

2004 Fall meeting

**2004 Fall NATIONAL ACS MEETING
Philadelphia, PA (Aug. 22-27, 2004)**

Program Meeting Chair: [Allan Guymon](#)

Deadline for Abstracts and Polymer Preprints: April 20, 2004.*

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

6th International Biorelated Polymers Symposium

R. M. Ottenbrite, Department of Chemistry, Virginia Commonwealth University, Richmond, VA 23284, 804-828-7502, e-mail: ottenbri@saturn.vcu.edu

Advances in Photoinitiated Polymerization

C. N. Bowman, Department of Chemical Engineering, University of Colorado, Boulder, ECCH 111, Boulder, CO 80309-0424, 303-492-3247, fax 303-492-4341, e-mail: christopher.bowman@colorado.edu; A. B. Scranton, Department of Chemical and Biochemical Engineering, University of Iowa, 4133 SC, Iowa City, IA 52242-1219, (319) 335-1414, fax 319-335-1415, e-mail: abscrans@icaen.uiowa.edu

[New Developments in Coatings Technology](#) (co-sponsored with PMSE and Federation of Societies of Coatings Technology)

P. Zarras, Materials Synthesis Branch, NAWCWD, Code 4T4220D, 1 Administration Circle, China Lake, CA 93555, 760-939-1396, fax 760-939-1617, e-mail: zarrasp@navair.navy.mil; B. C. Benicewicz, NYS Center for Polymer Synthesis and Department of Chemistry, Rensselaer Polytechnic Institute, Cogswell Laboratory, Troy, NY 12180, 518-276-2534, fax 518-276-6434, e-mail: benice@rpi.edu; T. G. Wood, Rohm and Haas Company, 727 Norristown Rd., Spring House, PA 19477-0904, 215-641-7199, fax 215-619-1658, e-mail: twood@rohmmaas.com; B. Richey, Rohm and Haas Company, 727 Norristown Rd., Spring House, PA 19477-0904, 215-641-7178, fax 215-619-1648, e-mail: brichey@rohmmaas.com

[Polyelectrolytes and Polyampholytes: From Theory to Application](#)

W. T. Ford, Department of Chemistry, Oklahoma State Univ, PS 107, Stillwater, OK 74078, 405-744-5946, e-mail: wtford@okstate.edu; C. L. McCormick, Department of Polymer Science, The University of Southern Mississippi, S.S. Box 10076, Hattiesburg, MS 39406, 601-266-4221, fax 601-266-6075, e-mail: charles.mccormick@usm.edu

Polymer Science of Everyday Things

D. Bott, Group Technology Office, ICI, Windsor Court, Kingsmead Business Park, London Road, High Wycombe, Bucks, HP11 1JU, United Kingdom, 44 1494 467801, e-mail: david_bott@ici.com; C. Pugh, Department of Polymer Science, The University of Akron, Akron, OH 44325-3909, 330-972-6614, fax 330-972-8864, e-mail: cpugh@polymer.uakron.edu; R. S. Moore, Eastman Kodak Co. (Retired), 25 Cranston Rd., Pittsford, NY 14534, 716-3813366, e-mail: rsmoor4@attglobal.net; A. B. Salamone, Rochal Industries, 740 NW 6th St., Boca Raton, FL 33432, 561-866-0930, e-mail: ABSalamone@aol.com

Polymers for Museums

M. T. Baker, Chemonics International, Egypt MVE, 1133 20th Street, Suite 600, Washington, DC 20036, 202-955-7593, fax 202-955-7570, e-mail: drmarybaker@yahoo.com

Polymers in Dental Materials

J. W. Stansbury, School of Dentistry/Biomaterials Research Center, University of Colorado Health Sciences Center, 12635 East Montview Blvd/Suite 155, P.O. Box 6508/Mail Stop F436, Aurora, CO 80045-0508, 303-724-1044, fax 720-859-4110, e-mail: jeffrey.stansbury@uchsc.edu; J. M. Antonucci, Polymers Division, National Institute of Standards and Technology, 100 Bureau Drive Stop 8545, Gaithersburg, MD 20899, 301-975-6794, fax 301-963-9143, e-mail: joe.antonucci@nist.gov

Industrial Sponsors Award

Unilever Award

General Papers

D. Garcia, ASR, Atofina Chemicals Inc, 900 First Avenue, King of Prussia, PA 19406, 610-878-6731, e-mail: dana.garcia@atofina.com

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DIVISION OF POLYMER CHEMISTRY

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

C. A. Guymon, *Program Chair*

SUNDAY MORNING

Section A

Marriott -- Salon I&J

Polyelectrolytes and Polyampholytes: From Theory to Application

Tutorial

C. L. McCormick, *Organizer*

W. T. Ford, *Organizer, Presiding*

8:30 —1. Polyelectrolyte solutions. Phenomena and interpretation. **H. Morawetz**

9:10 —2. Applications of polyelectrolytes in aqueous media: Tutorial. **R. S. Farinato**

9:50 —3. Polyelectrolytes and Polyampholytes: An overview of major structural features and methods of synthesis. **C. L. McCormick**

10:20 —4. Polybetaines: Synthesis, solution properties, and applications. **A. B. Lowe**

10:50 —5. An overview of amphiphilic polyelectrolytes: Characterization of their associative properties and self-assembled nanostructures in aqueous media. **Y. Morishima**

11:20 —6. Theoretical models of polyelectrolytes and polyampholytes. **M. Rubinstein**

Section B

Marriott -- Salon H

General Papers

Polymer Synthesis

D. Garcia, *Organizer*

S. Harrisson, *Presiding*

8:00 —7. Synthesis of strontium titanate/polyaniline nanocomposites and the study of their electrorheological effect. **K. Su, N. L. Yang**

8:20 —8. Sulfonation of poly(ethylene vinyl alcohol) for electroactive membrane applications. **A. K. Phillips, A. Domenech, M. Wolbert, R. B. Moore**

8:40 —9. Synthesis and characterization of substituted oligomers of phenylene ethynyls. **S. Percec, R. Getty, R. H. French, S. Lustig**

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9:00 —10. Synthesis and characterization of novel cyclosiloxanes and their self- and co-condensation with silanol-terminated polydimethylsiloxane. **J. Daum**, G. Erdödi, J. P. Kennedy

9:20 —11. Transition from living to chain growth olefin polymerization by a single-site homogeneous group 4 catalyst in a batch reactor. **S. V. Maddipati**, J. Haq, A. E. Fenwick, K. Phomphrai, I. P. Rothwell, N. Delgass, J. M. Caruthers

9:40 —12. Room-temperature atom-transfer radical polymerisation of methacrylates in ethylene glycol solvents. **S. C. Moratti**, S. M. Kimani

10:00 —13. Production of ω -primary amine functionalized polymers by atom transfer radical polymerization. **S. Harrison**, K. L. Wooley

10:20 —14. Block copolymers by the conversion of living lithium anionic polymerization into living ruthenium ROMP. **T. C. Castle**, E. Khosravi, L. R. Hutchings

10:40 —15. Synthesis of end functional multiple hydrogen bonded polystyrenes and poly(alkyl acrylates) using controlled radical polymerization. **B. D. Mather**, J. R. Lizotte, T. E. Long

11:00 —16. AEI: End functionalized poly(3-alkylthiophenes) as building blocks for the synthesis of block copolymers. **M. Jeffries-EL**, M. C. Iovu, E. E. Sheina, G. Sauvé, R. D. McCullough

11:20 —17. Hyperbranched polymer synthesis by controlled termination in an anionic polymerization of 4-(chlorodimethylsilyl)styrene. T. Huang, **D. M. Knauss**

11:40 —18. Synthesis of amphiphilic star copolymer A2B2 of polystyrene and poly(ethylene oxide). **M. Liu**, P. F. Britt, J. W. Mays

