

2000 Spring meeting

2000 SPRING NATIONAL ACS MEETING

San Francisco (March 26-31, 2000)

Program Meeting Chair: [Kathleen Havelka](#)

DEADLINE FOR SUBMISSION OF ABSTRACTS ON LINE: NOV. 1, 1999

DEADLINE FOR SUBMISSION OF PREPRINTS ON LINE: NOV. 8, 1999

The preliminary program for the San Francisco is available below,

Mass Spectral Analysis of Polymers

Charles Guttman, NIST Polymers Division, 100 Bureau Drive, Stop 8541, Gaithersburg, MD 20899-8541, (301)975-6729, fax (301)975-3928, charles.guttman@nist.gov; Kevin Owens, Department of Chemistry, Drexel Univ., 32nd and Chestnut Streets, Philadelphia, PA 19104, (215) 895-2621, fax (215) 895-1265, owens@coasmail.drexel.edu.

Polymeric Bioconjugates

Allan S. Hoffman, Center for Bioengineering, Box 35-2255, University of Washington, Seattle, WA 98195, (206) 543-9423, fax (206) 543-6124, hoffman@u.washington.edu; Patrick S. Stayton, Bioengineering, Box 357962, Univ. of Washington, Seattle, WA 98195, (206)-585-8148, fax (206) 685-8256, stayton@u.washington.edu.

Transition Metals in Polymers and Polymerization (co-sponsored PMSE)

Christopher Gorman, Box 8204 Department of Chemistry, North Carolina State Univ., Raleigh, NC 27695-8204, (919) 515-4252, fax (909) 515-8920, chris_gorman@ncsu.edu; G. Alan Vaughan, Exxon Chemical Co., Baytown Polymers Center, 5200 Bayway Dr., Baytown, TX 77522, (281)834-2742; fax (281)834-1387; vaughan@c-com.net.

Synthetic Macromolecules with Higher Structural Order

Ishrat M. Khan, Department of Chemistry, Clark Atlanta University, James P. Brawley Dr. at Fair St., SW, Atlanta, GA 30314, (404) 880-6847; fax (404) 880 6849, ikhana@cau.edu; Kevin Belfield, Dept. of Chemistry, U of Central Florida, PO Box 162366, Orlando, FL 32816-2366; (407)823-1028; kbelfiel@mail.ucf.edu.

Polymer Processing in Microgravity

John A. Pojman, Dept. of Chemistry and Biochemistry, U of Southern Mississippi, Hattiesburg, MS 39406-5043, (601) 266-5035, fax (601) 266-6075, john@pojman.com; J. Patton Downey, Space Science Lab, ES75, NASA, Marshall Space Flight Center, AL 35812, (205) 544-6432, fax (205) 544-2102, Patton.Downey@msfc.nasa.gov, http://www.chem.st.usm.edu/japgroup/mg/poly_mg.html.

Hybrid Organic-Inorganic Polymers

Barry L. Farmer, Air Force Research Laboratory, AFRL/MLBP, 2941 P. St, Suite 1, Wright-Patterson AFB, OH, 54533-7750, (937)255-9209, fax (937)255-9157, barry.farmer@afrl.af.mil; L. Interrante, Dept. of Chemistry, Rensselaer Polytechnic Institute, Troy, NY 12180, (518) 276-2644, fax (518) 276-2636, INTERL@RPI.EDU.

Light Emitting, Light Harvesting and Light Responding Organic Systems

Fotis Papadimitrakopoulos, Dept. of Chemistry, Inst. of Materials Science U-136, U. of Connecticut, Storrs, CT 06269-3136; (860) 486-3447, fax (860) 486-4745, papadim@mail.ims.uconn.edu; Bing R. Hsieh, Xerox Corp., Webster Research Center, 114-39D, Webster, NY 14580, (716) 422-9666, fax (716)-422-1035, Bing_Hsieh@wb.xerox.com; Aaron W. Harper, Dept. of Chemistry, Texas A&M Univ., College Station, TX 77843-3255; (409)862-1295; fax (409)845-4719; harper@mail.chem.tamu.edu; Zhenan Bao, Bell Laboratories, Lucent Technologies, 600 Mountain Ave., Room 1A-261, Murray Hill, NJ 07974; (908)582-4716; fax (908)582-4868; zbao@lucent.com.

Polymer Gels

Paul Dubin, IUPUI, Dept. of Chemistry, 420 N. Blackford St., Indianapolis, IN 46202; (317)274-6879; fax (317)274-4701, dubin@chem.iupui.edu; Y. Osada, Hokkaido Univ, osada@indy.polymer.hokudai.ac.jp.

Structure, Dynamics, and Organization of Polymers in the Solid State by Magnetic Resonance (PMSE)

Jeffery L. White, Exxon Chemical Co., Baytown Polymers Center, 5200 Bayway Dr., Baytown, TX 77520-5200, (281) 834-5022, fax (281) 834-2395, jeffery.l.white@c.chemical.exxon.sprint.com; Peter A. Mirau, Bell Laboratories, Lucent

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Technologies, Rm. IT-206, Murray Hill, NJ 07974, (908) 582-5841, fax (908) 582-3609, mirau@bell-labs.com; <http://www.bell-labs.com/topic/conferences/ACS2000/>.

Frontiers in Polymer Science for the 21st Century (MACR)

S. R. Turner, Eastman Chemical, Research Laboratories, Kingsport, TN.

P. J. Flory Award in Polymer Education

General Papers

DIVISION OF POLYMER CHEMISTRY

Final Program, 219th National Meeting

K. Havelka, *Program Chair*

W. Ford, *Program Chair*

SUNDAY MORNING

Section A

Unknown Site

Unknown Room

Transition Metals in Polymers and Polymerization

Cosponsored with Division of Inorganic Chemistry, Division of Polymeric Materials: Science & Engineering

G. A. Vaughan, *Organizer*

C. Gorman, *Organizer, Presiding*

8:30 – 1. Tutorial on transition-metal complexes in polymerization. **S. T. Nguyen**

9:00 – 2. Tutorial: An overview of olefin polymerization. **G. A. Vaughan**

9:30 – 3. Tutorial: Nonmetallocene olefin polymerization catalysts. **D. H. McConville**

10:00 – Intermission.

10:15 – 4. Stereoselective ring-opening polymerization of lactide: Synthesis of syndiotactic and heterotactic poly(lactic acid)s. **G. W. Coates**, T. M. Ovitt

10:45 – 5. Use of low-valent metals in polypeptide synthesis. **T. J. Deming**

11:15 – 6. Polymeric metal complexes: A chelation approach to architectural diversity in macromolecular synthesis. **C. L. Fraser**, X. Wu, A. P. Smith, P. S. Corbin

Section B

Unknown Site

Unknown Room

Hybrid Organic-Inorganic Polymers

B. L. Farmer and L. Interrante, *Organizer*

Y. Wei and K. J. Shea, *Presiding*

8:30 – Introductory Remarks.

8:35 – 7. Metal nanoparticle formation in self-assembled polymer system. **L. M. Bronstein**, D. M. Chernyshov, P. M. Valetsky, E. V. Shtykova, M. B. Kozin, G. Goerigk, D. I. Svergun

8:55 – 8. Sol-gel polymerization of alkyl(trialkoxo)silanes: Formation of cage-like silsesquioxane structures. **L. Matejka**, O. Dukh, D. Hlavata, W. J. Simonsick Jr

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9:15 – 9. Silsesquioxane overcoats for organic photoreceptors. **W. T. Ferrar**, D. S. Weiss, J. R. Cowdery, T. D. Binga, J. A. Sinicropi, N. Zumbulyadis

9:35 – 10. Bridged polysilsesquioxanes: A molecular-based approach for the synthesis of functional hybrid materials. **K. J. Shea**, D. A. Loy

9:55 – Intermission.

10:10 – 11. Molecular engineering with bridged polysilsesquioxanes. **D. A. Loy**, K. J. Shea

10:40 – 12. Structural modification of sol-gel materials through retro Diels-Alder reaction. **R. Shaltout**, D. Loy, M. McClain, S. Prabakar, J. Greaves, K. J. Shea

11:00 – 13. Micrometric range order in hybrid organic-inorganic materials. **R. Corriu**, B. Boury, V. Le Strat, F. Ben, P. Delord, M. Nobili

11:30 – 14. Polymethylsilsesquioxanes through base-catalyzed redistribution of oligomethylhydrosiloxanes. **K. Rahimian**, D. A. Loy, R. A. Assink

11:50 – 15. Synthesis of organic-aluminosilicate hybrid gels. **J. W. Frazee**, T. M. Harris

12:10 – 16. Synthesis of polymer-modified mesoporous materials via the nonsurfactant-templated sol-gel process. Q. Feng, J. Xu, H. Dong, **Y. Wei**

Section C

Unknown Site

Unknown Room

Mass Spectral Analysis of Polymers

MALDI Introduction and MALDI in Polymer Chemistry

C. Guttman, *Organizer*

K. Owens, *Organizer, Presiding*

8:30 – Introductory Remarks.

8:35 – 17. Mass spectrometry for polymer characterization. **L. Li**

9:35 – 18. MALDI-TOF mass spectrometry of the products from novel anionic polymerizations. **C. Wesdemiotis**, M. A. Arnould, Y. Lee, R. P. Quirk

10:00 – Intermission.

10:05 – 19. MALDI-TOF mass spectrometry as a tool for studying anionic siloxane ring-opening polymerization. S. K. Pollack, **A. M. Morgan**

10:30 – 20. MALDI-TOF mass spectrometry of polymeric silsesquioxanes. **W. E. Wallace**, C. M. Guttman, J. M. Antonucci

10:55 – 21. MALDI and TOF-SIMS study of the initiating species in the anionic ring-opening polymerization of hexamethylcyclotrisiloxane (D₃). J. A. Gardella, **A. M. Hawkrige**

11:20 – 22. Can MALDI-TOF mass spectrometry be used to determine the efficiency of end-capping reactions on living polystyrene and poly(methylmethacrylate)? **J. T. Goldbach**, M. A. Thiam, D. Rzaev, J. Penelle, T. P. Russell

Section D

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Polymer Synthesis

R. B. Moore, *Organizer*
K. S. Anseth, *Presiding*

8:30 – 23. Anionic polymerization chemistry of 1-butene oxide: Functionalization and block copolymerization. R. P. Quirk, **Q. Ge**

8:50 – 24. Two-photon, up-converted, fluorescence-facilitated photopolymerization. **L. R. Denny**, J. W. Baur, M. D. Alexander Jr, S. M. Kirkpatrick, S. J. Clarson

9:10 – 25. Living anionic ring-opening polymerization of [1]methylphenylsilaferrocenophane: Solution and solid-state morphology of diblock copolymers with amorphous poly(ferrocene) blocks. **K. Temple**, J. A. Massey, Z. Chen, M. D. Foster, I. Manners

9:30 – 26. Synthesis and characterization of PEG-EDTA bidentates as oral drug systems. **R. M. Ottenbrite**, B. Hu

9:50 – 27. Synthesis and characterization of poly(1,3-cyclohexadiene) star-shaped polymers. S. Kara, A. J. Pasquale, **T. E. Long**

10:10 – 28. Synthesis of a linear poly(4-vinylpyridine)-*b*-polybutadiene-*b*-poly(4-vinylpyridine) using a dicarbanion initiator. **R. C-C. Tsiang**, H-J. Li

10:30 – 29. Synthesis of ABA triblock copolymers via a tandem ring-opening metathesis polymerization (ROMP): Atom-transfer radical-polymerization (ATRP) approach. **C. W. Bielawski**, R. H. Grubbs

10:50 – 30. Synthesis of linear poly(tetrafluoroethylene-*co*-vinyl acetate) in supercritical carbon dioxide. **R. D. Lousenberg**, M. S. Shoichet

11:10 – 31. Synthesis of rigid chiral polymer catalysts for the asymmetric Diels-Alder reaction. **Q-S. Hu**, L. Pu

11:30 – 32. Side-chain poly(methacrylate pseudorotaxane)s. **H. W. Gibson**, N. Yamaguchi

Frontiers for Polymer Science in the 21st Century: Industrial Perspective
Cosponsored with Macromolecular Secretariat

Catalysis for the Future

Cosponsored with Catalysis & Surface Science Secretariat

SUNDAY AFTERNOON

Section A

Unknown Site
Unknown Room

Transition Metals in Polymers and Polymerization

Cosponsored with Division of Inorganic Chemistry, Division of Polymeric Materials: Science & Engineering
C. Gorman, *Organizer*

G. A. Vaughan, *Organizer, Presiding*

1:30 – 33. Olefin polymerization by group 4 metal complexes that contain a diamido/donor ligand. **R. R. Schrock**, Y. Schrodi, J. Goodman, A. Casado, P. Bonitatebus, P. Mehrkhodavandi

2:00 – 34. Metallocenes made simple: Rac-H₂C(3-*t*-Bu-1-Ind)₂ZrCl₂: A high-performance, easy-to-make zirconocene catalyst for i-PP. **L. Resconi**, D. Balboni, G. Baruzzi, C. Fiori, S. Guidotti

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2:20 – 35. Development of new organometallic Ziegler-type catalyst systems. **G. Erker**, T. Dreier, D. Kunz, M. Dahlmann, R. Fröhlich

2:50 – 36. Mechanistic aspects of chain propagation and transfer for metallocene-catalyzed olefin polymerization. **J. E. Bercaw**, P. J. Chirik

3:20 – Intermission.

3:40 – 37. *E-Z* selectivity and growing chain isomerization reactions in 2-butene/ethene copolymerization by group 4 metallocenes. **L. Cavallo**, P. Corradini, F. Grisi, P. Longo, G. Guerra

4:00 – 38. Synthesis of heteroatom end-functionalized polyethene with lanthanide and transition-metal catalysts. **B. Hessen**, S. N. Ringelberg, G.-J. Meppelder, J. H. Teuben

4:30 – 39. Polyolefins: New catalysts and new functional monomers. **B. M. Novak**, J. Xin, H. Tanaka

Section B

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Hybrid Organic-Inorganic Polymers

L. Interrante, *Organizer*

B. L. Farmer, *Organizer, Presiding*

F. J. Feher, *Presiding*

1:30 – 40. Application of hyperbranched polyesters as templating agents for producing nanoporous organosilicates. **D. Mecerreyes**, J. L. Hedrick, C. J. Hawker, E. Huang, T. Malbitang, W. Volksen, R. D. Miller, V. Lee

1:50 – 41. Organic-inorganic hybrid from ionomer. N. Roy Choudhury, Y. Gao, **J. G. Matison**

2:10 – 42. Synthesis of a PMMA-layered silicate nanocomposite by suspension polymerization. **X. Huang**, W. J. Brittain

2:30 – 43. Characterization of a series of glassy epoxy-silicate nanocomposites. **D. B. Curliss**

2:50 – 44. Organic-inorganic nanocomposites with completely defined interfacial interactions from cubic silsesquioxanes. **R. M. Laine**, J. Choi, R. O. R. Costa, N. L. Dias Filho

3:20 – Intermission.

3:30 – 45. Hybrid materials from epoxide-substituted POSS frameworks. **F. J. Feher**, S. Luecke, J. J. Schwab, J. D. Lichtenhan, S. H. Phillips, A. Lee

3:50 – 46. Commercialization, properties, and applications for nanostructured hybrid-POSS chemical feedstock technology. **J. D. Lichtenhan**, J. J. Schwab

4:20 – 47. Strain recovery in POSS-hybrid thermoplastics. **P. T. Mather**, H. G. Jeon, T. S. Haddad

4:50 – 48. Molecular dynamics simulation of norbornene-POSS polymers. **R. K. Bharadwaj**, R. J. Berry, B. L. Farmer

Section C

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Mass Spectral Analysis of Polymers
MS Characterization of Copolymers

C. M. Guttman and K. G. Owens, *Organizer*
G. Montaudo and S. M. Weidner, *Presiding*
1:30 – Introductory Remarks. **C. Guttman.**

1:35 – 49. Characterization of polyether polyurethane soft-blocks using MALDI mass spectrometry. **D. M. Hercules**, J. T. Mehl, R. Murgasova, X. Dong, H. Nefzger

2:00 – 50. Generation of structural information from polymers and copolymers using tandem mass spectrometry. **A. T. Jackson**, J. H. Scrivens, W. J. Simonsick Jr, M. R. Green, R. H. Bateman

2:25 – 51. Sequencing of polymers by mass spectrometry. A. E. Giannakopoulos, A. R. Bottrill, K. S. Lee, **P. J. Derrick**

2:50 – 52. Properties of diblock copolymers as determined by MALDI-TOF mass spectrometry. G. Wilczek-Vera, Y. Yu, K. Wadell, P. Danis, **A. Eisenberg**

3:15 – Intermission.

