

**2006 Spring NATIONAL ACS MEETING  
ATLANTA (March 26-30, 2006)**

**Program Meeting Chair: Doug Kiserow**  
**Deadline for Abstracts and Polymer Preprints: Nov. 13, 2005.\***

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

**Excellence in Graduate Polymer Science Research Symposium, (Cosponsored with PROF and YCC)**

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**Polymeric Dimensional Change And Residual Stress**

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**Nano-structured Polymers**

A. R. Hopkins, Materials Science Department, Space Materials Laboratory, The Aerospace Corporation, P.O. Box 92957 - M2/242, Los Angeles, CA 90009-2957, 310-336-5664, fax 310-336-5846, e-mail: [alan.r.hopkins@aero.org](mailto:alan.r.hopkins@aero.org); R. M. Villahermosa, Space Materials Laboratory, The Aerospace Corporation, 2350 E. El Segundo Blvd., El Segundo, CA 90245, 310-336-1301, e-mail: [randy.villahermosa@aero.org](mailto:randy.villahermosa@aero.org).

**Interfacial Metrology for Organic Materials (Cosponsored with CATL).**

J. L. Lenhart, Organic Materials Department, Sandia National Laboratories, PO Box 5800, MS 0888, Albuquerque, NM 87185, 505-284-9209, fax 505-844-9624, e-mail: [jllenha@sandia.gov](mailto:jllenha@sandia.gov); C. Soles, Polymers Division, NIST, 100 Bureau Drive, Stop 8541, Gaithersburg, MD 20899-8541, (301) 975-8087, fax (301) 975-3928, e-mail: [csoles@nist.gov](mailto:csoles@nist.gov); D. G. Castner, Departments of Bioengineering and Chemical Engineering, University of Washington, Box 351750, Seattle, WA 98195-1750, 206-543-8094, fax 206-543-3778, e-mail: [castner@nb.engr.washington.edu](mailto:castner@nb.engr.washington.edu)

**Polymer Transducers (Cosponsored with PMSE).**

T. Long; D. J. Leo, Department of Mechanical Engineering, Virginia Tech, Center for Intelligent Materials, 307 Durham Hall, Blacksburg, VA 24061, 540-231-2917, e-mail: [donleo@vt.edu](mailto:donleo@vt.edu); R. B. Moore, Department of Polymer Science, The University of Southern Mississippi, 118 College Dr # 10076, Hattiesburg, MS 39406, 601-266-4480, fax 601-266-5635, e-mail: [rbmoore@usm.edu](mailto:rbmoore@usm.edu); M. S. Bratcher, Multifunctional Materials Branch, U.S. Army Research Laboratory, AMSRD-ARL-WM-MA, 4600 Deer Creek Loop, Aberdeen Proving Ground, MD 21005, 410-306-1912, e-mail: [mbratche@arl.army.mil](mailto:mbratche@arl.army.mil)

**Polymers For Enabling Nanoscale Patterning (Cosponsored with PMSE).**

K. R. Carter, Department of Polymer Science and Engineering, University of Massachusetts, 120 Governors Drive, 416 Conte Building, Amherst, MA 01003, 413-577-1416, e-mail: [krcarter@polysci.umass.edu](mailto:krcarter@polysci.umass.edu); A. J. Crosby, Department of Polymer Science and Engineering, University of Massachusetts, 120 Governors Drive, 416 Conte Building, Amherst, MA 01003, 413-577-1416, e-mail: [crosby@mail.pse.umass.edu](mailto:crosby@mail.pse.umass.edu); C. G. Willson, Department of Chemical Engineering, The University of Texas at Austin, 1 University Station C0400, Austin, TX 78712-0231, (512) 471-4342, e-mail: [willson@che.utexas.edu](mailto:willson@che.utexas.edu).

**Textiles And New Polymer Fibers**

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**Undergraduate Research in Polymer Science**

S. E. Morgan, School of Polymers and High Performance Materials, University of Southern Mississippi, 118 College Dr., #10076, Hattiesburg, MS 39406, 601-266-5296, fax 601-266-5635, e-mail: [sarah.morgan@usm.edu](mailto:sarah.morgan@usm.edu); S. Nazarenko, Department of Polymer Science, University of Southern Mississippi, Box 10076, Hattiesburg, MS 39406, 601-266-5967, e-mail: [Sergei.Nazarenko@usm.edu](mailto:Sergei.Nazarenko@usm.edu)

## 2006 Spring Meeting

### ACS Award in Polymer Chemistry in Honor of E.W. Meijer

V. Percec, Department of Chemistry, University of Pennsylvania, 231 South 34th Street, Philadelphia, PA 19104-6323, 215-573-5527, fax 215-573-7888, e-mail: [percec@sas.upenn.edu](mailto:percec@sas.upenn.edu)

### Flory Education Award in Honor of William J. MacKnight

R. J. Farris, Polymer Science and Engineering, University of Massachusetts, Amherst, 120 Governors Drive, Amherst, MA 01003, 413-577-1332, fax 413-545-0082, e-mail: [rjfarris@polysci.umass.edu](mailto:rjfarris@polysci.umass.edu)

### General Papers

D. Garcia, Arkema Inc., 900 First Avenue, King of Prussia, PA 19406, 610-878-6731, e-mail: [dana.garcia@arkemagroup.com](mailto:dana.garcia@arkemagroup.com)

## DIVISION OF POLYMER CHEMISTRY

### Final Program, 231st ACS National Meeting, Atlanta, GA, March 26-30, 2006

K. E. Uhrich and D. Kiserow, *Program Chairs*

### SUNDAY MORNING

Section A

Unknown Site -- Unknown Room

### Undergraduate Research in Polymer Science

S. Nazarenko, *Organizer*

S. E. Morgan, *Organizer, Presiding*

**8:30** —1. Carbonyl-containing vinylidene chloride barrier resins. S. M. June, **B. A. Howell**

**8:50** —2. Control of domain formation and budding in multicomponent bilayer. A. C. Balazs, K. A. Smith, **W. Uspal**

**9:10** —3. Fabrication of multi-layered nanoscale polymer films for responsive surface applications. **K. Anderson**, M. C. LeMieux, S. Peleshanko, V. V. Tsukruk

**9:30** —4. Functionalized hyperbranched molecules controlling silver nanoparticle formation at the air-water interface. **K. N. Bergman**, B. Rybak, M. Ornatska, V. Tsukruk

**9:50** — Intermission.

**10:20** —5. Investigation of the impact of aging on the efficacy of several commercial biocides. **A. P. Hathorne**, D. A. Wicks, A. Rhoads

**10:40** —6. Investigation of the tortuosity ratio in silicone elastomers using hydrogen peroxide. **A. Detweiler**, M. Tapsak

**11:00** —7. Polysiloxanes as inorganic soluble polymer supports in synthesis. **K. R. Regan**, M. A. Grunlan, D. E. Bergbreiter

**11:20** —8. The effect of orientation on Nafion based IPMC actuation. **J. M. Carr**, B. H. Calhoun, J. K. Park, R. B. Moore

**11:40** —9. Towards the development of a microchip-based biofuel cell. **A. Kinsella**, S. Martin, S. D. Minteer

Section B

Unknown Site -- Unknown Room

### ACS Award in Polymer Chemistry in Honor of E.W. Meijer

## 2006 Spring Meeting

K. L. Wooley, *Presiding*

V. Percec, *Organizer, Presiding*

**8:30 —10.** Synthesis and applications of ROMP block polymers. **R. H. Grubbs**

**8:55 —11.** Synthesis and self assembly of chiral oligothiophenes: Recent developments in the Durham-Eindhoven collaboration. **W. J. Feast**

**9:20 —12.** Mechanochemical triggers for self-reinforcing polymers. **J. S. Moore**, C. R. Hickenboth, S. L. Potisek

**9:45 —13.** Polymer brushes for soft nanotechnology. **W. T. S. Huck**

**10:10** — Intermission.

**10:20 —14.** Self-assembly of wires and helices. **S. I. Stupp**

**10:45 —15.** Micro- and nanoscale protein patterns on polymer films. **H. D. Maynard**

**11:10 —16.** Star-PEG Coatings: Protein repellency combined with functionality. **M. Möller**

**11:35 —17.** Peptide based building blocks for macro organic chemistry. **J. C. M. van Hest**, D. W. Lowik, M. Lambermon, J. Meijer, J. Smeenk

Section C

Unknown Site -- Unknown Room

## General Papers

### Polymer Synthesis

D. Garcia, *Organizer*

R. Thibault, *Presiding*

**8:30 —18.** Synthesis of novel polysilarylene siloxanes. **M. P. C. Conrad**, M. S. Shoichet

**8:50 —19.** Regioselective functionalization of high-molecular-weight crystalline polyolefins via C-H activation of methyl side group. H. Chung, A. Y. Chang, I. O. Racoma, C. H. Ozawa, **C. Bae**

**9:10 —20.** Ring-opening polymerization of optically pure 1-methyl-1-(1-naphthyl)-2,3-benzosilacyclobut-2-ene and interaction of the polymer with B-cyclodextrin. **Y. Kakihana**, Y. Kawakami

**9:30 —21.** Synthesis of carbonate functional monomer and polymers from epoxidized soybean oil. **M. S. Nadupparambil**, J. Stoffer

**9:50 —22.** Synthesis of new fluoride-releasing dental monomer containing 1,2-hydroxypyridinones and zirconium fluoride complexes. **X. Xu**, R. Wang, L. Ling

**10:10 —23.** Synthesis of triazole-based vinyl monomers. **R. Thibault**, K. Takizawa, B. A. Helms, J. L. Mynar, P. Lowenheim, J. M. J. Fréchet, C. J. Hawker

**10:30 —24.** Anionic synthesis and chemistry of thiol-functionalized polymers. R. Quirk, **M. Ocampo**, M. J. Polce, C. Wesdemiotis

**10:50 —25.** Investigations of a controlled polymerization of thiophene via Grignard metathesis coupling. **S. Gravano**, T. E. Patten, P. J. Costanzo

**11:10 —26.** Quasi-“living” Grignard Metathesis polymerization for the synthesis of regioregular poly(3-alkylthiophenes). **M. C. Iovu**, R. D. McCullough

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**11:30 —27.** Controlled graft copolymerization of acrylonitrile and butyl acrylate on cellulose. **K. C. Gupta**

**11:50 —28.** Synthesis of biomimetic triblock copolymers in mixed solvent systems via ROMP. **H. S. Bazzi**, V. Toader, Y. Ishihara, F. Godin, H. F. Sleiman