Section C

Marriott -- Salon G

Polymer Science of Everyday Things

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

D. Bott and K. J. Wynne, *Organizers, Presiding*

8:30 —19. Pet calves: The science of drums. **N. Clarke**

9:10 —20. The science of Bose sound. **B. Lituri**

9:50 —21. Chemistry and the Stradivarius. **J. Nagyvary**

10:30 —22. The acoustic guitar: From classical to Indie rock. **S. K. Pollack**

11:10 —23. Reeds and lips as vibrators (or "motor lips and vibrators"). **T. C. B. McLeish**

11:50 —24. Polymers and guitars: Sights and sounds. **D. Bott, G. E. Wnek**

Emerging Frontiers in Polyolefins

Tutorial

Cosponsored with SPE, and PMSE

SUNDAY AFTERNOON

Marriott -- Salon I&J

Polyelectrolytes and Polyampholytes: From Theory to Application

Physical Properties

W. T. Ford and C. L. McCormick, *Organizers*

V. Kabanov and F. M. Winnik, *Presiding*

1:30 —25. Polyelectrolyte solution rheology. S. Dou, **R. H. Colby**

2:00 —26. Study of polyelectrolyte intrinsic viscosity vs. solution ionic strength: Experiment and theory. **T. S. Rushing**, R. D. Hester

2:20 —27. Solution behavior of pH-responsive polyzwitterions: A comparative study of polyampholytes and polybetaines. **M. J. Fevola**, J. K. Bridges, M. G. Kellum, R. D. Hester, C. L. McCormick

2:40 —28. Effect of topology on the aqueous solution behavior of amphiphilic block and graft copolymers of n-butyl acrylate and acrylic acid. **A. H. E. Müller**, Y. Cai, M. Hartenstein, M. Gradzielski, M. Zhang, H. Mori, D. V. Pergushov

3:10 — Intermission.

3:25 —29. Surface activity and colloidal properties of hydrophobically modified polyvinylamine in aqueous solution. **X. Chen**, **R. Pelton**

3:45 —30. Analysis of spherical polyelectrolyte brushes by anomalous small-angle X-ray scattering. **M. Ballauff**, M. Patel, S. Rosenfeldt, N. Dingenouts, D. Pontoni, T. Narayanan

4:15 —31. Titration of polycarboxylic acids in methanol. Polymer chain extension, ionization equilibria and conformational mobility. **S. K. Pearsall**, M. M. Green, H. Morawetz

4:35 —32. A boundary integral/statistical mechanical method for computing macromolecular titration curves. **J. R. Feldkamp**

4:55 —33. Ionic conductivity, electrochemical and viscoelastic properties of network single ion conductors based on polyeptide ethers and lithium bis(allylmalonate)borate. **X. G. Sun**, J. B. Kerr, G. Liu, C. L. Reeder, Y. Han

Marriott -- Salon H

Polymers in Dental Materials

New Materials and Analytical Approaches

J. M. Antonucci, *Organizer*

J. W. Stansbury, *Organizer, Presiding*

1:30 — Introductory Remarks.

1:35 —34. First cationically curing oxirane based dental filling material. **A. S. Eckert**, K. Dede, S. Ehbrecht, T. Klettke, A. Spenkuch, A. Stippschild, C. Thalacker, W. Weinmann

1:55 —35. Thiol-ene dental materials. **C. N. Bowman**, H. Lu, J. W. Stansbury

2:15 —36. Thiol-ene oligomers as dental restorative material. **J. A. Carioscia**, H. Lu, J. W. Stansbury, C. N. Bowman

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2:35 —37. Organogelators and their application in dental materials. E. A. Wilder, J. B. Quinn, **J. M. Antonucci**

2:55 — Intermission.

3:15 —38. Analysis of the interactions of trialkoxysilanes with dental monomers by MALDI-TOF mass spectrometry. **M. Farahani**, J. M. Antonucci, C. M. Guttman

3:35 —39. Optical density and depth of cure in visible light-cured filled-resin dental restorative materials. **B. W. Darvell**, L. Musanje

4:00 —40. Simultaneous characterizations of polymerization kinetics and volume shrinkage in dimethacrylate/divinyl ether hybrid systems. **Y. Lin**, J. W. Stansbury

4:20 —41. Glass transition region of a photo-cured dimethacrylate - effect of degree of cure and continued polymerization during measurement. **W. D. Cook**, T. Scott, S. Quay-Thevenon, J. Forsythe, W. Xia

4:45 —42. Effect of external heating during photopolymerization on structure and properties of dental resins. **M. Trujillo**, J. W. Stansbury

Section C

Marriott -- Salon G

Polymer Science of Everyday Things

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

R. S. Moore and A. B. Salamone, *Organizers, Presiding*

1:30 —43. Polymers and the art of communication: from electronics and photonics to displays and storage media. **E. Reichmanis**

2:10 —44. Polymers, particles and pits: The evolution of recording media. **A. J. Ryan**

2:50 —45. Electronic polymers and nanoscience - smart tags. **A. G. MacDiarmid**, J. Von Ehr

3:30 —46. Boosting lithium-ion batteries. **M. Burchill**

4:10 —47. Polymeric materials in wireless telecommunication devices. **G. Kim**

Section D

Marriott -- Salon K

General Papers

Polymer Characterization

D. Garcia, *Organizer*

S. Manohar, *Presiding*

1:00 —48. NMR investigation on the complexation of PPI-3 with zinc (II) ions. **M. Choi**, M. Ignash, A. K. Holley

1:20 —49. 3D-NMR characterization of benzyl ketone end groups of a polystyrene macroinitiator. **F. J. Wyzgoski**, S. K. Sahoo, T. V. Holland, H. J. Harwood, P. L. Rinaldi

1:40 —50. Characterization of blend heterogeneity using synchrotron small angle X-ray scattering. **G. C. Gemeinhardt**, A. K. Phillips, K. A. Page, R. B. Moore

2:00 —51. Emergent nanostructures in conducting polymers. **S. K. Manohar**, X. Zhang, A. Wu, H. Kolla

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2:20 —52. Chemical synthesis of carbon microbeads. **L. Ding**, S. V. Olesik

2:40 —53. Anomalous phase separation in micro-tubes. **X. Wang**, N. Mashita

3:00 —54. Preparation of polymeric nanocapsules with perfluoroalkyl whiskers in supercritical carbon dioxide. Y. Z. Menceloglu, **N. Bilgin**, O. Akbulut, H. Taskent, K. Goren, B. Erman

3:20 —55. Sol-gel derived hybrid nanocomposites in porous semicrystalline polymers. **S. H. Jain**, H. Goossens, F. Picchioni, M. van Duin, P. Lemstra

3:40 —56. Environmental aging effects on poly(ester-urethane) and poly(vinyl chloride-co-chlorotrifluoroethylene) polymeric binders. **W. A. Rodin**

4:00 —57. Change of rheological properties of polystyrene-b-poly(ethylene-alt-propylene)/squalane solutions by sulfonation. **Z. Liu**, M. T. Shaw

4:20 —58. Withdrawn.