3:19 – MALDI Fundamentals.

3:20 – 53. Response saturation of polystyrene in MALDI. **R. J. Goldschmidt**, C. M. Guttman

3:45 – 54. Sample preparation issues in the analysis of synthetic polymers by MALDI-TOF MS. **K. G. Owens**

4:10 – 55. MALDI-TOF analysis of polystyrenes. **B. Guo**, H. Rashidzadeh, Y. Wang

4:35 – 56. Chemical characterization of oligomers by MALDI-TOF MS. **L. Zhu**, D. Saucy, B. Lange

Section D

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Polymer Characterization

R. B. Moore, *Organizer*
J. S. Kim, *Presiding*

1:30 – 57. Application of integral constitutive equations to describe the nonlinear rheological behavior of flour suspensions. **C. J. Carriere**, G. E. Inglett

1:50 – 58. Modified polysulfides: Their preparation, characterization, photoactivity, and potential applications. **M. Caddy**, T. J. Kemp

2:10 – 59. Nanocolorants: Pigments with dyestuff properties. **T. Clemens**, A. J. Boehm, S. Kielhorn-Bayer, P. Rossmannith

2:30 – 60. $^1\text{H}/^{13}\text{C}/^{119}\text{Sn}$ triple-resonance 3-D NMR of tin-containing polybutadiene. **W. Liu**, P. L. Rinaldi, A. Halasa, J. Visintainer, R. Hirst

2:50 – 61. Direct comparison of SANS and DET for polymer diffusion during polystyrene latex-film formation. S. D. Kim, E. M. Boczar, B. J. Bauer, A. Klein, **L. H. Sperling**

3:10 – 62. Poly(ethylene-*co*-1-octene) studies by high-temperature PFG HMQC and HMBC NMR at 750 MHz. **W. Liu**, P. L. Rinaldi, L. H. McIntosh, R. P. Quirk

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3:30 – 63. Poly(phenyleneethynylene) K⁺ chemosensor: Detection via intermolecular aggregation. **J. Kim**, D. T. McQuade, S. K. McHugh, T. M. Swager

3:50 – 64. Behavior of a bisphenol a-based polybenzoxazine exposed to ultraviolet radiation. H. Ishida, **J. A. Macko**

4:10 – 65. Dielectric spectra of polarization in conducting polymer thin films. **J. Texter**, D. J. Savage, B. K. Brady

4:30 – 66. Surface-metallized BPDA/ODA polyimide films via in situ thermal reduction of silver(I) β -diketonate complexes. **R. Southward**, C. Dean, D. Stoakley, D. Thompson, C. Chisholm-Brause

Structure, Dynamics, and Organization of Polymers in the Solid-State by Magnetic Resonance
Amorphous Polymers

Cosponsored with Division of Polymeric Materials: Science & Engineering

Catalysis for the Future

Cosponsored with Catalysis & Surface Science Secretariat

Frontiers for Polymer Science in the 21st Century

Academic Perspective

Cosponsored with Macromolecular Secretariat

SUNDAY EVENING

Section A

Unknown Site

Unknown Room

Poster Session

R. B. Moore, *Organizer, Presiding*

5:30 - 7:30

Polymer Synthesis.

67. Structures and smart properties of antigen-responsive hydrogels. **T. Miyata**, N. Asami, T. Urugami

68. Synthesis and characterization of soluble cardo polyimides based on various new cardo diamines. **D-J. Liaw**, B-Y. Liaw

69. Novel bifunctional initiator for anionic vinyl polymerizations. **K. A. Alberty**, T. E. Hogen-Esch

70. New cross-linkable polyphenol from renewable resource. **R. Ikeda**, H. Tanaka, H. Uyama, S. Kobayashi

71. Synthesis of well-defined long-chain-branched polyolefins. **W. Wiyatno**, P. A. Fox, R. M. Waymouth, G. G. Fuller, C. J. Hawker

72. Use of benzyl acetates as latent initiators for graft polymerizations using atom-transfer radical polymerization (ATRP). T. E. Patten, **E. M. Doerfler**

73. "Core shell" hyperbranched polymers for molecular imprinting. G. Maier, **T. Griebel**

74. Aluminum alkyl complexes mediated olefin polymerizations. **Z. Wu**, X. Bi, D. Wang

75. Diversity in polyguanidines: The synthesis and stiffness of helical polymers with liquid-crystalline and

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ionic side-chains. **J. Kim**, A. R. Lim, B. M. Novak

76. Effect of coligand on regioselectivity of poly(1,4-benzophenone) in Ni(0)-coupling polymerization. R. P. Quirk, **W. Yu**

77. Free-radical polymerization of 2-[(*N,N*-dialkylamino)methyl]-1,3-butadienes. V. V. Sheares, **L. Wu**, A. K. Mohanty

78. Synthesis of bis(4'-hydroxyphenyl)-tolylene-2,4-diurea for main-chain thermotropic liquid-crystalline poly(urea-esters)s. Z. Du, Q. Zhou, **D. Liu**

79. Studies on syntheses and characterization of hyperbranched multimethacrylates and their potential applications. Q. Wan, **S. R. Schrick**, B. M. Culbertson

80. Synthesis and characterization of aromatic benzoxazole containing allylether pendent groups. **T. D. Dang**, L. S. Hudson, W. A. Feld, F. E. Arnold

81. Synthesis and characterization of organo-soluble, cardo polyimides for low birefringent films. **B. Li**, L. A. Prexta, Z. Shen, S. Z. D. Cheng, F. W. Harris

82. Synthesis of polypyrrole-graft-polycaprolactone copolymers: New conductive nanocomposites. **D. Mecerreyes**, J. Pomposo, M. Bemgoetxea, H. Grande, C. Nguyen

83. Synthesis of self-cross-linking poly(*p*-phenylene)s. **P. D. Bloom**, V. V. Sheares

84. Novel way to synthesize crystalline poly(aryl ether sulfone). **T. Ben**, C. Chen, Y. Zheng, X. Liu, W. Zhang, Z. Jiang, Z. Wu

85. Stereoselectivity in ring-opening polymerization of racemic compounds using chiral tridentate Schiff base-metal complexes. **T. Satoh**, B. M. Novak

86. Synthesis and adhesion properties of rosinamideimide modified with poly(arylfluorosiloxane). **D. W. Kang**, Y. M. Kim

87. Synthesis of poly(ethylene oxide)-poly(bicyclic acetal)-block copolymers by cationic ring-opening polymerization. T. E. Patten, **C. Troeltzsch**

88. 2,6- and 2,7-Anthracene dicarboxylic acids as new comonomers for PET. **G. S. Andrade**, R. M. Kriegel, J. R. Jones, D. M. Collard, C. L. Liotta, D. A. Schiraldi

89. "Penultimate" initiator for living free-radical polymerization. **W. G. Skene**, J. C. Scaiano, G. P. A. Yap

90. Fast, thermally curing, naphthyl-ethynyl imide. **D. A. Schorzman**, M. E. Wright

91. Green, one-pot preparative-scale route to the biphenyldicarboxylic acids, and the synthesis and thermomechanical properties of copolyesters based on these monomers. **D. A. Schiraldi**, D. M. Brown, R. S. Clary, C. D. Lee, W. G. Monroe IV, D. A. Vaughn, R. T. Ragheb, J. W. Erter III

92. Novel self-initiating keto(meth)acrylate monomer for improved dental composites. **F. Gao**, B. M. Culbertson, S. R. Schrick

93. QSPR approach to free-radical copolymer reactivity ratios. **G. A. Sessum**, S. B. Allin

94. Alkylolithium-initiated copolymerization of styrene and butadiene: Alkali-metal alkoxide effects. R. P. Quirk, Y. Lee, **J-P. Zhou**

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95. Amphiphilic poly(phenylacetylenes) with crown-ether pendants: Synthesis and their applications in crystal engineering. **K. K-L. Cheuk**, J. W-Y. Lam, J. A. K. Cha, B. Z. Tang
96. Anionic and cationic ring-opening polymerization of 1,1-bis(1*H*,1*H*,2*H*,2*H*-perfluorooctyl)-3,3,5,5-tetramethylcyclotrisiloxane. **J. K. Paulasaari**, W. P. Weber
97. Anionic polymerization of 2-vinylnaphthalene. **G. G. Nossarev**, T. E. Hogen-Esch
98. Copolymers and block-copolymers of cyclic ethers and carbon dioxide. **T. Sarbu**, T. J. Styranec, E. J. Beckman
99. Cross-linkable composite polymer electrolytes: Ionic conductivity and polymerization behavior using methacrylate monomers. **M. K. Stowe**, J. Hou, G. L. Baker
100. Cyclization in the synthesis of hyperbranched polymers. **C. Drohmann**, M. Möller
101. Dendrimer-based chemically amplified resist materials. **D. C. Tully**, A. R. Trimble, J. M. J. Fréchet
102. Facile preparations of carboxy-end-capped polyethylene oxides. **T. L. Vigo**, N. (. D. Sachivala, O. A. Hamed
103. Facile synthesis of dextran by cationic ring-opening polymerization of 1,6-anhydro-2,3,4-tri-*O*-allyl- β -D-glucopyranose. **A. Kusuno**, T. Kakuchi, M. Miura, H. Kaga
104. Free-radical polymerization of 2,3-bis(cyanopropyl)-1,3-butadiene. V. V. Sheares, **M. K. Rath**, K. B. Arvidson
105. Free-radical polymerization of 2-(2-hydroxy-2-phenylpropyl)-1,3-butadiene. V. V. Sheares, **K. B. Arvidson**
106. Functionalized polymers with 1,3-dienyl or -styryl groups by anionic-living polymerization. **A. Hirao, N. Haraguchi**, K. Sugiyama
107. Hydrophilic aliphatic polyesters: Design, synthesis, and ring-opening polymerization of functional cyclic esters. **M. Trollsas**, V. Lee, D. Mecerreyes, P. Löwenhielm, M. Möller, R. Miller, J. Hedrick
108. Hyperbranched multimethacrylates: Their application in dental-resin systems. **Q. Wan**, S. R. Schrickler, B. M. Culbertson
109. Hyperbranched polyphenylquinoxalines (PPQs) from self-polymerizable AB, AB₂, and A₂B monomers. **J-B. Baek**, F. W. Harris
110. Hyperbranched polysiloxane via base-catalyzed proton-transfer polymerization (PTP) of 1-hydroxypentamethylcyclotrisiloxane. **J. K. Paulasaari**, W. P. Weber
111. Oxidative polymerization of 2,5-dimethylphenol by tyrosinase-model complex. **S. Namekawa**, H. Higashimura, M. Kubota, A. Shiga, K. Fujisawa, Y. Moro-oka, H. Uyama, S. Kobayashi
112. Photoinduced TEMPO release from a living free-radical polymerization initiator. **W. G. Skene**, J. C. Scaiano
113. Poly(ferrocenylsilanes): Novel organometallic plastics. **K. Kulbaba, R. Resendes**, I. Manners
114. Selective surface modification of orthogonally protected aliphatic polyether dendrons. **S. M. Grayson**, M.

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Jayaraman, J. M. J. Fréchet

115. Study of synthesizing poly(diphenylsilylenemethylene) thin films by aid of an experimental design. F. Rossignol, H. Nagai, Y. Nakata, N. Kushibiki, **M. Suzuki**
116. Superbase-catalyzed proton-transfer polymerization of 1-(hydroxydimethylsiloxy)pentamethylcyclotrisiloxane. **J. K. Paulasaari**, W. P. Weber
117. Syntheses of dyeable additives for acid-dyeable polypropylene fiber. **L. Zheng, Y. Shi**, C. Xu
118. Synthesis and characterization of head-to-tail polyazomethines. **M. Jeffries-El**, B. D. Benneyworth, R. M. Tarkka
119. Synthesis and characterization of polyimides prepared via a Diels-Alder reaction between bisisobenzofurans and bisacetylenes. **K. A. Watson**, R. G. Bass
120. Synthesis and characterization of strictly alternating, regioregular copolymers of 3-alkylthiophenes and 3-semifluoroalkylthiophenes. **D. M. Collard**, X. M. Hong
121. Synthesis and characterization of sulfonated poly(arylene ether)s based on phosphine oxide for fuel-cell applications. **H. K. Shobha**, G. E. Smalley, M. Sankarapandian, J. E. McGrath
122. Synthesis and characterization of sulfonated polyimides. **N. Gunduz**, J. E. McGrath
123. Synthesis and kinetic study of polylactide copolymers. **C. Wang**, M. Yin, G. L. Baker
124. Synthesis and light-scattering study of poly(*tert*-butyl methacrylate)-*b*-poly(1,1-dihydroperfluorooctyl methacrylate) in supercritical carbon dioxide: Toward the reversible control of self-assembly. **E. Yoshida**, S. L. Wells, J. M. DeSimone
125. Synthesis and polymerization of a [2]catenane with huge, flexible rings. **A. Godt**, Ö. Ünsal, D. Song
126. Synthesis and polymerization of methylene-bridged bis(2-thienyl)benzene. **X. M. Hong**, D. M. Collard
127. Synthesis of electroluminescent polybinaphthyls. S. R. Wyatt, **L. Pu**
128. Synthesis of new fluorinated dianhydride. **K. Y. Song**, J. A. Moore
129. Synthesis of nonsurfactant-based hybrid mesoporous sol-gel materials. **H. Dong, J. Xu**, K. Qiu, S. A. Jansen-Varnum, Y. Wei
130. Synthesis of polyimides with center-anchored nonlinear-optical chromophores. **Z. Peng**, B. Xu
131. Synthesis of telechelic and block polyphosphazenes. **R. Prange**, H. R. Allcock
132. Synthesis, characterization, and polymerization of AB_x triarylphosphine-oxide monomers. **E. Fossum**, B. Kopan, E. Olson, M. Grapenthien
133. Synthesis of fluorine-containing diblock copolymers and their properties. **Y. Li Sr**, W. Zhang Sr, Z. Yu, J. Huang
134. Triphenylmethyltrimethylsilane/tetramethylammonium fluoride as a metal-free anionic polymerization-initiating system. G. K. S. Prakash, J. Hu, G. A. Olah, **W. N. Warner**, T. E. Hogen-Esch
135. Use of oxyanion-initiated polymerization for the synthesis of amine methacrylate-based homopolymers

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and block copolymers. M. V. de Paz Báñez, **K. L. Robinson**, S. P. Armes

136. Water as a polymerization solvent-cyclization of polyimides: Le Chatelier confounded?. **J. H. Hodgkin**, T. C. Morton

137. Water as a reaction medium for nickel(II)-catalyzed ethylene polymerization. **S. Mecking**, F. M. Bauers

138. Zirconium-pendent poly(amic acid) and polyimide based on 3,4'-ODA and -ODPA. **K. Yang**, M. Illingsworth

139. Enzymatic synthesis of predominantly syndiotactic poly(methyl methacrylate). **B. Kalra**, R. A. Gross

140. Lipase-catalyzed polyester synthesis: Large enhancements in polymerization kinetics and polymer molecular weight. **A. Kumar**, R. A. Gross

141. Aromatic benzobisazole polymers based on 1*H*-pyrazole-3,5-diyl moiety. T. D. Dang, **N. Venkatasubramanian**, F. E. Arnold