**12:10 —29.** Photoactivated cationic ring-opening frontal polymerization of oxetanes. **J. V. Crivello**

## **Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures (Sponsored by Green Chemistry and Engineering, Separation Science and Technology and Novel Chemistry with Industrial Applications Sub-Divisions)**

### **Why are Ionic Liquids Liquid?**

*Sponsored by I&EC, Cosponsored with INOR, ORGN, ANYL, ENVR, PHYS, and POLY*

## **Polymers, Nanoparticles and Composite Materials in Nanoscience**

### **Synthesis of Nanostructured Polymeric Materials and Composites**

*Sponsored by PMSE, Cosponsored with POLY*

## **SUNDAY AFTERNOON**

Unknown Site -- Unknown Room

Section A

### **Nano-structured Polymers**

### **Photo and Electroactive Materials**

A. R. Hopkins and R. M. Villahermosa, *Organizers*

**1:30 —** Introductory Remarks.

**1:35 —30.** Nanostructured optoelectronic and redox active polymers. **J. R. Reynolds**, N. Ananthakrishnan, J. K. Mwaura, K. S. Schanze

**2:05 —31.** Conjugated polyelectrolytes: Self-assembly, amplified quenching and application to biosensors. **K. S. Schanze**

**2:35 —32.** Nanometal containing nanocomposites and photolithographic polyaniline nanofibers. **F. D. Blum**, S. K. Pillalamarri, L. K. Werake, J. G. Story, M. F. Bertino, A. K. Tokuhira

**2:55 —33.** Fluorescent sensors based on molecularly imprinted cross-linked conjugated polymers: Increasing selectivity through shape recognition. **E. E. Nesterov**, J. Li

**3:15 —** Intermission.

**3:35 —34.** Comparison of carbon nanotube based electrochemical supercapacitor electrodes using different electrolytes. **C. Zhou**, S. Kumar

**3:55 —35.** Correlation between the molecular structure and the charge carrier mobility in poly(arylene vinylene)

## 2006 Spring Meeting

derivatives. **L. Breban**, M. Breselge, L. Lutsen, J. Manca, T. J. Cleij, D. Vanderzande

**4:15 —36.** Guided growth of nanoscale conducting polymer structures on surface functionalized nanopatterns. **M. E. Woodson**, J. Liu

**4:35 —37.** Electrochemical and electrochromic properties of layer-by-layer polymer films. **K. Choi**, R. Zentel

**4:55 —38.** Syntheses of single crystalline conducting polymer nanoneedles. **K. Su**, N -L. Yang

Section B

Unknown Site -- Unknown Room

## ACS Award in Polymer Chemistry in Honor of E.W. Meijer

V. Percec, *Organizer*

C. J. Hawker and J. A. Put, *Presiding*

**1:00 —39.** Hyperbranched polymers as vessel-like components in complex networks: Lessons from Meijer's "dendritic box". G. O. Brown, C. Cheng, C. S. Gudipati, K. T. Powell, J. Xu, **K. L. Wooley**

**1:25 —40.** Amplifying fluorescent polymers. **T. M. Swager**

**1:50 —41.** Chirality in supramolecular systems. **T. Aida**

**2:15 —42.** Footprints of Bert Meijer at DSM. **J. A. Put**

**2:40 —** Intermission.

**2:50 —43.** Facile synthesis of materials for nanoscale applications. **C. J. Hawker**

**3:15 —44.** Functional self-assembled architectures from polymers and proteins. **R. J. Nolte**

**3:40 —45.** New ways of thinking about polymers and proteins. **D. A. Tirrell**

**4:05 —46.** Biological sciences inspired a bridge between supramolecular and polymer chemistry. **V. Percec**

**4:30 —47.** Supramolecular polymerization processes. **E. W. Meijer**

Section C

Unknown Site -- Unknown Room

## General Papers

### Polymer Synthesis

D. Garcia, *Organizer*

Y. Shen, *Presiding*

**1:30 —48.** Rod-rod hybrid poly(benzyl-L-glutamate)-co-poly(isocyanide) block copolymers: Synthesis and self-assembly. **A. Kros**, W. Jesse, G. A. Metselaar, J. J. Cornelissen

**1:50 —49.** Synthesis and characterization of n-benzyl chitosan derivatives. **W. Sajomsang**, S. Tantayanon, V. Tangpasuthadol, M. Thatte, W. H. Daly

**2:10 —50.** Synthesis and characterization of novel methacrylamide polymers with pendant quaternary ammonium compounds. **B. Dizman**, L. J. Mathias

**2:30 —51.** Triblock copolymer polycaprolactone-polypropylene fumarate-polycaprolactone. **S. Wang**, L. Lu, J. A.

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Gruetzmacher, B. L. Currier, M. J. Yaszemski

**2:50 —52.** Tuning the reactivity of non-metallocene cocatalysts for  $\alpha$ -olefin polymerization: Issues related to ligand symmetry and derivatization. **G. Sundararajan**, P. Sudhakar

**3:10 —53.** Amine effects on the catalytic activity of CuBr/Me6TREN for ATRP. **H. Tang**, M. Radosz, Y. Shen

**3:30 —54.** Copper-based highly active catalyst for ATRP. H. Tang, M. Radosz, **Y. Shen**

**3:50 —55.** Design and synthesis of novel biomaterials: A structure-property approach. D. A. Olson, Y. Yang, B. F. Pierce, A. H. Brown, **V. V. Sheares**

**4:10 —56.** Gradient block copolymers of isobutylene and styrene via quasiliving cationic polymerization. **L. K. Kemp**, R. F. Storey

**4:30 —57.** Highly active catalyst for AGET ATRP using tertiary amine as reducing agents. H. Tang, M. Radosz, **Y. Shen**

**4:50 —58.** Low temperature growth of thick polystyrene brushes via ATRP. **A. Samadi**, S. M. Husson, S. M. Kilbey

**5:10 —59.** Selective synthesis of phenyloctasilsesquioxane derivatives. **Y. Kawakami**, C. Pakjamsai, D. W. Lee

## **Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures (Sponsored by Green Chemistry and Engineering, Separation Science and Technology and Novel Chemistry with Industrial Applications Sub-Divisions)**

### **Ionic Liquid Structure Activity Relationships and Modeling**

*Sponsored by I&EC, Cosponsored with INOR, ORGN, ANYL, ENVR, PHYS, and POLY*

## **Polymers, Nanoparticles and Composite Materials in Nanoscience**

### **Nanocomposites of Clay and Carbonaceous Materials**

*Sponsored by PMSE, Cosponsored with POLY*

## **SUNDAY EVENING**

Unknown Site -- Unknown Room

Section A

## **General Papers**

### **Topics in Polymer Synthesis and Characterization**

D. Garcia and D. Garcia, *Organizers*

**6:00 - 8:00**

**60.** Guanidine and amidine catalysts for controlled ring-opening polymerization of cyclic esters. **R. C. Pratt**, D. A. Long, B. G. G. Lohmeijer, R. M. Waymouth, J. L. Hedrick

**61.** Emission dynamics of donor and acceptor substituted PPV for photovoltaic applications. **O. I. Adebolu**, C. E. Bonner

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Jr., C. Zhang, S. Sun

62. A comparison of the viscoelastic properties of porcine crystallins and OH terminal PAMAM dendrimers. **B. Rapp**, M. A. Reilly, P. D. Hamilton, N. Ravi
63. Synthesis of amphiphilic hydroxyl terminated poly(amidoamine) dendrimer. **D. Zhang**, P. D. Hamilton, N. Ravi, J. F. Kao
64. Advancements in the development of artificial vitreous humor utilizing polyacrylamide copolymers with disulfide crosslinkers. **K. E. Swindle**, P. D. Hamilton, N. Ravi
65. Adsorption of bifunctionalized poly(2-vinylpyridine)-polystyrene- poly(2-vinylpyridine): characterization by AFM. **J. Y. Park**, D. L. Patton, M. Liu, P. Taraneekar, J. W. Mays, M. D. Dadmun, R. C. Advincula
66. Energy transfer studies based on carbazole terminated poly (arylether) dendrimers with perylene core. **R. Ponnappati**, P. Taraneekar, R. C. Advincula
67. Fluorescent europium(III)-poly (aryl ether) terminated carbazole complex ultrathin films as sensors for organophosphate nerve gas agents. **I. Martinez**, P. Taraneekar, R. C. Advincula
68. A new approach to highly efficient electro-optic polymers using Diels-Alder "Click Chemistry". **T -D. Kim**, J. Luo, B. Chen, S. Hau, J -W. Ka, Y. Tian, S -H. Jang, N. M. Tucker, A. K -Y. Jen
69. Gold-poly(dithiophenyl pyrrole) nanocomposites formed via polymer complexation. **P. Waenkaew**, M. Millan, P. Taraneekar, S. Phanichphant, R. C. Advincula
70. Dumbbell shaped thiophene dendrimers with interesting electro-optical properties. **S. Deng**, R. C. Advincula
71. Surface initiated polymerization of precursor polymers for applications in optoelectronic devices. **T. M. Fulghum**, A. Maruffo, P. Taraneekar, M. Abdalbaki, D. L. Patton, R. C. Advincula
72. Direct synthesis of norbornenyl-, vinyl-, and cinnamyl-functionalized telechelics by reversible addition fragmentation chain transfer (RAFT) polymerization. **D. L. Patton**, R. C. Advincula
73. Shear-thickening ionomers prepared by conjugate addition reaction. **L. Li**, X. Guo, R. K. Prud'homme
74. Synthesis of phenylquinoxaline oligomers containing pendant electron donating and withdrawing groups. **J -B. Baek**, I. Y. Jeon, F. W. Harris
75. Quantitative analysis of acrylic formulations using near infrared (NIR) spectroscopy: Effects associated with calibration sample selection. **D. Garcia**, M. Hurtado
76. Segmental dynamics of poly(isopropyl acrylate)-d<sub>7</sub> on silica. **P. Krisanangkura**, F. D. Blum
77. Synthesis and thermal behavior of poly(methyl acrylate) attached to silica by surface-initiated ATRP. **M. B. Nair**, F. D. Blum
78. ADMET approach to "latent reactive" carbosilane/carbosiloxane and carbosilane/polyoxyethylene copolymers for thermoset materials. **P. P. Matloka**, K. B. Wagener
79. Sequestered copolymers of ethylene and 1-hexene: Polyethylene with precisely placed butyl branches. **G. Rojas**, K. B. Wagener
80. Dynamic behavior of polystyrene by mesoscale modeling. **Q. Sun**, R. Faller
81. Polyolefins with precisely placed halogens. **E. Boz**, A. Ghosal, R. G. Alamo, K. B. Wagener
82. Synthesis of "comb-like" polyethylene-graft-polyethylene glycol copolymers via ADMET. **E. B. Berda**, T. W. Baughman, P. P. Matloka, K. B. Wagener
83. Deprotection of amino acid functionalized polyolefins targeted for biological applications. **J. K. Leonard**, T. E. Hopkins,

