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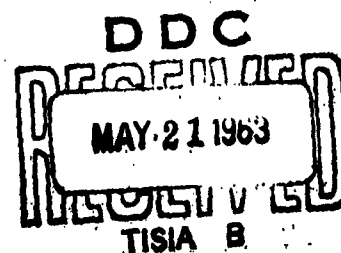
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ABSTRACTS FROM EAST EUROPEAN
SCIENTIFIC AND TECHNICAL JOURNALS

No. 133

(Chemistry Series)



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JPRS: 18,727

ABSTRACTS FROM EAST EUROPEAN
SCIENTIFIC AND TECHNICAL JOURNALS

No. 133

- Chemistry Series -

This report consists of abstracts of articles from the East European scientific and technical journals listed in the table of contents below.

Table of Contents

	<u>Page</u>
EAST GERMANY	
<u>Zeitschrift fur Anorganische und Allgemeine Chemie,</u> Leipzig, Vol 319, No 3-4, Dec 62	1
<u>Zeitschrift fur Anorganische und Allgemeine Chemie,</u> Leipzig, Vol 319, No 5-6, Jan 63	7
POLAND	
<u>Roczniki Chemii,</u> Warsaw, Vol 37, No 2, 63	17
<u>Roczniki Chemii,</u> Warsaw, Vol 37, No 3, 63	24

EAST GERMANY

SPANDAU, H. [Affiliation not given].

"Gerhart Jander"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319,
No 3-4, Dec 62; pp 114-119.

Abstract: Obituary of Gerhart Jander, tracing scientist's life, main
publications and editorial activities. Jander lived from 1892 to 1961.
A photograph is printed on p 113.

1/1

EAST GERMANY

KRIEGSMANN, H. [Affiliation not given].

"Arthur Simon"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319,
No 3-4, Dec 62; pp 120-125.

Abstract: Obituary of Arthur Simon (1895-1962), with main events of
his student- and professional activities, and a sketch of his publi-
cations.

1/1

EAST GERMANY

ROSEN, P., and ROMEIS, H., of the Institute of Inorganic Chemistry (Institut für anorganische Chemie) of the Johann Wolfgang Goethe University (Johann-Wolfgang-Goethe-Universität), Frankfurt (Main).

"Influence of the Oxide Distribution on the Sintering Behavior of Aluminum Powders"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 3-4, Dec 62; pp 126-147.

Abstract [Authors' English summary]:

Al powder, prepared by pressing molten Al through a jet, was milled under different liquids and at different partial pressures of oxygen in a ball mill. The resulting powders were heated and their recrystallization was investigated. Of the primary crystallites, the mean sizes and the lattice distortions were derived from the integral widths of their x-ray diffraction lines. A well defined relation between the crystalline state of the powders and the "hot hardness" of pressed specimens was found. The relation can be explained by the theory of dislocations.

[32 references, predominantly Western].

1/1

EAST GERMANY

SCHWOCHAU, K., and HERR, W., of the Institute of Nuclear Chemistry (Institut für Kernchemie) of the University of Cologne (Universität Köln) and the Jülich Nuclear Research Establishment (Kernforschungsanlage Jülich).

"Contributions to the Complex Chemistry of Technetium, II. Preparation and Properties of Potassium Cyanotechnetate(I)"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie Vol 319, No 3-4, Dec 62; pp 148-158.

Abstract [Authors' English summary]:

Cyanotechnetate(I) was prepared by reduction of $^{99}\text{TcO}_4^-$ or $[\text{^{99}Tc}(\text{OH})_6(\text{CN})_4]^{3-}$ with potassium amalgam in the presence of KCN. The potassium salt was isolated in the form of bright olive-green, cubic face-centered crystals. It is isotypic with $\text{K}_3[\text{Mn}(\text{CN})_6]$ and $\text{K}_3[\text{Re}(\text{CN})_6]$. In addition, the absorption spectra of these three complex cyanides are very similar to each other; so we attribute the analogous formula $\text{K}_3[\text{Tc}(\text{CN})_6]$ for the potassium cyanotechnetate(I). The lattice constants of the complex salts were determined;

1/2

EAST GERMANY

Leipzig. Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319,
No 3-4, Dec 62; pp 148-158.

$$^aK_4[Mn(CN)_6] = 11,890 \pm 0,002 \text{ \AA}$$

$$^aK_4[Ti(CN)_6] = 12,106 \pm 0,001 \text{ \AA}$$

$$^aK_4[Re(CN)_6] = 12,038 \pm 0,001 \text{ \AA}$$

The fact that the lattice constant of $K_4[Re(CN)_6]$ is smaller than that of $K_4[Ti(CN)_6]$ is explained, in agreement with the oxidation stability of the complex, by the deep penetration of the electron shells of the central Re atom and the CN ligands.

[? references, mainly Western].

2/2

EAST GERMANY

DENK, G., LESCHHORN, F., and ROSMER, T. of the Institute of Inorganic Chemistry (Institut für Anorganische Chemie) of the Karlsruhe College of Engineering (Technische Hochschule, Karlsruhe).

"On the Reaction of Mercury with the Sulfates of Cobalt, Manganese, Copper, Zinc, Cadmium, Nickel and Iron"

Leipzig. Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319,
No 3-4, Dec 62; pp 159-167.

Abstract [Authors' English summary]:

Boiling solutions of metal(II) sulphates react with freshly precipitated HgO forming $CoSO_4 \cdot 2 HgO$, $MnSO_4 \cdot 2 HgO$, $CuSO_4 \cdot 2 HgO$, and $ZnSO_4 \cdot 2 HgO$, which are analogous to $Hg_2SO_4 \cdot 2 HgO$. Furthermore, $CdSO_4 \cdot 1.67 HgO \cdot 0.33 H_2O$ and $NiSO_4 \cdot HgO \cdot H_2O$ are formed. The substances have characteristic X-ray diagrams, they are stable against cold water, become destroyed by hot water and are soluble in diluted mineral acids.

[6 references, mainly Western].

