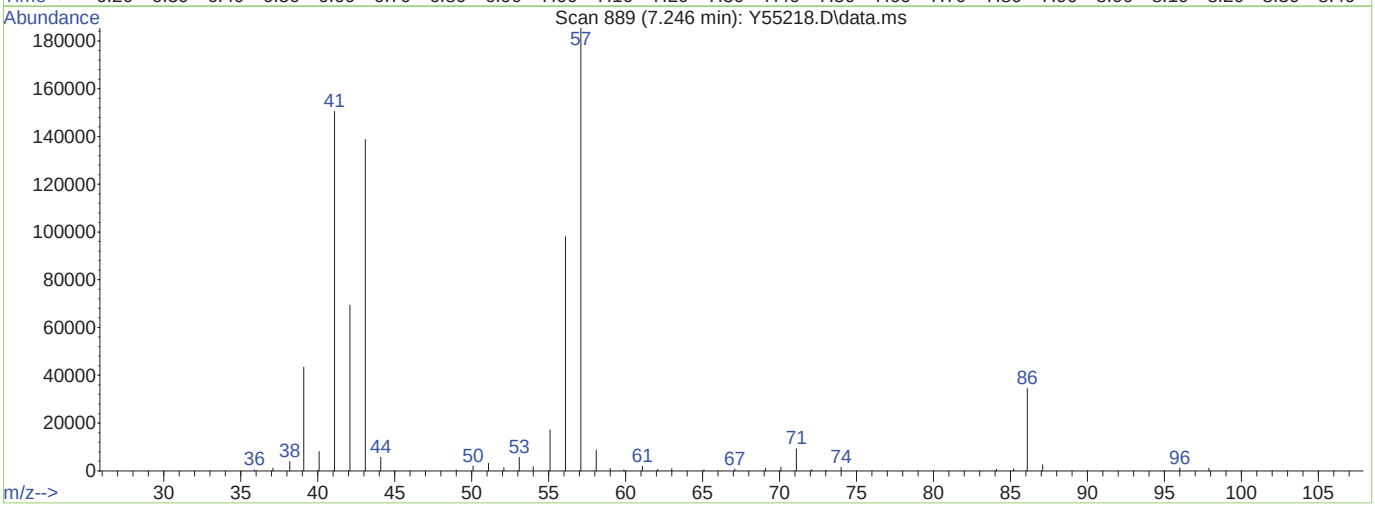
Ion	Exp%	Act%
50.10	100	100
52.10	32.70	31.86
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:31:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55218.D\data.ms

(21) Hexane

7.246min (-0.000) 49.27ug/L

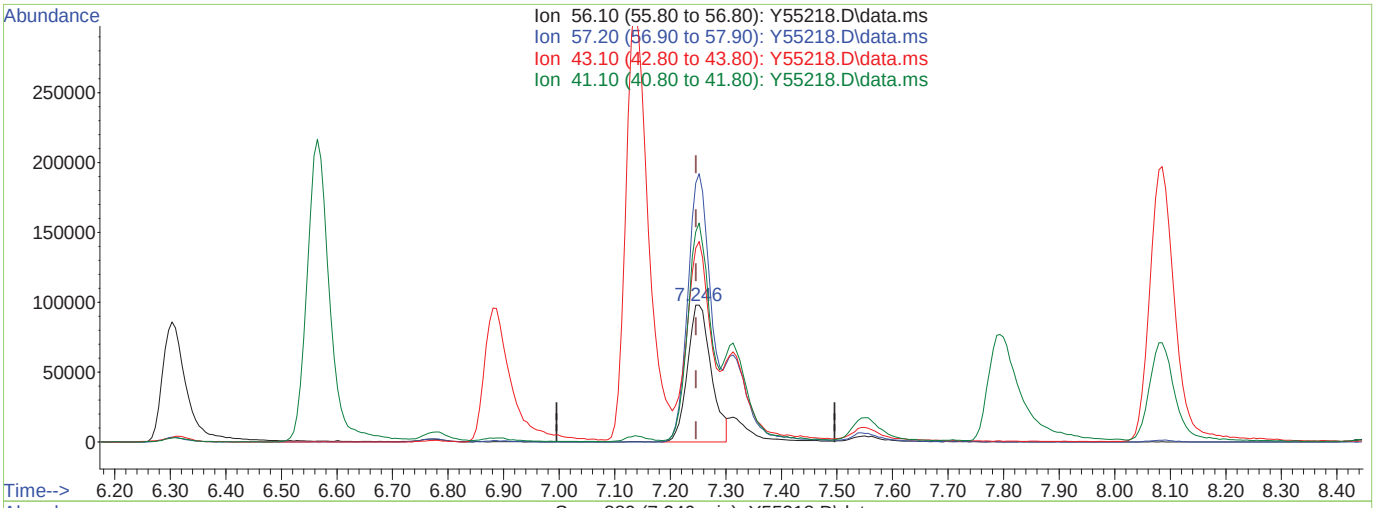
response 340295

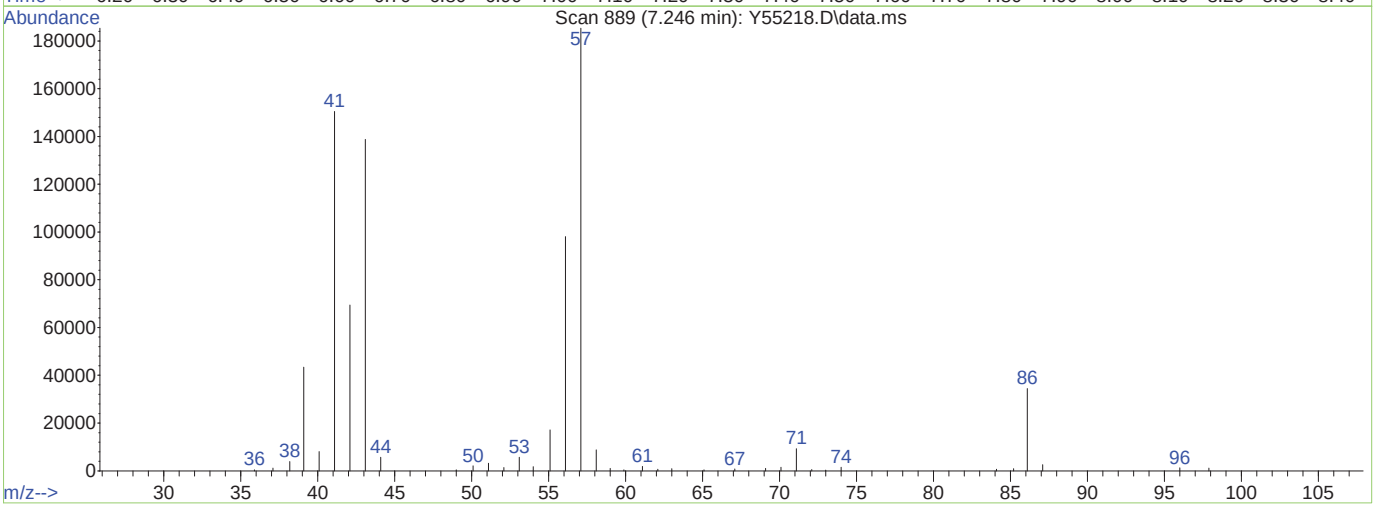
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	189.10
43.10	143.60	137.77
41.10	156.00	152.05

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:31:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55218.D\data.ms

(21) Hexane

7.246min (-0.000) 42.13ug/L m

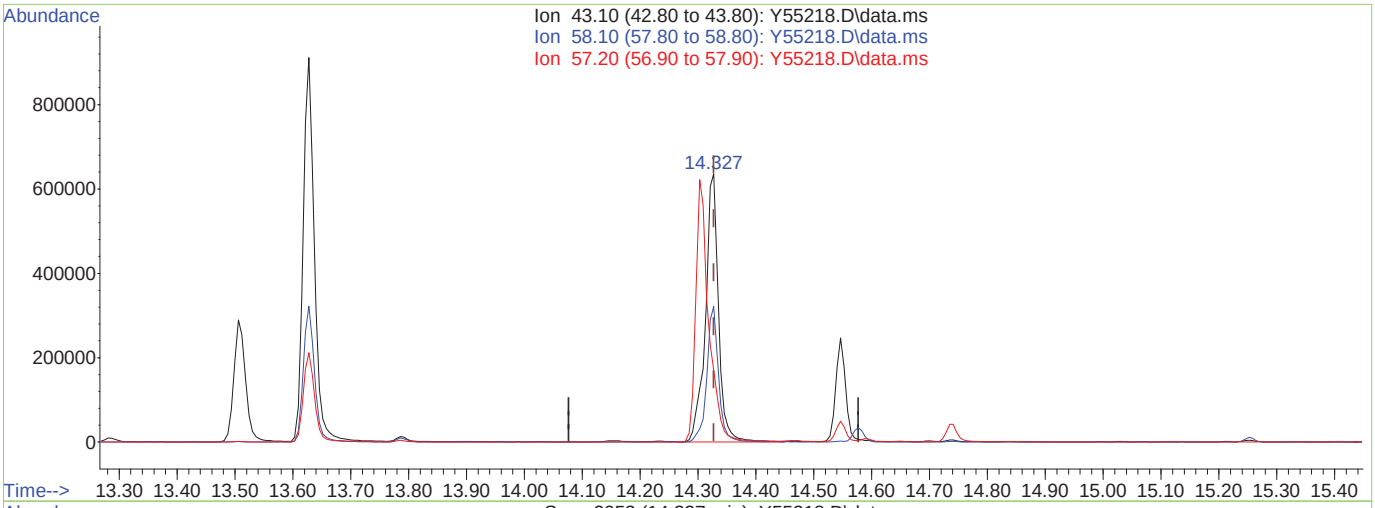
response 290939

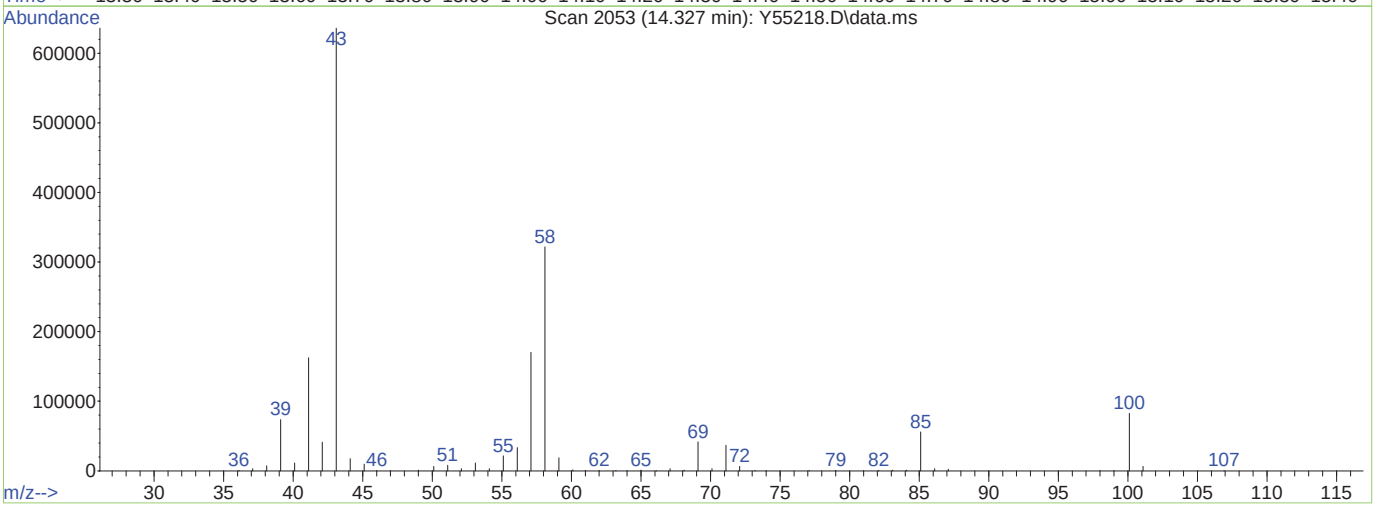
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	189.10
43.10	143.60	141.58
41.10	156.00	153.46

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:31:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55218.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 270.77ug/L

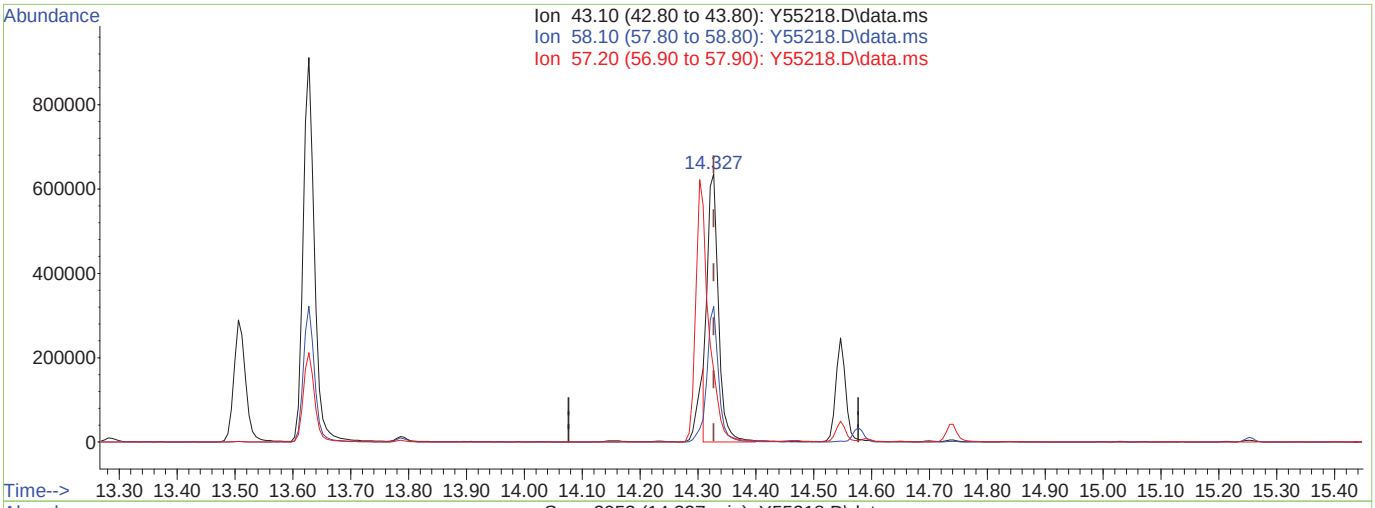
response 995336

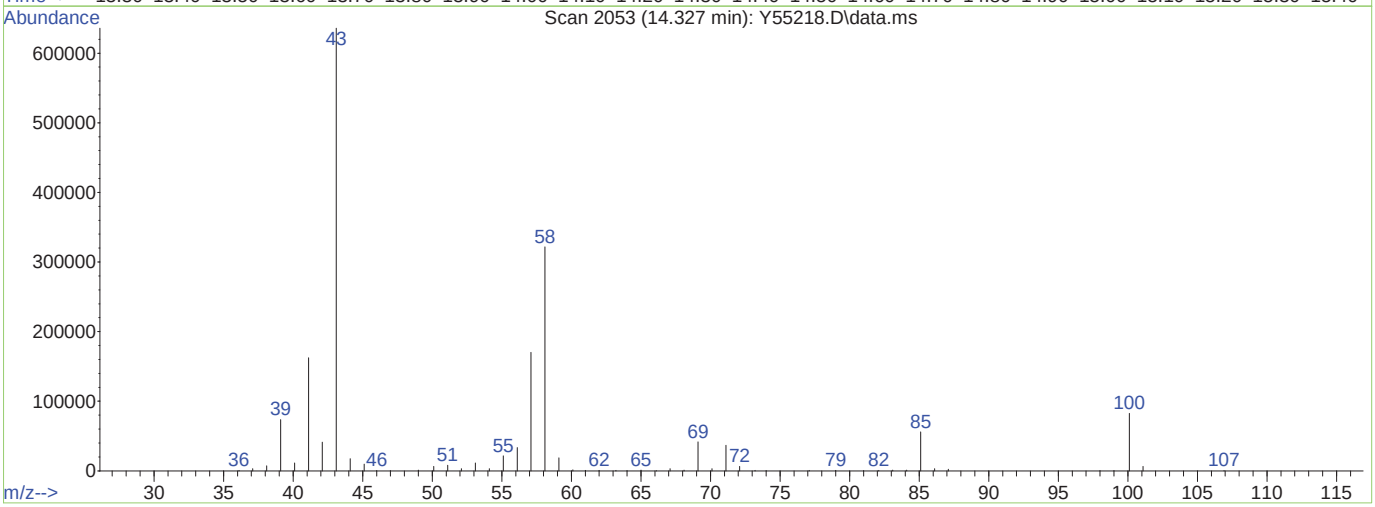
Ion	Exp%	Act%
43.10	100	100
58.10	49.60	50.59
57.20	27.30	26.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:31:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55218.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 233.98ug/L m

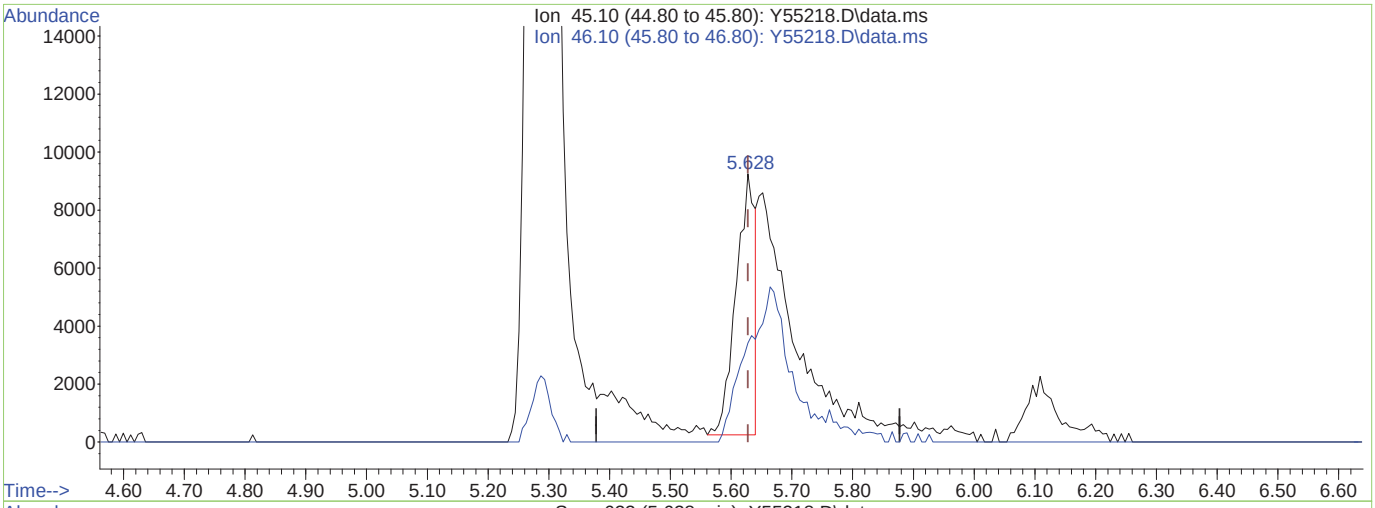
response 845102

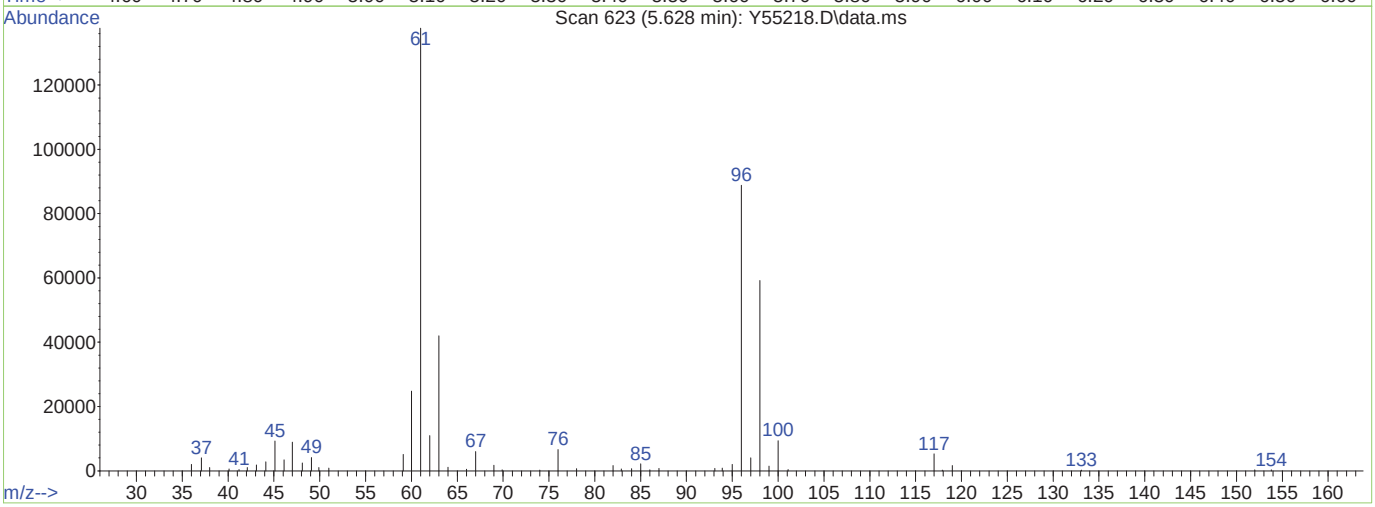
Ion	Exp%	Act%
43.10	100	100
58.10	49.60	50.55
57.20	27.30	26.78
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:31:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55218.D\data.ms

(108) Ethanol

5.628min (-0.000) 283.90ug/L

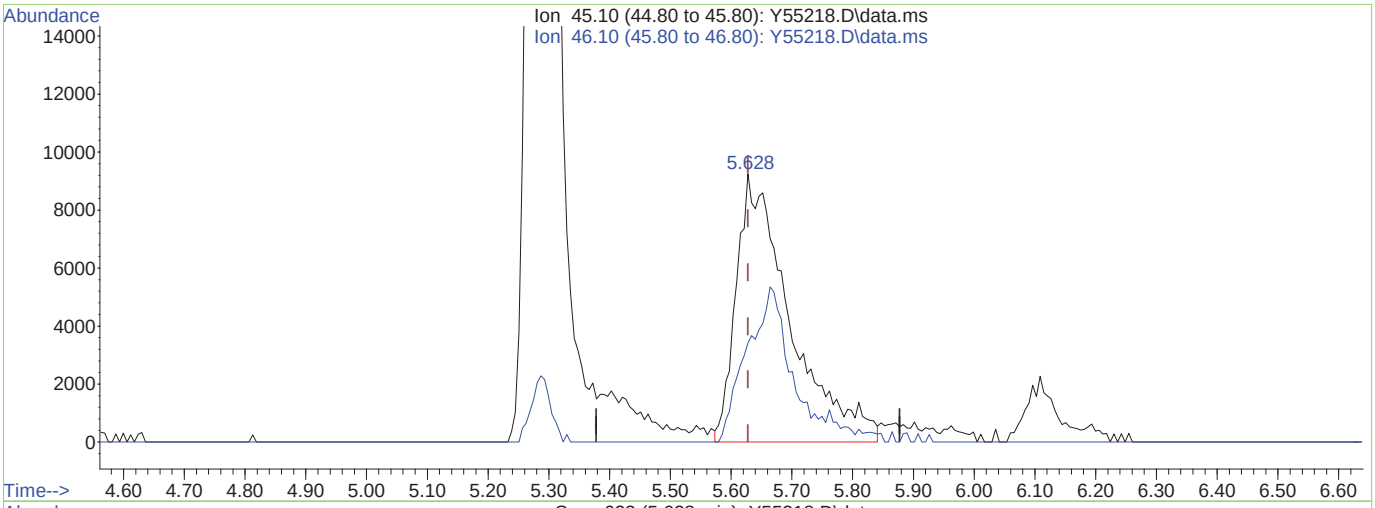
response 19627

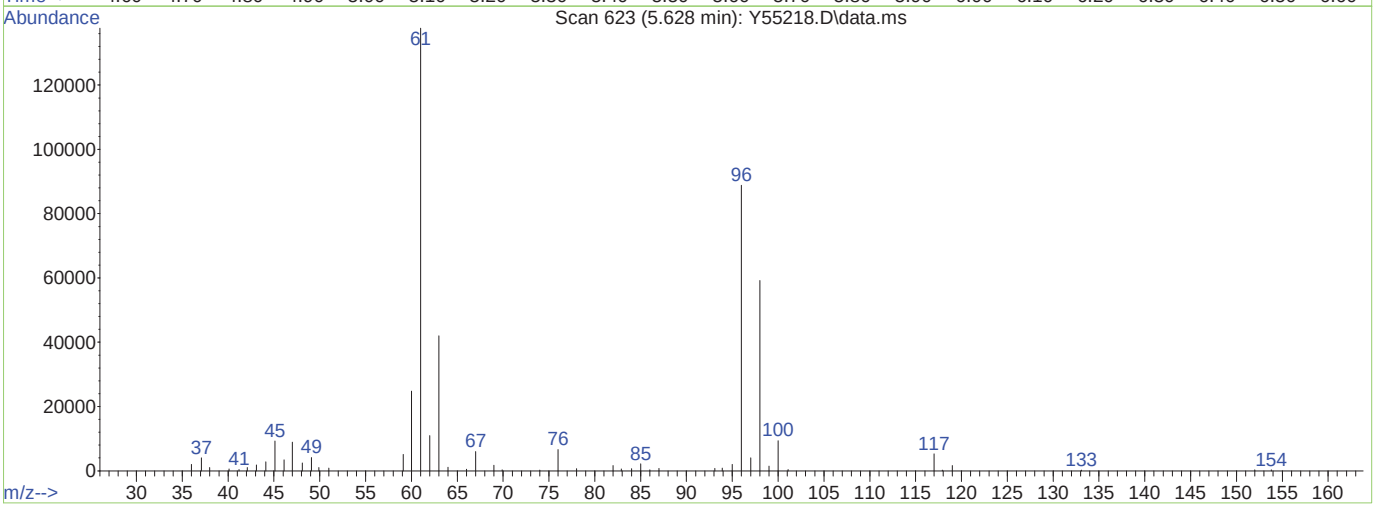
Ion	Exp%	Act%
45.10	100	100
46.10	45.00	37.99
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55218.D
Acq On : 15 Jan 2021 12:47 pm
Operator : chelseav
Sample : ICC2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 15 14:31:50 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55218.D\data.ms

(108) Ethanol

5.628min (-0.000) 821.49ug/L m

response 56792

Ion	Exp%	Act%
45.10	100	100
46.10	45.00	36.94
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/18/21 10:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55219.D
Acq On : 15 Jan 2021 1:13 pm
Operator : chelseav
Sample : IC2293-6 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 15 14:35:18 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.516	96	2084458	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.576	117	1911723	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1047115	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.410	65	103435	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.330	113	544269	50.09	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.18%			
47) 1,2-Dichloroethane-d4	11.139	65	474841	53.95	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 107.90%			
58) Toluene-d8	13.238	98	2193107	48.52	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.04%			
80) 4-Bromofluorobenzene	15.483	174	784371	48.03	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.036	85	885132	74.19	ug/L	97
3) Acrolein	6.303	56	498291	511.56	ug/L	97
4) Chloromethane	3.389	50	893320	69.03	ug/L	100
5) 1,3-butadiene	3.583	39	693054	70.24	ug/L	98
6) Vinyl Chloride	3.553	62	803271	72.28	ug/L	99
7) Bromomethane	4.161	94	468524	60.24	ug/L	99
8) Chloroethane	4.399	64	238503	44.68	ug/L	98
9) Trichlorofluoromethane	4.660	101	1204072	74.22	ug/L	99
10) Ethyl Ether	5.287	59	489248	85.66	ug/L	97
11) 1,2-Dichlorotrifluoroe...	5.670	67	617790	71.53	ug/L	97
12) 1,1-Dichloroethene	5.640	61	924568	71.19	ug/L	99
13) Freon 113	5.731	101	697703	72.78	ug/L	99
14) Carbon Disulfide	5.670	76	1602936	68.49	ug/L	100
15) Iodomethane	5.901	142	962079	56.31	ug/L	98
16) Allyl chloride	6.564	41	1125578	77.45	ug/L	99
17) Methylene Chloride	6.777	49	845715	70.23	ug/L	98
18) Acetone	6.887	43	627408	474.34	ug/L	98
19) Methyl acetate	7.136	43	1669389	435.10	ug/L	99
20) trans-1,2-Dichloroethene	7.094	61	873819	71.21	ug/L	99
21) Hexane	7.252	56	518097m	73.45	ug/L	
22) Methyl Tert Butyl Ether	7.313	73	1329072	75.60	ug/L	96
23) Acetonitrile	7.793	41	577739	1043.69	ug/L	98
24) Di-isopropyl ether	8.085	45	2371409	77.63	ug/L	100
25) Chloroprene	8.262	53	1213404	82.58	ug/L	99
26) 1,1-Dichloroethane	8.310	63	1041166	72.81	ug/L	97
27) Acrylonitrile	8.426	53	858594	450.09	ug/L	96
28) ETBE	8.821	59	1838452	80.84	ug/L	100
29) Vinyl acetate	8.852	43	6648279	444.03	ug/L	99
30) cis-1,2-Dichloroethene	9.424	96	733954	72.50	ug/L	98
31) 2,2-Dichloropropane	9.636	77	849975	67.21	ug/L	100
32) Bromochloromethane	9.831	128	401123	77.67	ug/L	98
33) Cyclohexane	9.819	56	1321295	73.27	ug/L	97
34) Chloroform	10.002	83	1093681	73.77	ug/L	99
35) Ethyl acetate	10.245	43	2399160	517.34	ug/L	100
36) Tetrahydrofuran	10.245	42	147518	101.85	ug/L	99
38) Carbon Tetrachloride	10.227	117	1063071	73.03	ug/L	99
39) 1,1,1-Trichloroethane	10.348	97	1141098	71.83	ug/L	100
40) 2-Butanone	10.543	43	986445	446.16	ug/L	98
41) 1,1-Dichloropropene	10.561	75	885762	72.67	ug/L	98
42) tert-Butyl formate	10.750	59	859853	347.46	ug/L	97
43) Propionitrile	10.987	54	615655	1039.41	ug/L	95
44) Methacrylonitrile	11.017	41	3163602	948.81	ug/L	98
45) Benzene	10.938	78	2604148	73.69	ug/L	99
46) TAME	11.121	73	1436137	83.79	ug/L	98
48) 1,2-Dichloroethane	11.236	62	811999	80.84	ug/L	99
49) Trichloroethene	11.735	95	763554	70.87	ug/L	98
50) Methylcyclohexane	11.711	83	1154449	75.90	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55219.D
Acq On : 15 Jan 2021 1:13 pm
Operator : chelseav
Sample : IC2293-6 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 15 14:35:18 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

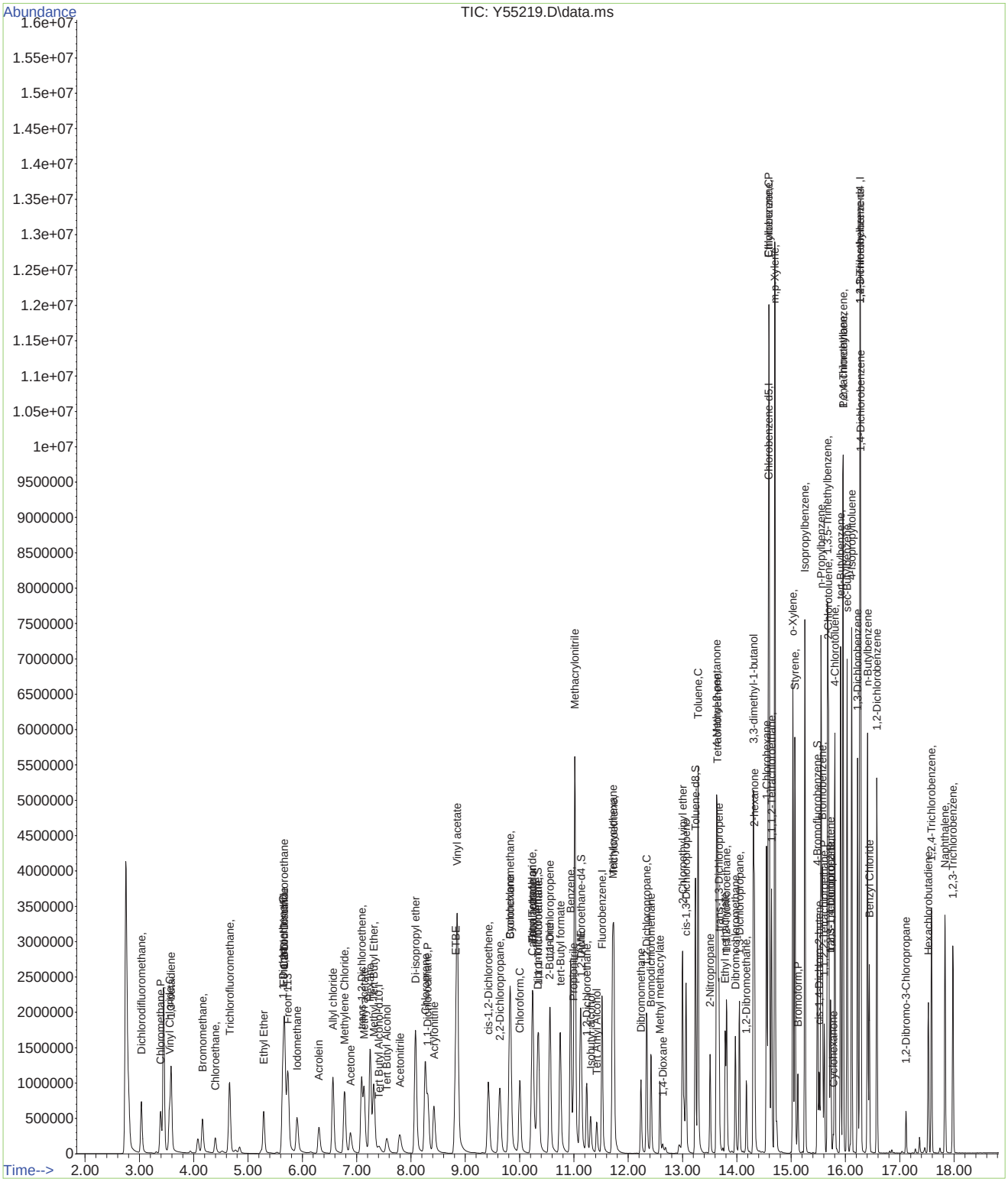
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.234	93	337458	84.67	ug/L		97
52) 1,2-Dichloropropane	12.338	63	618175	75.71	ug/L		98
53) Bromodichloromethane	12.417	83	783933	78.24	ug/L		100
54) Methyl methacrylate	12.581	41	469256	87.66	ug/L		99
55) 2-Chloroethyl vinyl ether	13.001	63	920895	335.45	ug/L		99
56) cis-1,3-Dichloropropene	13.068	75	1006880	74.47	ug/L		96
59) Toluene	13.287	91	3293997	70.27	ug/L		99
60) 2-Nitropropane	13.506	41	679878	411.92	ug/L		98
61) 4-Methyl-2-pentanone	13.627	43	2401071	430.32	ug/L		99
62) trans-1,3-Dichloropropene	13.670	75	800719	73.76	ug/L		97
63) Tetrachloroethene	13.645	166	968422	68.72	ug/L		99
64) Ethyl methacrylate	13.785	69	580282	81.34	ug/L		97
65) 1,1,2-Trichloroethane	13.810	83	406694	82.25	ug/L		99
66) Dibromochloromethane	13.974	129	761094	73.20	ug/L		99
67) 1,3-Dichloropropane	14.047	76	881913	81.73	ug/L		98
68) 1,2-Dibromoethane	14.175	107	577863	85.61	ug/L		99
69) 2-hexanone	14.327	43	1660657m	416.55	ug/L		
70) 1-Chlorohexane	14.546	91	1057516	73.47	ug/L		98
71) Ethylbenzene	14.595	91	3581080	70.44	ug/L		98
72) Chlorobenzene	14.595	112	2288950	72.04	ug/L		96
73) 1,1,1,2-Tetrachloroethane	14.637	131	845102	75.54	ug/L		99
74) m,p-Xylene	14.698	91	5707249	144.30	ug/L		99
75) o-Xylene	15.033	91	2845956	71.72	ug/L		99
76) Styrene	15.069	104	2403402	68.00	ug/L		99
77) Bromoform	15.124	173	404214	76.90	ug/L		99
78) Isopropylbenzene	15.252	105	3985993	73.35	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.513	53	198732	81.58	ug/L	#	80
82) n-Propylbenzene	15.550	91	4127035	70.16	ug/L		99
83) Bromobenzene	15.574	156	957362	69.14	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.610	83	563640	87.24	ug/L		99
85) 1,3,5-Trimethylbenzene	15.671	105	3002462	68.63	ug/L		100
86) 2-Chlorotoluene	15.690	91	2566253	66.81	ug/L		98
87) trans-1,4-Dichloro-2-B...	15.732	53	180903	82.37	ug/L		98
88) 1,2,3-Trichloropropane	15.720	110	220747	86.62	ug/L		99
89) Cyclohexanone	15.775	55	75037	418.38	ug/L		98
90) 4-Chlorotoluene	15.805	91	2430365	67.82	ug/L		99
91) tert-Butylbenzene	15.909	91	1503193	67.53	ug/L		99
92) 1,2,4-Trimethylbenzene	15.951	105	3051755	69.08	ug/L		100
93) Pentachloroethane	15.957	167	521035	72.45	ug/L		97
94) sec-Butylbenzene	16.030	105	3530241	70.36	ug/L		98
95) 4-Isopropyltoluene	16.115	119	3340512	70.61	ug/L		99
96) 1,3-Dichlorobenzene	16.225	146	1865699	68.93	ug/L		99
97) 1,2,3-Trimethylbenzene	16.267	105	3516104	68.62	ug/L		100
98) 1,4-Dichlorobenzene	16.286	146	1873308	68.74	ug/L		96
99) n-Butylbenzene	16.407	92	1250889	70.72	ug/L		99
100) Benzyl Chloride	16.438	126	338236	78.68	ug/L		99
101) 1,2-Dichlorobenzene	16.578	146	1739730	71.59	ug/L		100
102) 1,2-Dibromo-3-Chloropr...	17.113	75	88994	80.40	ug/L		97
103) Hexachlorobutadiene	17.527	225	287466	67.08	ug/L		97
104) 1,2,4-Trichlorobenzene	17.588	180	900018	67.84	ug/L		98
105) Naphthalene	17.831	128	2325316	78.76	ug/L		99
106) 1,2,3-Trichlorobenzene	17.977	180	774588	71.01	ug/L		98
108) Ethanol	5.646	45	99625	1348.14	ug/L		98
109) Tert Butyl Alcohol	7.556	59	379928	748.30	ug/L		95
110) Isobutyl alcohol	11.303	42	208337	1609.43	ug/L		94
111) Tert Amyl Alcohol	11.419	59	254620	782.24	ug/L		96
112) 1,4-Dioxane	12.636	88	95401	1646.56	ug/L		98
113) 3,3-dimethyl-1-butanol	14.303	57	2085678	4072.54	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55219.D
Acq On : 15 Jan 2021 1:13 pm
Operator : chelseav
Sample : IC2293-6 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 15 14:35:18 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration



Manual Integration Approval Summary

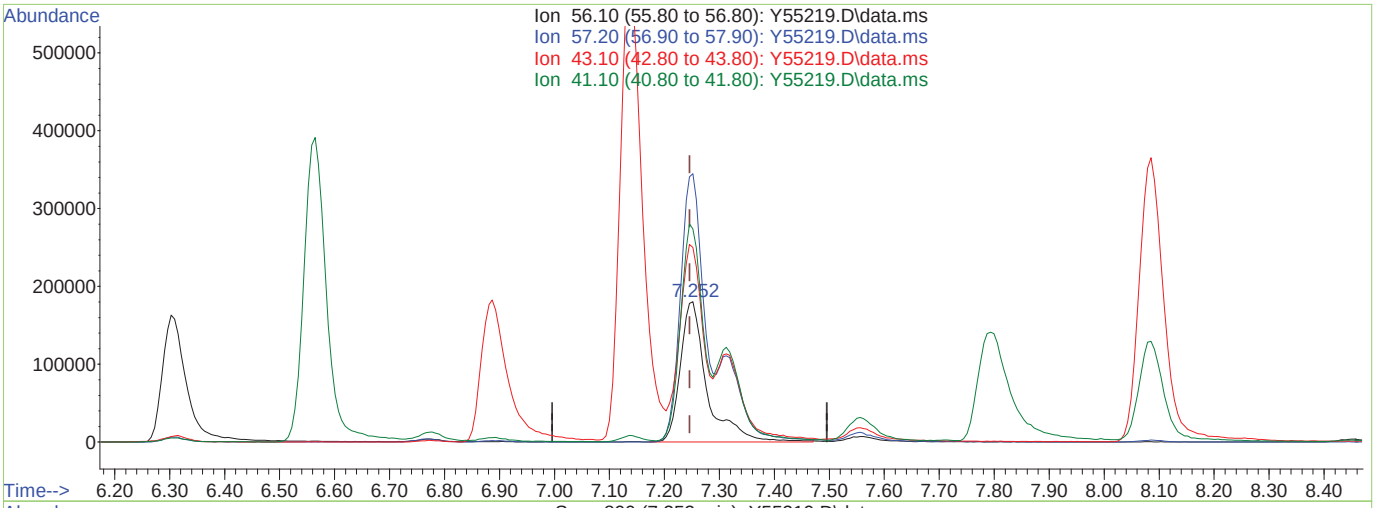
Sample Number: VY2293-IC2293
Lab FileID: Y55219.D
Injection Time: 01/15/21 13:13
Method: SW846 8260B
Analyst approved: 01/18/21 10:02 Shanica O'Connor
Supervisor approved: 01/18/21 10:25 Melissa Mangual

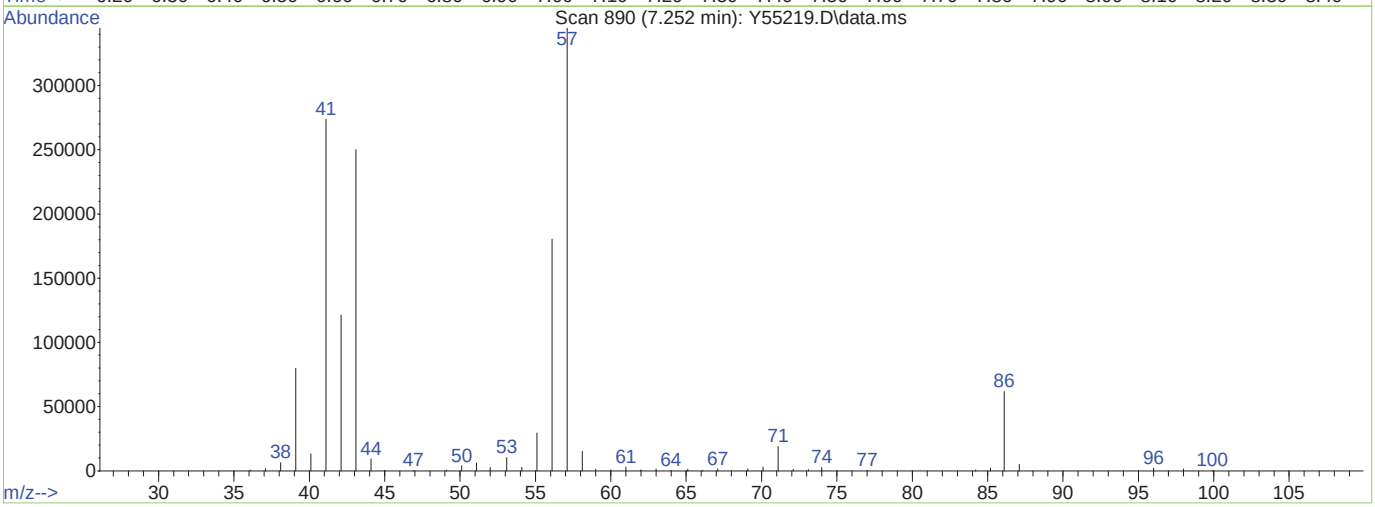
Parameter	CAS	Sig#	R.T. (min.)	Reason
Hexane	110-54-3		7.25	Overlapping peak
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55219.D
Acq On : 15 Jan 2021 1:13 pm
Operator : chelseav
Sample : IC2293-6 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 15 14:31:52 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55219.D\data.ms

(21) Hexane

7.252min (+0.006) 86.42ug/L

response 609575

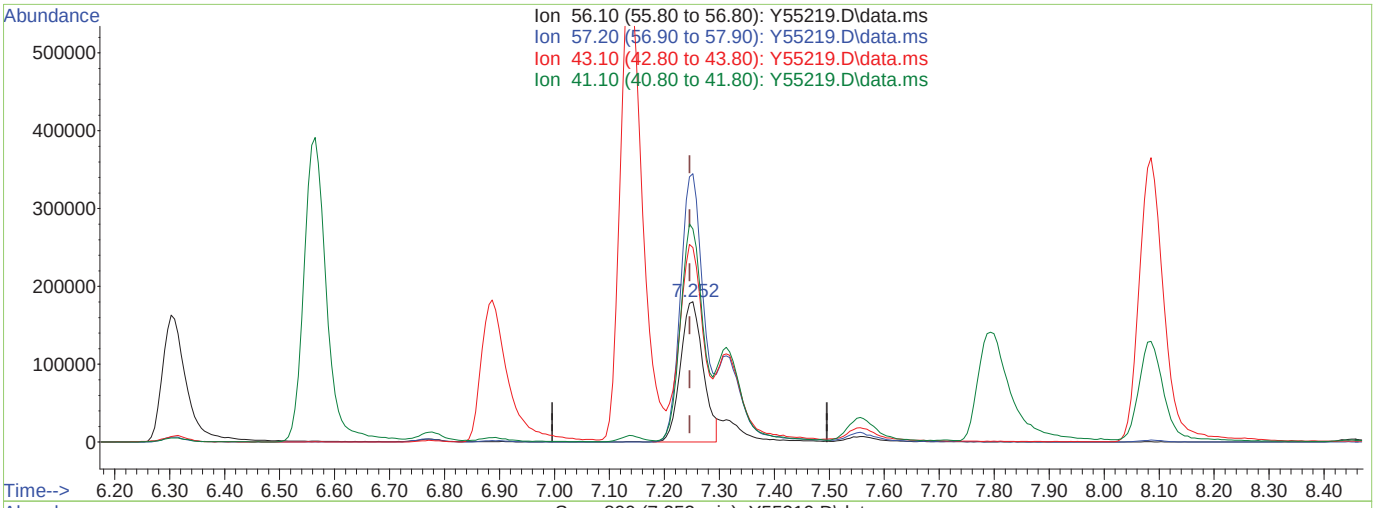
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	191.29
43.10	143.60	136.10
41.10	156.00	150.70

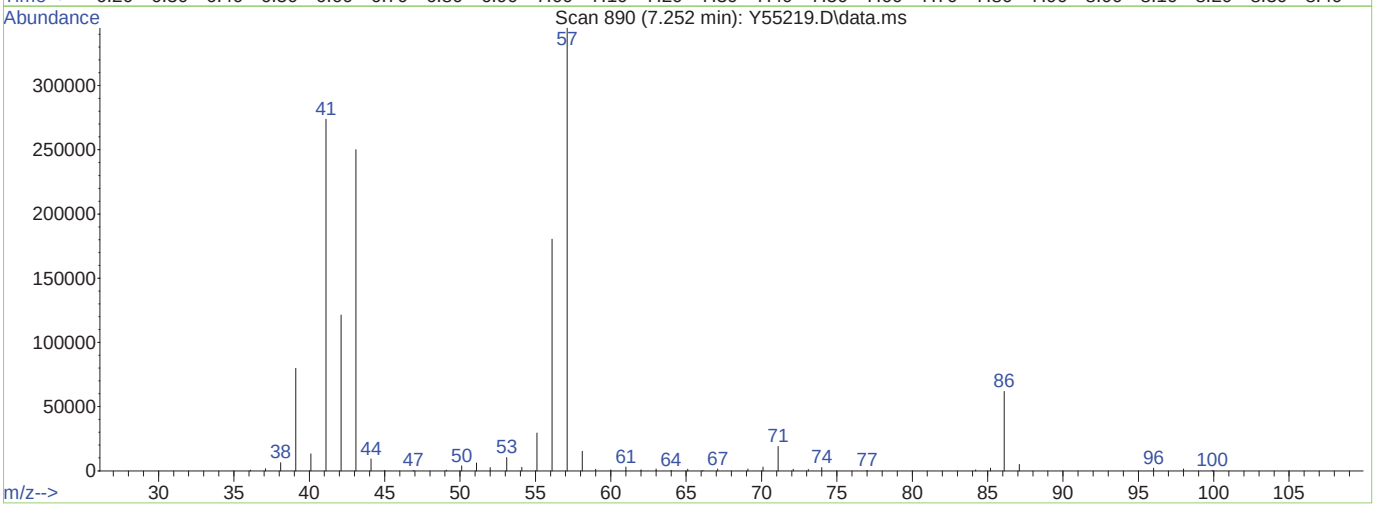
Y55219.D edits: Hexane

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55219.D
Acq On : 15 Jan 2021 1:13 pm
Operator : chelseav
Sample : IC2293-6 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 15 14:31:52 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55219.D\data.ms

(21) Hexane

7.252min (+0.006) 73.45ug/L m

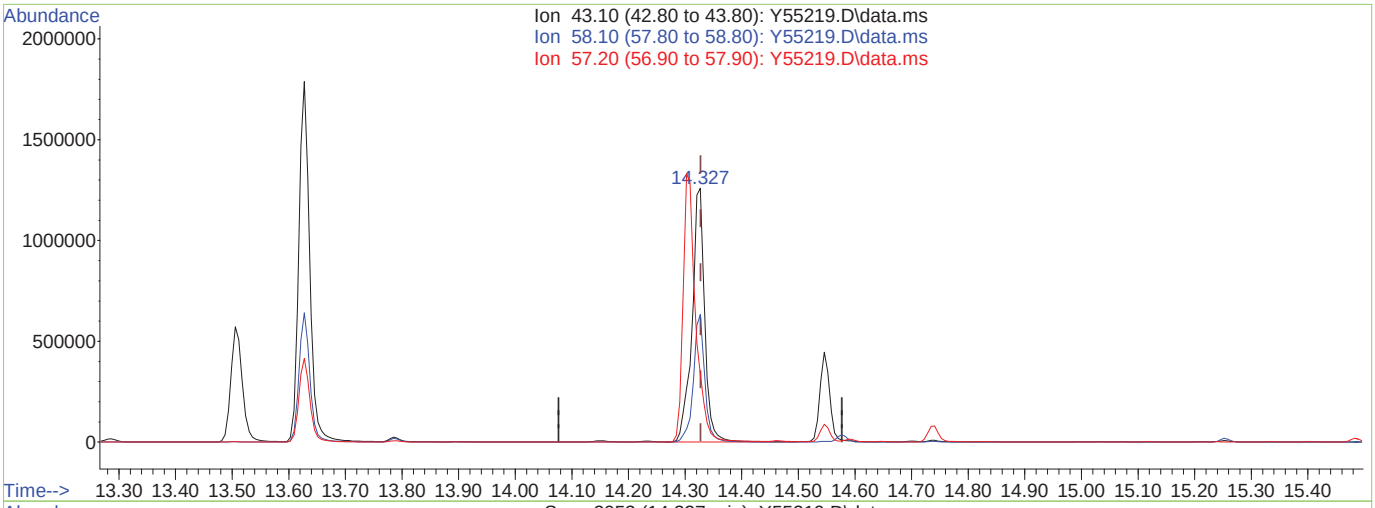
response 518097

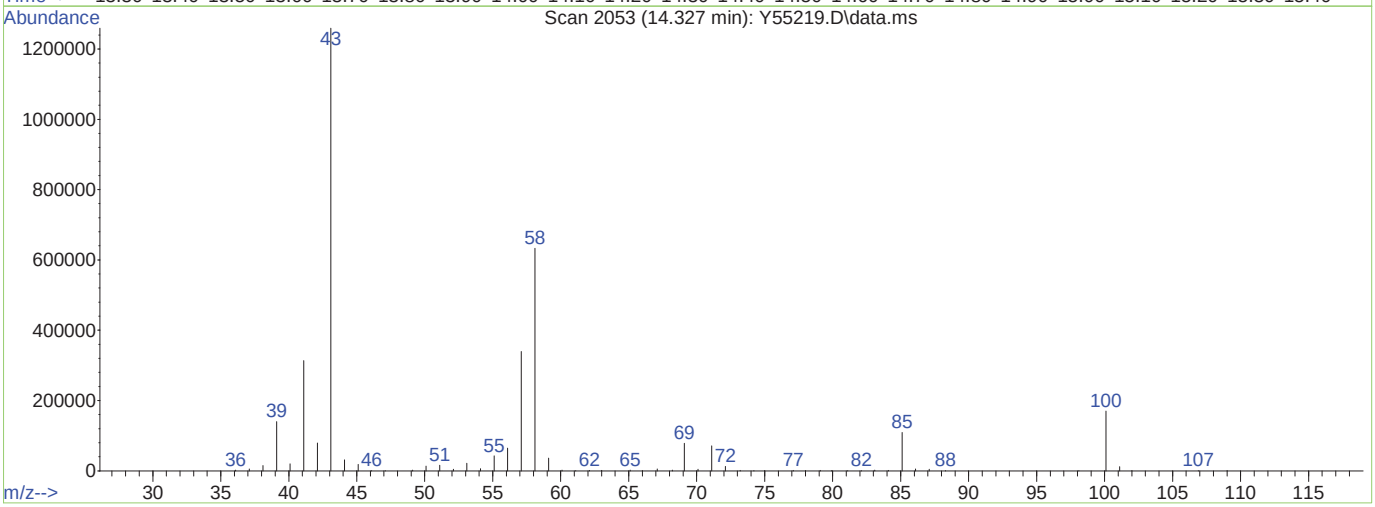
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	191.03
43.10	143.60	138.58
41.10	156.00	151.77

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55219.D
Acq On : 15 Jan 2021 1:13 pm
Operator : chelseav
Sample : IC2293-6 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 15 14:31:52 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55219.D\data.ms

(69) 2-hexanone

14.327min (-0.000) 482.20ug/L

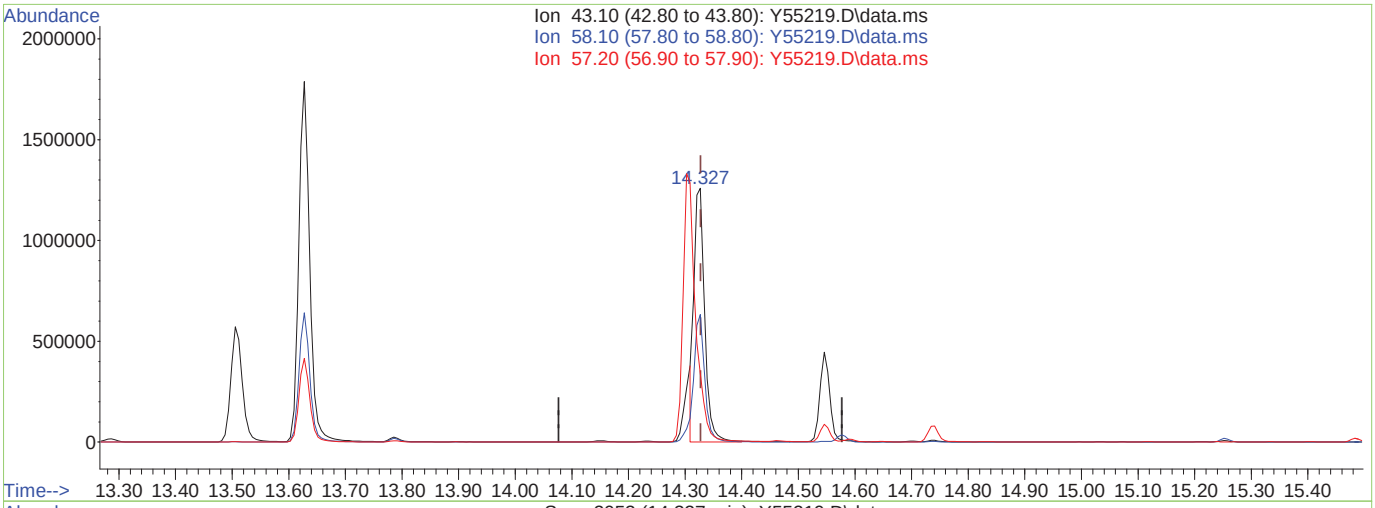
response 1978333

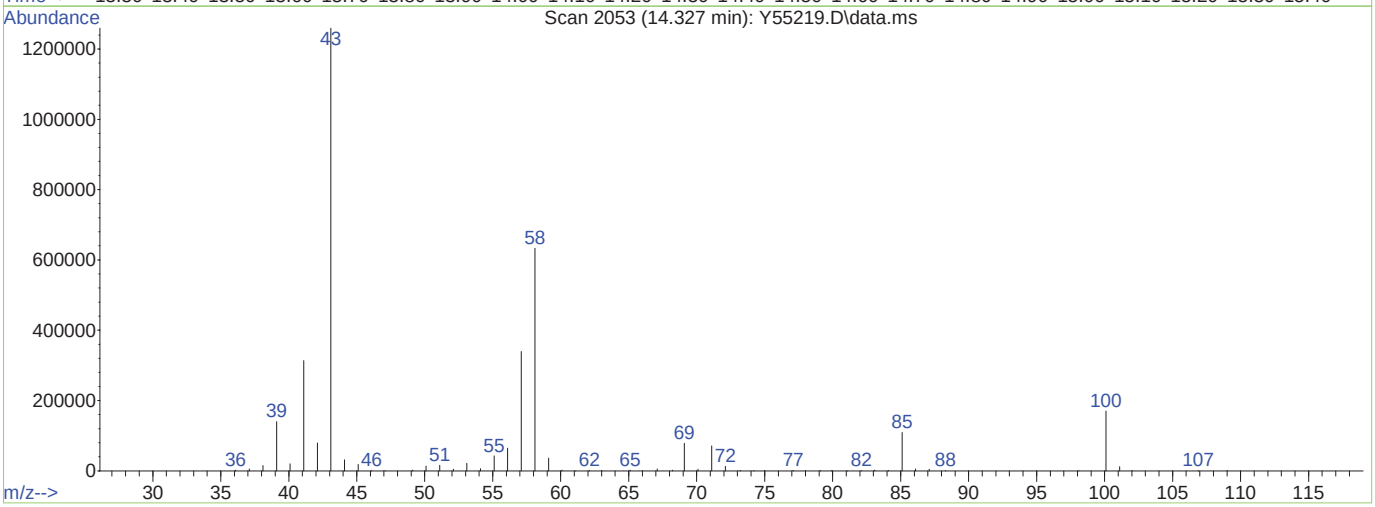
Ion	Exp%	Act%
43.10	100	100
58.10	49.60	50.31
57.20	27.30	26.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55219.D
Acq On : 15 Jan 2021 1:13 pm
Operator : chelseav
Sample : IC2293-6 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jan 15 14:31:52 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55219.D\data.ms

(69) 2-hexanone

14.327min (-0.000) 416.55ug/L m

response 1660657

Ion	Exp%	Act%
43.10	100	100
58.10	49.60	50.28
57.20	27.30	26.93
0.00	0.00	0.00

Y55220.D

Manual Integrations APPROVED (compounds with "m" flag)

Melissa Mangual 01/18/21 10:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55220.D
Acq On : 15 Jan 2021 1:40 pm
Operator : chelseav
Sample : IC2293-7 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 15 14:36:11 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.519	96	2162298	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	1974519	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.270	152	1072111	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.418	65	100136	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.332	113	561956	49.86	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.72%			
47) 1,2-Dichloroethane-d4	11.141	65	477048	52.25	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 104.50%			
58) Toluene-d8	13.240	98	2272578	48.67	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.34%			
80) 4-Bromofluorobenzene	15.485	174	809719	48.43	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.86%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.032	85	1271640	102.75	ug/L	98
3) Acrolein	6.305	56	660403	653.59	ug/L	99
4) Chloromethane	3.385	50	1292040	96.25	ug/L	99
5) 1,3-butadiene	3.580	39	991210	96.84	ug/L	99
6) Vinyl Chloride	3.549	62	1167241	101.26	ug/L	99
7) Bromomethane	4.158	94	703802	87.23	ug/L	99
8) Chloroethane	4.395	64	339969	Below Cal		99
9) Trichlorofluoromethane	4.657	101	1786066	106.13	ug/L	99
10) Ethyl Ether	5.289	59	682970	115.27	ug/L	97
11) 1,2-Dichlorotrifluoroe...	5.672	67	889294	99.26	ug/L	96
12) 1,1-Dichloroethene	5.636	61	1329396	98.68	ug/L	99
13) Freon 113	5.727	101	996542	100.21	ug/L	99
14) Carbon Disulfide	5.672	76	2304899	94.93	ug/L	98
15) Iodomethane	5.904	142	1443338	81.44	ug/L	98
16) Allyl chloride	6.561	41	1658093	109.98	ug/L	100
17) Methylene Chloride	6.774	49	1212178	97.53	ug/L	99
18) Acetone	6.883	43	814889	593.90	ug/L	99
19) Methyl acetate	7.132	43	2171427	528.08	ug/L	99
20) trans-1,2-Dichloroethene	7.090	61	1268242	99.63	ug/L	99
21) Hexane	7.248	56	755475m	103.25	ug/L	
22) Methyl Tert Butyl Ether	7.315	73	1841192	97.20	ug/L	95
23) Acetonitrile	7.796	41	758588	1321.06	ug/L	98
24) Di-isopropyl ether	8.082	45	3428845	108.21	ug/L	98
25) Chloroprene	8.264	53	1783513	117.01	ug/L	99
26) 1,1-Dichloroethane	8.313	63	1518411	102.36	ug/L	99
27) Acrylonitrile	8.422	53	1110647	544.67	ug/L	99
28) ETBE	8.824	59	2609578	110.62	ug/L	100
29) Vinyl acetate	8.854	43	9119551	567.88	ug/L	99
30) cis-1,2-Dichloroethene	9.426	96	1078807	102.73	ug/L	97
31) 2,2-Dichloropropane	9.633	77	1233516	89.04	ug/L	99
32) Bromochloromethane	9.834	128	567528	105.94	ug/L	99
33) Cyclohexane	9.821	56	1903041	101.74	ug/L	99
34) Chloroform	10.004	83	1584155	103.01	ug/L	99
35) Ethyl acetate	10.247	43	3198202	664.82	ug/L	100
36) Tetrahydrofuran	10.247	42	186907	123.83	ug/L	98
38) Carbon Tetrachloride	10.229	117	1547103	102.45	ug/L	99
39) 1,1,1-Trichloroethane	10.351	97	1662329	100.88	ug/L	98
40) 2-Butanone	10.539	43	1288663	543.40	ug/L	97
41) 1,1-Dichloropropene	10.564	75	1276920	100.99	ug/L	98
42) tert-Butyl formate	10.746	59	1245485	424.89	ug/L	99
43) Propionitrile	10.989	54	803006	1306.92	ug/L	100
44) Methacrylonitrile	11.020	41	4177736	1207.86	ug/L	98
45) Benzene	10.941	78	3777365	103.05	ug/L	97
46) TAME	11.117	73	2013556	113.26	ug/L	100
48) 1,2-Dichloroethane	11.233	62	1128851	108.34	ug/L	99
49) Trichloroethene	11.738	95	1106805	99.04	ug/L	99
50) Methylcyclohexane	11.713	83	1674806	106.15	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55220.D
Acq On : 15 Jan 2021 1:40 pm
Operator : chelseav
Sample : IC2293-7 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 15 14:36:11 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration

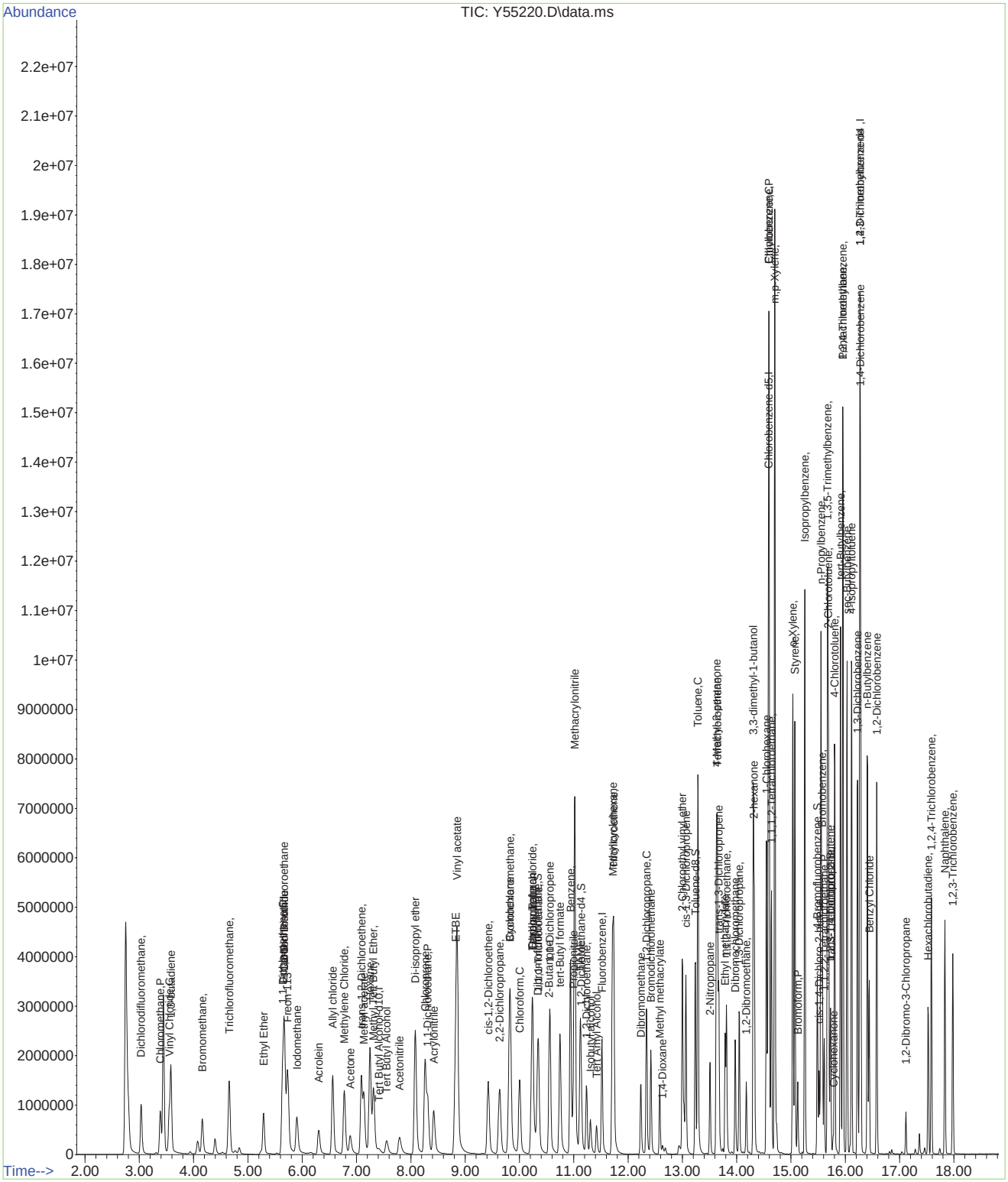
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) Dibromomethane	12.230	93	470817	113.88	ug/L		95
52) 1,2-Dichloropropane	12.340	63	900767	106.35	ug/L		97
53) Bromodichloromethane	12.419	83	1137435	109.43	ug/L		100
54) Methyl methacrylate	12.583	41	636949	110.66	ug/L		98
55) 2-Chloroethyl vinyl ether	12.997	63	1280848	430.18	ug/L		98
56) cis-1,3-Dichloropropene	13.064	75	1444312	100.47	ug/L		97
59) Toluene	13.283	91	4777941	98.69	ug/L		99
60) 2-Nitropropane	13.508	41	902064	505.78	ug/L		97
61) 4-Methyl-2-pentanone	13.630	43	3152603	531.76	ug/L		99
62) trans-1,3-Dichloropropene	13.672	75	1137878	97.36	ug/L		96
63) Tetrachloroethene	13.648	166	1405833	96.58	ug/L		97
64) Ethyl methacrylate	13.788	69	813421	105.63	ug/L		95
65) 1,1,2-Trichloroethane	13.812	83	561540	109.95	ug/L		98
66) Dibromochloromethane	13.970	129	1083218	96.89	ug/L		99
67) 1,3-Dichloropropane	14.049	76	1233495	110.67	ug/L		97
68) 1,2-Dibromoethane	14.177	107	799955	114.75	ug/L		99
69) 2-hexanone	14.323	43	2329135m	536.97	ug/L		
70) 1-Chlorohexane	14.548	91	1514187	101.85	ug/L		98
71) Ethylbenzene	14.591	91	5212080	99.26	ug/L		100
72) Chlorobenzene	14.591	112	3310071	100.86	ug/L		96
73) 1,1,1,2-Tetrachloroethane	14.639	131	1226472	106.14	ug/L		100
74) m,p-Xylene	14.700	91	8236111	201.62	ug/L		99
75) o-Xylene	15.035	91	4147135	101.19	ug/L		100
76) Styrene	15.071	104	3526746	93.33	ug/L		97
77) Bromoform	15.126	173	565880	98.73	ug/L		99
78) Isopropylbenzene	15.254	105	5776727	102.93	ug/L		100
81) cis-1,4-Dichloro-2-butene	15.515	53	268121	102.48	ug/L	#	77
82) n-Propylbenzene	15.552	91	6002312	99.67	ug/L		99
83) Bromobenzene	15.576	156	1387987	97.90	ug/L		100
84) 1,1,2,2-Tetrachloroethane	15.613	83	756759	114.40	ug/L		99
85) 1,3,5-Trimethylbenzene	15.674	105	4421275	98.71	ug/L		100
86) 2-Chlorotoluene	15.692	91	3734029	94.94	ug/L		99
87) trans-1,4-Dichloro-2-B...	15.728	53	238763	102.22	ug/L	#	63
88) 1,2,3-Trichloropropane	15.722	110	293631	112.54	ug/L		100
89) Cyclohexanone	15.777	55	101824	527.32	ug/L		97
90) 4-Chlorotoluene	15.801	91	3576104	97.47	ug/L		94
91) tert-Butylbenzene	15.911	91	2188104	96.01	ug/L		97
92) 1,2,4-Trimethylbenzene	15.954	105	4446039	98.30	ug/L		99
93) Pentachloroethane	15.960	167	755292	102.58	ug/L		92
94) sec-Butylbenzene	16.033	105	5167955	100.61	ug/L		100
95) 4-Isopropyltoluene	16.118	119	4884903	100.85	ug/L		100
96) 1,3-Dichlorobenzene	16.227	146	2742795	98.97	ug/L		99
97) 1,2,3-Trimethylbenzene	16.264	105	5122791	97.64	ug/L		98
98) 1,4-Dichlorobenzene	16.282	146	2739022	98.16	ug/L		98
99) n-Butylbenzene	16.404	92	1927173	106.42	ug/L		97
100) Benzyl Chloride	16.440	126	464843	99.02	ug/L		96
101) 1,2-Dichlorobenzene	16.580	146	2523454	101.42	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.115	75	121586	101.69	ug/L		93
103) Hexachlorobutadiene	17.529	225	411742	93.84	ug/L		99
104) 1,2,4-Trichlorobenzene	17.584	180	1267969	90.40	ug/L		99
105) Naphthalene	17.833	128	3158400	98.95	ug/L		99
106) 1,2,3-Trichlorobenzene	17.979	180	1060889	92.10	ug/L		98
108) Ethanol	5.648	45	137812	1926.33	ug/L		93
109) Tert Butyl Alcohol	7.552	59	507392	1032.28	ug/L		97
110) Isobutyl alcohol	11.306	42	277222	2212.12	ug/L		98
111) Tert Amyl Alcohol	11.421	59	338358	1073.74	ug/L		97
112) 1,4-Dioxane	12.638	88	123863	2208.23	ug/L		97
113) 3,3-dimethyl-1-butanol	14.305	57	2941259	5932.37	ug/L		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55220.D
Acq On : 15 Jan 2021 1:40 pm
Operator : chelseav
Sample : IC2293-7 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 15 14:36:11 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration