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K. B. Wagener

- 84.** Polyethylene-graft-polydimethylsiloxane comb polymers: Synthesis and characterization. T. W. Baughman, P. P. Matloka, **Z. S. Kean**, K. B. Wagener
- 85.** Affinity distributions and selectivities of molecularly imprinted polymers simulated by a probability-based computer model. **X. Wu**, K. D. Shimizu
- 86.** Carbonization studies of glassy carbon derived from bis-ortho-diyndarenes (BODA). **S. T. Iacono**, M. W. Perpall, P. G. Wapner, W. P. Hoffman, D. W. Smith Jr.
- 87.** Conjugated polymer assembly: A unique approach to small molecule sensing. **T. L. Nelson**, C. O'Sullivan, J. J. Lavigne
- 88.** Crosslinked hyperbranched conjugated polymers. **G. Kheter Paul**, J. R. Reynolds
- 89.** Narrow band gap donor-acceptor polymers. **T. T. Steckler**, J. R. Reynolds
- 90.** Soluble Poly(3,4-propylenedioxythiophenes): Aryloxy derivatives. **A. G. Jones**, B. D. Reeves, J. R. Reynolds
- 91.** Functionalization of conjugated polymers with pendant groups to improve compatibility with ionic species. **R. N. Brookins**, E. Unur, J. R. Reynolds
- 92.** Synthesis and characterization of acetylene-terminated hyperbranched poly(arylene-ether-ketone-imide)s. **D. H. Wang**, L.-S. Tan
- 93.** Synthesis of thermoresponsive water-soluble polymers with pendant oligo(ethylene glycol) groups by controlled radical polymerization. B. Zhao, D. Li, F. Hua, D. R. Green, **X. Jiang**
- 94.** Solvent effect in the Cp<sub>2</sub>TiCl-catalyzed living radical polymerization of styrene initiated by epoxide radical ring opening. **A. D. Asandei**, I. W. Moran, Y. Chen, G. Saha
- 95.** Effect of additives in the Cp<sub>2</sub>TiCl-catalyzed living radical polymerization of styrene initiated by epoxide radical ring opening. **A. D. Asandei**, I. W. Moran, G. Saha, Y. Chen
- 96.** Effect of reducing agents in the Cp<sub>2</sub>TiCl-catalyzed living radical polymerization of styrene initiated by epoxide radical ring opening. **A. D. Asandei**, I. W. Moran, G. Saha, Y. Chen
- 97.** Semi-enzymatically produced 6-phenylethynyl picolinic acid as endcapping agent: Synthesis and thermal properties of phenylethynyl-terminated bis(benzylester) and bis(amide) monomers. D. H. Wang, J.-B. Baek, S. F. Nishino, J. C. Spain, **L.-S. Tan**
- 98.** Thermosensitive poly(N-alkylacrylamide)s and block copolymers synthesized via RAFT polymerization. **Y. Cao**, **X. Zhu**
- 99.** Polypropylene fumarate: One example to study the finite length effect on glass transition temperature and polymer dynamics. **S. Wang**, L. Lu, M. J. Yaszemski
- 100.** Crosslinked polymer brushes containing PEO segments. **Y. Zheng**, M. L. Bruening, G. L. Baker
- 101.** Copolymerization of tetrafluorophenyl methacrylate with methyl methacrylate and its effect on glass transition temperature. **H. Teng**, Y. Okamoto
- 102.** Semifluoroalkyl and semifluoroalkoxy substituted PPEs. **G. L. Brizius**, D. M. Collard, J. Tucker
- 103.** Designing of water soluble paclitaxel nano-adducts by non-covalent methods. **K. P. Pemawansa**, I. M. Khan
- 104.** Duplex strand formation based on complementary alternating copolymers. **H. Nakade**, V. M. Rotello
- 105.** First injectable poly(vinyl alcohol) hydrogel formed by mixing of functional PVA components. **D. A. Ossipov**, J. G. Hilborn



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- 106.** Fluorinated polyarylenethioethersulfone polymers with sulfonic acid pendants for proton exchange membranes. **T. D. Dang**, Z. Bai, M. Yoonessi, M. F. Durstock, J. Shumaker
- 107.** Synthesis and properties of functional  $\beta$ -CD using as inhibitor of urease. **Y. Jiang**, L. Du, Y. Wu, X. Liu, J. Gang, F. Lu
- 108.** Helicity induction in a poly(phenyl isocyanide) bearing carboxy groups with chiral amines in water and memory of macromolecular helicity. **H. Yoko**, K. Maeda, E. Yashima
- 109.** Modification of biodegradable polylactide with perfluoropolyether as a macroinitiator. **D. Haynes**, L. Cureton, D. W. Smith Jr.
- 110.** Modification of molecular weight and physicochemical properties of chitosan by ultrasound. J. Li, **Y. Du**, H. Liang
- 111.** Nanoindentation of poly(benzoyl paraphenylene), polycarbonate and polyetherimide engineering thermoplastics. **P. J. Jones**, L. Wahl, S. E. Morgan
- 112.** Surface friction study of hyaluronic acid thin films through lateral force microscopy. **A. H. Alidedeoglu**, R. Misra, J. Li, S. E. Morgan
- 113.** Development of static and dynamic light scattering techniques to follow the behavior of the protein complex carboxysomes. **G. A. Sorci**, E. B. Williams, G. C. Cannon, S. Heinhorst, S. E. Morgan
- 114.** Nitroxide mediated polymerization of acrylate using new alkoxyamine initiators. **Q. Xia**, R. B. Grubbs
- 115.** Organic-inorganic composite polymer electrolytes based on poly(ethylene glycol)-bridged polysilsesquioxane. S.-Y. Chen, C.-Y. Yuan, W. J. Li, **Y. W. Chen-Yang**
- 116.** Penultimate unit effect on the thermal decomposition of alkoxyamines as determined by thermal gravimetric analysis (TGA). **P. J. Palafox**, D. M. Johnson
- 117.** Phenylated PEEK. **W. A. Feld**, T. Dancevic
- 118.** Photoswitchable polymer coating development by controlled radical polymerization. **N. M. Ahmad**, C. J. Barrett
- 119.** Polymer composite film dielectrics for high energy density capacitor applications. **N. Venkatasubramanian**, T. D. Dang, K. J. Wiacek, S. Fries-Carr
- 120.** Polymerization of styrene and *t*-butyl acrylate by atom transfer radical polymerization: High throughput approach. **M. J. Nasrullah**, D. C. Webster
- 121.** Precision synthesis of poly(vinyl ether)s with cholesteryl or other strongly interacting groups and physical gelation behavior. **A. Date**, S. Kanaoka, S. Aoshima
- 122.** Precision synthesis of various stimuli-responsive star-shaped polymers by living cationic polymerization and their physical properties. **S. Kontani**, E. Fujiyama, T. Shibata, S. Kanaoka, S. Aoshima
- 123.** Fast living cationic polymerization of vinyl ethers using common Lewis acids in the presence of an added base. **A. Kanazawa**, S. Kanaoka, S. Aoshima
- 124.** Preparation of supermolecular polymers with complementary hydrogen bonding motifs. **E. van der Aa**, O. A. Scherman, E. W. Meijer
- 125.** Real-time FTIR monitoring of isobutylene polymerization initiated by 1,2-epoxy-2,4,4-trimethylpentane/ $\text{BCl}_3$  system. **S. Hayat-Soytas**, J. E. Puskas, K. Kulbaba
- 126.** Recoverable silica coated nanoparticle catalysts for the polymerization of  $\epsilon$ -caprolactone. **C. S. Gill**, C. W. Jones
- 127.** Reversible shell cross-linked micelles based on cystamine cross-linking agent. **Y. Li**, C. L. McCormick
- 128.** Single ion conducting fumed silica based nano composite electrolyte for lithium battery. **P. Liu**, G. L. Baker

## 2006 Spring Meeting

129. Study of interaction between various carbon nanotubes and polymer matrices. **C. Zhou**, S. Kumar
130. Synthesis and characterization of a novel acrylate derived from 2,4-toluene diisocyanate and its copolymerization with unsaturated monomers. W. Xie, **C. Kan**, D. Liu
131. Synthesis and characterization of poly(dialkylaminoisoprene) as gene delivery vectors. **Y. Yang**, V. V. Sheares
132. Synthesis and properties of the new conjugated polymer containing benzobisthiazole unit in the main chain. **I. T. Kim**, S. W. Lee, G. B. Park, J. S. Lee, J. H. Lee
133. Synthesis of bithiophene macromonomers and their subsequent polymerization. **T. Israsena Na Ayudhya**, J. J. Lavigne
134. Synthesis of nano-sized fluorine-containing polymer latex by TFEMA-VA-SA emulsifier-free emulsion polymerization. S. Zhang, M. Liu, B. Geng, P. Xia, S. Chu, **X. Z. Kong**
135. Synthesis of new chelating monomers containing bis(carboxymethyl)-L-lysine and their metal-fluoride complexes. X. Xu, J. Shailaja, **D. Billodeaux**, L. Ling
136. Synthesis of thermosensitive poly(vinyl ether)s with various pendant structures by living cationic polymerization. **A. Sasai**, S. Sugihara, S. Kanaoka, S. Aoshima
137. Synthesis, characterization and properties of a new conducting polypyrrole derivative. **I. T. Kim**, S. W. Lee, S. H. Cho
138. Thio-carbamate based high Tg thiol-ene networks. **Q. Li**, D. A. Wicks, C. Hoyle
139. Thiol containing reactive modifiers for wheat gluten based materials. **R. S. Parnas**, A. D. Asandei, R. Dicharry, G. Saha, P. Ye
140. In-situ FTIR monitoring of inimer-type carbocationic polymerization of isobutylene. **L. M. Dos Santos**, J. E. Puskas, K. Kulbaba
141. Nucleophilic aromatic substitution behavior of 3,5-difluorodiphenylsulfone in the formation of poly(arylene ether)s. **E. Fossum**, S. Kaiti, M. Abdellatif, J. Williams, P. Himmelberg
142. Synthesis of branched poly(ether ketone) copolymers via reactions of AB and AB<sub>n</sub> monomers in the presence of core molecules. **L. Sennet**, L. S. Tan, E. Fossum
143. Synthesis and characterization of poly(dicyclohexylglycolide)-block-poly(ethylene glycol)-block-poly(dicyclohexylglycolide) triblock copolymers: High Tg polylactides with improved impact resistance. **F. Jing**, M. R. Smith III, G. L. Baker
144. Alternative synthetic route to stereoblock poly(lactic acid) with high molecular weight. **K. Fukushima**, Y. Kimura
145. Anionic synthesis of graft copolymers by using well-defined poly(4-isopropenylstyrene) II. **M. Hayashi**, K. Inagaki, K. Sugiyama, A. Hirao
146. Effect of preparation methods on the viscoelastic properties of polymer composites reinforced by soy spent flakes. **L. Jong**
147. Naphthoic acid derivatives as hydrogen bond donors in supramolecular materials. **J. R. Kumpfer**, P. J. Riedel, K. N. Wiegel
148. Synthesis of poly(amidoamine) dendrimers containing deuterated atoms and triple bonds in the core. **P. Goyal**, K. Yoon, M. Weck
149. Synthesis and thermoresponsive property of end-functionalized poly(*N*-isopropylacrylamide)s with phenyl, biphenyl, and triphenyl groups. **A. Narumi**, Q. Duan, Y. Miura, T. Satoh, H. Kaga, T. Kakuchi
150. Preparation and properties of PMMA-silica nano-hybrid free-standing films prepared from camphorsulfonic acid-catalyzed. **C -J. Weng**, J -M. Yeh, C -F. Dai

