

2002 Spring Meeting

2002 SPRING NATIONAL ACS MEETING

Orlando, FL (April 7-11, 2002)

Program Meeting Chair: [Carrington Smith](#)

Abstract/Preprint Deadline: Nov. 18, 2001

Polymer Diffraction Methods

Ken Gardner, Dupont CR&D, P.O. Box 80356, Experimental Station, Wilmington, DE 19880-0356; (302) 695-2408, FAX (302) 695-8207, kenn.h.gardner@usa.dupont.com; John Blackwell, Case Western Reserve U., Macromolecular Science Dept., 2100 Adelbert Rd., Cleveland, OH 44106-7202; (216) 368-6370, FAX (216) 368-4202, jxb6@po.cwru.edu

Self-assembled Photonic Bandgap Materials (cosponsored by PMSE and Society of Plastics Engineers)

E. L. Thomas, Department of Materials Science and Engineering, M. I. T., 13-5094, Cambridge, MA 02139; (617) 253-6901; (617) 258-6175 (secretary); FAX (617) 258-6135; elt@mit.edu; Nitash Balsara, Department of Chemical Engineering, University of California, Berkeley, 201 Gillman Hall, Berkeley, CA 94720-1462; (510) 642-8973, nbalsara@cchem.berkeley.edu.

Chemistry and Engineering of Polyolefins (cosponsored by PMSE and Society of Plastics Engineers)

R. Campbell, Jr., Dow Chemical Co., Bldg 1776, D-3, Midland, MI 48674, (989) 636-3764, FAX (989) 638-9350, recjr@dow.com; Jasson Patton, Dow Chemical Co., Bldg 1776, D-3, Midland, MI 48674, (989) 636-1978, FAX (989) 638-9350, jtpatton@dow.com.

Chromogenic Phenomena in Polymers: Tunable Optical Properties

Samson A. Jenekhe, Dept. of Chemical Engineering, University of Washington, Box 351750, Seattle, WA 98195-1750; (206) 543-5525, FAX (206) 685-3451, jenekhe@cheme.washington.edu; Douglas J. Kiserow, Army Research Office, P.O. Box 12211, Research Triangle Park, NC 27709-2211; (919) 549-4213, FAX (919) 549-4310 or 4399, Kiserow@aro.arl.army.mil.

2002 ACS Polymer Division P.J. Flory Award in Polymer Education Honoring Ulrich Suter

Paul Smith, Department of Materials, ETH Zurich, ETH Zentrum, UNO C 15, Universitätsstrasse 41, CH-8092 Zurich Switzerland, psmith@ifp.mat.ethz.ch, Phone: +41 1 632 27 05 (Fax +41 1 632 11 78).

2002 ACS Award in Applied Polymer Science Honoring James E. McGrath

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); Lloyd M. Robeson, Corporate Science and Technology Center, Air Products and Chemicals, Inc, 7201 Hamilton Blvd, Allentown, PA 18195-1501, robcsolm@apci.com, Phone: 610-481-5026 (Fax 610-481-6517); Donald R. Paul, Chemical Engineering Department, University of Texas, 26th and Speedway, C0400, Austin, TX 78712, drp@che.utexas.edu, Phone: 512-471-5392 (Fax 512-471-0542).

2002 ACS Award in Polymer Chemistry Honoring Krzysztof Matyjaszewski sponsored by ExxonMobil Chemical Company

Guy C. Berry, Department of Chemistry, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213, gcberry@andrew.cmu.edu, Phone: 412-68-3131 (Fax 412-68-6897); Tomasz Kowalewski, Department of Chemistry, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213, tomek@andrew.cmu.edu, Phone: 412-268-5927 (Fax 412-268-6897).

General Papers

POLY DIVISION PROGRAM

This program is NOT final until published by ACS.

2002 Spring Meeting

Final Program, 223rd ACS National Meeting--Orlando, Florida (April 7-11, 2002)

C. D. Smith, Program Chair

SUNDAY MORNING

Section A

Unknown Site
Unknown Room

2002 ACS Award in Polymer Chemistry Honoring Krzysztof Matyjaszewski sponsored by ExxonMobil Chemical Company

I

T. Kowalewski, *Organizer*

G. C. Berry, *Organizer, Presiding*

8:30 – 1. Transition metal-catalyzed living radical polymerization: Scope, catalyst design, and precision polymer synthesis **M. Sawamoto**, M. Kamigaito, T. Ando

9:00 – 2. Self-crosslinkable acetal functionalized latexes and film properties. **J. Vairon**, F. Mazuel, B. Charleux, C. Bui, K. Luyen, C. Vergé

9:30 – 3. Applications for the CO₂ Technology Platform. **J. M. DeSimone**

10:00 – 4. Using ATRP to Create Morphologically Controlled Conducting Polymer Nanowires. **R. D. McCullough**

10:30 – 5. Novel Nanostructured Carbon Materials through Self-Assembly in Well-Defined Copolymers. **T. Kowalewski**

11:00 – 6. Copolymers with various molecular architectures. **T. Pakula**

11:30 – 7. Template polymerization of monodendritic monomers. **M. Möller**, X. Zhu, U. Beginn

Section B

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Unknown Room

General Papers

Polymer Characterization I

D. Garcia, *Organizer*

C. S. Patrickios, *Presiding*

8:00 – 8. The theoretical approach of the relationship between sound absorption coefficient of polymeric materials and its loss factor, and sample thickness **J. Wang**, X. Yu, Y. Meng, J. Zhang, H. Zhang

8:20 – 9. Topological reorganization of star-shaped polymers. **L. Kilian**, Z. Wang, A. R. Esker, T. E. Long

8:40 – 10. Toughening styrene maleic anhydride copolymers with SBS and MBS. **R. Wang**, W. Wang

9:00 – 11. Trapping of the carbon radicals generated by thermolysis of the styrene dimer mimics, 1,2,3,10a-tetrahydrophenanthrene-1,2-dicarboxylic anhydride and 2,3,4,4a-tetrahydrophenanthrene-3,4-dicarboxylic anhydride B. A. Howell, **J. J. Powers**, P. J. Squattrito, D. B. Priddy

9:20 – 12. Development of renewable resource based bioplastic: Effect of eco-friendly citrate plasticizer on the performance of cellulosic plastic. A. K. Mohanty, L. T. Drzal, A. Wibowo, **M. Misra**

9:40 – 13. Enthalpic and entropic consequences of photochromic cross-links in thermo-responsive hydrogels of poly(N-isopropylacrylamide). **V. K. Gupta**, M. Kang

10:00 – 14. Fire-resistant, UV/Visible sensitive polyarylates and copolymers **H. Zhang**, E. B. Coughlin, P. R. Westmoreland, R. J. Farris, A. Plichta, Z. K. Brzozowski

2002 Spring Meeting

10:20 – 15. Heteropolyacid/Sulfonated Poly(Arylene Ether Phosphine Oxide) Copolymer Composite Membranes. **Y. S. Kim**, F. Wang, M. Hickner, J. E. McGrath, T. A. Zawodzinski

10:40 – 16. Nano-engineered model networks: Synthesis, characterization and modeling T. Georgiou, E. Themistou, A. I. Triftaridou, S. C. Hadjiyannakou, M. Vamvakaki, **C. S. Patrickios**

11:00 – 17. Surface plasmon resonance study of photocrosslinkable hydrogels. **M. E. Harmon**, D. Kuckling, C. W. Frank

11:20 – 18. Surface vs. bulk competition in various alkane nanoparticles **R. Ozisik**, W. L. Mattice

11:40 – 19. Functionalized polysiloxanes as fine dispersants for metal particulates. **J. K. Hoyt**, Y. Kim, J. E. McGrath, J. S. Riffle

Section C

Unknown Site

Unknown Room

Self-assembled Photonic Band Gap Materials

Tutorial

N. P. Balsara, *Organizer*

E. L. Thomas, *Organizer, Presiding*

9:00 – 20. Interaction between radiation and matter. **B. A. Garetz**

9:40 – 21. Introduction to the propagation and scattering of light. **D. J. Pine**

10:20 – 22. Realization of photonic band gap structures. **E. L. Thomas**

Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications

Overview and Characterization

Cosponsored with Division of Colloid and Surface Chemistry

See Page X

SUNDAY AFTERNOON

Section A

Unknown Site

Unknown Room

2002 ACS Award in Polymer Chemistry Honoring Krzysztof Matyjaszewski sponsored by ExxonMobil Chemical Company

II

G. C. Berry, *Organizer*

T. Kowalewski, *Organizer, Presiding*

1:30 – 23. Catalysis in Polymer Science. **B. M. Novak**

2:00 – 24. A novel approach to 3-dimensional dendritic-like macromolecules. E. M. Harth, B. A. Van Horn, D. S. Germack, C. Gonzales, **C. J. Hawker**

2:30 – 25. Polymer Synthesis with Transition metal complexes. **R. H. Grubbs**

3:00 – 26. Functional dendrimers: From synthesis to applications. **J. M. J. Frechet**

3:30 – 27. Control of macromolecular architecture via expression of artificial genes. **D. A. Tirrell**

4:00 – 28. The Role of Reversible Deactivation of Growing Species in the Polymerization Processes. **S. Penczek**

4:30 – 29. Award Address (ACS Award in Polymer Chemistry, sponsored by ExxonMobil Chemical Co). Macromolecular Engineering by Controlled/Living Ionic and Radical Polymerization **K. Matyjaszewski**

Unknown Site
Unknown Room

General Papers

Polymer Characterization II

D. Garcia, *Organizer*
G. Biresaw, *Presiding*

1:30 – 30. Interfacial volume phase transition hysteresis of thermoresponsive core-shell hydrogel nanoparticles. **D. Gan**, L. A. Lyon

1:50 – 31. Kinetics studies of hybrid structure formation by controlled photopolymerization. **Y. Lin**, J. W. Stansbury

2:10 – 32. Modeling average properties of star-branched polymers. **L. Shiau**

2:30 – 33. The effect of ion-incorporation on segmental orientation of polymer chains and guest / host interactions in oriented polymer/dye systems. **B. Pan**, R. B. Moore

2:50 – 34. The impact of the presence of head-to-head units on the thermal stability of poly(styrene). **B. A. Howell**, Y. Cui, D. B. Priddy

3:10 – 35. Thermal Decomposition of Styrene Dimer Mimics Derived From Vinyl naphthalenes. B. A. Howell, **J. J. Powers**, D. B. Priddy

3:30 – 36. Tunable kinetics of core-shell microgel volume phase transitions. **L. A. Lyon**, D. Gan, C. D. Jones, J. Wang, M. A. El-Sayed

3:50 – 37. Use of SAXS to Characterize the Compatibility of Poly(methyl methacrylate-butyl acrylate)/Polystyrene Soap-free Core-shell LIPN. J. Jin, M. Sun, H. Li, **J. Wang**

4:10 – 38. Interfacial tension of Eastar Bio Copolyester 14766/polystyrene blends. **G. Biresaw**, C. J. Carriere

4:30 – 39. Small-angle neutron scattering from strongly charged polyacrylate hydrogels in physiological salt solutions. **F. Horkay**, P. J. Basser, A. Hecht, E. Geissler

4:50 – 40. Structure and dynamics of liquid silk studied by pulse NMR. **M. Kobayashi**, T. Tanaka, S. Inoue, H. Tsuda, Y. Magoshi, J. Magoshi

5:10 – 41. Chain Conformation, Dynamics, and Morphology of Adsorbed Random Copolymers **V. Nasreddine**, L. Reven
Section C

Unknown Site
Unknown Room

Self-assembled Photonic Band Gap Materials

I

E. L. Thomas and N. P. Balsara, *Organizer*
A. J. Ryan and Y. Xia, *Presiding*

1:00 – 42. Designing composite colloidal particles for photonics. **D. J. Pine**

1:40 – 43. Irrational self-assembly: 3-D array of holes in a polymer film. **M. Srinivasarao**, J. O. Park

2:20 – 44. Photonic Bandgap Composites Based On Crystalline Colloidal Arrays. **S. H. Foulger**, P. Jiang, A. C. Lattam, Y. Ying, D. W. Smith Jr.

