

**2003 Spring NATIONAL ACS MEETING
New Orleans, LA (March 23-28, 2003)**

Program Meeting Chair: [Carrington Smith](#)

Abstract/Preprint Deadline: Nov. 25, 2002

Polymer Brushes: From Synthesis to Functional Microstructures (6 sessions) (cosponsored with PMSE)

Bill Brittain, Dept. of Polymer Science, U of Akron, Akron, OH 44325-3909, brittain@polymer.uakron.edu, Phone: 330-972-5147 (Fax: 330-972-5290); Rigoberto C. Advincula, Dept. of Chem., Univ. of AL at Birmingham, Chem.Bldg., 901 14th St., South Birmingham, AL 35294-1240, gobet@uab.edu, Phone: 205-934-8286 (Fax: 205-934-2543); Jurgen Ruhe, Chem & Physics of Interfaces, Inst. for Microsystem Technology (IMTEK), Univ. of Freiburg, George-Köhler-Allee 103; 79110 Freiburg, Germany, ruehe@imtek.uni-freiburg.de, Phone: +49 (0)7 61 / 203-7161 (Fax: +49 (0)7 61 / 2 03-7162); Kenneth Caster, Dept. of Mechanical Engineering and Materials Science, Box 90300, Duke University, Durham, NC 27708, kccaster@alumni.duke.edu, Phone: (919) 660-5417; Fax: 919-660-5409

The Polymer Science of Everyday Things (4 sessions) (cosponsored with the Royal Society of Chemistry and with the Intersociety Polymer Education Council)

David Bott, ICI, Windsor Court, Kingsmead Business Park, London Road, High Wycombe, Bucks HP11 1JU, UK, david_bott@ici.com; Coleen Pugh, Maurice Morton Institute of Polymer Science, University of Akron, Akron, OH 44325-3909, cpugh@polymer.uakron.edu, Phone: 330-972-6614 (Fax 330-972-8864); R S Moore, Eastman Kodak Co (Ret), 25 Cranston Rd., Pittsford, NY 14534, rsmoor4@attglobal.net, Phone: 716-381-3366 (Fax N/A); Ann Beal Salamone, Rochal Industries, 740 NW 6th Street, Boca Raton, FL 334861, ABSalamone@aol.com, Phone: 561-866-0930 (FAX N/A)

Crosslinking Materials and Processes (4-6 sessions)

Robert Pinschmidt, Air Products and Chemicals, Inc., 7201 Hamilton Boulevard, Allentown, PA 18195-1501, pinschrk@apci.com, Phone: 610-481-6435 (Fax: 610-481-7719); Charles E. Hoyle, Department of Polymer Science, The University of Southern Mississippi, S. S. Box 10076, Hattiesburg, MS 39406-0076, Charles.Hoyle@usm.edu, Phone: 601-266 4873 (Fax: 601-266 5504)

Polymer Design Using Non-Covalent Methods (4 sessions)

Tim Long, Virginia Tech, Dept. of Chemistry, Blacksburg, VA 24061-0344, telong@vt.edu, Phone: 540-231-2480 (Fax: 540-231-8517); Richard A Gross, NSF-I/UCRC, Center for Biocatalysis and Bioprocessing of Macromolecules, Polytechnic University, Six Metrotech Center, Polytechnic University, Brooklyn, NY 11201, rgross@poly.edu, Phone: 718-260-3024 (Fax: 718-875-9646); Vincent Rotello, Department of Chemistry, University of Massachusetts-Amherst, Amherst, MA 01003, rotello@chem.umass.edu, Phone: 413-545-2058 (Fax: N/A); E.W. Meijer, Laboratory of Macromolecular and Organic Chemistry, Eindhoven University of Technology, P.O. Box 513, 5600 MB, Eindhoven Netherlands, E.W.Meijer@tue.nl, Phone: +31 40 2472655 (Fax +31 40 2451036)

NMR Spectroscopy of Polymers (6 sessions)

H. N. Cheng, Hercules Incorporated, Research Center, 500 Hercules Rd., Wilmington, DE 19808-1599, hcheng@herc.com, Phone: 302-995-3505 (Fax: 302-995-4135); A. D. English, DuPont Experimental Station, Wilmington, DE 19880-0356, alan.d.english@usa.dupont.com, Phone: 302-695-4851 (Fax: 302-654-4872)

Polymeric Surface Modification: Biomedical Applications (4 sessions)

Buddy Ratner, University of Washington Engineered Biomaterials, University of Washington, Bagley Hall, Box 351720, Seattle, WA 98195, ratner@uweb.engr.washington.edu, Phone: 206-685-1005 (Fax: N/A)

Advances in Polycarbonates (2-4 sessions)

Daniel J. Brunelle, GE Global Research, Bldg K-1, Rm 5A26, One Research Circle, P.O. Box 8, Schenectady, NY, brunelle@crd.ge.com, Phone: 518-387-6605 (Fax: 518-387-5592); Michael R. Korn, Department of Chemistry and Biochemistry, 601 University Dr., Southwest Texas State University, San Marcos, TX 78666, mk15@swt.edu, Phone: 512-245-3124 (Fax: 512-245-2374)

General Papers (4 oral sessions)

Dana Garcia, Analytical Research, Atofina Chemicals Inc, 900 First Avenue, King of Prussia, PA 19406, dana.garcia@atofina.com, Phone: 610-878-6731 (Fax: 610-878-6196)

Mark Award (1-2 session)

DIVISION OF POLYMER CHEMISTRY

Times, days, and paper numbers may not be final.

C. Smith, *Program Chair*

OTHER SYMPOSIA OF INTEREST:

Biotechnology in the Service of Health (see *Biotechnology Secretariat*, Sun)
From Sensors to Functional Instruments (see *Division of Analytical Chemistry*, Wed)
Function-Based and Other Novel Approaches to Sensors for Homeland Defense (see *Division of Analytical Chemistry*, Sun)
Macromolecules to Bioparticles: Analyses with Field-Flow Fractionation (see *Division of Analytical Chemistry*, Mon)
Microelectrochemical Systems and Arrays (see *Division of Analytical Chemistry*, Thu)
Size-Exclusion Chromatography with Multiple Detection Techniques (see *Division of Analytical Chemistry*, Wed)
Advances in Tissue Engineering and Cell Therapy (see *Division of Biochemical Technology*, Wed)
Bioinformatics, Genomics, and Proteomics (see *Division of Biochemical Technology*, Tue)
Plasma Technology and Catalysis (see *Catalysis & Surface Science Secretariat*, Mon, Tue, Wed)
Commercializing New Technologies from Concept to Market (see *Division of Business Development and Management*, Tue)
Advances in Biodegradation and Biotransformation of Lignocellulosics (see *Division of Cellulose and Renewable Materials*, Sun, Mon)
Chemical Modification of Starch (see *Division of Cellulose and Renewable Materials*, Sun)
Composites from Renewable Resources (see *Division of Cellulose and Renewable Materials*, Wed)
Modified Fibers with Medical and Specialty Applications (see *Division of Cellulose and Renewable Materials*, Tue, Wed, Thu)
Undergraduate Research Poster Session: Polymer Chemistry (see *Division of Chemical Education*, Mon)
Alternatives to Thermal Distillation Solvent Purification (see *Division of Chemical Health and Safety*, Sun)
High-Throughput Experimentation (see *Division of Chemical Information*, Wed)
Be All That You Can Be ... as a Technician in Industry! (see *Division of Chemical Technicians*, Mon)
Intellectual Property Issues for the Industrial Workplace (see *Division of Chemistry and the Law*, Mon)
Adsorption of Macromolecules at Liquid-Solid Interfaces (see *Division of Colloid and Surface Chemistry*, Sun, Mon, Tue)
Colloidal and Molecular Electro-Optics (see *Division of Colloid and Surface Chemistry*, Mon, Tue, Wed, Thu)
Molecular-Level Aspects of Bacterial Adhesion, Transport, and Biofilm Formation (see *Division of Environmental Chemistry*, Sun, Mon)
Advances in Membranes for Energy and Fuel Applications (see *Division of Fuel Chemistry*, Tue, Wed, Thu)
Hydrogen Energy for the 21st Century (see *Division of Fuel Chemistry*, Tue, Wed)
ACS Award in Separations Science and Technology sponsored by IBC Advanced Technologies, Inc. (see *Division of Industrial and Engineering Chemistry*, Tue)
Nanotechnology and the Environment (see *Division of Industrial and Engineering Chemistry*, Sun, Mon, Tue, Wed, Thu)
Materials Properties (see *Division of Inorganic Chemistry*, Tue, Wed)
Materials Properties (see *Division of Inorganic Chemistry*, Tue)
Materials Synthesis (see *Division of Inorganic Chemistry*, Sun, Mon)
Materials Synthesis (see *Division of Inorganic Chemistry*, Tue)
Synthesis of Nanoparticles and Nanostructured Materials (see *Division of Inorganic Chemistry*, Sun, Mon, Tue, Wed, Thu)
Synthesis of Nanoparticles and Nanostructured Materials (see *Division of Inorganic Chemistry*, Sun)
Award Symposium for Robert Grubbs (see *Division of Inorganic Chemistry*, Sun)
Organometallic Polymers (see *Division of Inorganic Chemistry*, Tue)
Materials, Devices, and Switches (see *Division of Organic Chemistry*, Wed, Thu)
Molecular Recognition and Self-Assembly (see *Division of Organic Chemistry*, Thu)
Fuel Cleanup Considerations for Fuel Cells (see *Division of Petroleum Chemistry*, Tue)
New Electronic Structure Methods: From Molecules to Materials (see *Division of Physical Chemistry*, Sun, Mon, Tue, Wed, Thu)
Synthesis, Spectroscopy, Characterization, and Applications of Nanoparticles (see *Division of Physical Chemistry*, Sun, Mon, Tue, Wed, Thu)
Advances in Polymers and Polymerization (see *Division of Polymeric Materials: Science and Engineering*, Wed, Thu)
Applications of Scanning Probe Microscopy to Polymers (see *Division of Polymeric Materials: Science and Engineering*, Mon, Tue, Wed, Thu)

Chemistry of Materials Award Symposium in Honor of Larry Dalton (see *Division of Polymeric Materials: Science and Engineering*, Mon)
Cooperative Research Award Honoring Craig Hawker and Tom Russell (see *Division of Polymeric Materials: Science and Engineering*, Sun)
Gene-Based Medicine: Delivery and Diagnostics (see *Division of Polymeric Materials: Science and Engineering*, Tue)
General Papers (see *Division of Polymeric Materials: Science and Engineering*, Sun)
In Situ Characterization of Polymerization Processes (see *Division of Polymeric Materials: Science and Engineering*, Tue, Wed)
Joint PMSE/POLY Poster Session (see *Division of Polymeric Materials: Science and Engineering*, Tue)
MALDI and ESI Mass Spectrometry Techniques for Polymers (see *Division of Polymeric Materials: Science and Engineering*, Sun, Mon)
New Concepts in Biomaterials: Synthesis, Application, Concerns (see *Division of Polymeric Materials: Science and Engineering*, Sun, Mon)
Sci-Mix (see *Division of Polymeric Materials: Science and Engineering*, Mon)
Polymer Surfaces and Interfaces (see *Division of Polymeric Materials: Science and Engineering*, Tue, Wed, Thu)
Synthesis, Characterization, and Application of Multiphase and Composite Materials (see *Division of Polymeric Materials: Science and Engineering*, Sun, Mon)
True Stories of Small Chemical Businesses (see *Division of Small Chemical Businesses*, Tue)
Hybrid Materials (see *Materials Chemistry Secretariat*, Sun, Mon, Tue)
Corporate America's Contribution to Science: Successful Women Chemists (see *Women Chemists Committee*, Mon)
SOCIAL EVENTS:
Reception: Mon
Social Hour: Sun, Tue

SUNDAY MORNING

Section A

Hilton Riverside -- Grand Salon D19/D22

Crosslinking Materials and Processes

Hydrogels and UV Cationic Cross-linked Systems

C. E. Hoyle, *Organizer, Presiding*

R. K. Pinschmidt Jr., *Organizer*

8:00 - 1. Intelligent amphiphilic co-networks and gels based on cross-linking with methacrylate-telechelic polyisobutylene macromonomers. M. Haraszti, G. Erdidi, **B. Iv·n**

8:30 - 2. Cross-linked polyacrylate hydrogels: Osmotic and neutron-scattering properties. **F. Horkay**, P. J. Basser, A. Hecht, E. Geissler

9:00 - 3. Induced mesophase stability in polymer/Pluronic LLC composites using cross-linking acrylate monomers. D. T. McCormick, K. D. Stovall, **C. A. Guymon**

9:30 - 4. Photopolymerization of maleimide/*N*-vinylpyrrolidone hydrogels. **S. E. Jonsson**, V. Kalyanaraman, K. Lindgren, S. Swami, L. Ng

10:00 - Intermission.

10:10 - 5. Water-based radiation-curable polyurethane acrylate coatings. **Y. Heischkel**, K. Menzel, W. Paulus, C. Decker, R. Schwalm

10:40 - 6. Combined thermal and radiation curing for multilayer coil coating. **P. Sundell**, T. Bergman, H. Fagerholm, M. Hautala, A. Ranta-Eskola, C. Filthaut, M. Ferreira

11:10 - 7. Photoinitiated cationic polymerization using 5-arylthianthrenium salts. **J. V. Crivello**, F. Jiang, J. Ma

11:40 - 8. The development of anthracene photosensitizers for photoinitiated cationic polymerization. **M. Jang**, J. V. Crivello

Hilton Riverside -- Grand Salon C16/C13

General Papers

Polymer Synthesis

M. R. Buchmeiser, *Presiding*

D. Garcia, *Organizer*

8:00 - 9. Free-radical polymerization of 2,3-bis(dimethylaminomethyl)-1,3-butadiene. **Y. Yang, V. V. Sheares**

8:20 - 10. A high-throughput approach for poly(2-oxazoline) research: Application of an automated synthesizer. R. Hoogenboom, M. W. M. Fijten, **U. S. Schubert**

8:40 - 11. Synthesis of liquid-filled polymeric nanocapsules: Morphology analysis, role of surfactant and the use of living polymerization techniques. **A. J. P. Van Zyl**, D. De Wet-Roos, R. D. Sanderson, B. Klumperman

9:00 - 12. Synthesis of metal-complexing polysiloxanes using the sol-gel process. **S. Gallagher**

9:20 - 13. Reversible addition-fragmentation polymerization in heterogeneous media. **J. B. McLeary**, M. P. Tonge, R. D. Sanderson, B. Klumperman

9:40 - 14. Controlled-living polymerization by fast-initiating ruthenium catalyst. **T. Choi**, R. H. Grubbs

10:00 - 15. Synthesis and characterization of novel oxetane macromonomers. **T. Fujiwara**, U. Makal, J. Uilk, K. J. Wynne

10:20 - 16. Synthesis and polymerization chemistry of PEG- and peptide-functionalized cyclooctene for biomaterials applications. **K. Breitenkamp**, D. M. Junge, E. Jin, T. Emrick

10:40 - 17. Synthesis and properties of polysiloxane-polypropylene graft copolymers. **P. Fu**

11:00 - 18. Monolithic polymeric supports for heterogenized metathesis catalysts. **M. R. Buchmeiser**, M. Mayr, J. Krause, O. Nuyken, S. Lubbad

11:20 - 19. Synthesis and electrospinning of branched polyesters. **M. G. McKee**, T. E. Long, G. L. Wilkes

11:40 - 20. Alternating radical copolymerization of phenylacetylene with cyclooligoarsines. **K. Naka**, T. Umeyama, A. Nakahashi, **Y. Chujo**

Hilton Riverside -- Grand Salon C18/C15

Polymeric Surface Modification: Biomedical Applications

Cosponsored with Division of Biochemical Technology

B. D. Ratner, *Organizer, Presiding*

9:00 - 21. Surface modification of polymeric biomaterials: A brief tutorial and overview. **B. D. Ratner**

9:45 - 22. Surface modification: Cartoons or reality? **D. G. Castner**

10:15 - 23. Surface structure and protein adsorption behavior of polyurethane modified with plasticizers or nitric oxide release agents. **M. L. Clarke**, J. Wang, Z. Chen

10:45 - 24. Investigating the adsorption of DNA on polymer-modified surfaces: Block copolymers, dendrimers, and polyelectrolytes. **R. Advincula**, M. Park, X. Fan, M. A. Advincula

11:15 - 25. Cloud point PEGylation of titanium biomaterials using a biomimetic anchor. **J. L. Dalsin**, S. Tosatti, M. Textor, P. B. Messersmith

Hilton Riverside -- Grand Salon B9/B12

The Polymer Science of Everyday Things

Cosponsored with The Royal Society of Chemistry and Intersociety Polymer Education Council, Division of Industrial and Engineering Chemistry, and Presidential Event

D. Bott, *Organizer, Presiding*

C. Pugh, R. S. Moore, K. J. Wynne, and A. B. Salamone, *Organizers*

8:30 - 26. Cooking with plastics. **P. J. Barham**

9:10 - 27. Polymers in your food? **P. J. Lillford**

9:50 - 28. Polysaccharides from field to fork and factory. **A. M. Donald**

10:30 - 29. Contact lens material technology. **J. F. Kunzler**, J. C. Salamone

11:10 - 30. Polymers in wound care. **D. H. Lucast**

11:50 - Presidential Symposium Remarks. The Transatlantic Connection. Royal Society of Chemistry Executive Director **David Giachardi**.

SUNDAY AFTERNOON

Hilton Riverside -- Grand Salon D19/D22

Crosslinking Materials and Processes

UV Free-Radical Cross-linked Systems

S. E. Jonsson and T. M. Roper, *Presiding*

R. K. Pinschmidt Jr. and C. Hoyle, *Organizers*

1:30 - 31. Cross-linking in thiol-acrylate photopolymerizations. N. B. Cramer, **C. N. Bowman**

2:00 - 32. Radiation-induced polymerization of monomers from renewable resources. **M. Johansson**, J. Samuelsson, P. Sundell, U. Bexell, M. Olsson

2:30 - 33. Synthesis, photopolymerization, and coatings evaluation of novel vinyl esters. **T. Y. Lee**, C. E. Hoyle, K. A. Lowery, C. A. Guymon, S. E. Jonsson

3:00 - 34. Kinetics and modeling of thiol-ene photopolymerizations. **N. B. Cramer**, T. Davies, A. K. O'Brien, C. N. Bowman

3:25 - Intermission.