Manual Integration Approval Summary

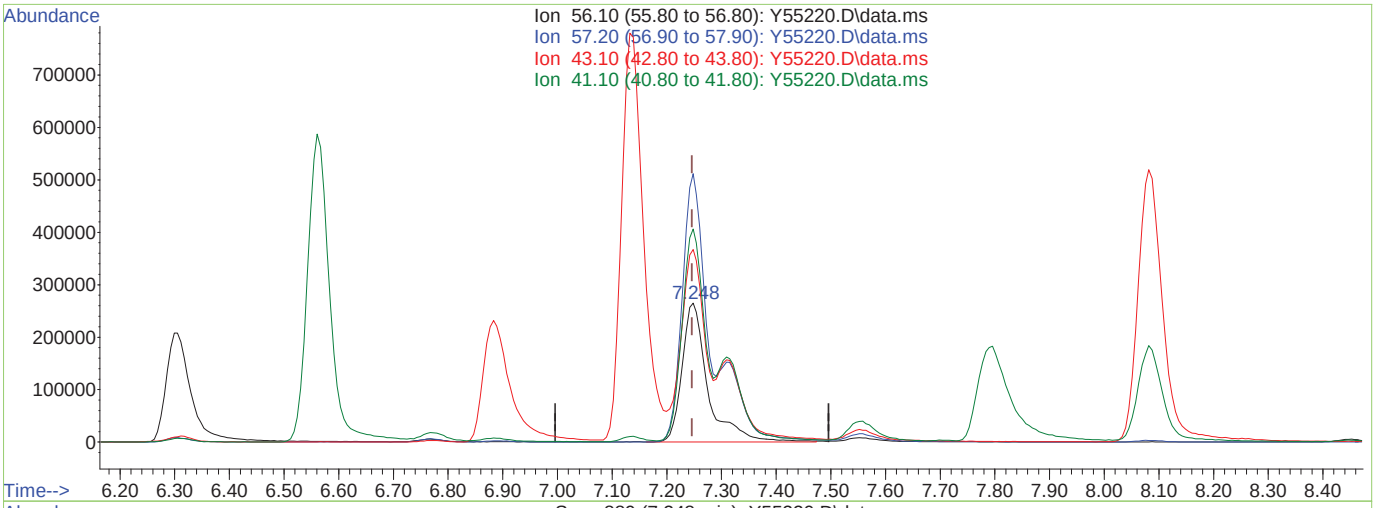
Sample Number: VY2293-IC2293
Lab FileID: Y55220.D
Injection Time: 01/15/21 13:40
Method: SW846 8260B
Analyst approved: 01/18/21 10:02 Shanica O'Connor
Supervisor approved: 01/18/21 10:25 Melissa Mangual

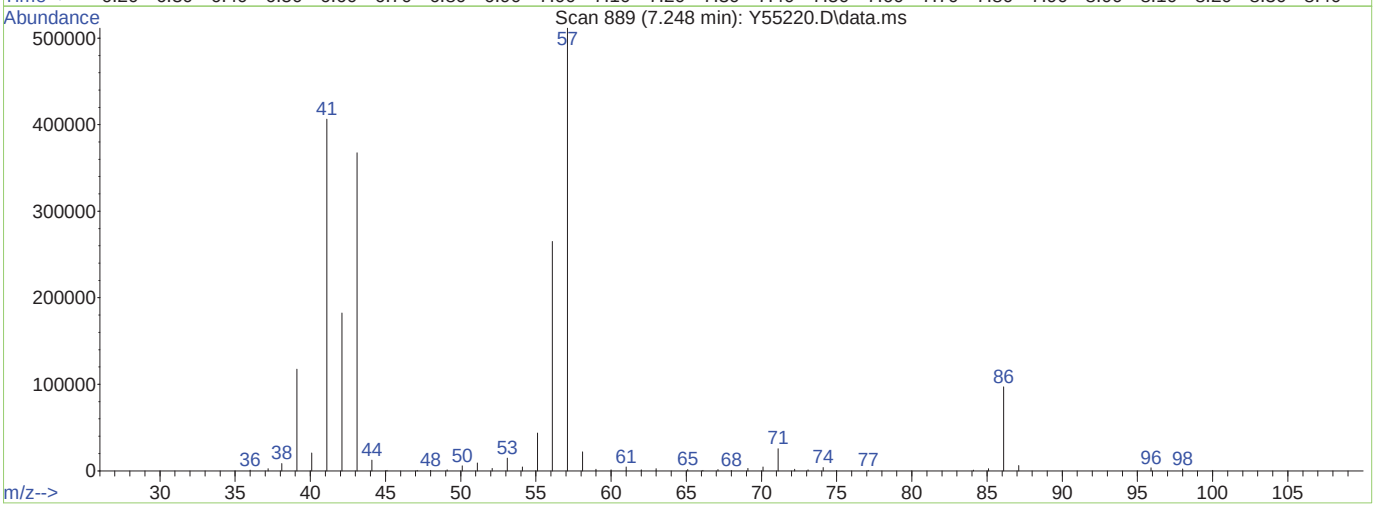
Parameter	CAS	Sig#	R.T. (min.)	Reason
Hexane	110-54-3		7.25	Overlapping peak
2-Hexanone	591-78-6		14.32	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55220.D
Acq On : 15 Jan 2021 1:40 pm
Operator : chelseav
Sample : IC2293-7 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 15 14:31:54 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55220.D\data.ms

(21) Hexane

7.248min (+0.002) 119.00ug/L

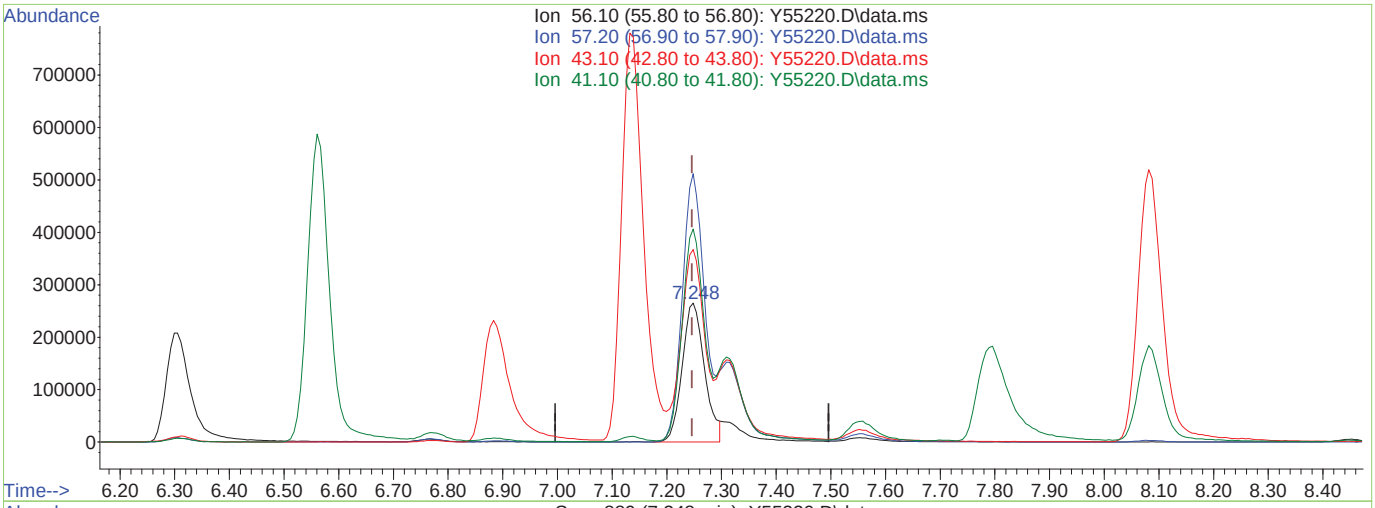
response 870682

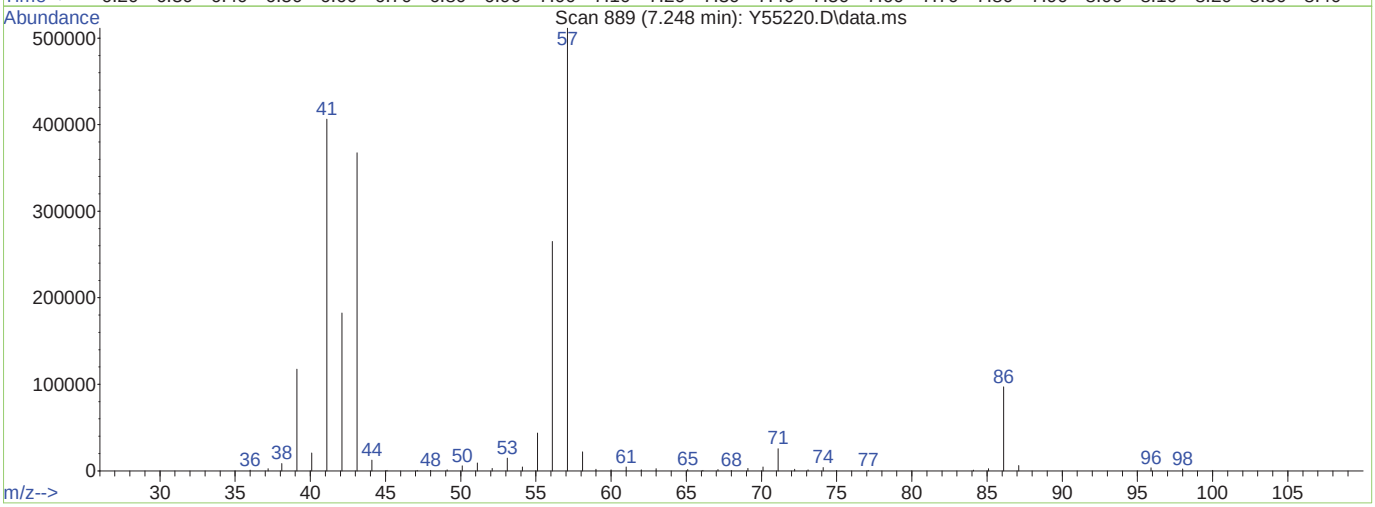
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	193.33
43.10	143.60	136.40
41.10	156.00	152.01

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55220.D
Acq On : 15 Jan 2021 1:40 pm
Operator : chelseav
Sample : IC2293-7 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 15 14:31:54 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55220.D\data.ms

(21) Hexane

7.248min (+0.002) 103.25ug/L m

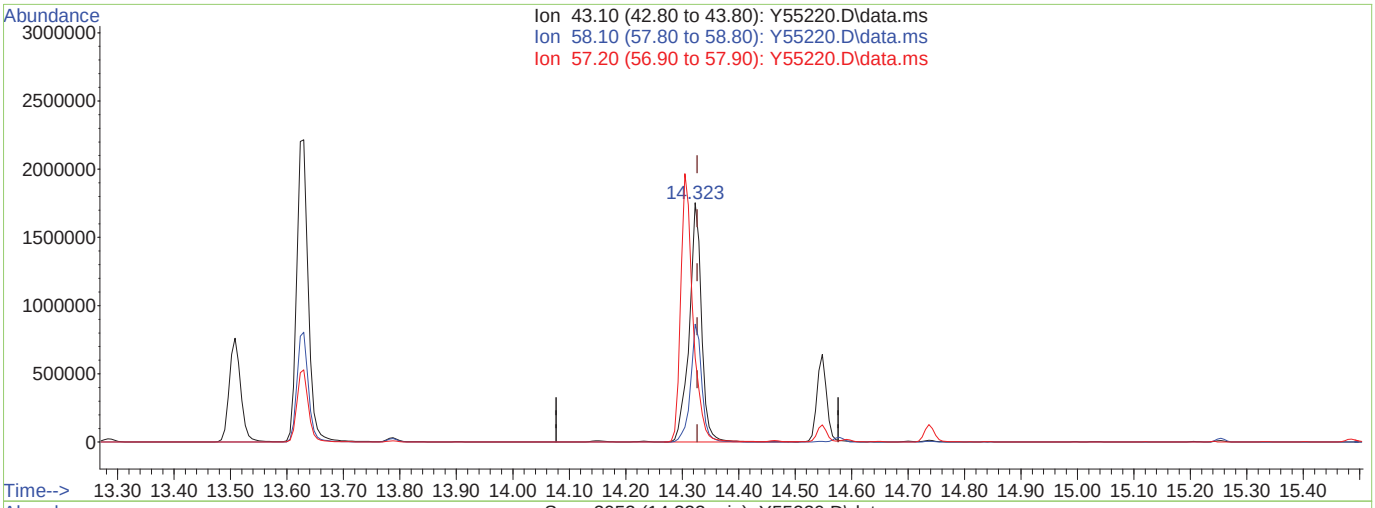
response 755475

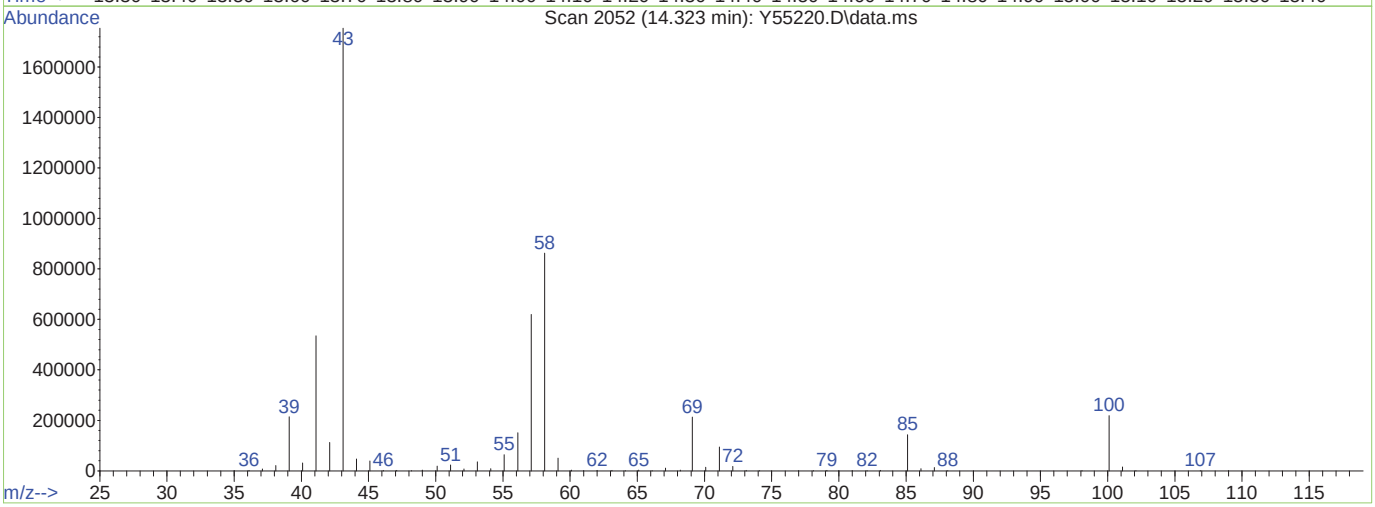
Ion	Exp%	Act%
56.10	100	100
57.20	191.90	193.09
43.10	143.60	138.65
41.10	156.00	153.43

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55220.D
Acq On : 15 Jan 2021 1:40 pm
Operator : chelseav
Sample : IC2293-7 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 15 14:31:54 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55220.D\data.ms

(69) 2-hexanone

14.323min (-0.004) 593.45ug/L

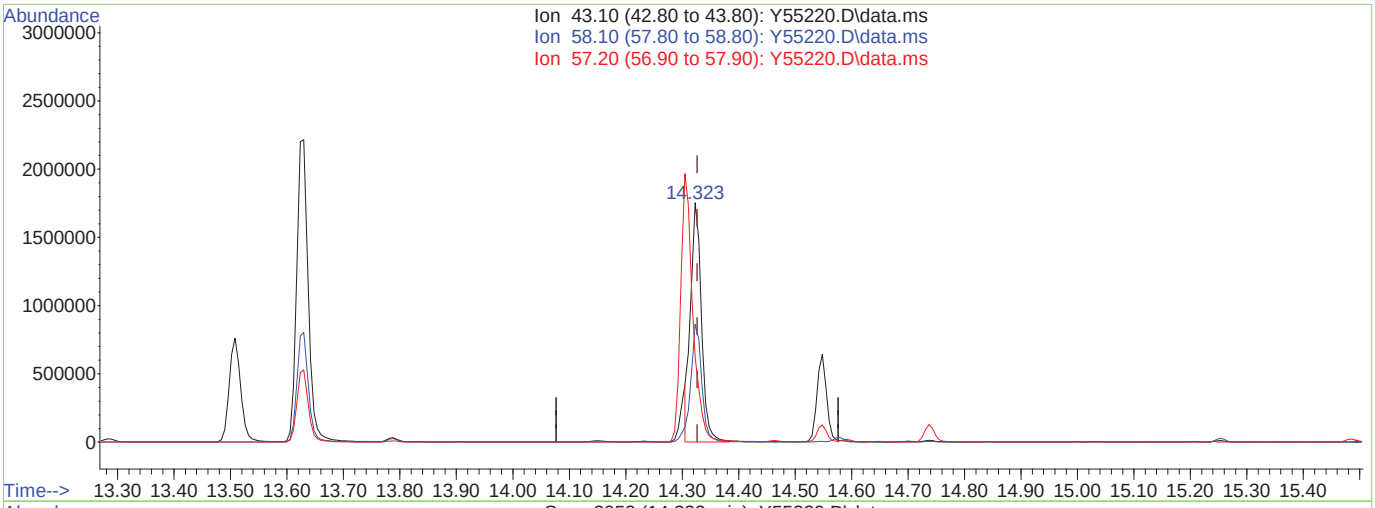
response 2635315

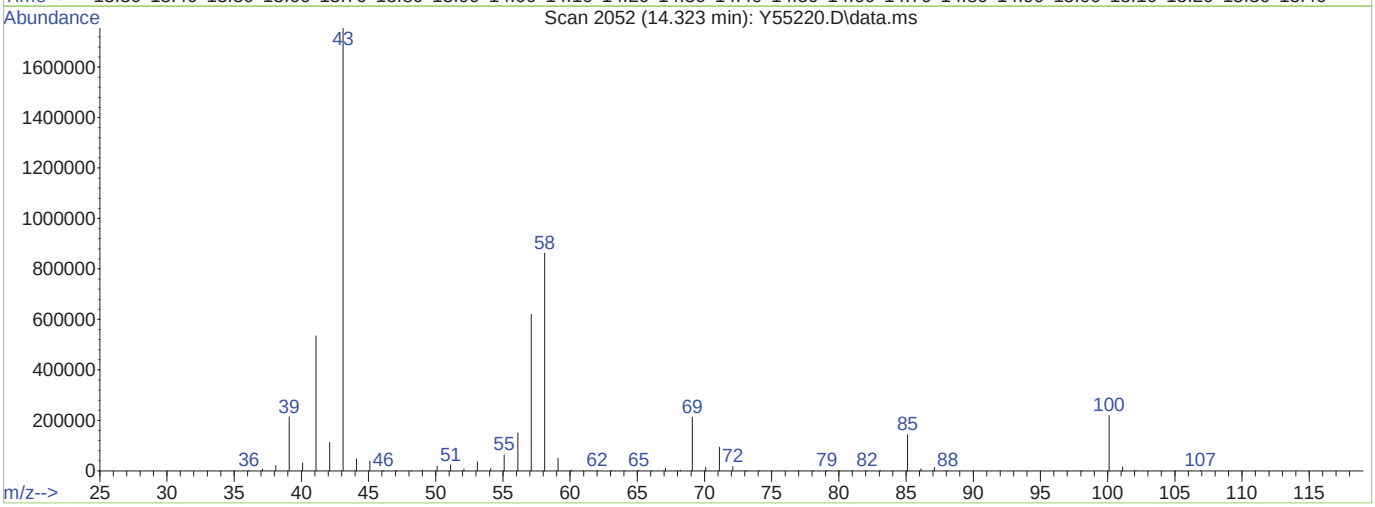
Ion	Exp%	Act%
43.10	100	100
58.10	49.60	49.21
57.20	27.30	35.33
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55220.D
Acq On : 15 Jan 2021 1:40 pm
Operator : chelseav
Sample : IC2293-7 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 15 14:31:54 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jan 12 15:04:03 2021
Response via : Initial Calibration





TIC: Y55220.D\data.ms

(69) 2-hexanone

14.323min (-0.004) 536.97ug/L m

response 2329135

Ion	Exp%	Act%
43.10	100	100
58.10	49.60	49.19
57.20	27.30	35.33
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Melissa Mangual 01/18/21 10:25

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55222.D
Acq On : 15 Jan 2021 3:00 pm
Operator : chelseav
Sample : ICV2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 18 09:58:24 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Jan 15 14:38:30 2021
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.517	96	2079259	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1903262	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1014455	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.410	65	88568	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.324	113	543673	49.89	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.78%			
47) 1,2-Dichloroethane-d4	11.140	65	468983	48.31	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 96.62%			
58) Toluene-d8	13.238	98	2181370	50.04	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.08%			
80) 4-Bromofluorobenzene	15.483	174	770164	50.38	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.76%			
Target Compounds						Qvalue
3) Acrolein	6.303	56	221421	175.60	ug/L	100
4) Chloromethane	3.383	50	472614	36.15	ug/L	98
5) 1,3-butadiene	3.584	39	437275	46.36	ug/L	99
6) Vinyl Chloride	3.547	62	419002	37.75	ug/L	100
7) Bromomethane	4.156	94	257306	40.61	ug/L	98
8) Chloroethane	4.393	64	139616	34.29	ug/L	98
9) Trichlorofluoromethane	4.661	101	636953	38.40	ug/L	99
10) Ethyl Ether	5.287	59	251595	38.55	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.671	67	356056	40.85	ug/L	98
12) 1,1-Dichloroethene	5.640	61	528637	41.92	ug/L	98
13) Freon 113	5.731	101	317265	32.49	ug/L	97
14) Carbon Disulfide	5.671	76	853796	38.54	ug/L	99
15) Iodomethane	5.902	142	450613	37.86	ug/L	99
16) Allyl chloride	6.565	41	633704	42.00	ug/L	99
17) Methylene Chloride	6.778	49	473282	37.38	ug/L	99
18) Acetone	6.881	43	347403	209.55	ug/L	97
19) Methyl acetate	7.137	43	866249	204.58	ug/L	99
20) trans-1,2-Dichloroethene	7.088	61	497400	41.04	ug/L	98
21) Hexane	7.246	56	242059	33.26	ug/L #	85
22) Methyl Tert Butyl Ether	7.313	73	643896	37.32	ug/L	94
23) Acetonitrile	7.794	41	294528	393.82	ug/L	97
24) Di-isopropyl ether	8.080	45	1211284	38.96	ug/L	100
25) Chloroprene	8.262	53	646394	41.97	ug/L	99
26) 1,1-Dichloroethane	8.311	63	612011	42.50	ug/L	98
27) Acrylonitrile	8.420	53	415891	195.93	ug/L	95
28) ETBE	8.822	59	877710	36.93	ug/L	99
29) Vinyl acetate	8.852	43	2916216	164.67	ug/L	100
30) cis-1,2-Dichloroethene	9.424	96	413792	40.63	ug/L	99
31) 2,2-Dichloropropane	9.637	77	455982	40.44	ug/L	99
32) Bromochloromethane	9.832	128	211066	38.47	ug/L	97
33) Cyclohexane	9.819	56	645258	35.94	ug/L	99
34) Chloroform	10.002	83	604521	39.85	ug/L	100
35) Ethyl acetate	10.245	43	1127384	176.07	ug/L	99
36) Tetrahydrofuran	10.245	42	67089	37.47	ug/L	96
38) Carbon Tetrachloride	10.227	117	585891	41.39	ug/L	97
39) 1,1,1-Trichloroethane	10.349	97	637269	40.69	ug/L	99
40) 2-Butanone	10.543	43	497969	206.98	ug/L	99
41) 1,1-Dichloropropene	10.562	75	463698	38.71	ug/L	100
42) tert-Butyl formate	10.744	59	309596	139.03	ug/L	99
43) Propionitrile	10.988	54	308375	390.03	ug/L	97
44) Methacrylonitrile	11.018	41	1609827	390.37	ug/L	100
45) Benzene	10.939	78	1412574	39.07	ug/L	100
46) TAME	11.121	73	702280	37.66	ug/L	100
48) 1,2-Dichloroethane	11.237	62	430171	37.89	ug/L	99
49) Trichloroethene	11.736	95	413568	38.21	ug/L	98
50) Methylcyclohexane	11.711	83	572359	36.77	ug/L	99
51) Dibromomethane	12.235	93	176405	38.37	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55222.D
Acq On : 15 Jan 2021 3:00 pm
Operator : chelseav
Sample : ICV2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 18 09:58:24 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Jan 15 14:38:30 2021
Response via : Initial Calibration

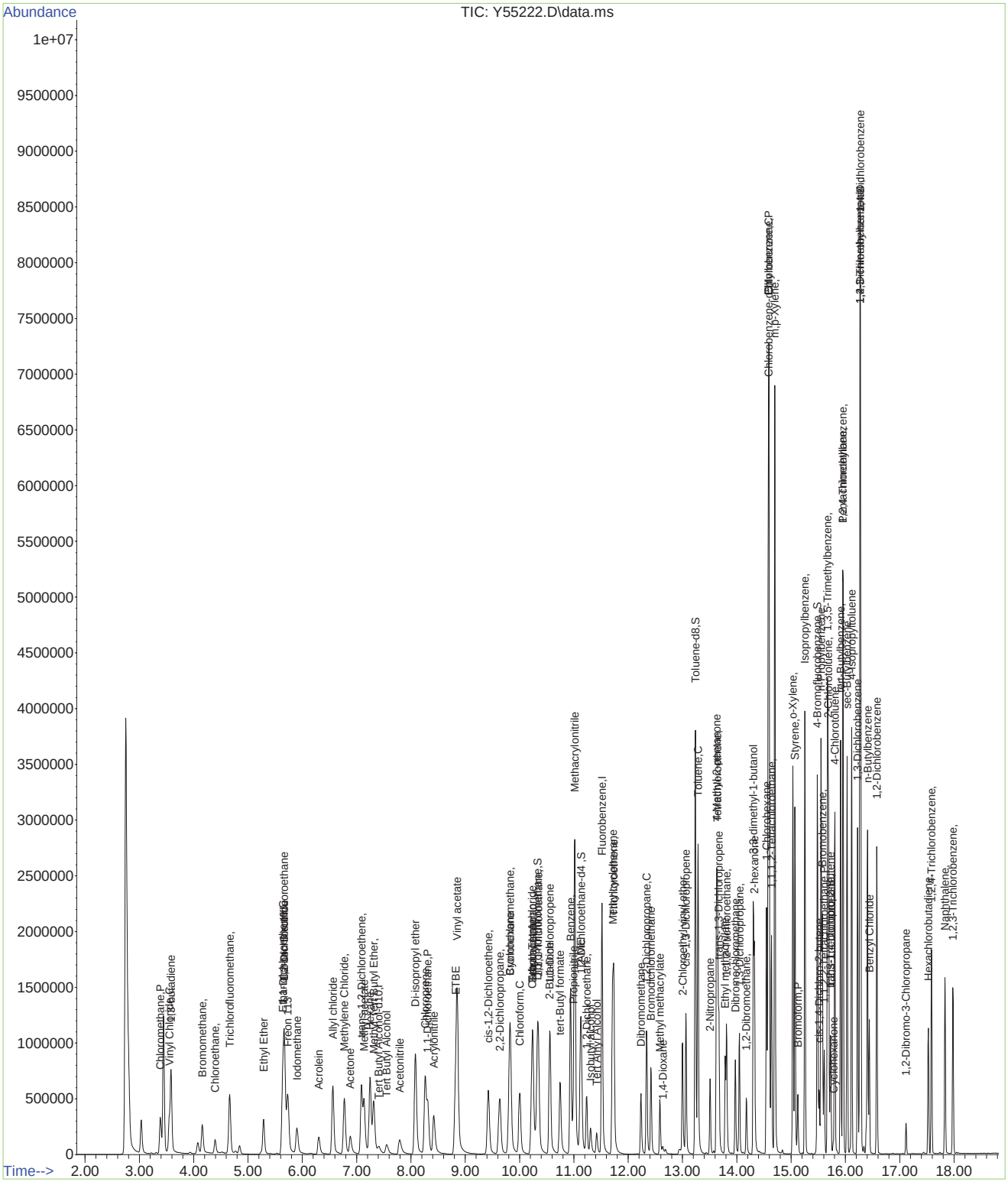
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
52) 1,2-Dichloropropane	12.338	63	337903	40.02	ug/L	99
53) Bromodichloromethane	12.417	83	441487	42.94	ug/L	99
54) Methyl methacrylate	12.581	41	238056	40.85	ug/L	97
55) 2-Chloroethyl vinyl ether	13.001	63	343195	147.45	ug/L	99
56) cis-1,3-Dichloropropene	13.062	75	511131	39.61	ug/L	98
59) Toluene	13.287	91	1699150	37.37	ug/L	100
60) 2-Nitropropane	13.506	41	321473	187.51	ug/L	100
61) 4-Methyl-2-pentanone	13.628	43	1212159	199.26	ug/L	99
62) trans-1,3-Dichloropropene	13.670	75	419739	41.81	ug/L	98
63) Tetrachloroethene	13.646	166	529018	39.62	ug/L	99
64) Ethyl methacrylate	13.786	69	298217	40.97	ug/L	99
65) 1,1,2-Trichloroethane	13.810	83	212403	38.37	ug/L	97
66) Dibromochloromethane	13.975	129	392391	41.33	ug/L	98
67) 1,3-Dichloropropane	14.048	76	446676	37.12	ug/L	99
68) 1,2-Dibromoethane	14.175	107	291753	38.36	ug/L	99
69) 2-hexanone	14.327	43	812558m	190.65	ug/L	
70) 1-Chlorohexane	14.546	91	540130	39.93	ug/L	98
71) Ethylbenzene	14.595	91	1890657	38.24	ug/L	100
72) Chlorobenzene	14.589	112	1205233	37.06	ug/L	99
73) 1,1,1,2-Tetrachloroethane	14.638	131	447681	40.65	ug/L	99
74) m,p-Xylene	14.698	91	2985969	78.04	ug/L	100
75) o-Xylene	15.033	91	1500284	39.91	ug/L	100
76) Styrene	15.070	104	1239774	40.76	ug/L	100
77) Bromoform	15.124	173	200095	38.79	ug/L	99
78) Isopropylbenzene	15.252	105	2041923	39.03	ug/L	99
81) cis-1,4-Dichloro-2-butene	15.514	53	106293	43.44	ug/L	94
82) n-Propylbenzene	15.550	91	2082920	38.55	ug/L	100
83) Bromobenzene	15.574	156	511604	39.31	ug/L	99
84) 1,1,2,2-Tetrachloroethane	15.611	83	276788	36.96	ug/L	98
85) 1,3,5-Trimethylbenzene	15.672	105	1574524	40.16	ug/L	100
86) 2-Chlorotoluene	15.690	91	1334196	38.11	ug/L	99
87) trans-1,4-Dichloro-2-B...	15.733	53	80101	35.89	ug/L	99
88) 1,2,3-Trichloropropane	15.720	110	107334	36.28	ug/L	99
89) Cyclohexanone	15.775	55	32335	172.00	ug/L	97
90) 4-Chlorotoluene	15.806	91	1268505	39.18	ug/L	99
91) tert-Butylbenzene	15.909	91	770221	38.40	ug/L	99
92) 1,2,4-Trimethylbenzene	15.952	105	1548604	38.85	ug/L	98
93) Pentachloroethane	15.958	167	296060	45.69	ug/L	91
94) sec-Butylbenzene	16.031	105	1803754	39.26	ug/L	99
95) 4-Isopropyltoluene	16.116	119	1733873	40.74	ug/L	100
96) 1,3-Dichlorobenzene	16.225	146	988161	39.35	ug/L	100
97) 1,2,3-Trimethylbenzene	16.268	105	1531058	32.67	ug/L	99
98) 1,4-Dichlorobenzene	16.280	146	984994	38.46	ug/L	97
99) n-Butylbenzene	16.408	92	615168	38.05	ug/L	99
100) Benzyl Chloride	16.438	126	150170	37.60	ug/L	98
101) 1,2-Dichlorobenzene	16.578	146	904166	38.89	ug/L	100
102) 1,2-Dibromo-3-Chloropr...	17.114	75	41343	37.60	ug/L	99
103) Hexachlorobutadiene	17.527	225	151808	39.83	ug/L	98
104) 1,2,4-Trichlorobenzene	17.582	180	467553	41.52	ug/L	99
105) Naphthalene	17.831	128	1087313	39.93	ug/L	100
106) 1,2,3-Trichlorobenzene	17.977	180	392141	39.66	ug/L	99
108) Ethanol	5.634	45	48487	761.40	ug/L	84
109) Tert Butyl Alcohol	7.550	59	152879	348.19	ug/L	99
110) Isobutyl alcohol	11.304	42	93385	811.27	ug/L	95
111) Tert Amyl Alcohol	11.419	59	109285	401.54	ug/L	95
112) 1,4-Dioxane	12.636	88	46154	837.15	ug/L	99
113) 3,3-dimethyl-1-butanol	14.303	57	942320	2074.80	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55222.D
Acq On : 15 Jan 2021 3:00 pm
Operator : chelseav
Sample : ICV2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 18 09:58:24 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Jan 15 14:38:30 2021
Response via : Initial Calibration



Manual Integration Approval Summary

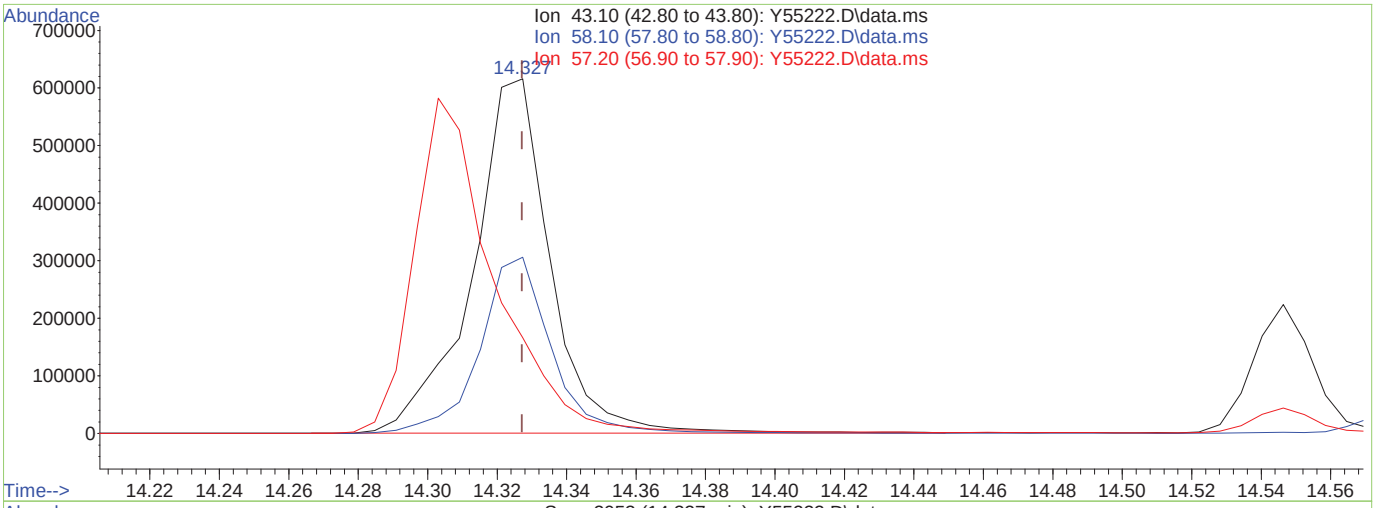
Sample Number: VY2293-ICV2293
Lab FileID: Y55222.D
Injection Time: 01/15/21 15:00
Method: SW846 8260B
Analyst approved: 01/18/21 10:02 Shanica O'Connor
Supervisor approved: 01/18/21 10:25 Melissa Mangual

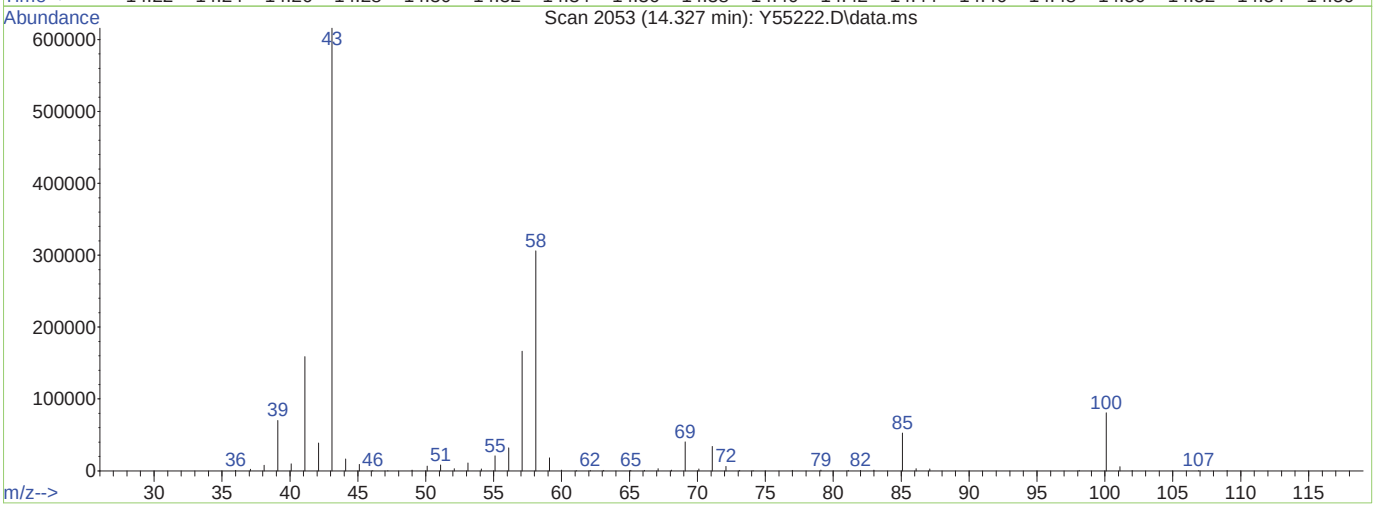
Parameter	CAS	Sig#	R.T. (min.)	Reason
2-Hexanone	591-78-6		14.33	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55222.D
Acq On : 15 Jan 2021 3:00 pm
Operator : chelseav
Sample : ICV2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 18 09:51:59 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Jan 15 14:38:30 2021
Response via : Initial Calibration





TIC: Y55222.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 226.69ug/L

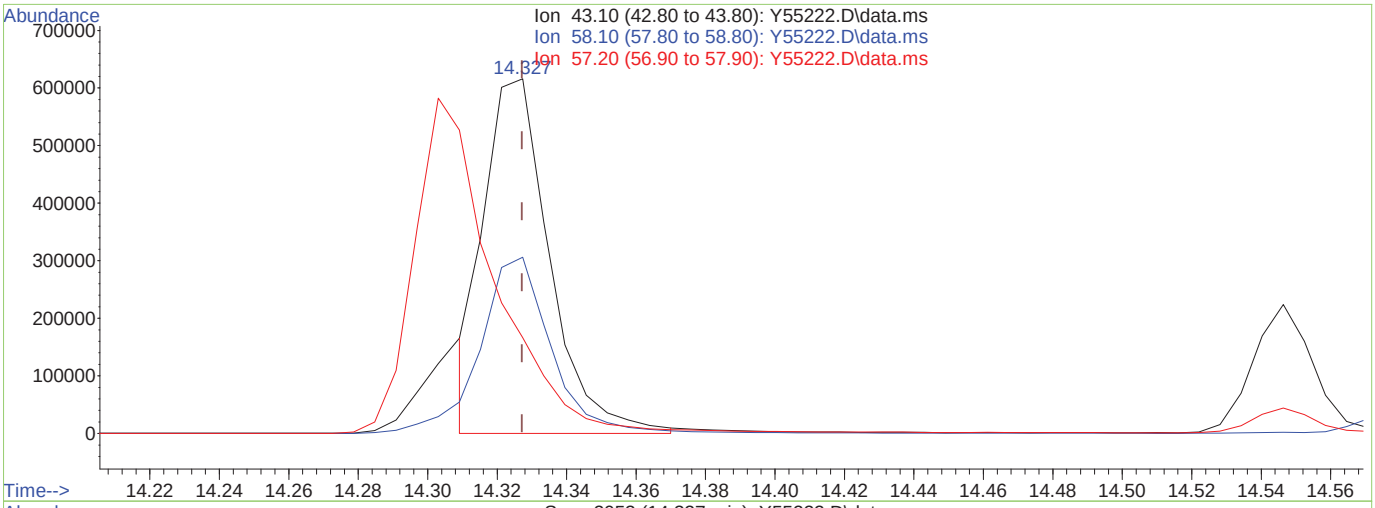
response 966129

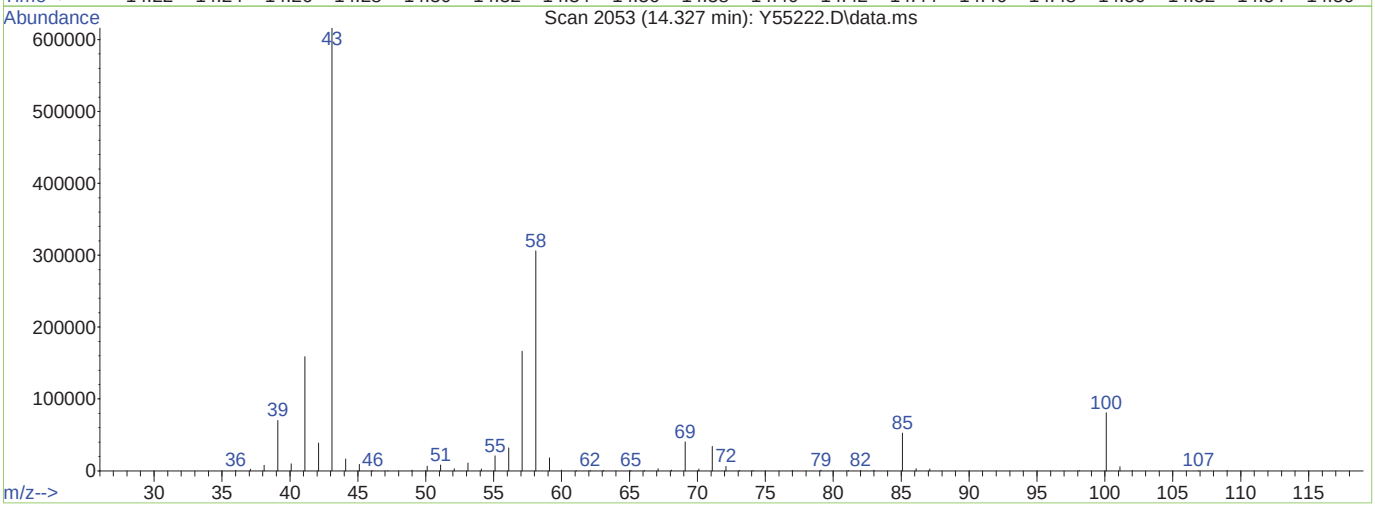
Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.73
57.20	26.80	27.05
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55222.D
Acq On : 15 Jan 2021 3:00 pm
Operator : chelseav
Sample : ICV2293-5 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jan 18 09:51:59 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Jan 15 14:38:30 2021
Response via : Initial Calibration





TIC: Y55222.D\data.ms

(69) 2-hexanone

14.327min (+0.000) 190.65ug/L m

response 812558

Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.70
57.20	26.80	27.03
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55223.D
Acq On : 15 Jan 2021 3:27 pm
Operator : chelseav
Sample : ICV2293-4 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 18 09:55:36 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Jan 15 14:38:30 2021
Response via : Initial Calibration

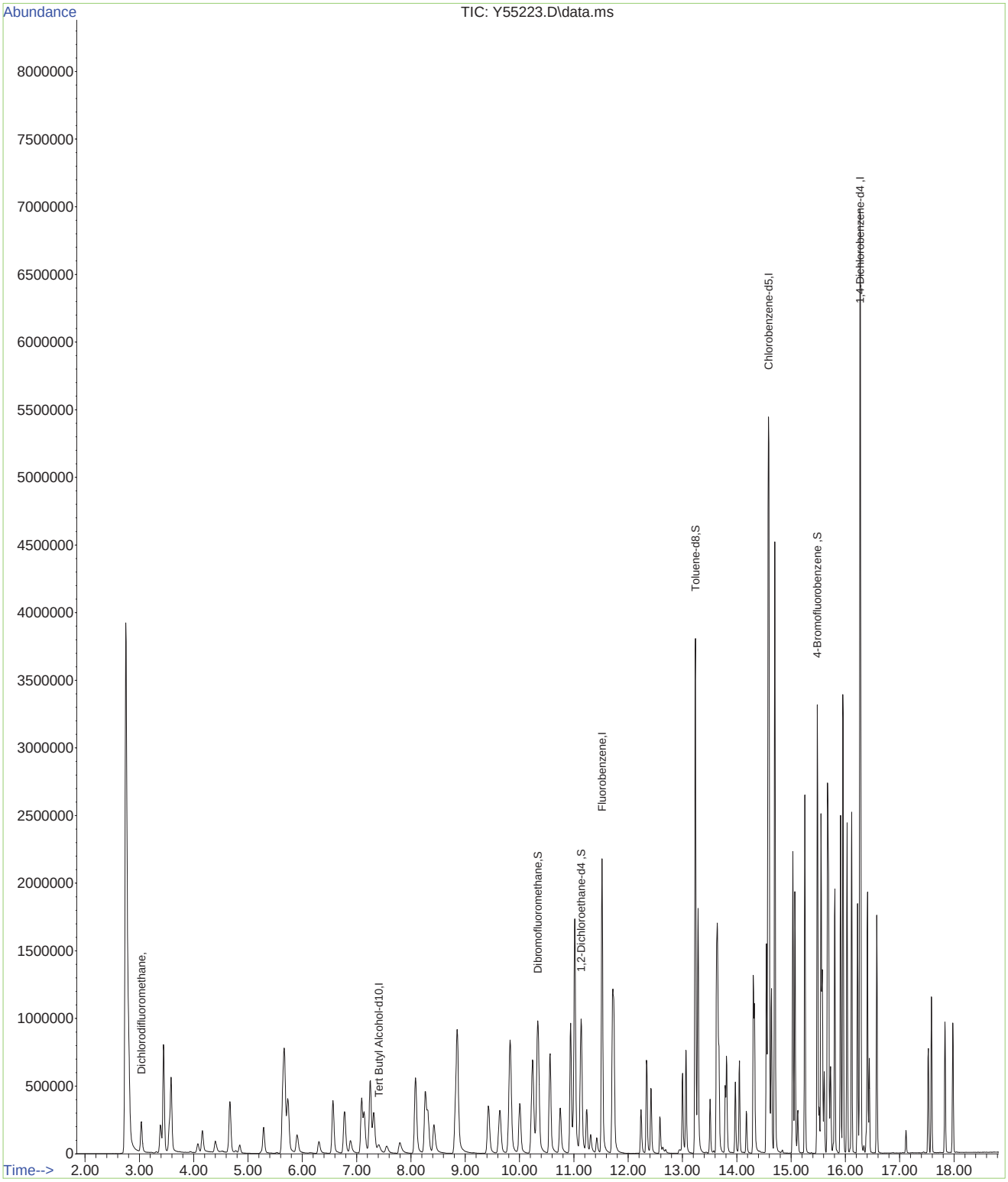
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	11.517	96	2055122	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1893695	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.274	152	1014423	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.405	65	89121	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.331	113	541599	50.28	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.56%			
47) 1,2-Dichloroethane-d4	11.140	65	468210	48.80	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.60%			
58) Toluene-d8	13.239	98	2174024	50.13	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.26%			
80) 4-Bromofluorobenzene	15.484	174	766728	50.16	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.32%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.037	85	268447	22.90	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\011521\
Data File : Y55223.D
Acq On : 15 Jan 2021 3:27 pm
Operator : chelseav
Sample : ICV2293-4 Inst : MSVOA14-Y
Misc : MS47821,VY2293,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jan 18 09:55:36 2021
Quant Method : C:\msdchem\1\METHODS\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Jan 15 14:38:30 2021
Response via : Initial Calibration



RESTEK011521w.M Mon Jan 18 10:00:06 2021 Page: 2

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
01/19/21 09:34

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:58:23 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.519	96	2091442	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.579	117	1927473	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.270	152	1051076	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.400	65	87891	250.00	ug/L	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	10.327	113	553687	50.51	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.02%			
47) 1,2-Dichloroethane-d4	11.142	65	463151	47.44	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 94.88%			
58) Toluene-d8	13.234	98	2197631	49.78	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 99.56%			
80) 4-Bromofluorobenzene	15.485	174	798850	50.44	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.88%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.039	85	500495	41.95	ug/L	99
3) Acrolein	6.305	56	225893	178.11	ug/L	99
4) Chloromethane	3.385	50	514636	39.13	ug/L	99
5) 1,3-butadiene	3.586	39	385625	40.64	ug/L	99
6) Vinyl Chloride	3.550	62	449712	40.28	ug/L	99
7) Bromomethane	4.158	94	273252	42.88	ug/L	99
8) Chloroethane	4.401	64	172278	43.35	ug/L	97
9) Trichlorofluoromethane	4.669	101	698813	41.89	ug/L	100
10) Ethyl Ether	5.289	59	245957	37.47	ug/L	99
11) 1,2-Dichlorotrifluoroe...	5.673	67	353905	40.37	ug/L	97
12) 1,1-Dichloroethene	5.642	61	518797	40.90	ug/L	98
13) Freon 113	5.734	101	400364	40.76	ug/L	99
14) Carbon Disulfide	5.673	76	910690	40.87	ug/L	100
15) Iodomethane	5.904	142	460983	38.50	ug/L	100
16) Allyl chloride	6.567	41	595517	39.37	ug/L	98
17) Methylene Chloride	6.774	49	474365	37.24	ug/L	98
18) Acetone	6.883	43	272524	163.43	ug/L	99
19) Methyl acetate	7.139	43	761135	178.71	ug/L	99
20) trans-1,2-Dichloroethene	7.090	61	481112	39.46	ug/L	98
21) Hexane	7.254	56	300406m	41.04	ug/L	
22) Methyl Tert Butyl Ether	7.315	73	669440	38.58	ug/L	92
23) Acetonitrile	7.790	41	256095	340.44	ug/L	99
24) Di-isopropyl ether	8.082	45	1250704	39.99	ug/L	98
25) Chloroprene	8.264	53	661811	42.72	ug/L	98
26) 1,1-Dichloroethane	8.313	63	573750	39.62	ug/L	98
27) Acrylonitrile	8.416	53	384433	180.06	ug/L	99
28) ETBE	8.824	59	958623	40.10	ug/L	99
29) Vinyl acetate	8.854	43	3190761	178.96	ug/L	100
30) cis-1,2-Dichloroethene	9.426	96	406771	39.71	ug/L	98
31) 2,2-Dichloropropane	9.633	77	480516	42.27	ug/L	100
32) Bromochloromethane	9.834	128	216419	39.21	ug/L	96
33) Cyclohexane	9.822	56	738043	40.87	ug/L	97
34) Chloroform	10.004	83	604195	39.59	ug/L	98
35) Ethyl acetate	10.248	43	1091724	169.49	ug/L	99
36) Tetrahydrofuran	10.248	42	68430	37.99	ug/L	96
38) Carbon Tetrachloride	10.229	117	608586	42.74	ug/L	98
39) 1,1,1-Trichloroethane	10.345	97	646787	41.05	ug/L	98
40) 2-Butanone	10.546	43	420894	173.92	ug/L	97
41) 1,1-Dichloropropene	10.564	75	500397	41.53	ug/L	97
42) tert-Butyl formate	10.746	59	394509	174.53	ug/L	98
43) Propionitrile	10.984	54	272714	342.92	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:58:23 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Methacrylonitrile	11.014	41	1465038	353.19	ug/L		99
45) Benzene	10.941	78	1414349	38.89	ug/L		100
46) TAME	11.124	73	733737	39.12	ug/L		100
48) 1,2-Dichloroethane	11.233	62	423857	37.12	ug/L		99
49) Trichloroethene	11.738	95	422792	38.84	ug/L		96
50) Methylcyclohexane	11.714	83	645590	41.24	ug/L		98
51) Dibromomethane	12.237	93	173128	37.44	ug/L		96
52) 1,2-Dichloropropane	12.340	63	338943	39.90	ug/L		98
53) Bromodichloromethane	12.419	83	425569	41.15	ug/L		97
54) Methyl methacrylate	12.584	41	211287	36.32	ug/L		98
55) 2-Chloroethyl vinyl ether	12.997	63	420888	178.28	ug/L		98
56) cis-1,3-Dichloropropene	13.064	75	535062	41.22	ug/L		97
59) Toluene	13.283	91	1797626	39.04	ug/L		99
60) 2-Nitropropane	13.508	41	313675	180.90	ug/L		99
61) 4-Methyl-2-pentanone	13.624	43	1058392	171.80	ug/L		99
62) trans-1,3-Dichloropropene	13.666	75	415205	40.84	ug/L		99
63) Tetrachloroethene	13.648	166	545916	40.38	ug/L		98
64) Ethyl methacrylate	13.788	69	268363	36.71	ug/L		94
65) 1,1,2-Trichloroethane	13.812	83	210635	37.57	ug/L		99
66) Dibromochloromethane	13.971	129	394992	41.08	ug/L		100
67) 1,3-Dichloropropane	14.044	76	457091	37.51	ug/L		97
68) 1,2-Dibromoethane	14.177	107	296221	38.46	ug/L		100
69) 2-hexanone	14.323	43	756990m	175.38	ug/L		
70) 1-Chlorohexane	14.549	91	583057	42.56	ug/L		95
71) Ethylbenzene	14.591	91	1983443	39.61	ug/L		98
72) Chlorobenzene	14.591	112	1256488	38.15	ug/L		99
73) 1,1,1,2-Tetrachloroethane	14.640	131	460869	41.32	ug/L		99
74) m,p-Xylene	14.701	91	3143662	81.13	ug/L		99
75) o-Xylene	15.029	91	1579034	41.48	ug/L		98
76) Styrene	15.072	104	1308215	42.47	ug/L		98
77) Bromoform	15.120	173	202945	38.85	ug/L		98
78) Isopropylbenzene	15.254	105	2171487	40.98	ug/L		99
81) cis-1,4-Dichloro-2-butene	15.516	53	89383	35.26	ug/L		93
82) n-Propylbenzene	15.552	91	2232650	39.88	ug/L		97
83) Bromobenzene	15.577	156	530149	39.31	ug/L		99
84) 1,1,2,2-Tetrachloroethane	15.607	83	275413	35.49	ug/L		99
85) 1,3,5-Trimethylbenzene	15.674	105	1660389	40.87	ug/L		98
86) 2-Chlorotoluene	15.686	91	1420015	39.14	ug/L		98
87) trans-1,4-Dichloro-2-B...	15.729	53	84645	36.58	ug/L	#	74
88) 1,2,3-Trichloropropane	15.723	110	106879	34.87	ug/L		99
89) Cyclohexanone	15.777	55	32850	168.65	ug/L		96
90) 4-Chlorotoluene	15.802	91	1343892	40.06	ug/L		99
91) tert-Butylbenzene	15.911	91	835097	40.19	ug/L		94
92) 1,2,4-Trimethylbenzene	15.954	105	1693444	41.00	ug/L		98
93) Pentachloroethane	15.960	167	279166	41.59	ug/L		89
94) sec-Butylbenzene	16.033	105	1934585	40.64	ug/L		98
95) 4-Isopropyltoluene	16.112	119	1832139	41.55	ug/L		98
96) 1,3-Dichlorobenzene	16.221	146	1037547	39.87	ug/L		98
97) 1,2,3-Trimethylbenzene	16.264	105	1950230	40.17	ug/L		100
98) 1,4-Dichlorobenzene	16.282	146	1047545	39.47	ug/L		99
99) n-Butylbenzene	16.404	92	671416	40.09	ug/L		98
100) Benzyl Chloride	16.440	126	162702	39.17	ug/L		93
101) 1,2-Dichlorobenzene	16.580	146	952724	39.55	ug/L		99
102) 1,2-Dibromo-3-Chloropr...	17.116	75	41171	36.13	ug/L		88
103) Hexachlorobutadiene	17.523	225	168488	42.67	ug/L		97
104) 1,2,4-Trichlorobenzene	17.584	180	490707	42.06	ug/L		98
105) Naphthalene	17.834	128	1099864	38.98	ug/L		100
106) 1,2,3-Trichlorobenzene	17.980	180	405025	39.54	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:58:23 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

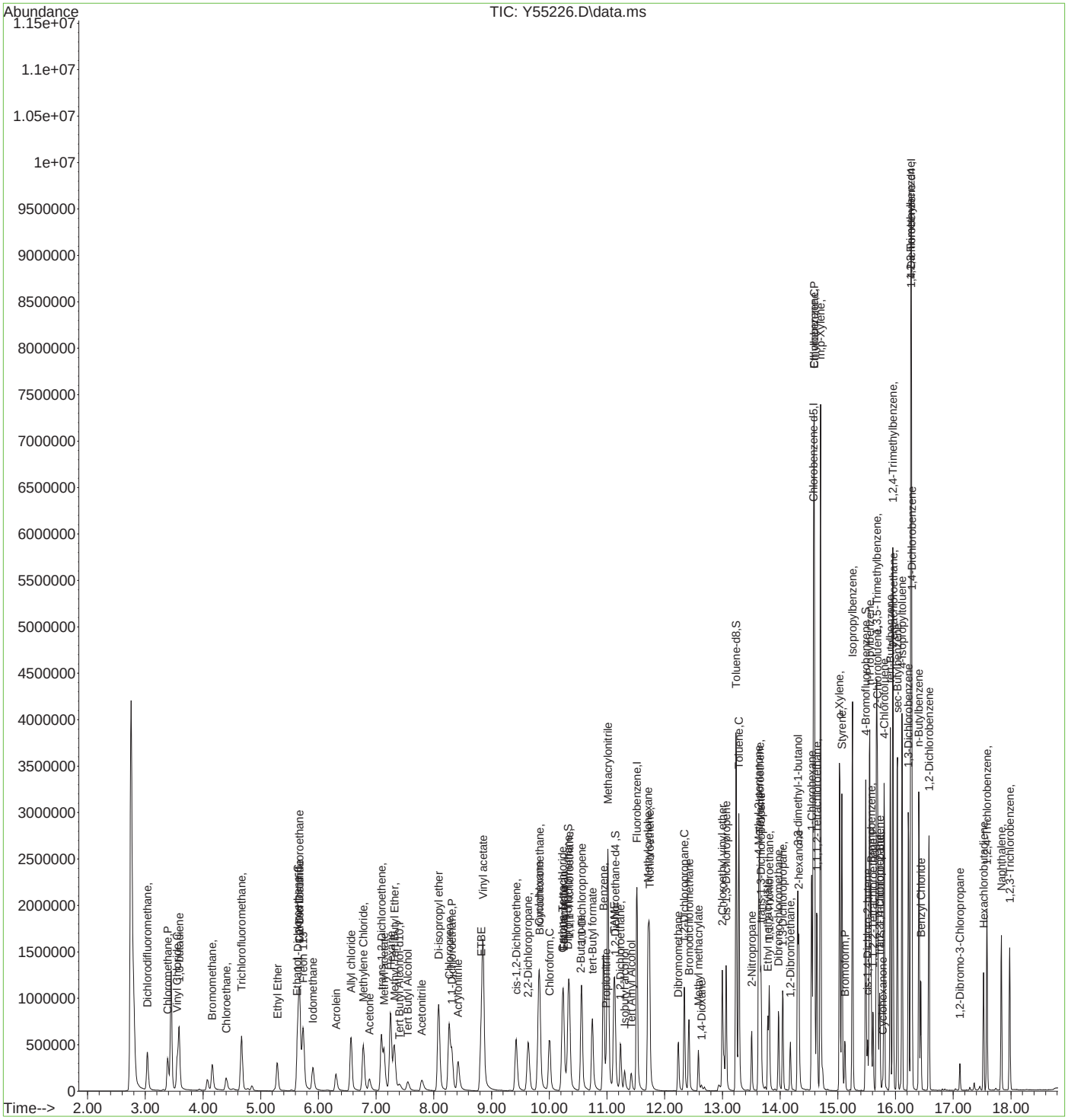
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.630	45	49295	780.05	ug/L	90
109) Tert Butyl Alcohol	7.546	59	167941	385.45	ug/L	99
110) Isobutyl alcohol	11.306	42	83574	736.00	ug/L	96
111) Tert Amyl Alcohol	11.422	59	111453	412.66	ug/L	94
112) 1,4-Dioxane	12.638	88	41427	757.20	ug/L	92
113) 3,3-dimethyl-1-butanol	14.305	57	865520	1935.72	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:58:23 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



Manual Integration Approval Summary

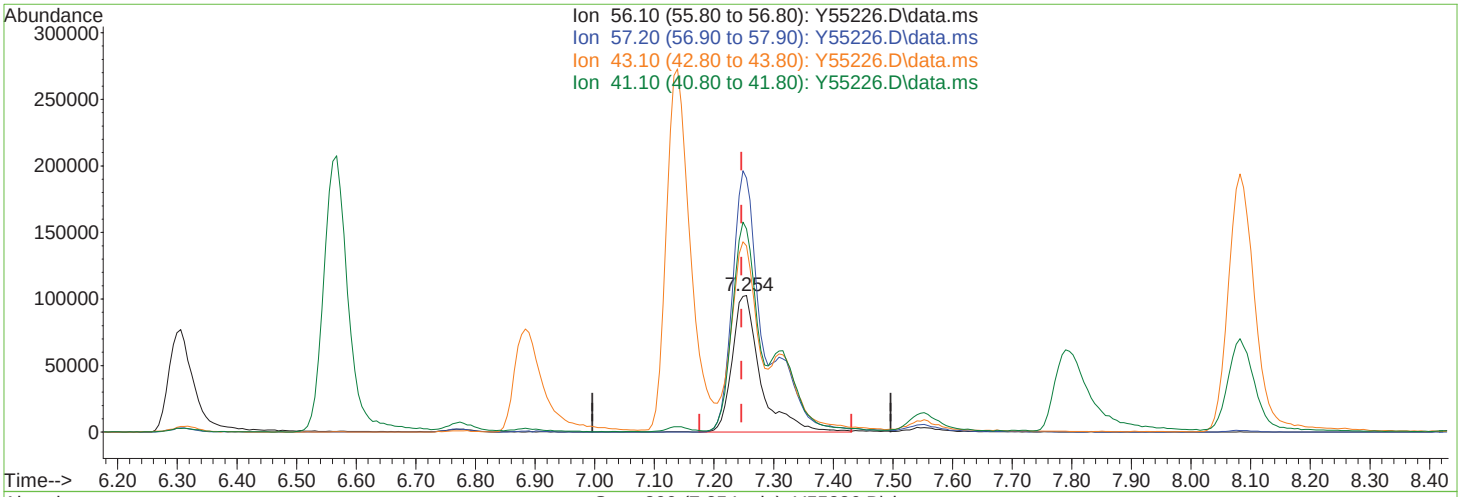
Sample Number: VY2294-CC2293
Lab FileID: Y55226.D
Injection Time: 01/18/21 09:16
Method: SW846 8260B
Analyst approved: 01/18/21 22:35 Edessa Sumagaysay
Supervisor approved: 01/19/21 09:34 Melissa Mangual

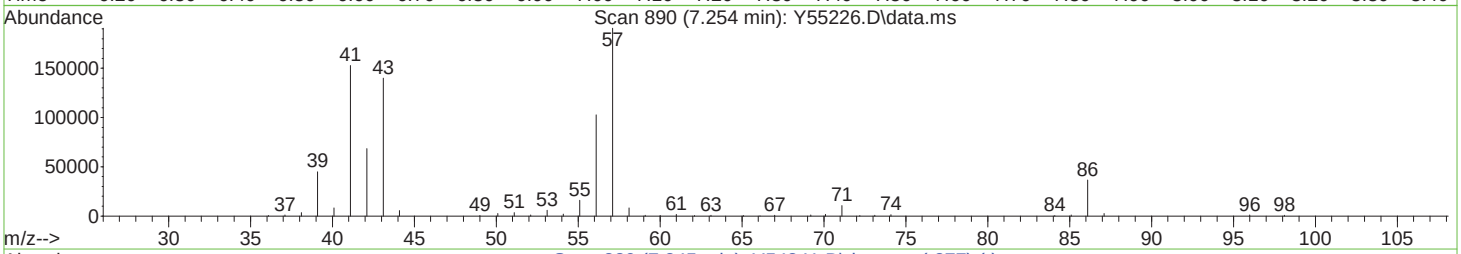
Parameter	CAS	Sig#	R.T. (min.)	Reason
Hexane	110-54-3		7.25	Overlapping peak
2-Hexanone	591-78-6		14.32	Overlapping peak

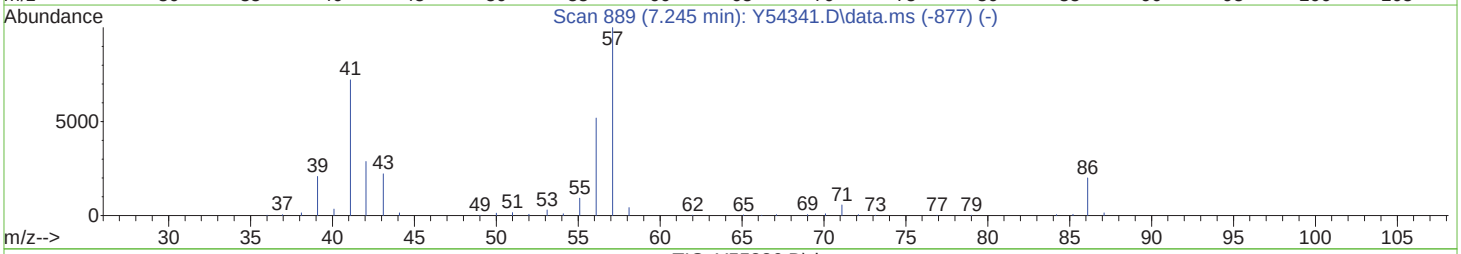
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:53:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55226.D\data.ms

(21) Hexane

7.254min (+0.008) 46.46ug/L

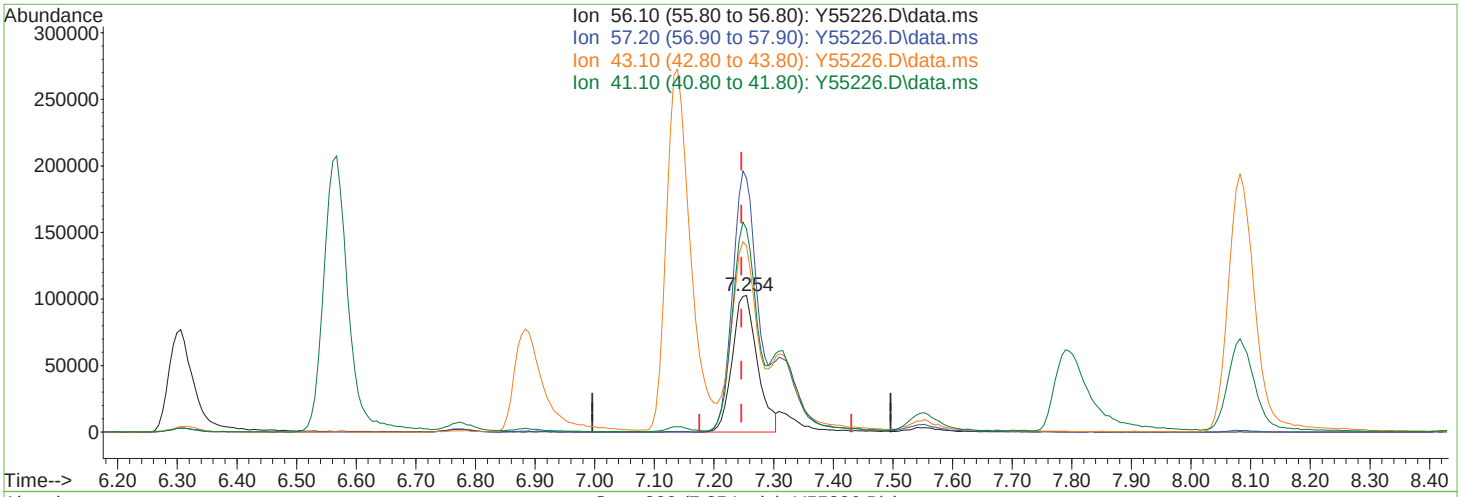
response 340072

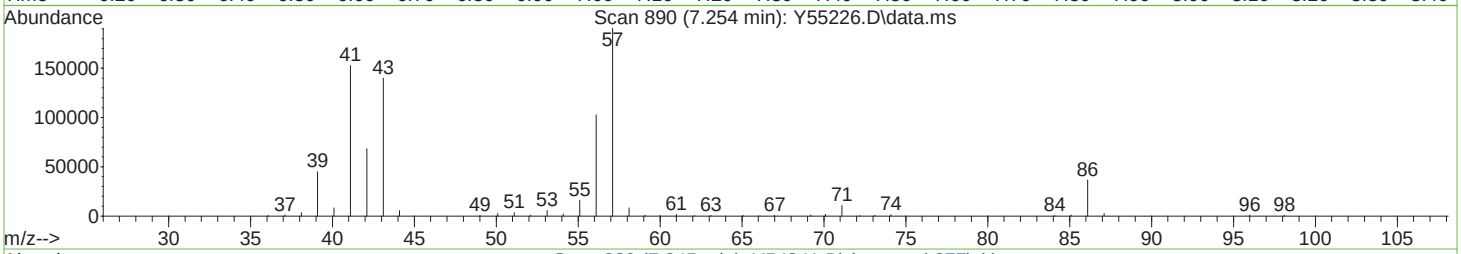
Ion	Exp%	Act%
56.10	100	100
57.20	189.10	185.67
43.10	141.60	132.71
41.10	153.50	147.48

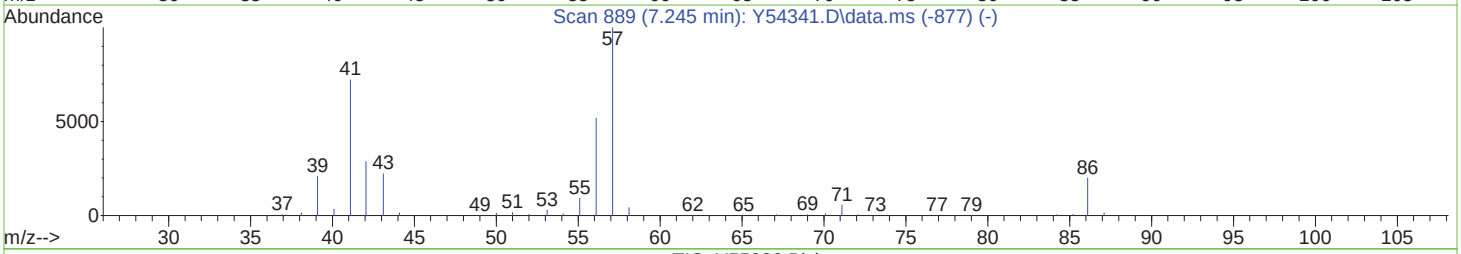
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:53:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55226.D\data.ms

(21) Hexane

7.254min (+0.008) 41.04ug/L m

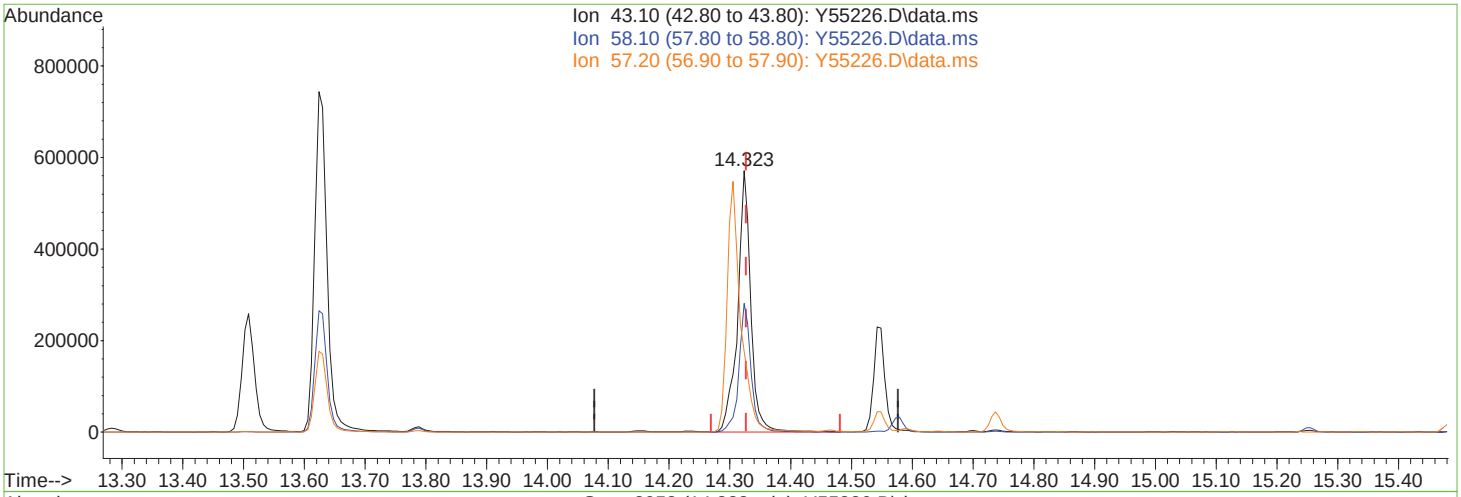
response 300406

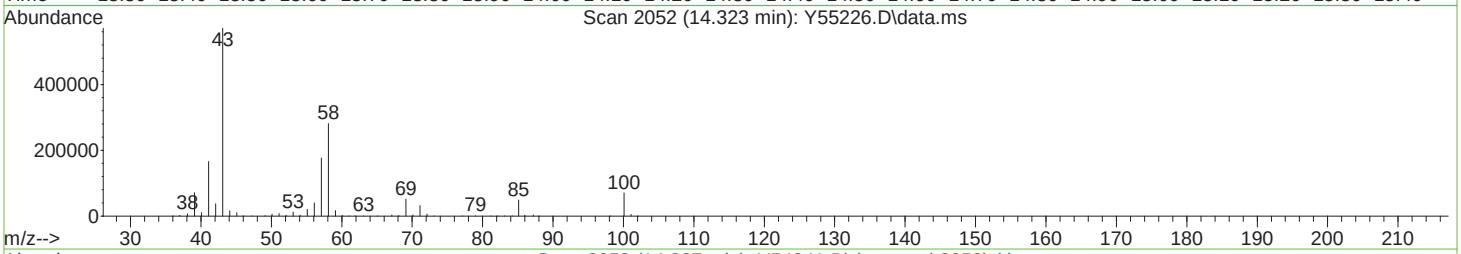
Ion	Exp%	Act%
56.10	100	100
57.20	189.10	185.67
43.10	141.60	136.16
41.10	153.50	148.61