## 2006 Spring Meeting

- 151.** Unique swelling behavior of polymer hydrogels with encapsulated surfactant. **C. G. Densmore**, T. W. Robison, B. F. Smith, R. E. Lewis
- 152.** Synthesis and characterization of polymers with side-chains of schiff-base-functionalized ruthenium bipyridine complexes. G. Zhou, **I. I. Harruna**
- 153.** A novel phenanthroline-functionalized RAFT agent. G. Zhou, **I. I. Harruna**
- 154.** Preparation, characterization and moisture-absorption and moisture-retention abilities of hyaluroinic acid-like 6-carboxylchitin. S. Liping, **D. Yumin**
- 155.** Electro-optical properties of alternating polymers of NLO chromophores and bulky spacers. **Y. Liao**, C. Anderson, P. A. Sullivan, A. Akelaitis, B. H. Robinson, L. R. Dalton
- 156.** Functionalization of polyphosphonates. **H. Byrd**, D. Bond, **G. M. Gray**, K. Branham
- 157.** Catalytic behaviors of  $Cp^*Ti(p-OC_6H_4X)_3/MAO$  ( $X=F, NO_2, H, CH_3, NH_2$  AND  $OCH_3$ ) for bulk syndiotactic polymerization of styrene. Z. Shen, W. Zhou, J. Tu, **R. Wang**
- 158.** Characterization of associative thickener. **X. Z. Kong**, Y. Liu, X. Zhu, Z. Zhang
- 159.** Selective patterning of functional biomolecules using a new water-permeable hybrid stamp. **N. Y. Lee**, J. R. Lim, M. J. Lee, Y. S. Kim
- 160.** Preparation of multiwalled carbon nanotubes/polyurethane composite. **B. Cheng**, H. Liu
- 161.** Brewster angle microscopy study of poly (caprolactone) crystal growth in langmuir films at the air/water interface. **B. Li**, Y. Wu, M. Liu, A. R. Esker
- 162.** Novel supported acid catalyst treated with ultrasonic and plasma technique for PTMEG synthesis. Y. Li, **W. Chu**, M. Chen, C. Zhang, K. Wang
- 163.** Study on the aggregation behavior of organic conjugated molecular naphthalocyanine. J. Wu Sr., **W. Feng Sr.**
- 164.** Lipase-catalyzed regioselective acylation of konjac glucomannan in ionic liquids. **Z -G. Chen**, M -H. Zong, G -J. Li
- 165.** Effect of physical aging on the microstructure and dynamic mechanical properties of poly (ether sulfone) copolymer. **X -M. Zhou**, Z -H. Jiang
- 166.** Highly linear-selective dehydrocatenation of phenylsilane promoted by new group 4 metallocene-based combination catalysts. B -H. Kim, B -S. Pyo, **H -G. Woo**, J. Oh, K -M. Lee, S -W. Lee
- 167.** Catalytic dehydrocatenation of di-n-butylstannane using group 4 and 6 transition metal complexes. B -H. Kim, B -S. Pyo, **H -G. Woo**, J. Oh, K -M. Lee, S -W. Lee
- 168.** Synthesis and properties of a novel functional  $\beta$ -CD copolymer metal complex. **Y. Jiang**, Z. Dong, X. Liu, J. Gang, Y. Wu, S. He
- 169.** Synthesis of polydimethylhydrosiloxanes via telomeric reaction and their characterization. Z. Zhao, Z. Li, **C. Kan**
- 170.** Synthesis and characterization of new polyimide containing calix[4]arenes in the polymer backbone with transport ability. L. Li, **C. Xian**, L. Zheng
- 171.** Synthesis of  $Mg(OH)_2$ /Polystyrene nanocomposite with core-shell structure via atom transfer radical polymerization. **M -J. Chang**, G. J. Jiang Sr., W -T. Yang, J -Y. Tsai, C -W. Chang
- 172.** Sythesis and adsorption properties of poly(ethyleneimine)s with pendent mesogenic groups. **C. Zhang**, X. Tang, M. Xie
- 173.** Self-assembly of multilayer film based on partially doped polyaniline and carboxy polyanilines. T. Moufeng, **T. Bin**, S.

## 2006 Spring Meeting

Jianbin, Z. Junge, G. Lingling, D. Yuping

**174.** Preparation and characterization of low molecular weight chitosan and chito-oligomers with the aid of immobilized neutral protease. J. Li, **Y. Du**, H. Liang

**175.** Dimethacrylate based on cyclic aliphatic epoxides for dental composites. S. Shi, M. Xiao, Y. He, **J. Nie**

**176.** Dynamic transport behavior of water vapour in polyvinyl formal membranes. C. Zeng, **J. Li**, T. Chen, C. Chen

**177.** Effect of oxetyl silica on the kinetics and mechanical properties of dimethacrylates based dental composites. S. Shi, S. Li, M. Sun, **J. Nie**

**178.** A new transparent proton conductor for solid electrochromic devices. **H. Pu**, P. Huang, Z. Yang

**179.** Anhydrous proton conductivity of acid moieties doped heterocycle side-chain polymers. S. Ye, **H. Pu**, G. Xian

**180.** Preparation of nano-composite based on carbon nanotubes coated by conducting polypyrrole. L. Liu, **H. Pu**, G. Xian, Z. Yang, L. Tang

**181.** Preparation of PPXs/AAO hybrid-template via chemical vapor deposition polymerization. X. Cao, **H. Pu**, Z -L. Yang, G. Xian

**182.** Proton-conducting membrane composed of hollow sulfonated polystyrene microspheres, poly(vinyl alcohol) and imidazole. D. Wang, **H. Pu**, Z -L. Yang, F. Jiang, L. Tang

**183.** Simultaneous chemical vapor deposition polymerization of two paracyclophane derivatives. **H. Pu**, Y. Wang

Section B

Unknown Site -- Unknown Room

## Excellence In Graduate Polymer Science Research Symposium

*Cosponsored with PROF, YCC, and PRES*

H. N. Cheng, E. H. Martin, and T. E. Long, *Organizers*

**6:00 - 8:00**

**184.** Well-defined organoboron homo- and block co-polymers. **Y. Qin**, F. Jäkle

**185.** Synthesis and characterization of linear and branched polylactides initiated by glycidol. **L. M. Pitet**, S. B. Hait, D. M. Knauss

**186.** Fabrication of poly(L-lactic acid) substrates with controlled surface morphology and crystallinity via the Langmuir-Blodgett technique. **S. Ni**, W. Lee, M. K. Ferguson-McPherson, J. R. Morris, A. R. Esker

**187.** Composite life under sustained compression and one-sided simulated fire exposure: Characterization and prediction. **J. V. Bausano**, J. J. Lesko

**188.** Enhanced wettability polymer micromolding by 3-D metal transfer process. **X. Wu**, Y. Zhao, Y -K. Yoon, S -O. Choi, J -H. Park

**189.** Heterogeneous catalyzed polymer hydrogenation in an oscillating microreactor. **A. G. Bussard**, K. M. Dooley

**190.** Morphology of hybrid polyethylene-clay nanocomposites prepared by in situ polymerization. **S -Y. A. Shin**, L. C. Simon, J. B. P. Soares

**191.** Colorimetric imprinted polymers as sensors. **C. J. Stephenson**, K. D. Shimizu

**192.** Design, synthesis and photophysics of conjugated polymers as fluorescence "turn-on" chemosensors. **L -J. Fan**, W. E. Jones Jr.

**193.** Electric field alignment of hydrogen-bonded noncentrosymmetric main chain liquid crystalline polymers. **C. Li**, J.