1/1

EAST GERMANY

WOLF, E., STAHN, W., and SCHONHERR, M., of the Institute for the Applied Physics of Pure Substances (Institut für Angewandte Physik der Rein-
stoffe), Dresden.

"Thermochemistry of Halogeno Silanes, II. Enthalpies of Formation of
 SiBr_4 and SiHBr_3 "

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319,
No 3-4, Dec 63; pp 168-174.

Abstract [Authors' English summary]:

In a calorimetric study the enthalpies of solutions of SiBr_4 (l) and SiHBr_3 (l) in diluted NaOH solution were found to be $-149,8 \pm 0,8$ kcal/mole and $-182,9 \pm 0,4$ kcal/mole. The values resulting for the enthalpies and free enthalpies of formation under standard conditions are given (in kcal/Mol):

SiBr_4 : 1. $\Delta H_{\text{sol}}^\circ = -109,0 \pm 2,0$; $\Delta F_{\text{sol}}^\circ = -99,0$

2. $\Delta H_{\text{sol}}^\circ = -92,6 \pm 2,0$; $\Delta F_{\text{sol}}^\circ = -90,8$

SiHBr_3 : 1. $\Delta H_{\text{sol}}^\circ = -78,8 \pm 2,0$; $\Delta F_{\text{sol}}^\circ = -74,8$

2. $\Delta H_{\text{sol}}^\circ = -69,8 \pm 2,0$; $\Delta F_{\text{sol}}^\circ = -72,4$.

[18 references, mainly Western].

1/1

EAST GERMANY

JERE, G.V., and PATEL, C.C., of the Department of Inorganic and Physical Chemistry of the Indian Institute of Science, Bangalore, India.

"Preparation and Properties of Hydrated Titanium Peroxide"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319,
No 3-4, Dec 62; pp 175-182.

Abstract [English article; authors' English summary]: A method of preparation of titanium peroxide free from adsorbed impurities is described. The peroxide has an unstable true peroxy group and two hydroxy groups for every titanium atom. The instability and structure of the compound are discussed. [29 references, of which 28 Western].

1/1

EAST GERMANY

THIEL, K.-H., of the Inorganic Division (Anorganische Abteilung) of the Chemical Institute (Chemisches Institut) of the Otto von Guericke College of Engineering (Otto von Guericke Technische Hochschule), Magdeburg.

"Coordination-Chemical Studies on Zinc Dialkyls, I. Coordination Compounds of Zinc Dimethyl with Cyclic Aliphatic Ethers"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 3-4, Dec 62; pp 183-195.

Abstract [Author's English summary]:

Zinkdimethyl yields with ethylene oxide, trimethylene oxide, tetramethylene oxide and pentamethylene oxide liquid coordination compounds with one or two ether molecules. These compounds may be distilled under atmospheric pressure. The strength of the bond between the zinkdimethyl and the ether molecules and the possibility of the coordination of a second ether molecule increases from ethylene oxide to pentamethylene oxide. In the same direction decreases the sensibility against atmospheric oxygen.

[18 references, predominantly Western].

1/1

EAST GERMANY

KOLAROW, N., and MANEVA, M., of the Department of Inorganic Chemistry of the Chemical Engineering Institute, Sofia, Darvenitza (Bulgaria).

"On the Existence of Peroxo Compounds of Lead"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 3-4, Dec 62; pp 196-203.

Abstract [Author's English summary]:

The reaction product from lead nitrate and hydrogen peroxide formed in the presence of carbonate is no adsorption compound of H_2O_2 , but a real peroxo compound of the composition $7 PbO \cdot 5 CO_2 \cdot 2 O$. This is concluded from X-ray measurements and the determination of the decrease in weight and content of active oxygen.

[13 references, mainly Western].

1/1

EAST GERMANY

DUBEY, K.S., and GHOSH, S., of the Department of Chemistry of the University of Allahabad, Allahabad (India).

"Studies on Thiosalts, IV. Formation of Thiosalt from Antimonous Sulfide"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 3-4, Dec 62; pp 204-208.

Abstract [Authors' English summary]: From the solubility of antimony (III) sulfide in alkaline sulfide solutions, the stability and hydrolysis constants of the assumed reaction product, the thioanion $\text{Sb}_2\text{S}_4^{2-}$ have been estimated. [4 references, of which 1 Russian, rest Western].

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EAST GERMANY

BAUDLER, M., and FRICKE, G., of the Institute of Inorganic Chemistry (Institut für Anorganische Chemie) of the University of Cologne (Universität Köln).

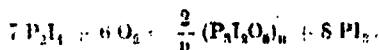
"Contributions to the Chemistry of Phosphorus, XVI. Reaction of Diphosphorus Tetraiodide with Oxygen; On a Polymeric Phosphorus-Oxide-Iodide"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63, pp 211-229.

Abstract [Authors' English summary]:

According to the nucleophilic character of lower-valent phosphorus atoms, diphosphorus tetraiodide reacts readily with oxygen even under mild conditions, the oxygen uptake of CS₂ solutions amounting from 0.6 to 1.0 mole per mole P₂I₄. In the reaction a new polymeric phosphorus oxide iodide of the average composition (P₂I₂O₃)_n (containing about 40 per cent of the reactant phosphorus) and PI₃ (about 60 per cent of P) are formed. The oxidation approximately follows the equation:

1/2



EAST GERMANY

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63, pp 211-229.

The new phosphorus oxide iodide is amorphous by X-ray examination, insoluble in indifferent solvents, and undergoes a strongly exothermic hydrolysis yielding HI, H₄P₂O₆, H₂PO₄, and H₃PO₄ in addition to smaller quantities of H₂P₂O₃ and PH₃, during which elementary iodine occurs as an intermediate. The IR spectrum is remarkably similar to that of P₂O₁₀ and agreeable to the chemical behaviour -- supports the assumption of the group

(O) as preferred structure element. Polymerization of this group should predo-

minantly bring about longer chains, besides possibly smaller cyclic aggregates which are mainly linked with each other by P-P bonds distributed not quite regularly within the polymer

[30 references, mainly Western].