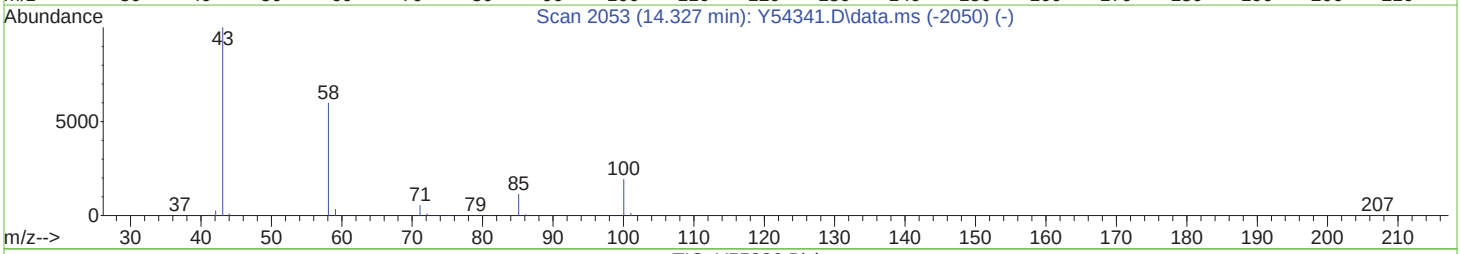
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:53:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55226.D\data.ms

(69) 2-hexanone

14.323min (-0.004) 199.50ug/L

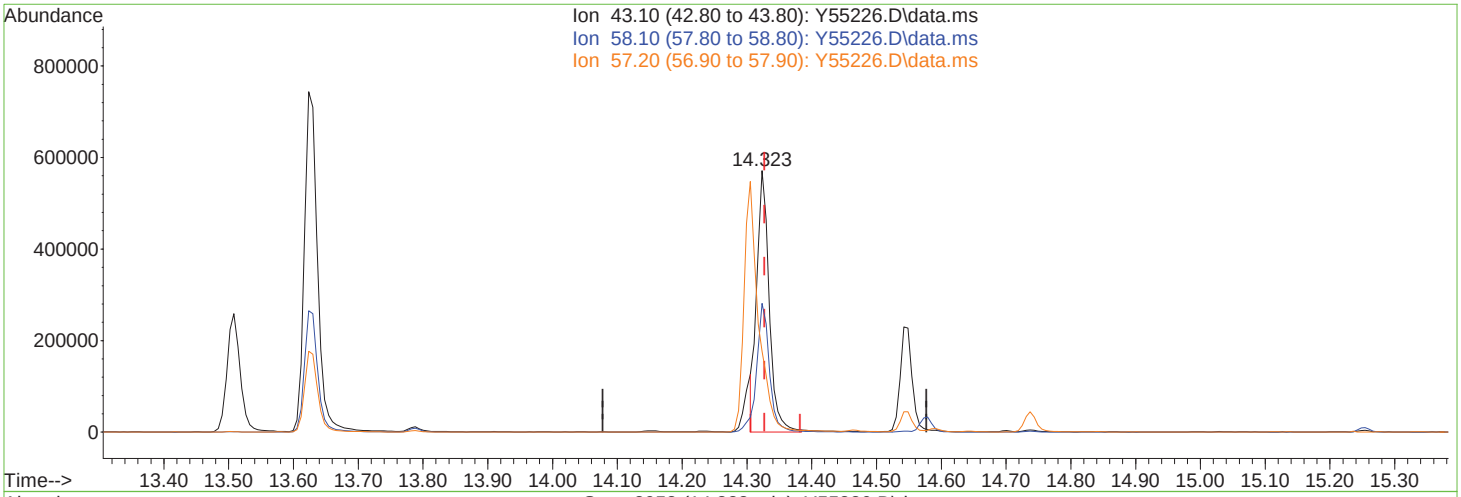
response 861066

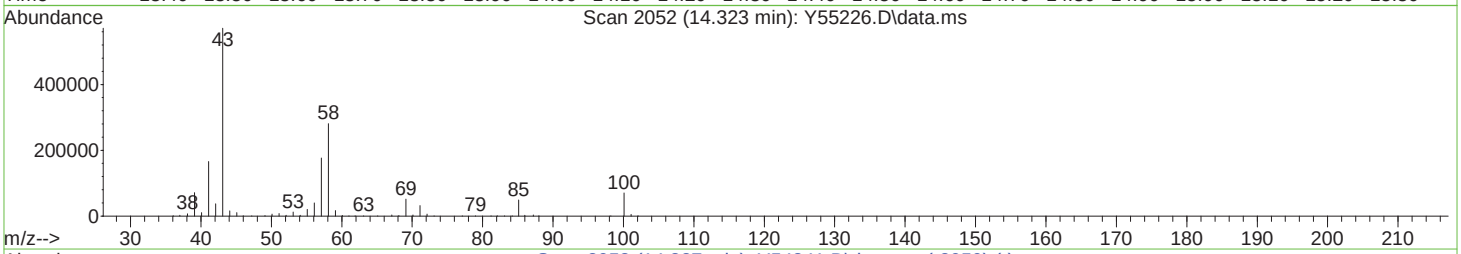
Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.21
57.20	26.80	30.96
0.00	0.00	0.00

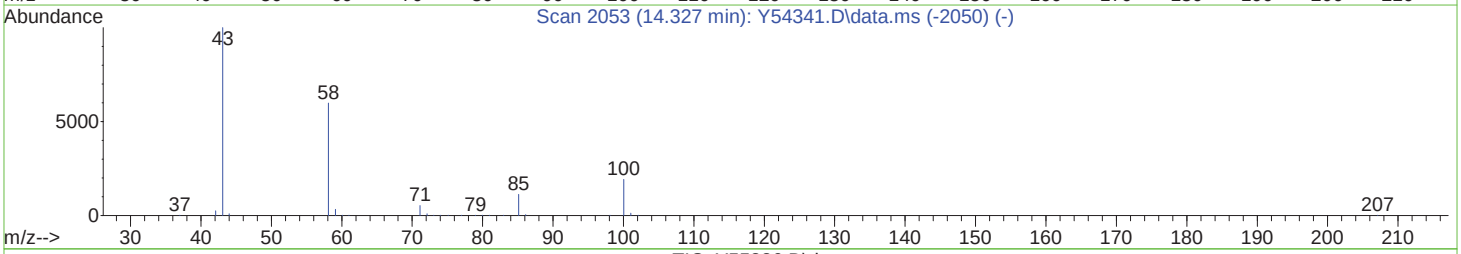
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55226.D
Acq On : 18 Jan 2021 9:16 am
Operator : shanicao
Sample : CC2293-5
Misc : MS47821,VY2294,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 18 21:53:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55226.D\data.ms

(69) 2-hexanone

14.323min (-0.004) 175.38ug/L m

response 756990

Ion	Exp%	Act%
43.10	100	100
58.10	50.60	49.17
57.20	26.80	30.93
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Melissa Mangual
01/19/21 09:41

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55250.D
Acq On : 18 Jan 2021 8:25 pm
Operator : shanicao
Sample : ECC2293-5
Misc : MS48127,VY2294,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 18 22:14:26 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	11.517	96	1703374	50.00	ug/L	0.00
57) Chlorobenzene-d5	14.577	117	1537366	50.00	ug/L	0.00
79) 1,4-Dichlorobenzene-d4	16.269	152	812473	50.00	ug/L	0.00
107) Tert Butyl Alcohol-d10	7.393	65	54166	250.00	ug/L	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	10.325	113	433861	48.60	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.20%			
47) 1,2-Dichloroethane-d4	11.140	65	352095	44.28	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 88.56%			
58) Toluene-d8	13.239	98	1796429	51.02	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 102.04%			
80) 4-Bromofluorobenzene	15.484	174	610299	49.85	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.70%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.037	85	474246	48.80	ug/L	98
3) Acrolein	6.304	56	178415	172.72	ug/L	99
4) Chloromethane	3.390	50	474112	44.27	ug/L	100
5) 1,3-butadiene	3.585	39	386158	49.97	ug/L	98
6) Vinyl Chloride	3.554	62	428057	47.08	ug/L	99
7) Bromomethane	4.162	94	219200	42.23	ug/L	99
8) Chloroethane	4.418	64	158171	49.98	ug/L	98
9) Trichlorofluoromethane	4.667	101	672352	49.48	ug/L	100
10) Ethyl Ether	5.282	59	203810	38.12	ug/L	98
11) 1,2-Dichlorotrifluoroe...	5.671	67	339378	47.53	ug/L	98
12) 1,1-Dichloroethene	5.641	61	488305	47.26	ug/L	98
13) Freon 113	5.732	101	379471	47.44	ug/L	98
14) Carbon Disulfide	5.677	76	819384	45.15	ug/L	99
15) Iodomethane	5.908	142	339626	34.83	ug/L	99
16) Allyl chloride	6.565	41	519508	42.03	ug/L	99
17) Methylene Chloride	6.778	49	412150	39.88	ug/L	100
18) Acetone	6.882	43	236992	174.50	ug/L	99
19) Methyl acetate	7.137	43	614398	177.12	ug/L	99
20) trans-1,2-Dichloroethene	7.089	61	438784	44.19	ug/L	99
21) Hexane	7.253	56	250372m	42.00	ug/L	
22) Methyl Tert Butyl Ether	7.314	73	528342	37.38	ug/L	99
23) Acetonitrile	7.794	41	218592	356.78	ug/L	99
24) Di-isopropyl ether	8.080	45	1068521	41.95	ug/L	99
25) Chloroprene	8.263	53	622115	49.31	ug/L	98
26) 1,1-Dichloroethane	8.311	63	508559	43.11	ug/L	100
27) Acrylonitrile	8.415	53	327992	188.62	ug/L	99
28) ETBE	8.822	59	770511	39.57	ug/L	99
29) Vinyl acetate	8.853	43	2596772	178.83	ug/L	100
30) cis-1,2-Dichloroethene	9.425	96	355455	42.61	ug/L	98
31) 2,2-Dichloropropane	9.631	77	362515	39.30	ug/L	99
32) Bromochloromethane	9.832	128	186009	41.38	ug/L	97
33) Cyclohexane	9.820	56	697718	47.44	ug/L	99
34) Chloroform	10.003	83	528306	42.51	ug/L	98
35) Ethyl acetate	10.246	43	897126	171.01	ug/L	99
36) Tetrahydrofuran	10.246	42	55058	37.53	ug/L	97
38) Carbon Tetrachloride	10.228	117	547392	47.20	ug/L	96
39) 1,1,1-Trichloroethane	10.349	97	589507	45.94	ug/L	99
40) 2-Butanone	10.544	43	349958	177.56	ug/L	97
41) 1,1-Dichloropropene	10.562	75	463672	47.25	ug/L	98
42) tert-Butyl formate	10.745	59	216328	119.19	ug/L	94
43) Propionitrile	10.982	54	229165	353.81	ug/L	94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55250.D
Acq On : 18 Jan 2021 8:25 pm
Operator : shanicao
Sample : ECC2293-5
Misc : MS48127,VY2294,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 18 22:14:26 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Methacrylonitrile	11.012	41	1245702	368.73	ug/L		99
45)	Benzene	10.939	78	1251208	42.24	ug/L		100
46)	TAME	11.122	73	575585	37.68	ug/L		97
48)	1,2-Dichloroethane	11.238	62	364300	39.17	ug/L		99
49)	Trichloroethene	11.736	95	382214	43.11	ug/L		99
50)	Methylcyclohexane	11.712	83	572999	44.94	ug/L		99
51)	Dibromomethane	12.235	93	145398	38.60	ug/L		94
52)	1,2-Dichloropropane	12.339	63	293714	42.46	ug/L		99
53)	Bromodichloromethane	12.418	83	358788	42.60	ug/L		100
54)	Methyl methacrylate	12.582	41	169445	35.80	ug/L		98
55)	2-Chloroethyl vinyl ether	12.996	63	311490	162.68	ug/L		98
56)	cis-1,3-Dichloropropene	13.063	75	444078	42.00	ug/L		98
59)	Toluene	13.288	91	1577257	42.94	ug/L		100
60)	2-Nitropropane	13.507	41	239900	173.70	ug/L		97
61)	4-Methyl-2-pentanone	13.628	43	901805	183.53	ug/L		99
62)	trans-1,3-Dichloropropene	13.671	75	333180	41.09	ug/L		96
63)	Tetrachloroethene	13.647	166	506223	46.94	ug/L		99
64)	Ethyl methacrylate	13.787	69	220015	37.66	ug/L		97
65)	1,1,2-Trichloroethane	13.811	83	177285	39.65	ug/L		99
66)	Dibromochloromethane	13.975	129	319803	41.70	ug/L		99
67)	1,3-Dichloropropane	14.048	76	382939	39.39	ug/L		99
68)	1,2-Dibromoethane	14.176	107	237578	38.67	ug/L		99
69)	2-hexanone	14.322	43	606813m	176.27	ug/L		
70)	1-Chlorohexane	14.547	91	489150	44.76	ug/L		98
71)	Ethylbenzene	14.590	91	1732045	43.37	ug/L		98
72)	Chlorobenzene	14.590	112	1104557	42.05	ug/L		99
73)	1,1,1,2-Tetrachloroethane	14.638	131	390038	43.85	ug/L		99
74)	m,p-Xylene	14.699	91	2712632	87.77	ug/L		100
75)	o-Xylene	15.034	91	1356239	44.66	ug/L		99
76)	Styrene	15.070	104	1116211	45.44	ug/L		100
77)	Bromoform	15.125	173	154638	37.20	ug/L		98
78)	Isopropylbenzene	15.253	105	1859556	44.00	ug/L		99
81)	cis-1,4-Dichloro-2-butene	15.514	53	64040	32.68	ug/L		89
82)	n-Propylbenzene	15.551	91	1895282	43.80	ug/L		100
83)	Bromobenzene	15.575	156	452545	43.41	ug/L		100
84)	1,1,2,2-Tetrachloroethane	15.612	83	226413	37.74	ug/L		100
85)	1,3,5-Trimethylbenzene	15.672	105	1422643	45.31	ug/L		99
86)	2-Chlorotoluene	15.691	91	1230041	43.87	ug/L		99
87)	trans-1,4-Dichloro-2-B...	15.727	53	57644	32.35	ug/L	#	39
88)	1,2,3-Trichloropropane	15.721	110	88026	37.15	ug/L		97
89)	Cyclohexanone	15.776	55	27892	185.25	ug/L		97
90)	4-Chlorotoluene	15.800	91	1157823	44.65	ug/L		97
91)	tert-Butylbenzene	15.910	91	711019	44.26	ug/L		97
92)	1,2,4-Trimethylbenzene	15.952	105	1468276	45.99	ug/L		99
93)	Pentachloroethane	15.958	167	220959	42.58	ug/L		93
94)	sec-Butylbenzene	16.031	105	1607625	43.69	ug/L		98
95)	4-Isopropyltoluene	16.116	119	1542191	45.24	ug/L		100
96)	1,3-Dichlorobenzene	16.226	146	884104	43.95	ug/L		99
97)	1,2,3-Trimethylbenzene	16.262	105	1700281	45.30	ug/L		98
98)	1,4-Dichlorobenzene	16.281	146	896612	43.71	ug/L		98
99)	n-Butylbenzene	16.408	92	582166	44.96	ug/L		98
100)	Benzyl Chloride	16.439	126	96419	30.66	ug/L		96
101)	1,2-Dichlorobenzene	16.579	146	805184	43.24	ug/L		99
102)	1,2-Dibromo-3-Chloropr...	17.114	75	30258	34.36	ug/L		95
103)	Hexachlorobutadiene	17.528	225	134903	44.19	ug/L		96
104)	1,2,4-Trichlorobenzene	17.583	180	393952	43.68	ug/L		99
105)	Naphthalene	17.832	128	787151	36.09	ug/L		99
106)	1,2,3-Trichlorobenzene	17.978	180	316996	40.03	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55250.D
Acq On : 18 Jan 2021 8:25 pm
Operator : shanicao
Sample : ECC2293-5
Misc : MS48127,VY2294,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 18 22:14:26 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration

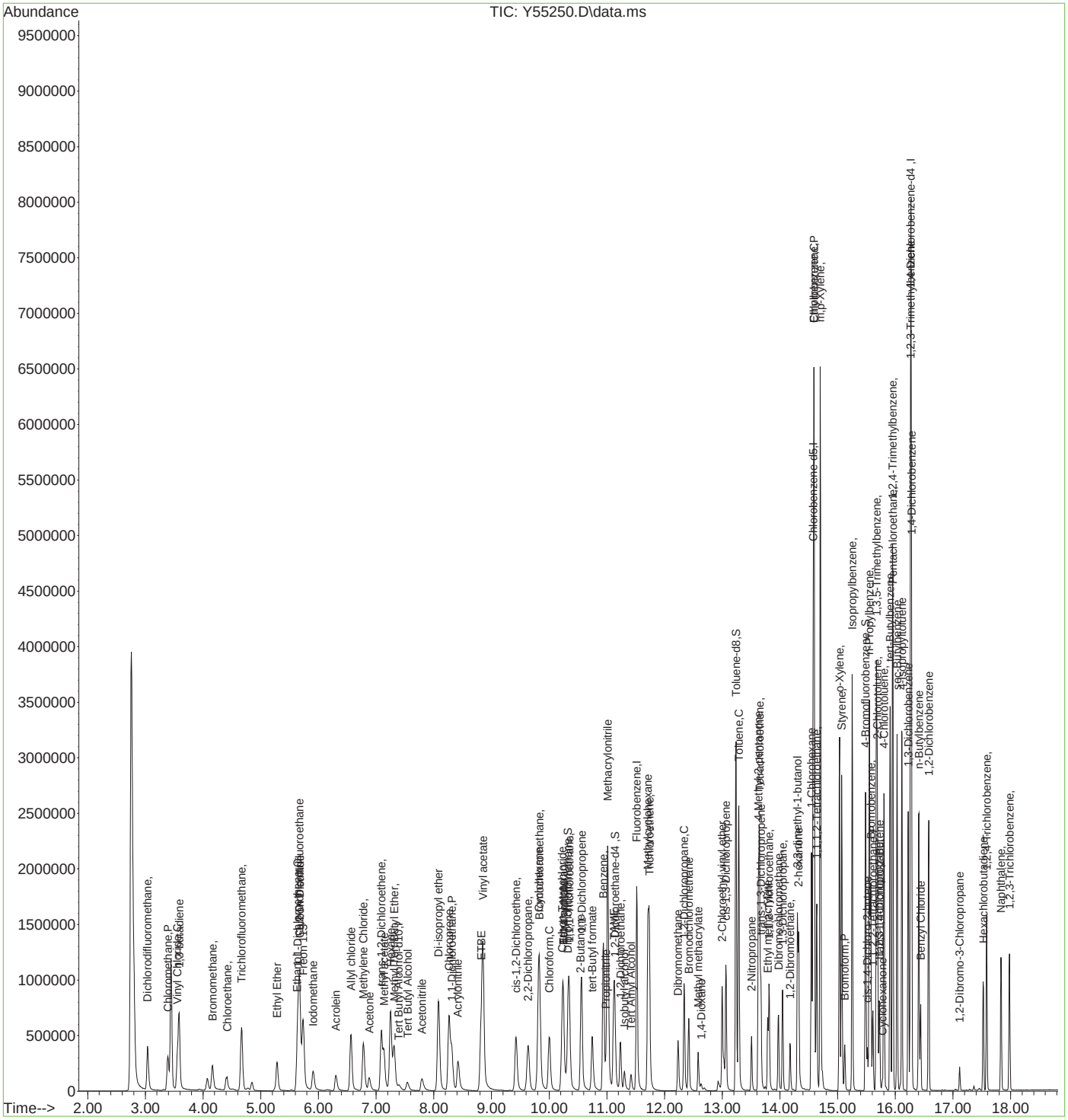
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Ethanol	5.629	45	45228	1161.30	ug/L	95
109) Tert Butyl Alcohol	7.545	59	119380	444.59	ug/L	96
110) Isobutyl alcohol	11.304	42	66959	941.49	ug/L	94
111) Tert Amyl Alcohol	11.420	59	77184	463.71	ug/L	95
112) 1,4-Dioxane	12.637	88	35540	1054.05	ug/L	94
113) 3,3-dimethyl-1-butanol	14.304	57	659124	2337.94	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55250.D
Acq On : 18 Jan 2021 8:25 pm
Operator : shanicao
Sample : ECC2293-5
Misc : MS48127,VY2294,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 18 22:14:26 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration



RESTEK011521w.M Mon Jan 18 22:15:53 2021 Page: 4

Manual Integration Approval Summary

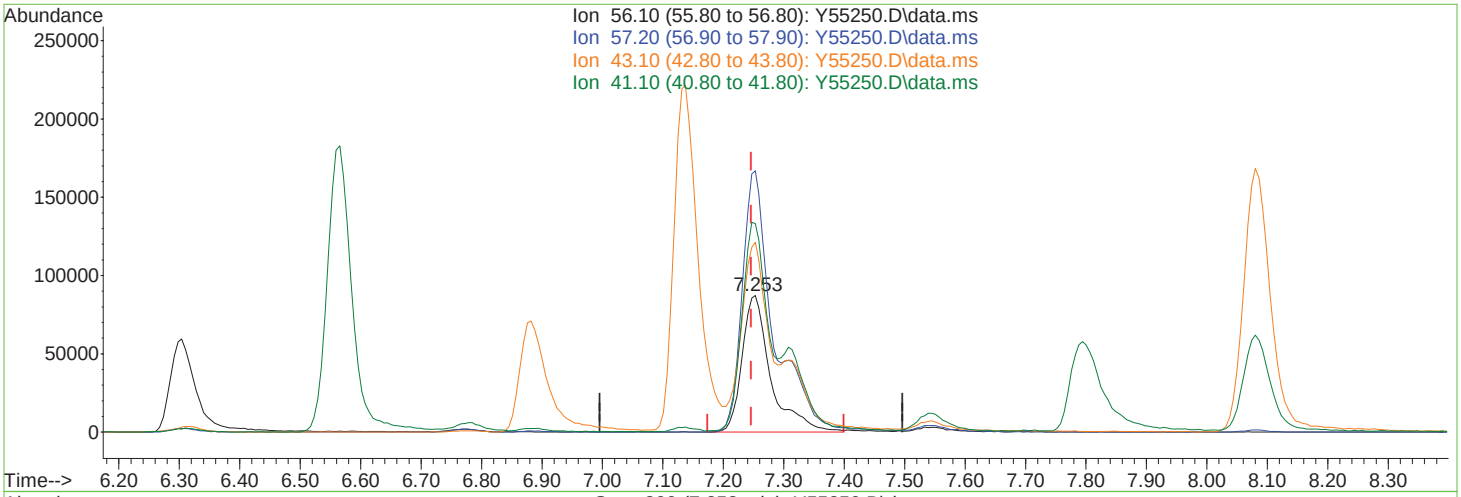
Sample Number: VY2294-ECC2293
Lab FileID: Y55250.D
Injection Time: 01/18/21 20:25
Method: SW846 8260B
Analyst approved: 01/18/21 22:35 Edessa Sumagaysay
Supervisor approved: 01/19/21 09:41 Melissa Mangual

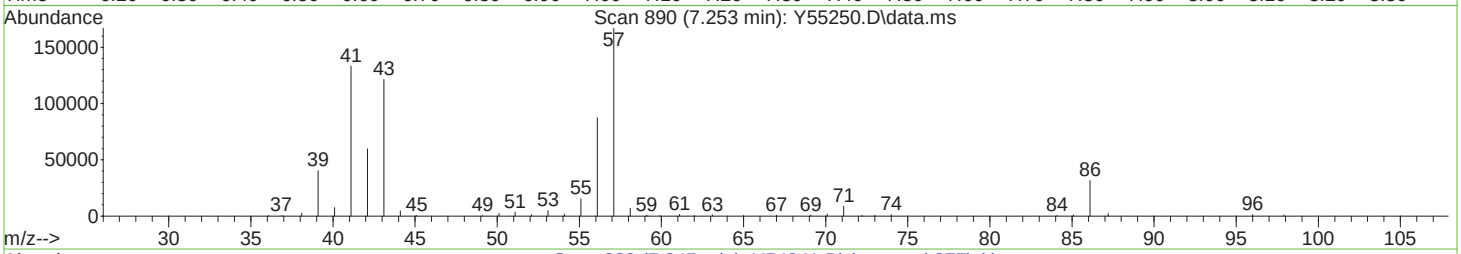
Parameter	CAS	Sig#	R.T. (min.)	Reason
Hexane	110-54-3		7.25	Overlapping peak
2-Hexanone	591-78-6		14.32	Overlapping peak

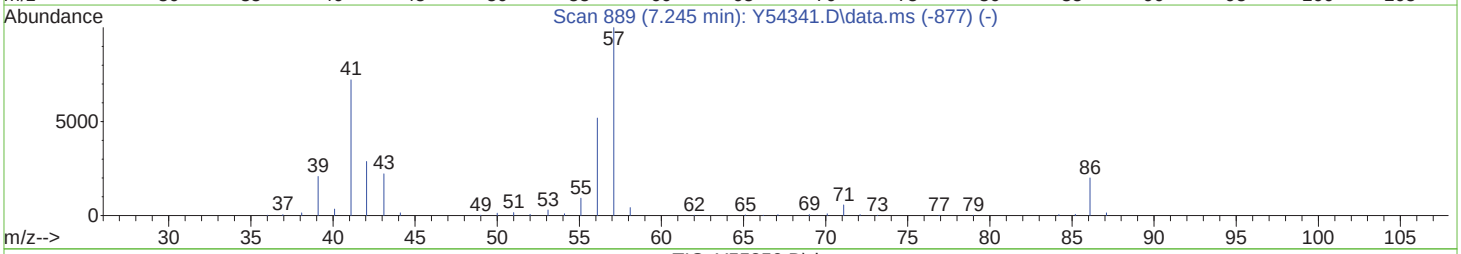
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55250.D
Acq On : 18 Jan 2021 8:25 pm
Operator : shanicao
Sample : ECC2293-5
Misc : MS48127,VY2294,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 18 21:54:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55250.D\data.ms

(21) Hexane

7.253min (+0.007) 48.58ug/L

response 289633

Ion	Exp%	Act%
56.10	100	100
57.20	189.10	191.21
43.10	141.60	134.34
41.10	153.50	151.42

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55250.D
Acq On : 18 Jan 2021 8:25 pm
Operator : shanicao
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Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
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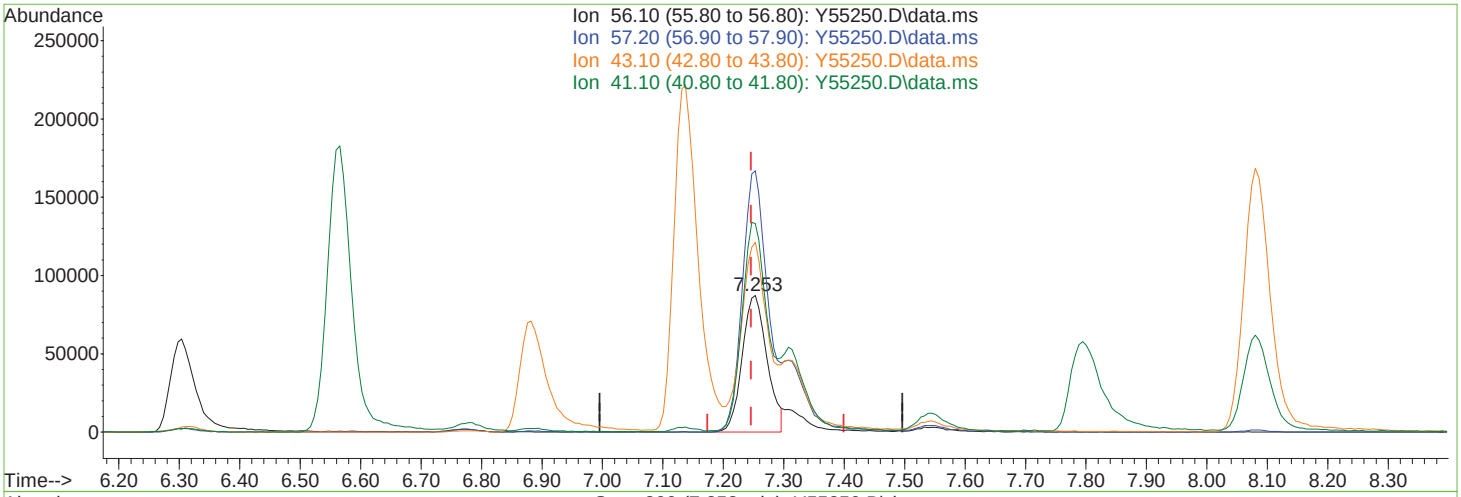
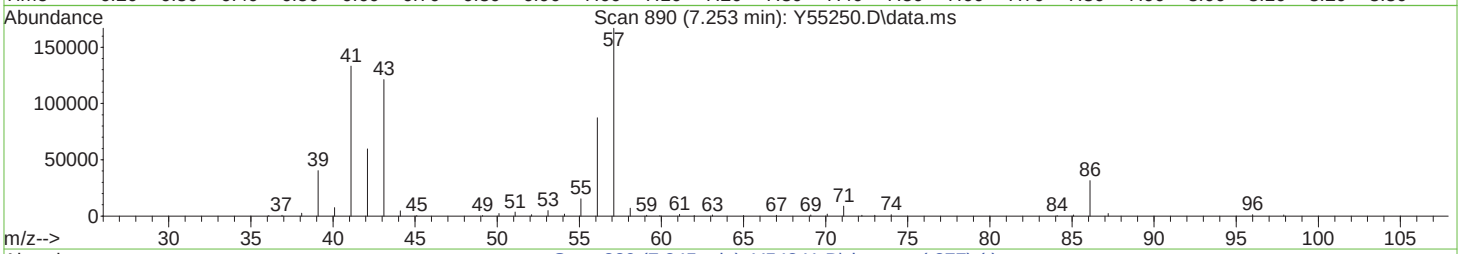
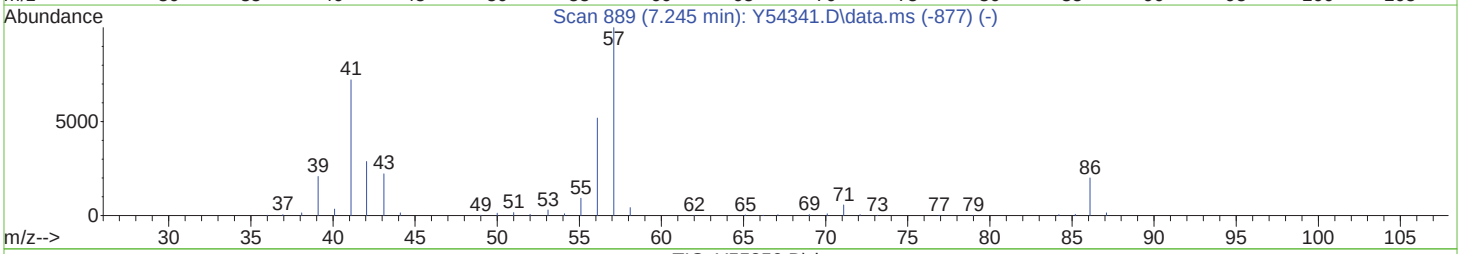






TIC: Y55250.D\data.ms

(21) Hexane

7.253min (+0.007) 42.00ug/L m

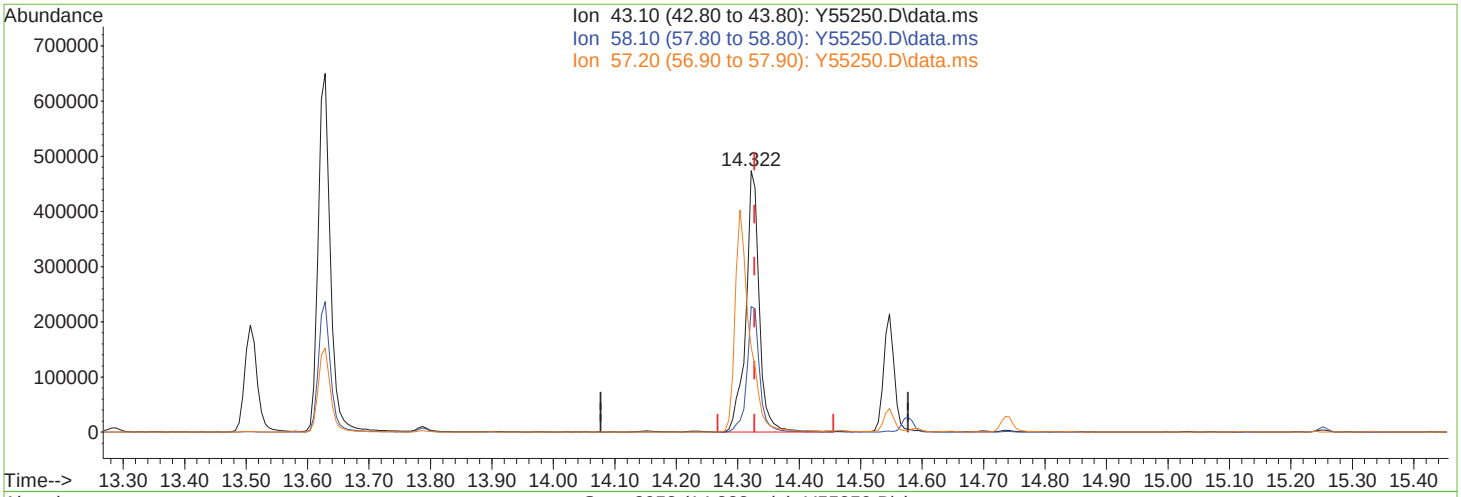
response 250372

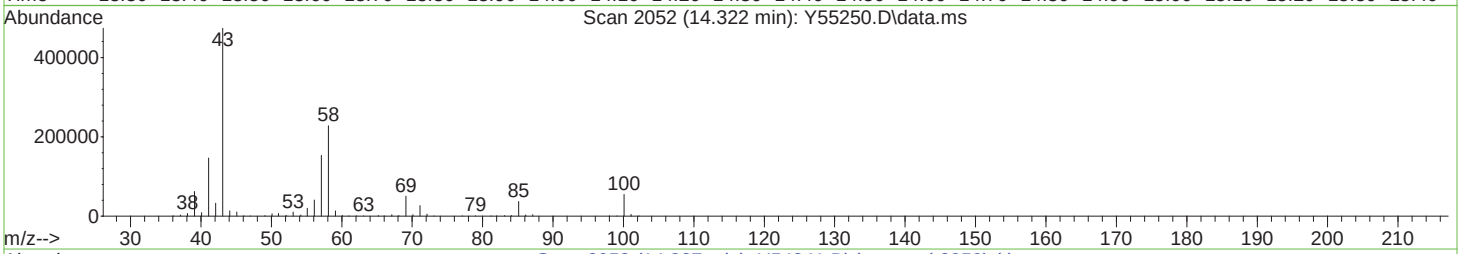
Ion	Exp%	Act%
56.10	100	100
57.20	189.10	191.21
43.10	141.60	138.69
41.10	153.50	152.45

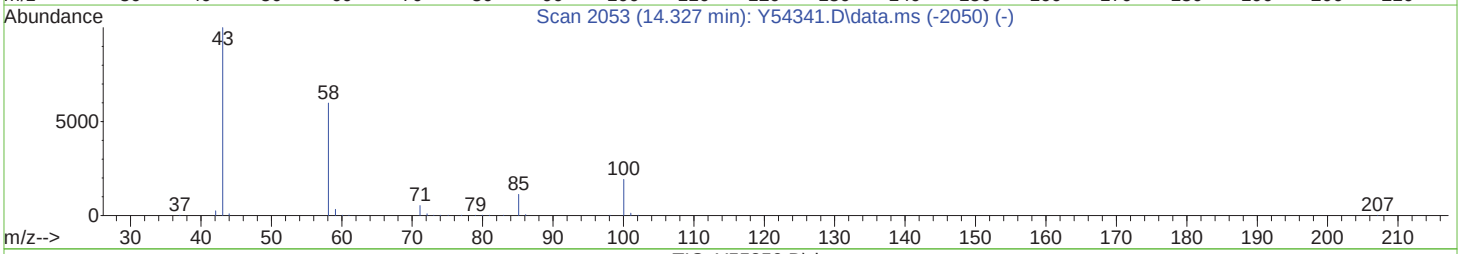
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55250.D
Acq On : 18 Jan 2021 8:25 pm
Operator : shanicao
Sample : ECC2293-5
Misc : MS48127,VY2294,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 18 21:54:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55250.D\data.ms

(69) 2-hexanone

14.322min (-0.005) 209.47ug/L

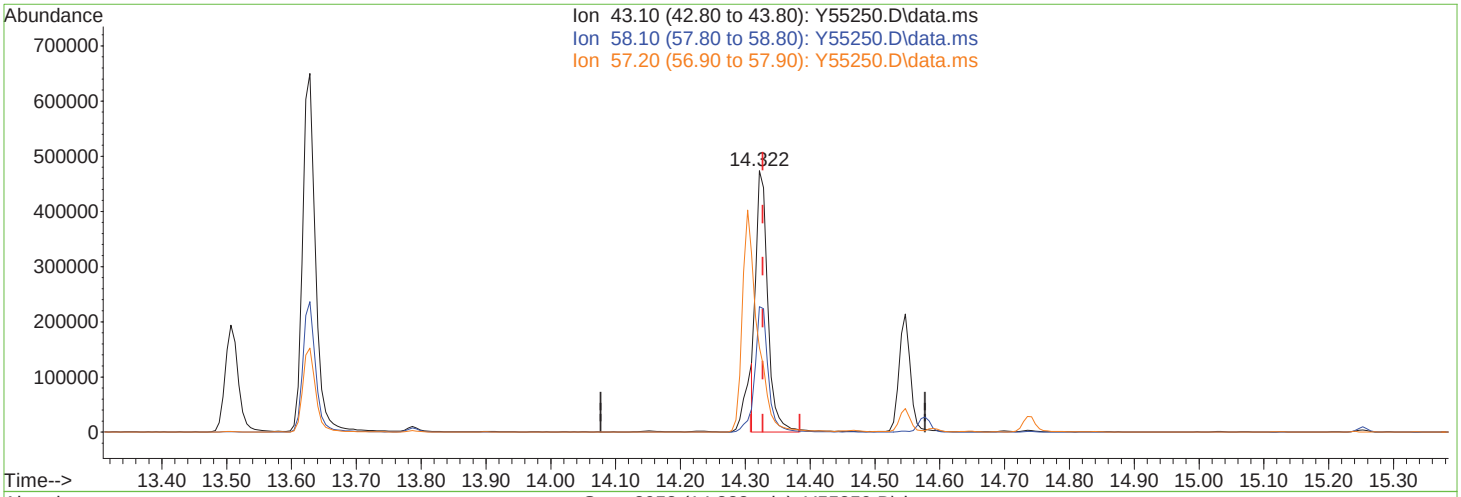
response 721118

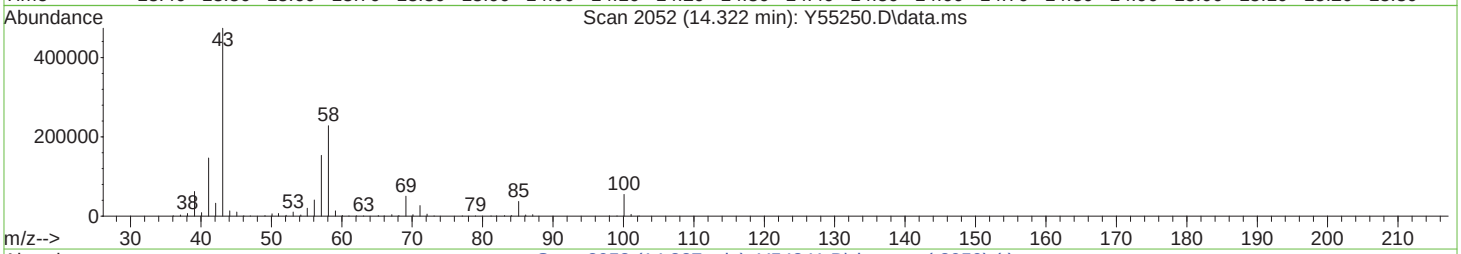
Ion	Exp%	Act%
43.10	100	100
58.10	50.60	48.04
57.20	26.80	32.38
0.00	0.00	0.00

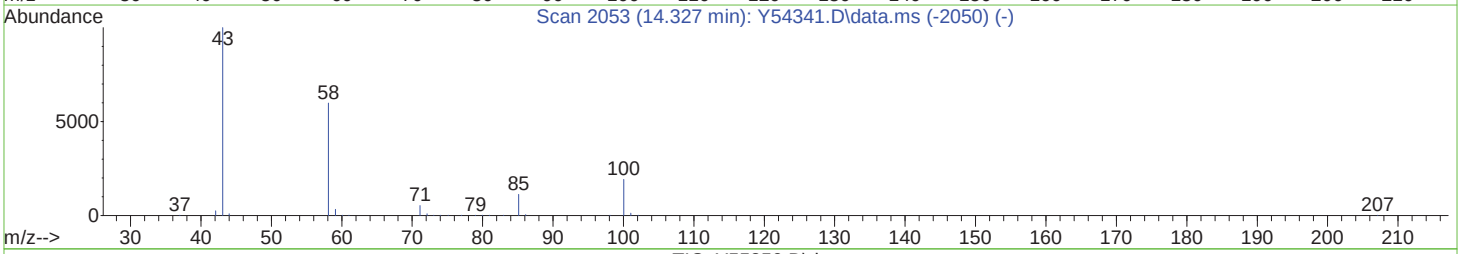
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\edessas\01-19-2021\vy2294\
Data File : Y55250.D
Acq On : 18 Jan 2021 8:25 pm
Operator : shanicao
Sample : ECC2293-5
Misc : MS48127,VY2294,,,,,
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 18 21:54:04 2021
Quant Method : C:\msdchem\1\methods\RESTEK011521w.M
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Fri Sep 14 08:38:11 2018
Response via : Initial Calibration







TIC: Y55250.D\data.ms

(69) 2-hexanone

14.322min (-0.005) 176.27ug/L m

response 606813

Ion	Exp%	Act%
43.10	100	100
58.10	50.60	48.00
57.20	26.80	32.35
0.00	0.00	0.00

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 01/15/2021	
COLUMN TYPE: RTX-VMS	
DETECTOR: 5973 MSD	
INSTRUMENT: MSVOA14-Y	
PURGE PRESSURE: 9.0 psi	
PURGE VOLUME: 5 mL	
ANALYST: Chelsea V	

METHODS: 8260	
METHOD FILE: RESTEK011521W.m	
CALIB. DATE: 01/15/2021	
EM VOLTAGE: 2129V	
BFB RESPONSE:	3983900
RUN ID: VY2293	

BFB: VS0984
ICAL/CC: VS1019, VS1020, VS1015,
VS1021, VS1016, VS1018
ISTD/SURR: VS0984
ICV/QC: VS0994, VS0999, VS0993,
VS0995, VS0990, VS1007, VS1008
DATA PROCESSED BY: Chelsea V

PH LOT: 1 to 12 pH lot #: 200814
0 to 3 pH lot#: 220416
KI PAPER LOT: 102916
AFA: V26039D
SAMPLE ID VERIFIED BY:
CV
Date: 01/15/2021

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Y55210	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y55211	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y55212	CC2290-5	-	-	W	2	8260	CCV failure, re-calibrate	-	-	-	20uL→ 50mL ✓
Y55213	BFB	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y55214	IC2293-1	-	-	W	2	8260	#23,54(PII) #69(OP) #98,102(MP)	-	-	-	1uL→ 100mL ✓
Y55215	IC2293-2	-	-	W	3	8260	#21,69(OP)	-	-	-	5uL→ 100mL ✓
Y55216	IC2293-3	-	-	W	4	8260	#4,21,69(OP) #108(PII)	-	-	-	5uL→ 50mL ✓
Y55217	IC2293-4	-	-	W	5	8260	#21,69(OP)	-	-	-	12.5uL→ 50mL ✓
Y55218	ICC2293-5	-	-	W	6	8260	#4,21,69(OP) #108(PII)	-	-	-	20uL→ 50mL ✓
Y55219	IC2293-6	-	-	W	7	8260	#21,69(OP)	-	-	-	35uL→ 50mL ✓
Y55220	IC2293-7	-	-	W	8	8260	#21,69(OP)	-	-	-	50uL→ 50mL ✓
Y55221	BLANK	-	-	W	9	8260		-	-	-	✓
Y55222	ICV2293-5	-	-	W	1	8260	#69(OP)	-	-	-	25uL→ 50mL ✓
Y55223	ICV2293-4	-	-	W	2	8260		-	-	-	12.5uL→ 40mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: CV/SO

SGS ORLANDO — MSVOA14-Y ANALYSIS LOG

DATE: 01/18/2021	**METHODS:** 8260	**BFB:** VS0984	**PH LOT:** 1 to 12 pH lot #: 200814
COLUMN TYPE: RTX-VMS	**METHOD FILE:** RESTEK011521W.m	**ICAL/CC:** VS1019, VS1020, VS1015,	0 to 3 pH lot#: 220416
DETECTOR: 5973 MSD	**CALIB. DATE:** 01/15/2021	VS1021, VS1016, VS1018	**KI PAPER LOT:** 102916
INSTRUMENT: MSVOA14-Y	**EM VOLTAGE:** 2129V	**ISTD/SURR:** VS0984	**AFA:** V26039D
PURGE PRESSURE: 9.0 psi	**BFB RESPONSE:** 4282843	**ICV/QC:** VS0994, VS0999, VS0993,	**SAMPLE ID VERIFIED BY:**
PURGE VOLUME: 5 mL		VS0995, VS0990, VS1007, VS1008	SO
ANALYST: Shanika O.	**RUN ID: VY2294**	**DATA PROCESSED BY: EdessaS**	**Date:** 01/19/2021

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
Y55224	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y55225	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
Y55226	CC2293-5/BFB	-	-	W	1	8260	#21,69(OP)	-	-	-	20uL→ 50mL ✓
Y55227	BS	-	-	W	1	8260	#4,21,69(OP)	-	-	-	12.5uL→ 40mL ✓
Y55228	CC2293-1	-	-	W	2	8260	peaks present	-	-	-	1uL→ 100mL ✓
Y55229	MB	-	-	W	3	8260		-	-	-	ND✓
Y55230	FA82333-6	1X	2	W	4	8260		1	NO		ND✓
Y55231	FA82390-2	1X	1	W	5	8260		1	NO		ND✓
Y55232	FA82261-28	1X	2	W	6	8260		1	NO		✓
Y55233	FA82261-29	1X	2	W	7	8260		1	NO		✓
Y55234	FA82261-30	1X	2	W	8	8260		1	NO		✓
Y55235	FA82261-31	1X	1	W	9	8260		1	NO		✓
Y55236	FA82261-32	1X	2	W	10	8260		1	NO		✓
Y55237	FA82261-33	1X	2	W	11	8260		1	NO		✓
Y55238	FA82261-34	1X	2	W	12	8260		1	NO		✓
Y55239	FA82261-35	1X	2	W	13	8260		1	NO		✓
Y55240	FA82261-36	1X	2	W	14	8260		1	NO		✓
Y55241	FA82261-37	1X	2	W	15	8260		1	NO		✓
Y55242	FA82333-1	1X	1	W	16	8260		1	NO		ND✓
Y55243	FA82333-2	1X	9	W	17	8260		1	NO		ND✓
Y55244	FA82333-3	1X	1	W	18	8260		1	NO		IS4↓not required, ND✓
Y55245	FA82333-4	1X	1	W	19	8260		1	NO		ND✓
Y55246	FA82333-5	1X	1	W	20	8260		1	NO		IS4↓not required, ND✓
Y55247	FA82390-1	1X	2	W	21	8260		1	NO		✓
Y55248	FA82333-2MS	1X	8	W	22	8260	#4,21,69(OP)	1	NO		12.5uL→ 40mL ✓
Y55249	FA82333-2MSD	1X	8	W	22	8260	#4,21,69(OP)	1	NO		12.5uL→ 40mL ✓
Y55250	ECC2293-5	-	-	W	23	8260	#21,69(OP)	-	-	-	20uL→ 50mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: Shanika O.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Wood Environment & Infrastructure Solut.

ESTCP18-5015 PFAS Removal; Pease AFB, NH

7311180270.6000

SGS Job Number: FA86620

Sampling Date: 06/11/21

Report to:

Wood Environment & Infrastructure Soln.
800 Marquette Ave Suite 1200
Minneapolis, MN 55402
eric.thompson2@woodplc.com

ATTN: Katherine Gross

Total number of pages in report: **137**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, UT, VT, WA, WV

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EHS.US.CustomerCare@sgs.com

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SGS North America Inc.

Sample Summary

Wood Environment & Infrastructure Solut.

Job No: FA86620

ESTCP18-5015 PFAS Removal; Pease AFB, NH
Project No: 7311180270.6000

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FA86620-1	06/11/21	15:00	IS	06/22/21	AQ	Ground Water	SP1-GW_20210611

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Wood Environment & Infrastructure Solut. **Job No:** FA86620

Site: ESTCP18-5015 PFAS Removal; Pease AFB, NH **Report Date:** 6/28/2021 9:57:46

1 Sample(s) were collected on 06/11/2021 and were received at SGS North America Inc - Orlando on 06/22/2021 properly preserved, at 1.7 Deg. C and intact. These Samples received an SGS Orlando job number of FA86620. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Sample(s) FA86397-23MS, FA86397-23MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for Chloroethane, Methyl Bromide are outside control limits. Probable cause is due to matrix interference.

Matrix Spike Duplicate Recovery(s) for 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Ethylbenzene, Freon 113, Isopropylbenzene, Methyl Bromide, Tetrachloroethylene, Toluene, Trichloroethylene are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for Chloroethane are outside control limits for sample FA86397-23MSD. Probable cause is due to sample non-homogeneity.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Kim Benham, Client Services *(Signature on File)*

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
VI2216-IC2216	MSVOA	I69005.D	3,3-Dimethyl-1-Butanol, Acrolein, Carbon Tetrachloride, Methyl Acetate
VI2216-IC2216	MSVOA	I69006.D	Ethyl Alcohol
VI2216-IC2216	MSVOA	I69007.D	Ethyl Alcohol
VI2216-IC2216	MSVOA	I69011.D	3,3-Dimethyl-1-Butanol, Trichlorofluoromethane

4 Manual Integrations were found for FA86620

Summary of Hits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA86620-1	**SP1-GW_20210611**					
Chlorobenzene		0.29 J	1.0	0.50	ug/l	SW846 8260B

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	SP1-GW_20210611		
Lab Sample ID:	FA86620-1	**Date Sampled:**	06/11/21
Matrix:	AQ - Ground Water	**Date Received:**	06/22/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I69117.D	1	06/24/21 18:44	LR	n/a	n/a	VI2221
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-64-1	Acetone	20 U	25	20	10	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	0.31	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	0.45	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	0.24	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	0.41	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	2.0	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	0.36	ug/l	
108-90-7	Chlorobenzene	0.29	1.0	0.50	0.20	ug/l	J
75-00-3	Chloroethane	1.0 U	2.0	1.0	0.67	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	0.30	ug/l	
110-82-7	Cyclohexane	0.50 U	1.0	0.50	0.39	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	5.0	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	0.26	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	0.34	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	0.21	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	0.36	ug/l	
76-13-1	Freon 113	0.50 U	1.0	0.50	0.48	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	0.22	ug/l	
79-20-9	Methyl Acetate	10 U	20	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SP1-GW_20210611		
Lab Sample ID:	FA86620-1	**Date Sampled:**	06/11/21
Matrix:	AQ - Ground Water	**Date Received:**	06/22/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	ESTCP18-5015 PFAS Removal; Pease AFB, NH		

VOA TCL List (SOM02.0)

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-83-9	Methyl Bromide	4.0 U	5.0	4.0	2.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	0.50	ug/l	
108-87-2	Methylcyclohexane	0.50 U	1.0	0.50	0.44	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	0.23	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	0.30	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	0.22	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	1.0 U	2.0	1.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	2.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	0.47	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	0.35	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	0.50	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	0.41	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	0.47	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

GW

None

9304 4320 6443

wood.

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Portland, ME 04101
(207) 828-3367

SHIP TO: SGS
Clarkson University
CAARES Facility
8 Clarkson Avenue
Potsdam, New York 13699
Attn: Sujan Fernando

CHAIN OF CUSTODY

FA86620

~~FD26865~~

DATE: 6/17/21
COC #:
PAGE: 1 OF 1

Project Name:	ESTCP Site 8 Pilot	Project Contact:	Eric Thompson	Bill To:	Kathy Gross, Wood E&IS	Disposal Instructions:	LAB
Project Number:	7311180270.6000	Phone Number:	(207) 747-7386		511 Congress Street	Shipment Method:	~~FED EX~~ Courier
Project Manager:	Nathan Hagelin	Project Phase:	PFAS Removal		Portland, ME 04101	Waybill Number:	N/A

Sample Information						Methods for Analysis					RUSH					
No.	Sample ID	Date & Time Sampled	Matrix	Sample Type	MS/MSD	PFAS DoD-4°C	Alkalinity, TDS, Cl, SO4, NO3	Hardness, Fe, Mn	TOC	VOC	STANDARD - 10 days	48 Hour	72 Hour	5 Days	TOTAL BOTTLES	HOLD All Analyses
~~1~~	~~SP1-GW_2020~~		~~WG~~	~~N~~	~~N~~	X	X	X	X						~~4~~	
~~2~~	~~SP2-GW_2020~~		~~WG~~	~~N~~	~~N~~		X	X	X						~~3~~	
~~3~~	~~SP3-GW_2020~~		~~WG~~	~~N~~	~~N~~	X									~~1~~	
4																
5	SP1-GW_20210611	6/11/21 15:00	WG	N	N					X	X				3	
6																
7																
8																
9																
10																
11																
12																

SGS-ACCUTEST MARLBOR
6/17

Sampler's Signature:		Date: 6/11/21	Time: 13:00
Relinquished By/Affiliation: Wood E&IS – Herrick		Date: 6/17/21	Time: 15:55
Received By: ~~Fed Ex~~	Scott Parsons	Date: 6/17/21	Time: 15:55
Relinquished By/Affiliation:	Scott Parsons	Date: 6/17/21	Time: 18:30
Received By:	FedEx	Date: 6/17/21	Time: 18:30
Relinquished By/Affiliation: FedEx		Date: 6/18/21	Time: 10:15
Received By (LAB):		Date:	Time:

For Lab Use

Does COC match samples:	Y or N	
Broken Container:	Y or N	
COC seal intact:	Y or N	
Other problems:	Y or N	
WSDOT contacted:	Y or N	
Date contacted:		
Cooler Temperature at receipt:	3.5 °C	

Comments:
X=Analyze H=Hold Analysis Request **PO # F013200721**
Analyze all samples within 10 business days
Please report only the Pease 13 PFAS compounds with the low level method
* Analysis consistent with QSM 5.3 Table B-15

NUMBER OF COOLERS SENT: 1

1938

on ice

IR-4 3.5°C IP

Rush 6/22/21 1000

INITIAL ASSESSMENT 3A
LABEL VERIFICATION

INITIAL ASSESSMENT
LABEL VERIFICATION

FA86620: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA86620 **Client:** WOOD **Project:** ESTCP SITE 8 PILOT

Date / Time Received: 6/22/2021 10:00:00 AM **Delivery Method:** FX **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** -1.8; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.5);

Cooler Temps (Corrected) °C: Cooler 1: (1.7);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 6/22/2021 10:00:00 A Reviewer: _____ Date: _____

5.1 5

FA86620: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VI2221	SW846 8260B						
VI2221-BS	67-64-1	Acetone	BSP	REC	87	%	39-160
VI2221-BS	71-43-2	Benzene	BSP	REC	99	%	79-120
VI2221-BS	74-97-5	Bromochloromethane	BSP	REC	93	%	78-123
VI2221-BS	75-27-4	Bromodichloromethane	BSP	REC	97	%	79-125
VI2221-BS	75-25-2	Bromoform	BSP	REC	89	%	66-130
VI2221-BS	78-93-3	2-Butanone (MEK)	BSP	REC	79	%	56-143
VI2221-BS	75-15-0	Carbon Disulfide	BSP	REC	95	%	64-133
VI2221-BS	56-23-5	Carbon Tetrachloride	BSP	REC	102	%	72-136
VI2221-BS	108-90-7	Chlorobenzene	BSP	REC	94	%	82-118
VI2221-BS	75-00-3	Chloroethane	BSP	REC	120	%	60-138
VI2221-BS	67-66-3	Chloroform	BSP	REC	94	%	79-124
VI2221-BS	110-82-7	Cyclohexane	BSP	REC	97	%	71-130
VI2221-BS	124-48-1	Dibromochloromethane	BSP	REC	88	%	74-126
VI2221-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	76	%	62-128
VI2221-BS	106-93-4	1,2-Dibromoethane	BSP	REC	87	%	77-121
VI2221-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	77	%	32-152
VI2221-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	90	%	80-119
VI2221-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	92	%	80-119
VI2221-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	90	%	79-118
VI2221-BS	75-34-3	1,1-Dichloroethane	BSP	REC	101	%	77-125
VI2221-BS	107-06-2	1,2-Dichloroethane	BSP	REC	93	%	73-128
VI2221-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	100	%	71-131
VI2221-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	98	%	78-123
VI2221-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	98	%	75-124
VI2221-BS	78-87-5	1,2-Dichloropropane	BSP	REC	94	%	78-122
VI2221-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	95	%	75-124
VI2221-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	97	%	73-127
VI2221-BS	100-41-4	Ethylbenzene	BSP	REC	93	%	79-121
VI2221-BS	76-13-1	Freon 113	BSP	REC	86	%	70-136
VI2221-BS	591-78-6	2-Hexanone	BSP	REC	79	%	57-139
VI2221-BS	98-82-8	Isopropylbenzene	BSP	REC	98	%	72-131
VI2221-BS	79-20-9	Methyl Acetate	BSP	REC	83	%	56-136
VI2221-BS	74-83-9	Methyl Bromide	BSP	REC	107	%	53-141
VI2221-BS	74-87-3	Methyl Chloride	BSP	REC	96	%	50-139
VI2221-BS	108-87-2	Methylcyclohexane	BSP	REC	104	%	72-132
VI2221-BS	75-09-2	Methylene Chloride	BSP	REC	88	%	74-124
VI2221-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	80	%	67-130
VI2221-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	89	%	71-124
VI2221-BS	100-42-5	Styrene	BSP	REC	94	%	78-123
VI2221-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	84	%	71-121
VI2221-BS	127-18-4	Tetrachloroethylene	BSP	REC	93	%	74-129
VI2221-BS	108-88-3	Toluene	BSP	REC	88	%	80-121

* Sample used for QC is not from job FA86620

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VI2221-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	81	%	69-129
VI2221-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	83	%	69-130
VI2221-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	98	%	74-131
VI2221-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	88	%	80-119
VI2221-BS	79-01-6	Trichloroethylene	BSP	REC	97	%	79-123
VI2221-BS	75-69-4	Trichlorofluoromethane	BSP	REC	107	%	65-141
VI2221-BS	75-01-4	Vinyl Chloride	BSP	REC	97	%	58-137
VI2221-BS		m,p-Xylene	BSP	REC	97	%	80-121
VI2221-BS	95-47-6	o-Xylene	BSP	REC	94	%	78-122
VI2221-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	100	%	80-119
VI2221-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	99	%	81-118
VI2221-BS	2037-26-5	Toluene-D8	BSP	SURR	97	%	89-112
VI2221-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	100	%	85-114
FA86397-23MS*	67-64-1	Acetone	MS	REC	81	%	39-160
FA86397-23MS*	71-43-2	Benzene	MS	REC	99	%	79-120
FA86397-23MS*	74-97-5	Bromochloromethane	MS	REC	96	%	78-123
FA86397-23MS*	75-27-4	Bromodichloromethane	MS	REC	98	%	79-125
FA86397-23MS*	75-25-2	Bromoform	MS	REC	90	%	66-130
FA86397-23MS*	78-93-3	2-Butanone (MEK)	MS	REC	86	%	56-143
FA86397-23MS*	75-15-0	Carbon Disulfide	MS	REC	93	%	64-133
FA86397-23MS*	56-23-5	Carbon Tetrachloride	MS	REC	93	%	72-136
FA86397-23MS*	108-90-7	Chlorobenzene	MS	REC	90	%	82-118
FA86397-23MS*	75-00-3	Chloroethane	MS	REC	151	%	60-138
FA86397-23MS*	67-66-3	Chloroform	MS	REC	95	%	79-124
FA86397-23MS*	110-82-7	Cyclohexane	MS	REC	87	%	71-130
FA86397-23MS*	124-48-1	Dibromochloromethane	MS	REC	90	%	74-126
FA86397-23MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	82	%	62-128
FA86397-23MS*	106-93-4	1,2-Dibromoethane	MS	REC	90	%	77-121
FA86397-23MS*	75-71-8	Dichlorodifluoromethane	MS	REC	71	%	32-152
FA86397-23MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	83	%	80-119
FA86397-23MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	84	%	80-119
FA86397-23MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	83	%	79-118
FA86397-23MS*	75-34-3	1,1-Dichloroethane	MS	REC	102	%	77-125
FA86397-23MS*	107-06-2	1,2-Dichloroethane	MS	REC	98	%	73-128
FA86397-23MS*	75-35-4	1,1-Dichloroethylene	MS	REC	95	%	71-131
FA86397-23MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	98	%	78-123
FA86397-23MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	97	%	75-124
FA86397-23MS*	78-87-5	1,2-Dichloropropane	MS	REC	98	%	78-122
FA86397-23MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	92	%	75-124
FA86397-23MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	96	%	73-127
FA86397-23MS*	100-41-4	Ethylbenzene	MS	REC	86	%	79-121
FA86397-23MS*	76-13-1	Freon 113	MS	REC	76	%	70-136
FA86397-23MS*	591-78-6	2-Hexanone	MS	REC	91	%	57-139
FA86397-23MS*	98-82-8	Isopropylbenzene	MS	REC	89	%	72-131
FA86397-23MS*	79-20-9	Methyl Acetate	MS	REC	93	%	56-136

* Sample used for QC is not from job FA86620

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA86397-23MS*	74-83-9	Methyl Bromide	MS	REC	46	%	53-141
FA86397-23MS*	74-87-3	Methyl Chloride	MS	REC	95	%	50-139
FA86397-23MS*	108-87-2	Methylcyclohexane	MS	REC	91	%	72-132
FA86397-23MS*	75-09-2	Methylene Chloride	MS	REC	95	%	74-124
FA86397-23MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	93	%	67-130
FA86397-23MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	95	%	71-124
FA86397-23MS*	100-42-5	Styrene	MS	REC	89	%	78-123
FA86397-23MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	87	%	71-121
FA86397-23MS*	127-18-4	Tetrachloroethylene	MS	REC	82	%	74-129
FA86397-23MS*	108-88-3	Toluene	MS	REC	82	%	80-121
FA86397-23MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	76	%	69-129
FA86397-23MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	77	%	69-130
FA86397-23MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	92	%	74-131
FA86397-23MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	91	%	80-119
FA86397-23MS*	79-01-6	Trichloroethylene	MS	REC	90	%	79-123
FA86397-23MS*	75-69-4	Trichlorofluoromethane	MS	REC	98	%	65-141
FA86397-23MS*	75-01-4	Vinyl Chloride	MS	REC	98	%	58-137
FA86397-23MS*		m,p-Xylene	MS	REC	89	%	80-121
FA86397-23MS*	95-47-6	o-Xylene	MS	REC	88	%	78-122
FA86397-23MS*	1868-53-7	Dibromofluoromethane	MS	SURR	99	%	80-119
FA86397-23MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	99	%	81-118
FA86397-23MS*	2037-26-5	Toluene-D8	MS	SURR	96	%	89-112
FA86397-23MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	98	%	85-114
FA86397-23MSD*	67-64-1	Acetone	MSD	REC	76	%	39-160
FA86397-23MSD*	67-64-1	Acetone	MSD	RPD	7	%	20
FA86397-23MSD*	71-43-2	Benzene	MSD	REC	90	%	79-120
FA86397-23MSD*	71-43-2	Benzene	MSD	RPD	10	%	20
FA86397-23MSD*	74-97-5	Bromochloromethane	MSD	REC	90	%	78-123
FA86397-23MSD*	74-97-5	Bromochloromethane	MSD	RPD	6	%	20
FA86397-23MSD*	75-27-4	Bromodichloromethane	MSD	REC	90	%	79-125
FA86397-23MSD*	75-27-4	Bromodichloromethane	MSD	RPD	9	%	20
FA86397-23MSD*	75-25-2	Bromoform	MSD	REC	82	%	66-130
FA86397-23MSD*	75-25-2	Bromoform	MSD	RPD	8	%	20
FA86397-23MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	80	%	56-143
FA86397-23MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	8	%	20
FA86397-23MSD*	75-15-0	Carbon Disulfide	MSD	REC	77	%	64-133
FA86397-23MSD*	75-15-0	Carbon Disulfide	MSD	RPD	19	%	20
FA86397-23MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	82	%	72-136
FA86397-23MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	13	%	20
FA86397-23MSD*	108-90-7	Chlorobenzene	MSD	REC	82	%	82-118
FA86397-23MSD*	108-90-7	Chlorobenzene	MSD	RPD	9	%	20
FA86397-23MSD*	75-00-3	Chloroethane	MSD	REC	110	%	60-138
FA86397-23MSD*	75-00-3	Chloroethane	MSD	RPD	32	%	20
FA86397-23MSD*	67-66-3	Chloroform	MSD	REC	86	%	79-124
FA86397-23MSD*	67-66-3	Chloroform	MSD	RPD	10	%	20

* Sample used for QC is not from job FA86620

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA86397-23MSD*	110-82-7	Cyclohexane	MSD	REC	78	%	71-130
FA86397-23MSD*	110-82-7	Cyclohexane	MSD	RPD	12	%	20
FA86397-23MSD*	124-48-1	Dibromochloromethane	MSD	REC	82	%	74-126
FA86397-23MSD*	124-48-1	Dibromochloromethane	MSD	RPD	8	%	20
FA86397-23MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	75	%	62-128
FA86397-23MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	9	%	20
FA86397-23MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	83	%	77-121
FA86397-23MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	7	%	20
FA86397-23MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	63	%	32-152
FA86397-23MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	12	%	20
FA86397-23MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	77	%	80-119
FA86397-23MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	8	%	20
FA86397-23MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	77	%	80-119
FA86397-23MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	9	%	20
FA86397-23MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	76	%	79-118
FA86397-23MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	10	%	20
FA86397-23MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	92	%	77-125
FA86397-23MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	11	%	20
FA86397-23MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	91	%	73-128
FA86397-23MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	8	%	20
FA86397-23MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	84	%	71-131
FA86397-23MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	13	%	20
FA86397-23MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	89	%	78-123
FA86397-23MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	10	%	20
FA86397-23MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	86	%	75-124
FA86397-23MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	12	%	20
FA86397-23MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	89	%	78-122
FA86397-23MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	9	%	20
FA86397-23MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	83	%	75-124
FA86397-23MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	10	%	20
FA86397-23MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	89	%	73-127
FA86397-23MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	8	%	20
FA86397-23MSD*	100-41-4	Ethylbenzene	MSD	REC	77	%	79-121
FA86397-23MSD*	100-41-4	Ethylbenzene	MSD	RPD	11	%	20
FA86397-23MSD*	76-13-1	Freon 113	MSD	REC	69	%	70-136
FA86397-23MSD*	76-13-1	Freon 113	MSD	RPD	9	%	20
FA86397-23MSD*	591-78-6	2-Hexanone	MSD	REC	82	%	57-139
FA86397-23MSD*	591-78-6	2-Hexanone	MSD	RPD	10	%	20
FA86397-23MSD*	98-82-8	Isopropylbenzene	MSD	REC	80	%	72-131
FA86397-23MSD*	98-82-8	Isopropylbenzene	MSD	RPD	11	%	20
FA86397-23MSD*	79-20-9	Methyl Acetate	MSD	REC	85	%	56-136
FA86397-23MSD*	79-20-9	Methyl Acetate	MSD	RPD	9	%	20
FA86397-23MSD*	74-83-9	Methyl Bromide	MSD	REC	51	%	53-141
FA86397-23MSD*	74-83-9	Methyl Bromide	MSD	RPD	11	%	20
FA86397-23MSD*	74-87-3	Methyl Chloride	MSD	REC	84	%	50-139

* Sample used for QC is not from job FA86620

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA86397-23MSD*	74-87-3	Methyl Chloride	MSD	RPD	13	%	20
FA86397-23MSD*	108-87-2	Methylcyclohexane	MSD	REC	81	%	72-132
FA86397-23MSD*	108-87-2	Methylcyclohexane	MSD	RPD	12	%	20
FA86397-23MSD*	75-09-2	Methylene Chloride	MSD	REC	86	%	74-124
FA86397-23MSD*	75-09-2	Methylene Chloride	MSD	RPD	10	%	20
FA86397-23MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	85	%	67-130
FA86397-23MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	10	%	20
FA86397-23MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	90	%	71-124
FA86397-23MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	6	%	20
FA86397-23MSD*	100-42-5	Styrene	MSD	REC	80	%	78-123
FA86397-23MSD*	100-42-5	Styrene	MSD	RPD	10	%	20
FA86397-23MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	82	%	71-121
FA86397-23MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	7	%	20
FA86397-23MSD*	127-18-4	Tetrachloroethylene	MSD	REC	74	%	74-129
FA86397-23MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	11	%	20
FA86397-23MSD*	108-88-3	Toluene	MSD	REC	75	%	80-121
FA86397-23MSD*	108-88-3	Toluene	MSD	RPD	10	%	20
FA86397-23MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	69	%	69-129
FA86397-23MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	10	%	20
FA86397-23MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	69	%	69-130
FA86397-23MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	10	%	20
FA86397-23MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	82	%	74-131
FA86397-23MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	11	%	20
FA86397-23MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	84	%	80-119
FA86397-23MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	8	%	20
FA86397-23MSD*	79-01-6	Trichloroethylene	MSD	REC	80	%	79-123
FA86397-23MSD*	79-01-6	Trichloroethylene	MSD	RPD	11	%	20
FA86397-23MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	86	%	65-141
FA86397-23MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	12	%	20
FA86397-23MSD*	75-01-4	Vinyl Chloride	MSD	REC	86	%	58-137
FA86397-23MSD*	75-01-4	Vinyl Chloride	MSD	RPD	14	%	20
FA86397-23MSD*		m,p-Xylene	MSD	REC	80	%	80-121
FA86397-23MSD*		m,p-Xylene	MSD	RPD	10	%	20
FA86397-23MSD*	95-47-6	o-Xylene	MSD	REC	80	%	78-122
FA86397-23MSD*	95-47-6	o-Xylene	MSD	RPD	10	%	20
FA86397-23MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	100	%	80-119
FA86397-23MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	99	%	81-118
FA86397-23MSD*	2037-26-5	Toluene-D8	MSD	SURR	97	%	89-112
FA86397-23MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	98	%	85-114
VI2221-MB	1868-53-7	Dibromofluoromethane	MB	SURR	97	%	80-119
VI2221-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	101	%	81-118
VI2221-MB	2037-26-5	Toluene-D8	MB	SURR	98	%	89-112
VI2221-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	100	%	85-114
FA86620-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	98	%	80-119
FA86620-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	101	%	81-118