4:40 —59. Model associative polymer networks generated by inclusion interaction between polymers with cyclodextrin and hydrophobic grafts. **X. Guo**, A. A. Abdala, R. K. Prud'homme, S. F. Lincoln, S. A. Khan

Emerging Frontiers in Polyolefins

Catalysts/Processes

Cosponsored with SPE, and PMSE

SUNDAY EVENING

Section A

Pennsylvania Convention Center -- Hall D

General Papers

Polymer Synthesis and Characterization

D. Garcia, *Organizer*

5:00 - 7:00

60. Synthesis and characterization of amphiphilic poly(beta-alanine-block-beta-n-butylpeptid). **H. Xu**, N. L. Gall, L. Jia

61. Template synthesis of a novel mesoporous cross-linked sulfonated poly(ether ether ketone) membrane. **C. Liu**, J. Wang, J. Economy

62. Synthesis of diphenylethynyldiphenylether and study of curing reaction. **F. Wang, J. Huang, F. Huang**

63. Living cationic polymerization of various polar functional monomers in the presence of added bases. **M. Yonezumi**, T. Tsujino, S. Sugihara, S. Kanaoka, S. Aoshima

64. Precision synthesis of poly(vinyl ether)s for sensitive UCST-type phase separation in various solvents. **K. I. Seno**, M. Inaoka, S. Kanaoka, S. Aoshima

65. Precision synthesis of stimuli-responsive star-shaped polymers by living cationic polymerization. **T. Shibata**, S. Kanaoka, S. Aoshima

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- 66.** Synthesis of block copolymers with azobenzene for photo-responsive and new class of surface modification. **T. Yoshida**, S. Kanaoka, S. Aoshima
- 67.** Precision synthesis and thermosensitive behavior of diblock and triblock copolymers of vinyl ethers. **K. Nishikawa**, Y. Hirabaru, S. Kanaoka, S. Aoshima
- 68.** A novel optically active rod-coil-rod triblock copolymer forms vesicles in dioxane/water. J. Zhang, Y. Yu, **X. Wan**, X. Chen, Q. Zhou
- 69.** Synthesis and optical properties of a macrocyclic trichromophore bundle with parallel-aligned dipole moments. **Y. Liao**, K. A. Firestone, B. H. Robinson, P. J. Reid, L. R. Dalton
- 70.** Reversible Diels Alder type cross-linkable electro-optic polymers with pendant TCF-based chromophore. **S. Bhattacharjee**, J. Luo, M. Haller, A. K. Y. Jen, L. R. Dalton
- 71.** Synthesis and characterization of poly(3-hexylthiophene)-b-polystyrene di-block copolymers. **M. Iovu**, M. Jeffries-EL, E. E. Sheina, A. Krankowski, G. Sauv , R. D. McCullough
- 72.** Synthesis and optical properties of organo-soluble hyperbranched polybenzothiazoles from A3 + B2 monomers. **J. B. Baek**, C. B. Lyons, **L. S. Tan**
- 73.** Synthesis of well-defined DNA-base containing polymers by ATRP. H. Tang, S. Ding, M. Radosz, **Y. Shen**
- 74.** Propargyl-terminated hyperbranched poly(arylene-ether-ketone-imide) with various molecular weights and blends with an ethynyl-terminated bisimide resin. **D. H. Wang**, J. B. Baek, H. Qin, P. T. Mather, F. E. Arnold, L. S. Tan
- 75.** Polymerization of styrene from multiwall carbon nanotubes. **B. Cheng**, Y. Li, C. Shen
- 76.** Synthesis of hyperbranched aromatic polyamides with functionalizations. W. Huh, **J. Y. Kim**, S. W. Lee, J. B. Baek
- 77.** Polymer grafting and cross-linking based on radical exchange reaction of alkoxyamines. **H. Otsuka**, **Y. Higaki**, **A. Takahara**
- 78.** Synthesis of a ferrocenylmethylphosphine-containing polymer. Q. S. Hu, **C. G. Dong**, Z. Y. Tang
- 79.** Amphiphilic poly(meta-phenylene)s: A novel conjugated polysoap; a possible foldamer? **A. Som**, S. Ramakrishnan
- 80.** Synthesis and characterization of poly(perfluoro-2-methylene-1,3-dioxolanes). **W. Liu**, Y. Koike, Y. Okamoto
- 81.** Helix-sense-selective free radical polymerization of a chiral promesogenic monomer. Z. Yu, H. Cao, X. Chen, **X. Wan**, Q. Zhou
- 82.** Synthesis and characterization of high performance poly(thiophene). **J. Graham**, S. Jin, F. W. Harris, S. Z. D. Cheng, T. J. Bunning
- 83.** Synthesis and characterization of substituted ortho-phenylene ethynylene oligomers. G. N. Tew, **T. V. Jones**, R. Laos
- 84.** Synthesis of polycarbosilane elastomers via chain-internal and chain-end latent crosslinking. **P. P. Matloka**, J. C. Sworen, F. Zuluaga, K. B. Wagener
- 85.** Synthesis of polyimide materials for radiation shielding. **Y. Hu**, S. Yang, C. S. Park, **R. A. Orwoll**, B. J. Jensen
- 86.** Use of 9-bromoanthracene photodimers in the atom transfer radical polymerization of styrene. **A. C. Roof**, L. J. Bayne, E. S. Tillman
- 87.** Synthesis of gradient copolymer brushes via surface initiated atom transfer radical copolymerization. **C. Xu**, T. Wu, C. M. Drain, J. D. Batteas, K. L. Beers
- 88.** Synthesis and characterization of terpyridine-containing polymer with block-random architecture via RAFT polymerization. **K. Amer**, G. N. Tew

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- 89.** Iron diimine complexes: Robust, low toxic catalysts for atom transfer radical polymerization (ATRP). V. C. Gibson, **R. K. O'Reilly**
- 90.** Synthesis of star block copolymers via SR&NI ATRP in miniemulsion. **K. Min**, M. Li, N. M. Jahed, K. Matyjaszewski
- 91.** Reversible addition-fragmentation chain-transfer polymerization of t-butyl acrylate. B. C. Benicewicz, **M. J. Nasrullah**, R. Vajjula
- 92.** Random and perfectly alternating poly(ethylene oxide)-polyisobutylene amphiphilic conetworks. G. Erdödi, **B. Iván**
- 93.** Carbocationic polymerization of isobutylene in benzonitrile, an environmentally advantageous solvent. P. Groh Werner, **B. Iván**, F. de Jong, T. Graafland
- 94.** Supramolecular, telechelic poly(etherketones) bearing barbituric acid as hydrogen bonding unit. L. Petraru, D. Farnik, R. Saf, **W. H. Binder**
- 95.** Connecting polymeric fragments by Sharpless-type click-reactions. **W. H. Binder**, D. Machl, C. Kluger
- 96.** Sidechain-functionalized poly(norbornenes) bearing new hydrogen bonding motives via ROMP. C. Kluger, **W. H. Binder**
- 97.** Synthesis of amphiphilic copolymers containing pendent substituted cyclotriphosphazenes via ring opening metathesis polymerization. **D. T. Welna**, **D. A. Stone**, H. R. Allcock
- 98.** Controlled copolymerization of vinyl acetate with α -olefins by degenerative transfer. **S. Borkar**, A. Sen
- 99.** Reversible addition-fragmentation chain-transfer polymerization of N-phenylmethacrylamide. B. C. Benicewicz, **R. Vajjula**, M. J. Nasrullah
- 100.** Synthesis and characterization of a methyl-substituted *ortho-para*-polyaniline derivative via palladium catalyzed C-N coupling. **K. A. Cutler**, T. Y. Meyer
- 101.** Synthesis and characterization of L-tyrosine functionalized polyphosphazenes. **A. Singh**, W. R. Laredo, H. R. Allcock
- 102.** Synthesis and characterization of copolymer poly(bis-trifluoromethyl styrene) and PMMA for nanowire applications. **S. Murugesan**, S. R. Venumbaka, P. E. Cassidy, H. C. Galloway, J. Jarl, F. Abrego, D. Koeck, L. Martinez
- 103.** Copolymerization of methyl acrylate and methyl methacrylate with α -olefins in the presence of scandium(III)triflate. **M. L. Majcher**, A. Sen
- 104.** Encapsulation of a redox-responsive guest by a modified poly(propyleneimine) dendrimer. **W. Ong**, R. McCarley
- 105.** Preparation and characterization of PLA microspheres. W. Jiang, **H. Na**, Z. Wang
- 106.** Selective and sequential nucleophilic aromatic substitution reaction for the syntheses of linear and hyperbranched poly(arylene ether)s. **Y. J. Kim**, **S. Y. Kim**
- 107.** Synthesis and characterization of a novel phenoxy resin containing biphenyl groups. C. Hongli, **N. Hui**
- 108.** Synthesis, characterization and peripheral derivatization of hyperbranched polybenzyl. **A. Som**, S. Ramakrishnan
- 109.** Distribution of carboxyl groups on micron-size crosslinked microspheres obtained by dispersion copolymerization. H. Zhang, **H. Huang**, R. Lv, M. Chen
- 110.** Particle size distribution and morphology of alkoxy silane-functionalized acrylic copolymer latexes. S. Huang, D. Fan, Y. Lei, **H. Huang**
- 111.** Optical properties of an amorphous ter-polysilane containing vinyl side groups. S. Huang, Y. Lei, J. Zhu, F. Yu, **H. Huang**
- 112.** Controlled alternating copolymerization of methyl acrylate and 1-alkene with degenerative transfer

