2008 Spring NATIONAL ACS MEETING
New Orleans (April 6-10, 2008)

Program Meeting Chair: Kathryn Uhrich
Deadline for Abstracts and Polymer Preprints: October 28, 2007*

*for general papers and some symposia (some symposium organizers may set an earlier deadline).

ACS-wide Thematic Programming (co-located with AICHE meeting)
Overall Theme: Energy and the Environment. **Sub-themes**: Clean Fuels; Renewable Fuels; Green Chemistry; Remediation and Recovery.

NMR Spectroscopy of Polymers
A. D. English, DuPont Central Research and Development, Wilmington, DE 19880-0356, 302-695-4851, fax 302-654-4872, e-mail: Alan.D.English@usa.dupont.com ; H. N. Cheng, Hercules Incorporated Research Center, 500 Hercules Road, Wilmington, DE 19808-1599, 302-995-3505, fax 302-995-4565, e-mail: hcheng@herc.com; Tetsuo Asakura, Department of Biotechnology, Tokyo University of Agriculture and Technology, 2-24-16 Nakacho, Koganei 184-8588 Japan; Hans W. Spiess, Max-Planck Institut fur Polymerforschung, Postfach 3148, D-55021 Mainz Germany.

Nonlinear Dynamics in Polymeric Systems
John A. Pojman, Department of Chemistry and Biochemistry, The University of Southern Mississippi, USM Box 5043, Hattiesburg, MS 39406, john@pojman.com, Phone: (610) 266-5035 (Fax N/A); Qui Tran-Cong-Miyata, Department of Polymer Science & Engineering, Kyoto Institute of Technology, Matsugasaki, Kyoto 606-8585, JAPAN, Matsugasaki, Sakyo-ku, Kyoto, Kyoto 606-8585 Japan, qui@kit.ac.jp, Phone: +81-75-724-7862 (Fax +81-75-724-7862).

Self-healing Polymeric Processes and Materials
D. Kiserow, Chemical Sciences Division, U.S. Army Research Office, PO Box 12211, Research Triangle Park, NC 27709-2211, 919-549-4213, fax 919-549-4310, e-mail: douglas.kiserow@us.army.mil .

Functional Nano-Materials from New Polymer Synthetic Methodologies
Devon A. Shipp, Department of Chemistry, Clarkson University, (315)268-2393; dshipp@clarkson.edu; Robert B. Grubbs, Department of Chemistry, Dartmouth College, 6128 Burke Laboratory, Hanover, NH 03755; James L. Hedrick, IBM Research, Almaden Research Center, 650 Harry Rd, San Jose, CA 95120.

Branched Polymers in Emerging Technologies

B. D. Mather, Department of Chemistry, Virginia Tech, Blacksburg, VA 24061, 540-231-6587, fax 540-231-3255, e-mail: bmather@vt.edu .

Efficient Chemical Transformations in Polymer Chemistry: Click Chemistry and Beyond

Brent S. Sumerlin, Department of Chemistry, Southern Methodist University, 3215 Daniel Ave, PO Box 750314, Dallas, TX 75275-0314; Craig J. Hawker, Materials Research Laboratory, University of California at Santa Barbara, Santa Barbara, CA 93106; Jean-François Lutz, Nanotechnology for Life Science, Fraunhofer Institute for Applied Polymer Research, Geiselbergstrasse 69, Potsdam 14476 Germany.

Entrepreneurship in Polymers for the Energy and the Environement(Cosponsored by AIChE Materials Engineering and Sciences Division (Group 8)

Kathleen O. Havelka, Application Technology Group, Lubrizol Corporation, Research, Development and Engineering, 29400 Lakeland Blvd., Wickliffe, OH 44092; Brian S. Mitchell, Chemical and Biomolecular Engineering, Tulane University, 200 Gibson Hall, New Orleans, LA 70118.

Polymers and Medical Devices

Buddy D. Ratner, Department of Bioengineering, University of Washington, Box 351720, Seattle, WA 98195; Kathryn E. Uhrich, Department of Chemistry and Chemical Biology, Rutgers, The State University of New Jersey, 610 Taylor Road, Piscataway, NJ 08854-8087

Polymers for Remediation and the Environment

Ann Beal Salamone, Rochal Industries, 740 NW 6th St., Boca Raton, FL 33486; Kalle M. Levon, Department of Chemical Engineering, Chemistry, and Materials Science, Polymer Research Institute, Polytechnic University, 6 MetroTech Center, Brooklyn, NY 11201

Progress in Vapor-Born Poly(p-xylylene)s, Preparation, Properties, Application

Rakesh Kumar, Specialty Coating Systems, 7645 Woodland Drive, Indianapolis, IN 46278, Phone: 317-244-1200 x 266, Fax: 317-240-2073, rkumar@scscoatings.com. Andreas Greiner, FB Chemie, Institut fuer Physikalische Chemie, Kernchemie und Makromolekulare Chemie, University of Marburg, Hans-Meerwein-Str, Marburg 35032 Germany, Phone: 49-6421-2825573, Fax: 49-6421-2825785, greiner@mailer.uni-marburg.de

Stimuli Responsive Polymers

Christoph Weder, Department of Macromolecular Science and Engineering, Case Western Reserve University, 2100 Adelbert Road, 416 Kent Hale Smith Bldg, Cleveland, OH 44106-7202; Stuart J. Rowan, Department of Macromolecular Science and Engineering, Case Western Reserve University, 2100 Adelbert Rd., Cleveland, OH 44106-7202; Rigoberto C. Advincula, Departments of Chemistry and Chemical Engineering, University of Houston, 4800 Calhoun Road, 136 Fleming Building, Houston, TX 77204-5003; Oren Scherman, Department of Chemistry, University of Cambridge, Melville Laboratory for Polymer Synthesis, Lensfield Road, Cambridge CB2 1EW United Kingdom

ACS Award in Polymer Chemistry in honor of James McGrath, Branched Polymers in Emerging Technologies
Brian D. Mather, Department of Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061; Timothy E. Long, Department of Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061; Ralph H. Colby, Department of Materials Science & Engineering, The Pennsylvania State University, University Park, PA 16802

Excellence in Graduate Polymer Science Research Symposium (Co-sponsored with PRES and YCC)
Timothy E. Long, Department of Chemistry, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061-0212, telong@vt.edu, Phone: (540)231-2480 (Fax N/A); Erica H. Martin, Rohm and Haas Company, 727 Norristown Rd, Spring House, PA 19477, emartin@rohmhaas.com, Phone: 215-641-7034 (Fax N/A); H. N. Cheng, Research Center, Hercules Incorporated, 500 Hercules Road, Wilmington, DE 19808-1599, hcheng@herc.com, Phone: 302-995-3505 (Fax 302-995-4565)

Undergraduate Research in Polymer Science
Sarah E. Morgan, School of Polymers and High Performance Materials, University of Southern Mississippi, 118 College Dr., #10076, Hattiesburg, MS 39406, sarah.morgan@usm.edu, Phone: 601-266-5296.

General Papers: Polymers and Biology
D. Garcia, Arkema Inc., 900 First Avenue, King of Prussia, PA 19406, 610-878-6731, e-mail: dana.garcia@arkemagroup.com

General Papers: Polymers in Nanotechnology
D. Garcia, Arkema Inc., 900 First Avenue, King of Prussia, PA 19406, 610-878-6731, e-mail: dana.garcia@arkemagroup.com

General Papers: Synthesis and Characterization
D. Garcia, Arkema Inc., 900 First Avenue, King of Prussia, PA 19406, 610-878-6731, e-mail: dana.garcia@arkemagroup.com

POLY

DIVISION OF POLYMER CHEMISTRY

DIVISION OF POLYMER CHEMISTRY

Final Program, 234th ACS National Meeting, Boston, MA, August 19-23, 2007

POLY
DIVISION OF POLYMER CHEMISTRY

Final Program, 235th ACS National Meeting, New Orleans, LA, April 6-10, 2008

K. E. Uhrich and C. Landry-Coltrain, *Program Chairs*

SUNDAY MORNING

Section A

Unknown Site -- Unknown Room
Branched Polymers in Emerging Technologies
Tutorial

B. D. Mather, T. E. Long, and R. H. Colby, *Organizers*
9:00 —1. Advances in the design of branched topologies: A tutorial of emerging strategies. **T. E. Long**, J. M. Layman, T. Saito, S. Unal, M. G. McKee, S. R. Williams, A. J. Duncan, B. D. Mather, G. I. Ozturk

9:35 —2. Evolution of molecular structure in melt condensation of A2+B3 hyperbranched polymers. C. Oguz, S. Unal, T. Long, **M. G. Gallivan**

10:10 —3. Tutorial: Extracting average branch length from the rheology of randomly branched polymers. **R. H. Colby**

10:45 —4. Analytical tools for the analysis of polymer branching. **G. Saunders**, J. A. McConville, S. O'Donohue

11:20 —5. Characterization of polymer branching. **S. Podzimek**

Section B

Unknown Site -- Unknown Room
Functional Nanomaterials from New Polymer Synthetic Methodologies
Radical Polymerization: Methods and Materials
*Cosponsored by ACS Division of Polymer Chemistry and AIChE Materials Engineering and Sciences Division (Group 8) and JOINT**
J. L. Hedrick and H. Wang, *Organizers*
R. B. Grubbs and D. A. Shipp, *Organizers, Presiding*
8:00 — Introductory Remarks.

8:05 —6. RAFT polymerization of functional monomers. J. W. Bartels, C. Cheng, J. Ma, G. Sun, E. Khoshdel, **K. L. Wooley**

8:45 —7. Advances in RAFT polymerization directed toward nanostructured materials. **G. Moad**

9:25 —8. Amphiphilic organoboron block copolymers. **F. J‰kle**, C. Cui, Y. Qin

9:45 —9. Alkoxyamines as reagents for the modification of polymers and of surfaces. **A. Studer**, K. O. Siegenthaler

10:05 —10. An anion metathesis approach to amphiphilic, photoluminescent block ionomers. T. Tang, D. Coady, A. J. Boydston, O. Dykhno, **C. W. Bielawski**

10:25 — Intermission.

10:30 —11. Functional nanostructured materials by ATRP. **K. Matyjaszewski**

11:10 —12. Controlled polymeric architectures via RAFT polymerization. **S. Perrier**

11:50 —13. Urea-bearing copolymers via RAFT polymerization for controlling macromolecular assemblies. **A. Nelson**, A. Kamps, T. Magbitang

12:10 —14. Surface modification of gold nanorods for ordering, oxidative polymerization of pyrrole, and metal nanoparticle synthesis. **J. W. Hotchkiss**, B. G. R. Mohr, S. G. Boyes

Section C

Unknown Site -- Unknown Room
NMR Spectroscopy of Polymers
Tutorial Lectures

H. N. Cheng, T. Asakura, and H. W. Spiess, *Organizers*
A. D. English, *Organizer, Presiding*
8:30 — Introductory Remarks.

8:35 —15. Overview of NMR of bulk polymers. **H. W. Spiess**

9:35 — Intermission.

9:45 —16. Multidimensional solution NMR of polymers. **P. L. Rinaldi**

10:45 — Intermission.

10:55 —17. Diffusion and polymers: The pulsed-field-gradient method. **E. D. von Meerwall**

Section D

Unknown Site -- Unknown Room
Progress in Vapor-Born Poly(p-xylylene)s, Preparation, Properties, Application

R. Kumar and A. Greiner, *Organizers*
8:00 — Introductory Remarks.

8:15 —18. Synthesis of perfluoro[2.2]paracyclophane. **W. Dolbier Jr.**, P. Xie, W. Xu, L. H. Zhang, Y. Chang, K. Abboud

8:45 —19. Spatially controlled engineering of biointerfaces via functionalized poly-p-xylylenes. **J. Lahann**, H -Y. Chen, X. Jiang, M. Yoshida

9:15 —20. Spatially organized parylene nanowires fabricated by oblique angle vapor deposition. **M. C. Demirel**

9:45 — Intermission.

10:00 —21. Multifunctional biomedical coatings via chemical vapor deposition copolymerization of [2.2]paracyclophanes. **Y. Elkasabi**, M. Yoshida, J. Lahann

10:30 —22. Dielectric spectroscopy of parylene C film. **J. Legrand**, A. Sylvestre, M. Martinon, N. Garcia, B. Arnaud, A. Kahouli, F. Jomni, M. Maillard, J -C. Robert, B. Berge

11:00 —23. Solid state 13C NMR investigation of poly (p-xylylene) deposited at two different temperatures. S. Olejniczak, M. J. Potrzebowski, A. Nosal, H. Szymanowski, **M. Gazicki-Lipman**

11:30 —24. Progress in understanding the formation of poly(p-xylylene) coatings. **W. F. Beach**

Section E

Unknown Site -- Unknown Room
Undergraduate Research in Polymer Science
Cosponsored by SOCED
S. E. Morgan and S. Nazarenko, *Organizers*
8:15 —25. Bioinspired design of hydrogel-encapsulated underwater flow sensors. **D. Lu**, M. E. McConney, T. Han, D. H. Reneker, V. V. Tsukruk

8:40 —26. Biological activity and characterization of nerve growth factor loaded salicylic acid-based poly(anhydride-ester) microspheres. **N. Z. Piracha**, M. L. Johnson, J. Griffin, K. E. Uhrich

9:05 —27. Conducting dye polymers as an electrocatalyst for NADH oxidation for sensor applications. **J. R. Worsham**, A. Blackwell, S. D. Minteer

9:30 —28. Investigation of the effects of polymer microstructure on the rheologies of polyelectrolyte gels: The importance of chain rigidity, branching, hydrophobic modification and polymer-particle interaction. **A. Cox**, S. F. Foster, R. Lochhead

9:55 — Intermission.

10:20 —29. Crosslinking of collagen scaffolds with 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide. **A. Asadi**, Y. Li, E. P. Douglas

10:45 —30. Proton conducting nanocomposite membranes for high temperature polymer electrolyte membrane fuel cells. **S. M. White**, S. Granados-Focil, R. C. Woudenberg, O. Yavuzcetin, M. T. Tuominen, E. B. Coughlin

11:10 —31. Thiol-ene based reconstructive dental materials. **J. E. Boulden**, N. B. Cramer, C. N. Bowman

11:35 —32. Self-assembly and aggregation behavior of the hydrophobins *hypA* and *hypB* from *Agaricus bisporus*. **L. M. Harris**, J. Li, G. C. Cannon, S. Heinhorst, S. E. Morgan

Section F

Unknown Site -- Unknown Room
General Papers
Polymer Characterization

D. Garcia, *Organizer*
M. P. Cashion, *Presiding*
8:00 —33. Optical oxygen-sensing polymers for a practical atmospheric pressure. **H. Nishide**, T. Hyakutake

8:20 —34. Absolute molecular weight determination of aliphatic ammonium ionenes using aqueous SEC-MALLS. **E. M. Borgerding**, J. M. Layman, W. H. Heath, S. R. Williams, T. E. Long

8:40 —35. Online monitoring of block and gradient copolymerization by reversible addition fragmentation transfer (RAFT). **A. M. Alb**, W. F. Reed

9:00 —36. Investigation of the dynamic melt rheology of GRC-A loaded with zeolite L. **T. R. Brown**, D. Hylton, C. Ingram, C. James, E. A. Mintz, K. C. Chuang

9:20 —37. Composition control of aromatic copolyester by using shear-induced phase separation. **K. Kimura**, T. Ichimori, K. Wakabayashi, S -I. Kohama, S. Yamazaki

9:40 —38. Reactive extrusion of methyl 2,6-diisocyantocaproate-based degradable thermoplastic polyurethanes. **S. J. Moravek**, J. S. Wiggins, R. F. Storey

10:00 —39. Comparison of hydrogen bonding in urethanes and thiourethanes. **Q. Li**, H. Zhou, D. A. Wicks, C. E. Hoyle

10:20 —40. Chemistry and thermomechanical properties of room-temperature cure POSS-epoxy matrices for marine composites. **S. J. Tucker**, S. Heinz, J. S. Wiggins

10:40 —41. Nonwoven membranes from tailored surfactants. **M. P. Cashion**, M. T. Hunley, T. E. Long

Section G

Unknown Site -- Unknown Room
Entrepreneurship in Polymers for the Energy and the Environment
Tutorial
*Cosponsored by ACS Division of Polymer Chemistry and AIChE Materials Engineering and Sciences Division (Group 8), BMGT, SCHB, CEPA, WCC, ENGENV, and JOINT**
K. O. Havelka, B. P. Grady, D. W. Smith Jr., and P. Zarras, *Organizers*
8:00 — Introductory Remarks.

8:05 —42. Renewable energy and resources: Technical and commercial opportunities. **K. O. Havelka**

8:30 —43. Getting a good patent in the current antipatent climate. **J. Pike**

8:55 —44. University entrepreneurship and commercialization: A developing model featuring renewable resource based polymeric materials. **L. Goff**

9:20 —45. Identification and creation of a rubber recycling industry. **A. M. Cialone**

9:45 —46. Perspectives on doing research and development in smart coatings. **R. C. Advincula**

10:10 — Intermission.