* Sample used for QC is not from job FA86620

QC Evaluation: DOD QSM5.x Limits

Job Number: FA86620
Account: Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH
Collected: 06/11/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA86620-1	2037-26-5	Toluene-D8	SAMP	SURR	98	%	89-112
FA86620-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	98	%	85-114

* Sample used for QC is not from job FA86620

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Method Blank Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2221-MB	I69106.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.31	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.45	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.24	ug/l	
75-25-2	Bromoform	ND	1.0	0.41	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	2.0	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.53	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.36	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.67	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
110-82-7	Cyclohexane	ND	1.0	0.39	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.28	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.28	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.32	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.26	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.34	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.32	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.43	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.29	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.36	ug/l	
76-13-1	Freon 113	ND	1.0	0.48	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.22	ug/l	
79-20-9	Methyl Acetate	ND	20	5.0	ug/l	
74-83-9	Methyl Bromide	ND	5.0	2.0	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
108-87-2	Methylcyclohexane	ND	1.0	0.44	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	

Method Blank Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2221-MB	I69106.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.23	ug/l	
100-42-5	Styrene	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	2.0	0.61	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.47	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	
	m,p-Xylene	ND	2.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.26	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	98%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

Blank Spike Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2221-BS	I69104.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	109	87	50-147
71-43-2	Benzene	25	24.8	99	81-122
74-97-5	Bromochloromethane	25	23.3	93	76-123
75-27-4	Bromodichloromethane	25	24.3	97	79-123
75-25-2	Bromoform	25	22.2	89	66-123
78-93-3	2-Butanone (MEK)	125	98.6	79	56-143
75-15-0	Carbon Disulfide	25	23.7	95	66-148
56-23-5	Carbon Tetrachloride	25	25.5	102	76-136
108-90-7	Chlorobenzene	25	23.6	94	82-124
75-00-3	Chloroethane	25	30.1	120	62-144
67-66-3	Chloroform	25	23.6	94	80-124
110-82-7	Cyclohexane	25	24.2	97	73-138
124-48-1	Dibromochloromethane	25	22.0	88	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	19.1	76	64-123
106-93-4	1,2-Dibromoethane	25	21.7	87	75-120
75-71-8	Dichlorodifluoromethane	25	19.3	77	42-167
95-50-1	1,2-Dichlorobenzene	25	22.5	90	82-124
541-73-1	1,3-Dichlorobenzene	25	23.0	92	84-125
106-46-7	1,4-Dichlorobenzene	25	22.5	90	78-120
75-34-3	1,1-Dichloroethane	25	25.3	101	81-122
107-06-2	1,2-Dichloroethane	25	23.2	93	75-125
75-35-4	1,1-Dichloroethylene	25	25.0	100	78-137
156-59-2	cis-1,2-Dichloroethylene	25	24.4	98	78-120
156-60-5	trans-1,2-Dichloroethylene	25	24.6	98	76-127
78-87-5	1,2-Dichloropropane	25	23.6	94	76-124
10061-01-5	cis-1,3-Dichloropropene	25	23.7	95	75-118
10061-02-6	trans-1,3-Dichloropropene	25	24.2	97	80-120
100-41-4	Ethylbenzene	25	23.3	93	81-121
76-13-1	Freon 113	25	21.5	86	72-134
591-78-6	2-Hexanone	125	98.4	79	61-129
98-82-8	Isopropylbenzene	25	24.4	98	83-132
79-20-9	Methyl Acetate	125	104	83	65-126
74-83-9	Methyl Bromide	25	26.8	107	59-143
74-87-3	Methyl Chloride	25	24.1	96	50-159
108-87-2	Methylcyclohexane	25	26.0	104	76-129
75-09-2	Methylene Chloride	25	22.0	88	69-135

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2221-BS	I69104.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
108-10-1	4-Methyl-2-pentanone (MIBK)	125	100	80	66-122
1634-04-4	Methyl Tert Butyl Ether	25	22.2	89	72-117
100-42-5	Styrene	25	23.6	94	78-119
79-34-5	1,1,2,2-Tetrachloroethane	25	20.9	84	72-120
127-18-4	Tetrachloroethylene	25	23.2	93	76-135
108-88-3	Toluene	25	21.9	88	80-120
87-61-6	1,2,3-Trichlorobenzene	25	20.3	81	68-131
120-82-1	1,2,4-Trichlorobenzene	25	20.8	83	73-129
71-55-6	1,1,1-Trichloroethane	25	24.5	98	75-130
79-00-5	1,1,2-Trichloroethane	25	22.0	88	76-119
79-01-6	Trichloroethylene	25	24.2	97	81-126
75-69-4	Trichlorofluoromethane	25	26.7	107	71-156
75-01-4	Vinyl Chloride	25	24.2	97	69-159
	m,p-Xylene	50	48.5	97	79-126
95-47-6	o-Xylene	25	23.6	94	80-127

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA86397-23MS	I69127.D	5	06/24/21	LR	n/a	n/a	VI2221
FA86397-23MSD	I69128.D	5	06/24/21	LR	n/a	n/a	VI2221
FA86397-23	I69108.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	FA86397-23 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	25 U		625	508	81	625	474	76	7	50-147/21
71-43-2	Benzene	1.0 U		125	124	99	125	112	90	10	81-122/14
74-97-5	Bromochloromethane	1.0 U		125	120	96	125	113	90	6	76-123/14
75-27-4	Bromodichloromethane	1.0 U		125	123	98	125	112	90	9	79-123/19
75-25-2	Bromoform	1.0 U		125	112	90	125	103	82	8	66-123/21
78-93-3	2-Butanone (MEK)	5.0 U		625	539	86	625	498	80	8	56-143/18
75-15-0	Carbon Disulfide	1.3	J	125	117	93	125	97.0	77	19	66-148/23
56-23-5	Carbon Tetrachloride	1.0 U		125	116	93	125	102	82	13	76-136/23
108-90-7	Chlorobenzene	1.0 U		125	112	90	125	102	82	9	82-124/14
75-00-3	Chloroethane	2.0 U		125	189	151*	125	137	110	32*	62-144/20
67-66-3	Chloroform	1.0 U		125	119	95	125	108	86	10	80-124/15
110-82-7	Cyclohexane	1.0 U		125	109	87	125	96.9	78	12	73-138/18
124-48-1	Dibromochloromethane	1.0 U		125	112	90	125	103	82	8	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		125	103	82	125	93.8	75	9	64-123/18
106-93-4	1,2-Dibromoethane	2.0 U		125	112	90	125	104	83	7	75-120/13
75-71-8	Dichlorodifluoromethane	2.0 U		125	88.7	71	125	78.7	63	12	42-167/19
95-50-1	1,2-Dichlorobenzene	1.0 U		125	104	83	125	96.1	77*	8	82-124/14
541-73-1	1,3-Dichlorobenzene	1.0 U		125	105	84	125	95.9	77*	9	84-125/14
106-46-7	1,4-Dichlorobenzene	1.0 U		125	104	83	125	94.4	76*	10	78-120/15
75-34-3	1,1-Dichloroethane	1.0 U		125	128	102	125	115	92	11	81-122/15
107-06-2	1,2-Dichloroethane	1.0 U		125	123	98	125	114	91	8	75-125/14
75-35-4	1,1-Dichloroethylene	1.0 U		125	119	95	125	105	84	13	78-137/18
156-59-2	cis-1,2-Dichloroethylene	1.0 U		125	123	98	125	111	89	10	78-120/15
156-60-5	trans-1,2-Dichloroethylene	1.0 U		125	121	97	125	107	86	12	76-127/17
78-87-5	1,2-Dichloropropane	1.0 U		125	122	98	125	111	89	9	76-124/14
10061-01-5	cis-1,3-Dichloropropene	1.0 U		125	115	92	125	104	83	10	75-118/23
10061-02-6	trans-1,3-Dichloropropene	1.0 U		125	120	96	125	111	89	8	80-120/22
100-41-4	Ethylbenzene	1.0 U		125	108	86	125	96.5	77*	11	81-121/14
76-13-1	Freon 113	1.0 U		125	95.0	76	125	86.6	69*	9	72-134/20
591-78-6	2-Hexanone	10 U		625	568	91	625	512	82	10	61-129/18
98-82-8	Isopropylbenzene	1.0 U		125	111	89	125	99.9	80*	11	83-132/15
79-20-9	Methyl Acetate	20 U		625	579	93	625	530	85	9	65-126/18
74-83-9	Methyl Bromide	5.0 U		125	57.2	46*	125	64.0	51*	11	59-143/19
74-87-3	Methyl Chloride	2.0 U		125	119	95	125	105	84	13	50-159/19
108-87-2	Methylcyclohexane	1.0 U		125	114	91	125	101	81	12	76-129/17
75-09-2	Methylene Chloride	5.0 U		125	119	95	125	108	86	10	69-135/16

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA86397-23MS	I69127.D	5	06/24/21	LR	n/a	n/a	VI2221
FA86397-23MSD	I69128.D	5	06/24/21	LR	n/a	n/a	VI2221
FA86397-23	I69108.D	1	06/24/21	LR	n/a	n/a	VI2221

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA86620-1

CAS No.	Compound	FA86397-23 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		625	584	93	625	530	85	10	66-122/16
1634-04-4	Methyl Tert Butyl Ether	1.0 U		125	119	95	125	112	90	6	72-117/14
100-42-5	Styrene	1.0 U		125	111	89	125	100	80	10	78-119/23
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U		125	109	87	125	102	82	7	72-120/14
127-18-4	Tetrachloroethylene	1.0 U		125	103	82	125	92.7	74*	11	76-135/16
108-88-3	Toluene	1.0 U		125	103	82	125	93.2	75*	10	80-120/14
87-61-6	1,2,3-Trichlorobenzene	2.0 U		125	95.3	76	125	86.0	69	10	68-131/25
120-82-1	1,2,4-Trichlorobenzene	2.0 U		125	95.9	77	125	86.8	69*	10	73-129/20
71-55-6	1,1,1-Trichloroethane	1.0 U		125	115	92	125	103	82	11	75-130/16
79-00-5	1,1,2-Trichloroethane	1.0 U		125	114	91	125	105	84	8	76-119/14
79-01-6	Trichloroethylene	1.0 U		125	112	90	125	100	80*	11	81-126/15
75-69-4	Trichlorofluoromethane	2.0 U		125	122	98	125	108	86	12	71-156/21
75-01-4	Vinyl Chloride	1.0 U		125	123	98	125	107	86	14	69-159/18
	m,p-Xylene	2.0 U		250	223	89	250	201	80	10	79-126/15
95-47-6	o-Xylene	1.0 U		125	110	88	125	99.7	80	10	80-127/14

CAS No.	Surrogate Recoveries	MS	MSD	FA86397-23	Limits
1868-53-7	Dibromofluoromethane	99%	100%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	99%	101%	79-125%
2037-26-5	Toluene-D8	96%	97%	97%	85-112%
460-00-4	4-Bromofluorobenzene	98%	98%	99%	83-118%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VI2216-BFB	**Injection Date:**	06/21/21
Lab File ID:	I69004.D	**Injection Time:**	11:59
Instrument ID:	GCMSI		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	129403	17.1		Pass
75	30.0 - 60.0% of mass 95	371648	49.1		Pass
95	Base peak, 100% relative abundance	756181	100.0		Pass
96	5.0 - 9.0% of mass 95	51080	6.75		Pass
173	Less than 2.0% of mass 174	3331	0.44	(0.53) [a]	Pass
174	50.0 - 100.0% of mass 95	625600	82.7		Pass
175	5.0 - 9.0% of mass 174	43461	5.75	(6.95) [a]	Pass
176	95.0 - 101.0% of mass 174	600107	79.4	(95.9) [a]	Pass
177	5.0 - 9.0% of mass 176	39931	5.28	(6.65) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VI2216-IC2216	I69005.D	06/21/21	12:23	00:24	Initial cal 1
VI2216-IC2216	I69006.D	06/21/21	12:47	00:48	Initial cal 2
VI2216-IC2216	I69007.D	06/21/21	13:11	01:12	Initial cal 3
VI2216-IC2216	I69008.D	06/21/21	13:35	01:36	Initial cal 4
VI2216-ICC2216	I69009.D	06/21/21	14:00	02:01	Initial cal 5
VI2216-IC2216	I69010.D	06/21/21	14:24	02:25	Initial cal 6
VI2216-IC2216	I69011.D	06/21/21	14:48	02:49	Initial cal 7
VI2216-ICV2216	I69013.D	06/21/21	16:06	04:07	Initial cal verification 5
VI2216-ICV2216	I69014.D	06/21/21	16:30	04:31	Initial cal verification 4

Instrument Performance Check (BFB)

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VI2221-BFB	**Injection Date:**	06/24/21
Lab File ID:	I69103.D	**Injection Time:**	12:56
Instrument ID:	GCMSI		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	126453	17.1		Pass
75	30.0 - 60.0% of mass 95	364608	49.4		Pass
95	Base peak, 100% relative abundance	737877	100.0		Pass
96	5.0 - 9.0% of mass 95	48864	6.62		Pass
173	Less than 2.0% of mass 174	3142	0.43	(0.52) [a]	Pass
174	50.0 - 100.0% of mass 95	600491	81.4		Pass
175	5.0 - 9.0% of mass 174	42349	5.74	(7.05) [a]	Pass
176	95.0 - 101.0% of mass 174	579883	78.6	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	38299	5.19	(6.60) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VI2221-CC2216	I69103.D	06/24/21	12:56	00:00	Continuing cal 5
VI2221-BS	I69104.D	06/24/21	13:30	00:34	Blank Spike
VI2221-MB	I69106.D	06/24/21	14:18	01:22	Method Blank
ZZZZZZ	I69107.D	06/24/21	14:42	01:46	(unrelated sample)
FA86397-23	I69108.D	06/24/21	15:07	02:11	(used for QC only; not part of job FA86620)
ZZZZZZ	I69109.D	06/24/21	15:31	02:35	(unrelated sample)
ZZZZZZ	I69110.D	06/24/21	15:55	02:59	(unrelated sample)
ZZZZZZ	I69111.D	06/24/21	16:19	03:23	(unrelated sample)
ZZZZZZ	I69112.D	06/24/21	16:43	03:47	(unrelated sample)
ZZZZZZ	I69113.D	06/24/21	17:07	04:11	(unrelated sample)
ZZZZZZ	I69114.D	06/24/21	17:31	04:35	(unrelated sample)
ZZZZZZ	I69115.D	06/24/21	17:55	04:59	(unrelated sample)
ZZZZZZ	I69116.D	06/24/21	18:20	05:24	(unrelated sample)
FA86620-1	I69117.D	06/24/21	18:44	05:48	SP1-GW_20210611
ZZZZZZ	I69118.D	06/24/21	19:08	06:12	(unrelated sample)
ZZZZZZ	I69119.D	06/24/21	19:32	06:36	(unrelated sample)
ZZZZZZ	I69120.D	06/24/21	19:56	07:00	(unrelated sample)
ZZZZZZ	I69121.D	06/24/21	20:21	07:25	(unrelated sample)
ZZZZZZ	I69122.D	06/24/21	20:45	07:49	(unrelated sample)
ZZZZZZ	I69123.D	06/24/21	21:09	08:13	(unrelated sample)
ZZZZZZ	I69124.D	06/24/21	21:33	08:37	(unrelated sample)
FA86224-1MS	I69125.D	06/24/21	21:57	09:01	Matrix Spike
FA86224-1MSD	I69126.D	06/24/21	22:20	09:24	Matrix Spike Duplicate
FA86397-23MS	I69127.D	06/24/21	22:44	09:48	Matrix Spike

Instrument Performance Check (BFB)

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Sample:	VI2221-BFB	**Injection Date:**	06/24/21
Lab File ID:	I69103.D	**Injection Time:**	12:56
Instrument ID:	GCMSI		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
FA86397-23MSD	I69128.D	06/24/21	23:08	10:12	Matrix Spike Duplicate
VI2221-ECC2216	I69129.D	06/24/21	23:32	10:36	Ending cal 5

Internal Standard Area Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VI2221-CC2216	**Injection Date:**	06/24/21
Lab File ID:	I69103.D	**Injection Time:**	12:56
Instrument ID:	GCMSI	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Initial Cal [a]	3346753	8.64	2661620	11.78	1451811	14.13	874817	6.04
Check Std [b]	2879321	8.64	2438995	11.77	1367320	14.13	664288	6.03
Upper Limit [c]	5758642	8.81	4877990	11.94	2734640	14.30	1328576	6.20
Lower Limit [d]	1439661	8.47	1219498	11.60	683660	13.96	332144	5.86

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VI2221-BS	3192698	8.64	2697581	11.77	1484942	14.13	668263	6.02
VI2221-MB	3037869	8.64	2506071	11.78	1359932	14.13	672006	6.02
ZZZZZZ	2807576	8.64	2330972	11.78	1267061	14.13	588383	6.02
FA86397-23	2713619	8.64	2262309	11.78	1234904	14.13	612435	6.02
ZZZZZZ	2770804	8.64	2296016	11.78	1258292	14.13	624941	6.02
ZZZZZZ	2677502	8.64	2212541	11.78	1196258	14.13	604799	6.02
ZZZZZZ	2646817	8.64	2221502	11.78	1197304	14.13	592585	6.02
ZZZZZZ	2657942	8.64	2202931	11.78	1218144	14.13	594842	6.02
ZZZZZZ	2643035	8.64	2194026	11.78	1183719	14.13	570736	6.02
ZZZZZZ	2417789	8.64	2029049	11.78	1091118	14.13	531651	6.02
ZZZZZZ	2584933	8.64	2166250	11.78	1197277	14.13	564917	6.02
ZZZZZZ	2484235	8.64	2059828	11.78	1125410	14.13	534724	6.02
FA86620-1	2700765	8.64	2242376	11.78	1242514	14.13	595086	6.02
ZZZZZZ	2448872	8.64	2024815	11.78	1109307	14.13	532592	6.02
ZZZZZZ	2601594	8.64	2144964	11.78	1160909	14.13	567505	6.02
ZZZZZZ	2309486	8.64	1890012	11.78	1037425	14.13	485959	6.02
ZZZZZZ	2374830	8.64	1965517	11.78	1082623	14.13	502002	6.02
ZZZZZZ	2307706	8.64	1905327	11.78	1051127	14.13	470611	6.02
ZZZZZZ	2450266	8.64	2023616	11.78	1108121	14.13	505008	6.02
ZZZZZZ	2256229	8.64	1872391	11.78	1019304	14.13	462820	6.02
FA86224-1MS	2399755	8.64	2079876	11.78	1174752	14.13	613952	6.03
FA86224-1MSD	2699938	8.64	2313519	11.78	1304254	14.13	695582	6.03
FA86397-23MS	2712566	8.64	2307902	11.78	1290441	14.13	581859	6.02
FA86397-23MSD	2992401	8.64	2525864	11.78	1405759	14.13	651124	6.03
VI2221-ECC2216	3089528	8.64	2647244	11.78	1465383	14.13	651082	6.03

IS 1 = Fluorobenzene
IS 2 = Chlorobenzene-D5
IS 3 = 1,4-Dichlorobenzene-d4
IS 4 = Tert Butyl Alcohol-D10

(a) Initial Cal is: VI2216-ICC2216 I69009.D 06/21/21 14:00
(b) Check Std Limit = -50 to + 100% of initial cal area.

Internal Standard Area Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Check Std:	VI2221-CC2216	**Injection Date:**	06/24/21
Lab File ID:	I69103.D	**Injection Time:**	12:56
Instrument ID:	GCMSI	**Method:**	SW846 8260B

Lab Sample ID	IS 1 AREA	IS 1 RT	IS 2 AREA	IS 2 RT	IS 3 AREA	IS 3 RT	IS 4 AREA	IS 4 RT

(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.
(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.

Surrogate Recovery Summary

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
FA86620-1	I69117.D	98	101	98	98
FA86397-23MS	I69127.D	99	99	96	98
FA86397-23MSD	I69128.D	100	99	97	98
VI2221-BS	I69104.D	100	99	97	100
VI2221-MB	I69106.D	97	101	98	100

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

Initial Calibration Summary

Job Number: FA86620 **Sample:** VI2216-ICC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69009.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Response Factor Report MSVOA16

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Calibration Files
1 =I69005.D 2 =I69006.D 3 =I69007.D 4 =I69008.D
5 =I69009.D 6 =I69010.D 7 =I69011.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Fluorobenzene	----------ISTD----------								
2) Dichlorodifluorom	0.298	0.328	0.328	0.333	0.334	0.354	0.374	0.336	7.01
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9999									
Response Ratio = 0.00000 + 0.31574 *A + 0.02840 *A^2									
3)P Chloromethane	0.308	0.285	0.289	0.285	0.285	0.293	0.308	0.293	3.52
4)C Vinyl Chloride	0.358	0.365	0.369	0.373	0.372	0.385	0.400	0.375	3.71
5) 1,3-Butadiene	0.292	0.222	0.215	0.203	0.190	0.178	0.188	0.213	17.98
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9983									
Response Ratio = 0.00000 + 0.20614 *A + -0.01212 *A^2									
6) Bromomethane	0.069	0.068	0.082	0.092	0.102	0.120	0.125	0.094	24.50
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9986									
Response Ratio = 0.00000 + 0.08198 *A + 0.02308 *A^2									
7) Chloroethane	0.221	0.210	0.183	0.106	0.089	0.086	0.083	0.140	44.53
---- Linear regr., Force(0,0) ---- Coefficient = 0.9909									
Response Ratio = 0.00000 + 0.08611 *A									
8) Trichlorofluorome	0.444	0.480	0.485	0.503	0.513	0.491		0.486	4.91
9) Ethyl Ether	0.223	0.229	0.242	0.237	0.235	0.248	0.250	0.238	4.14
10) 1,2-Dichlorotrifl	0.353	0.350	0.351	0.350	0.347	0.359	0.357	0.352	1.21
11)C 1,1-Dichloroethen	0.461	0.457	0.471	0.469	0.472	0.487	0.485	0.472	2.42
12) Freon 113	0.312	0.318	0.318	0.317	0.316	0.324	0.321	0.318	1.20
13) Carbon Disulfide	0.733	0.676	0.714	0.741	0.754	0.804	0.805	0.747	6.23
14) Iodomethane	0.126	0.117	0.130	0.156	0.172	0.202	0.198	0.157	22.09
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9966									
Response Ratio = 0.00000 + 0.14357 *A + 0.03107 *A^2									
15) Allyl chloride	0.345	0.335	0.355	0.364	0.366	0.378	0.376	0.360	4.42
16) Methylene Chlorid	0.471	0.386	0.403	0.383	0.372	0.390	0.384	0.398	8.32
17) Acetone	0.074	0.091	0.103	0.105	0.104	0.109	0.109	0.099	12.75
18) Methyl acetate	0.137	0.161	0.190	0.206	0.211	0.218	0.214	0.191	16.19
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9991									
Response Ratio = 0.00000 + 0.19746 *A + 0.00207 *A^2									
19) trans-1,2-Dichlor	0.399	0.401	0.432	0.427	0.429	0.444	0.437	0.424	4.12
20) Hexane	0.267	0.254	0.259	0.253	0.251	0.261	0.258	0.258	2.17
21) Methyl Tert Butyl	0.862	0.859	0.906	0.890	0.864	0.892	0.878	0.879	2.06
22) Acetonitrile	0.019	0.027	0.032	0.034	0.035	0.036	0.037	0.031	20.59
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9995									
Response Ratio = 0.00000 + 0.03173 *A + 0.00029 *A^2									
23) Di-isopropyl ethe	0.821	0.830	0.881	0.868	0.860	0.886	0.869	0.859	2.89
24) Chloroprene	0.421	0.405	0.423	0.444	0.447	0.466	0.466	0.439	5.34
25)P 1,1-Dichloroethan	0.569	0.550	0.574	0.565	0.562	0.572	0.564	0.565	1.42

Initial Calibration Summary

Job Number: FA86620 **Sample:** VI2216-ICC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69009.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

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26)  Acrylonitrile     0.058 0.098 0.109 0.118 0.118 0.118 0.120 0.106  21.05
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 0.11154 *A + 0.00094 *A^2

27)  ETBE              0.858 0.888 0.963 0.958 0.930 0.954 0.912 0.923   4.29
28)  Vinyl acetate     0.323 0.489 0.562 0.579 0.552 0.513 0.467 0.498  17.49
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9993
              Response Ratio = 0.00000 + 0.58547 *A + -0.01122 *A^2

29)  cis-1,2-Dichloroe 0.307 0.305 0.320 0.321 0.320 0.333 0.333 0.320   3.49
30)  2,2-Dichloropropa 0.485 0.478 0.499 0.506 0.499 0.511 0.503 0.497   2.34
31)  Bromochloromethan 0.136 0.135 0.145 0.142 0.140 0.146 0.144 0.141   3.16
32)  Cyclohexane       0.523 0.515 0.533 0.524 0.522 0.545 0.539 0.529   2.03
33)C Chloroform        0.635 0.587 0.602 0.588 0.577 0.591 0.581 0.595   3.29
34)  Ethyl acetate     0.212 0.268 0.296 0.298 0.293 0.278 0.272 0.274  10.89
35)  Tetrahydrofuran   0.116 0.092 0.096 0.094 0.092 0.093 0.093 0.097   9.15
36)S Dibromofluorometh 0.271 0.275 0.271 0.274 0.274 0.273 0.273 0.273   0.50
37)  Carbon Tetrachlor 0.410 0.404 0.421 0.429 0.429 0.448 0.448 0.427   3.95
38)  1,1,1-Trichloroet 0.517 0.513 0.523 0.510 0.507 0.518 0.513 0.515   1.04
39)  2-Butanone        0.100 0.134 0.150 0.155 0.154 0.164 0.164 0.146  15.45
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9996
              Response Ratio = 0.00000 + 0.14724 *A + 0.00187 *A^2

40)  1,1-Dichloroprope 0.436 0.437 0.448 0.441 0.439 0.453 0.454 0.444   1.70
41)  tert-Butyl Format 0.213 0.245 0.279 0.279 0.275 0.281 0.277 0.264   9.74
42)  Propionitrile     0.046 0.046 0.050 0.052 0.052 0.053 0.052 0.050   5.32
43)  Methacrylonitrile 0.187 0.169 0.183 0.181 0.171 0.159 0.143 0.170   9.09
44)  Benzene           1.251 1.220 1.289 1.266 1.228 1.207 1.132 1.228   4.12
45)  TAME              0.815 0.811 0.872 0.863 0.841 0.872 0.863 0.848   3.06
46)S 1,2-Dichloroethan 0.325 0.327 0.325 0.314 0.311 0.306 0.307 0.316   2.83
47)  1,2-Dichloroethan 0.406 0.392 0.411 0.397 0.384 0.398 0.393 0.397   2.21
48)  Trichloroethene   0.347 0.302 0.326 0.325 0.326 0.336 0.331 0.328   4.18
49)  Methylcyclohexane 0.488 0.486 0.506 0.508 0.507 0.534 0.526 0.508   3.51
50)  Dibromomethane    0.165 0.173 0.186 0.187 0.186 0.199 0.199 0.185   6.86
51)C 1,2-Dichloropropa 0.294 0.299 0.310 0.310 0.309 0.328 0.325 0.311   4.06
52)  Bromodichlorometh 0.314 0.349 0.390 0.394 0.397 0.427 0.422 0.385  10.43
53)  Methyl methacryla 0.181 0.192 0.217 0.236 0.235 0.248 0.246 0.222  11.99
54)  2-Chloroethyl vin 0.179 0.197 0.216 0.199 0.183 0.172 0.164 0.187   9.44
55)  cis-1,3-Dichlorop 0.398 0.441 0.482 0.504 0.504 0.534 0.527 0.484  10.14

56) I   Chlorobenzene-d5      ----------------ISTD--------------------
57)S Toluene-d8        1.267 1.280 1.260 1.278 1.280 1.291 1.307 1.281   1.22
58)C Toluene           1.783 1.601 1.635 1.638 1.611 1.648 1.617 1.648   3.75
59)  2-Nitropropane    0.055 0.071 0.087 0.098 0.100 0.103 0.104 0.088  21.33
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9990
              Response Ratio = 0.00000 + 0.09067 *A + 0.00151 *A^2

60)  4-Methyl-2-pentan 0.307 0.360 0.391 0.397 0.382 0.385 0.365 0.369   8.25
61)  trans-1,3-Dichlor 0.380 0.455 0.502 0.535 0.533 0.566 0.563 0.505  13.21
62)  Tetrachloroethene 0.408 0.382 0.397 0.392 0.391 0.405 0.407 0.397   2.48
63)  Ethyl methacrylat 0.399 0.421 0.471 0.498 0.487 0.510 0.516 0.472   9.53
64)  1,1,2-Trichloroet 0.296 0.275 0.291 0.288 0.284 0.297 0.298 0.290   2.80
65)  Dibromochlorometh 0.253 0.301 0.339 0.367 0.372 0.405 0.412 0.350  16.31
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
              Response Ratio = 0.00000 + 0.34050 *A + 0.03829 *A^2

66)  1,3-Dichloropropa 0.538 0.560 0.589 0.602 0.590 0.628 0.631 0.591   5.70
67)  1,2-Dibromoethane 0.305 0.321 0.349 0.358 0.357 0.382 0.387 0.351   8.51
68)  2-hexanone        0.213 0.273 0.297 0.300 0.290 0.295 0.277 0.278  10.87
69)  1-Chlorohexane    0.499 0.511 0.540 0.552 0.554 0.578 0.577 0.544   5.57
```

Initial Calibration Summary

Job Number: FA86620 **Sample:** VI2216-ICC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69009.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

```
 70)C Ethylbenzene      1.944 1.803 1.879 1.840 1.794 1.796 1.706 1.823   4.11
 71)P Chlorobenzene     0.959 0.952 1.005 0.983 0.959 0.978 0.945 0.969   2.16
 72)  1,1,1,2-Tetrachlo 0.284 0.317 0.341 0.354 0.349 0.368 0.372 0.341   9.07
 73)  m,p-Xylene        1.335 1.307 1.392 1.377 1.337 1.321 1.212 1.326   4.41
 74)  o-Xylene          1.312 1.301 1.389 1.386 1.365 1.415 1.390 1.366   3.13
 75)  Styrene           0.793 0.897 1.017 1.052 1.047 1.098 1.084 0.998  11.25
 76)P Bromoform         0.147 0.181 0.214 0.244 0.250 0.278 0.287 0.229  22.25
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9992
               Response Ratio = 0.00000 + 0.21880 *A + 0.03629 *A^2

 77)  Isopropylbenzene  1.672 1.617 1.702 1.705 1.682 1.730 1.681 1.684   2.10

 78) I   1,4-Dichlorobenzene-d ----------------ISTD--------------------
 79)S 4-Bromofluorobenz 0.784 0.786 0.777 0.789 0.788 0.787 0.801 0.788   0.90
 80)  cis-1,4-Dichloro- 0.227 0.220 0.243 0.269 0.270 0.281 0.290 0.257  10.57
 81)  n-Propylbenzene   3.604 3.433 3.653 3.691 3.596 3.617 3.479 3.582   2.59
 82)  Bromobenzene      0.681 0.698 0.751 0.731 0.718 0.742 0.736 0.723   3.49
 83)P 1,1,2,2-Tetrachlo 0.809 0.864 0.938 0.958 0.932 0.965 0.977 0.920   6.68
 84)  1,3,5-Trimethylbe 2.340 2.269 2.436 2.458 2.418 2.516 2.468 2.415   3.47
 85)  2-Chlorotoluene   2.429 2.312 2.484 2.461 2.407 2.404 2.333 2.404   2.62
 86)  trans-1,4-Dichlor 0.180 0.196 0.233 0.252 0.250 0.263 0.269 0.235  14.52
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 0.23328 *A + 0.01903 *A^2

 87)  1,2,3-Trichloropr 0.271 0.265 0.290 0.288 0.283 0.288 0.294 0.283   3.81
 88)  Cyclohexanone     0.026 0.031 0.035 0.036 0.034 0.033 0.031 0.032  10.31
 89)  4-Chlorotoluene   2.023 1.984 2.123 2.151 2.119 2.191 2.174 2.109   3.67
 90)  tert-Butylbenzene 1.399 1.356 1.454 1.433 1.412 1.453 1.456 1.423   2.59
 91)  1,2,4-Trimethylbe 2.094 2.112 2.245 2.251 2.240 2.358 2.359 2.237   4.69
 92)  Pentachloroethane 0.328 0.352 0.390 0.410 0.409 0.434 0.432 0.394  10.19
 93)  sec-Butylbenzene  2.930 2.824 3.030 2.990 2.970 3.041 2.992 2.968   2.47
 94)  4-Isopropyltoluen 2.188 2.223 2.412 2.400 2.377 2.471 2.450 2.360   4.68
 95)  1,3-Dichlorobenze 1.189 1.140 1.224 1.232 1.214 1.285 1.285 1.224   4.21
 96)  1,2,3-Trimethylbe 1.996 1.872 1.976 1.975 1.958 2.051 2.045 1.982   3.03
 97)  1,4-Dichlorobenze 1.301 1.224 1.274 1.254 1.223 1.275 1.251 1.257   2.27
 98)  n-Butylbenzene    1.097 1.144 1.242 1.299 1.301 1.386 1.397 1.266   9.00
 99)  Benzyl Chloride   0.164 0.223 0.280 0.335 0.334 0.365 0.370 0.296  26.26
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9984
               Response Ratio = 0.00000 + 0.29664 *A + 0.04018 *A^2

100)  1,2-Dichlorobenze 1.112 1.093 1.174 1.176 1.157 1.214 1.220 1.164   4.10
101)  1,2-Dibromo-3-Chl 0.110 0.135 0.164 0.183 0.193 0.206 0.218 0.173  22.56
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9994
               Response Ratio = 0.00000 + 0.16562 *A + 0.02713 *A^2

102)  Hexachlorobutadie 0.365 0.321 0.323 0.337 0.334 0.357 0.361 0.343   5.36
103)  1,2,4-Trichlorobe 0.506 0.528 0.571 0.600 0.616 0.660 0.676 0.594  10.71
104)  Naphthalene       1.404 1.401 1.572 1.696 1.750 1.803 1.827 1.636  10.99
105)  1,2,3-Trichlorobe 0.503 0.491 0.536 0.562 0.581 0.617 0.629 0.560   9.49