2:40 – Intermission.

3:00 – 45. Phase stability in ternary blends for photonics. **A. J. Ryan**, C. Salou, L. Messe, L. Corvazier, J. P. A. Fairclough, R. N. Young

2002 Spring Meeting

3:40 – 46. Photonic band gap structures in polymers via self-assembly of block copolymers. **S. A. Jenekhe**

4:20 – 47. Toward photonic crystals from crosslinked block copolymers. **N. P. Balsara, H. Hahn**, H. Eitouni

4:40 – 48. Optical properties of block copolymer based metallodielectric photonic crystals. **M. R. T. Bockstaller**, E. L. Thomas

5:00 – 49. Three dimensionally periodic block copolymer photonic crystals. **A. M. Urbas**, E. L. Thomas, M. Maldovan, W. C. Carter

Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications

Colloids

Cosponsored with Division of Colloid and Surface Chemistry

See Page X

SUNDAY EVENING

Section A

Unknown Site

Unknown Room

General Papers

Polymer Characterization

D. Garcia, *Organizer*

6:00 - 8:00

50. Molecular weight distributions in coexisting liquid phases of polystyrene in methylcyclohexane. R. S. Shresth, **S. C. Greer**

51. Electronic communication between polypyrrole and surface-anchored ferrocene. T. W. Hanks, **D. Zhang**

52. Polyamide fiber surface induced synthesis of calcium carbonate polymorphs. S. Valiyaveetil, **L. Rajamani**

53. Crystal structures of new polymeric (4,5-diaza-fluoren-9-one)Cu(I) complexes **S. Padhye**, P. Kulkarni, C. E. Anson, A. K. Powell, E. Sinn

54. Encapsulation of Fluorescent Dye in Self-assemblies of Carboxylic Diacids on PPI Dendrimer Templates. A. K. Holley, D. He, R. Morgan, **M. Chai**

55. Impact of the Presence of Acid on the Thermal Decomposition of the Styrene Dimer Mimics, 1,2,3,10a-Tetrahydrophenanthrene-1,2-dicarboxylic Anhydride and 2,3,4,4a-Tetrahydrophenanthrene-3,4-dicarboxylic Anhydride. B. A. Howell, **J. J. Powers**, D. B. Priddy

56. Synthesis and Structure Determination for Styrene Dimer Mimics Derived from Vinylnaphthalenes. B. A. Howell, **J. J. Powers**, D. B. Priddy

57. Swelling behavior and morphology of interpenetrating polymer network hydrogels based on poly(vinyl alcohol) and poly(acrylamide) used as matrices for cell immobilization. M. E. Calixto, **J. Romero**, J. E. Angulo-Sanchez, D. Zaragoza, S. Solis

58. ¹²⁹Xe NMR of Adsorbed Random Copolymers. **V. Nasreddine**, S. Chijiwa, L. Reven

59. α -Iminoenamido ligands: A Novel structure for transition metal activation. **B. Y. Lee**, **Y. H. Kim**, T. H. Kim, G. C. Bazan, D. H. Woodmansee, X. Bu

60. An electroactive indicator. **L. Chen**, H. Wang, Y. Yu, H. Mao, Z. Wu, W. Zhang, C. Wang, Y. Wei

61. Amorphous poly(ethylene terephthalate): Norbornane comonomers. **K. R. Saliba**, D. M. Connor, D. A. Schiraldi, D. M. Collard

2002 Spring Meeting

62. Blue electroluminescence from poly{1-phenyl-1[5-(b-naphthoxy)pentynes]}. Z. L. Xie, J. W. Y. Lam, J. Chen, C. Qiu, M. Wong, H. S. Kwok, **B. Z. Tang**
63. Charge/distance effect on the glass transition temperatures of poly(ethyl acrylate) ionomers. **S. Kim**, J. Kim, C. Shin
64. Conductive polymer blend composites for corrosion inhibition. C. Vang, **M. Dewald**, J. He, A. Richter, D. E. Tallman, G. P. Bierwagen
65. Contact molding for nanoscopic pattern transfer. **K. R. Carter**, B. D. Terris, M. E. Best, M. W. Hart, C. T. Rettner, G. M. McClelland
66. Deep curing via near-IR two-photon induced thiol-ene polymerization. **K. D. Belfield**, K. J. Schafer
67. Different behavior of elution profile of silk fibroin on existence of calcium ion and potassium ion. **H. Tsuda**, M. Kobayashi, T. Tanaka, S. Inoue, Y. Magoshi, J. Magoshi
68. Effect of inorganic salt on drawing of silk fibroin. **T. Tanaka**, M. Kobayashi, H. Tsuda, S. Inoue, Y. Magoshi, S. Nakamura, J. Magoshi
69. Effect of polymer-surface mobility on adhesion in poly(methyl acrylate)-tape system. **B. C. Gandhi**, F. D. Blum, L. R. Dharani
70. Effect of Spacer Length on Blue electroluminescence of Poly (1-Phenyl-1-Alkynes) Bearing Carbazole Moieties. Z. L. Xie, J. W. Y. Lam, J. Chen, Y. Dong, C. F. Qiu, M. Wong, H. S. Kwok, **B. Z. Tang**
71. Effect of the amount of diacetone acrylamide on the properties of styrene-acrylic copolymer latexes and their films. H. Li, **C. Kan**, Y. Du, D. Liu
72. Electrorheological behavior of the suspension based on chitosan succinate as the disperse phase. **U. S. Choi**, Y. G. Ko, Y. S. Park
73. Entrapment and Release Property of Rigid Macrocyclic Oligomer/Keggin Heteropoly Acid System. **T. Ben**, X. Wang, T. Zhang, H. Cao, Z. Wu, W. Zhang, Y. Wei
74. Formation of colloidal particles of styrene random ionomers studied by a fluorescence technique. J. Kim, J. Kim, **H. Oh**, J. Yu
75. Glass transitions in miscible ionomer blends of poly(2,6-dimethyl-1,4-phenylene oxide) ionomers mixed with three different styrene ionomers **M. Kim**, H. S. Jeon, J. Kim, J. Yoo
76. In situ investigations on electrochemical deposition and properties of polyaniline ultrathin films: Electrochemical-surface plasmon resonance spectroscopy using two wavelengths. F. D. Stefani, **A. Baba**, W. Knoll, C. Xia, R. Advincula
77. Influence of alkali/acid treatment conditions on the generation of nanosize pores inside poly(styrene-ethyl acrylate-acrylic acid) latex particles. **C. Kan**, P. Zhao, Y. du, D. Liu
78. MALDI -TOF mass spectrometry of acyclic diene metathesis polymers. **V. Petkovska**, D. Powell, K. Wagener
79. Mechanical properties and morphology of PC/UHMWPE blends with HDPE-g-GMA as a compatibilizer. **F. Yang**, **Y. Zhao**, Q. Gao
80. Mechanical Properties and Water Vapor Transport Properties of Sulfonated Block Copolymers. **J. M. Sloan**, D. M. Crawford, Y. Elabd, E. G. Napadensky, W. Zukas, C. E. Kendrick
81. Mechanical properties of styrene-co-methacrylate and ethyl acrylate-co-acrylate ionomers containing sodium hexanoate. J. Kim, J. Kim, **S. Jarng**
82. Melt-rheology Properties of Polypropylene/Ethylene-Vinyl Acetate/Zelite Blend. Y. Yan, Y. Zhao, **G. You**, J. Chen
83. Method for determination of the elastic modulus of thin polymer gels using the atomic force microscope. E. K. Dimitriadis, **F. Horkay**, J. Maresca, B. Kachar, R. S. Chadwick

2002 Spring Meeting

- 84.** Micellization of π -type copolymers in a selective solvent: A Monte Carlo simulation. W. H. Jo, J. Huh, S. H. Kim, **K. H. Kim**
- 85.** Miscibility of poly(ethyl acrylate-co-acrylate) ionomers with poly(ethyl acrylate-co-itaconate) ionomers. J. Song, H. S. Jeon, **J. Kim**
- 86.** Monodisperse core-shell molecularly imprinted polymer microspheres. **Y. Chen**, K. D. Shimizu
- 87.** Monte Carlo simulation of deformation of a poly(vinylidene fluoride) chain under electric fields. **Y. Chen**, C. Shew, H. Fynewever
- 88.** NMR Study of Self-assembled Inverse Micelles from PPI Dendrimer Templates. **D. He**, A. K. Holley, M. Chai
- 89.** Novel fluorinated poly(aryl ether)s with low dielectric constants. B. Liu, W. Hu, C. Chen, G. Wang, Z. Jiang, W. Zhang, **Z. Wu**
- 90.** Novel preparation and characterization of activated carbon fiber. **Y. G. Ko**, U. S. Choi, J. S. Kim, D. J. Ahn
- 91.** Oxidized Transport Layer: A Stable Semiconducting Polymer with Controlled Conductivity. **B. Hsieh**
- 92.** Photoprocessibility of photoinduced surface-relief-gratings for polymers containing methyl substituted azo chromophores. Y. He, **X. Wang**
- 93.** Polystyrene layers grafted from melt to a functionalized silicon surface. **K. S. Iyer**, V. Klep, I. Luzinov
- 94.** Properties of controllable crosslinking poly(aryl ether ketone)s. X. Liu, C. Chen, H. Cao, **T. Ben**, W. Zhang
- 95.** Release of Tetracycline Hydrochloride from Electrospun Polymers. **E. Kenawy**, G. L. Bowlin, K. Mansfield, J. Layman, E. Sanders, D. G. Simpson, G. E. Wnek
- 96.** Self-assembled heterocycle-based films. Evidence of the high donor efficiency of the pyrrol-2-yl group in push-pull chromophores **A. Facchetti**, A. Abboto, L. Beverina, M. E. van der Boom, T. J. Marks, G. A. Pagani
- 97.** Self-consistent calculation of geometry and spin density of an iron oxide nanoparticle in acid surfactants. **M. B. Pomfret**, **C. Shew**, N. Yang, A. Ulman
- 98.** Shear-induced stabilization of the nematic phase in a side group-containing poly(aryl ether ketone) copolymer. J. Ma, **H. Wang**, H. Sun, **L. Chen**, C. Chen, Z. Wu
- 99.** Small-angle X-ray scattering study on poly(ethyl acrylate-co-itaconate) ionomers neutralized with various cations. **J. Song**, S. Kim, J. Kim
- 100.** Solid-state NMR investigations of Crown Ether/Polystyrene blends. H. W. Beckham, **T. Zhao**
- 101.** Structure and characterization of a novel fluorine-containing epoxy resin. C. Zhang, **H. Na**, J. Cao, J. Mu, C. Liu, Z. Liang, X. Li, S. Liang, Z. Jiang, Z. Wu
- 102.** Study of modified polysulfone/polybenzimidazole composites and their application as microcellular foams. **H. Sun**, N. Venkatasubramanian, M. D. Houtz, J. E. Mark, F. E. Arnold
- 103.** Study on degradation of PET in supercritical ethylene glycol. H. Wang, **L. Chen**, X. Liu, Y. Zheng, Z. Wu, Y. Zhou
- 104.** Study on Lung Targeting Erythromycin-poly(DL-lactic acid) Microspheres. Y. Bing, Z. Yao Ming, **M. Hang Zhen**, W. Zhao Yang, Y. Fan
- 105.** Swelling kinetics of polyacrylate gel beads in physiological salt solutions. **F. Horkay**, K. Haselkorn, I. Tasaki, P. J. Basser
- 106.** Synthesis and characterization of silk-like polyurethanes with main-chain liquid crystalline soft segments. **G. S. Pollock**, P. T. Hammond

2002 Spring Meeting

107. Tetrafluorophenols: New functional structures for 157 nm lithography. **Y. Kwark**, K. Douki, V. Vohra, X. Liu, W. Conley, P. Zimmermann, C. Ober

108. The influence of surface modification and compatibilization on the performance of natural fiber reinforced biodegradable thermoplastic polyester composite. **D. Hokens**, A. K. Mohanty, M. Misra, L. T. Drzal

