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INTERNATIONAL SYMPOSIUM ON ORGANOSILICON CHEMISTRY
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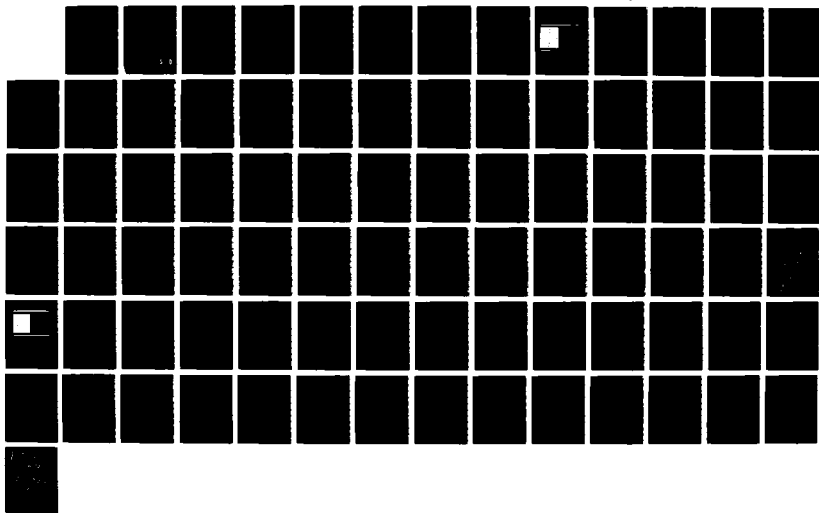
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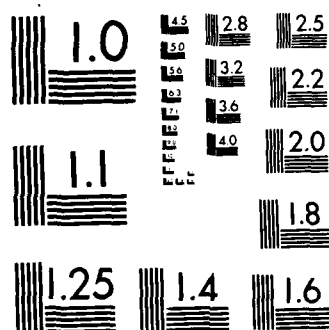
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The Eighth International Symposium on Organosilicon Chemistry was held June 7 to 12 in Saint Louis, Missouri on the campus of Washington University. All areas of current interest in silicon chemistry were covered in the presentations of three plenary and 49 invited lecturers, supplemented by 110 poster presentations. Over 400 Scientists from 20 countries participated in the meeting.

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Final Report

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VIII International Symposium on Organosilicon Chemistry

Submitted by the Cochairpersons of the Conference

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Saint Louis, Missouri 63121**

Abstract

The Eighth International Symposium on Organosilicon Chemistry was held June 7 to 12 in Saint Louis, Missouri on the campus of Washington University. All areas of current interest in silicon chemistry were covered in the presentations of three plenary and 49 invited lecturers, supplemented by 110 poster presentations. Over 400 scientists from 20 countries participated in the meeting.

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MATT. J. J. J. J.
Chief, Technical Information Division**

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The Eighth International Symposium on Organosilicon Chemistry was held on the campus of Washington University, St. Louis, MO June 7 to 12, 1987. Over 400 participants from 20 countries attended the conference, which was held under the sponsorship of the International Union of Pure and Applied Chemistry. A goal of the symposium organizers was broad coverage of all areas of current interest in the whole field of silicon chemistry. This was achieved in the presentations of three plenary and 49 invited lecturers, supplemented by 110 poster presentations. Of the 52 principal speakers, 49 contributed written versions of their talks as chapters in the symposium volume (565 pp) entitled Silicon Chemistry, published by Ellis Horwood, Ltd., Chichester, in February 1988, under the editorship of the symposium cochairpersons.

After the Monday morning session in which the three plenary lecturers L.A. Paquette, H. Sakurai, and D.R. Weyenberg spoke, there were three parallel sessions of oral presentations. The major subdivisions in which the oral and poster presentations were organized were:

- 1. Silicon-Assisted Organic Synthesis
- 2. Organic Chemistry of Silicon
- 3. Silicon in Living Systems
- 4. Physical Chemistry, Theoretical Studies, Spectroscopy
- 5. Silicon Reactive Intermediates
- 6. Silicon-Silicon Chemistry
- 7. Silicon-Oxygen Polymers and Materials
- 8. Inorganic Chemistry of Silicon
- 9. Silicon in Solid State Technology. (A.W.)

The names of the invited lecturers and the titles of the sessions they led are given below. Among the innovations of the conference was the incorporation of the poster presentations in the sessions of oral presentations. This was done by offering poster presenters the opportunity to give a five-minute oral summary of their work with a maximum of two slides. These poster summaries were included in the appropriate sessions for the subject matter presented whenever possible.

Another novel feature of the symposium was the competitive award of 25 Symposium Fellowships of \$250 each to outstanding young scientists in recognition of their research accomplishments and their promise for future achievements. The Organizing Committee was happy to welcome this next generation of leaders in the field of silicon chemistry and wish the number of awards could have been greater. The 25 Symposium Fellows represented 15 countries, and were selected from a group of ca. 75 applicants. The Fellows were all young faculty or research institute members in the first few years of their careers, or postdoctorals about to begin their independent research careers. A special reception brought together these young stars of the future with the dozen winners of the Frederic Stanley Kipping Award in Organosilicon Chemistry who participated in the symposium.

Silicon chemistry is unusual in that both the basic science and its technological applications are developing with dramatic rapidity. Thus meetings like this one are not social occasions but vital communication links. A feeling of excitement about the field, both its present and future, permeated the meeting, and it seemed to be quite successful.

Attached to this report are copies of the Symposium Program and the List of participants.



Codes
and/or
Special
A-1

PLENARY LECTURES

Organic Synthesis

L. A. Paquette, Ohio State University, USA

Reactive Intermediates

H. Sakurai, Tohoku University, Japan

Silicon-Oxygen Polymers and Materials

D. R. Weyenberg, Dow Corning Corporation, USA

INVITED LECTURERS AND SESSION TITLES: SESSION A

SILICON-ASSISTED ORGANIC SYNTHESIS

Silicon Protecting Groups

W. Adam, University of Würzburg, FRG

Silyl Enol Ether Chemistry

S. Danishefsky, Yale University, USA

Silicon-Mediated or Group Transfer Polymerization

O.W. Webster, The DuPont Company, USA

Other Aspects of Silicon Assisted Synthesis

T.H. Chan, McGill University, Canada

E.W. Colvin, University of Glasgow, Great Britain

I. Kuwajima, Tokyo Institute of Technology, Japan

P.D. Magnus, Indiana University, USA

ORGANIC CHEMISTRY OF SILICON

Carbofunctional Organosilicon Compounds

P.F. Hudrlik, Howard University, USA

J. Chen, Shandong University, China

New Developments in the Formation of Silicon-Carbon Bonds - Improvements on, and Alternatives to Hydrosilylation

J.L. Speier, Dow Corning Corporation, USA

New Approaches to Inexpensive Organosilicon Compounds

B. Kanner, Union Carbide Corporation, USA

SILICON IN LIVING SYSTEMS

Bioorganosilicon Chemistry

S. Barcza, Sandoz, Inc., USA

M.G. Voronkov, Siberian Division of the Academy of Sciences, USSR

Health and Environmental Aspects of Organosilicon Materials

R.R. LeVier, Dow Corning Corporation, USA

PHYSICAL CHEMISTRY, THEORETICAL STUDIES AND SPECTROSCOPY

Stereochemical Studies and Molecular Mechanics Calculations

F. Cartledge, Louisiana State University, USA

Surface Chemistry

M.L. Hair, Xerox Research Center of Canada

INVITED LECTURERS AND SESSION TITLES: SESSION B

SILICON REACTIVE INTERMEDIATES

Silylenes

I.M.T. Davidson, University of Leicester, Great Britain

Silyl Radicals, Anions and Cations

J.B. Lambert, Northwestern University, USA

Silenes

M. Ishikawa, Kyoto University, Japan

Silicon-Heteroatom Multiple Bonds

T.J. Barton, Iowa State University, USA

V.N. Khabashesku, Institute of Organic Chemistry, Academy of Sciences, USSR

Hypervalent Silicon Compounds

R.J.P. Corriu, University of Science & Technology, Languedoc, France

SILICON-SILICON CHEMISTRY

Polysilanes

E. Hengge, Technical University of Graz, Austria

Strained Rings

Y. Nagai, Gunma University, Japan

Disilenes and Disilynes

S. Masamune, Massachusetts Institute of Technology, USA

R. West, University of Wisconsin, USA

SILICON-OXYGEN POLYMERS AND MATERIALS

Polysiloxanes, Silicones and Organosilicon Elastomers

J. Chojnowski, Polish Academy of Sciences, Lodz, Poland

Silicon Adhesives

H. Ishida, Case Western Reserve University, USA

Silicon-Containing Coatings and Encapsulants

J.E. McGrath, Virginia Polytechnic Institute & State University, USA

Silicon-Supported Catalysts and Silicone Coupling Agents

B. Arkles, Petrarch Systems, USA

Silicic Acids, Clathrasiles and Zeolites

F. Liebau, University of Kiel, FRG

PHYSICAL CHEMISTRY, THEORETICAL STUDIES AND SPECTROSCOPY

Decomposition Studies

L.E. Gusel'nikov, Institute of Petrochemical Synthesis, Moscow, USSR

INVITED LECTURERS AND SESSION TITLES: SESSION C

INORGANIC CHEMISTRY OF SILICON

Silicon Transition Metal Chemistry

W. Malisch, University of Würzburg, FRG

Silicon-Main Group Chemistry

U. Klingebiel, Göttingen University, FRG

Catalytic Transformations of Organosilicon Compounds

S. Murai, Osaka University, Japan

Silicides and Zintl Compounds

B.J. Aylett, Queen Mary College, University of London, Great Britain

SILICON IN SOLID STATE TECHNOLOGY

Chemical Vapor Deposition of Silicon and Silicon Compounds

B.A. Scott, IBM Corporation, USA

Photoresists Containing Silicon

R.D. Miller, IBM Research Laboratories, USA

Plasma Etching of Silicon and Silicon Oxides

D.L. Flamm, Bell Laboratories, USA

Polycrystalline and Amorphous Silicon

P. Ho, Sandia National Laboratories, USA

Preceramics and Ceramics

D. Seyferth, Massachusetts Institute of Technology, USA

PHYSICAL CHEMISTRY, THEORETICAL STUDIES AND SPECTROSCOPY

Kinetic and Mechanistic Studies

M.A. Ring, San Diego State University, USA

Thermochemistry of Silicon Compounds and Reactions

R. Walsh, University of Reading, Great Britain

J.M. Jasinski, IBM Corporation, USA

Quantum Mechanical Calculations of Structure and Reaction Paths

M.S. Gordon, North Dakota State University, USA

Physical Characterization of Silicon Compounds and Materials

J. Michl, University of Texas, USA

Photochemistry, Radiation Chemistry and Hot Atom Chemistry of Silicon Compounds

O.P. Strausz, University of Alberta, Canada

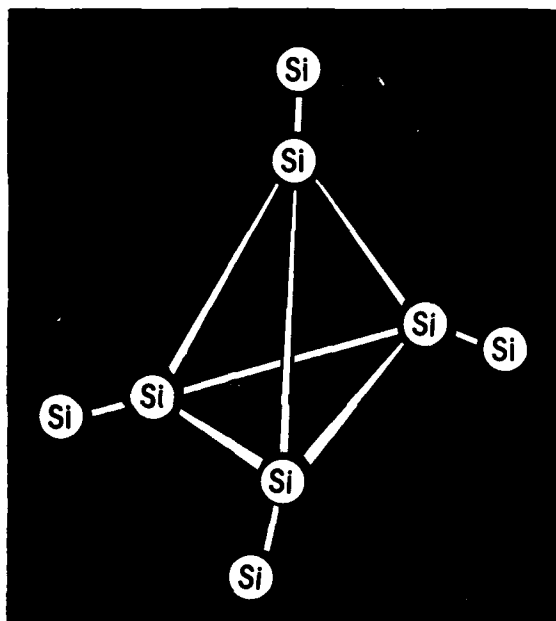
Mass Spectroscopy, Flowing Afterglow and Ion-Molecule Reaction Studies

F.W. Lampe, Pennsylvania State University, USA

²⁹Si NMR Spectroscopy

J. Schraml, Czechoslovak Academy of Sciences, Prague, Czechoslovakia

AFOSR-TR-88-0648



EIGHTH INTERNATIONAL SYMPOSIUM ON ORGANOSILICON CHEMISTRY

June 7-12, 1987
St. Louis, Missouri USA

PROGRAM

AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (AFSC)
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MATTHEW J. KERPER
Chief, Technical Information Division

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The Organizing Committee of the Eighth International Symposium on Organosilicon Chemistry wishes to gratefully acknowledge the financial support received by the Symposium from the following organizations. Without this assistance and encouragement the Symposium would not have been possible.

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U.S. Air Force Office of Scientific Research
U.S. Army Research Office
University of Missouri-St. Louis
Washington University

The Eighth International Symposium on Organosilicon Chemistry is being held under the sponsorship of the International Union of Pure and Applied Chemistry.

The Organizing Committee wishes to pay special tribute to our conference coordinator, Mrs. Jerri Skeeters and to our artist, Debra Larson. The idea for the conference poster came from Dr. Sandor Barcza.

EIGHTH INTERNATIONAL SYMPOSIUM ON ORGANOSILICON CHEMISTRY

Technical Program Changes, Corrections, and Additions

Change of Day and Time

Page

- 38 Paper B49 has been rescheduled for presentation on Thursday Afternoon at 5:10 in Session B, page 36 (Zygmunt Lasocki and Malgorzata Witekowa)

Correction of Time

Page

- 38 Paper B51 (Barry Arkles) is scheduled at 11:30 on Friday (not at 10:30 on Friday)

Papers that will not be Presented

Page

- 18 Poster Paper PAB31 will not be presented (Jeung-Ho So and Philip Boudjouk)
- 36 There will not be a 5-Minute Poster Summary for *PCD20 at 5:10 on Thursday Afternoon in Session B (R. Tacke, C. Strohmman, H. Zilch, G. Lambrecht, U. Moser and E. Mutschler)
- 37 Paper A48 scheduled for presentation at 11:30 on Friday will not be presented. (R. Tacke, K. Fritsche, H. Hengelsberg, A. Tafel, F. Wittke, H. Zilch, C. Syldatk, H. Andree, A. Stoffregen and F. Wagner)

Change of Presiding Officer

Page

- 37 R. Tacke will not preside at the Session A (10:50) Friday Morning; a replacement person will be announced later.