106) I   Tert Butyl Alcohol-d1 ----------------ISTD--------------------
107)  Ethanol                0.070 0.074 0.066 0.063 0.066 0.062 0.067   6.71
108)  Acrolein          0.897 0.981 1.192 1.196 1.174 1.230 1.249 1.131  12.02
109)  Tert butyl alcoho 1.066 0.988 1.045 1.033 1.011 1.064 1.045 1.036   2.73
110)  Isobutyl alcohol  0.114 0.126 0.151 0.163 0.153 0.161 0.158 0.147  12.80
111)  Tert Amyl Alcohol 0.661 0.674 0.736 0.756 0.749 0.799 0.791 0.738   7.22
112)  1,4-Dioxane       0.080 0.078 0.082 0.080 0.075 0.077 0.071 0.078   4.69
113)  3,3-dimethyl-1-bu 0.404 0.613 0.773 0.784 0.746 0.742 0.668 0.676  19.89
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9985
               Response Ratio = 0.00000 + 0.78308 *A + -0.00498 *A^2
```

Initial Calibration Summary

Job Number: FA86620 **Sample:** VI2216-ICC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69009.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

(#) = Out of Range

2021-06-21APP9-I.m Tue Jun 22 08:07:32 2021

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69013.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\2021-06-21\I69013.D Vial: 10
Acq On : 21 Jun 2021 4:06 pm Operator: LINDSAYR
Sample : ICV2216-5 Inst : MSVOA16
Misc : MS49159,VI2216,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jun 22 08:02:09 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	103	0.00	8.63
	---------- Amount	Calc.	%Drift	----------			
2	Dichlorodifluoromethane	----------	NA	----------			
	---------- AvgRF	CCRF	%Dev	----------			
3 P	Chloromethane	0.293	0.255	13.0	93	-0.01	3.10
4 C	Vinyl Chloride	0.375	0.329	12.3	91	0.00	3.18
	---------- Amount	Calc.	%Drift	----------			
5	1,3-Butadiene	40.000	57.650	-44.1#	151	0.00	3.21
6	Bromomethane	40.000	32.251	19.4	79	0.00	3.73
7	Chloroethane	40.000	37.396	6.5	94	0.00	3.93
	---------- AvgRF	CCRF	%Dev	----------			
8	Trichlorofluoromethane	0.486	0.489	-0.6	98	0.00	4.15
9	Ethyl Ether	0.238	0.236	0.8	104	0.00	4.63
10	1,2-Dichlorotrifluoroetha	0.352	0.381	-8.2	114	0.00	4.90
11 C	1,1-Dichloroethene	0.472	0.463	1.9	102	0.00	4.91
12	Freon 113	0.318	0.272	14.5	89	0.00	4.97
13	Carbon Disulfide	0.747	0.688	7.9	94	0.00	4.96
	---------- Amount	Calc.	%Drift	----------			
14	Iodomethane	40.000	38.406	4.0	97	0.00	5.11
	---------- AvgRF	CCRF	%Dev	----------			
15	Allyl chloride	0.360	0.395	-9.7	112	0.00	5.54
16	Methylene Chloride	0.398	0.352	11.6	98	0.00	5.68
17	Acetone	0.099	0.101	-2.0	100	0.00	5.73
	---------- Amount	Calc.	%Drift	----------			
18	Methyl acetate	200.000	189.446	5.3	95	0.00	5.88
	---------- AvgRF	CCRF	%Dev	----------			
19	trans-1,2-Dichloroethene	0.424	0.420	0.9	101	0.00	5.90
20	Hexane	0.258	0.223	13.6	92	0.00	6.00
21	Methyl Tert Butyl Ether	0.879	0.856	2.6	102	0.00	6.02
	---------- Amount	Calc.	%Drift	----------			
22	Acetonitrile	400.000	391.190	2.2	98	0.00	6.30
	---------- AvgRF	CCRF	%Dev	----------			

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69013.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

23		Di-isopropyl ether	0.859	0.842	2.0	101	0.00	6.47
24		Chloroprene	0.439	0.447	-1.8	103	0.00	6.62
25	P	1,1-Dichloroethane	0.565	0.582	-3.0	107	0.00	6.63
			Amount	Calc.	%Drift			
26		Acrylonitrile	200.000	200.576	-0.3	101	0.00	6.67
			AvgRF	CCRF	%Dev			
27		ETBE	0.923	0.888	3.8	99	0.00	6.90
			Amount	Calc.	%Drift			
28		Vinyl acetate	200.000	215.106	-7.6	108	0.00	6.90
			AvgRF	CCRF	%Dev			
29		cis-1,2-Dichloroethene	0.320	0.329	-2.8	107	0.00	7.27
30		2,2-Dichloropropane	0.497	0.514	-3.4	107	0.00	7.40
31		Bromochloromethane	0.141	0.142	-0.7	105	0.00	7.50
32		Cyclohexane	0.529	0.485	8.3	96	0.00	7.53
33	C	Chloroform	0.595	0.582	2.2	104	0.00	7.57
34		Ethyl acetate	0.274	0.287	-4.7	101	0.00	7.66
35		Tetrahydrofuran	0.097	0.089	8.2	100	0.00	7.76
36	S	Dibromofluoromethane	0.273	0.276	-1.1	104	0.00	7.77
37		Carbon Tetrachloride	0.427	0.428	-0.2	103	0.00	7.76
38		1,1,1-Trichloroethane	0.515	0.503	2.3	102	0.00	7.82
			Amount	Calc.	%Drift			
39		2-Butanone	200.000	184.147	7.9	96	0.00	7.88
			AvgRF	CCRF	%Dev			
40		1,1-Dichloropropene	0.444	0.421	5.2	99	0.00	7.95
41		tert-Butyl Formate	0.264	0.252	4.5	94	0.00	8.04
42		Propionitrile	0.050	0.049	2.0	97	0.00	8.20
43		Methacrylonitrile	0.170	0.162	4.7	98	0.00	8.22
44		Benzene	1.228	1.233	-0.4	104	0.00	8.21
45		TAME	0.848	0.835	1.5	103	0.00	8.30
46	S	1,2-Dichloroethane-d4	0.316	0.309	2.2	103	0.00	8.34
47		1,2-Dichloroethane	0.397	0.392	1.3	106	0.00	8.41
48		Trichloroethene	0.328	0.324	1.2	103	0.00	8.82
49		Methylcyclohexane	0.508	0.500	1.6	102	0.00	8.84
50		Dibromomethane	0.185	0.185	0.0	103	0.00	9.26
51	C	1,2-Dichloropropane	0.311	0.315	-1.3	105	0.00	9.35
52		Bromodichloromethane	0.385	0.410	-6.5	107	0.00	9.40
53		Methyl methacrylate	0.222	0.235	-5.9	103	0.00	9.51
54		2-Chloroethyl vinyl ether	0.187	0.130	30.5#	74	0.00	9.93
55		cis-1,3-Dichloropropene	0.484	0.504	-4.1	103	0.00	10.03
56	I	Chlorobenzene-d5	1.000	1.000	0.0	103	0.00	11.77
57	S	Toluene-d8	1.281	1.285	-0.3	104	0.00	10.22
58	C	Toluene	1.648	1.563	5.2	100	0.00	10.27
			Amount	Calc.	%Drift			
59		2-Nitropropane	200.000	196.471	1.8	98	0.00	10.48
			AvgRF	CCRF	%Dev			
60		4-Methyl-2-pentanone	0.369	0.356	3.5	96	0.00	10.60
61		trans-1,3-Dichloropropene	0.505	0.568	-12.5	110	0.00	10.66
62		Tetrachloroethene	0.397	0.386	2.8	102	0.00	10.68
63		Ethyl methacrylate	0.472	0.515	-9.1	109	0.00	10.77
64		1,1,2-Trichloroethane	0.290	0.291	-0.3	106	0.00	10.83

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69013.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift			
65		Dibromochloromethane	40.000	40.176	-0.4	103	0.00	11.03
			AvgRF	CCRF	%Dev			
66		1,3-Dichloropropane	0.591	0.590	0.2	103	0.00	11.11
67		1,2-Dibromoethane	0.351	0.363	-3.4	105	0.00	11.29
68		2-hexanone	0.278	0.264	5.0	94	0.00	11.42
69		1-Chlorohexane	0.544	0.544	0.0	101	0.00	11.73
70	C	Ethylbenzene	1.823	1.778	2.5	102	0.00	11.79
71	P	Chlorobenzene	0.969	0.987	-1.9	106	0.00	11.79
72		1,1,1,2-Tetrachloroethane	0.341	0.360	-5.6	106	0.00	11.84
73		m,p-Xylene	1.326	1.346	-1.5	104	0.00	11.93
74		o-Xylene	1.366	1.412	-3.4	107	0.00	12.37
75		Styrene	0.998	1.049	-5.1	103	0.00	12.42
			Amount	Calc.	%Drift			
76	P	Bromoform	40.000	40.788	-2.0	105	0.00	12.48
			AvgRF	CCRF	%Dev			
77		Isopropylbenzene	1.684	1.721	-2.2	106	0.00	12.68
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	102	0.00	14.13
79	S	4-Bromofluorobenzene	0.788	0.799	-1.4	104	0.00	12.99
80		cis-1,4-Dichloro-2-butene	0.257	0.260	-1.2	99	0.00	13.02
81		n-Propylbenzene	3.582	3.661	-2.2	104	0.00	13.09
82		Bromobenzene	0.723	0.730	-1.0	104	0.00	13.11
83	P	1,1,2,2-Tetrachloroethane	0.920	0.917	0.3	101	0.00	13.15
84		1,3,5-Trimethylbenzene	2.415	2.441	-1.1	103	0.00	13.27
85		2-Chlorotoluene	2.404	2.469	-2.7	105	0.00	13.28
			Amount	Calc.	%Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	39.073	2.3	99	0.00	13.33
			AvgRF	CCRF	%Dev			
87		1,2,3-Trichloropropane	0.283	0.276	2.5	100	0.00	13.31
88		Cyclohexanone	0.032	0.029	9.4	88	0.00	13.37
89		4-Chlorotoluene	2.109	2.189	-3.8	106	0.00	13.44
90		tert-Butylbenzene	1.423	1.430	-0.5	104	0.00	13.61
91		1,2,4-Trimethylbenzene	2.237	2.230	0.3	102	0.00	13.68
92		Pentachloroethane	0.394	0.461	-17.0	115	0.00	13.66
93		sec-Butylbenzene	2.968	3.064	-3.2	106	0.00	13.80
94		4-Isopropyltoluene	2.360	2.381	-0.9	102	0.00	13.93
95		1,3-Dichlorobenzene	1.224	1.278	-4.4	108	0.00	14.07
96		1,2,3-Trimethylbenzene	1.982	2.289	-15.5	120	0.00	14.15
97		1,4-Dichlorobenzene	1.257	1.256	0.1	105	0.00	14.15
98		n-Butylbenzene	1.266	1.232	2.7	97	0.00	14.36
			Amount	Calc.	%Drift			
99		Benzyl Chloride	40.000	41.273	-3.2	104	0.00	14.38
			AvgRF	CCRF	%Dev			
100		1,2-Dichlorobenzene	1.164	1.204	-3.4	106	0.00	14.58
			Amount	Calc.	%Drift			
101		1,2-Dibromo-3-Chloropropa	40.000	38.768	3.1	96	0.00	15.32
			AvgRF	CCRF	%Dev			
102		Hexachlorobutadiene	0.343	0.323	5.8	99	0.00	15.87
103		1,2,4-Trichlorobenzene	0.594	0.604	-1.7	100	0.00	15.91
104		Naphthalene	1.636	1.660	-1.5	97	0.00	16.19

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69013.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

105	1,2,3-Trichlorobenzene	0.560	0.564	-0.7	99	0.00	16.36
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	89	0.00	6.04
107	Ethanol	0.067	0.062	7.5	88	0.00	4.90
108	Acrolein	1.131	1.081	4.4	82	0.00	5.35
109	Tert butyl alcohol	1.036	0.933	9.9	82	0.00	6.12
110	Isobutyl alcohol	0.147	0.149	-1.4	87	0.00	8.37
111	Tert Amyl Alcohol	0.738	0.767	-3.9	91	0.00	8.48
112	1,4-Dioxane	0.078	0.084	-7.7	99	0.00	9.59

		Amount	Calc.	%Drift			
113	3,3-dimethyl-1-butanol	2000.000	2048.227	-2.4	91	0.00	11.38

(#) = Out of Range SPCC's out = 0 CCC's out = 0
I69009.D 2021-06-21APP9-I.m Tue Jun 22 08:06:01 2021

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69014.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\2021-06-21\I69014.D Vial: 11
Acq On : 21 Jun 2021 4:30 pm Operator: LINDSAYR
Sample : ICV2216-4 Inst : MSVOA16
Misc : MS49159,VI2216,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jun 22 08:02:09 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	108	0.00	8.64
		Amount	Calc.	%Drift			
2	Dichlorodifluoromethane	25.000	20.456	18.2	87	0.00	2.69
		AvgRF	CCRF	%Dev			
3 P	Chloromethane		NA				
4 C	Vinyl Chloride		NA				
		Amount	Calc.	%Drift			
5	1,3-Butadiene		NA				
6	Bromomethane		NA				
7	Chloroethane		NA				
		AvgRF	CCRF	%Dev			
8	Trichlorofluoromethane		NA				
9	Ethyl Ether		NA				
10	1,2-Dichlorotrifluoroetha		NA				
11 C	1,1-Dichloroethene		NA				
12	Freon 113		NA				
13	Carbon Disulfide		NA				
		Amount	Calc.	%Drift			
14	Iodomethane		NA				
		AvgRF	CCRF	%Dev			
15	Allyl chloride		NA				
16	Methylene Chloride		NA				
17	Acetone		NA				
		Amount	Calc.	%Drift			
18	Methyl acetate		NA				
		AvgRF	CCRF	%Dev			
19	trans-1,2-Dichloroethene		NA				
20	Hexane		NA				
21	Methyl Tert Butyl Ether		NA				
		Amount	Calc.	%Drift			
22	Acetonitrile		NA				
		AvgRF	CCRF	%Dev			

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69014.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

23		Di-isopropyl ether		----------NA----------				
24		Chloroprene		----------NA----------				
25	P	1,1-Dichloroethane		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
26		Acrylonitrile		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
27		ETBE		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
28		Vinyl acetate		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
29		cis-1,2-Dichloroethene		----------NA----------				
30		2,2-Dichloropropane		----------NA----------				
31		Bromochloromethane		----------NA----------				
32		Cyclohexane		----------NA----------				
33	C	Chloroform		----------NA----------				
34		Ethyl acetate		----------NA----------				
35		Tetrahydrofuran		----------NA----------				
36	S	Dibromofluoromethane	0.273	0.280	-2.6	110	0.00	7.77
37		Carbon Tetrachloride		----------NA----------				
38		1,1,1-Trichloroethane		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
39		2-Butanone		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
40		1,1-Dichloropropene		----------NA----------				
41		tert-Butyl Formate		----------NA----------				
42		Propionitrile		----------NA----------				
43		Methacrylonitrile		----------NA----------				
44		Benzene		----------NA----------				
45		TAME		----------NA----------				
46	S	1,2-Dichloroethane-d4	0.316	0.312	1.3	107	0.00	8.35
47		1,2-Dichloroethane		----------NA----------				
48		Trichloroethene		----------NA----------				
49		Methylcyclohexane		----------NA----------				
50		Dibromomethane		----------NA----------				
51	C	1,2-Dichloropropane		----------NA----------				
52		Bromodichloromethane		----------NA----------				
53		Methyl methacrylate		----------NA----------				
54		2-Chloroethyl vinyl ether		----------NA----------				
55		cis-1,3-Dichloropropene		----------NA----------				
56	I	Chlorobenzene-d5	1.000	1.000	0.0	107	0.00	11.78
57	S	Toluene-d8	1.281	1.288	-0.5	108	0.00	10.23
58	C	Toluene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
59		2-Nitropropane		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
60		4-Methyl-2-pentanone		----------NA----------				
61		trans-1,3-Dichloropropene		----------NA----------				
62		Tetrachloroethene		----------NA----------				
63		Ethyl methacrylate		----------NA----------				
64		1,1,2-Trichloroethane		----------NA----------				

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69014.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			Amount	Calc.	%Drift		
65		Dibromochloromethane		NA			
			AvgRF	CCRF	%Dev		
66		1,3-Dichloropropane		NA			
67		1,2-Dibromoethane		NA			
68		2-hexanone		NA			
69		1-Chlorohexane		NA			
70	C	Ethylbenzene		NA			
71	P	Chlorobenzene		NA			
72		1,1,1,2-Tetrachloroethane		NA			
73		m,p-Xylene		NA			
74		o-Xylene		NA			
75		Styrene		NA			
			Amount	Calc.	%Drift		
76	P	Bromoform		NA			
			AvgRF	CCRF	%Dev		
77		Isopropylbenzene		NA			
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	107	0.00 14.13
79	S	4-Bromofluorobenzene	0.788	0.793	-0.6	108	0.00 12.99
80		cis-1,4-Dichloro-2-butene		NA			
81		n-Propylbenzene		NA			
82		Bromobenzene		NA			
83	P	1,1,2,2-Tetrachloroethane		NA			
84		1,3,5-Trimethylbenzene		NA			
85		2-Chlorotoluene		NA			
			Amount	Calc.	%Drift		
86		trans-1,4-Dichloro-2-Bute		NA			
			AvgRF	CCRF	%Dev		
87		1,2,3-Trichloropropane		NA			
88		Cyclohexanone		NA			
89		4-Chlorotoluene		NA			
90		tert-Butylbenzene		NA			
91		1,2,4-Trimethylbenzene		NA			
92		Pentachloroethane		NA			
93		sec-Butylbenzene		NA			
94		4-Isopropyltoluene		NA			
95		1,3-Dichlorobenzene		NA			
96		1,2,3-Trimethylbenzene		NA			
97		1,4-Dichlorobenzene		NA			
98		n-Butylbenzene		NA			
			Amount	Calc.	%Drift		
99		Benzyl Chloride		NA			
			AvgRF	CCRF	%Dev		
100		1,2-Dichlorobenzene		NA			
			Amount	Calc.	%Drift		
101		1,2-Dibromo-3-Chloropropa		NA			
			AvgRF	CCRF	%Dev		
102		Hexachlorobutadiene		NA			
103		1,2,4-Trichlorobenzene		NA			
104		Naphthalene		NA			

Initial Calibration Verification

Job Number: FA86620 **Sample:** VI2216-ICV2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69014.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

105		1,2,3-Trichlorobenzene		----------NA----------				
106	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	115	0.00	6.03
107		Ethanol		----------NA----------				
108		Acrolein		----------NA----------				
109		Tert butyl alcohol		----------NA----------				
110		Isobutyl alcohol		----------NA----------				
111		Tert Amyl Alcohol		----------NA----------				
112		1,4-Dioxane		----------NA----------				

			Amount	Calc.	%Drift			
113		3,3-dimethyl-1-butanol		----------NA----------				

(#) = Out of Range SPCC's out = 4 CCC's out = 6
I69008.D 2021-06-21APP9-I.m Tue Jun 22 08:07:17 2021

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-CC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69103.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\Je...-2021\VI2221\I69103.d Vial: 2
Acq On : 24 Jun 2021 12:56 pm Operator: LINDSAYR
Sample : cc2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jun 22 08:02:09 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	86	0.00	8.64
	----------	True	Calc.	% Drift	----------		
2	Dichlorodifluoromethane	40.000	37.263	6.8	81	0.00	2.69
	----------	AvgRF	CCRF	% Dev	----------		
3 P	Chloromethane	0.293	0.301	-2.7	91	0.00	3.10
4 C	Vinyl Chloride	0.375	0.383	-2.1	89	0.00	3.18
	----------	True	Calc.	% Drift	----------		
5	1,3-Butadiene	40.000	42.122	-5.3	93	0.00	3.21
6	Bromomethane	40.000	43.310	-8.3	93	0.00	3.74
7	Chloroethane	40.000	46.908	-17.3	98	0.00	3.93
	----------	AvgRF	CCRF	% Dev	----------		
8	Trichlorofluoromethane	0.486	0.516	-6.2	87	0.00	4.16
9	Ethyl Ether	0.238	0.243	-2.1	89	0.00	4.63
10	1,2-Dichlorotrifluoroetha	0.352	0.351	0.3	87	0.00	4.90
11 C	1,1-Dichloroethene	0.472	0.473	-0.2	86	0.00	4.92
12	Freon 113	0.318	0.309	2.8	84	0.00	4.98
13	Carbon Disulfide	0.747	0.752	-0.7	86	0.00	4.97
	----------	True	Calc.	% Drift	----------		
14	Iodomethane	40.000	53.896	-34.7#	119	0.00	5.12
	----------	AvgRF	CCRF	% Dev	----------		
15	Allyl chloride	0.360	0.357	0.8	84	0.00	5.54
16	Methylene Chloride	0.398	0.387	2.8	89	0.00	5.68
17	Acetone	0.099	0.098	1.0	81	0.00	5.73
	----------	True	Calc.	% Drift	----------		
18	Methyl acetate	200.000	203.995	-2.0	86	0.00	5.88
	----------	AvgRF	CCRF	% Dev	----------		
19	trans-1,2-Dichloroethene	0.424	0.439	-3.5	88	0.00	5.90
20	Hexane	0.258	0.249	3.5	85	0.00	6.01
21	Methyl Tert Butyl Ether	0.879	0.902	-2.6	90	0.00	6.02
	----------	True	Calc.	% Drift	----------		
22	Acetonitrile	400.000	397.348	0.7	83	0.00	6.31
	----------	AvgRF	CCRF	% Dev	----------		

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-CC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69103.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

23		Di-isopropyl ether	0.859	0.879	-2.3	88	0.00	6.48
24		Chloroprene	0.439	0.419	4.6	81	0.00	6.62
25	P	1,1-Dichloroethane	0.565	0.569	-0.7	87	0.00	6.64
			True	Calc.	% Drift			
26		Acrylonitrile	200.000	188.904	5.5	79	0.00	6.68
			AvgRF	CCRF	% Dev			
27		ETBE	0.923	0.979	-6.1	91	0.00	6.90
			True	Calc.	% Drift			
28		Vinyl acetate	200.000	196.742	1.6	83	0.00	6.90
			AvgRF	CCRF	% Dev			
29		cis-1,2-Dichloroethene	0.320	0.328	-2.5	88	0.00	7.27
30		2,2-Dichloropropane	0.497	0.496	0.2	86	0.00	7.40
31		Bromochloromethane	0.141	0.146	-3.5	90	0.00	7.50
32		Cyclohexane	0.529	0.520	1.7	86	0.00	7.54
33	C	Chloroform	0.595	0.593	0.3	88	0.00	7.57
34		Ethyl acetate	0.274	0.264	3.6	78	0.00	7.66
35		Tetrahydrofuran	0.097	0.087	10.3	82	0.00	7.76
36	S	Dibromofluoromethane	0.273	0.272	0.4	85	0.00	7.77
37		Carbon Tetrachloride	0.427	0.441	-3.3	88	0.00	7.76
38		1,1,1-Trichloroethane	0.515	0.512	0.6	87	0.00	7.82
			True	Calc.	% Drift			
39		2-Butanone	200.000	184.791	7.6	80	0.00	7.88
			AvgRF	CCRF	% Dev			
40		1,1-Dichloropropene	0.444	0.444	0.0	87	0.00	7.95
41		tert-Butyl Formate	0.264	0.262	0.8	82	0.00	8.04
42		Propionitrile	0.050	0.050	0.0	83	0.00	8.20
43		Methacrylonitrile	0.170	0.174	-2.4	88	0.00	8.22
44		Benzene	1.228	1.300	-5.9	91	0.00	8.21
45		TAME	0.848	0.878	-3.5	90	0.00	8.30
46	S	1,2-Dichloroethane-d4	0.316	0.310	1.9	86	0.00	8.34
47		1,2-Dichloroethane	0.397	0.410	-3.3	92	0.00	8.41
48		Trichloroethene	0.328	0.335	-2.1	88	0.00	8.83
49		Methylcyclohexane	0.508	0.514	-1.2	87	0.00	8.84
50		Dibromomethane	0.185	0.195	-5.4	90	0.00	9.26
51	C	1,2-Dichloropropane	0.311	0.318	-2.3	89	0.00	9.35
52		Bromodichloromethane	0.385	0.411	-6.8	89	0.00	9.40
53		Methyl methacrylate	0.222	0.230	-3.6	84	0.00	9.51
54		2-Chloroethyl vinyl ether	0.187	0.181	3.2	85	0.00	9.93
55		cis-1,3-Dichloropropene	0.484	0.523	-8.1	89	0.00	10.03
56	I	Chlorobenzene-d5	1.000	1.000	0.0	92	0.00	11.77
57	S	Toluene-d8	1.281	1.231	3.9	88	0.00	10.22
58	C	Toluene	1.648	1.576	4.4	90	0.00	10.27
			True	Calc.	% Drift			
59		2-Nitropropane	200.000	196.763	1.6	87	0.00	10.48
			AvgRF	CCRF	% Dev			
60		4-Methyl-2-pentanone	0.369	0.349	5.4	84	0.00	10.60
61		trans-1,3-Dichloropropene	0.505	0.532	-5.3	91	0.00	10.66
62		Tetrachloroethene	0.397	0.388	2.3	91	0.00	10.68
63		Ethyl methacrylate	0.472	0.456	3.4	86	0.00	10.77
64		1,1,2-Trichloroethane	0.290	0.283	2.4	91	0.00	10.83

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-CC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69103.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
65		Dibromochloromethane	40.000	39.751	0.6	91	0.00	11.03
			AvgRF	CCRF	% Dev			
66		1,3-Dichloropropane	0.591	0.585	1.0	91	0.00	11.11
67		1,2-Dibromoethane	0.351	0.350	0.3	90	0.00	11.29
68		2-hexanone	0.278	0.257	7.6	81	0.00	11.42
69		1-Chlorohexane	0.544	0.538	1.1	89	0.00	11.73
70	C	Ethylbenzene	1.823	1.798	1.4	92	0.00	11.79
71	P	Chlorobenzene	0.969	0.967	0.2	92	0.00	11.80
72		1,1,1,2-Tetrachloroethane	0.341	0.349	-2.3	92	0.00	11.85
73		m,p-Xylene	1.326	1.337	-0.8	92	0.00	11.93
74		o-Xylene	1.366	1.351	1.1	91	0.00	12.37
75		Styrene	0.998	1.042	-4.4	91	0.00	12.42
			True	Calc.	% Drift			
76	P	Bromoform	40.000	40.525	-1.3	92	0.00	12.48
			AvgRF	CCRF	% Dev			
77		Isopropylbenzene	1.684	1.674	0.6	91	0.00	12.68
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	94	0.00	14.13
79	S	4-Bromofluorobenzene	0.788	0.767	2.7	92	0.00	12.99
80		cis-1,4-Dichloro-2-butene	0.257	0.240	6.6	84	0.00	13.02
81		n-Propylbenzene	3.582	3.482	2.8	91	0.00	13.09
82		Bromobenzene	0.723	0.700	3.2	92	0.00	13.11
83	P	1,1,2,2-Tetrachloroethane	0.920	0.889	3.4	90	0.00	13.15
84		1,3,5-Trimethylbenzene	2.415	2.350	2.7	92	0.00	13.27
85		2-Chlorotoluene	2.404	2.351	2.2	92	0.00	13.28
			True	Calc.	% Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	37.786	5.5	88	0.00	13.33
			AvgRF	CCRF	% Dev			
87		1,2,3-Trichloropropane	0.283	0.270	4.6	90	0.00	13.31
88		Cyclohexanone	0.032	0.027	15.6	74	0.00	13.38
89		4-Chlorotoluene	2.109	2.044	3.1	91	0.00	13.44
90		tert-Butylbenzene	1.423	1.358	4.6	91	0.00	13.61
91		1,2,4-Trimethylbenzene	2.237	2.163	3.3	91	0.00	13.68
92		Pentachloroethane	0.394	0.377	4.3	87	0.00	13.66
93		sec-Butylbenzene	2.968	2.839	4.3	90	0.00	13.80
94		4-Isopropyltoluene	2.360	2.282	3.3	90	0.00	13.93
95		1,3-Dichlorobenzene	1.224	1.178	3.8	91	0.00	14.07
96		1,2,3-Trimethylbenzene	1.982	1.914	3.4	92	0.00	14.15
97		1,4-Dichlorobenzene	1.257	1.206	4.1	93	0.00	14.15
98		n-Butylbenzene	1.266	1.230	2.8	89	0.00	14.36
			True	Calc.	% Drift			
99		Benzyl Chloride	40.000	38.689	3.3	89	0.00	14.38
			AvgRF	CCRF	% Dev			
100		1,2-Dichlorobenzene	1.164	1.118	4.0	91	0.00	14.58
			True	Calc.	% Drift			
101		1,2-Dibromo-3-Chloropropa	40.000	37.047	7.4	84	0.00	15.32
			AvgRF	CCRF	% Dev			
102		Hexachlorobutadiene	0.343	0.295	14.0	83	0.00	15.87
103		1,2,4-Trichlorobenzene	0.594	0.562	5.4	86	0.00	15.91
104		Naphthalene	1.636	1.571	4.0	85	0.00	16.19

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-CC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69103.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

105	1,2,3-Trichlorobenzene	0.560	0.529	5.5	86	0.00	16.36
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	76	0.00	6.03
107	Ethanol	0.067	0.063	6.0	76	0.00	4.90
108	Acrolein	1.131	1.242	-9.8	80	0.00	5.35
109	Tert butyl alcohol	1.036	1.027	0.9	77	-0.01	6.12
110	Isobutyl alcohol	0.147	0.160	-8.8	79	0.00	8.37
111	Tert Amyl Alcohol	0.738	0.748	-1.4	76	0.00	8.48
112	1,4-Dioxane	0.078	0.080	-2.6	81	0.00	9.59
		True	Calc.	% Drift			
113	3,3-dimethyl-1-butanol	2000.000	2016.891	-0.8	76	0.00	11.37

(#) = Out of Range SPCC's out = 0 CCC's out = 0
I69009.D 2021-06-21APP9-I.m Fri Jun 25 01:21:52 2021

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-ECC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69129.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\Je...-2021\VI2221\I69129.d Vial: 28
Acq On : 24 Jun 2021 11:32 pm Operator: LINDSAYR
Sample : ECC2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue Jun 22 08:02:09 2021
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Fluorobenzene	1.000	1.000	0.0	92	0.00	8.64
	----------	True	Calc.	% Drift	----------		
2	Dichlorodifluoromethane	40.000	36.279	9.3	84	0.00	2.69
	----------	AvgRF	CCRF	% Dev	----------		
3 P	Chloromethane	0.293	0.282	3.8	91	-0.02	3.09
4 C	Vinyl Chloride	0.375	0.378	-0.8	94	0.00	3.18
	----------	True	Calc.	% Drift	----------		
5	1,3-Butadiene	40.000	41.223	-3.1	98	0.00	3.21
6	Bromomethane	40.000	33.976	15.1	75	0.00	3.73
7	Chloroethane	40.000	45.168	-12.9	101	0.00	3.93
	----------	AvgRF	CCRF	% Dev	----------		
8	Trichlorofluoromethane	0.486	0.500	-2.9	90	0.00	4.16
9	Ethyl Ether	0.238	0.235	1.3	93	0.00	4.63
10	1,2-Dichlorotrifluoroetha	0.352	0.341	3.1	91	0.00	4.90
11 C	1,1-Dichloroethene	0.472	0.460	2.5	90	0.00	4.92
12	Freon 113	0.318	0.293	7.9	86	0.00	4.98
13	Carbon Disulfide	0.747	0.731	2.1	89	0.00	4.97
	----------	True	Calc.	% Drift	----------		
14	Iodomethane	40.000	46.329	-15.8	107	0.00	5.12
	----------	AvgRF	CCRF	% Dev	----------		
15	Allyl chloride	0.360	0.347	3.6	87	0.00	5.55
16	Methylene Chloride	0.398	0.382	4.0	95	0.00	5.69
17	Acetone	0.099	0.084	15.2	74	0.00	5.73
	----------	True	Calc.	% Drift	----------		
18	Methyl acetate	200.000	187.169	6.4	84	0.00	5.88
	----------	AvgRF	CCRF	% Dev	----------		
19	trans-1,2-Dichloroethene	0.424	0.425	-0.2	92	0.00	5.90
20	Hexane	0.258	0.220	14.7	81	0.00	6.01
21	Methyl Tert Butyl Ether	0.879	0.865	1.6	92	0.00	6.02
	----------	True	Calc.	% Drift	----------		
22	Acetonitrile	400.000	364.797	8.8	81	0.00	6.31
	----------	AvgRF	CCRF	% Dev	----------		

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-ECC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69129.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

23		Di-isopropyl ether	0.859	0.856	0.3	92	0.00	6.48
24		Chloroprene	0.439	0.419	4.6	87	0.00	6.62
25	P	1,1-Dichloroethane	0.565	0.560	0.9	92	0.00	6.64
			True	Calc.	% Drift			
26		Acrylonitrile	200.000	170.221	14.9	76	0.00	6.68
			AvgRF	CCRF	% Dev			
27		ETBE	0.923	0.948	-2.7	94	0.00	6.90
			True	Calc.	% Drift			
28		Vinyl acetate	200.000	180.070	10.0	82	0.00	6.90
			AvgRF	CCRF	% Dev			
29		cis-1,2-Dichloroethene	0.320	0.320	0.0	92	0.00	7.27
30		2,2-Dichloropropane	0.497	0.422	15.1	78	0.00	7.40
31		Bromochloromethane	0.141	0.145	-2.8	96	0.00	7.51
32		Cyclohexane	0.529	0.509	3.8	90	0.00	7.54
33	C	Chloroform	0.595	0.580	2.5	93	0.00	7.57
34		Ethyl acetate	0.274	0.242	11.7	76	0.00	7.66
35		Tetrahydrofuran	0.097	0.081	16.5	81	0.00	7.76
36	S	Dibromofluoromethane	0.273	0.273	0.0	92	0.00	7.77
37		Carbon Tetrachloride	0.427	0.424	0.7	91	0.00	7.76
38		1,1,1-Trichloroethane	0.515	0.499	3.1	91	0.00	7.82
			True	Calc.	% Drift			
39		2-Butanone	200.000	161.907	19.0	75	0.00	7.88
			AvgRF	CCRF	% Dev			
40		1,1-Dichloropropene	0.444	0.432	2.7	91	0.00	7.95
41		tert-Butyl Formate	0.264	0.246	6.8	82	0.00	8.04
42		Propionitrile	0.050	0.045	10.0	80	0.00	8.20
43		Methacrylonitrile	0.170	0.160	5.9	86	0.00	8.23
44		Benzene	1.228	1.256	-2.3	94	0.00	8.21
45		TAME	0.848	0.846	0.2	93	0.00	8.30
46	S	1,2-Dichloroethane-d4	0.316	0.313	0.9	93	0.00	8.35
47		1,2-Dichloroethane	0.397	0.396	0.3	95	0.00	8.41
48		Trichloroethene	0.328	0.322	1.8	91	0.00	8.83
49		Methylcyclohexane	0.508	0.497	2.2	90	0.00	8.84
50		Dibromomethane	0.185	0.189	-2.2	94	0.00	9.26
51	C	1,2-Dichloropropane	0.311	0.312	-0.3	93	0.00	9.35
52		Bromodichloromethane	0.385	0.400	-3.9	93	0.00	9.40
53		Methyl methacrylate	0.222	0.213	4.1	83	0.00	9.51
54		2-Chloroethyl vinyl ether	0.187	0.171	8.6	86	0.00	9.93
55		cis-1,3-Dichloropropene	0.484	0.499	-3.1	91	0.00	10.03
56	I	Chlorobenzene-d5	1.000	1.000	0.0	99	0.00	11.78
57	S	Toluene-d8	1.281	1.231	3.9	96	0.00	10.23
58	C	Toluene	1.648	1.523	7.6	94	0.00	10.27
			True	Calc.	% Drift			
59		2-Nitropropane	200.000	175.313	12.3	84	0.00	10.48
			AvgRF	CCRF	% Dev			
60		4-Methyl-2-pentanone	0.369	0.312	15.4	81	0.00	10.60
61		trans-1,3-Dichloropropene	0.505	0.497	1.6	93	0.00	10.66
62		Tetrachloroethene	0.397	0.391	1.5	100	0.00	10.68
63		Ethyl methacrylate	0.472	0.425	10.0	87	0.00	10.77
64		1,1,2-Trichloroethane	0.290	0.266	8.3	93	0.00	10.83

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-ECC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69129.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

			True	Calc.	% Drift			
65		Dibromochloromethane	40.000	38.364	4.1	95	0.00	11.03
			AvgRF	CCRF	% Dev			
66		1,3-Dichloropropane	0.591	0.563	4.7	95	0.00	11.11
67		1,2-Dibromoethane	0.351	0.333	5.1	93	0.00	11.29
68		2-hexanone	0.278	0.224	19.4	77	0.00	11.42
69		1-Chlorohexane	0.544	0.506	7.0	91	0.00	11.73
70	C	Ethylbenzene	1.823	1.725	5.4	96	0.00	11.79
71	P	Chlorobenzene	0.969	0.929	4.1	96	0.00	11.80
72		1,1,1,2-Tetrachloroethane	0.341	0.332	2.6	94	0.00	11.85
73		m,p-Xylene	1.326	1.279	3.5	95	0.00	11.93
74		o-Xylene	1.366	1.308	4.2	95	0.00	12.37
75		Styrene	0.998	1.007	-0.9	96	0.00	12.42
			True	Calc.	% Drift			
76	P	Bromoform	40.000	37.988	5.0	93	0.00	12.48
			AvgRF	CCRF	% Dev			
77		Isopropylbenzene	1.684	1.617	4.0	96	0.00	12.68
78	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	14.13
79	S	4-Bromofluorobenzene	0.788	0.782	0.8	100	0.00	12.99
80		cis-1,4-Dichloro-2-butene	0.257	0.210	18.3	79	0.00	13.02
81		n-Propylbenzene	3.582	3.342	6.7	94	0.00	13.09
82		Bromobenzene	0.723	0.690	4.6	97	0.00	13.11
83	P	1,1,2,2-Tetrachloroethane	0.920	0.836	9.1	91	0.00	13.15
84		1,3,5-Trimethylbenzene	2.415	2.243	7.1	94	0.00	13.27
85		2-Chlorotoluene	2.404	2.274	5.4	95	0.00	13.28
			True	Calc.	% Drift			
86		trans-1,4-Dichloro-2-Bute	40.000	33.266	16.8	83	0.00	13.33
			AvgRF	CCRF	% Dev			
87		1,2,3-Trichloropropane	0.283	0.247	12.7	88	0.00	13.31
88		Cyclohexanone	0.032	0.024	25.0	69	0.00	13.38
89		4-Chlorotoluene	2.109	1.975	6.4	94	0.00	13.45
90		tert-Butylbenzene	1.423	1.312	7.8	94	0.00	13.61
91		1,2,4-Trimethylbenzene	2.237	2.053	8.2	92	0.00	13.68
92		Pentachloroethane	0.394	0.329	16.5	81	0.00	13.67
93		sec-Butylbenzene	2.968	2.734	7.9	93	0.00	13.80
94		4-Isopropyltoluene	2.360	2.143	9.2	91	0.00	13.93
95		1,3-Dichlorobenzene	1.224	1.125	8.1	94	0.00	14.07
96		1,2,3-Trimethylbenzene	1.982	1.818	8.3	94	0.00	14.15
97		1,4-Dichlorobenzene	1.257	1.143	9.1	94	0.00	14.15
98		n-Butylbenzene	1.266	1.094	13.6	85	0.00	14.36
			True	Calc.	% Drift			
99		Benzyl Chloride	40.000	27.911	30.2	67	0.00	14.38
			AvgRF	CCRF	% Dev			
100		1,2-Dichlorobenzene	1.164	1.072	7.9	94	0.00	14.58
			True	Calc.	% Drift			
101		1,2-Dibromo-3-Chloropropa	40.000	32.021	19.9	76	0.00	15.32
			AvgRF	CCRF	% Dev			
102		Hexachlorobutadiene	0.343	0.259	24.5	78	0.00	15.86
103		1,2,4-Trichlorobenzene	0.594	0.514	13.5	84	0.00	15.91
104		Naphthalene	1.636	1.393	14.9	80	0.00	16.19

Continuing Calibration Summary

Job Number: FA86620 **Sample:** VI2221-ECC2216
Account: AMECMNM Wood Environment & Infrastructure Solut. **Lab FileID:** I69129.D
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

105	1,2,3-Trichlorobenzene	0.560	0.487	13.0	85	0.00	16.36
106 I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	74	0.00	6.03
107	Ethanol	0.067	0.065	3.0	76	0.00	4.90
108	Acrolein	1.131	1.053	6.9	67	0.00	5.35
109	Tert butyl alcohol	1.036	0.989	4.5	73	-0.01	6.12
110	Isobutyl alcohol	0.147	0.159	-8.2	78	0.00	8.37
111	Tert Amyl Alcohol	0.738	0.717	2.8	71	0.00	8.48
112	1,4-Dioxane	0.078	0.079	-1.3	78	0.00	9.59
		True	Calc.	% Drift			
113	3,3-dimethyl-1-butanol	2000.000	1960.091	2.0	73	0.00	11.38

(#) = Out of Range SPCC's out = 0 CCC's out = 0
I69009.D 2021-06-21APP9-I.m Fri Jun 25 02:35:50 2021

Run Sequence Report

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VI2216 **Method:** SW846 8260B **Instrument ID:** GCMSI

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VI2216-BFB	I69004.D	06/21/21 11:59	n/a	BFB Tune
VI2216-IC2216	I69005.D	06/21/21 12:23	n/a	Initial cal 1
VI2216-IC2216	I69006.D	06/21/21 12:47	n/a	Initial cal 2
VI2216-IC2216	I69007.D	06/21/21 13:11	n/a	Initial cal 3
VI2216-IC2216	I69008.D	06/21/21 13:35	n/a	Initial cal 4
VI2216-ICC2216	I69009.D	06/21/21 14:00	n/a	Initial cal 5
VI2216-IC2216	I69010.D	06/21/21 14:24	n/a	Initial cal 6
VI2216-IC2216	I69011.D	06/21/21 14:48	n/a	Initial cal 7
VI2216-ICV2216	I69013.D	06/21/21 16:06	n/a	Initial cal verification 5
VI2216-ICV2216	I69014.D	06/21/21 16:30	n/a	Initial cal verification 4

Run Sequence Report

Job Number: FA86620
Account: AMECMNM Wood Environment & Infrastructure Solut.
Project: ESTCP18-5015 PFAS Removal; Pease AFB, NH

Run ID: VI2221 **Method:** SW846 8260B **Instrument ID:** GCMSI

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
VI2221-BFB	I69103.D	06/24/21 12:56	n/a	BFB Tune
VI2221-CC2216	I69103.D	06/24/21 12:56	n/a	Continuing cal 5
VI2221-BS	I69104.D	06/24/21 13:30	n/a	Blank Spike
VI2221-MB	I69106.D	06/24/21 14:18	n/a	Method Blank
ZZZZZZ	I69107.D	06/24/21 14:42	n/a	(unrelated sample)
FA86397-23	I69108.D	06/24/21 15:07	n/a	(used for QC only; not part of job FA86620)
ZZZZZZ	I69109.D	06/24/21 15:31	n/a	(unrelated sample)
ZZZZZZ	I69110.D	06/24/21 15:55	n/a	(unrelated sample)
ZZZZZZ	I69111.D	06/24/21 16:19	n/a	(unrelated sample)
ZZZZZZ	I69112.D	06/24/21 16:43	n/a	(unrelated sample)
ZZZZZZ	I69113.D	06/24/21 17:07	n/a	(unrelated sample)
ZZZZZZ	I69114.D	06/24/21 17:31	n/a	(unrelated sample)
ZZZZZZ	I69115.D	06/24/21 17:55	n/a	(unrelated sample)
ZZZZZZ	I69116.D	06/24/21 18:20	n/a	(unrelated sample)
FA86620-1	I69117.D	06/24/21 18:44	n/a	SP1-GW_20210611
ZZZZZZ	I69118.D	06/24/21 19:08	n/a	(unrelated sample)
ZZZZZZ	I69119.D	06/24/21 19:32	n/a	(unrelated sample)
ZZZZZZ	I69120.D	06/24/21 19:56	n/a	(unrelated sample)
ZZZZZZ	I69121.D	06/24/21 20:21	n/a	(unrelated sample)
ZZZZZZ	I69122.D	06/24/21 20:45	n/a	(unrelated sample)
ZZZZZZ	I69123.D	06/24/21 21:09	n/a	(unrelated sample)
ZZZZZZ	I69124.D	06/24/21 21:33	n/a	(unrelated sample)
FA86397-23MS	I69127.D	06/24/21 22:44	n/a	Matrix Spike
FA86397-23MSD	I69128.D	06/24/21 23:08	n/a	Matrix Spike Duplicate
VI2221-ECC2216	I69129.D	06/24/21 23:32	n/a	Ending cal 5

MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69117.d
Acq On : 24 Jun 2021 6:44 pm
Operator : LINDSAYR
Sample : FA86620-1 Inst : MSVOA16
Misc : MS49215,VI2221,,,,,
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 02:27:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

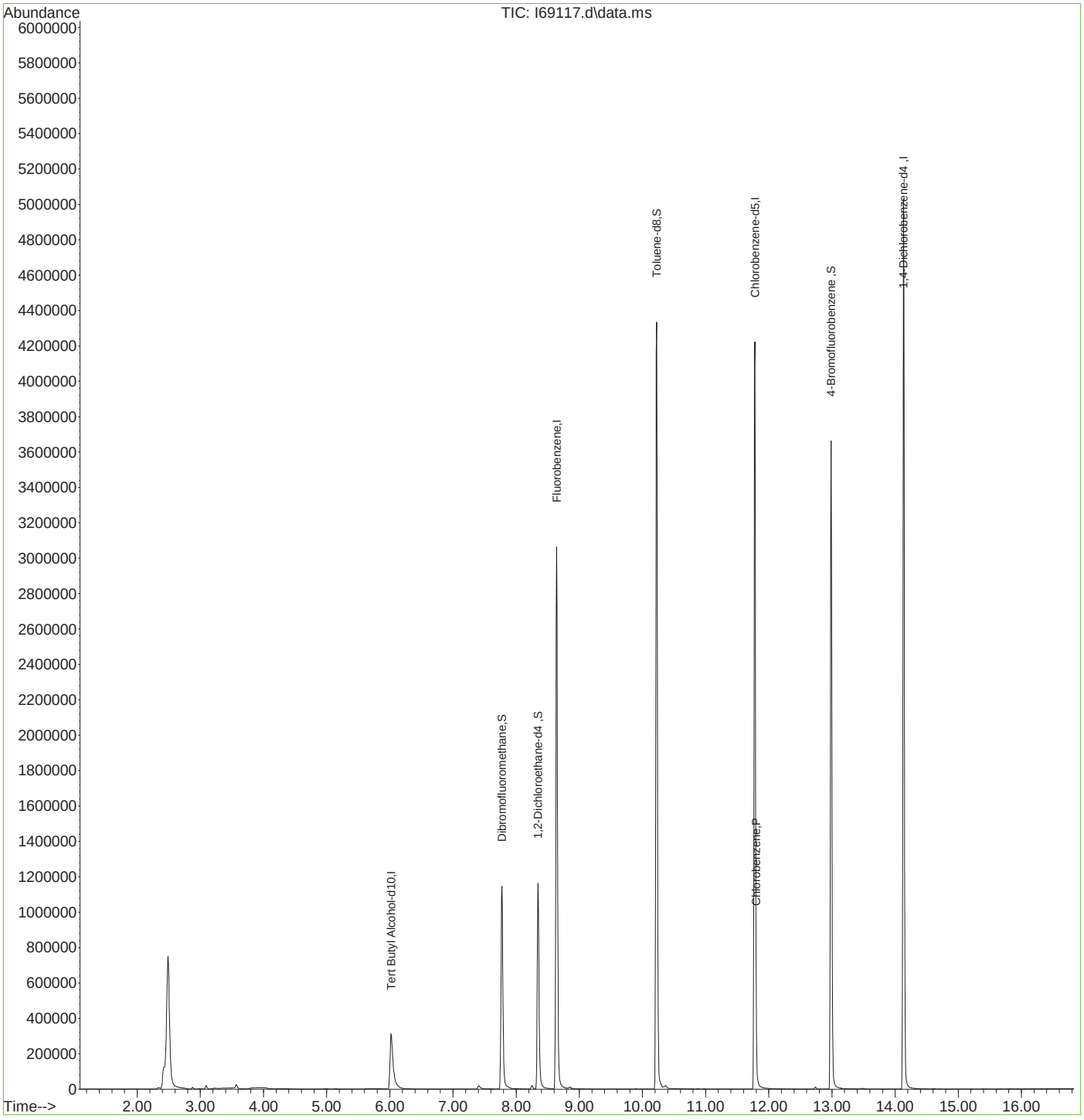
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	2700765	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2242376	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1242514	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.019	65	595086	250.00	ug/L	-0.02
System Monitoring Compounds						
36) Dibromofluoromethane	7.775	113	722032	48.94	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.88%			
46) 1,2-Dichloroethane-d4	8.348	65	863420	50.52	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 101.04%			
57) Toluene-d8	10.225	98	2805991	48.86	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.72%			
79) 4-Bromofluorobenzene	12.987	174	957240	48.91	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.82%			
Target Compounds						Qvalue
71) Chlorobenzene	11.798	112	12710	0.29	ug/L	86

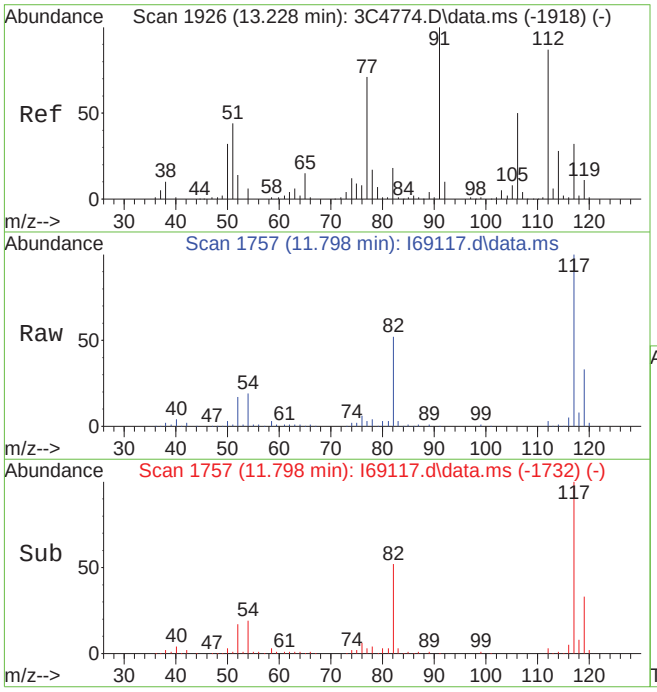
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69117.d
Acq On : 24 Jun 2021 6:44 pm
Operator : LINDSAYR
Sample : FA86620-1 Inst : MSVOA16
Misc : MS49215,VI2221,,,,,
ALS Vial : 16 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 02:27:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

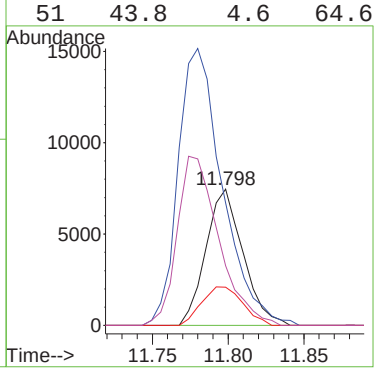




#71
Chlorobenzene
Concen: 0.29 ug/L
RT: 11.798 min Scan# 1757
Delta R.T. 0.000 min
Lab File: I69117.d
Acq: 24 Jun 2021 6:44 pm

Tgt Ion:112 Resp: 12710

Ion	Ratio	Lower	Upper
112	100		
77	89.9	45.5	105.5
114	28.0	2.1	62.1
51	43.8	4.6	64.6



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69106.d
Acq On : 24 Jun 2021 2:18 pm
Operator : LINDSAYR
Sample : MB Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 02:01:17 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3037869	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2506071	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1359932	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.019	65	672006	250.00	ug/L	-0.02
System Monitoring Compounds						
36) Dibromofluoromethane	7.775	113	805271	48.53	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.06%			
46) 1,2-Dichloroethane-d4	8.348	65	970027	50.46	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.92%			
57) Toluene-d8	10.225	98	3141395	48.94	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 97.88%			
79) 4-Bromofluorobenzene	12.987	174	1065981	49.76	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.52%			
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

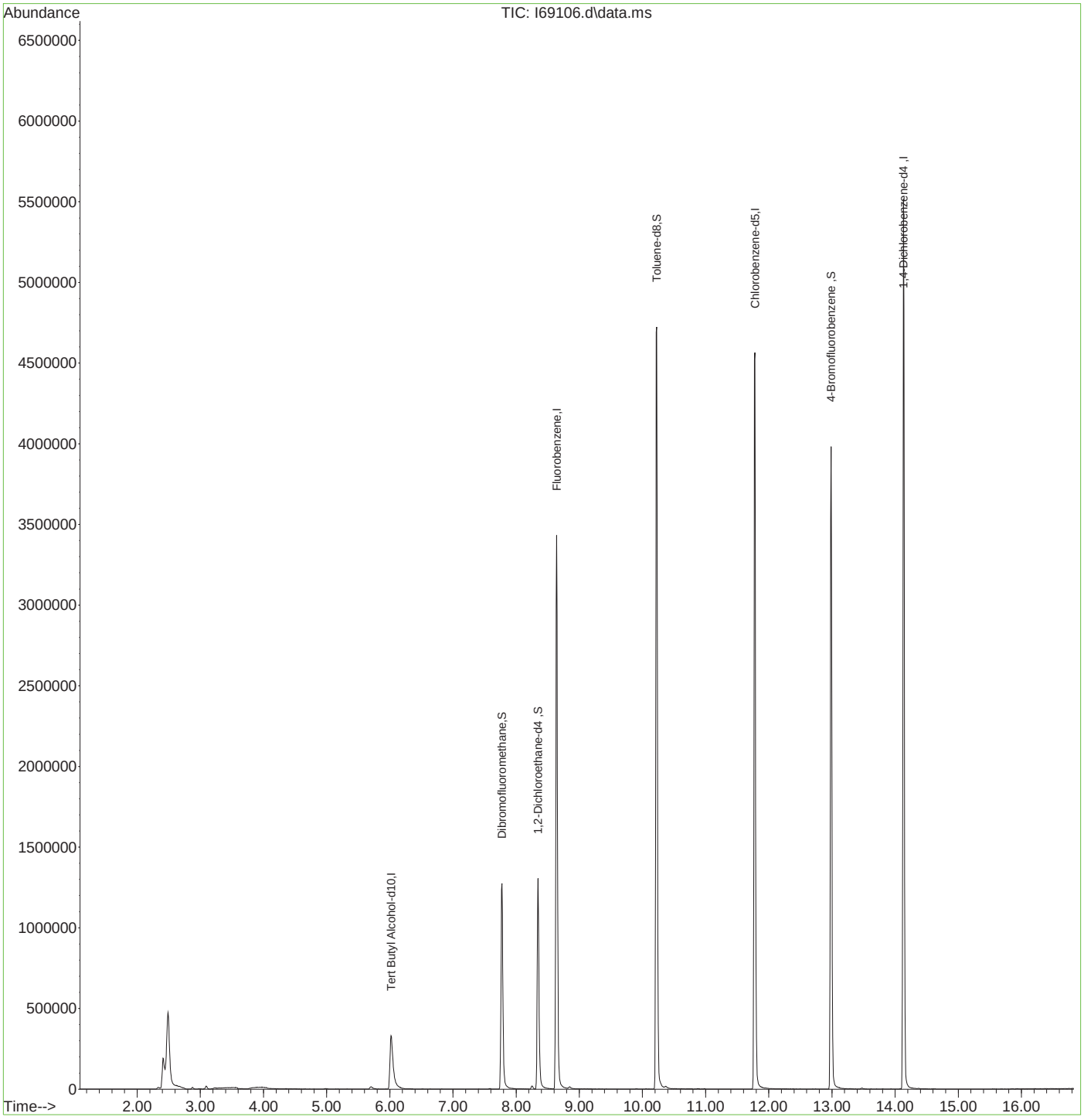
7.2.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69106.d
Acq On : 24 Jun 2021 2:18 pm
Operator : LINDSAYR
Sample : MB Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 02:01:17 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69104.d
Acq On : 24 Jun 2021 1:30 pm
Operator : LINDSAYR
Sample : BS Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3192698	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.774	117	2697581	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1484942	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.025	65	668263	250.00	ug/L	-0.01