10:25 —47. Environmental issues: Disgruntled employees and local politics: What does science have to do with it?? **B. Gordon III**

10:50 —48. Untold promise and unknown risks: Science-based decision-making for nanotechnology. **E. J. Amis**

11:15 —49. University-small business collaboration in development of nanostructured materials. **S. E. Morgan**

11:40 —50. Capturing antimicrobial peptide activity in simpler molecules. **G. Tew**

SUNDAY AFTERNOON

Section A

Unknown Site -- Unknown Room
Branched Polymers in Emerging Technologies
Synthesis of Branched Polymers- Design of Branched Polymers

B. D. Mather, T. E. Long, and R. H. Colby, *Organizers*
1:30 —51. Very high-spin organic polymers based on hyperbranched π-conjugations. **H. Nishide**, T. Ibe, E. Fukuzaki

1:55 —52. Tailoring the degree of branching in poly(arylene ether sulfone)s prepared from an ABB'B" monomer. **E. Fossum**, A. M. Ike, N. R. Hendricks, D. R. Douglass

2:20 —53. Synthesis of host and guest polymers and their self-assembling behavior. M. Lee, D. V. Schoonover, **H. W. Gibson**

2:45 —54. Synthesis and characterization of hyperbranched polyacrylates. **C. Pugh**, A. Singh, B. Raveendra, R. Samuel, K. Bernal Ramos

3:10 —55. Structure control of branched polymers during copolymerization of vinyl monomer and divinyl cross-linker. H. Gao, **K. Matyjaszewski**

3:35 —56. Precision branching in polyolefin structures. G. Rojas, **K. B. Wagener**

4:00 —57. Nonlinear block copolymers based on poly(ethylene oxide) and branched poly(glycerol)s. **F. Wurm**, J. Nieberle, H. Frey

4:25 —58. Toward new hybrid star-shaped or crosslinked materials based on macromonomers and silsesquioxanes. **P. J. Lutz**, H. Harris, O. Gavat, H -J. Voigtl‰nder

Section B

Unknown Site -- Unknown Room
Functional Nanomaterials from New Polymer Synthetic Methodologies
Radical Polymerization: Methods and Materials
*Cosponsored by ACS Division of Polymer Chemistry and AIChE Materials Engineering and Sciences Division (Group 8) and JOINT**
R. B. Grubbs, H. Wang, and J. L. Hedrick, *Organizers*
R. K. O'Reilly, *Presiding*
D. A. Shipp, *Organizer, Presiding*
2:00 —59. New polymerization technology for advanced materials. **J. Ness**

2:20 —60. RAFT techniques for the synthesis of functional nanoparticles. **R. K. O'Reilly**, J. Skey, C. Hansell

3:00 —61. Reversible addition fragmentation chain transfer (RAFT) polymerization of vinyl acetate from nanoparticle surfaces. **T. Emrick**, E. Glogowski, H. Rathnayake

3:20 —62. Polymer-nanoparticle hybrid materials and thin films on transparent conductive metal oxide surfaces. R. C. Shallcross, B. Kim, P. Y. Keng, E. L. Ratcliff, J. J. Jenkins, N. R. Armstrong, **J. Pyun**

3:40 —63. Electrically conducting polypyrroles as multifunctional coupling agents in heterogeneous polymer blends. **J. Hegewald**, J. Pionteck, P. Pˆtschke, L. Jakisch, B. Voit

4:00 — Intermission.

4:10 —64. Synthesis of biofunctional photoinitiators for the detection of nanoscopic material. **C. N. Bowman**, H. D. Sikes, R. R. Hansen, L. M. Johnson

4:50 —65. Modification of PET membrane surface with nanothin polymer layers via ìgrafting toî approach. **O. Burtovyy**, V. Klep, T. Turel, Y. Gowayed, I. Luzinov

5:10 —66. Thin film polymer modified surfaces. **K. R. Carter**, D. Koylu, J. A. Maegerlein

5:30 —67. Toward the efficient synthesis of functional dendrimers via thiol-ene chemistry. **K. L. Killops**, L. M. Campos, C. J. Hawker

Section C

Unknown Site -- Unknown Room
NMR Spectroscopy of Polymers
Solution NMR Studies

A. D. English, T. Asakura, and H. W. Spiess, *Organizers*
H. N. Cheng, *Organizer, Presiding*
1:30 —68. Advanced nD NMR studies of fluoropolymers. S. Baiagern, S. K. Sahoo, E. F. McCord, **P. L. Rinaldi**

1:55 —69. 2-D NMR studies of methyl acrylate-acrylonitrile-methyl methacrylate terpolymers. **A. S. Brar**, A. K. Goyal

2:20 —70. Unexpected new route to free radical copolymerization of 5, 6-benzo-2-methylene-1, 3-dioxepane with methacrylic acid as proved by 1-D and 2-D NMR techniques. **S. Agarwal**, L. Ren

2:45 —71. Molecular tweezers as sequence-sensitive shift reagents in NMR spectroscopy of aromatic polyimides. **H. M. Colquhoun**, Z. Zhu

3:10 — Intermission.

3:25 —72. NMR of polysaccharides. **J. F. G. Vliegenthart**, T. Luetteke, H -C. Siebert

3:50 —73. NMR analysis of chondroitin sulphates. **T. N. Huckerby**, R. M. Lauder

4:15 —74. Sequence analyses of condensation copolymers using NMR. **H. Matsuda**, T. Asakura

Section D

Unknown Site -- Unknown Room
Progress in Vapor-Born Poly(p-xylylene)s, Preparation, Properties, Application

R. Kumar and A. Greiner, *Organizers*
1:30 — Introductory Remarks.

1:35 —75. Vapor phase deposited PPX for the preparation of functional nano- and microstructures. **A. Greiner**, H. Hou, P. Hanefeld, M. Gensheimer, J. H. Wendorff, R. Kumar, Z. Sun, J. Zeng

2:05 —76. Parylene electrothermal MEMS drug delivery valve. **P -Y. Li**, D. P. Holschneider, J -M. I. Maarek, E. Meng

2:35 —77. Interaction of poly(p-xylylene) with biological objects. **B. Walkowiak**, W. Okroj, M. Kaminska, W. Szymanski, W. Jakubowski, P. Komorowski, A. Nosal, H. Szymanowski, M. Gazicki Lipman, Z. Pawlowska, H. Jerczynska

3:05 —78. High temperature fluorinated parylene for medical and electronics applications. **R. Kumar**, L. Young, D. Molin, F. Ke, A. Summers

3:35 — Intermission.

3:50 —79. Active parylene-encapsulated droplets for displays. **N. Binh-Khiem**, K. Matsumoto, I. Shimoyama

4:20 —80. Accelerated-lifetime soak testing of parylene packaging. **W. Li**, D. C. Rodger, P. Menon, Y -C. Tai

4:50 — Panel Discussion.

Section E

Unknown Site -- Unknown Room
Undergraduate Research in Polymer Science
Cosponsored by SOCED
S. E. Morgan and S. Nazarenko, *Organizers*
1:30 —81. Effect of linker structure on salicylate-based poly(anhydride-ester) precursor physicochemical properties and biofilm inhibition. **B. M. deRonde**, A. L. Carbone, K. E. Uhrich

1:55 —82. High molecular weight conjugated polymer nanoparticles from step-growth coupling. **M. Baier**, J. Huber, S. Mecking

2:20 —83. Novel synthesis of poly(tert-butyl acrylate-block-vinyl acetate) copolymers. **C. D. Petruczok**, R. F. Barlow, D. A. Shipp

2:45 — Intermission.

3:10 —84. Polymer modified gold nanorods as templates for the formation of metal nanoparticles and the oxidative polymerization of pyrrole. **B. G. R. Mohr**, J. W. Hotchkiss, S. G. Boyes

3:35 —85. Tailored acrylic copolymers containing a synergy of hydrogen bonding and photoreactivity. **B. R. Mohns**, M. P. Cashion, T. E. Long

4:00 —86. Twin screw extrusion: Formation of thermoplastic polyurethane through reactive extrusion. **R. M. Hensarling**, J. G. Ray, A. Hill, S. J. Moravek

4:25 —87. Optimum loading concentrations of polyoxometalates in layer-by-layer films for oxygen reduction in acidic media. **J. R. Mason**, R. N. Vyas, K. Li, D. L. Cocke, B. Wang

Section F

Unknown Site -- Unknown Room
General Papers
Nanomaterials

D. Garcia, *Organizer*
R. Madathingal, *Presiding*
2:00 —88. Antimicrobial nanoscale fibers from electrospinning zwitterionic copolymers. **R. H. Huyck**, M. T. Hunley, M. H. Allen Jr., T. E. Long

2:20 —89. Electrochemical synthesis of mesoporous polyaniline/palladium nanocomposites. **N. Millick**, J. Morgan, D. W. Hatchett

2:40 —90. Crystalline phase transitions of nanostructured poly-(p-xylylene) films. **M. Cetinkaya**, M. C. Demirel

3:00 —91. Effect of surface silanol density of silica nanoparticles on the adsorption isotherms and enthalpy of adsorbed poly(ethylene) oxide. **R. Madathingal**, S. Wunder

3:20 —92. Phase and rheological behavior of trisilanol-POSS derivatives at the air/water interface: Model nanofillers for Langmuir film studies. **W. Yin**, J. Deng, A. R. Esker

3:40 —93. Optical enhancements in electrospun DNA nanofibers. **Y. Ner**, J. G. Grote, J. A. Stuart, G. A. Sotzing

4:00 —94. Structuring of surfaces with polymer brushes through nitroxide mediated polymerization and self-organization. **M. K. Brinks**, M. Hirtz, L. Chi, H. Fuchs, A. Studer

4:20 —95. Synthesis of functionalized poly(propargyl acrylate) colloids utilizing ATRP and click chemistry. **Z. J. Hunt**, R. D. Roeder, D. D. Evanoff Jr., S. H. Foulger

Section G

Unknown Site -- Unknown Room
Entrepreneurship in Polymers for the Energy and the Environment
*Cosponsored by ACS Division of Polymer Chemistry and AIChE Materials Engineering and Sciences Division (Group 8), BMGT, SCHB, CEPA, WCC, ENGENV, and JOINT**
K. O. Havelka, B. P. Grady, D. W. Smith Jr., and P. Zarras, *Organizers*
1:30 —96. Plextronics: An entrepreneur's road from science to world record plastic solar cells. **R. McCullough**

1:55 —97. Materials research to meet Air Force energy needs. **B. L. Farmer**

2:20 —98. Why do PEM fuel cell membranes fail? **D. A. Schiraldi**, C. Zhou, T. A. Zawodzinski Jr.

2:45 —99. Oklahoma Bioenergy Center: R&D across the full value chain. **L. L. Lobban**

3:10 — Intermission.

3:35 —100. Blending research and teaching with entrepreneurship: The launching of Liquidia Technologies. **J. DeSimone**

4:00 —101. Entrepreneur's perspective of commercializing advanced polymers in energy applications. **E. H. Wagener**, D. W. Smith Jr., J. R. DiMaio

4:25 —102. Entrepreneurism: For many, a road to a successful career. **E. A. Nalley**

4:50 — Reception.

Polymers in Sports
Sponsored by SOCED, Cosponsored by POLY

SUNDAY EVENING

Section A

Unknown Site -- Unknown Room
Excellence in Graduate Polymer Science Research
Cosponsored by PROF, SOCED, YCC, and PRES
H. N. Cheng, E. H. Martin, C. J. Ellison, and T. E. Long, *Organizers*
6:00 - 8:00
103. Tandem RAFT polymerization and click chemistry for surface modification. **R. Ranjan**, W. J. Brittain

104. Synthesis and characterization of bulk self-cleaning polymers. **J. A. Howarter**, J. P. Youngblood

105. Predictive control of average molar mass and composition distributions for free radical polymerization via online monitoring. **T. Kreft**, G. Gonz·lez GarcÌa, A. M. Alb, J. C. de la Cal, J. M. Asua, W. F. Reed

106. Design of multifunctional drug delivery platforms via combinatorial synthesis. **D. G. Mullen**, I. J. Majoros, X -M. Cheng, J. R. Baker Jr., B. G. Orr, M. M. Banaszak Holl

107. Synthetic modification of reactive soybean oils for use as biobased thermoset resins in structural natural fiber composites. **K. F. Adekunle**, M. O. V. Skrifvars, D. Akesson

108. Lanthanide-containing polymers as nucleic acid delivery vectors. **J. M. Bryson**, K. M. Fichter, T. M. Reineke

109. Photocross-linkable polymers for electro-optic applications. **B. K. Long**, B. K. Keitz, R. C. Webb, C. G. Willson

110. Photophysical properties of poly(arylether) dendrimers with electroactive peripheral groups. **R. Ponnapati**, J. Y. Park, J. Vargas, R. C. Advincula

111. Inorganic-organic composites from the inside out. **R. Rovira-Truitt**, J. L. White

112. Application of polyaniline nanofibers and nanocomposites. **C. O. Baker**, R. B. Kaner

113. Rheological behavior of laponite-montmorillonite hybrid dispersions containing poly(ethylene oxide). **E. A. Stefanescu**, I. I. Negulescu, W. H. Daly, G. Schmidt

Section B

Unknown Site -- Unknown Room
Undergraduate Research in Polymer Science
Cosponsored by SOCED
S. E. Morgan and S. Nazarenko, *Organizers*
6:00 - 8:00
114. Antibody-polymer bead conjugation determination via surface Plasmon resonance and quartz crystal microbalance. **W. Gray**, B. Yuan, G. C. Cannon, S. Heinhorst, S. E. Morgan

115. Controlled electrophoretic deposition of nanoHA on electrospun polycaprolactone - carbon nanofiber nanocomposites. **S. Jagani**, H. Deshpande, D. R. Dean

116. Directed assembly of gold nanoparticles on modified DNA origami. **C. Buie**, C. M. Micheel, J. N. Cha

117. Directed collagen assembly on gold-silicon substrates via microcontact printing. **M. R. Monroe**, Y. Li, E. P. Douglas

118. DMPC and dendrimer aggregates examined by ITC and DLS. **M. G. Liroff**, C. V. Kelly, P. R. Leroueil, D. G. Mullen, J. R. Baker Jr., B. G. Orr, M. Banaszak Holl

119. Hydrogenation utilizing ceramic clay aerogel supported metal nanoparticles. **J. J. Griebel**, M. D. Gawryla, D. Schiraldi

120. Hydrolysis and condensation of alkoxysilane end-functionalized polymers. **J. L. Carter**, K. A. Cavicchi

121. Toward understanding natural rubber (NR) biosynthesis: *in situ* FTIR monitoring of model systems. **A. Lindsay**, H. Li, J. E. Puskas

122. Orientation control of block copolymer thin films. **E. Auyeung**, J. Y. Cheng, D. P. Sanders

123. Natural fiber reinforced polymer/clay aerogels. **K. Finlay**, M. D. Gawryla, D. A. Schiraldi

124. Polymer waveguides for explosives detection. **R. L. Hammer**, W. F. Sherwood, M. S. Farahat, D. E. Nikles

125. Stereocomplex interactions in cyclic and linear polylactides. **A. E. Jones**, E. J. Shin, R. M. Waymouth

126. Surface characterization of functionalized polyisobutylenes. **V. Sain**, E. A. Foreman, J. E. Puskas

127. Synthesis, design, and use of an amphiphilic block copolymer as a stabilizer and a macroinitiator in miniemulsion polymerization under AGET ATRP conditions. **B. Belardi**, F. Stoffelbach, K. Matyjaszewski, B. Charleux

128. TorlonÆ poly(amide imide) clay aerogel composites. **E. M. Arndt**, M. D. Gawryla, D. A. Schiraldi

129. Living ring-opening polymerization of cyclic esters with phosphazene organocatalysts. **B. S. Kester**, J. W. Logan, F. Nederberg, R. C. Pratt, C. G. Wade, R. M. Waymouth, J. L. Hedrick

130. Toward the synthesis of functionalized polymers via green chemistry: Studies of enzyme catalyzed transesterification. **J. R. Kasper**, M. Y. Sen, J. E. Puskas

Section C

Unknown Site -- Unknown Room
General Papers
Polymer Synthesis and Characterization

D. Garcia, *Organizer*
6:00 - 8:00
131. Increased electrical conductivity in poly(3,4-ethylenedioxythiophene) upon cross-linking. **J. D. Mendez**, C. Weder

132. Modifying polypropylene by blending with glycidyl methacrylate to improve adhesion to elastomers: Part 1. **S. Paul**, S. S. Verenich, B. Pourdeyhimi

133. PVDF/acrylic coatings composition analysis. Microtransmittance and ATR FT-IR coupled with chemometrics methods. **D. Garcia**, C. Coutard, K. A. Wood, R. Gupta

134. Donor-acceptor block copolymers consisting of derivatized poly(p-phenylenevinylenes) for photovoltaic applications. **D. Zepeda**, J. J. Gutierrez, J. P. Ferraris

135. Dehydropolymerization of 3-aryl-1-silabutanes using Cr(CO)6 catalyst. M -H. Kim, B -H. Kim, **H -G. Woo**, D -P. Kim, H. Sohn, H. Li

136. Catalytic dehydrocoupling of bis(1-sila-3-butyl)benzene and 2-phenyl-1,3-disilapropane by zirconocene catalysts. **S -Y. Kim**, Y -J. Kim, B -H. Kim, **H -G. Woo**, D -H. Kim, J. Jun, Y -G. Jung

137. Investigating the molecular basis of the rheology of polyelectrolyte microgels. **N. McWight**, S. F. Foster, R. Lochhead

138. Investigating the interaction between polyelectrolyte microgels and water soluble film-formers by solubility parameter matching and measurement of phase behavior. **L. M. Fike**, E. Boothe, R. Lochhead

139. Polymerization of norbornene with half-zirconocene/modified methylaluminoxane catalyst system. **H. Misaka**, O. Nishizawa, T. Satoh, T. Kakuchi

140. Synthesis and characterization of Nylon 18 18 and Nylon 18 Adamantane. **E. Kaya**, C. Bennett, A. Sikes, W. L. Jarrett Jr., L. J. Mathias

141. Synthesis and characterization of poly(p-phenylene ethynylene) bearing maltohexaose. **R. Konosu**, T. Hongo, I. Otsuka, A. Narumi, T. Satoh, A. Deffieux, A. Hirao, T. Kakuchi

142. Evidence of an anisotropic phase developed in cellulose and chitosan ionic liquid solutions. **C. Martinas**, I. I. Negulescu, W. H. Daly

143. Charged polymer brushes. **D. Koylu**, K. R. Carter

144. Atom transfer radical polymerization of octadecyl alpha-(hydroxymethyl) acrylate ether ester dimer and their corresponding block copolymers. **E. Ozkal**, H. Tas, L. J. Mathias, A. E. Acar

145. Synthesis and characterization of supramolecular assemblies based on cyclodextrin inclusion complexation for drug delivery application. **E. Kaya**, L. J. Mathias

146. Patch-clamp study: Nanoscale hole formation in living cell plasma membrane induced by polymer nanoparticles. **J. Chen**, B. Orr, M. Banaszak Holl

147. Investigation of reaction progress via glass transition temperature of GRC-A loaded with zeolite L. **T. R. Brown**, D. Hylton, E. A. Mintz, J. Baston, K. C. Chuang

148. Silsesquioxane functionalized perfluorocyclobutyl aryl ether polymers. S. T. Iacono, **S. M. Budy**, J. M. Mabry, D. W. Smith Jr.