Additional Papers

Page

- Two additional oral presentations have been scheduled in Session B:
- 38 10:50 Friday Morning, P. Boudjouk and U. Samaraweera, "Convenient Synthesis of Di-t-Butylsilylene" (replaces rescheduled paper B49)
- 38 12:10 Friday Morning, R. Damrauer, "Studies of Gas Phase Species with Silicon Multiple Bonds"

III

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Eugene R. Corey

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SYMPOSIUM FELLOWS

The following young scientists have been awarded Symposium Fellowships by the Organizing Committee in recognition of their research accomplishments and their future promise. We are happy to welcome this next generation of leaders in the field to the Symposium and wish only that the number of awards could have been greater. There were many more qualified applicants than could be given these fellowships.

S. Abu-Orabi, Jordan
N. Auner, FRG
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K. Baldrige, USA
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J. Chrusciel, Poland
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L. Wilczek, USA
C. Xiao, China

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DATE AND LOCATION:

The Eighth International Symposium on Organosilicon Chemistry is being held from Sunday, June 7 through Friday, June 12, 1987 in St. Louis, Missouri USA. All scientific sessions of the Symposium are being held on the campus of Washington University.

The opening session will begin at 8:30 AM on Monday, June 8 in Edison Theater (Mallinckrodt Center). The scientific program will conclude at 3:45 PM on Friday, June 12.

REGISTRATION:

The Registration Desk of the Symposium will be open from 1:00 to 5:30 PM in the main lobby of Wohl Center (Dormitory Area) on Sunday, June 7th. It will reopen at 7:30 AM Monday, June 8th at the main desk in Mallinckrodt Center. Please note that the location of the registration desk changes Monday morning. Registration will be available throughout the entire week of the Symposium at the main desk in Mallinckrodt Center.

Participants will find in their registration packets a badge (which should be worn during all Symposium events, especially off-campus social events), a detailed program, a book of abstracts, and a list of participants. Also enclosed will be tickets for social events chosen, and other materials and information related to the Symposium and St. Louis, including a coupon for receipt of one ceramic mug (compliments of Dynamit Nobel/Petrarch Systems) and one Symposium poster.

Officials and guides for the Symposium are identified by a large blue dot on their badges.

SYMPOSIUM SCHEDULE:

Sunday, June 7	1:00PM - 5:30PM	Registration Washington University - Wohl Center)
	6:00PM - 9:00PM	Welcoming Reception Missouri Botanical Garden (by ticket only)
Monday	7:30 AM	Registration (Mallinckrodt Center - Main Desk)
	8:30 AM	Opening Remarks (Mallinckrodt Center - Edison Theater)
	8:45AM - 12:30PM	Plenary Lectures (Mallinckrodt Center - Edison Theater)
	2:00PM - 5:30PM	Invited Lectures, Oral Presentations
Tuesday June 9	All Day	Poster Sessions
	8:30AM - 12:30PM	Invited Lectures, Oral Presentations, "5-minute" Poster Summaries
	2:00PM - 5:30PM	Invited Lectures, Oral Presentations, "5-minute" Poster Summaries
Wednesday June 10	All Day	Poster Sessions
	8:30AM - 12:30PM	Invited Lectures, Oral Presentations
	Afternoon	Excursions (1:30PM - 5:30PM)
	7:00PM	Symposium Banquet (Omni Hotel, Union Station) By ticket only!
Thursday June 11	All Day	Poster Sessions
	8:30AM - 12:30PM	Invited Lectures, Oral Presentations, "5-minute" Poster Summaries
	2:00PM - 5:30PM	Invited Lectures, Oral Presentations, "5-minute" Poster Summaries
Friday June 12	All Day	Poster Sessions
	8:30AM - 12:30PM	Invited Lectures, Oral Presentations
	2:00PM - 3:20PM	Invited Lectures, Oral Presentations
	3:45PM	Closing Remarks (Bears Den Patio - Wohl Center)
	4:00PM - 6:00PM	Farewell Party (Bears Den Patio - Wohl Center)

List of Invited Speakers

Plenary Lecturers

	Abstract Number	General Topic	Time [#]
L. A. Paquette	PL1	Organic Synthesis	8:45 M
Hideki Sakurai	PL2	Silicon Reactive Inter- mediates	10:20 M
Donald R. Weyenberg	PL3	Silicon-Oxygen Polymers and Materials	11:25 M

Invited Lecturers

Session A

Waldemar Adam	A1	Silicon Protecting Groups	2:00 M
T. H. Chan	A4	Aspects of Organic Synthesis	3:50 M
P. D. Magnus	A8	Aspects of Organic Synthesis	8:30 T
Ernest W. Colvin	A11	Aspects of Organic Synthesis	9:50 T
S. Danishefsky	A14	Silyl Enol Ether Chemistry	2:00 T
Owen W. Webster	A17	Silicon-Mediated or Group Transfer Polymerization	3:50 T
Asao Kuwajima	A19	Aspects of Organic Synthesis	8:30 W
M. L. Hair	A24	Surface Chemistry	10:50 W
Frank K. Cartledge	A25	Stereochemical Studies and Molecular Mechanics Calculations	11:30 W
Paul F. Hudrlik	A27	Carbofunctional Organo- silicon Compounds	8:30 Th
Chen Jianhua	A32	Organic Chemistry of Silicon	10:50 Th
John L. Speier	A38	Formation of Silicon-Carbon	3:20 Th
B. Kanner	A42	New Approaches to Organo- silicon Compounds	8:30 F
Sandor Barcza	A47	Bioorganosilicon Compounds	10:50 F
M. G. Voronkov	A49	Bioorganosilicon Compounds	11:50 F
Robert R. LeVier	A50	Environmental Aspects of Organosilicon Materials	2:00 F

Session B

Iain M. T. Davidson	B3	Silylenes	2:40 M
Joseph B. Lambert	B6	Silyl Cations	4:30 M
Mitsuo Ishikawa	B10	Silenes	9:10 T
Robert J. P. Corriu	B18	Hypervalent Species of Silicon	2:40 T

* Abstract Numbers of Invited Lectures are emboldened in the program.

M = Monday, T = Tuesday, W = Wednesday, Th = Thursday and F = Friday

V. N. Khabashesku	B22	Silicon-Heteroatom Multiple Bonds	4:50 T
Thomas J. Barton	B24	Silicon-Heteroatom Multiple Bonds	8:50 W
Satoru Masamune	B25	Silicon-Silicon Ring Systems	9:30 W
Yoichiro Nagai	B27	Strained Rings	10:50 W
Robert West	B29	Disilenes	11:50 W
Edwin Hengge	B32	Polysilanes	9:10 Th
James E. McGrath	B41	Organosiloxane Copolymers	2:40 Th
Friedrich Liebau	B42	Tectosilicates	3:50 Th
Julian Chojnowski	B46	Siloxane Polymers	9:10 F
Barry Arkles	B51	Silicon Polymer Networks	10:30 F
Hatsuo Ishida	B52	Silicon-Oxygen Polymers	2:00 F
Leonid E. Gusel'nikov	B53	Decomposition Studies	2:40 F

Session C

W. Malisch	C1	Silicon-Transition Metal Chemistry	2:00 M
Uwe Klingebiel	C8	Silicon-Main Group Chemistry	8:30 T
Shinji Murai	C12	Catalytic Transformations	10:30 T
Bernard J. Aylett	C16	Silicides and Zintl Phases	2:00 T
B. A. Scott	C19	Vapor Deposition of Silicon	3:50 T
R. D. Miller	C22	Application of Polysilanes	4:50 T
Pauline Ho	C25	Mechanisms of Silane Deposition	9:50 W
D. L. Flamm	C28	Plasma Etching	11:30 W
M. A. Ring	C30	Kinetic and Mechanistic Studies	8:30 Th
Josef Michl	C33	Polysilane Photochemistry and Desorption Mass Spectrometry	9:50 Th
J. M. Jasinski	C34	Kinetics of Silylene Decomposition	10:50 Th
Robin Walsh	C37	Thermochemistry of Silylenes	2:00 Th
Mark S. Gordon	C42	Theoretical Studies of Organosilicon Chemistry	4:30 Th
Jan Schraml	C43	²⁹ Si NMR Spectroscopy	8:30 F
Otto P. Strausz	C48	Spectroscopy and Photochemistry	10:50 F
F. W. Lampe	C50	Ion-Molecule Reactions and Mass Spectrometry	11:50 F

Condensed Technical Program

General Topics with Abstract Numbers

Session A

Silicon-Assisted Organic Synthesis
Silicon-Protecting Groups
Abstract Numbers A1-A3

Other Aspects of Silicon-Assisted Synthesis

Abstract Numbers A4-A13,
A16, A19-A23
5-Minute Poster Summaries
*PAB3-*PAB5, *PAB7, *PAB9
Poster Papers *PAB3-*PAB9

Silyl Enol Ether Chemistry
Abstract Numbers A14-A15
Poster Papers PAB1-PAB2

Silicon-Mediated of Group
Transfer Polymerization
Abstract Number A17

Silicon Template Synthesis
Abstract Number A18

Organic Chemistry of Silicon
Carbofunctional Organosilicon
Compounds

Abstract Numbers A27-A37
5-Minute Poster Summaries
*PCD5, *PCD7
Poster Papers PCD1-PCD11

New Developments in the Formation
of Silicon-Carbon Bonds

Abstract Numbers A38-A41
5-Minute Poster Summaries
*PCD12, *PCD14, *PCD16
Poster Papers *PCD12-*PCD16

New Approaches to Organosilicon
Compounds

Abstract Number A42
Poster Paper PCD66

Analytical Chemistry

Bonded Phases and Other Silicon
Compounds in Analytical Chemistry
Abstract Numbers A43-A46

Silicon in Living Systems

Bioorganosilicon Chemistry
Abstract Numbers A47-A49
Poster Papers PCD17-PCD21

Health and Environmental Aspects
of Organosilicon Materials
Abstract Numbers A50-A51

Physical Chemistry, Theoretical
Studies, and Spectroscopy

Stereochemical Studies and
Molecular Mechanics Calculations
Abstract Numbers A25-A26
5-Minute Poster Summaries
*PAB16, *PAB18, *PAB20
Poster Papers *PAB16-*PAB20

Surface Chemistry

Abstract Number A24
Poster Paper PAB45

Silicon in Solid State Technology

Photoresists Containing Silicon
5-Minute Poster Summaries
*PAB43-*PAB44
Poster Papers *PAB43-*PAB44

Condensed Technical Program

General Topics with Abstract Numbers

Session B

Silicon Reactive Intermediates

Silylenes

Abstract Numbers B1-B4

5-Minute Poster Summaries

*PAB10, *PAB12, *PAB14-*PAB15

Poster papers *PAB10-*PAB15

Silyl Radicals Anion and Cations

Abstract Numbers B5-B9

Poster Papers PAB21-PAB23

Silenes

Abstract Numbers B10-B15

Hypervalent Silicon Compounds

Abstract Numbers B16-B21

5-Minute Poster Summaries

*PAB29-*PAB30

Poster Papers PAB25-*PAB30

Silicon Heteroatom Multiple Bonds

Abstract Numbers B22-B24

Poster Paper PAB24

Silicon-Silicon Chemistry

Strained Rings

Abstract Numbers B25-B27

Poster Paper PAB31

Disilenes and Disilynes

Abstract Numbers B28-B29

Poster Papers PAB32-PAB33

Polysilanes

Abstract Numbers B30-B40

5-Minute Poster Summaries

*PCD23-*PCD25

Poster Papers PCD22-PCD26

Silicon-Oxygen Polymers and Materials

Silicon Containing Coatings and Encapsulants

Abstract Number B41

Silicic Acids, Clathrasiles and Zeolites

Abstract Numbers B42-B43

Polysiloxanes, Silicones and Organosilicon Elastomers

Abstract Numbers B44-B50

5-Minute Poster Summaries

*PCD27-*PCD28, *PCD34-

*PCD36, *PCD38, *PCD41

Poster Papers *PCD27-PCD42

Silicon Supported Catalysts and Silicon Coupling Agents

Abstract Number B51

Poster Paper PCD45

Silicon Adhesives

Abstract Number B52

5-Minute Poster Summary *PCD43

Poster Papers *PCD43-PCD44

Silica and Silicate Glasses

Including Sol Gels

5-Minute Poster Summary *PCD46

Poster Paper *PCD46

Silicon in Living Systems

Bioorganosilicon Chemistry

5-Minute Poster Summary *PCD20

Physical Chemistry, Theoretical Studies and Spectroscopy

Decomposition Studies

Abstract Number B53

Poster Paper PCD65

Condensed Technical Program

General Topics with Abstract Numbers

Session C

Inorganic Chemistry of Silicon Silicon-Transition Metal Chemistry

Abstract Numbers C1-C7,
5-Minute Poster Summaries
*PAB34-*PAB35, *C4
Poster Papers *PAB34-PAB37, *C4

Silicon-Main Group Chemistry
Abstract Numbers C8-C11
5-Minute Poster Summary *PAB39
Poster Paper PAB38-PAB41

Catalytic Transformations of Organo-
silicon Compounds
Abstract Numbers C12-C15

Silicides and Zintl Compounds
Abstract Number C16

Silicon in Solid State Technology
Chemical Vapor Deposition of
Silicon and Silicon Compounds
Abstract Numbers C17-C20
Poster Paper PAB42

Preceramics and Ceramics
Abstract Number C21

Photoresists Containing Silicon
Abstract Numbers C22-C24

Polycrystalline and Amorphous
Silicon
Abstract Numbers C25-C27

Plasma Etching of Silicon
Silicon Oxides
Abstract Numbers C28-C29

Physical Chemistry, Theoretical Studies and Spectroscopy

Kinetic and Mechanistic Studies
Abstract Numbers C30-C32,
C34-C35
5-Minute Poster Summaries
*PCD47, *PCD48
Poster Papers *PCD47-PCD50

Physical Characterization of
Silicon Compounds and Materials
Abstract Number C33, C36
5-Minute Poster Summary *PCD58
Poster Papers PCD57-*PCD58

Thermochemistry of Silicon
Compounds and Reactions
Abstract Numbers C37-C39
Poster Paper PCD51

Quantum Mechanical Calculations of
Structure and Reaction Paths
Abstract Numbers C40-C42
Poster Summary *PCD54
Poster Papers PCD52-PCD56

²⁹Si NMR Spectroscopy
Abstract Numbers C43-C47
5-Minute Poster Summaries
*PCD63-*PCD64
Poster Papers *PCD63-*PCD64

Photochemistry, Radiation
Chemistry and Hot Atom Chemistry
of Silicon Compounds
Abstract Numbers C48-C49
Poster Papers PCD59-PCD61

Mass Spectroscopy, Flowing Afterglow
and Ion-Molecule Reaction Studies
Abstract Number C50
Poster Paper PCD62

PRESENTATION OF PAPERS

There will be three parallel session for oral presentations beginning Monday afternoon in separate locations (no more than a five minute walk from each other: Session A: Rebstock Hall (Room 215), Session B: Simon Hall (Lower Level) and Session C: Brown Hall (Room 100). See map campus map on back cover.