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polymerization. **S. Liu, B. Gu**, D. Leber, A. Sen

113. Nitroxide mediated copolymerization of methyl acrylate with 1-alkenes and norbornenes. **B. Gu**, S. Liu, J. D. Leber, A. Sen

114. Controlled copolymerization of methyl acrylate with 1-alkene by RAFT polymerization. **S. Liu, B. Gu, D. Leber**, A. Sen

115. Easy synthesis and characterization of conjugated energy transfer cassettes. **W. G. Skene**, S. Dufresne

116. Partially fluorinated amorphous ring containing polymers. **Y. Yang**, Y. Kioke, Y. Okamoto

117. Emulsion copolymerization of vinyl acetate and chlorotrifluoroethylene with a functional monomer surfactant. S. Zhang, B. Geng, A. Xu, **X. Z. Kong**

118. Determination of propagation rate constant in the cationic polymerization of p-chlorostyrene. **P. De**, R. Faust

119. Living carbocationic polymerization of p-methoxystyrene using p-methoxystyrene hydrochloride/SnBr₄ initiating system. **P. De**, R. Faust

120. Preparation and characterization of polyimide/aromatic silsesquioxane hybrid nanocomposites. **C. S. Ha**, I. Kim, H. W. Jeong

121. Synthesis of ferrocenylmethyl-containing dendrimers. Q. S. Hu, **Y. Lu**

122. A new approach for the polymerization of cyano-substituted poly(p-phenylenevinylene)s. **J. Liao**, Q. Wang

123. Mechanistic aspects of [Rh(nbd)Cl]₂ initiated oligomerization of new acetylenic monomers. **C. G. Densmore**, P. G. Rasmussen

124. Self-templation synthesis of mesoporous organosilicas containing covalently bound cyclodextrins. **C. Liu**, J. B. Lambert

125. Novel copolymers of vinyl acetate with trisubstituted ethylenes. **G. B. Kharas**, R. Bernal, L. Kallal, V. Thomas, S. Tokman, M. Trnka, L. A. Hyland, P. Hughes, J. Carney, A. M. Trujillo, J. Yedlinsky, K. Watson

126. Living cationic polymerization of cyclohexyl vinyl ether and its block copolymerization with isobutylene. **Y. Zhou**, R. Faust

127. Living cationic polymerization of tert-butyldimethylsilyl vinyl ether and its block copolymerization with isobutylene. **Y. Zhou**, R. Faust

128. Reactive compatibilization of nylon 6/ABS blends. **R. Wang**, W. Wang, Z. Shi, Y. Xia

129. Functionalizable cyclic siloxanes encapsulants. **C. Yun**, K. Rahimian, N. J. Shah

130. Encapsulant based on meta-substituted phenylene bridged cyclic siloxanes. **C. Yun**, K. Rahimian, N. J. Shah, D. A. Loy

131. Chemical changes in Nafion membranes under simulated fuel cell conditions. **C. Zhou**, T. Zawodzinski, D. Schiraldi

132. Developing rigid polymer electrolytes. **J. F. Snyder**

133. Nanoscale hierarchical structures of a series of liquid crystalline "rod-coil" block copolymers. **K. K. Tenneti**, C. Y. Li, D. Zhang, H. Zhang, X. Wan, E. Q. Chen, Q. F. Zhou, C. Avila-Orta, S. Igos, B. S. Hsiao

134. Ti(III)Cp₂Cl catalyzed living radical polymerization of styrene initiated from benzaldehydes. **A. D. Asandei**, Y. Chen

135. Grafting of polystyrene from poly(glycidyl methacrylate) initiated by Ti catalyzed epoxide radical ring opening. **A. D. Asandei**, G. Saha

136. Preparation of drug delivery biodegradable nanocomposites by rapid expansion from supercritical solutions. **A. D. Asandei**, C. Erkey, D. J. Burgess, C. Saquing, G. Saha, B. S. Zolnik

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- 137.** Living ring opening polymerization of ϵ -caprolactone catalyzed by Ti alkoxides derived from radical ring opening of epoxides. **A. D. Asandei, I. W. Moran, G. Saha, K. Juzyn**
- 138.** Orthogonal non-covalent crosslinking and small molecule self-assembly onto 'universal polymer backbones' via multi-site molecular recognition. **J. M. Pollino, K. P. Nair, M. Weck**
- 139.** Poly(glutamic acid) nanospheres for biomedical applications. **E. Dibbern, F. Jean-Jacques Toublan, K. S. Suslick**
- 140.** Polyesters and polyester-amides with photo-regulated chiroptical behavior: Tuning responsive output with different solvents. **G. D. Jaycox**
- 141.** Macromolecules with side chain terpyridine motifs for use in supramolecular materials. **R. Shunmugam, G. N. Tew**
- 142.** Subcritical damped oscillations in thermal free radical method. **K. R. Sharma**
- 143.** Polystyrene/clay nanocomposites prepared by heterocoagulation. **S. H. Lee, W. J. Brittain**
- 144.** Preparation of conducting polymer composites for photonic applications. **B. A. Higgins, Y. Xu, W. J. Brittain**
- 145.** Diffusion of protein in polymer solutions: A comparison between neutron spin-echo spectroscopy and NMR measurements. **X. Guo, R. Biehl, C. R. Pacheco, M. Monkenbusch, D. Richter, L. Fu, R. K. Prud'homme**
- 146.** Self diffusion of N,N-dimethylformamide in polystyrene solutions measured by pulsed-field gradient NMR. **M. O. Okuom, F. D. Blum**
- 147.** Cooperative motion around inside and end segments of PMMA at the glass transition as studied by the ESR technique. **Y. Miwa, K. Yamamoto, M. Sakaguchi, S. Shimada**
- 148.** Ion mobility time-of-flight measurements: Isolating the mobility of charge carriers during an epoxy-amine reaction. **Z. Guo, J. D. Warner, P. Best, D. Kranbuehl**
- 149.** Synthesis of hollow TiO₂ nanoparticles prepared by colloidal templating. **Y. K. Kwon, J. P. Kang, T. H. Kim**
- 150.** Electrospun hollow fibers of poly(ϵ -caprolactone). **D. H. Y. Kim, K. W. Kim, K. H. Lee, E. S. Yoo, R. J. Farris, S. F. Fennessey**
- 151.** Electrical properties of highly conductive EDOT based copolymers. **E. E. Sheina, R. D. McCullough**
- 152.** Mechanical degradation of partial hydrolyzed polyacrylamide in solution(I). **J. Niu, X. Jiang**
- 153.** Study on the mechanical degradation of partial hydrolyzed polyacrylamide in aqueous solution(II). **L. Wang, Z. Han, J. Zhou, F. Liu, J. Niu**
- 154.** Polymeric nanocomposites having block copolymers as intercalants. **N. Nugay, S. Sen, T. Nugay**
- 155.** Layered silica modification with reactive groups for polystyrene nanocomposites. **N. Nugay, T. Nugay, M. Memesa, Y. Menciloglu**
- 156.** Effect of filler shape and compatibilizer on weld line morphology of polypropylene and polyamide-6 blend composite. **N. Nugay, T. Nugay, O. G. Ersoy**
- 157.** Preparation of highly uniform low density polystyrene foams and their characterization. **W. P. Steckle Jr., M. E. Smith, R. J. Sebring, K. V. Wilson Jr., A. Nobile**
- 158.** Monte Carlo simulation of orientation ordering in grafted rodlike polymers. **C. Y. Shew, R. M. Peetz, J. Q. Wang**
- 159.** Spontaneous 1D arrangement of spherical Au nanoparticles with liquid crystal ligands. **I. In, S. Y. Kim**
- 160.** Gateless AlGaIn/GaN HEMT response to block copolymers. **S. Bernard, C. Mathieu, B. S. Kang, G. Louche, Y. Gnanou, F. Ren, R. S. Duran**