149. Synthesis and properties of weatherable copolymers. **B. Dutagaci**, A. E. Acar

150. Synthesis of new liquid crystalline oxadiazole derivatives: An effort to access the biaxial nematic phase at low temperatures. N. A. Zafiropoulos, J. Lindborg, M. Whittle, L. Cooper, E. T. Samulski, **E. Scharrer**

151. Synthesis and (co)polymerization of diester and ether dimer of octadecyl α- (hydroxymethyl)acrylate. **H. Tas**, L. J. Mathias

152. Effect of hydrogen bonding on Tg and free volume characteristics of EVOH copolymers. **J. Morrison**, G. Dale, S. Nazarenko, G. Chigwada

153. In vitro cytoxicity of antimicrobial polymethacrylate derivatives. **I. Sovadinova**, E. Palermo, K. Kuroda

154. Hydrogels assembled by inclusion complexation of poly(ethylene glycol) with alfa-cyclodextrin as observed by rheology. L. Li, **X. Guo**, R. K. Prud'homme, S. F. Lincoln

155. Atom transfer radical polymerizations of styrene and methyl methacrylate using alkyl diethyldithiocarbamate initiators. **Y. Kwak**, K. Matyjaszewski

156. Reaction of chitosan with benzoyl chloride and phthalic anhydride in homogeneous ionic liquid solutions. **C. Martinas**, W. H. Daly, I. I. Negulescu

157. Conducting triblock copolymer: Poly(methyl methacrylate)-b-poly(3-hexylthiophene)-b-poly(methyl methacrylate). **J. R. Cooper**, R. Zhang, T. Kowalewski, R. D. McCullough

158. Living anionic telomerization of 1,3-butadiene. **T. Saito**, T. E. Long

159. Synthesis of photosensitive poly(arylene imide sulfone)s. **T. Suga**, T. E. Long

160. High temperature anionic polymerization of alkyl methacrylates. **R. H. Huyck**, T. E. Long

161. Ring opening metathesis polymerization of polynorbornenes with carbazole dendron side chains. **G. Jiang**, R. S. Ponnapati, C. D. Grande, M. J. Felipe, R. Advincula

162. Synthesis and characterization of poly(9H-carbazol-9-ethylmethacrylate)-b-polystyrene copolymers by RAFT and formation of ultrathin conjugated block copolymer films. **G. Besnard**, J. Tapp, R. Pernites, R. Advincula

163. Synthesis of polystyrene-block-polystyrene sulfonate amphiphilic diblock copolymer by reversible addition fragmentation transfer radical polymerization and its micellization behavior in aqueous solution. **C. D. Grande**, G. Jiang, Y. Park, R. Ponnapati, F. Zuluaga, R. Advincula

164. Biosensor based on multilayer film of conducting polymer and glucose oxidase. **R. Pernites**, A. Baba, G. Jiang, W. Wang, R. Advincula

165. Interfacial behavior and morphology of a polyfluorene-polythiophene diblock copolymer at the air-water interface. **J. Y. Park**, N. Koenen, R. Ponnapati, M. Forster, U. Scherf, R. Advincula

166. Optical properties of poly(arylether) dendrimers with perylene tetracarboxydiimide core. **R. Ponnapati**, J. Vargas, R. C. Advincula

167. Synthesis and characterization of macromolecular calcium cation detecting sensor. **Y. Park**, J. Pullen, R. C. Advincula

168. Carbazole-terminated poly(benzyl ether) dendrimers at the air-water interface. **J. Y. Park**, R. Ponnapati, T. M. Fulghum, Y. Park, P. Taranekar, R. C. Advincula

169. Room temperature cure epoxy resin systems. **O. D. Brooks**, T. Richey, S. J. Tucker, M. Jackson, J. S. Wiggins

170. Surface morphology of layer-by-layer assembly of pH responsive polyelectrolye films using atomic force microscopy. **C. A. Harris**, M. Davis, M. G. Kellum, C. L. McCormick, S. E. Morgan

171. Miscibility of solution blended films containing substituted polyphenylenes and polyphenylsulfones. **P. J. Jones**, R. Robertson, C. Smith, S. E. Morgan

172. Low friction polyhedral oligomeric silsesquioxane (POSS)/polypropylene hybrid nanocomposites. **R. Misra**, K. Rollins, S. E. Morgan

173. Thermal analysis of adsorbed poly(vinyl acetate) on silica. **B. Hetayothin**, F. D. Blum

174. Glass transition behavior of poly(methyl acrylate) end-grafted by ATRP to amorphous silica. **M. B. Nair**, F. D. Blum

175. Polyaniline nanofiber-based gas sensors. **Z. Li**, F. D. Blum, M. F. Bertino, C -S. Kim

176. Controlled radical polymerization of free unprotected boronic acid monomers by RAFT. **D. Roy**, J. N. Cambre, B. S.

Sumerlin

177. Teflon-stabilized dry water. **D. F. Cheng**, T. J. McCarthy

178. Water effects on photopolymerization kinetics of tributylmethylammonium-based (meth)acrylate ionic liquids. **H. Zhou**, C. E. Hoyle, Z. Jimenez, J. A. Pojman, M. S. Paley

179. ADMET polymerization of transition metal complexes. **G. V. Shultz**, B. C. Daglen, D. R. Tyler

180. Antibiofouling polymeric windows: Additive effects on mechanical and optical properties. P. Wheeler, J. Hancock, R. Ximenes, D. Patterson, **C. J. Booth**

181. Using Grubbs-catalyst systems for RCM of bis-allyl-terminated PIB-derivates. R. Zirbs, **W. H. Binder**

182. Poly(*p*-fluoranthene vinylene) and its derivatives: A universal synthesis route toward a novel class of conjugated polymers. **A. Palmaerts**, L. Lutsen, T. J. Cleij, D. Vanderzande

183. Synthesis and characterization of different molecular weights of Poly(3-dodecylthiophene). **A. E. Javier**, G. SauvÈ, R. D. McCullough

184. Designing gel permeation chromatography columns for demanding applications: The analysis of polyolefins. **G. Saunders**, **J. McConville**, I. Willoughby, S. O'Donohue

185. Living radical polymerization of tert-butyl acrylate using Cu(0) powder and nanopowder. **M. R. Whittaker**, M. J. Monteiro

186. Green polymer chemistry: Telechelic poly(ethyleneglycol)s via enzymatic catalysis. **M. Y. Sen**, J. E. Puskas

187. Silane radical atom abstraction coupled with nitroxide mediated polymerization: Chain extension. **S. Thakur**, N. A. Cohen, E. S. Tillman

188. Block copolymer synthesis using silane radical atom abstraction coupled with nitroxide mediated polymerization. **N. A. Cohen**, S. Thakur, E. S. Tillman

189. Sulfonation mechanism of poly(propylene) films with fuming sulfuric acid. **M. Kaneko**, H. Sato

190. Thermal analysis of wheat gluten /poly(vinyl alcohol) and wheat gluten/thiolated poly(vinyl alcohol) blends. J. Dong, **R. S. Parnas**, A. D. Asandei

191. Mechanical properties of wheat gluten/functionalized silica blends. C. Simpson, L. M. McGrath, R. S. Parnas, **A. D. Asandei**

192. Cp_2TiCl-controlled isoprene polymerizations initiated from epoxides. **A. D. Asandei**, C. Simpson

193. Halide effects in the Cp_2TiCl-catalyzed styrene living radical polymerization initiated from α,α-dihalo-*p*-xylene. **A. D. Asandei**, Y. Chen, C. Simpson, M. Gilbert, I. W. Moran

194. New nitrile- and amine-functionalized polyolefin nanoparticles via tandem catalysis in aqueous miniemulsion. **C. Beierlein**, A. Sch¸ssele, R. Thomann, R. M¸lhaupt

195. Novel charge-transfer polymers via ROMP. **B. S. Chance**, A. Mostafa, H. S. Bazzi

196. Polymersomes with included nanoparticles. R. Sachsenhofer, **W. H. Binder**

197. Secondary electric field assisted alignment of electrospun fibers. **G. K. Arumugam**, M. Acharya, P. A. Heiden

198. Surface polymerization of polyaniline nanostructures: Morphology dependent electrochemical supercapacitors. **D. Kim**, C. A. Amarnath, R. S. Mane, S -H. Han, H. Moon, D. Sohn

199. Nanoflakes to nanorods and nanospheres transition of selenious acid doped polyaniline. D. Sohn, C. A. Amarnath, D. Kim, **H. Moon**

200. Modification of carbon nanotubes with a model compound via Friedel-Crafts acylation in polyphosphoric acid. **D. H. Wang**, R. S. Justice, D. W. Schaefer, M. J. Dalton, L -S. Tan

201. Synthesis and characterization of BMI-based nanocomposites containing allyl-functionalized vapor-grown carbon nanofiber. **D. H. Wang**, J. M. Brown, R. S. Justice, J. B. Baek, L -S. Tan

202. Effect of molecular weight on enzymatic acylation of konjac glucomannan in ionic liquid. **Z -G. Chen**, Y -B. Han, Z -X. Gu

203. Preparation and characterization of porous poly(vinylidene fluoride) membranes modified by hyperbranched poly(amine-ester). **X -Z. Wei**, B. Zhu, Y. Xu

204. Adsorption of heavy metal ions using modified poly(ethyleneimne)-based resins. M. Xie, **C. Zhang**

205. Fabricating nanoparticles on polyethene film by UV-induced inverse microemulsion graft polymerization. **X. Xing**, X. Wang

206. Side-chain liquid crystalline poly(ethyleneimine) salts with biphenyl mesogenic units. M. Xie, **C. Zhang**

207. Mechanism and kinetics of miniemulsion polymerization. **L. Bing**

208. Preparation and characterization of polystyrene by multi-emulsion polymerization. **L. Bing**

209. Synthesis and properties of polyparaphenylene (PPP) from cis-dihydrocatechol. **K. Xu**, S. Li, X. Fang, Z. Li, Q -Q. Chen, Y. Huang

210. Synthesis, thermal properties and blood compatibility of poly(ester-urethanes) based on bacterial poly[(R)-3-hydroxybutyrate]. **K. Xu**, Q. Liu, S. Cheng, Z. Li, L. Wu, G -Q. Chen

211. Effect of different chain-extenders on chain-extending of lactic acid oligomers. **J. Ren**, T. Yu, M. Yang, S. Gu, T. Ren

212. Preparation and characterization of microencapsulated phase change materials. **L. Zou**, **S. Xu**, J. Yang

MONDAY MORNING

Section A

Unknown Site -- Unknown Room
Branched Polymers in Emerging Technologies
Rheology of Branched Polymers - Experiment, Modeling and Theory

B. D. Mather, T. E. Long, and R. H. Colby, *Organizers*
8:30 —213. Analysis of using shear step-strain and uniaxial extension to determine parameters for the McLeish-Larson multimode pom-pom model for branched high-density polyethylene resins. C. D. McGrady, C. W. Seay, **D. G. Baird**

8:55 —214. Monte Carlo simulation of random branching in hyperbranched polymers. **D. M. A. Buzza**, E. L. Richards, G. R. Davies

9:20 —215. Predicting the nonlinear rheology of multiply and randomly branched entangled polymer melts. **D. J. Read**, C. Das, M. Kapnistos, T. C. McLeish

9:45 —216. Rheological behavior of dendritic star polymers. **J. H. Lee**, K. Orfanou, P. Driva, H. Iatrou, N. Hadjichristidis, D. J. Lohse

10:10 —217. Rheological experiments as a versatile tool to analyze long-chain branches in polymers. **H. M¸nstedt**

10:35 —218. Rheology of complex architectures: from combs to dendritically branched polymers. **D. Vlassopoulos**

11:00 —219. The potential of large amplitude oscillatory shear to gain an insight into the long-chain branching structure of polymers. **F. Stadler**, A. Leygue, H. Burhin, C. Bailly

11:25 —220. A new description for branching and other molecular topologies. **G. Beaucage**, A. S. Kulkarni

Section B

Unknown Site -- Unknown Room
Functional Nanomaterials from New Polymer Synthetic Methodologies
Particulate and Heterogeneous Systems
*Cosponsored by ACS Division of Polymer Chemistry and AIChE Materials Engineering and Sciences Division (Group 8) and JOINT**
J. L. Hedrick, D. A. Shipp, and H. Wang, *Organizers*
R. Kasi, *Presiding*
R. B. Grubbs, *Organizer, Presiding*
8:30 —221. Block copolymer micelles with lower critical solution temperature (LCST) as novel stimuli-responsive systems in heterogeneous systems based on ionic liquids. C. Guerrero-Sanchez, R. Hoogenboom, **U. S. Schubert**

8:50 —222. Layer by layer assembly of nano brick walls: Tailoring film growth and gas permeability. **J. C. Grunlan**, W -S. Jang

9:10 —223. Soft-template synthesis of conducting polymer hollow-nano-spheres. **I -W. Chu**, K. Su, N -L. Yang

9:30 —224. Nanoporous membranes decorated with metal nanoparticle for surface-enhanced Raman spectroscopy. **H. Ko**, V. V. Tsukruk

9:50 —225. Acrylonitrile-based functional hydrogel particles. **N. Sahiner**, H. Yu, G. Tan, J. He, V. T. John, D. A. Blake

10:10 —226. Microfluidic Synthesis for Advanced NanoTechnology. **K. Choi**

10:30 — Intermission.

10:40 —227. The encapsulation of fluoride ions in polyhedral oligomeric silsesquioxanes. **J. M. Mabry**, T. S. Haddad

11:00 —228. Recent advances in cross-linking silica aerogels with polymers. **M. A. B. Meador**, B. N. Nguyen, S. L. Vivod

11:20 —229. Poly(arylethynyl) nanoparticles from Sonogashira coupling in aqueous emulsion. **J. Huber**, S. Mecking

11:40 —230. Formation and reaction of cyclic tetrasiloxane tetraol from trialkoxysilane. **Y. Kawakami**

Section C

Unknown Site -- Unknown Room
NMR Spectroscopy of Polymers
NMR of Polymer Melts and Solutions

A. D. English, H. N. Cheng, T. Asakura, and H. W. Spiess, *Organizers*
P. L. Rinaldi, *Presiding*
8:30 —231. Shear and field alignment of cetyl trimethylammonium bromide (CTAB) wormlike micelles observed using rheo-NMR. **K. G. Wilmsmeyer**, L. A. Madsen

8:55 —232. Intra- and inter-chain dynamics in polymer melts in bulk and under mesoscopic confinements. **R. Kimmich**, N. Fatkullin

9:20 —233. From simple liquid to polymer dynamics: Fast field cycling NMR relaxometry study on polybutadiene and polydimethylsiloxane of different molecular weights. **E. A. R^ssler**, S. Kariyo, A. Herrmann, J. Hintermeyer, C. Gainaru, H. Schick, A. Brodin, V. N. Novikov

9:45 —234. Hydrophilic channel alignment in ionomers measured by deuterium NMR. **L. A. Madsen**, K. G. Wilmsmeyer

10:10 — Intermission.

10:25 —235. Structure characterization of fluoropolymers. S. Ok, **U. Scheler**

10:50 —236. Dramatic reduction of polyolefin ^{13}C NMR acquisition time with cryogenically cooled probes and improved

WALTZ CPD sequences for decoupling sideband suppression.**R. K¸mmerle**, Z. Zhou, D. Moskau, X. Qiu, O. D. Redwine, A. Freund, R. Cong, A. A. Taha, J. Potter, D. Baugh, B. Winniford, J. Mason

11:15 —237. Effective size and charge of polyelectrolytes determined by electrophoresis NMR. U. Bˆhme, **U. Scheler**

Section D

Unknown Site -- Unknown Room
Polymeric Materials of Medical Devices
Tutorial
Cosponsored by PMSE
B. D. Ratner and K. E. Uhrich, *Organizers*
8:00 —238. Introduction to polymers in medical devices. **A. S. Hoffman**

8:55 —239. Blood compatibility of polymers in medical devices. **B. D. Ratner**

9:50 — Intermission.

10:05 —240. Controlled drug delivery from medical devices. **K. E. Uhrich**

11:00 —241. Device-centered infection. **J. D. Bryers**

Section E

Unknown Site -- Unknown Room
Excellence in Graduate Polymer Science Research
Novel Polymer Syntheses
Cosponsored by YCC, PRES, PROF, and SOCED
E. H. Martin and C. J. Ellison, *Organizers*
H. N. Cheng and T. E. Long, *Organizers, Presiding*
8:25 — Introductory Remarks.

8:30 —242. Temperature responsive BAB RAFT triblock copolymers: From micelles to gels. **S. E. Kirkland**, **C. L. McCormick**

8:55 —243. Thermoresponsive core-shell macromolecules prepared by RAFT polymerization. **A. P. Vogt**, B. S. Sumerlin

9:20 —244. Water-soluble cyclic dendronized polymers via a divergent "grafting from" approach for guest encapsulation. **B. A. Laurent**, S. M. Grayson

9:45 —245. Phosphonium cations as a new avenue for electrostatic interactions in polymer design. **E. B. Anderson**, S. Unal, T. E. Long

10:10 — Intermission.

10:25 —246. Polydispersity-driven morphological transitions in abc triblock terpolymers. **A. J. Meuler**, C. J. Ellison, C. M. Evans, M. A. Hillmyer, F. S. Bates

10:50 —247. Design and synthesis of an osteotropic polyrotaxane for the treatment of skeletal diseases. **C. D. Hein**, D. Wang, X -M. Liu

11:15 —248. Photoresponsive PEG-based 3-D cell culture platforms. **A. M. Kloxin**, A. M. Kasko, K. S. Anseth

Section F

Unknown Site -- Unknown Room
Nonlinear Dynamics in Polymeric Systems
Overview
Cosponsored by PMSE
J. A. Pojman and Q. Tran-Cong-Miyata, *Organizers*
8:00 — Introductory Remarks.

8:05 —249. Nonlinear dynamics and polymer systems: An overview. **I. R. Epstein**

8:50 —250. Programming chemical reactions in space and time. **B. A. Grzybowski**

9:30 —251. Nanotech challenge: National R&D project in Japan. **T. Yamaguchi**

10:00 — Intermission.