## 2006 Spring Meeting

Wolf, C. Landorf, D. J. Dyer

- 194.** Biomimetic mineralization of silica on tethered polyamine/hydrogel films. **J. Ford**, S. Yang
- 195.** NMR characterization of selectively labeled poly[ethylene-co-(<sup>13</sup>C<sub>2</sub>-vinyl acetate)-co-carbon monoxide] by 3-D NMR methods. **D. Savant**, E. F. McCord, M. Buback, H. Latz, P. L. Rinaldi
- 196.** Segmental mobility of chain ends in poly(methyl acrylate)-d<sub>3</sub>. **B. Metin**, F. D. Blum
- 197.** Solid-state complexation of polymer-cyclodextrin inclusion complexes. **M. A. Hunt**, A. E. Tonelli, C. M. Balik
- 198.** Structural analysis of alanine tripeptide with anti-parallel and parallel  $\beta$ -sheet structures in relation to the analysis of mixed  $\beta$ -sheet structures in *Samia cynthia ricini* silk protein fiber using solid state NMR. T. Asakura, **M. Okonogi**
- 199.** Functionalization of silica nanoparticles for molecular topology fractionation chromatography. **Y. J. Cho**, B. A. Howell

Section C

Unknown Site -- Unknown Room

## Undergraduate Research in Polymer Science

S. E. Morgan and S. Nazarenko, *Organizers*

**6:00 - 8:00**

- 200.** Development of new organoclays for polyurethane elastomers. J. V. McClusky, **J. Ebrom**, E. Bauch, J. Robbins, S. Toledo, A. Vogt
- 201.** Effect of ionomer processing procedures on the behavior of IPMC actuation. **J. R. Bourne**, B. H. Calhoun, A. K. Phillips, R. B. Moore
- 202.** Elastin-based polymeric micelles. **M. B. Anzovino**, K. E. Rutledge, M. A. Baron, S. L. Goh
- 203.** Eneidyne derived polyarylenes for potential use as proton exchange membranes. M. W. Perpall, **E. R. Brocker**, D. W. Smith Jr.
- 204.** Rapid synthesis of poly(p-phenylene ethynylene)s using acetylene gas. **U. H. F. Bunz**, K. P. Gwaltney, **K. A. Arrowood**
- 205.** Superquenching of conjugated polymers by gold nanoparticles and recovery of fluorescence by DNA for sensing applications. **S. A. Krovi**, B. Erdogan, G. Han, I -B. Kim, U. H. F. Bunz, V. Rotello
- 206.** Synthesis of resorcinarene- and calixarene-core polylactide star polymers. **R. D. Dria**, C. D. Cyrus, J. G. Lindner, P. S. Corbin
- 207.** The effects of temperature, initiation light intensity, and photoinitiation systems on acrylate/epoxide hybrid photopolymerizations using Raman spectroscopy. **J. Alcantar**, Y. Cai, J. L. P. Jessop
- 208.** Thermal properties of octaisobutyl polyhedral oligomeric silsesquioxane/polypropylene hybrid nanocomposites. **K. Hamilton**, R. Misra, S. E. Morgan
- 209.** Using Static light scattering and viscometry to explore the properties of a linear polyelectrolyte of different molecular weight under various conditions. **D. Rigney**, C. Gordon, G. A. Sorci

**Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures  
(Sponsored by Green Chemistry and Engineering, Separation Science and Technology  
and Novel Chemistry with Industrial Applications Sub-Divisions)**

2006 Spring Meeting

## Poster Session

*Sponsored by I&EC, Cosponsored with INOR, ORGN, ANYL, ENVR, PHYS, and POLY*

### MONDAY MORNING

Section A

Unknown Site -- Unknown Room

## Nano-structured Polymers

### Hybrid Materials

A. R. Hopkins and R. M. Villahermosa, *Organizers*

**8:30** — Introductory Remarks.

**8:35 —210.** Structures and properties of carbon nanotube based continuous nanocomposite yarns. **F. Ko**, R. Foedinger, S. Chung, S. Chatterjee, K. Roberts, N. L. Titchenal

**9:05 —211.** Polymer nanocomposites designed with polyhedral oligomeric silsesquioxanes (POSS) and plastics. **J. M. Mabry**, T. S. Haddad

**9:35 —212.** Effect of processing conditions on chemical make-up of di-isocyanate crosslinked silica aerogels. **M. A. B. Meador**, L. A. Capadona, P. Vassilaras, N. Leventis

**9:55** — Intermission.

**10:15 —213.** Nanoscale surface topography and friction of polypropylene/polyhedral oligomeric silsesquioxane (POSS) hybrid nanocomposites. **R. Misra**, S. E. Morgan

**10:35 —214.** Ordered hierarchical silica hybrid nanostructure with dual porosity derived from porogen-grafted silica precursors. **W. Cho**, B. Cha, J. M. Kim, K. Char

**10:55 —215.** Preparation of nanoparticles with an amphiphilic polycarbodiimides. **H. Li**, B. Novak

**11:15 —216.** Thiol-ene/POSS nanocomposites. T. S. Clark, **S. Nazarenko**, J. G. Kopchick, C. E. Hoyle

Section B

Unknown Site -- Unknown Room

## Flory Education Award in Honor of William J. MacKnight

R. J. Farris, *Organizer*

J. J. Aklonis, *Presiding*

**8:50** — Introductory Remarks.

**9:10 —217.** Polymer education in chemistry. **D. A. Tirrell**

**9:35 —218.** Polymer education in chemical engineering: Educating molecular systems engineers. **M. Tirrell**

**10:00** — Intermission.

**10:20 —219.** Missing link: Teaching the physics and mechanics of polymeric solids. **R. J. Farris**

**10:45 —220.** Polymer education and the gap between formal instruction and research practice. **M. T. Shaw**

2006 Spring Meeting

11:10 —221. Undergraduate research in polymer science. **R. Y. Lochhead**

Section C

Unknown Site -- Unknown Room

## **Excellence In Graduate Polymer Science Research Symposium**

*Cosponsored with PROF, YCC, and PRES*

H. N. Cheng, *Organizer*

E. H. Martin and T. E. Long, *Organizers, Presiding*

**8:25** — Start of the Session.

**8:30** —222. Direct synthesis of non-immunogenic, hydrophilic/cationic block copolymers via aqueous RAFT polymerization for gene delivery applications. **C. W. Scales**, Y. Vasilieva, A. J. Convertine, C. L. McCormick

**8:55** —223. High-throughput approach to functional materials supporting human ES cell self-renewal. **R. Derda**, L. Li, B. P. Orner, R. Lewis, J. Thomson, L. L. Kiessling

**9:20** —224. Induced helicity in peptide nucleic acid duplexes. **V. Jain**, M. M. Green, A. Faccini, T. Tedeschi, R. Corradini, B. A. Armitage

**9:45** —225. Randomly branched poly(2-dimethylaminoethyl methacrylate) polyelectrolytes as gene transfection agents. **J. M. Layman**, A. A. Hirani, M. G. McKee, J. M. Pickel, P. Britt, Y. W. Lee, T. E. Long

**10:10** — Intermission.

**10:25** —226. Polyester nanocomposite blends for optical sensor applications. **B. R. Crenshaw**, C. Weder

**10:50** —227. Polymer light-emitting diodes based on poly(cyanofluorene-alt-o/m/p-phenylenevinylene)- alternating copolymers. **P. Taranekar**, M. Abdalbaki, P. Waenkaew, D. L. Patton, T. M. Fulghum, R. C. Advincula

**11:15** —228. Applications of microscale plasma-initiated patterning ( $\mu$ PIP). K. E. Uhrich, **B. A. Langowski**

## **Highly Branched and 3-Dimensional Polymers and Interfaces**

### **Synthesis and Structure of Highly Branched and 3-D Molecules**

*Sponsored by PMSE, Cosponsored with POLY*

### **Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures (Sponsored by Green Chemistry and Engineering, Separation Science and Technology and Novel Chemistry with Industrial Applications Sub-Divisions)**

#### **Ionic Liquid Environmental Fate and Toxicity**

*Sponsored by I&EC, Cosponsored with INOR, ORGN, ANYL, ENVR, PHYS, and POLY*

### **Polymers, Nanoparticles and Composite Materials in Nanoscience**

2006 Spring Meeting

## Stimuli Responsive Materials and Mesoscale Oriented Structures

*Sponsored by PMSE, Cosponsored with POLY*

### Undergraduate Research Poster Session: Polymer Chemistry

*Sponsored by CHED, Cosponsored with SOCED, POLY, and PRES*

#### MONDAY AFTERNOON

Unknown Site -- Unknown Room

Section A

#### Nano-structured Polymers

#### Synthetic Techniques and Novel Materials

A. R. Hopkins and R. M. Villahermosa, *Organizers*

**1:30** — Introductory Remarks.

**1:35 —229.** Organic single-crystal transistors: From nanometer to centimeter scales. **A. L. Briseno**, M -M. L. Roberts, Z. Bao

**2:05 —230.** The chemical synthesis of nano-structured conducting polymers and their applications. **M. G. Han**, S. H. Foulger

**2:35 —231.** Nano- and microspheres with chemically-patterned surfaces. **G. Liu**, R. Zheng

**2:55 —232.** Enhanced intermolecular interaction in polystyrene-clay brush and its effect on relaxation dynamics and degradation mechanism. **K. Chen**, I. Dranca, S. Vyazovkin

**3:15** — Intermission.

**3:35 —233.** Nanometer-scale pillars and honeycombs of polymers on a solid surface using nanosphere lithography: A comparison of synthesis and adsorption. M. Marquez, **B. P. Grady**, K. Patel, D. Schmidtke

**3:55 —234.** Superhydrophobic fabrics by decorating electrospun fibers. **M. Ma**, Z. Li, L. Zhai, M. Rubner, G. C. Rutledge

**4:15 —235.** Synthesis and characterization of shell-cross-linked polymer model networks and large-core star polymers based on methyl methacrylate. **D. Kafouris**, M. Gradzielski, C. S. Patrickios

**4:35 —236.** Polymorphism and thermal properties of poly(vinylidene fluoride)/clay nanocomposites. **P. K. Pallathadka**, T. Liu, C. T. Shang Shang

Unknown Site -- Unknown Room

Section B

#### Flory Education Award in Honor of William J. MacKnight

R. J. Farris, *Organizer*

R. Weiss, *Presiding*

**1:30 —237.** Polymer education. **T. P. Russell**



## 2006 Spring Meeting

- 1:55 —238.** Industrial expectations of polymer science education. **J. Pochan**
- 2:20 —239.** Polymer education at the dawn of the 21st century: A view from NSF. **A. J. Lovinger**
- 2:45 —** Intermission.
- 3:05 —240.** Polymer science and engineering at the University of Akron. **F. N. Kelley**
- 3:30 —241.** Development of polymer education at UMass. **W. J. MacKnight**

Section C

Unknown Site -- Unknown Room

## Excellence In Graduate Polymer Science Research Symposium

*Cosponsored with PROF, YCC, and PRES*

E. H. Martin and T. E. Long, *Organizers*

J. M. Uilk, *Presiding*

H. N. Cheng, *Organizer, Presiding*

**1:15 —** Start of the Session.

**1:20 —** Recognition of Poster Presenters.

**1:30 —242.** Electrochemical polymerization of highly conjugated Poly(thiophene). **M. J. Graham**, S. Jin, F. W. Harris, S. Z. D. Cheng

**1:55 —243.** Mechanistic studies of enhanced polymerization characteristics of novel (meth)acrylic monomers. **H. Kilambi**, J. Stansbury, C. N. Bowman

**2:20 —244.** Mechanical properties of novel rubbers from the cationic copolymerization of soybean oil and dicyclopentadiene. **D. D. Andjelkovic**, R. Larock

**2:45 —245.** Biocompatible chiral superstructures: Synthesis, characterization and self-assembly of helical poly(2-methoxystyrene)-block-poly(ethylene oxide) diblock copolymers. **J. Mendenhall**, I. M. Khan