3:35 - 35. Ultrafast synthesis of cross-linked materials by photoinitiated polymerization. **C. Decker**, K. Studer

4:05 - 36. Integrated approach to studying the development and final network properties of urethane acrylate coatings. **S. M. Gasper**, D. N. Schissel, L. S. Baker, D. L. Smith, R. E. Youngman, L. Wu, S. M. Sonner, S. R. Givens, R. R. Hancock

4:35 - 37. Design of low-shrinkage methacrylate polymers. **J. Ge**, M. Trujillo, **J. W. Stansbury**

5:05 - 38. Novel (meth)acrylate monomers for ultrarapid polymerization and enhanced polymer properties. **E. R. Beckel**, K. A. Berchtold, J. Nie, H. Lu, J. W. Stansbury, C. N. Bowman

Hilton Riverside -- Grand Salon C16/C13

2003 Spring Meeting

General Papers
Polymer Synthesis

C. G. Miller, *Presiding*

D. Garcia, *Organizer*

1:00 - 39. Olefin copolymerization using atom transfer radical polymerization: Determination of reactivity ratios. R. Venkatesh, S. Harrison, **B. Klumperman**, D. M. Haddleton

1:20 - 40. Olefin copolymerization using atom transfer radical polymerization. **R. Venkatesh**, B. Klumperman

1:40 - 41. Structure control of star microgels by ATRP. P. Gurr, **G. G. Qiao**, D. H. Solomon, M. Mills

2:00 - 42. Synthesis of novel controlled-structure sugar methacrylate polymers by ATRP under mild conditions without protecting group chemistry. **R. Narain**, S. P. Armes

2:20 - 43. Unexpected transesterification of tertiary amine methacrylates during methanolic ATRP at ambient temperature: A cautionary tale. **X. Borjes-Azeau**, S. P. Armes

2:40 - 44. Controlled synthesis and morphological characterization of nanometer-sized ionic cross-linking domains in PMMA. **S. Karanam**, H. Goossens, P. Lemstra

3:00 - 45. I-(PIB-*b*-PS)₃ star block copolymers using living carbocationic polymerization and a trifunctional initiator. R. F. Storey, **S. J. Taylor**

3:20 - 46. Photoinitiated group transfer polymerization of methyl methacrylate. **C. T. Sanderson**, C. Kotal, R. L. Lavallee

3:40 - 47. Synthesis and characterization of telechelic polymers prepared by RAFT. **V. G. R. Lima**, J. Brokken, B. Klumperman, G. van Benthem-van Duuren, R. van der Linde

4:00 - 48. New multiblock copolymers of sulfonated *para*-phenylenes and ether sulfone for proton-exchange membrane. **H. Ghassemi**, G. Ndip, J. E. McGrath

4:20 - 49. Synthesis and photophysical properties of poly(*p*-phenylene vinylene) via ruthenium-based acyclic diene metathesis polymerization. **C. G. Miller**, A. W. Harper

4:40 - 50. Synthesis of thiophene end-functionalized polyisobutylene. **J. C. Cho**, M. H. Acar, R. Faust

Section C

Hilton Riverside -- Grand Salon C18/C15

Polymeric Surface Modification: Biomedical Applications

Tutorial

Cosponsored with Division of Biochemical Technology

B. D. Ratner and P. L. Valint, *Organizers, Presiding*

1:30 - 51. Polyelectrolyte multilayer-engineered surfaces. **G. Decher**

2:00 - 52. Thiolipids for tethered bilayer membranes. S. Schiller, R. Naumann, K. Lovejoy, **W. Knoll**

2:30 - 53. Surface modification of polymeric nanocomposite thin films. **A. C. Balazs**

3:00 - 54. The bio/materials interface. **G. M. Whitesides**

3:30 - 55. Site-specific conjugates of smart polymers and engineered proteins on surfaces. **A. S. Hoffman**, P. S. Stayton

4:00 - 56. Strategies for polymer surface modification: Sum frequency generation vibrational spectroscopy and atomic

2003 Spring Meeting

force microscopy studies. **G. A. Somorjai**, J. Kim, T. Koffas

4:30 - 57. Interfacial structure and dynamics of perfluoropolyether hard disk. **C. Frank**, L. E. Bailey, G. Tyndall

Section D

Hilton Riverside -- Grand Salon B9/B12

The Polymer Science of Everyday Things

Cosponsored with The Royal Society of Chemistry and Intersociety Polymer Education Council, Division of Industrial and Engineering Chemistry, and Presidential Event

C. Pugh, *Organizer, Presiding*

D. Bott, **R. S. Moore**, **K. J. Wynne**, and **A. B. Salamone**, *Organizers*

1:30 - 58. Diapers and materials mechanics. **T. L. Mansfield**

2:10 - 59. Dental polymers: Something to chew on. **M. T. O'Connor Jr.**

2:50 - 60. Transdermal patches: Not just for control freaks? **P. B. Foreman**, S. H. Jacobson

3:30 - 61. Importance of polymers in home and personal care products. **E. Khoshdel**

4:10 - 62. Silicones in hair products, cosmetics, and clothes: You are closer to silicones than you think. **M. D. Butts**

Section E

Hilton Riverside -- Grand Salon D21/D24

General Papers

Polymer Characterization

D. L. Hunston, *Presiding*

D. Garcia, *Organizer*

1:00 - 63. Structural formation of amorphous poly(ethylene terephthalate) under uniaxial deformation using synchrotron radiation. **D. Kawakami**, B. X. Fu, S. Ran, I. Sics, B. S. Hsiao

1:20 - 64. Characterization of conducting polymers, polyaniline by inverse gas chromatography. **Z. Y. Al-Saigh**, A. Al-Ghamdi

1:40 - 65. Bimolecular polymer chain end reaction rates measured by gel permeation chromatography with fluorescence detection. **A. J. Maliakal**, H. Greenaway, N. J. Turro

2:00 - 66. Detection of free radicals by radical trapping and ¹⁵N NMR spectroscopy in copolymerization of methyl acrylate and styrene. **P. Kelemen**, B. Klumperman

2:20 - 67. Segment orientation and conformational behavior of polydiethylsiloxane guest chains in uniaxially stretched polydiethylsiloxane elastomers: ²H NMR and SANS. **A. Batra**, P. Schofield, T. M. Duncan, C. Cohen

2:40 - 68. Temperature-modulated DSC and FT-IR analysis of solvent cast lignin/PEO films. **S. Kubo**, P. J. Cleary, J. F. Kadla

69. Withdrawn.

3:00 - 70. Potentiometric study of surface characteristics of latex particles prepared by emulsifier-free emulsion polymerization of styrene. **X. Li**, R. Salovey

3:20 - 71. Mechanical behavior of caulks and sealants. **D. L. Hunston**, C. C. White

3:40 - 72. Two-photon absorption in a new symmetrical series of diphenylaminofluorene-based structures. **K. D. Belfield**, A. R. Morales, V. M. Chapela, J. Percino

2003 Spring Meeting

4:00 - 615. Study of the accelerating effect of water in the copolymerization of acrylonitrile with methyl acrylate in emulsion and solution processes. V. A. Bhanu, M. Bortner, T. Mukundan, T. E. Glass, D. G. Baird, **J. E. McGrath**

4:20 - 74. Stereoselective incorporation of unsaturated amino acids into proteins in vivo. **M. Mock**, T. Michon, D. A. Tirrell

SUNDAY EVENING

Section A

Convention Center -- Hall G

Crosslinking Materials and Processes

Poster Session

R. K. Pinschmidt and C. Hoyle, *Organizers*

6:00 - 8:00

75. Effect of double bond position on the reactivity of alkenes with a monofunctional thiol and its applications to thiol-ene cross-linking reactions. **T. M. Roper**, C. E. Hoyle, C. A. Guymon

76. Carbon yield optimization of acetylene resins. **H. Zengin**, S. Hudson, K. P. U. Perera, D. W. Smith Jr.

77. Carbonylbiscaprolactam: A versatile reagent for the synthesis of reactive oligomers. **S. Maier**, T. Loontjens, B. Scholtens, R. M. Ihaupt

78. Characterization and coating properties of POSS formed by the hydrolytic condensation of GPMS. **L. Hu**, H. You, J. Liu, X. Zhang, **Y. Huang**, D. Sun

79. Cross-linking kinetics of *R*-(α -hydroxymethyl)acrylates: Effect of cross-linker type and functionality. T. J. Smith, B. S. Shemper, **J. S. Nobles**, A. M. Casanova, C. Ott, L. J. Mathias

80. Effect of addition of polyol on cure kinetics and viscoelastic properties of UV-curable coating formulations containing cycloaliphatic epoxide and oxetane. **H. A. Nash**, H. J. Docktor, D. C. Webster

81. Effect of cross-linking point distribution on properties of controllable cross-linking poly(ether ether ketone)s. X. Liu, C. Chen, Z. Gao, H. Cao, X. Zhao, T. Ben, **W. Zhang**

82. Efficient synthesis of sol-gel materials for nonlinear optical applications. D. W. Smith Jr., D. Perahia, **B. K. Spraul**, S. Suresh, J. Ballato

83. Electrochemical cross-linking of polyvinylcarbazole onto carbazole-SAM modified ITO substrates for organic light-emitting diode devices. **K. Onishi**, R. Advincula

84. EPR investigation concerning cyclopolymerization of bis-*ortho*-diynyl arene monomers. **V. Mellon**, N. Mifsud, P. Perera, L. Echegoyen, D. W. Smith Jr.

85. Linking poly-L-arginine to poly-DL-lysine using pentosidine linkages (the Maillard reaction). **J. R. Wright**, A. Standefer, A. Dawson

86. Modification of bisphenol-A BMI resin (BPA-BMI) with allyl-terminated hyperbranched polyimide (AT-PAEKI). **H. Qin**, P. T. Mather, J. Baek, L. Tan

87. Network-encapsulated self-assembled colloidal spheres: Sensory applications. **P. Jiang**, D. W. Smith Jr., S. H. Foulger

88. Photopolymerization of urethane dimethacrylates synthesized via a non-isocyanate route. **H. J. Assumption**, L. J. Mathias

2003 Spring Meeting

89. Properties of high-resilience polyurethane flexible foams synthesized by novel polyether grafting starch copolymer. **S. Chen**, L. Chen
90. Spacer length and structural effects on oxygen inhibition of dimethacrylates. **T. Y. Lee**, C. E. Hoyle, C. A. Guymon, S. E. Jonsson
91. Strain-induced crystallization in poly(isobutylene) elastomers in elongation or shear. **H. Sun**, **G. S. Sur**, J. E. Mark
92. Synthesis and characterization of glycidyl carbamate functional oligomers. **P. A. Edwards**, J. Erickson, D. C. Webster
93. Synthesis and polymerization of a new nitrogen-containing bis-*ortho*-diynylarene monomer. **H. Zengin**, D. W. Smith Jr.
94. Synthesis of novel interpenetrating polymer networks based on hydrolyzable polyesters. **D. Grande**, N. Lacoudre, P. GuÈrin, S. Boileau
95. Synthesis of pH-responsive shell cross-linked micelles and their use as nanoreactors for the preparation of gold nanoparticles. **J. V. M. Weaver**, S. Liu, S. P. Armes
96. Templated sol-gels, a neutron-scattering study. D. W. Smith Jr., D. Perahia, **B. K. Spraul**, X. Jiao, R. Traiphol, K. P. U. Perera
97. Thermal and rheological properties of low molecular weight polymers. **D. R. Bloch**
98. Anisotropic liquid-crystal gels: Self-assembled nanocomposites as solid-state soft actuator materials exhibiting high electromechanical responses. **C. Huang**, A. Jakli, Q. M. Zhang
99. A new cross-linking chemistry based on a 5-membered dithiocarbonate group. **T. Murayama**, I. Hotta, B. D. Hanrahan
100. Pyrolysis GC-MS and transmission electron microscopy in the characterization of cross-linked UHMWPE microstructure. **R. D. Redfearn**, C. W. Carlson, A. M. Viano, K. E. Spence, A. K. Ray

Section B

Convention Center -- Hall G

General Papers

Polymer Characterization

D. Garcia, *Organizer*

6:00 - 8:00

101. Infrared interpretation tools for polymer spectroscopy. **M. Boruta**, J. Chalmers, G. M. Banik
102. Polymer adsorption on nano-heterogeneous surfaces. **Y. Huang**, V. K. Gupta
103. Preparation and properties of nylon-1010/montmorillonite by melt intercalation. Z. Liu, **D. Yan**
104. Nanopatterning of fibrous proteins. **D. L. Wilson**
105. Poly(methyl methacrylate)-clay nanocomposites by bulk, solution, and suspension surface initiated polymerization. **X. Fan**, C. Xia, R. Advincula
106. Preparation of acrylonitrile-butadiene-styrene triblock copolymer electrospun nanofibers. Y. Hong, Z. Yang, Q. Yang, Z. Li, **C. Wang**
107. Properties of poly(vinyl alcohol)/montmorillonite nanocomposite fibers. Y. Wang, Y. Wang, **D. Yan**
108. Doping effect of carbon nanotubes on polyaniline. **H. Zengin**, W. Zhou, J. Jin, R. Czerw, D. W. Smith Jr., L. A.

2003 Spring Meeting

Echegoyen, D. Carroll, S. H. Foulger, J. Ballato

109. Morphology and mechanical behavior of styrene-based block copolymer/silicate nanocomposites. **T. Kwee**, K. A. Mauritz

110. Motion of two electrons on a cylindrical nanoparticle. S. K. Knudson, M. D. Barnes, B. G. Sumpter, **D. W. Noid**

111. Novel polyimide-nickel oxide nanocomposite materials with magnetic property via in situ chemical processing. **Z. Bai**, S. C. Tan

112. Design of nanoporous polymeric materials using reactive encapsulation of a chemically inert solvent. **V. I. Raman**, G. R. Palmese

113. Preparation and characteristics of biodegradable aliphatic polyester-poly(epichlorohydrin) blend/organoclay nanocomposites. S. T. Lim, C. H. Lee, H. B. Kim, **H. J. Choi**, M. S. Jhon

114. Preparation and characterization of transparent poly(propylene oxide)/silica composites. **G. S. Sur**, T. J. Lee, H. Sun, J. E. Mark

115. Microcellular foams from aminated polysulfone/polybenzimidazole molecular composites. **H. Sun**, N. Venkatasubramanian, M. D. Houtz, J. E. Mark, F. E. Arnold

116. Electrical properties of organogermanium nanocluster film. **A. Watanabe**, **M. Unno**, **F. Hojo**, **T. Miwa**

117. In situ nanocomposites via solid-state modification in porous polymers. **S. H. Jain**, H. Goossens, F. Picchioni, M. van Duin

118. Synthesis of functionalized triblock copolymers and their applications in dispersing magnetic nanoparticles. **K. D. Belfield**, Y. Wang

119. Structural investigations of Surlyn ionomer/titanate nanocomposites formed by an ionomer in situ sol-gel process. P. R. Start, **M. A. Sharp**, K. A. Mauritz

120. Atomic force microscopy study of the morphology of a triblock copolymer (BCP), sulfonated BCP, and a BCP/silicate hybrid produced by a templated sol-gel process. **R. I. Blackwell**, K. A. Mauritz

121. In situ precipitation of ferrous (hydrated oxide) and iron oxide particles in poly(dimethylsiloxanes). **S. Murugesan**, G. Beaucage, J. Mark

122. Analysis of an order-order transition of a triblock copolymer (BCP), sulfonated BCP (sBCP), and sBCP/silicate hybrid by dynamic mechanical analyses. **R. I. Blackwell**, K. A. Mauritz

123. Pyrolytic preparation of porous C/C composite from coal tar pitch-based thermosetting resin and activated carbon powder. **M. Ota**, **H. Ohmiya**, Y. Aoyagi, **J. Kametani**, H. Tomosaka, **K. Hiraishi**, S. Otani

124. Semiconductor nanoparticle/polystyrene latex composite materials. **R. L. Sherman Jr.**, W. T. Ford

125. Preparation of poly(trimethylene terephthalate)/montmorillonite nanocomposite by melt intercalation. Z. Liu, **D. Yan**, K. Chen

126. Poly(trimethylene terephthalate)-montmorillonite nanocomposite made by in situ polymerization. Q. Duan, **D. Yan**

127. Phase behaviors in solution-processed perfluorosulfonate ionomers. **A. K. Phillips**, R. B. Moore

128. Correlations between bulk mechanical relaxations and spin diffusion times in perfluorosulfonate ionomers: Molecular origins of mechanical relaxations. **K. A. Page**, R. B. Moore

129. Influence of ionomeric compatibilizers on the morphology and properties of amorphous polyester/polyamide blends. **G. C. Gemeinhardt**, A. A. Moore, R. B. Moore

2003 Spring Meeting

- 130.** Ionic conductivity studies of methyl polysiloxane polymer electrolytes with oligo(oxyethylene) side chains. **J. J. Jin**, L. J. Lyons, Q. Wang, R. West
- 131.** Ion-containing acrylamide copolymers with pH- and salt-responsive behavior. **M. J. Fevola**, R. G. Ezell, J. K. Bridges, C. L. McCormick
- 132.** Study on crystalline transition in even-even nylons based on hexadecane diacid. **W. Li, D. Yan**
- 133.** Water transport through poly(styrene-*b*-isobutylene-*b*-styrene) ionomers via ATR-FTIR spectroscopy. D. A. Mountz, **J. G. Kopchick**, K. A. Mauritz
- 134.** Diffusion of water in epoxy resins cured by active ester: ATR-FTIR studies. **S. Li**, M. Liu, P. Wu, Y. Ding
- 135.** Broadening light reflection band in cholesteric liquid-crystal films. **K. Song**, Y. Kwon, H. Lee, J. Lee, I. Kim
- 136.** Hyperbranched polyphenylenes: Synthesis, light emission, and optical-limiting properties. H. Peng, J. W. Y. Lam, R. Zheng, M. H₂O filler, J. Luo, K. Xu, **B. Z. Tang**
- 137.** Perfluorocyclobutyl copolymers for electro-optics. D. W. Smith Jr., **S. Suresh**, S. Chen, C. M. Topping, J. Ballato
- 138.** A new low-bandgap conducting polymer. **I. T. Kim**, S. W. Lee, J. Y. Lee
- 139.** Novel two-photon absorption chromophore and its incorporation into silicones. **S. Oztemiz**, M. C. Jobanputra, S. J. Clarson
- 140.** Polymer light-emitting diode properties of polyfluorene and electrochemically polymerized polyvinylcarbazole (PVK). **K. Onishi**, R. Advincula
- 141.** Fluorescence image pattern using a chemically amplified diphenylmaleimide dye. **N. C. Yang, Y. M. Yoo, J. K. Kim, D. H. Suh**
- 142.** Self-assembled heterocycle-based films: Properties of novel pyridine-pyrrole chromophores anchored to functionalized siliceous substrates. **A. Facchetti**, A. Abbotto, L. Beverina, M. E. van der Boom, T. J. Marks, G. A. Pagani
- 143.** Self-assembly and photovoltaic property of multilayer film based on partially doped polyaniline and poly(4-carboxyphenyl) acetylene. Y. Guijun, W. Boqiu, **D. Yuping**, Z. Maofeng, Y. Zhaohui, Y. Qiaoling, J. Wing Yip Lam, T. Benzhong
- 144.** Fluorescence studies of hydrophobic association of fluorocarbon-modified poly(*N,N*-dimethylacrylamide). **S. J. Tomczak**, T. E. Hogen-Esch
- 145.** Synthesis, thermal stability, and optical properties of hyperbranched polyarylenes containing carbazole moieties. M. H₂O filler, J. W. Y. Lam, H. Peng, R. Zheng, **B. Z. Tang**
- 146.** DNA capillary electrophoresis using poly(vinyl alcohol) I: Inner capillary coating. **T. Moritani**, K. Yoon, B. Chu
- 147.** Kinetics and radical characterization of aryl trifluorovinyl ether polymerization using ESR spectroscopy. V. Mellon, **N. Mifsud**, C. M. Topping, L. Echegoyen, D. W. Smith Jr.
- 148.** Detection of immobilized protein on latex microspheres by IR-visible sum-frequency generation and friction force microscopy. **T. Koffas**, J. Kim, G. A. Somorjai
- 149.** Rheological behavior of lyotropic (acetyl)(ethyl)cellulose solutions. **Q. Dai**, J. F. Kadla, R. D. Gilbert, S. A. Khan
- 150.** Crystallization and melting behaviors of freeze-dried isotactic polypropylene. L. Chen, **X. Zhu, D. Yan**
- 151.** Positron annihilation studies in polycarbonate and polystyrene at the glass transition induced either by temperature or pressure changes. **R. Kirchheim**, J. Bohlen