10:10 —252. Exploiting chaos: Should polymerization reactors be chaotic? **S. C. Jana**, C. D. Jung

10:40 —253. Spatial bistability a versatile source for reaction-diffusion and chemomechanical pattern formation. **P. De Kepper**, I. Szalai, P. Cluzeau, J. Boissonade

11:10 —254. Nonequilibrium dynamics of reactive soft matter. **T. Okuzono**

11:40 —255. Bouyancy-driven path instabilities of bubble rising in polymer solutions in a Hele-Shaw cell. H. Kozuka, Y. Ikeda, **M. Kawaguchi**

Section G

Unknown Site -- Unknown Room
ACS Award in Polymer Chemistry: Symposium in Honor of James McGrath
Synthesis

K. E. Uhrich, *Organizer*
9:00 —256. Art of innovative polymer research: Five years with Prof. J. E. McGrath (1980-1985). **I. Yilgor**

9:30 —257. From poly(dimethylsiloxane-b-carbonate) block copolymers to responsive polysiloxane fluids. **J. S. Riffle**

10:00 —258. Nanolayered polymeric systems by forced assembly. **E. Baer**, A. Hiltner

10:30 —259. New π-conjugated organoboron polymers. **Y. Chujo**

11:00 —260. Polyester and polyester urethane-based biomaterials. **V. Ashby**

11:30 —261. Still playing with blocks: Role of multiple hydrogen bonding and charge in the design of novel block copolymers. **T. E. Long**, B. D. Mather, J. M. Layman, S. R. Williams, M. T. Hunley, T. Saito

MONDAY AFTERNOON

Section A

Unknown Site -- Unknown Room
Branched Polymers in Emerging Technologies
Synthesis of Branched Polymers- Novel Synthesis Methods

B. D. Mather, T. E. Long, and R. H. Colby, *Organizers*
1:30 —262. Model polybutadienes-1,4 with complex macromolecular architectures: Precursors for well-defined low density polyethylene (wdLDPE). **N. Hadjichristidis**

1:55 —263. Reaction of -OH ended oligomers with bicyclic core composing compounds: Formation of highly branched-star - like polymers. **S. Penczek**, T. Biela, G. Lapienis, R. Szymanski

2:20 —264. Long chain branched polypropylene: Synthesis, characterization, and applications. **T. C. Chung**, J. Langston, R. Colby

2:45 —265. Combination of an anionic terminator multifunctional initiator and divergent carbanionic polymerization: Application to the synthesis of dendrimer-like polymers and of asymmetric and miktoarm stars. **Y. Gnanou**, R. Matmour

3:10 —266. Branched porogen and matrix preparation through cycloadditon reactions for low k materials. **B. I. Voit**, H. Komber, A. Scheel, K. Stumpe

3:35 —267. Exploitation of the Strathclyde methodogy in synthesizing branched vinyl polymers. **D. C. Sherrington**, M -H. Bouhier, P. A. G. Cormack, S. Graham

4:00 —268. Direct synthesis of anisotropic polymer nanoparticles. T. He, D. J. Adams, M. F. Butler, A. I. Cooper, **S. P. Rannard**

4:25 —269. Controlling chain growth: New strategy to hyperbranched. **Y. Zheng**, W. Wang, D. J. Irvine, S. M. Howdle

Section B

Unknown Site -- Unknown Room
Functional Nanomaterials from New Polymer Synthetic Methodologies
Novel Synthetic Methods and Materials
*Cosponsored by ACS Division of Polymer Chemistry and AIChE Materials Engineering and Sciences Division (Group 8) and JOINT**
D. A. Shipp, R. B. Grubbs, and H. Wang, *Organizers*
J. C. Grunlan, *Presiding*
J. L. Hedrick, *Organizer, Presiding*
2:00 —270. Design of polyester-based biomaterials: A structure-property approach. **V. V. Sheares**, A. H. Brown, B. F. Pierce, J. Liu, P. Uthe

2:20 —271. Functional materials using supramolecular polymer scaffolds. **S. J. Rowan**

2:40 —272. Functional bridged polysilsesquioxane nanoparticles. **K. J. Shea**

3:00 —273. Robust water-wettable nanoporous polymer membranes from reactive ABC triblock terpolymers. **M. Roerdink**, L. Chen, M. A. Hillmyer

3:20 —274. Emulsion polymerization of butadiene with a cationic nickel catalyst. **B. Korthals**, S. Mecking

3:40 — Intermission.

3:50 —275. Facile strategies for the one-pot synthesis of multifunctional and multiblock copolymers containing stereoregular poly(lactic acid). **A. P. Dove**, M. J. Stanford

4:10 —276. Hexamethyldisilazane-mediated controlled polymerization of α-amino acid N-carboxyanhydrides. H. Lu, **J. Cheng**

4:30 —277. Organocatalytic ring-opening polymerization approach to fully degradable amphiphilic copolymers. **K. Fukushima**, R. C. Pratt, F. Nederberg, R. M. Waymouth, J. L. Hedrick

4:50 —278. Synthesis and mechanical property characterization of novel ionenes for biomedical applications. **S. R. Williams**, E. M. Borgerding, J. M. Layman, T. E. Long

5:10 —279. Synthesis of diazocine-containing polysulfones and their mechanical and electrochemical properties. **T. Suga**, T. E. Long

5:30 —280. Carboxylic acid functionalized pores in a covalent organic framework . **R. W. Tilford**, J. J. Lavigne

Section C

Unknown Site -- Unknown Room
NMR Spectroscopy of Polymers
Diffusion, Gels, and Membranes

A. D. English, H. N. Cheng, T. Asakura, and H. W. Spiess, *Organizers*
P. M. Macdonald, *Presiding*
1:30 —281. Diffusion of polymer confined between lipid bilayer membranes: Pulsed field gradient NMR measurements. **P. M. Macdonald**, R. Soong

1:55 —282. Melt, blend, and trace diffusion near the entanglement transition. **E. D. von Meerwall**, W. L. Mattice

2:20 —283. Probing ionic interaction of anionic dendrimers with cationic polymer hydrogels by PGF NMR spectroscopy. H. ThÈrien-Aubin, **X. X. Zhu**

2:45 —284. Pulse field gradient NMR investigations of water diffusion in proton and anion exchange membranes. **T. M.**

Alam, S. K. McIntyre, C. H. Fujimoto, M. R. Hibbs, M. A. Hickner

3:10 — Intermission.

3:25 —285. Polymer gel composition studies using $T_{1\rho}$ NMR. **H. V. S. A. Hubbard**, I. M. Ward

3:50 —286. Dynamics in nonlinear polymer topologies: Cyclic poly(oxyethylene) melts. **H. W. Beckham**, S. Nam, J. Leisen

4:15 —287. Proton dynamics in polymer electrolytic membranes by solid state NMR. G. Ye, **G. R. Goward**

Section D

Unknown Site -- Unknown Room
Polymeric Materials of Medical Devices
General Principles
Cosponsored by PMSE
B. D. Ratner and K. E. Uhrich, *Organizers*
2:00 —288. Synthetic, biostable polymers for long-term implantable devices: Successes, continuing needs and opportunities. **A. J. Coury**

2:30 —289. Sibs for ophthalmic and cardiovascular applications. **L. Pinchuk**, Y. P. Kato, Y. Zhou, M. A. Orozco, R. T. Schoephoerster, J -M. Parel, J. P. Kennedy

3:00 —290. Applying a thermoplastic elastomer system to material needs in cardiovascular disease. **W. R. Wagner**, K. Fujimoto, J. Guan, Y. Hong, J. Stankus, D. A. Vorp, L. Soletti, A. Nieponice

3:30 —291. Tunable surface delivery of antibiotics from multilayered thin films. **H. F. Chuang**, P. T. Hammond

4:00 —292. Functional poly(lactide) synthesis for use in biomedical applications. **D. E. Noga**, T. A. Petrie, M. Weck, A. J. Garcia, D. M. Collard

4:30 —293. Development of a novel biosensor platform based on a combination of molecularly imprinted polymers (MIPs) and conjugated polymers. R. Thoelen, J. Duchateau, F. Horemans, R. Vansweevelt, L. Lutsen, D. Vanderzande, P. Wagner, **T. J. Cleij**

Section E

Unknown Site -- Unknown Room
Excellence in Graduate Polymer Science Research
Novel Polymer Fabrication and Properties
Cosponsored by YCC, PRES, PROF, and SOCED
H. N. Cheng and T. E. Long, *Organizers*
C. J. Ellison and E. H. Martin, *Organizers, Presiding*
1:15 — Introductory Remarks.

1:20 — Recognition of Poster Presenters.

1:30 —294. Fabrication of colloidally based, color tailored printed organic light emitting devices. **C. F. Huebner**, D. D. Evanoff Jr., S. Foulger

1:55 —295. Multi-emissive difluoroboron dibenzoylmethane polylactide: Synthesis and optical properties. **G. Zhang**, J. Chen, S. J. Payne, S. E. Kooi, J. N. Demas, C. L. Fraser

2:20 —296. Novel polymeric sensor materials from Poly(lactic acid) using hydroxyl functionalized chromophoric single molecules. **D. Haynes**, S. T. Iacono, A. R. Neilson, D. W. Smith Jr.

2:45 —297. Chemical and biological sensors based on organic thin-film transistors. **M. E. Roberts**, S. C. B. Mannsfeld, N. Queralto, Z. Bao

3:10 — Intermission.

3:25 —298. Self-organization of polymer chains in efficient polymer solar cells. **Y. Yao**, G. Li, H. Yang, Y. Yang

3:50 —299. Hydrogen purification using a high temperature PBI membrane. **K. A. Perry**, G. A. Eisman, B. C. Benicewicz

4:15 —300. Biodegradable nanocomposites with improved physical properties created via solid-state shear pulverization. **A. M. Walker**, J. M. Torkelson

4:40 — Remarks by ACS President.

4:50 — Networking.

Section F

Unknown Site -- Unknown Room
Nonlinear Dynamics in Polymeric Systems
Gel Systems
Cosponsored by PMSE
J. A. Pojman and Q. Tran-Cong-Miyata, *Organizers*
1:30 —301. Design of self-oscillating polymer and gel for biomimetic materials. **R. Yoshida**, M. Kinoshita, T. Sakai, Y. Hara, S. Maeda, S. Hashimoto

1:55 —302. Factors governing glucose-driven pH oscillations in a hydrogel-enzyme-marble reactor. A. S. Bhalla, S. Mujumdar, **R. A. Siegel**

2:20 —303. Gel bead driven by a self-oscillating chemical reaction. **P. Borckmans**, S. Villain, S. MÈtens

2:45 —304. Initiation of complex spirals in a Belousov-Zhabotiniskii reaction system catalyzed by poly(AAm-co-Ru(bpy)32+) gel membrane. **D. S. Huh**, U. J. Jun Jr., S. H. Park Jr.

3:10 — Intermission.

3:25 —305. Nonlinear pH responsive chemomechanical devices. **A. F. Taylor**, K. Kovacs, S. Scott

3:50 —306. Water absorption, desorption and transport in Nafion membranes. **J. B. Benziger**, M. B. Satterfield, P. W. Majstzrik, A. B. Bocarsly

4:15 —307. Synthesis and characterization of self-oscillating microgel particles. **D. Suzuki**, R. Yoshida

4:40 —308. Synchronization in patterned self-oscillating gels. **A. C. Balazs**, V. Yashin

Section G

Unknown Site -- Unknown Room
ACS Award in Polymer Chemistry: Symposium in Honor of James McGrath
Synthesis & Applications

K. E. Uhrich, *Organizer*
2:00 —309. Synthesis and surface properties of a fluorous semicrystalline polyoxetane. **K. J. Wynne**, Y. Zheng

2:30 —310. Wholly aromatic polymer electrolytes in fuel cell applications. **B. S. Pivovar**

3:00 —311. An atypical synthesis route of aromatic and heterocyclic polymers: The microwave way. **R. Mercier**, K. Marestin, E. Chauveau, V. Martin

3:30 —312. Chlorine-tolerant desalination membranes. H. B. Park, W. Xie, **B. D. Freeman**, M. Paul, A. Roy, M. Sankir, H -S. Lee, J. S. Riffle, J. E. McGrath

4:00 —313. Complex particles and patterned substrates: Opportunities in life sciences and materials sciences. **J. M. Desimone**

4:30 —314. Fracture behavior of nanocomposites based on poly(ethylene-co-methacrylic acid) ionomers. **Y. Yoo**, D. R. Paul

TUESDAY MORNING

Section A

Unknown Site -- Unknown Room
Branched Polymers in Emerging Technologies
Branched Polymers and Surfaces

B. D. Mather, T. E. Long, and R. H. Colby, *Organizers*
8:30 —315. Surface segregation and cure acceleration in blends of DGEBA epoxy thermosets with hyperbranched poly(arylene-ether-ketone-imide). T. E. Marsh, D. H. Wang, L. S. Tan,**P. T. Mather**

8:55 —316. Sulfonated block copolymers for water and proton transport applications. D. L. Handlin Jr., **S. R. Trenor**, C. L. Willis

9:20 —317. Surface segregation of branched copolymers from a homopolymer matrix. **M. D. Dadmun**, S. Y. Kamath, O. Swader, J. Ankner

9:45 —318. Adsorption of branched polymers: Bonds under high tension. **M. Rubinstein**, S. Panyukov, E. B. Zhulina, G. Randall, J. Brock, D. Shirvaniants, S. S. Sheiko, K. Matyjaszewski, F. C. Sun

10:10 —319. Core-shell cylindrical polymer brushes with silica nanowire core. J. Yuan, Y. Xu, M. Schumacher, H. Schmalz, **A. H. E. M¸ller**

10:35 —320. From synthesis to AFM characterization of large macrocyclic combs. **A. Deffieux**, M. Schappacher

11:00 —321. Highly-branched multifunctional polymeric materials for Army applications. **J. A. Orlicki**, A. M. Rawlett, N. E. Zander, J. J. La Scala, W. E. Kosik, P. Smith, K. Andrews, J. D. Demaree

11:25 —322. Hyperbranched polyamides via thermal polymerization of l-lysine. M. Scholl, T. Q. Nguyen, B. Bruchmann, **H -A. Klok**

Section B

Unknown Site -- Unknown Room
Functional Nanomaterials from New Polymer Synthetic Methodologies
Catalyzed Polymerizations
*Cosponsored by ACS Division of Polymer Chemistry and AIChE Materials Engineering and Sciences Division (Group 8) and JOINT**
D. A. Shipp, R. B. Grubbs, J. L. Hedrick, and H. Wang, *Organizers*
A. Nelson and C. W. Bielawski, *Presiding*
8:00 —323. (Co)polyolefin-based nanocomposites via carbon nanotube-supported metallocene catalysis. **P. Dubois**

8:40 —324. Well-defined immobilization of single-site olefin polymerization catalysts on submicron particles. **A. Amgoune**, S. Mecking

9:00 —325. Palladium aryl sulfonate phosphine and phosphite catalysts for the copolymerization of ethene with acrylates. **L. Piche**, D. Carponcin, K. Skupov, J. P. Claverie

9:20 —326. Annealing of ultrathin polyethylene films from aqueous dispersions. **Q. Tong**, M. Krumova, S. Mecking

9:40 —327. Catalytic copolymerization of ethylene with N-vinyl-2-pyrrolidinone and N-iso-propylacrylamide. **K. Skupov**, L. Piche, J. P. Claverie

10:00 — Intermission.

10:10 —328. Catalyst-transfer polymerization for the synthesis of well-defined pi-conjugated polymers. **T. Yokozawa**, A. Yokoyama

10:50 —329. Morphological implications of structurally precise carboxylic acid polyolefins. K. L. Opper, T. W. Baughman, **K. B. Wagener**

11:10 —330. Poly(p-phenylene vinylene) nanoparticles by acyclic diene metathesis (ADMET) polycondensation in aqueous emulsion. **J. Pecher**, S. Mecking

11:30 —331. Synthesis and characterization of a functional low energy gap poly(thienylenevinylene-S,S-dioxide-thienylene vinylene) for potential supramolecular optoelectronic applications. **T. Nguyen**, C. Zhang, S -S. Sun

11:50 —332. Design of novel nanostructured cholesteric stimuli responsive polymers. **R. Kasi**, S -K. Ahn, Y. Zhou, N. Sharma

Section C

Unknown Site -- Unknown Room
NMR Spectroscopy of Polymers
A. A. Jones Memorial

A. D. English, H. N. Cheng, T. Asakura, and H. W. Spiess, *Organizers*
P. T. Inglefield, *Presiding*
8:30 —333. Alan A. Jones: A retrospective. **P. T. Inglefield**

8:55 —334. Local chain mobility and chain diffusion in solid and molten polymers. **H. W. Spiess**

9:20 —335. Poly(ethylene oxide) dynamics in miscible blends with poly(vinyl acetate): The relationship between segmental and terminal dynamics. **M. D. Ediger**, J. Zhao

9:45 —336. Polyolefin blend miscibility, slow chain dynamics, and configurational entropy. **J. L. White**, M. Wachowicz, L. Gill

10:10 — Intermission.