142. Betaine compounds and copolymers containing silane groups for surface-grafting applications. **E. J. Lobb**, S. P. Armes, N. C. Billingham

143. Chemoselective polyamidation. **T. Hayakawa**, T. Morishita, **M. Okazaki**, M. Ueda, K. Takeuchi, M. Asai

144. Control of structure and molecular weight of polyphenols in enzymatic-oxidative polymerization. **N. Mita**, T. Oguchi, S-I. Tawaki, H. Uyama, S. Kobayashi

145. High-temperature PMR-type polyimides with star-branched structure: Synthesis and characterization. **B. N. Nguyen**, R. K. Eby, M. A. Meador

146. Kinetics and reactivities in radical copolymerization of maleic anhydride and norbornenes. **H. Ito**, D. Miller, N. Sveum, M. Sherwood

147. Metallosupramolecular-fullerene assemblies and polymers. **U. S. Schubert**, C. H. Weidl, A. Cattani, C. Eschbaumer, G. R. Newkome, E. He, E. Harth, K. Müllen

148. One-pot synthesis of dendritic polyamide 3. **T. Hayakawa**, Y. Yamakawa, M. Nomura, M. Okazaki, K. Takeuchi, M. Asai, M. Ueda

149. Synthesis and modeling of benzimidazoles for *n*-doped polymers. **M. D. McClain**, D. S. Dudis

150. Synthesis and theory of *N*-methylated poly(*p*-phenylene benzobisthiazole) (PBZT) as an *n*-dopable-conducting polymer. **D. S. Dudis**, B. R. McKellar

151. Synthesis of sulfonated poly(arylene ether sulfone)s via direct polymerization. **F. Wang**, Q. Ji, W. Harrison, J. Mecham, J. E. McGrath, R. Formato, R. Kovar

152. Synthesis of well-defined polystyrenes with a definite number of monosaccharide residues at chain ends or within chains. **S. Loykulant**, M. Hayashi, A. Hirao

153. Thiophene-substituted cyclophanes: Monomers for new π -conjugated/ π -stacked polymers and models for interchain interactions in conjugated polymers. D. M. Collard, **B. Lee**

154. Toward environmentally stable *n*-dopable-conducting benzazole polymers: *N*-Methylation of poly(2,5-pyridyl benzobisthiazole) and model compound studies. **B. R. McKellar**, D. S. Dudis, B. Sankaran, M. D. Alexander, L-S. Tan

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155. Ultrasonic depolymerization of hyaluronate. **T. Miyazaki**, C. Yomota, S. Okada
156. Synthesis of a soluble diacetylene derivative with imidazole ring. **C. Wang**, J. Wang, C. Cao, Y. Cao, J. Yao
157. Synthesis and characterization of sulfonated liquid-crystalline polyesters. Q. Lin, **T. E. Long**

Section B

Unknown Site
Unknown Room

Polymer Characterization

R. B. Moore, *Organizer, Presiding*

5:30 - 7:30

158. Neutron-scattering investigations on filled polymer gels. **F. Horkay**, A-M. Hecht, E. Geissler
159. Adhesive properties of aminopropyltriethoxysilane-modified poly(ethylene naphthalate) film. **B. Hu**, R. M. Ottenbrite, J. A. Siddiqui
160. Solid supports for carbon dioxide applications. **S. A. Cr  tt  **, J. D. Polley, J. M. DeSimone, R. G. Carbonell
161. Thermodynamic properties of solutions of cyclic polymethylene ester oligomers in *p*-dioxane and chloroform. **J. Leonard**, R. Xu, V. T. Bui
162. Dendrimer-like star polymers: Amplification of dendrimer properties, structural conformation, and hydrodynamic volume. M. Trollsas, H. Claesson, **J. L. Hedrick**, J. Pople, A. Gast
163. Antifungal effect of carbendazim supported on poly(ethylene-co-vinyl alcohol). J-S. Yoon, H-J. Lee, **E. S. Park**, H. Y. Park, **M-N. Kim**, K-H. Chung
164. Melting behavior of poly(ether diphenyl ether ketone ketone). H. Zhou, C. Chen, Z. Jiang, **Z. Wu**, W. Zhang, Y. Chen, D. Yang
165. Microfabricated molecularly imprinted polymers. M. Yan, **A. A. Kapua**
166. Surface modification of poly(ethylene naphthalate) film. B. Hu, **R. M. Ottenbrite**, J. A. Siddiqui
167. Study on morphology development in extruded poly(ethylene terephthalate)/poly(ethylene-2,6-naphthalate) blend. H. J. Bang, J. K. Lee, **K. H. Lee**
168. Novel *N*-halamine polymeric biocides: Synthesis and antibacterial activity of hydantoin-containing polymers. **Y. Sun**, G. Sun
169. Formation of spherulites of wild-silk fibroin. **T. Tanaka**, J. Magoshi, Y. Magoshi, S-I. Inoue, M. A. Becker, S. Nakamura
170. Physical properties and morphology of directly cast block copolymer ionomer composites. **D. Mountz**, N. B. Tan, R. F. Storey, K. A. Mauritz
171. Properties of monodisperse phenyl-capped oligoanilines after being doped. **J. Gao**, K. Li, Y. Yu, C. Wang, Y. Ji, Z. Wu, W. Zhang
172. Role of acrylic resin in the conservation of deteriorated khondalite stones. **A. K. Banthia**, A. P. Gupta
173. Triangular code of interactions by hydrogen bonds. D. Gurel, **O. Gurel**

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- 174.** Complex formation of β -cyclodextrin in aqueous media with poly(*N,N*-dimethylacrylamide) containing pendent perfluorooctanesulfonamido groups. **S. J. Tomczak**, T. E. Hogen-Esch
- 175.** Approaches to new endcaps for addition polyimides for improved oxidation resistance. **M. A. B. Meador**, A. A. Frimer
- 176.** Characterization of polyethylene copolymers by coupled GPC/FTIR combination. **V. J. Dhenin**, L. J. Rose
- 177.** Characterization of water diffusion in polyimide films using UV-vis reflection spectroscopy. **M. D. Weir**, C. S. P. Sung
- 178.** Chiroptical properties of poly(phenylacetylene)s: Experimental observation and theoretical calculation. **J. W. Y. Lam**, L. Y. Ngai, T. W. H. Poon, Z. Lin, B. Z. Tang
- 179.** Clustering in poly(methyl acrylate) ionomers. **J-S. Kim**, Y. H. Nah
- 180.** CocrySTALLIZATION behavior of poly(butylene terephthalate-*co*-butylene-2,6-naphthalate) random copolymers. **Y. G. Jeong**, W. H. Jo, S. C. Lee
- 181.** Controlled mechanical properties of alginate hydrogels by cross-linking with poly(ethylene glycol)-diamines. P. Eiselt, **K. Y. Lee**, D. J. Mooney
- 182.** Decoupling the degradation behavior and mechanical properties of covalently cross-linked hydrogels. **K. Y. Lee**, K. H. Bouhadir, D. J. Mooney
- 183.** Effect of chain architecture of graft copolymer on the structure of adsorbed layer: A Monte Carlo simulation approach. W. H. Jo, **K. H. Kim**, S. S. Jang
- 184.** Effect of degradation on polymer-induced turbulent drag reduction. **H. J. Choi**, C. A. Kim, S. J. Vinay, M. S. Jhon
- 185.** Evaluation of phase-cycling and pulsed-field gradient techniques for detection of minor structures in polymers. **P. L. Rinaldi**, W. Liu, T. Saito
- 186.** Formation of Surlyn®/titanate nanocomposite materials through polymer in situ sol-gel reactions. P. R. Start, **K. A. Mauritz**
- 187.** Influential factors in the formulation of low-sheen aircraft coatings. **J. A. Johnson**, P. G. Bierwagen
- 188.** Ionic conductivities of poly(siloxane) polymer electrolytes with varying length of linear ethoxy side chains, different molecular weights, and mixed copolymers. **M. K. Mapes**, **D. Schumacher**, L. J. Lyons, D. Moline, R. Hooper, R. West
- 189.** Jeffamine™-epoxy-toughened unsaturated-polyester interpenetrating networks. Z. G. Shaker, R. M. Browne, **M. T. Blanda**
- 190.** LCB polymer chain dimensions: Application of topology to the Zimm-Stockmayer model. **D. Bonchev**, E. J. Markel, A. H. Dekmezian
- 191.** Mesomorphic complexes of branched poly(ethyleneimine) and sodium lauryl sulfate. **G. B. Kharas**, P. T. Kasudia, P. J. Schreiber, J. R. Heiskell, R. M. Schueller, P. T. Romanowski
- 192.** Molecular structure of the amine-quinone model compound, 2,4-bis(dimethylamino)-1,4-benzoquinone. **E. Blair**, J. A. Nikles, D. E. Nikles, L. M. Rogers, R. D. Rogers, D. Stabler, S. C. Street

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- 193.** Morphological studies of elastomeric stereoblock polypropylene. **R. L. Kravchenko**, B. B. Sauer, R. S. McLean, M. Y. Keating, P. M. Cotts, Y. H. Kim
- 194.** Morphology of nanoscale block copolymer films: A study by AFM and X-ray reflectivity. **A. E. Ribbe**, K. Matsushige
- 195.** Nanometer-scaled dendritic dumbbells: Synthesis and electrochemistry. L. L. Miller, **J. S. Schlechte**
- 196.** Patterning of hyperbranched resist materials by electron-beam lithography. **A. R. Trimble**, D. C. Tully, J. M. J. Fréchet, D. R. Medeiros, M. Angelopoulos
- 197.** pH-Dependent electrochemical studies of water-dispersible lignosulfonic acid-doped polyaniline. **B. C. Berry**, A. Shaikh, T. Viswanathan
- 198.** Polymer additives for reduced erosion by atomic oxygen. **R. L. Kiefer**, J. L. Weisman, R. A. Orwoll, S. A. Thibeault
- 199.** Prediction of the electronic properties of polymers using artificial neural networks. **K. K. Taylor, J. A. Darsey**
- 200.** Relaxation and motion of hyperbranched poly(ether ketone)s with reference to their linear counterpart: Effect of degrees of branching. **S-Y. Kwak, H-Y. Lee**
- 201.** Rheological details and melt processability of hyperbranched poly(ether ketone)s with various degrees of branching. **S-Y. Kwak, D. U. Ahn**
- 202.** Role of conformation entropy determining the phase transition of polymeric systems-computer simulation of *n*-undecane and comparison with experimental PVT data. **A. Abe**, T. Takeda, T. Hiejima, H. Furuya
- 203.** Second-order NLO property study of main-chain oligomers and polymer. **D. Huang**, C. Zhang, L. R. Dalton, W. P. Weber
- 204.** Self-assembly in peptide-dye complexes: Investigation of aggregation behavior of lys₁₆ and congo red. **T. M. Cooper**, A. Hughes
- 205.** Self-diffusion of poly(ethylene glycol) and its derivatives in selected hydrophilic polymers as studied by pulsed-gradient NMR spectroscopy. **L. Masaro**, X. X. Zhu
- 206.** Stability study of a novel lignosulfonic acid-doped polyaniline. W. Li, B. Berry, T. Viswanathan, **W. Zhao**
- 207.** Surface characterization of fluorinated oxetane polyol-modified polyurethane block copolymers. **Q. Ji**, H. Kang, J. Wang, S. Wang, T. Glass, J. E. McGrath
- 208.** Effect of fluorinated acrylate monomer on the performance of holographic PDLCs. M. D. Schulte, S. J. Clarson, **L. V. Natarajan**, V. P. Tondiglia, D. W. Tomlin, T. J. Bunning
- 209.** Visible light-curable *N*-methacryloyl glutamic acid-modified polyelectrolytes for use in dental applications. **M. H. Dotrong**, B. M. Culbertson
- 210.** Theoretical study of vibrational spectroscopy of segmented poly(etherurethanes). M. Gordeslioglu, **I. Yilgor, E. Yurtsever**
- 211.** Adsorption of perfluoropolyether hard disk lubricant molecules from solution. **L. E. Bailey**, C. W. Frank

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- 212.** Conformation and entanglement of some polyestercarbonates. J. Y. Jho, **S. S. Min**, C. S. Lee
- 213.** Designing air and water stable *n*-doped polymers and model compounds: Molecular modeling and experimental results. **M. D. Alexander**, D. S. Dudis, B. R. McKellar
- 214.** Effects of polymer viscosity on lithographically induced self-assembly of periodic microstructures. **L. Chen**, L. Zhuang, X. Sun, P. Deshpande, S. Y. Chou
- 215.** ESR analysis of photoinduced radicals in polyurethane clearcoats. **Y. He**, Y. C. Jean, T. C. Sandreczki
- 216.** Modification of polymeric surfaces with plasma and ion implantation. **Y. Lee**, S. Han, H. Lim, M. Suh, Y-H. Nah, J-S. Kim
- 217.** New negative-type photosensitive poly(phenylene ether): Poly(2-hydroxy-6-methylphenol-co-2,6-dimethylphenol), a cross-linker, and a photoacid generator. **K. Takeshi**, K-I. Okuyama, Y. Ohba, M. Ueda
- 218.** Optical properties of multilayer films prepared by electrostatic layer-by-layer post azo functionalization. **S-H. Lee**, S. Balasubramanian, N. K. Viswanathan, S. Bian, D. Y. Kim, J. Kumar, S. K. Tripathy
- 219.** Optimization of melt processable PMR-type polyimides. **C. A. Gariepy**, M. A. Meador, M. A. B. Meador, R. K. Eby
- 220.** Photochemistry of a side-chain-substituted liquid crystalline polymer having the 4,4'-dialkoxystilbene chromophore. **A. M. Somlai**, D. Creed, F. A. Landis, S. Mahadevan, C. E. Hoyle, A. C. Griffin
- 221.** Rapid determination of molecular weight of polymers using precipitation/redissolution chromatography on a monolithic column. **M. Janco**, D. Sykora, F. Svec, J. M. J. Fréchet
- 222.** Studies on understanding the extent of hydrogen bonding between urethane, urea, and polyether segments: Comparison of experimental results and quantum mechanical calculations. E. Yilgor, B. Metin, M. Gordeslioglu, **I. Yilgor**
- 223.** Synthesis and characterization of the size-controlled micelles based on chitosan amphiphiles. **C. R. Park**, Y. H. Kim, K. Y. Lee, I. C. Kwon
- 224.** Unusual thermal decomposition kinetics of a dihydroperoxide polymerization initiator: Experimental results and theoretical calculations. **I. Yilgor**, E. Yurtsever, B. Baysal, E. Yilgor, E. Onurhan
- 225.** Isotope substitution-NMR study of trioxane/dioxolane copolymerization. **P. A. Dunn**, N-L. Yang, J. A. Grates
- 226.** Polyaniline/novolac lines by photolithography. A. F. Diaz, **K. Jain**, Y-J. R. Luo

MONDAY MORNING

Section A

Unknown Site

Unknown Room

Transition Metals in Polymers and Polymerization

Cosponsored with Division of Inorganic Chemistry, Division of Polymeric Materials: Science & Engineering

G. A. Vaughan, *Organizer*

C. Gorman, *Organizer, Presiding*

2000 Spring meeting

8:30 – 227. Mechanistic studies of olefin polymerizations catalyzed by Pd(II) and Ni(II) diimine complexes. **R. L. Huff**, S. A. Svejda, D. J. Tempel, M. D. Leatherman, L. K. Johnson, **M. Brookhart**

9:00 – 228. High-throughput techniques for the discovery of new olefin polymerization catalysts. **V. Murphy**

9:20 – 229. Advances in iron and cobalt ethylene polymerization systems. **V. C. Gibson**, G. J. P. Britovsek

9:50 – Intermission.