2/2

EAST GERMANY

BERNHOLD, H.J., and GROH, G., of the Institute of Inorganic and Nuclear Chemistry (Institut für Anorganische Chemie und Kernchemie) of the University of Mainz (Universität Mainz).

"Isolation of Tetramethyl Titanium"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 230-235.

Abstract [Authors' English summary]:

The preparation and isolation of tetramethyl titanium is described. $Ti(CH_3)_4$ forms bright yellow crystals which are very sensitive to air and moisture and undergo thermal decomposition at temperatures above approximately $-78^\circ C$ forming metallic titanium.

[14 references, all Western].

1/1

EAST GERMANY

BRAUER, G., and WALZ, H., of the Chemical Laboratory (Chemisches Laboratorium) of the University of Freiburg.

"On Niobium Cyano Compounds"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 236-243.

Abstract [Authors' English summary]:

By the reaction of hydrogen cyanide with niobium pentachloride under various conditions, especially in the presence of organic solvents, the compounds $NbCl_4CN \cdot (C_2H_5)_2O$, $H(NbCl_4CN)$ and $H(NbBr_4CN)$ are prepared. $H(NbCl_4CN)$ has the constitution of an acid and forms a salt with triethyl amines, the solution of this salt in organic solvents having electrolytic character.

[5 references, all Western].

1/1

EAST GERMANY

BURGER, R., and WANNAGAT, U., Of the Institute of Inorganic and Electrochemistry (Institut für Anorganische Chemie und Elektrochemie) of the Aachen College of Engineering (Technische Hochschule), and the Institute of Inorganic Chemistry of the Graz [Austria] College of Engineering.

"Contributions to the Chemistry of Silicon-Nitrogen Compounds, XVIII. Alkoxy- and Alkyl-Alkoxy Disilazane"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 244-252.

Abstract [Authors' English summary]:

A favorable process for synthesizing alkoxy disilazanes, $((RO)_2Si)_2NH$, is based on the direct introduction of NH_3 into a reaction mixture consisting of $SiCl_4$ and the respective alcohols, followed by distillation of the reaction products (tetraalkoxy silanes, hexaalkoxy disilazanes, alkoxy poly- and cyclodisilazanes) from the reaction vessel. This method is applicable to $SiCl_4$, $RSiCl_3$, $RR'SiCl_2$ ($R, R' = CH_3$; CH_2CH_3) as well as to alcohols containing the groups $-CH_2OH$; $>CHOH$; $-CH=CH-CH_2OH$. There is no difficulty to prepare kg-quantities in 30% to 50% yields.

New disilazanes are described.

[13 references, mostly Western].

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EAST GERMANY

FISCHER, A.O., ULK, K., and KUZAL, P., of the Institute of Inorganic Chemistry of the University of Munich (Universität München).

"On Aromatic Complexes of Metals, LXVI. On Cyclopentadienyl-Halogen Complexes of Chromium"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 253-265.

Abstract [Authors' English summary]:

The preparation of cyclopentadienyl chromium(III) halogeno-complexes of the type $C_5H_5CrHal_2$ (Donor (Hal) = Cl, Br, I; Donor = pyridine, tetrahydrofuran, triphenyl phosphine, e.g.) from suitable systems is described. The complexes being soluble in polar organic solvents exhibit three unpaired electrons belonging to the central sixvalent $Cr(III)$. Like in ferrocene, the cyclopentadienyl ring is π -bonded.

The deep-blue solutions forming on interaction between $Cr(C_5H_5)_3$ and hydrochloric or hydrobromic acid contain the anions $[C_5H_5CrHal_2]^-$ which have been isolated as NH_4 -salts.

[15 references, all Western].

1/1

EAST GERMANY

GLUMSER, O., and WEIZENKORN, H.-H., of the Inorganic-Chemical Institute of the University of Göttingen (Anorganisch-chemisches Institut der Universität Göttingen).

"On the Existence of Polynuclear Gaseous Iron- and Manganese Oxides"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 266-275.

Abstract [Authors' English summary]:

By means of a micro apparatus, the gas densities of vaporized Fe_2O_3 , FeCO_3 , Mn_2O_3 and MnCO_3 have been determined. The obtained data indicate the existence of polynuclear gaseous oxides. Gaseous Fe_3O_4 , Mn_3O_4 and/or $(\text{FeO})_n$ and $(\text{MnO})_n$, respectively, are supposed to be the vapour species.

[19 references of which 1 Eastern].

1/1

EAST GERMANY

GOUBEAU, J., and WESER, U., of the Laboratory of Inorganic Chemistry (Laboratorium für Anorganische Chemie) of the Stuttgart College of Engineering.

"On Selenyl Methylimide"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 276-284.

Abstract [Authors' English summary]:

The reaction of SeOCl_2 with methyl amine leads to small yields of dimeric $(\text{OSeNCH}_3)_2$ and larger amounts of an insoluble polymer. The monomeric form has not been found. In the dimeric one, a four-membered Se_2N_2 ring exists which undergoes further polymerization on raising the temperature. On rapid heating a sudden deflagration by intramolecular combustion occurs.

[14 references, predominantly Western].

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EAST GERMANY

HIEBER, W., and BRÜTNER, H., of the Inorganic-Chemical Laboratory of the Munich College of Engineering (Anorganisch-chemisches Laboratorium der Technischen Hochschule, München).

"Processes in the Systems Carbonylferrates/Nitrite and Hydroxylamine"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 3-6, Jan 63; pp 285-296.

Abstract [Authors' English summary]:

The stoichiometry and course of the reaction of aqueous alkaline solutions of tetracarbonyl ferrate with nitrite are investigated. At first occurs an oxidation to bi- and trinuclear carbonyl ferrates, followed by a disproportionation with nitrite yielding nitrosyltricarbonylferrate, $[\text{Fe}(\text{CO})_3\text{NO}]^-$, and cationic iron. From hydroxylamine and tetracarbonyl ferrate, the anion $[\text{Fe}(\text{CO})_3\text{NO}]^-$ results, too, in addition to di-μ-imino-bis(tricarbonyliron), $[\text{Fe}(\text{CO})_3\text{NH}]_2$, and iron(III) hydroxide.