10:25 —337. Proton multiple quantum NMR of polymer networks. **M. Ries**, M. Brereton

10:50 —338. NMR studies of interfacial polymers in carbon nanotube-based nanocomposites. **P. A. Mirau**, M. Lyons, D. S. Powers, H. Koerner, R. A. Vaia

11:15 —339. Synthetic mica: A promising substrate for thin film studies by solid state proton NMR. **D. L. VanderHart**, V. M. Prabhu, K. A. Lavery, E. K. Lin, C. L. Dennis

Section D

Unknown Site -- Unknown Room
Polymeric Materials of Medical Devices
Polymers in Opthalmic Devices
Cosponsored by PMSE
B. D. Ratner and K. E. Uhrich, *Organizers*
9:00 —340. Conventional and silicone hydrogel contact lens polymers: Seeking the corneal replacement. **L. Winterton**

9:30 —341. Development of silicone hydrogel materials for contact lenses. **N. J. Manesis**

10:00 —342. Polydimethylsiloxane nanoparticle fluids for treating retinal detachment. M. L. Vadala, **J. D. Goff**, O. T. Mefford, R. Mejia-Ariza, R. C. Woodward, M. R. J. Carroll, A. Tyler, T. St. Pierre, M. Saunders, J. P. Dailey, R. M. Davis, J. S. Riffle

10:30 —343. Ophthalmic drug delivery by extended-wear silicone-hydrogel contact lenses. **J. Kim**, A. Chauhan

11:00 —344. Advances in super highly oxygen permeable silicone hydrogels in the 21st century for contact lens application. **Y -C. Lai**, W. Lang, E. T. Quinn, I. Nunez

Section E

Unknown Site -- Unknown Room
Stimuli Responsive Polymers
Biorelated Materials

C. Weder, S. J. Rowan, R. C. Advincula, and O. A. Scherman, *Organizers*
8:30 — Introductory Remarks.

8:35 —345. Stimuli-responsive polymer surface and interfaces. **M. W. Urban**

9:00 —346. Do it like the sea cucumber: Bioinspired chemo-mechanical polymer nanocomposites. **J. R. Capadona**, O. van den berg, L. A. Capadona, K. Shanmuganathan, D. J. Tyler, S. J. Rowan, C. Weder

9:25 —347. Elastin-like peptides: From side chain polymers to fusion proteins. **J. C. M. van Hest**, R. L. Teeuwen, F. A. de Wolf, H. Zuilhof

9:50 —348. Engineering cell-responsive hydrogels via the use of biologically relevant interactions. **K. L. Kiick**

10:15 — Intermission.

10:25 —349. Facile synthesis of biocompatible responsive copolymers in aqueous solutions. **C. Alexander**, J. Magnusson, P. George, W. Wang

10:50 —350. Multifunctional polyester nanoparticles with control over size and functionalities. A. van der Ende, R. Ruckstuhl, **E. Harth**

11:15 —351. Responsive polymer-protein bioconjugates by grafting-from via RAFT with the R-group approach. **B. S. Sumerlin**, P. De, M. Li, S. R. Gondi

11:40 —352. Thermally responsive elastin biopolymers for drug delivery. **A. Chilkoti**

Section F

Unknown Site -- Unknown Room
Nonlinear Dynamics in Polymeric Systems
Frontal Polymerization
Cosponsored by PMSE
J. A. Pojman and Q. Tran-Cong-Miyata, *Organizers*
8:30 —353. Frontal polymerization: A convenient alternative route to polymer materials. **A. Mariani**, V. Alzari, G. Caria, J. M. Kenny, O. Monticelli, M. Murgia, J. A. Pojman, S. Russo

9:15 —354. First solvent-free synthesis of poly(N-vinylnpyrrolidone) via free-radica frontal polymerization. **S. Chen**, X. Cai

9:45 —355. Microencapsulation of free-radical initiators and their use in frontal polymerization. **B. H. McFarland**

10:15 —356. Frontal grafting polymerization. **Q -Z. Yan**, Y -Q. Liu, C -C. Ge, Q. Feng

10:45 — Intermission.

11:00 —357. Frontal polymerization for rapid repair and studying nonlinear dynamics. **J. A. Pojman**

11:30 —358. Frontal polymerization with encapsulated initiators prepared by several methods. **C. Bounds**, J. A. Pojman

Section G

Unknown Site -- Unknown Room
ACS Award in Polymer Chemistry: Symposium in Honor of James McGrath
Applications

K. E. Uhrich, *Organizer*
9:00 —359. High performance thermosets and their application to probe storage. **J. L. Hedrick**

9:30 —360. LEDs using polymer blend chromophores. **F. E. Karasz**, A. Cirpan

10:00 —361. Polymers for photonic and optical technologies. **S. Z. D. Cheng**, K -U. Jeong, M. J. Graham, B. Mansdorf, J. Wang, F. W. Harris, T. Bunning, R. Vaia, B. L. Farmer

10:30 —362. Proton conductivity in fuel cell membranes under low RH conditions: Studies of the dynamics of critical processes. H. Ghassemi, R. Subbaraman, **T. A. Zawodzinski Jr.**

11:00 —363. Award Address (ACS Award in Polymer Chemistry, sponsored by ExxonMobil Chemical Company). Farm boy becomes polymer chemist. **J. E. McGrath**

Tools for Entrepreneurs from the Kauffman Foundation
Sponsored by SCHB, Cosponsored by ACS Division of Small Chemical Businesses and AIChE Management Division (Group 5), CHAL, POLY, YCC, JOINT, WCC, and BMGT

TUESDAY AFTERNOON

Section A

Unknown Site -- Unknown Room
Branched Polymers in Emerging Technologies
Dendrimers and their Applications

B. D. Mather, T. E. Long, and R. H. Colby, *Organizers*
1:30 —364. Dendrimacs, hypermacs and hyperblocks. **L. R. Hutchings**, S. M. Kimani, J. M. Dodds

1:55 —365. Novel thermoplastic rubbers based on functionalized arborescent (dendritic) polyisobutylene. **J. E. Puskas**, L. M. Dos Santos, G. Kaszas, K. Kulbaba

2:20 —366. Thermodynamics of pom-pom branched polystyrenes and their blends with linear chains. S. Yang, R. P. Quirk, D. T. Wu, **M. D. Foster**

2:45 —367. Dendritic polystyrene with functional groups at the branch points. **D. M. Knauss**, J. T. Bender

3:10 —368. Dendritic-based bonding agents for high density insensitive munitions (IM) propellant formulations. **P. Zarras**, D. L. Dean, D. Ciaramitaro, S. Nguyen, F. J. Dodson, L. R. Cambrea, L. C. Baldwin

3:35 —369. Development of dendritic scaffolds with selective surface sites for biological applications. **P. Goyal**, K. Yoon, M. Weck

4:00 —370. Synthesis, characterization, and properties of poly(ether sulfone)s with dendritic end groups. K. Osano, **S. R. Turner**

4:25 —371. Characterization of long chain branched polymers by 2-D molecular topology fractionation X size-exclusion chromatography. **D. M. Meunier**, T. M. Stokich Jr., R. Edam, P. J. Schoenmakers, D. Gillespie, A. W. deGroot

Section B

Unknown Site -- Unknown Room
Efficient Chemical Transformations in Polymer Chemistry: Click Chemistry and Beyond

B. S. Sumerlin and J -F. Lutz, *Organizers*
C. J. Hawker, *Organizer, Presiding*
2:00 — Introductory Remarks.

2:05 —372. Long reach of orthogonal reactivity. **K. B. Sharpless**

2:40 —373. Thiol-ene chemistry: A robust, efficient, and orthogonal platform for the fabrication and modification of functional materials. **L. M. Campos**, I. Meinel, N. Gupta, K. L. Killops, R. G. Guino, J. M. Paulusse, R. Sakai, C. J. Hawker

3:05 —374. Click thiol-ene reactions: Rapid and efficient chemistry for materials synthesis. **C. E. Hoyle**

3:30 —375. Protein modification through click chemistry. **D. A. Tirrell**

4:00 —376. Functional polymers, surfaces and nanoparticles by combination of living polyerization methods with the azide/alkin-click reaction. **W. H. Binder**

4:25 —377. Polymer-protein bioconjugates via grafting-from by RAFT polymerization and azide-alkyne click chemistry. **B. S. Sumerlin**, P. De, M. Li, S. R. Gondi

4:50 —378. Modern toolbox for macromolecular design: Dual-platform ATRP + copper catalyzed [3+2] Huisgen cycloadditions. **J -F. Lutz**, K. Weichenhan, ÷. Akdemir, Z. Zarafshani

Section C

Unknown Site -- Unknown Room
NMR Spectroscopy of Polymers
Polymer Dynamics

A. D. English, H. N. Cheng, and T. Asakura, *Organizers*
H. W. Spiess, *Organizer, Presiding*
1:30 —379. Dipolar NMR to characterize polymer dynamics in the intermediate motional regime. **K. Saalwachter**, O. Pascui, D. Reichert, A. Achilles, E. deAzevedo, A. A. de Souza, T. J. Bonagamba

1:55 —380. Solid-state NMR investigation of secondary relaxations in glassy poly(ethylenenaphthalene-2,6-dicarboxylate). **C. Lorthioir**, F. LauprÍtre

2:20 —381. Dynamics and order in submonolayer polymer films. **S. Stapf**, S. Ayalur-Karunakaran, B. Blumich

2:45 —382. Advanced amorphous porous polymer networks: Understanding molecular level structure and dynamics using solid-state NMR. J -X. Jiang, F. Su, A. Trewin, C. D. Wood, N. L. Campbell, H. Niu, C. Dickinson, A. Ganin, R. Dawson, J. T. A. Jones, M. J. Rosseinsky, A. I. Cooper, **Y. Z. Khimyak**

3:10 — Intermission.

3:25 —383. Dynamics of adsorbed PMA-d_3 - effect of substrate. **F. D. Blum**, B. Metin, M. Okuom

3:50 —384. H-2 NMR studies of polyelectrolyte multilayer capsules, films and complexes. **L. Reven**, B. Fortier-McGill

4:15 —385. Characterization of molecular behavior of stretched rubber by solid-state NMR. **H. Kimura**, H. Dohi, M. Kotani, H. Kurosu, H. Kaji, K. Yamauchi, T. Asakura

Section D

Unknown Site -- Unknown Room
Polymeric Materials of Medical Devices
Polymers in Drug Release and Drug Delivery Devices
Cosponsored by PMSE
B. D. Ratner and K. E. Uhrich, *Organizers*
2:00 —386. Drug microstructure to drug release. **D. V. Patwardhan**, D. M. Saylor, M. K. McDermott, B. J. Dair

2:30 —387. Novel macromolecular prodrugs for medical device applications. **S. Ranade**, S. Tamishetti, R. Rao, R. Ohri, M. Steckel

3:00 —388. Evaluation of vascular concentrations of therapeutic agents from perivascularly implanted polymeric devices. **V. DavÈ**, T. Parry, R. Falotico, G. Kopia, J. Dooley, D. Shetty

3:30 —389. Modeling structure development of release behavior of drug embedded in block copolymer matrices. **C -S. Kim**, D. M. Saylor, D. V. Patwardhan

4:00 —390. EAP hydrogels for pulse actuated cell system (PACS) architectures in drug delivery infusion pumps. R. E. Plata, H. R. Rogers, M. Banister, S. Vohnout, **D. V. McGrath**

4:30 —391. Polymeric nanoparticles for targeted delivery in cancer. **M. Shoichet**, M. Shi, K. Ho, J. Lu

5:00 —392. Effect of surface topology and polymer properties on drug release profiles. **J. E. Puskas**, R. Hoerr

Section E

Unknown Site -- Unknown Room
Stimuli Responsive Polymers
Optoelectronic Materials

C. Weder, S. J. Rowan, R. C. Advincula, and O. A. Scherman, *Organizers*

1:30 — Introductory Remarks.

1:35 —393. Designing photoswitchable foldamers: Toward smart delivering vehicles. **S. Hecht**, C. Winterboer

2:00 —394. Conducting metallopolymers with enhanced solubility and diminished aggregation mediated by steric coordination control. S. He, A. E. Dennis, **R. C. Smith**

2:25 —395. Design of responsive conducting polymers. **T. M. Swager**

2:50 —396. Electropolymerization and surface pressure induced manipulations of carbazole terminated polybenzylether dendrimers: From nanoparticles to nanopatterning. **R. C. Advincula**

3:15 — Intermission.

3:25 —397. Emission color tuning in boron biomaterials. **C. L. Fraser**, G. Zhang, J. N. Demas, S. E. Kooi, Y. J. Chen, A. Pfister, Y -J. Lee

3:50 —398. Low power upconversion in solid polymer films. R. R. Islangulov, T. N. Singh, J. Lott, C. Weder, **F. N. Castellano**

4:15 —399. Magneto-responsive polymer-nanoparticle hybrid materials. S. E. Bowles, B. D. Korth, P. Y. Keng, J. J. Benkoski, J. F. Douglas, A. Karim, **J. Pyun**

4:40 —400. Water soluble poly(paraphenyleneethynylene)s as stimuli responsive polymers. **U. H. F. Bunz**, I -B. Kim, R. Phillips, S. Miao, O. R. Miranda, V. M. Rotello

Section F

Unknown Site -- Unknown Room
Nonlinear Dynamics in Polymeric Systems
Frontal Polymerization
Cosponsored by PMSE
J. A. Pojman and Q. Tran-Cong-Miyata, *Organizers*
1:30 —401. Propagating waves of self assembly in organosilane monolayers. **J. Genzer**, K. Efimenko, J. F. Douglas, D. A. Fischer, F. Phelan

2:15 —402. Diffusive behavior and diffusion coefficients of neat methyl methacrylate and high molecular-weight poly(methyl methacrylate) for use in isothermal frontal polymerization models. J. R. McPherson, K. N. Massey, E. R. Meyer, J. S. Hanna, **L. L. Lewis**

2:45 —403. Front temperature and front velocity as a function of benzoyl peroxide concentration, trithiol concentration, and filler loading in the frontal polymerization of a triacrylate.**V. G. Viner**, J. A. Pojman

3:15 — Intermission.

3:30 —404. Preparation of photonics polymers by spontaneous frontal polymerization. **K. Asakura**, A. Takata, J. Omoto, E. Nihei

4:00 —405. Kinetics and mechanism of frontal polymerization of metal-containing monomers. **A. D. Pomogailo**

Best Steps for the Chemical Entrepreneur
Sponsored by SCHB, Cosponsored by ACS Division of Small Chemical Businesses and AIChE Management Division (Group 5), BMGT, POLY, WCC, YCC, and JOINT

TUESDAY EVENING

Section A

Unknown Site -- Unknown Room
Branched Polymers in Emerging Technologies

B. D. Mather, T. E. Long, and R. H. Colby, *Organizers*
6:00 - 8:00

406. Influence of polymerization procedure on the topology and structural properties of highly branched polymers in A2+B3 systems: A modeling study. C. Oguz, S. Cakir, E. Yilgor, M. G. Gallivan, **I. Yilgor**

407. Ambient temperature grafting of n-vinyl carbazole onto the latent sites of polystyrene via atrp. A. V. Vivek, **R. Dhamodharan**

408. Branched polyelectrolytes as gene delivery agents. **J. M. Layman**, T. E. Long

409. Does the location of sulfonated blocks matter? Influence of selective sulfonation in graft copolymer architecture. **T. Saito**, B. D. Mather, F. L. Beyer, T. E. Long

410. Effect of topology on adhesive properties of aliphatic low Tg polyesters. **G. I. Ozturk**, A. J. Pasquale, T. E. Long

411. Michael additions as an efficient means for branching and crosslinking. G. I. Ozturk, **T. E. Long**, B. D. Mather

412. Exfoliating nanoclays with hyperbranched poly(arylene-ether-ketone-imide)s. **D. H. Wang**, H. Koerner, L. F. Drummy, G. E. Price, Z. Yu, E. A. Fossum, R. A. Vaia, L -S. Tan

413. Hyperbranched networks containing POSS cores and carborane-containing linkers. **M. K. Kolel-Veetil**, T. M. Keller, D. D. Dominguez

414. Hyperbranched polymers in cationic UV curing. **M. Sangermano**, R. Bongiovanni, A. Priola, D. Pospiech, B. Voit

415. Influence of topology on the thermal and mechanical characterization of PTMO based ammonium ionenes. **E. M. Borgerding**, A. R. Fornof, T. E. Long

416. Investigations of bulk properties of polystyrene combs. **F. Ariura Jr.**, K. Tanaka, T. nagamura, R. Borsali, M. Schappacher, A. Deffieux

417. Modeling random copolymers of ethylene and 1-hexene via metathesis chemistry. **G. Rojas**, K. B. Wagener

418. New routes toward novel branched polymer structures: Star polymers and multifunctional hyperbranched polymers. **B. Iv·n**, G. Erdıdi, G. Kali, G. Kasza, I. Szanka, M. Szesztay, A. SoltÈsz

419. Polymer dynamics in a precisely displaced deuterated-methyl branch polyethylene: A preliminary ^{2}H NMR study. **Y. Wei**, J. C. Sworen, C -Y. Cheng, C. R. Bowers, K. B. Wagener

420. Rouse model of star polymers. A. Ghosh, **R. H. Colby**

421. Self-condensing vinyl polymerization of 4-(2-methoxy-isopropyl) styrene. **L. M. Dos Santos**, J. E. Puskas

422. Self-controlled synthesis of hyperbranched poly(ether-ketone)s from ìA2 + B3îapproach via different solubilities of monomers in the reaction medium. **I -Y. Jeon**, L -S. Tan, **J -B. Baek**

423. Shear rheological behavior of long chain branching polylactic acid prepared by electron beam irradiation in presence of polyfunctional monomer. Y. Wang, **Z. Wang**

424. Synthesis and characterization of dendrimer/branched polymer hybrids. **G. Bonzi**, A. I. Cooper, S. P. Rannard

425. Synthesis and characterization of graft copolymers containing blocks of biocide moieties. **S. Alam**, B. J. Chisholm

426. Synthesis and characterization of hyperbranched sorbent carbosilane polymers for chemical agents and explosives. **B. A. Higgins**, D. L. Simonson, R. A. McGill

427. Synthesis of hyperbranched polylactides by self condensing ring-opening branching polymerization. **F. Wolf**, H. Frey

428. Synthesis of long chain branched polysulfones for multifunctional transport membranes. **A. J. Duncan**, D. J. Leo, T. E. Long, J. F. Snyder

429. Synthesis of poly(arylether sulfone)s with dendritic terminal groups and side reactions. **K. Osano**, S. R. Turner

430. Tailoring the LCST of thermosensitive hyperbranched polyelectrolyte coated gold nanoparticles. **Y. Shen**, M. Kuang, J. Nieberle, Z. Shen, H. Duan, H. Frey

431. Thermal and mechanical properties of polystyrene/polydimethylsiloxane blends partially compatibilized by star molecules with a gamma-cyclodextrin core and polystyrene arms. **B. J. Busche**, A. E. Tonelli, C. M. Balik

Section B

Unknown Site -- Unknown Room
Efficient Chemical Transformations in Polymer Chemistry: Click Chemistry and Beyond

B. S. Sumerlin, C. J. Hawker, and J -F. Lutz, *Organizers*
6:00 - 8:00
432. Responsive polymer-protein bioconjugates prepared by RAFT polymerization and grafting-to via click chemistry. **M. Li**, P. De, S. R. Gondi, B. S. Sumerlin