109. Thermogravimetric Studies of PMMA on Silica. **B. Zhang**, F. D. Blum

110. Toward crown ether containing semifluorinated polyarylene amides for lithium battery membranes. **C. M. Topping**, J. Jin, S. C. Ligon, A. V. Patil, D. W. Smith Jr., S. Fallis, J. A. Irvin, D. D. DesMarteau

111. Dye sensitized formation of graft copolymers of poly(ethylene glycol) diacrylate-BSA hydrogels in the presence of visible light. **I. A. Banerjee**, G. A. Epling

Section B

Unknown Site

Unknown Room

General Papers

Polymer Synthesis

D. Garcia, *Organizer*

6:00 - 8:00

112. Synthesis of an amphiphilic styrenic block copolymer. **R. C. Tsiang**, G. Shen

113. Synthesis and Characterization of Controlled Molecular Weight Poly(arylene ether sulfone) Copolymers Bearing Sulfonate Groups by Endgroup Analysis. **F. Wang**, T. E. Glass, X. Li, M. Hickner, Y. Kim, J. E. McGrath

114. Synthesis and characterization of fluorinated terpolymers. K. D. Belfield, **G. G. Abdel-Sadek**, J. Huang, R. X. Ting

115. Synthesis and characterization of telechelic and random poly(ethylene terephthalate) ionomers. **Q. Lin**, N. Gariano, P. H. Madison IV, Z. Wang, V. K. Long, T. E. Long, S. Armentrout

116. Synthesis and properties of arm- or core-functionalized star-shaped polymers. **S. Kanaoka**, C. Koyama, S. Nakata, H. Yamaoka

117. Synthesis and self-assembly of poly(ferrocenylphenylphosphine) diblock copolymers: Formation of spherical micelles with an organometallic core. **L. Cao**, M. A. Winnik, I. Manners

118. Synthesis of high molecular weight telechelic poly(1,3-cyclohexadienes) **D. T. Williamson**, C. L. Hudelson, T. E. Long

119. Synthesis of well-defined chromophore-containing polymers via RAFT polymerization. **D. A. Shipp**, M. Skasko

120. Copolymers of MMA and Polyhedral Oligosilsequioxanes. **J. Xiao**, F. J. Feher

121. Design of monomeric and polymeric sulfur based materials. **A. S. Abd-El-Aziz**, S. L. McFarlane, T. H. Afifi, T. C. Corkery

122. Heterocycles as Protecting Groups: Hydrogenation Routes to Amine Block Copolymers. **Y. Aoyama**, B. M. Novak

123. Lipase-Catalyzed Chemo- and Diastereo selective Synthesis of Novel Sugar Based Macromer. **R. Kumar**, R. A. Gross

124. Investigation of chemoselectivity and regioselectivity in anionic ring-opening polymerization of cyclotetrasiloxanes. - *Abstract Text not Available* **C. J. Teng**, W. P. Weber

125. Synthesis of hyperbranched poly(ether-ketone) containing quinoxaline moiety from an AB₂ monomer in polyphosphoric acid/P₂O₅. **J. Baek**, L. Tan

126. Synthesis of liquid-crystalline poly(aryl ether ketone)s. B. Liu, D. Wang, W. Hu, **Z. Jiang**, W. Zhang, Y. Yang, Z. Wu

127. Synthesis of novel liquid crystalline polymer with perfluorinated alkyl side groups. **B. G. Kim**, J. Lee, E. Lee

2002 Spring Meeting

- 128.** Synthesis of novel polymeric/ceramic composites as potential bone substitutes. **K. A. Boduch**, T. Chapman, K. Marra, S. Petricca, P. Kumta
- 129.** Synthesis of novel thermotropic liquid-crystalline poly(aryl ether ketone)s with (3-methyl)phenyl side groups. B. Liu, D. Wang, W. Hu, Y. Jin, X. Rao, Z. Jiang, W. Zhang, **Z. Wu**
- 130.** Synthesis of ordered mesoporous material with crystalline microporous framework. **Y. K. Kwon**, G. Kim, B. D. Choi, D. H. Kim
- 131.** Synthesis of PLLA(I): Direct melt polycondensation of L-lactic acid. **M. Hangzhen**, Z. Yaoming, W. Zhaoyang, Y. Bing
- 132.** Synthesis of PLLA(II): Post-polycondensation of poly(L-lactic Acid). W. Zhaoyang, Z. Yaoming, **M. Hangzhen**, W. Jun, Y. Bing
- 133.** Synthesis of poly(2,5,5-trimethyl-2-trimethylsilyloxy-1-oxa-2,5-disila-1,5-pentanylene) by anionic ring opening polymerization (AROP) of 2,5,5-trimethyl-2-trimethylsilyloxy-1-oxa-2,5-disilacyclopentane **G. Cai**, W. P. Weber
- 134.** Synthesis of poly(aryl ether nitrile)s with fluorinated pendant groups. Y. Jin, W. Hu, B. Liu, X. Rao, **Z. Jiang**, Z. Wu
- 135.** Synthesis of poly(ether-ketones) and a poly(ether-sulfone) using polyphosphoric acid/P₂O₅ as polymerization medium. **J. Baek**, L. Tan
- 136.** Synthesis of poly(pentafluorostyrene) via atom transfer radical polymerization. **A. M. Granville**, W. J. Brittain
- 137.** Synthesis of poly(vinyl alcohol-b-styrene) block copolymer by consecutive telomerization, ATRP, and saponification **C. G. Cho**, G. H. Li
- 138.** Synthesis of polymeric salen complexes and application in the enantioselective reactions as catalysts. **G. Kim**, Y. K. Kwon, D. Park
- 139.** Synthesis of polyphosphonium salts. **H. Ghassemi**, J. E. McGrath
- 140.** Synthesis of poly[3-(2-thiophenecarbonyl)-2,5-thiophene] via nickel(0)-catalyzed coupling **E. C. Hagberg**, V. V. Sheares
- 141.** Synthesis of side-chain polymers with hydrogen bonding recognition sites via ROMP of norbornenes bearing diaminotriazine groups. **L. P. Stubbs**, J. Adams, M. Weck
- 142.** Synthesis of well-defined (1 \rightarrow 6)- α -D-glucopyranan by ring-opening polymerization of 1,6-anhydro-2,3,4-tri-O-allyl- β -D-glucopyranose using triflates **M. Mori**, A. Kusuno, T. Satoh, H. Kaga, M. Miura, K. Tsuda, T. Kakuchi
- 143.** Synthesis, characterization and properties of tethered ABA type triblock copolymer brushes of styrene and methyl acrylate **S. G. Boyes**, W. J. Brittain, X. Weng, S. Z. D. Cheng
- 144.** Synthesis, light emission, and optical limiting of hyperbranched polyarylenes **H. Peng**, **L. Cheng**, **J. Luo**, **K. Xu**, **B. Z. Tang**
- 145.** The Hydrogel Prepared from Cationic Copolymer - 2. **Y. Zhong**, **J. Jachowicz**
- 146.** The preparation and properties of containing an oligo-phenylene vinylene derivative self-assembled multilayer film and sol-gel composite film. **J. Tang**, L. An, X. Yu, G. Zhang, B. Yang, M. Jiang
- 147.** Trifluoromethylated aromatic poly(ether sulfone)s. W. Hu, B. Liu, J. Zhou, **Z. Jiang**, W. Zhang, Z. Wu
- 148.** Unsymmetrical poly(silyl ether)s by ruthenium catalyzed polymerization of ω -dimethylsilyloxy ketones. **J. M. Mabry**, W. P. Weber
- 149.** Use of precipitons for copper removal in atom transfer radical polymerization. **M. E. Pallack**, W. J. Brittain, T. Bosanac, C. S. Wilcox

2002 Spring Meeting

150. Vacuum deposition of ultrathin polymer films to substrate surfaces: Post-deposition grafting with photoreactive groups. **T. Fulghum**, A. Prussia, H. Usui, A. Katayama, K. Tanaka, R. Advincula
151. Vinylene-linked donor-acceptor polymers. **L. G. Madrigal**, J. R. Reynolds, M. Pinto, K. S. Schanze
152. Aqueous atom transfer radical polymerization from gold surfaces. W. Huang, M. L. Bruening, **G. L. Baker**
153. Characterization of Reversible Polymerization Utilizing DNA Base Pairing. E. A. Fogleman, V. R. Kempf, **S. L. Craig**
154. Convenient synthesis of hyperbranched polyarylenes by copolycyclotrimerization. **L. Cheng, H. Peng, J. Luo, B. Z. Tang**
155. Design and synthesis of coordination polymer gels ("metallogeles"). B. Xing, M. Choi, Z. Y. Zhou, **B. Xu**
156. Enantiomer-selective polymerization of (*RS*)-(phenoxyethyl)thiirane using ZnEt₂/L-amino acid. **T. Imai**, T. Satoh, T. Kakuchi
157. Enantiomer-selective radical cyclopolymerization of *rac*-2,4-pentanediy dimethacrylate using chiral bipyridine **M. Tsuji**, R. Sakai, T. Satoh, H. Kaga, T. Kakuchi
158. Enzymatic Approach for the Synthesis of a Functionalised Amphiphilic Polymer using Candida Antarctica Lipase (CAL). N. A. Shakil, **M. Chen**, V. S. Parmar, A. C. Watterson, R. Kumar
159. Fabrication of hollow polystyrene nanosphere in microemulsion polymerization using triblock copolymer. J. Jang, **H. Ha**
160. Fabrication of optically transparent PMMA/silica hybrid using in-situ sol-gel process. J. Jang, **J. Ha**
161. Graft polymerizations initiated from patterned polymer surfaces. K. R. Carter, **T. A. von Werne**, C. Hawker, D. Germack
162. Grafting of high-density poly(ethylene glycol) brush to poly(glycidyl methacrylate) monolayers. **B. Zdyrko**, V. Klep, I. Luzinov
163. Homo- and co-fluorinated acrylic ester polymers: synthesis, characterization, and coating onto silicon surfaces K. D. Belfield, **G. G. Abdel-Sadek**
164. In situ Generation of Polyaniline in Poly(dimethylsiloxane) Networks. **S. Murugesan**, G. Sur, G. Beaucage, J. E. Mark
165. Inhibition of enzymatic ring opening polymerization of caprolactone and pentadecalactone by lactide. **B. Kalra**, M. Kunioka, A. Kumar, R. A. Gross
166. Investigation on effect of cmc₀ and cmc_w on emulsification process of polymers. **H. Wang**, D. Liu
167. Kinetics of acyclic diene metathesis with ruthenium olefin metathesis catalysts. **S. E. Lehman Jr.**, K. B. Wagener
168. Lipase-catalyzed synthesis of olefin end-functionalized polyester macromers. **B. Kalra**, A. Kumar, R. A. Gross
169. Living anionic surface initiated polymerization (LASIP): synthesis and characterization of Block Copolymers. **M. Park**, G. Sakellariou, S. Pispas, N. Hadjichristides, J. Mays, R. Advincula
170. Metal Catalyzed Bis-Ortho-Diynyl Arene (BODA) Polymerization. **P. U. Perera**, T. Floyd, D. W. Smith Jr.
171. Methylated and trifluoromethylated aromatic poly(ether ether ketone diphenyl ketone)s. W. Hu, B. Liu, S. Zhao, C. Chen, G. Wang, Z. Wu, **Z. Jiang**
172. Microemulsion polymerization for hollow polymer nanosphere using encapsulation of a hydrophobe. J. Jang, **K. Lee**
173. Morphological Control over Recognition-Induced Polymersomes. **R. Thibault Jr.**, M. Gray, T. H. Galow, E. Turnberg, H. Peter, V. M. Rotello