System Monitoring Compounds						
36) Dibromofluoromethane	7.768	113	873055	50.06	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.12%			
46) 1,2-Dichloroethane-d4	8.342	65	999159	49.45	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.90%			
57) Toluene-d8	10.219	98	3336292	48.29	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.58%			
79) 4-Bromofluorobenzene	12.987	174	1167651	49.92	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	403385	19.34	ug/L	99
3) Chloromethane	3.099	50	451134	24.10	ug/L	96
4) Vinyl Chloride	3.190	62	579104	24.20	ug/L	98
5) 1,3-Butadiene	3.221	39	484864	38.59	ug/L	99
6) Bromomethane	3.739	94	161146	26.75	ug/L	99
7) Chloroethane	3.934	64	165670	30.13	ug/L	98
8) Trichlorofluoromethane	4.159	101	827331	26.66	ug/L	99
9) Ethyl Ether	4.635	59	340763	22.46	ug/L	99
10) 1,2-Dichlorotrifluoroe...	4.897	67	623247	27.70	ug/L	98
11) 1,1-Dichloroethene	4.915	61	752549	24.98	ug/L	99
12) Freon 113	4.976	101	437361	21.55	ug/L	99
13) Carbon Disulfide	4.970	76	1128571	23.67	ug/L	98
14) Iodomethane	5.117	142	340047	32.52	ug/L	97
15) Allyl chloride	5.549	41	607640	26.44	ug/L	100
16) Methylene Chloride	5.684	49	559077	21.97	ug/L	99
17) Acetone	5.732	43	689349	108.67	ug/L	99
18) Methyl acetate	5.885	43	1335144	103.64	ug/L	98
19) trans-1,2-Dichloroethene	5.903	61	665970	24.60	ug/L	99
20) Hexane	6.007	56	376391	22.89	ug/L	91
21) Methyl Tert Butyl Ether	6.019	73	1248478	22.25	ug/L	85
22) Acetonitrile	6.305	41	447076	212.34	ug/L	97
23) Di-isopropyl ether	6.476	45	1260575	22.97	ug/L	99
24) Chloroprene	6.616	53	705019	25.16	ug/L	99
25) 1,1-Dichloroethane	6.641	63	911751	25.27	ug/L	100
26) Acrylonitrile	6.677	53	795701	109.70	ug/L	99
27) ETBE	6.903	59	1320187	22.39	ug/L	98
28) Vinyl acetate	6.903	43	4309349	120.87	ug/L	99
29) cis-1,2-Dichloroethene	7.275	96	498276	24.40	ug/L	98
30) 2,2-Dichloropropane	7.397	77	814391	25.65	ug/L	100
31) Bromochloromethane	7.506	128	210741	23.34	ug/L	96
32) Cyclohexane	7.537	56	816142	24.18	ug/L	99
33) Chloroform	7.567	83	895638	23.59	ug/L	99
34) Ethyl acetate	7.665	43	1977774	113.12	ug/L	99
35) Tetrahydrofuran	7.762	42	122569	19.86	ug/L	97
37) Carbon Tetrachloride	7.756	117	695797	25.51	ug/L	98
38) 1,1,1-Trichloroethane	7.817	97	804190	24.48	ug/L	97
39) 2-Butanone	7.878	43	950685	98.64	ug/L	100
40) 1,1-Dichloropropene	7.951	75	688246	24.27	ug/L	99
41) tert-Butyl Formate	8.037	59	1761191	104.38	ug/L	97
42) Propionitrile	8.195	54	660070	206.11	ug/L	82

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69104.d
Acq On : 24 Jun 2021 1:30 pm
Operator : LINDSAYR
Sample : BS Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43)	Methacrylonitrile	8.220	41	2392872	219.80	ug/L		97
44)	Benzene	8.213	78	1942428	24.78	ug/L		94
45)	TAME	8.305	73	1215217	22.44	ug/L		99
47)	1,2-Dichloroethane	8.415	62	587919	23.19	ug/L		99
48)	Trichloroethene	8.829	95	506126	24.20	ug/L		99
49)	Methylcyclohexane	8.835	83	841467	25.95	ug/L		98
50)	Dibromomethane	9.262	93	266716	22.56	ug/L		99
51)	1,2-Dichloropropane	9.347	63	467486	23.56	ug/L		99
52)	Bromodichloromethane	9.402	83	597309	24.31	ug/L		99
53)	Methyl methacrylate	9.512	41	319318	22.50	ug/L		97
54)	2-Chloroethyl vinyl ether	9.933	63	974254	81.50	ug/L		99
55)	cis-1,3-Dichloropropene	10.030	75	732290	23.67	ug/L		99
58)	Toluene	10.274	91	1943496	21.86	ug/L		99
59)	2-Nitropropane	10.475	41	516176	102.04	ug/L		99
60)	4-Methyl-2-pentanone	10.597	43	1995510	100.11	ug/L		98
61)	trans-1,3-Dichloropropene	10.664	75	658696	24.18	ug/L		98
62)	Tetrachloroethene	10.683	166	497093	23.18	ug/L		98
63)	Ethyl methacrylate	10.774	69	567253	22.29	ug/L		98
64)	1,1,2-Trichloroethane	10.829	83	343614	21.97	ug/L		98
65)	Dibromochloromethane	11.030	129	424857	22.03	ug/L		99
66)	1,3-Dichloropropane	11.109	76	680461	21.33	ug/L		99
67)	1,2-Dibromoethane	11.286	107	410304	21.65	ug/L		98
68)	2-hexanone	11.420	43	1474548	98.36	ug/L		100
69)	1-Chlorohexane	11.731	91	706010	24.04	ug/L		99
70)	Ethylbenzene	11.792	91	2295630	23.34	ug/L		98
71)	Chlorobenzene	11.792	112	1234976	23.63	ug/L		97
72)	1,1,1,2-Tetrachloroethane	11.841	131	427555	23.25	ug/L		99
73)	m,p-Xylene	11.932	91	3471572	48.54	ug/L		99
74)	o-Xylene	12.371	91	1741455	23.64	ug/L		99
75)	Styrene	12.420	104	1270123	23.59	ug/L		99
76)	Bromoform	12.481	173	281427	22.20	ug/L		98
77)	Isopropylbenzene	12.676	105	2219109	24.42	ug/L		99
80)	cis-1,4-Dichloro-2-butene	13.017	53	157190	20.60	ug/L		98
81)	n-Propylbenzene	13.091	91	2556750	24.03	ug/L		98
82)	Bromobenzene	13.115	156	481847	22.45	ug/L		100
83)	1,1,2,2-Tetrachloroethane	13.152	83	572565	20.95	ug/L		99
84)	1,3,5-Trimethylbenzene	13.274	105	1650777	23.02	ug/L		100
85)	2-Chlorotoluene	13.280	91	1673714	23.44	ug/L		97
86)	trans-1,4-Dichloro-2-B...	13.328	53	148325	20.71	ug/L		88
87)	1,2,3-Trichloropropane	13.310	110	173242	20.63	ug/L		95
88)	Cyclohexanone	13.371	55	84231	87.40	ug/L		96
89)	4-Chlorotoluene	13.444	91	1465540	23.40	ug/L		97
90)	tert-Butylbenzene	13.615	91	984055	23.28	ug/L		98
91)	1,2,4-Trimethylbenzene	13.682	105	1467040	22.08	ug/L		98
92)	Pentachloroethane	13.664	167	293463	25.10	ug/L		94
93)	sec-Butylbenzene	13.798	105	2156562	24.46	ug/L		100
94)	4-Isopropyltoluene	13.926	119	1630709	23.27	ug/L		99
95)	1,3-Dichlorobenzene	14.066	146	835776	22.99	ug/L		99
96)	1,2,3-Trimethylbenzene	14.145	105	1505853	25.58	ug/L		98
97)	1,4-Dichlorobenzene	14.151	146	838908	22.46	ug/L		99
98)	n-Butylbenzene	14.365	92	818427	21.76	ug/L		96
99)	Benzyl Chloride	14.377	126	199456	21.40	ug/L	#	88
100)	1,2-Dichlorobenzene	14.578	146	778587	22.53	ug/L		99
101)	1,2-Dibromo-3-Chloropr...	15.316	75	99770	19.09	ug/L		99
102)	Hexachlorobutadiene	15.871	225	213384	20.96	ug/L		99
103)	1,2,4-Trichlorobenzene	15.913	180	366178	20.76	ug/L		99
104)	Naphthalene	16.194	128	949905	19.55	ug/L		100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69104.d
Acq On : 24 Jun 2021 1:30 pm
Operator : LINDSAYR
Sample : BS Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

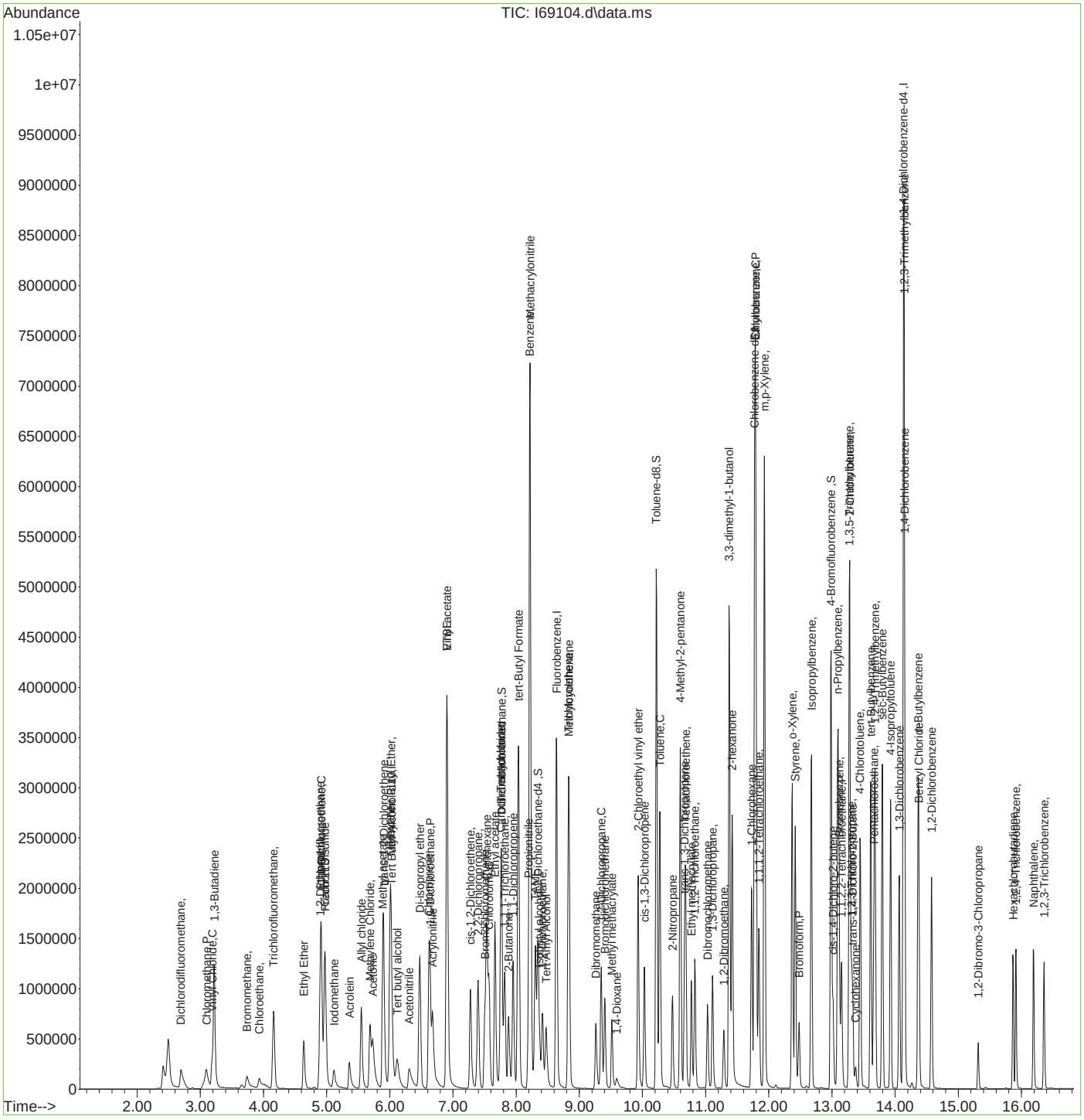
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,2,3-Trichlorobenzene	16.358	180	337201	20.28	ug/L	98
107) Ethanol	4.903	45	83478	466.94	ug/L	89
108) Acrolein	5.360	56	348133	115.14	ug/L	97
109) Tert butyl alcohol	6.116	59	542932	196.07	ug/L	94
110) Isobutyl alcohol	8.366	42	179123	456.97	ug/L	93
111) Tert Amyl Alcohol	8.476	59	422535	214.21	ug/L	98
112) 1,4-Dioxane	9.591	88	98678	474.63	ug/L	98
113) 3,3-dimethyl-1-butanol	11.371	57	2264784	1113.54	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69104.d
Acq On : 24 Jun 2021 1:30 pm
Operator : LINDSAYR
Sample : BS Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:22 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69127.d
Acq On : 24 Jun 2021 10:44 pm
Operator : LINDSAYR
Sample : FA86397-23MS,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:24 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	2712566	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2307902	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1290441	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.025	65	581859	250.00	ug/L	-0.01
System Monitoring Compounds						
36) Dibromofluoromethane	7.769	113	736209	49.69	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.38%			
46) 1,2-Dichloroethane-d4	8.348	65	852567	49.67	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.34%			
57) Toluene-d8	10.225	98	2840532	48.06	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.12%			
79) 4-Bromofluorobenzene	12.987	174	994074	48.90	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	313501	17.74	ug/L	100
3) Chloromethane	3.093	50	379960	23.89	ug/L	97
4) Vinyl Chloride	3.184	62	501438	24.66	ug/L	99
5) 1,3-Butadiene	3.215	39	413308	38.72	ug/L	100
6) Bromomethane	3.733	94	54163	11.44	ug/L	91
7) Chloroethane	3.928	64	176569	37.80	ug/L	98
8) Trichlorofluoromethane	4.160	101	642389	24.36	ug/L	100
9) Ethyl Ether	4.635	59	314543	24.40	ug/L	99
10) 1,2-Dichlorotrifluoroe...	4.897	67	516291	27.01	ug/L	98
11) 1,1-Dichloroethene	4.915	61	608354	23.77	ug/L	99
12) Freon 113	4.976	101	327775	19.01	ug/L	98
13) Carbon Disulfide	4.970	76	945118	23.33	ug/L	98
14) Iodomethane	5.117	142	242339	27.78	ug/L	96
15) Allyl chloride	5.549	41	517148	26.48	ug/L	98
16) Methylene Chloride	5.684	49	515392	23.84	ug/L	98
17) Acetone	5.732	43	547036	101.50	ug/L	99
18) Methyl acetate	5.885	43	1269875	115.74	ug/L	99
19) trans-1,2-Dichloroethene	5.903	61	557098	24.22	ug/L	99
20) Hexane	6.007	56	287125	20.55	ug/L	87
21) Methyl Tert Butyl Ether	6.019	73	1135529	23.82	ug/L	89
22) Acetonitrile	6.305	41	425665	236.92	ug/L	98
23) Di-isopropyl ether	6.476	45	1152627	24.73	ug/L	99
24) Chloroprene	6.622	53	563640	23.67	ug/L	99
25) 1,1-Dichloroethane	6.641	63	783109	25.55	ug/L	98
26) Acrylonitrile	6.677	53	748998	121.30	ug/L	99
27) ETBE	6.903	59	1204345	24.04	ug/L	98
28) Vinyl acetate	6.903	43	4077426	135.40	ug/L	99
29) cis-1,2-Dichloroethene	7.275	96	426694	24.60	ug/L	97
30) 2,2-Dichloropropane	7.397	77	593282	21.99	ug/L	100
31) Bromochloromethane	7.506	128	184428	24.04	ug/L	98
32) Cyclohexane	7.537	56	623965	21.75	ug/L	99
33) Chloroform	7.573	83	767367	23.79	ug/L	99
34) Ethyl acetate	7.665	43	1915711	128.97	ug/L	100
35) Tetrahydrofuran	7.756	42	118668	22.63	ug/L	97
37) Carbon Tetrachloride	7.756	117	538301	23.23	ug/L	99
38) 1,1,1-Trichloroethane	7.817	97	642553	23.02	ug/L	99
39) 2-Butanone	7.878	43	884300	107.75	ug/L	98
40) 1,1-Dichloropropene	7.951	75	537605	22.32	ug/L	99
41) tert-Butyl Formate	8.037	59	1261587	88.01	ug/L	94
42) Propionitrile	8.195	54	635919	233.71	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69127.d
Acq On : 24 Jun 2021 10:44 pm
Operator : LINDSAYR
Sample : FA86397-23MS,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:24 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	Methacrylonitrile	8.220	41	2357816	254.92	ug/L	99
44)	Benzene	8.214	78	1652059	24.81	ug/L	98
45)	TAME	8.305	73	1111150	24.15	ug/L	99
47)	1,2-Dichloroethane	8.415	62	531530	24.67	ug/L	99
48)	Trichloroethene	8.829	95	399232	22.47	ug/L	99
49)	Methylcyclohexane	8.835	83	628985	22.84	ug/L	99
50)	Dibromomethane	9.262	93	234657	23.37	ug/L	99
51)	1,2-Dichloropropane	9.348	63	412692	24.48	ug/L	99
52)	Bromodichloromethane	9.408	83	514447	24.65	ug/L	100
53)	Methyl methacrylate	9.518	41	304258	25.24	ug/L	97
54)	2-Chloroethyl vinyl ether	9.945	63	12932	1.27	ug/L	92
55)	cis-1,3-Dichloropropene	10.030	75	602115	22.91	ug/L	99
58)	Toluene	10.274	91	1568830	20.63	ug/L	99
59)	2-Nitropropane	10.475	41	493595	113.63	ug/L	97
60)	4-Methyl-2-pentanone	10.597	43	1991124	116.76	ug/L	98
61)	trans-1,3-Dichloropropene	10.664	75	558545	23.97	ug/L	98
62)	Tetrachloroethene	10.683	166	378262	20.62	ug/L	97
63)	Ethyl methacrylate	10.774	69	525240	24.13	ug/L	99
64)	1,1,2-Trichloroethane	10.829	83	303815	22.71	ug/L	97
65)	Dibromochloromethane	11.030	129	368987	22.35	ug/L	99
66)	1,3-Dichloropropane	11.109	76	606051	22.21	ug/L	99
67)	1,2-Dibromoethane	11.286	107	364768	22.50	ug/L	100
68)	2-hexanone	11.420	43	1455782	113.51	ug/L	99
69)	1-Chlorohexane	11.731	91	537332	21.38	ug/L	99
70)	Ethylbenzene	11.792	91	1809931	21.51	ug/L	98
71)	Chlorobenzene	11.798	112	1003140	22.44	ug/L	99
72)	1,1,1,2-Tetrachloroethane	11.847	131	355772	22.61	ug/L	99
73)	m,p-Xylene	11.932	91	2733000	44.66	ug/L	100
74)	o-Xylene	12.371	91	1390346	22.06	ug/L	99
75)	Styrene	12.420	104	1019587	22.13	ug/L	99
76)	Bromoform	12.481	173	242559	22.36	ug/L	99
77)	Isopropylbenzene	12.676	105	1728406	22.23	ug/L	99
80)	cis-1,4-Dichloro-2-butene	13.018	53	131742	19.87	ug/L	96
81)	n-Propylbenzene	13.091	91	1990859	21.53	ug/L	98
82)	Bromobenzene	13.115	156	392677	21.06	ug/L	99
83)	1,1,2,2-Tetrachloroethane	13.152	83	516005	21.72	ug/L	100
84)	1,3,5-Trimethylbenzene	13.274	105	1307552	20.98	ug/L	99
85)	2-Chlorotoluene	13.280	91	1318627	21.25	ug/L	97
86)	trans-1,4-Dichloro-2-B...	13.328	53	124156	19.97	ug/L	97
87)	1,2,3-Trichloropropane	13.310	110	158998	21.79	ug/L	98
88)	Cyclohexanone	13.377	55	77797	92.89	ug/L	97
89)	4-Chlorotoluene	13.450	91	1152911	21.18	ug/L	99
90)	tert-Butylbenzene	13.615	91	773714	21.06	ug/L	98
91)	1,2,4-Trimethylbenzene	13.682	105	1184118	20.51	ug/L	98
92)	Pentachloroethane	13.670	167	243840	24.00	ug/L	99
93)	sec-Butylbenzene	13.798	105	1681391	21.95	ug/L	100
94)	4-Isopropyltoluene	13.926	119	1281356	21.04	ug/L	99
95)	1,3-Dichlorobenzene	14.066	146	665578	21.07	ug/L	100
96)	1,2,3-Trimethylbenzene	14.145	105	1235160	24.15	ug/L	100
97)	1,4-Dichlorobenzene	14.151	146	676296	20.84	ug/L	98
98)	n-Butylbenzene	14.365	92	638544	19.54	ug/L	100
99)	Benzyl Chloride	14.377	126	139260	17.37	ug/L	97
100)	1,2-Dichlorobenzene	14.578	146	625886	20.84	ug/L	99
101)	1,2-Dibromo-3-Chloropr...	15.316	75	93722	20.54	ug/L	98
102)	Hexachlorobutadiene	15.865	225	164596	18.61	ug/L	95
103)	1,2,4-Trichlorobenzene	15.913	180	293953	19.18	ug/L	98
104)	Naphthalene	16.188	128	836319	19.80	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69127.d
Acq On : 24 Jun 2021 10:44 pm
Operator : LINDSAYR
Sample : FA86397-23MS,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:24 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

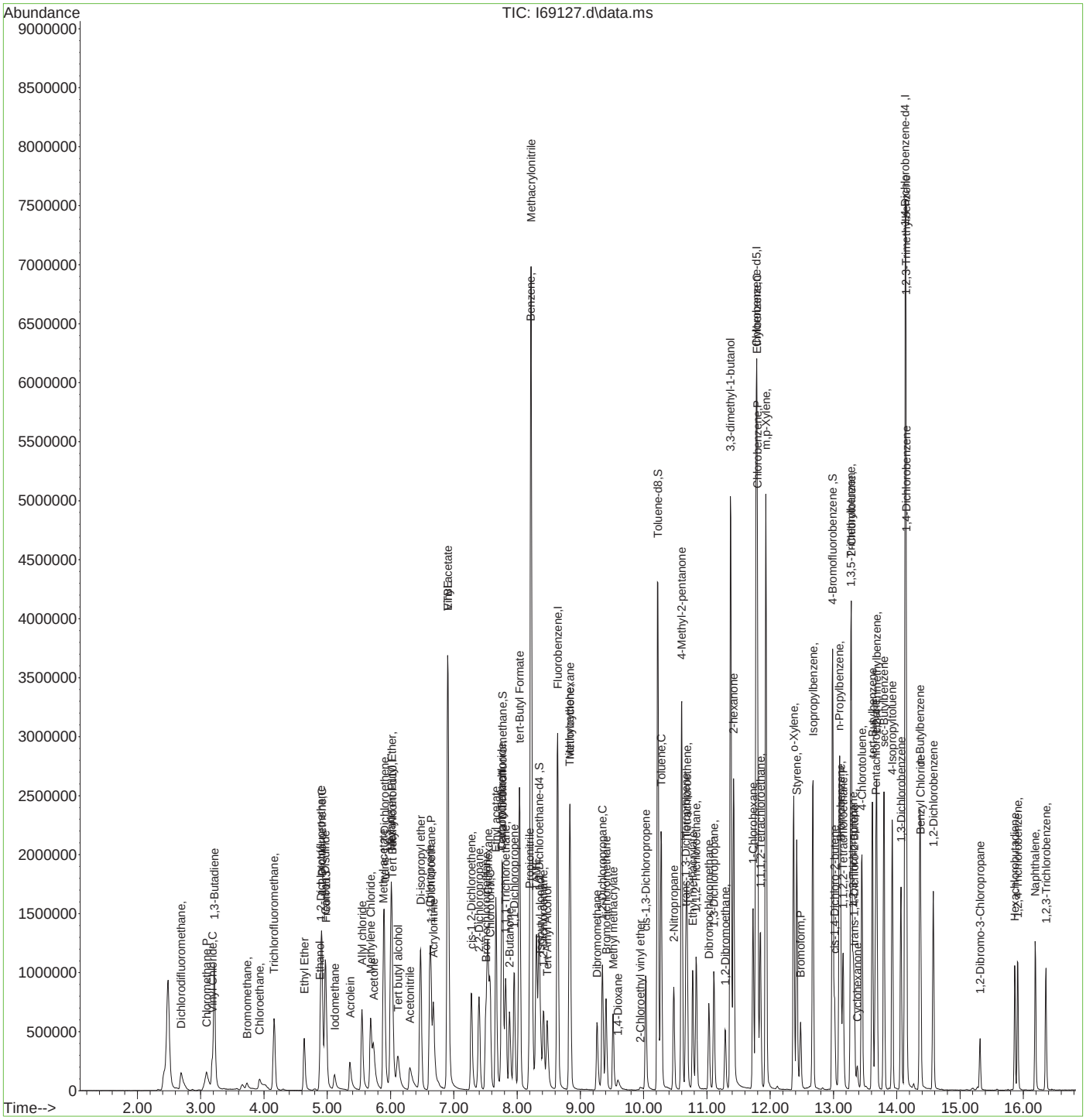
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,2,3-Trichlorobenzene	16.358	180	275361	19.06	ug/L	98
107) Ethanol	4.885	45	68687	441.26	ug/L	88
108) Acrolein	5.360	56	316428	120.19	ug/L	97
109) Tert butyl alcohol	6.116	59	528735	219.30	ug/L	94
110) Isobutyl alcohol	8.366	42	189416	554.99	ug/L	99
111) Tert Amyl Alcohol	8.476	59	408386	237.78	ug/L	96
112) 1,4-Dioxane	9.591	88	82766	457.21	ug/L	97
113) 3,3-dimethyl-1-butanol	11.371	57	2370779	1346.99	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69127.d
Acq On : 24 Jun 2021 10:44 pm
Operator : LINDSAYR
Sample : FA86397-23MS,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 26 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:24 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69128.d
Acq On : 24 Jun 2021 11:08 pm
Operator : LINDSAYR
Sample : FA86397-23MSD,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:29 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	2992401	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2525864	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1405759	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.031	65	651124	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.769	113	816033	49.92	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.84%			
46) 1,2-Dichloroethane-d4	8.348	65	934224	49.33	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.66%			
57) Toluene-d8	10.225	98	3127657	48.35	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.70%			
79) 4-Bromofluorobenzene	12.987	174	1083024	48.91	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.82%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	305861	15.74	ug/L	98
3) Chloromethane	3.105	50	368414	21.00	ug/L	97
4) Vinyl Chloride	3.184	62	479765	21.39	ug/L	98
5) 1,3-Butadiene	3.215	39	390766	32.95	ug/L	97
6) Bromomethane	3.733	94	67365	12.81	ug/L	99
7) Chloroethane	3.934	64	141304	27.42	ug/L	97
8) Trichlorofluoromethane	4.159	101	627681	21.58	ug/L	99
9) Ethyl Ether	4.641	59	324512	22.82	ug/L	97
10) 1,2-Dichlorotrifluoroe...	4.897	67	506407	24.02	ug/L	99
11) 1,1-Dichloroethene	4.915	61	595268	21.09	ug/L	98
12) Freon 113	4.976	101	329503	17.32	ug/L	99
13) Carbon Disulfide	4.970	76	867258	19.40	ug/L	99
14) Iodomethane	5.117	142	227102	23.95	ug/L	99
15) Allyl chloride	5.549	41	507123	23.54	ug/L	100
16) Methylene Chloride	5.690	49	517173	21.69	ug/L	98
17) Acetone	5.732	43	563144	94.72	ug/L	97
18) Methyl acetate	5.885	43	1280572	106.01	ug/L	98
19) trans-1,2-Dichloroethene	5.903	61	541477	21.34	ug/L	98
20) Hexane	6.007	56	282740	18.34	ug/L	87
21) Methyl Tert Butyl Ether	6.019	73	1177610	22.39	ug/L	90
22) Acetonitrile	6.311	41	444849	224.92	ug/L	99
23) Di-isopropyl ether	6.476	45	1159134	22.54	ug/L	100
24) Chloroprene	6.622	53	548263	20.87	ug/L	99
25) 1,1-Dichloroethane	6.641	63	775196	22.92	ug/L	100
26) Acrylonitrile	6.677	53	766276	112.66	ug/L	97
27) ETBE	6.903	59	1234282	22.34	ug/L	98
28) Vinyl acetate	6.903	43	4146664	124.26	ug/L	99
29) cis-1,2-Dichloroethene	7.275	96	426425	22.28	ug/L	96
30) 2,2-Dichloropropane	7.403	77	580969	19.52	ug/L	99
31) Bromochloromethane	7.506	128	190860	22.55	ug/L	95
32) Cyclohexane	7.537	56	612900	19.37	ug/L	99
33) Chloroform	7.573	83	766607	21.55	ug/L	99
34) Ethyl acetate	7.665	43	1941997	118.51	ug/L	100
35) Tetrahydrofuran	7.756	42	120993	20.92	ug/L	99
37) Carbon Tetrachloride	7.756	117	523512	20.47	ug/L	98
38) 1,1,1-Trichloroethane	7.817	97	636204	20.66	ug/L	98
39) 2-Butanone	7.878	43	898985	99.50	ug/L	98
40) 1,1-Dichloropropene	7.951	75	521624	19.63	ug/L	99
41) tert-Butyl Formate	8.037	59	1277454	80.78	ug/L	94
42) Propionitrile	8.195	54	655254	218.30	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69128.d
Acq On : 24 Jun 2021 11:08 pm
Operator : LINDSAYR
Sample : FA86397-23MSD,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:29 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Methacrylonitrile	8.220	41	2374624	232.73	ug/L	99
44) Benzene	8.214	78	1639853	22.32	ug/L	97
45) TAME	8.305	73	1144996	22.55	ug/L	100
47) 1,2-Dichloroethane	8.421	62	542083	22.81	ug/L	100
48) Trichloroethene	8.829	95	392802	20.04	ug/L	100
49) Methylcyclohexane	8.835	83	616763	20.30	ug/L	100
50) Dibromomethane	9.262	93	242415	21.88	ug/L	96
51) 1,2-Dichloropropane	9.347	63	414109	22.27	ug/L	99
52) Bromodichloromethane	9.402	83	517739	22.49	ug/L	99
53) Methyl methacrylate	9.518	41	307938	23.15	ug/L	97
54) 2-Chloroethyl vinyl ether	9.945	63	9049	0.81	ug/L	93
55) cis-1,3-Dichloropropene	10.030	75	604844	20.86	ug/L	100
58) Toluene	10.274	91	1550626	18.63	ug/L	100
59) 2-Nitropropane	10.475	41	494652	104.36	ug/L	100
60) 4-Methyl-2-pentanone	10.597	43	1977026	105.92	ug/L	98
61) trans-1,3-Dichloropropene	10.664	75	568097	22.27	ug/L	96
62) Tetrachloroethene	10.683	166	372285	18.54	ug/L	97
63) Ethyl methacrylate	10.774	69	532572	22.35	ug/L	98
64) 1,1,2-Trichloroethane	10.829	83	308801	21.09	ug/L	98
65) Dibromochloromethane	11.030	129	370063	20.56	ug/L	99
66) 1,3-Dichloropropane	11.109	76	618860	20.72	ug/L	99
67) 1,2-Dibromoethane	11.292	107	369124	20.80	ug/L	100
68) 2-hexanone	11.420	43	1436105	102.31	ug/L	98
69) 1-Chlorohexane	11.731	91	523975	19.05	ug/L	100
70) Ethylbenzene	11.792	91	1778230	19.31	ug/L	97
71) Chlorobenzene	11.798	112	994605	20.33	ug/L	100
72) 1,1,1,2-Tetrachloroethane	11.847	131	359085	20.85	ug/L	99
73) m,p-Xylene	11.932	91	2687044	40.12	ug/L	99
74) o-Xylene	12.371	91	1375096	19.93	ug/L	99
75) Styrene	12.420	104	1010560	20.04	ug/L	99
76) Bromoform	12.481	173	243782	20.64	ug/L	99
77) Isopropylbenzene	12.676	105	1699292	19.97	ug/L	99
80) cis-1,4-Dichloro-2-butene	13.018	53	135155	18.71	ug/L	97
81) n-Propylbenzene	13.091	91	1950883	19.37	ug/L	98
82) Bromobenzene	13.115	156	393824	19.38	ug/L	99
83) 1,1,2,2-Tetrachloroethane	13.152	83	526942	20.36	ug/L	100
84) 1,3,5-Trimethylbenzene	13.274	105	1286205	18.94	ug/L	100
85) 2-Chlorotoluene	13.280	91	1309993	19.38	ug/L	98
86) trans-1,4-Dichloro-2-B...	13.328	53	126775	18.76	ug/L	96
87) 1,2,3-Trichloropropane	13.310	110	156400	19.67	ug/L	99
88) Cyclohexanone	13.377	55	80406	88.13	ug/L	98
89) 4-Chlorotoluene	13.450	91	1127850	19.02	ug/L	100
90) tert-Butylbenzene	13.615	91	757880	18.94	ug/L	98
91) 1,2,4-Trimethylbenzene	13.682	105	1156148	18.38	ug/L	99
92) Pentachloroethane	13.670	167	245574	22.19	ug/L	96
93) sec-Butylbenzene	13.798	105	1657817	19.87	ug/L	99
94) 4-Isopropyltoluene	13.932	119	1253731	18.89	ug/L	100
95) 1,3-Dichlorobenzene	14.066	146	660015	19.18	ug/L	99
96) 1,2,3-Trimethylbenzene	14.145	105	1210998	21.73	ug/L	98
97) 1,4-Dichlorobenzene	14.151	146	667414	18.88	ug/L	99
98) n-Butylbenzene	14.365	92	619220	17.39	ug/L	99
99) Benzyl Chloride	14.377	126	138035	15.87	ug/L	96
100) 1,2-Dichlorobenzene	14.578	146	628844	19.22	ug/L	99
101) 1,2-Dibromo-3-Chloropr...	15.316	75	92720	18.76	ug/L	93
102) Hexachlorobutadiene	15.865	225	158722	16.47	ug/L	93
103) 1,2,4-Trichlorobenzene	15.913	180	289783	17.35	ug/L	99
104) Naphthalene	16.188	128	812448	17.66	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69128.d
Acq On : 24 Jun 2021 11:08 pm
Operator : LINDSAYR
Sample : FA86397-23MSD,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 27 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:29 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

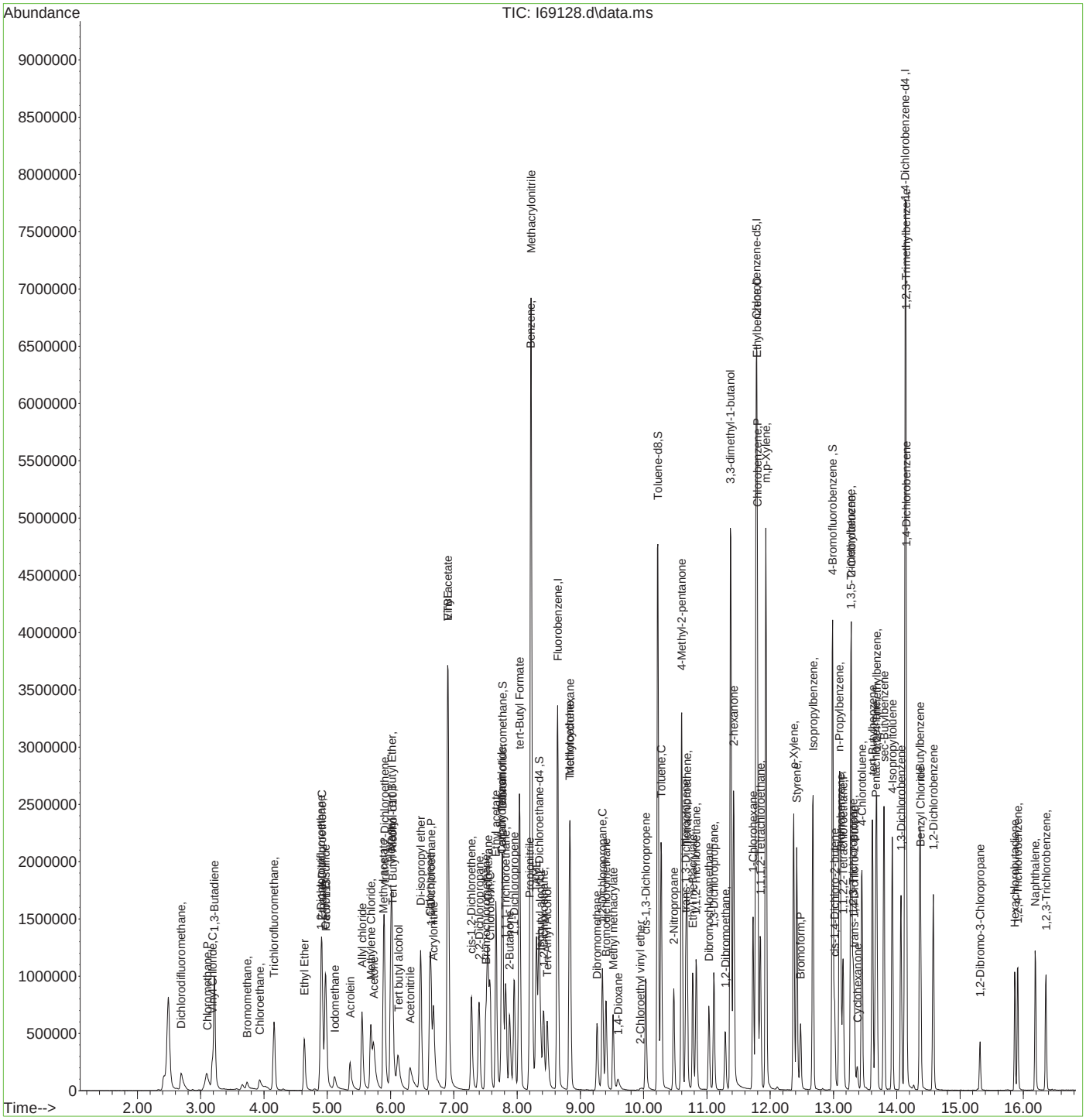
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,2,3-Trichlorobenzene	16.358	180	270776	17.21	ug/L	98
107) Ethanol	4.922	45	85019	488.08	ug/L	93
108) Acrolein	5.360	56	328961	111.66	ug/L	100
109) Tert butyl alcohol	6.122	59	564659	209.29	ug/L	86
110) Isobutyl alcohol	8.366	42	193204	505.87	ug/L	97
111) Tert Amyl Alcohol	8.476	59	424899	221.08	ug/L	97
112) 1,4-Dioxane	9.597	88	97380	480.72	ug/L	99
113) 3,3-dimethyl-1-butanol	11.371	57	2307788	1166.16	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69128.d
Acq On : 24 Jun 2021 11:08 pm
Operator : LINDSAYR
Sample : FA86397-23MSD,5X Inst : MSVOA16
Misc : MS49159,VI2221,,,,,5
ALS Vial : 27 Sample Multiplier: 1

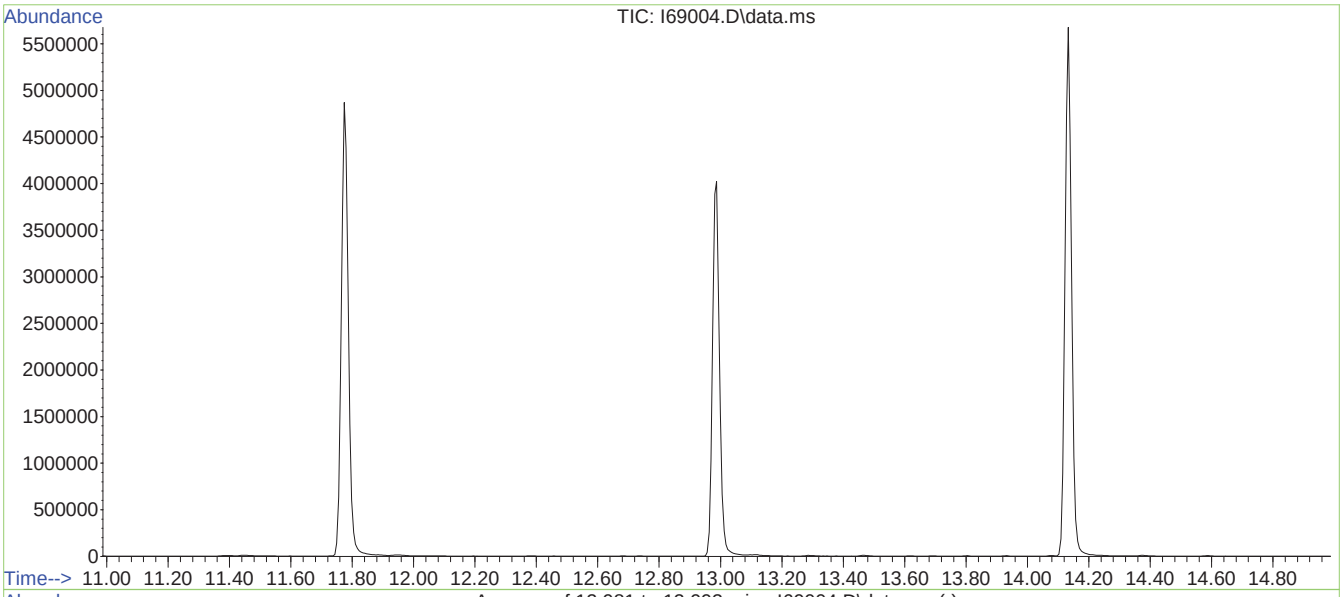
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:29 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

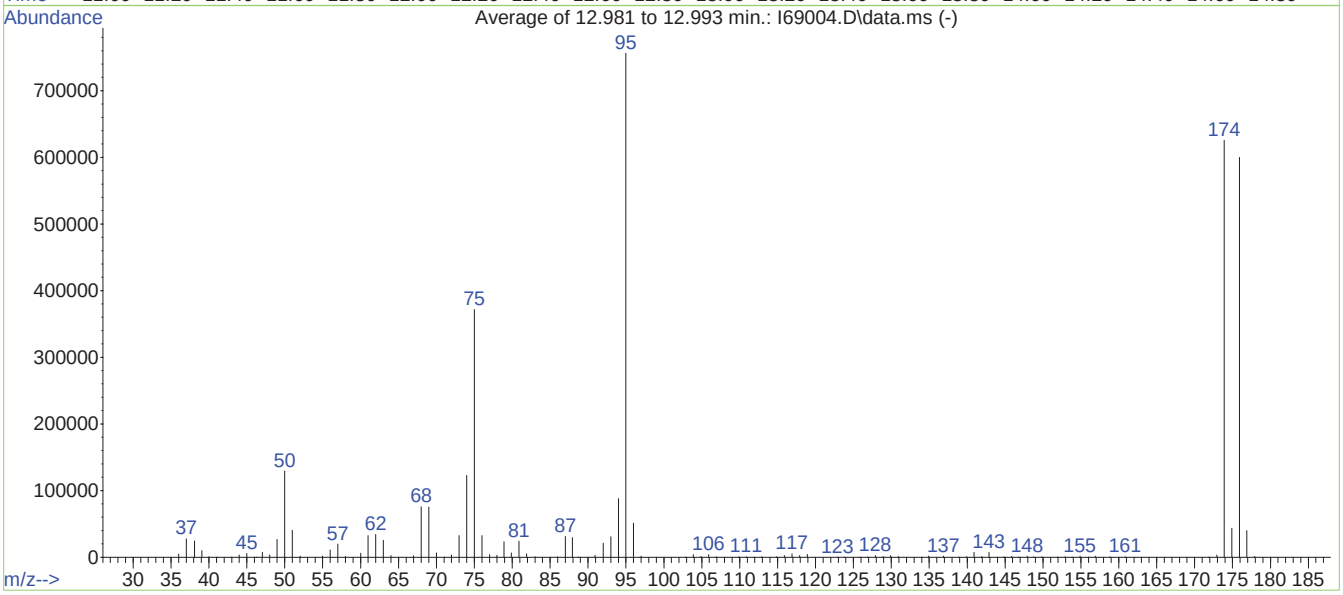


Methods: SW-846 8260B

Data File : C:\msdchem\1\data\2021-06-21\I69004.D Vial: 1
Acq On : 21 Jun 2021 11:59 am Operator: LINDSAYR
Sample : BFB Inst : MSVOA16
Misc : MS49159,VI2216,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B





AutoFind: Scans 1951, 1952, 1953; Background Corrected with Scan 1943

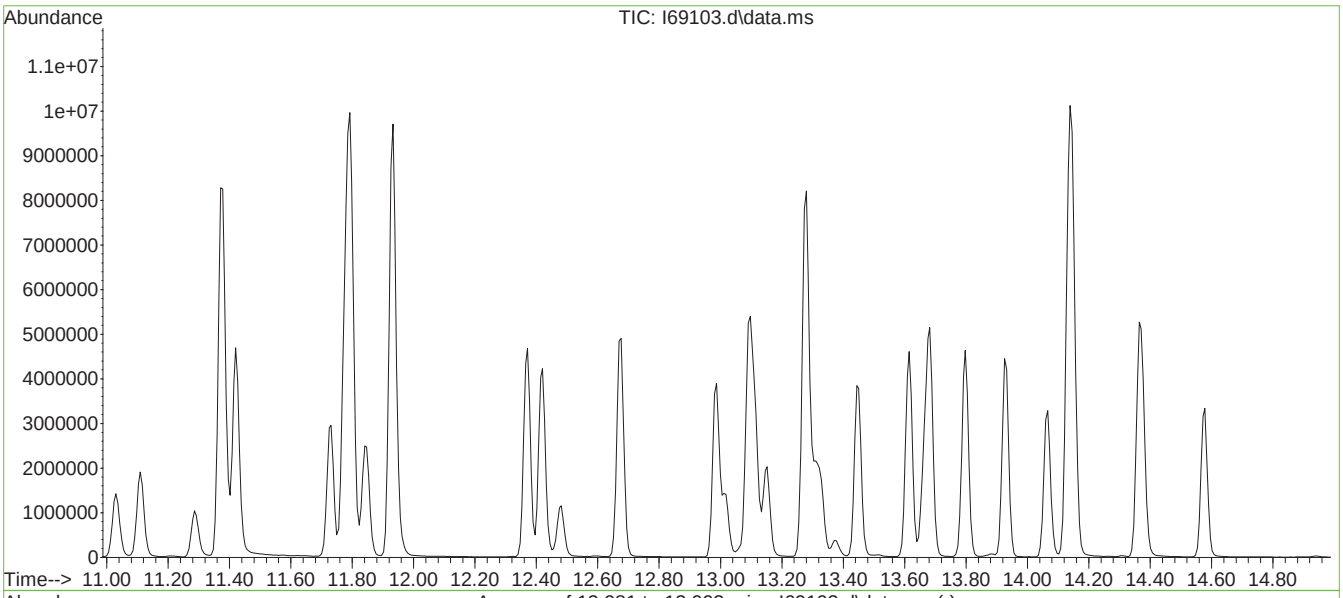
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.1	129403	PASS
75	95	30	60	49.1	371648	PASS
95	95	100	100	100.0	756181	PASS
96	95	5	9	6.8	51080	PASS
173	174	0.00	2	0.5	3331	PASS
174	95	50	100	82.7	625600	PASS
175	174	5	9	6.9	43461	PASS
176	174	95	101	95.9	600107	PASS
177	176	5	9	6.7	39931	PASS

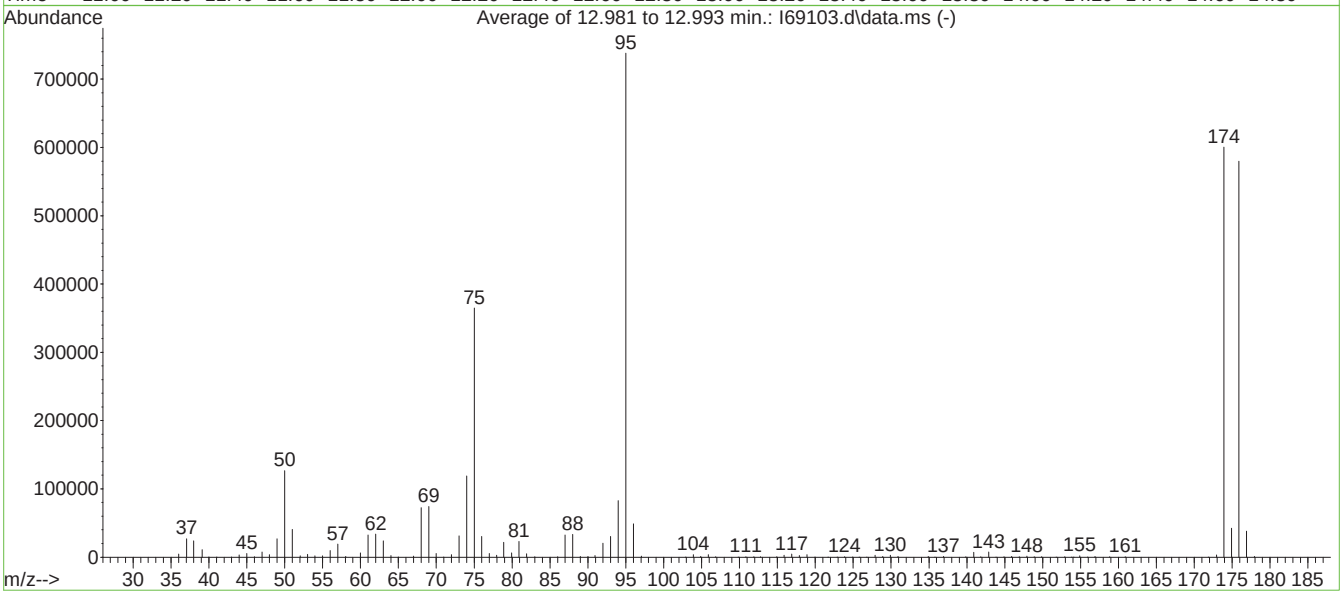
I69004.D 2021-06-21APP9-I.m Tue Jun 22 08:08:32 2021

Methods: SW-846 8260B

Data File : C:\msdchem\1\data\Je...-2021\VI2221\I69103.d Vial: 2
Acq On : 24 Jun 2021 12:56 pm Operator: LINDSAYR
Sample : BFB Inst : MSVOA16
Misc : MS49159,VI2221,,,,, Multiplr: 1.00
MS Integration Params: tiny.p

Method : C:\msdchem\1\met...21-06-21APP9-I.m (RTE Integrator)
Title : SW-846 Method 5035A/8260B





AutoFind: Scans 1951, 1952, 1953; Background Corrected with Scan 1943

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.1	126453	PASS
75	95	30	60	49.4	364608	PASS
95	95	100	100	100.0	737877	PASS
96	95	5	9	6.6	48864	PASS
173	174	0.00	2	0.5	3142	PASS
174	95	50	100	81.4	600491	PASS
175	174	5	9	7.1	42349	PASS
176	174	95	101	96.6	579883	PASS
177	176	5	9	6.6	38299	PASS

I69103.d 2021-06-21APP9-I.m Fri Jun 25 01:16:58 2021

Manual Integrations APPROVED
(compounds with "m" flag)
Chelsea VanDenBurg
06/23/21 08:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:26:27 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3039144	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2435534	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1301349	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.019	65	689232	250.00	ug/L	-0.02
System Monitoring Compounds						
36) Dibromofluoromethane	7.774	113	824100	50.15	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery =	100.30%		
46) 1,2-Dichloroethane-d4	8.347	65	987771	49.86	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery =	99.72%		
57) Toluene-d8	10.225	98	3086284	46.29	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery =	92.58%		
79) 4-Bromofluorobenzene	12.987	174	1020110	47.72	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery =	95.44%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.702	85	18114	0.97	ug/L	91
3) Chloromethane	3.098	50	18698	0.86	ug/L	96
4) Vinyl Chloride	3.190	62	21785	1.11	ug/L	96
5) 1,3-Butadiene	3.220	39	17751	1.56	ug/L	96
6) Bromomethane	3.732	94	4174	0.34	ug/L	83
7) Chloroethane	3.934	64	13459	2.79	ug/L	93
8) Trichlorofluoromethane	4.171	101	26996	1.04	ug/L	97
9) Ethyl Ether	4.653	59	13562	1.07	ug/L	89
10) 1,2-Dichlorotrifluoroe...	4.903	67	21482	1.21	ug/L	99
11) 1,1-Dichloroethene	4.927	61	28026	1.22	ug/L	96
12) Freon 113	4.982	101	18935	1.23	ug/L	93
13) Carbon Disulfide	4.982	76	44551	1.07	ug/L	97
14) Iodomethane	5.122	142	7636	0.36	ug/L	98
15) Allyl chloride	5.568	41	20962	0.96	ug/L	86
16) Methylene Chloride	5.696	49	28613	1.36	ug/L	99
17) Acetone	5.769	43	22521	4.53	ug/L	86
18) Methyl acetate	5.921	43	41537m	3.73	ug/L	
19) trans-1,2-Dichloroethene	5.921	61	24240	1.17	ug/L	97
20) Hexane	6.013	56	16255	1.22	ug/L	93
21) Methyl Tert Butyl Ether	6.025	73	52385	1.14	ug/L	85
22) Acetonitrile	6.378	41	11553	5.95	ug/L	78
23) Di-isopropyl ether	6.482	45	49896	1.02	ug/L	98
24) Chloroprene	6.628	53	25592	1.13	ug/L	98
25) 1,1-Dichloroethane	6.647	63	34561	1.24	ug/L	98
26) Acrylonitrile	6.744	53	17766	2.87	ug/L	82
27) ETBE	6.909	59	52151	1.08	ug/L	95
28) Vinyl acetate	6.939	43	98068	3.53	ug/L	97
29) cis-1,2-Dichloroethene	7.287	96	18667	1.19	ug/L	93
30) 2,2-Dichloropropane	7.403	77	29505	1.18	ug/L	99
31) Bromochloromethane	7.518	128	8294	1.18	ug/L	93
32) Cyclohexane	7.543	56	31791	1.14	ug/L	97
33) Chloroform	7.579	83	38605	1.34	ug/L	99
34) Ethyl acetate	7.683	43	64390	4.18	ug/L	99
35) Tetrahydrofuran	7.768	42	7080	1.32	ug/L	92
37) Carbon Tetrachloride	7.762	117	24948m	1.21	ug/L	
38) 1,1,1-Trichloroethane	7.823	97	31421	1.26	ug/L	99
39) 2-Butanone	7.915	43	30440	4.01	ug/L	95
40) 1,1-Dichloropropene	7.963	75	26522	1.20	ug/L	96
41) tert-Butyl Formate	8.043	59	64743	4.30	ug/L #	69
42) Propionitrile	8.213	54	28262	11.13	ug/L #	21
43) Methacrylonitrile	8.232	41	113523	12.88	ug/L	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:26:27 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Benzene	8.226	78	76043	1.33	ug/L		94
45) TAME	8.311	73	49568	1.12	ug/L		92
47) 1,2-Dichloroethane	8.427	62	24652	1.24	ug/L		98
48) Trichloroethene	8.841	95	21082	1.30	ug/L		97
49) Methylcyclohexane	8.841	83	29658	1.11	ug/L		99
50) Dibromomethane	9.280	93	10011	1.11	ug/L		92
51) 1,2-Dichloropropane	9.359	63	17840	1.09	ug/L		94
52) Bromodichloromethane	9.414	83	19074	0.98	ug/L		98
53) Methyl methacrylate	9.548	41	11016	0.86	ug/L		90
54) 2-Chloroethyl vinyl ether	9.945	63	54469	6.02	ug/L		98
55) cis-1,3-Dichloropropene	10.036	75	24182	0.95	ug/L		97
58) Toluene	10.280	91	86831	1.21	ug/L		98
59) 2-Nitropropane	10.481	41	13307	2.99	ug/L	#	76
60) 4-Methyl-2-pentanone	10.609	43	74851	4.27	ug/L		94
61) trans-1,3-Dichloropropene	10.682	75	18531	0.79	ug/L		92
62) Tetrachloroethene	10.688	166	19895	1.21	ug/L		94
63) Ethyl methacrylate	10.786	69	19435	0.87	ug/L		93
64) 1,1,2-Trichloroethane	10.835	83	14415	1.12	ug/L		98
65) Dibromochloromethane	11.036	129	12311	0.78	ug/L		98
66) 1,3-Dichloropropane	11.115	76	26205	0.97	ug/L		99
67) 1,2-Dibromoethane	11.298	107	14851	0.92	ug/L		99
68) 2-hexanone	11.432	43	51980	4.15	ug/L		95
69) 1-Chlorohexane	11.737	91	24307	0.99	ug/L		87
70) Ethylbenzene	11.798	91	94685	1.24	ug/L		97
71) Chlorobenzene	11.798	112	46691	1.12	ug/L		92
72) 1,1,1,2-Tetrachloroethane	11.847	131	13856	0.91	ug/L	#	81
73) m,p-Xylene	11.938	91	130038	2.21	ug/L		97
74) o-Xylene	12.371	91	63929	1.01	ug/L		96
75) Styrene	12.432	104	38612	0.85	ug/L		94
76) Bromoform	12.487	173	7178	0.69	ug/L		87
77) Isopropylbenzene	12.676	105	81433	1.07	ug/L		97
80) cis-1,4-Dichloro-2-butene	13.023	53	5900	0.85	ug/L	#	27
81) n-Propylbenzene	13.097	91	93800	1.04	ug/L		98
82) Bromobenzene	13.121	156	17725	1.02	ug/L		97
83) 1,1,2,2-Tetrachloroethane	13.151	83	21055	0.91	ug/L		98
84) 1,3,5-Trimethylbenzene	13.279	105	60910	1.04	ug/L		100
85) 2-Chlorotoluene	13.286	91	63225	1.05	ug/L		97
86) trans-1,4-Dichloro-2-B...	13.340	53	4697	0.70	ug/L	#	60
87) 1,2,3-Trichloropropane	13.316	110	7063	1.01	ug/L		96
88) Cyclohexanone	13.383	55	3429	3.74	ug/L		92
89) 4-Chlorotoluene	13.456	91	52651	0.97	ug/L		98
90) tert-Butylbenzene	13.615	91	36406	1.00	ug/L		96
91) 1,2,4-Trimethylbenzene	13.688	105	54509	0.94	ug/L		98
92) Pentachloroethane	13.670	167	8533	0.84	ug/L		86
93) sec-Butylbenzene	13.798	105	76269	1.02	ug/L		95
94) 4-Isopropyltoluene	13.932	119	56960	0.97	ug/L		99
95) 1,3-Dichlorobenzene	14.072	146	30944	1.00	ug/L		97
96) 1,2,3-Trimethylbenzene	14.145	105	51950	0.66	ug/L		100
97) 1,4-Dichlorobenzene	14.151	146	33864	1.14	ug/L		94
98) n-Butylbenzene	14.371	92	28548	0.93	ug/L		85
99) Benzyl Chloride	14.383	126	4266	0.50	ug/L	#	44
100) 1,2-Dichlorobenzene	14.584	146	28938	0.99	ug/L		97
101) 1,2-Dibromo-3-Chloropr...	15.316	75	2858	0.61	ug/L	#	77
102) Hexachlorobutadiene	15.870	225	9510	1.13	ug/L		93
103) 1,2,4-Trichlorobenzene	15.919	180	13170	0.92	ug/L		93
104) Naphthalene	16.193	128	36535	0.90	ug/L		95
105) 1,2,3-Trichlorobenzene	16.358	180	13100	0.99	ug/L		98
108) Acrolein	5.421	56	12359m	3.90	ug/L		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:26:27 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
109) Tert butyl alcohol	6.116	59	29394	10.56 ug/L	85
110) Isobutyl alcohol	8.384	42	6306	12.81 ug/L	77
111) Tert Amyl Alcohol	8.488	59	18230	9.28 ug/L	91
112) 1,4-Dioxane	9.616	88	4433	22.41 ug/L	96
113) 3,3-dimethyl-1-butanol	11.377	57	55682m	28.59 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
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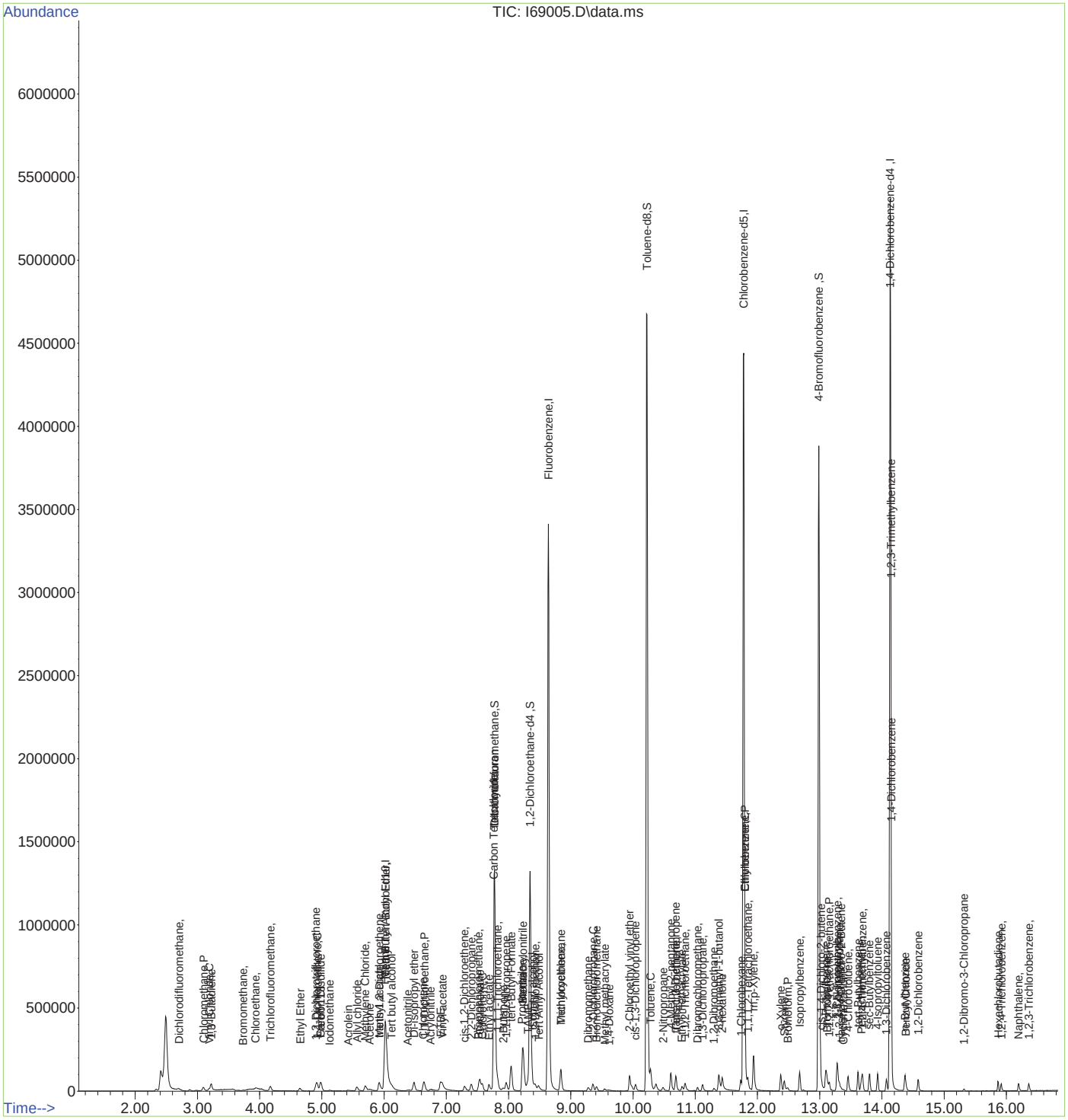

Manual Integration Approval Summary

Sample Number: VI2216-IC2216
Lab FileID: I69005.D
Injection Time: 06/21/21 12:23
Method: SW846 8260B
Analyst approved: 06/22/21 08:21 Lindsay Ritner
Supervisor approved: 06/23/21 08:07 Chelsea VanDenBurg

Parameter	CAS	Sig#	R.T. (min.)	Reason
Acrolein	107-02-8		5.42	Poor instrument integration
Methyl Acetate	79-20-9		5.92	Poor instrument integration
Carbon Tetrachloride	56-23-5		7.76	Missed peak
3,3-Dimethyl-1-Butanol	624-95-3		11.38	Overlapping peak

Quantitation Report (Qedit)

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Sample : IC2216-1
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Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
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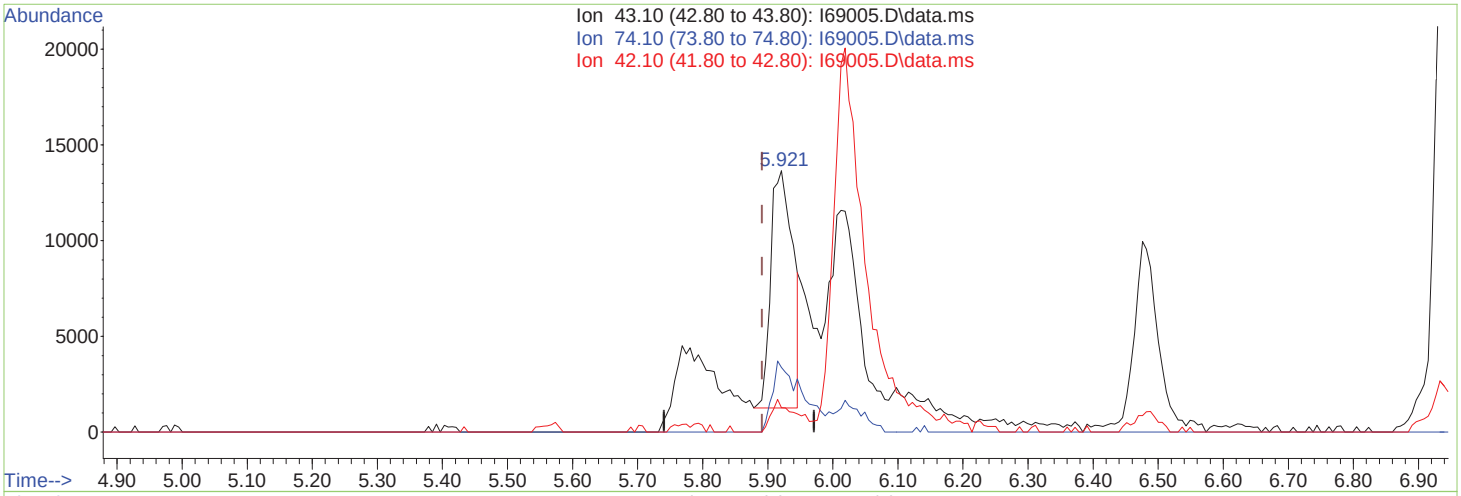

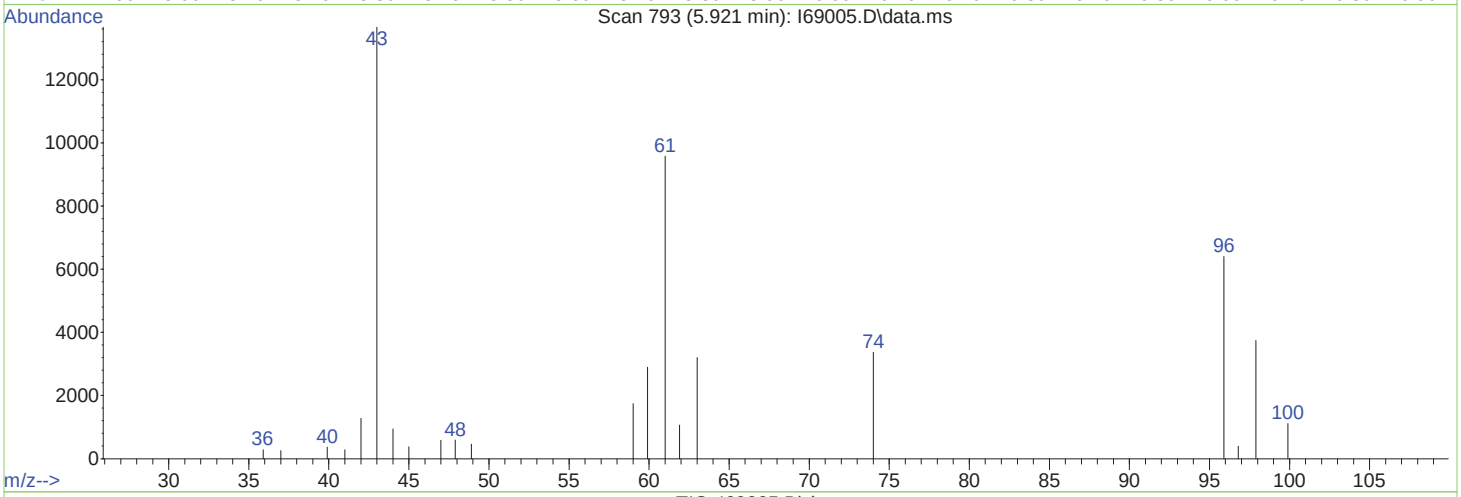

TIC: I69005.D\data.ms

(18) Methyl acetate

5.921min (+0.030) 2.63ug/L

response 29225

Ion	Exp%	Act%
43.10	100	100
74.10	25.40	27.21
42.10	10.30	10.29
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
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Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
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Quant Time: Jun 21 15:20:07 2021
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Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
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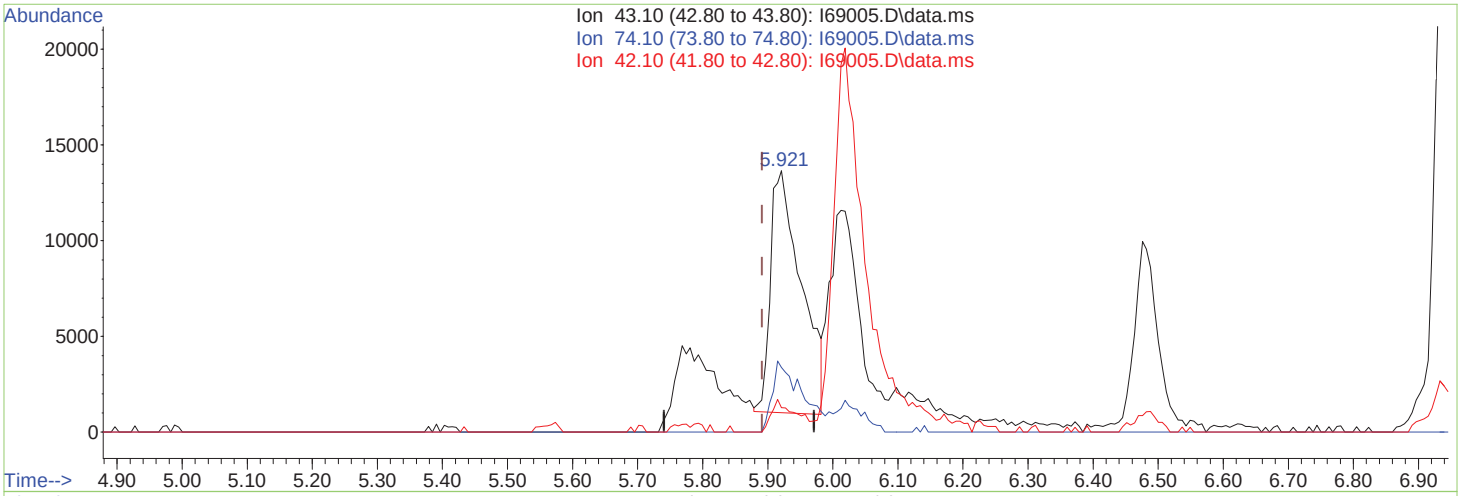
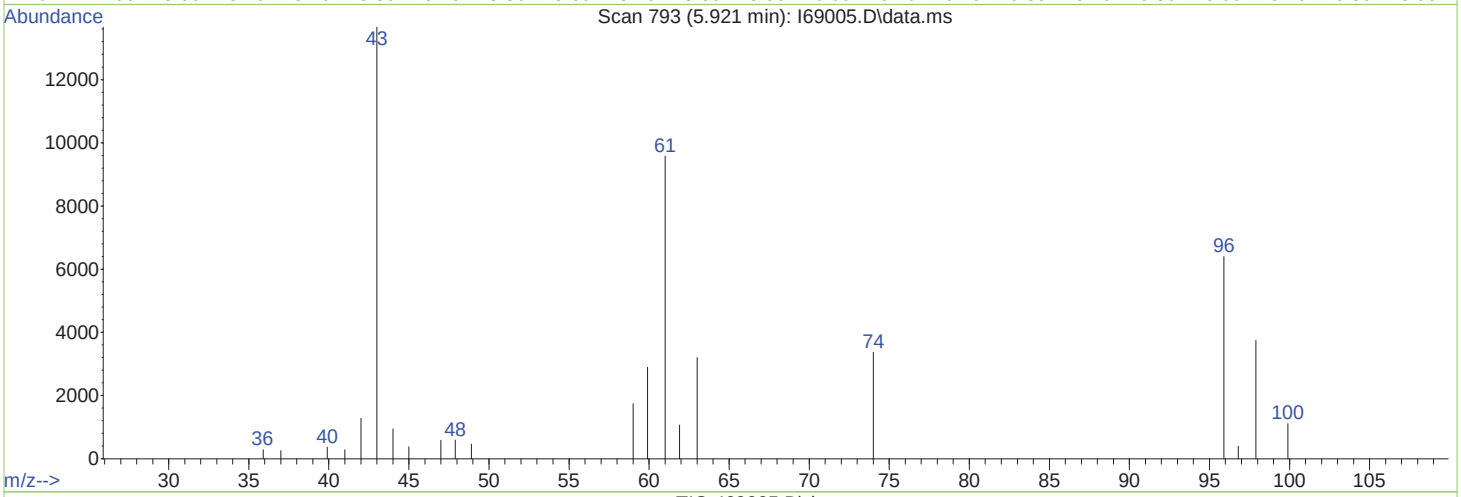




TIC: I69005.D\data.ms

(18) Methyl acetate

5.921min (+0.030) 3.73ug/L m

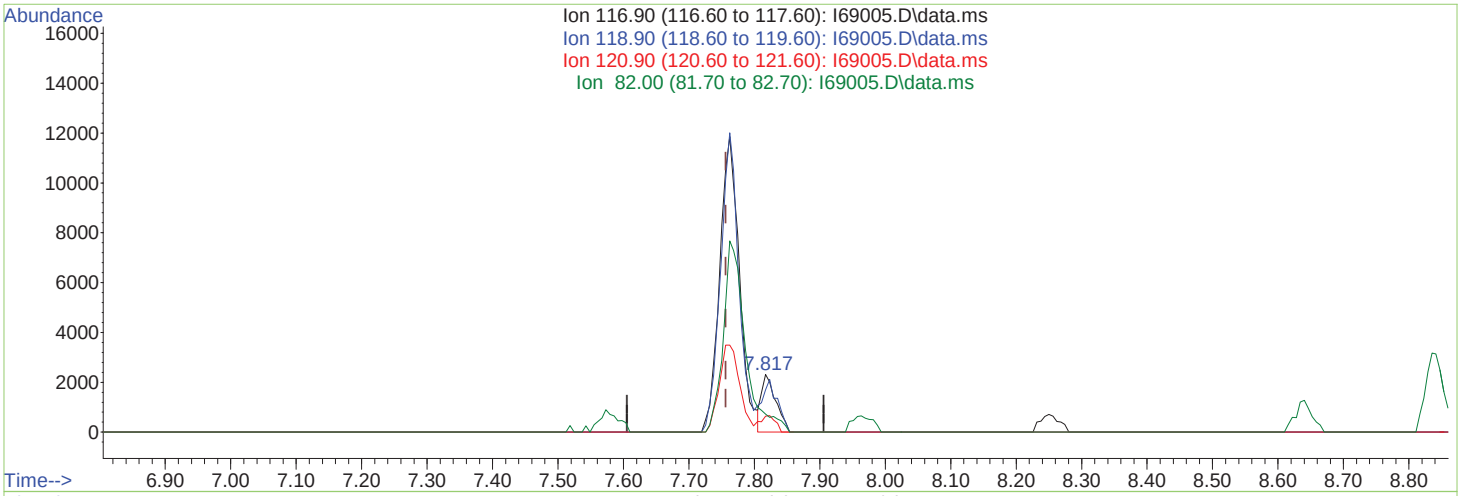
response 41537

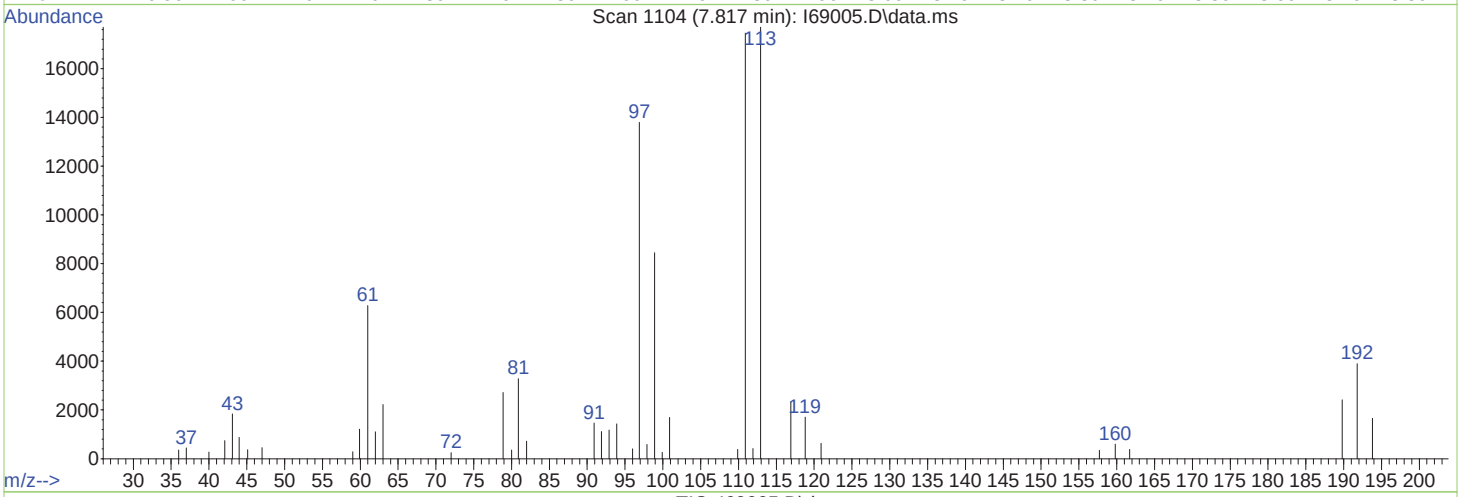
Ion	Exp%	Act%
43.10	100	100
74.10	25.40	24.69
42.10	10.30	9.34
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69005.D\data.ms

(37) Carbon Tetrachloride ( )

7.817min (+0.061) 0.17ug/L

response 3492

Ion	Exp%	Act%
116.90	100	100
118.90	95.70	73.46
120.90	30.50	27.54
82.00	24.70	31.16

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
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Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
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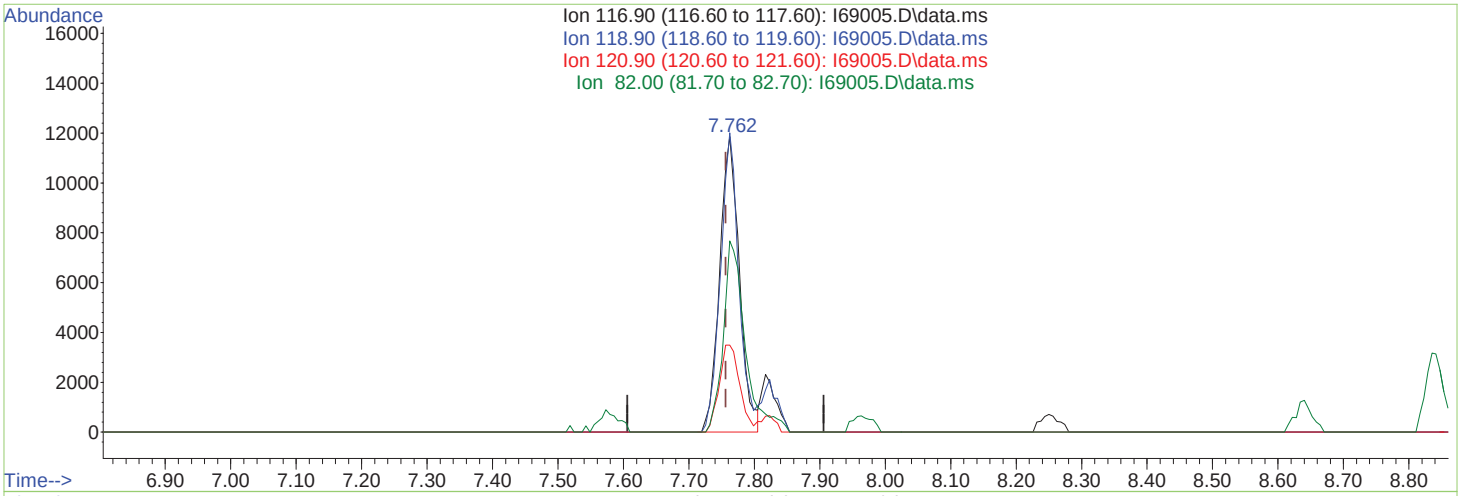

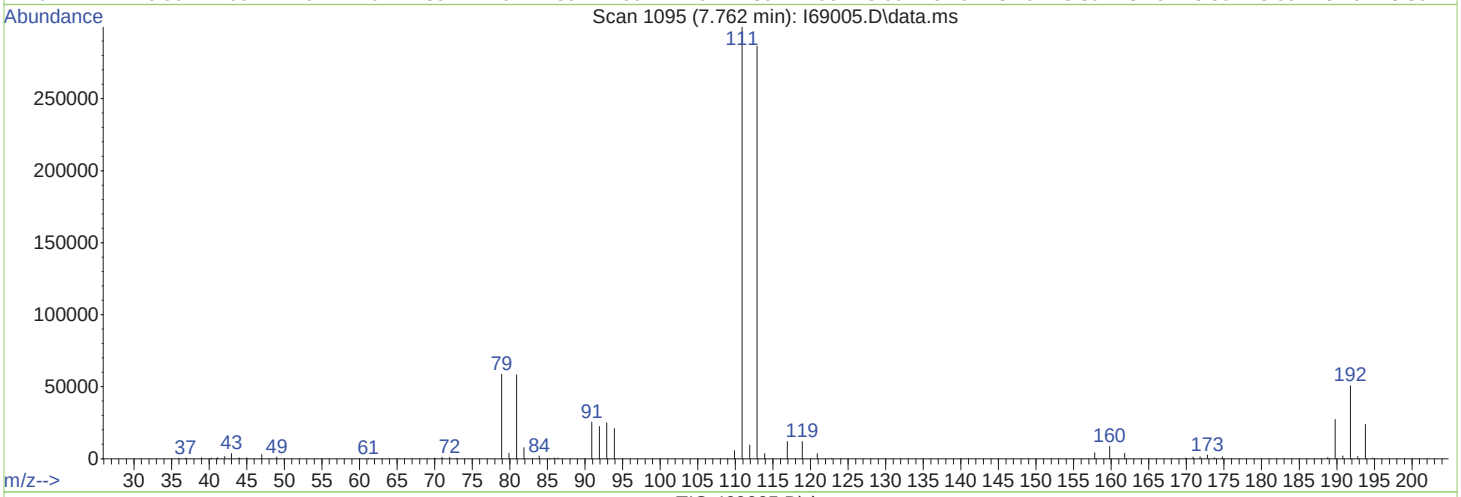

TIC: I69005.D\data.ms

(37) Carbon Tetrachloride ( )

7.762min (+0.006) 1.21ug/L m

response 24948

Ion	Exp%	Act%
116.90	100	100
118.90	95.70	101.29
120.90	30.50	29.48
82.00	24.70	64.76#

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
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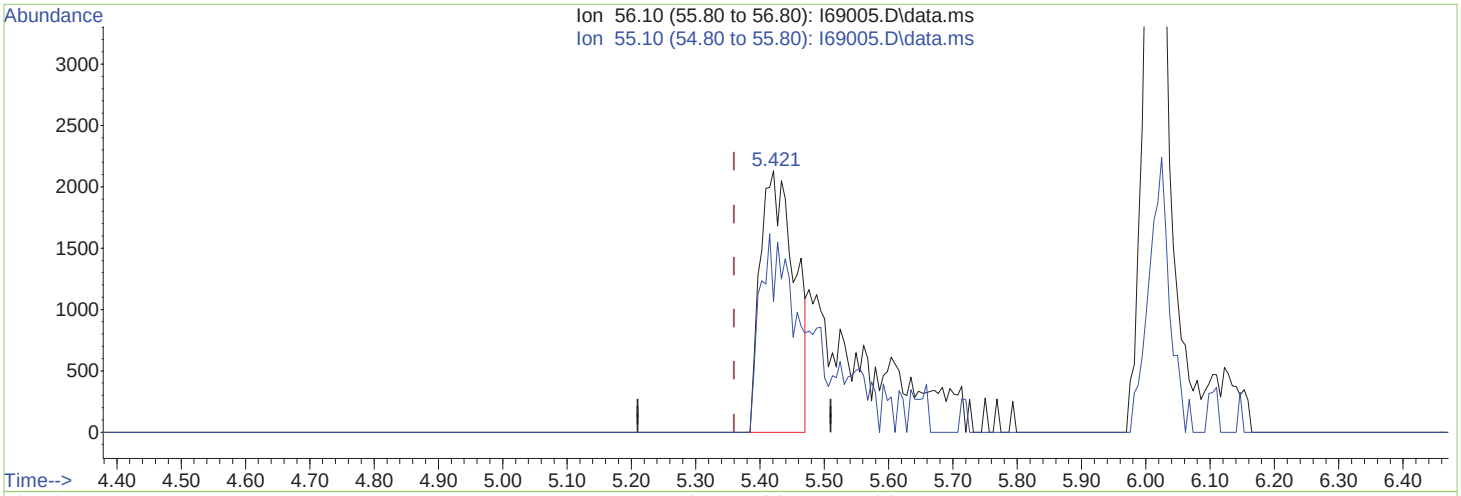

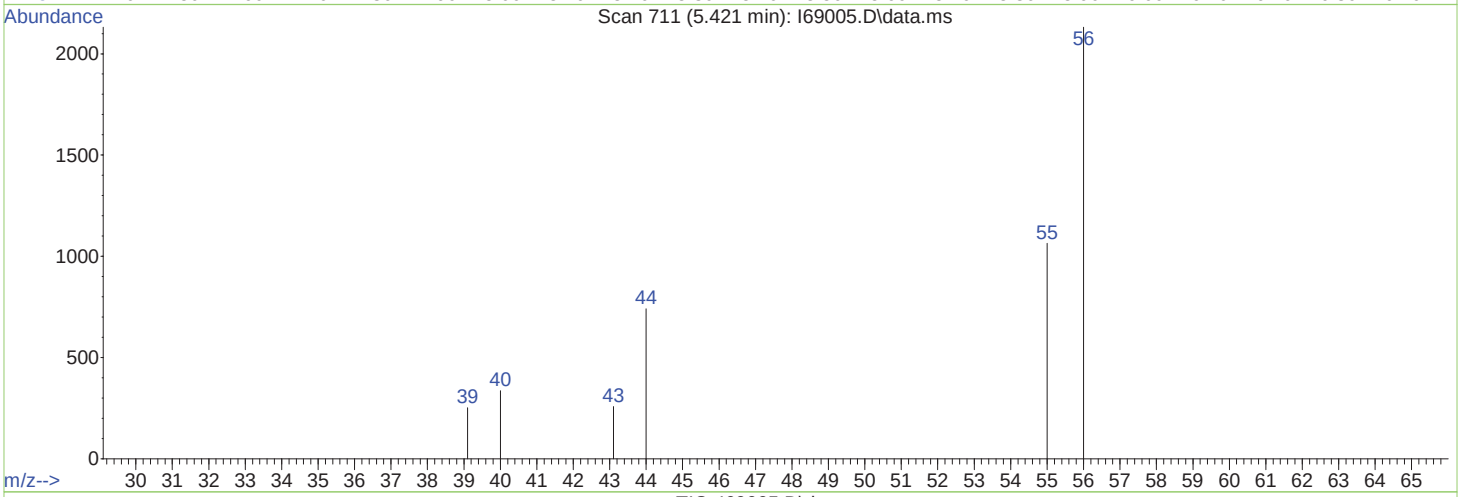

TIC: I69005.D\data.ms

(108) Acrolein

5.421min (+0.061) 2.49ug/L

response 7892

Ion	Exp%	Act%
56.10	100	100
55.10	71.30	49.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
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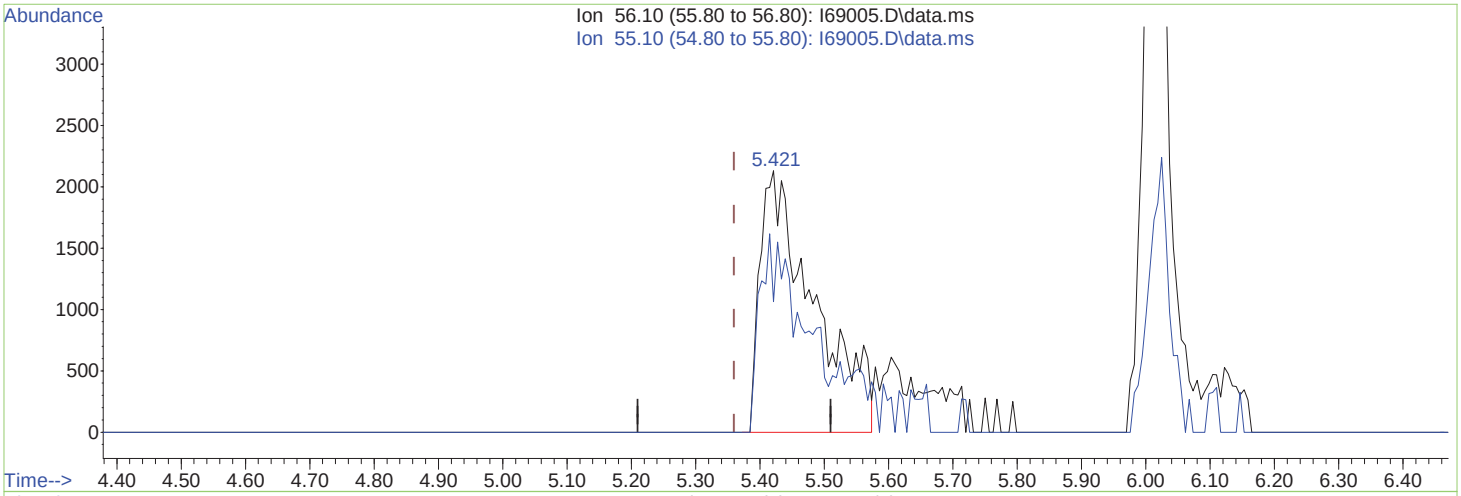

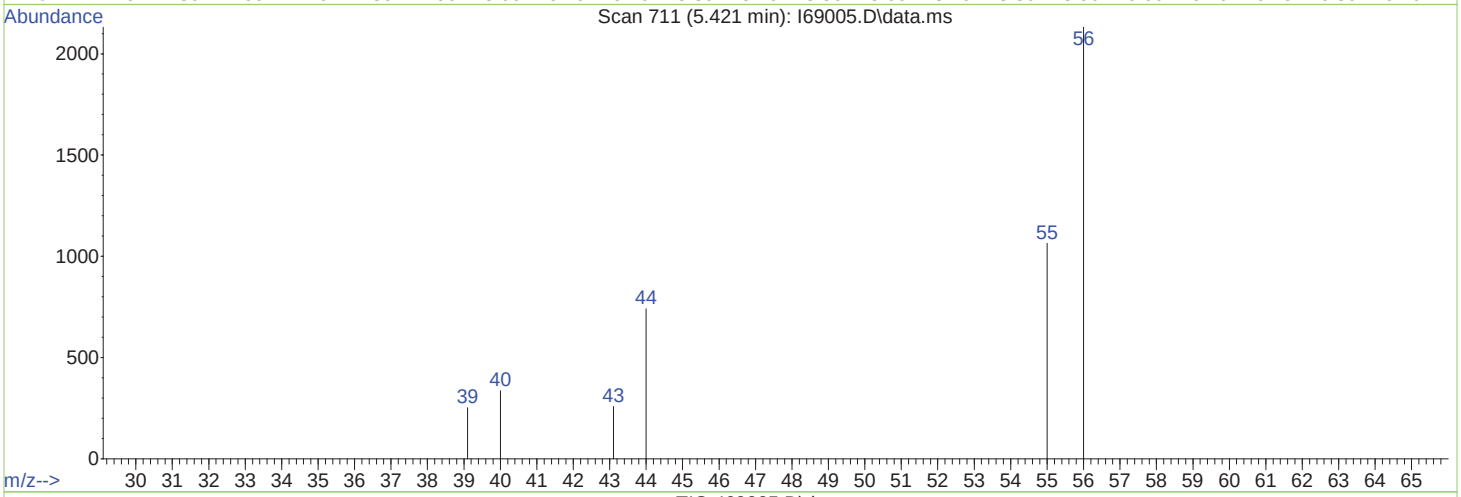

TIC: I69005.D\data.ms

(108) Acrolein

5.421min (+0.061) 3.90ug/L m

response 12359

Ion	Exp%	Act%
56.10	100	100
55.10	71.30	49.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
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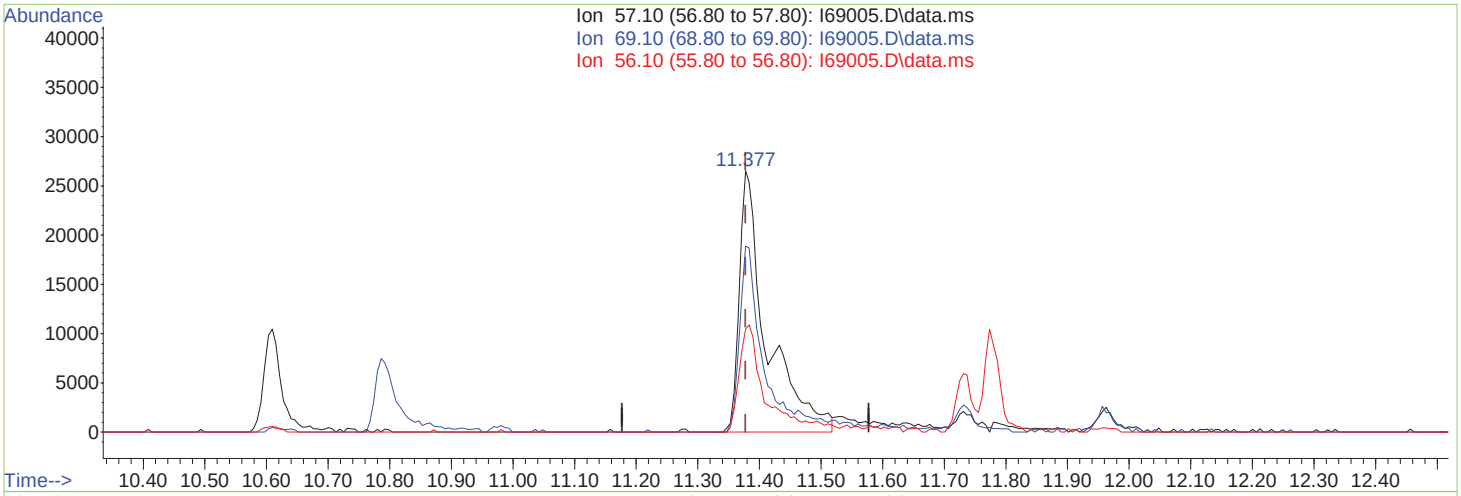

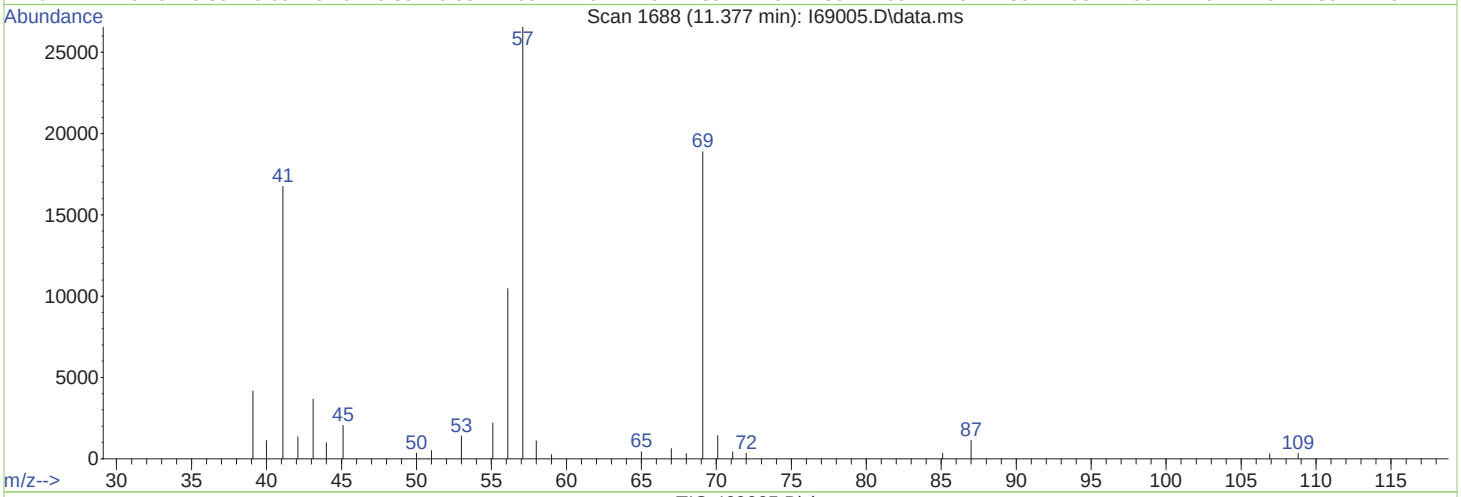

TIC: I69005.D\data.ms

(113) 3,3-dimethyl-1-butanol

11.377min (+0.000) 42.06ug/L

response 81922

Ion	Exp%	Act%
57.10	100	100
69.10	72.90	71.11
56.10	44.60	39.40
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69005.D
Acq On : 21 Jun 2021 12:23 pm
Operator : LINDSAYR
Sample : IC2216-1
Misc : MS49159,VI2216,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 21 15:20:07 2021
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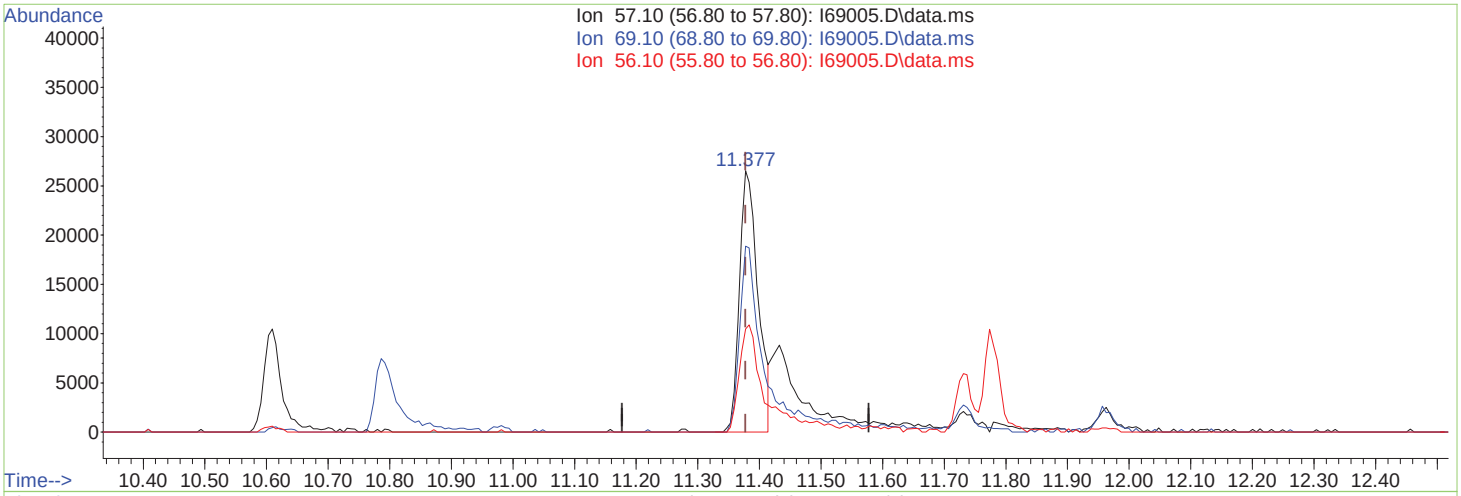
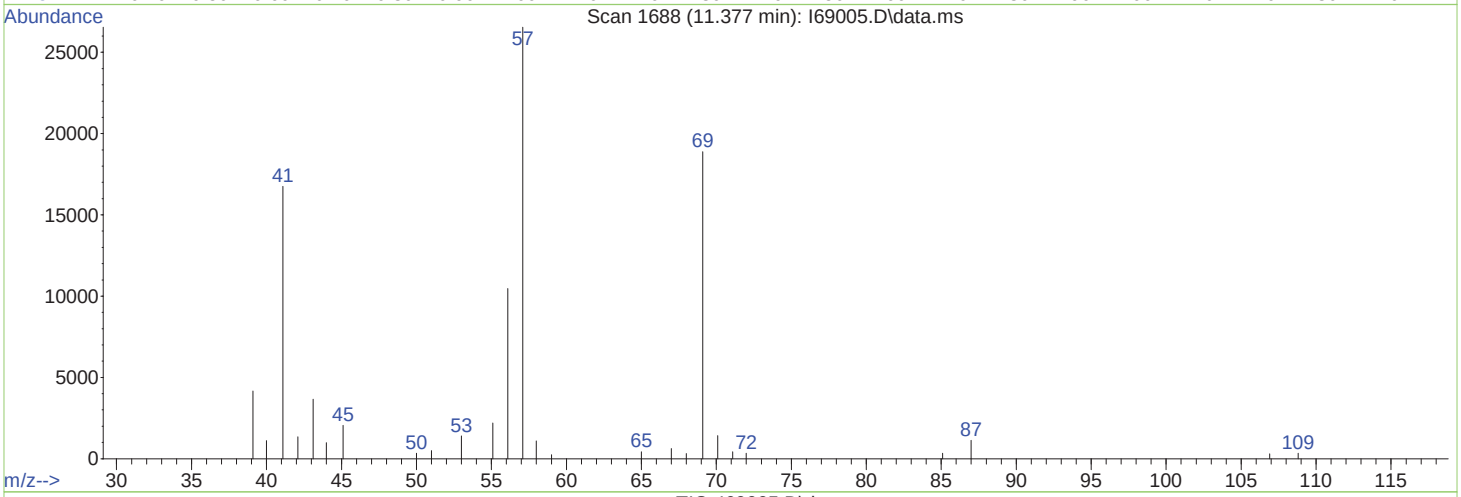




TIC: I69005.D\data.ms

(113) 3,3-dimethyl-1-butanol

11.377min (+0.000) 28.59ug/L m

response 55682

Ion	Exp%	Act%
57.10	100	100
69.10	72.90	71.11
56.10	44.60	39.40
0.00	0.00	0.00

Manual Integrations APPROVED
(compounds with "m" flag)
Chelsea VanDenBurg
06/23/21 08:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:28:30 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3094176	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2487596	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1348252	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.025	65	731669	250.00	ug/L	-0.01
System Monitoring Compounds						
36) Dibromofluoromethane	7.775	113	850127	50.82	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.64%			
46) 1,2-Dichloroethane-d4	8.348	65	1011204	50.13	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 100.26%			
57) Toluene-d8	10.225	98	3184982	46.77	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 93.54%			
79) 4-Bromofluorobenzene	12.987	174	1060242	47.87	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.74%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	101599	5.36	ug/L	99
3) Chloromethane	3.099	50	88320	3.98	ug/L	94
4) Vinyl Chloride	3.184	62	112969	5.66	ug/L	98
5) 1,3-Butadiene	3.214	39	68760	5.92	ug/L	95
6) Bromomethane	3.733	94	21046	1.68	ug/L	87
7) Chloroethane	3.940	64	64942	13.44	ug/L	97
8) Trichlorofluoromethane	4.172	101	148519	5.62	ug/L	99
9) Ethyl Ether	4.641	59	70769	5.46	ug/L	97
10) 1,2-Dichlorotrifluoroe...	4.903	67	108302	5.97	ug/L	97
11) 1,1-Dichloroethene	4.921	61	141308	6.04	ug/L	97
12) Freon 113	4.982	101	98321	6.26	ug/L	96
13) Carbon Disulfide	4.976	76	209216	4.96	ug/L	99
14) Iodomethane	5.123	142	36150	1.67	ug/L	95
15) Allyl chloride	5.555	41	103694	4.65	ug/L	91
16) Methylene Chloride	5.696	49	119562	5.59	ug/L	98
17) Acetone	5.744	43	140877	27.86	ug/L	100
18) Methyl acetate	5.897	43	249414	22.07	ug/L	97
19) trans-1,2-Dichloroethene	5.909	61	124048	5.89	ug/L	95
20) Hexane	6.013	56	78729	5.80	ug/L	94
21) Methyl Tert Butyl Ether	6.025	73	265685	5.67	ug/L	95
22) Acetonitrile	6.342	41	82854	41.89	ug/L	95
23) Di-isopropyl ether	6.476	45	256830	5.18	ug/L	95
24) Chloroprene	6.628	53	125286	5.42	ug/L	96
25) 1,1-Dichloroethane	6.647	63	170148	6.01	ug/L	98
26) Acrylonitrile	6.695	53	151979	24.09	ug/L	98
27) ETBE	6.909	59	274692	5.57	ug/L	99
28) Vinyl acetate	6.915	43	756623	26.76	ug/L	99
29) cis-1,2-Dichloroethene	7.287	96	94326	5.92	ug/L	98
30) 2,2-Dichloropropane	7.403	77	147871	5.81	ug/L	99
31) Bromochloromethane	7.512	128	41672	5.82	ug/L	93
32) Cyclohexane	7.537	56	159368	5.59	ug/L	96
33) Chloroform	7.573	83	181590	6.21	ug/L	97
34) Ethyl acetate	7.671	43	414807	26.47	ug/L	97
35) Tetrahydrofuran	7.768	42	28500	5.26	ug/L	95
37) Carbon Tetrachloride	7.762	117	125151	5.95	ug/L	96
38) 1,1,1-Trichloroethane	7.823	97	158627	6.26	ug/L	97