2004 Fall meeting

- 161.** Optically active polyacetylene: synthesis and chiroptical properties of poly(phenylacetylene) containing L-valine(1S,2R,5S)-(+)-menthyl ester pendants. L. M. Lai, K. K. L. Cheuk, J. W. Y. Lam, **B. Z. Tang**
- 162.** Hyperbranched poly(aryleneethynylene)s: Synthesis and characterization. H. Peng, J. W. Y. Lam, D. Jia, **B. Z. Tang**
- 163.** Photoluminescence and optical limiting of hyperbranched poly(aryleneethynylene)s. H. Peng, J. W. Y. Lam, D. Jia, **B. Z. Tang**
- 164.** Thermochromism of hexaphenylsilole and its blends with poly(methyl methacrylate). Y. Q. Dong, J. W. Y. Lam, Z. Li, H. Peng, C. C. W. Law, X. D. Feng, **B. Z. Tang**
- 165.** Development of new methods for the construction of regioselective hyperbranched macromolecules: Synthesis of functional hyperbranched poly(arylene)s. H. Dong, R. Zheng, J. W. Y. Lam, M. Häußler, **B. Z. Tang**
- 166.** Hyperbranched cobalt-containing polyynes as precursors to nanostructured magnetoceramics. M. Häußler, J. W. Y. Lam, H. Dong, H. Tong, **B. Z. Tang**
- 167.** Stability of substituted poly(acetylene)s. C. C. W. Law, J. W. Y. Lam, Y. Dong, **B. Z. Tang**
- 168.** Synthesis of a hyperbranched polyarylene with phenylenevinylene chromophore. H. Dong, Y. P. Dong, J. W. Y. Lam, M. Häußler, H. Peng, **B. Z. Tang**
- 169.** Novel hyperbranched polymers containing second order nonlinear optical chromophores. Z. Li, J. W. Y. Lam, Y. P. Dong, Y. Q. Dong, **B. Z. Tang**, A. J. Qin, C. Ye
- 170.** Poly(1-phenyl-1-alkyne)s bearing carboxylic acid Moieties: Sensitive chemosensor for metal ions. H. Tong, J. W. Y. Lam, M. Häußler, **B. Z. Tang**
- 171.** Synthesis and light-emitting properties of water-soluble disubstituted polyacetylene. H. Tong, J. W. Y. Lam, M. Häußler, **B. Z. Tang**
- 172.** Poly(diphenylacetylene)s: Synthesis and their thermal and light-emitting properties. C. W. Law, J. W. Y. Lam, Y. Dong, **B. Z. Tang**

Section B

Pennsylvania Convention Center -- Hall D

Polyelectrolytes and Polyampholytes: From Theory to Application

W. T. Ford and C. L. McCormick, *Organizers*

5:00 - 7:00

- 173.** Electrostatic adhesion of polyelectrolytes and colloids on protein microspheres. **F. Jean-Jacques Toublan**, E. Dibbern, H. M. Argadine, J. F. Greenleaf, R. D. Simari, K. S. Suslick
- 174.** Amino acid-based, ion-containing terpolymers with pH- and salt-responsive behavior. **R. G. Ezell**, N. Ayers, C. L. McCormick
- 175.** Controlled polymerization of neutral and cationic methacrylamides in aqueous media by RAFT. **Y. A. Vasilieva**, **C. W. Scales**, **D. B. Thomas**, **N. Ayres**, **C. L. McCormick**
- 176.** Chemical functionalization of single-wall carbon nanotubes with poly(4-vinylpyridine). **S. Qin**, **D. Qin**, **W. T. Ford**, J. E. Herrera, D. E. Resasco
- 177.** Binary copolymer reactivity of tert-butyl methacrylate, N,N-dimethylaminoethyl methacrylate and solketal methacrylate. **L. N. Miranda**, W. T. Ford
- 178.** Study of the interaction between poly(acrylic acid) and bivalent cations. J. G. Soos, R. M. Molnar, J. F. Hartmann, **J. Borbely**

2004 Fall meeting

- 179.** Nanoparticles from chitosan. M. Bodnar, J. F. Hartmann, **J. Borbely**
- 180.** Poly(3-thiopheneacetic acid) surfactant complexes: Synthesis, self-assembly behavior and photoluminescence property. K. H. Park, **Y. S. Yoon**, H. Kang, J. C. Lee
- 181.** Polyelectrolytes based on sulfonated poly(1,3-cyclohexadiene) block copolymers. **K. Hong**, P. Britt, J. W. Mays
- 182.** Structures and redox activities of poly(m-methoxyaniline). **Y. T. Xu**, L. Z. Dai, J. F. Chen, J. Y. Gal, H. H. Wu
- 183.** Studies on oxygen reduction on the ring-substituted polyanilines membrane electrodes. **L. Z. Dai**, Y. T. Xu, J. F. Chen, J. Y. Gal, H. H. Wu
- 184.** Surface modification of glass by polyampholyte: Application to anti-fogging. **S. I. Kabashima**, E. Ogura, T. Maruyama, M. Komatsu
- 185.** Synthesis and characterization of comb shape single ion conductors based on polyepoxide ethers and perfluorinated lithium salts. **X. G. Sun**, C. L. Reeder, J. B. Kerr, D. D. DesMarteau
- 186.** Synthesis of block copolymers via reversible addition fragmentation chain transfer (RAFT) using 4 vinyl pyridine and tert-butyl acrylate as a polyampholyte precursor. **B. S. Lokitz**, N. Ayres, A. J. Convertine, C. L. McCormick
- 187.** Synthesis of polyurea oligomers and their antibacterial study. **H. Tang**, G. Tew

MONDAY MORNING

Section A

Marriott -- Salon I&J

Polyelectrolytes and Polyampholytes: From Theory to Application

Synthesis

W. T. Ford, *Organizer*

M. J. Fevola, *Presiding*

C. L. McCormick, *Organizer, Presiding*

8:30 —188. Polymerization of sodium 4-styrenesulfonate via atom transfer radical polymerization. **P. D. Iddon**, K. L. Robinson, S. P. Armes

8:50 —189. Switchable amphiphiles. S. Basu, D. Vutukuri, S. Shyamroy, **S. Thayumanavan**

9:10 —190. Well-defined biomimetic polymers from RAFT polymerization: Carbohydrate and nucleoside functionalized poly(methacrylate)s. L. Albertin, N. K. Allen, M. Stenzel, C. Barner-Kowollik, J. L. Foster, **T. P. Davis**

9:40 —191. Aqueous RAFT polymerization of valine containing acrylamido copolymers. **N. Ayres**, R. G. Ezell, C. L. McCormick

10:00 — Intermission.