Oral Presentation of Invited and Contributed Papers:

The time allowed for an oral presentation is 15 minutes, followed by a 5 minute discussion period. Slides must be presented to the projectionist at least one half hour before scheduled time of presentation. Each session room will be provided with only one slide projector. Slides should be properly numbered and positioned. Time allotments will be strictly enforced. Please check the official program for the exact time and location of your presentation. Overhead projectors will be available.

5 Minute Oral Summaries of Poster Presentations:

Contributors who are giving 5 minute oral summaries are restricted to no more than 2 slides, which must be given to projectionists no later than one half hour prior to presentation. The five minute time limit will be strictly enforced for all! Please check the official program for the exact time and location of your five minute oral summary.

Poster Sessions:

Poster sessions are being held in Mallinckrodt Center, Room 208. Posters in Session PAB will be on display Tuesday and Wednesday, and posters in Session PCD will be on display Thursday and Friday. A small card will be positioned on each poster stand on which the authors are to note the times that at least one author will be present to answer questions concerning his or her poster. Posters must be in place no later than 8:00 AM on the first day of presentation. They must be removed no earlier than 5:30 PM on last day of presentation, but no later than 8:00 AM on Thursday for Session PAB and no later than 6:30 PM on Friday for Session PCD. Contributors must provide all necessary materials for their posters and must be present during the time noted on their poster stand. Please check the official program for Session identification of your poster presentation.

OFFICIAL LANGUAGE

The official language of the Symposium is English. It is required that all abstracts and papers be presented in English. Simultaneous translation facilities will not be available.

INDUSTRIAL EXHIBITS

There are exhibits, displays, and literature available from the industrial segment of the organosilicon chemistry community, located on the lower level of Mallinckrodt Center. Information, leaflets and forms are also available from publishers.

SYMPOSIUM VOLUME

The plenary and invited lectures that are being presented at the Symposium are being published in book form. Subscription forms that offer a significant discount for the Symposium Volume are available at the Symposium Information Desk in Mallinckrodt Center.

SYMPOSIUM PHOTOS

A photographer will be taking pictures Sunday evening during the reception at Missouri Botanical Gardens and Monday throughout the day. Proofs can be seen Wednesday in the Industrial Exhibit area in Mallinckrodt Center and those wishing to purchase copies can place orders with the photographer.

TRAVEL AGENT

Apex Travel, a full service travel agency, is located in Mallinckrodt Center (3rd floor). If you have any questions and/or problems please contact them at phone ext. 4531.

POSTAL FACILITIES AND MESSAGE CENTER

A full service post-office which is open Monday through Friday from 10:30AM to 4:30PM is located on campus (see campus map on back cover). Participants should arrange for any mail they may receive during the Symposium to be addressed to them:

c/o Eighth International Symposium on Organosilicon Chemistry
Washington University
Campus Box 1150
St. Louis, Missouri 63130 USA

Any mail received may be picked up at the main desk in Mallinckrodt Center during the hours 10:00 AM and 4:30 PM. Messages will be posted on a stand near the main desk. Telephone messages can be directed to the Symposium telephone number (314-889-4763).

Stamp Collectors: There is a Philatelic Store located in Clayton at 7750 Maryland Avenue which is open Monday-Friday, 8:30 AM to 5:00 PM with stamps, stamp sets and books for sale.

BANKING FACILITIES

A branch of Boatmen's National Bank is located in Mallinckrodt Center (3rd floor). Traveler's cheques may be cashed at the bank during normal working hours which are 9:00AM to 4:30PM, Monday through Friday. The bank will convert most currencies into American dollars.

HEALTH SERVICE

First aid is available at the Health Service located in Umrath Hall (campus telephone ext. 6666) on a limited hour basis (8:30 AM to 3:00 PM). Emergency medical service is available at all hours at Barnes Hospital by calling Campus Security (campus telephone ext. 5555).

SHUTTLE SERVICE AND OTHER TRANSPORTATION DURING SYMPOSIUM

Shuttle bus service will be available from all three hotels during the Symposium. The schedule is as follows:

Cheshire Inn: Morning: 7:50 and 8:15 AM
Afternoon: 5:40 and 6:00 PM

Clayton Inn: Morning: 7:45 and 8:00
Noon Break: 12:40 (to hotel) 1:40 (return to campus)
Afternoon: 5:40 and 5:50 PM

Forest Park: The Washington University shuttle bus will run by the Forest Park Hotel Monday through Friday during the Symposium. You can catch the shuttle in front of the Forest Park Hotel at 7:40 and 8:00 AM to arrive on campus before 8:30 AM. Shuttle will stop again at 1:20 and 1:40 PM for those who return to hotel at lunch time. The shuttle will drop you in front of Mallinckrodt Center. Return shuttle can be boarded in front of Brookings Hall throughout the day (runs every twenty minutes between 7:40 AM and 6:00 PM) or in front of Mallinckrodt Center at 12:40 and 1:00 PM and 5:40 trip to hotel. If pickup at the hotel is desired at any other time (between 7:40 AM and 6:00 PM) please call 889-5629 and request a stop.

Transportation for the Welcoming Reception will be provided. All those attending the reception are asked to be at Wohl Center between 5:00 and 5:30 PM.

Transportation for the Symposium banquet (for which preregistration is required) will be provided. Buses will depart from Mallinckrodt Center and Wohl Center, but participants will be returned to individual hotels and Wohl Center.

Wednesday afternoon tours will leave from Mallinckrodt Center, but will return you to either your hotel or Wohl Center upon your request. Tuesday and Thursday daytime tours will depart from your hotel/campus housing and return you to same place.

Included in your registration packet are bus schedules from Bi-State Transit (public bus) giving rates, routes, etc. for public transportation.

Taxicab service in the St. Louis area is rapid and reasonably priced. Typical "long rides" are Washington University campus to riverfront, 15 minutes, \$10.00; Forest Park Hotel to the airport, 20 minutes, \$15.00. Call County Cab (991-5300) or Laclede Cab (652-3455). Limousine service to the airport is available from all hotels and the Washington University dormitory area, price - \$ 6.00. Call Limousine Service (429-4940).

SOCIAL EVENTS

Symposium Badges should be worn throughout entire Symposium and are an absolute must during all technical sessions, social events and tours.

Welcoming Reception (June 7):

A Welcoming Reception is being held Sunday evening, June 7, from 6:00 PM to 9:00 PM at the Missouri Botanical Garden. Admission to the Reception is free, but will be by ticket only. Dress will be casual. Tickets will be provided to all Active and Associate Participants when they register at Wohl Center at Washington University.

Evening Social Hours (June 8, 9, 11):

Very informal social gatherings are planned Monday, Tuesday and Thursday evenings in both The Bears Den and Freedman Lounge, which are located on the ground floor of Wohl Center. Admission by Symposium badge only.

Tickets for the following social events and tours will be distributed in the registration packets to those who ordered them. Additional tickets may be purchased at the Symposium Information Desk on Monday, Tuesday and Wednesday (morning only) where further information is available. All tours will leave from Mallinckrodt Center (except the Tuesday and Thursday daytime tours when participants will be picked up) and will return participants to either campus or hotel).

Sports Night, Monday (June 8):

The baseball Cardinals are not scheduled to play on Monday, June 8th. Therefore, it will be a night at Fairmont Park, where you can pick a favorite horse at the thoroughbred races.

Time: 6:00PM - 11:00PM

Opera Night, Tuesday (June 9):

A summer night at the opera at the Loretto-Hilton Theatre will include an outstanding opera production, plus a pre-performance outdoor picnic supper. The opera scheduled is CARMEN.

Time: 6:00PM - 11:00PM

Symposium Banquet, Wednesday (June 10):

The Symposium Banquet will be held at the recently refurbished Omni Hotel in Union Station. Dress will be informal. Tickets will be distributed at the time of registration to those who have preregistered. Tickets are available for purchase until 11:30 AM, Monday on a first come/first serve basis at the main desk in Mallinckrodt Center. Admission to the banquet will be by ticket only.

Time: 7:00 PM - 11:00 PM

An Evening on the River, Thursday (June 11):

Begin with a tour through historic Laclede's Landing, reminiscent of New Orleans French Quarter. Enjoy a cocktail and hors d'oeuvres in one of the quaint bistros. Then, embark on the President for three hours of moonlight cruising and three decks of riverboat entertainment, dancing and dining. (Price does not include cost of dinner.)

Time: 6:00 PM - 11:30 PM

Wednesday Afternoon Tours (June 10)

Tour 1: Gateway Arch - St. Louis Cathedral - Riverfront

Ride to the top of the 630-foot Gateway Arch (our nation's tallest monument) for a breathtaking 30-mile panoramic view, visit the Museum of Westward Expansion located beneath the Arch, which contains extensive exhibits of the American West. Listen to tales of early St. Louis history as you ride along the Mississippi riverfront and downtown area. Imposing in its grandeur the Cathedral of St. Louis has a large collection of mosaic art.

Time: 1:00 PM - 5:00 PM

Tour 2: Anheuser-Busch Brewery - Union Station - Soulard and Lafayette Square

A complete tour of the world's largest brewery with a stop in the hospitality room for a taste test. See the world famous Clydesdale horses in their circular stable. Next, the St. Louis Union Station, a railroad station, with the largest train shed ever built, transformed into an impressive setting for specialty shops and restaurants. Then, a narrated riding tour through Lafayette Square and the Soulard District with its outdoor public market, unique architecture and historic churches.

Time: 1:00 PM - 5:00 PM

Tour 3: Forest Park Tour

Forest Park - site of the 1904 World's Fair, now a 1400 acre cultural oasis in the middle of the city. Four stops to view: the treasures in the Art Museum, the floral display in the glass-enclosed Jewel Box, the mementos in the Charles Lindbergh Gallery, and the "Star Show" in the new Science Center.

Time: 1:00 PM - 5:00 PM

Tour 4: Winery Tour, Augusta, MO

A scenic ride thru the Missouri countryside to the small village of Augusta near the Missouri River, in an area of Missouri's finest vineyards. Tour the quaint Mount Pleasant Winery, sample the wine, and browse thru the numerous craft, antique and food shops.

Time: 1:00 PM - 5:00 PM

Daytime Tours

City Highlights Tour, Tuesday (June 9):

See a large collection of mosaic art at the St. Louis Cathedral, covering three domes, ceilings, numerous arches and wall panels. View St. Louis from the top of the 630-foot Gateway Arch, the nation's tallest monument. Shop and have lunch on your own in the spectacular Union Station complex, an impressively transformed railroad station. See the world-famous Clydesdales at a short stop at Anheuser-Busch Brewery, the world's largest brewery. (Tour cost does not include the price of lunch.)

Time: 9:00 AM - 3:30 PM

Grant's Farm - Historic St. Charles, Thursday (June 11):

A visit to Grant's Farm, the estate of the Busch family. See the Clydesdales stables, a miniature zoo, the game preserve (with deer, buffalo and other wild game in a natural setting), an amazing bird show, and General Ulysses S. Grant's log cabin. Next, cross the Missouri River to St. Charles, Missouri's first capitol. Plenty of time to browse in this quaint area of brick streets and restored buildings housing many antique, craft and gift shops. Have lunch on your own in one of the picturesque restaurants. (Tour cost does not include the price of lunch.)

Time: 9:00 AM - 1:00 PM

PLEASE REMEMBER TO WEAR YOUR SYMPOSIUM BADGE THROUGHOUT THE WEEK

TO ALL TECHNICAL SESSIONS AND SOCIAL EVENTS

SYMPOSIUM OFFICIALS CAN BE IDENTIFIED BY A LARGE BLUE DOT ON THEIR BADGE

TECHNICAL PROGRAM

Eighth International Organosilicon Symposium

June 7 - 12, 1987
St. Louis, Missouri U.S.A.

Technical Sessions

Monday Morning, June 8

Session PL Mallinckrodt Center
 Edison Theater

8:30 Opening Remarks and Welcome
Peter P. Gaspar, Presiding
William H. Danforth, Chancellor,
Washington University
Marguerite Ross Barnett, Chancellor,
University of Missouri-St. Louis
Josef Michl for the International Union of Pure and Applied Chemistry

Plenary Lecture - Organic Synthesis

8:45 PL1 Stereochemical and Reactivity Patterns in Silyl-Substituted Cycloalkanes and Acyclic Analogues
L. A. Paquette

9:50 BREAK

Plenary Lecture - Reactive Intermediates

Joyce Y. Corey, Presiding

10:20 PL2 Reactive Intermediates and Mechanism of Photochemical Reactions of Aryldisilanes. Evidence for the Formation of $^1(\sigma\pi)$ Orthogonal Intramolecular Charge-Transfer (OICT) States
Hideki Sakurai

Plenary Lecture - Silicon-Oxygen Polymers and Materials

Eugene R. Corey, Presiding

11:25 PL3 Silicones - Past, Present, and Future
Donald R. Weyenberg

Monday Afternoon, June 8

Session A Rebstock Hall
 Room 215

Silicon-Assisted Organic Synthesis
Silicon Protecting Groups
Gerald L. Larson, Presiding

2:00 A1 The Utilization of Trialkyl Silyl as Protecting Groups in Ene-Reactions of Singlet Oxygen
Waldemar Adam

2:40 A2 Silylamines in Organic Synthesis: New Access to Functional Pyrroles
Robert J. P. Corriu, Joël J. E. Moreau and Claude Vernhet

3:00 A3 The Silylation of Alcohols with (2,3-Dimethylpropyl)dimethylchlorosilane
Gerald L. Larson and James D. Johnston

3:20 BREAK

Other Aspects of Silicon-Assisted Synthesis
Paul F. Hudrlik, Presiding

3:50 A4 Effect of Substituent on Reactions Remote from Silicon - Application in Organic Synthesis
T. H. Chan

4:30 A5 Regioselective Synthesis of 1-Thiohex-2-enopyranosides Using Trimethylsilylthiols
L. V. Dunkerton, N. K. Adair and J. M. Euske

4:50 A6 Synthetic Applications of the Electrophilic Oxsilylation and Hydroxylation with Bis(trimethylsilyl)peroxide
L. Camici, A. Ricci, G. Seconi and M. Taddei

5:10 A7 The Generation and Trapping of Heterocycle Containing Silylene

Shi-Hui Wu, Ge Wu, Nan Jiang, Feng-Gang Tao, Zhi-Sen Lin

5:10 B7⁺ Decomposition Mechanisms of SiH_n^{2n+} ($n = 2-7$) Ions in the Gas Phase

J. R. Diers and D. B. Jacobson

Monday Afternoon, June 8

Session B Simon Hall
Lower Level

Silicon Reactive Intermediates
Silylenes
P. Jutzi, Presiding

2:00 B1 Time Resolved Studies of Dimethylsilylene Reactions in the Gas Phase

J. E. Baggett, M. A. Blitz, H. M. Frey, P. D. Lightfoot and R. Walsh

2:20 B2 Recent Studies of Matrix Isolated Organosilylenes: The First Spectroscopic Observation of a Silylene-Ether Complex