10:10 – 230. Polymerization of olefins with neutral, late metal catalysts. **R. H. Grubbs**, E. F. Connor, T. R. Younkin, J. I. Henderson, D. A. Bansleben

10:40 – 231. Chromium supported on flat silica: Modeling the Phillips ethylene polymerization catalyst. **P. C. Thüne**, J. Loos, P. J. Lemstra, J. W. Niemantsverdriet

11:00 – 232. Developing new commercially viable iron catalysts for ethylene polymerization. **A. M. A. Bennett**, R. S. Schifano

Section B

Unknown Site

Unknown Room

Hybrid Organic-Inorganic Polymers

B. L. Farmer and L. V. Interrante, *Organizer*

U. S. Schubert and Y. Kawakami, *Presiding*

8:30 – 233. Synthesis of alternating polysiloxane copolymers by interfacial polymerization. **S. R. Clarke**, J. G. Matisons

8:50 – 234. Controlled synthesis of poly(carbosiloxane)s. **Y. Kawakami**, Y. Li

9:20 – 235. Synthesis of organic-inorganic hybrid materials using atom-transfer radical polymerization. J. Pyun, P. J. Miller, **K. Matyjaszewski**

9:50 – 236. Synthesis of poly(dimethylsiloxane)-containing polymers by atom-transfer polymerization. **K. Huan**, D. M. Haddleton, E. Khoshdel

10:10 – Intermission.

10:25 – 237. Metal-centered star-shaped polymers via ATRP: Strategies for making metalloinitiators and controlled-radical polymerization compatible. **C. L. Fraser**, R. W. Cutts, R. M. Johnson

10:55 – 238. Functional (block) copolymers with metal-complexing segments. **U. S. Schubert**, C. Eschbaumer

11:15 – 239. Charge-transport properties of poly(ferrocene)s: Novel polymeric semiconductors. **R. Resendes**, A. Berenbaum, I. Manners

11:35 – 240. Synthesis, properties, and applications of new macromolecules based on transition metals or main group elements. **I. Manners**, R. Resendes

Section C

Unknown Site

Unknown Room

Mass Spectral Analysis of Polymers

MALDI and Chromatography

K. G. Owens, *Organizer*

2000 Spring meeting

C. M. Guttman, *Organizer, Presiding*

R. P. Lattimer, *Presiding*

8:30 – Introductory Remarks. **C. Guttman**.

8:35 – 241. SEC/MALDI analysis of poly(bisphenol A carbonate): Self-association due to end-groups. **G. Montaudo**, C. Puglisi, F. Samperi, S. Carroccio

9:00 – 242. Determination of chemical and molecular-weight distributions of heterogeneous polymers by means of MALDI-MS coupled with chromatography. **S. M. Weidner**, J. Falkenhagen, H. Much, R. P. Krüger

9:25 – 243. Chain microstructure of polyesters and polyethers by gel-permeation chromatography coupled to Fourier-transform MS. **W. J. Simonsick**, D. J. Aaserud, W. Zhong

9:50 – 244. Combining size-exclusion chromatography and MALDI-MS for polymer analysis. **J. L. Dwyer**

10:15 – Intermission.

10:20 – 245. Bivariate distribution in PMMA/PBA copolymers by combined SEC/NMR and SEC/MALDI measurements. **M. Montaudo**, G. Montaudo

10:45 – 246. Coupling size-exclusion chromatography with electrospray ionization MS for polymer analysis. **L. Prokai**, **W. J. Simonsick Jr**

11:10 – 247. Copolymer hydroxybutyrate/hydroxyvalerate from saponified vernonia and soybean oils. **K. A. Saeed**, L. Collier, F. O. Ayorinde

11:35 – 248. Study of side reactions in chain-end sulfonation of PS by combining thin-layer chromatography and MALDI-TOF MS. **H. Ji**, W. K. Nonidez, J. W. Mays

Section D

Unknown Site

Unknown Room

Polymer Synthesis

R. B. Moore, *Organizer*

C. A. Guymon, *Presiding*

8:30 – 249. Ultrasonic energy as a means of driving emulsion polymerizations to completion. **M. A. Bahattab**, J. O. Stoffer

8:50 – 250. Practical approach to the living polymerization of commercially important monomers such as 1,3-dienes and acrylamides. **E. Harth**, D. Benoit, B. Helms, C. J. Hawker

9:10 – 251. Copolymerization of 2-cyanomethyl-1,3-butadiene with styrene and acrylonitrile. **Y. Jing**, V. V. Sheares

9:30 – 252. Design of acrylate-lactone difunctional monomer for the design of new materials by controlled polymerizations. **D. Mecerreyes**, J. L. Hedrick, R. D. Miller

9:50 – 253. Initiation behavior of dendritic multi-arm initiators in atom-transfer radical polymerizations. R. D. Miller, **A. Heise**, S. Diamanti

10:10 – 254. Metallocene catalysis as key for modified olefin homo- and copolymers. **M. Arnold**, S. Bornemann, J. Knorr, F. Köller, T. Schimmel

10:30 – 255. Multifunctional orthogonal initiators for the construction of complex macromolecular

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architectures. **M. Möller**, L. S. Lim, J. L. Hedrick

10:50 – 256. Synthesis of poly(pyridinium salts) from novel bis(pyrylium triflates). **G. B. Wayton**, F. W. Harris

11:10 – 257. Investigation of novel PET: 5-Adamantylisophthalic acid copolymers. **L. S. Somlai**, L. J. Mathias, D. A. Schiraldi

11:30 – 258. Synthesis and characterization of melt-processible acrylonitrile acrylate statistical copolymers via free-radical aqueous slurry polymerization. **J. Yang**, A. K. Banthia, D. Godshall, P. Rangarayan, T. E. Glass, G. Wilkes, D. G. Baird, J. E. McGrath

Catalysis for the Future

Cosponsored with Catalysis & Surface Science Secretariat

Frontiers for Polymer Science in the 21st Century

Perspective of Government Funding Agencies and Panel Discussion on the Respective Roles of Industry, Government, and Academia

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Structure, Dynamics, and Organization of Polymers in the Solid-State by Magnetic Resonance Semicrystalline Polymers

Cosponsored with Division of Polymeric Materials: Science & Engineering

Combinatorial Approach to Materials Development

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MONDAY AFTERNOON

Section A

Unknown Site

Unknown Room

Transition Metals in Polymers and Polymerization

Cosponsored with Division of Inorganic Chemistry, Division of Polymeric Materials: Science & Engineering

C. Gorman and G. A. Vaughan, *Organizer*

G. W. Coates, *Presiding*

1:30 – 259. Molecular-imprinting approach to controlling catalyst selectivities. **M. R. Gagne**, N. M. Brunkan, J. J. Becker

2:00 – 260. Alkyne metathesis with simple catalyst systems: An access to novel hydrocarbon architectures. **U. H. F. Bunz**, N. G. Pschirer, G. Brizius, W. Steffen

2:30 – 261. Polymeric complexes with *f*-block salts from the lanthanide series that exhibit extraordinary glass transition temperature enhancement. P. K. Das, I. Ruzmaikina, **L. A. Belfiore**

2:50 – 262. Photoinduced electronic switching in transition-metal-doped, low band-gap polymers. **L. G. Hermans**, W. E. Jones

3:10 – Intermission.

3:30 – 263. Transition-metal-catalyzed atom-transfer radical polymerization. **K. Matyjaszewski**

4:00 – 264. Scope and limitations of atom-transfer radical polymerization in aqueous media. X-S. Wang, **S. P. Armes**

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4:20 – 265. Atom-transfer polymerization using an (ethylene oxide)-based macromonomer, macroinitiator, and solvent. **D. M. Haddleton**, S. Perrier, S. A. F. Bon, C. Waterson, D. Irvine

Section B

Unknown Site
Unknown Room

Hybrid Organic-Inorganic Polymers

B. L. Farmer and L. V. Interrante, *Organizer*

C. W. Allen and C. R. de Denuis, *Presiding*

1:30 – 266. Conformations and electronic structure of peralkylated oligosilanes. H. A. Fogarty, C-H. Ottosson, R. Zink, **J. Michl**

2:00 – 267. Thermochromism of nonionic, polar polysilane (*co*)-polymers in solution: An appraisal of the Schweizer theory of order-disorder transitions of σ -conjugated polymers. **L. W. Jenneskens**, T. J. Cleij, J. K. King

2:30 – 268. π -Conjugated organoboron mainchain polymers. **Y. Chujo**, N. Matsumi

3:00 – 269. Polyalkenyldecaboranes: New polymeric precursors to boron carbide ceramics. **L. G. Sneddon**, M. J. Pender

3:30 – Intermission.

3:40 – 270. New developments in the science and applications of polyphosphazenes. **H. R. Allcock**

4:10 – 271. Differences between initiator/terminator properties of phosphazene materials. **C. R. de Denuis**, H. R. Allcock, R. Prange

4:30 – 272. Preparation and characterization of (fluoroorgano)methylphenyl phosphazene polymers and films. **I. I. Selvaraj**, R. L. Kirchmeier, J. M. Shreeve

4:50 – 273. Redox-active polyphosphazenes and their application as electron-transfer mediators in biosensors. C. N. Myer, **C. W. Allen**

Section C

Unknown Site
Unknown Room

Mass Spectral Analysis of Polymers

MS in Polymer Degradation

C. M. Guttman and K. G. Owens, *Organizer*

R. J. Goldschmidt and W. E. Wallace, *Presiding*

1:30 – Introductory Remarks. **K. Owens**.

1:35 – 274. Mass spectral analysis of low-temperature pyrolysis products from poly(tetrahydrofuran). **R. P. Lattimer**

2:00 – 275. Strategies for polyolefin characterization by mass spectrometry. **M. Johnston**, D. Zoller, F. Cox, K. Qian

2:25 – 276. Thermal decomposition of iminosulfonate polymers. **S. Zheng**, G. Wolber

2:50 – 277. Development of combination methods for industrial polymer analysis combining pyrolysis and separation methods (GPC or HPLC) with MS (MALDI/ESI). **L. Zhu**, H. Yuan, D. Saucy

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3:15 – Intermission.

3:19 – **MALDI and Other MS of Polymers.**

3:20 – 278. Analysis of redox-active polymers by MALDI-TOF MS: Poly(3-hexylthiophene) and functionalized dendrimers. **T. D. McCarley**, C. J. DuBois, R. L. McCarley, C. M. Cardona, A. E. Kaifer

3:45 – 279. MALDI-TOF MS for the analysis of supramolecular assemblies and polymers. **U. S. Schubert**, C. Eschbaumer

4:10 – 280. MALDI-TOF MS and ESI MS characterization of low molecular weight polyols and polyol mixtures. **A. M. Tseng**, L. Li, R. Chen, M. C. Uhing

4:35 – 281. Determination of the molecular-mass distribution of a narrow polydispersity polystyrene by MALDI-TOF MS: Interlaboratory comparison. **C. M. Guttman**, S. J. Wetzel, W. E. Wallace, W. R. Blair, R. M. Goldschmidt, D. VanderHart, B. M. Fanconi

Section D

Unknown Site

Unknown Room

ACS Award in Polymer Chemistry

Honoring Professor Jean M. Fréchet

V. Percec, *Organizer, Presiding*

1:30 – 282. Complex organic synthesis via a combination of living-radical polymerization and TERMINI. **V. Percec**

2:00 – 283. Late metal complexes for the synthesis of functional polymers. **R. H. Grubbs**

2:30 – 284. Polymers and proteins: The best of both?. **D. A. Tirrell**

3:00 – 285. Dendrimers and other nanostructured materials: Lessons learned and applied. **K. L. Wooley**

3:30 – 286. Dissolution of phenolic polymers in aqueous base: A molecular model. **G. C. Willson**

4:00 – 287. Application of combinatorial approaches to living-free-radical polymerizations and the discovery of new materials. **C. J. Hawker**, D. Benoit, E. Harth, R. B. Nielsen, G. Klarner, M. Petro

4:30 – 288. Functional polymers: From solid phases to dendrimers. **J. M. J. Fréchet**

Combinatorial Approach to Materials Development

Cosponsored with Materials Chemistry Secretariat

Frontiers for Polymer Science in the 21st Century

Polymer Physical Chemistry/Characterization/Processing

Cosponsored with Macromolecular Secretariat

Structure, Dynamics, and Organization of Polymers in the Solid-State by Magnetic Resonance

Polymer Melts and Networks

Cosponsored with Division of Polymeric Materials: Science & Engineering

TUESDAY MORNING

Section A

Unknown Site

Unknown Room

2000 Spring meeting

Transition Metals in Polymers and Polymerization

Cosponsored with Division of Inorganic Chemistry, Division of Polymeric Materials: Science & Engineering

C. Gorman and G. A. Vaughan, *Organizer*

T. J. Deming, *Presiding*

8:30 – 289. Polymerization of acetylenes as catalyzed by Pd(II) complexes. **S. T. Nguyen**, K. J. S. Harrell

9:00 – 290. Versatile, zirconocene-coupling pathways to conjugated polymers with a range of tunable properties. **T. D. Tilley**, B. Jiang

9:30 – 291. Palladium-catalyzed synthesis of triarylamine macromolecules. **J. Hartwig**

10:00 – Intermission.

10:20 – 292. Ring-opening metathesis polymerization in emulsion. **J. P. Claverie**, S. Viala, C. Novat, S. Kanagasabapathy

10:40 – 293. Polymerization of methacrylic esters using lanthanoid alkoxide/heterocumulene systems. **H. Sugimoto**, S. Inoue

11:10 – 294. Discrete yttrium catalysts for the controlled polymerization of cyclic esters. **M. A. Hillmyer**, W. B. Tolman, B. M. Chamberlain, K. B. Aubrecht

Section B

Unknown Site

Unknown Room

Hybrid Organic-Inorganic Polymers

B. L. Farmer, *Organizer*

L. V. Interrante, *Organizer, Presiding*

D. H. Son, *Presiding*

8:00 – 295. Templating nanocrystals with dendrimers: A mesoscopic model system. **F. Gröhn**, B. J. Bauer, E. J. Amis

8:20 – 296. Synthesis and properties of poly(siloxanes) with novel architectures. **W. P. Weber**, J. K. Paulasaari, J. R. Sargent

8:50 – 297. Molecular structure-property relationships for electron-transfer-rate attenuation in redox-active core dendrimers. **C. Gorman**

9:10 – 298. Hybrid organic-inorganic gels based on dendrimeric building blocks: High-surface-area xerogels as catalyst supports. J. W. Kriesel, **T. D. Tilley**

9:40 – Intermission.

9:50 – 299. Hyperbranched polycarbosilanes: A versatile class of inorganic polymers. **H. Frey**, C. Schlenk, T. Pusel, C. Lach

10:20 – 300. Synthesis of the first cyano-substituted polycarbosilanes. **L. V. Interrante**, M. Lienhard, C. Wiegand, T. Apple

10:40 – 301. Synthesis and microstructure analysis of poly(dimethylsiloxane-co-1,1,12,12-tetramethyl-13-oxa-1,12-disilatridecanylene). **M. Tapsak**, E. DiDomenico

11:00 – 302. High-refractive-index organic-inorganic hybrid materials prepared from polymerizable titanium/bismuth methacryl ethoxide. **W-F. Su**, H-K. Yuan, C-Y. Tang

2000 Spring meeting

11:20 – 303. Novel synthesis of polyesters containing hexa-(*tert*-butylhydroquinone)cyclotriphosphazene. **F. Stewart**, T. A. Luther, M. K. Harrup, R. P. Lash

Section C

Unknown Site
Unknown Room

Polymer Gels
Gel State

Y. Osada, *Organizer*
P. Dubin, *Organizer, Presiding*
8:30 – Introductory Remarks.

8:40 – 304. Thermoreversible and irreversible physical gels from biopolymers. **S. B. Ross-Murphy**

9:15 – 305. Reversible (physical) gelation in the solutions of associating polyelectrolytes. **A. R. Khokhlov**, I. I. Potemkin, V. V. Vasilevskaya

9:40 – 306. Movement of macromolecules, particles, and cells in hydrogel. **P. A. Netti**

10:05 – Intermission.