2002 Spring Meeting

- 174.** New phenylphosphine oxide containing perfluorocyclobutyl (PFCB) polymers for potential space applications. **J. Jin**, M. S. Kumar, **S. H. Foulger**, **D. W. Smith Jr.**, H. Liu, B. Mojazza, P. Go, A. Shep
- 175.** Non-Covalent Block Copolymers By Self-Assembly: New Polypseudorotaxanes. **Z. Ge**, J. W. Jones, H. W. Gibson
- 176.** Novel poly(carbonate) and poly(carbonate-ester) networks. **T. F. Al-Azemi**, K. S. Bisht
- 177.** Novel Polyester Hydroxy Ether Terpolymers from Lactide and Bisphenol-A Derivatives. **N. K. Abayasinghe**, D. W. Smith Jr.
- 178.** Novel Synthesis of Crosslinkable Fluorinated Polysiloxanes by Hydrosilation in Toluene and Supercritical Carbon Dioxide. H. Zhou, **S. Venumbaka**, J. Fitch, P. Cassidy
- 179.** Novel synthesis of ion exchange fiber based on PAN fiber and adsorption study using FT-IR spectroscopy. **Y. G. Ko**, U. S. Choi, J. S. Kim, Y. J. Chun, D. J. Ahn
- 180.** Novel trimethacrylates: synthesis, characterization and evaluation of new monomers for improved dental restoratives F. Gao, **S. R. Schricker**, Y. Tong, **B. M. Culbertson**
- 181.** Organic/inorganic hybrid copolymer for light emitting material. L. You, G. Cai, W. P. Weber, **P. lu**
- 182.** Polymerization and optical properties of PFCB polymers containing naphthalenes. **S. E. Lee**, D. S. Lee, C. E. Kim, D. K. Yi, M. Kim, B. Shin, J. Kang, J. Kim, D. Kim
- 183.** Polymerization of 3-methylenehydroxy derivatives of bile acids. **F. Zuluaga**, M. Larrahondo, K. B. Wagener
- 184.** Polymerization of tricyanoalkenes via sugar reagents. **I. Kim**, D. J. Sandman
- 185.** Polypyrrole nanoparticles and their supramolecular assemblies prepared using microemulsion polymerization. J. Jang, **J. H. Oh**, G. D. Stucky
- 186.** Polystyrene latexes with poly(propyleneimine) dendrimers in the core. **Z. Xu**, W. T. Ford
- 187.** Poly[(2-alkyloxy-5-methyl-1,3-phenylene)-alt-(p-phenylenevinylene)]s with different trans/cis-olefin content: Their synthesis and luminescent properties **L. Liao**, Y. Pang, L. Ding, F. E. Karasz
- 188.** Preparation and characterization of yellowish polyacrylate latex. J. Wang, **C. Kan**, D. Liu
- 189.** Preparation of an Amphiphilic ABA Triblock Copolymer Brush for Surface Patterning. **W. Huang**, G. L. Baker, M. L. Bruening
- 190.** Preparation of aromatic poly(ether nitrile) and poly(ether sulfone) with (3-methyl)phenyl pendant groups. W. Hu, B. Liu, X. Rao, **Z. Jiang**, W. Zhang, Z. Wu
- 191.** Protected secondary amine organolithium initiators for the living polymerization of hexamethylcyclotrisiloxane (D3). **C. L. Hudelson**, T. E. Long
- 192.** Radical telomerization of vinylidene fluoride in the presence of dibromodifluoromethane as telogen. K. D. Belfield, G. G. Abdel-Sadek, **J. Huang**, R. X. Ting
- 193.** Rapid monomer consumption during initiation of quasiliving cationic polymerization of styrene. **Q. A. Thomas**, M. J. Dillenkoffer, R. F. Storey
- 194.** Ring opening polymerization of lactides using nucleophilic organic catalysts. **E. F. Connor**, G. Nyce, M. Myres, A. Möck, F. Nederberg, J. L. Hedrick
- 195.** Ruthenium catalyzed chemical modification of poly(vinylmethylsiloxane) with 9-acetylphenanthrene. **S. K. Gupta**, W. P. Weber
- 196.** Ruthenium-catalyzed hydrosilylation copolymerization of octane-2,7-dione with α,ω -dihydro-oligodimethylsiloxanes M. K. Runyon, **J. M. Mabry**, W. P. Weber

2002 Spring Meeting

- 197.** Effect of Critical Overlapping Concentration on the Extent of Chain Transfer to Polymer in the Free-Radical Polymerization on n-butyl Acrylate Monomer. **N. M. Ahmad**, P. A. Lovell, F. Heatley
- 198.** Synthesis and characterization of elastomeric liquid crystal block copolymers. **L. C. McAfee**, P. T. Hammond
- 199.** Synthesis and Characterization of New Cross-Linkable Polynorbornene Having Methacryloyl Group Derived from 5-(Methyl methacryloyl)bicyclo[2.2.1]hept-2-ene Using Ring-Opening Metathesis Polymerization (ROMP) **D. Liaw**, C. Huang, J. Tsai, P. Wu
- 200.** Synthesis and Characterization of new Fluorinated Polyimides. H. Zhou, **C. Chen**, S. Zhang, S. Yang
- 201.** Synthesis and characterization of rigid-rod Benzobisazole polymers incorporating Naphthalene-2,6 and 1,5-diyl structural units T. D. Dang, **N. Venkatasubramanian**, A. Talicska, S. Park, F. E. Arnold
- 202.** Synthesis and characterization of silk-like polyurethanes and polyesters using a semi-crystalline soft segment. **L. T. James-Korley**, P. T. Hammond
- 203.** Synthesis and characterization of star-shaped polystyrene having β -cyclodextrin-core. **N. Sugimoto**, T. Matsuda, Y. Miura, A. Narumi, T. Kakuchi
- 204.** Synthesis and characterization of sulfonated polyimides based on six-membered ring as proton exchange membrane. **Y. Hong**, B. Einsla, Y. Kim, J. E. McGrath
- 205.** Synthesis and liquid crystalline behavior of photoreactive side-chain liquid-crystalline polyoxetanes containing cinnamoyl biphenyl mesogen. **G. Fan**, C. Hsu
- 206.** Synthesis and liquid crystalline properties of poly(oxyethylene)s with azobenzene side groups. **T. Kim**, J. Lee
- 207.** Synthesis and physical properties of poly(diphenylmethyltrifluoropropylsiloxane)-b-polyimide copolymer as a inter layer dielectric material. **D. W. Kang**, **Y. M. Kim**
- 208.** Synthesis and Rheological Study of Polyacrylonitrile Copolymer Carbon Fiber Precursors Using Cost Effective Water Based Synthesis Routes. **V. A. bhanu**, K. B. Wiles, M. Bortner, D. Godshall, T. E. Glass, D. G. Baird, G. L. Wilkes, J. E. McGrath
- 209.** Synthesis and sol-gel chemistry of bis(diethoxymethylsilylpropyl)urea. **D. M. Gara**, **D. A. Loy**
- 210.** Synthesis of 2,2'-methylenebis(1,3-dimethylcyclopentadienyl)zirconium dichloride and its reactivity to the ethylene-norbornene copolymerization **B. Y. Lee**, **Y. H. Kim**, Y. C. Won
- 211.** Synthesis of 2,5-dimethyl-2,5-bis(trimethylsilyloxy)-1-oxa-2,5-disilacyclopentane and 2-methyl-2,5,5-tris(trimethylsilyloxy)-1-oxa-2,5-disilacyclopentane **V. R. Ziatdinov**, G. Cai, W. P. Weber
- 212.** Synthesis of a charged 1,1-diphenylethylene (DPE) derivative and its intercalation into montmorillonite clay for living anionic surface initiated polymerization **X. Fan**, C. Xia, W. Cristofoli, Q. Zhou, J. Mays, R. Advincula
- 213.** Synthesis of a doubly spin labeled phenylene-ethynylene foldamer. **K. Matsuda**, M. T. Stone, J. S. Moore
- 214.** Synthesis of a fluorine-containing poly(aryl ether nitrile). D. Wang, B. Liu, Z. Gao, W. Hu, **Z. Jiang**, Z. Wu
- 215.** Synthesis of a novel linear oligomer for PEDEK. J. Cao, **H. Na**, C. Zhang, X. Li, Z. Wu
- 216.** Synthesis of a photoresponsive and thermosensitive azo polyelectrolyte and its thermo-controllable self-assembly process. X. Liu, **X. Wang**, D. Liu
- 217.** Synthesis of Amphiphilic Poly(phenylacetylenes) Bearing Protected Nucleoside Pendants. J. Chen, K. K. L. Cheuk, Z. Xie, J. W. Y. Lam, **B. Z. Tang**
- 218.** Synthesis of an optically active ephedrine-bearing poly(phenyleneethynylene) for asymmetric catalysis. C. Sun, **Q. Hu**

2002 Spring Meeting

219. Synthesis of conjugated polymer precursors by living ring-opening metathesis polymerization. **H. S. Bazzi**, H. F. Sleiman

220. Synthesis of cyclic polydimethylsiloxane by coupling of disilanol-terminated linear siloxanes. H. W. Beckham, **B. M. White**, W. P. Watson, E. E. Barthelme

Section C

Unknown Site
Unknown Room

Self-assembled Photonic Band Gap Materials

E. L. Thomas and N. Balsara, *Organizer*

6:00 - 8:00

221. H-aggregation and micelles of a photoresponsive polyelectrolyte with branched azo side chains. **Y. Deng**, X. Tuo, H. Cheng, **X. Wang**

222. High yield precursor polymer for inverse carbon opal photonic materials. **M. W. Perpall**, K. P. U. Perera, D. W. Smith Jr., S. H. Foulger, J. Ballato, J. DiMaio

223. Hydrogen-bonded side-chain liquid crystalline block copolymers for photonic bandgap materials. **C. Chao**, C. K. Ober, C. Osuji, E. L. Thomas

224. Infiltration of 3D photonic crystals with embedded structures. **S. A. Pruzinsky**, W. Lee, Y. Lee, P. V. Braun

225. Two-dimensional patterning of colloidal arrays on polymer templates for photonic applications. **H. Zheng**, I. Lee, M. F. Rubner, P. T. Hammond

226. Water soluble Cationic Poly(p-phenylene vinylene) (PPV). X. Chen, **F. Wudl**

MONDAY MORNING

Section A

Unknown Site
Unknown Room

General Papers

Polymer Synthesis I

D. Garcia, *Organizer*

T. E. Long, *Presiding*

8:00 - 227. Synthesis and Characterization of Telechelic Multiple Hydrogen Bonded (MHB) Macromolecules via Living Anionic Polymerization. **K. Yamauchi**, T. E. Long

8:20 - 228. Synthesis, characterization and morphological influence of bisphenol structure on the direct synthesis of sulfonated poly(arylene ether sulfone) copolymers **W. L. Harrison**, F. Wang, Y. Kim, M. Hickner, J. E. McGrath

8:40 - 229. *Candida antarctica* Lipase-B Catalyzed Regioselective Modification on Dendrimers from bis-MPA. **A. Kumar**, B. Kalra, R. Kumar, V. Parmar, J. L. Hendrick, R. A. Gross

9:00 - 230. Chiral polyesters by in-vitro enzymatic catalysis. **K. S. Bisht**, T. F. Al-Azemi, L. Kondaveti

9:20 - 231. Enzymatic surface-initiated polymerization of 3-(R)-hydroxybutyryl-CoA: Surface modification of a solid substrate with a biodegradable and biocompatible polymer. Y. Kim, **H. Paik**, C. K. Ober, G. W. Coates, C. A. Batt

9:40 - 232. Enzymatic Synthesis of Functionalized Polyphenolics for Optical Applications. **V. Kumar**, V. S. Parmar, L. Samuelson, J. Kumar, A. L. Cholli

10:00 - 233. Lipase catalyzed model transacylation reactions of aliphatic polyesters. **A. Mahapatro**, B. Kalra, A. Kumar, R. Gross

10:20 - 234. Macromolecular crowding accelerates DNA cleavage reaction catalyzed by DNA nucleases. **J. J. Li**, W. Tan

2002 Spring Meeting

10:40 – 235. Microbial production of a self-assembling amphiphilic protein polymer. **N. L. Goeden**, J. D. Keasling, S. J. Muller