**3:10 —** Intermission.

**3:25 —246.** Synthesis and surface morphology of amphiphilic cross-linked networks composed of hyperbranched fluoropolymers by ATR-SCVCP and diamine-terminated poly(ethylene glycol). **K. T. Powell**, C. Cheng, K. L. Wooley

**3:50 —247.** Salt tunable m-dPEG acid patterns on polyelectrolyte multilayers: Templates for directed deposition of macromolecules. **S. Kidambi**, I. Lee, C. Chan

**4:15 —248.** Single wall carbon nanotube templated crystallization and orientation of poly(vinyl alcohol). **M. L. Minus**, S. Kumar

**4:40 —** Remarks by ACS President E. Ann Nalley.

**4:50 —** Reception and Networking.

## Highly Branched and 3-Dimensional Polymers and Interfaces

### Synthesis and Structure of Highly Branched and 3-D Molecules

*Sponsored by PMSE, Cosponsored with POLY*

2006 Spring Meeting

**Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures  
(Sponsored by Green Chemistry and Engineering, Separation Science and Technology  
and Novel Chemistry with Industrial Applications Sub-Divisions)**

**New Industrial Applications of Ionic Liquids**

*Sponsored by I&EC, Cosponsored with INOR, ORGN, ANYL, ENVR, PHYS, and POLY*

**Polymers, Nanoparticles and Composite Materials in Nanoscience**

**Biomimetic Polymers and Materials for Bioengineering**

*Sponsored by PMSE, Cosponsored with POLY*

**MONDAY EVENING**

Unknown Site -- Unknown Room

Section A

**Sci-Mix**

K. E. Uhrich and D. Kiserow, *Organizers*

**8:00 - 10:00**

**77-78, 81, 85, 87, 95, 97, 104, 110-112, 116, 118, 125, 127, 129, 132, 138-139, 151, 160, 164, 176, 178, 182-183, 189, 193, 202, 205, 208.** See previous listings.  
**280, 286, 291, 307, 311.** See subsequent listings.

**TUESDAY MORNING**

Unknown Site -- Unknown Room

Section A

**Nano-structured Polymers**

**Copolymer Structures**

A. R. Hopkins and R. M. Villahermosa, *Organizers*

**8:30** — Introductory Remarks.

**8:35 —249.** Synthesis of KDP nanocrystals in micellar solutions of block copolymers of poly(styrene) and poly(oxyethylene). **T. W. Smith**, M. Ayubali, M. Kotlarchyk, A. Langer

**8:55 —250.** Linear-dendritic diblock copolymers for receptor-mediated gene delivery. **K. C. Wood**, R. Langer, P. T. Hammond

**9:15 —251.** Controlling the nanostructure of polymers with cyclodextrins. **M. A. Hunt**, B. J. Busche, M. Rusa, T. Uyar, C. C. Rusa, C. M. Balik, A. E. Tonelli

**9:35 —252.** Nanoparticle self assembly and solution behavior of biocompatible polypeptide-dendron block copolymers. **L. Tian**, P. T. Hammond

## 2006 Spring Meeting

**9:55 —253.** Complex structures from self-assembly of triblock copolymers in solution. **Z. Chen**, H. Cui, K. Hales, Z. Li, K. Qi, D. J. Pochan, K. L. Wooley

**10:15** — Intermission.

**10:35 —254.** Influence of microphase separation on the smectic ordering in a series of side group liquid crystal block copolymers. I. W. Hamley, V. Castelletto, **P. Parras**, Z. B. Lu, T. Itoh

**10:55 —255.** Morphology and deformation induced ordering of low T<sub>g</sub> side chain liquid crystalline block copolymers. **E. Verploegen**, L. Tian, L. C. McAfee, D. Verploegen, P. T. Hammond

**11:15 —256.** Self-assembly of PFS-*b*-PMMA block copolymers in a selective solvent. **M. A. Hempenius**, I. Korczagin, R. G. Fokkink, M. A. Cohen Stuart, M. Al-Hussein, P. H. H. Bomans, P. M. Frederik, G. J. Vancso

**11:35 —257.** Synthesis and assembly of comb block copolymers in the solid state. M. B. Runge, **N. B. Bowden**

**11:55 —258.** Synthesis and SAXS characterization of sulfonated styrene-ethylene/propylene-styrene triblock copolymers. **B. D. Mather**, F. L. Beyer, T. E. Long

**12:15 —259.** Synthesis and study of comb-like block copolymers in selective solvent using light scattering and AFM. **D. Lanson**, M. Schappacher, R. Borsali, A. Deffieux

Section B

Unknown Site -- Unknown Room

## Textiles And New Polymer Fibers

### New Concepts

A. C. Griffin, *Organizer*

M. Srinivasarao, *Presiding*

**9:00** — Introductory Remarks.

**9:10 —260.** PMMA stereocomplex fibers. **M. Crne**, J. O. Park, M. Srinivasarao

**9:35 —261.** Electrochromic "chameleon" nanofibers of polythiophenes via electrostatic spinning. **G. A. Soetzing**, A. Kumar, T. Chen, C. I. Asemota, M. Marquez

**10:00 —262.** Main chain liquid crystalline polymers with an unusual transverse rod architecture. W. Ren, P. J. McMullan, M. Minus, S. Kumar, **A. C. Griffin III**

**10:25** — Intermission.

**10:35 —263.** Ultrahydrophobic textiles: Lotus approach. **K. Ramaratnam**, K. S. Iyer, M. K. Kinnan, G. Chumanov, P. J. Brown, I. Luzinov

**11:00 —264.** Modification of air filter media with nylon-6 nanofibers. **L. Li**, M. W. Frey

**11:25 —265.** Structure evolution in polymer fibers during solvent evaporation. **P. Dayal**

## Highly Branched and 3-Dimensional Polymers and Interfaces

### Assembly and Structure of Highly Branched and 3-D Molecules

2006 Spring Meeting

*Sponsored by PMSE, Cosponsored with POLY*

## **Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures (Sponsored by Green Chemistry and Engineering, Separation Science and Technology and Novel Chemistry with Industrial Applications Sub-Divisions)**

### **Really New Ionic Liquids**

*Sponsored by I&EC, Cosponsored with INOR, ORGN, ANYL, ENVR, PHYS, and POLY*

## **Polymers, Nanoparticles and Composite Materials in Nanoscience**

### **Controlled Synthesis Via Polymer Mediated Assembly and Polymerization from Nanoparticles**

*Sponsored by PMSE, Cosponsored with POLY*

#### **TUESDAY AFTERNOON**

Unknown Site -- Unknown Room

Section A

### **Polymers For Enabling Nanoscale Patterning**

#### **Photolithography**

*Cosponsored with PMSE*

C. G. Willson, A. J. Crosby, and K. R. Carter, *Organizers, Presiding*

**1:30 —266.** Non-PFOS photoacid generating compounds for chemically amplified resists. **R. Ayothi**, Y. Yi, N. Felix, C. K. Ober, H. Cao, W. Yueh

**1:55 —267.** Measurements towards the materials sources of line-edge roughness in chemically amplified photoresists. **E. K. Lin**, V. M. Prabhu, B. D. Vogt, S. Kang, A. Rao, S. K. Satija, W -L. Wu, K. Turnquest

**2:20 —268.** Study of initiator anchoring onto silicon substrate by surface initiated polymerization in ATRP. **Z. Bao**, M. L. Bruening, G. L. Baker

**2:45 —269.** Methods for the preparation of defined embedded defects in polymer opals. B. Lange, **R. Zentel**, C. Ober

**3:10 —** Intermission.

**3:30 —270.** Photolabile functional polymers for surface patterning and specific attachment of nanostructures. **M. Millaruelo**, B. Sieczkowska, M. Messerschmidt, M. Mertig, J. Opitz, L. Eng, W. Pompe, B. Voit

**3:55 —271.** Molecular ruler lithography processes and their application to sub 50nm MOS Devices. **S. Subramanian**, J. Catchmark

**4:20 —272.** Pattern generation in photonic crystal hydrogel films via photopolymerization. **Y. Ying**, P. Jiang, J. R. Lawrence, S. H. Foulger

Unknown Site -- Unknown Room

Section B

2006 Spring Meeting

## Textiles And New Polymer Fibers

### Applications

A. C. Griffin, *Organizer*

M. Jaffe, *Presiding*

**2:00 —273.** Polymer/carbon nanotube composite films and fibers. **S. Kumar**

**2:40 —274.** Effect of bending and mechanical damage on the physical properties of poly(p-phenylene-2,6-benzobisoxazole)(PBO) fiber. **A. L. Forster**, J. W. Chin, M. Gundlach

**3:05 —275.** Temperature and humidity aging of poly (p-phenylene benzobisoxazole) fibers. **J. W. Chin**, A. L. Forster, K. Rice

**3:30 —** Intermission.

**3:40 —276.** Complex structural behavior of biodegradable polyarylates: Impact on fiber properties. **S -U. Yoo**, M. Jaffe, G. Collins, A. Recber, J. Schut, J. Kohn, J. Rafalko

**4:05 —277.** Capillary channeled polymer (C-CP) fiber based devices. **P. J. Brown**, K. R. Marcus, C. K. Webb, K. Sinclair, K. Stevens, L. Fuller, D. M. Nelson, R. D. Stanelle

**4:30 —278.** Effect of binary graft copolymerization on dye uptake capacity of cellulose fibers. **K. C. Gupta**, S. Sahoo

## Highly Branched and 3-Dimensional Polymers and Interfaces

### Assembly and Structure of Highly Branched and 3-D Molecules

*Sponsored by PMSE, Cosponsored with POLY*

## Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures (Sponsored by Green Chemistry and Engineering, Separation Science and Technology and Novel Chemistry with Industrial Applications Sub-Divisions)

### Ionic Liquids and Education

*Sponsored by I&EC, Cosponsored with INOR, ORGN, ANYL, ENVR, PHYS, and POLY*

## Polymers, Nanoparticles and Composite Materials in Nanoscience

### Intelligent and Optically Active Materials

*Sponsored by PMSE, Cosponsored with POLY*

## TUESDAY EVENING

Unknown Site -- Unknown Room

Section A

## Polymer Transducers

*Cosponsored with PMSE*

T. E. Long, D. J. Leo, R. B. Moore, and M. S. Bratcher, *Organizers*

**6:00 - 8:00**

**279.** An efficient route towards functional PPV-derivatives for sensor applications. **I. Van Severen**, L. Lutsen, D. Vanderzande, T. J. Cleij

**280.** Fabrication of ionic polymer metal composite actuators through manipulation of the nano-structure of perfluorosulfonate ionomers. **J. K. Park**, J. M. Carr, B. Calhoun, R. B. Moore

**281.** Soft structured sensors and connectors by inkjet printing. **P. Calvert**, A. Sawhney, A. Agrawal, T -C. Lo, P. K. Patra, C. H. Chen

Section B

Unknown Site -- Unknown Room

## Nano-structured Polymers

A. R. Hopkins and R. M. Villahermosa, *Organizers*

**6:00 - 8:00**

**282.** Chiral, *meta*-linked conjugated polyelectrolyte: Helical conformation and induced aggregation of cyanine dyes. **X. Zhao**, K. S. Schanze

**283.** Synthesis and characterization of POSS and colloidal silica perfluorocyclobutyl hybrids. **S. C. Ligon Jr.**, D. W. Smith Jr.