2003 Spring Meeting

152. Investigation of rheological properties of a polyacrylate thickening agent. **J. Wang**, Q. Tian, J. Wang, S. Yu, D. Liu
153. Investigation of rheological properties of a polyacrylate thickening agent prepared by inverse emulsion polymerization. **J. Wang**, X. Li, S. Yu, D. Liu
154. FT-IR studies of stereoregular PMMA adsorbed on silica: Effects of the drying process. **B. Zhang**, S. Suriyaphongse, K. Suriyaphongse, F. D. Blum
155. Solution properties of emeraldine base form of polyaniline by recording membrane osmometry. **H. Zengin**, H. G. Spencer, R. V. Gregory
156. Studies of the supramolecular organization of amphiphilic copolymers into nanomicelles by light-scattering techniques. **M. H. Chen**, R. Kumar, K. Yang, V. S. Parmar, L. A. Samuelson, J. Kumar, A. C. Watterson
157. Thermal properties of the liquid silk for the domestic and wild silkworms by DSC measurement. **T. Tanaka**, M. Kobayashi, H. Tsuda, S. Inoue, J. Magoshi
158. Effect of surface energy on the crystalline microstructure near the interface and its effect on interfacial adhesion. K. Cho, **D. Kim**
159. Morphology and structure of nylon 2 22 lamellar crystal. G. Zhang, W. Li, **D. Yan**
160. Conformational change of high-density polyethylene during the crystallization from the melt. Y. Xiao, **X. Zhu**, L. Yan, **D. Yan**
161. Chiral liquid-crystalline phases and transition behavior of a synthetic main-chain polyester with molecular asymmetry. **X. Weng**, C. Y. Li, S. Jin, J. Z. Zhang, D. Zhang, F. Bai, F. W. Harris, S. Z. D. Cheng, B. Lotz
162. Poly(vinyl alcohol) cryogels employed for cell immobilization of *Rhodococcus rhodochrous* and their properties. **D. Zaragoza**, J. Romero, M. E. Calixto, A. Ledezma
163. Enzyme immobilization via electrospinning of polymer/enzyme blends. **Y. Wang**, Y. Hsieh
164. Silkworm regulates the fibroin liquid gel using a gradient of concentration of calcium and potassium ions. **H. Tsuda**, T. Tanaka, S. Inoue, Y. Magoshi, J. Magoshi
165. Degradation of PET under supercritical methanol. H. Wang, X. Zhao, X. Liu, Y. Zheng, **Z. Wu**, Y. Zhou
166. Degradation of PBT under supercritical methanol. H. Wang, Y. Zheng, **Z. Wu**, Y. Zhou
167. Modification of cellulose by graft copolymerization of comonomers using ceric ammonium nitrate as the initiator. K. C. Gupta, **S. Sahoo**
168. Purification of cyclic poly(oxyethylene) by inclusion complexation of linear by-products with α -cyclodextrin. **S. Singla**, T. Zhao, H. W. Beckham
169. Postcoupling of enzymatically synthesized phenolic polymers for sensing hazardous and explosive type species. **V. Kumar**, A. Dhawan, X. Wang, V. S. Parmar, L. Samuelson, J. Kumar, A. Chollu
170. Polynaphthalene network polymerization kinetics of substituted BODA derivatives. **P. U. Perera**, M. W. Perpall, D. W. Smith Jr.
171. Surface modification of porous silicon dioxides achieved using conventional solution-phase reagents under solvent-free conditions. A. Taralp, **D. Demirgöz**, **H. T. Vakos**, G. A. Urbina, W. Voelter
172. Molecular modeling of penetrants in aromatic polyimides. **D. L. Hudson**, J. A. Hinkley, T. C. Clancy, **M. S. Reeves**
173. Monte Carlo simulation for confinement-induced molecular alignment. **C. Shew**

2003 Spring Meeting

174. Pressure-induced cis to trans isomerization of poly(*para*-methylthiophenylacetylene) prepared by a [Rh(norbornadiene)Cl]₂ catalyst. **K. Huang**, Y. Mawatari, M. Tabata, T. Sone, Y. Sadahiro
175. Sulfonated poly(thioether ketone)s with high oxidation resistance to peroxides. G. Xiao, G. Sun, **D. Yan**
176. UV-Vis studies of nylon degradation. **R. Bernstein**, D. K. Derzon, K. T. Gillen
177. Macromolecular helicity induction in poly(phenylisocyanate) derivative bearing crown ether. **R. Sakai**, T. Satoh, R. Kakuchi, H. Kaga, T. Kakuchi
178. Effect of surface charge on acid dye uptake by nylon-6,6. **S. Michielsen**, M. Bahkshae
179. Rheological properties of polyethersulfone with polyetherimide-modified epoxy resins. **X. Tang**, S. Li
180. Materials for high-energy radiation shielding in space. **R. L. Kiefer**, D. R. McGlothlin, J. L. Chapman, S. A. Thibeault
181. Viscoelastic effects on the late stages of phase separation in thermoplastic-thermoset blends. **W. Gan**, Y. Yu, M. Wang, Q. Tao, S. Li
182. Monte Carlo simulations combined with micromechanics to predict effective elastic moduli of elastomeric nanocomposites filled with unidirectional rigid inclusions. **M. A. Sharaf**, I. M. Jasiuk, K. I. Jacob
183. Studies of aqueous polymerization of 2-acrylamido-2-methyl-1-propanesulphonic acid initiated by peroxydiphosphate/Ag(I) redox pair: A kinetic study. **R. Kumar**, A. Srivastava, K. Behari
184. Improvement of production of b-cyclodextrin complexes using a high-concentration coprecipitation method. **Z. H. Qi**
185. Methanol permeation of sulfonated poly(arylene ether sulfone) copolymers. **Y. S. Kim**, L. Dong, M. Hickner, J. E. McGrath, B. Pivovar
186. Modeling random cross-linking of polymer chains. **L. Shiau**
187. Computer simulations on the chain deformations of poly(ethylene) by randomly oriented prolate filler particles arranged on a cubic lattice. **M. A. Sharaf**, R. H. Abouhusein
188. Polyurethane/acrylic composite polymer latex interpenetrating network hybrid emulsions. **L. Chen**, S. Chen
189. Properties of polyether polyols catalyzed by Fe/Zn double metal cyanide complex catalysts. **S. Chen**, N. Xu, J. Shi
190. Properties of self-cross-linking acrylate latex films containing fluorine. Y. Chen, Y. Wang, **P. Chen**, S. Cheng, C. Zhang
191. Amphiphilic secondary structure in phenylene ethynyls. **G. N. Tew**, L. Arnt, T. Jones
192. Investigation of the structure-morphology-property behavior of thermoplastic polyurea copolymers based on polyether and polydimethylsiloxane soft segments. **I. Yilgor**, E. Yilgor, G. E. Atilla, A. Ekin, Y. Utku, P. Kurt, J. P. Sheth, G. L. Wilkes
193. Mechanism of fiber formation of multiple spinning by silkworm. **J. Magoshi**, T. Tanaka, S. Inoue, H. Tsuda, Y. Magoshi, T. Hata, M. A. Becker, B. Lotz
194. Stereoselection in the formation and folding of b-helical polyisocyanopeptides. **J. J. L. M. Cornelissen**, G. A. Metselaar, N. A. J. M. Sommerdijk, A. E. Rowan, R. J. M. Nolte
195. Helical crystal twist sense and two levels of crystal twinning in a chiral main-chain liquid-crystalline polyester. **X. Weng**, C. Y. Li, S. Jin, D. Zhang, J. Z. Zhang, F. Bai, F. W. Harris, S. Z. D. Cheng, B. Lotz

2003 Spring Meeting

196. Catalytic properties of PPI dendrimers on ester hydrolyses. **M. Chai**, D. He, R. J. Morgan, A. Christen

Section C

Convention Center -- Hall G

General Papers

Polymer Synthesis

D. Garcia, *Organizer*

6:00 - 8:00

197. Low-generation dendritic mesogenic disc-rod hybrids. **C. D. Foytik**, M. R. Korn

198. Nonlinear optical polyimide containing hyperbranched chromophores. **J. Y. Do**, S. K. Park, S. Park, J. Ju, M. Lee

199. Synthesis and characterization of bis(edot)-aryl photoluminescent materials. **R. V. Gregory**, S. S. Hardaker, M. F. Pepitone, K. Eaiprasertsak

200. Synthesis and some properties of hyperbranched polyaryleneetherketone-*co*-polybenzobisthiazole-*co*-hyperbranched polyaryleneetherketone ABA triblock copolymers. **J. Baek**, C. B. Lyons, **L. Tan**

201. Synthesis and characterization of novel PPE-*m*-PPV hybrid polymers. **Q. Chu**, Y. Pang

202. Ti(III)-catalyzed living radical polymerization of styrene initiated by benzoyl peroxide. **A. D. Asandei**, I. W. Moran, M. A. Castro

203. Ti(III)-catalyzed radical ring opening of styrene oxide and living radical polymerization of styrene. **A. D. Asandei**, I. W. Moran

204. Living radical polymerization of styrene catalyzed by silver(II) and copper(II) tetraphenylporphyrins. **A. D. Asandei**, I. W. Moran, C. Brckner

205. Synthesis and properties of aliphatic spirodilactam diphenol containing polyesters. **E. Bucio**, J. W. Fitch III, L. Martinez, S. Venumbaka, P. E. Cassidy

206. Synthesis and properties of polyurethane gels for stress-distributing function. **G. C. Cha**, K. H. Kim, M. S. Mun, S. Lee

207. Synthesis of a heterogeneous rotaxanated polymer: Polypseudo(methyl methacrylate)-rotaxa-(dimethyl siloxane). **B. M. White**, W. P. Watson, H. W. Beckham

208. Synthesis of poly(vinylamine) copolymers by the ROMP of temporarily strained cyclic olefins. **J. P. Jordan**, O. A. Scherman, R. H. Grubbs

209. Toward poly(3- and 3,4-alkoxythiophenes). **E. E. Sheina**, S. M. Khersonsky, E. G. Jones, R. D. McCullough

210. AB + C_n approach to aliphatic hyperbranched polyamides. **C. Gao**, Y. Xu, H. Zhang, **D. Yan**

211. Novel poly(ester-amide)s from lactide and depsipeptides. D. W. Smith Jr., **N. K. Abayasinghe**, S. Suresh

212. Sulfonated poly(arylene ether sulfones) containing hexafluoroisopropylidene unit: Influence of sulfonic acid position on stability and other properties. **W. L. Harrison**, F. Wang, K. O'Connor, N. Y. Arnett, Y. S. Kim, J. E. McGrath

213. 2-Alkyl-2-oxazoline lipopolymers for the construction of polymer-tethered lipid bilayers. **A. Foertig**, R. Jordan, O. Purrucker, M. Tanaka

214. Solventless polymerization to grow thin films on solid substrates and its applications. H. Gu, D. Fu, C. Xu, J. Tang, **B. Xu**

2003 Spring Meeting

215. Synthesis and dielectric constants of polymers with cyclic carbonate pendant groups. **A. P. Purdy**, E. Levien, A. Hwang
216. Synthesis and micelle formation of dumbbell-type amphiphilic block copolymer. **C. G. Cho**, S. An, J. E. McGrath
217. A study of the $A_2 + B_3$ reaction of fumaric acid and trimethylolpropane. **H. Lusic**, E. Fossum
218. Core-shell acrylate latex containing fluorine and silicon in the shell. **P. Chen**, Y. Chen, Y. Wang
219. Hyperbranched poly(arylene arylene phosphine oxide)s via an $A_2 + B_3$ approach. **E. Fossum**, L. Tan
220. Heating characteristics and polymerization of ϵ -caprolactone under microwave irradiation. L. Liao, **L. Liu**, C. Zhang, R. Zhuo
221. Preparation of hyperbranched poly(arylene ether phosphine oxide)s via $A_2 + B_3$ approach. **M. M. Czupik**, E. Fossum
222. Microwave irradiation effect on the polymerization of ϵ -caprolactone with benzoic acid as the initiator. Z. Yu, **L. Liu**, Y. Song, R. Zhuo
223. Preparation of sulfoxide-containing polymers and their potential use as substantive skin moisturizing agents. **R. D. Fossum**, M. A. deLong, R. M. McCorkle, L. J. Smith, G. R. Fuentes
224. Comparative assessment of methods for the preparation and characterization of polymer-supported sulfonyl chloride resin. **A. Cusak**, C. Charlesworth, K. J. Bedregal, D. M. Ketcha
225. Microwave-assisted ring-opening polymerization of trimethylene carbonate. C. Zhang, **L. Liu**, L. Liao, R. Zhuo
226. Concise synthesis of the polyrotaxane from α -cyclodextrin and poly(ethylene glycol). **T. Zhao**, H. W. Beckham
227. Organo-soluble aromatic polyimides from 3,3',5,5'-tetrabromo-2,2-bis[4-(4-aminophenoxy)phenyl]propane. **R. C. Tsiang**, K. Hung
228. Emulsion polymerization of novel vegetable oil macromonomers. **C. C. Blackwell**, S. N. Shah, O. W. Smith, S. F. Thames
229. Polymerization of *N,N*'-methylenebisacrylamide by potassium peroxydiphosphate in the presence of Mn(II) and Ag(I). **R. Kumar**, A. Srivastava, K. Behari
230. Facile method for preparation of ultralow dielectric constant polymer films. H. Zhou, V. M. Mannari, **S. Venumbaka**, J. W. Fitch III, P. E. Cassidy
231. Controlled polymerization of a methacrylamido monomer in aqueous media via RAFT. **Y. A. Vasilieva**, D. B. Thomas, P. Hennaux, C. L. McCormick
232. Preparation of hyperbranched polyesters from benzene-1,2,4-tricarboxylic-1,2-anhydride and dihydroxy alcohols. K. Wang, **C. Gao**, W. Huang, **D. Yan**
233. Design and synthesis of a new fluorinated polyphenylenevinylene "SF-PPV-II". **J. Haliburton**, S. Sun
234. Synthesis and characterization of a new polythiophene with fluorinated substituents. **S. Thomas**, S. Sun
235. Synthesis and characterization of conjugated polymers incorporating an amino acid analog. **D. W. Flanagan**, D. A. Tirrell
236. Synthesis and characterization of dendrons with energy gradients. **K. Bronk**, S. Thayumanavan
237. Synthesis and characterization of novel poly(azomethine urethane)s. **J. Ismail**, I. Ahmed

2003 Spring Meeting

238. Synthesis and polymerization of a diaminodiols containing a phosphine-oxide linkage. **W. A. Feld**, M. J. Dalton, T. D. Dang, N. C. Thiesing, S. C. Sims, K. M. McGinty
239. Synthesis of hexafluoroisopropylidene-linked benzophenone polymers. **D. D. Andjelkovic**, V. V. Sheares
240. Synthesis of hyperbranched polymers by self-condensing vinyl oxyanionic polymerization. Z. Jia, **D. Yan**
241. Synthetic methodologies leading to multifunctionalized dendritic surfaces. **K. Sivanandan**, D. Vutukuri, S. Thayumanavan
242. Thermal solid-state polymerization of 4-ethynylbenzoic acid. **J. M. Njus**, L. Yang, B. M. Foxman, D. J. Sandman
243. Versatile route to polybenzophenone triblock copolymers. **E. C. Hagberg**, V. V. Sheares
244. Controlled initiation of polymerization reactions using microencapsulation techniques. **B. H. McFarland**, J. A. Pojman
245. Molecular design and synthesis of a novel aromatic macrocycle with a [1,1']binaphthalenyl moiety and a *p*-chlorophenyl substituent. G. Dang, W. Yang, C. Chen, **Y. Wei**, W. Zhang, Z. Wu
246. Living polymerization of *N,N*-diphenyl acrylamide with triisobutyl aluminum. **Y. C. Kim**, S. Y. Kim
247. Precision synthesis of organic/inorganic hybrid nano-architectures by living radical polymerization. **K. Koh**, K. Ohno, Y. Tsujii, T. Fukuda
248. Synthesis of sulfur-containing poly(ether ether ketone ketone) copolymers. X. Zhao, X. Liu, Z. Gao, C. Chen, **W. Zhang**
249. ATRP grafting reactions on poly(methylphenylphosphazene). P. Wisian-Neilson, **J. N. Cambre**
250. New materials derived from polyphosphazenes. P. Wisian-Neilson, **T. Kmecko**
251. Perfluorocyclobutyl copolymers containing polyhedral oligomeric silsesquioxanes for potential optical application. D. W. Smith Jr., **W. Zhou**, S. Suresh, S. Chen, J. Ballato
252. Poly(methylphenylphosphazene)-*graft*-poly(ester) copolymers. P. Wisian-Neilson, **P. S. Kumar**
253. Polymerization of 3-phenoxybenzoic acid in the presence of vapor-grown carbon nanofiber. **J. Baek**, C. B. Lyons, **L. Tan**
254. Sulfo-pendent poly(*p*-phenylenebenzobisazole) rigid-rods: Synthesis and fiber structural studies. **T. D. Dang**, H. Koerner, M. J. Dalton, A. Iacobucci, N. Venkatasubramanian, F. E. Arnold
255. Synthesis and characterization of germole-containing hyperbranched polyphenylenes. C. W. Law, J. Chen, **B. Z. Tang**
256. Synthesis, characterization, and properties of poly(*p*-phenylene) derivative. **I. T. Kim**, S. W. Lee, H. S. Park, T. H. Kwak, C. M. Lee, S. Y. Kim
257. Gel formation in organic solvents: Synthesis and association of copolymers of *N,N*-dimethylacrylamide and methacrylates having perfluorocarbon pendent groups connected through polyethyleneoxide spacers. **J. Da**, T. Hogen-Esch
258. Mechanistic aspects of catalytic chain transfer by a cobalt(II) porphyrin in the radical polymerization of MMA. **Y. Li**, B. B. Wayland
259. Microwave-assisted synthesis of poly(ϵ -caprolactone) with acid as initiator and a novel method in preparation of drug-release systems. Y. Song, **L. Liu**, Z. Yu, X. Weng, R. Zhuo
260. Synthesis and complexation of ligands useful for structure-activity relationships in ATRP. **J. M. Goodwin**, M. M.