433. Versatile end group modification strategy for RAFT-generated polymers. **M. Li**, P. De, S. R. Gondi, B. S. Sumerlin

434. Telechelic macromolecules via RAFT polymerization and click chemistry. **A. P. Vogt**, B. S. Sumerlin

435. Synthesis of 4-arm star poly(styrene) by a combination of RAFT chemistry and hetero Diels-Alder cycloadditions. **A. J. Inglis**, S. Sinnwell, T. P. Davis, M. H. Stenzel, C. Barner-Kowollik

436. Well-defined block copolymers utilizing RAFT chemistry and hetero Diels-Alder cycloaddition. **S. Sinnwell**, A. J. Inglis, T. P. Davis, M. H. Stenzel, C. Barner-Kowollik

437. Substituent effect on azide reactivity in click reaction kinetics. **P. L. Golas**, N. V. Tsarevsky, K. Matyjaszewski

438. Thiol-methacrylate films cured with primary amine catalyst. **J. W. Chan**, H. Wei, H. Zhou, C. Hoyle

439. Effects of monomer functionality and hydrogen bonding on the kinetics and properties of thiol-ene networks. **H. Zhou**, Q. Li, C. E. Hoyle

440. Enthalpy relaxation of photopolymerized thiol-ene networks: Structural effects. **J. Shin**, S. Nazarenko, C. E. Hoyle

441. Enthalpy relaxation of thiol-ene-acrylate ternary systems. **J. Shin**, S. Nazarenko, C. E. Hoyle

442. Efficient, mild, and modular approach to stable, well-defined fullerene polymers via ìclickî chemistry. **W -B. Zhang**, Y. Tu, R. Ranjan, R. Van Horn, M. J. Polce, C. Wesdemiotis, R. P. Quirk, G. R. Newkome, S. Z. D. Cheng

443. Single-step synthesis of polymer surfaces for click chemistry via initiative chemical vapor deposition . **S. G. Im**, B -S. Kim, W. E. Tenhaeff, P. T. Hammond, K. K. Gleason

444. Grafting of a hydrophobic polypeptide on silica nanoparticle by click chemistry. **S. S. Balamurugan**, P. S. Russo

445. Novel synthesis of poly-(isobutylene-block-ethyleneoxide). R. Sachsenhofer, **W. H. Binder**

446. Click chemistry as a novel route for the introduction of functional groups to octaphenylsilsesquioxane. **B. Gacal**, B. Kiskan, Y. Yagci

447. Synthesis of dendronized diblock copolymers using a facile attach-to click approach. **S. Fleischmann**, B. Voit, H. Komber, A. Kiriy

448. Clickable polyglycolides: Synthesis and characterization of degradable and functionalizable polyesters. **E. B. Vogel**, M. R. Smith III, G. L. Baker

449. Synthesis of a novel biotin-PEG copolymer with reactive chain end by atom transfer radical polymerization. **W. Shi**, S. Dolai, K. S. Raja

450. Synthesis of telechelic regioregular poly(3-alkylthiophene)s. **R. L. Laskowski**, M. H. Mitchell, M. Jeffries-EL

Section C

Unknown Site -- Unknown Room
NMR Spectroscopy of Polymers

A. D. English, H. N. Cheng, T. Asakura, and H. W. Spiess, *Organizers*
6:00 - 8:00
451. Polyethylene nanoparticle dispersions studied by X-band CW-ESR spectroscopy. **Q. Tong**, Y. Polyhach, G. Jeschke, S. Mecking

452. Use of 1-D and 2-D NMR techniques in microstructural analysis of copolymers of methyl methacrylate and cyclic ketene acetal. **S. Agarwal**

453. Assignment of high resolved 13C NMR spectra of polyacrylonitrile with heptads. **Y. Wang**, **F. Lu**, W. Pang, Q. Zhu, W. Wu, L. Xu

454. What one can learn about polymer networks using solid-state NMR. **V. M. Litvinov**

455. Characterization of amorphous inclusion complex of aspirin and β-cyclodextrin by solid state NMR spectroscopy. **S. Tabata**, S. Kim, T. Ito, K. Masuda

456. Homo-nuclear cross polarization and its application to 1-D assignments of solid-state NMR spectra. **Q. Luo**, Y. Shimoikeda, H. Kaji, F. Horii

457. Dynamics of PIPA-d_7 on silica surface. **P. Krisanangkura**, F. D. Blum

458. Dynamics in poly(vinyl acetate)/silica nanocomposites by 2-D solid-state 13C exchange NMR. **M. Foston**, J. Leisen, H. W. Beckham

Section D

Unknown Site -- Unknown Room
Polymeric Materials of Medical Devices

B. D. Ratner and K. E. Uhrich, *Organizers*
6:00 - 8:00
459. Poly(amidoamine) dendrimer binding, pore formation, and supramolecular structure with phospholipids. **C. V. Kelly**, M. G. Liroff, P. R. Leroueil, D. G. Mullen, B. W. Erickson, B. G. Orr, I. Andricioaei, M. M. Banaszak Holl

460. Polyethylene prodrugs using precisely placed pharmaceutical agents. **J. K. Leonard**, K. B. Wagener

461. Segmented polyether ionenes as ion-channeled biomaterials. **M. Tamami**, E. M. Borgerding, S. R. Williams, T. E. Long

462. Structure of nanocomposite hydrogels with different ionic strengths. **P. Schexnailder**, L. Porcar, P. D. Butler, G. Schmidt

463. Synthesis and characterization of antibacterial dental monomers. X. Xu, **Y. Wang**, L. Ling

464. Synthesis of new fluoride-releasing dental monomer containing 3,2-hydroxypyridinone. **L. Chen**, L. Ling, X. Xu

465. Tailored hydrogen-bonding and electrostatics in melt electrospinning for biomedical devices. **M. T. Hunley**, M. G. McKee, A. S. Karikari, B. D. Mather, T. E. Long

466. Biocompatibility studies of novel polyisobutylene-based biomaterials. **E. A. Foreman**, J. E. Puskas, M. El Fray, M. Piatek, P. Prowans

467. Optically active polyelectrolyte multilayer films assembled from enantiomeric amino acid based polymers synthesized via RAFT. **M. G. Kellum**, G. R. Bishop, S. E. Morgan, C. L. McCormick

Section E

Unknown Site -- Unknown Room
Stimuli Responsive Polymers

C. Weder, S. Rowan, R. C. Advincula, and O. A. Scherman, *Organizers*

6:00 - 8:00

468. Design of functional gels involving electronic transmission circuit generated by visible light and application to artificial photosynthesis. **K. Okeyoshi**, R. Yoshida

469. Formation of photochromic polymer brushes by surface-initiated ring-opening metathesis polymerization. **S. Samanta**, J. Locklin

470. Hydrogels: Synthesis, functionalization and optical investigation. **R. F. Roskamp**, U. Jonas, G. Fytas, W. Knoll

471. Novel materials based on thiol-ene microemulsions. **J. E. Marszalek**, J. A. Pojman, C. E. Hoyle

472. PEG grafted polyglycolides: Two methods for generating thermoresponsive degradable polymers. **E. B. Vogel**, M. R. Smith III, G. L. Baker

473. pH Responsive phenylboronate-salicylhydroxamate crosslinked hydrogels for STD prevention. **J. I. Jay**, M. C. Roberts, M. C. Hanson, P. F. Kiser

474. Preparation of PAMPS/PVA electrosensitive hydrogel fibers. X. Feng, **L. Chen**, L. Ju, Y. Zhao, J. Dong

475. Synthesis and characterization of photoplastic siloxane based thiol-ene polymer systems. **S. N. Pawar**, T. W. Smith

476. Synthesis and characterization of poly(N-vinyl caprolactam) and its graft copolymers of dextran. **F. Shubo**, Z. Erli, L. Huiqiang, W. Chunfang, L. Fangfang

477. 3-D Directional temperature responsive (N-(DL)-(1-hydroxymethyl) propylmethacrylamide-co-n butyl acrylate) colloidal particles and their films. **F. Liu**, M. W. Urban

478. A novel synthesis to responsive polydiacetylenic aggregates. **H. Peng**

479. Adsorption of fibrinogen on polyionic azobenzene layer-by-layer film using photoisomerization. **S. A. Maaland**, R. Tsai, T. M. Fulghum, R. C. Advincula

480. Antibacterial ferromagnetic nanotubes: Penicillin attachment. **M. Yu**, M. T. Edgerton, M. W. Urban

481. Aqueous RAFT synthesis of the pH-responsive triblock copolymer mPEO-PAMPA-PDPAEMA and formation of shell cross-linked micelles. **X. Xu**, A. E. Smith, J. E. Stempka, S. E. Kirkland, C. L. McCormick

482. Autonomous motion of silicon nanorods using microgels fabricated by surface initiated polymerization. **S. V. Orski**, J. Fan, Y. Zhao, J. Locklin

483. Dynamics of water/counter-ion redistribution in electrically-stimulated ionic polymer metal composite actuators. **J. K. Park**, K. A. Page, D. S. Hussey, D. Jacobson, M. Arif, R. B. Moore

484. Photoinduced switching and morphological changes of polymer brushes fabricated by ATRP. **K. H. Fries**, S. Samanta, J. Locklin

485. Precision synthesis of various thermosensitive star-shaped polymers and size-controlled formation of reusable gold nanoclusters catalysts. **N. Yagi**, S. Nishida, S. Kanaoka, S. Aoshima, H. Tsunoyama, T. Tsukuda, S. Hidehiro

486. Self-assembled block copolymer/superparamagnetic nanoparticle composites. **S. Biswas**, K. D. Belfield

487. Self-assembled polymeric architectures on the basis of a host-guest inclusion complex. **U. Rauwald**, O. A. Scherman

488. Self-complementary multiple hydrogen bonding in styrene-butadiene rubber. **T. Saito**, A. Kokil, T. E. Long

489. Stimuli responsive block copolymer disassembly. **A. Klaikherd**, N. Chikkannagari, S. Thayumanavan

490. Stimuli-responsive mechanically dynamic polymer nanocomposites. **K. Shanmuganathan**, J. R. Capadona, S. Rowan, D. J. Tyler, C. Weder

491. Surface emitting distributed feedback and distributed Bragg reflector lasing based on multilayer polymer films. **J.**

Lott, H. Song, Y. Wu, L. Sharpnack, T. Kazmierczak, J. Andrews, E. E. Baer, A. Hiltner, K. D. Singer, C. Weder

492. Synthesis of terhiophene terminated poly(arylether) dendrimers with perylene core. **J. Vargas**, R. Ponnapati, S. Tse, R. C. Advincula

493. The effectiveness of antibiotic activity of penicillin attached to expanded poly(tetrafluoroethylene) (ePTFE) surfaces: A quantitative assessment . **N. Aumsuwan**, R. Danyus, S. Heinhorst, M. W. Urban

494. The preparation of photosensitive polyacrylamide hydrogels by technique of blending. Y. Zhao, Y. Zhang, L. Chen, X. Feng, **J. Dong**

495. Time temperature indicators for long term high temperature applications. **C. E. Sing**, C. Weder

496. Water soluble polymers for biosensing. **B. Wolff**, M. Vetrichelvan, M. J. Felipe, R. C. Advincula

Section F

Unknown Site -- Unknown Room
Nonlinear Dynamics in Polymeric Systems

J. A. Pojman and Q. Tran-Cong, *Organizers*
6:00 - 8:00
497. Behavior of the Belousov-Zhabotinsky oscillator in the presence of carboxymethyl-cellulose. **R. Lombardo**

498. Design of functional surfaces using self-oscillating gels. **Y. Murase**, T. Sakai, S. Maeda, R. Yoshida

499. Design of the dynamic motion of self-oscillating gel. S. Maeda, Y. Hara, **R. Yoshida**, S. Hashimoto

Section G

Unknown Site -- Unknown Room
Functional Nanomaterials from New Polymer Synthetic Methodologies
*Cosponsored by ACS Division of Polymer Chemistry and AIChE Materials Engineering and Sciences Division (Group 8) and JOINT**
J. L. Hedrick and H. Wang, *Organizers*
R. B. Grubbs and D. A. Shipp, *Organizers, Presiding*
6:00 - 8:00
500. Block copolymers containing stabile free radicals: Synthesis and magnetic force microscopic morphological investigations. **T. Suga**, B. D. Mather, H. Nishide, T. E. Long

501. Carbon nanofiber incorporated silica based aerogels with di-isocyanate cross-linking. **S. L. Vivod**, M. A. B. Meador, L. A. Capadona, R. M. Sullivan, L. J. Ghosn, D. J. Quade, L. McCorkle, N. Clark

502. Conformation of water soluble polythiophenes in aqueous solution. **R. Verduzco**, K. Hong, J. W. Mays, P. F. Britt

503. Controlled functional nanoparticles from diblock copolymer micelles. G. Sakellariou, **P. Driva**, D. Baskaran, J. W. Mays

504. Cross-linked poly(2-ethylhexyl methacrylate-cochloromethylstyrene) in fluorinated solvents. **Y. Zhu**, W. T. Ford

505. Design of binary codendrons for targeted drug delivery. **D. Q. McNerny**, D. G. Mullen, I. J. Majoros, X -M. Cheng, B. Huang, M. Banaszak Holl, J. R. Baker Jr.

506. Dynamic reversible supramolecular polymers bearing hydrogen bonding end groups. **A. D. Celiz**, O. A. Scherman

507. Epon 828/amine-functionalized short-length vapor grown carbon nanofiber (AF-VGCNF) nanocomposites. **S -N. Ahn**, H -J. Lee, L -S. Tan, **J -B. Baek**

508. Fablication of nanoribbon of high-performance polyimide. **K. Wakabayashi**, S. Yamazaki, T. Uchida, K. Kimura

509. Hybrids of magnetic nanoparticles with double-hydrophilic core-shell cylindrical polymer brushes. **Y. Xu**, M. Drechsler, J. Yuan, A. H. E. Mueller

510. Improving flexibility of silica-based aerogels crosslinked with polystyrene. **B. N. Nguyen**, M. A. B. Meador, M. E. Tousley, B. Shonkwiler

511. Nanoscale ionic aggregation of Phosphonium ionomers. **S. Cheng**, B. D. Mather, T. E. Long

512. Novel investigations on polymer modified silica nanoparticles with mixed surface modifications. R. Zirbs, **W. H. Binder**

513. One-pot synthesis of hairy nanoparticles by ATRP in microemulsion. **K. Min**, H. Gao, J. A. Yoon, K. Matyjaszewski

514. Photopolymerized thiol-ene nanocomposite films. **L. Kwisnek**, H. Wei, S. K. Goswami, L. J. Mathias, S. Nazarenko, C. E. Hoyle

515. Preparation of conductive polymer nanofibers via electrospinning of poly(arylsilylene) precursors. **J. Choi**, Y. Ner, G. A. Sotzing

516. Preparation of RITC-dextran- and BSA-loaded POEOMA nanogels and verification of cell internalization by the clathrin-mediated endocytotic pathway using confocal imaging. **D. J. Siegwart**, A. Srinivasan, G. Papworth, J. K. Oh, S. Vaidya, G. Wheeler, B. Belardi, S. Watkins, J. O. Hollinger, K. Matyjaszewski

517. Sampling from catalytic polymerization in emulsion under pressure. **S. Reischmann**, P. Wehrmann, L. Bolk, S. Mecking

518. Synthesis of block copolymers with fluorinated norbornene derivatives via ROMP. **W. H. Binder**, B. N. Pulamagatta

519. Synthesis of precise sulfonic acid polyethylene copolymer precursors. **K. L. Opper**, K. B. Wagener

Section H

Unknown Site -- Unknown Room
Polymers for Remediation and the Environment
Cosponsored by ENVR and ENGENV
A. B. Salamone, K. M. Levon, and G. Coimbatore, *Organizers*
6:00 - 8:00
520. Biodegradable plastics from animal coproduct proteins and blends. **S. Sharma**, J. Hodges, I. Luzinov

521. Polymer modified iron nanoparticles for environmental remediation. **S. Krajangpan**, L. Jarabek, J. Jepperson, B. J. Chisholm, A. Bezbaruah

522. Microencapsulation of dodecanol using PDMC/acacia coacervation. J. Lian, **X. Z. Kong**, X. Zhu, Z. Zhang

523. Polymeric chelating resin for removal of toxic metals from various water sources and electroplating liquors. **L. M. Rahman**, J. R. Asik

Section I

Unknown Site -- Unknown Room
Self-healing Polymeric Processes and Materials

D. Kiserow, D. Stepp, and B. L. Lee, *Organizers*
6:00 - 8:00
524. Metallo-supramolecular hybrid organogels: Toward self-repair in polymeric materials. **J. L. Hawk**, D. M. Loveless, J. W. Overcash, S. L. Jeon, S. Craig

525. Synthesis and characterization of a single component thermally remendable polymer system. **E. B. Murphy**, F. Wudl, E. Bolanos, C. Schaffner-Hamann, S. R. Nutt, M. L. Auad

WEDNESDAY MORNING

Section A

Unknown Site -- Unknown Room
Self-healing Polymeric Processes and Materials
Novel Processes

D. Kiserow, D. Stepp, and B. L. Lee, *Organizers*
9:00 — Introductory Remarks.

9:05 —526. When chemistry meets mechanics. **J. S. Moore**, N. R. Sottos, S. R. White

9:45 —527. Designing synthetic materials that recognize and respond to mechanical impact. **A. C. Balazs**, O. Kuksenok, V. Yashin

10:10 —528. Advanced ìself-healingî materials by side-chain modified terpyridine-containing polymers. C. Ott, H. Hofmeier, **U. S. Schubert**

10:35 — Intermission.