39) 2-Butanone	7.890	43	207668	26.84	ug/L	98
40) 1,1-Dichloropropene	7.957	75	135297	6.00	ug/L	99
41) tert-Butyl Formate	8.043	59	379706	24.79	ug/L	82
42) Propionitrile	8.201	54	143246	55.40	ug/L	79
43) Methacrylonitrile	8.226	41	523844	58.38	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:28:30 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Benzene	8.220	78	377367	6.46	ug/L		100
45) TAME	8.305	73	251074	5.55	ug/L		97
47) 1,2-Dichloroethane	8.421	62	121256	5.98	ug/L		96
48) Trichloroethene	8.835	95	93433	5.64	ug/L		97
49) Methylcyclohexane	8.841	83	150261	5.54	ug/L		96
50) Dibromomethane	9.274	93	53511	5.84	ug/L		97
51) 1,2-Dichloropropane	9.354	63	92397	5.56	ug/L		96
52) Bromodichloromethane	9.408	83	108136	5.47	ug/L		98
53) Methyl methacrylate	9.524	41	59285	4.55	ug/L		99
54) 2-Chloroethyl vinyl ether	9.933	63	304443	33.06	ug/L		98
55) cis-1,3-Dichloropropene	10.036	75	136527	5.26	ug/L		98
58) Toluene	10.280	91	398338	5.41	ug/L		95
59) 2-Nitropropane	10.481	41	88475	19.44	ug/L		93
60) 4-Methyl-2-pentanone	10.603	43	447223	25.00	ug/L		97
61) trans-1,3-Dichloropropene	10.676	75	113232	4.75	ug/L		95
62) Tetrachloroethene	10.689	166	94967	5.67	ug/L		94
63) Ethyl methacrylate	10.780	69	104788	4.59	ug/L		96
64) 1,1,2-Trichloroethane	10.835	83	68444	5.22	ug/L		97
65) Dibromochloromethane	11.036	129	74906	4.67	ug/L		97
66) 1,3-Dichloropropane	11.115	76	139377	5.07	ug/L		98
67) 1,2-Dibromoethane	11.292	107	79780	4.86	ug/L		99
68) 2-hexanone	11.426	43	338991	26.47	ug/L		97
69) 1-Chlorohexane	11.731	91	127122	5.09	ug/L		94
70) Ethylbenzene	11.798	91	448456	5.75	ug/L		97
71) Chlorobenzene	11.798	112	236808	5.55	ug/L		99
72) 1,1,1,2-Tetrachloroethane	11.847	131	78836	5.05	ug/L		97
73) m,p-Xylene	11.932	91	650419	10.80	ug/L		98
74) o-Xylene	12.371	91	323670	5.01	ug/L		99
75) Styrene	12.420	104	223015	4.82	ug/L		98
76) Bromoform	12.481	173	45118	4.22	ug/L		95
77) Isopropylbenzene	12.676	105	402272	5.16	ug/L		99
80) cis-1,4-Dichloro-2-butene	13.024	53	29682	4.15	ug/L		90
81) n-Propylbenzene	13.097	91	462884	4.97	ug/L		100
82) Bromobenzene	13.115	156	94115	5.23	ug/L		99
83) 1,1,2,2-Tetrachloroethane	13.152	83	116441	4.88	ug/L		97
84) 1,3,5-Trimethylbenzene	13.273	105	305952	5.05	ug/L		98
85) 2-Chlorotoluene	13.286	91	311705	5.02	ug/L		96
86) trans-1,4-Dichloro-2-B...	13.334	53	26406	3.82	ug/L	#	76
87) 1,2,3-Trichloropropane	13.310	110	35672	4.94	ug/L		94
88) Cyclohexanone	13.377	55	20801	21.89	ug/L		93
89) 4-Chlorotoluene	13.450	91	267502	4.76	ug/L		100
90) tert-Butylbenzene	13.615	91	182848	4.86	ug/L		100
91) 1,2,4-Trimethylbenzene	13.688	105	284727	4.75	ug/L		98
92) Pentachloroethane	13.670	167	47479	4.50	ug/L		95
93) sec-Butylbenzene	13.798	105	380787	4.91	ug/L		100
94) 4-Isopropyltoluene	13.932	119	299683	4.95	ug/L		100
95) 1,3-Dichlorobenzene	14.072	146	153674	4.82	ug/L		97
96) 1,2,3-Trimethylbenzene	14.145	105	252431	3.10	ug/L		100
97) 1,4-Dichlorobenzene	14.151	146	164971	5.35	ug/L		98
98) n-Butylbenzene	14.365	92	154200	4.85	ug/L		86
99) Benzyl Chloride	14.383	126	30061	3.43	ug/L		96
100) 1,2-Dichlorobenzene	14.578	146	147322	4.87	ug/L		99
101) 1,2-Dibromo-3-Chloropr...	15.322	75	18231	3.76	ug/L		93
102) Hexachlorobutadiene	15.871	225	43246	4.96	ug/L		93
103) 1,2,4-Trichlorobenzene	15.913	180	71181	4.81	ug/L		98
104) Naphthalene	16.194	128	188953	4.48	ug/L		98
105) 1,2,3-Trichlorobenzene	16.358	180	66138	4.83	ug/L		98
107) Ethanol	4.989	45	20570m	90.61	ug/L		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:28:30 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

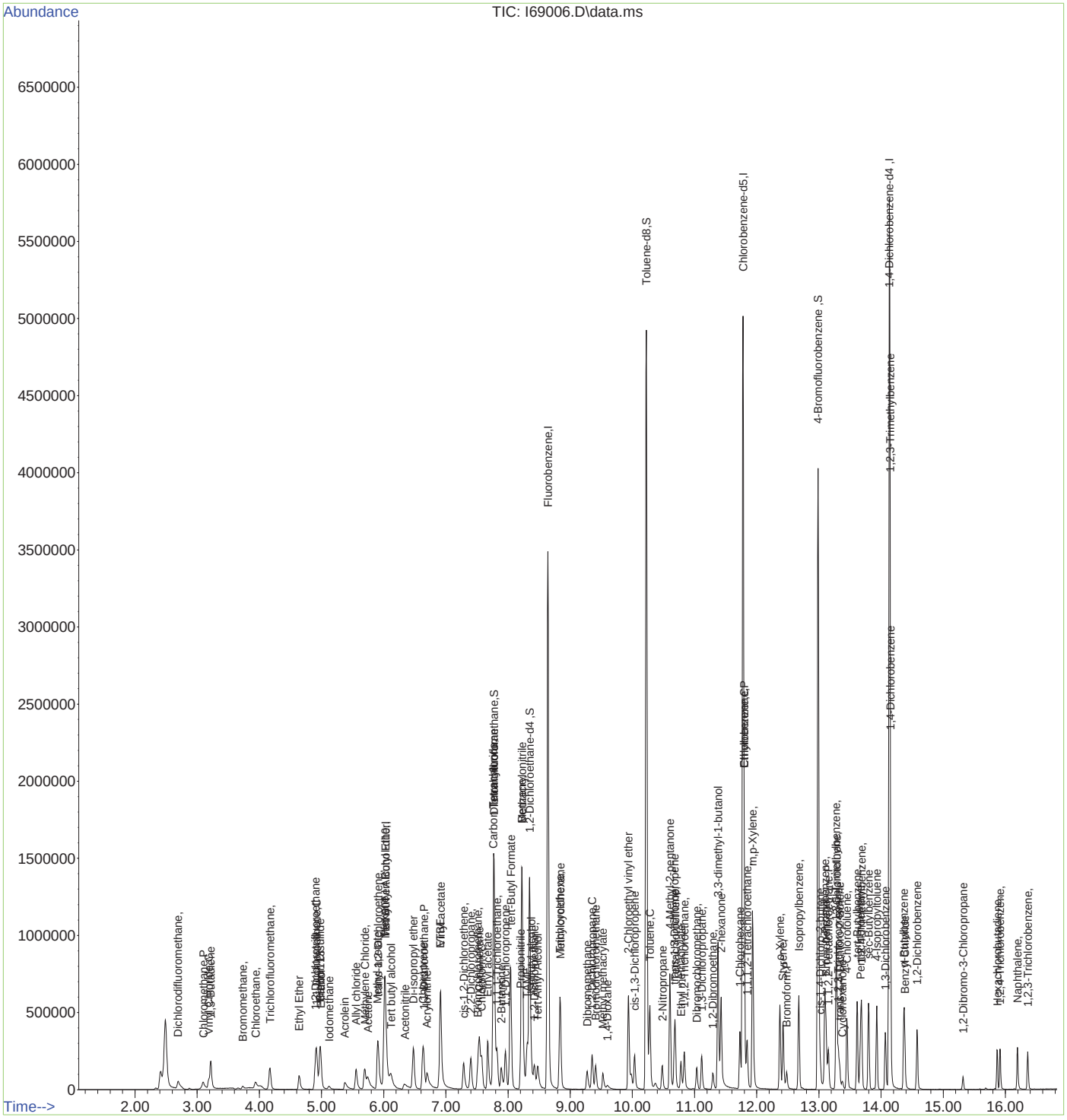
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.373	56	71767	21.14	ug/L	90
109) Tert butyl alcohol	6.116	59	144554	48.91	ug/L	86
110) Isobutyl alcohol	8.372	42	36979	70.75	ug/L	87
111) Tert Amyl Alcohol	8.476	59	98568	47.24	ug/L	89
112) 1,4-Dioxane	9.597	88	22853	108.82	ug/L	94
113) 3,3-dimethyl-1-butanol	11.378	57	448706	217.03	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:28:30 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Manual Integration Approval Summary

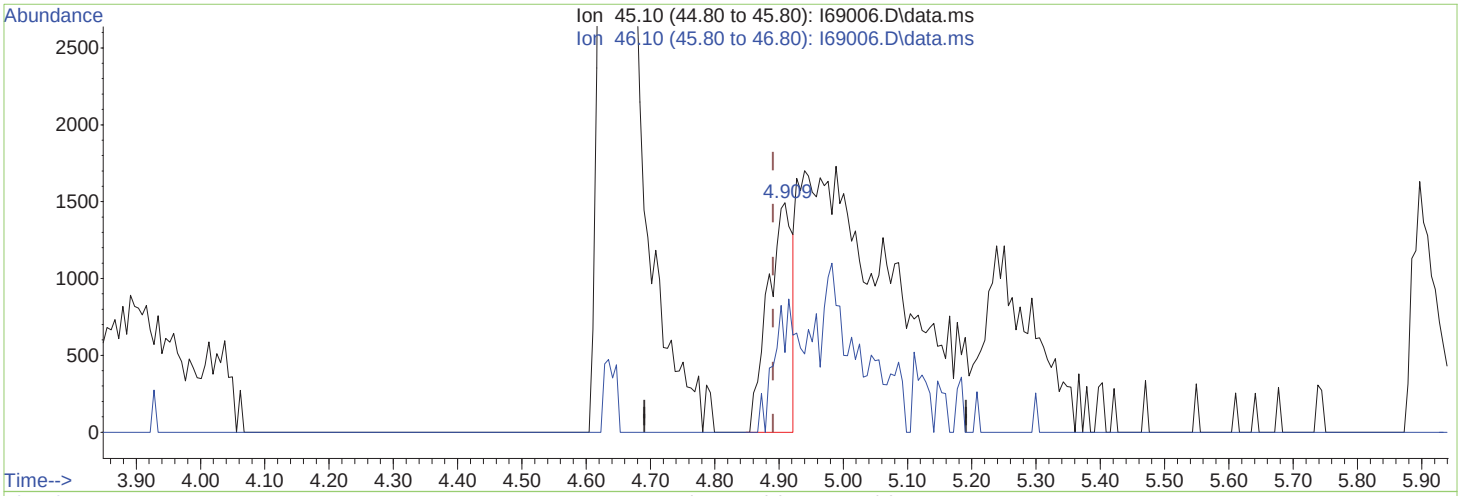
Sample Number: VI2216-IC2216
Lab FileID: I69006.D
Injection Time: 06/21/21 12:47
Method: SW846 8260B
Analyst approved: 06/22/21 08:21 Lindsay Ritner
Supervisor approved: 06/23/21 08:07 Chelsea VanDenBurg

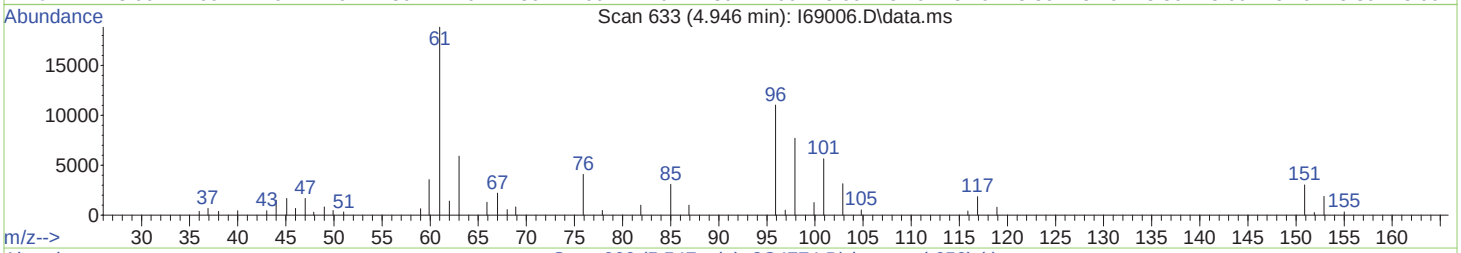
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		4.99	Poor instrument integration

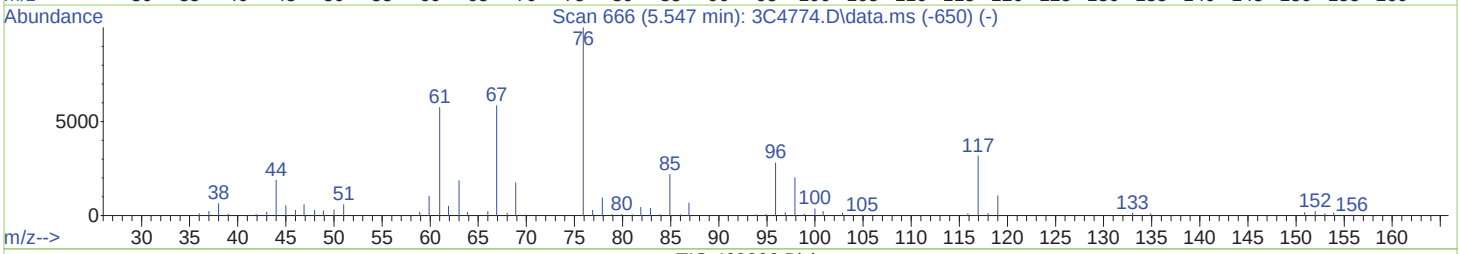
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:20:09 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration







TIC: I69006.D\data.ms

(107) Ethanol

4.909min (+0.018) 17.23ug/L

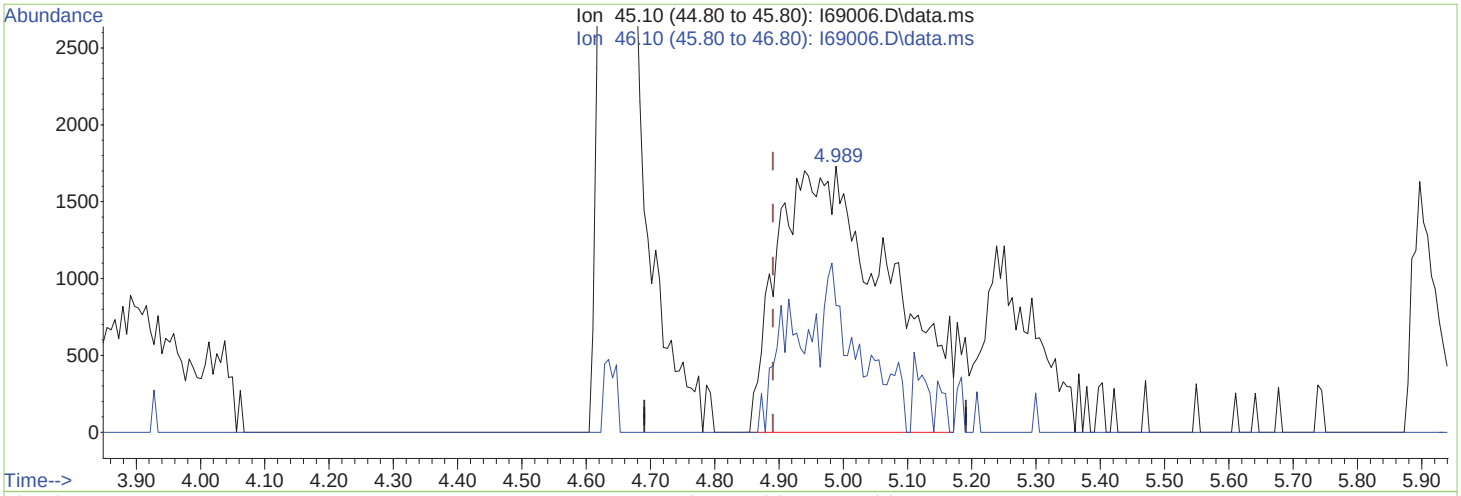
response 3912

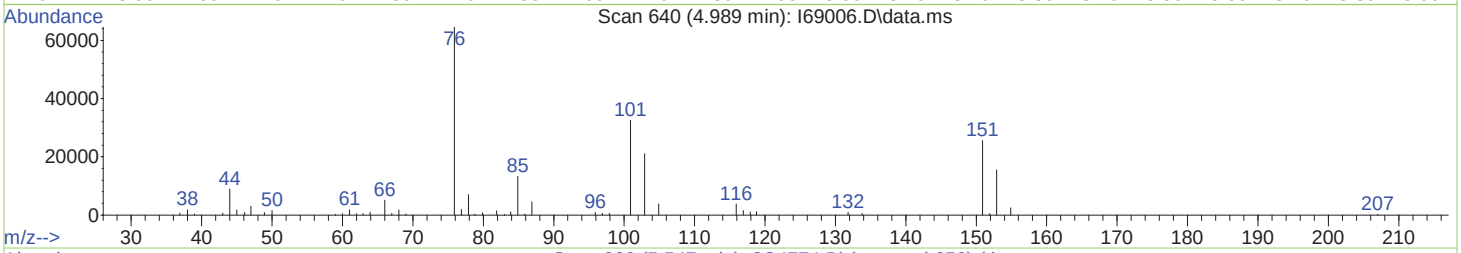
Ion	Exp%	Act%
45.10	100	100
46.10	39.20	34.79
0.00	0.00	0.00
0.00	0.00	0.00

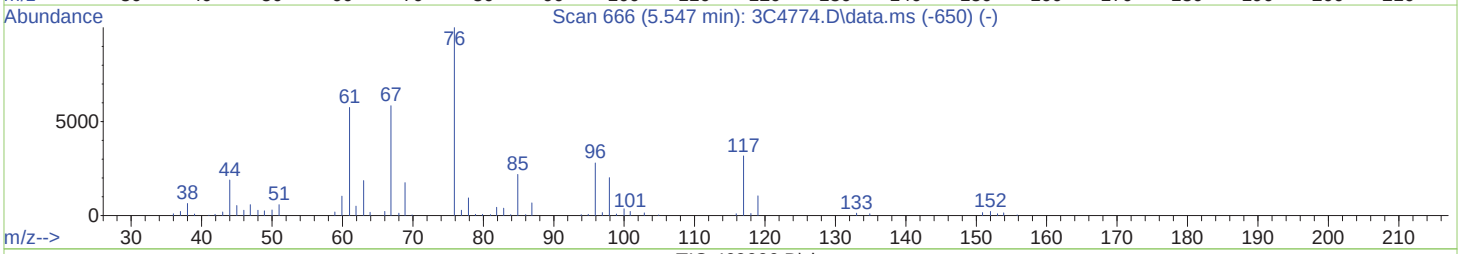
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69006.D
Acq On : 21 Jun 2021 12:47 pm
Operator : LINDSAYR
Sample : IC2216-2
Misc : MS49159,VI2216,,,,,
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 21 15:20:09 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration







TIC: I69006.D\data.ms

(107) Ethanol

4.989min (+0.098) 90.61ug/L m

response 20570

Ion	Exp%	Act%
45.10	100	100
46.10	39.20	47.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Chelsea VanDenBurg 06/23/21 08:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:29:31 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	2981482	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2417158	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1314665	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.025	65	722330	250.00	ug/L	-0.01
System Monitoring Compounds						
36) Dibromofluoromethane	7.775	113	808917	50.18	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.36%			
46) 1,2-Dichloroethane-d4	8.348	65	968806	49.85	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 99.70%			
57) Toluene-d8	10.225	98	3044561	46.01	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 92.02%			
79) 4-Bromofluorobenzene	12.987	174	1022127	47.33	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 94.66%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.696	85	195484	10.70	ug/L	98
3) Chloromethane	3.099	50	172267	8.06	ug/L	97
4) Vinyl Chloride	3.184	62	220134	11.45	ug/L	97
5) 1,3-Butadiene	3.214	39	128125	11.44	ug/L	99
6) Bromomethane	3.733	94	48899	4.06	ug/L	100
7) Chloroethane	3.934	64	108981	23.80	ug/L	96
8) Trichlorofluoromethane	4.166	101	289178	11.35	ug/L	100
9) Ethyl Ether	4.641	59	144076	11.54	ug/L	97
10) 1,2-Dichlorotrifluoroe...	4.903	67	209120	11.96	ug/L	98
11) 1,1-Dichloroethene	4.921	61	281062	12.48	ug/L	97
12) Freon 113	4.976	101	189475	12.51	ug/L	98
13) Carbon Disulfide	4.976	76	425960	10.48	ug/L	96
14) Iodomethane	5.117	142	77802	3.74	ug/L	98
15) Allyl chloride	5.556	41	211953	9.86	ug/L	92
16) Methylene Chloride	5.690	49	240178	11.73	ug/L	99
17) Acetone	5.738	43	307499	63.11	ug/L	95
18) Methyl acetate	5.891	43	567388	52.28	ug/L	99
19) trans-1,2-Dichloroethene	5.903	61	257399	12.68	ug/L	99
20) Hexane	6.007	56	154178	11.79	ug/L	94
21) Methyl Tert Butyl Ether	6.019	73	540381	11.98	ug/L	81
22) Acetonitrile	6.324	41	190418	99.76	ug/L	98
23) Di-isopropyl ether	6.476	45	525283	10.99	ug/L	98
24) Chloroprene	6.622	53	252116	11.31	ug/L	97
25) 1,1-Dichloroethane	6.641	63	342425	12.55	ug/L	100
26) Acrylonitrile	6.689	53	325725	53.57	ug/L	98
27) ETBE	6.903	59	574387	12.09	ug/L	99
28) Vinyl acetate	6.909	43	1675441	61.49	ug/L	99
29) cis-1,2-Dichloroethene	7.281	96	190558	12.41	ug/L	99
30) 2,2-Dichloropropane	7.403	77	297633	12.14	ug/L	100
31) Bromochloromethane	7.512	128	86709	12.56	ug/L	96
32) Cyclohexane	7.537	56	317697	11.56	ug/L	98
33) Chloroform	7.573	83	358803	12.74	ug/L	99
34) Ethyl acetate	7.671	43	882766	58.47	ug/L	98
35) Tetrahydrofuran	7.762	42	57032	11.01	ug/L	99
37) Carbon Tetrachloride	7.762	117	251135	12.39	ug/L	97
38) 1,1,1-Trichloroethane	7.823	97	311997	12.77	ug/L	98
39) 2-Butanone	7.884	43	446356	59.88	ug/L	99
40) 1,1-Dichloropropene	7.957	75	267041	12.28	ug/L	99
41) tert-Butyl Formate	8.037	59	831289	56.34	ug/L	86
42) Propionitrile	8.195	54	299248	120.11	ug/L	98
43) Methacrylonitrile	8.226	41	1091669	126.27	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:29:31 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Benzene	8.220	78	768608	13.66	ug/L		95
45) TAME	8.305	73	519923	11.93	ug/L		98
47) 1,2-Dichloroethane	8.421	62	244780	12.53	ug/L		99
48) Trichloroethene	8.829	95	194215	12.17	ug/L		99
49) Methylcyclohexane	8.841	83	301604	11.54	ug/L		97
50) Dibromomethane	9.268	93	110808	12.55	ug/L		98
51) 1,2-Dichloropropane	9.354	63	185010	11.55	ug/L		97
52) Bromodichloromethane	9.408	83	232741	12.22	ug/L		99
53) Methyl methacrylate	9.518	41	129355	10.28	ug/L		97
54) 2-Chloroethyl vinyl ether	9.933	63	642579	72.41	ug/L		98
55) cis-1,3-Dichloropropene	10.030	75	287455	11.49	ug/L		98
58) Toluene	10.280	91	790542	11.06	ug/L		96
59) 2-Nitropropane	10.475	41	210928	47.71	ug/L		98
60) 4-Methyl-2-pentanone	10.603	43	944415	54.33	ug/L		98
61) trans-1,3-Dichloropropene	10.670	75	242795	10.47	ug/L		98
62) Tetrachloroethene	10.689	166	192112	11.81	ug/L		99
63) Ethyl methacrylate	10.780	69	227743	10.27	ug/L		96
64) 1,1,2-Trichloroethane	10.835	83	140751	11.05	ug/L		99
65) Dibromochloromethane	11.036	129	163811	10.51	ug/L		99
66) 1,3-Dichloropropane	11.115	76	284768	10.66	ug/L		97
67) 1,2-Dibromoethane	11.292	107	168695	10.58	ug/L		99
68) 2-hexanone	11.426	43	717810	57.69	ug/L		97
69) 1-Chlorohexane	11.731	91	261052	10.76	ug/L		97
70) Ethylbenzene	11.798	91	908352	11.99	ug/L		98
71) Chlorobenzene	11.798	112	485769	11.71	ug/L		98
72) 1,1,1,2-Tetrachloroethane	11.847	131	164888	10.86	ug/L		96
73) m,p-Xylene	11.932	91	1345694	23.00	ug/L		97
74) o-Xylene	12.371	91	671609	10.70	ug/L		99
75) Styrene	12.420	104	491441	10.93	ug/L		99
76) Bromoform	12.481	173	103590	9.84	ug/L		99
77) Isopropylbenzene	12.676	105	822862	10.86	ug/L		99
80) cis-1,4-Dichloro-2-butene	13.017	53	63839	9.15	ug/L		87
81) n-Propylbenzene	13.097	91	960419	10.57	ug/L		99
82) Bromobenzene	13.115	156	197536	11.25	ug/L		96
83) 1,1,2,2-Tetrachloroethane	13.152	83	246739	10.60	ug/L		98
84) 1,3,5-Trimethylbenzene	13.274	105	640460	10.84	ug/L		99
85) 2-Chlorotoluene	13.286	91	653009	10.78	ug/L		96
86) trans-1,4-Dichloro-2-B...	13.334	53	61219	9.08	ug/L	#	84
87) 1,2,3-Trichloropropane	13.310	110	76376	10.84	ug/L		98
88) Cyclohexanone	13.377	55	46489	50.18	ug/L		92
89) 4-Chlorotoluene	13.450	91	558227	10.18	ug/L		100
90) tert-Butylbenzene	13.615	91	382174	10.41	ug/L		99
91) 1,2,4-Trimethylbenzene	13.682	105	590174	10.10	ug/L		99
92) Pentachloroethane	13.670	167	102642	9.99	ug/L		99
93) sec-Butylbenzene	13.798	105	796692	10.53	ug/L		99
94) 4-Isopropyltoluene	13.932	119	634179	10.74	ug/L		98
95) 1,3-Dichlorobenzene	14.066	146	321942	10.35	ug/L		99
96) 1,2,3-Trimethylbenzene	14.145	105	519636	6.55	ug/L		99
97) 1,4-Dichlorobenzene	14.151	146	335093	11.15	ug/L		99
98) n-Butylbenzene	14.365	92	326585	10.53	ug/L		87
99) Benzyl Chloride	14.383	126	73555	8.61	ug/L	#	81
100) 1,2-Dichlorobenzene	14.578	146	308800	10.48	ug/L		99
101) 1,2-Dibromo-3-Chloropr...	15.316	75	43055	9.10	ug/L		90
102) Hexachlorobutadiene	15.864	225	85006	10.00	ug/L		98
103) 1,2,4-Trichlorobenzene	15.913	180	150154	10.40	ug/L		99
104) Naphthalene	16.194	128	413301	10.04	ug/L		99
105) 1,2,3-Trichlorobenzene	16.358	180	141063	10.57	ug/L		97
107) Ethanol	4.891	45	42812m	191.02	ug/L		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:29:31 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

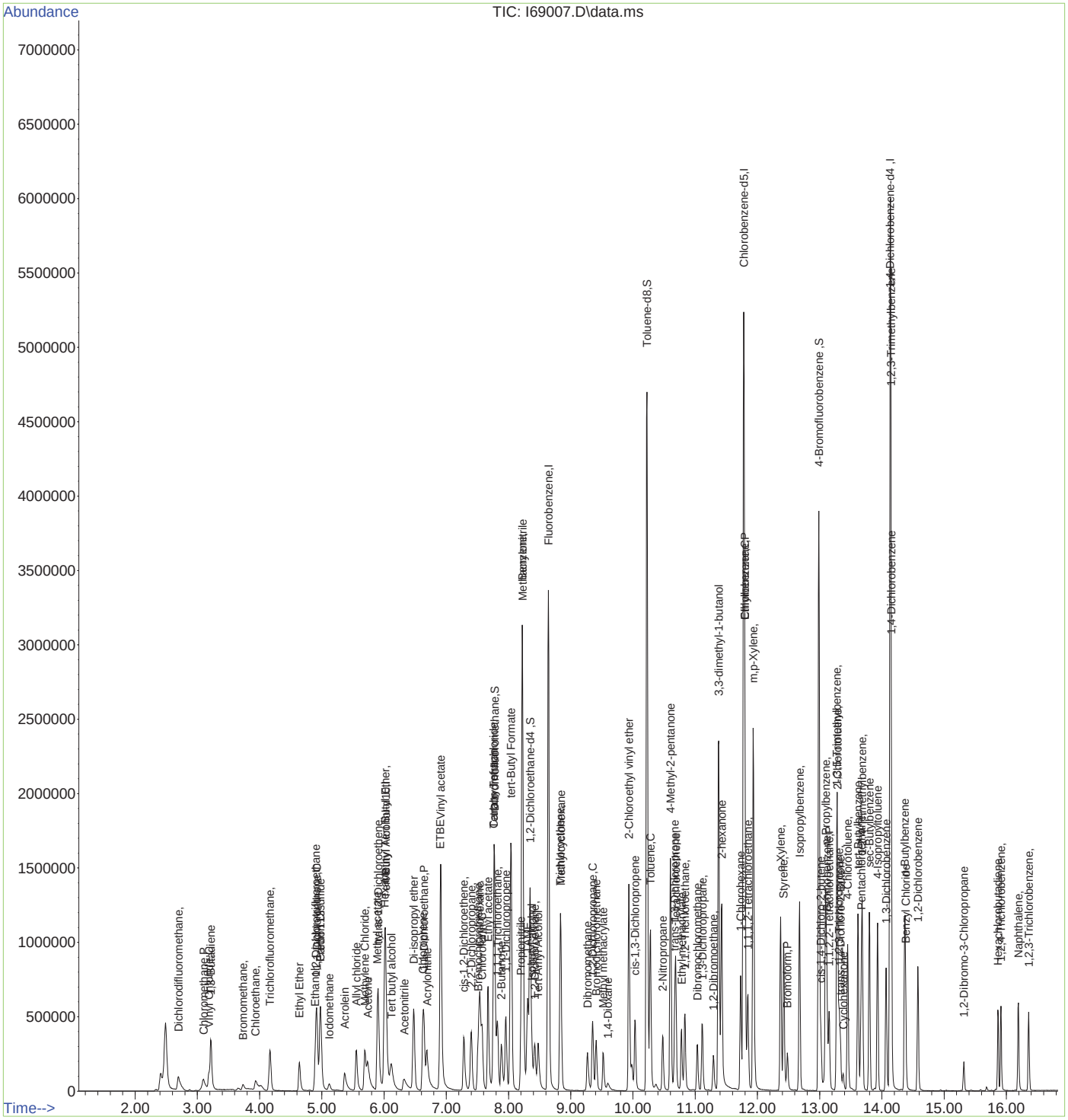
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.367	56	172168	50.64	ug/L	99
109) Tert butyl alcohol	6.116	59	301894	103.48	ug/L	89
110) Isobutyl alcohol	8.372	42	87178	168.96	ug/L	93
111) Tert Amyl Alcohol	8.476	59	212532	103.18	ug/L	95
112) 1,4-Dioxane	9.597	88	47557	229.39	ug/L	90
113) 3,3-dimethyl-1-butanol	11.378	57	1117056	547.29	ug/L	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:29:31 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Manual Integration Approval Summary

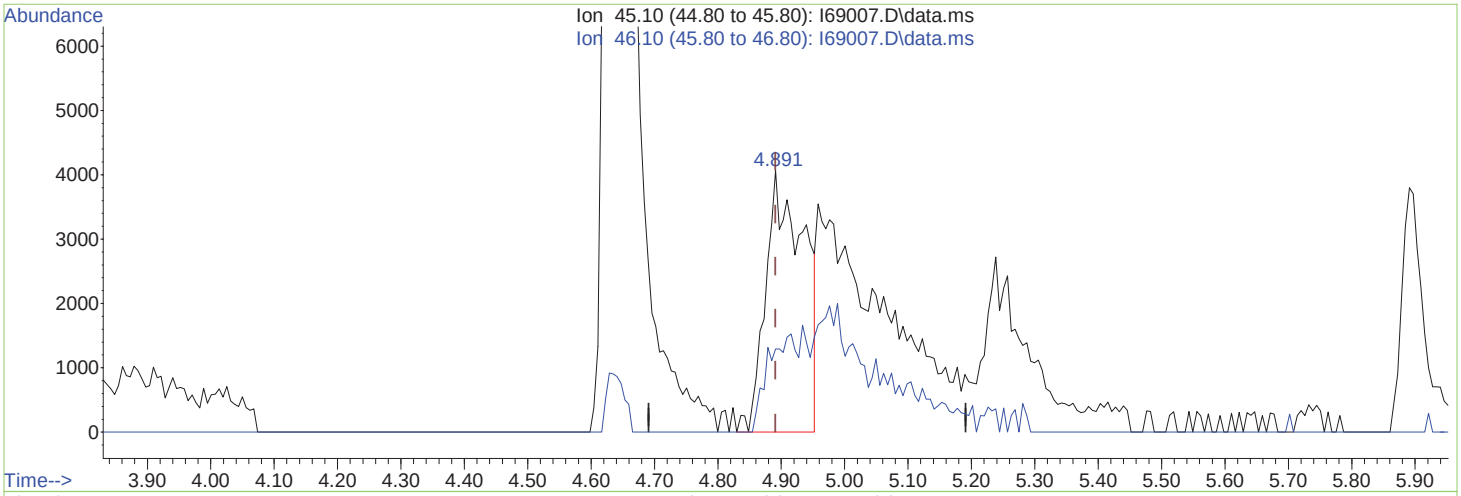
Sample Number: VI2216-IC2216
Lab FileID: I69007.D
Injection Time: 06/21/21 13:11
Method: SW846 8260B
Analyst approved: 06/22/21 08:21 Lindsay Ritner
Supervisor approved: 06/23/21 08:07 Chelsea VanDenBurg

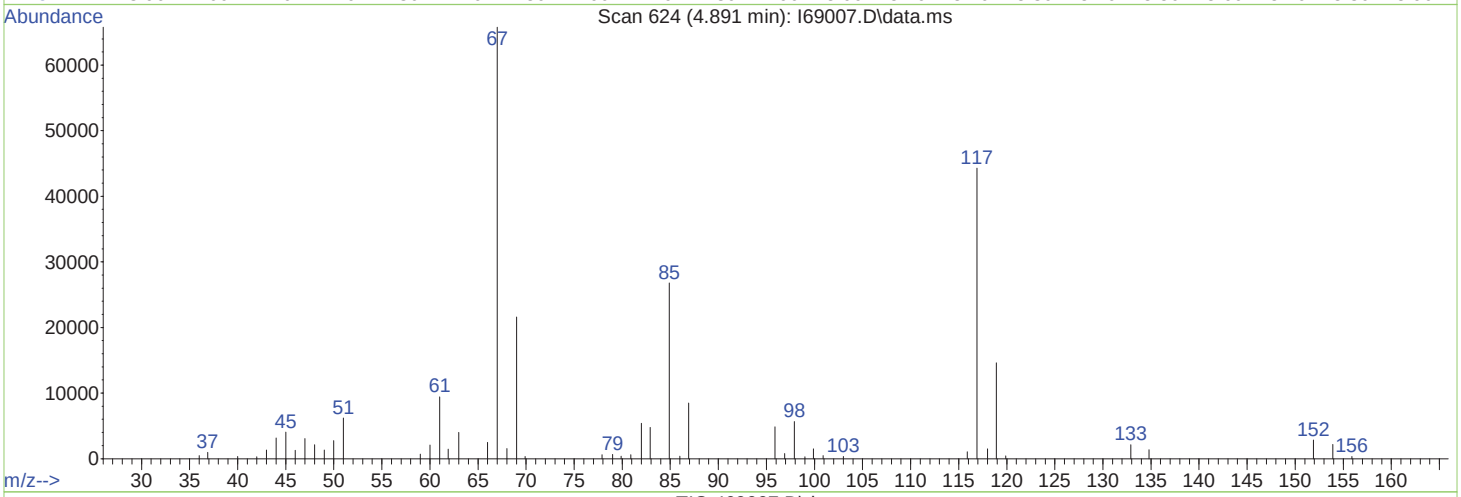
Parameter	CAS	Sig#	R.T. (min.)	Reason
Ethyl Alcohol	64-17-5		4.89	Poor instrument integration

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:20:12 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69007.D\data.ms

(107) Ethanol

4.891min (-0.000) 75.52ug/L

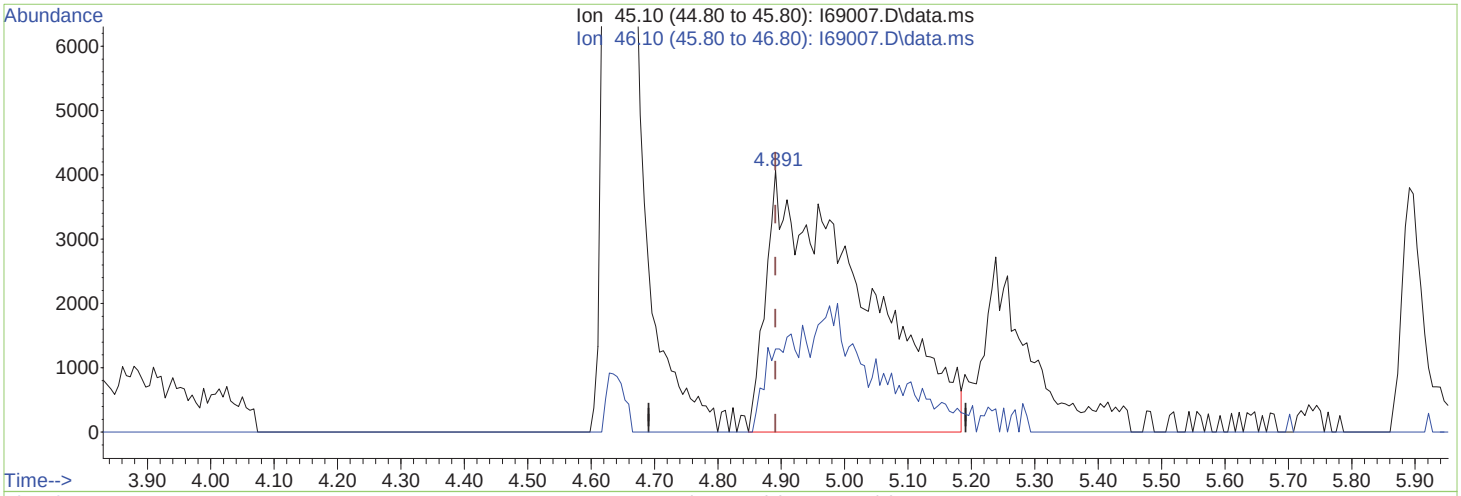
response 16926

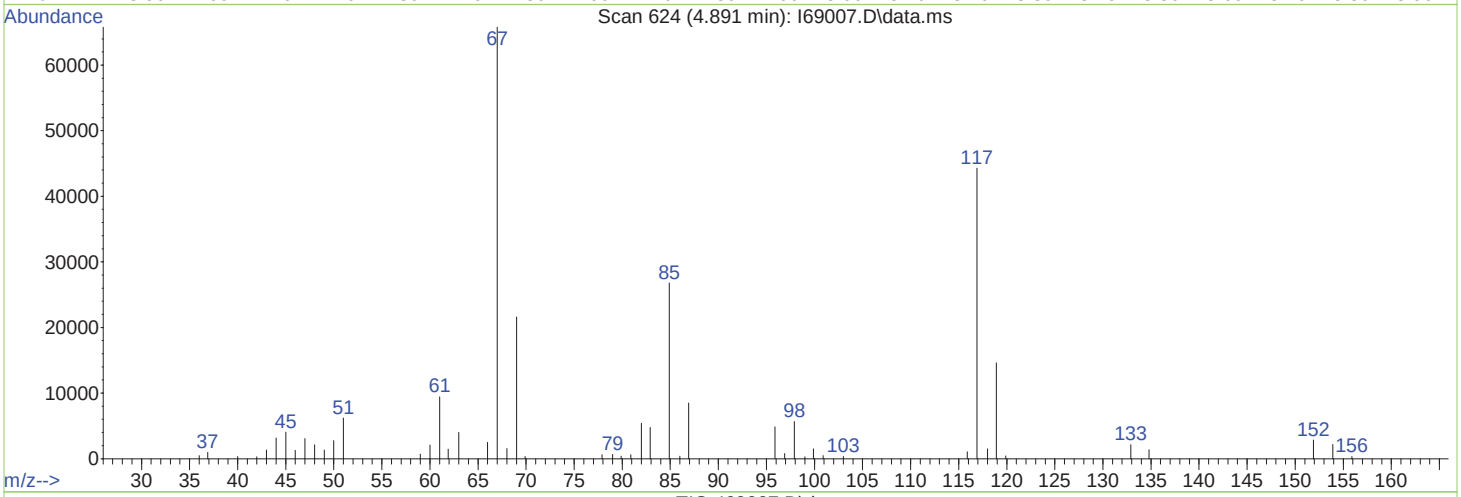
Ion	Exp%	Act%
45.10	100	100
46.10	39.20	31.82
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69007.D
Acq On : 21 Jun 2021 1:11 pm
Operator : LINDSAYR
Sample : IC2216-3
Misc : MS49159,VI2216,,,,,
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 21 15:20:12 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69007.D\data.ms

(107) Ethanol

4.891min (-0.000) 191.02ug/L m

response 42812

Ion	Exp%	Act%
45.10	100	100
46.10	39.20	31.82
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69008.D
Acq On : 21 Jun 2021 1:35 pm
Operator : LINDSAYR
Sample : IC2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 21 15:20:15 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3183221	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2552000	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1380849	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.031	65	804741	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.774	113	871634	50.64	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.28%			
46) 1,2-Dichloroethane-d4	8.348	65	998689	48.13	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 96.26%			
57) Toluene-d8	10.225	98	3262156	46.69	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 93.38%			
79) 4-Bromofluorobenzene	12.987	174	1089483	48.03	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 96.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.696	85	529363	27.15	ug/L	99
3) Chloromethane	3.105	50	453691	19.88	ug/L	99
4) Vinyl Chloride	3.190	62	593791	28.92	ug/L	99
5) 1,3-Butadiene	3.214	39	323812	27.09	ug/L	97
6) Bromomethane	3.733	94	146223	11.36	ug/L	96
7) Chloroethane	3.934	64	168571	35.13	ug/L	98
8) Trichlorofluoromethane	4.159	101	800180	29.41	ug/L	99
9) Ethyl Ether	4.641	59	377642	28.32	ug/L	96
10) 1,2-Dichlorotrifluoroe...	4.903	67	556543	29.81	ug/L	98
11) 1,1-Dichloroethene	4.921	61	745715	31.01	ug/L	97
12) Freon 113	4.976	101	504956	31.23	ug/L	98
13) Carbon Disulfide	4.970	76	1179035	27.16	ug/L	99
14) Iodomethane	5.116	142	248028	11.19	ug/L	97
15) Allyl chloride	5.549	41	578880	25.23	ug/L	92
16) Methylene Chloride	5.690	49	609625	28.41	ug/L	96
17) Acetone	5.732	43	835759	160.67	ug/L	99
18) Methyl acetate	5.891	43	1639528	143.01	ug/L	98
19) trans-1,2-Dichloroethene	5.903	61	679072	31.33	ug/L	98
20) Hexane	6.007	56	402286	28.82	ug/L	96
21) Methyl Tert Butyl Ether	6.019	73	1417304	29.42	ug/L	84
22) Acetonitrile	6.305	41	536025	261.95	ug/L	99
23) Di-isopropyl ether	6.476	45	1381111	27.06	ug/L	97
24) Chloroprene	6.622	53	707469	29.73	ug/L	97
25) 1,1-Dichloroethane	6.641	63	899683	30.87	ug/L	100
26) Acrylonitrile	6.677	53	940527	144.89	ug/L	99
27) ETBE	6.909	59	1524321	30.04	ug/L	99
28) Vinyl acetate	6.909	43	4607092	158.36	ug/L	99
29) cis-1,2-Dichloroethene	7.281	96	510652	31.15	ug/L	99
30) 2,2-Dichloropropane	7.403	77	804836	30.74	ug/L	100
31) Bromochloromethane	7.506	128	226453	30.73	ug/L	96
32) Cyclohexane	7.537	56	833434	28.42	ug/L	98
33) Chloroform	7.573	83	936485	31.14	ug/L	100
34) Ethyl acetate	7.665	43	2372896	147.20	ug/L	98
35) Tetrahydrofuran	7.762	42	149799	27.74	ug/L	95
37) Carbon Tetrachloride	7.762	117	683062	31.55	ug/L	99
38) 1,1,1-Trichloroethane	7.823	97	811518	31.12	ug/L	100
39) 2-Butanone	7.884	43	1231515	154.74	ug/L	96
40) 1,1-Dichloropropene	7.957	75	701680	30.23	ug/L	99
41) tert-Butyl Formate	8.037	59	2222486	141.07	ug/L	91
42) Propionitrile	8.195	54	824677	310.03	ug/L	100
43) Methacrylonitrile	8.226	41	2887772	312.84	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69008.D
Acq On : 21 Jun 2021 1:35 pm
Operator : LINDSAYR
Sample : IC2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 21 15:20:15 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Benzene	8.220	78	2014310	33.54	ug/L		95
45) TAME	8.305	73	1373498	29.52	ug/L		99
47) 1,2-Dichloroethane	8.421	62	631308	30.26	ug/L		100
48) Trichloroethene	8.829	95	517595	30.38	ug/L		98
49) Methylcyclohexane	8.841	83	808153	28.95	ug/L		96
50) Dibromomethane	9.262	93	298399	31.65	ug/L		96
51) 1,2-Dichloropropane	9.347	63	493518	28.85	ug/L		99
52) Bromodichloromethane	9.408	83	627839	30.89	ug/L		100
53) Methyl methacrylate	9.518	41	375511	27.79	ug/L		92
54) 2-Chloroethyl vinyl ether	9.933	63	1587504	167.55	ug/L		98
55) cis-1,3-Dichloropropene	10.030	75	802717	30.06	ug/L		100
58) Toluene	10.280	91	2089757	27.68	ug/L		97
59) 2-Nitropropane	10.475	41	624551	133.80	ug/L		99
60) 4-Methyl-2-pentanone	10.603	43	2531364	137.93	ug/L		99
61) trans-1,3-Dichloropropene	10.670	75	682810	27.89	ug/L		98
62) Tetrachloroethene	10.689	166	499808	29.09	ug/L		99
63) Ethyl methacrylate	10.774	69	635007	27.11	ug/L		97
64) 1,1,2-Trichloroethane	10.835	83	367640	27.34	ug/L		98
65) Dibromochloromethane	11.030	129	467870	28.42	ug/L		99
66) 1,3-Dichloropropane	11.109	76	768764	27.27	ug/L		98
67) 1,2-Dibromoethane	11.292	107	457440	27.18	ug/L		100
68) 2-hexanone	11.420	43	1915364	145.81	ug/L		98
69) 1-Chlorohexane	11.731	91	704927	27.52	ug/L		96
70) Ethylbenzene	11.792	91	2348359	29.37	ug/L		98
71) Chlorobenzene	11.798	112	1254653	28.65	ug/L		100
72) 1,1,1,2-Tetrachloroethane	11.847	131	451583	28.18	ug/L		99
73) m,p-Xylene	11.932	91	3512839	56.86	ug/L		99
74) o-Xylene	12.371	91	1768944	26.69	ug/L		99
75) Styrene	12.420	104	1341995	28.27	ug/L		100
76) Bromoform	12.481	173	311707	26.98	ug/L		99
77) Isopropylbenzene	12.676	105	2175461	27.19	ug/L		99
80) cis-1,4-Dichloro-2-butene	13.017	53	185583	25.32	ug/L		94
81) n-Propylbenzene	13.097	91	2548457	26.70	ug/L		100
82) Bromobenzene	13.115	156	504981	27.39	ug/L		100
83) 1,1,2,2-Tetrachloroethane	13.151	83	661450	27.06	ug/L		97
84) 1,3,5-Trimethylbenzene	13.273	105	1697277	27.36	ug/L		99
85) 2-Chlorotoluene	13.286	91	1698955	26.69	ug/L		96
86) trans-1,4-Dichloro-2-B...	13.328	53	173799	24.53	ug/L		91
87) 1,2,3-Trichloropropane	13.310	110	199042	26.89	ug/L		98
88) Cyclohexanone	13.377	55	125057	128.52	ug/L		97
89) 4-Chlorotoluene	13.450	91	1484884	25.77	ug/L		99
90) tert-Butylbenzene	13.615	91	989545	25.66	ug/L		99
91) 1,2,4-Trimethylbenzene	13.682	105	1554117	25.32	ug/L		99
92) Pentachloroethane	13.670	167	283352	26.25	ug/L		95
93) sec-Butylbenzene	13.798	105	2064168	25.97	ug/L		98
94) 4-Isopropyltoluene	13.932	119	1657015	26.71	ug/L		99
95) 1,3-Dichlorobenzene	14.066	146	850693	26.03	ug/L		99
96) 1,2,3-Trimethylbenzene	14.145	105	1363448	16.36	ug/L		100
97) 1,4-Dichlorobenzene	14.151	146	866010	27.43	ug/L		98
98) n-Butylbenzene	14.365	92	897085	27.55	ug/L		92
99) Benzyl Chloride	14.377	126	231250	25.78	ug/L	#	75
100) 1,2-Dichlorobenzene	14.578	146	811845	26.23	ug/L		99
101) 1,2-Dibromo-3-Chloropr...	15.316	75	126626	25.49	ug/L		96
102) Hexachlorobutadiene	15.870	225	232508	26.05	ug/L		94
103) 1,2,4-Trichlorobenzene	15.913	180	414044	27.30	ug/L		99
104) Naphthalene	16.194	128	1171188	27.09	ug/L		100
105) 1,2,3-Trichlorobenzene	16.358	180	387979	27.69	ug/L		98
107) Ethanol	4.885	45	105908	424.15	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69008.D
Acq On : 21 Jun 2021 1:35 pm
Operator : LINDSAYR
Sample : IC2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 21 15:20:15 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

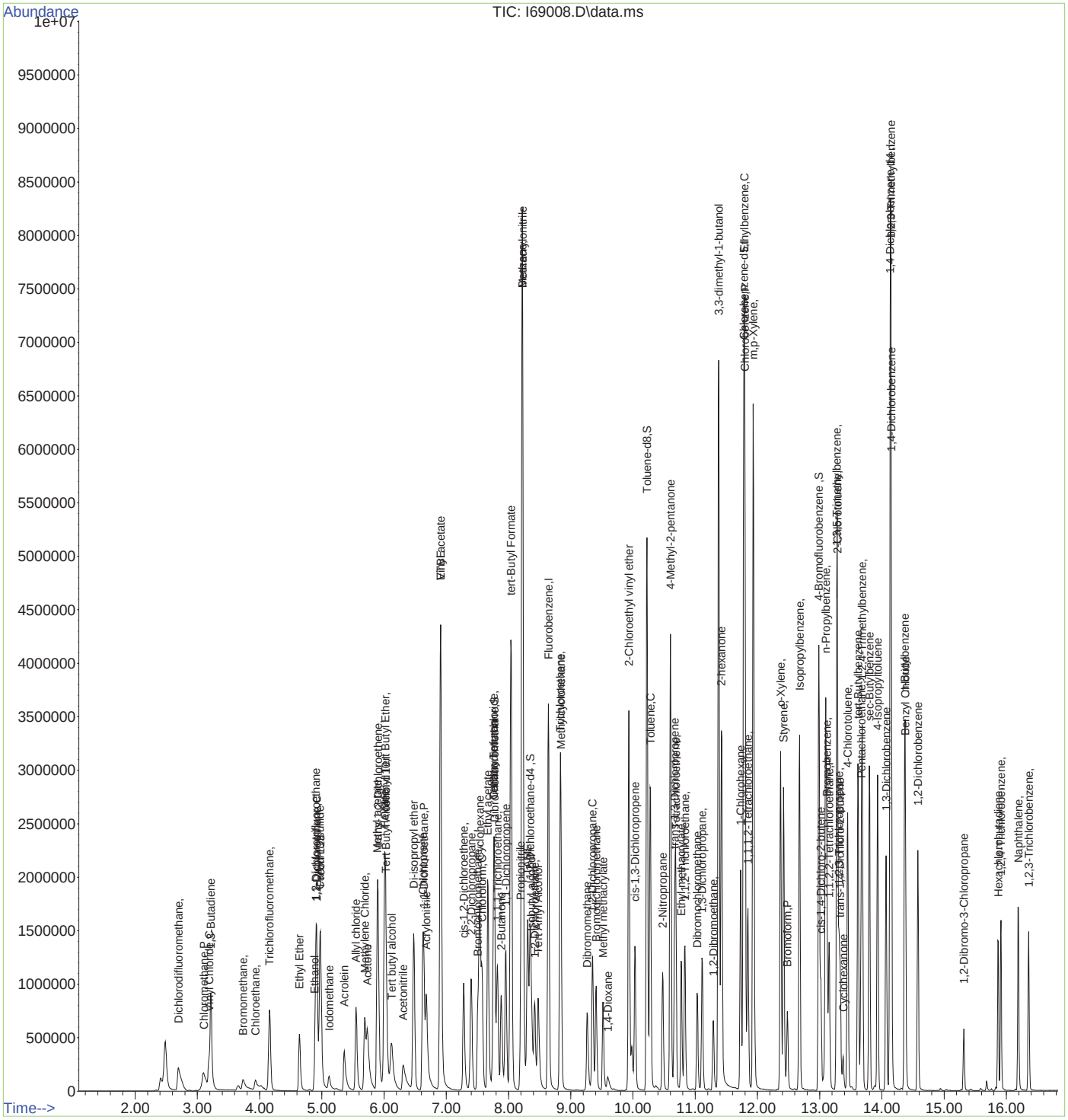
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.360	56	481325	122.84	ug/L	97
109) Tert butyl alcohol	6.122	59	831233	255.74	ug/L	98
110) Isobutyl alcohol	8.366	42	262142	456.03	ug/L	98
111) Tert Amyl Alcohol	8.476	59	608448	265.14	ug/L	97
112) 1,4-Dioxane	9.597	88	128522	556.44	ug/L	90
113) 3,3-dimethyl-1-butanol	11.377	57	3154945	1387.44	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69008.D
Acq On : 21 Jun 2021 1:35 pm
Operator : LINDSAYR
Sample : IC2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 21 15:20:15 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69009.D
Acq On : 21 Jun 2021 2:00 pm
Operator : LINDSAYR
Sample : ICC2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 21 15:20:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3346753	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2661620	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1451811	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.037	65	874817	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.774	113	917368	50.70	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.40%			
46) 1,2-Dichloroethane-d4	8.348	65	1041497	47.74	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 95.48%			
57) Toluene-d8	10.225	98	3406608	46.75	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 93.50%			
79) 4-Bromofluorobenzene	12.987	174	1144667	47.99	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.98%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.696	85	895581	43.68	ug/L	100
3) Chloromethane	3.111	50	761725	31.75	ug/L	98
4) Vinyl Chloride	3.190	62	996730	46.17	ug/L	99
5) 1,3-Butadiene	3.214	39	509386	40.53	ug/L	99
6) Bromomethane	3.739	94	274125	20.25	ug/L	96
7) Chloroethane	3.934	64	238335	48.29	ug/L	98
8) Trichlorofluoromethane	4.153	101	1374755	48.06	ug/L	99
9) Ethyl Ether	4.641	59	627864	44.79	ug/L	96
10) 1,2-Dichlorotrifluoroe...	4.903	67	928414	47.29	ug/L	99
11) 1,1-Dichloroethene	4.915	61	1262498	49.93	ug/L	98
12) Freon 113	4.976	101	845932	49.76	ug/L	99
13) Carbon Disulfide	4.970	76	2019959	44.26	ug/L	100
14) Iodomethane	5.116	142	460621	19.82	ug/L	96
15) Allyl chloride	5.549	41	980036	40.63	ug/L	95
16) Methylene Chloride	5.690	49	996554	44.99	ug/L	95
17) Acetone	5.732	43	1391584	254.45	ug/L	98
18) Methyl acetate	5.891	43	2826414	237.12	ug/L	96
19) trans-1,2-Dichloroethene	5.903	61	1148318	50.39	ug/L	97
20) Hexane	6.007	56	671408	45.75	ug/L	98
21) Methyl Tert Butyl Ether	6.025	73	2313962	45.69	ug/L	95
22) Acetonitrile	6.305	41	937753	433.99	ug/L	99
23) Di-isopropyl ether	6.476	45	2302500	42.92	ug/L	98
24) Chloroprene	6.622	53	1196543	47.83	ug/L	97
25) 1,1-Dichloroethane	6.641	63	1504860	49.12	ug/L	100
26) Acrylonitrile	6.677	53	1580757	231.61	ug/L	99
27) ETBE	6.909	59	2490058	46.68	ug/L	98
28) Vinyl acetate	6.909	43	7384076	241.41	ug/L	99
29) cis-1,2-Dichloroethene	7.281	96	855919	49.67	ug/L	97
30) 2,2-Dichloropropane	7.397	77	1334890	48.50	ug/L	99
31) Bromochloromethane	7.506	128	376119	48.55	ug/L	97
32) Cyclohexane	7.537	56	1397071	45.31	ug/L	97
33) Chloroform	7.573	83	1546134	48.89	ug/L	100
34) Ethyl acetate	7.665	43	3916053	231.05	ug/L	99
35) Tetrahydrofuran	7.762	42	245204	44.26	ug/L	98
37) Carbon Tetrachloride	7.756	117	1149443	50.50	ug/L	99
38) 1,1,1-Trichloroethane	7.823	97	1358710	49.56	ug/L	98
39) 2-Butanone	7.878	43	2057046	245.84	ug/L	96
40) 1,1-Dichloropropene	7.957	75	1174652	48.13	ug/L	98
41) tert-Butyl Formate	8.037	59	3687322	222.61	ug/L	94
42) Propionitrile	8.195	54	1384419	495.03	ug/L	98
43) Methacrylonitrile	8.226	41	4576443	471.55	ug/L	99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69009.D
Acq On : 21 Jun 2021 2:00 pm
Operator : LINDSAYR
Sample : ICC2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 21 15:20:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44)	Benzene	8.220	78	3288830	52.08	ug/L		98
45)	TAME	8.305	73	2252140	46.04	ug/L		98
47)	1,2-Dichloroethane	8.421	62	1028978	46.91	ug/L		99
48)	Trichloroethene	8.829	95	872840	48.73	ug/L		99
49)	Methylcyclohexane	8.835	83	1357610	46.26	ug/L		96
50)	Dibromomethane	9.262	93	499311	50.37	ug/L		98
51)	1,2-Dichloropropane	9.347	63	827983	46.04	ug/L		99
52)	Bromodichloromethane	9.408	83	1062582	49.72	ug/L		99
53)	Methyl methacrylate	9.518	41	630306	44.15	ug/L		92
54)	2-Chloroethyl vinyl ether	9.933	63	2448067	245.75	ug/L		98
55)	cis-1,3-Dichloropropene	10.030	75	1349406	48.07	ug/L		99
58)	Toluene	10.274	91	3429912	43.56	ug/L		99
59)	2-Nitropropane	10.475	41	1061787	218.10	ug/L		99
60)	4-Methyl-2-pentanone	10.603	43	4067488	212.51	ug/L		99
61)	trans-1,3-Dichloropropene	10.664	75	1134695	44.44	ug/L		98
62)	Tetrachloroethene	10.689	166	832723	46.47	ug/L		98
63)	Ethyl methacrylate	10.774	69	1037517	42.47	ug/L		97
64)	1,1,2-Trichloroethane	10.835	83	605261	43.15	ug/L		98
65)	Dibromochloromethane	11.030	129	792504	46.15	ug/L		99
66)	1,3-Dichloropropane	11.109	76	1257309	42.76	ug/L		97
67)	1,2-Dibromoethane	11.286	107	760974	43.36	ug/L		99
68)	2-hexanone	11.420	43	3085108	225.18	ug/L		98
69)	1-Chlorohexane	11.731	91	1179549	44.15	ug/L		95
70)	Ethylbenzene	11.798	91	3819414	45.80	ug/L		99
71)	Chlorobenzene	11.798	112	2041552	44.70	ug/L		99
72)	1,1,1,2-Tetrachloroethane	11.847	131	744049	44.52	ug/L		98
73)	m,p-Xylene	11.932	91	5693943	88.37	ug/L		99
74)	o-Xylene	12.371	91	2906948	42.06	ug/L		99
75)	Styrene	12.420	104	2229541	45.03	ug/L		99
76)	Bromoform	12.481	173	532551	42.69	ug/L		99
77)	Isopropylbenzene	12.676	105	3582176	42.92	ug/L		98
80)	cis-1,4-Dichloro-2-butene	13.017	53	313059	40.63	ug/L		99
81)	n-Propylbenzene	13.097	91	4176977	41.62	ug/L		99
82)	Bromobenzene	13.115	156	834044	43.02	ug/L		100
83)	1,1,2,2-Tetrachloroethane	13.152	83	1082883	42.14	ug/L		98
84)	1,3,5-Trimethylbenzene	13.273	105	2808853	43.06	ug/L		100
85)	2-Chlorotoluene	13.286	91	2795865	41.78	ug/L		96
86)	trans-1,4-Dichloro-2-B...	13.328	53	290635	39.02	ug/L		92
87)	1,2,3-Trichloropropane	13.310	110	329028	42.27	ug/L		99
88)	Cyclohexanone	13.377	55	199423	194.93	ug/L		97
89)	4-Chlorotoluene	13.450	91	2460773	40.63	ug/L		99
90)	tert-Butylbenzene	13.615	91	1640028	40.45	ug/L		100
91)	1,2,4-Trimethylbenzene	13.682	105	2602173	40.33	ug/L		99
92)	Pentachloroethane	13.670	167	475122	41.86	ug/L		97
93)	sec-Butylbenzene	13.798	105	3449656	41.28	ug/L		99
94)	4-Isopropyltoluene	13.932	119	2761265	42.33	ug/L		99
95)	1,3-Dichlorobenzene	14.066	146	1410116	41.04	ug/L		99
96)	1,2,3-Trimethylbenzene	14.145	105	2274635	25.96	ug/L		99
97)	1,4-Dichlorobenzene	14.151	146	1420326	42.78	ug/L		99
98)	n-Butylbenzene	14.365	92	1510523	44.12	ug/L		92
99)	Benzyl Chloride	14.377	126	388388	41.19	ug/L	#	78
100)	1,2-Dichlorobenzene	14.578	146	1344183	41.30	ug/L		99
101)	1,2-Dibromo-3-Chloropr...	15.316	75	224510	42.98	ug/L		98
102)	Hexachlorobutadiene	15.870	225	388502	41.40	ug/L		93
103)	1,2,4-Trichlorobenzene	15.913	180	716028	44.90	ug/L		99
104)	Naphthalene	16.194	128	2032816	44.72	ug/L		100
105)	1,2,3-Trichlorobenzene	16.358	180	674320	45.77	ug/L		99
107)	Ethanol	4.897	45	177187	652.77	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69009.D
Acq On : 21 Jun 2021 2:00 pm
Operator : LINDSAYR
Sample : ICC2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 21 15:20:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.360	56	821780	187.35	ug/L	99
109) Tert butyl alcohol	6.128	59	1414885	400.43	ug/L	97
110) Isobutyl alcohol	8.372	42	428275	685.35	ug/L	99
111) Tert Amyl Alcohol	8.476	59	1048079	420.13	ug/L	97
112) 1,4-Dioxane	9.591	88	210759	839.40	ug/L	95
113) 3,3-dimethyl-1-butanol	11.377	57	5221240	2112.20	ug/L	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

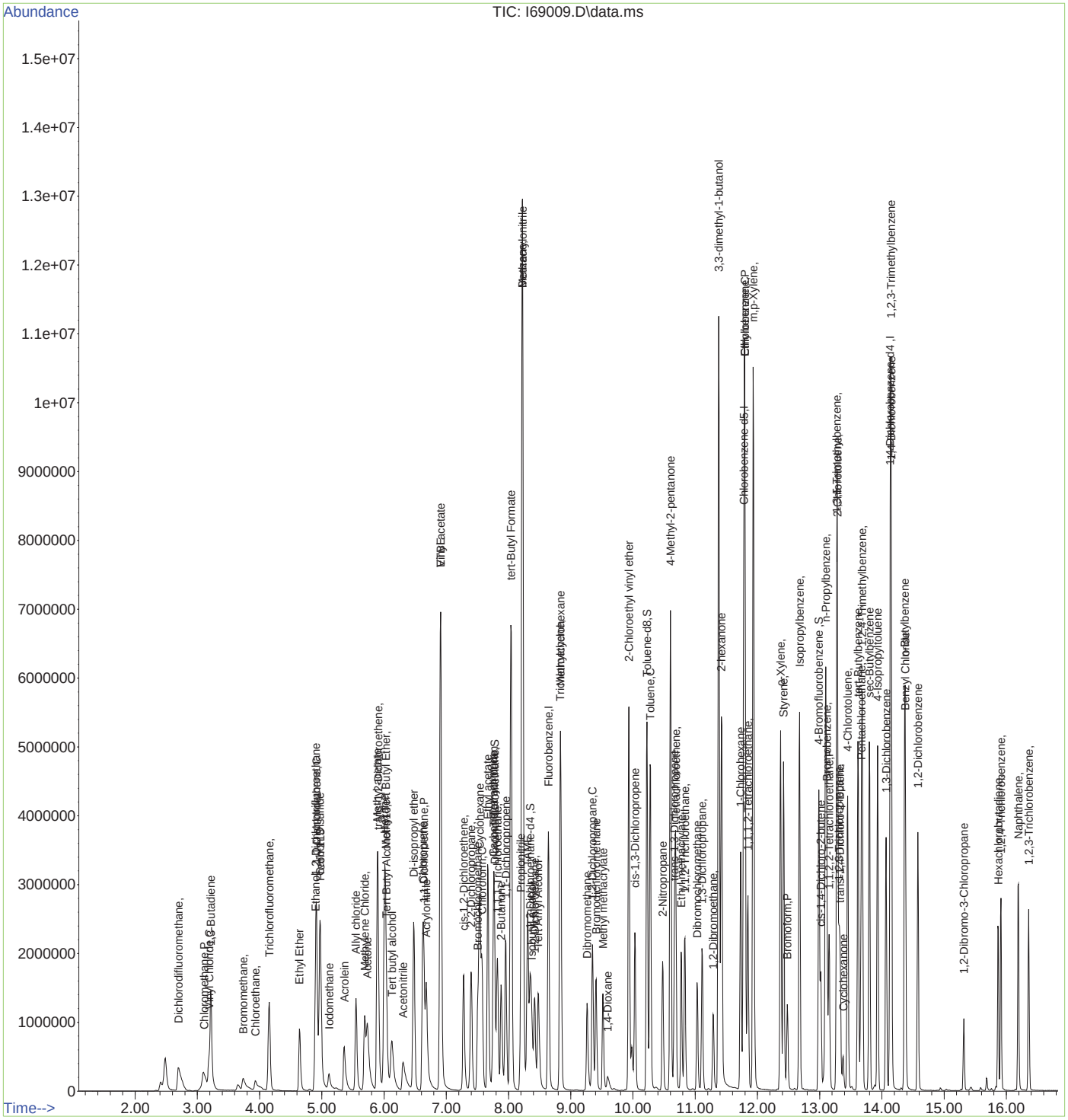
7.6.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69009.D
Acq On : 21 Jun 2021 2:00 pm
Operator : LINDSAYR
Sample : ICC2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 21 15:20:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69010.D
Acq On : 21 Jun 2021 2:24 pm
Operator : LINDSAYR
Sample : IC2216-6
Misc : MS49159,VI2216,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 21 15:20:21 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3391190	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2691600	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.139	152	1495622	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.049	65	874997	250.00	ug/L	0.01
System Monitoring Compounds						
36) Dibromofluoromethane	7.775	113	926854	50.55	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.10%			
46) 1,2-Dichloroethane-d4	8.348	65	1038798	46.99	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 93.98%			
57) Toluene-d8	10.225	98	3475530	47.17	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 94.34%			
79) 4-Bromofluorobenzene	12.987	174	1177347	47.92	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 95.84%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	1678640	80.81	ug/L	99
3) Chloromethane	3.117	50	1391206	57.23	ug/L	99
4) Vinyl Chloride	3.190	62	1827161	83.52	ug/L	100
5) 1,3-Butadiene	3.214	39	906649	71.19	ug/L	98
6) Bromomethane	3.739	94	569002	41.49	ug/L	99
7) Chloroethane	3.928	64	409333	87.70	ug/L	98
8) Trichlorofluoromethane	4.141	101	2331441	80.44	ug/L	100
9) Ethyl Ether	4.647	59	1179155	83.01	ug/L	96
10) 1,2-Dichlorotrifluoroe...	4.903	67	1702198	85.57	ug/L	98
11) 1,1-Dichloroethene	4.909	61	2313896	90.31	ug/L	97
12) Freon 113	4.970	101	1536887	89.23	ug/L	99
13) Carbon Disulfide	4.964	76	3816836	82.53	ug/L	99
14) Iodomethane	5.110	142	957782	40.94	ug/L	100
15) Allyl chloride	5.543	41	1795794	73.47	ug/L	96
16) Methylene Chloride	5.690	49	1849730	86.44	ug/L	94
17) Acetone	5.732	43	2599046	469.01	ug/L	99
18) Methyl acetate	5.891	43	5174473	438.97	ug/L	96
19) trans-1,2-Dichloroethene	5.897	61	2107202	91.26	ug/L	98
20) Hexane	6.000	56	1237716	83.23	ug/L	87
21) Methyl Tert Butyl Ether	6.025	73	4234913	82.53	ug/L	88
22) Acetonitrile	6.305	41	1721861	779.67	ug/L	99
23) Di-isopropyl ether	6.482	45	4207900	77.40	ug/L	97
24) Chloroprene	6.616	53	2214437	87.36	ug/L	97
25) 1,1-Dichloroethane	6.641	63	2714813	87.45	ug/L	100
26) Acrylonitrile	6.677	53	2802981	405.31	ug/L	98
27) ETBE	6.909	59	4528033	83.77	ug/L	98
28) Vinyl acetate	6.909	43	12186481	393.20	ug/L	96
29) cis-1,2-Dichloroethene	7.275	96	1582835	90.64	ug/L	99
30) 2,2-Dichloropropane	7.397	77	2426107	86.99	ug/L	98
31) Bromochloromethane	7.506	128	695284	88.57	ug/L	94
32) Cyclohexane	7.537	56	2587517	82.81	ug/L	97
33) Chloroform	7.573	83	2807794	87.63	ug/L	99
34) Ethyl acetate	7.665	43	6606404	384.68	ug/L	100
35) Tetrahydrofuran	7.762	42	442914	83.86	ug/L	99
37) Carbon Tetrachloride	7.756	117	2126356	92.20	ug/L	99
38) 1,1,1-Trichloroethane	7.823	97	2460695	88.58	ug/L	99
39) 2-Butanone	7.884	43	3897036	459.64	ug/L	95
40) 1,1-Dichloropropene	7.951	75	2151581	87.00	ug/L	98
41) tert-Butyl Formate	8.043	59	6660987	396.87	ug/L	97
42) Propionitrile	8.201	54	2496606	881.02	ug/L	79
43) Methacrylonitrile	8.226	41	7556918	768.45	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69010.D
Acq On : 21 Jun 2021 2:24 pm
Operator : LINDSAYR
Sample : IC2216-6
Misc : MS49159,VI2216,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 21 15:20:21 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) Benzene	8.220	78	5728436	89.52	ug/L		100
45) TAME	8.311	73	4140806	83.54	ug/L		96
47) 1,2-Dichloroethane	8.421	62	1888309	84.96	ug/L		99
48) Trichloroethene	8.829	95	1597041	88.00	ug/L		99
49) Methylcyclohexane	8.835	83	2535056	85.25	ug/L		96
50) Dibromomethane	9.262	93	946080	94.19	ug/L		99
51) 1,2-Dichloropropane	9.347	63	1559161	85.57	ug/L		98
52) Bromodichloromethane	9.408	83	2025067	93.51	ug/L		98
53) Methyl methacrylate	9.512	41	1179795	80.64	ug/L		94
54) 2-Chloroethyl vinyl ether	9.933	63	4090958	405.29	ug/L		97
55) cis-1,3-Dichloropropene	10.030	75	2536955	89.19	ug/L		99
58) Toluene	10.274	91	6211260	78.01	ug/L		100
59) 2-Nitropropane	10.475	41	1943545	394.77	ug/L		100
60) 4-Methyl-2-pentanone	10.603	43	7250447	374.59	ug/L		95
61) trans-1,3-Dichloropropene	10.664	75	2131490	82.55	ug/L		98
62) Tetrachloroethene	10.682	166	1527152	84.28	ug/L		98
63) Ethyl methacrylate	10.774	69	1920079	77.73	ug/L		96
64) 1,1,2-Trichloroethane	10.829	83	1118038	78.83	ug/L		100
65) Dibromochloromethane	11.030	129	1524513	87.80	ug/L		99
66) 1,3-Dichloropropane	11.109	76	2365338	79.54	ug/L		96
67) 1,2-Dibromoethane	11.286	107	1438544	81.05	ug/L		100
68) 2-hexanone	11.420	43	5555269	400.97	ug/L		95
69) 1-Chlorohexane	11.731	91	2177116	80.59	ug/L		96
70) Ethylbenzene	11.798	91	6767744	80.25	ug/L		97
71) Chlorobenzene	11.798	112	3683708	79.75	ug/L		99
72) 1,1,1,2-Tetrachloroethane	11.847	131	1388314	82.15	ug/L		98
73) m,p-Xylene	11.932	91	9953428	152.76	ug/L		96
74) o-Xylene	12.371	91	5331970	76.28	ug/L		98
75) Styrene	12.420	104	4139303	82.67	ug/L		99
76) Bromoform	12.481	173	1048352	77.30	ug/L		99
77) Isopropylbenzene	12.676	105	6518073	77.23	ug/L		98
80) cis-1,4-Dichloro-2-butene	13.017	53	587705	74.04	ug/L		99
81) n-Propylbenzene	13.097	91	7574455	73.26	ug/L		97
82) Bromobenzene	13.115	156	1554355	77.83	ug/L		100
83) 1,1,2,2-Tetrachloroethane	13.152	83	2020489	76.31	ug/L		99
84) 1,3,5-Trimethylbenzene	13.280	105	5267763	78.39	ug/L		99
85) 2-Chlorotoluene	13.286	91	5033268	73.01	ug/L		96
86) trans-1,4-Dichloro-2-B...	13.328	53	551039	71.81	ug/L		93
87) 1,2,3-Trichloropropane	13.310	110	602720	75.17	ug/L		97
88) Cyclohexanone	13.377	55	341555	324.08	ug/L		98
89) 4-Chlorotoluene	13.450	91	4587473	73.52	ug/L		99
90) tert-Butylbenzene	13.615	91	3042163	72.84	ug/L		99
91) 1,2,4-Trimethylbenzene	13.682	105	4937986	74.29	ug/L		99
92) Pentachloroethane	13.670	167	908038	77.66	ug/L		99
93) sec-Butylbenzene	13.798	105	6367121	73.97	ug/L		100
94) 4-Isopropyltoluene	13.932	119	5172955	76.98	ug/L		99
95) 1,3-Dichlorobenzene	14.066	146	2691049	76.02	ug/L		98
96) 1,2,3-Trimethylbenzene	14.145	105	4293523	47.57	ug/L		99
97) 1,4-Dichlorobenzene	14.151	146	2669859	78.06	ug/L		99
98) n-Butylbenzene	14.365	92	2901685	82.26	ug/L		89
99) Benzyl Chloride	14.377	126	763789	78.63	ug/L	#	86
100) 1,2-Dichlorobenzene	14.578	146	2541054	75.79	ug/L		100
101) 1,2-Dibromo-3-Chloropr...	15.316	75	431897	80.26	ug/L		97
102) Hexachlorobutadiene	15.871	225	748152	77.39	ug/L		94
103) 1,2,4-Trichlorobenzene	15.913	180	1382965	84.18	ug/L		100
104) Naphthalene	16.194	128	3774799	80.61	ug/L		99
105) 1,2,3-Trichlorobenzene	16.358	180	1291127	85.07	ug/L		100
107) Ethanol	4.903	45	321298	1183.44	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69010.D
Acq On : 21 Jun 2021 2:24 pm
Operator : LINDSAYR
Sample : IC2216-6
Misc : MS49159,VI2216,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 21 15:20:21 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

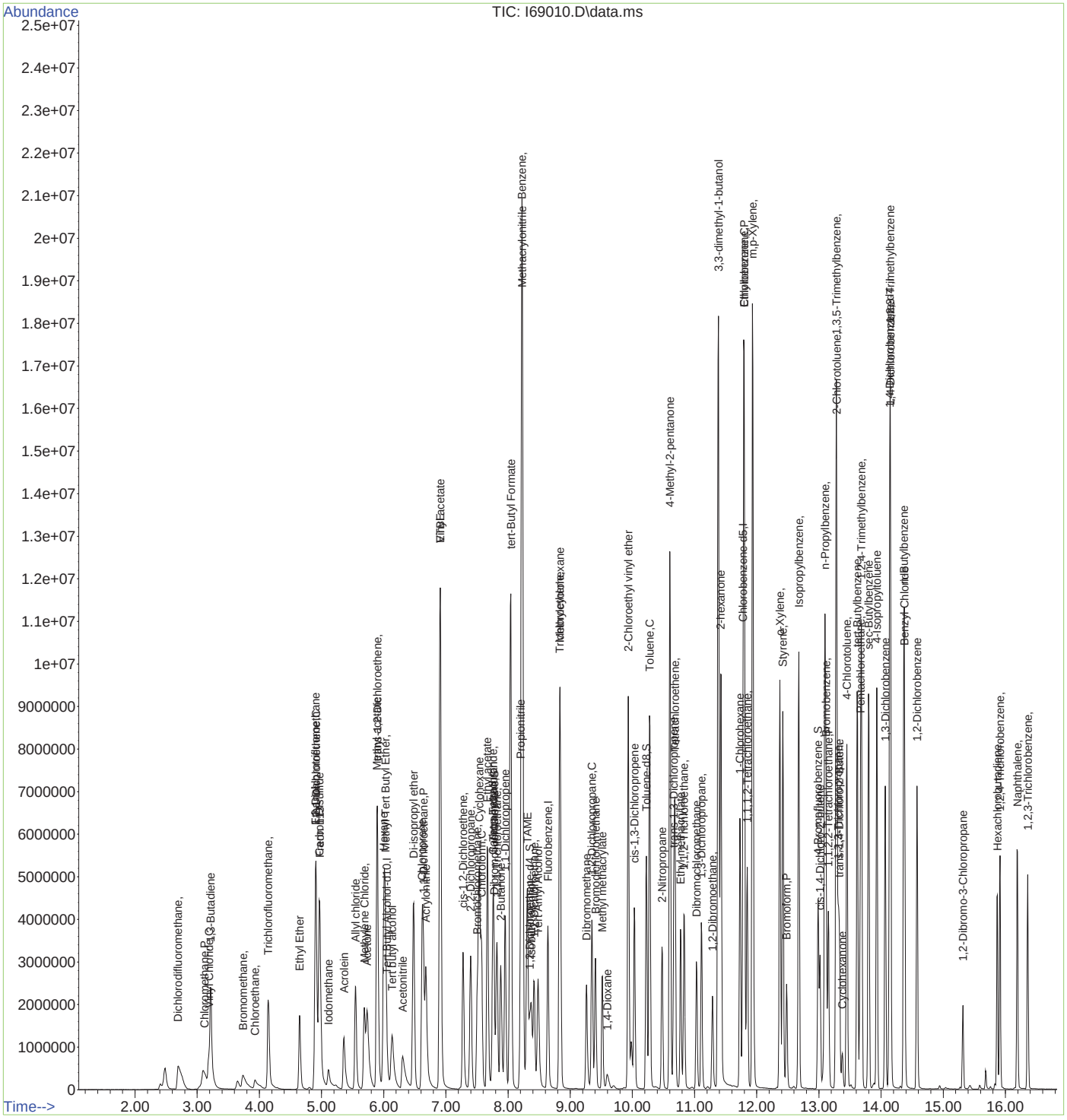
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.360	56	1506347	323.59	ug/L	98
109) Tert butyl alcohol	6.135	59	2606710	737.58	ug/L	96
110) Isobutyl alcohol	8.372	42	790837	1265.29	ug/L	97
111) Tert Amyl Alcohol	8.482	59	1957469	784.50	ug/L	99
112) 1,4-Dioxane	9.597	88	378314	1506.42	ug/L	93
113) 3,3-dimethyl-1-butanol	11.384	57	9088703	3675.98	ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69010.D
Acq On : 21 Jun 2021 2:24 pm
Operator : LINDSAYR
Sample : IC2216-6
Misc : MS49159,VI2216,,,,,
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 21 15:20:21 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



I69011.D

Manual Integrations APPROVED (compounds with "m" flag)

Chelsea VanDenBurg 06/23/21 08:07

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:33:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3535652	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2751408	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.139	152	1518424	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.061	65	939756	250.00	ug/L	0.02
System Monitoring Compounds						
36) Dibromofluoromethane	7.774	113	966724	50.57	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery =	101.14%		