2003 Spring Meeting

Olmstead, T. E. Patten

261. New insights in Ru-catalyzed acyclic diene metathesis polymerization. **F. C. Courchay**, J. C. Sworen, K. B. Wagener

262. Novel organosoluble cardo poly(amide-imide)s derived from 2,2-bis[4-(4-trimellitimidophenoxy)phenyl]norbornane: Synthesis and characterization. **D. Liaw, W. Chen**

263. Novel polynorbornene with cross-linkable groups derived from methacryloyloxyethyl isocyanate via ring-opening metathesis polymerization. **D. Liaw, C. Huang**, S. Hong

264. Preparation of new diblock polymeric materials with carbazole groups derived from the combination of living ring-opening metathesis polymerization and atom transfer radical polymerization. **D. Liaw, C. Huang**

265. Olefin isomerization promoted by olefin metathesis catalysts. **S. E. Lehman Jr.**, P. M. O'Donnell, J. E. Schwendeman, K. B. Wagener

266. Peroxidase-catalyzed polymerization of 4-aminothiophenol on surfaces via dip-pen nanolithography. **P. Xu, D. L. Kaplan**

267. Synthesis and characterization of a novel soluble fluorescent polyimide from 1,3-bis(4-piperidino-1,8-naphthalic anhydride)propane. W. Huang, **D. Yan**, Q. Lu

268. Synthesis of regioregular and stereoregular ethylene vinyl alcohol copolymers via ROMP of a protected cyclooctene-5,6-(*cis* and *trans*)-diol. **O. A. Scherman, R. Walker**, R. H. Grubbs

269. Synthesis, chirality, and liquid crystallinity of poly(phenylacetylenes) containing stigmasterol pendants. L. M. Lai, J. W. Y. Lam, K. K. L. Cheuk, **B. Z. Tang**

270. Synthesis and properties of hyperbranched polyarylenes prepared by niobium-catalyzed polycyclotrimerization of diacetylenes. R. Zheng, H. Peng, J. W. Y. Lam, J. Chen, M. H%ouffler, **B. Z. Tang**

271. Synthesis, helicity, and mesomorphism of ergosterol-containing poly(phenylacetylene)s. L. M. Lai, J. W. Y. Lam, K. K. Cheuk, **B. Z. Tang**

272. The synthesis and characterization of carbazolyl azomethine. M. Sun, F. Liao, Y. Meng, H. Zhang, H. Li, D. Wang, **J. Wang**

273. A new highly versatile water-soluble dithioester for RAFT polymerization. **D. B. Thomas**, A. Convertine, C. L. McCormick

274. Block copolymers of 2-(*N*-piperidylmethyl)-1,3-butadiene with styrene. **L. A. Rusch-Salazar**, V. V. Sheares

275. *N, N, N', N', N''*-pentamethyldiethylenetriamine as a model compound for linear poly(*N*-methylethylenimine). **R. A. Sanders**, S. E. Boesch, R. Frech, A. G. Snow, L. R. Hu, R. A. Wheeler, D. T. Glatzhofer

276. Sodium formate as a chain transfer agent in acrylamide polymerization: Determination of chain transfer constant. **M. J. Fevola**, C. L. McCormick, R. D. Hester

277. Synthesis and characterization of efficient two-photon acid generators for 3-D microfabrication. **J. Wang**, W. Zhou, K. L. Braun, S. Barlow, S. M. Kuebler, J. W. Perry, S. R. Marder

278. Synthesis and spectroscopic studies of macrocyclic poly(9,9-dimethyl-2-vinylfluorene). **R. Chen**, T. E. Hogen-Esch

279. A synthetic strategy for the preparation of a polyphosphonate ester containing L-dopa for the treatment of Parkinson's disease. **D. M. Chamely**, C. E. Carraher Jr., J. E. Haky

280. Novel synthesis of polybutylacrylate with thiocarbamide metal complex (Cu²⁺). Y. Jiang, R. Duan, K. Zhang, H. Li, **J. Wang**

2003 Spring Meeting

- 281.** One step to synthesize monodisperse core-shell nanoparticles of polystyrene and silica. Z. Yang, G. Gao, Y. Hong, L. Cheng, Y. Sun, H. Jin, M. Zhang, **F. Liu**
- 282.** Modeling precise branching in polyethylene using metathesis chemistry. **J. C. Sworen**, J. A. Smith, K. B. Wagener
- 283.** Synthesis and properties of novel through-space *p*-conjugated polymers having [2.2]paracyclophane in the main chain. **Y. Morisaki**, Y. Chujo
- 284.** Synthesis and properties of poly(aryl ether ketone)s with (3-methyl)phenyl and (3-trifluoromethyl)phenyl side groups. W. Hu, Y. Jin, C. Zhu, B. Liu, **Z. Jiang**, Z. Wu
- 285.** Synthesis of nanomaterials using nanoporous polymer templates. M. A. Hillmyer, **J. H. Wolf**
- 286.** Amino acid and peptide branched polyolefins by ADMET. **T. E. Hopkins**, K. B. Wagener
- 287.** Controlled synthesis of AB and ABC block copolymers containing fluorophilic, hydrophilic, and lipophilic segments. **T. Komenda**, R. Jordan
- 288.** Synthesis and aqueous solution properties of a well-defined thermo-responsive schizophrenic diblock copolymer. **J. V. M. Weaver**, S. P. Armes
- 289.** Activation of enamido zirconium complexes for ethylene polymerization: Electrophilic addition versus electrophilic abstraction reaction. **Y. H. Kim**, **T. H. Kim**, E. S. Cho, B. Y. Lee, N. Y. Kim
- 290.** Direct synthesis of isotactic polypropylene containing a terminal functional group via metallocene catalysis. **J. Y. Dong**, T. C. Chung
- 291.** Dye-amine conjugates as novel photoinitiators for polymerization. **I. A. Banerjee**, G. A. Epling
- 292.** Effect of adipic acid impurities on the oxidation of benzene phosphinic acid to benzene phosphonic acid during a nylon 6,6 polymerization process. **K. K. Balasubramanian**
- 293.** Enzymatic synthesis of multicomponent copolymers and their structural characterization. R. Kumar, **R. Tyagi**, V. S. Parmar, L. A. Samuelson, A. C. Watterson, J. Kumar
- 294.** First water-soluble azosulfonate homopolymer by enzymatic polymerization. **J. P. Robert**, H. Uyama, S. Kobayashi, R. Jordan, O. Nuyken
- 295.** Fulvene having substituents only on 1, 4, and 6 positions: A key intermediate for novel ansa-metallocene complexes. **Y. C. Won**, H. Y. Kwon, B. Y. Lee
- 296.** Homo- and copolymerization of styrene with 4-chloromethyl styrene by nickel-diimine complex catalysts. **G. J. Jiang**, W. Yang, K. Chuang
- 297.** Incorporation of efficient NLO-phores into cross-linked poly(amino-amide) matrixes. A. Abbotto, L. Beverina, **A. Facchetti**, P. Ferruti, E. Chiliberti, G. A. Pagani
- 298.** Influencing factors of dicyclopentadiene conversion on preparation of DCPD-modified offset ink resin. **J. Wang**, L. Fan, D. Liu
- 299.** Investigation of nitroxide-mediated radical polymerization of methacrylates initiated by a PS-TEMPO adduct. **C. Cheng**, N. Yang
- 300.** Laser photochemical process of a diazonaphthoquinone photopolymer. **J. Wei**, W. Wang, Y. Huang
- 301.** Polypropylene-polysiloxane block copolymers via hydrosilylation of monovinylidene capped isotactic polypropylene. **P. Fu**, S. Glover, R. K. King, C. Lee, M. R. Pretzer, M. K. Tomalia

2003 Spring Meeting

- 302.** Preparation and characterization of PVA-based polyelectrolyte complexes. **B. Sun Sr.**, J. Zou II
- 303.** Preparation of the uniform and well-organized polyelectrolyte multilayer films using salt annealing. S. Qin, H. Teng, Y. Shi, **X. Jin**
- 304.** Radical polymerization mediated by a stable carbon radical. **C. Cheng**, N. Yang
- 305.** Ring-opening polymerization of *l*-lactide in supercritical chlorodifluoromethane. **J. W. Pack**, S. H. Kim, Y. H. Kim, S. Y. Park, Y. W. Lee
- 306.** Soluble polyimides based on alkyl groups. **Y. Tsuda**
- 307.** Synthesis and characterization of amphiphilic linear-dendritic diblock copolymers for functional micelle formation. **K. K. Stokes**, S. H. Ibrahim, P. T. Hammond
- 308.** Synthesis and characterization of poly(ethylene glycol) grafted on pullulan. Y. Jiao, Y. Fu, **Z. Jiang**
- 309.** Synthesis and characterization of pullulan derivative-bearing grafted azobenzene groups. Y. Jiao, Y. Fu, **Z. Jiang**
- 310.** Synthesis and liquid-crystalline properties of side-chain liquid-crystalline polymethacrylate containing DR-1 moieties. **G. Fan**, E. Zhou, X. Zhao, Y. Tian
- 311.** Synthesis and microwave polymerization of single-sized macrocyclic monomeric precursors of poly(ethylene isophthalate). **R. Nagahata**, J. Sugiyama, Y. Nakao, H. Hirata, T. Hagiwara, M. Asai, K. Takeuchi
- 312.** Synthesis of a 5,5'-linked poly(2,2'-biphenol). Q. Hu, A. Agrawal, **Y. Lu**, Z. Tang
- 313.** Synthesis of an optically active polymer with planar ferrocenyl units for asymmetric catalysis. H. Yu, **Q. Hu**
- 314.** Synthesis of poly(silsesquioxane) by catalytic dehydrocoupling polymerization. **M. Seino**, I. Imae, Y. Kawakami
- 315.** Synthesis of super high molecular weight copolymer of AM/AA/AMPS and its salt by new initiators in inverse suspension polymerization. **F. Yang**, K. Liu, H. Wu

Section D

Convention Center -- Hall G

Polymeric Surface Modification: Biomedical Applications

Cosponsored with Division of Biochemical Technology

B. D. Ratner, *Organizer*

6:00 - 8:00

- 316.** Constructive nanolithography: Arranging gold nanoparticles and proteins on surfaces. D. Wouters, B. K[†]sters, **U. S. Schubert**
- 317.** Covalent-attached self-assembly film based on diazoresin and DNA/poly(4-carboxyphenyl)acetylene and the cell culture on its surface. **Y. Guijun**, W. Peng, **D. Yuping**, C. Yujing, D. Enkun, J. Wing Yip Lam, T. Benzhong
- 318.** Effect of bound water structure on the protein-substrate interaction and protein adsorption behavior. K. Cho, **E. C. Cho**, Y. D. Kim
- 319.** Improving the blood compatibility of polyethylene tubing by plasma polymerization of tetraglyme. **K. J. Kitching**, L. Cao, B. D. Ratner, T. A. Horbett, K. Solen
- 320.** Investigation of immobilized-type 1 collagen as an affinity coating to bind osteopontin to poly(2-hydroxyethyl methacrylate). **S. M. Martin**, J. L. Schwartz, C. M. Giachelli, B. D. Ratner
- 321.** Layer-by-layer assembly of hydrolytically degradable thin films. **M. S. Terrot**, L. Abrishamian-Garcia, E. V[·]squez, P. T. Hammond, D. M. Lynn
- 322.** Living radical photopolymerizations to modify surfaces in microfluidic devices for biological applications. **R. P.**

2003 Spring Meeting

Sebra III, J. B. Hutchison, K. T. Haraldsson, K. S. Anseth, C. N. Bowman

323. Loading and releasing of methylene blue in stable polyelectrolyte multilayer films based on DNA, diazoresin, and water-soluble polyacetylene. Y. Guijun, W. Caiqi, W. Peng, **D. Yuping**, J. Wing Yip Lam, T. Benzhong

324. Modification of protein microspheres for biomedical applications. **F. Jean-Jacques Toublan**, K. S. Suslick, S. A. Boppart, T. M. Lee, A. Oldenburg

325. Polymer surface modification for cell adhesion. **D. Delmar-Greenberg**, M. Azam Ali, K. E. Gonsalves

326. Preparation of protein- and cell-resistant surfaces on SiO₂ surfaces by polyether-grafted poly(acrylic acid) thin films. **J. Seong**, H. Choi, G. D. Moeser, P. E. Laibinis

327. Synthesis and characterization of poly(ethylene glycol) end-capped poly(ethylene terephthalate) with decreased protein adhesion. **Q. Lin**, S. Unal, A. Fornof, Y. Wei, T. Long

328. Synthesis of a thrombin-responsive drug delivery coating for cardiovascular stents. **K. S. Walline**, K. VanBuren, B. D. Ratner

329. Synthesis of low thrombogenic coating with horseradish peroxidase. **A. Mueller**, A. Haas, A. M. Benson, E. M. Graves

330. Thermo-reversible swelling of plasma-immobilized hydrogel films. **D. Schmaljohann**, M. Nitschke, D. Beyerlein, C. Werner

MONDAY MORNING

Section A

Hilton Riverside -- Grand Salon D19/D22

Crosslinking Materials and Processes

High-Performance Elastomers, Thermosets, and Composites

A. McCormick and T. E. Hopkins, *Presiding*

R. K. Pinschmidt and C. Hoyle, *Organizers*

8:00 - 331. Novel cyclosiloxane-based networks. P. Kurian, **J. P. Kennedy**

8:30 - 332. Isocyanate cross-linked silica: Structurally strong aerogels. G. Zhang, A. M. M. Rawashdeh, C. Sotiriou-Leventis, **N. Leventis**

9:00 - 333. Syntheses of elastomeric poly(carborane-siloxane-acetylene)s. **M. K. Kolel-Veetil**, T. M. Keller

9:30 - Intermission.

9:40 - 334. Polycarbosilane elastomers via chain-internal and chain-end latent cross-linking. **K. B. Wagener**, P. P. Matloka, F. Zuluaga, J. C. Sworen

10:10 - 335. Acyclic diene metathesis polymerization of unsaturated thermotropic polyesters. **H. Qin**, B. J. Chakulski, P. T. Mather, G. S. Constable, E. B. Coughlin

10:40 - 336. Synthesis of phthalonitrile monomers and networks. **M. J. Sumner**, M. Sankarapandian, U. Sorathia, J. E. McGrath, J. S. Riffle

11:10 - 337. Design of porous materials from partially hydrolyzable interpenetrating polymer networks. **D. Grande**, J. Pastol, P. GuÉrin, S. Boileau

Section B

Hilton Riverside -- Grand Salon C16/C13

2003 Spring Meeting

Structural Determination of Polymers via NMR

H. N. Cheng, *Organizer, Presiding*

A. D. English, *Organizer*

8:25 - Introductory Remarks.

8:30 - 338. Multidimensional NMR of synthetic macromolecules. **P. L. Rinaldi**

9:15 - 339. Characterization of acrylate copolymers by 2-D NMR spectroscopy. **A. S. Brar**

9:40 - 340. NMR-guided design of end caps with improved oxidation resistance. **M. A. B. Meador**, A. A. Frimer

10:05 - 341. Detailed information on ethylene polymers as revealed by ^1H and ^{13}C NMR. **G. van der Velden**, H. Linssen

10:30 - Intermission.

10:45 - 342. Real-time NMR: How fast can we do it? **V. M. Litvinov**, A. A. Dias

11:10 - 343. NMR applications for sulfidosilane material characterization. M. Backer, C. Buesing, J. Gohndrone, W. Maki, S. Mealey, B. Thomas, **H. Yue**

11:35 - 344. Solution ^{17}O NMR investigations of hydrolysis and oxidation in nylon. **T. M. Alam**, S. T. Winters, R. Bernstein, D. K. Derzon

Section C

Hilton Riverside -- Grand Salon C18/C15

Polymeric Surface Modification: Biomedical Applications

Cosponsored with Division of Biochemical Technology

D. G. Castner, *Presiding*

B. D. Ratner, *Organizer*

8:30 - 345. Temperature-responsive polymeric surface modifications by plasma polymerization: Cell and protein interactions. **B. D. Ratner**, X. Cheng, Y. Wang, Y. Hanein, K. Bohringer

9:00 - 346. Microgradient mechanically compliant polyacrylamide gels to probe cell response. N. Zaari, P. Rajagopalan, **S. K. Kim**, J. Y. Wong

9:30 - 347. Preparation and characterization of area-selectively assembled multicomponent organosilane monolayers. **A. Takahara**, T. Koga, H. Sakata, M. Morita, H. Otsuka

10:00 - 348. Endothelial cell traction forces on RGD-derivatized polyacrylamide substrate. **D. A. Hammer**, C. Reinhart, M. Dembo

10:30 - 349. Poly(ethylene glycol) diacrylate hydrogels on covalently attached eosin surface: Contact angle measurements of the surface. **S. Kizilel**, V. H. Perez-Luna, F. A. Teymour

11:00 - 350. Toward understanding the effects of surface modification on the biointerface in biosensors. **J. J. Hickman**, K. Lenghaus, J. Dale, D. Henry, S. Sundaram, J. W. Jenkins, L. E. Locascio, M. J. Tarlov, J. Evju

Section D

Hilton Riverside -- Grand Salon B9/B12

The Polymer Science of Everyday Things

Cosponsored with The Royal Society of Chemistry and Intersociety Polymer Education Council, Division of Industrial and Engineering Chemistry, and Presidential Event

2003 Spring Meeting

A. B. Salamone, *Organizer, Presiding*

D. Bott, C. Pugh, R. S. Moore, and K. J. Wynne, *Organizers*

8:30 - 351. Material science and material selection in athletic footwear. **E. N. Thomas**

9:10 - 352. The pole vault- to the heights with polymer materials. M. J. Jenkins, **S. N. Kukureka**

9:50 - 353. Evolution of golf ball design and materials. **R. A. Weiss**, T. J. Kennedy III

10:30 - 354. Racquets to race cars: The use of carbon fibers in sports and recreation. **S. Smith**

11:10 - 355. Polyolefins in sports equipment. **M. H. Tusim**

11:50 - Presidential symposium remarks from ACS President Elsa Reichmanis.