10:25 – 307. Protein-polyelectrolyte coacervates: Gels or concentrated polymer solutions ?. **H. B. Bohidar**, P. L. Dubin

10:45 – 308. Network inhomogeneities in polymer gels. **W. Oppermann**, B. Lindemann, B. Vögerl

11:05 – 309. Polysiloxane network: Structural characteristics and formation mechanism. S. Yamanaka, **K. Kajiwara**, H. Urakawa, S. Kohjiya

11:25 – 310. Surface dynamic properties of polymer gels. **Y. Osada**, J. P. Gong

11:45 – 311. Phase separation and gelation processes in alkali chitin. W. M. Argüelles-Monal, **F. M. Goycoolea**, C. Peniche, J. Lizardi, I. Higuera-Ciapara

Section D

Unknown Site
Unknown Room

Light-Emitting, Light-Harvesting, and Light-Responding Organic Systems

B. R. Hsieh, A. W. Harper, and Z. Bao, *Organizer*
F. Papadimitrakopoulos, *Organizer, Presiding*
A. K-Y. Jen, *Presiding*
8:30 – Introductory Remarks. **F. Papadimitrakopoulos, A. Jen.**

8:35 – 312. Light-emitting 1-D and 3-D polyphenylenes. **K. Müllen**, A. Herrmann, D. Marsitzky, S. Setayesh

9:05 – 313. Ir(III)-cyclometalated complexes as efficient phosphorescent emitters in polymer-blend and organic LEDs. **P. I. Djurovich**, S. A. Lamansky, M. R. Nugent, D. L. Murphy, R. C. Kwong, M. E. Thompson

9:35 – 314. Characterization of zinc-bisquinoline self-assembled films. **K. Ray**, J. Mwaura, M-S. Jang, T. Phely-Bobin, F. Papadimitrakopoulos, I. Galeska

9:55 – Intermission.

2000 Spring meeting

10:15 – 315. High-performance perfluorocyclobutane-containing polymers for electro-optic and light-emitting applications. **A. K-Y. Jen**, H. Ma, J. Wu, S. Liu, P. Herguth, X. Jiang, M. S. Liu, B. Chen, L. Zheng

10:45 – 316. Confined conjugation for adjustable optical properties. **M. Baumgarten**, D. Caparros, T. Yueksel, S. Karabunarliev, W. Rettig

11:05 – 317. Synthesis and optical properties of novel conjugated dendrimers. **Z. Peng**, J. Zhang, B. Xu, Y. Pan

11:25 – 318. Luminescence-structure relation of an electroluminescent polysilole. **W. Zhao**, Y. Liu, R. West
Section E

Unknown Site

Unknown Room

Polymer Characterization

R. B. Moore, *Organizer*

K. A. Mauritz, *Presiding*

8:30 – 319. Highly crystalline perfluorocyclobutane polymers containing the hexafluoroisopropylidene group. **D. W. Smith**, H. V. Shah, B. R. Johnson

8:50 – 320. Interaction of ethylene glycol with poly(vinyl alcohol) in aqueous systems as studied by NMR spectroscopy. **L. Masaro**, W. E. Baille, X. X. Zhu

9:10 – 321. Interfacial properties of starch/biodegradable ester blends. **G. Biresaw**, C. J. Carriere

9:30 – 322. Investigation of latex copolymers and terpolymers containing neo vinyl esters for architectural coating applications. **H. W. Yang**, V. Swarup, P. S. Ellis, R. Subramanian, O. W. Smith, S. F. Thames

9:50 – 323. Structural effects of phenols on the photooxidative degradation of polybenzoxazines. H. Ishida, **J. A. Macko**

10:10 – 324. Synthesis and characterization of phosphonate-containing polysiloxanes. **S. Gallagher**

10:30 – 325. Synthesis and electrochemical study of localized and delocalized donor-acceptor architectures. **D. L. Simone**, T. M. Swager

10:50 – 326. Synthesis and properties of hydrophilic and water-soluble poly(ferrocenes). **K. N. Power-Billard**, I. Manners

11:10 – 327. Synthesis and solution properties of comb-type urethane-associative thickeners. **P. T. Elliott**, J. E. Glass

11:30 – 328. Lithographically induced self-assembly of periodic micropillar arrays in a single homopolymer film. **S. Y. Chou**, L. Zhuang, P. Deshpande, L. Chen, X. Sun

Frontiers for Polymer Science in the 21st Century

Polymer Synthesis

Cosponsored with Macromolecular Secretariat

Structure, Dynamics, and Organization of Polymers in the Solid-State by Magnetic Resonance

Dynamics of Noncrystalline Polymers

Cosponsored with Division of Polymeric Materials: Science & Engineering

TUESDAY AFTERNOON

Section A

2000 Spring meeting

Unknown Site
Unknown Room

Transition Metals in Polymers and Polymerization

Cosponsored with Division of Inorganic Chemistry, Division of Polymeric Materials: Science & Engineering

C. Gorman and G. A. Vaughan, *Organizer*

M. R. Gagné, *Presiding*

1:30 – 329. Optical spectroscopy of transition-metal-containing π -conjugated oligomers and polymers. **K. S. Schanze**, K. A. Walters, Y. Li, K. D. Ley

1:50 – 330. Transition-metal-catalyzed routes to transition-metal-containing polymers: Mechanistic insights into the ring-opening polymerization of [1]silaferrrocenophanes. **K. Temple**, F. Jaekle, A. Lough, J. B. Sheridan, I. Manners

2:10 – 331. New starburst metallodendrimers based on octa(diphenylphosphino)-functionalized silsesquioxane cores. B. Hong, **H. J. Murfee**

2:30 – 332. Polymers, rings, and oligomers containing gold(I) centers. **R. J. Puddephatt**

3:00 – Intermission.

3:20 – 333. Introduction of metal-binding units into biodegradable polymers utilizing metallosupramolecular initiators.

3:40 – 334. Rigid-rod organometallic polymers. **P. R. Raithby**

4:10 – 335. Synthesis of poly(silyl ester)s via hydrosilylation-based polymerization of AB monomers. K. Wooley, **M. Wang**

Section B

Unknown Site
Unknown Room

Hybrid Organic-Inorganic Polymers

Honoring Bruce Reinhardt

B. L. Farmer and L. V. Interrante, *Organizer*

R. Evers and L. R. Denny, *Presiding*

1:30 – Introductory Remarks. **R. A. Vaia**.

1:45 – 337. Electro-optic polymers and their coming impact. **F. K. Hopkins**, J. S. Zetts, J. G. Grote, R. L. Nelson

2:15 – 338. Polymer-based new photonic technology using two photon chromophores and hybrid inorganic-organic nanocomposites. **P. N. Prasad**, B. Reinhardt, H. Pudavar, Y. H. Min, M. Lal, J. Winiarz, A. Biswas, L. Levy

2:45 – 339. Near-IR, two-photon-absorbing dyes and photoinitiated cationic polymerization. **K. D. Belfield**, J. Liu, K. J. Schafer

3:15 – Intermission.

3:25 – 340. Adventures in orange. **W. A. Feld**

3:45 – 341. Recent developments in the design of new two-photon-absorber chromophores. **C. W. Spangler**

4:05 – 342. Synthesis and properties of dyes with large two-photon-absorption cross sections. **S. J. Clarson**, L. L. Brott

4:25 – 343. Decade of modeling NLO responses in molecules and polymers: A tribute to the vision of Bruce

2000 Spring meeting

Reinhardt. **D. S. Dudis**, A. T. Yeates, G. P. Das, X. Duan

4:45 – 344. Progress in electro-optic polymers for space applications. **S. Ermer**

5:05 – 345. Structure-property relationships of two-photon-absorbing amino-fluorene molecules with heterocyclic acceptors. **J. W. Baur**, M. D. Alexander, R. A. Vaia, R. Kannan, B. Sankaran, P. N. Prasad, S. A. Kirkpatrick

Section C

Unknown Site

Unknown Room

Polymer Gels

Poster Session

Y. Osada, *Organizer*

P. L. Dubin, *Organizer, Presiding*

H. B. Bohidar, *Presiding*

1:30 - 2:30

346. Controlled insulin release from biodegradable phase transition polymer. **Y. J. Kim**, J. J. Koh, S. W. Kim

347. Silicone hydrogels based on polyurethane-polysiloxane prepolymers with multiple hard-soft-hard blocks. **Y-C. Lai**, E. T. Quinn, P. L. Valint Jr

348. Interaction of amphoteric hydrogels with catalase: Influence of pH and ionic strength. G. A. Bektenova, E. A. Bekturov, G. K. Sulekeshova, **S. E. Kudaibergenov**

349. Is there any manifestation of gelation on epoxy: Amine systems dielectric curves?. **J. P. Eloundou**, O. Ayina, J. F. Gérard, J. P. Pascault

350. Reactive polymeric gels and their cross-linked properties. **H. Nava**, M. Vanderklok

351. Interaction of linear and cross-linked poly-*N*-vinylpyrrolidone with linear copolymers of acrylic acid and butyl vinyl ether. **S. E. Kudaibergenov**, G. T. Zhumadilova, L. A. Bimendina

352. Kinetics of the *N*-isopropylacrylamide gel volume phase transition in the presence of free polymer chains. **M. E. Harmon**, C. W. Frank

353. Osmotically active and osmotically passive counterions in inhomogeneous polyelectrolyte gels. **A. R. Khokhlov**, K. B. Zeldovich

354. Polymerization of heterobifunctional amphiphiles: Effect of spacer length between reactive moieties. **S. Liu**, D. F. O'Brien

355. Properties of copolymers of acrylic acid with alkyl acrylate in aqueous systems: Effects of alkyl groups on gel-like behavior. **I. Toki**, T. Sugiyama, M. Miyake, Y. Yamagata, H. Yoshimura, T. Takahashi

356. Synthesis of methacrylated macromonomers for biocompatible hydrogels. R. Mülhaupt, **J. Zimmermann**

357. Various interactions of drugs with the cross-linked hyaluronate gel. **C. Yomota**, S. Okada

Section D

Unknown Site

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2000 Spring meeting

Polymer Gels

Gels in Medicine and Biology

Y. Osada, *Organizer*

P. L. Dubin, *Organizer, Presiding*

H. B. Bohidar and S. R. Holmes-Farley, *Presiding*

2:30 – 358. Pulsing gels for episodic drug delivery: Autonomous chemomechanical feedback oscillations in a gel/enzyme system. **R. A. Siegel**, G. P. Misra

2:50 – 359. Thermally induced hydrogels. **A. S. Hoffman**

3:10 – 360. In vitro comparison of bile acid-binding to colestevam hydrochloride and other bile acid sequestrants. **W. H. Braunlin**, S. R. Holmes-Farley, D. Smisek, A. Guo, W. Appruzese, Q. Xu, P. Hook, E. Zhorov, H. Mandeville

3:30 – Intermission.

3:50 – 361. Amphiphilic gels with controlled-mesh dimensions for insulin delivery. **J. P. Kennedy**, G. Fenyvesi, S. Na, B. Keszler, K. S. Rosenthal

4:10 – 362. Design and performance of poly(HPMA) hydrogels containing symmetrical biodegradable cross-linkers composed of oligo-lactate and oligo-glycolate esters. **P. F. Kiser**, A. A. Thomas, G. M. Eichenbaum, D. Needham, I. Kim

4:30 – 363. Hydrogel formation via photocross-linking. **D. Kuckling**, I. G. Ivanova, H-J. P. Adler, K-F. Arndt, T. Wolff

4:50 – 364. Micellar-dispersed temperature-responsive hydrogels: New materials for drug delivery. **N. Y. Rapoport**, W. G. Pitt, J. Pruitt

Section E

Unknown Site

Unknown Room

Light-Emitting, Light-Harvesting, and Light-Responding Organic Systems

F. Papadimitrakopoulos, B. R. Hsieh, Z. Bao, and A. W. Harper, *Organizer*

C. Lee and L. Yu, *Presiding*

1:30 – Introductory Remarks. **C. Lee, L. Yu.**

1:35 – 365. Recent advances in fully functionalized photorefractive materials. **L. Yu**, L. Wang, Q. Wang

2:05 – 366. Dendrimer-functionalized NLO chromophores. **T. Londergan**, C. Zhang, A. Ren, L. Dalton

2:25 – 367. Poly(4-diphenyl-aminostyrenes): New polymers for electro-optics. E. Hattemer, M. Brehmer, **R. Zentel**, E. Mecher, D. Mueller, K. Meerholz

2:45 – 368. Monte Carlo simulations of the effects of a poling field on the ordering of high-dipole-moment organic chromophores. **B. H. Robinson**, L. R. Dalton

3:05 – Intermission.

3:25 – 369. Design and synthesis of new photon-gathering dendrimers. **C. W. Spangler**, E. H. Elandaloussi, B. Reeves

3:45 – 370. Versatile and rapid approach to encapsulate function: Porphyrin core star polymers. J. M. J.

2000 Spring meeting

Fréchet, **S. Hecht**, H. R. Ihre

4:05 – 371. Light harvesting and energy transfer within chromophore-labeled self-assembled monolayers. **L. A. J. Christoffels**, A. Adronov, J. M. J. Fréchet

4:25 – 372. Electronic/photonic property modulations of D-PI-D (A) chromophores by DTT as π -center. **O-K. Kim**, H. Woo, W. B. Heuer, K-S. Kim, K-S. Lee

Section F

Unknown Site

Unknown Room

P. J. Flory Award in Polymer Education

Honoring Professor Jim Mark

L. Mandelkern, *Organizer*

1:30 – 373. Polymers as an integral part of a materials science and engineering curriculum. **J. Economy**

1:55 – 374. Preview of a new university M.S./Ph.D. degree program in macromolecular science and engineering at Virginia Tech. **G. L. Wilkes**

2:20 – 375. Polymer concepts in chemistry and materials science: Education and research climate in Japan. **A. Abe**

2:45 – 376. Polymers as materials: How shall we teach this to chemists?. **U. W. Suter**

3:10 – 377. Connections between polymers as viewed by chemists and physicists. **W. L. Mattice**

3:35 – 378. Educating school children and the public about polymers. **R. S. Stein**

4:00 – 379. Some aspects of rubber-like elasticity useful in the teaching of basic concepts in physical chemistry. **J. E. Mark**

Frontiers for Polymer Science in the 21st Century

Polymers and Monomers from Biological Sources

Cosponsored with Macromolecular Secretariat

Structure, Dynamics, and Organization of Polymers in the Solid-State by Magnetic Resonance

Heterogeneous Materials

Cosponsored with Division of Polymeric Materials: Science & Engineering

TUESDAY EVENING

Section A

Unknown Site

Unknown Room

Hybrid Organic-Inorganic Polymers

Poster Session

B. L. Farmer and L. V. Interrante, *Organizer, Presiding*

5:30 - 7:30

380. Evaluation of multimethacrylates copolymerized with methacryloyl-POSS for potential organic-inorganic hybrid dental restorative materials. **F. Gao**, B. M. Culbertson, Y. Tong, S. R. Schricker

381. Synthesis and microstructural characterization of POSS-based triblock copolymers prepared using

2000 Spring meeting

atom-transfer radical polymerization. P. T. Mather, H. G. Jeon, S. B. Chun, **J. Pyun**, K. Matyjaszewski

382. Thermosets modified with hybrid inorganic-organic polyhedra. **T. S. Haddad**, A. Lee, P. T. Mather, S. H. Phillips

383. Preparation and properties of organic-inorganic hybrid materials by blending polyhedral oligosilsesquioxanes into organic polymers. **R. L. Blanski**, S. H. Phillips, K. Chaffee, J. Lichtenhan, A. Lee, H. P. Geng

384. Synthesis and characterization of novel segmented polyurethanes containing POSS nanostructural molecules. **B. X. Fu**, W. Zhang, B. S. Hsiao, G. Johansson, B. Sauer, S. Phillips, R. Blanski, M. Rafailovich, J. Sokolov

385. Preparation of polycarbonate-layered silicate nanocomposite. **X. Huang**, S. Lewis, W. J. Brittain, R. A. Vaia

386. Exfoliation of montmorillonites in epoxy. **I-J. Chin**, T. Thurn-Albrecht, H-C. Kim, T. P. Russell

387. Preparations of semiconductor nanocrystal-polystyrene hybrid materials. **L. L. Erskine**, T. Emrick, A. P. Alivisatos, J. M. J. Frechet