46) 1,2-Dichloroethane-d4	8.348	65	1085170	47.08	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery =	94.16%		
57) Toluene-d8	10.225	98	3597452	47.76	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery =	95.52%		
79) 4-Bromofluorobenzene	12.987	174	1216302	48.76	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery =	97.52%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.696	85	2643801	122.07	ug/L	99
3) Chloromethane	3.123	50	2176102	85.87	ug/L	99
4) Vinyl Chloride	3.190	62	2830932	124.12	ug/L	100
5) 1,3-Butadiene	3.214	39	1329271	100.11	ug/L	97
6) Bromomethane	3.733	94	885990	61.96	ug/L	97
7) Chloroethane	3.928	64	587332	130.98	ug/L	98
8) Trichlorofluoromethane	4.141	101	1826428m	60.44	ug/L	
9) Ethyl Ether	4.653	59	1767284	119.33	ug/L	95
10) 1,2-Dichlorotrifluoroe...	4.903	67	2525185	121.76	ug/L	98
11) 1,1-Dichloroethene	4.909	61	3432228	128.48	ug/L	95
12) Freon 113	4.964	101	2269332	126.37	ug/L	100
13) Carbon Disulfide	4.958	76	5692733	118.06	ug/L	98
14) Iodomethane	5.110	142	1402990	57.82	ug/L	100
15) Allyl chloride	5.543	41	2661575	104.44	ug/L	97
16) Methylene Chloride	5.690	49	2718085	128.13	ug/L	93
17) Acetone	5.738	43	3840505	664.72	ug/L	98
18) Methyl acetate	5.891	43	7576041	631.25	ug/L	94
19) trans-1,2-Dichloroethene	5.897	61	3091948	128.44	ug/L	98
20) Hexane	6.000	56	1825322	117.73	ug/L	84
21) Methyl Tert Butyl Ether	6.031	73	6210892	116.09	ug/L	76
22) Acetonitrile	6.305	41	2631833	1133.06	ug/L	100
23) Di-isopropyl ether	6.482	45	6145654	108.43	ug/L	97
24) Chloroprene	6.616	53	3291699	124.56	ug/L	96
25) 1,1-Dichloroethane	6.641	63	3985293	123.12	ug/L	99
26) Acrylonitrile	6.677	53	4252735	589.82	ug/L	99
27) ETBE	6.909	59	6452071	114.49	ug/L	97
28) Vinyl acetate	6.909	43	16527249	511.46	ug/L	93
29) cis-1,2-Dichloroethene	7.275	96	2355072	129.35	ug/L	98
30) 2,2-Dichloropropane	7.396	77	3555898	122.30	ug/L	98
31) Bromochloromethane	7.506	128	1018320	124.42	ug/L	94
32) Cyclohexane	7.537	56	3814498	117.09	ug/L	96
33) Chloroform	7.573	83	4105574	122.89	ug/L	100
34) Ethyl acetate	7.671	43	9599950	536.15	ug/L	97
35) Tetrahydrofuran	7.762	42	660038	129.15	ug/L	97
37) Carbon Tetrachloride	7.756	117	3168931	131.79	ug/L	99
38) 1,1,1-Trichloroethane	7.823	97	3629639	125.32	ug/L	99
39) 2-Butanone	7.884	43	5802866	656.46	ug/L	94
40) 1,1-Dichloropropene	7.951	75	3210802	124.52	ug/L	98
41) tert-Butyl Formate	8.043	59	9794540	559.72	ug/L	97
42) Propionitrile	8.201	54	3676729	1244.46	ug/L	83
43) Methacrylonitrile	8.232	41	10094475	984.55	ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:33:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44)	Benzene	8.213	78	8007305	120.03	ug/L	89
45)	TAME	8.311	73	6100327	118.05	ug/L	97
47)	1,2-Dichloroethane	8.421	62	2777723	119.86	ug/L	99
48)	Trichloroethene	8.829	95	2338340	123.58	ug/L	99
49)	Methylcyclohexane	8.835	83	3719095	119.95	ug/L	96
50)	Dibromomethane	9.262	93	1407689	134.42	ug/L	98
51)	1,2-Dichloropropane	9.347	63	2296066	120.86	ug/L	98
52)	Bromodichloromethane	9.402	83	2981950	132.07	ug/L	98
53)	Methyl methacrylate	9.512	41	1739299	112.90	ug/L	93
54)	2-Chloroethyl vinyl ether	9.933	63	5808678	551.95	ug/L	96
55)	cis-1,3-Dichloropropene	10.030	75	3729738	125.76	ug/L	98
58)	Toluene	10.274	91	8895805	109.30	ug/L	98
59)	2-Nitropropane	10.481	41	2869058	570.10	ug/L	100
60)	4-Methyl-2-pentanone	10.603	43	10043356	507.60	ug/L	92
61)	trans-1,3-Dichloropropene	10.670	75	3096998	117.34	ug/L	95
62)	Tetrachloroethene	10.682	166	2237076	120.78	ug/L	99
63)	Ethyl methacrylate	10.774	69	2838042	112.39	ug/L	95
64)	1,1,2-Trichloroethane	10.829	83	1637238	112.92	ug/L	99
65)	Dibromochloromethane	11.030	129	2264736	127.59	ug/L	100
66)	1,3-Dichloropropane	11.109	76	3469913	114.15	ug/L	96
67)	1,2-Dibromoethane	11.286	107	2127632	117.27	ug/L	99
68)	2-hexanone	11.426	43	7629228	538.69	ug/L	90
69)	1-Chlorohexane	11.731	91	3174513	114.95	ug/L	96
70)	Ethylbenzene	11.798	91	9389835	108.93	ug/L	94
71)	Chlorobenzene	11.798	112	5201522	110.16	ug/L	98
72)	1,1,1,2-Tetrachloroethane	11.847	131	2048248	118.56	ug/L	98
73)	m,p-Xylene	11.932	91	13336632	200.23	ug/L	91
74)	o-Xylene	12.371	91	7647720	107.03	ug/L	97
75)	Styrene	12.420	104	5965851	116.57	ug/L	99
76)	Bromoform	12.481	173	1577004	107.27	ug/L	99
77)	Isopropylbenzene	12.676	105	9250559	107.22	ug/L	95
80)	cis-1,4-Dichloro-2-butene	13.017	53	880857	109.30	ug/L	96
81)	n-Propylbenzene	13.097	91	10566550	100.66	ug/L	94
82)	Bromobenzene	13.115	156	2235554	110.25	ug/L	99
83)	1,1,2,2-Tetrachloroethane	13.151	83	2966510	110.36	ug/L	99
84)	1,3,5-Trimethylbenzene	13.280	105	7494649	109.85	ug/L	98
85)	2-Chlorotoluene	13.286	91	7084677	101.22	ug/L	95
86)	trans-1,4-Dichloro-2-B...	13.328	53	817041	104.88	ug/L	87
87)	1,2,3-Trichloropropane	13.310	110	891719	109.54	ug/L	99
88)	Cyclohexanone	13.377	55	476782	445.59	ug/L	98
89)	4-Chlorotoluene	13.450	91	6601110	104.20	ug/L	98
90)	tert-Butylbenzene	13.615	91	4420365	104.25	ug/L	99
91)	1,2,4-Trimethylbenzene	13.682	105	7164417	106.17	ug/L	97
92)	Pentachloroethane	13.670	167	1311902	110.51	ug/L	98
93)	sec-Butylbenzene	13.798	105	9085390	103.96	ug/L	98
94)	4-Isopropyltoluene	13.932	119	7439117	109.04	ug/L	98
95)	1,3-Dichlorobenzene	14.066	146	3902269	108.58	ug/L	98
96)	1,2,3-Trimethylbenzene	14.145	105	6211094	67.78	ug/L	99
97)	1,4-Dichlorobenzene	14.151	146	3798321	109.39	ug/L	99
98)	n-Butylbenzene	14.365	92	4242768	118.48	ug/L	86
99)	Benzyl Chloride	14.377	126	1122407	113.81	ug/L	92
100)	1,2-Dichlorobenzene	14.578	146	3703757	108.81	ug/L	100
101)	1,2-Dibromo-3-Chloropr...	15.316	75	660554	120.91	ug/L	99
102)	Hexachlorobutadiene	15.870	225	1096642	111.74	ug/L	95
103)	1,2,4-Trichlorobenzene	15.913	180	2051833	123.02	ug/L	99
104)	Naphthalene	16.187	128	5549221	116.72	ug/L	99
105)	1,2,3-Trichlorobenzene	16.358	180	1909022	123.89	ug/L	100
107)	Ethanol	4.927	45	467990	1604.97	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:33:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration

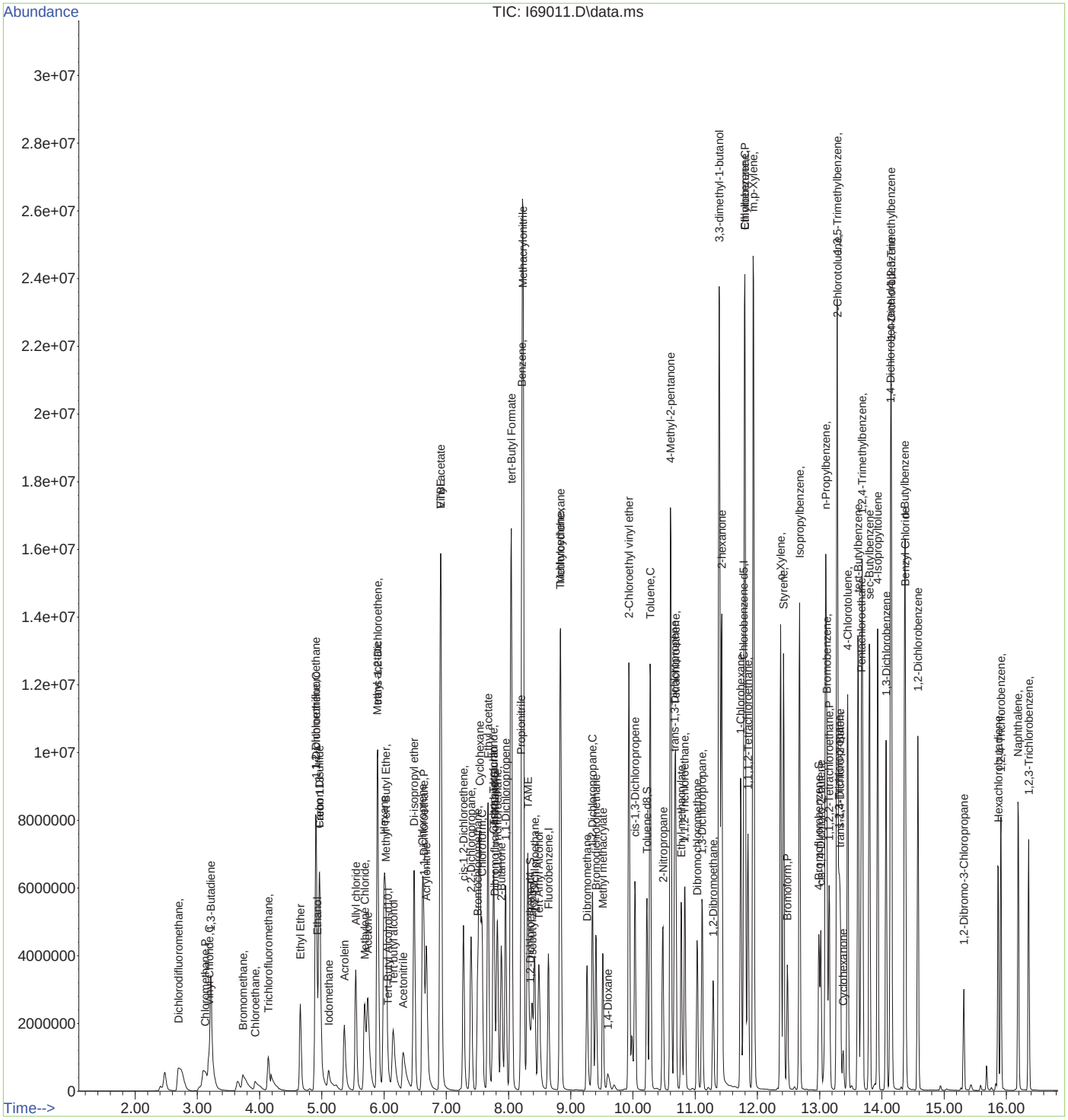
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
108) Acrolein	5.360	56	2347215	446.34	ug/L	97
109) Tert butyl alcohol	6.147	59	3927402	1034.70	ug/L	94
110) Isobutyl alcohol	8.378	42	1185234	1765.63	ug/L	96
111) Tert Amyl Alcohol	8.488	59	2974167	1109.82	ug/L	98
112) 1,4-Dioxane	9.597	88	536180	1987.90	ug/L	95
113) 3,3-dimethyl-1-butanol	11.384	57	12549902m	4726.10	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:33:18 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: VI2216-IC2216
Lab FileID: I69011.D
Injection Time: 06/21/21 14:48
Method: SW846 8260B
Analyst approved: 06/22/21 08:21 Lindsay Ritner
Supervisor approved: 06/23/21 08:07 Chelsea VanDenBurg

Parameter	CAS	Sig#	R.T. (min.)	Reason
Trichlorofluoromethane	75-69-4		4.14	Split peak
3,3-Dimethyl-1-Butanol	624-95-3		11.38	Overlapping peak

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 21 15:20:24 2021
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QLast Update : Thu May 27 14:34:13 2021
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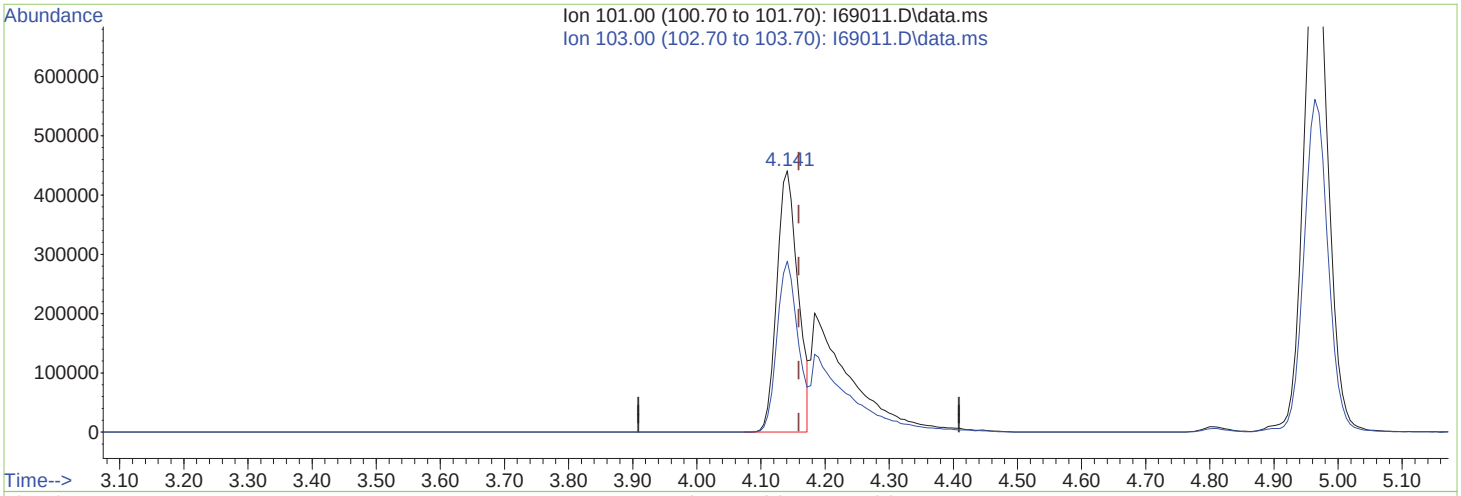

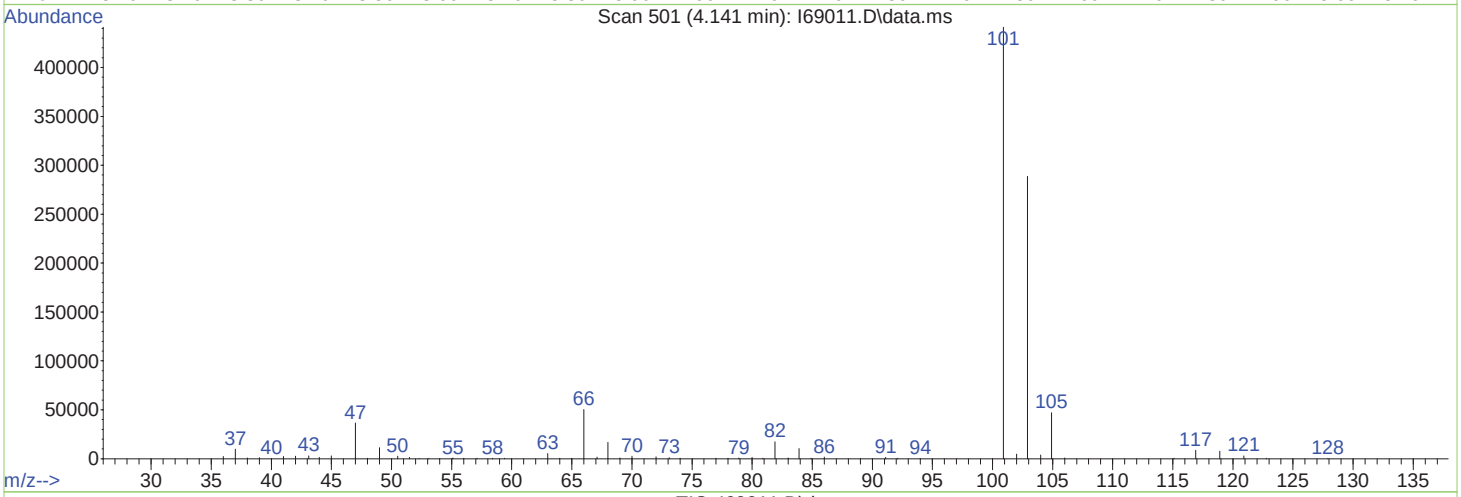

TIC: I69011.D\data.ms

(8) Trichlorofluoromethane ( )

4.141min (-0.018) 33.38ug/L

response 1008571

Ion	Exp%	Act%
101.00	100	100
103.00	64.80	65.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
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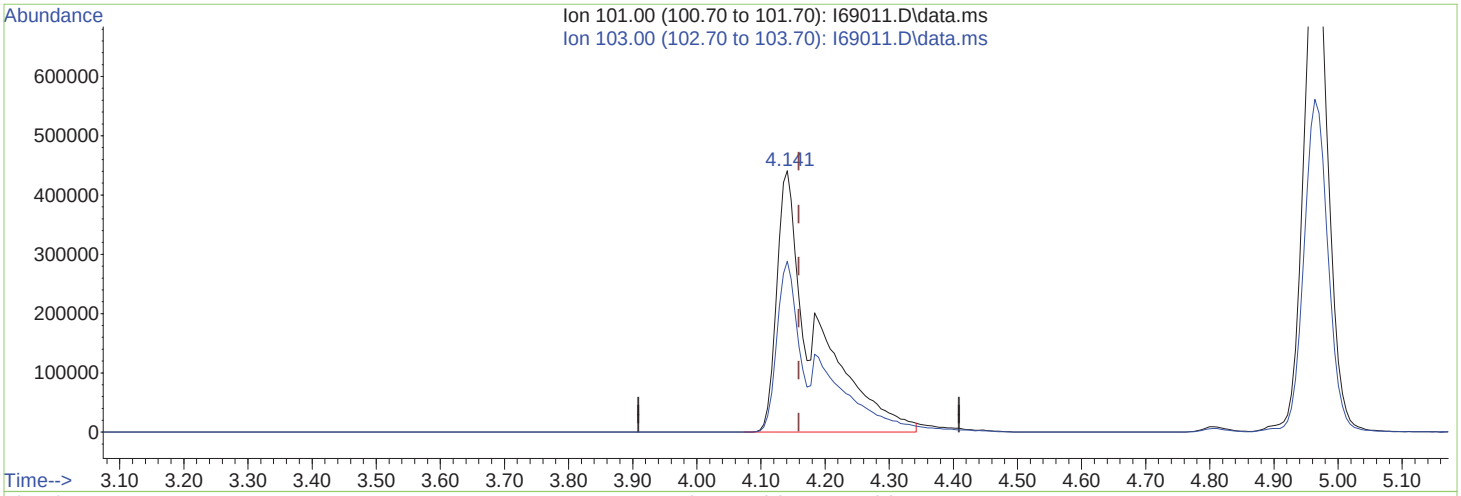

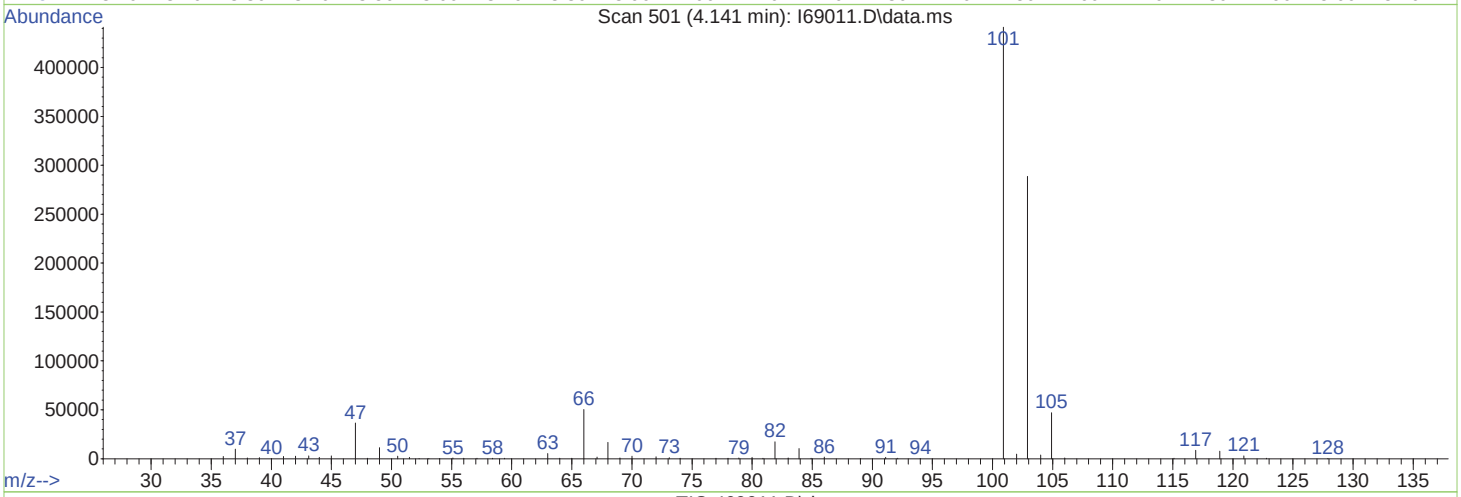

TIC: I69011.D\data.ms

(8) Trichlorofluoromethane ( )

4.141min (-0.018) 60.44ug/L m

response 1826428

Ion	Exp%	Act%
101.00	100	100
103.00	64.80	65.38
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
Acq On : 21 Jun 2021 2:48 pm
Operator : LINDSAYR
Sample : IC2216-7
Misc : MS49159,VI2216,,,,,
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Quant Title : SW-846 Method 5035A/8260B
QLast Update : Thu May 27 14:34:13 2021
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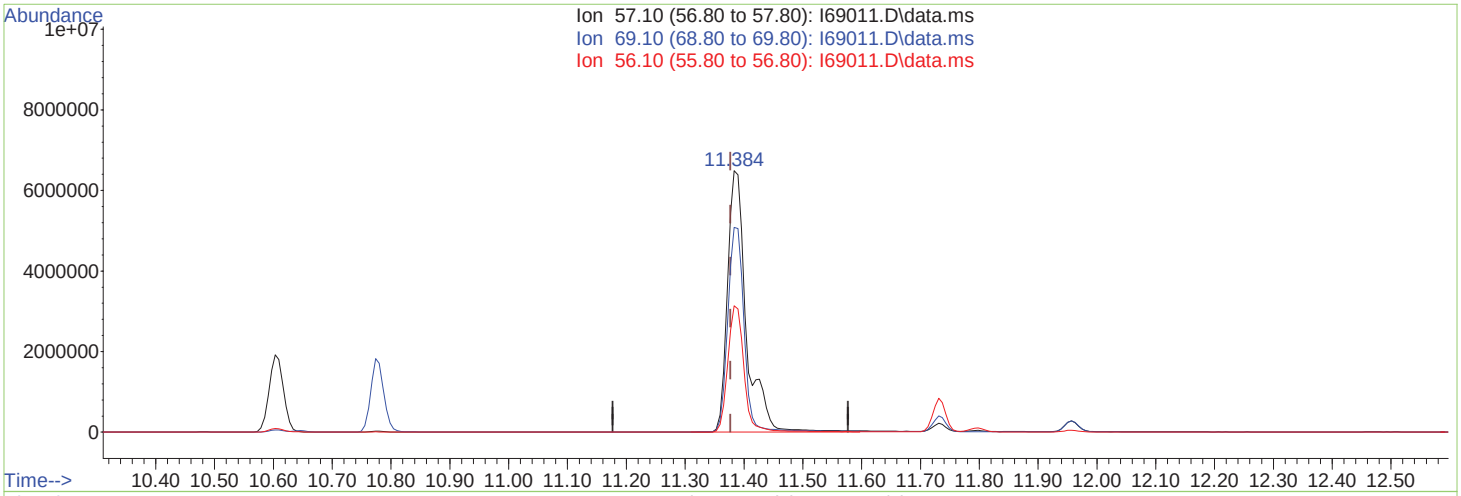

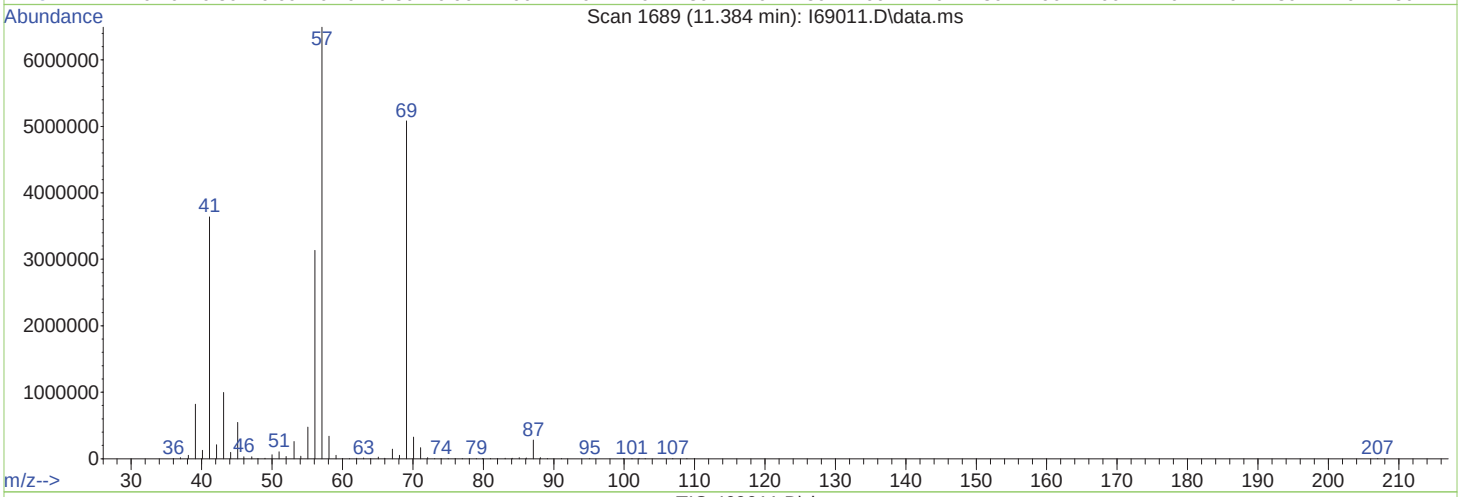

TIC: I69011.D\data.ms

(113) 3,3-dimethyl-1-butanol

11.384min (+0.007) 5535.98ug/L

response 14700488

Ion	Exp%	Act%
57.10	100	100
69.10	72.90	78.23
56.10	44.60	48.27
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69011.D
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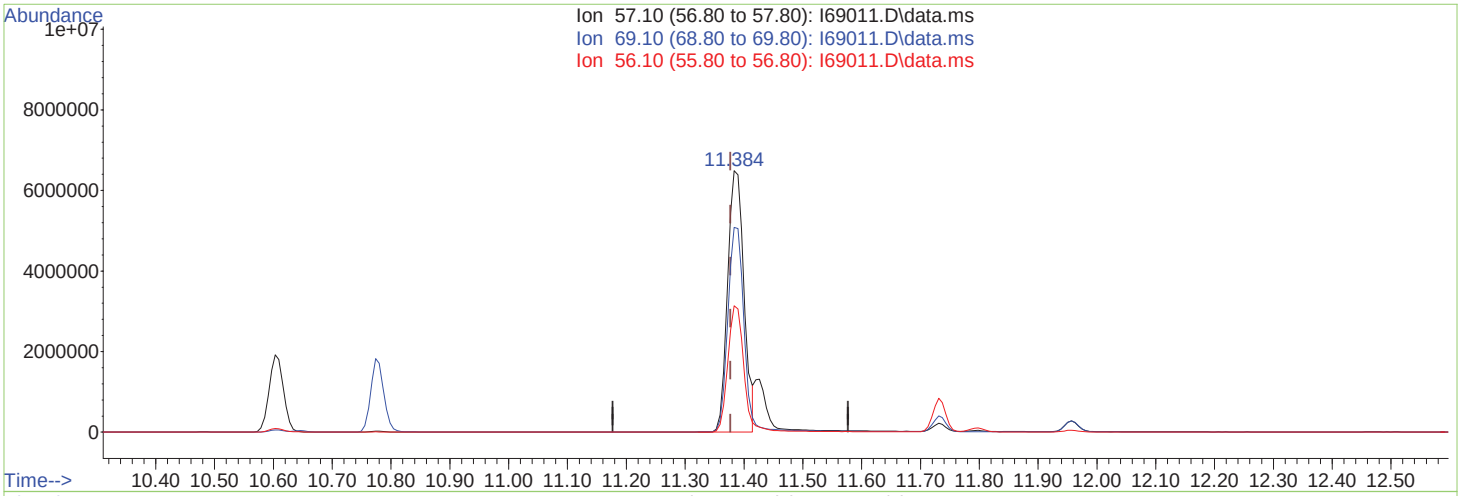
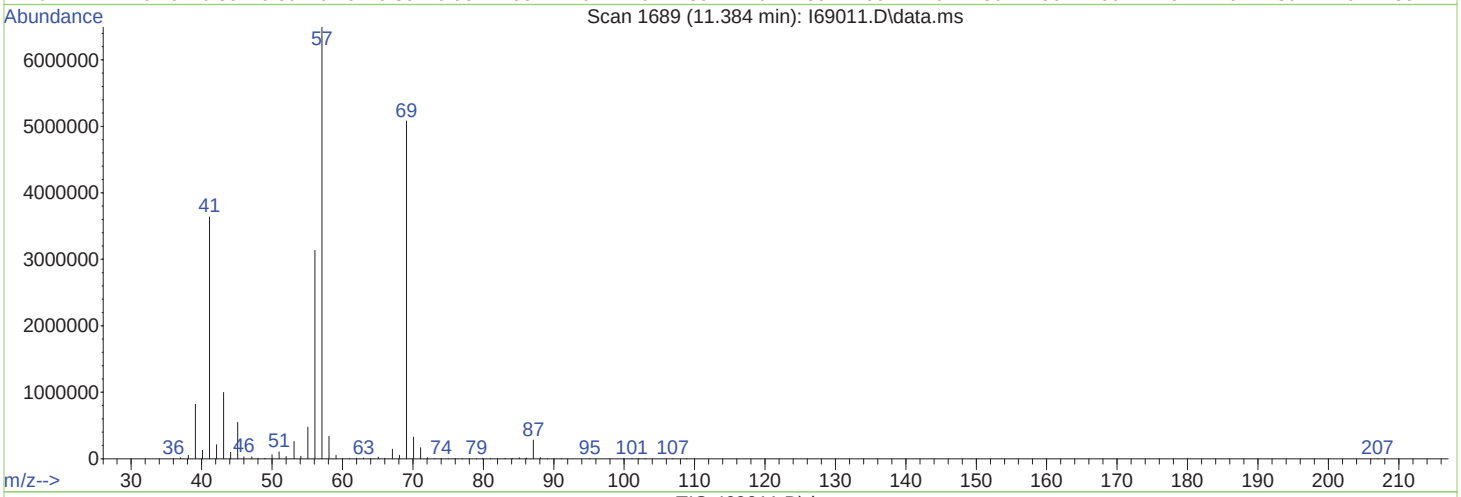
QLast Update : Thu May 27 14:34:13 2021
Response via : Initial Calibration





TIC: I69011.D\data.ms

(113) 3,3-dimethyl-1-butanol

11.384min (+0.007) 4726.10ug/L m

response 12549902

Ion	Exp%	Act%
57.10	100	100
69.10	72.90	78.25
56.10	44.60	48.27
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69013.D
Acq On : 21 Jun 2021 4:06 pm
Operator : LINDSAYR
Sample : ICV2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 22 08:03:46 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.634	96	3462493	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.774	117	2748150	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1484896	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.037	65	778380	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.768	113	954853	50.48	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.96%			
46) 1,2-Dichloroethane-d4	8.341	65	1068943	48.78	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 97.56%			
57) Toluene-d8	10.219	98	3530425	50.16	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.32%			
79) 4-Bromofluorobenzene	12.987	174	1186552	50.73	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 101.46%			
Target Compounds						Qvalue
3) Chloromethane	3.099	50	704984	34.72	ug/L	100
4) Vinyl Chloride	3.184	62	910090	35.07	ug/L	99
5) 1,3-Butadiene	3.214	39	767174	57.65	ug/L	99
6) Bromomethane	3.733	94	216347	32.25	ug/L	96
7) Chloroethane	3.928	64	222985	37.40	ug/L	98
8) Trichlorofluoromethane	4.147	101	1353171	40.20	ug/L	98
9) Ethyl Ether	4.635	59	654102	39.75	ug/L	99
10) 1,2-Dichlorotrifluoroe...	4.897	67	1055675	43.27	ug/L	96
11) 1,1-Dichloroethene	4.909	61	1282088	39.25	ug/L	99
12) Freon 113	4.970	101	754435	34.28	ug/L	99
13) Carbon Disulfide	4.964	76	1904813	36.83	ug/L	100
14) Iodomethane	5.110	142	445297	38.41	ug/L	96
15) Allyl chloride	5.543	41	1093003	43.85	ug/L	99
16) Methylene Chloride	5.683	49	975494	35.35	ug/L	99
17) Acetone	5.726	43	1397586	203.16	ug/L	99
18) Methyl acetate	5.885	43	2693231	189.45	ug/L	99
19) trans-1,2-Dichloroethene	5.897	61	1163352	39.62	ug/L	98
20) Hexane	6.000	56	618592	34.68	ug/L	98
21) Methyl Tert Butyl Ether	6.019	73	2370005	38.94	ug/L	97
22) Acetonitrile	6.299	41	921667	391.19	ug/L	99
23) Di-isopropyl ether	6.470	45	2331231	39.18	ug/L	99
24) Chloroprene	6.616	53	1238229	40.74	ug/L	100
25) 1,1-Dichloroethane	6.634	63	1612846	41.22	ug/L	99
26) Acrylonitrile	6.671	53	1601514	200.58	ug/L	99
27) ETBE	6.903	59	2459680	38.47	ug/L	99
28) Vinyl acetate	6.903	43	8002425	215.11	ug/L	99
29) cis-1,2-Dichloroethene	7.274	96	911614	41.17	ug/L	99
30) 2,2-Dichloropropane	7.396	77	1423650	41.35	ug/L	100
31) Bromochloromethane	7.500	128	394046	40.24	ug/L	96
32) Cyclohexane	7.531	56	1343575	36.70	ug/L	98
33) Chloroform	7.567	83	1611194	39.14	ug/L	100
34) Ethyl acetate	7.665	43	3970935	209.43	ug/L	100
35) Tetrahydrofuran	7.756	42	245676	36.71	ug/L	97
37) Carbon Tetrachloride	7.756	117	1186436	40.10	ug/L	98
38) 1,1,1-Trichloroethane	7.817	97	1392612	39.08	ug/L	99
39) 2-Butanone	7.878	43	1965554	184.15	ug/L	98
40) 1,1-Dichloropropene	7.951	75	1165481	37.90	ug/L	99
41) tert-Butyl Formate	8.037	59	3484243	190.42	ug/L	98
42) Propionitrile	8.195	54	1344644	387.15	ug/L	78
43) Methacrylonitrile	8.219	41	4499895	381.14	ug/L	99
44) Benzene	8.213	78	3416575	40.19	ug/L	97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69013.D
Acq On : 21 Jun 2021 4:06 pm
Operator : LINDSAYR
Sample : ICV2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 22 08:03:46 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45)	TAME	8.305	73	2312226	39.36	ug/L		98
47)	1,2-Dichloroethane	8.415	62	1086199	39.50	ug/L		100
48)	Trichloroethene	8.823	95	898637	39.62	ug/L		99
49)	Methylcyclohexane	8.835	83	1386115	39.42	ug/L		98
50)	Dibromomethane	9.256	93	512345	39.97	ug/L		97
51)	1,2-Dichloropropane	9.347	63	872508	40.55	ug/L		98
52)	Bromodichloromethane	9.402	83	1136068	42.64	ug/L		99
53)	Methyl methacrylate	9.512	41	651774	42.35	ug/L		97
54)	2-Chloroethyl vinyl ether	9.926	63	1804156	139.16	ug/L		99
55)	cis-1,3-Dichloropropene	10.030	75	1395956	41.61	ug/L		99
58)	Toluene	10.274	91	3435810	37.94	ug/L		100
59)	2-Nitropropane	10.475	41	1043308	196.47	ug/L		99
60)	4-Methyl-2-pentanone	10.597	43	3912040	192.65	ug/L		100
61)	trans-1,3-Dichloropropene	10.664	75	1248391	44.99	ug/L		97
62)	Tetrachloroethene	10.682	166	849306	38.88	ug/L		96
63)	Ethyl methacrylate	10.774	69	1133335	43.72	ug/L		97
64)	1,1,2-Trichloroethane	10.829	83	639325	40.13	ug/L		98
65)	Dibromochloromethane	11.030	129	819830	40.18	ug/L		98
66)	1,3-Dichloropropane	11.109	76	1297483	39.93	ug/L		99
67)	1,2-Dibromoethane	11.286	107	797221	41.29	ug/L		99
68)	2-hexanone	11.420	43	2906876	190.34	ug/L		98
69)	1-Chlorohexane	11.731	91	1196062	39.97	ug/L		96
70)	Ethylbenzene	11.792	91	3908500	39.00	ug/L		99
71)	Chlorobenzene	11.792	112	2168993	40.74	ug/L		97
72)	1,1,1,2-Tetrachloroethane	11.841	131	791587	42.25	ug/L		99
73)	m,p-Xylene	11.932	91	5918012	81.22	ug/L		99
74)	o-Xylene	12.371	91	3105154	41.37	ug/L		100
75)	Styrene	12.420	104	2306965	42.05	ug/L		99
76)	Bromoform	12.481	173	556895	40.79	ug/L		99
77)	Isopropylbenzene	12.676	105	3782989	40.87	ug/L		99
80)	cis-1,4-Dichloro-2-butene	13.017	53	309132	40.51	ug/L		97
81)	n-Propylbenzene	13.090	91	4349443	40.89	ug/L		99
82)	Bromobenzene	13.115	156	867594	40.43	ug/L		98
83)	1,1,2,2-Tetrachloroethane	13.151	83	1089645	39.86	ug/L		98
84)	1,3,5-Trimethylbenzene	13.273	105	2900155	40.44	ug/L		99
85)	2-Chlorotoluene	13.279	91	2932990	41.08	ug/L		98
86)	trans-1,4-Dichloro-2-B...	13.328	53	287946	39.07	ug/L		88
87)	1,2,3-Trichloropropane	13.310	110	327972	39.05	ug/L		95
88)	Cyclohexanone	13.371	55	174957	181.54	ug/L		98
89)	4-Chlorotoluene	13.444	91	2600881	41.52	ug/L		97
90)	tert-Butylbenzene	13.615	91	1698220	40.18	ug/L		97
91)	1,2,4-Trimethylbenzene	13.682	105	2648547	39.87	ug/L		100
92)	Pentachloroethane	13.664	167	547805	46.86	ug/L		95
93)	sec-Butylbenzene	13.798	105	3639798	41.29	ug/L		99
94)	4-Isopropyltoluene	13.926	119	2828980	40.36	ug/L		99
95)	1,3-Dichlorobenzene	14.066	146	1517796	41.75	ug/L		99
96)	1,2,3-Trimethylbenzene	14.145	105	2718925	46.19	ug/L		99
97)	1,4-Dichlorobenzene	14.151	146	1491906	39.95	ug/L		98
98)	n-Butylbenzene	14.365	92	1463815	38.92	ug/L		93
99)	Benzyl Chloride	14.377	126	404248	41.27	ug/L	#	75
100)	1,2-Dichlorobenzene	14.578	146	1430316	41.39	ug/L		99
101)	1,2-Dibromo-3-Chloropr...	15.316	75	214900	38.77	ug/L		98
102)	Hexachlorobutadiene	15.870	225	383794	37.71	ug/L		99
103)	1,2,4-Trichlorobenzene	15.913	180	717871	40.70	ug/L		99
104)	Naphthalene	16.187	128	1971748	40.58	ug/L		100
105)	1,2,3-Trichlorobenzene	16.358	180	669447	40.27	ug/L		99
107)	Ethanol	4.897	45	155555	747.01	ug/L		99
108)	Acrolein	5.354	56	672847	191.05	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69013.D
Acq On : 21 Jun 2021 4:06 pm
Operator : LINDSAYR
Sample : ICV2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 22 08:03:46 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

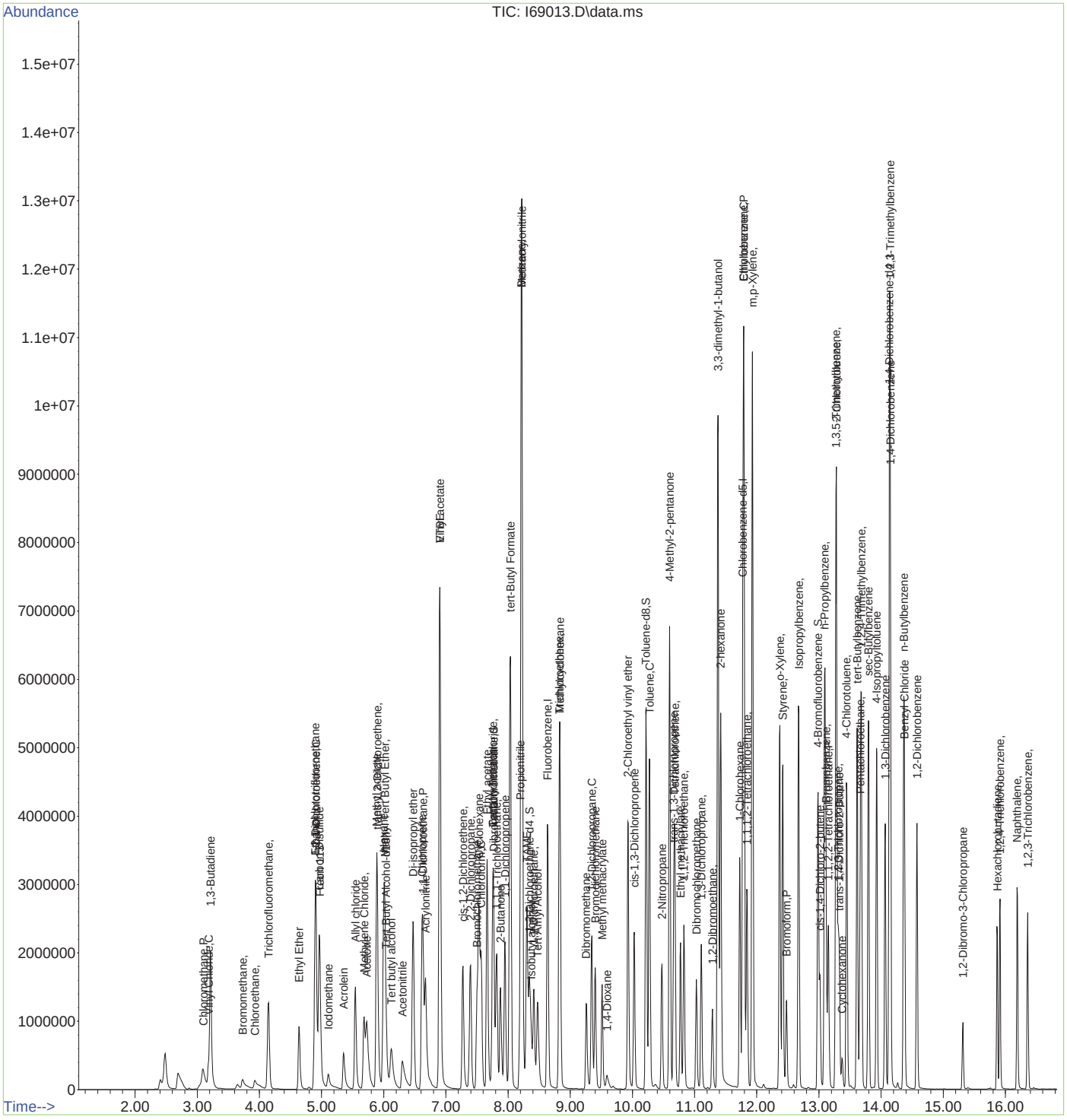
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
109) Tert butyl alcohol	6.122	59	1161386	360.08	ug/L	97
110) Isobutyl alcohol	8.372	42	371206	813.03	ug/L	92
111) Tert Amyl Alcohol	8.476	59	955684	415.96	ug/L	99
112) 1,4-Dioxane	9.591	88	208316	860.23	ug/L	99
113) 3,3-dimethyl-1-butanol	11.377	57	4733399	2048.23	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69013.D
Acq On : 21 Jun 2021 4:06 pm
Operator : LINDSAYR
Sample : ICV2216-5
Misc : MS49159,VI2216,,,,,
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 22 08:03:46 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69014.D
Acq On : 21 Jun 2021 4:30 pm
Operator : LINDSAYR
Sample : ICV2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 22 08:04:44 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

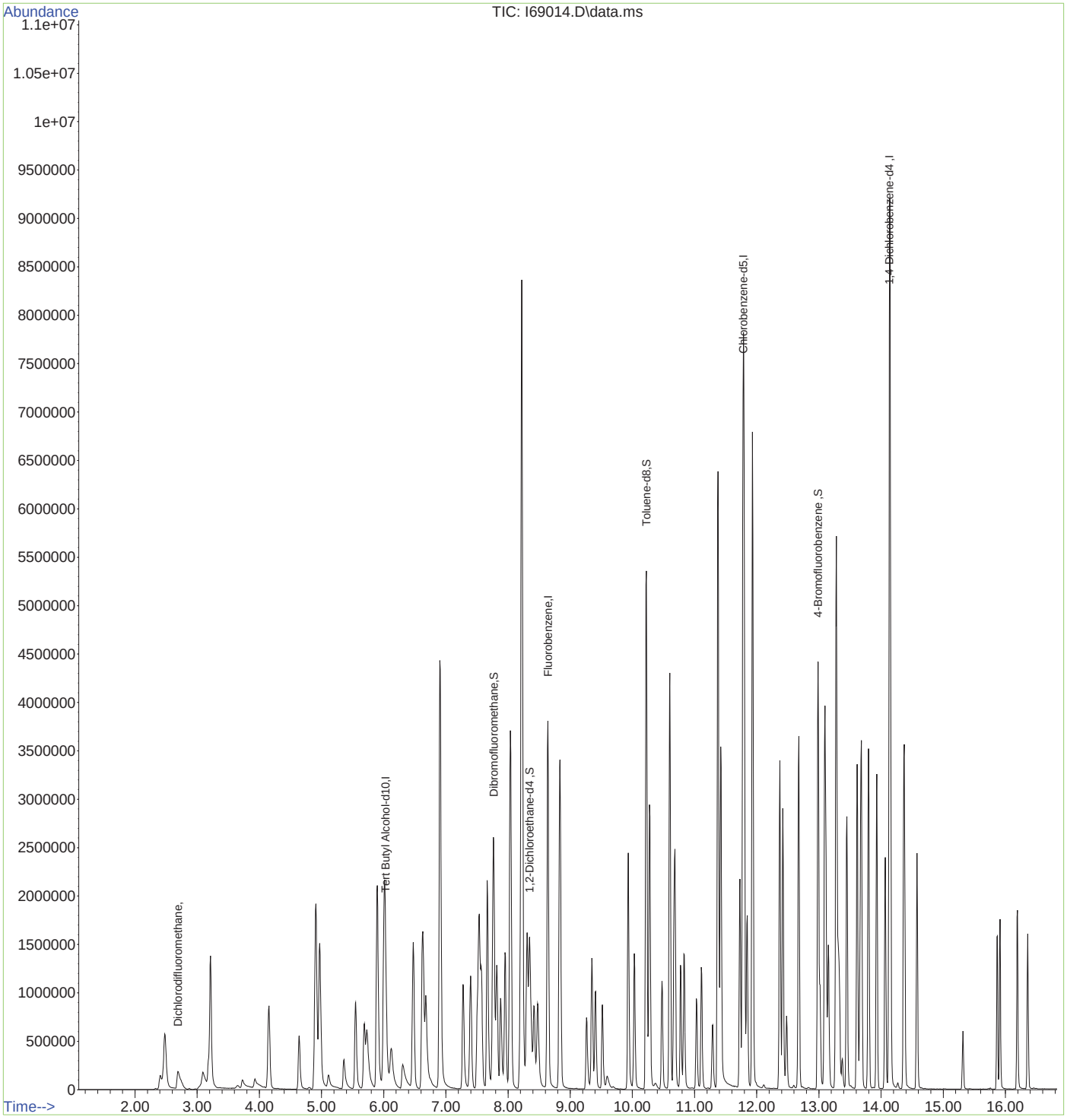
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3437518	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2737390	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1480461	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.031	65	927022	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.768	113	960997	51.18	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 102.36%			
46) 1,2-Dichloroethane-d4	8.348	65	1072716	49.31	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.62%			
57) Toluene-d8	10.225	98	3525839	50.29	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 100.58%			
79) 4-Bromofluorobenzene	12.987	174	1173274	50.31	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 100.62%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	460387	20.46	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2021-06-21\
Data File : I69014.D
Acq On : 21 Jun 2021 4:30 pm
Operator : LINDSAYR
Sample : ICV2216-4
Misc : MS49159,VI2216,,,,,
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 22 08:04:44 2021
Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69103.d
Acq On : 24 Jun 2021 12:56 pm
Operator : LINDSAYR
Sample : cc2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:16 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	2879321	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.774	117	2438995	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1367320	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.031	65	664288	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.768	113	781955	49.72	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.44%			
46) 1,2-Dichloroethane-d4	8.341	65	893232	49.02	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.04%			
57) Toluene-d8	10.219	98	3002803	48.07	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.14%			
79) 4-Bromofluorobenzene	12.987	174	1048211	48.67	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 97.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	722960	37.26	ug/L	98
3) Chloromethane	3.105	50	693601	41.08	ug/L	97
4) Vinyl Chloride	3.184	62	883123	40.92	ug/L	99
5) 1,3-Butadiene	3.214	39	475260	42.12	ug/L	98
6) Bromomethane	3.739	94	254329	43.31	ug/L	94
7) Chloroethane	3.928	64	232596	46.91	ug/L	99
8) Trichlorofluoromethane	4.159	101	1189658	42.50	ug/L	98
9) Ethyl Ether	4.635	59	559040	40.85	ug/L	98
10) 1,2-Dichlorotrifluoroe...	4.897	67	808955	39.87	ug/L	99
11) 1,1-Dichloroethene	4.915	61	1089742	40.12	ug/L	99
12) Freon 113	4.976	101	712890	38.95	ug/L	99
13) Carbon Disulfide	4.970	76	1731631	40.26	ug/L	99
14) Iodomethane	5.116	142	549518	53.90	ug/L	99
15) Allyl chloride	5.543	41	823270	39.71	ug/L	99
16) Methylene Chloride	5.683	49	891279	38.84	ug/L	100
17) Acetone	5.726	43	1127671	197.12	ug/L	100
18) Methyl acetate	5.885	43	2418688	204.00	ug/L	99
19) trans-1,2-Dichloroethene	5.897	61	1012181	41.45	ug/L	98
20) Hexane	6.007	56	572763	38.62	ug/L	94
21) Methyl Tert Butyl Ether	6.019	73	2076895	41.04	ug/L	91
22) Acetonitrile	6.305	41	779325	397.35	ug/L	99
23) Di-isopropyl ether	6.476	45	2024098	40.90	ug/L	99
24) Chloroprene	6.616	53	964750	38.17	ug/L	98
25) 1,1-Dichloroethane	6.641	63	1311057	40.29	ug/L	100
26) Acrylonitrile	6.677	53	1251903	188.90	ug/L	100
27) ETBE	6.903	59	2256182	42.43	ug/L	99
28) Vinyl acetate	6.903	43	6133165	196.74	ug/L	99
29) cis-1,2-Dichloroethene	7.275	96	754632	40.98	ug/L	97
30) 2,2-Dichloropropane	7.397	77	1143188	39.92	ug/L	99
31) Bromochloromethane	7.500	128	336973	41.39	ug/L	98
32) Cyclohexane	7.537	56	1198227	39.36	ug/L	99
33) Chloroform	7.567	83	1365926	39.90	ug/L	99
34) Ethyl acetate	7.665	43	3044233	193.07	ug/L	100
35) Tetrahydrofuran	7.756	42	200678	36.06	ug/L	99
37) Carbon Tetrachloride	7.756	117	1015371	41.27	ug/L	98
38) 1,1,1-Trichloroethane	7.817	97	1179318	39.80	ug/L	97
39) 2-Butanone	7.878	43	1640473	184.79	ug/L	99
40) 1,1-Dichloropropene	7.951	75	1023846	40.04	ug/L	99
41) tert-Butyl Formate	8.037	59	3019122	198.42	ug/L	99
42) Propionitrile	8.195	54	1155550	400.09	ug/L	87

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69103.d
Acq On : 24 Jun 2021 12:56 pm
Operator : LINDSAYR
Sample : cc2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:16 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Methacrylonitrile	8.220	41	4013558	408.80	ug/L		99
44) Benzene	8.213	78	2994160	42.36	ug/L		96
45) TAME	8.305	73	2022726	41.41	ug/L		99
47) 1,2-Dichloroethane	8.415	62	944903	41.32	ug/L		99
48) Trichloroethene	8.829	95	771194	40.89	ug/L		100
49) Methylcyclohexane	8.835	83	1182893	40.46	ug/L		98
50) Dibromomethane	9.262	93	450002	42.21	ug/L		98
51) 1,2-Dichloropropane	9.347	63	732854	40.96	ug/L		99
52) Bromodichloromethane	9.402	83	946957	42.74	ug/L		99
53) Methyl methacrylate	9.512	41	530167	41.43	ug/L		98
54) 2-Chloroethyl vinyl ether	9.933	63	2086019	193.49	ug/L		98
55) cis-1,3-Dichloropropene	10.030	75	1204264	43.17	ug/L		99
58) Toluene	10.274	91	3074140	38.25	ug/L		100
59) 2-Nitropropane	10.475	41	927400	196.76	ug/L		99
60) 4-Methyl-2-pentanone	10.597	43	3400699	188.69	ug/L		99
61) trans-1,3-Dichloropropene	10.664	75	1037278	42.12	ug/L		99
62) Tetrachloroethene	10.682	166	757144	39.05	ug/L		97
63) Ethyl methacrylate	10.774	69	889362	38.66	ug/L		99
64) 1,1,2-Trichloroethane	10.829	83	551315	39.00	ug/L		99
65) Dibromochloromethane	11.030	129	719283	39.75	ug/L		100
66) 1,3-Dichloropropane	11.109	76	1141563	39.58	ug/L		99
67) 1,2-Dibromoethane	11.286	107	682758	39.85	ug/L		100
68) 2-hexanone	11.420	43	2505982	184.89	ug/L		99
69) 1-Chlorohexane	11.731	91	1050100	39.54	ug/L		99
70) Ethylbenzene	11.792	91	3507452	39.44	ug/L		99
71) Chlorobenzene	11.798	112	1886932	39.94	ug/L		99
72) 1,1,1,2-Tetrachloroethane	11.847	131	681625	40.99	ug/L		99
73) m,p-Xylene	11.932	91	5218324	80.69	ug/L		99
74) o-Xylene	12.371	91	2635990	39.57	ug/L		99
75) Styrene	12.420	104	2032605	41.75	ug/L		99
76) Bromoform	12.481	173	490674	40.52	ug/L		100
77) Isopropylbenzene	12.676	105	3265583	39.75	ug/L		99
80) cis-1,4-Dichloro-2-butene	13.017	53	262963	37.42	ug/L		97
81) n-Propylbenzene	13.091	91	3808792	38.88	ug/L		99
82) Bromobenzene	13.115	156	765583	38.74	ug/L		100
83) 1,1,2,2-Tetrachloroethane	13.152	83	972504	38.64	ug/L		100
84) 1,3,5-Trimethylbenzene	13.273	105	2570823	38.93	ug/L		99
85) 2-Chlorotoluene	13.280	91	2571850	39.12	ug/L		97
86) trans-1,4-Dichloro-2-B...	13.328	53	255907	37.79	ug/L		91
87) 1,2,3-Trichloropropane	13.310	110	295864	38.26	ug/L		97
88) Cyclohexanone	13.377	55	147427	166.13	ug/L		97
89) 4-Chlorotoluene	13.444	91	2236189	38.77	ug/L		98
90) tert-Butylbenzene	13.615	91	1485571	38.17	ug/L		99
91) 1,2,4-Trimethylbenzene	13.682	105	2366447	38.68	ug/L		98
92) Pentachloroethane	13.664	167	412749	38.34	ug/L		95
93) sec-Butylbenzene	13.798	105	3105466	38.26	ug/L		100
94) 4-Isopropyltoluene	13.926	119	2496112	38.68	ug/L		99
95) 1,3-Dichlorobenzene	14.066	146	1289008	38.50	ug/L		99
96) 1,2,3-Trimethylbenzene	14.145	105	2093915	38.63	ug/L		100
97) 1,4-Dichlorobenzene	14.151	146	1319101	38.36	ug/L		98
98) n-Butylbenzene	14.365	92	1345597	38.85	ug/L		94
99) Benzyl Chloride	14.377	126	346745	38.69	ug/L	#	84
100) 1,2-Dichlorobenzene	14.578	146	1223183	38.44	ug/L		99
101) 1,2-Dibromo-3-Chloropr...	15.316	75	188152	37.05	ug/L		95
102) Hexachlorobutadiene	15.870	225	323107	34.47	ug/L		98
103) 1,2,4-Trichlorobenzene	15.913	180	614430	37.83	ug/L		99
104) Naphthalene	16.188	128	1718739	38.41	ug/L		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69103.d
Acq On : 24 Jun 2021 12:56 pm
Operator : LINDSAYR
Sample : cc2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:12:16 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,2,3-Trichlorobenzene	16.358	180	578688	37.81	ug/L	100
107) Ethanol	4.897	45	133940	753.68	ug/L	93
108) Acrolein	5.354	56	660060	219.60	ug/L	99
109) Tert butyl alcohol	6.116	59	1091373	396.49	ug/L	97
110) Isobutyl alcohol	8.366	42	339658	871.70	ug/L	98
111) Tert Amyl Alcohol	8.476	59	794856	405.38	ug/L	99
112) 1,4-Dioxane	9.591	88	169984	822.50	ug/L	99
113) 3,3-dimethyl-1-butanol	11.371	57	3981143	2016.89	ug/L	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Misc : MS49159,VI2221,,,,,
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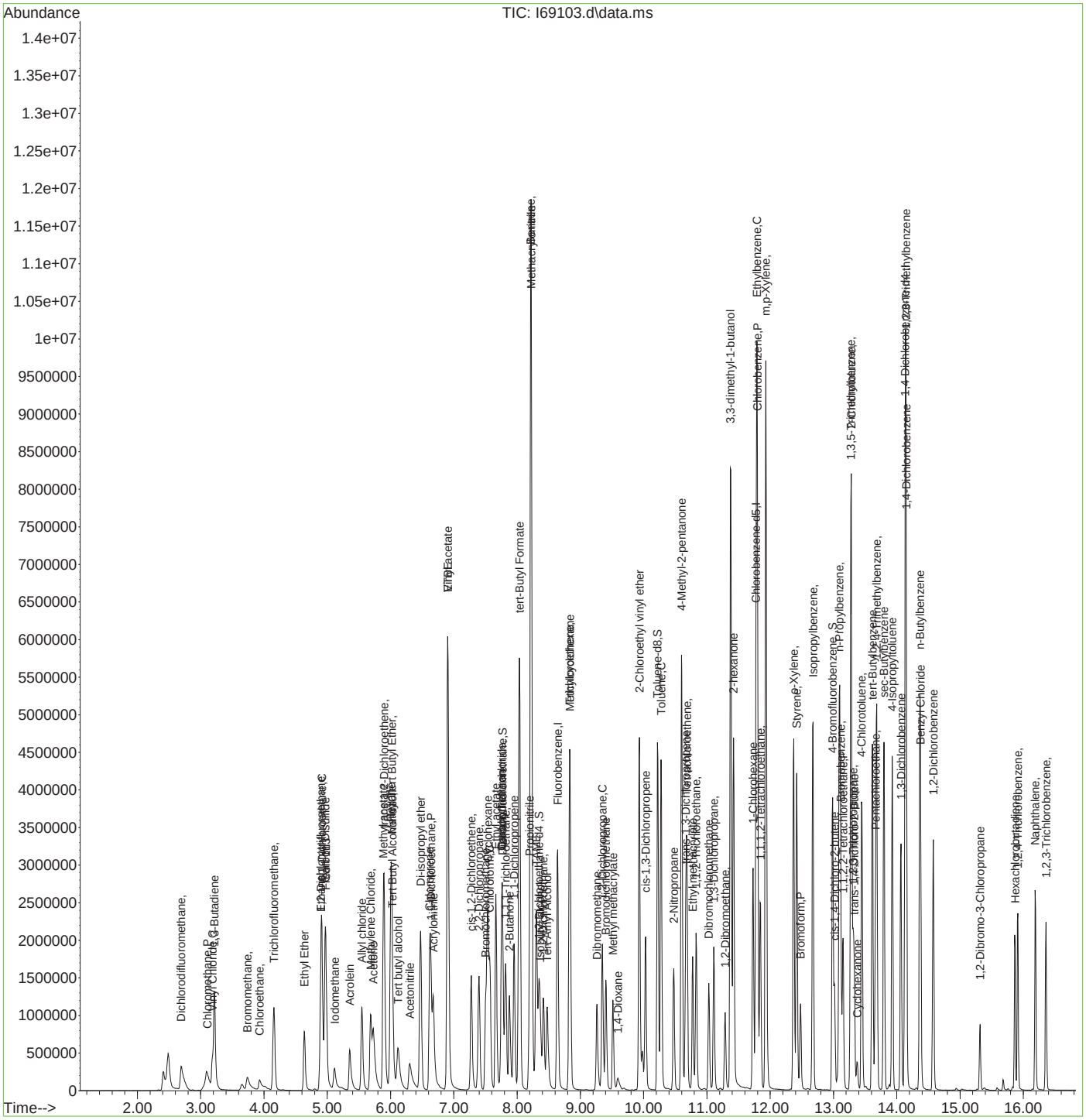

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69129.d
Acq On : 24 Jun 2021 11:32 pm
Operator : LINDSAYR
Sample : ECC2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:34 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene	8.640	96	3089528	50.00	ug/L	0.00
56) Chlorobenzene-d5	11.780	117	2647244	50.00	ug/L	0.00
78) 1,4-Dichlorobenzene-d4	14.133	152	1465383	50.00	ug/L	0.00
106) Tert Butyl Alcohol-d10	6.031	65	651082	250.00	ug/L	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	7.768	113	842183	49.90	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.80%			
46) 1,2-Dichloroethane-d4	8.348	65	966543	49.44	ug/L	0.00
Spiked Amount 50.000	Range 79 - 125		Recovery = 98.88%			
57) Toluene-d8	10.225	98	3259367	48.07	ug/L	0.00
Spiked Amount 50.000	Range 85 - 112		Recovery = 96.14%			
79) 4-Bromofluorobenzene	12.987	174	1146649	49.67	ug/L	0.00
Spiked Amount 50.000	Range 83 - 118		Recovery = 99.34%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	2.690	85	753987	36.28	ug/L	99
3) Chloromethane	3.093	50	695933	38.42	ug/L	100
4) Vinyl Chloride	3.184	62	935268	40.39	ug/L	98
5) 1,3-Butadiene	3.214	39	499623	41.22	ug/L	98
6) Bromomethane	3.733	94	205040	33.98	ug/L	95
7) Chloroethane	3.934	64	240319	45.17	ug/L	99
8) Trichlorofluoromethane	4.159	101	1236917	41.18	ug/L	98
9) Ethyl Ether	4.635	59	581584	39.61	ug/L	98
10) 1,2-Dichlorotrifluoroe...	4.897	67	843543	38.75	ug/L	99
11) 1,1-Dichloroethene	4.915	61	1138061	39.05	ug/L	99
12) Freon 113	4.976	101	724668	36.90	ug/L	98
13) Carbon Disulfide	4.970	76	1806464	39.15	ug/L	99
14) Iodomethane	5.117	142	493396	46.33	ug/L	97
15) Allyl chloride	5.549	41	857135	38.53	ug/L	99
16) Methylene Chloride	5.690	49	944185	38.35	ug/L	99
17) Acetone	5.732	43	1031986	168.12	ug/L	100
18) Methyl acetate	5.885	43	2373153	187.17	ug/L	99
19) trans-1,2-Dichloroethene	5.897	61	1051141	40.12	ug/L	98
20) Hexane	6.007	56	543542	34.16	ug/L	90
21) Methyl Tert Butyl Ether	6.019	73	2137472	39.36	ug/L	89
22) Acetonitrile	6.305	41	763411	364.80	ug/L	99
23) Di-isopropyl ether	6.476	45	2115789	39.85	ug/L	100
24) Chloroprene	6.622	53	1036748	38.23	ug/L	99
25) 1,1-Dichloroethane	6.641	63	1384550	39.65	ug/L	100
26) Acrylonitrile	6.677	53	1206758	170.22	ug/L	99
27) ETBE	6.903	59	2343500	41.08	ug/L	98
28) Vinyl acetate	6.903	43	6064871	180.07	ug/L	99
29) cis-1,2-Dichloroethene	7.275	96	791296	40.05	ug/L	97
30) 2,2-Dichloropropane	7.397	77	1044140	33.98	ug/L	99
31) Bromochloromethane	7.506	128	359451	41.14	ug/L	97
32) Cyclohexane	7.537	56	1257597	38.50	ug/L	99
33) Chloroform	7.573	83	1434639	39.05	ug/L	99
34) Ethyl acetate	7.665	43	2994049	176.97	ug/L	100
35) Tetrahydrofuran	7.756	42	199167	33.35	ug/L	99
37) Carbon Tetrachloride	7.756	117	1048618	39.72	ug/L	99
38) 1,1,1-Trichloroethane	7.817	97	1233483	38.80	ug/L	99
39) 2-Butanone	7.878	43	1533680	161.91	ug/L	100
40) 1,1-Dichloropropene	7.951	75	1066845	38.88	ug/L	100
41) tert-Butyl Formate	8.037	59	3037088	186.02	ug/L	98
42) Propionitrile	8.195	54	1109874	358.13	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69129.d
Acq On : 24 Jun 2021 11:32 pm
Operator : LINDSAYR
Sample : ECC2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:34 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	Methacrylonitrile	8.226	41	3945663	374.54	ug/L	100
44)	Benzene	8.213	78	3104976	40.94	ug/L	94
45)	TAME	8.305	73	2090613	39.89	ug/L	100
47)	1,2-Dichloroethane	8.415	62	978330	39.87	ug/L	99
48)	Trichloroethene	8.829	95	796948	39.38	ug/L	98
49)	Methylcyclohexane	8.835	83	1227268	39.12	ug/L	99
50)	Dibromomethane	9.262	93	467958	40.91	ug/L	99
51)	1,2-Dichloropropane	9.347	63	769961	40.11	ug/L	100
52)	Bromodichloromethane	9.402	83	989018	41.60	ug/L	99
53)	Methyl methacrylate	9.512	41	526220	38.32	ug/L	98
54)	2-Chloroethyl vinyl ether	9.933	63	2114752	182.81	ug/L	98
55)	cis-1,3-Dichloropropene	10.030	75	1233342	41.20	ug/L	99
58)	Toluene	10.274	91	3224554	36.97	ug/L	99
59)	2-Nitropropane	10.475	41	890828	175.31	ug/L	100
60)	4-Methyl-2-pentanone	10.603	43	3304352	168.92	ug/L	99
61)	trans-1,3-Dichloropropene	10.664	75	1053157	39.40	ug/L	99
62)	Tetrachloroethene	10.683	166	828791	39.39	ug/L	95
63)	Ethyl methacrylate	10.774	69	899774	36.03	ug/L	99
64)	1,1,2-Trichloroethane	10.829	83	564124	36.76	ug/L	98
65)	Dibromochloromethane	11.030	129	751290	38.36	ug/L	100
66)	1,3-Dichloropropane	11.109	76	1193222	38.12	ug/L	99
67)	1,2-Dibromoethane	11.286	107	704760	37.90	ug/L	99
68)	2-hexanone	11.420	43	2375778	161.49	ug/L	99
69)	1-Chlorohexane	11.731	91	1071687	37.18	ug/L	99
70)	Ethylbenzene	11.792	91	3653913	37.85	ug/L	98
71)	Chlorobenzene	11.798	112	1967054	38.36	ug/L	99
72)	1,1,1,2-Tetrachloroethane	11.847	131	702609	38.93	ug/L	99
73)	m,p-Xylene	11.932	91	5418895	77.20	ug/L	99
74)	o-Xylene	12.371	91	2769495	38.31	ug/L	100
75)	Styrene	12.420	104	2132290	40.35	ug/L	99
76)	Bromoform	12.481	173	495524	37.99	ug/L	100
77)	Isopropylbenzene	12.676	105	3424573	38.41	ug/L	98
80)	cis-1,4-Dichloro-2-butene	13.017	53	246386	32.72	ug/L	98
81)	n-Propylbenzene	13.091	91	3918356	37.32	ug/L	98
82)	Bromobenzene	13.115	156	809057	38.20	ug/L	98
83)	1,1,2,2-Tetrachloroethane	13.152	83	980290	36.34	ug/L	100
84)	1,3,5-Trimethylbenzene	13.273	105	2629462	37.15	ug/L	100
85)	2-Chlorotoluene	13.280	91	2665557	37.83	ug/L	97
86)	trans-1,4-Dichloro-2-B...	13.328	53	239775	33.27	ug/L	95
87)	1,2,3-Trichloropropane	13.310	110	289285	34.91	ug/L	99
88)	Cyclohexanone	13.377	55	138221	145.33	ug/L	97
89)	4-Chlorotoluene	13.450	91	2315716	37.46	ug/L	100
90)	tert-Butylbenzene	13.615	91	1537504	36.86	ug/L	98
91)	1,2,4-Trimethylbenzene	13.682	105	2406562	36.71	ug/L	98
92)	Pentachloroethane	13.670	167	385418	33.41	ug/L	99
93)	sec-Butylbenzene	13.798	105	3205570	36.85	ug/L	100
94)	4-Isopropyltoluene	13.932	119	2511753	36.31	ug/L	100
95)	1,3-Dichlorobenzene	14.066	146	1319028	36.76	ug/L	99
96)	1,2,3-Trimethylbenzene	14.145	105	2131698	36.70	ug/L	100
97)	1,4-Dichlorobenzene	14.151	146	1340520	36.37	ug/L	98
98)	n-Butylbenzene	14.365	92	1282319	34.55	ug/L	98
99)	Benzyl Chloride	14.377	126	260998	27.91	ug/L	96
100)	1,2-Dichlorobenzene	14.578	146	1257277	36.87	ug/L	99
101)	1,2-Dibromo-3-Chloropr...	15.316	75	171732	32.02	ug/L	94
102)	Hexachlorobutadiene	15.864	225	303967	30.26	ug/L	94
103)	1,2,4-Trichlorobenzene	15.913	180	603010	34.64	ug/L	99
104)	Naphthalene	16.188	128	1633406	34.06	ug/L	100

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69129.d
Acq On : 24 Jun 2021 11:32 pm
Operator : LINDSAYR
Sample : ECC2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
Quant Results File: 2021-06-21APP9-I.RES
Quant Time: Jun 25 01:15:34 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
105) 1,2,3-Trichlorobenzene	16.358	180	570434	34.77	ug/L	98
107) Ethanol	4.897	45	134695	773.30	ug/L	99
108) Acrolein	5.354	56	548606	186.23	ug/L	98
109) Tert butyl alcohol	6.116	59	1030198	381.86	ug/L	95
110) Isobutyl alcohol	8.366	42	332033	869.42	ug/L	98
111) Tert Amyl Alcohol	8.476	59	746873	388.63	ug/L	98
112) 1,4-Dioxane	9.591	88	163625	807.79	ug/L	97
113) 3,3-dimethyl-1-butanol	11.378	57	3797890	1960.09	ug/L	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\JenniferF\2021\JUNE 2021\06-25-2021\VI2221\
Data File : I69129.d
Acq On : 24 Jun 2021 11:32 pm
Operator : LINDSAYR
Sample : ECC2216-5 Inst : MSVOA16
Misc : MS49159,VI2221,,,,,
ALS Vial : 28 Sample Multiplier: 1

Quant Method : C:\msdchem\1\methods\2021-06-21APP9-I.m
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Quant Time: Jun 25 01:15:34 2021
Quant Title : SW-846 Method 5035A/8260B
QLast Update : Tue Jun 22 08:02:09 2021
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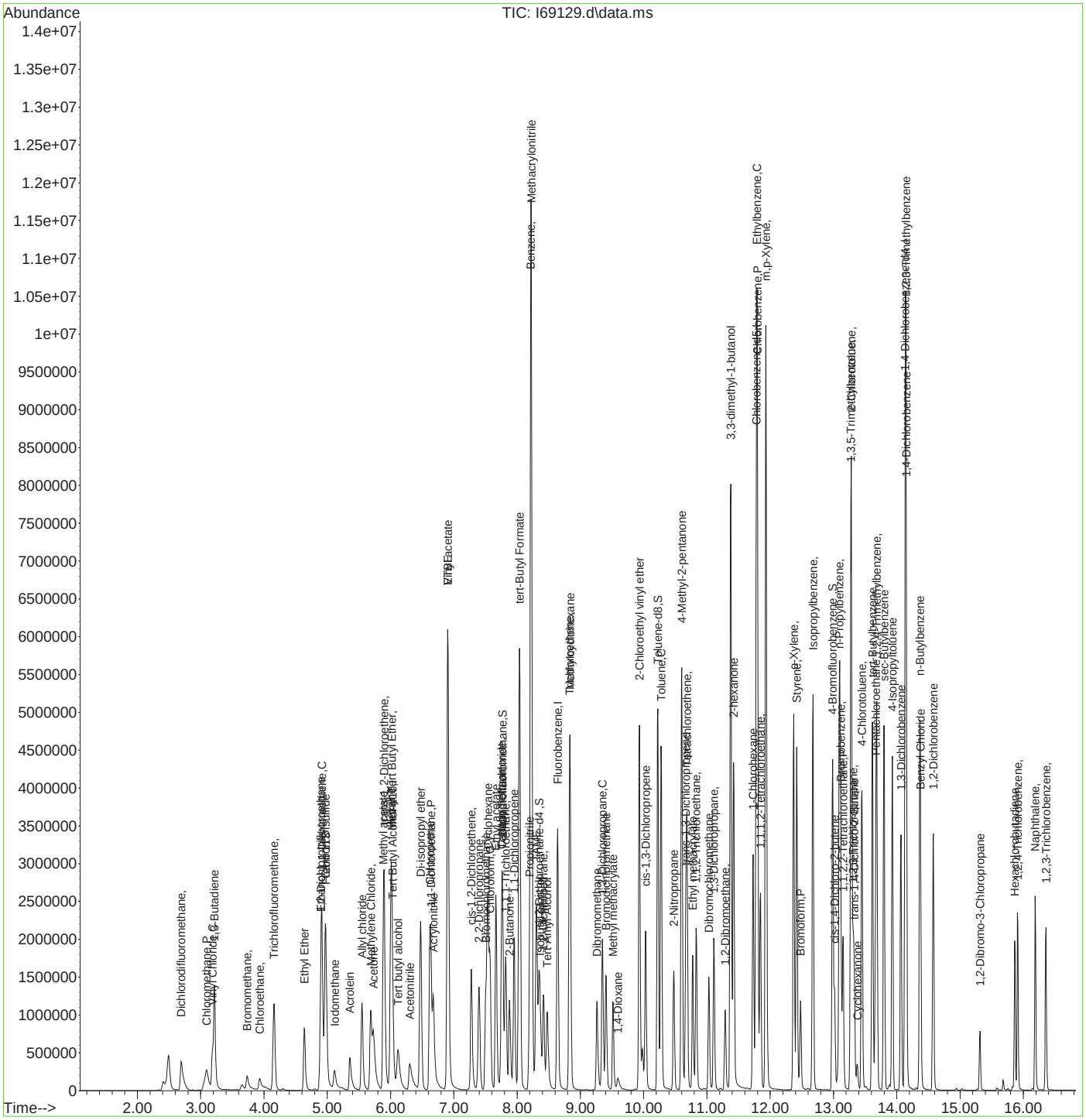

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 06/21/2021	**METHODS:*** 8260	**BFB:** VS1269	**pH Lot#:** (1-12 pH paper): 220814
COLUMN TYPE: RTX-VMS	**METHOD FILE:** 2021-06-21APP9-I.M	**ICAL/CC:** VS1298, VS1299, VS1317,	(0-3 pH paper): 220416
DETECTOR: 5975C MSD	**CALIB. DATE:** 06/21/2021	VS1293, VS1304, VS1318	**KI Paper Lot#:** 102916
INSTRUMENT: MSVOA16-I	**EM VOLTAGE:** 1282V	**ICV/QC:** VS1320, VS1321, VS1322,	**AFA:** V26039C
PURGE PRESSURE: 1.3 psi	**BFB RESPONSE:** 6485391	VS1323, VS1300, VS1319, VS1255	**Sample ID Verified by:**
		ISTD/SUR: VS1269	
ANALYST: Lindsay R	**RUN ID:** VI2216	**DATA PROCESSED BY:** Lindsay R	**DATE VERIFIED:**

Data File	Sample ID	DIL	VIAL #	MATRIX	ALS POS	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
I69003	BLANK	-	-	W	1	8260		-	-	-	✓
I69004	BFB	-	-	W	2	8260		-	-	-	✓
I69005	IC2216-1	-	-	W	3	8260	#18,108(PII), #37(MP), #113(OP)	-	-	-	1uL (-) 100mL ✓
I69006	IC2216-2	-	-	W	4	8260	#107(PII)	-	-	-	5uL (-) 100mL ✓
I69007	IC2216-3	-	-	W	5	8260	#107(PII)	-	-	-	5uL (-) 50mL ✓
I69008	IC2216-4	-	-	W	6	8260		-	-	-	12.5uL (-) 50mL ✓
I69009	ICC2216-5	-	-	W	7	8260		-	-	-	20mL (-) 50mL ✓
I69010	IC2216-6	-	-	W	8	8260		-	-	-	35mL (-) 50mL ✓
I69011	IC2216-7	-	-	W	9	8260	#8(SP), #113(OP)	-	-	-	50mL (-) 50mL ✓
I69012	BLANK	-	-	W	10	8260		-	-	-	✓
I69013	ICV2216-5	-	-	W	11	8260		-	-	-	25mL (-) 50mL ✓
I69014	ICV2216-4	-	-	W	12	8260	DCDFM only	-	-	-	12.5uL (-) 40mL ✓

* For NELAC purposes, Method 8260 includes analytes by SOP MS005. Matrix: Designate "W" for Water "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate.
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

Analyst's Signature: LR

SGS -ORLANDO

MSVOA14-Y-ANALYSIS LOG

DATE: 06/24/2021	**METHODS:*** 8260	**BFB:** VS1269	**pH Lot#:** (1-12 pH paper): 220814
COLUMN TYPE: RTX-VMS	**METHOD FILE:** 2021-06-21APP9-I.M	**ICAL/CC:** VS1298, VS1299, VS1317,	(0-3 pH paper): 220416
DETECTOR: 5975C MSD	**CALIB. DATE:** 06/21/2021	VS1293, VS1304, VS1318	**KI Paper Lot#:** 102916
INSTRUMENT: MSVOA16-I	**EM VOLTAGE:** 1282V	**ICV/QC:** VS1320, VS1321, VS1322,	**AFA:** V26039C
PURGE PRESSURE: 1.3 psi	**BFB RESPONSE:** 7496572	VS1323, VS1300, VS1319, VS1325	**Sample ID Verified by:** LR
		ISTD/SUR: VS1269	
ANALYST: Lindsay R	**RUN ID:** VI2221	**DATA PROCESSED BY:** Jennifer	**DATE VERIFIED:** 06/24/21

Data File	Sample ID	DIL.	VIAL #	MATRIX	ALS POS.	SAMPLE METHOD	MANUALLY INTEGRATED PEAKS RATIONAL, PEAK #	PH	CL ?	RR	COMMENTS
I69102	BLANK	-	-	W	1	8260		-	-	-	Passed autofind ✓
I69103	BFB/CC2216-5	-	-	W	2	8260		-	-	-	Passed autofind; 20mL (-) 50mL ✓
I69104	BS	-	-	W	3	8260		-	-	-	12.5uL (-) 40mL ✓
I69105	CC2216-1	-	-	W	4	8260		-	-	-	1uL (-) 100mL ✓
I69106	MB	-	-	W	5	8260		-	-	-	ND ✓
I69107	FA86397-31	1X	1	W	6	8260		1	N		✓
I69108	FA86397-23	1X	2	W	7	8260		1	N		✓
I69109	FA86397-24	1X	2	W	8	8260		1	N		✓
I69110	FA86397-25	1X	2	W	9	8260		1	N		✓
I69111	FA86397-26	1X	2	W	10	8260		1	N		✓
I69112	FA86397-27	1X	2	W	11	8260		1	N		✓
I69113	FA86397-28	1X	2	W	12	8260		1	N		✓
I69114	FA86397-29	1X	2	W	13	8260		1	N		✓
I69115	FA86397-30	1X	2	W	14	8260		1	N		✓
I69116	FA86548-1	1X	2	W	15	8260		1	N		✓
I69117	FA86620-1	1X	1	W	16	8260		1	N		✓
I69118	FA86387-1	1X	2	W	17	8260		1	N		✓
I69119	FA86387-2	20X	2	W	18	8260	2.5mL (-) 50mL	1	N		✓ HS; CE only
I69120	FA86239-3	100X	3	W	19	8260	500uL (-) 50mL	1	N		✓ E-combine
I69121	FA86239-5	1X	3	W	20	8260		1	N		✓ OOH; CF
I69122	FA86239-6	20X	3	W	21	8260	2.5mL (-) 50mL	1	N		✓ OOH; CF
I69123	FA86239-7	20X	3	W	22	8260	2.5mL (-) 50mL	1	N		✓ OOH; CF
I69124	FA86239-8	10X	3	W	22	8260	5mL (-) 50mL	1	N		✓ OOH; CF
I69125	FA86224-1MS	1X	2	W	23	8260	For VI2217	1	N		12.5uL (-) 40mL ✓
I69126	FA86224-1MSD	1X	2	W	23	8260	For VI2217	1	N		12.5uL (-) 40mL ✓
I69127	FA86397-23MS	5X	2	W	24	8260	10mL (-) 50mL	1	N		12.5uL (-) 40mL ✓
I69128	FA86397-23MSD	5X	2	W	24	8260	10mL (-) 50mL	1	N		12.5uL (-) 40mL ✓
I69129	ECC2216-5	-	-	W	25	8260		-	-	-	20mL (-) 50mL ✓

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Analyst's Signature: LR