Gregory R. Gillette, George H. Noren and Robert West

2:40 B3 Quantitative Aspects of Silylene Reactions

Iain M. T. Davidson

3:20 B4 Decamethylsilicocene: A Stable Silicon(II) Compound

P. Jutzi, U. Holtmann, D. Kanne and A. Möhrke

3:40 BREAK

Silyl Radicals, Anions and Cations

P. Boudjouk, Presiding

4:10 B5 1,3-Migration of and Anchimeric Assistance by Aryl Groups Within Organosilicon Cations

Paul A. Lickiss

4:30 B6 Silyl Cations in Solution

Joseph B. Lambert, William J. Schulz, Jr., JoAnne A. McConnell and Wojciech Schilf

Monday Afternoon, June 8

Session C Brown Hall
Room 100

Inorganic Chemistry of Silicon
Silicon-Transition Metal Chemistry
John F. Harrod, Presiding

2:00 C1 Transition-Metal Substituted Silanes: Ligand Exchange at the Silicon and at the Transition Metal

W. Malisch, P. Lorz, W. Seelbach, U. Wachtler and G. Thum

2:40 C2 Coordination Chemistry of Functional η^4 -Diphenylsilacyclopentadiene Complexes: Synthesis and Reactivity of New Carbenes and Hypervalent Species

F. Carré, R. J. P. Corriu, C. Guérin, B. J. L. Henner and W. W. C. Wong Chi Man

3:00 C3 Reactions of Dimethyltitanocene with Trimethoxy- and Diethoxymethyl- Silanes

John F. Harrod, Clare Aitken and Edmond Samuel

Paper C4 has been rescheduled as Poster Paper *C4 and follows Poster Paper PAB37 - Bulky Silyl Ligand Complexes of Tetraacetatodimolybdenum

Vera V. Mainz, Glen C. Otero and Stephanie Bortko

3:20 BREAK

Silicon-Transition Metal Chemistry
T. Don Tilley, Presiding

3:50 C5 Migration with Rear-
rangement of a Disilylmethyl Group
from Fe to the Cyclopentadienyl
Group in $(\eta^5\text{-C}_5\text{H}_5)\text{Fe}(\text{CO})_2\text{CH}_2\text{SiMe}_2\text{-SiMe}_3$

Keith H. Pannell, Steven P.
Vincenti, Robert Scott III and
Jorge Cervantes

4:10 C6 Preparative Applications
of Hydrido Silyl Complexes

Ulrich Schubert, Erika Kunz,
Michael Knorr and Johannes
Müller

4:30 C7 Approaches to the Syn-
thesis of Transition Metal Silylene
Complexes

Dan Straus and T. Don Tilley

Tuesday, June 9 and Wednesday, June 10

Session PAB Mallinckrodt Center - Drama Studio, Room 208

Poster Session PAB - An asterisk (*) indicates that a 5-minute oral
summary of the contribution is scheduled elsewhere in the Tuesday Morning
technical program.

Silicon-Assisted Organic Synthesis
Silyl Enol Ether Chemistry

PAB1 The Synthesis and Reactions
of Vinyloxysilanes
N. V. Komarov and E. G. Lisovin

PAB2 Synthesis and Reactions of
Halogen Containing O-Silylated Eno-
lates
Vasilii Shchepin

Other Aspects of Organic Syn-
thesis

*PAB3 Stereospecific Synthesis of
New Silylated β -Lactams
Jesus-Maria Aizpurua and Jean-
Paul Picard

*PAB4 Condensations of Silyl Ke-
tene Acetals Catalyzed by Mercuric
Iodide
Ira B. Dicker

*PAB5 Recent Developments in
Cyclopropylsilane Chemistry: Synthe-
sis of Functional Seven Membered
Ring Derivatives
Micheline Grignon-Dubois,
Mohamed Ahra and Jacques
Dunoguès

PAB6 Silyl Esters Based on Diazo-
dimedone and Its S-Heteroanalog
N. N. Khimich, N. E. Glushkova,
V. A. Nikolaev and I. K.
Korobitsyna

*PAB7 Diels-Alder Reactions of
1,4-Bis-Trimethylsiloxy-1,3-Cyclohexa-
diene
D. E. Lavalla, N. Venkatasubra-
manian, H. D. Banks and P.
Balakrishnan

PAB8 New Catalysts for Asymmetric
Hydrosilylation
Edmunds Lukevics, Kira Rubina,
Yuri Goldberg and Maria
Shymanska

Tuesday, June 9 and Wednesday, June 10

Session PAB Mallinckrodt Center - Drama Studio, Room 208

*PAB9 Improved Synthesis of Acylsilanes Enamines

Jean-Paul Picard and Jesus-Maria Aizpurua

Silicon Reactive Intermediates
Silylenes

*PAB10 Synthetic and Mechanistic Aspects of Dimethylsilylene Transfer Reactions in Organo-Transition Metal Chemistry

Donald H. Berry and Qian Jiang

PAB11 Reactions of Dichloro- and Chloromethylchlorosilacycloalkanes with Alkali Metal Vapors. Gas Phase Transformations of Silacycloalkanylidenes and Methylene-silacycloalkanes

L. E. Gusel'nikov, E. A. Volnina, A. B. Kanevskii and Yu. P. Polyakov

*PAB12 Photoreactions of Cyclic Aryldisilanes

Munehiro Yamaguchi, Hisashi Sugiyama, Mitsuo Kira and Hideki Sakurai

PAB13 Reactions of 1,1-Di-t-butyl-2,3-dimethyl Siliranes

Upasiri Samaraweera and Philip Boudjouk

*PAB14 Pyrolysis of Dimethyl(2-methyl-1-propenyl)(vinyl)silene: Proof of the Homo-ene Reaction Mechanism

Deqing Lei and Peter P. Gaspar

*PAB15 Synthesis of Sterically Congested Silylene Precursors and the Quest for Triplet Silylenes

Manchao Xiao and Peter P. Gaspar

Physical Chemistry, Theoretical Studies and Spectroscopy

Stereochemical Studies and Molecular Mechanics Calculations

*PAB16 Silanones, Silylenes, Disiloxanes: Theoretical Studies of Structure and Rearrangements

Robert J. Brenstein and Steve Scheiner

PAB17 Silyl Anions: Inversion, Electronic and Geometric Structure

James R. Damewood, Jr. and Christopher Hadad

*PAB18 Molecular Mechanics Parameters for Organosilicon Compounds Calculated from Ab Initio Computations

Stelian Grigoras and Thomas H. Lane

PAB19 An Electronic and Conformational Analysis of Silylacetamide and Its Imide Tautomer

T. H. Lane, S. Grigoras and A. R. Bassindale

*PAB20 Molecular Mechanics Studies on Various Polysilanes: Conformational Energies and Unperturbed Chain Dimensions

William J. Welsh, Lawrence Debolt and James E. Mark

Silicon Reactive Intermediates
Silyl Radicals, Anions and Cations

PAB21 Synthesis of Antiaromatic Silylenium Ion in Solution

Amirthini Balasingam and Philip Boudjouk

PAB22 Diethylgermanium Dianion. Reactions of Metallation of Organo-germanium Hydrides

D. A. Bravo-Zhivotovski, S. D. Pigarev and N. S. Vyazankin

Tuesday, June 9 and Wednesday, June 10

Session PAB Mallinckrodt Center - Drama Studio, Room 208

PAB23 Reactions of Free Methyl Cations with Some Tetraalkyl-Substituted Silanes

T. A. Kochina, V. D. Nefedov,
E. N. Sinotova and N. A.
Gomzina

Silicon-Heteroatom Multiple Bonds

PAB24 Evidence for the Formation of Dialkylsilaselenones: Reactive Intermediate with Silicon-Selenium Double Bonds

Dennis P. Thompson and Philip
Boudjouk

Hypervalent Silicon Compounds

PAB25 Synthesis, Structure and Reactivity of Hexa and Heptacoordinated Silicon Compounds

C. Brelière, F. H. Carré, R. J.
P. Corriu, M. Poirier, G. Royo
and J. Zwecker

PAB26 Unusual Behaviour of Hexacoordinated Anionic Silicon Species Towards Grignard Reagents: Set Process?

G. Cerveau, C. Chuit, R. J. P.
Corriu, L. Gerbier and C. Reyé

PAB27 Reactivity of Hypervalent Species of Silicon: Cleavage of Allyl Silicon Bond

Geneviève Cerveau, Claude
Chuit, Robert J. P. Corriu and
Catherine Reyé

PAB28 Synthesis, Spectroscopic and Structural Studies of Some Spirocyclic Pseudosilatrane

Christy S. John, Eugene R.
Corey and Joyce Y. Corey

*PAB29 Model of the S_N2 Nucleophilic Substitution at the Si Atom: An X-ray Study of N-(Halogenodimethylsilylmethyl)lactams

A. A. Macharashvili, V. E.
Shklover, Yu. T. Struchkov, G.
I. Oleneva, E. P. Kramarova, A.
G. Shipov and Yu. I. Baukov

*PAB30 Preparation and Reactions of Pentacoordinate Allylsilanes

Kazuhiko Sato, Mitsuo Kira and
Hideki Sakurai

Silicon-Silicon Chemistry
Strained Rings

PAB31 Reactions of 1,1,2,2,3,3,-
4,4-Octamethylspiropentasilane(I)
and 1,1-Bis(dimethylbromosilyl)-
2,2,3,3-Tetramethylcyclotrisilane
(II)

Jeung-Ho So and Philip Boudjouk

Disilenes and Disilynes

PAB32 Theoretical Study on the Singlet Potential Energy Surface of $Si_2 + H_2$

Shiro Koseki and Mark S. Gordon

PAB33 Cyclic Voltammetric Investigation of Disilenes

Brian Shepherd and Robert West

Inorganic Chemistry of Silicon
Silicon-Transition Metal
Chemistry

*PAB34 Coordination Chemistry of Siloles: 1-Alkenyl and 1-Alkynyl-1,5-Diphenylsilacyclopentadienes as Ligands

F. Carré, R. Corriu, C. Guérin,
B. Henner, B. Kolani and W. W.
C. Wong Chi Man

Tuesday, June 9 and Wednesday, June 10

Session PAB Mallinckrodt Center - Drama Studio, Room 208

*PAB35 Cobalt Carbonyl Complexes of Ethynylsilanes: Reactivity at the Silicon Atom

Robert J. P. Corriu, Joël J. E. Moreau and Hervé Praet

PAB36 A Systematic Investigation of Phosphine-Substituted Hydrido Silyl and Bissilyl Complexes of Iron
Ulrich Schubert and Michael Knorr

PAB37 Studies of 1-Acyloxy-2,8,9-trioxo-5-aza-1-silatricyclo[3,3,-3,0^{1,5}]Undecanes

Ji-tao Wang, Qin-lan Xie, Ren-an Liao and Jing Li

*C4 Bulky Silyl Ligand Complexes of Tetraacetatodimolybdenum

Vera V. Mainz, Glen C. Otero and Stephanie Bortko

Silicon-Main-Group Chemistry

PAB38 Synthesis and Properties of Siloxanes of II, III, V Group Elements

V. A. Dodonov, R. Ph. Galiulina, Ye. V. Sazonova and L. P. Stepovik

*PAB39 Reactions of Phenylpentafluorosilicate with Main Group Element Halides

Ionel Haiduc and Luminita Silaghi-Dumitrescu

PAB40 Complexes and Reaction Mechanism of Silyl Ethers with Triethylaluminum

Tuula T. Pakkanen, Eila Vähäsarja, Tapani A. Pakkanen, Eero Iiskola and Pekka Sormunen

PAB41 Chlorosilane Disproportionation Reaction by Supported Phosphonium Catalyst

Mamoru Tachikawa, Kouji Shiozawa, Kazutoshi Takatsuna, Yoshiharu Okamura and Takeo Koyama

Silicon in Solid State Technology Chemical Vapor Deposition of Silicon and Silicon Compounds

PAB42 Visible Absorption and Emission from Arylmethylpolysilanes
Peter Djurovich, Richard Watts and Robert West

Photoresists Containing Silicon

*PAB43 The Synthesis and Spectral Characterization of the First Soluble, Substituted Poly(Diphenylsilane) Homopolymers

R. D. Miller and R. Sooriyakumaran

*PAB44 Soluble Alkyl Substituted Polygermanes: Thermochromic Behavior

R. Sooriyakumaran and R. D. Miller

Physical Chemistry, Theoretical Studies and Spectroscopy Surface Chemistry

PAB45 Chemisorption Studies on the Reconstructed Si(100) Surface

Pipsa Makkonen and Tapani A. Pakkanen

Tuesday Morning, June 9

Session A **Rebstock Hall**
 Room 215

Silicon-Assisted Organic Synthesis
Other Aspects of Silicon-Assisted
Synthesis

W. P. Weber, Presiding

8:30 A8 Silicon Mediated Trans-
formations in Organic Synthesis
P. D. Magnus

9:10 A9 New Reactive Organosili-
con Intermediates: Two Step Direct
Allylic Amination of Olefins
Gérard Deleris and Alain Gadras

9:30 A10 Propargylsilane Approach
to Pinguisone
Dieter Schinzer and Gerlinde
Dettmer

9:50 A11 Silicon-Assisted Synthe-
sis of β -Lactams
Ernest W. Colvin, Daniel
McGarry and Mark Nugent

10:30 BREAK

Other Aspects of Silicon-Assisted
Synthesis
W. Goure, Presiding

10.50 A12 Novel Synthesis of
 β -Siloxy Esters by Condensation of
Carbonyls and Trimethylsilane with
 α,β -Unsaturated Esters Catalysed by
 RhCl_3
Anthony Revis and Terrence K.
Hilty

11:10 A13 Acylsilanes as Poly-Syn-
thetic Equivalents in Organic Syn-
thesis
Alfredo Ricci, Alessandro
Degl'Innocenti, Gianna Reginato
and Pasquale Dembech

5-Minute Poster Summaries

Silicon Assisted Organic Synthesis

11:30 *PAB4 Condensations of Silyl
Ketene Acetals Catalyzed by Mercuric
Iodide

Ira B. Dicker

11:35 *PAB5 Recent Developments in
Cyclopropylsilane Chemistry: Synthe-
sis of Functional Seven Membered
Ring Derivatives
Micheline Grignon-Dubois,
Mohamed Ahra and Jacques
Dunoguès

11:40 *PAB7 Diels-Alder Reactions
of 1,4-Bis-Trimethylsiloxy-1,3-
Cyclohexadiene
D. E. Lavalla, N. Venkatasubra-
manian, H. D. Banks and P.
Balakrishnan