388. Organic-inorganic conductive composite: PEDOT/silicate. **Y. Lee**, J. Lee

389. Effects of surface modification of silicas on the properties of organic-inorganic nanocomposites. **S. Kang**, J. Kim, M. Park, S. I. Hong

390. Effect of comonomers on the melt intercalation of styrenics/organosilicate hybrids. W. H. Jo, **J. T. Yoon**, M. S. Lee, M. B. Ko

391. Synthesis and optical properties of new hybrid materials via sol-gel process. **C. D. Ki**, J. K. Kim, S. S. Hwang, S. I. Hong

392. Synthesis of phenyl-modified mesoporous sol-gel materials via the nonsurfactant route. **H. Dong, J. Xu**, K. Qiu, S. A. Jansen-Varnum, Y. Wei

393. Telechelic 4 and 6 branch star siloxanes by acid-catalyzed incorporation of D₄ units into the Si-O-Si bonds of tetra(dimethylsiloxy)silane and hexa(dimethylsiloxy)cyclotrisiloxane. **J. R. Sargent**, W. P. Weber

394. Synthesis of stereoregular and optically active poly(siloxane)s containing 1,3-dimethyl-1,3-diphenyldisiloxane as a constitutional unit. **M. Oishi**, I. Imae, Y. Kawakami

395. New hyperbranched polymers from ethynylsilanes. **D. Y. Son**, Y. Xiao, R. A. Wong

396. Amphiphilic diblock copolyphosphazene: Synthesis and micellar characteristics in aqueous phase. **C. Kim**, Y. Chang, S. C. Lee, H. R. Allcock, S. D. Reeves

397. Structure of side-chain liquid-crystalline poly(silylenemethylene)s. **S-Y. Park**, T. Zhang, L. V. Interrante, B. L. Farmer

398. Ultrathin film self-assembly of hybrid organic-inorganic metal coordination polymers as investigated by surface-plasmon spectroscopy. **R. Advincula**, C. Holloway, H. Byrd, W. Knoll

399. Self-assembly of poly(ferrocene) block copolymers: A route to novel nanostructures. **K. N. Power-Billard, K. Temple**, J. A. Massey, Z. Chen, M. D. Foster, M. A. Winnik, I. Manners

2000 Spring meeting

- 400.** Porosity in polysilsesquioxane xerogels. **D. A. Loy**, D. A. Schneider, B. M. Baugher, K. Rahimian
- 401.** Solventless sol-gel chemistry through ring-opening polymerization of bridged disilaoxacyclopentanes. **K. Rahimian**, D. A. Loy
- 402.** Preparation and properties of polymethyl methacrylate-clay nanocomposite. G. J. Jiang, **H. Y. Tsai**
- 403.** Silacyclobutanes as carbanion pump to convert oxyanion into carbanion. **M. R. K. Sheikh**, K. Tharanikkarasu, I. Imae, Y. Kawakami
- 404.** Supramolecular organometallic polymer chemistry: The synthesis and self-assembly of amphiphilic poly(ferrocene) block copolymers. **R. Resendes**, J. Massey, H. Dorn, N. Power-Billard, M. A. Winnik, I. Manners
Section B

Unknown Site
Unknown Room

Light-Emitting, Light-Harvesting, and Light-Responding Organic Systems

F. Papadimitrakopoulos, B. R. Hsieh, A. W. Harper, and Z. Bao, *Organizer, Presiding*
5:30 - 7:30

- 405.** Weak optical absorption measurements in attached-dye electro-optical polymers by photothermal deflection spectroscopy. **R. R. Barto**, C. W. Frank, P. V. Bedworth, A. S. Ren
- 406.** Conjugated fluorene- and polyfluorene-containing polymers using the ionene precursor route: Cross-linked light-emitting polymer materials. **R. Advincula**, C. Xia, S. Inaoka
- 407.** Dependence of electrical properties on copolymer composition in polyaniline/polybutylene terephthalate-*co*-polytetramethylene oxide blends. R. A. Basheer, S. Jodeh, **A. R. Hopkins**
- 408.** Synthesis and characterization of maleic anhydride-derived cross-linkable polymers for nonlinear optical applications. **S. Maaref**, E. Alam, J. Saulter, S. Wyatt, S. Sun
- 409.** Dendritic and polymeric light-harvesting systems. J. M. J. Fréchet, **A. Adronov**, D. R. Robello
- 410.** High-temperature chromophore-embedded polyimides for use in second-order nonlinear optics. **M. H. Davey**, V. Y. Lee, L-M. Wu, C. R. Moylan, W. Volksen, A. Knoesen, R. D. Miller, T. J. Marks
- 411.** Synthesis of a novel AB₂ monomer with a stilbene chromophore and its polymerization study via the Sonogashira reaction. **Y. G. Kim**, Y. M. Kim, D. H. Huh, G. H. Min
- 412.** Interpenetrating morphologies for photovoltaic devices. **V. V. Krasnikov**, L. Ouali, C. Melzer, U. Stalmach, G. Hadziioannou
- 413.** Ladder-type oligomeric *para*-phenylene) series tethered to poly(alkylene) main chain: The orthogonal approach to functional polymers. **R. Advincula**, C. Xia, S. Inaoka
- 414.** Macromolecular isomers of azobenzene-containing photochromic dendrimers. **S. Li**, D. V. McGrath
- 415.** Multilayer Langmuir-Blodgett porphyrin films for second-order nonlinear optics. **R. R. Kolega**, G. A. Lindsay, M. J. Roberts, H. T. Uyeda, M. Therien, W. N. Herman
- 416.** Olefin metathesis for dendrimer assembly. **S. Li**, D. V. McGrath
- 417.** Photocatalytic water splitting using organic pigments as semiconductors. **D. K. Slattery**, C. A. Linkous, N. E. Gruhn

2000 Spring meeting

- 418.** Photochemical arrays formed by spatial compartmentalization of colloidal nanoparticles in a polymer-based hydrogel. **M. A. Firestone**, T. Rajh, O. Makarova, S. Seifert, D. Tiede, J. M. Nedeljkovic
- 419.** Polyelectrolyte multilayers based on oligomeric thiophene-bearing gantrez. **Y. Lee**, P. T. Hammond
- 420.** Shape-persistent azobenzene-containing dendrimers. **L. Liao**, D. V. McGrath
- 421.** Soluble poly(*p*-phenylene) polymers containing twist-twist π -conjugated stilbene units. **J. E. Gano**, N. Kodali, **D. Osborn III**, P. Sekher, M. Liu
- 422.** Synthesis and characterization of light-emitting polymers based on binaphthalene and fluorene. **X. Jiang**, S. Liu, L. Zheng, M. Liu, A. K-Y. Jen
- 423.** Dendrons and dendrimers for optical power-limiting applications. **K. Ashworth**, B. Ozer, L. Madrigal, A. Frost, K. Kuhl, C. W. Spangler
- 424.** Fluorenylidene-linked triaryl amines as new hole-transporting materials for organic light-emitting diodes. **G. F. Mielke**, O. Nuyken
- 425.** Frenkel exciton Hamiltonian for LH2 photosynthetic antenna. **S. Tretiak**, C. Middleton, V. Chernyak, S. Mukamel
- 426.** Synthesis and unusual optical properties of conjugated polymers containing multibranching oxadiazole substituents. **Z. Peng**, J. Zhang, B. Xu
- 427.** Synthesis of spiropyran-based photoresponsive dendrimers. **R. Ukkiramapandian**, D. V. McGrath
- 428.** Development of new photolabile-protecting groups that rapidly release bioactive compounds on photolysis with visible light. **A. Banerjee**, B. K. Carpenter, G. P. Hess

Section C

Unknown Site

Unknown Room

Mass Spectral Analysis of Polymers

C. M. Guttman and K. G. Owens, *Organizer, Presiding*

5:30 - 7:30

429. MALDI-TOF investigation of polymer degradation: Pyrolysis of poly(bisphenol A carbonate). **G. Montaudo**, C. Puglisi, F. Samperi, S. Carroccio

430. Determination of deuterium distribution in labeled polyolefins by pyrolysis-photoionization MS. **D. J. Lohse**, K. Qian, D. L. Zoller, M. V. Johnston

431. Thermal degradation mechanisms of polyetherimide investigated by direct pyrolysis MS. G. Montaudo, **C. Puglisi**, S. Carroccio

432. Molar mass distributions and hydrodynamic interactions in random copolyesters investigated by SEC/MALDI. G. Montaudo, C. Puglisi, F. Samperi, **M. Montaudo**

433. Mechanism of homogeneously catalyzed polymerization of liquid-crystalline side-group monomers investigated by means of MALDI-TOF MS. **S. M. Weidner**, D. Wolff, M. Glanz

434. Characterization of poly(ϵ -caprolactone) and poly(ϵ -caprolactone-*b*-isobutylene-*b*- ϵ -caprolactone) by MALDI-TOF MS. R. F. Storey, **J. W. Sherman**, L. B. Brister

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435. Industrial polymer analysis by various MS techniques. **B. V. Rozynov**, R. J. Liukkonen, D. O. Becklin, A. L. Noreen, S. D. Ponto

Section D

Unknown Site
Unknown Room

Polymer Processing in Microgravity

J. A. Pojman and J. P. Downey, *Organizer, Presiding*

5:30 - 7:30

436. Polymeric foam experiments in a reduced gravity environment: Results from the NASA KC-135A parabolic flights. **W. J. Ainsworth**, V. V. Nguyen, J. R. Warren, P. N. Wahjudi, M. Kendrick, F. D. Stewart, S. M. Brown, J. A. Pojman

437. Investigation of the gas balance in microbial fermentations performed in the NASA bioreactor. **R. Thiruvengatam**, C. Scholz

438. Compositional characterization, by Raman spectroscopy, of polymers synthesized in microgravity onboard STS-57, STS-63, and STS-77. **K. G. Brown**, K. S. Burns, J. Ingram, B. T. Upchurch, G. M. Wood Jr

Section E

Unknown Site
Unknown Room

Polymeric Bioconjugates

A. S. Hoffman and P. Stayton, *Organizer, Presiding*

5:30 - 7:30

439. Direct immobilization of horseradish peroxidase in mesoporous hybrid sol-gel materials. **J. Xu, H. Dong**, Q. Feng, Y. Wei

440. DNA nanoparticle stabilized through hydrophobic interactions of triblock copolymer. **M. G. Banaszczyk**, C. P. Lollo, A. T. Carlo, D. P. Wu, P. M. Mullen, C. C. Coffin, H. C. Chiou, M. A. Lucas, D. S. Burns, P. Pezzoli, D. J. Carlo

441. Isomers of tetraaniline. Z. Sun, X. Wang, F. Wang, **X. Jing**

442. Stability of immobilized horseradish peroxidase in mesoporous silica sol-gel materials. **J. Xu, Q. Feng**, H. Dong, Y. Wei

443. Synthesis of a novel aromatic polyanhydride containing aminosalicyclic acid. **E. Krogh-Jespersen**, T. Anastasiou, K. Uhrich

444. Synthetic aspects on the polyesters of *trans*-4-hydroxy-L-proline. **M. A. Puska**, O. E. O. Hormi

Section F

Unknown Site
Unknown Room

Synthetic Macromolecules with Higher Structural Order

I. M. Khan and K. D. Belfield, *Organizer, Presiding*

5:30 - 7:30

445. Supramolecular self-assembly of nanotubes. **C. Wang**, N. Lu, C. Cao, R. Lu, T. Li

446. Photoinitiation and hydrophobic cluster formation in poly(methacrylic acid). **S. Y. Yang**, M. M. Green

447. Superabsorbent resins prepared by UV photopolymerization of acrylic acid-sodium acrylate

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copolymers. **J. Lin**, Y. Huang

448. Amide-linked derivatives of *N*-acetyl neuraminic acid: A search for secondary structure. **T. Q. Gregar**, J. Gervay-Hague

449. Artificial β -sheet helices. **J. J. L. M. Cornelissen**, W. S. Graswinckel, A. E. Rowan, R. de Gelder, N. A. J. M. Sommerdijk, R. J. M. Nolte

450. Chiral probes of time scale and length scale of motion in polycarbonate melts and glasses. **J-W. Park**, M. D. Ediger, M. M. Green

451. Designing a helical polymer that reverses handedness at a selected, continuously variable temperature. **K. S. Cheon**, J. V. Selinger, M. M. Green

452. Detection of molecular weight and structure of hyperbranched polymers. **C. Drohmann**, O. B. Gorbatshevich, A. M. Muzafarov, M. Möller

453. FTIR spectroscopy and strengthening behavior of some liquid-crystalline oligomers. **A. M. Moilanen**, O. E. O. Hormi

454. Hydrogen bond-mediated self-assembly of block copolymers containing NLO segments. **J. Pan**, T. E. Hogen-Esch, M. Chen, L. N. Dalton

455. Macromolecular complexes of helical sodium poly(α ,L-glutamate) (PGNA) with copolymers (block and random) of ethylene oxide and propylene oxide. **K. P. Pemawansa**, I. M. Khan

456. Soluble β -sheet-forming polypeptides. **J. Hwang**, T. J. Deming

457. Study on helix conformations of poly(phenylacetylenes) with bulky amino acid pendant groups. **J. W. Y. Lam**, K. K. L. Cheuk, B. Z. Tang

458. Surface enrichment in polymer blends involving hydrogen bonding. **Y. Duan**, E. M. Pearce

459. Synthesis and conformational studies of poly(β -homolysine). **J. Cheng**, **T. J. Deming**

460. Synthesis of novel inositol polymers and investigation into their structures. A. B. Holmes, **T-H. Kim**, M. Giles, M. Walther, P. Dokolas

461. Synthesis of sugar amino acid and naturally occurring amino acid oligomers. **T. M. Weathers**, J. Gervay-Hague

462. Synthesis and characterization of side-chain liquid crystalline poly(silylenemethylene)s employing a Si-O-C linkage. **T. Zhang**, S-Y. Park, B. L. Farmer, L. V. Interrante

463. Applying polymer chemistry to interfaces: Layer-by-layer and statistical growth of covalently bound multilayers. **P. Kohli**, G. J. Blanchard

464. Conformation of amphiphilic 6-arm star-block copolymers in solvent mixtures: Photophysical characterization. **M. Yoo**, C. W. Frank, A. Heise, J. L. Hedrick, R. D. Miller

465. Poly(phenylacetylenes) with short chlorinated ethylene oxide pendants: Synthesis, characterization, and self-assembling. **K. K-L. Cheuk**, J. W-Y. Lam, Q. Sun, J. A. K. Cha, B. Z. Tang

466. Vines-twining polymerization: Amylose twines round about polytetrahydrofuran, forming polymer-polymer inclusion complex. **Y. Kaneko**, J-I. Kadokawa, H. Tagaya

467. New methacrylic acid copolymers and their formation of complex coacervates with polyamines. **J. A. Jones**, C. D. Pagnucco, H. D. H. Stöver

Section G

Unknown Site
Unknown Room

Transition Metals in Polymers and Polymerization

Cosponsored with Division of Inorganic Chemistry, Division of Polymeric Materials: Science & Engineering

C. Gorman and G. A. Vaughan, *Organizer, Presiding*

5:30 - 7:30

468. "Living"/controlled radical polymerization of styrene initiated by BPO/CuCl/bpy. **H. S. Wu**, W. Wang, D. Yan, X. Chen

469. Atom-transfer polymerization: Use of uridine- and adenosine-derivatized monomers and initiators. **A. Marsh**, A. Khan, D. M. Haddleton, M. J. Hannon

470. Atom-transfer radical copolymerization of methyl methacrylate and *N*-cyclohexylmaleimide. X. Jiang, **D. Yan**, Y. Zhong, W. Liu

471. Carbohydrate-based initiators for transition-metal-mediated atom-transfer polymerization. **R. Edmonds**, D. M. Haddleton, S. A. F. Bon