10:15 —192. Synthesis and characterization of polyelectrolyte brushes. S. G. Boyes, B. K. Mirous, **W. J. Brittain**

10:45 —193. Synthesis of well-defined (co)polymers with ionic or ionizable groups by atom transfer radical polymerization. **N. V. Tsarevsky**, K. Matyjaszewski

11:05 —194. Synthesis and polymerization of liquid ionic 1-methyl-3-alkyl-5-vinylimidazolium salts. J. Wang, **T. W. Smith**

11:35 —195. A novel approach to regioselectively-functionalized amphiphilic block copolymers and nanoparticles. **R. K.**

2004 Fall meeting

O'Reilly, M. J. Joralemon, A. K. Nugent, J. B. Matson, C. Hawker, K. L. Wooley

11:55 —196. Synthesis of doubly-responsive diblock copolymers by ambient temperature RAFT. **A. J. Convertine**, L. J. Myrick, A. B. Lowe, C. L. McCormick

Section B

Marriott -- Salon H

Polymers in Dental Materials

Bonding, Additives and Fillers

J. W. Stansbury, *Organizer*

J. M. Antonucci, *Organizer, Presiding*

8:30 —197. Hydrolytically stable monomers for self-etching enamel-dentin adhesives. **U. Salz**, J. Zimmermann, F. Zeuner, N. Moszner

8:50 —198. Determination of adhesive distribution in dentin-adhesive bond using Raman microscopy. **Y. Zou**, S. R. Armstrong, J. L. P. Jessop

9:10 —199. Effect of resin composition on mechanical and physical properties of calcium phosphate filled bonding systems. **S. Dickens**, G. M. Flaim, C. J. E. Floyd

9:30 —200. Effect of resin structure and core-shell reinforcement on the yielding and fracture behaviour of dental resins and their composites. **W. D. Cook**, M. Forrest, A. Goodwin

9:55 — Intermission.

10:15 —201. Antimicrobial release from a salicylate-based poly(anhydride-ester). **K. A. Whitaker-Brothers**, K. E. Uhrich

10:35 —202. Structure-property relationships of thermoset methacrylate composites for dental materials: Study of the interfacial phase of silica nanoparticle-filled composites. **K. S. Wilson**, J. M. Antonucci

10:55 —203. UHMWPE as novel filler for dental composites. **R. Ranade**, S. Wunder, G. Baran

11:15 —204. Polymer-brush modified fillers for dental composites. **X. Ding**, J. W. Stansbury

11:35 —205. Epoxy-brush modified fillers for dental composites. **J. W. Stansbury**, **X. Ding**

Section C

Marriott -- Salon G

New Developments in Coatings Technology

Tutorial: New Developments in Coatings Technology

Cosponsored with Federation of Societies for Coatings Technology, and PMSE

B. C. Benicewicz and B. Richey, *Organizers*

P. Zarras and T. G. Wood, *Organizers, Presiding*

8:00 — Introductory Remarks.

8:05 —206. Electronic polymers: New materials and nanofiber films for the 21st century. **A. G. MacDiarmid**

8:50 —207. Antimicrobial coatings: Introduction, progress, and challenges. **K. J. Wynne**

9:35 — Intermission.

2004 Fall meeting

9:45 —208. Tutorial: Organic and polymeric coatings for corrosion protection. **P. Zarras**

10:30 —209. Coating technology for combatting marine fouling. **T. E. Ready**

11:15 — Concluding Remarks.

Section D

Marriott -- Salon K

General Papers

Polymer Characterization B

D. Garcia, *Organizer*

J. C. Swartz, *Presiding*

8:00 —210. Preparation of biocompatible hydrogel adhesives controlled by rheological method. **X. Guo**, R. K. Prud'homme, F. Deng, S. J. Leth, N. Nunalee, K. R. Shull

8:20 —211. Sorption of poly(hexamethylenebiguanide) on cellulose: Mechanism of binding and molecular recognition. **R. S. Blackburn**, A. Harvey, J. Payne, L. L. Kettle

8:40 —212. Development of an aqueous polymer for DNA purification and release for use in PCR. **J. C. Swartz**

9:00 —213. Antimicrobial synthetic polymers: Amphiphilic polymethacrylate derivatives. **K. Kuroda**, W. F. DeGrado

9:20 —214. Recognition-induced formation of polymeric microspheres by self-complementary hydrogen bonding interactions. **O. Uzun**, A. Sanyal, R. J. Thibault, H. Nakade, V. M. Rotello

9:40 —215. Improving the resistance of polylactide to hydrolysis based on the configuration and arrangement of the molecules. **D. T. Karst**, Y. Yang

10:00 —216. Controlled dispersion and assembly of quantum dots using polymers: Poly(para-phenylene)-quantum dot composites. **H. Skaff**, K. Sill, T. Emrick

10:20 —217. Reversible dynamic polymers. **W. G. Skene**, J. M. Lehn

10:40 —218. Modular design of photo-regulated chiroptical switches: Oligomers and polymers. **G. D. Jaycox**

11:00 —219. Poly(etherketone)-poly(isobutylene) pseudo block-copolymers : Phase behavior via SAXS. **W. H. Binder**, M. J. Kunz, C. Kluger, L. Petraru, S. Bernstorff, V. Torma

11:20 —220. Charge percolation mechanism of heterogeneous Al-based catalysts for olefine polymerization. **L. S. Korugic-Karasz**, D. B. Stoiljkovic, B. M. Pilic

Emerging Frontiers in Polyolefins

Structure-Property Relation/Characterization/Application

Cosponsored with SPE, and PMSE

State of the Art in Polymer Analysis

2004 Fall meeting

Cosponsored with ANYL

MONDAY AFTERNOON

Section A

Marriott -- Salon I&J

Polyelectrolytes and Polyampholytes: From Theory to Application

Biological Properties

W. T. Ford and C. L. McCormick, *Organizers*

T. P. Davis and A. B. Lowe, *Presiding*

1:30 —221. A new "smart" polyelectrolyte drug carrier responsive to pH and glutathione for intracellular delivery of antisense oligonucleotides. **A. S. Hoffman**, V. Bulmus, N. Murthy, P. S. Stayton

2:00 —222. Cationic polymers as gene transfer agents: Effects of polymer topology and molecular weight on transfection efficiency. A. N. Rudisin, **B. D. Mather**, T. E. Long

2:20 —223. Chiral discrimination in DNA compaction by stereoisomeric dications. A. Zinchenko, V. G. Sergeyev, S. Murata, K. Yoshikawa, **V. A. Kabanov**

2:50 —224. The multifaceted chemistry of hyaluronan: Applications in biomaterials. S. Gouin, C. Yan, Y. Yang, **F. M. Winnik**

3:20 — Intermission.

3:35 —225. Mucoadhesive polymers from living radical polymerisation. **D. M. Haddleton**, A. K. Rullay, A. J. Limer, S. Carrington, S. Keely, D. Brayden

4:05 —226. Polyelectrolytes as self-assemblers: Nanocomposites and hydrogels produced from charged polypeptides. **D. J. Pochan**, T. J. Deming

4:25 —227. Amphiphilic nanoparticles and polyanions. J. E. Fleischer Radu, L. Novak, J. F. Hartmann, **J. Borbely**

4:45 —228. Conformational transitions visualized in single polyelectrolyte molecule AFM experiments. **S. Minko**, A. Kiriy, G. Gorodyska, R. Lupitsky, C. Tsitsilianis, M. Stamm

5:05 —229. Smart poly(methacrylic acid)-1-polyisobutylene polyelectrolyte amphiphilic conetworks. M. Haraszti, **B. Iván**

Section B

Marriott -- Salon H

6th International Biorelated Polymers Symposium

Biorelated Polymer Synthesis and Characterization

R. M. Ottenbrite, *Organizer*

S. J. Huang, *Presiding*

K. E. Uhrich, *Organizer, Presiding*

1:30 —230. Biocompatibility studies of novel dendritic polyisobutylene-based block copolymers. **J. E. Puskas**

1:50 —231. Effect of the linker structure on salicylic acid-derived poly(anhydride-esters). **A. Prudencio**, R. C. Schmeltzer, K. E. Uhrich

2004 Fall meeting

2:10 —232. Functional polymers from itaconic anhydride. **S. J. Huang, J. A. Wallach**

2:30 —233. Synthesis and degradation of antiseptic-derived poly(anhydride-esters). **R. C. Schmeltzer**, K. E. Uhrich

2:50 — Intermission.