11:45 *PAB3 Stereospecific Syn-
thesis of New Silylated β -Lactams
Jesus-Maria Aizpurua and Jean-
Paul Picard

11:50 *PAB9 Improved Synthesis of
Acylsilane Enamines
Jean-Paul Picard and Jesus-
Maria Aizpurua

Physical Chemistry, Theoretical Stu-
dies and Spectroscopy
Stereochemical Studies and
Molecular Mechanics Calculations

11:55 *PAB16 Silanones, Silylenes,
Disiloxanes: Theoretical Studies of
Structure and Rearrangements
Robert J. Brenstein and Steve
Scheiner

12:00 *PAB18 Molecular Mechanics
Parameters for Organosilicon Com-
pounds Calculated from Ab Initio
Computations
Stelian Grigoras and Thomas H.
Lane

12:05 *PAB20 Molecular Mechanics
Studies on Various Polysilanes: Con-
formational Energies and Unperturbed
Chain Dimensions

William J. Welsh, Lawrence
Debolt and James E. Mark

Silicon in Solid State Technology
Photoresists Containing Silicon

12:05 *PAB43 The Synthesis and
Spectral Characterization of the
First Soluble, Substituted Poly(Di-
phenylsilane) Homopolymers

R. D. Miller and R. Sooriyakuma-
maran

12:10 *PAB44 Soluble Alkyl Sub-
stituted Polygermanes: Thermochromic
Behavior

R. Sooriyakumaran and R. D.
Miller

Tuesday Morning, June 9

Session B Simon Hall
Lower Level

Silicon Reactive Intermediates
Silyl Radicals, Anions and Cat-
ions

K. A. Brown-Wensley, Presiding

8:30 B8 On the Nature of Com-
pounds of Trimethylhalosilanes with
1,1,3,3-tetramethylguanidine and 2-
Trimethyl-silyl-1,1,3,3-tetramethyl-
guanidine: Preparation and Charac-
terization of Mono- and Bis(2-tri-
methylsilyl)-1,1,3,3-tetramethyl
guanidinium Halides

Subhash C. Chaudhry and Dieter
Kummer

8:50 B9 The Reaction of Func-
tionally Substituted Siloles with
Alkaline Metals

Wan-Chul Joo, Janghwan Hong and
Young-Kun Kong

Silenes

9:10 B10 The Chemistry of Un-
saturated Silicon Compounds. Tran-
sition Metal Catalyzed Reactions of
Silacyclopropenes and (Phenylethy-
nyl)polysilanes with Phenyl(tri-
methylsilyl)acetylene

Mitsuo Ishikawa

9:50 B11 Silicon Reactive Inter-
mediates for Synthesis

Norbert Auner

10:10 BREAK

Silenes

Adrian G. Brook, Presiding

10:30 B12 Silene Rearrangements
and Dimerizations

Kim N. Baines, Adrian G. Brook,
Paul D. Lickiss, Randal R. Ford
and Kazem Safa

10:50 B13 1,2-Siloxetanes and
[2+4] Cycloadducts from Reactions of
Silenes with Non-enolizable Carbonyl
Compounds

Adrian G. Brook and Wayne J.
Chatterton

11:10 B14 The Thermal Isomeriza-
tion of 1,1-Dimethylsilacyclobutene
to 1,1-Dimethyl-1-sila-1,3-butadiene
Robert T. Conlin and Mohammad
Namavari

11:30 B15 Donor Adduct of Silenes
Nils Wiberg, Klaus Schurz and
Gerhard Wagner

5-Minute Poster Summaries

Silylenes

11:50 *PAB10 Synthetic and
Mechanistic Aspects of Dimethylsily-
lene Transfer Reactions in Organo-
Transition Metal Chemistry

Donald H. Berry and Qian Jiang

11:55 *PAB12 Photoreactions of
Cyclic Aryldisilanes
Munehiro Yamaguchi, Hisashi
Sugiyama, Mitsuo Kira and Hid-
eki Sakurai

12:00 *PAB14 Pyrolysis of Dimethyl-
(2-methyl-1-propenyl)(vinyl)silene:
Proof of the Homo-ene Reaction
Mechanism
Deqing Lei and Peter P. Gaspar

12:05 *PAB15 Synthesis of Steri-
cally Congested Silylene Precursors
and the Quest for Triplet Silylenes
Manchao Xiao and Peter P.
Gaspar

Hypervalent Silicon Compounds

12:10 *PAB30 Preparation and
Reactions of Pentacoordinate Allyl-
silanes
Kazuhiko Sato, Mitsuo Kira and
Hideki Sakurai

12:15 *PAB29 Model of the S_N2
Nucleophilic Substitution at the Si
Atom: An X-ray Study of N-(Halogeno-
dimethylsilylmethyl)lactams
A. A. Macharashvili, V. E.
Shklover, Yu. T. Struchkov, G.
I. Oleneva, E. P. Kramarova, A.
G. Shipov and Yu. I. Baukov

Tuesday Morning, June 9

Session C Brown Hall
Room 100

Inorganic Chemistry of Silicon
Silicon-Main Group Chemistry
Gerhard Fritz, Presiding

8:30 C8 From Aminofluorosilanes
to Iminosilanes
Uwe Klingebiel

9:10 C9 Latest Advances Concern-
ing the Chemistry of Carbosilanes
Gerhard Fritz

9:30 C10 Si(II) and Si(IV) π -Com-
plexes of C(cage)-Trimethylsilyl-
Substituted Carboranes
Narayan S. Hosmane, Upali
Siriwardane, M. Safiqul Islam
and Thomas A. West

9:50 C11 Acid/Base Assisted Dis-
proportionation Reactions of Tri-
organoxy/-Organo-Organosilyl
Amines/Thiocyanates
Suraj P. Narula, Neeta Kapur,
Ravi Shankar and Rajesh Mal-
hotra

10:10 BREAK

Catalytic Transformations of
Organosilicon Compounds
Mark J. Hampden-Smith, Presiding

10:30 C12 The $HSiR_3/CO/Co_2(CO)_8$
Catalytic Reactions
Shinji Murai

11:10 C13 Factors Affecting the
Activation of Organosilane Si-H
Bonds by Coordinatively Unsaturated
Platinum(0) Species
Howard C. Clark and Mark J.
Hampden-Smith

11:30 C14 Cyclohydrosilylation
Sans Siloxetane/Silanone Intermedi-
ates; Platinum (0 $\rightarrow$ II $\rightarrow$ IV) Cata-
lysis
H. K. Chu and C. L. Frye

11:50 C15 Deep Oxidation of
Organosilicon Compounds by Ozone
Yu. A. Alexandrov and N. N.
Seliverstov

5-Minute Poster Summaries

Inorganic Chemistry of Silicon
Silicon-Transition Metal
Chemistry

12:10 *PAB34 Coordination Chem-
istry of Siloles: 1-Alkenyl and
1-Alkynyl-1,5-Diphenylsilacyclo-
pentadienes as Ligands
F. Carré, R. Corriu, C. Guérin,
B. Henner, B. Kolani and W. W.
C. Wong Chi Man

12:15 *PAB35 Cobalt Carbonyl Complexes of Ethynylsilanes: Reactivity at the Silicon Atom

Robert J. P. Corriu, Joël J. E. Moreau and Hervé Praet

12:20 *C4 Bulky Silyl Ligand Complexes of Tetraacetatodimolybdenum

Vera V. Mainz, Glen C. Otero and Stephanie Bortko

Silicon-Main Group Chemistry

12:25 *PAB39 Reactions of Phenyl-pentafluorosilicate with Main Group Element Halides

Ionel Haiduc and Luminita Silaghi-Dumitrescu

Tuesday Afternoon, June 9

Session A Rebstock Hall
Room 215

Silicon-Assisted Organic Synthesis
Silyl Enol Ether Chemistry
P. D. Magnus, Presiding

2:00 A14 Applications of Organosilicon Reagents to the Synthesis of Natural Products
S. Danishefsky

2:40 A15 Reactions of Ketene Silyl Acetals with Imine-Complexes of Titanium Tetrachloride. New and Convenient Routes to 5,6-Dihydro-2-pyridones and 5-Amino-2-alkenoates
Stephan M. Brandstadter and Iwao Ojima

3:00 BREAK

Other Aspects of Silicon-Assisted Synthesis

G. Ronald Husk, Presiding

3:30 A16 Application of Intramolecular Reactions of Allylsilanes to Natural Products Synthesis
George Majetich

Silicon-Assisted Organic Synthesis
Silicon-Mediated or Group Transfer Polymerization

3:50 A17 Silicon-Mediated or Group Transfer Polymerization
Owen W. Webster

Silicon-Assisted Organic Synthesis
Silicon Template Synthesis

4:30 A18 Cyclic Di- and Triacetylenes with Polysiloxane Chains. Novel Transition Metal-Catalyzed Intramolecular Cyclization
Hideki Sakurai, Kazuhiro Hirama and Yasuhiro Nakadaira

Tuesday Afternoon June 9

Session B Simon Hall
Lower Level

Silicon Reactive Intermediates
Hypervalent Silicon Compounds
Robert R. Holmes, Presiding

2:00 B16 Gas Phase Ion Chemistry Leading to Pentacoordinate Silicon Anions
R. Damrauer

2:20 B17 An Ab Initio Study of Five Coordinated Silicon and Phosphorus Chlorofluorides
Joan A. Deiters and Robert R. Holmes

2:40 B18 Some Aspects of the Reactivity of Hypervalent Species of Silicon
R. Corriu

3:20 BREAK

Hypervalent Silicon Compounds
Dieter Kummer, Presiding

3:50 B19 Temperature Dependent
Equilibria Between Ionic Tetracoordinate,
Neutral Pentacoordinate and
Neutral Tetracoordinate Structures
of an Organochlorosilane-Nitrogen-
Base Adduct

Dieter Kummer, Joachim Seifert,
Subhash C. Chaudhry, Bernard
Deppisch and Günter Mattern

4:10 B20 Dissociative Stability
of Pentacoordinate Silicon Anions
Larry W. Burggraf and Larry P.
Davis

4:30 B21 New Five-Coordinated An-
ionic Silicates

Jeffrey S. Payne, Stephen E.
Johnson, John J. Harland, V.
Chandrasekhar, Kumara Swamy,
Joan M. Holmes, Roberta O. Day
and Robert R. Holmes

Silicon Reactive Intermediates
Silicon-Heteroatom Multiple Bonds

4:50 B22 Generation, Stabi-
lization, and Spectra of Intermedi-
ates with Silicon-Oxygen Bond
V. N. Khabashesku

Tuesday Afternoon, June 9

Session C Brown Hall
Room 100

Inorganic Chemistry of Silicon
Silicides and Zintl Compounds
Z. Lasocki, Presiding

2:00 C16 New Enthusiasm for Metal
Silicides: Their Relationship to
Zintl Phases
Bernard J. Aylett

Silicon in Solid State Technology
Chemical Vapor Deposition of
Silicon and Silicon Compounds

2:40 C17 Atomic and Molecular
Fluorine Reactions on Silicon Sur-
faces

C. D. Stinespring, A. Freedman,
J. C. Wormhoudt and C. E. Kolb

3:00 C18 Gas Phase Kinetics
Analysis and Surface Studies of
Silicon Carbide Chemical Vapor De-
position Chemistry

C. D. Stinespring and J. C.
Wormhoudt

3:20 BREAK

Chemical Vapor Deposition of
Silicon and Silicon Compounds
Anthony J. Matuszko, Presiding

3:50 C19 The Chemical Vapor
Deposition of Silicon Thin Films

B. A. Scott, D. B. Beach, S. M.
Gates, J. M. Jasinski and B. S.
Meyerson

4:30 C20 Metal Incorporation into
Polysilanes

James M. Rozell, Jr., Keith H.
Pannell and John M. Ziegler

Preceramics and Ceramics

4:50 C21 Organometallic
Polymer Precursors to Ceramics:
New Systems
D. Seyferth

Wednesday Morning, June 10

Session A Rebstock Hall
Room 215

Silicon Assisted Organic Synthesis
Other Aspects of Silicon-Assisted
Synthesis
Makoto Kumada, Presiding

8:30 A19 Silicon Directed Carbon
Skeleton Rearrangement Reactions
Isao Kuwajima

9:10 A20 C-Centred Optically Active Organosilanes: A New Set of Silylated Chiral Auxiliaries
Laura Coppi, Alfredo Ricci and Maurizio Taddei

9:30 A21 Novel 1,3-Elimination Reactions of Organosilicon Compounds. Generation and Reactions of 1,3-Dipolar Reagents
Akira Hosomi, Shinji Hayashi, Shinya Kohra and Yoshinori Tominaga

9:50 A22 Regiospecific Allylation of Aldehydes with Allyltrifluorosilane/Fluoride Ion Systems
Mitsuo Kira, Mineo Kobayashi and Hideki Sakurai

10:10 A23 An Asymmetric Hydrogen Equivalent: Epoxidation of Both Diastereomers of (Z) 2-(1-Naphthylphenylmethylsilyl)-1-phenyl-2-buten-1-ol
Gerald L. Larson, Glenn J. McGarvey and Evelyn Torres

10:30 BREAK

Physical Chemistry, Theoretical Studies and Spectroscopy
Surface Chemistry
William Atwell, Presiding

10:50 A24 The Acidity of Silica-Containing Surfaces
M. L. Hair

Stereochemical Studies and Molecular Mechanics Calculations

11:30 A25 Applications of Molecular Mechanics Calculations for Predictions of Organosilane Structures and Reactivities
Frank K. Cartledge, Salvatore Profeta, Jr., Soo Cho and Raymond J. Unwalla

12:10 A26 Conformational Study of Polydimethylsiloxane Chains
Stelian Grigoras

Wednesday Morning, June 10

Session B Simon Hall
Lower Level

Reactive Intermediates
Silicon-Heteroatom Multiple Bonds
Joseph B. Lambert, Presiding

8:30 B23 Reaction of 6-Oxa-3-sila-bicyclo[3.1.0]hexanes with Phosphinimines. Synthesis of 6-Vinyl-1,3-dioxa-2,4-disilacyclohexanes

William P Weber, Georges Manuel, Clifford D. Juengst and A. Baceiredo

8:50 B24 Thermochemistry of Alkynyl- and Alkynylsilanes and Their Heteroanalogs
Thomas J. Barton, Larry R. Robinson, Sukhamaya Bain and Ming-Hsiung Yeh

Silicon-Silicon Chemistry
Strained Rings

9:30 B25 Silicon and Germanium Multiple Bond and Polycyclic Ring Systems
Satoru Masamune

10:10 B26 Strained Silacycles: Synthesis, Structures, Reactivity
M. Weidenbruch, A. Schäfer, K.-L. Thom and B. Flintjer