472. Cationic iron and cobalt complexes containing bis(imino)pyridyl ligands. V. C. Gibson, G. J. P. Britovsek, **S. K. Spitzmesser**

473. Chiral, conjugated, organometallic polymers via alkyne metathesis. **W. Steffen**, U. H. F. Bunz

474. Controlled/"living" radical polymerization of methyl methacrylate using initiating system of BPO/CuI/Br/bpy combining with AgNO₃. W. Wang, D. Yan, X. Chen, **H. S. Wu**

475. Facile synthesis of hydrophilic-hydrophilic copolymers via atom-transfer radical polymerization. **S. A. Furlong**, S. P. Armes

476. Hyperstructure of polyacrylonitrile(PAN)-FeCl₃ hybrid composite. C. R. Park, **Y. J. Kim**

477. Mechanism of *unlike* enantioselectivity in 1-alkene primary insertions: Syndio-specific propene polymerization by Brookhart-type Ni(II) catalysts. **L. Cavallo**, G. Milano, C. Pellecchia, G. Guerra

478. Metallocenes made simple: 2--A quick and easy synthesis of group 4 dimethyl metallocenes and dimethyl amido cyclopentadienyl complexes. D. Balboni, G. Prini, M. Rinaldi, **L. Resconi**

479. Novel catalytic metal clusters supported by porous polymer monolith. **S. Jin**, D. Venkataraman, F. J. DiSalvo, E. C. Peters, F. Svec, J. M. J. Fréchet

480. Novel liquid-crystalline copolymers displaying blue solid-state fluorescence. **N. G. Pschirer**, U. H. Bunz

481. Novel synthesis of main-chain ferrocenylene-containing polymers. **Z. Wu**, D. Wang

482. Oligonucleotides as modules for directed assembly of materials. U. H. F. Bunz, **S. M. Waybright**

483. Polypeptide materials using nickel amido amidate initiators. **S. A. Curtin**, T. J. Deming

484. Preparation and cyclo-depolymerization of some olefin-containing polyesters via olefin metathesis. **S. Dad**, P. Hodge

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- 485.** Propene/ α -olefin and α,ω -diene copolymers: Comparison of structure and properties. **S. Bornemann**, J. Knorr, T. Schimmel, M. Arnold
- 486.** Study of activation rate constant in ATRP using model compounds. **H-J. Paik**, K. Matyjaszewski
- 487.** Synthesis and characterization of high-performance directional metallopolymers. O. N. Petzold, **I. I. Harruna**, A. Perez, K. B. Bota
- 488.** Synthesis of heat-resistant hyperbranched copolymers of *p*-(chloromethyl)styrene and *N*-cyclohexylmaleimide by ATRP. X. Jiang, Y. Zhong, **D. Yan**, H. Yu
- 489.** Synthesis of triblock PDMS-PS-PDMS copolymers by acid-catalyzed incorporation of D4 into the Si-O-Si bonds of α,ω -bis(2-pentamethyldisiloxanyl ethyl) polystyrene. **J. R. Sargent**, W. P. Weber
- 490.** Synthesis of well-defined cyclodextrin-core star polymers by atom-transfer polymerization. **K. Ohno**, D. M. Haddleton, D. Kukulj, B. Wong
- 491.** Titanium complexes: A possibility as catalyst for controlled radical polymerization. **Y-J. Kwark**, **B. M. Novak**
- 492.** "Radical-controlled" oxidative polymerization of phenols. **H. Higashimura**, K. Fujisawa, Y. Moro-oka, S. Namekawa, M. Kubota, A. Shiga, H. Uyama, S. Kobayashi
- 493.** Atom-transfer radical polymerization of hydrophilic monomers in aqueous media at ambient temperature. **X-S. Wang**, S. P. Armes
- 494.** Effect of acrylonitrile content in poly(styrene-*co*-acrylonitrile)s on polyblend miscibility and phase behavior. **E. Woo**, T. K. Mandal
- 495.** Metallocene-based branch-block copolymers. **A. H. Dekmezian**, W. Weng, A. J. Peacock, E. J. Markel
- 496.** Novel polymer composites made by ring-opening metathesis polymerization in carbon dioxide. **C. Cao**, T. J. McCarthy
- 497.** Organometallic strategies to compatibilize polymer-polymer and polymer-ionomer blends that contain 3,4-polyisoprene. P. K. Das, J-K. Lee, I. Ruzmaikina, **L. A. Belfiore**
- 498.** Photoactivated ring-opening polymerization of 1,1,3,3-tetramethyl-1,3-disilacyclobutane by platinum(II) β -diketonates. **X. Wu**, D. C. Neckers
- 499.** Polymerization of propylene with 1-alkenes using metallocene catalysts. **A. J. Van Reenen**, H. Pasch, R. Brull, U. Wahner
- 500.** Synthesis and characterization of vinyl-terminated isotactic polypropylene. **W. Weng**, E. J. Markel, A. H. Dekmezian
- 501.** Taming the polycyclotrimerization of diynes: Synthesis of hyperbranched poly(alkenophenylenes). **K. Xu**, Q. Sun, Y. Dong, F. Salhi, **B. Z. Tang**

Frontiers for Polymer Science in the 21st Century

Poster Session

Cosponsored with Macromolecular Secretariat

WEDNESDAY MORNING

2000 Spring meeting

Section A

Unknown Site
Unknown Room

Synthetic Macromolecules with Higher Structural Order

K. Belfield, *Organizer*
I. M. Khan, *Organizer, Presiding*
G. D. Jaycox, *Presiding*
8:00 – Introductory Remarks.

8:04 – Plenary Lecture. Y. Okamoto.

8:05 – 502. Synthesis of single-handed helical polymethacrylates from designed-bulky monomers by anionic and free-radical catalyses. **Y. Okamoto**, K. Ueda, N. Kinjo, T. Nakano

8:50 – 503. Helical macromolecular programming. **R. J. M. Nolte**

9:20 – 504. Helicity induction and dynamics of poly[bis(4-carboxyphenoxy)phosphazene] with optically active amines. **E. Yashima**, K. Maeda, T. Yamanaka

9:50 – 505. Helical coordination polymers and related materials. **Y. Aoyama**

10:20 – Intermission.

10:30 – 506. Microstructure of polyisocyanates in solution by NMR studies of well-defined oligomers. **C. G. Wade**, D. J. O'Leary, J. Roth, K. Armstrong, J. Thoburn, D. C. Miller, A. Pomerantz

10:50 – 507. Inducing topological chirality and functionality into stiff-chain polymers. **B. M. Novak**, J. Kim, J. Stewart, D. Schlitzer

11:10 – 508. Helical and higher-structural ordering in poly(3-methyl-4-vinylpyridine). **I. M. Khan**, L. J. Ortiz

11:30 – 509. Conformational study of poly(propionic esters) in solution. **R. Nomura**, Y. Fukushima, H. Nakako, T. Masuda

11:50 – 510. Synthesis of chiral polyaniline and its memory effects. **H. Guo**, V. Egan, R. Bernstein, C. M. Knobler, R. B. Kaner

Section B

Unknown Site
Unknown Room

Polymeric Bioconjugates

A. S. Hoffman and P. S. Stayton, *Organizer, Presiding*

8:00 – 511. Bioactive poly(ethylene glycol)-insulin conjugates with enhanced stability and reduced immunogenicity. K. Hinds, L. Joss, B. Rihova, J. J. Koh, F. Liu, M. Baudys, **S. W. Kim**

8:25 – 512. Synthesis and characterization of DOPA-PEG conjugates. **P. B. Messersmith**, X. Zeng, E. Westhaus, B. Lee, N. Eberle

8:50 – 513. Conjugate addition and free-radical cross-linking to produce cell-adhesive materials. **D. L. Elbert**, J. A. Hubbell

9:15 – 514. In vitro and in vivo antitumor activities of nanoparticles based on doxorubicin-PLGA conjugate. H. S. Yoo, **T. G. Park**

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9:40 – 515. Synthesis of starlike poly[*N*-(2-hydroxypropyl)methacrylamide] using PAMAM dendrimer as the core. **D. Wang**, P. Kopeckova, T. Minko, V. Nanayakkara, J. Kopecek

10:05 – 516. Synthesis of soluble polymers designed to degrade by intramolecular acid catalysis. M. C. D. Clochard, **S. Brocchini**

10:30 – 517. LCST tuning by copolymerization of *N*-alkylacrylamides. **X. X. Zhu**, H. Y. Liu

10:55 – 518. Synthesis of nonsulfated and sulfated glycopolymers. **D. Grande**, S. Baskaran, E. L. Chaikof

11:20 – 519. Synthesis of a polymeric precursor by ATRP for conversion to polymer-drug conjugates. A. Godwin, M. Hartenstein, A. H. E. Müller, **S. Brocchini**

Section C

Unknown Site

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Polymer Gels

Novel Gels and Gelation

P. L. Dubin and Y. Osada, *Organizer*

R. Mukkamala and W. H. Braunlin, *Presiding*

8:30 – 520. Transient networks formed by a copolymer of sodium 2-(acrylamido)-2-methylpropanesulfonate and an associative macromonomer in water. **Y. Morishima**, T. Noda, A. Hashizume

8:50 – 521. Novel synthetic routes to hydrogels. **V. Crescenzi**, M. Dentini, A. E. de Nooy, A. Francescangeli, G. Masci

9:10 – 522. Redox-active poly(ferrocenylsilane) gels. **K. Kulbaba**, M. MacLauchlan, I. Manners

9:30 – 523. Cyanogels: Coordination polymer hydrogels having applications in materials chemistry. **A. B. Bocarsly**, J. T. Willson, S. Sharp

9:50 – 524. Measurement of pH gradient of polyampholyte gels under the action of DC electric field. **S. E. Kudaibergenov**, V. B. Sigitov, A. G. Didukh, S. B. Moldakarimov

10:10 – 525. Gel formation in solutions of amphiphilic block copolymers. **J. Kressler**, D. van Eck, S. Höring, R. Thomann

10:30 – Intermission.

10:50 – 526. Hydrogels formed by end-linking PEG to dendrimer cross-link agents. **B. D. Viers**, B. J. Bauer, Y. Akpalu, F. Gröhn, D. Liu, G. Kim

11:10 – 527. Monomer functionality and polymer network formation. **J. E. Elliott**, C. N. Bowman

11:30 – 528. Synthesis and characterization of pH-sensitive poly(organophosphazene) hydrogels. **H. R. Allcock**, A. Ambrosio

11:50 – 529. Hydrogel polymers from alkylthio acrylates for biomedical applications: Effect of sulfur oxidation state on materials' properties. **R. Mukkamala**, A. M. Kushner, C. R. Bertozzi

12:10 – 530. Colesevelam hydrochloride: Synthesis and testing of a novel polymer gel pharmaceutical. **S. R. Holmes-Farley**, W. H. Mandeville, K. L. Miller, J. S. Petersen, J. Ward, B. Sacchiero, C. Maloney, S. Brochu, D. Rosenbaum, D. Goldberg, K. A. Norton, X. Chen, J. R. Mazzeo

2000 Spring meeting

Section D

Unknown Site
Unknown Room

Light-Emitting, Light-Harvesting, and Light-Responding Organic Systems

F. Papadimitrakopoulos, B. Hsieh, and A. W. Harper, *Organizer*

Z. Bao, *Organizer, Presiding*

Y. Yang, *Presiding*

8:30 – Introductory Remarks.

8:35 – 531. Role of interfaces in organic and polymer opto-electronic devices. **G. Hadziioannou**

9:05 – 532. Structure/property relationships in polymers for light-emitting diodes. **M. E. Galvin**, H. Dong, A. Menon, Z. Niazimbetova, S. Vaidyanathan

9:25 – 533. Molecularly tuned light-emitting chromophores with D- π -D and D- π -A sequences and DTT as π -center. **O-K. Kim**, J. K. Kim, D. Y. Kim, C. Y. Kim

9:45 – 534. Efficient electroluminescent copolymers for application in LEDs. **R. E. Martin**, F. Geneste, R. Riehn, B. S. Chuah, F. Cacialli, A. B. Holmes, R. H. Friend

10:05 – Intermission.

10:25 – 535. Control of polymer thin-film morphology and the LED performance. **Y. Yang**

10:55 – 536. Synthesis and photoactive properties of thermotropic polymethacrylate bearing multifunctional dipolar mesogen. **S. Kim, S. Y. Park**

11:15 – 537. Recent development in novel conjugated polymers for single-layer LEDs. **Z. Peng**, Y. Pan, J. Zhang

11:35 – 538. Patterning and electrochemical deposition of conjugated and conducting polymers in organic light-emitting diodes. **S. Inaoka**, D. Roitman, R. C. Advincula

Frontiers for Polymer Science in the 21st Century

Specialty Polymers: Biomedical Polymers

Cosponsored with Macromolecular Secretariat

WEDNESDAY AFTERNOON

Section A

Unknown Site
Unknown Room

Synthetic Macromolecules with Higher Structural Order

I. M. Khan and K. D. Belfield, *Organizer*

E. Yashima and C. G. Wade, *Presiding*

1:30 – Plenary Lecture. **M. Green**.

1:31 – 539. Chiral studies of cooperativity in polymers. **M. M. Green**, K. S. Cheon, J-W. Park

2:15 – 540. Chiral amplification in supramolecular stacks. E. W. Meijer, **J. A. J. M. Vekemans**, A. R. A. Palmans, L. Brunsveld, J. J. van Gorp

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2:45 – 541. 1,1'-Binaphthyl-based polymers and dendrimers as electrical and optical materials. **L. Pu**

3:05 – 542. Helical diarylpolyasilanes: Effects of higher-order structure on optical activity. J. R. Koe, **M. Fujiki**, H. Nakashima, M. Motonaga

3:25 – 543. Remarkable chemical stability of optically active polyaniline colloids. **L. A. P. Kane-Maguire**, V. Aboutanous, P. C. Innis, I. D. Norris, G. G. Wallace

3:45 – Intermission.

3:55 – 544. Structured polymers with stimuli-responsive chiroptical behavior. **G. D. Jaycox**, S. R. Lustig, G. J. Everlof

4:15 – 545. Effects of bulkiness of substituents on the chiroptical properties of poly(phenylacetylenes). **J. W. Y. Lam**, K. K. L. Cheuk, B. Z. Tang

4:35 – 546. Micelle formation of a novel rod-coil diblock copolymer-poly(*n*-hexyl isocyanate)-*b*-poly(ethylene glycol). **J. Wu**, E. M. Pearce, T. K. Kwei

4:55 – 547. Dendritic methodology applied to the prediction, design, and synthesis of sol-gel materials. **G. A. Fox**, T. F. Baumann, A. L. Vance, D. Calef

Section B

Unknown Site

Unknown Room

Polymeric Bioconjugates

A. S. Hoffman, P. Stayton, D. Tirrell, and D. Grainger, *Organizer, Presiding*

1:30 – 548. Construction of novel fusogenic sterically stabilized liposomes by incorporation of photopolymerizable diblock copolymers. **K. Kostarelos**, T. F. Tadros

1:55 – 549. Recognition of DNA topology in reactions between plasmid DNA and cationic copolymers. **A. V. Kabanov**, T. Bronich, H-K. Nguyen, A. Eisenberg

2:20 – 550. Poly(DMAEMA-NVP)-*b*-PEG-galactose as an in vitro gene delivery vector for hepatocytes. D. W. Lim, **T. G. Park**

2:45 – 551. pH-Sensitive membrane disruptive PEGylated polycations. **N. Murthy**, P. Stayton, A. Hoffman

3:10 – 552. Factors with impact on the success of protein and virus PEGylation. **D. Fisher**, B. Buckley, C. Delgado, G. Francis, C. Goodwin, A. Kippen, F. Malik, S. Marlow

3:35 – 553. Phospholipid polymer: DNA conjugate for gene delivery. **K. Ishihara**, S. Sakaki

4:00 – 554. Photoisomerization and aggregation behavior of DNA/poly-lysine/azobenzene dye ultrathin films: Substrates for optobioelectronic applications. **R. Advincula**, Y. Wang, M-K. Park

4:25 – 555. Free-solution capillary electrophoresis of polypeptoid-oligonucleotide conjugates. W. N. Vreeland, **A. E. Barron**

Section C

Unknown Site

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2000 Spring meeting

Polymer Gels

Gel Rheology and Interactions

P. L. Dubin, S. H. Gehrke, and Y. Osada, *Organizer*

C. Tribet, *Presiding*

2:00 – 556. Gel formation and association in systems of cationic surfactant vesicles and oppositely charged polymers. **B. Lindman**, E. Marques, M. Miguel, R. Dias, S. Melnikov, A. Khan

2:20 – 557. Synchrotron X-ray studies on nanostructures of polyelectrolyte gel/surfactant complexes. **B. Chu**, S-Q. Zhou

2:40 – 558. Interpenetrating chemical (polyepoxyde) and physical [poly(vinyl chloride)] gels. **E. Girard-Reydet**, J-P. Pascault

3:00 – 559. Comparative study by rheology of two epoxy-amine systems near the gel point. **J. P. Eloundou**, O. Ayina, J. F. Gérard, J. P. Pascault

3:20 – 560. Reversible networks made up of an amphiphilic polymer and a protein: A route to photoresponsive rheological properties. **C. Tribet**

3:40 – Intermission.