11:00 – 236. Poly(N-isopropylacrylamide) core-shell microgels: Synthetic fundamentals and characterization. **C. D. Jones**, L. A. Lyon

11:20 – 237. Free radical copolymerization of maleic anhydride and norbornene in the presence of a Lewis acid catalyst. A. J. Pasquale, **T. E. Long**

11:40 – 238. Preparation of nucleoside methacrylates, PEG-poly(nucleoside) diblocks, and their formation of supramolecular assemblies **B. Kalra**, A. Kumar, W. Gao, T. Glauser, M. Ranger, J. Hedrick, C. J. Hawker, R. A. Gross

Section B

Unknown Site

Unknown Room

General Papers

Polymer Synthesis II

D. Garcia, *Organizer*

T. Emrick, *Presiding*

8:00 – 239. Controlled polymerizations of functionalized 1,3-butadienes L. A. Rusch-Salazar, M. K. Rath-Murphy, **V. V. Sheares**

8:20 – 240. Templates for nanoporosity in low dielectric films: Preparation of pore generating macromolecules by ruthenium ring opening metathesis polymerization. **E. F. Connor**, M. C. Lares, J. L. Hedrick, R. D. Miller

8:40 – 241. Frontal polymerization synthesis of isopropylacrylamide hydrogels. **R. P. Washington**, O. Steinbock

9:00 – 242. Functional polymers through ROMP of cyclobutene derivatives. **R. Charvet**, B. M. Novak

9:20 – 243. Modifying photocrosslinked networks with living free radical initiators. **J. B. Hutchison**, C. J. Hawker, K. S. Anseth

9:40 – 244. Silicone magnetic fluids using poly(dimethylsiloxane)-*b*-poly(2-ethyl-2-oxazoline) as a steric stabilizer. **K. S. Wilson**, M. Rutnakornpituk, L. A. Harris, J. S. Riffle

10:00 – 245. α,α' - and β,β' -diperfluorohexyl substituted thiophene oligomers. Effect of perfluoroalkyl versus alkyl substitution on the thiophene oligomer core properties **A. Facchetti**, T. J. Marks

10:20 – 246. Alternating copolymerization of polar and nonpolar olefins by ring-opening metathesis polymerization. **E. B. Coughlin**, M. F. Ilker

10:40 – 247. CdSe-polymer composites prepared by surface initiated ring-opening metathesis polymerization. H. Skaff, F. Ilker, E. B. Coughlin, **T. Emrick**

11:00 – 248. Copolymerization of dimethacrylate-styrene (vinyl ester) networks. **A. C. Rosario**, E. Burts, B. Starr, J. S. Riffle

11:20 – 249. Electrocatalytic polymerization of polypyrrole on Al 2024-T3 alloy. **C. Vang**, M. Dewald, A. Richter, D. E. Tallman, G. G. Wallace, G. P. Bierwagen

11:40 – 250. Emulsion templating using high internal phase supercritical fluid emulsions. **R. Butler**, C. M. Davies, A. I. Cooper

Section C

Unknown Site

Unknown Room

2002 Spring Meeting

Self-assembled Photonic Band Gap Materials

II

E. L. Thomas, *Organizer*

N. P. Balsara, *Organizer, Presiding*

M. R. T. Bockstaller, *Presiding*

9:00 – 251. Dielectrophoretic assembly of switchable two-dimensional photonic crystals with specific orientation. **E. W. Kaler**, S. O. Lumsdon, J. P. Williams, O. D. Velev

9:40 – 252. Colloidal Self-Assembly and Photonic Crystals. **P. Wiltzius**

10:20 – 253. Responsive microgel photonic crystals. **L. A. Lyon**, S. B. Kong, S. Eustis, J. D. Debord

10:40 – Intermission.

11:00 – 254. Pattern definition in self-assembled photonic crystals. **P. V. Braun**

11:40 – 255. Surface Relief Grating Induced Three Dimensional Colloidal Crystal Structures. **D. Kim**, D. K. Yi, E. Seo

Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications

Patterning

Cosponsored with Division of Colloid and Surface Chemistry

See Page X

MONDAY AFTERNOON

Section A

Unknown Site

Unknown Room

2002 ACS Polymer Division P.J. Flory Award in Polymer Education Honoring Ulrich Suter

P. Smith, *Organizer, Presiding*

1:00 – Introductory Remarks.

1:05 – 256. Role of commercial software in polymer education. **B. E. Eichinger**

1:40 – 257. Reflections on graduate polymer education. **D. N. Theodorou**

2:15 – 258. Entanglement effects revisited. K. Kremer, **R. Everaers**

2:50 – Intermission.

3:15 – 259. Product design for polymers: Case studies in undergraduate chemical engineering education. **G. C. Rutledge**

3:50 – 260. Educational benefits from high level programming languages in materials. **M. Utz**

4:25 – 261. Potential of modeling in polymer education. **U. W. Suter**

5:00 – Reception, ETH Zurich

Section B

Unknown Site

Unknown Room

Recent Advances in Polymer Synthesis: Review and Progress in Methodology and Self-Assembly

C. J. Hawker, *Organizer, Presiding*

1:00 – 262. Self-assembly of dendron rodcoil molecules into nanoribbons. **S. I. Stupp**, E. Zubarev, J. Hartgerink, E. Beniash, L. Li

2002 Spring Meeting

1:30 – 263. Self-assembly and polymerization at various interfaces. **D. T. McQuade**, H. M. Jung

2:00 – 264. Supramolecular polymers in action. **A. W. Bosman**, B. J. B. Folmer, J. H. K. K. Hirschberg, H. M. Keizer, R. P. Sijbesma, E. W. Meijer

2:30 – 265. Synthetic methodologies for the surface derivatization of shell crosslinked nanoparticles. M. L. Becker, M. J. Joralemon, J. Liu, Q. Ma, K. Shanmugananda Murthy, K. Qi, E. E. Remsen, Q. Zhang, **K. L. Wooley**

3:00 – 266. Core-shell polymeric nanoparticles by self-assembly and step-growth polymerization. **D. M. Knauss**, S. L. Clark

3:30 – 267. New polyolefin elastomers: Advances based on catalyst discovery. **G. W. Coates**, L. R. Rieth, P. D. Hustad

4:00 – 268. Nanostructured macromolecular systems from block copolymers. **R. B. Grubbs**, J. M. Dean, F. S. Bates, L. B. Sessions, R. N. Lau, J. T. McCann

4:30 – 269. Dendritic polymers as multifunctional supports and nanocarriers for drugs. **R. Haag**, M. Krämer, J. F. Stumbé, S. Krause, A. Komp, S. Prokhorova

Section C

Unknown Site

Unknown Room

Self-assembled Photonic Band Gap Materials

III

E. L. Thomas and N. P. Balsara, *Organizer*

P. V. Braun and T. J. Bunning, *Presiding*

1:00 – 270. Superparamagnetic colloidal particles for magnetically controllable photonic crystals. **S. A. Asher**, X. Xu, G. Friedman, K. D. Humfeld

1:40 – 271. Holographic formation of switchable liquid crystal-based photonic crystals. **T. J. Bunning**, L. V. Natarajan, V. P. Tondiglia, S. Chandra, R. L. Sutherland, D. W. Tomlin

2:20 – 272. Multi-photon polymerization of waveguide structures within 3D photonic crystals. **W. Lee**, S. A. Pruzinsky, P. V. Braun

2:40 – Intermission.

3:00 – 273. Template-Directed Self-Assembly of Spherical Colloids and Its Applications. **Y. Xia**

3:40 – 274. Three dimensionally ordered poly(ferrocenylsilane) and magnetic ceramic inverse opals by colloidal crystal templating. **A. C. Arsenault**

4:00 – 275. Polyelectrolyte multilayer-based photonic bandgap structures. **T. C. Wang**, R. E. Cohen, M. F. Rubner

4:20 – 276. 2D Functional Colloidal Arrays on Surfaces for Photonic Wave Guides Using Polyelectrolyte Multilayers as Templates. **I. Lee**, H. Zheng, M. F. Rubner, P. T. Hammond

4:40 – 277. Fabrication and surface plasmon resonance (SPR) properties of polystyrene micro-sphere thin film arrays. **K. Shinbo**, S. Miyabayashi, H. Kobayashi, F. Kaneko, K. Kato, M. Tanaka, R. C. Advincula

Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications

Permeability

Cosponsored with Division of Colloid and Surface Chemistry

See Page X

MONDAY EVENING

2002 Spring Meeting

Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications

Poster Session

Cosponsored with Division of Colloid and Surface Chemistry

See Page X

TUESDAY MORNING

Section A

Unknown Site

Unknown Room

2002 ACS Award in Applied Polymer Science Honoring James E. McGrath

I

T. E. Long, L. M. Robeson, and D. R. Paul, *Organizer*

C. D. Smith, *Presiding*

8:30 – 278. Electrostatic Processing of Polymers. **G. E. Wnek**

9:00 – 279. Surface science and wetting dynamics of hydrosilation- and alkoxy silane-cured polydimethylsiloxane and relevance to silicone biomedical applications. **K. J. Wynne**

9:30 – 280. Novel implantable semipermeable biomembranes. **J. P. Kennedy**

10:00 – Intermission.

10:15 – 281. New polymers for nanolithography in the 21st century: How chemists respond to Moore's law. **R. D. Allen**, R. Sooriyakumaran, H. Ito, G. M. Wallraff, H. D. Truong, C. E. Larson

10:45 – 282. Electroactive polymeric and organic materials for thin-film-transistor applications. **A. J. Lovinger**, Z. Bao, H. E. Katz

11:15 – 283. Polyimides From 2,3,3',4'-Biphenyltetracarboxylic Dianhydride and Aromatic Diamines **P. M. Hergenrother**, K. A. Watson, J. G. Smith Jr., J. W. Connell, R. Yokota

11:45 – 284. Aromatic poly(pyridinium salt)s: Photoreduction in amide solvents. F. Lin, **F. W. Harris**

Section B

Unknown Site

Unknown Room

Chromogenic Phenomena in Polymers: Tunable Optical Properties

Electrochromic Polymers and Devices

D. J. Kiserow, *Organizer*

S. A. Jenekhe, *Organizer, Presiding*

8:00 – Introductory Remarks.

8:10 – 285. Electrochromic devices based on polymer films. Electrochemical characterization and devices of benzimidazolebenzophenanthroline (BBL and BBB) and 3, 7-[bis (4-phenyl quinoline)] 10-methyl phenothiazine (PPTZPQ) polymers **A. J. Bard**, J. Choi, S. Ozer, F. Fungo, S. A. Jenekhe

8:40 – 286. Electrochromic devices from layer-by-layer thin films. **D. M. DeLongchamp**, P. T. Hammond

9:00 – 287. Conducting Polymer based dynamic IR-electrochromics for spacecraft thermal control. **P. Chandrasekhar**, B. J. Zay, D. Ross, T. McQueeney, G. C. Birur, T. Swanson, L. Kauder, D. Douglas

9:30 – 288. Near infrared electrochromic polymers for variable optical attenuation. **Z. Y. Wang**, Y. Qi, P. Desjardins, F. Wu

10:00 – 289. Optical tuning of conjugated polymers via post-functionalization. **S. Holdcroft**, Y. Li, G. Vamvounis

2002 Spring Meeting

10:30 – 290. Tuning organizational structures and materials properties of linear and hyperbranched polymers by internal perturbations and external stimuli. **B. Z. Tang**

11:00 – 291. Substituent Effects upon Protonation-Induced Red Shift of Phenyl-Pyridine Copolymers. **S. Scheiner**, T. Kar

11:30 – 292. Electroluminescence and electrochromism within and beyond the visible range. **J. R. Reynolds**, M. Bouguettaya, B. S. Harrison, J. Hwang, T. J. Foley, I. Schwendeman, J. Shim, P. H. Holloway, J. M. Boncella, K. S. Schanze, D. B. Tanner, S. Ramakrishnan, G. Padmanaban

Section C

Unknown Site
Unknown Room

Polymer Diffraction Methods

Methods

K. H. Gardner, *Organizer*
J. Blackwell, *Organizer, Presiding*
8:40 – Introductory Remarks.

8:45 – 293. Structural studies of biological & synthetic polymers using x-ray and neutron diffraction. **V. T. Forsyth**, I. Parrot, K. H. Gardner, P. Lagan

9:15 – 294. Neutron and synchrotron X-ray fiber diffraction studies of cellulose polymorphs. Y. Nishiyama, H. Chanzy, **P. Langan**

9:45 – 295. Time-resolved X-ray diffraction of biaxial deformation of polymer materials. **W. Fuller**, A. Mahendrasingam, A. K. Wright, C. Martin, D. J. Blundell

10:15 – Break.