10:30 BREAK

Silicon-Silicon Chemistry
Strained Rings
O. M. Nefedov, Presiding

10:50 B27 Synthesis and Properties of Strained Cyclopolysilanes
Yoichiro Nagai

**Silicon-Silicon Chemistry
Disilenes and Disilynes**

11:30 B28 The Bonding in 1,3-Cyclodisiloxanes: ²⁹Si NMR Coupling Constants in Disilenes and 1,3-Cyclodisiloxanes

Howard B. Yokelson, Anthony J. Millevolte, Bruce R. Adams and Robert West

11:50 B29 Recent Chemistry of the Silicon-Silicon Double Bond

Robert West, Howard B. Yokelson, Gregory R. Gillette and Eric Pham

Wednesday Morning, June 10

**Session C Brown Hall
Room 100**

**Silicon in Solid State Technology
Photoresists Containing Silicon
Dietmar Seyferth, Presiding**

8:30 C22 Polysilanes: Science and Applications
R. D. Miller

9:10 C23 Naphthoquinone Diazo-polysiloxanes - New Organosilicon Near-UV Photoresists

E. Babich, J. Shaw, M. Hatzakis, J. Paraszczak, D. Witman and B. J. Grenon

9:30 C24 Syntheses and Characterization of Organometallic-Derived Cordierite

Lawrence D. David, Ronald M. Anderson, Charles C. Goldsmith, Joseph M. Dynys and Andrew Szule

**Polycrystalline and Amorphous
Silicon**

9:50 C25 Mechanisms of Silane CVD
Pauline Ho

10:30 BREAK

**Polycrystalline and Amorphous
Silicon**

R. D. Miller, Presiding

10:50 C26 Catalytic Deposition of Hydrogenated Amorphous Silicon (a-Si:H)

Masud Akhtar, Kevin Gaughan and Herbert A. Weakliem

11:10 C27 Volatile Organosilanes and -Germanes for Vapour Deposition of Amorphous Silicon and Germanium

Hubert Schmidbauer, Cornelia Doerzbach, Jan Ebenhoech and Johann Rott

**Plasma Etching of Silicon and
Silicon Oxides**

11:30 C28 Plasma Etching of Silicon and Silicon Oxides
D. L. Flamm

12:10 C29 The Use of Organosilicon Polymers in Multilayer Plasma Resist Processing

J. Paraszczak, E. Babich, R. McGouey, M. Hatzakis and J. Shaw

Thursday, June 11 and Friday, June 12

Session PCD Mallinckrodt Center - Drama Studio, Room 208

Poster Session PCD - An asterisk (*) indicates that a 5-minute oral summary of the contribution is scheduled elsewhere in the Thursday Morning or Thursday Afternoon technical program.

Organic Chemistry of Silicon
Carbofunctional Organosilicon
Compounds

PCD1 Si-Functional Dimethyl(N-Acetylacetamidomethyl)silanes - Pentacoordinate Silicon Compounds with a Migrating Si-O Bond

L. I. Belousova, B. A. Gostevski, O. A. Vyazankina, N. S. Vyazankin, O. B. Bannikova, I. D. Kalikhman and V. A. Pestunovich

PCD2 The Effect of the Amine Structure on the Course of the Reaction with Trimethylsilylpropynals

A. I. Borisova, A. S. Medvedeva and N. S. Vyazankin

PCD3 Hydrosilylation Studies on Acetylenes and R_3SiH ($R = Et_3, O_3, O_2Me, OMe_2$) Using a Norbornadiene-triphenylphosphine Ethane Rh^{+1} Salt as a Catalyst

Jorge J. Cervantes, Guillermo A. Gonzalez and K. H. Pannell

PCD4 The Reaction of Trimethylsilylpropionic Acid Derivatives with Hydrazines

M. M. Demina, A. S. Medvedeva and N. S. Vyazankin

*PCD5 Synthesis of Disiloxanes Containing Hydroxyalkyl Groups

M. Heß, F. Braun, L. Willner and R. Kosfeld

PCD6 The Chemistry of Polyhedral Oligosilsesquioxanes. Some Chemical Properties of Pervinyloctasilsesquioxane

Victor M. Kovrigin and Vladimir I. Lavrent'ev

*PCD7 Silylketenes in [2+2]-Cycloaddition Reactions

L. I. Livantsova, G. S. Zaitseva, Yu. I. Baukov and I. F. Lutsenko

PCD8 Orientation of the Dipole in the Reaction of Methylidiazooacetate with Substituted Propynals

O. I. Margorskaya and A. S. Medvedeva

PCD9 Regioselectivity of the Reaction of Substituted Propynals with Methylidiazooacetate in the Presence of $Co_2(CO)_8$

A. S. Medvedeva and O. I. Margorskaya

PCD10 Nucleophilic Reaction of Trimethylsilylpropionic Acid Chloride

L. P. Safronova, A. S. Medvedeva, N. N. Chipanina and N. I. Shergina

PCD11 Silylcyclopropanones. Synthesis and Reactivity

G. S. Zaitseva and O. P. Novikova

New Developments in the Formation of Silicon-Carbon Bonds

*PCD12 Synthesis of Polyphenyl-Triphenylene Organosilicon Compounds

Shi Baochuan

PCD13 Silylation of Different Cyano Epoxides Using Trimethylchlorosilane

Mohammed Bolourtchian

*PCD14 Silylation of Natural Products for the Preparation of New Chiral Tools for Asymmetric Synthesis

Alessandro Mordini and Maurizio Taddei

Thursday, June 11 and Friday, June 12

Session PCD Mallinckrodt Center - Drama Studio, Room 208

PCD15 The Hydrosilylation of Carbonyl Compounds Catalysed by Fluoride

Zeng-You Zhang, Hui-you Liu and Ji-tao Wang

*PCD16 Catalytic Reactions of Alkenylsilanes with Propynol

Siyavush Karaev, Shaig Guseinov and Vidadi Bairamov

Silicon in Living Systems
Bioorganosilicon Chemistry

PCD17 Hydrosilylation of N-Vinyl-ε-caprolactone with Alkyl/Aryl-Hydridochlorosilanes

D. Sh. Akhobadze, L. M. Khananashvili, D. B. Otiashvili

PCD18 Biogenic Silica: Solid-State Silicon-29 NMR in Structure Elucidation

A. S. W. de Freitas, A. W. McCulloch, A. G. McInnes and J. A. Walter

PCD19 Organosilicon Derivatives of Diallylisocyanurate and Cyanuric Acid

G. A. Razuvaev, A. S. Gordetsov, A. P. Kozina, T. N. Brevnova and V. V. Semenov

*PCD20 Investigations of C/Si-Bioisosterism: Syntheses and Properties of Derivatives of Hexahydro-Siladifenidol

R. Tacke, C. Strohmann, H. Zilch, G. Lambrecht, U. Moser and E. Mutschler

PCD21 Some Investigations into the Reaction of Chlorosilanes with Aqueous Methylcobalamin

John S. Thayer

Silicon-Silicon Chemistry
Polysilanes

PCD22 The Preparation and Structure of a Linear Trisilane of Dihydrosilaanthracene

Lihsueh S. Chang, Joyce Y. Corey and Eugene R. Corey

*PCD23 The Chemistry of Some Small Silylated Polysilanes

Paul D. Lickiss and Y. Derouiche

*PCD24 Structural Determination of Polysilanes by 2D-²⁹Si NMR

Jim Maxka, Bruce Adams and Robert West

*PCD25 Structure of Linear Polydiphenylsilanes

Yu. E. Ovchinnikov, V. E. Shklover, V. V. Dement'ev, T. M. Frunze and Yu. T. Struchkov

PCD26 Regioselectivity of the Reactions of Organopolysilanes with Organic Peroxides

G. A. Razuvaev, V. V. Semenov, T. N. Brevnova and A. N. Kornev

Silicon-Oxygen Polymers and Materials

Polysiloxanes, Silicones and Organosilicon Elastomers

*PCD27 Investigation of the Factors Controlling the Rate of Heterocondensation of Alkoxysilanes with Silanols

J. Cavezzan and J. M. Frances

*PCD28 Polyhedral Oligometallasil-sesquioxanes: New Applications for Some Interesting Old Materials

Frank J. Feher

Thursday, June 11 and Friday, June 12

Session PCD Mallinckrodt Center - Drama Studio, Room 208

PCD29 The Influence of Thermal Stabilizer and Filler on the Thermal Transformations of Silicone Rubber Based Vulcanizates in Vacuum
E. A. Goldovskii, G. V. Chubarova, A. A. Lapshova, and A. A. Dontsov

PCD30 Polyurethane - Polydimethylsiloxane Interpenetrating Polymer Networks Membranes for Selective Oxygen Permeability
D. W. Kang, J. K. Yang, J. R. Han and I. H. Jung

PCD31 Copolymerization of 1,3-Dithienyl-1,3,5-trimethyl-5-vinylcyclotrisiloxane with Styrene
L. M. Khananashvili, Ts. N. Vardosanidze, E. G. Markarashvili and N. O. Kupatadze

PCD32 Silicone Micro-Resin. Preparation and Properties of Monodispersed Spherical Polymethylsiloxane Particles
Hiroshi Kimura

PCD33 Substitution Effects of Ethynylsilane Inhibitors on Cure Properties of Addition Cure Silicone Rubber
Atsushi Kurita, Sam Huy, Yasuji Matsumoto and Bunjiro Murai

*PCD34 New Silicone Modified Polyimides
Karin D. Lavin and David A. Williams

*PCD35 The Physical and Radiation Curing Properties of Acrylate Organopolysiloxanes Derived from Michael Addition of Aminoorganopolysiloxanes to Acrylic Monomers/Oligomers
Walter L. Magee and Roy M. Griswold

*PCD36 Cobaltaorganosiloxane of Unusual Structure
Yu. E. Ovchinnikov, V. E. Shklover, Yu. T. Struchkov, M. M. Levicky and A. A. Zhdanov

PCD37 Specific Redistribution of Siloxane Links in the Macromolecule in the Process of Obtaining Polydimethyl(methylphenyl)siloxane
G. A. Razuvaev, L. M. Terman and L. G. Klapshina

*PCD38 Block Copolymer on the Basis of Branched Organosilicon Oligomers
M. A. Sipyagina and E. E. Stepanova

PCD39 Investigation of Some Optical and Mechanical Properties of Polysiloxanes
B. B. Troitskii, V. N. Myakov, S. V. Pripadchev and L. V. Khokhlov

PCD40 Thermodynamic Characteristics of Anionic Polymerization of Thienylmethylcyclotrisiloxanes
Ts. N. Vardosanidze, L. M. Khananashvili, E. G. Markarashvili and D. A. Girgvliani

*PCD41 Silicon Chemistry and Carbocationic Polymerization: Modification of Polyisobutylenes
Lech Wilczek and Joseph P. Kennedy

PCD42 A Study on Methylallylsilyl Terminated Polydimethylsiloxanes
Qingli Zhou, Yongxing Cao, Xiaoxian Xia and Weishen Yang

Silicon Adhesives

*PCD43 Photoreactivity of Vinylsilyl Group and Isopropenoxysilyl Group with Thiol
Shinichi Sato and Mastoshi Arai

Thursday, June 11 and Friday, June 12

Session PCD Mallinckrodt Center - Drama Studio, Room 208

PCD44 Novel Zwitterionic Surfactants: Synthesis and Characterization of Silicon Sulfobetaines
Steven A. Snow, William N. Fenton and Michael J. Owen

Silicon-Supported Catalysts and Silicon Coupling Agents

PCD45 Silicone Supported Transition Metal Complex Catalysts - Synthesis of Poly- ω -diphenylphosphino-undecylsiloxane Platinum Complex and Its Catalytic Activity for Hydrosilylation and Hydrogenation of Unsaturated Compounds
Xiao Chaobo, Lin Yigeng, Chen Yuanyin

Silica and Silicate Glasses Including Sol Gels

*PCD46 Kinetics of the Sol-Gel Polymerization Reaction
Roger A. Assink and Bruce D. Kay

Physical Chemistry, Theoretical Studies and Spectroscopy
Kinetic and Mechanistic Studies

*PCD47 Medium Effects in Dehydrocondensation of Hydrosilanes with Hydroxylic Reagents
Jerzy Chruściel and Zygmunt Lasocki

*PCD48 Transition State Theory (TST) Study on Cis-Trans Isomerization in Disilenes
Ju Guanzhi and Yang Yuwei

*PCD49 Graft and Thermal Decomposition Mechanism of Ethoxysilatrane on Silica
G. Palavit, P. Vast, J. Ph. Rosnet and M. Imbenotte

PCD50 Studies on the Kinetics of Hydrosilation of Aromatic Aldehydes
Zhou Xiu-zhong and Geng Bo-lin

Thermochemistry of Silicon Compounds and Reactions

PCD51 A New Technique for Thermochemical Investigation of Organosilicon Compounds
M. G. Voronkov, V. A. Klyuchnikov, A. N. Korchagina, T. F. Danilova and G. N. Shvets

Quantum Mechanical Calculations of Structure and Reaction Paths

PCD52 Theoretical Study of Substituted Silabenzene
K. K. Baldridge and M. S. Gordon

PCD53 Theoretical Studies of Three-Membered, X_2H_4Y ($X = C, Si$; $Y = CH_2, NH, O, SiH_2, PH, S$) and Cyclic $C_nSi_{4-n}H_6$ ($n = 0-4$) Compounds
Jerry A. Boatz and Mark S. Gordon

*PCD54 Anomeric Effect at Silicon
P. N. V. Pavan Kumar, Eluvathingal D. Jemmis, D. X. Wang, B. Lam and T. A. Albright

PCD55 Hyperconjugation in Phenyl- and Benzylsilanes
A. N. Egorochkin and G. A. Razuvaev

PCD56 π Bond Strengths in Second and Third Periods
Michael W. Schmidt, Phi N. Truong and Mark S. Gordon

Thursday, June 11 and Friday, June 12

Session PCD Mallinckrodt Center - Drama Studio, Room 208

Physical Characterization of
Silicon Compounds and Materials

PCD57 Intramolecular Interaction
in Tetra- and Pentacoordinate Sili-
con Compounds Containing a (Si)-O-C-
C-N Fragment

E. I. Brodskaya, M. G.
Voronkov, D. D. Toryashinova,
D. D. Chuvashov, G. V. Ratovski
and V. P. Bartshok

*PCD58 Synthesis and Spectral
Characteristics of Diorganosili-
con(IV) Dithizonate Complexes

Yogendra Singh, Devendra D.
Pathak and Ramesh N. Kapoor

Photochemistry, Radiation
Chemistry and Hot Atom Chemistry

PCD59 Photolysis of Silylene and
Silene Precursors

Stanislaw Konieczny, Janet
Braddock, Joyce Y. Corey and
Peter P. Gaspar

PCD60 Reactions of Recoiling
Silicon Atoms in Gaseous Mixtures of
Phosphine Silane and Tetramethyl-
silane