4:00 – 561. Influence of network conformation on properties of poly(amino acid) hydrogels. **È. D. Oliveira**, **S. H. Gehrke**

4:20 – 562. Multicomponent block copolymer gels. **R. J. Spontak**, E. A. Wilder, S. A. White, S. D. Smith

4:40 – 563. Creep-recovery characteristics of ω -methoxy and ω -phenoxy-poly(ethylene glycol)-acrylate copolymer hydrogel. **N. Ravi**, L. Zhang, P. Kannan, B. A. Szabo

5:00 – 564. Characterization of the structure of the gels by rheology. N. K. Dutta, N. Markovic, **J. Matisons**

Section D

Unknown Site

Unknown Room

Light-Emitting, Light-Harvesting, and Light-Responding Organic Systems

F. Papadimitrakopoulos, B. R. Hsieh, and Z. Bao, *Organizer*

A. Harper, *Organizer, Presiding*

R. H. Baughman, *Presiding*

1:30 – Introductory Remarks.

1:35 – 565. Photonic crystals based on metals, semiconductors, and insulators. **R. H. Baughman**, A. A. Zakhidov, M. E. Kozlov, I. Khayrullin, I. Udod, M. N. Shkunov, N. Eradat, Z. V. Vardeny, T. Phely-Bobin, F. Papadimitrakopoulos

2:05 – 566. Dye-containing polymer beads as photonic crystals. M. Müller, **R. Zentel**, T. Maka, S. G. Romanov, C. M. Sotomayor Torres

2:25 – 567. Preferential self-assembly of surface-modified Si/SiO_x nanoparticles on poly(dimethylsiloxane) films. **T. S. Phely-Bobin**, R. J. Muisener, J. Koberstein, F. Papadimitrakopoulos

2:45 – Intermission.

3:15 – 568. Optical properties of a series of liquid-crystal polymethacrylates containing nitro-

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aminoazobenzene and spacers of variable length. **A. Natansohn**, S. Freiberg, G. Iftime, F. Lagugné Labarthe, P. Rochon

3:45 – 569. Controlling orientation in optically active multilayer films. **D. M. DeWitt**, P. T. Hammond

4:05 – 570. Self-assembly of designed porphyrinic arrays. **C. M. Drain**, T. Milic

4:25 – 571. UV-induced acid-base chemistry within the PVC matrix: Wavelength selectivity. **S. Suzer**, O. Birer
Frontiers for Polymer Science in the 21st Century

Specialty Polymers: Electroactive/Photoactive Polymers
Cosponsored with Macromolecular Secretariat

THURSDAY MORNING

Section A

Unknown Site
Unknown Room

Synthetic Macromolecules with Higher Structural Order

I. M. Khan and K. D. Belfield, *Organizer*
J. Gervay-Hague and G. B. Fields, *Presiding*

8:00 – Plenary Lecture. D. Seebach.

8:01 – 572. From poly(3-hydroxybutyrate) to β - and γ -peptides: Excursions of a synthetic chemist to oligomers and polymers. **D. Seebach**

9:00 – 573. Heterotrimeric collagen peptides: Synthesis and conformational properties. **L. Moroder**, R. Friedrich, J. Ottl

9:30 – 574. Synthesis and biophysics of triple helical collagen mimetics. **M. Goodman**, J. Kwak, E. Locardi, G. Melacini

10:00 – 575. Peptide-amphiphile induction of α -helical and triple-helical structures. **G. B. Fields**

10:30 – Intermission.

10:40 – 576. Synthesis and structural studies of amide-linked carbohydrates. **J. Gervay-Hague**

11:00 – 577. Self-assembly and structure of amphiphilic block copolypeptides. **T. J. Deming**, A. Nowak, M. Yu, M. Wyrsta

11:20 – 578. Cross-linked lyotropic liquid-crystal assemblies as nanostructured, heterogeneous catalysts. **D. L. Gin**, S. A. Miller, E. Kim, D. H. Gray

11:50 – 579. Self-assembly of ferrocene-based diblock copolymers: A route to supramolecular organometallic materials. **K. N. Power-Billard**, J. A. Massey, T. J. Peckham, I. Manners, M. A. Winnik

Section B

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Polymeric Bioconjugates

A. S. Hoffman and P. S. Stayton, *Organizer, Presiding*

2000 Spring meeting

8:30 – 580. Genetically engineered biopolymer conjugate for thermal targeting of anticancer therapeutics. **A. Chilkoti**, D. Meyer, G. Kong, M. Dewhirst, C. Foulon, M. R. Zalutsky

8:55 – 581. Smart polymer-protein conjugates. **P. S. Stayton**, A. S. Hoffman, Z. Ding, T. Shimoboji

9:20 – 582. Electrostatically driven conjugation of proteins onto copolymers: Toward a regioselective reaction?. **T. F. Delair**, C. Ladavière, A. Domard, A. Novelli-Rousseau, B. Mandrand, F. Mallet

9:45 – 583. Synthesis and characterization of elastin-mimetic protein gels for use in biomedical applications. **R. A. McMillan**, V. P. Conticello

10:10 – 584. Peptide-modified thermoreversible hydrogels for tissue regeneration. R. A. Stile, **K. E. Healy**

10:35 – 585. Immobilization of modified HIV-1-capsid P24 protein onto thermosensitive cationic core/shell particles. **C. Pichot**, D. Duracher, E. Abdelhamid, F. Mallet

11:00 – 586. Designing temperature-sensitive polymers for protein conjugation and delivery. **H. Uludag**, B. Norrie, L. Alverado

11:25 – 587. New polymeric materials from derivatives of bile acids. **X. X. Zhu**, A. Benrebouh, Y. H. Zhang, S. Guin

Section C

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Polymer Processing in Microgravity

J. P. Downey, *Organizer*

J. A. Pojman, *Organizer, Presiding*

8:00 – Introductory Remarks.

8:15 – 588. Effectively reducing acceleration to microgravity levels. **J. P. Downey**

8:45 – 589. Polymerization under microgravity conditions: Results and perspectives. **V. A. Briskman**, K. G. Kostarev

9:15 – 590. Frontal polymerization in microgravity. **J. Pojman**, V. V. Volpert, H. Wilke, Y. Chekanov, W. Ainsworth, J. Masere

9:45 – 591. Production of polyurethane foams in space: Gravitational and pressure effects on foam formation. **S. P. McManus**

10:15 – Intermission.

10:30 – 592. Foaming of polyethylene in a novel dynamic decompression and cooling process. **K. Song**, R. E. Apfel

11:00 – 593. Influence of buoyancy and surfactant solutes on macrovoid defect formation in dry-cast cellulose acetate membranes. M. R. Pekny, J. Zartman, A. R. Greenberg, W. B. Krantz, **P. Todd**

11:30 – 594. Determination of the effect of microgravity on silica sol-gels by electrophoretic porosimetry. **L. A. Snow**, D. D. Smith, L. Sibille, R. J. Cronise, A. J. Hunt, J. D. Ng

Section D

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2000 Spring meeting

Light-Emitting, Light-Harvesting, and Light-Responding Organic Systems

F. Papadimitrakopoulos and Z. Bao, *Organizer*

B. R. Hsieh and A. Harper, *Organizer, Presiding*

8:30 – Introductory Remarks.

8:35 – 595. Fluorene-based polymers for light-emitting diodes. **W. Wu**, M. Bernius, M. Dibbs, M. Inbasekaran, E. Woo, L. Wujkowski

9:05 – 596. Novel blue-light-emitting polymers. **S. Zheng**, J. Shi, R. Mateu

9:25 – 597. Photovoltaic devices based on polythiophenes. **C. O. Too**, G. G. Wallace, D. L. Officer, A. K. Burrell, E. Boge, S. G. Brodie, E. Evans

9:45 – 598. Thermal and optical studies of poly(*p*-phenylene vinylene) (PPV) and PPV derivatives. **G. Arbuckle-Keil**, Y. Liszewski, J. Peng, B. Hsieh

10:05 – Intermission.

10:25 – 599. New blue-emitting and electron-transport EL materials. **N-X. Hu**, Z. Popovic, H. Aziz, R. Esteghamatian

10:55 – 600. Synthesis of novel conjugated polymers for potential LED applications. **B. Jiang**, T. D. Tilley

11:15 – 601. Nanostructured organic photovoltaic devices via electrostatic self-assembly. **J. W. Baur**, M. F. Durstock, B. E. Taylor, R. J. Spry, B. R. McKellar, F. S. Mobley, D. S. Dudis, M. Franks, S. J. Clarson, L. Y. Chiang

11:35 – 602. Block copolymers for photonic applications using "living" free-radical polymerization techniques. B. de Boer, **U. Stalmach**, G. Hadziioannou

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THURSDAY AFTERNOON

Section A

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Synthetic Macromolecules with Higher Structural Order

I. M. Khan and K. D. Belfield, *Organizer*

T. E. Hogen-Esch and T. Long, *Presiding*

1:30 – Plenary Lecture. S. Stupp.

1:50 – 603. Changing polymers with self-assemblers. **S. I. Stupp**

2:20 – 604. Hierarchy of order in liquid-crystalline polycaps. **C. Nuckolls**, R. K. Castellano, J. Rebek

2:50 – 605. Novel functional architectures via metallosupramolecular initiators. **U. S. Schubert**, M. Heller, H. Georg

3:10 – 606. Characterization of supramolecular assemblies by analytical ultracentrifugation: Potential, problems, and application to Co coordination arrays and calixarenes. C. Tziatzios, H. Durchschlag, J. J.

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González, E. Albertini, P. Prados, J. de Mendoza, C. Eschbaumer, U. S. Schubert, P. Schuck, **D. Schubert**

3:30 – 607. Langmuir films of dendritic macromolecules: A materials science perspective. J. P. Kampf, **C. W. Frank**, C. J. Hawker, E. E. Malmström

3:50 – Intermission.

4:00 – 608. Reverse-type micelle formation property of end-glycosidated polystyrene. **T. Kakuchi**, N. Sugimoto

4:20 – 609. Synthesis of block copolymers containing a main-chain polymeric NLO segment. **T. E. Hogen-Esch**, J. Pan, M-F. Chen, L. N. Dalton, W. N. Warner, M. He

4:40 – 610. Amphiphilic block copolymers: Lyotropic phase behavior and their use in morphosynthesis. **E. Krämer**, B. Berton, S. Förster, C. G. Göltner, H-P. Hentze, M. Antonietti

5:00 – 611. Synthesis of star-shaped polystyrenes via nitroxide-mediated stable free-radical polymerization. A. J. Pasquale, **T. E. Long**

5:20 – 612. Synthesis of comb poly(4-hydroxystyrene) using conventional and "living" free-radical polymerization. C. G. Willson, **C. L. McAdams**, W. Yueh, B. P. Osborn

Section B

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Polymeric Bioconjugates

A. S. Hoffman and P. S. Stayton, *Organizer, Presiding*

1:30 – 613. Carboxymethyl-chitin and hydroxyapatite composite for bone repairing. **H. Tamura**, S. Tokura, T. Ishii, Y. Yoshihara

1:55 – 614. On-off control of enzymatic activity synchronizing with micellization of charged block copolymers. **A. Harada**, K. Kataoka

2:20 – 615. Generation of a photopolymerized membrane mimetic monolayer on an alginate/poly-L-lysine coacervate. **H. Liu**, J. M. Orban, E. L. Chaikof

2:45 – 616. Polymer-supported lipid bilayers on benzophenone-modified substrates. **W. W. Shen**, S. G. Boxer, W. Knoll, C. W. Frank

3:10 – 617. Plasma modification of poly(ethylene terephthalate) and poly(L-lactic acid) for tissue engineering. **B. Gupta**, J. Hilborn, I. Bisson, P. Frey

3:35 – 618. Immobilization and activity assay of horseradish peroxidase in mesoporous silica sol-gel materials. **J. Xu**, H. Dong, Q. Feng, **Y. Wei**

Section C

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Polymer Processing in Microgravity

J. A. Pojman, *Organizer*

J. P. Downey, *Organizer, Presiding*

1:30 – 619. Biopolymer production under simulated microgravity conditions. R. Thiruvankatam, **C. Scholz**

2:00 – 620. Liquid-crystal and polymer dispersions in a microgravity environment. **J. B. Whitehead**, G. P.

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Crawford

2:30 – 621. Processing of nonlinear optical polymer systems under microgravity conditions. **L. H. Dao**, K. Parbhakar, H. M. Nguyen, J. M. Jin, Y. Sun, Y. Beaudoin

3:00 – 622. Polymer thin-film growth in microgravity. **W. E. Carswell**, M. S. Paley, D. O. Frazier

3:30 – Intermission.

3:45 – 623. Development of impedance spectroscopy to study polymerization processes in microgravity. **A. P. Kennedy**, J. McLendon

4:15 – 624. Polymerization in microgravity onboard STS-57, STS-63, and STS-77. **K. G. Brown**, K. S. Burns, B. T. Upchurch, G. M. Wood Jr

4:45 – 625. Prospects for the study of gas-phase and intracuster polymerization in microgravity. **M. S. El-Shall**

Section D

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Light-Emitting, Light-Harvesting, and Light-Responding Organic Systems

B. R. Hsieh, Z. Bao, and A. W. Harper, *Organizer*

F. Papadimitrakopoulos, *Organizer, Presiding*

R. Miller, *Presiding*

1:30 – Introductory Remarks. **F. Papadimitrakopoulos, R. Miller.**

1:35 – 626. Efficient blue-light emission in cross-linked poly(fluorene) devices. **R. D. Miller**, J. I. Lee, G. Klaerner, V. Y. Lee, A. Nelson, D. Markiewicz, E. Chan, J. P. Chen, J. C. Scott

2:05 – 627. Bright white polymer double-layer LEDs. **J. P. Chen**, V. Y. Lee, S. Swanson, J. Salem, R. D. Miller, J. C. Scott

2:25 – 628. Synthesis and characterization of poly(2-octoxycarbonyl-1,4-phenylene)-based functionally tailored polyphenylene copolymers. R. P. Quirk, **W. Yu**

2:45 – 629. Optimization of organic semiconductors. **H. F. M. Schoo**, A. J. J. M. van Breemen, B. M. W. Langeveld-Voss, J. A. E. H. van Haare, P. Herwig

3:15 – 630. Oxidized transport layer: A polymer with controlled conductivity. **B. R. Hsieh**

3:35 – 631. Self-assembled properties of poly(phenylene vinylene) derivatives and polarized light-emitting diodes fabricated using friction-transferred surfaces. **Z. Bao**, L. Chen, A. Lovinger, J. Sapieta, R. Jakubiak, L. Rothberg, M. Yan

3:55 – 632. Luminescent rare-earth multilayer assemblies. **J. Mwaura**, D. L. Thomsen III, T. Phely-Bobin, S. Theodoropoulos, F. Papadimitrakopoulos