10:45 —529. Taking advantange of noncovalent interactions in the design of self-healing polymers. S. Cheng, B. D. Mather, **T. E. Long**

11:10 —530. Toward self-healing supramolecular polymer complexes. **B. W. Greenland**, S. Burattini, W. Hayes, H. M. Colquhoun

Section B

Unknown Site -- Unknown Room
Efficient Chemical Transformations in Polymer Chemistry: Click Chemistry and Beyond

C. J. Hawker and J -F. Lutz, *Organizers*
B. S. Sumerlin, *Organizer, Presiding*
8:00 —531. Copper-catalyzed azide-alkyne cycloaddition: Ligand acceleration for functional materials. **M. Finn**, S. Presolski, A. A. Accurso, V. O. Rodionov

8:30 —532. Well-defined functional (supramolecular) polymers using efficient chemical transformations. R. Hoogenboom, H. Hofmeier, **U. S. Schubert**

8:55 —533. Ketoxime chemistry for the preparation and functionalization of intra- and inter-molecularly-crosslinked, hydrolytically-degradable polyesters. R. K. Iha, B. A. Van Horn, **K. L. Wooley**

9:20 —534. Simultaneous ATRP and click as a novel synthetic tool. **D. M. Haddleton**, G. Mantovani, J. Lindqvist, J. Geng

9:45 —535. Synthesis of novel functional aliphatic polyesters by association of ring-opening polymerization and click chemistry. **P. Lecomte**, S. Schmeits, R. Riva, C. Jerome, R. Jerome

10:10 —536. Thermally and photochemically active polymers by click chemistry. B. Gacal, H. Akat, B. Kiskan, M. Ergin, D. Balta, N. Arsu, **Y. Yagci**

10:35 —537. Versatile access to functionalized random copolymers using one-pot ATRP: Click chemistry tandem approaches. D. Damiron, V -R. Ostaci, M. Desorme, C. Hawker, **E. Drockenmuller**

11:00 —538. Novel Michael addition chemistry for the formation of branched and crosslinked systems. **S. R. Williams**, K. M. Miller, T. E. Long

11:25 —539. Functional and nanostructured polymers by combining controlled radical polymerization and click chemistry. **B. I. Voit**, S. Fleischmann, H. Komber, M. Messerschmidt

Section C

Unknown Site -- Unknown Room
NMR Spectroscopy of Polymers
Polyamides and Polypeptides

A. D. English, H. N. Cheng, and H. W. Spiess, *Organizers*
T. Asakura, *Organizer, Presiding*
8:30 —540. MAS and µMAS NMR spectroscopy of biomimetic polymers. **A. Kentgens**

8:55 —541. Solid state NMR analyses of conformational distributions in the model peptides of elastin. **K. Ohgo**, W. P. Niemczura, T. Asakura, K. K. Kumashiro

9:20 —542. Solid-state NMR structural study of microbial poly(ε-L-lysine) and its polymer blends. **S. Maeda**, Y. Fujiwara, K. Kato, K -K. Kunimoto

9:45 —543. High-impact property of polyketon/polyamide-6 alloys investigated by TEM, SAXS, DSC, Raman, and solid-state NMR. **A. Asano**, M. Nishioka, A. Kato, Y. Takahashi, H. Sawabe, M. Arao, S. Sato, H. Sato, T. Izumi, D. Olga, D. Ishikawa, T. Hasegawa, T. Okamura, K. Nagata, S. Hikasa, H. Iwabuki

10:10 — Intermission.

10:25 —544. Silk structure studied using solid state NMR. **T. Asakura**, Y. Nakazawa, H. Sato, F. Moro

10:50 —545. Structural analysis of (Ala)n in crystalline region of silk fibroins using solid-state NMR. **K. Yamauchi**, K. Horiguchi, M. Okonogi, T. Asakura

11:15 —546. Characterization on cross-linking nylon-6,6 blended reactive types of flame retardants with gamma-ray irradiation by solid state NMR. **Y. Miwa**

Section D

Unknown Site -- Unknown Room
Polymeric Materials of Medical Devices
Polymers in Dental and Orthopedic Applications
Cosponsored by PMSE
B. D. Ratner and K. E. Uhrich, *Organizers*
9:00 —547. Microleakage evaluation using X-ray microcomputed tomography. **J. Sun**, J. Dunker, S. Lin-Gibson

9:30 —548. Microstructural changes in gamma-irradiated ultra high molecular weight polyethylene. M. Al-Maadeed, N. J. Al-Thani, **M. M. Bader**

10:00 —549. Molecular dynamics of a dental monomer and its polymer. T. Psurek, **J. Antonucci**

10:30 —550. Synthesis of crosslinking dimethacrylate and divinylbenzyl monomers containing 3-hydroxy-2-pyridinones and their zirconium-fluoride complexes. **X. Xu**, L. Chen, L. Ling

11:00 —551. Dual biomineralization on porous polymer membranes: Sequential formation of hydroxyapatite and calcium carbonate by an improved alternate soaking process. **J. Watanabe**, M. Akashi

11:30 —552. Bioactive polymeric ACP composites utilizing ethyl-alpha-hydroxymethylacrylate. **J. Antonucci**, B. O. Fowler, J. W. Stansbury, M. D. Weir, D. Skrtic

Section E

Unknown Site -- Unknown Room
Stimuli Responsive Polymers
Actuating and Supramolecular Materials

C. Weder, S. J. Rowan, R. C. Advincula, and O. A. Scherman, *Organizers*
8:30 — Introductory Remarks.

8:35 —553. Temperature responsive self-assembled polyurea and polyurethane networks. D. Hermida Merino, P. Woodward, J. K. Kandola, P. J. Harris, A. T. Slark, I. W. Hamley, **W. Hayes**

9:00 —554. Mechanical linkages (pseudorotaxane structures) in self-assembly and modification of macromolecules. **H. W. Gibson**, F. Huang, Z. Ge, H. Wang, A. M -P. Pederson, M. Lee, M. Rouser, D. Schoonover

9:25 —555. Cucurbiturils in dynamic functional materials. **O. A. Scherman**

9:50 —556. Polymers with noncovalent bonding on the side. W. Zhang, W. R. Dichtel, D. Benitez, **J. F. Stoddart**

10:15 — Intermission.

10:25 —557. Shape memory effects in semicrystalline networks. T. Chung, K. M. Lee, P. T. Knight, **P. T. Mather**

10:50 —558. Stimulus-responsive polymers based upon N-heterocyclic carbenes. **C. W. Bielawski**

11:15 —559. Morphology and transport considerations in the actuation mechanism of electrically-stimulated artificial muscles. J. K. Park, K. A. Page, D. S. Hussey, D. Jacobson, M. Arif,**R. B. Moore**

11:40 —560. Thermo- and opto-mechanics of liquid crystal elastomers. **H. Finkelmann**, S. Krause, A. Sanchez-Ferrer

Section F

Unknown Site -- Unknown Room
Nonlinear Dynamics in Polymeric Systems
Spatial Pattern Formation
Cosponsored by PMSE
J. A. Pojman and Q. Tran-Cong-Miyata, *Organizers*
8:00 —561. Emergent phenomena in polymerization-precipitation systems. **O. Steinbock**, T. Bansagi Jr., J. J. Pagano

8:25 —562. Competing interactions and pattern selection driven by chemical reactions in polymer mixtures. **Q. Tran-Cong-Miyata**, A. Masunaga, E. Ueda, K. Nakayama, H. Nakanishi, T. Norisuye

8:50 —563. Evolution of orientational order in directed assembly of block copolymer films. **A. Karim**, B. C. Berry, A. Bosse, R. L. Jones, J. F. Douglas

9:15 —564. Hexagonal phase induced by a reversible photocrosslink reaction in a polymer mixture undergoing phase separation. **H. Nakanishi**, K. Murata, Q. Tran-Cong-Miyata

9:40 — Intermission.

9:50 —565. Mesoscopic quasicrystal in a three-arm polymeric star. K -I. Hayashida, T. Dotera, A. Takano, **Y. Matsushita**

10:15 —566. Microphase segregation in gels of charged chains with hydrophobic backbones. **M. Olvera de la Cruz**

10:40 —567. Microwrinkles under mechanical perturbations. **T. Ohzono**

11:05 —568. Spatiotemporal patterns formed by deformed adhesive in peeling. **Y. Yamazaki**, A. Toda

11:30 —569. Interconnected structures in equilibrium and nonequilibrium systems. **T. Ohta**

WEDNESDAY AFTERNOON

Section A

Unknown Site -- Unknown Room
Self-healing Polymeric Processes and Materials
Army Applications

D. Kiserow, D. Stepp, and B. L. Lee, *Organizers*
2:00 —570. Applications of self-healing polymeric materials and processes in soldier systems. **S. A. Fossey**

2:30 —571. Self-healing materials for Army applications. **J. A. Orlicki**, E. D. Wetzel

Section B

Unknown Site -- Unknown Room
Efficient Chemical Transformations in Polymer Chemistry: Click Chemistry and Beyond

B. S. Sumerlin and C. J. Hawker, *Organizers*
J -F. Lutz, *Organizer, Presiding*
1:30 —572. ATRP and click-type chemical transformations: Toward novel functional well-defined polymers. **N. V. Tsarevsky**, P. L. Golas, K. Matyjaszewski

1:55 —573. Photoinduced and catalyzed thiol-vinyl reactions in polymers. **C. N. Bowman**, N. B. Cramer, S. K. Reddy, H.

Kilambi, A. K. O'Brien, A. Rydholm, K. S. Anseth

2:20 —574. Applications of the N-heterocyclic carbene - azide coupling reaction in synthetic polymer chemistry. D. M. Khramov, D. Coady, **C. W. Bielawski**

2:45 —575. Click chemistry, an entry toward conjugated materials. **U. H. F. Bunz**, B. Englert, S. Bakbak, D. Schweinfurth

3:10 —576. Clickable polymersomes. **J. C. M. van Hest**, J. A. Opsteen, M. Nallani, S. van Dongen, J. J. L. M. Cornelissen

3:35 —577. A click chemistry approach to nanoengineered thin films and particles. **F. Caruso**, G. K. Such, C. R. Kinnane, C. J. Ochs, A. P. R. Johnston, E. Tjipto, A. Postma

4:00 —578. Synthesis of monomethacrylated cyclodextrin via click reaction: Investigations of guest controlled solution property of polymers. **H. Ritter**, S. Choi

4:25 —579. Exploration of cyclic polymer architectures using click chemistry. **S. M. Grayson**, B. A. Laurent, D. M. Eugene, J. N. Hoskins, J. Eberle, K. A. Willham

4:50 —580. Folate-conjugated responsive polymeric micelles: Synthesis by RAFT polymerization and click chemistry. **P. De**, S. R. Gondi, B. S. Sumerlin

5:15 —581. Polymer films for protein immobilization by oxime chemistry. **H. D. Maynard**

Section C

Unknown Site -- Unknown Room
NMR Spectroscopy of Polymers
Solid State Structural Studies

A. D. English, H. N. Cheng, T. Asakura, and H. W. Spiess, *Organizers*
J. L. White, *Presiding*
1:30 —582. Hydrogen bonding and surface structure of polymer materials characterized by solid-state NMR spectroscopy. **F. Horii**

1:55 —583. Chain folding and adjacent reentry of polymer chains in bulk crystal detected by solid-state NMR. **T. Miyoshi**

2:20 —584. Enhanced insights into silicone degradation from ^{1}H multiple quantum NMR. **R. S. Maxwell**, S. Chinn, J. Herberg, J. Giuliani

2:45 —585. High Resolution Magic Angle Spinning (HR-MAS) ^{1}H NMR investigation of the active surfaces of $MgCl_2$-supported Ziegler-Natta catalysts: The $MgCl_2$ matrix. V. Busico, R. Cipullo, F. Cutillo, R. Lamanna, V. Van Axel Castelli, **A. L. Segre**

3:10 — Intermission.

3:25 —586. Structure of materials in organic light-emitting diodes studied by solid state NMR. **H. Kaji**

3:50 —587. Molecular heterogeneity during build-up and degradation of acrylate based networks and hydrogels as studied by solid-state NMR methods. **V. M. Litvinov**, B. Plum, M. Boerakker, A. A. Dias

4:15 —588. Total understanding of the local structures of an amorphous slag: Perspective from multinuclear (^{29}Si, ^{27}Al, ^{17}O, ^{25}Mg, and ^{43}Ca) solid-state NMR using high magnetic field. **K. Saito**, K. Kanehashi, K. Shimoda

Section D

Unknown Site -- Unknown Room
Polymeric Materials of Medical Devices
Tissue Engineering and Immunoisolation
Cosponsored by PMSE
B. D. Ratner and K. E. Uhrich, *Organizers*
2:00 —589. Optimized acellular nerve grafts with preserved collagen and laminin architecture for clinically relevant nerve injuries. **C. E. Schmidt**

2:30 —590. Self-crosslinkable polymers for cell immuno-isolation. **H. D. H. Stˆver**, M. Mazumder, N. Burke, F. Shen, M. Potter

3:00 —591. In vivo tissue engineering for "per-partes" repair of body organs with biodegradable polyurethanes. **R. J. Zdrahala**, I. J. Zdrahala

3:30 —592. Bioartificial pancreas: A novel macro-immunoisolatory device. J. Kang, G. Erdodi, B. Yalcin, M. Cakmak, **J. P. Kennedy**

4:00 —593. Cell attachment and detachment on novel semi-interpenetrating polymer netwok films. **T. thimma reddy**, A. kano, A. Maruyama, M. Hadano, A. Takahara

Section E

Unknown Site -- Unknown Room
Stimuli Responsive Polymers
Responsive Materials in Solution

C. Weder, S. J. Rowan, R. C. Advincula, and O. A. Scherman, *Organizers*
1:30 — Introductory Remarks.

1:35 —594. Multimeric protein-polyNIPAAm conjugates by RAFT polymerization. **H. D. Maynard**, L. Tao, G. Grover, K. L. Heredia

2:00 —595. Responsive assemblies from copolymers with adjustable amphiphilicity. **R. B. Grubbs**, A. Sundararaman, T. Stephan, Y. Cai

2:25 —596. Reversible phase transformations in concentrated aqueous solutions of block copolymers with temperature-responsive functional groups. K. B. Guice, **Y -L. Loo**

2:50 —597. Synthesis and aqueous solution properties of stimuli responsive triblock copolymers. **D. M. Haddleton**, A. MuÒoz-Bonilla, M. Fern·ndez-GarcÌa, G. Mantovani

3:15 — Intermission.

3:25 —598. Thermosensitive multiblock copolymers prepared by RAFT polymerization of N-alkylacrylamides. Y. Cao, **X. X. Zhu**

3:50 —599. Synthesis and applications of PEG-based stimuli-responsive materials. **J -F. Lutz**

4:15 —600. Tuning the thermoresponsiveness of weak polyelectrolytes by pH and light: Lower and upper critical solution temperature of poly(N,N-dimethylaminoethyl methacrylate).**A. H. E. M¸ller**, F. A. Plamper, A. Schmalz, M. Ballauff

4:40 —601. Tuning the cloud points of random copolymers based on methacrylic acid and oligoethyleneglycol methacrylate. C. R. Becer, R. Hoogenboom, S. Hahn, **U. S. Schubert**

Section F

Unknown Site -- Unknown Room
General Papers
Fuel Cells- Solar Cells and Related Topics

D. Garcia, *Organizer*
S. Kulkarni, *Presiding*
2:00 —602. Alternating donor-acceptor copolymers containing thermally removable solubilizing groups for use in photovoltaic devices. M. R. Cottle, **V. V. Sheares**

2:20 —603. Ferroelectric polymers with tunable permittivity for electrical energy storage. **J. Claude**, Y. Lu, Q. Wang

2:40 —604. Dodecyl poly(*p*-fluoranthene vinylene): A novel electron accepting conjugated polymer for organic solar cell applications. **A. Palmaerts**, L. Lutsen, T. J. Cleij, D. Vanderzande, A. Pivrikas, H. Neugebauer, N. S. Sariciftci

3:00 —605. Ionomers for proton exchange membrane fuel cells with sulfonic acid groups on the end-groups: Novel

branched poly(ether-ketone)s. **S. Matsumura**, A. R. Hlil, C. Lepiller, J. Gaudet, D. Guay, Z. Shi, S. Holdcroft, A. S. Hay

3:20 —606. Poly(vinylbenzylphosphonic acid)-based proton conductors as polymer electrolyte membranes for fuel cells applications. **D. Markova**, A. Kumar, K. M¸llen, M. Klapper

3:40 —607. Effect of thermal treatment on the solvent stability of dispersion-cast NafionÆ. **S. J. Osborn**, K. A. Mauritz, R. B. Moore

4:00 —608. Synthesis of photodegradable organometallic polymers using ADMET. **G. V. Shultz**, D. R. Tyler

4:20 —609. Investigation into the biexponential kinetics of the photodegradation of solid-state organometallic polymers. **B. C. Daglen**, D. R. Tyler

4:40 —610. Poly(3,4-difluorothiophene) as a stable electrochemically n-doping polymer. **D. J. Irvin**, D. L. Witker, J. D. Stenger-Smith, J. A. Irvin, A. P. Closson

THURSDAY MORNING

Section A

Unknown Site -- Unknown Room
Self-healing Polymeric Processes and Materials
Films

D. Kiserow, D. Stepp, and B. L. Lee, *Organizers*
9:00 —611. Toward electrically-conductive materials with self-healing capabilities. K. A. Williams, A. J. Boydston, **C. W. Bielawski**

9:40 —612. Thermally reversible crosslinked polymers: Coatings with self-healing applications. **S. M. Budy**, D. W. Smith Jr.

10:00 —613. Self-replenishing low surface-energy polyurethane films. T. Dikic, **W. Ming**, P. Thuene, M. Tian, R. van Benthem, G. de With

10:20 —614. A delivery system for self-healing inorganic films. **H. A. Liu**, B. E. Gnade, K. J. Balkus Jr.