Kayhan Garmestani, Stephen
Chiarello and Peter P. Gaspar

PCD61 Photochemical Generation of
a Hindered Silacyclobutadiene
Dhananjay Puranik and Mark Fink

Mass Spectroscopy, Flowing Af-
terglow and Ion-Molecule Reaction
Studies

PCD62 General Mass Spectrometric
Behaviour of Linear, Cyclic, Poly-
cyclic and Polyhedral Oligoorganyl-
siloxanes

Vladimir I. Lavrent'ev, Victor
M. Kovrigin, Vadim M. Moralev

²⁹Si NMR Spectroscopy

*PCD63 Identification and Kinetics
of Dimeric Sol-Gel Species by ²⁹Si
NMR

D. H. Doughty, R. A. Assink, B.
D. Kay and S. L. Martinez

*PCD64 ²⁹Si NMR Access to the
Structure of Molecules
Micheline Grignon-Dubois and
Michel Laguerre

Decomposition Studies

PCD65 Kinetics and Mechanism of
Thermal Decomposition of Silacyclo-
alkanes and Thiasilacycloalkanes

L. E. Gusel'nikov, P. E.
Ivanov, V. V. Volkova and E. A.
Volnina

Organic Chemistry of Silicon
New Approaches to Inexpensive
Organosilicon Compounds

PCD66 Considerations on Rochow
Synthesis Catalyst
Nan Chang-Min

Thursday Morning, June 11

Session A Rebstock Hall
 Room 215

Organic Chemistry of Silicon
Carbofunctional Organosilicon
Compounds
Joël Moreau, Presiding

8:30 A27 Carbon-Functional
Organosilicon Compounds in Organic
Synthesis

Paul F. Hudrlik

9:10 A28 Direct Approaches to the
Synthesis of α -Hydroxysilanes

Russell J. Linderman, Yun Suhr
and Ameen Ghannam

9:30 A29 New Functional Polysila-
methylenes

Jean-Paul Pillot, Eric Bacqué,
Marc Birot and Jacques Dunoguès

9:50 A30 Synthesis and Fluxional
Behavior of Di-tert-butylcyclopenta-
dienyl Compounds of Group IV Ele-
ments

Sultan T. Abu-Orabi, and Peter
Jutzi

10:10 A31 Stereochemistry of a GTP
Oligomer

W. J. Brittain, F. Davidson and
G. S. Reddy

10:30 BREAK

Organic Chemistry of Silicon
Robert T. Conlin, Presiding

10:50 A32 Syntheses of Alkynesilanes,
Polyphenylsilanes and Their
Polysilanes

Chen Jianhua, Feng Shengyu, Li
Xinhua, Yin Shang and Du Zuo-
dong

11:30 A33 Metalation of Silacyclo-
pentenes and Regiocontrolled Genera-
tion of the Anion of Allylsilanes by
Neighboring Group Participation

R. F. Horvath and T. H. Chan

11:50 A34 The Chemistry of Tri-
(tert-butoxy)silyl Isocyanide. Ab
Initio Calculations of Silyl Cya-
nide/Isocyanide Energies

Walter R. Hertler, David A. Di-
xon, Ellen W. Matthews, Fred-
eric Davidson and Fulton G.
Kitson

5-Minute Poster Summaries

Organic Chemistry of Silicon
Carbofunctional Organosilicon
Compounds

12:10 *PCD5 Synthesis of Disilox-
anes Containing Hydroxyalkyl Groups
M. Heß, F. Braun, L. Willner
and R. Kosfeld

12:15 *PCD7 Silylketenes in
[2+2]- Cycloaddition Reactions
L. I. Livantsova, G. S. Zait-
seva, Yu. I. Baukov and I. F.
Lutsenko

New Developments in the Formation
of Silicon-Carbon Bonds

12:20 *PCD12 Synthesis of Poly-
phenyl-Triphenylene Organosilicon
Compounds

Shi Baochuan

12:25 *PCD14 Silylation of Natural
Products for the Preparation of New
Chiral Tools for Asymmetric Synthe-
sis

Alessandro Mordini and Maurizio
Taddei

12:30 *PCD16 Catalytic Reactions
of Alkenylsilanes with Propynol
Siyavush Karaev, Shaig Gusei-
nov and Vidadi Bairamov

Thursday Morning, June 11

Session B Simon Hall
Lower Level

Silicon-Silicon Chemistry
Polysilanes
Jonathan A. Rich, Presiding

8:30 B30 Catalytic Preparation of
Oligomeric Polysilanes
R. Becker, R. Corriu, C.
Guérin, and B. Henner

8:50 B31 Synthesis and Reactions
of Disilane Containing Two Triflate
Groups
Y. L. Chen and K. Matyjaszewski

9:10 B32 Polysilanes: New
Results in Cyclo- Oligo- and
Polysilanes
Edwin Hengge

9:50 B33 Synthesis and Properties
of Some Silicon-Phosphorus, Silicon-
Arsenic and Silicon-Antimony Com-
pounds
Karl Hassler and Sigrid Seidl

10:10 B34 A Novel Bicyclopoly-
silane: Decaisopropylbicyclo[2.2.0]-
hexasilane
Hideyuki Matsumoto, Hiroshi
Miyamoto, Nobumoto Kojima, Yoi-
chiro Nagai and Midori Goto

10:30 BREAK

Polysilanes
Paul D. Lickiss, Presiding

10:50 B35 Cleavage of Polysilanes
by Photo-Induced Electron Transfer
Yasuhiro Nakadaira, Norio
Komatsu and Hideki Sakurai

11:10 B36 Reaction of Vinyl-
disilanes Catalyzed by Platinum Com-
plexes and Its Applications in Poly-
mer Technology
Hiroshige Okinoshima

11:30 B37 Electronic Spectra of
Cyclopoly-
silanes
Harald Stüger and Edwin Hengge

11:50 B38 The Photolysis of a New
Cyclopoly-
silane System Containing a
Heteroatom, Peralkyltrisilaoxetanes
H. Watanabe, E. Tabei, N.
Hirai, M. Yoshikawa, M. Goto,
M. Matsuyama, M. Kobayashi and
Y. Nagai

5-Minute Poster Summaries

Polysilanes

12:10 *PCD23 The Chemistry of Some
Small Silylated Polysilanes
Paul D. Lickiss and Y.
Derouiche

12:15 *PCD24 Structural Determina-
tion of Polysilanes by $2D-^{29}Si$ NMR
Jim Maxka, Bruce Adams and
Robert West

12:20 *PCD25 Structure of Linear
Polydiphenylsilanes
Yu. E. Ovchinnikov, V. E.
Shklover, V. V. Dement'ev, T.
M. Frunze and Yu. T. Struchkov

Silicon-Oxygen Polymers and
Materials
Silica and Silicate Glasses
Including Sol Gels

12:25 *PCD46 Kinetics of the Sol-
Gel Polymerization Reaction
Roger A. Assink and Bruce D.
Kay

Thursday Morning, June 11

Session C Brown Hall
Room 100

Physical Chemistry, Theoretical
Studies and Spectroscopy
Kinetic and Mechanistic Studies
Hans Bock, Presiding

8:30 C30 Kinetics and Mechanisms
of SiH_2 Reactions with Olefins and
of the Thermal Decomposition of
Silicon Hydrides
M. A. Ring and H. E. O'Neal

9:10 C31 Kinetic Investigation of
Group Transfer Polymerization
W. J. Brittain and D. Y. Sogah

9:30 C32 Reaction Rates of the
Difluorosilylene Radical, SiF_2 , with
Chlorine and Fluorine Over an Ex-
tended Temperature Range
A. Freedman, K. E. McCurdy and
J. Wormhoudt

Physical Characterization of
Silicon Compounds and Materials

9:50 C33 Polysilane Photochemis-
try and Laser Desorption Mass Spec-
trometry

Thomas Magnera, Balaji
Veeraraghavan, Robert D. Miller
and Josef Michl,

10:30 BREAK

Kinetic and Mechanistic Studies
Robin Walsh, Presiding

10:50 C34 Direct Determination
of Absolute Rate Constants for
Silylene Reactions in the Gas Phase
J. M. Jasinski and J. O. Chu

11:30 C35 RRKM Prediction of High
Pressure Arrhenius Parameters by
Non-Linear Regression: Application
to Silane and Disilane Decomposition
Karl F. Roenigk, Klavs F.
Jensen and Robert W. Carr

Physical Characterization of
Silicon Compounds and Materials

11:50 C36 New Trends in Vibration-
al Spectroscopy of Compounds with
Si-O Bonds

Adrian N. Lazarev, Igor S. Ig-
natyev, Boris F. Shchegolev,
Michail B. Smirnov and Tamara
F. Tenisheva

5-Minute Poster Summaries

Kinetic and Mechanistic Studies

12:10 *PCD47 Medium Effects in De-
hydrocondensation of Hydrosilanes
with Hydroxylic Reagents
Jerzy Chruściel and Zygmunt
Lasocki

12:15 *PCD48 Transition State
Theory (TST) Study on Cis-Trans Iso-
merization in Disilenes
Ju Guanzhi and Yang Yuwei

Physical Characterization of
Silicon Compounds and Materials

12:20 *PCD58 Synthesis and Spec-
tral Characteristics of Diorgano-
silicon(IV) Dithizonate Complexes
Yogendra Singh, Devendra D.
Pathak and Ramesh N. Kapoor

Thursday Afternoon, June 11

Session A Rebstock Hall
Room 215

Organic Chemistry of Silicon
Carbofunctional Organosilicon
Compounds
Paul R. Jones, Presiding

2:00 A35 Organosilicon(IV) Com-
plexes with Schiff Bases Derived
from Amino Acids
A. K. Varshney and T. P. Tandon

2:20 A36 Unusual Chemical and
Physical Properties of Polysilyl-
polyynes
Paul R. Jones, Todd E. Al-
banesi, Yukiko Iwata, Priscilla
C. Jones and Gary B. Ward

2:40 A37 The Chemistry of Silyl-Substituted Fischer-Type Carbene Complexes

Ulrich Schubert, Hannelore Hörnig, Jahanna Kron and Wolfgang Hepp

3:00 BREAK

New Developments in the Formation of Silicon-Carbon Bonds
R. Bruce Frye, Presiding

3:20 A38 The Chemistry from Silica to Organosilicon Intermediates

John L. Speier

4:00 A39 New Catalysts for the Redistribution and Disproportionation of Organohalosilanes

K. M. Lewis, B. Kanner and C. C. Chang

4:20 A40 Synthesis and Spectral Studies of Some Silicon and Organosilicon Derivatives of Organic Ligands

M. A. Mohammad

4:50 A41 Silylative Decarbonylation: A New Route to Aromatic Chlorosilanes

Jonathan D. Rich

Thursday Afternoon, June 11

Session B Simon Hall
Lower Level

Silicon-Silicon Chemistry
Polysilanes
Denis Forster, Presiding

2:00 B39 High Resolution NMR Characterization of Aryl Substituted Polysilanes

J. Maxka, W. Fleming, R. D. Miller, R. Sooriyakumaran, G. N. Fickes and R. West

2:20 B40 Polycyclic Silanes
Friedrich Karl Mitter and Edwin Hengge

Silicon-Oxygen Polymers and Materials

Silicon Containing Coatings and Encapsulants

2:40 B41 Recent Advances in Organosiloxane Copolymers
James E. McGrath

3:20 BREAK

Silicic Acids, Clathrasiles and Zeolites

John P. Oliver, Presiding

3:50 B42 Syntheses of Porous Tectosilicates: Parameters Controlling the Pore Geometry

Friedrich Liebau

4:10 B43 Polycyclic Silicic Acid Derivatives

Ehler Meyer and Heinrich Marsmann

5-Minute Poster Summaries

Silicon-Oxygen Polymers and Materials

Polysiloxanes, Silicones and Organosilicon Elastomers

4:30 *PCD27 Investigation of the Factors Controlling the Rate of Heterocondensation of Alkoxysilanes with Silanols

J. Cavezzan and J. M. Frances

4:35 *PCD28 Polyhedral Oligometallasilsesquioxanes: New Applications for Some Interesting Old Materials

Frank J. Feher

4:40 *PCD34 New Silicon Modified Polyimides

Karin D. Lavin and David A. Williams

4:45 *PCD35 The Physical and Radiation Curing Properties of Acrylate Organopolysiloxanes Derived from Michael Addition of Amino-organopolysiloxanes to Acrylic Monomers/Oligomers

Walter L. Magee and Roy M. Griswold

4:50 *PCD36 Cobaltaorganosiloxane of Unusual Structure

Yu. E. Ovchinnikov, V. E. Shklover, Yu. T. Struchkov, M. M. Levicky and A. A. Zhdanov

4:55 *PCD38 Block Copolymer on the Basis of Branched Organosilicon Oligomers

M. A. Sipyagina and E. E. Stepanova

5:00 *PCD41 Silicon Chemistry and Carbocationic Polymerization: Modification of Polyisobutylenes

Lech Wilczek and Joseph P. Kennedy

Silicon Adhesives

5:05 *PCD43 Photoreactivity of Vinylsilyl Group and Isopropenoxy-silyl Group with Thiol

Shinichi Sato and Mastoshi Arai

Silicon in Living Systems Bioorganosilicon Chemistry

5:10 *PCD20 Investigations of C/Si-Bioisosterism: Syntheses and Properties of Derivatives of Hexahydro-Sila-Difenidol

R. Tacke, C. Strohmann, H. Zilch, G. Lambrecht, U. Moser and E. Mutschler

Thursday Afternoon, June 11

Session C Brown Hall
Room 100

Physical Chemistry, Theoretical Studies and Spectroscopy

Thermochemistry of Silicon Compounds and Reactions

Kim N. Baines, Presiding

2:00 C37 Thermochemistry and Reactivity of Silylenes

Robin Walsh

2:40 C38 Investigations on Potential Use of Carbosilyl Amine Polymers as Ceramic Precursors

Paul Abrahams and Yitbarek H. Mariam

3:00 C39 Thermoanalytical Investigations of Curing and Decomposition of Methylsilicone Resin

Otto Schneider

3:20 BREAK

Quantum Mechanical Calculations of Structure and Reaction Paths
Jacques Dunoguès, Presiding

3:50 C40 The Silicon-Ligand Bond in $\text{Si}(\text{C}_6\text{H}_5)_4$ and $(\text{OH})_2\text{Si}(\text{C}_6\text{H}_5)_2$: A Study Based on X-ray Emission and X-ray Photoelectron Spectra

M. A. Mohammad and D. S. Urch

4:10 C41 Ab Initio SCF Calculations of ^{29}Si Nuclear Magnetic Resonance Shift Tensors