10:30 – 296. Understanding the broad Q scattering from miscible polymer blends. **G. R. Mitchell**, T. Gkourmpis

11:00 – 297. Neutron structure analyses and structural disorders of poly(p-phenylenebenzobisoxazole) and poly(p-phenylenebenzobisthiazole). **Y. Takahashi**

11:30 – 298. Crystalline order in polydiethylphosphazene: New applications of the Rietveld method. **S. V. Meille**, A. Farina, S. Brückner

Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications

Semiconductors

Cosponsored with Division of Colloid and Surface Chemistry
See Page X

TUESDAY AFTERNOON

Section A

Unknown Site
Unknown Room

2002 ACS Award in Applied Polymer Science Honoring James E. McGrath

II

T. E. Long and L. M. Robeson, *Organizer*
D. R. Paul, *Organizer, Presiding*

1:30 – 299. Systematic series of 'model' PTMO based segmented polyurethanes revisited: Insights using atomic force microscopy. A. Aneja, **G. L. Wilkes**

2:00 – 300. Organic Catalyst: A New and Broadly Useful Strategy for Living Polymerization. **J. L. Hedrick**, E. F. Connor, G. Nyce, A. Moeck

2002 Spring Meeting

2:30 – 301. Interactions and reactions at the polymer chain end: From Davidson 120A to Hahn 3009. **T. E. Long**, J. R. Lizotte, A. J. Pasquale, K. Yamauchi, D. T. Williamson, C. L. Hudelson, L. Kilian, Q. Lin

3:00 – Intermission.

3:15 – 302. CO2 Technology Platform. **J. M. DeSimone**

3:45 – Introductory Remarks.

3:55 – 303. Award Address (ACS Award in Applied Polymer Science, sponsored by). From cellulose to proton exchange membranes: Forty-five years in the vineyards **J. E. McGrath**

Section B

Unknown Site
Unknown Room

Chromogenic Phenomena in Polymers: Tunable Optical Properties Photochromic and Stimuli Responsive Polymers

S. A. Jenekhe, *Organizer*

D. J. Kiserow, *Organizer, Presiding*

1:00 – 304. Synthesis, properties, and applications of photochromic amorphous molecular materials and electrochromic polymers **Y. Shirota**, H. Nakano, I. Imae, Y. Osedo, H. Utsumi, T. Ujike, T. Takahashi

1:30 – 305. Photoinduced chirality in thin films of achiral azobenzene liquid crystalline copolymers. **A. Natansohn**, Y. Wu, P. Rochon

2:00 – 306. Photochromic blends of aromatic poly(pyridinium salt)s. F. Lin, **F. W. Harris**

2:20 – 307. Investigation of the thermochromic properties of polythiophenes in host polymers. **B. L. Lucht**, W. B. Euler, O. J. Gregory

2:40 – 308. Chromic transitions and nano-mechanical properties of (poly)diacetylene molecular layers. **R. W. Carpick**, D. Y. Sasaki, A. R. Burns, M. A. Eriksson, M. S. Marcus

3:10 – 309. Chiroptical properties of amorphous azopolymer films induced by elliptically polarized light. M. Kim, **D. Kim**

3:30 – 310. Enzymatically synthesized electronic and photoactive macromolecular dyes. **J. Kumar**, W. Liu, S. Lee, S. Yang, S. Tripathy, L. A. Samuelson

4:00 – 311. Absorption, photoluminescence and energy migration in conducting polymers with multiple phases **M. J. Winokur**, W. Chunwaschirasiri, D. Sherlock, M. Sumstine, R. West

4:30 – 312. Luminescent polymer coatings for pressure, temperature and mechanical strain imaging **K. S. Schanze**

Section C

Unknown Site
Unknown Room

Polymer Diffraction Methods Biopolymer Structure

J. Blackwell, *Organizer*

K. H. Gardner, *Organizer, Presiding*

1:30 – 313. Structural mechanism of self-assembly and polymorphic supercoiling of the bacterial flagellum. **K. Namba**

2:00 – 314. X-ray fiber diffraction analysis of amyloid assemblies. **D. A. Kirschner**, H. Inouye, J. P. Bond, S. P. Deverin, M. T. Teeter, O. M. A. El-Agnaf, C. Henry, C. E. Costello, A. Lim

2:30 – 315. Folding of a fibrous protein and its self-assembling peptides. **A. Mitraki**, A. Papanikolopoulou, V. T. Forsyth, V. Forge, J. Hernandez, R. Ruigrok

3:00 – Break.

2002 Spring Meeting

3:15 – 316. Fiber diffraction on polysaccharides: A critical review of methods. **P. Zugenmaier**

3:45 – 317. Interactions of cations and water molecules with polysaccharide helices in oriented fibers and correlation with rheological properties. **R. Chandrasekaran**, S. Janaswamy, W. Bian

4:15 – 318. Implications of the crystal structure of NaI-cellobiose and a hybrid potential energy surface for cellulose structures. **A. D. French**, G. P. Johnson, Z. Peralta-Inga, E. D. Stevens, M. K. Dowd

Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications

Optics

Cosponsored with Division of Colloid and Surface Chemistry

See Page X

TUESDAY EVENING

Section A

Unknown Site

Unknown Room

Chemistry and Engineering of Polyolefins

Cosponsored with Society of Plastics Engineers, and Division of Polymeric Materials: Science and Engineering

R. E. Campbell Jr. and J. Patton, *Organizer*

6:00 - 8:00

319. Dynamics of Long-Chain Branch Formation in Ethylene Polymerization with Constrained Geometry Metallocene Catalyst. **M. Nele**, J. B. P. Soares

320. Kinetic investigation of the living cationic polymerization of isobutylene with real-time monitoring using a mid-IR fiber optic probe. **K. Kim**, **J. E. Puskas**, S. Rohani

321. Melt grafting of glycidyl methacrylate onto POE/HDPE blend. **F. Yang**

322. New approach to measure copolymerization reactivity ratios by real time FTIR spectroscopy. **S. Shaikh**, S. Chattopadhyay, J. E. Puskas

323. Comprehensive kinetic model for the living carbocationic polymerization of Isobutylene. **S. Shaikh**, H. Peng, J. E. Puskas

324. Synthesis and characterization of functionalized polystyrenes. **Y. A. Dahman**, J. E. Puskas, M. Cunningham, Z. Merali

325. Theoretical studies of external donors' properties used in propylene polymerisation. **C. Hansenne**, D. Pattou, A. Standaert, G. Debras, L. Leherte, D. P. Vercauteren

326. Grafting of DiButyl Maleate and DiHexyl Maleate onto Atactic Polypropylene. **N. Sharifi-Sanjani**, M. Barari

327. Batch Emulsion Copolymerization of styrene with Dibutyl maleate and Dihexyl Maleate and characterization of copolymers. **R. Faridi-Majidi**, **N. Sharifi-Sanjani**

328. Recognition by Lipases of ω -Hydroxyl Macroinitiators for Diblock Copolymer Synthesis. **A. Kumar**, Y. Wang, M. A. Hillmyer, R. A. Gross

329. Arborescent polyisobutylene-polystyrene block copolymers-a new class of thermoplastic elastomers. **Y. Kwon**, P. Antony, C. Paulo, J. E. Puskas

330. Pulse Speed Propagation in Polybutadiene (PBD) Networks. **M. K. I. Hassan**, J. E. Mark

331. Gel permeation chromatography and hyphenated techniques applied to the characterization of polyolefins. E. Meehan, S. O'Donohue, **J. McConville**

332. In-situ small-angle X-ray scattering study of crystallization in poly(ethylene/hexene) copolymer subjected to step shear. **Z. Wang**, H. Wang, B. S. Hsiao, D. Gersappe, C. C. Han

2002 Spring Meeting

- 333.** Morphological development in copolymer blends of poly(ethylene-co-hexene) and poly(ethylene-co-butene). K. Shimizu, H. Wang, **Z. Wang**, H. Kim, C. C. Han
- 334.** Radiation induced cationic polymerization of epoxides. A time-resolved study of early steps and intermediates in polymerization of PGE and T123 in the presence of iodonium salt (CD1012) **I. N. Ivanov**, R. Dabestani
- 335.** Surface Treatment Of Ultra-Fine ZnO and the Rheological Properties of PP/ZnO Composites. Y. Yan, Y. Zhao, **G. You**
- 336.** Control of grafted polyolefins by ADMET and ATRP techniques. **P. M. O'Donnell**, K. B. Wagener
- 337.** New developments concerning precisely placed short-chain branching in ethylene-co-alpha-olefin materials. K. B. Wagener, **J. A. Smith**, J. C. Sworen
- 338.** Perfectly imperfect branching in polyethylene. **J. C. Sworen**, J. A. Smith, K. B. Wagener
- 339.** Precisely placed gem-dimethyl branching in ADMET polyethylene. **J. E. Schwendeman**, K. B. Wagener
- 340.** Chiral polyolefins bearing amino acids. K. B. Wagener, **T. E. Hopkins**, J. H. Pawlow, F. Tep
- 341.** Amorphous telechelic hydrocarbon diols by ADMET. **J. E. Schwendeman**, K. B. Wagener, R. Sparer, M. E. Benz
- 342.** Synthesis of the functional polypropylene and polystyrene. **G. J. Jiang**, R. Lin, H. Cheng
- 343.** Rapid polymer characterization and on-line reaction monitoring. **A. Tuchbreiter**, A. Warmbold, R. Mülhaupt, B. Kappler, J. Honerkamp

Section B

Unknown Site
Unknown Room

Chromogenic Phenomena in Polymers: Tunable Optical Properties

S. A. Jenekhe and D. J. Kiserow, *Organizer*

C. L. Fraser, *Presiding*

6:00 - 8:00

- 344.** A thermally stable blue-emitting polyspirobifluorene. **D. J. Park**, Y. Y. Noh, J. Kim, D. Kim
- 345.** Synthesis and characterization of a novel fluorene-based polyquinoline. **S. Son**, S. Jung, J. K. Kim, H. N. Cho
- 346.** Exploratory synthesis and luminescent properties of novel π -conjugated tin-based alternating copolymers. H. K. Kim, **N. S. Baek**, B. Kim, E. Chae, J. Lee
- 347.** Synthesis and electroluminescence studies of novel silicon-based copolymers containing oxadiazole units for polymeric light-emitting diodes. H. K. Kim, K. L. Paik, **N. S. Baek**, J. Lee
- 348.** Conjugated polymer/lanthanide complex based blends as near-IR light emitting diodes. **M. Bouguettaya**, B. S. Harrison, T. J. Foley, J. Shim, P. H. Holloway, S. Ramakrishnan, J. M. Boncella, J. R. Reynolds, K. S. Schanze, G. Padmanaban
- 349.** Tunable optical properties in polyfluorene copolymers by fluorine substitution. C. M. Chun, D. J. Park, Y. Y. Noh, J. Kim, **D. Kim**
- 350.** Three-dimensional two-photon fluorescence lithographic imaging in a new photoresponsive polymer. K. D. Belfield, **K. J. Schafer**, S. J. Andrasik
- 351.** Thin film solid-state electroluminescent devices based on tris(2,2'-bipyridine)ruthenium (II) complexes **M. Buda**, G. Kalyuzhny, A. J. Bard
- 352.** Photophysics and photochemistry of platinum-acetylide complexes: models for metal-acetylide polymers. **K. D. Glusac**, K. S. Schanze
- 353.** Synthesis and characterization of a novel jacketed polymers. **S. Valiyaveetil**, L. Shaowen