10:40 —615. Microencapsulation technology for self-healing coatings. **S -H. Own**, B. E. Koene, M. E. Rogers, J. D. Oxley

Section B

Unknown Site -- Unknown Room
Efficient Chemical Transformations in Polymer Chemistry: Click Chemistry and Beyond

B. S. Sumerlin, C. J. Hawker, and J -F. Lutz, *Organizers*
H. Schlaad, *Presiding*
8:30 —616. Thio-click polymer chemistry. A. Gress, **H. Schlaad**

8:55 —617. Combining RAFT chemistry and pericyclic reactions for the construction of well-defined polymer architectures. **C. Barner-Kowollik**, S. Sinnwell, A. J. Inglis, T. P. Davis, M. H. Stenzel

9:20 —618. Click chemistry to give pegylated pyridine and water soluble ruthenium benzylidene catalysts. D. Samanta, K. kratz, **T. Emrick**

9:45 —619. Folded heteroaromatic backbones based on triazoles: Combining synthetic accessibility with defined conformational preferences. **S. Hecht**, R. M. Meudtner, D. Zornik

10:10 —620. Convergent synthesis of third generation dendrimers. **M. J. Monteiro**

10:35 —621. Synthesis of nanoobjects consisting of reactive polymers. N. Haberkorn, K. Nilles, **P. Theato**

11:00 —622. Click chemistry for the synthesis of functional materials. **R. K. O'Reilly**, A. O. Moughton, T. R. Wilks, L. J. Munuera

11:25 —623. Click chemistry/ATRP combination for the design of poly(acrylic acid) containing polymers and the evaluation of polymeric ligands. **W. Van Camp**, L. Bonami, F. E. Du Prez

Section C

Unknown Site -- Unknown Room
NMR Spectroscopy of Polymers
Novel Systems and Methodologies

A. D. English, H. N. Cheng, T. Asakura, and H. W. Spiess, *Organizers*
A. K. Whittaker, *Presiding*
9:00 —624. Surfactant layers in polymer-clay nanocomposites: A unified picture from EPR and NMR spectroscopy. **G. Jeschke**

9:25 —625. High pressure NMR of polymeric materials. **A. K. Whittaker**, I. Blakey, K. J. Thurecht, O. Squires, K. Varcoe

9:50 —626. Characterizing polymer porosity with ^{129}Xe NMR spectroscopy and microimaging. **J. Ripmeester**, I. Moudrakovski, D. Soldatov, S. Pawsey, R. Anedda

10:15 —627. Characterization of confined polymers with NMR. **A. E. Tonelli**

10:40 —628. New solid-state NMR methodology for probing structure-determining noncovalent interactions. **S. P. Brown**

Section D

Unknown Site -- Unknown Room
Polymeric Materials of Medical Devices
Device-centered Infections and Biofilms
Cosponsored by PMSE
B. D. Ratner and K. E. Uhrich, *Organizers*
9:00 —629. Medical device coatings based on polysiloxanes containing tethered quaternary ammonium salts. **P. Majumdar**, E. Lee, N. Patel, S. J. Stafslien, J. Daniels, C. J. Thorson, B. J. Chisholm

9:30 —630. Synthesis, characterization, and antimicrobial activity of polysiloxane coatings containing tethered levofloxacin moieties. A. J. Kugel, S. J. Stafslien, L. Jarabek, S. M. Ebert, J. Daniels, **B. J. Chisholm**

10:00 —631. Hyperbranched polymer thin films on nanostructured biomaterial surfaces. **M. V. Pishko**

10:30 —632. Multiwell plate, bacterial biofilm screening assay for rapidly evaluating the antimicrobial properties of coatings for biomedical applications. **S. J. Stafslien**, J. Daniels, P. Majumdar, B. J. Chisholm

11:00 —633. Synthesis and antimicrobial activity of quaternary ammonium-functionalized POSS compounds. **P. Majumdar**, E. Lee, N. Gubbins, S. J. Stafslien, J. Daniels, C. J. Thorson, B. J. Chisholm

Section E

Unknown Site -- Unknown Room
Stimuli Responsive Polymers

C. Weder, S. J. Rowan, R. C. Advincula, and O. A. Scherman, *Organizers*
8:30 — Introductory Remarks.

8:35 —634. Controlled self-assembly of amphiphilic peptides. **A. Kros**, H. Robson Marsden

8:55 —635. Facile preparation of pH-responsive branched copolymer nanoparticles. **J. V. M. Weaver**, P. H. Findlay, B. L. J. Royles, A. I. Cooper, S. P. Rannard

9:15 —636. Ion-driven volume transitions in DNA gels. **F. Horkay**, P. J. Basser

9:35 —637. Hydrophilic-oleophobic stimuli-responsive polymers and surfaces. **J. P. Youngblood**, J. A. Howarter

9:55 —638. Photo/thermo switch and molecular binding of bispiro-polymer conjugates. **T. Fujiwara**, D. L. Watkins, K. Fukushima

10:15 — Intermission.

10:25 —639. Salt-responsive polymers for flushable personal care products. **W. C. Bunyard**

10:45 —640. Stimuli-responsive copolymers of vinyl ethers by living cationic polymerization: Well-defined building elements for smart self-assembly. **S. Kanaoka**, S. Aoshima

11:05 —641. Stimuli-responsive polyelectrolyte microcapsules for biomedical applications. **B. G. De Geest**, A. Skirtach, G. Sukhorukov, J. Demeester, S. C. De Smedt, W. E. Hennink

11:25 —642. Thermal release of covalently bound aromatic amines from polymers. **D. R. Robello**, J. H. Reynolds, D. H. Levy, D. T. Southby

11:45 —643. Tuning the crystalline melting point of shell crosslinked nanoparticles. **A. M. Nystrˆm**, K. L. Wooley

Section F

Unknown Site -- Unknown Room
Polymers for Remediation and the Environment
Cosponsored by American Chemistry Council, ENVR, and ENGENV
K. M. Levon and G. Coimbatore, *Organizers*
A. B. Salamone and R. Krebs, *Organizers, Presiding*
8:30 — Introductory Remarks.

8:35 —644. New Orleans soils and sediments: Needs, provisions, and remedies. **H. W. Mielke**

9:05 —645. Environmental pollutants in the Mississippi river/Gulf of Mexico estuary: PAHs, PCBs, and pharmaceuticals. **G. Wang**, P. Ma, Q. Zhang, J. Lewis

9:35 —646. The effects of particle size, coating, and reactivity on cell function. T. Mironava, Z. Pan, N. Elstein, S. Sundaresh, **M. H. Rafailovich**, W. Lee, N. Pernodet

10:05 —647. Polymer-clay nanocomposites that promote bone remediation. **N. Brenner**, R. Patel, A. Ramirez, R. Isseroff, M. Rafailovich, N. Pernodet

10:35 —648. Use of polymers for environmental protection. **E. J. Thibodeaux Jr**

11:05 —649. Bioactive polymer fibers for environmental remediation. Y. Liu, **D. Chidambaram**, R. Malal, D. Cohn, M. Rafailovich

11:35 —650. Polymer-supported metal ion complexants: Synthesis and application to environmental remediation. **S. D. Alexandratos**

Section G

Unknown Site -- Unknown Room
General Papers
Biomaterials and Polymer Synthesis

D. Garcia, *Organizer*
L. del Rosario, *Presiding*
8:30 —651. Preparation and antimicrobial mechanism of modified guanidine polymers. L. Qian, B. He, **H. Xiao**

8:50 —652. Crosslinkable polyelectrolytes for porous, electrospun antimicrobial scaffolds. **M. T. Hunley**, J. M. Layman, T. E. Long

9:10 —653. Improved synthesis and chemical modification of a beta-O-4 artificial lignin polymer. **P. M. Iovine**, D. M. Wallace

9:30 —654. Cholesteric gels from polyguanidines and cyclipolymerization of 1,2-dicarbodiimides. **Y. Zhang**, B. Novak

9:50 —655. Development and characterization of 100% protein fibers from gliadin. **Y. Yang**, N. Reddy, Y. Li

10:10 —656. Treatments for natural and unnatural fibers. **N. Sachinvala**

10:30 —657. Diazo-coupling PEGylation of tyrosine fragments: ATRP macroinitiators to polymer-(poly)peptide conjugates. **M. W. Jones**, G. Mantovani, D. M. Haddleton

10:50 —658. Study of water uptake for biodegradable polymers through experiments and modeling. **L. M. Valenzuela**, B. B. Michniak, D. D. Knight, J. Kohn

11:10 —659. Copolymerization of ethylene and 1-olefins in supercritical carbon dioxide by an electron poor Ni(II) complex. **D. Guironnet**, S. Mecking

11:30 —660. One-step syntheses of alkoxyamine initiators and their corresponding use in nitroxide-mediated polymerization. **A. C. Greene**, R. B. Grubbs

11:50 —661. Epoxy functionalized poly(e-caprolactone): Synthesis and application. **J. Zhou**, W. Wang, S. Villarroya, K. J. Thurecht, S. M. Howdle

THURSDAY AFTERNOON

Section A

Unknown Site -- Unknown Room
Self-healing Polymeric Processes and Materials
Bulk Materials

D. Kiserow, D. Stepp, and B. L. Lee, *Organizers*
2:00 —662. New capsule chemistries for nanoscale self-healing. **A. C. Jackson**, B. J. Blaiszik, D. A. McIlroy, N. R. Sottos, P. V. Braun

2:20 —663. Solvent-based self-healing epoxy materials. **M. M. Caruso**, D. A. Delafuente, V. Ho, N. R. Sottos, S. R. White, J. S. Moore

2:40 —664. Self-healing epoxy composites based on the use of nanoporous silica capsules. J. Kirk, J. C. Moosbrugger, D. J. Morrison, **I. Sokolov**

3:00 —665. Healing behavior of a DGEBA epoxy cured with a cycloaliphatic diamine. A. M. Rahmathullah, **G. R. Palmese**

3:20 —666. Microencapsulation of polyfunctional amines for self-healing of epoxy-based composites. **D. A. McIlroy**, B. J. Blaiszik, P. V. Braun, S. R. White, N. R. Sottos

Section B

Unknown Site -- Unknown Room
Efficient Chemical Transformations in Polymer Chemistry: Click Chemistry and Beyond

B. S. Sumerlin, C. J. Hawker, and J -F. Lutz, *Organizers*
N. V. Tsarevsky, *Presiding*
1:30 —667. Impact of click chemistry strategies on the synthesis of dendritic systems: Chromophore modification and disassembling systems. M. L. Szalai, D. T. Sisk, M. J. Horst, **D. V. McGrath**

1:55 —668. Synthesis of miktoarm star polymers by a combination of RAFT, ROP and click chemistry. **A. Vora**, K. Singh, D. C. Webster

2:20 —669. Bioimmobilization using Huisgen [1,3]-dipolar cycloaddition on vapor-based polymer coatings. **J. Lahann**, H. Nandivada, X. Jiang, A. Panades, A. Bourke, M. Yoshida, H -Y. Chen

2:45 —670. Biodegradable microgels by click chemistry. **B. G. De Geest**, W. Van Camp, F. E. De Prez, J. Demeester, S. C. De Smedt, W. E. Hennink

3:10 —671. Efficent synthesis of poly(3-hexylthiophene) block copolymers using click chemistry. **M. Jeffries-EL**, M. H. Mitchell

3:35 —672. Click chemistry step growth polymerization of novel α-azide-ω-alkyne monomers. S. Binauld, D. Damiron, T. Hamaide, E. Drockenmuller, J -P. Pascault, **E. Fleury**

4:00 —673. Novel mechanically interlocked polymers and materials via click chemistry. **W. R. Dichtel**, W. Zhang, J. M. Spruell, J. R. Heath, J. F. Stoddart

4:25 —674. Novel macromolecules containing sym-tetrazine rings and their subsequent reactions through click modifications. **A. R. Sayed**, J. S. Wiggins

4:50 —675. Grafting carboxylic acids and tertiary amines onto azide-containing aliphatic polyesters. **A. H. Brown**, V. V. Sheares

5:15 —676. Synthesis and characterization of reactive derivates of 4-vinylbenzoic acid. **K. Nilles**, P. Theato

Section C

Unknown Site -- Unknown Room
General Papers
Polymer Synthesis

D. Garcia, *Organizer*
J. Pazos, *Presiding*
1:30 —677. Block copolymer synthesis by a combination of ATRP and RAFT via click chemistry using a high throughput approach. **M. J. Nasrullah**, A. Vora, D. C. Webster

1:50 —678. Aqueous RAFT polymerization of primary amine-based vinyl monomers. **A. H. Alidedeoglu**, A. W. York, C. L. McCormick, S. E. Morgan

2:10 —679. Boronic acid block copolymers prepared by RAFT polymerization. **J. N. Cambre**, D. Roy, S. R. Gondi, B. S. Sumerlin

2:30 —680. New functionalizing quenchers for the ring-opening metathesis polymerization. **S. Hilf**, A. F. M. Kilbinger

2:50 —681. Catch-up kinetics: Selectivity based on equivalent weight in the polymerization of alkylene oxides by double metal cyanide catalysts. J. Pazos, **E. Browne**

3:10 —682. Synthesis of regioregular amphiphilic PPEs. **R. Nambiar**, K. Woody, J. D. Ochocki, D. M. Collard

3:30 —683. Amphiphilic well-defined ABA ruthenium(II)-bis-terpyridine block copolymers. M. Chiper, A. Winter, D. A. M. Egbe, R. Hoogenboom, D. Wouters, S. Hoeppener, C -A. Fustin, J -F. Gohy, **U. S. Schubert**

3:50 —684. Application of the epoxide-activated anionic polymerization to the synthesis of diblock copolymers. S. Carlotti, V. Rejsek, A. LabbÈ, T. Ishizone, K. Sugiyama, A. Hirao, **A. Deffieux**

4:10 —685. Chemical synthesis and characterization of aniline based Pd composites and complexes. **J. Morgan**, N. Millick, D. W. Hatchett

4:30 —686. New boron functionalized norbornene monomer for coordination polymerizations. **K. Seto**, B. M. Novak

4:50 —687. Synthesis and studies of poly(N-vinylcarbazole)-fullerene composites. **P. K. Chinthamanipeta Sripadarao**, D. A. Shipp

5:10 —688. Synthesis soluble crosslinked poly(methyl methacrylate resin-divinylbenzene-natural rubber) by radicals and cationic double active center. **F. Li**, J. Yang, J. Ren, L. Zhong, P. Jiang, X. Gou, Y. Wang, X. Zhou

Section D

Unknown Site -- Unknown Room
Polymeric Materials of Medical Devices
Coatings and Hydrogels
Cosponsored by PMSE
B. D. Ratner and K. E. Uhrich, *Organizers*

2:00 —689. Iron oxide nanoparticles with functional polymer coatings: Contrast agents for magnetic resonance imaging. **E. R. Gillies**, A. L. Martin, L. Bernas, B. K. Rutt

2:30 —690. Tailoring polyethylene's biological capabilities with precisely placed peptidyl branches. J. K. Leonard, T. E. Hopkins, **K. B. Wagener**

3:00 —691. Covalent surface modification of hyaluronice acid hydrogels for biomedical applications. **N. K. Guimard**, S. A. Zawko, C. E. Schmidt

3:30 —692. Mechanical properties of poly (ethylene oxide) macromonomer based hydrogels. **E. L. Bessy**, P. Marmey, O. Gavat, T. Verpoort, P. J. Lutz, C. de Gracia

4:00 —693. Fibrillogenesis of collagen in electrolyte solutions: Effect of salt type and concentration. **Y. Li**, C. E. Catania, E. P. Douglas

Section E

Unknown Site -- Unknown Room
Stimuli Responsive Polymers

C. Weder, S. J. Rowan, R. C. Advincula, and O. A. Scherman, *Organizers*
1:30 — Introductory Remarks.

1:35 —694. Earthworm inspired locomotive motion with hybrid polymer gels. **H. Arora**, L. Yeghiazarian, C. Cohen, U. Wiesner

1:55 —695. Shape memory polymers with built-in threshold temperature sensors. **J. Kunzelman**, T. Chung, P. T. Mather, C. Weder

2:15 —696. Influence of topology and morphology in sulfonated polysulfone transducers. **A. J. Duncan**, S. A. Sarles, D. Griffiths, D. J. Leo, M. P. Cashion, J. M. Layman, T. E. Long, F. L. Beyer, R. H. Colby, D. Fragiadakis, J. Runt

2:35 —697. Light induced change in refractive index: An in depth study of the photo-Fries rearrangement in vinyl and acrylic polymer systems. **G. D. Labenski**, T. W. Smith

2:55 —698. Preparation and spectroscopy of novel Er(III) doped polyurethaneureas for broadband ultraviolet-to-visible conversion. H. Cankaya, R. Kilci, A. Sennaroglu, E. Yilgor, **I. Yilgor**

3:15 — Intermission.

3:25 —699. Thermoelastic response of main-chain liquid crystalline elastomers with varying crosslink density. **K. A. Burke**, P. T. Mather

3:45 —700. Cancer-targeted nuclear localization nanoparticles for drug delivery. **Y. Shen**, P. Xu, E. A. Van Kirk, W. J. Murdoch, M. Radosz

4:05 —701. Photochemically cured biodegradable shape-memory polymers. **B. F. Pierce**, V. V. Sheares

4:25 —702. Photonic shell-crosslinked nanoparticle probes for optical imaging and monitoring. **N. S. Lee**, W. L. Neumann, J. N. Freskos, T. A. Marzan, J. J. Shieh, R. B. Dorshow, K. L. Wooley

4:45 —703. Modified poly(vinyl alcohol) as thermal-responsive polymer for layer-by-layer assembly. Y. Pan, **H. Xiao**, H. Lu, G. Zhao, B. He

Section F

Unknown Site -- Unknown Room
Polymers for Remediation and the Environment
Cosponsored by American Chemistry Council, ENVR, and ENGENV
A. B. Salamone and R. Krebs, *Organizers*
G. Coimbatore and K. M. Levon, *Organizers, Presiding*
1:30 —704. Microbial decontamination of water using heterogeneous catalyst based Fenton's reaction. **V. Shah**, A. Angelov, M. Hill

2:00 —705. N-succinyl-chitosan and crosslinked n-succinyl-chitosan as novel absorbents toward metal ions. S. Sun, A. Wang, B. He, **H. Xiao**

2:30 —706. Surfactant modified membranes for the separation of oil-in-water emulsions. **J. A. Howarter**, J. P. Youngblood

3:00 —707. Plastics and energy usage: Remediation and sustainability. **R. Krebs**

3:30 —708. Applications of recyclable polymeric materials in light frame construction to mitigate environmental damage in extreme events. **V. Gopu**

4:00 —709. New polymer systems from Baylis-Hillman chemistry and biorenewable feedstocks. P. Venkitasubramanian, **E. C. Hagberg**, P. D. Bloom

4:30 —710. Environmental solutions through chemical up cycling. **K. F. Miller**

5:00 —711. Polymer design using green chemistry principles: Importance of the radical cage effect in polymer photodegradation reactions. **D. R. Tyler**, B. C. Daglen