Section E

Hilton Riverside -- Grand Salon D21/D24

2003 ACS Award in Polymer Chemistry Honoring Maurice S. Brookhart (sponsored by ExxonMobil Chemical Co.)

J. M. DeSimone, E. T. Samulski, and J. E. Bercaw, *Organizers*

8:00 - 356. Recent advances in DuPont's VersipolÆ technology: New polar olefin copolymerizations with late-metal catalysts. **L. Johnson**, A. Bennett, P. Butera, K. Dobbs, N. Drysdale, E. Hauptman, A. Ionkin, S. Ittel, E. McCord, S. McLain, C. Radzewich, A. Rinehart, R. S. Schifano, K. J. Sweetman, J. Uradnisheck, L. Wang, Y. Wang, Z. Yin

8:30 - 357. New class of nickel-catalyzed polar olefin copolymerizations. **C. E. Radzewich**, L. K. Johnson, S. J. McLain, K. J. Sweetman, P. Butera, S. D. Ittel, J. Uradnisheck, E. F. McCord

9:00 - 358. GavilanSM single-site catalyst technology: Adventures in polyolefin catalyst design and development. **C. M. Killian**, P. B. Mackenzie, L. S. Moody, J. A. Ponasik Jr., G. G. Lavoie, J. C. Pearson, L. A. Tucker, M. R. Moore, A. K. Farthing, G. A. King, M. D. Meadows, E. P. Savitski

9:30 - 359. Late transition metal catalysis in controlled/living radical polymerization. **K. Matyjaszewski**

10:00 - 360. Nonbiological macromolecules with biological functions. **V. Percec**

10:30 - 361. Discovery and development of catalysts for the synthesis of defined polymer architectures. **G. W. Coates**

11:00 - 362. Styrene and ethylene polymerization with titanium catalysts: Role of oxidation state and coordination geometry. **R. M. Waymouth**, M. Mahanthappa, K. Huang

11:30 - 363. Kinetic resolution of chiral α -olefins via asymmetric polymerization catalysis. **J. E. Bercaw**, C. Baar, E. Min, T. Agapie

*Macromolecules to Bioparticles: Analyses with Field-Flow Fractionation
Cosponsored with Division of Analytical Chemistry*

MONDAY AFTERNOON

Section A

Hilton Riverside -- Grand Salon D19/D22

2003 Spring Meeting

Crosslinking Materials and Processes

Advances in Precursors for Cross-linked Systems and Powder Coatings

S. Kobayashi and R. Advincula, *Presiding*

R. K. Pinschmidt Jr. and C. Hoyle, *Organizers*

1:00 - 364. Catalysis in polyisocyanate manufacture. **F. U. Richter**, J. Schmitz, H. J. Laas, R. Halpaap

1:30 - 365. Aliphatic polyurea coatings based on polyaspartic esters. **E. P. Squiller**, R. R. Roesler

2:00 - 366. Novel urethane oligomers from cyclic carbonates: Moving beyond reactive diluents. **D. A. Wicks**, R. R. Gutierrez

2:30 - 367. Acetoacetate chemistry for high-solid coatings resins. **S. J. Marsh**

3:00 - Intermission.

3:10 - 368. Synthesis and self-cross-linking of glycidyl carbamate functional oligomers. **D. C. Webster**, P. A. Edwards, J. Erickson

3:40 - 369. Superdurable powder coatings and the effect of cross-linking chemistry. **D. Foster**

4:10 - 370. Catalysis in uretdione powder coatings enables innovative processing lines. **M. Gedan-Smolka**, F. Lehmann, D. Lehmann

4:40 - 371. Cross-linking in powder coatings: Epoxy wrinkle. **V. R. Reichert**, S. K. Basu, L. E. Scriven, L. F. Francis, A. McCormick

Section B

Hilton Riverside -- Grand Salon C16/C13

Structural Determination of Polymers via NMR

A. D. English, *Organizer, Presiding*

H. N. Cheng, *Organizer*

1:30 - 372. Structural control in polyethylene-like polyesters by regularly spaced "defects": A solid-state NMR study. **M. G. Menges**, J. Penelle, K. Schmidt-Rohr

1:55 - 373. Solid-state NMR investigation of polymers with some interesting optoelectronic properties: Biocatalytically synthesized polyaniline. **A. L. Cholli**, S. Sahoo, J. Kumar, R. Nagarajan, S. Roy

2:20 - 374. New techniques for NMR spectroscopy of monomer-thin liquid polymer films. **M. H. Sherwood**, B. Schwickert

2:45 - 375. Thin-film perfluoropolyether dynamics on silica: ¹³C NMR studies. **Y. Kim**, C. A. Klug, C. G. Wade, C. W. Frank

3:10 - Intermission.

3:25 - 376. N-dimensional NMR techniques for studying hydrocarbon-based polymer structures. **P. L. Rinaldi**, M. Monwar, E. F. McCord, D. R. Marshall, M. Buback, H. Latz

3:50 - 377. Super-high solids coatings: Reactive monomer molecular structure. **A. J. Beeler**, A. D. Burri, A. D. English, P. W. Uhlianuk, D. Paquet Jr.

4:15 - 378. Compositional heterogeneity in NMR polymer analysis. **H. N. Cheng**

Section C

2003 Spring Meeting

Hilton Riverside -- Grand Salon C18/C15

2003 ACS Award in Polymer Chemistry Honoring Maurice S. Brookhart (sponsored by ExxonMobil Chemical Co.)

J. M. DeSimone, E. T. Samulski, and J. E. Bercaw, *Organizers*

1:00 - 379. Late transition metal catalysts as the new frontier in copolymerization of α -olefins and polar monomers with ethylene: A computational exploration. **T. Ziegler**, A. Michalak

1:20 - 380. Where are the chain ends in semicrystalline polyethylene? C. Wutz, **E. T. Samulski**, M. S. Brookhart, M. Tanner

1:50 - 381. Homogeneous and heterogeneous polymerizations in CO₂. **J. M. DeSimone**

2:20 - 382. Award Address (ACS Award in Polymer Chemistry, sponsored by ExxonMobil Chemical Co). Olefin polymerization and copolymerization reactions catalyzed by Ni(II) and Pd(II) complexes of bulky aryl-substituted α -diimines. **M. S. Brookhart**

Section D

Hilton Riverside -- Grand Salon B9/B12

The Polymer Science of Everyday Things

Cosponsored with The Royal Society of Chemistry and Intersociety Polymer Education Council, Division of Industrial and Engineering Chemistry, and Presidential Event

R. S. Moore, *Organizer, Presiding*

D. Bott, C. Pugh, K. J. Wynne, and A. B. Salamone, *Organizers*

1:30 - 383. Aramids in protective materials. **V. Gabara**

2:10 - 384. Body armor. **A. J. Ryan**, S. A. Van Natta

2:50 - 385. Polycarbonate in consumer applications. **D. G. Hamilton**, J. B. McDermott

3:30 - 386. Polymers in the mountains. **R. A. L. Jones**

4:10 - 387. The science of tires: History and current technology. **L. J. Mathias**, G. J. Brust, A. Adams

Section E

Hilton Riverside -- Grand Salon D21/D24

2003 ACS POLY Division Carl S. Marvel Award in Creative Polymer Chemistry Honoring James Hedrick (sponsored by the Dow Chemical Co. Foundation)

J. E. McGrath, *Organizer, Presiding*

1:00 - 388. Hard segment connectivity in low molecular weight \geq tri-segments \leq polyurethanes based on monols. **G. L. Wilkes**, A. Aneja

1:30 - 389. Macromolecule-magnetite complexes. **J. S. Riffle**, A. Y. Carmichael, L. A. Harris, K. R. Wilson, J. D. Goff, T. G. St. Pierre

2:00 - 390. Biodegradable polymers for in vivo integration. **J. G. Hilborn**, B. Atthoff, F. P. J. Nederberg, T. Bowden

2:30 - 391. Chemistry at the nanoscale interface: Surface functionalization of nanoimprinted features. **K. R. Carter**

3:00 - 392. Stepping toward living polymerization: Potential synergies of branching and functionality. **T. E. Long**, B. J. Love, J. R. Lizotte, D. T. Williamson, S. R. Trenor, C. L. Elkins, L. Kilian

3:30 - Intermission.

2003 Spring Meeting

3:40 - 393. Controlled polymerization methods for the synthesis of novel polymer architectures and materials. **R. M. Waymouth**, N. B. Bowden, K. A. Willets, F. J. Gómez, R. Chen, G. Gavranovic, G. G. Fuller, H. Dai, J. L. Hedrick, C. J. Hawker

4:10 - 394. Polymeric nanogels as agents for gene and antisense delivery. **J. M. DeSimone**

4:40 - 395. Reactive engineering thermoplastic tougheners for thermosets. **J. E. McGrath**

5:10 - 396. Award Address (ACS POLY Division Carl S. Marvel Award in Creative Polymer Chemistry, sponsored by Dow Chemical Company Foundation). From spin-on to self-assembly: Current and future opportunities for polymer science in advanced microelectronics. **J. L. Hedrick**

Colloidal and Molecular Electro-Optics

Advances in Methodology

Cosponsored with Division of Colloid and Surface Chemistry

MONDAY EVENING

Colloidal and Molecular Electro-Optics

General Poster Sessions

Cosponsored with Division of Colloid and Surface Chemistry

TUESDAY MORNING

Section A

Hilton Riverside -- Grand Salon D19/D22

Crosslinking Materials and Processes

Theory and Methods in Cross-linked Systems

T. Nguyen and H. A. Nash, *Presiding*

R. K. Pinschmidt Jr. and C. Hoyle, *Organizers*

8:20 - 397. Design of polymer networks by variation of precursor structure and cross-linking regime. **K. Dušek**, M. Dušková-Smršková, J. Huybrechts

8:50 - 398. Modeling the polymerization behavior of cross-linking, bifunctional monomers via computer simulation. **K. L. Diamond**, R. B. Pandey, S. F. Thames

9:20 - 399. Networks of poly(vinyl alcohol) chemically cross-linked in the solid state I: Cross-linking density, sol fraction, gel point, and size of sol molecules. **T. Moritani**

9:50 - Intermission.

10:10 - 400. Microheterogeneity and stress development in curing coatings. V. Rajamani, L. F. Francis, **A. McCormick**, L. E. Scriven

10:40 - 401. High-throughput screening methodologies for coating formulations. **H. Bach**, C. A. Gambino, L. K. Gindin, R. M. Konitsney, P. D. Lunney, K. G. Spittler

11:10 - 402. New insights into the molecular weight distribution of structural elements in reactive polyurethanes. A. M. Heintz, **A. De Silva**, S. L. Hsu

Hilton Riverside -- Grand Salon C16/C13

NMR Spectroscopy of Polymers

New or Improved Methodologies

Cosponsored with Division of Analytical Chemistry

A. D. English, *Organizer, Presiding*

H. N. Cheng, *Organizer*

8:30 - 403. Local order in polycarbonate glasses by REDOR. **J. Schaefer**, R. D. O'Connor, B. Poliks, K. L. Wooley, T. K. Weldeghiorghis

9:15 - 404. NMR studies of rotaxanated polymers. **H. W. Beckham**, K. Nagapudi, T. E. Girardeau, T. Zhao, J. Leisen

9:40 - 405. NMR studies of polymers formed in and within supercritical CO₂. **A. K. Whittaker**, D. J. T. Hill, K. Thurecht

10:05 - 406. High-field Aluminum-27 MAS NMR of methylaluminumoxane. **L. G. Butler**, L. S. Simeral, J. L. Eilertsen, P. Bobadova-Parvanova, R. W. Hall

10:30 - Intermission.

10:45 - 407. Deuterium NMR of deformed elastomers. **M. E. Ries**

11:10 - 408. Stress relaxation of polyisoprene and polyisoprene nanocomposites monitored by ¹H NMR. **G. M. Poliskie**, K. K. Gleason, R. E. Cohen

11:35 - 409. Rheological NMR investigations of polymer melts. **U. Scheler**, A. Gottwald

Hilton Riverside -- Grand Salon C18/C15

Polymer Design Using Non-covalent Methods

/

T. E. Long and V. Rotello, *Organizers, Presiding*

R. A. Gross and E. W. Meijer, *Organizers*

8:30 - 410. Tutorial on self-assembling polymers and organic nanotechnology. **S. I. Stupp**

9:15 - 411. Supramolecular polymer chemistry: New hydrogen bonding modules and new polymer architectures. **S. C. Zimmerman**

9:40 - 412. Hydrogen-bonded bis-2-pyridone liquid-crystalline main-chain association polymers. **A. C. Griffin**, P. J. McMullan

10:05 - 413. Synthesis and characterization of self-complementary multiple hydrogen bonding poly(isoprene) star polymers. C. L. Elkins, K. Yamauchi, **T. E. Long**

10:30 - 414. Design and synthesis of noncentrosymmetric hydrogen bonded main chain liquid-crystalline polymers: Toward polar order in organic thin films. **D. J. Dyer**, J. Wolf, C. Li, C. Landorf, B. Brown, J. Maas, E. Conlin

10:55 - 415. Supramolecular chirality. **D. N. Reinhoudt**

11:20 - 416. Preparation and properties of dendritic polyamides-poly(4-vinylpyridine) complexes via multiple hydrogen bonding. **M. Jikei**, T. Koketsu, K. Yokomachi, M. Kakimoto

11:45 - 417. Synthesis and characterization of hyperbranched polyesters with terminal hydroxyl groups from A* and B₃ type monomers. K. Wang, **C. Gao**, W. Huang, D. Yan

2003 Spring Meeting

Section D

Hilton Riverside -- Grand Salon B9/B12

2003 ACS Award in Applied Polymer Science Honoring Lloyd M. Robeson

C. D. Smith, *Organizer, Presiding*

M. T. Shaw, *Organizer*

8:00 - 418. Gas separation using polymer membranes. **B. D. Freeman**

8:25 - 419. Diffusive size selectivity in a low free volume rubbery polymer. **T. A. Barbari**, C. H. Huang

8:50 - 420. Random polyamide-imides for gas separation membranes. **M. Langsam**, D. Laciak

9:15 - 421. Molecular structure versus phase behavior of materials in carbon dioxide. **E. J. Beckman**

9:40 - 422. Organic-inorganic hybrid membrane materials for gas separation. **W. J. Koros**, T. T. Moore

10:05 - 423. Advances in lithography: Taking nanoscale structures from microelectronics to biotechnology. **C. K. Ober**

10:30 - 424. Step polymerization modeling of chain propagation polymers: An examination of branched and functionalized polyethylene. **K. B. Wagener**, J. C. Sworen, S. E. Lehman Jr., J. A. Smith, M. D. Watson, J. Schwendeman, D. Valenti, K. Brzezinksa

10:55 - 425. Emulsion polymerization stabilized by blends of anionic and cationic surfactants. **C. D. Smith**, P. Zhang

11:20 - 426. Fluoropolymer synthesis and processing. **J. M. DeSimone**

11:45 - 427. Recent advances in enhancing the properties of polyesters. **S. R. Turner**

In Situ Characterization of Polymerization Processes

Cosponsored with Division of Polymeric Materials: Science and Engineering

Colloidal and Molecular Electro-Optics

Theoretical Aspects

Cosponsored with Division of Colloid and Surface Chemistry

TUESDAY AFTERNOON

Section A

Hilton Riverside -- Grand Salon D19/D22

Crosslinking Materials and Processes

Theory and Performance in Epoxy Systems/Crosslinking and Electronics

E. P. Squiller and T. J. Smith, *Presiding*

R. K. Pinschmidt Jr. and C. Hoyle, *Organizers*

1:00 - 428. Molecular modeling for predicting epoxy reactivity. N. G. Rondan, **M. J. Marks**, S. H. Hoyles, H. Pham

1:30 - 429. Surface and interface properties of cross-linked amine-cured epoxies. **T. Nguyen**, X. Gu, M. Vanlandingham, J. Martin

2:00 - 430. Study of UV degradation in epoxy polymer by using slow positron annihilation spectroscopy. **R. Zhang**, X. Gu, H. Chen, Y. Li, J. Zhang, T. Nguyen, Y. C. Jean

2003 Spring Meeting

2:30 - Intermission.

2:50 - 431. Cross-linked conjugated polymer ultrathin film networks via the precursor polymer approach: Synthesis, characterization, and application. **R. Advincula**, C. Xia, K. Onishi, P. Taraneekar, S. Deng, A. Baba, W. Knoll

3:20 - 432. Oxidative solid-state cross-linking for patterning intrinsically conductive polymers. **G. A. Sotzing**, S. Jang, M. Marquez

3:50 - 433. Synthesis and photochemistry of stilbene dicarboxylate polyesters that are liquid-crystalline at room temperature. **D. Creed**, A. M. Somlai, C. E. Hoyle, K. A. Page

4:20 - 434. Synthesis and characterization of a new photo cross-linkable polyester for photonic applications. **Z. Roz**, S. Sun, S. Maaref

Section B

Hilton Riverside -- Grand Salon C16/C13

NMR Spectroscopy of Polymers

Synthetic Polymers: Solid-State Structure and Morphology

Cosponsored with Division of Analytical Chemistry

R. Kimmich, *Presiding*

H. N. Cheng and A. D. English, *Organizers*

1:30 - 435. Supramolecular structure and function from solid-state NMR. H. W. Spiess, **I. Schnell**

1:55 - 436. Biaxial deformation of polymer networks and deuterium quadrupolar interactions. P. T. Callaghan, **E. T. Samulski**

2:20 - 437. Morphology of alkoxy silane/acrylate latex particles synthesized by miniemulsion copolymerization as inferred by proton NMR spin diffusion experiments. **J. E. Roberts**, I. Marcu, V. L. Dimonie, E. S. Daniels, M. S. El-Aasser

2:45 - 438. Ordering of apolar and polar solutes in nematic phases as determined by NMR spectroscopy. **C. Wutz**, E. T. Samulski, T. Dingemans, D. J. Photinos, A. F. Terzis

3:10 - Intermission.