[11 references, all Western].

1/1

EAST GERMANY

KLEMM, W., and BUSMANN, E., of the Institute of Inorganic Chemistry of the University of Münster (Westphalia).

"Volume Increments and Radii of Some Simply Negatively Charged Ions"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 297-311.

Abstract [Authors' English summary]:

Due to a series of new structure determinations it is now possible to give a systematic of the volume increments and radii of negatively charged ions.

1. The volume increments are in periods as Ge^- , As^- , Mo^- , Br^- practically constant. A comparison with the atomic volumes proves that the addition of a negative charge to the electronic shell and the decrease of the charge of the nucleus by 1 unit have approximately the same space effect. Deviations are possible in the case of low valence W and Mo ferrous.

2. In the case of atomic radii for anions which are formed by several atoms in form of dumbbells, chains, tetrahedrons or diamond structures, one has to distinguish between

1/2

EAST GERMANY

Leipzig. Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 297-311.

the inner and the outer radii. All radii are compared on the basis of the coordination number 6. Thus even curves for the radii have been obtained which had to be explained.

3. Likewise the inner and outer radii of the elements were determined. In the case of inner radii, the transition from metallic to non-metallic structures is not marked. In contrast, in the case of the outer radii this transition is marked by a discontinuity.

4. The comparison of the anions with the uncharged atoms of the same nuclear charge number and with the uncharged atoms of the following element yields in the case of the radii the analogous result as has been found in the case of the volume increments.

[18 references, predominantly Western].

2/2

EAST GERMANY

KOCH, Walter, and KOLBE-ROHDE, Helga, of the Max Planck Institute for Iron Research (Max-Planck-Institut für Eisenforschung), Düsseldorf.

"Contribution to the Kinetics of Carbide Formation in Chromium Steels"

Leipzig. Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 312-319.

Abstract [Authors' English summary]:

With increasing Fe content, an almost 1.4% decrease of the lattice constant a of hexagonal chromium carbide mixed crystals, $(Fe, Cr)_3C_2$, occurs, whereas the constant c remains nearly constant.

The transformation of the γ -mixed crystals of chromium steels with more than 3% Cr yields in the temperature range of 500-700°C at first orthorhombic $(Fe, Cr)_3C$ which is consumed on longer heating by formation of the hexagonal carbide. This further takes up chromium from the Cr-containing α -Fe mixed crystals being also present.

[7 references, of which 1 Eastern].

1/1

EAST GERMANY

NAST, R., and RICHERS, C., of the National Chemical Institute (Chemisches Staatsinstitut) and the Institute of Inorganic Chemistry of the University of Hamburg.

"Alkynyl Compounds of Transition Metals. XIX. Acetylides of Cadmium"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 320-326.

Abstract [Authors' English summary]:

A solution of $\text{Cd}(\text{C}_2\text{H}_5)_2$ in ether reacts with phenyl acetylene forming the crystalline $\text{Cd}(\text{C}\equiv\text{CC}_6\text{H}_5)_2$, which is soluble in liquid ammonia as a non-electrolyte. — $\text{Cd}(\text{NH}_3)_2$ forms in liquid ammonia with gaseous acetylene $\text{Cd}(\text{C}\equiv\text{CH})_2 \cdot x \text{NH}_3$, which is decomposed at 0°C to the carbide $\text{CdC}_2 \cdot 0.5 \text{NH}_3$. — According the equation



the complexes $\text{Ba}[\text{Cd}(\text{C}\equiv\text{CR})_2]$ and $\text{K}_2[\text{Cd}(\text{C}\equiv\text{C}-\text{H})_2]$ could be isolated. — The IR-spectra are discussed.

[7 references, all Western].
1/1

EAST GERMANY

SCHAFER, H., SCHNEIDERREIT, G., and GERHARDT, W., of the Inorganic-Chemical Institute of the University of Munster (Westphalia).

"Chemistry of the Platinum Metals. RuO_2 : Chemical Transport, Properties and Thermal Decomposition"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 327-336.

Abstract [Authors' English summary]:

The preparation of RuO_2 crystals by means of chemical transport is described. The lattice parameters of the tetragonal RuO_2 were found to be $a = 4.49 \pm 0.005$; $c = 3.11 \pm 0.005$ Å. The specific conductivity determined with single crystals is $\kappa = 2 \cdot 10^4 \text{ Ohm}^{-1} \cdot \text{cm}^{-1}$ at 20°C .

The study of the equilibrium $\text{RuO}_2 = \text{Ru} + \text{O}_2$ by means of a glowing filament, with the thermo-balance, and by static pressure measurements yielded that the oxygen pressure is much lower than the corresponding literature data. The oxygen pressure of 1 atm is reached at 1680°C . The enthalpy of formation of RuO_2 is $\Delta H (998) = -71 \text{ kcal/mol}$.

[23 references, mainly Western].
1/1

EAST GERMANY

SCHENK, F.W., and HOLST, W., of the Institute of Inorganic Chemistry of the Free University (Freie Universität), Berlin.

"On Sulfur Monoxide, XIV. Experiments Related to the Preparation of Pure S₂O"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 337-349.

Abstract [Authors' English summary]:

Experiments are described to prepare pure S₂O by reaction of gaseous sulfur with sulfur monoxide. It was possible to obtain a gaseous mixture with a molar composition of S:O = 1.6:1 corresponding to a S₂O content of 85%. Repeating experiments of KONDRATJEW and KONDRATJEW it was not possible to reproduce their result, that the gaseous phase should have the composition S:O = 1:1 if SO₂ is subtracted.

It is found that monomeric SO is a short-lived very reactive molecule which can react according to



or with gaseous sulfur according to



1/1

EAST GERMANY

SCHMIDT, M., and EICHELSDORFER, D., of the Institute of Inorganic Chemistry of the Phillips University (Philipps-Universität), Marburg/Lahn.