**284.** Crosslinked chitosan nanoparticles. **J. Borbely**, M. Bodnar, J. F. Hartmann

**285.** Electro-nanowriting in azobenzene layer-by-layer ultrathin films by current-sensing atomic force microscopy. **A. Baba**, R. Xu, G. Jiang, R. C. Advincula

**286.** Functionalization of multi-wall carbon nanotube as functions of reacting groups and substituents. H -J. Lee, S -J. Oh, J -Y. Choi, L -S. Tan, **J -B. Baek**

**287.** Hydrophilic nanoparticles. **J. Borbely**, J. F. Hartmann, I. B. Borok

**288.** In-situ grafting of poly(ether-ketones) from ab monomers with varying multi-walled carbon nanotube loads. S -J. Oh, H -J. Lee, J -Y. Choi, L -S. Tan, **J -B. Baek**

**289.** Lead Ion binding nanoparticles. **J. Borbely**, M. F. Fawzi, J. F. Hartmann

**290.** One-pot synthesis and micellisation of polystyrene-b-poly(2-(dimethylamino) ethyl methacrylate) copolymer: Application to emulsion stabilization. **A. Roudot**, N. Pantoustier Sr., E. Larquet Sr., D. Cakara Sr., P. Perrin Sr.

**291.** New aromatic perfluorocyclobutyl (PFCB) polymer colloids for optical devices. **S. M. Budy**, S. Suresh, S. H. Foulger, D. W. Smith Jr.

**292.** Pga based nanoparticles. **J. Borbely**, J. F. Hartmann, J. E. Fleischer Radu

**293.** Poly acrylic acid based nanoparticles. **J. Borbely**, R. M. Molnar, J. F. Hartmann, I. B. Borok

**294.** Poly(propylene oxide) grafted onto the surface of cds nanocrystals using ring-opening polymerization under double metal cyanide complex catalyst. **L. Chen**, Y. F. Shen, S. Chen

**295.** Polymeric nanoparticles. **J. Borbely**, A. Úveges, J. F. Hartmann

**296.** Preparation of crosslinked nanoparticles. **J. Borbely**, A. J. Veres, J. F. Hartmann

## 2006 Spring Meeting

**297.** Supramolecular fluorescent labels for flow cytometry and confocal microscopy based on nanostructured DNA templates. **A. L. Benvin**, Y. Creeger, G. W. Fisher, B. Ballou, A. S. Waggoner, B. A. Armitage

**298.** Synthesis and characterization of non-natural nanoscale polymeric ligands with biofunctional properties. **B. Sannigrahi**, S. Dwaipayyan, B. Baird, I. M. Khan

**299.** Synthesis and characterization of star-like peptide-polymer hybrid molecules. **S. Duman**, M. A. Biesalski

**300.** Synthesis of PEGylated star microgel with core functionality for click chemistry by nitroxide-mediated radical polymerization. **K -I. Fukukawa**, E. Pressly, N. Gupta, C. J. Hawker

**301.** Synthesis of water-soluble single-walled carbon nanotube-polyacetylene nanocomposites. B -C. Ku, **D. K. Kim**, J. S. Lee, A. Blumstein, J. Kumar, L. Samuelson

**302.** Thermally induced order in PPV-derivatives. **L. Breban**, L. Lutsen, D. Vanderzande, T. J. Cleij

**303.** Urethane substituted polydiacetylene microcrystals: fabrication, characterization and relationship to thermochromism. **X. Wang**, D. J. Sandman, J. Kumar, J. S. Lee

Section C

Unknown Site -- Unknown Room

## Polymers For Enabling Nanoscale Patterning

*Cosponsored with PMSE*

K. R. Carter, A. J. Crosby, and C. G. Willson, *Organizers*

**6:00 - 8:00**

**304.** Electrochromic systems based on the reversible formation of nanometer-sized silver particles and wires within polymer films. **J. R. Black**, V. Cammarata, G. A. Gaddy, B. L. Slaten, G. Mills

**305.** Nanopatterning of carbazole terminated poly(aryl ether) dendrimers by current sensing AFM. **H -K. Shin**, J. Y. Park, P. Taraneekar, T. M. Fulghum, A. Baba, Y. Park, R. C. Advincula

**306.** Replicating fluid morphologies: From single molecules to macroscopic drops. **J. R. Boyce**, F. Sun, S. S. Sheiko, B. W. Maynor, J. M. DeSimone, B. S. Sumerlin, K. Matyjaszewski

**307.** Synthesis and polymerization of alkyne-containing monomers: Towards dendronized polymers via combination of NMRP and click-chemistry. **S. Fleischmann**, M. Messerschmidt, B. I. Voit, C. J. Hawker

**308.** Synthesis of reactive chemical additives for functional Nanoimprinted polymer film. **D. Koylu**, S. B. Jhaveri, K. R. Carter

Section D

Unknown Site -- Unknown Room

## Textiles And New Polymer Fibers

A. C. Griffin, *Organizer*

**6:00 - 8:00**

**309.** An "artificial lotus leaf" prepared using a 1945 patent and a commercial textile. **L. Gao**, T. J. McCarthy

**310.** Electrospinning of cellulose acetate with varied molecular weight. **H. Liu**

**311.** Electrospinning of precursor and electroactive polymers. **T. M. Fulghum**, A. Marruffo, V. Subramanian, W. Kaul, P. Taraneekar, S. Baldelli, J. Macossay-Torres, R. C. Advincula

**WEDNESDAY MORNING**

Unknown Site -- Unknown Room

## Polymers For Enabling Nanoscale Patterning

### Imprint Lithography

*Cosponsored with PMSE*

C. G. Willson, A. J. Crosby, and K. R. Carter, *Organizers, Presiding*

**8:30** — Introductory Remarks.

**8:35 —312.** Organic imaging materials: A view of the future. **C. G. Willson**

**9:00 —313.** Development of new polymer resists for nanoimprint lithography. **L. J. Guo**, C. Pina-Hernandez, P. Choi, X. Cheng, P -F. Fu

**9:25 —314.** Polymer imprint lithography at the molecular scale. **J. A. Rogers**

**9:50 —315.** Materials for step-and-flash nanoimprint lithography. **H. Ito**, F. A. Houle, M. W. Hart, R. DiPietro, E. Hagberg, K. R. Carter

**10:15 —316.** Quantifying the mechanisms of adhesion and release in imprint lithography. E. P. Chan, D. P. Holmes, J. Whang, **A. J. Crosby**

**10:40** — Intermission.

**10:50 —317.** Printing solid inks. **R. Nuzzo**

**11:15 —318.** Nanocontact molding imprint lithography: Not just another technology to pattern sacrificial polymer resists. **K. R. Carter**, T. von Werne, M. Beinhoff, E. C. Hagberg, S. B. Jhaveri

**11:40 —319.** Nanoprocessing of polythiophenes: Direct-write and nanoimprint for conductive polymer pattern generation. **G. A. Sozning**, A. Kumar, J. Choi, E. R. Catuccio, M. Marquez

**12:05 —320.** Reactive block copolymer film platforms: From tailored biointerfaces to nanopericidic arrays. **H. Schönherr**, C. L. Feng, G. J. Vancso

Unknown Site -- Unknown Room

## Interfacial Metrology for Organic Materials

### Liquids and Films: Tutorial

*Cosponsored with CATL*

J. L. Lenhart and D. G. Castner, *Organizers*

C. Soles, *Organizer, Presiding*

**9:00 —321.** Synchrotron X-ray studies of nano-wetting, nano-particles and nano-structures. **P. Pershan**, K. J. Alvine, D. Pontoni, M. Fukuto, O. Gang, B. M. Ocko, O. G. Shpykro, D. Cookson, T. Russell, K. Shin, C. T. Black, F. Stellacci

**9:40 —322.** Ordering of simple fluids on confinement between an elastomer and solid surface. K. Nanjundiah, **A. Dhinojwala**

**10:20** — Intermission.

**10:40 —323.** Near-edge X-ray absorption fine structure spectroscopy as a characterization tool for organic semiconductors. **D. M. DeLongchamp**, D. A. Fischer, B. M. Vogel, R. J. Kline, Y. Jung, M. Gurau, L. J. Richter, E. K. Lin



2006 Spring Meeting

**11:20 —324.** Nonlinear spectroscopic characterization of polymer thin films. **Z. D. Schultz**, M. Gurau, D. M. DeLongchamp, B. M. Vogel, R. J. Kline, Y. Jung, E. K. Lin, L. J. Richter

## Highly Branched and 3-Dimensional Polymers and Interfaces

### Structure and Properties of Highly Branched and 3-D Molecules

*Sponsored by PMSE, Cosponsored with POLY*

### Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures (Sponsored by Green Chemistry and Engineering, Separation Science and Technology and Novel Chemistry with Industrial Applications Sub-Divisions)

### Ionic Liquids Applications Based on Physical Properties

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## Polymers, Nanoparticles and Composite Materials in Nanoscience

### Functional Polymers and Nanocomposites

*Sponsored by PMSE, Cosponsored with POLY*

## WEDNESDAY AFTERNOON

Unknown Site -- Unknown Room

Section A

## Polymers For Enabling Nanoscale Patterning

### Self Organizing Materials

*Cosponsored with PMSE*

C. G. Willson, A. J. Crosby, and K. R. Carter, *Organizers, Presiding*

**1:30 —325.** Nanopatterning with laterally confined monolayers of asymmetric block copolymers. **G. E. Stein**, E. J. Kramer, X. Li, J. Wang

**1:55 —326.** Block copolymers made to order: Supramolecular interactions at the block junction. **B. G. G. Lohmeijer**, R. C. Pratt, T. M. Hermans, A. F. Mason, J. Choi, A. P. Dove, R. M. Waymouth, J. L. Hedrick, N. P. Balsara