3:25 - 439. NMR studies of polymer interfaces in ordered hydrophobic organic/inorganic hybrids. **P. A. Mirau**, S. Yang

3:50 - 440. NMR studies of polymers included in and coalesced from their inclusion compounds formed with host cyclodextrins. **A. E. Tonelli**

4:15 - 441. Proton NMR characterization of room-temperature aging in isotactic polypropylene and ethylene/octene copolymers. **D. L. VanderHart**, C. R. Snyder, R. G. Alamo

Section C

Hilton Riverside -- Grand Salon C18/C15

Polymer Design Using Non-covalent Methods

//

S. C. Zimmerman, *Presiding*

R. A. Gross, *Organizer, Presiding*

T. E. Long, V. Rotello, and E. W. Meijer, *Organizers*

1:30 - 442. Engineering with macromolecules: From supramolecular chemistry to defined nanomaterials. **U. S. Schubert**, B. G. G. Lohmeijer, J. Gohy

1:55 - 443. Folded structure of oligoamides derived from aza-aromatics. **I. Huc**

2003 Spring Meeting

2:20 - 444. Polymerization of 1-D columnar assemblies made up of sorbate containing trialkyl-1,3,5-benzenetricarboxamide. **M. Masuda**, P. Jonkheijm, R. P. Sijbesma, E. W. Meijer

2:45 - 445. From "plug and play" to "bricks and mortar": Recognition-mediated assembly of polymeric systems. **V. M. Rotello**

3:10 - 446. Design and single-molecule studies of titin-mimicking modular macromolecules having precise secondary structures formed by hydrogen bonding. **Z. Guan**, J. Roland, S. X. Ma, X. Kong, T. M. McIntire, D. A. Brant

3:35 - 447. Synthesis and folding properties of isomeric *m*-phenylene ethynylene oligomers containing short amide sequences. **K. Goto**, J. S. Moore

4:00 - 448. Hexameric cycles from hydrogen-bonded ureido-pyrimidinones. **H. M. Keizer**, A. Ramzi, R. P. Sijbesma, E. W. Meijer

4:25 - 449. Designed intramolecular hydrogen bonds stabilizing antimicrobial amphiphilic polymers. **R. J. Doerksen**, B. Chen, D. Liu, W. F. DeGrado, M. L. Klein

4:50 - 450. Synthetic duplex oligomers defined via covalent casting of a 1-D hydrogen bonding motif. **M. J. Krische**, E. A. Archer

Section D

Hilton Riverside -- Grand Salon B9/B12

2003 ACS Award in Applied Polymer Science Honoring Lloyd M. Robeson

M. T. Shaw, Organizer, Presiding

C. D. Smith, Organizer

1:00 - 451. Phase behavior of polymer blends. **D. R. Paul**, S. Zhu

1:25 - 452. Polymeric sensors: Sensing materials for liquid/vapor environments based on electrically conductive polymer blends. **M. Narkis**, E. Segal, R. Tchoudakov, H. Cooper, A. Siegmann

1:50 - 453. Unusual phenomena in ionomer blends. **R. A. Weiss**, L. Xu, H. Lee

2:15 - 454. Polymers and blends from cyclic oligomers of polyesters. **W. J. MacKnight**, A. Tripathy

2:40 - 455. Proton exchange membranes based on engineering thermoplastics. **J. E. McGrath**

3:05 - 456. Conductivity enhancement of sulfonated polystyrene blends using electric field structuring techniques. J. V. Gasa, **M. T. Shaw**

3:30 - 457. Functional polyesters: From soft drink containers to electrospun fibers and bioadhesives. **T. E. Long**, Q. Lin, M. G. McKee, A. S. Karikari, S. Unal, A. R. Fornof, R. H. Colby

3:55 - 458. Electro-optical properties of polymer blends. **F. E. Karasz**

4:20 - 459. Award Address (ACS Award in Applied Polymer Science). Structure/property studies on polymeric materials. **L. M. Robeson**

Section E

Hilton Riverside -- Grand Salon D21/D24

2003 Spring Meeting

Polymer Brushes: From Synthesis to Functional Microstructures

Synthesis

Cosponsored with Division of Polymeric Materials: Science and Engineering

R. C. Advincula, *Organizer, Presiding*

W. J. Brittain, J. Ruhe, and K. Caster, *Organizers*

1:20 - Introductory Remarks.

1:30 - 460. Polymer brushes by ATRP. **K. Matyjaszewski**

2:05 - 461. From monolayers to polymer brushes. R. Jordan, J. Kang, **A. Ulman**, W. Eck, A. Golzhauser, M. Grunze

2:40 - 462. Patterned polymer brushes via surface-initiated photopolymerization on self-assembled monolayers structured by chemical lithography. **R. Jordan**, U. Schmelmer, A. Paul, W. Eck, A. Golzhauser, M. Grunze, A. Ulman

3:05 - Intermission.

3:20 - 463. Functional polymer brushes. **J. Ruhe**, O. Prucker, B. Peng, S. Golze, H. Murata

3:55 - 464. Recent advances in the synthesis and rearrangement of block copolymer brushes. S. G. Boyes, A. M. Granville, B. K. Mirous, B. Akgun, **W. J. Brittain**

4:30 - 465. Synthesis of functional interfaces using irregularly hyperbranched grafts. **D. Bergbreiter**

5:05 - 466. Nickel-mediated grafting from polymerization of α -amino acid-*N*-carboxyanhydrides. **H. Menzel**, P. Witte

Colloidal and Molecular Electro-Optics

Rigid Particles

Cosponsored with Division of Colloid and Surface Chemistry

In Situ Characterization of Polymerization Processes

Cosponsored with Division of Polymeric Materials: Science and Engineering

TUESDAY EVENING

Section A

Convention Center -- Hall G

Polymer Brushes: From Synthesis to Functional Microstructures

Cosponsored with Division of Polymeric Materials: Science and Engineering

W. J. Brittain, R. Advincula, J. Ruhe, and K. Caster, *Organizers*

6:00 - 8:00

467. A novel method for the synthesis of amphiphilic core-shell polymer nanospheres. **P. Li**, J. Zhu, P. Sunintaboon, F. W. Harris

468. Conductive polymer-based nanomolecular wire: Selective connection to various solid surfaces. **H. Nakashima**, K. Furukawa, Y. Kashimura, K. Torimutsu

469. LCST phase behavior of end-grafted poly(*N*-isopropylacrylamide). **S. Mendez**, B. Subramanian, S. S. Balamurugan, M. J. O'Brien II, G. P. Lopez

470. Micromechanical properties of glassy and rubbery polymer brushes grafted to functionalized silicon surfaces. **D. Julthongpiput**, M. C. LeMieux, V. Tsukruk

471. Modification of gold films with water-soluble (co)polymers prepared via aqueous RAFT. **B. S. Sumerlin**, P. A.

2003 Spring Meeting

Stroud, A. B. Lowe, C. Scales, C. L. McCormick

472. Nanomechanical properties of switchable binary polymer brush films. **M. C. LeMieux**, S. Minko, D. Usov, M. Stamm, V. Tsukruk

473. Nanoporous materials for the faster circuit: A single-molecule template. **E. Conner**, L. Sundberg, J. Hedrick, R. Miller

474. Nanostructure of amphiphilic diblock copolymer monolayer at an air-water interface by X-ray and neutron reflectometry. **H. Matsuoka**, E. Mouri, K. Matsumoto

475. Recent advances in contact molding for nanoscopic pattern transfer. K. R. Carter, T. A. von Werne, D. Germack, E. C. Hagberg, C. J. Hawker, **M. Beinhoff**

476. Study of the grafting reaction of maleic acid onto PP fiber in a medium of water solution. **X. Zhang**, S. Tong, J. Li, J. Chen

477. Surface micropatterning of biomolecules through photolithography on block copolymer polymer brushes. **F. Pan**, K. Lee, P. Wang, N. J. Turro, J. T. Koberstein

478. The influence of shearing parameters on the frictional forces measured between polymer brushes. **A. M. Forster**, S. M. Kilbey II

479. Well-defined brush polymers based on a fully rodlike backbone: Synthesis and properties. **M. Ree**, **S. W. Lee**, B. Lee, W. Choi, B. Chae, S. B. Kim, K. H. Lee, J. C. Jung

480. Characterization of stimuli-responsive semifluorinated polymer brushes. **A. M. Granville**, S. G. Boyes, W. J. Brittain

481. Copolymers with spontaneous gradient structure by ATRP of PEO (meth)acrylate macromonomers with TMS-ethyl (meth)acrylates. **D. Neugebauer**, K. Matyjaszewski

482. Densely heterografted brush copolymers by combination of "grafting through" and "grafting from" ATRP. **D. Neugebauer**, B. E. Carson, S. S. Sheiko, K. Matyjaszewski

483. Double-grafted brushes via ATRP. **D. Neugebauer**, Y. Zhang, T. Pakula, K. Matyjaszewski

484. Effect of initiator deposition technique and spacer length on monolayer and polymer brush formation. **B. Akgun**, S. G. Boyes, A. M. Granville, W. J. Brittain, M. D. Foster

485. Effect of initiator structure on photochemical polymerization of styrene from self-assembled monolayers on gold. **J. Feng**, D. J. Dyer

486. Electrostatic effects in surface-initiated aqueous ATRP: Synthesis of hydrophilic polymer brushes from charged surfaces. **J. N. Kizhakkedathu**, R. Norris-Jones, D. E. Brooks

487. Functionalization of deacetylated cellulose acetate membrane by poly(acrylic acid) brushes. **H. Chen**, Y. Hsieh

488. Gradient polymer brushes. **B. Zdyrko**, V. Klep, I. Luzinov, A. Sidorenko, L. Ionov, S. Minko, M. Stamm

489. Hairy dendronized polymers: High-density polymer brushes via ROMP. **A. Zhang**, A. D. Schlüter

490. Linear-hyperbranched nonionic PPO-polyglycerol surfactants. H. Frey, **H. Kautz**, V. Istratov, R. Schubert, Y. Kim

491. Macromolecular interlayer for anchoring of high-density brushes by "grafting to" method. **K. S. Iyer**, V. Klep, J. Pionteck, H. Malz, I. Luzinov

492. Morphological studies of model polymer-layered silicate nanocomposites. **M. Kurian**, M. Galvin, P. Madison, F. L. Beyer

2003 Spring Meeting

493. Nanopatterned surface morphology of well-defined mixed homopolymer brushes fabricated by living radical polymerization. **M. Ejaz**, K. Ohno, Y. Tsujii, T. Fukuda
494. Novel polymer brush architectures: Linear hyperbranched block copolymers. H. Frey, **A. García Marcos**, T. Pusel, B. de Juan de Castro, S. Geppert, R. Thomann, W. Gronski
495. Polyelectrolyte complexes and multilayers at a solid surface via polymer brushes. **H. Zhang, J. R. He**
496. Polymer brushes grafted from macroinitiator by controlled/living polymerization. **V. Klep**, B. Zdyrko, I. Luzinov
497. Polyzwitterions in polyelectrolyte multilayers: Formation and applications. **H. H. Rmaile, C. B. Bucur**, J. B. Schlenoff
498. Preparation of silica-poly(norbornene) nanocomposites by surface-initiated polymerization. **M. Jordi**, T. A. P. Seery
499. Spontaneous curvature of polymer brushes. **S. S. Sheiko**, M. da Silva, D. Shirvaniants, C. A. Rodrigues, K. L. Beers, K. Matyjaszewski, I. I. Potemkin, M. Moeller
500. Swelling behavior of weak polyelectrolyte brushes. **R. Konradi, J. R. He**
501. Synthesis and application of gold nanoparticles coated with well-defined, high-density polymer brushes. **K. Ohno**, K. Koh, Y. Tsujii, T. Fukuda
502. Synthesis and characterization of octafunctional block poly(ethylene oxide)-*block*-polystyrene based on a calixarene core. **J. Logan**, D. Taton, Y. Gnanou, R. S. Duran
503. Synthesis and characterization of polyelectrolyte brushes. **S. G. Boyes**, B. K. Mirous, W. J. Brittain
504. Synthesis of an α -siloxy- ω -amino poly(ethylene glycol) for use in ligating biological molecules to nanoparticles. **P. J. Costanzo**, T. E. Patten, R. Smith
505. Synthesis of functionalized polymer brushes, Part I: Dipeptide brushes. J. R. He, **H. Murata**
506. Synthesis of functionalized polymer brushes, Part II: Active ester brushes. J. R. He, **H. Murata**
507. Synthesis of functionalized polymer brushes, Part III: Amino brushes. J. R. He, **H. Murata**
508. Synthesis of patterned polymer brushes via surface-initiated polymerization on self-assembled monolayers. **U. Schmelmer**, R. Jordan, A. Paul, W. Eck, A. Götz, M. Grunze, A. Ulman
509. Synthesis of polymer brushes by surface-initiated ATRP: Effect of initiator density. **Y. Liu**, V. Klep, I. Luzinov
510. Synthesis of polymer dielectric layers via ROMP for use in organic circuit devices. **I. M. Rutenberg**, O. A. Scherman, Z. Bao, R. H. Grubbs
511. The synthesis and properties of spherical brushes by living ATRP. **C. Li**, M. Schmidt, Y. Chen
512. Wettability and morphology of a mixed polymer brush prepared by simultaneous polymer addition. **J. Draper**, I. Luzinov, L. Ionov, S. Minko, S. K. Varshney, M. Stamm

Section B

Convention Center -- Hall G

Polymer Design Using Noncovalent Methods

T. E. Long, R. A. Gross, V. Rotello, and E. W. Meijer, *Organizers*

6:00 - 8:00

513. 3,6-Bis-(2-pyridyl)-pyridazine as supramolecular (co)initiator for DL-lactide polymerization. R. Hoogenboom, **U. S. Schubert**

2003 Spring Meeting

514. A straightforward method to synthesize cyclodextrin-based hyperbranched polymer from natural cyclodextrin. L. Chen, **X. Zhu**, D. Yan, X. He
515. Adsorption of a macromolecule as a release trigger of a small molecule from polymer multilayers. **S. A. Sukhishvili**, **E. Kharlampieva**
516. Aggregation studies of novel, facially amphiphilic phenylene ethynylenes. **R. B. Breitenkamp**, G. N. Tew
517. All-organic high-*k* composite materials as actuators and artificial muscles. **C. Huang**, M. Poh, H. Xu, Z. Cheng, Q. M. Zhang
518. Development and characterization of poly(vinyl alcohol)-amino acid hydrogels for use as biomaterials. **M. S. Boeckl**, J. Perry, E. R. Leber, P. Nair, B. D. Ratner
519. Efficient biological construction of repetitive polypeptides for interconnect applications by block copolymerization. **S. Higashiya**, S. C. Ngo, K. S. Bousman, X. Jin, J. T. Welch, R. P. Cunningham, E. T. Eisenbraun, R. E. Geer, A. E. Kaloyeros
520. Electrochromic properties of LBL thin films containing polyviologens. **N. Zacharia**, P. T. Hammond
521. Facially amphiphilic phenylene ethynylenes. **L. Arnt**, G. N. Tew
522. Hydrogen bond cross-linking-induced micellization of poly(vinyl phenol)-*block*-polystyrene and poly(vinyl phenol-*ran*-styrene). **E. Yoshida**, A. Hironaka, M. Ohta
523. Investigation of nucleobase-assembled supramolecular mesogenic polymers. S. J. Rowan, **S. Sivakova**
524. J-Aggregate formation onto polyelectrolytes and their energy/electron transfer quenching. **J. Je**, L. Lu, D. Whitten, O. Kim
525. Metal/ligand-induced formation of metallo-supramolecular polymers. S. J. Rowan, **J. B. Beck**, J. M. Ineman
526. Micelle formation of poly(4-pyridinemethoxymethylstyrene)-*b*-polystyrene in nonselective solvents using dicarboxylic acids. **E. Yoshida**, M. Ohta
527. Microphase separation induced by sparsely distributed pendant side-chain groups. **R. Shenhar**, O. Uzun, V. M. Rotello
528. Noncovalent association of polyhedral oligomeric silsesquioxane modifiers in a polymeric system: Thymine-based "plug and play" polymers. **J. B. Carroll**, H. Nakade, V. M. Rotello
529. Polymer-mediated self-assembly of iron oxide nanoparticles. A. K. Boal, **B. L. Frankamp**, O. Uzun, M. Tuominen, V. M. Rotello
530. Self-assembly of nanoparticles by using diblock copolymers. **O. Uzun**, B. L. Frankamp, V. M. Rotello
531. Self-assembly of nonhelical and helical metallo-supramolecular polymers. P. R. Andres, **U. S. Schubert**
532. Self-assembly of randomly functionalized rigid copolymers. **U. Drechsler**, R. J. Thibault, V. M. Rotello
533. Stamping of fluorinated copolymers for microfluidic applications. **J. Park**, P. T. Hammond
534. Supramolecular polymers based on poly(ethylene glycol)-terpyridine ruthenium systems. **H. Hofmeier**, S. Schmatloch, U. S. Schubert
535. Supramolecular polymers containing terpyridine complex and hydrogen bonding units. **H. Hofmeier**, A. Elghayoury, U. S. Schubert
536. Surface alignment of hydrogen-bonded main chain liquid-crystalline polymers. D. J. Dyer, **C. Li**, J. Wolf, T. Zhao,

2003 Spring Meeting

C. Landorf

537. Surface modifications using molecular recognition at interfaces. **A. Sanyal**, T. B. Norsten, E. Jeoung, R. J. Thibault, O. Uzun, H. Nakade, V. M. Rotello
538. Synthesis and characterization of interphase-modified polyurethanes. **G. S. Pollock**, L. T. James-Korley, G. H. McKinley, P. T. Hammond
539. Synthesis of end-group --modified *m*-phenylene ethynylene oligomers to investigate guest binding. **M. T. Stone**, J. S. Moore
540. Synthesis of polyamide dendrons and dendrimers bearing multiple hydrogen-bonding parts on the periphery. **T. Koketsu**, K. Yokomachi, M. Jikei, M. Kakimoto
541. Synthesis of polymer scaffolds containing one molecular recognition site. **H. Nakade**, K. Das, V. M. Rotello
542. Synthesis of polyphosphazenes with sulfonic acid functionalities using noncovalent protection methods. **A. K. Andrianov**, A. Marin, J. R. Sargent, J. Chen
543. Synthesis of titin-mimicking polymers having modular structures by using noncovalent interactions. J. T. Roland, S. X. Ma, M. Nguyen, **Z. Guan**
544. T-shaped supramolecular liquid-crystalline complexes self-assembled by double hydrogen bonding. **D. Chen**, Y. Lu, X. Wang, X. Yu
545. Toward the "universal" polymer backbone: Optimization of norbornene monomers possessing terminal hydrogen-bonding receptors or metal-coordinating units. **J. M. Pollino**, L. P. Stubbs, M. Weck
546. Uptake and release of complementary guests by recognition-induced polymersomes. **R. J. Thibault**, E. Turnberg, P. Hotchkiss, V. M. Rotello