"On Sulfur Acids, XXVII. Contribution to the Understanding of Sulfuryl Thiocyanate SC₂(SCH)₂"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 350-361.

Abstract: [Authors' English summary]:

As the first compound containing a chain of three sulfur atoms in which the middle atom is linked to two ligands and whose „free“ electron pairs are therefore unable to interact with d-orbitals of neighbouring atoms, sulfuryl thiocyanate, $\begin{matrix} O \\ | \\ NCS-S-SCH \\ | \\ O \end{matrix}$ has been synthesized from sulfuryl chloride and silver thiocyanate in organic solvents at low temperatures. The behaviour of the new compound which can not be isolated in substance proves the pronounced instability of „real“ sulfur-sulfur single bonds (not strengthened, as usual). Earlier reports on the preparation of sulfuryl thiocyanate are shown to be wrong.

[8 references, all Western].

1/1

EAST GERMANY

SCHMITZ-DuMONT, O., MERTEN, D., and EILDING, D., of the Inorganic-Chemical Institute of Bonn University.

"Behavior of Silicic Acid Esters in Ammonia Systems"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 362-374.

Abstract [Authors' English summary]:

The methyl esters of ortho- and disilicic acid, $\text{Si}(\text{OCH}_3)_4$ (I) and $(\text{CH}_3\text{O})_2\text{SiOSi}(\text{OCH}_3)_2$ (II), behave in liquid NH_3 as „ampholyte acids“. The reactions with KNH_2 give rise to the formation of amidosalts which spontaneously split off KOCH_3 ; the methylate then combines with the unchanged esters yielding the methoxosalts $\text{K}[\text{Si}(\text{OCH}_3)_3]$ and $\text{K}_2[\text{O}(\text{Si}(\text{OCH}_3)_2)_2]$. As a secondary reaction product starting from (I), $\text{K}[\text{N}(\text{Si}(\text{OCH}_3)_2)_2]$ has been isolated; the corresponding compound starting from (II) has not been obtained. It has, however, been synthesized treating $(\text{CH}_3\text{O})_2\text{OSi}(\text{CH}_3)_2\text{O}$ with NH_3 ; the resulting cyclic compound (formula see „Inhaltsverzeichnis“) was converted into the dipotassium salt by means of KNH_2 .

[18 references, mainly Western].

1/1

EAST GERMANY

SCHOLDER, R., GANTER, K.-W., GLASER, H., and MERZ, G., Institute of Inorganic Chemistry of the Karlsruhe College of Engineering.

"On Alkali- and Alkali-Earth- Oxobismutates (V)"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 375-386.

Abstract [Authors' English summary]:

By heating mixtures of Li_2O and Bi_2O_3 in O_2 atmosphere, the bismutates(V) Li_2BiO_4 , Li_4BiO_6 , and Li_6BiO_8 have been prepared; hydrolysis of these salts yield the metabismutate LiBiO_3 aq.

In the case of $\text{BaO}/\text{Bi}_2\text{O}_3$ mixtures, complete oxidation to Bi(V) at 950-1000°C is only achieved if $\text{BaO}:\text{Bi}_2\text{O}_3 \geq 8:1$. The most basic compound being obtained is $\text{Ba}_7(\text{BiO}_4)_4$. If the mentioned ratio is ≤ 4 , Bi(III)-containing reaction products result. For $\text{Ba}:\text{Bi} = 2-2.5$, one single phase which is isomorphous with $(\text{NH}_4)_2\text{FeF}_6$ exists; the same structure have also $\text{Ba}_7\text{LaBiO}_{10}$ and BaBiO_6 ($\approx \text{Ba}_7\text{Bi}^{III}\text{Bi}^V\text{O}_{10}$).

In the system $\text{Na}_2\text{O}/\text{Bi}_2\text{O}_3$, Na_4BiO_6 and, probably, Na_6BiO_8 occur in addition to the well-known Na_2BiO_4 .

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[10 references, mainly Western].

EAST GERMANY

THILO, E., and von LAMPE, F., of the Institute of Inorganic Chemistry of the German Academy of Sciences in Berlin (Deutsche Akademie der Wissenschaften zu Berlin), Berlin-Adlershof.

"Contributions to the Chemistry of Alkali Di("pyro)sulfates"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 387-403.

Abstract [Authors' English summary]:

A method is described to determine by titration the anions $S_2O_4^{2-}$, HSO_4^- , SO_4^{2-} , and $S_2O_8^{2-}$ in presence of each other. The heat of hydrolysis and the catalytic effect of various cations on the hydrolysis of $S_2O_4^{2-}$ was determined. It was not possible to verify the existence of isomeric disulfates $Me_2SO_4 \cdot SO_3$ of the alkali metals.

[21 references, mainly Western].

1/1

EAST GERMANY

WINKHAUS, G., of the Institute of Inorganic and Nuclear Chemistry of Mainz University.

"On a Further Reduction Product of the Benzene-Manganese-Tricarbonyl Cation"

Leipzig, Zeitschrift für Anorganische und Allgemeine Chemie, Vol 319, No 5-6, Jan 63; pp 404-408.

Abstract [Author's English summary]:

The reduction of the benzene-manganese tricarbonyl cation by sodium borohydride or lithium aluminium hydride gives small quantities of a neutral product, in addition to the already known π -cyclohexadienyl manganese tricarbonyl. Reactions and IR spectrum of the new compound suggest the formulation as cyclohexadiene manganese tricarbonyl hydride.

[7 references, mainly Western].

1/1

POLAND

OZARNY, Zdzislaw; Scientific Research Institute (Zaklad Naukwo-Badawczy) of the Chemical Plants (Zaklady Chemiczne), Oswiecim

"Studies on Amorphous Forms of Ta_2O_5 "

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 125-131.

Abstract: [Author's English summary modified] Some properties of tantalum pentoxide prepared from tantalum oxalate and properties of fluorotantalic acid have been examined. Their changes resulting from thermal processing in the temperature range 100 to 900° C have also been investigated. 1 table; 6 diagrams; 6 Eastern references.