2002 Spring Meeting

- 354.** New electron-accepting π -conjugated polyquinoxalines with fluorene unit. **S. Jung**, D. H. Suh, H. N. Cho
- 355.** Photochemical behaviour of carbosilane dendrimers of different generations with azobenzene terminal groups. **A. Bobrovsky**, A. Pakhomov, S. Ponomarenko, N. Boiko, V. Shibaev
- 356.** Optical waveguides from trialkoxysilane-capped poly(methyl methacrylate)-titania materials. **M. Wei, W. Chen**
- 357.** Electronic structure and bonding in metal porphyrins and phthalocyanines. S. Scheiner, **M. Liao**
- 358.** C60-containing conjugated polymers and carbon nanotubes as optoelectronic nanomaterials. T. Lin, **L. Dai**, G. Wallace, A. Burrell, D. Officer
- 359.** A precursor polymer approach towards the synthesis of polymethylsiloxane functionalized polypyrrole. **P. Taranekar**, R. Advincula
- 360.** Synthesis and optical characterization of 1H-Pyrazole-based 6F-benzoxazole polymers incorporating a two-photon absorption chromophore. **T. D. Dang**, M. J. Matuszewski, M. J. Dalton, R. Kannan, J. E. Franklin, M. F. Durstock, L. - Tan, F. E. Arnold
- 361.** Synthesis and characterization of a two-photon absorbing and luminescent aminofluorenyl polymer. K. D. Belfield, **A. R. M. Morales**, V. M. Chapela, J. Percino
- 362.** The precursor polymer approach to electrodeposition of high optical quality cross-linked polypyrrole ultrathin films. **S. Deng**, R. Advincula

Section C

Unknown Site
Unknown Room

Polymer Diffraction Methods

K. H. Gardner and J. Blackwell, *Organizer*

6:00 - 8:00

- 363.** Quantitative orientation measurement in multiple component polymer systems using WAXS. **G. R. Mitchell**, S. Saengsuwan, S. Bualek-Limcharoen
- 364.** Probing the interaction of amphiphilic triblock copolymers with a biomimetic membrane. **M. A. Firestone**, S. Seifert
- 365.** SANS from cyclic diblock copolymer solutions. **R. Borsali**, M. Schappacher, M. M. de Souza Lima, A. Deffieux, P. Lindner
- 366.** Small angle neutrons and X-rays scattering from linear and star brush-like polymer solutions. M. Schappacher, M. M. de Souza Lima, **R. Borsali**, S. Lecommandoux, A. Deffieux, P. Lindner, C. Rochas, F. Chécot, D. Moinard
- 367.** Structure evolution during ferroelectric phase transition in a vinylidene fluoride/trifluoroethylene copolymer. **Z. Wang**, E. Balizer, B. S. Hsiao, C. C. Han
- 368.** Conformational Changes of Doped Polyaniline as Characterized by Small Angle Neutron Scattering (SANS). **A. R. Hopkins**, R. A. Basheer, P. G. Rasmussen, B. K. Annis
- 369.** Reorganization and recrystallization during melting of poly(trimethylene terephthalate). **M. Dosiere**, S. Hocquet

WEDNESDAY MORNING

Section A

Unknown Site
Unknown Room

2002 Spring Meeting

2002 ACS Award in Applied Polymer Science Honoring James E. McGrath

III

T. E. Long and D. R. Paul, *Organizer*

L. M. Robeson, *Organizer, Presiding*

8:30 – 370. Transport Processes in Polymer Electrolytes for Fuel Cells. **T. A. Zawodzinski**

9:00 – 371. Effect of organoclay structure on polymer nanocomposite formation and properties. **D. R. Paul**, T. D. Fornes, P. Yoon

9:30 – 372. Branched polymer architectures by living anionic polymerization. **D. M. Knauss**, H. A. Al-Muallem, T. Huang, J. T. Bender

10:00 – Intermission.

10:15 – 373. Nanostructured polymeric materials for microelectronics applications. **K. R. Carter**

10:45 – 374. Magnetic Nanostructured Fluids. **J. S. Riffle**, M. Rutnakornpituk, S. Lin-Gibson, J. P. Dailey, L. A. Harris

11:15 – 375. Fuel cell research at Virginia Tech: A student's perspective. **M. A. Hickner**

Section B

Unknown Site

Unknown Room

Chromogenic Phenomena in Polymers: Tunable Optical Properties

Electroluminescence and Tunable Emission

S. A. Jenekhe and D. J. Kiserow, *Organizer*

B. Kippelen, *Presiding*

8:00 – 376. Excitation confinement in electroluminescent conducting polymers. **A. J. Epstein**, E. M. Kylo, F. C. DeLucia Jr., D. K. Wang, T. L. Gustafson

8:30 – 377. New regioregular electroluminescent conjugated polymer for green light-emitting diodes. **C. J. Tonzola**, M. M. Alam, S. A. Jenekhe

8:50 – 378. Novel silicon-based alternating copolymers and their metal-chelated complexes: synthesis, photophysical properties, and LED applications **H. K. Kim**, N. S. Baek, K. L. Paik

9:20 – 379. Blue light emitting polymers and devices. **Q. Pei**, S. Pyo, S. Chang, Y. Yang

9:50 – 380. Semiconductor Nanocrystals: Single dots, charged dots, lasing dots **M. G. Bawendi**

10:20 – 381. Spirobifluorene-linked orthogonal polymers with controlled conjugation lengths. **R. D. Miller**, F. Doetz, A. R. Murphy, V. Y. Lee, J. C. Scott, L. Bozano, R. Smith, C. Bacilieri

10:50 – 382. Spiro-linked ter- and pentafluorenes for stable and efficient blue emission. **D. Katsis**, Y. Geng, J. J. Ou, S. W. Culligan, A. Trajkovska, S. H. Chen, L. J. Rothberg

11:10 – 383. Use of polybenzobisazoles as electron transport materials for light emitting diodes. **M. M. Alam**, S. A. Jenekhe

11:30 – 384. Polarized electroluminescence in double layer LEDs with perpendicularly oriented polymers. **A. Bolognesi**, C. Botta, D. Facchinetti, P. Stroehriegl, K. Kreeger, M. Jandke, A. Relini, R. Rolandi, S. Blumstengel

12:00 – 385. Tuning the electroluminescence in polymer-based light emitting diodes. **S. A. Carter**

Section C

Unknown Site

Unknown Room

2002 Spring Meeting

Polymer Diffraction Methods Structure Evolution

K. H. Gardner and J. Blackwell, *Organizer*

W. Fuller, *Presiding*

8:45 – 386. Teaching x-ray diffraction concepts with Flash® movies and VIs. **I. R. Harrison**

9:15 – 387. Transient structure formation during shear-induced crystallization of isotactic polypropylenes. **J. A. Kornfield**, D. W. Thurman, J. P. Oberhauser, L. Fernandez Ballester, M. Seki

9:45 – 388. Detection of precursors of crystallization in polymers as revealed by simultaneous SAXS and WAXS. **F. J. Baltá-Calleja**, F. Ania

10:15 – 389. Synchrotron studies of molecular reorganisation prior to strain-induced crystallization in polymers. **A. Mahendrasingam**, A. K. Wright, C. Martin, D. J. Blundell, W. Fuller

10:45 – Break.

11:00 – 390. Deformation of polymers in micron- and submicron sized X-ray beams. **C. Riekel**, M. Burghammer, M. C. Garcia, A. Gourrier, S. Roth

11:30 – 391. Use of X-ray diffraction and stretching calorimetry to follow structural transformations during deformation of polyethylene with low degrees of crystallinity. **S. N. Chvalun**, V. M. Neverov, Y. K. Godovsky, N. P. Bessonova, J. Blackwell

Section D

Unknown Site

Unknown Room

Chemistry and Engineering of Polyolefins

Emerging Frontiers

Cosponsored with Society of Plastics Engineers, and Division of Polymeric Materials: Science and Engineering

J. Patton, *Organizer*

R. E. Campbell Jr., *Organizer, Presiding*

8:15 – Introductory Remarks.

8:20 – 392. Stereoblock PMMA and polypropylene-b-PMMA stereo-diblock copolymers by metallocene/ Lewis acid hybrid catalysts. **E. Y. Chen**, A. D. Bolig, J. Jin, J. Xu

9:00 – 393. Polyolefin block copolymers-designing microphase separated architectures for optical properties. **S. Hahn**, R. Cieslinski, J. Hahnfeld, M. A. Jones, C. Leibig, J. Milhaupt, G. Meyers, B. Landes, C. Langhoff, G. Parsons, M. Reinhardt, D. Yontz

9:40 – 394. Development of high-throughput techniques for olefin polymerization catalyst discovery. **V. Murphy**

10:20 – 395. Metallocene-mediated Olefin Polymerization with A Consecutive Chain Transfer Reaction to Stryenic Molecule and Hydrogen; Synthesis of Telechelic Polyolefins and Polyolefin Block Copolymers. **T. C. Chung**, J. Y. Dong

11:00 – 396. Catalyst-cocatalyst interactions and nuclearity effects in single-site olefin polymerization processes. **T. J. Marks**

Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications

Biomaterials

Cosponsored with Division of Colloid and Surface Chemistry

See Page X

WEDNESDAY AFTERNOON

Section A

2002 Spring Meeting

Unknown Site
Unknown Room

2002 ACS Award in Applied Polymer Science Honoring James E. McGrath

IV

T. E. Long, L. M. Robeson, and D. R. Paul, *Organizer*

J. S. Riffle, *Presiding*

1:00 – 397. Enhanced interfacial adhesion of carbon fiber to vinyl ester resin via plasma etching and plasma polymerization coating. H. Kang, N. Kim, **T. Yoon**

1:30 – 398. Fifteen years of rotaxanes and polyrotaxanes at Virginia Tech. **H. W. Gibson**

2:00 – 399. Recent advances in thermal step-growth cyclopolymerization of aromatic trifluorovinyl ethers and ortho-diyne. **D. W. Smith Jr.**

2:30 – Intermission.

2:45 – 400. Ultra Low-k Dielectric Materials for High Performance Interconnects. **J. C. Hedrick**, C. S. Tyberg, E. Huang, M. Sankarapandian, J. G. Ryan

3:15 – 401. Plasticization of acrylic copolymers with absorbed carbon dioxide. **D. G. Baird**, M. J. Bortner, J. E. McGrath

3:45 – 402. High molecular weight, high strength silicone-urea elastomers: Preparation and properties **I. Yilgor**, E. Yilgor

4:15 – 403. Development of coating resin technology. **D. C. Webster**

Section B

Unknown Site
Unknown Room

Chromogenic Phenomena in Polymers: Tunable Optical Properties

Polymers for Chemical- and Bio-sensors

S. A. Jenekhe and D. J. Kiserow, *Organizer*

P. T. Hammond, *Presiding*

1:30 – 404. Self-assembled "polymers" on nanoparticles: superquenching and sensing applications. L. Lu, R. M. Jones, T. S. Bergstedt, D. McBranch, **D. Whitten**

2:00 – 405. Photophysics and quenching of a water-soluble poly(p-phenylene ethynylene) sulfonate. **C. Tan**, M. R. Pinto, K. S. Schanze

2:20 – 406. Polydiacetylenic lipid assemblies: "smart" materials for colorimetric biosensing and structural transformation in charge-induced chromatic transition. **Q. Cheng**, J. Song, R. C. Stevens

2:50 – 407. Fluorescent Electrospun Polymer Films For the Detection of Explosives. **X. Wang**, S. Lee, C. Drew, K. J. Senecal, J. Kumar, L. Samuelson

3:10 – 408. Site-isolated luminescent lanthanide complexes with biocompatible polymeric ligands. **C. L. Fraser**, J. L. Bender, P. S. Corbin, D. H. Metcalf, F. S. Richardson, E. L. Thomas, A. Urbas

3:40 – 409. DNA-chromic cationic polythiophene derivative. **M. Leclerc**, H. A. Ho

4:10 – 410. Quinoline-containing poly(aryleneethynylene)s. **U. H. F. Bunz**, C. G. Bangcuyo

4:40 – 411. Tunable photoluminescence of poly(quinoline)s in silica. **Y. Okamoto**, S. W. Ho, W. Y. Huang, T. K. Kwei

5:10 – 412. Synthesis, photophysical characterization and thin film self-assembly of a PPE-type conjugated polyelectrolyte **M. R. Pinto**, J. R. Reynolds, K. S. Schanze

Section C

Unknown Site
Unknown Room

2002 Spring Meeting

Polymer Diffraction Methods

Polymer Blends

K. H. Gardner and J. Blackwell, *Organizer*

B. L. Farmer, *Presiding*

1:30 – 413. Crystallisation in block copolymers: Confinement versus breakout. **A. J. Ryan**, J. Xu, J. P. A. Fairclough, S. Mai

2:00 – 414. Nano-tailored polymer crystallization in the HPL phase of a PS-b-PEO diblock copolymer. L. Zhu, **S. Z. D. Cheng**, Y. Chen, P. Huang, Q. Ge, R. P. Quirk, B. S. Hsiao, F. Yeh, L. Liu

2:30 – 415. Chain folding in block copolymers crystallised from solution. **J. Xu**, A. J. Ryan, J. P. A. Fairclough, S. Mai

3:00 – Break.