Section C

Convention Center -- Hall G

Advances in Polycarbonates

D. J. Brunelle and M. R. Korn, *Organizers*

6:00 - 8:00

547. Synthesis and characterization of 2,2,4,4-tetramethyl cyclobutanediol-based polycarbonates. **A. E. Acar**, D. J. Brunelle
548. New aliphatic poly(ester-carbonates) based on 5-methyl-5-allyloxycarbonyl-1,3-dioxan-2-one. **B. D. Mullen**, C. N. Tang, R. F. Storey
549. Effectiveness of sPETG as a compatibilizer for PC/PETG blends. **P. L. Hopson**, R. B. Moore
550. Synthesis of bis[4-(4-hydroxyphenyl)phenyl]propane and novel polycarbonates prepared therefrom. T. S. Filipova, **D. Boyles**, J. T. Bendler, M. J. Schroeder

Section D

Convention Center -- Hall G

NMR Spectroscopy of Polymers

Poster Session

Cosponsored with Division of Analytical Chemistry

H. N. Cheng and A. D. English, *Organizers*

6:00 - 8:00

551. A comparison of NMR measurements of residual dipolar couplings in aged silica-PDMS composite materials. **R. Maxwell**, S. Chinn, B. Balazs, R. Gee

2003 Spring Meeting

552. Deuterium NMR studies of bulk and silica-adsorbed polystyrene. **M. O. Okuom**, J. Yang, F. D. Blum
553. Dynamics and morphology of adsorbed and filled amorphous polymers. **V. Nasreddine**, T. Genereux-Vincent, L. Reven
554. Dynamics of disordered styrene-isoprene tetrablock copolymers: From heterogeneous segmental dynamics to homogeneous global dynamics. **Y. He**, T. R. Lutz, M. D. Ediger, T. P. Lodge
555. Fast-MAS NMR studies of polyelectrolyte multilayer films. **M. McCormick**, R. N. Smith, R. Graf, C. J. Barrett, L. Reven, H. W. Spiess
556. Mobility studies of polyelectrolytes adsorbed onto silica surfaces. **R. N. Smith**, M. McCormick, L. Reven, C. J. Barrett
557. Polymer/MCM-41 nanocomposites obtained by in situ polymerization as characterized by solid-state NMR. **S. Bracco**, A. Comotti, R. Simonutti, P. Sozzani
558. Real-time observation of the crystallization of natural rubber through NMR spin-diffusion experiments. **J. Leisen**, M. A. Sharaf, H. W. Beckham
559. Rapid poly(ethylene oxide) segmental dynamics in blends with poly(methyl methacrylate). **T. R. Lutz**, Y. He, M. D. Ediger, H. Cao, G. Lin, A. Jones
560. CP/MAS solid NMR spectra of a compound of cellobiose and *n*-octadecylsuccinic anhydride. **L. Yang**, T. Endo, T. Hirotsu
561. Evaluating cross-link density in model polyurethane acrylate coatings with ¹H and ¹³C NMR relaxation measurements. **R. E. Youngman**, D. N. Schissel, S. M. Gasper
562. Diffusional inhomogeneities in polymer gels as studied by the ¹H pulsed high-field-gradient NMR method. **Y. Yamane**, M. Matsui, H. Kimura, S. Kuroki, I. Ando
563. Effective size and charge of polyelectrolytes. **U. Scheler**, U. Böhme
564. Self-diffusion of water in sulfonated poly(arylene ether sulfone) copolymers by pulse-field-gradient NMR. **L. Dong**, Y. S. Kim IV, F. Wang, M. Hickner, T. E. Glass, J. E. McGrath
565. Diffusional behavior of poly(diethylsiloxane) in the liquid-crystalline phase studied by field-gradient NMR. **S. Kanesaka**, H. Kimura, S. Kuroki, S. Fujishige, I. Ando
566. Molecular mass and dynamics in PMA-d₃ in the glass transition region. **B. Metin**, F. D. Blum
567. Mobility of linear polymer chains in TPP nanochannels. **R. Simonutti**, M. Mauri, S. Bracco, A. Comotti, P. Sozzani
568. Variable-temperature solid-state NMR investigation of the structure, molecular motion, and morphology of naphthalene-containing poly(ether-ester) thermoplastic elastomers. **M. M. Guo**
569. Variable-temperature NMR spectra and relaxation studies of polyelectrolytes in poor solvents. **M. M. Guo**
570. NMR characterization of poly(vinyl alcohol) films. **S. A. Myers**, L. Tsou, D. J. Heiler
571. Expanding the detection limit for side-chain branches in polyethylene: C-13 NMR spin-lattice relaxation and NOE buildup directly in the melt. **M. A. Pollard**, M. Wilhelm, H. W. Spiess, O. Sperber, C. Piel, W. Kaminsky
572. Analysis of long-chain branching in polyethylene using high-field ¹³C NMR. **C. B. Conboy**, **A. A. Taha**, E. S. Hsi, M. S. Johnson, O. D. Redwine, J. J. Xiong, S. Zhang, D. Gorenstein, F. Lin, V. V. Mainz
573. Tacticity analysis of poly(ethylene-*co*-butene) copolymers by multidimensional NMR. **S. K. Sahoo**, D. V. Reddy, T.

2003 Spring Meeting

Zhang, P. L. Rinaldi, L. H. McIntosh, R. P. Quirk

574. Carbon-13 NMR study of propylene-ethylene-butene-1 terpolymers. **Y. Zhang**, C. Wu

575. Fractionation and characterization of a propylene-ethylene-butene-1 terpolymer. **Y. Zhang**, C. Wu, J. Zhang, W. Wang

576. Chain end-group analysis of ethene homo- and copolymers prepared with metallocene catalysts at high temperature. **V. Van Axel Castelli**, A. L. Segre, V. Busico, N. Friederichs, G. van der Velden

577. NMR analysis of polymers through kinetic modeling. **H. N. Cheng**, L. J. Kasehagen

578. Encapsulation of fluorescein dye within a PPI-3/adipic acid self-assembly. A. K. Holley, **M. Chai**, R. J. Morgan

579. Investigation of microstructure of *N*-vinylcarbazole and methacrylic acid copolymers by NMR spectroscopy. A. S. Brar, **M. Kaur**

580. Microstructure determination of glycidyl methacrylate/butyl acrylate copolymers by NMR spectroscopy. A. S. Brar, A. Yadav, **M. Kaur**

581. Structure and aggregation studies of porphyrin-based dendrimers by multidimensional NMR. D. Banerjee, G. J. Capitosti, S. J. Cramer, D. A. Modarelli, **P. L. Rinaldi**

582. pH-Responsive complexes and associations of linear poly(methacrylic acid) containing poly(ethylene glycol) grafts. **G. D. Poe**, C. L. McCormick, W. L. Jarrett Jr.

583. Structural analysis of PFSI in the solution state studied by ¹⁹F PFG NMR spectroscopy. **K. H. Min**, K. Yamamoto, A. Watakabe, S. Yonemori, I. Ando

584. Quantitation of kollidon in an acrylate-based copolymer adhesive by proton NMR. **J. Wu**, S. V. Pathre

585. Rapid injection NMR study of the reaction of sec-butyllithium with styrene and isoprene in toluene. **C. Z. Carlin**, M. D. Murphy, C. A. Ogle

586. Simulations of methylaluminum synthesis from monomeric trimethylaluminum + water. **R. W. Hall**, L. Negureanu, P. Bobadova-Parvanova, J. L. Eilertsen, L. G. Butler, L. S. Simeral

587. Structural properties of methylaluminum from DOSY NMR, solution Aluminum-27 NMR, and solid-state proton spin-lattice relaxation times. **J. L. Eilertsen**, W. D. Treleaven, R. W. Hall, L. G. Butler, L. S. Simeral

588. Wheat protein and its polymer blends studied by solid-state high-resolution NMR spectroscopy. **X. Zhang**, I. Burgar, M. D. Do, E. Lourbakos, H. Beh

589. Polyblends containing starch and vinyl polymers. **A. Biswas**, J. L. Willet, **H. N. Cheng**

590. NMR study of thermal transition of *N*-isopropylacrylamide/methacrylated pullulan hydrogels. **R. Lamanna**, A. P. Sobolev, G. Masci, D. Bontempo, V. Crescenzi, A. L. Segre

591. ¹H NMR study of a kind of aromatic macrocycle with two isomers. G. Dang, C. Chen, W. Yang, F. Li, **W. Zhang**, Z. Wu

592. ¹H NMR study of a novel aromatic macrocyclic oligomer with a manacle-like structure. **G. Dang**, C. Chen, W. Yang, F. Li, **W. Zhang**, Z. Wu

WEDNESDAY MORNING

Section A

Hilton Riverside -- Grand Salon D19/D22

2003 Spring Meeting

Crosslinking Materials and Processes
Reversible/Renewable Resources/Recyclable Cross-linked Systems

J. W. Taylor, *Presiding*

R. K. Pinschmidt Jr., *Organizer, Presiding*

C. Hoyle, *Organizer*

8:20 - 593. New thermally re-mendable highly cross-linked polymeric materials. **F. Wudl**, X. Chen

8:50 - 594. Synthesis and characterization of cleavable epoxy compounds. **H. K. Shobha**, G. G. Hougham, N. C. LaBianca, J. D. Gelorme, C. Feger, S. L. Buchwalter

9:20 - 595. Supramolecular terpolymers for covalent and noncovalent cross-linking. **H. Hofmeier**, U. S. Schubert

9:50 - 596. Synthesis of cleavable branched poly(2-ethylhexyl acrylates) as deactivatable adhesives. **L. Kilian**, M. D. Perry, R. R. Dick, T. E. Long

10:20 - Intermission.

10:30 - 597. Learning from a natural curing system: Development of an environmentally benign coating. **S. Kobayashi**, R. Ikeda, T. Tsujimoto, H. Uyama

11:00 - 598. Dispersability of phosphated bio-based hyperbranched polyols. V. M. Mannari, Y. Guo, **J. L. Massingill Jr.**

11:30 - 599. Dynamic vulcanization of the SRP/HDPE/POE thermoplastic elastomers. Y. Li, **Y. Zhang**

Section B

Hilton Riverside -- Grand Salon C16/C13

NMR Spectroscopy of Polymers

Synthetic Polymers: Diffusion and Constrained Geometry

Cosponsored with Division of Analytical Chemistry

A. K. Whittaker, *Presiding*

H. N. Cheng and A. D. English, *Organizers*

8:30 - 600. Understanding diffusion in entangled polymer blends. **E. D. von Meerwall**, S. Wang, S. Wang

9:15 - 601. Diffusion in transient polymer networks: Solvent, solute, and polymer. **P. M. Macdonald**, X. X. Zhu, Y. Uemura

9:40 - 602. Industrial applications of diffusion NMR to polymer problems. **E. F. McCord**, J. Vargeson, H. Dai, A. J. Vega, E. U. Lozada

10:05 - 603. Diffusion in an ultrapermeable nanocomposite membrane by pulse-field-gradient NMR. **A. A. Jones**, J. Zhong, W. Wen

10:30 - Intermission.

10:45 - 604. Polymer chain dynamics in nanopores. **R. Kimmich**, E. Fischer, U. Beginn, N. Fatkullin, A. Denisov, M. Kroutieva

11:10 - 605. Extended polymeric interfaces studied by ^1H - ^{13}C HETCOR applying Lee Goldberg homonuclear decoupling. **P. Sozzani**, R. Simonutti, S. Bracco, A. Comotti

11:35 - 606. HRMAS NMR: A new approach to polymer interactions in blends and composites. **W. T. Winter**

Section C

Hilton Riverside -- Grand Salon C18/C15

2003 Spring Meeting

Polymer Design Using Non-covalent Methods
III

I. Yilgor and J. C. M. van Hest, *Presiding*

T. E. Long, R. A. Gross, V. Rotello, and E. W. Meijer, *Organizers*

8:30 - 607. Toward supramolecular daisy-chainlike polymers. **J. F. Stoddart**, T. Chang

8:55 - 608. Catalytic macromolecular rotaxanes: Toward mimicking nature's processive catalysts. A. E. Rowan, P. Thordarson, R. G. E. Coumans, E. Bijsterveld, **R. J. M. Nolte**

609. Withdrawn.

9:20 - 610. Synthesis of (poly)rotaxanes that lack an enthalpic driving force for threading. **C. Pugh**, K. Xu

9:45 - 611. Self-assembly with macromolecular building blocks. **H. W. Gibson**, Z. Ge, J. W. Jones, A. Farcas

10:10 - 612. The reorganization of polymers by processing with their cyclodextrin inclusion compounds. **A. E. Tonelli**, C. C. Rusa, T. A. Bullions, M. Wei, X. Shuai

10:35 - 613. A new class of semipolyrotaxanes: Multiple-arm inclusion complexes with a hyperbranched core. **X. Zhu**, D. Yan, L. Chen, J. Hou, J. Li, Q. Chen, Y. Yao

11:00 - 614. Design and properties of topological gels. **Y. Okumura**, K. Ito

Section D

Hilton Riverside -- Grand Salon B9/B12

General Papers

Polymer Characterization

R. Frech, *Presiding*

D. Garcia and C. A. Guymon, *Organizers*

8:00 - 73. Influence of stereochemistry on cocrystallization in partially cycloaliphatic copolyamides. **C. Koning**, B. Vanhaecht, R. Willem, M. Biesemans, B. Goderis, B. Rimez

8:20 - 616. Origin of the stress-induced rate acceleration in the photochemical degradation of polymers. **D. R. Tyler**, R. Chen

8:40 - 617. Determination of the propagation rate constant in the carbocationic polymerization of styrene. **P. De**, M. V. Munavalli, R. Faust

9:00 - 618. Analysis and characterization of initiation in quasiliving cationic polymerization of styrene and isobutylene. R. F. Storey, **Q. A. Thomas**

9:20 - 619. Characterization of the kinetics of the adiabatic photopolymerization of dodecyl acrylate. **W. J. Ainsworth**, Y. A. Chekanov, J. A. Pojman, V. T. Wyatt

9:40 - 620. Analysis of the aggregation behavior of ionic oligomers in the aqueous phase during emulsifier-free emulsion polymerization. **X. Li**, R. Salovey

10:00 - 621. Systematic study of the synthesis and characterization of 3,3'-sulfonylbis(6-chloro benzene sulfonic acid) disodium salt monomer for proton-conducting polymeric membranes in fuel cell applications. **M. Sankir**, V. A. Bhanu, H. Ghassemi, K. B. Wiles, M. L. Hill, W. Harrison, M. Sumner, T. E. Glass, J. Riffle, J. E. McGrath

10:20 - 622. Novel PEEK membranes for fuel cell applications. **M. P. Gil**, X. Ji, X. Li, H. Na, J. E. Hampsey, Y. Lu

10:40 - 623. Preparation of modified polyetherketone membranes. **P. J. Brown**, D. A. Baker, M. A. Hafeez

2003 Spring Meeting

11:00 - 624. Mechanism of disordering in lithium salt complexes of poly(ethylenimine). M. Buckner, S. S. York, **R. Frech**, D. T. Glatzhofer

11:20 - 625. Single-ion block copolymer electrolytes for solid-state lithium rechargeable batteries. **S. Ryu**, P. E. Trapa, D. R. Sadoway, A. M. Mayes

11:40 - 626. Poly(arylene thioether sulfone) copolymers for PEM-based fuel cell systems. **K. B. Wiles**, V. A. Bhanu, F. Wang, M. A. Hickner, J. E. McGrath

Section E

Hilton Riverside -- Grand Salon D21/D24

Polymer Brushes: From Synthesis to Functional Microstructures

Synthesis/Mechanism/Nanoparticles

Cosponsored with Division of Polymeric Materials: Science and Engineering

W. J. Brittain, *Organizer, Presiding*

R. C. Advincula, J. Ruhe, and K. Caster, *Organizers*

8:30 - 627. Methods for grafting polymer brushes from various nanoparticle surfaces. **T. E. Patten**

9:05 - 628. Characterization of polymer brushes on nanoparticle surfaces. **T. A. P. Seery**, M. Jordi, Q. F. Adkins

9:40 - 629. Grafting of polymers onto carbon nanofiber surfaces and application to sensing materials. **N. Tsubokawa**, J. Chen, G. Wei, M. Mikuni, K. Fujiki

10:15 - Intermission.

10:30 - 630. Polymer brushes by living anionic surface-initiated polymerization: Synthesis, mechanism, and block copolymers. **R. Advincula**, M. Park, J. W. Mays, G. Sakellariou, S. Pispas, N. Hadjichristidis

11:05 - 631. Photoinitiated polymerization of styrene from alkylthiolate self-assembled monolayers: Kinetics and grafting density. **D. J. Dyer**, J. Feng, R. Paul, R. Schmidt, T. Zhao

11:30 - 632. Surface-grafted hyperbranched polymers by self-condensing vinyl (co)polymerization via ATRP. **H. Mori**, A. H. E. Miller

11:55 - 633. Macromolecular anchoring layer for synthesis of polymer brushes. **I. Luzinov**, K. S. Iyer, V. Klep, B. Zdyrko, J. Draper, Y. Liu

Colloidal and Molecular Electro-Optics

Polymers and Polyelectrolytes

Cosponsored with Division of Colloid and Surface Chemistry

In Situ Characterization of Polymerization Processes

Cosponsored with Division of Polymeric Materials: Science and Engineering

WEDNESDAY AFTERNOON

Section A

Hilton Riverside -- Grand Salon D19/D22

2003 Spring Meeting

Crosslinking Materials and Processes
Waterborne Cross-linked Systems

D. A. Wicks, *Presiding*

R. K. Pinschmidt Jr. and C. Hoyle, *Organizers*

1:15 - 634. Cross-linking and polymer diffusion in latex films. **M. A. Winnik**

1:45 - 635. Latexes with allyl functionality: An approach for designing thermosetting latex films. **J. W. Taylor**, M. Collins

2:15 - 636. Defect-free coatings from two-pack isocyanate-curable acrylic dispersions. **T. Nabuurs**, A. Overbeek

2:45 - 637. Heterogeneous cross-linking of waterborne polyurethanes: Internal reflection IR imaging approach. D. B. Otts, **M. W. Urban**

3:15 - 638. Green nanocomposites from renewable resources. **H. Uyama**, T. Tsujimoto, M. Kuwabara, S. Kobayashi

3:45 - 639. Kinetic study of vegetable oil macromonomers for low-VOC coating applications. **K. L. Diamond**, S. N. Shah, S. K. Mendon, O. W. Smith, S. F. Thames

Section B

Hilton Riverside -- Grand Salon C16/C13

NMR Spectroscopy of Polymers

Synthetic Polymers: Relaxation and Dynamics

Cosponsored with Division of Analytical Chemistry

P. M. Macdonald, *Presiding*

H. N. Cheng and A. D. English, *Organizers*

1:30 - 640. Multiple-component chain dynamics as pictured from NMR in polybutadiene. **J. Cohen Addad**, A. Guillermo

1:55 - 641. Dynamics in single-phase polymer mixtures. **M. D. Ediger**

2:20 - 642. Dynamics of bulk and adsorbed poly(vinyl acetate). **F. D. Blum**, R. D. O'Connor

2:45 - 643. Observation of molecular mobility in poly(di-*n*-octylitaconate). **F. Lauprêtre**, A. C. Genix

3:10 - Intermission.