2/1

POLAND

BISANZ, Teresa; Department of Organic Chemistry of the Warsaw Politechnic (Katedra Chemii Organicznej Politechniki, Warszawa) and the Institute of Organic Synthesis of the Polish Academy of Sciences (Zaklad Syntezy Organicznej Polskiej Akademii Nauk), Warsaw.

"Orientation of Acylation of β -Naphthol Derivatives. III. Intramolecular Hydrogen Bond in 1-Acetyl-2-Hydroxy- and 1-Hydroxy-2-Acetylnaphthalene"

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 133-144.

Abstract: [Author's English summary modified] Attempts at estimating the strength of the intramolecular hydrogen bonds in 1-acetylnaphthol-2 and 2-acetylnaphthol-1 were made by measuring their dipole moments and IR spectra in various solvents. 3 diagrams; 3 tables; 19 references, largely Western.

2/1

POLAND

GRONOWSKA, Janina and HELDT, Jozef; Department of Organic Chemistry (Katedra Chemii Organicznej) and Department of Experimental Physics (Katedra Fizyki Doswiadczalnej) of the N. Copernicus University (Uniwersytet M. Kopernik), Torun.

"Absorption Spectra of Guaiacol Phthaleins. I. Phenolguaiacolphthalein and Guaiacolphthalein."

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 145-152.

Abstract: [Authors' English summary modified] The UV and visible region absorption spectra of phenolguaiacolphthalein and guaiacolphthalein in absolute alcohol, in buffer solutions of pH: 10, 11.5, 12.2, 12.9, and 0.1 N and 2 N NaOH aqueous solutions, in 0.05% NaOH alcohol solution and in 76% H₂SO₄ were investigated. 6 diagrams; 2 tables; 15 references, mostly Western.

1/1

POLAND

MALAWSKI, Marek J. and DRAPALA, Tadeusz; Department of Organic Chemistry of Warsaw University (Katedra Chemii Organicznej Uniwersytetu, Warszawa); Department of General Chemistry of the Main School of Rural Economy (Katedra Chemii Ogolnej, Szkola Glowna Gospodarstwa Wiejskiego), Warsaw.

"Special Cases for Applying the Hammett Equation. II. Ionization Constants of Ortho-Substituted Aniline Derivatives"

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 153-160

Abstract: [Authors' English summary modified] The relative acid ionization constants of anilinium ions of 4' substituted 2-aminobiphenyls have been determined potentiometrically. The logarithms of K_a plotted against the value σ from Hammett's equation were found to fall in one line with a slope $\rho = +0.756$ and a standard deviation 0.023. 2 tables; 2 diagrams; 15 references, all Western.

1/1

POLAND

KUPRYSZEWSKI, Gotfryd and FORMELA, Malgorzata; Department of Organic Chemistry, Higher Teacher's College (Katedra Chemii Organicznej, Wyzsza Szkola Pedagogiczna), Gdansk.

"On Dipeptides. III Application of Tert-Butyl α -Bromopropionate in the Syntheses of Dipeptides of Lactic Acid"

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 161-165.

Abstract: [Authors' English summary modified] The dipeptides of lactic acid were synthesized by applying tert-butyl- α -bromopropionate. Di- and tripeptide derivatives were obtained. 3 tables; 3 references, one Western, 2 Eastern.

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POLAND

BISANZ, Teresa and PREJZNER, Jan; Department of Organic Chemistry, Warsaw Politechnic (Katedra Chemii Organicznej, Politechniki Warszawskiej); Institute of Organic Synthesis of the Polish Academy of Sciences (Zaklad Syntezy Organicznej Polskiej Akademii Nauk), Warsaw.

"The Orientation in the Friedel-Crafts Acylation of α - and β -Naphthol Derivatives. IV. The Reactions of 2-Methylnaphthorexorcinol Dimethyl Ether with Acetyl and Benzoyl Chlorides"

Warsaw, Roczniki Chemii, Vol 37, No 2, 62, pp 167-178.

Abstract: [Authors' English summary] The orientation in the Friedel-Crafts reactions of 1,3-dimethoxy-2-methylnaphthalene with acetyl and benzoyl chlorides has been studied. 7 diagrams; 4 references, mostly Eastern

[2/1

POLAND

PRAJER-JANCZEWSKA, Lidia; Department of Organic Chemistry, Wrocław University (Katedra Chemii Organicznej, Uniwersytet Wrocław).

'Bromonaphthyl Esters IX. Bromo-2-Mesyloxynaphthalenes'

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 179-185.

Abstract: /Author's English summary modified/ A description is given of how certain bromo-2-mesyloxynaphthalenes were obtained from 2-mesyloxynaphthalene by monobromination and from bromo-2-naphthols by mesylation. 1 table; 33 references, mostly Eastern.

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POLAND

MASTALERZ, Przemysław; Department of Organic Chemistry, Wrocław Polytechnic (Katedra Chemii Organicznej Politechniki Wrocław)

'Synthesis of Phosphinic Acids with a Structure Similar to That of p-Aminobenzoic Acid'

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 187-191

Abstract: /Author's English summary modified/ Four p-aminophenylalkylphosphinic acids were obtained as potential antimetabolites of p-aminobenzoic acid. The first step in synthesis consisted in the preparation of the corresponding nitroderivatives, which could be obtained with fairly good yields through the Freedman-Doak reaction of p-nitrophenyldiazonium fluoroborate with alkylidichlorophosphines. The reaction of stable diazonium salts with alkylidichlorophosphines other than ethyldichlorophosphine has never been studied before. The nitroacids were reduced to the desired products by means of ferrous hydroxide. 2 tables; 12 references, mostly West-

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POLAND

TERPILOWSKI, Janusz and ZALESKA, Ewa; Department of Inorganic Chemistry, Pharmacy Division, Wrocław Medical School (Katedra Chemii Nieorganicznej, Wydział Farmaceutyczny, Akademia Medyczna, Wrocław).