3:30 – 416. Small angle neutron scattering of diblock copolymer PS-PBLG: Rod-coil to coil-coil transition. J. da Siva Crespo, S. Lecommandoux, **R. Borsali**, H. - Klok, V. Soldi

4:00 – 417. Dislocation-controlled hexagonally perforated layer phase in a PEO-b-PS diblock copolymer. **L. Zhu**, P. Huang, Y. Chen, S. Z. D. Cheng, Q. Ge, R. P. Quirk, B. S. Hsiao, F. Yeh, L. Liu

4:30 – 418. Lower critical ordering transition of a triblock copolymer melt. **Y. K. Kwon**, J. S. Kim, K. H. Lee, G. Kim

Section D

Unknown Site

Unknown Room

Chemistry and Engineering of Polyolefins

Ethylene/alpha-Olefin Copolymers

Cosponsored with Division of Polymeric Materials: Science and Engineering

R. E. Campbell Jr., *Organizer*

J. Patton, *Organizer, Presiding*

1:30 – 419. Recent advances in zirconocene catalyzed ethylene-styrene copolymerization and olefin (co)polymerization. **T. Arai**, S. Hanasato, M. Nakajima, T. Ohtsu

2:10 – 420. Pyridyl-Imine derived olefin polymerization catalysts. **R. E. Murray**, V. M. George, D. L. Nowlin, C. C. Schultz, J. L. Petersen

2:40 – 421. Synthesis of new late transition metal catalysts containing nitrogen-phosphine ligands for olefin polymerization. **Z. Guan**

3:20 – 422. Characterization of Branching in Low Density Polyethylene, High Density Polyethylene and Polyethylenes from Chain-Walking Catalysts **P. M. Cotts**

4:00 – 423. Structure and properties of blown film from blends of polyethylene and high melt strength polypropylene. A. C. Chang, L. Tau, S. P. Chum, **A. Hiltner**, E. Baer

Multi-Layered Polyelectrolyte-Based Materials: Synthesis, Characterization and Applications

Model Systems

Cosponsored with Division of Colloid and Surface Chemistry

See Page X

THURSDAY MORNING

Section A

Unknown Site

Unknown Room

2002 Spring Meeting

Chromogenic Phenomena in Polymers: Tunable Optical Properties Tunable Reflection and Optically Switchable Materials

S. A. Jenekhe and D. J. Kiserow, *Organizer*

S. H. Chen, *Presiding*

8:00 – 424. Electrically switchable mirrors and optical components made from liquid crystal gels. **R. A. M. Hikmet**

8:30 – 425. Light-controllable multifunctional chiral photochromic liquid crystal copolymers for optical data recording and storage. **V. P. Shibaev**, A. Y. Bobrovsky, N. I. Boiko

9:00 – 426. Photoresponsive glassy liquid crystals for tunable reflective coloration. **S. H. Chen**, S. W. Culligan, H. P. Chen, Y. Geng, D. Katsis

9:30 – 427. Novel two-photon absorbing conjugated oligomers/polymers: Property modulation by π -center. Z. Huang, W. B. Heuer, C. S. P. Sung, **O. Kim**

10:00 – 428. Photochemical control of reflection colors of glass-forming non-polymeric cholesterics with azobenzene chromophore. **N. Tamaoki**, M. Moriyama

10:30 – 429. Optically switchable liquid crystals containing azobenzene chromophores. **T. Ikeda**, A. Shishido, O. Tsutsumi, A. Kanazawa

11:00 – 430. Chromogenic polymer gels with a constant volume. **A. Seebboth**, J. Kriwanek, D. Löttsch

11:30 – 431. Hierarchical morphology periodic domain walls in smectic-like rod-coil diblock copolymers. **J. Park**, E. L. Thomas

11:50 – 432. Self-assembly and liquid crystalline behavior of novel terphenylene derivatives. **S. Valiyaveetil**, S. B. M. Abubakar

Section B

Unknown Site

Unknown Room

Polymer Diffraction Methods Structure Determination I

K. H. Gardner and J. Blackwell, *Organizer*

P. Langan, *Presiding*

8:45 – 433. Structure of poly(ester amide)s derived from α -amino acids and related polyesters. **J. Puiggali**, A. Almontassir, L. Franco, M. T. Casas

9:15 – 434. Structure of a cyanobiphenyl side chain liquid crystalline poly(silylenemethylene). S. Park, T. Zhang, L. V. Interrante, **B. L. Farmer**

9:45 – 435. A survey of x-ray fiber diffraction on crystalline structures of polyhydroxyalkanoates. **R. H. Marchessault**, J. Kawada, S. Raymond

10:15 – Break.

10:30 – 436. Helical hand in achiral and chiral polymers: a tool to analyze local processes in polymer crystallization. **B. A. Lotz**

11:00 – 437. Electron microscopy and diffraction of pentacene thin films. L. F. Drummy, P. K. Miska, **D. C. Martin**

11:30 – 438. Diffraction and modeling studies of chain conformation and packing in poly(di-*n*-alkylsilanes). **M. J. Winokur**, W. Chunwachirasiri, R. West

Section C

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2002 Spring Meeting

Chemistry and Engineering of Polyolefins

Polypropylene: Old Monomer-New Polymers

Cosponsored with Division of Polymeric Materials: Science and Engineering

R. E. Campbell Jr., *Organizer*

J. Patton, *Organizer, Presiding*

8:20 – 439. Counterion influence on the kinetics of initiation, propagation, and termination for polymerization of 1-hexene as catalyzed by $[rac-(C_2H_4(1-indenyl)_2Zr(Me))^+]$ cations **C. R. Landis**, Z. Liu, C. B. White

9:00 – 440. Methylene-bridged bis(2-indenyl) metallocene catalysts. **L. Resconi**

9:40 – 441. Counter-Ion effects on poly(propylene) microstructure prepared using ansa-metallocene catalysts. **S. Collins**, M. Mohammed, S. Xin, M. Nele, A. Al-Humydi

10:20 – 442. Ultrahigh Molecular Weight Polypropene Elastomers By High Activity „Dual-Side“ Hafnocene Catalysts. **B. Rieger**, C. Troll, J. Preuschen

11:00 – 443. Orientation dynamics and crystallization of elastomeric polypropylenes. **G. G. Fuller**, W. Wiyatno, J. Pople, A. P. Gast, R. Waymouth

THURSDAY AFTERNOON

Section A

Unknown Site

Unknown Room

Chromogenic Phenomena in Polymers: Tunable Optical Properties

Imaging, Storage, Patterning, and New Polymers

S. A. Jenekhe and D. J. Kiserow, *Organizer*

S. Holdcroft, *Presiding*

1:30 – 444. Polymers for holographic imaging and displays. **B. Kippelen**, B. Domercq, J. A. Herlocker, R. D. Hrera, J. N. Haddock, C. Fuentes-Hernandez, G. Ramos-Ortiz, P. A. Blanche, N. Peyghambarian, A. Schulzgen, Y. Zhang, S. R. Marder

2:00 – 445. Toward plastic electronics: patterned electroactive organic materials using polymer-on-polymer stamping. **P. T. Hammond**

2:30 – 446. Tuning Optical Properties at the Molecular and Supramolecular Level. **M. Rubner**

3:00 – 447. Modulation of optical properties in new photosensitive polymers: 3-D optical data storage media. **K. D. Belfield**, K. J. Schafer

3:20 – 448. Quantum amplified isomerization: Photoinitiated electron transfer chain reactions in dewarbenzene substituted polymers. **D. R. Robello**, S. Farid, J. P. Dinnocenzo, J. G. Gillmore

3:40 – 449. Intermolecular electron-transfer across the encapsulation of helical amylose. J. Je, **O. Kim**

4:00 – 450. Hyperbranched oligomers and dendrimers of thiophene. **C. Xia**, X. Fan, R. Advincula

4:20 – 451. Polymer-titania optical thin films for optical waveguides. **W. Chen**, L. Lee

4:50 – 452. Electrodeposition and cross-linking of carbazole substituted polyacetylenes: Mixed band-gap conjugated ultrathin films. K. Onishi, **R. Advincula**, T. Nakai, S. M. A. Karim, T. Masuda

Section B

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2002 Spring Meeting

Polymer Diffraction Methods Structure Determination II

K. H. Gardner and J. Blackwell, *Organizer*

S. Z. D. Cheng, *Presiding*

1:30 – 453. Lamellar morphology of poly(e-caprolactone) fractions. **M. Dosiere**

2:00 – 454. X-ray diffraction and optical ellipsometry: complementary techniques for the study of polymer structure. **P. Cebe**, P. Dai, G. Georgiev, B. Feinberg, N. Gilfoy, M. Capel

2:30 – 455. A Novel Diffraction Analysis for Estimate of Mesophase in Crystalline Polymer Fibers. S. Ran, **B. S. Hsiao**, B. Chu

3:00 – Break.

3:15 – 456. Diffraction information from low concentrated components in multicomponent polymer systems. **A. Nogales**, G. R. Mitchell, B. Pukanszky, B. Turcsanyi

3:45 – 457. Structural studies on naphthalene based rigid-rod benzobisthiazole polymers. **S. Park**, J. Lee, N. Venkatasubramanian, T. D. Dang, F. E. Arnold, B. L. Farmer

4:15 – 458. Structure formation in PBO fibers and the SAXS four-point pattern. **C. Burger**, S. Ran, D. Fang, D. Cookson, Y. Teramoto, P. M. Cunniff, P. J. Viccaro, B. S. Hsiao, B. Chu

Section C

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Chemistry and Engineering of Polyolefins

Materials Science and Engineering

Cosponsored with Division of Polymeric Materials: Science and Engineering

J. Patton, *Organizer*

R. E. Campbell Jr., *Organizer, Presiding*

1:10 – 459. Polypropylene blend miscibility: Measurement and application. **D. J. Lohse**

1:50 – 460. Miscibility of polyolefins. **W. W. Graessley**

2:30 – 461. Modeling the synthesis of thermoplastic elastomers through olefin macromers generated in and ex situ. **J. B. Soares**, M. Nele

3:10 – 462. Shear-mediated crystallization of isotactic polypropylene: The role of long chain-long chain overlap. **D. W. Thurman**, M. Seki, J. P. Oberhauser, J. A. Kornfield

3:50 – 463. Probing miscibility, local dynamics, and chain packing in amorphous polyolefin blends by solid-state NMR. **J. L. White**, X. Wang

4:30 – 464. Crystallization rates and molecular microstructure of fractions from Metallocene and Ziegler type Isotactic Poly(propylenes). **R. G. Alamo**, J. A. Blanco, E. J. Ritchson, P. K. Agarwal