3:25 - 644. Polyolefin blend miscibility: Interrogation of mixing in simple polymers by magnetic resonance. **J. L. White**, E. O. Stejskal, J. Wolak, X. Jia

3:50 - 645. Motional studies of deuterated polysilaethylene by ²H NMR. C. J. Wiegand, L. V. Interrante, **T. Apple**

4:15 - 646. Monitoring the condition of aged polymers by NMR relaxation measurements. **R. A. Assink**, M. C. Celina, K. T. Gillen

Section C

Hilton Riverside -- Grand Salon C18/C15

Polymer Design Using Non-covalent Methods

J. F. Stoddart, *Presiding*

T. E. Long, R. A. Gross, V. Rotello, and E. W. Meijer, *Organizers*

1:00 - 647. Nucleobase-induced supramolecular polymerization. **S. J. Rowan**, P. Suwanmala, S. Sivakova

2003 Spring Meeting

1:25 - 648. Hydrogen-bonded supramolecular polymers with tunable material properties. **A. T. ten Cate**, D. J. M. van Beek, A. J. H. Spiering, P. Y. W. Dankers, R. P. Sijbesma, E. W. Meijer

1:50 - 649. Reversible cross-linking of polysiloxanes by cooperative hydrogen bonds. L. Bouteiller, **O. Colombani**, L. Fomperie, J. Bonetti-Riffaud, C. Barioz

2:15 - 650. Understanding the hydrogen bonding in polyurethanes: Quantum mechanical calculations and experimental studies on model systems. **I. Yilgor**, G. E. Atilla, V. Ediz, E. Yilgor, E. Yurtsever

2:40 - 651. Stabilization of core-shell polymeric assemblies through reversible nucleoside interaction. T. Glauser, M. Ranger, B. Kalra, W. Gao, J. Hedrick, **R. A. Gross**

3:05 - 652. Poly(vinyl alcohol)/amino acid noncovalent hydrogels for biomedical applications. **B. D. Ratner**, E. R. Leber, C. A. Irvin, E. E. Donaldson, M. S. Boeckl, J. Perry, P. Nair, J. Bonadio, M. Zhang, K. D. Hauch

3:30 - 653. Biomolecular building blocks for well-defined polymer architectures. **J. C. M. van Hest**, H. Spijker, L. Ayres, J. Opsteen, J. Smeenk, H. Adams

3:55 - 654. Investigation of crystallinity using differential scanning calorimetry: Polyvinyl alcohol hydrogels in biomedical applications. **L. Tsou**, S. A. Myers, D. J. Heiler

4:20 - 655. Rigid dendrimers which mimic protein hierarchical structure. **F. M. MacDonnell**, K. L. Wouters, H. Zeng

4:45 - 656. Self-assembling peptide amphiphile nanofiber networks for insuloma culture. **J. C. Stendahl**, X. Chen, K. L. Niece, M. S. Baker, D. B. Kaufman, S. I. Stupp

5:10 - 657. Self-assembled vancomycin nanofibers confer antibacterial hydrogels. B. Xing, C. Yu, K. Chow, P. L. Ho, D. Fu, Y. Zhang, **B. Xu**

Section D

Hilton Riverside -- Grand Salon B9/B12

Advances in Polycarbonates

D. J. Brunelle and M. R. Korn, *Organizers, Presiding*

1:00 - Introductory Remarks.

1:05 - 658. Generation of poly(propylene carbonate) from propylene oxide and CO₂: Challenges and opportunities. **E. J. Beckman**

1:35 - 659. Alternating copolymerization of epoxides and carbon dioxide: Advances in b-diiminate zinc catalysts. **D. R. Moore**, S. D. Allen, G. W. Coates

2:05 - 660. Polycarbonates grafted with oxytetramethylene chains: Synthesis and properties. **J. A. Moore**, R. Zhang

2:35 - 661. Chemical recycling of polycarbonates with (supercritical) ammonia. **W. Mormann**, D. Spitzer

3:05 - Intermission.

3:20 - 662. Evolution of polycarbonate process and product chemistries. **D. J. Brunelle**, P. M. Smigelski Jr.

3:50 - 663. Reactions and polymerization in polycarbonates: How can theory help our understanding? **R. O. Jones**, P. Ballone, J. Akola

4:20 - 664. Solid-state polymerization of poly(bisphenol A carbonate) facilitated by supercritical carbon dioxide. C. Shi, S. M. Gross, J. M. DeSimone, **G. W. Roberts**, **D. J. Kiserow**

Section E

Hilton Riverside -- Grand Salon D21/D24

2003 Spring Meeting

Polymer Brushes: From Synthesis to Functional Microstructures

Physisorption/Characterization

Cosponsored with Division of Polymeric Materials: Science and Engineering

K. Caster, Organizer, Presiding

W. J. Brittain, R. C. Advincula, and J. Ruhe, Organizers

1:30 - 665. Study of polyelectrolyte brushes formed from adsorption of amphiphilic diblock copolymers using the surface forces apparatus. **M. V. Tirrell**

2:05 - 666. Model systems for flat, dense polyelectrolyte brushes from self-assembled amphiphilic diblock copolymers. D. Bendejacq, **V. Ponsinet**, M. Joanicot

2:40 - 667. Structure and scaling of polymer brushes formed from branched polymer amphiphiles. **S. M. Kilbey II**, P. Tian

3:15 - 668. Tethering of end-functional polymer chains in the presence and absence of segmental adsorption: Differences in process and outcome. **L. Penn**, H. Huang, R. P. Quirk, T. Cheong

3:40 - Intermission.

3:55 - 669. Nanomechanics of polymer brush layers. **V. Tsukruk**

4:30 - 670. Off-specular X-ray scattering study of polystyrene brush interfaces. H. Kim, **M. D. Foster**, P. Mueller-Buschbaum, H. Zhang, O. Prucker, J. Ruhe

5:05 - 671. Shape changes of statistical copolymacromonomers: From wormlike to horseshoe- and meanderlike structures. **M. Schmidt**, T. Stephan

5:30 - 672. Organization of silica nanoparticles on diblock-copolymer and mixed brushes. **S. Prokhorova**, A. Kopyshv, A. Ramakrishnan, H. Zhang, J. D. J. S. Samuel, J. Ruhe

Colloidal and Molecular Electro-Optics

Vesicles and Membranes

Cosponsored with Division of Colloid and Surface Chemistry

Size-Exclusion Chromatography with Multiple Detection Techniques

Cosponsored with Division of Analytical Chemistry

THURSDAY MORNING

Section A

Hilton Riverside -- Grand Salon D19/D22

Advances in Polycarbonates

D. J. Brunelle, Organizer, Presiding

M. R. Korn, Organizer

8:30 - Introductory Remarks.

8:35 - 673. Economic relevance of advances in polymer structure modification: Reviewed for bisphenol A polycarbonate. **W. Paul**, K. Horn, H. Laue

9:05 - 674. Weatherable polyarylate-co-polycarbonate engineering thermoplastic. **J. A. Suriano**, T. M. Siclovan, J. E. Pickett, D. J. Brunelle, G. A. O'Neil, H. Zhou

2003 Spring Meeting

9:35 - 675. Morphology and supramolecular structure of 4,4'-dihydroxydiphenyl-*co*-polycarbonate. **A. Karbach**, D. Drechsler, U. Wollborn, M. Erkelenz, M. Moethrath, J. Mason, K. Horn

10:05 - Intermission.

10:20 - 676. 2,5-Dihydroxyphenyldiphenylphosphine oxide/BPA copolycarbonate: Monomer and copolymer synthesis and characterization. **G. C. Davis**, D. R. Joyce, E. M. A. Gijzen

10:50 - 677. Synthesis of 1,1-dichloro-2,2-bis[4- π -(4-hydroxyphenyl)phenyl]ethene and its incorporation into homo- and heteropolymers. **D. Boyles**, T. S. Filipova, J. T. Bendler, M. J. Schroeder

11:20 - 678. High-heat polycarbonates containing bisaryl units: Theory and modeling. **J. T. Bendler**, D. A. Boyles

Section B

Hilton Riverside -- Grand Salon C16/C13

NMR Spectroscopy of Polymers

Biological Polymers

Cosponsored with Division of Analytical Chemistry

T. Asakura, *Presiding*

H. N. Cheng and A. D. English, *Organizers*

8:30 - 679. Studies of the structure of novel natural polysaccharides. **J. F. G. Vliegthart**

9:15 - 680. NMR methods in the study of polysaccharides. **A. L. Segre**, D. Capitani, L. Mannina

9:40 - 681. Quantitation of different C-polysaccharide populations in pneumococcal polysaccharide powders with NMR diffusion measurements. **Q. Xu**, C. Abeygunawardana

10:05 - 682. ^{13}C - ^1H and ^{13}C - ^{13}C scalar couplings in isotopically labeled mono-, di-, and trisaccharides: NMR and DFT studies of *O*-glycoside and hydroxymethyl group conformation. **A. S. Serianni**, I. Carmichael

10:30 - Intermission.

10:45 - 683. Structure of silk fibroin from a wild silkworm, *Samia cynthia ricini*, studied with solid-state NMR. **T. Asakura**, Y. Nakazawa

11:10 - 684. Diffusion of rodlike polypeptides in the thermotropic and lyotropic liquid-crystalline phases as studied by high-field-gradient ^1H NMR spectroscopy. **I. Ando**, Y. Yin, C. Zhao, S. Kuroki

11:35 - 685. Determining stereodeflect locations in polylactide using solid-state NMR spectroscopy. **E. J. Munson**, L. K. Carlson, J. E. Jorvig, M. T. Zell, J. Abbott, M. A. Hillmyer

Section C

Hilton Riverside -- Grand Salon C18/C15

Polymer Design Using Non-covalent Methods

M. Weck and K. J. Shea, *Presiding*

T. E. Long, R. A. Gross, V. Rotello, and E. W. Meijer, *Organizers*

8:30 - 686. Supermolecular associates of polyamidines with low molecular weight proton donors. **B. I. Voit**, K. Sharavanan, F. Böhme

8:55 - 687. Designing topologically unique macromolecular architectures by electrostatic self-assembly and covalent fixation. **Y. Tezuka**

9:20 - 688. Effects of salt and temperature on aggregation stability of block ionomer complexes. **S. V. Solomatin**, T. Bronich, V. Kabanov, A. Eisenberg, A. V. Kabanov

2003 Spring Meeting

9:45 - 689. Layer-by-layer polyelectrolyte film/oligoethylene glycol dicarboxylic acid composite film as a solid-state polyelectrolyte for electrochemical photovoltaic devices. **H. Tokuhisa**, P. T. Hammond

10:10 - 690. Reversible pH-induced complexation of polyelectrolyte and water-soluble silica nanoparticles as intelligent colloidal hybrids. **H. Mori**, A. H. E. Müller, J. E. Klee

10:35 - 691. Polymer-protein giant amphiphiles by metal-to-ligand coordination. **K. Velonia**, P. Thordarson, P. R. Andres, U. S. Schubert, A. E. Rowan, R. J. M. Nolte

11:00 - 692. Multihue electrochromism in polymer/inorganic composites from layer-by-layer assembly. **D. M. DeLongchamp**, P. T. Hammond

11:25 - 693. "Holy Trinity" of micelles in aqueous solution at ambient temperature: Unprecedented self-assembly behavior from a binary mixture of a neutral-cationic diblock copolymer and an anionic polyelectrolyte. **J. V. M. Weaver**, S. Liu, S. P. Armes

Section D

Hilton Riverside -- Grand Salon B9/B12

Polymer Brushes: From Synthesis to Functional Microstructures

Synthesis/Applications/Characterization

Cosponsored with Division of Polymeric Materials: Science and Engineering

T. E. Patten, *Presiding*

W. J. Brittain, R. C. Advincula, J. Ruhe, and K. Caster, *Organizers*

8:30 - 694. Preparation of thick polymer brushes for separation applications. **M. L. Bruening**, M. D. Miller, A. M. Balachandra, W. Huang, G. L. Baker

9:05 - 695. Gradient polymer brushes: Preparation and applications. M. R. Tomlinson, T. Wu, K. Efimenko, **J. Genzer**

9:40 - 696. Photochemical strategies for the preparation, micropatterning, and modification of polymer brushes. J. Ruhe, **O. Prucker**, J. Habicht, I. Park

10:05 - Intermission.

10:20 - 697. Swelling behavior of surface-attached neutral and charged brushes. **M. A. Biesalski**, J. Ruhe

10:45 - 698. "Bottle brush" brushes. **G. L. Baker**, J. Kim, Z. Bao, C. Wang, W. Huang, M. L. Bruening

11:10 - 699. Hyperbranched polyglycidol brushes. **W. T. S. Huck**, M. Khan

11:45 - 700. Responsive mixed polymer brushes for patterning of surfaces. **S. Minko**, D. Usov, V. Luchnikov, M. Mueller, L. Ionov, A. Scholl, G. Pfuetze, M. Stamm

Colloidal and Molecular Electro-Optics

Biomolecular Systems

Cosponsored with Division of Colloid and Surface Chemistry

THURSDAY AFTERNOON

Section A

Hilton Riverside -- Grand Salon D19/D22

2003 Spring Meeting

Advances in Polycarbonates

K. L. Wooley, *Presiding*

D. J. Brunelle and M. R. Korn, *Organizers*

1:00 - Introductory Remarks.

1:05 - 701. Behavior of small molecules in polycarbonates. **R. Kirchheim**

1:35 - 702. Synthesis and characterization of mechanically linked polycarbonate. **C. Bailly**, G. Clarkson, P. De Groote, C. A. Fustin, T. H. Galow, D. A. Leigh, D. Robertson, A. M. Z. Slawin, J. K. Y. Wong

2:05 - 703. The synthesis and study of isomeric linear and hyperbranched polycarbonates. **K. L. Wooley**, D. H. Bolton, J. Byers, D. Gan, J. Goetz, B. Poliks, J. Schaefer

2:35 - Intermission.

2:45 - 704. Carbon nanotube-filled polycarbonate composites produced by melt mixing and their use in blends. **P. P'tschke**, A. R. Bhattacharyya

3:15 - 705. Electrospinning of polycarbonate nanofibers with THF and DMF. **N. Kattamuri**, J. Shawon, C. Sung

3:45 - Concluding Remarks.

Section B

Hilton Riverside -- Grand Salon C16/C13

NMR Spectroscopy of Polymers

Biological Polymers

Cosponsored with Division of Analytical Chemistry

H. N. Cheng, *Organizer, Presiding*

A. D. English, *Organizer*

1:30 - 706. Structural determination of oligo- and polysaccharides by NMR spectroscopy. **H. van Halbeek**, S. Sheng, R. Cherniak

1:55 - 707. Recent studies of the chondroitin sulfate/dermatan sulfate polymer systems using NMR spectroscopy. **T. N. Huckerby**, R. M. Lauder, I. A. Nieduszynski

2:20 - 708. NMR application to the characterization of chitosan and chitosan self-assemblies. **R. Auzely**, M. Rinaudo

Section C

Hilton Riverside -- Grand Salon C18/C15

Polymer Design Using Non-covalent Methods

B. I. Voit and Y. Tezuka, *Presiding*

T. E. Long, R. A. Gross, V. Rotello, and E. W. Meijer, *Organizers*

1:00 - 709. Recent developments in molecular imprinting. **K. J. Shea**

1:25 - 710. New methods of synthesizing and characterizing molecularly imprinted polymers. **K. D. Shimizu**

1:50 - 711. Side- and main-chain functionalized copolymers via multistep self-assembly. **M. Weck**, J. M. Pollino, L. P. Stubbs, A. Meyers, J. R. Carlise, M. N. Higley, M. Crne

2:15 - 712. Shape selectivity in noncovalently imprinted polymers. **D. A. Spivak**, R. Simon, J. Campbell, M. Sibrian-Vazquez

2:40 - 713. 2-D oligomers for light-emitting diodes. **Z. I. Niazimbetova**, A. Menon, M. E. Galvin

2003 Spring Meeting

3:05 - 714. Influence of template-monomer ratio on binding sites within molecular imprinted polymers. D. A. Spivak, **H. Kim**

3:30 - 715. Equilibrium and dynamic properties of main-chain reversible polymers. **S. Craig**, W. C. Yount, E. A. Fogleman, J. Xu

3:55 - 716. Synthesis and properties of conjugated polymer networks formed by noncovalent interactions. **C. Weder**, A. Kokil, C. Huber, I. Shiyankovskaya, W. R. Caseri, K. D. Singer

Section D

Hilton Riverside -- Grand Salon B9/B12

Polymer Brushes: From Synthesis to Functional Microstructures

Synthesis/Applications

Cosponsored with Division of Polymeric Materials: Science and Engineering

J. Ruhe, Organizer, Presiding

W. J. Brittain, R. C. Advincula, and K. Caster, Organizers

1:30 - 717. Highly aromatic polymer brushes: Toward molecular masks. **L. M. Tolbert**, C. X. Chen, D. W. Hess, J. Ruhe

2:05 - 718. Passive and active nonfouling polymer grafts. **A. Chilkoti**, H. Ma, J. Hyun, N. Nath

2:40 - 719. Fabrication of surface-confined, stimulus-responsive polymer nanostructures using dip-pen nanolithography. **S. Zauscher**, A. Chilkoti, S. Ahn, J. Hyun, W. Lee

3:05 - Intermission.

3:20 - 720. A versatile method for tuning the chemistry and size of nanoscopic features by living free-radical polymerization. C. J. Hawker, **K. R. Carter**, D. Germack, T. A. von Werne

3:45 - 721. Spherical polyelectrolyte brushes as synthesized by photoemulsion polymerization. A. Wittemann, **M. Ballauff**, B. Haupt, T. Narayanan, N. Dingenouts

4:10 - 722. Synthesis of well-defined organic-inorganic nanocomposites using living cationic surface-initiated polymerization. S. Chen, **I. Kim**, R. Faust

4:35 - 723. Structure and properties of high-density polymer brushes. **Y. Tsujii**, S. Yamamoto, M. Ejaz, T. Fukuda

5:00 - Concluding Remarks.

Colloidal and Molecular Electro-Optics

Crystalline Systems and Gels

Cosponsored with Division of Colloid and Surface Chemistry