"Thermodynamic Properties of Thallium-Tellurium Liquid Solutions"

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 193-200

Abstract: [Authors' English summary modified] The thermodynamic properties of the liquid Tl-Te system were investigated by measuring the electromotive forces. The dependence of excess thermodynamic functions of mixing on the composition of the liquid solutions is discussed. 2 tables; 3 diagrams; 18 references, mostly Eastern.

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POLAND

BASINSKI, Antoni; Michalina SIEROCKA and Danuta PILAT; Department of Physical Chemistry, N. Copernicus University (Katedra Chemii Fizycznej, Uniwersytet M. Kopernik), Torun.

"Studies on the Mechanism of Purification of Silver Halides Sol by Means of Ion-Exchangers. V. Purification of Silver Iodide Hydrosol"

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 201-206.

Abstract: [Authors' English summary modified] Dynamic and static methods of purification of silver iodide hydrosol were elaborated. Silver iodide was obtained in the reaction: $\text{HI} + \text{AgNO}_3 = \text{AgI} + \text{HNO}_3$, with the use of anion-exchange resins. 2 tables; 2 diagrams; 6 references, only one of them Western.

1/1

POLAND

MIROWEC, Stanislaw; Department of Mining Chemistry, School of Mining and Metallurgy (Katedra Chemii Gorniczej, Akademia Gorniczo-Hutnicza), Krakow.

'Kinetics of Copper Sulfuration. II.'

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 207-214.

Abstract: [Author's English summary modified] A study was made of the kinetics of sulphuration of copper in liquid sulphur in the temperature range of 300°C to 450°C, using the Wanger-Rickert pellet method. 1 table; 4 diagrams; 15 references, mostly Eastern

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POLAND

MALINOWSKI, Stanislaw and SZCZEPANSKA, Stefania; First Department of Organic Technology of the Warsaw Politechnic (Katedra Technologii Organicznej i Politechniki Warszawskiej) and the Institute of Organic Synthesis, Polish Academy of Sciences (Zaklad Syntezy Organicznej, Polska Akademia Nauk), Warsaw.

'Investigations of Contacts. Part I. Contacts of Basic Character'

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 215-224

Abstract: [Authors' English summary modified] Investigations of the contact surface obtained by saturation of silica gel with various amounts of NaOH were carried out by applying the method of adsorption of indicators, and by titration: in an aqueous, anhydrous acetic acid or picoline medium. It was established that on the surface, beside acidic centers there exist basic centers. 5 tables; 4 diagrams; 11 references, mainly Western.

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POLAND

KICIAK, Kazimierz; Research Laboratory of the Warsaw Photochemical Plants (Zakładowe Laboratorium Badawcze, Warszawskie Zakłady Fotochemiczne), Warsaw and Department A of Physics, Warsaw Polytechnic (Katedra Fizyki A Politechnika Warszawska)

"Luminescence of Sensitizing Dyes. I. Influence of the Dye Structure on Its Luminescence"

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 225-247

Abstract: [Author's English summary modified] The occurrence of luminescence in cyanine dyes when sorbed on filter paper from their solution in methyl alcohol has been detected. Measurements confirm the hypothesis that a relation exists between optical sensitizing, light absorption and luminescence. 7 tables; 3 diagrams; 11 references, mainly Western

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POLAND

ECKSTEIN, Zygmunt; Krystyna ORACZ and Barbara RUDNICKA; Second Department of Organic Technology, Warsaw Polytechnic (Katedra Technologii Organicznej II, Politechnika, Warszawa)

"Reactions of Benzohydrol Derivatives with 2-Nitroindandione-1,3. Part I."

Warsaw, Roczniki Chemii, Vol 37, No 2, 63, pp 249-254

Abstract: [Authors' English summary modified] The condensation of some benzohydrol derivatives with 2-nitroindandione-1,3 by the Vanag method is described. The benzohydrol derivatives were obtained by transforming suitable DDT derivatives to olefinic compounds, which were subsequently oxidized with CrO_3 in acetic acid solution to benzophenones; these were reduced with aluminum isopropoxide to carbinol derivatives. The compounds thus synthesized were tested for their contact insecticidal and acaricidal activity. No biological activity has, however, been found. 2 tables; 9 references, mostly Western

1/1

POLAND

CHOJNACKA, Janina, Chair of Inorganic Chemistry (Katedra Chemii Nieorganicznej), Jagiellonian University (Uniwersytet Jagielloński) in Krakow

"Influence of pH on the Ionic Mobilities of Molybdic Isopolyacids."

Warsaw, Roczniki Chemii, Vol 37, No 3, 63, pp 259-272.

Abstract: [Author's English summary] The protonization constants of the molybdate ion were calculated from the mobilities measured at various pH values by the electromigration method. Of the 43 references, one (1) is Polish, eight (8) Eastern Bloc, nine (9) are German-language, and 25 from Western Bloc countries.

1/1

POLAND

BATKOWSKI, Tadeusz and FLAZEK, Edwin, Chair of Organic Chemistry (Katedra Chemii Organicznej), Polytechnical Institute (Politechnika) in Wroclaw.

"On Some 3-amino-2,6-dimethyl-pyridine and 3-amino-2,4,6-trimethyl-pyridine Reactions. II."

Warsaw, Roczniki Chemii, Vol 37, No 3, 63, pp 273-282.

Abstract: [Authors' English summary] Sulphonamides, N-dimethyl-derivatives, nitramines, Schiff's bases, urethanes, urea, and thiourea derivatives of the pyridines in the title were obtained, and their characteristics investigated. Differences in behavior of the two bases were found in some cases. Attempts at direct substitution were not successful for either base. There are seven (7) references, of which one (1) is Polish, two (2) are German, and four (4) are composite.

1/1

POLAND

TYKA, Roman and PLAZEK, Edwin, First Chair of Organic Chemistry (Katedra Chemii Organicznej I), Polytechnical Institute (Politechnika) in Wroclaw

"On Triaroylphosphides. II."

Warsaw, Roczniki Chemii, Vol 37, No 3, 63, pp 283-291.