John R. Van Wazer, Carl S. Ewig and Robert Ditchfield

4:30 C42 Theoretical Studies of Organosilicon Chemistry

Mark S. Gordon, Kim K. Baldridge, David Bartol, Michael W. Schmidt, Shiro Koseki and Dorothy Johansen

5-Minute Poster Summaries

²⁹Si NMR Spectroscopy

5:10 *PCD63 Identification and Kinetics of Dimeric Sol-Gel Species by ²⁹Si NMR

D. H. Doughty, R. A. Assink, B. D. Kay and S. L. Martinez

5:15 *PCD64 ²⁹Si NMR Access to the Structure of Molecules

Micheline Grignon-Dubois and Michel Laguerre (oral summary by Jacques Dunoguès)

Quantum Mechanical Calculations of Structure and Reaction Paths

5:20 *PCD54 Anomeric Effect at Silicon

P. N. V. Pavan Kumar, Eluvathingal D. Jemmis, D. X. Wang, B. Lam and T. A. Albright

Friday Morning, June 12

Session A Rebstock Hall
Room 215

Organic Chemistry of Silicon
New Approaches to Inexpensive Organosilicon Compounds
Gerard Soule, Presiding

8:30 A42 New Approaches to Organosilicon Compounds
B. Kanner, J. M. Quirk and W. B. Herdle

Analytical Chemistry
Bonded Phases and Other Silicon Compounds in Analytical Chemistry

9:10 A43 Structure Investigations of Bonded Phases and Silica Gels by High Resolution Solid State ²⁹Si NMR
Klaus Albert, Bettina Pfeleiderer and Ernst Bayer

9.30 A44 The Preparation of Polysiloxanes for Capillary Column Chromatography

J. S. Bradshaw, B. J. Tarbet, A. C. Finlinson, S. Aggarwal, C. A. Rouse, K. E. Markides and M. L. Lee

9:50 A45 Predicting and Utilizing Column Polarity as a Function of Substituent Concentrations in Siloxane Phases

John J. Harland, Roy M. A. Lautamo and Edward J. Guthrie

10:10 A46 Novel Methods of Deactivation of Fused Silica Capillary Columns for Use in Chromatography

B. J. Tarbet, C. L. Woolley, K. E. Markides, J. S. Bradshaw and M. L. Lee

10:30 BREAK

Silicon in Living Systems
Bioorganosilicon Chemistry
R. Tacke, Presiding

10:50 A47 The Value and New Directions of Silicon Chemistry for Obtaining Bioactive Compounds
Sandor Barcza

11:30 A48 Preparation of Optically Active Organosilicon Compounds Using Biotransformations

R. Tacke, K. Fritsche, H. Hengelsberg, A. Tafel, F. Wutke, H. Zilch, C. Sylatk, H. Andree, A. Stoffregen and F. Wagner

11:50 A49 Silicon in Living Nature
M. G. Voronkov

Friday Morning, June 12

Session B Simon Hall
Lower Level

Silicon-Oxygen Polymers and Materials

Polysiloxanes, Silicones and Organosilicon Elastomers
Malcolm E. Kenney, Presiding

8:30 B44 Naphthaquinone Diazo-polysiloxanes and Its Radiation Sensitive Analogues: Synthesis and Properties

E. Babich, J. Shaw, M. Hatza-kis, J. Paraszczak and D. Witman

8:50 B45 A New Route to Alkoxy-siloxanes and Alkylsiloxanes
George B. Goodwin and Malcolm E. Kenney

9:10 B46 Mechanistic Features of Processes Leading to Siloxane Polymers

Julian Chojnowski

9:50 B47 New Fluorinated Polysiloxanes

Rosita Dorigo, Anne-Marie Garnault, Dominique Teyssié and Sylvie Boileau

10:10 B48 Syntheses and Reactions of Uniform Size Poly(dimethylsiloxane) with Various Reactive End Groups

Yasuyuki Tezuka, Hideki Kazama, Tatsuya Ono and Kiyokazu Imai

10:30 Break

Polysiloxanes, Silicones and Organosilicon Elastomers
Harry Newton, Presiding

10:50 B49 Anionic Rearrangement of 6- and 8-Membered N-Phenylcyclosilazoxanes

Zygmunt Lasocki and Małgorzata Witekowa

11:10 B50 Studies on the Synthesis and Phase Behaviour of Polysiloxanes with Mesogenic Side Groups

Renxi Zhuo, Jiang You, Gaowei Liu, Heng Wang and Lifu Ma

Silicon-Supported Catalysts and Silicon Coupling Agents

10:30 B51 Sequential Silicone Interpenetrating Polymer Networks
Barry Arkles and Arne O. Finberg

Friday Morning, June 12

Session C Brown Hall
Room 100

Physical Chemistry, Theoretical Studies, and Spectroscopy

²⁹Si NMR Spectroscopy

William D. Phillips, Presiding

8:30 C43 ²⁹Si NMR Spectroscopy in Organic Chemistry

Jan Schraml

9:10 C44 Studies on Molecular Mobility of H₂Containing Oligomeric Siloxanes by ²⁹Si-NMR

M. Heß, R. Krause and R. Kosfeld

9:30 C45 ²⁹Si-¹⁵N Spin-Spin Coupling Constants: A New Probe for Structural Investigations

E. Kupče and E. Lukevics

9:50 C46 ²⁹Si CP/MAS NMR and X-ray Structural Studies of Some Simple Organosilanes and Silylmetallic Compounds

John P. Oliver, Sreeni DeMel, Mike Sierra, Jeff Kampf, Greg Hendershot, Mary Jane Heeg, Ole Mols and E. Alan Sadurski

10:10 C47 ^{29}Si , ^{13}C and ^{17}O NMR
Relaxation Studies on Polysiloxanes
Alan R. Bassindale and Keith H.
Pannell

10:30 BREAK

Photochemistry, Radiation Chemi-
stry and Hot Atom Chemistry of
Silicon Compounds
Morey. A. Ring, Presiding

10:50 C48 The Spectroscopy and
Photochemistry of Some Silicon Ha-
lide and Silicon Hydride Molecules
Otto P. Strausz, Vinod Sandhu,
Bela Ruzsicska, Imre Safarik
and Thomas N. Bell

11:30 C49 Charge-Transfer Excited
States of Phenylethynylpentamethyl-
disilanes
Keith A. Horn, Robert B. Gross-
man and Anne A. Whitenack

Mass Spectroscopy, Flowing After-
glow and Ion-molecule Reaction
Studies

11:50 C50 Ion-Molecule Reactions
and Mass Spectrometry of Silanes and
Organosilane Systems
F. W. Lampe

Friday Afternoon, June 12

Session A Rebstock Hall
Room 215

Silicon in Living Systems
Health and Environmental Aspects
of Organosilicon Materials
C. L. Frye, Presiding

2:00 A50 Permethylated Siloxane
Insect Toxicants
Robert R. LeVier

2:40 A51 Methyl Mercury from
Polydimethylsiloxane (PDMS) in the
Aquatic Environment: Ecological
Menace or Myth?
Cecil L. Frye and Hsien Kun Chu

Friday Afternoon, June 12

Session B Simon Hall
Lower Level

Silicon-Oxygen Polymers and Mater-
ials

Silicon Adhesives
Thomas J. Barton, Presiding

2:00 B52 The Structure of a Meth-
acryloxy-functional Silane Coupling
Agent in a Sizing Agent
Hatsuo Ishida and Kazuo Nakata

Physical Chemistry, Theoretical Stu-
dies and Spectroscopy
Decomposition Studies

2:40 B53 Unstable Organosilicon
Intermediates in Pyrolysis and De-
halogenation Using Alkali Metal Va-
pors
Leonid E. Gusel'nikov

Friday Afternoon, June 12

Session E Wohl Center

3:45 Closing Remarks

4:00 Farewell Party

Condensed Technical Program

Locations of Technical Sessions

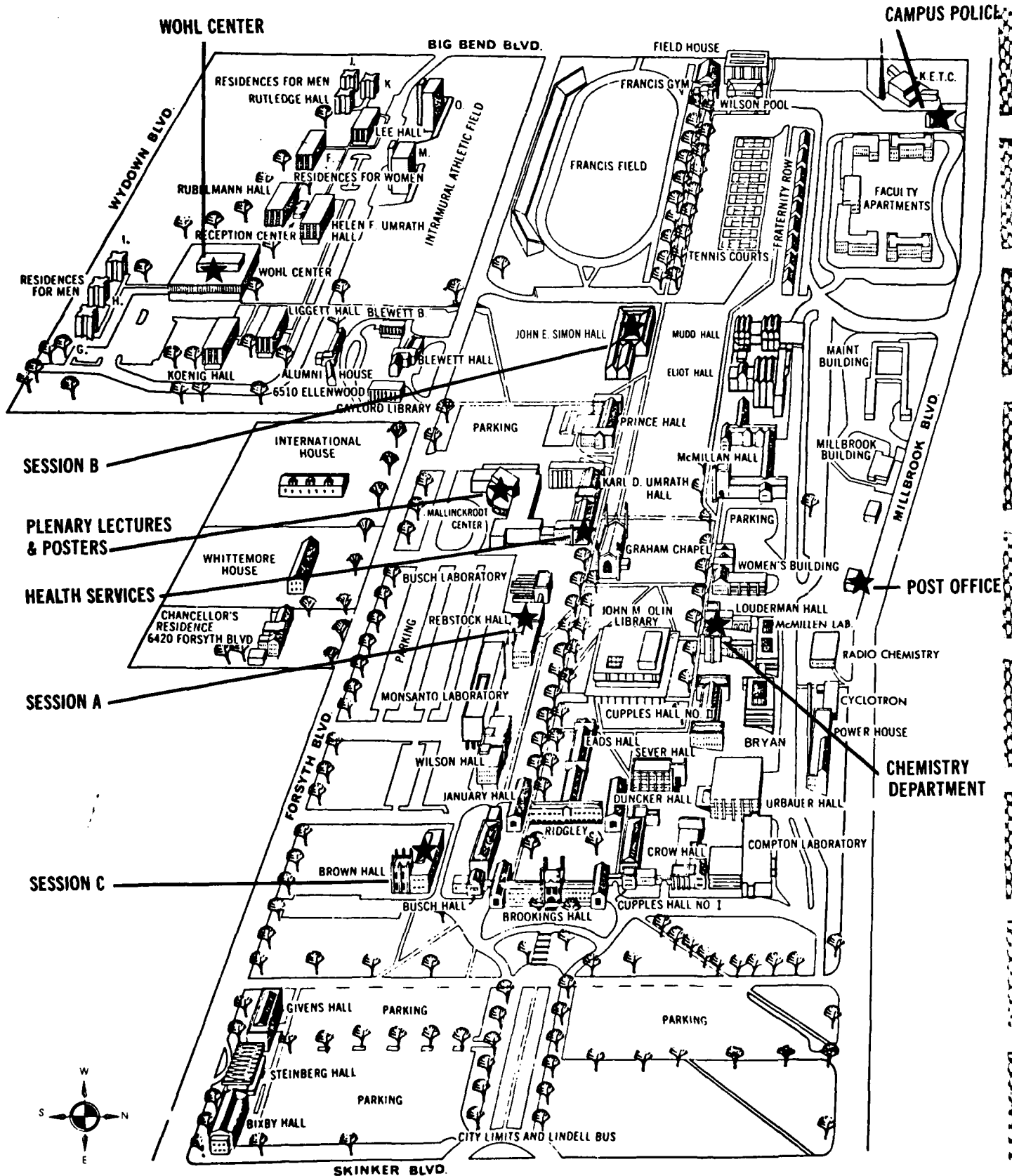
Session PL: Mallinckrodt Center, Edison Theater
 Session A: Rebstock Hall, Room 215
 Session B: Simon Hall, Lower Level
 Session C: Brown Hall, Room 100
 Sessions PAB and PCD: Mallinckrodt Center,
 Drama Studio, Room 208
 Session E: Wohl Center

Morning

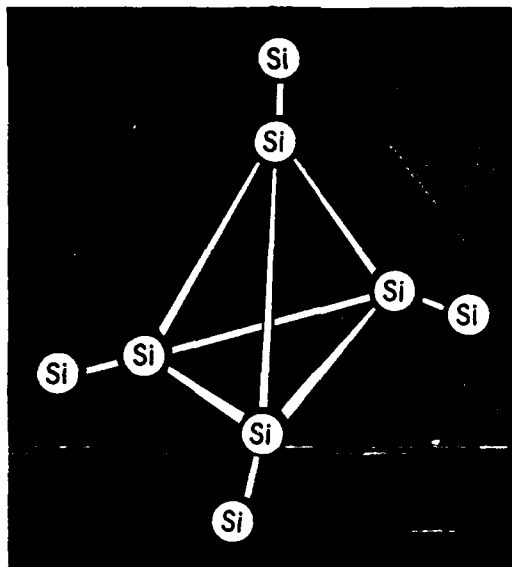
Afternoon

Monday	Session PL: PL1-PL3	Session A: A1-A7 Session B: B1-B7 Session C: C1-C3, C5-C7
Tuesday and Wednesday	Session PAB: Poster Papers PAB1-PAB45	Session PAB: Poster Papers PAB1-PAB45 and *C4
Tuesday	Session A: A8-A13; 5-Minute Poster Summaries *PAB4,5, 7,3,9,16,18,20,43 and 44 Session B: B8-B15; 5-Minute Poster Summaries *PAB10, 12,14,15,30 and 29 Session C: C8-C15; 5-Minute Poster Summaries *PAB34, 35 and 39	Session A: A14-A18 Session B: B16-B22 Session C: C16-C21
Wednesday	Session A: A19-A26 Session B: B23-B29 Session C: C22-C29	
Thursday and Friday	Session PCD: Poster Papers PCD1-PCD66	Session PCD: Poster Papers PCD1-PCD66
Thursday	Session A: A27-A34; 5-Minute Poster Summaries *PCD5,7, 12,14 and 16 Session B: B30-B38; 5-Minute Poster Summaries *PCD23, 24,25 and 46 Session C: C30-C36; 5-Minute Poster Summaries *PCD47, 48 and 58	Session A: A35-A41 Session B: B39-B43; 5 Minute Poster Summaries *PCD27, 28,34,35,36,38,41,43 and 20 Session C: C37-C42; 5-Minute Poster Summaries *PCD63, 64 and 54
Friday	Session A: A42-A49 Session B: B44-B51 Session C: C43-C50	Session A: A50-A51 Session B: B52-B53 - Session E: Closing Remarks

Campus Map



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EIGHTH INTERNATIONAL SYMPOSIUM ON ORGANOSILICON CHEMISTRY

June 7-12, 1987
St. Louis, Missouri USA

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The Organizing Committee wishes to pay special tribute to our conference coordinator, Mrs. Jerri Skeeters and to our artist, Debra Larson. The idea for the conference poster came from Dr. Sandor Barcza.

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