**2:20 —327.** Adjustable nanostructure in thin films of p-hydroxystyrene polymers prepared by controlled radical polymerization. **B. I. Voit**, M. Messerschmidt, A. Leuteritz, S. Fleischmann

**2:45 —** Intermission.

**3:05 —328.** Long-range ordering of brush-like macromolecules enhanced by flow. **S. S. Sheiko**, H. Xu, D. Shirvaniants, M. Rubinstein, K. L. Beers, K. Matyjaszewski

## 2006 Spring Meeting

**3:30 —329.** Graphoepitaxy of diblock-copolymers microdomains by using chemical patterns. **A. Checco**, M. Misner, T. P. Russell, B. M. Ocko

**3:55 —330.** Polymer crystallization-driven, periodic patterning on carbon nanotubes. **L. Li**, C. Li

Section B

Unknown Site -- Unknown Room

## Interfacial Metrology for Organic Materials

### Bio and Nanotech

*Cosponsored with CATL*

C. Soles and D. G. Castner, *Organizers*

J. L. Lenhart, *Organizer, Presiding*

**1:30 —331.** Surface characterization of organic materials by ToF-SIMS: How to improve the sensitivity. **P. G. Bertrand**, A. D. Delcorte

**2:10 —332.** Characterizing the structure of protein films. **D. G. Castner**

**2:50 —** Intermission.

**3:10 —333.** Tuning interface potential for block copolymer thin film ordering. **S. K. Satija**, A. Karim, J. Duangrut

**3:50 —334.** X-ray reflectivity as an effective interface metrology for nanotechnology. **C. Soles**

## Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures (Sponsored by Green Chemistry and Engineering, Separation Science and Technology and Novel Chemistry with Industrial Applications Sub-Divisions)

### Functional Ionic Liquids/Ionic Liquid Materials

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## Polymers, Nanoparticles and Composite Materials in Nanoscience

### Multifunctional Materials

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### THURSDAY MORNING

Section A

Unknown Site -- Unknown Room

## Polymeric Dimensional Change And Residual Stress

C. N. Bowman and J. Antonucci, *Organizers*

J. Stansbury, *Organizer, Presiding*

## 2006 Spring Meeting

8:30 — Introductory Remarks.

8:35 —335. Effect of water concentration on photopolymerized acrylate/epoxides hybrid monomer system by raman spectroscopy. **Y. Cai**, J. L. P. Jessop

8:55 —336. Photopolymerization of 2-methylene-7-phenyl-1,4,6,9-tetraoxaspiro[4.4]nonane. **J. Ge**, M. T. Lemon, J. W. Stansbury

9:15 —337. Polymer-brush modified fillers for dental composites. **P. K. Shah**, J. W. Stansbury

9:35 —338. Polymerization induced phase separation and polymerization sequence as controls of hybrid cationic/free radical photopolymerizations. **L. R. Crawford**, J. W. Stansbury

9:55 — Intermission.

10:10 —339. Polymerization shrinkage and stress development in bioactive urethane acrylic resin composites. **J. Antonucci**, T. B. Icenogle, W. F. Regnault, D -W. Liu, J. N. O'Donnell, D. Skrtic

10:30 —340. Polymerization shrinkage measurements of photocross-linked dimethacrylate films. **S. Lin-Gibson**, F. A. Landis, C. M. Stafford

10:50 —341. Stability and processing induced residual stress in imprinted polymer nanostructures. **C. Soles**, H. W. Ro, Y. Ding, R. L. Jones, D. Hines, E. K. Lin, A. Karim

11:10 —342. Thiol-ene/acrylate based hybrid systems. **A. F. Senyurt**, H. Wei, T. B. Phillips, P. J. Jones, J. G. Kopchick, M. C. Cole, S. Nazarenko, C. E. Hoyle, S. G. Piland, T. E. Gould

11:30 —343. Volumetric expansion behavior of dimethacrylates photopolymerized at low temperature. S. Shi, X. Gao, H. Gao, **J. Nie**

Section B

Unknown Site -- Unknown Room

## General Papers

### Polymer Characterization

D. Garcia, *Organizer*

B. Lavine, *Presiding*

8:00 —344. Simultaneous swelling of amphiphilic conetworks in water and n-heptane. **G. Erdodi**, J. P. Kennedy, C. He

8:20 —345. Surface modification of PDMS-surfaces for protein-passivation, cell immobilization, DNA array and immunoassay. **G. Sui**, J. Wang, Z. T. F. Yu, J. V. Leyton, A. M. Wu, H -R. Tseng

8:40 —346. Swelling of pH sensitive colloidal polyNIPA particles. **B. K. Lavine**, N. Kaval, L. Oxenford

9:00 —347. Cholesteric and nematic liquid crystals of eight filamentous bacteriophages. **S. Tomar**, L. A. Day, M. M. Green

9:20 —348. Effect of surfactant interactions on oligopeptide biocide efficacy. **A. M. Rhoades**, D. A. Wicks, J. S. Williamson, B. Miriyala

9:40 —349. Functional cyclic unsaturated aliphatic polyesters for biomedical applications. **A. H. Brown**, V. V. Sheares

10:00 — Intermission.

10:20 —350. Interaction of phenols with PNIPA hydrogels. K. László, K. Kosik, E. Wilk, **E. Geissler**

10:40 —351. Poly(vinyl alcohol) hydrogels by click chemistry. **D. A. Ossipov**, J. Hilborn

## 2006 Spring Meeting

**11:00 —352.** Polysilanes as nerve cell growth substrates: An odyssey. **B. K. Gikonyo**, L. A. Vermeulen

**11:20 —353.** Helical polyisocyanides with a controlled helix-sense and a supramolecular cholesteric twist-sense. **T. Kajitani**, K. Okoshi, S.-I. Sakurai, E. Yashima

**11:40 —354.** Molecular dynamic simulation of fluorescence anisotropy decays from labelled polyelectrolytes. **K. Prochazka**, P. Kosovan, Z. Limpouchova

**12:00 —355.** Molar-mass distribution of cationic polymers for gene delivery by aqueous SEC. **X. Jiang**, A. van der Horst, M. J. van Steenbergen, N. Akeroyd, C. F. van Nostrum, P. J. Schoenmakers, W. E. Hennink

## **Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures (Sponsored by Green Chemistry and Engineering, Separation Science and Technology and Novel Chemistry with Industrial Applications Sub-Divisions)**

### **Analytical Applications of Ionic Liquids**

*Sponsored by I&EC, Cosponsored with INOR, ORGN, ANYL, ENVR, PHYS, and POLY*

### **Polymers, Nanoparticles and Composite Materials in Nanoscience**

#### **Nanocomposite Thin Films and Nanofillers**

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#### **THURSDAY AFTERNOON**

Unknown Site -- Unknown Room

Section A

#### **Polymer Transducers**

*Cosponsored with PMSE*

T. E. Long, R. B. Moore, and M. S. Bratcher, *Organizers*

D. J. Leo, *Organizer, Presiding*

**1:30 —356.** Application of functional PPV-derivatives prepared via the sulfinyl precursor route as transducers in impedimetric biosensors. **I. Van Severen**, P. Cooreman, R. Thoelen, L. Lutsen, P. Wagner, D. Vanderzande, T. J. Cleij

**1:55 —357.** Anisotropy in the electrical properties of polyurethane elastomer/carbon nanofiber composites. **M. Arlen**, H. Koerner, B. E. Taylor, M. D. Alexander Jr., R. Vaia

**2:20 —358.** Charge transport mechanisms in ionic liquid-swollen nafion membranes. **M. D. Bennett**, D. J. Leo, G. L. Wilkes, F. L. Beyer, T. W. Pechar

**2:45 —359.** Enhanced actuation in artificial muscles through supra-molecular orientation of ionic domains. **R. B. Moore**, J. K. Park, J. Carr, B. Calhoun

Unknown Site -- Unknown Room

Section B

2006 Spring Meeting

## General Papers

### Polymer Characterization

D. Garcia, *Organizer*

D. S. Tyson, *Presiding*

**1:30 —360.** Self-repairing poly(boronate)s: Structural and optical consequences. **B. M. Rambo**, J. J. Lavigne, W. Niu, C. Baraty

**1:50 —361.** Segmental dynamics of poly(vinyl acetate)-d<sub>3</sub> adsorbed on silica by Solid State <sup>2</sup>H NMR: Effect of small molecule plasticizer. **R. R. Nambiar**, F. D. Blum

**2:10 —362.** Biodegradable aliphatic polyester-based materials: Tunable functional elastomers. **D. A. Olson**, V. V. Sheares

**2:30 —363.** Impact of residual metathesis catalyst on thermal stability of a liquid crystalline polymer. H. Qin, **P. T. Mather**

**2:50 —364.** Modular main-chain organometallic polymers based on N-heterocyclic carbene-metal centers. **A. J. Boydston**, C. W. Bielawski

**3:10 —** Intermission.

**3:30 —365.** Multiple loop formation by epoxy-terminated polystyrene telechelics on self-assembled monolayers of 11-mercaptoundecanoic acid over gold. **R. Mehta**, N. Henry, M. D. Dadmun, S. M. Kilbey, H. Ji, J. W. Mays

**3:50 —366.** Patterning of crosslinked gold nanoparticles on block copolymers. **S. Srivastava**, R. Shenhar, E. Jeoung, T. B. Norsten, V. M. Rotello

**4:10 —367.** Probing the glass transition and mechanical properties of perfluorosulfonate ionomer membranes. **S. J. Osborn**, R. B. Moore

**4:30 —368.** Diels-Alder trapping of photochemically generated dienes: A path toward solventless photopolymerized polyimide films. **D. S. Tyson**, F. Ilhan, L. D. Ward, M. A. B. Meador, M. A. Meador

**4:50 —369.** Influence of molecular weight of hydroxypropyl cellulose in hot-melt extruded films on itraconazole delivery. **S. M. Trey**, P. K. Mididoddi, M. A. Repka, D. A. Wicks

**5:10 —370.** Determination of monomer reactivity ratios in the anionic copolymerization of styrene with (4-vinylphenyl)dimethylsilane. R. P. Quirk, **S. RoyChowdhury**

**5:30 —371.** Nanostructured soft organic materials. **S. Manohar**, X. Zhang, A. Wu

## **Ionic Liquids: Not Just Solvents Anymore OR Ionic Liquids: Parallel Futures (Sponsored by Green Chemistry and Engineering, Separation Science and Technology and Novel Chemistry with Industrial Applications Sub-Divisions)**

### **Micro-engineering with Ionic Liquids**