Abstract: [Authors' English summary] Further studies have been made on the chemical properties of triaroylphosphides. For comparison the infrared and ultraviolet spectra are presented of triaroylphosphides and tribenzoylamide. There are two (2) references, one Polish to the authors' prior article, and one to a German publication.

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POLAND

PASYNKIEWICZ, Stanislaw, DAHLIG, Wlodzimierz, WOJNAROWSKI, Tadeusz, and RADZYWONKA, Tadeusz, First of Organic Technology (Katedra Technologii Organicznej I), Polytechnical Institute (Politechnika) in Warsaw.

"Reactions of Organoaluminum Compounds. II. Synthesis of Ketones From Acid Chlorides and Methylaluminum Dichloride."

Warsaw, Roczniki Chemii, Vol 37, No 3, 63, pp 293-300.

Abstract: [Authors' English summary] Investigations of the reaction of aromatic acid chlorides with methylaluminum dichloride revealed that, depending on the density of the charge on the C-atom of the carbenyl group, the reaction runs in two different directions, resulting in a) ketones with the organoaluminum compound methyl group, and b) solvent acetylation. The mechanism of the reaction is discussed. There are eight (8) references, of which three (3) each are Polish and English, and one (1) each are German and Czechoslovakian.

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[POLAND]

PIEKOS, Ryszard, Chair of Inorganic and Analytical Chemistry (Katedra Chemii Nieorganicznej i Analitycznej), Medical Academy (Akademia Medyczna) and the Chair of Inorganic Chemistry (Katedra Chemii Nieorganicznej) of the Polytechnical Institute (Politechnika), both in Gdansk

"The Action of Sodium on Ethoxychlorosilanes."

Warsaw, Roczniki Chemii, Vol 37, No 3, 63, pp 301-307.

Abstract: [English article, author's English summary] A study of the interaction between ethoxychlorosilanes, SiCl_4 , ethoxypolysiloxane, and sodium revealed that the reactions took substantially the same course as in the case of the previously studied bromo-derivatives. Of the 24 references, one (1) is Polish, three (3) Russian, four (4) German, and the rest Western.

[1/1]

[POLAND]

GOLANKIEWICZ, Krzysztof, Chair of Organic Chemistry (Katedra Chemii Organicznej), University (Uniwersytet) im. A. Mickiewicza in Poznan

"Curtius Rearrangement of (Quinoly-4 and 2)- -hydroxyiminopropionic Acids."

Warsaw, Roczniki Chemii, Vol 37, No 3, 63, pp 309-316.

Abstract: [Author's English summary] The Curtius rearrangement of (quinoly-4 and 2)- -hydroxyiminopropionic acids was investigated. Its azide appears to be a very active compound and several products of its rearrangement have been obtained. Of the eight (8) references, one (1) is Polish, one (1) is composite, and three (3) each are in German and in English.

[1/1]

POLAND

ACHNATOWICZ, Osman and ACHNATOWICZ, Osman, Jr., Chair of Organic Chemistry (Katedra Chemii Organicznej), University (Uniwersytet) in Warsaw, and the Institute of Organic Synthesis (Zaklad Syntazy Organicznej), PAN [Polska Akademia Nauk, Polish Academy of Sciences] in Warsaw.

"Monocenic Syntheses. II. The Mechanism of Ethyl Azodicarboxylate Condensation with Olefins."

Warsaw, Roczniki Chemii, Vol 37, No 3, 63, pp 317-331.

Abstract: [Authors' English summary] On the strength of ozonolysis and nuclear magnetic resonance measurements, the addition of olefins to ethyl azodicarboxylate has been found to proceed with a shifting of the double bond and to involve the mechanism of monocenic condensation. Of the six (6) references, one is Polish, one is English, and four (4) are German.

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POLAND

WICZALKOWSKA, Wanda and DRAPALA, Tadeusz, Chair of General Chemistry (Katedra Chemii Ogólnej), Higher School of Rural Economy (Wysoka Szkoła Gospodarstwa Wiejskiego) in Warsaw

"Comparative Potentiometric Method for Determining Water-soluble Monobasic Acid Ionization Constants."

Warsaw, Roczniki Chemii, Vol 37, No 3, 63, pp 333-340.

Abstract: [Authors' English summary] A comparative method based on potentiometric titration is proposed for determination of the acid ionization constant. It is shown that the values obtained are in good agreement with the thermodynamical data listed in the literature. There are 17 references, of which one (1) is German, and the others English.

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POLAND

LATOWSKI, Tadeusz and BASINSKI, Antoni, Chair of Physical Chemistry (Katedra Chemii Fizycznej), Higher School of Education (Wyższa Szkoła Pedagogiczna) in Gdansk and the Chair of Physical Chemistry (Katedra Chemii Fizycznej) of the University (Uniwersytet) im. Mikołaja Kopernika in Torun.

"On the Photochemical Properties of Halogenous Aniline Derivatives. II. Quantum Yields of the Photolysis Reaction of Iodo- and Bromoderivatives of Aniline in a Methyl Alcohol Solution."

Warsaw, Roczniki Chemii, Vol 37, No 3, 63, pp 341-346.

Abstract: [Authors' English summary] The quantum yields of the process of photochemical unlinking of iodine and bromine from the benzene ring have been investigated for several halogenous aniline derivatives in a methyl alcohol solution, and findings reported. There are 11 references, of which three (3) are Polish, and four (4) each in German and English.

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POLAND

LESIAK, Tadeusz, Chair of Organic Chemistry (Katedra Chemii Organicznej) of the University (Uniwersytet) im. Mikołaja Kopernika in Torun.

"On Catalytic Air Oxidation of Indoline to Indole."

Warsaw, Roczniki Chemii, Vol 37, No 3, 63, pp 347-351

Abstract: [Author's English summary modified] Procedure is described for investigation of air oxidation of indoline into indole and some isatin in the presence of heretofore uninvestigated catalysts. Optimum results were obtained at 70°C with CuO as the catalyst. Two simple methods for the qualitative detection of indoline are proposed as a consequence. There are seven (7) references, of which two (2) are Polish, three (3) Western, and one each German and composite.

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