3:10 —234. Biocompatible polymer blends derived from the photopolymerization of polyethylene glycol dimethacrylate-poly lactide mixtures. K. Zhang, S. Lin-Gibson, C. Simon, **J. M. Antonucci**, N. R. Washburn

3:30 —235. Synthesis and characterization of a comb copolymer with a cellulose backbone and with radial hydrophilic brushes on amphiphilic teeth. C. Zhang, L. M. Price, **W. H. Daly**

3:50 —236. From structural proteins to synthetic polymers. **L. Ayres**, K. Koch, M. Vos, H. Adams, J. C. M. van Hest

Section C

Marriott -- Salon G

New Developments in Coatings Technology

Corrosion Resistant Coatings

Cosponsored with Federation of Societies for Coatings Technology, and PMSE

P. Zarras, T. G. Wood, B. Richey, and B. C. Benicewicz, *Organizers*

N. Anderson and B. C. Benicewicz, *Presiding*

1:00 — Introductory Remarks.

1:05 —237. Coatings challenges for protecting U.S. Navy and Marine aircraft. **C. Matzdorf**

1:35 —238. New developments in Cr-free primers for aerospace alloys. **G. P. Bierwagen**, D. E. Tallman, M. Nanna, D. Battocchi, A. Stamness, V. J. Gelling

2:05 —239. Corrosion protection of aluminum alloys by controlled release of inhibitors from inherently conductive polymer coatings. **P. J. Kinlen**, C. R. Graham, Y. Ding

2:35 —240. Use of Ce-modified bentonite clay as a pigment for corrosion inhibition and sensing. S. Chrisanti, **R. G. Buchheit**

3:05 — Intermission.

3:15 —241. Poly(2,5-bis(N-methyl-N-hexylamino)phenylene vinylene)) (BAM-PPV) as replacements for chromate conversion coatings (CCCs). **J. D. Stenger-Smith**, N. Anderson, C. Webber, P. Zarras

3:45 —242. New electroactive polymers for anti-corrosion coatings. R. Chen, V. Raghunadh, **B. C. Benicewicz**

4:15 —243. Novel environmentally compliant self-priming coating systems for corrosion protection of metals . **W. J. van Ooij**

4:45 —244. Cavitation resistance of polyamide-11 powder coatings. **T. P. McAndrew**, M. Audenaert, J. Petersheim, D. Garcia, T. Richards

5:15 — Concluding Remarks.

Section D

Marriott -- Salon K

Industrial Polymer Scientist Award: Symposium in Honor of Bill Culbertson

2004 Fall meeting

P. Cassidy, *Organizer*

1:30 — Introductory Remarks.

1:40 —**245.** Acrylic water borne coatings based on oxazoline methacrylate monomer. **H. A. A. Rasoul**, D. L. Trumbo

2:10 —**246.** Custom design of biodegradable elastomers through bis-oxazoline coupling. **P. Bonsignore**, M. Gurin

2:40 —**247.** Oxidatively-stable cobalt-polymer complexes. **J. S. Riffle**, V. V. Baranauskas, M. Vadala, M. S. Thompson, M. Zalich, T. G. St. Pierre

3:10 —**248.** Synthesis and characterization of phenylethynyl terminated polybenzoxazole and wholly aromatic polyimides. **J. E. McGrath**, W. D. Joseph, K. Elahi, Y. Watanabe

3:40 —**249.** Polymer Chemistry: Contributions over a twenty-seven-year industrial career. **B. M. Culbertson**

State of the Art in Polymer Analysis

Cosponsored with ANYL

MONDAY EVENING

Pennsylvania Convention Center -- Hall D

Section A

Sci-Mix

C. A. Guymon, *Organizer*

8:00 - 10:00

61-62, 68-69, 75, 78-81, 83, 85, 88, 96-98, 100, 104-108, 112, 114-115, 118-119, 121, 123-124, 126-127, 131, 134-139, 141-143, 148, 150-157, 159, 166. See previous listings.

323, 327, 343, 346, 348, 350, 352-353, 356, 360-363, 367, 370-371, 379. See subsequent listings.

TUESDAY MORNING

Marriott -- Salon I&J

Section A

Polyelectrolytes and Polyampholytes: From Theory to Application

Applications

W. T. Ford and C. L. McCormick, *Organizers*

Y. Morishima and A. Eisenberg, *Presiding*

8:00 —**250.** Polyelectrolytes grafted to single wall carbon nanotubes. **W. T. Ford**, S. Qin, M. Tchoul, X. Jiang, A. Mamedov, S. Gupta, G. Lian

8:30 —**251.** Supramolecular extension of pi-conjugation in conjugated oligomer. **T. Sai**, K. Levon

8:50 —**252.** Characterization and application of amphiphilic polyacetylenes in methanol/water mixture. **B. C. Ku**, K. Yang, D. W. Kim, A. Blumstein, L. Samuelson, J. Kumar

2004 Fall meeting

9:10 —253. Unique associative behavior in water of copolymers of sodium acrylate and oligo(ethylene oxide) alkyl ether methacrylates. I. Tomatsu, A. Hashidzume, **Y. Morishima**

9:40 —254. Novel "core-shell-corona" architectures via complexation of micelles of ionic amphiphilic diblock copolymers with oppositely charged polyelectrolytes. **D. V. Pergushov**, M. Gradzielski, M. Burkhardt, E. V. Remizova, A. B. Zevin, V. A. Kabanov, A. H. E. Müller

10:00 — Intermission.

10:15 —255. Tuning the size of polymeric vesicles using ionic additives. A. Choucair, C. Lavigueur, **A. Eisenberg**

10:45 —256. Synthesis and properties of polymer micelles formed from substituted polystyrene-poly(acrylic acid) diblock copolymers. **J. M. Pickel**, P. F. Britt

11:05 —257. Synthesis, solution and pigment dispersion stabilization properties of amphipolar methyl methacrylate/methacrylic acid copolymers. H. Arndt, T. Schauer, K. Dirnberger, **C. D. Eisenbach**

11:35 —258. Soluble nanoparticles from block ionomer micelles and oppositely charged complexing agents. **E. A. Lysenko**, P. S. Chelushkin, T. K. Bronich, A. Eisenberg, V. A. Kabanov, A. V. Kabanov

Section B

Marriott -- Salon L

6th International Biorelated Polymers Symposium

Biorelated Polymer Analysis and Processing

R. M. Ottenbrite and K. Uhrich, *Organizers*

A. Coury and T. Wada, *Presiding*

8:30 —259. A computational study on the ring-opening polymerization of lactide initiated by β -diketiminato metal alkoxides: 2. The origin of heterotactic stereocontrol. V. C. Gibson, **E. L. Marshall**, H. S. Rzepa

8:50 —260. Metabolic and computational analysis of the total enzymatic synthesis of poly-(β)-hydroxybutyric acid. **K. L. Burns**, J. D. Lane, J. R. Thompson, M. Lubarsky, S. W. May

9:10 —261. Crystal and molecular structures of polylactones. **E. Kim**, T. Iwata, Y. Doi, H. Uyama, C. S. Ha

9:30 —262. Enzymatic synthesis of a skin scaffold. K. Omrane, M. Mandalaywala, C. Folts, C. D. Woodworth, **A. Mueller**

9:50 —263. Electrospinning of a biodegradable polyurethane for use in tissue engineering. **D. N. Rockwood**, J. Fromstein, K. A. Woodhouse, D. B. Chase, J. F. Rabolt

10:10 — Intermission.

10:30 —264. Effect of fluid environment on ion release from amorphous calcium phosphate filled restorative materials. **W. F. Regnault**, R. M. Fitzgerald, J. M. Antonucci, D. Skrtic

10:50 —265. Ultra high molecular weight polyethylene with improved processability for medical implants. **K. S. Garkhail**, R. Duchateau, G. J. G. J. M. Gruter, S. Rastogi

11:10 —266. Structure of novel cellulosic fibers from cornhusks. N. Reddy, **Y. Yang**

Section C

Marriott -- Salon G

New Developments in Coatings Technology

2004 Fall meeting

Bioresistant Coatings

Cosponsored with Federation of Societies for Coatings Technology, and PMSE

P. Zarras, B. C. Benicewicz, T. G. Wood, and B. Richey, *Organizers*

N. Anderson and K. J. Wynne, *Presiding*

8:00 — Introductory Remarks.

8:05 —**267**. Surface modification of polypropylene microporous membrane with biomimetic polymers. **Z. K. Xu**, X. J. Huang, Q. Yang, H. T. Deng

8:40 —**268**. The influence of surface wettability on the adhesion of the soft-fouling alga *Ulva*. **J. A. Callow**, M. E. Callow, L. K. Ista, G. P. Lopez, M. K. Chaudhury

9:15 —**269**. Nanoscopically-resolved amphiphilic coatings: Treacherous terrain to inhibit biofouling. G. O. Brown, C. Cheng, C. S. Gudipati, J. Johnson, K. T. Powell, **K. L. Wooley**

9:50 — Intermission.

10:05 —**270**. Unusual wetting behavior of polyurethane coatings containing poly(oxetane) soft blocks. **U. Makal**, T. Fujiwara, K. J. Wynne

10:35 —**271**. Hyperbranched fluoropolymers – poly(ethylene glycol) crosslinked networks: Novel materials for the encapsulation and release of hydrophobic and hydrophilic small molecules. **G. O. Brown**, K. L. Wooley

11:05 — Concluding Remarks.

Section D

Marriott -- Salon K

Industrial Polymer Scientist Award: Symposium in Honor of Craig Hawker

K. R. Carter, *Organizer*

8:00 —**272**. Beyond supramolecular assembly: Shaping of nanostructures. **K. L. Wooley**

8:30 —**273**. "Living" radical polymerization as a tool for the preparation of functional polymers and copolymers. **R. B. Grubbs**

9:00 —**274**. Structured micelles from ABC triblock copolymer "tryptych" surfactants. **M. A. Hillmyer**, T. P. Lodge

9:30 —**275**. Hybrid inorganic-organic copolymers: Macromolecular, mesoscopic and macroscopic structures. **E. B. Coughlin**

10:00 —**276**. Polymer bioconjugates by controlled radical polymerization. **H. D. Maynard**

10:30 —**277**. Structural control of water-soluble homopolymers and block copolymers via RAFT polymerization: Stimuli responsiveness in aqueous media. **C. L. McCormick**

11:00 —**278**. Amorphous copolyesters modified to enhance the glass transition temperature. **S. R. Turner**

11:30 —**279**. Designing dendrimers and dendronized polymers for catalysis and molecular transport. **J. M. J. Fréchet**, C. O. Liang, B. Helms

12:00 —**280**. Controlled polymeric structures for advanced storage and microelectronic devices. **C. J. Hawker**

TUESDAY AFTERNOON

Section A

2004 Fall meeting

Marriott -- Salon I&J

Advances in Photoinitiated Polymerization

Photoinitiation and Oxygen Inhibition

C. N. Bowman and A. B. Scranton, *Organizers*

1:00 —281. Photoinitiation and photopolymerization of novel self-initiating monomers. T. Y. Lee, C. A. Guymon, S. E. Jönsson, **C. Hoyle**

1:35 —282. Modeling of photoinitiation for thick polymer systems. **N. Stephenson**, D. Kriks, A. B. Scranton

2:00 —283. Influence of photoinitiator mobility and solubility on the polymerization behavior in lyotropic liquid crystalline systems. **M. A. DePierro**, A. J. Olson, C. A. Guymon

2:25 —284. 1,5-Diphenyl-1,4-diyne-3-one, a new and highly efficient Photoinitiator. **R. Liska**, B. Seidl

3:00 — Intermission.

3:15 —285. New way to approach the photoinitiator reactivity. **X. Allonas**, J. Lalevee, J. P. Fouassier

3:50 —286. Withdrawn.

4:15 —287. Why multi-functional acrylates can be light cured without an oxygen inhibited layer? **L. Feng**, B. I. Suh

4:40 —288. Reduction of oxygen inhibition in free-radical photopolymerization. **L. Gou**, C. N. Coretsopoulos, A. B. Scranton

Section B

Marriott -- Salon H

6th International Biorelated Polymers Symposium

Biorelated Hydrogel Systems

R. M. Ottenbrite and K. Urich, *Organizers*

N. Ravi and J. C. Salamone, *Presiding*

1:30 —289. Molecularly engineered hydrogels for implant biocompatibility. **A. Guiseppi-Elie**, S. Brahim, S. Abraham

1:50 —290. Preparation and characterization of hydrogel nanocomposites for ophthalmic applications. **N. Ravi**, H. A. Aliyar, P. D. Hamilton

2:10 —291. Diffusion of calcium ions and formation of calcium phosphate deposits in radiation crosslinked PVA/PVP hydrogels. **Zainuddin**, D. J. T. Hill, A. K. Whittaker, K. Strounina, T. V. Chirila

2:30 —292. Covalently attached Cu(II)-complex hydrogel as novel hemocompatible materials. **S. Y. Hwang**, M. E. Meyerhoff

2:50 —293. Polysaccharide-derivatized polymer scaffolds for protein delivery. **N. Yamaguchi**, K. L. Kiick

3:10 — Intermission.

3:30 —294. Structure-property relationships of photopolymerizable PEGDM hydrogels. **S. Lin-Gibson**, R. Jones, N. R. Washburn, F. Horkay

2004 Fall meeting

3:50 —295. Synthesis and characterization of bioactive PEGDM hydrogels. **S. Lin-Gibson**, M. L. Becker, K. S. Wilson, N. Washburn

4:10 —296. Synthesis of Nanogel carriers for delivery of active phosphorylated nucleoside analogues. **S. V. Vinogradov**, A. V. Kabanov

4:30 —297. Patterning of stimuli-responsive hydrogels. **D. Schmaljohann**, M. Nitschke, R. Schulze, C. Werner, K. Eichhorn

Section C

Marriott -- Salon G

New Developments in Coatings Technology

Techniques for Evaluation of Coating Performance

Cosponsored with Federation of Societies for Coatings Technology, and PMSE

B. C. Benicewicz and T. G. Wood, *Organizers*

P. Zarras and B. Richey, *Organizers, Presiding*

1:30 — Introductory Remarks.

1:35 —298. Polypyrrole coatings for corrosion control of aluminum alloys: Scanning vibrating electrode studies of polymer-metal interactions. **D. E. Tallman**, J. He, G. P. Bierwagen

2:05 —299. Positron metrology for corrosion analysis of coatings. **J. Xu**, R. Zhang, N. Anderson, C. Webber, P. Zarras

2:35 —300. A new method for characterizing coatings: Simultaneous measurements of heat flow, mass change and viscoelastic changes in thin film samples exposed to gases and liquids. **A. L. Smith**

2:55 —301. Predicting service life performance: Our analytical toolbox. **K. Adamsons**

3:25 — Intermission.

3:35 —302. Scanning Kelvin probe measurements for the detection of corrosion processes beneath applied paint coatings on aluminum alloy and steel substrates. **D. C. Hansen**, H. S. Isaacs, G. Adzic, J. Gitto III, F. J. Martin

4:05 —303. Recent developments in the characterization of melamine resin crosslinking agents by mass spectrometry and liquid chromatography. **T. T. Chang**, M. J. Piquette, P. Li

4:35 —304. Evaluation of the protective properties of chromate-free BAMPPV-based polymer coatings using electrochemical impedance spectroscopy (EIS). E. Kus, N. Anderson, P. Zarras, **F. Mansfeld**

5:05 —305. Thermal characterizations of a high temperature tolerant stereolithography resin. **J. Xu**, R. G. Chambers

5:25 — Concluding Remarks.

Section D

Marriott -- Salon K

Excellence in Graduate Polymer Science Research Symposium

Cosponsored with YCC, and PRES

E. H. Martin and T. J. Pacansky, *Organizers*

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

2:00 — Introductory Remarks. **C. P. Casey**, ACS President.

2:10 —306. Perspectives on the future of polymer science and education. **E. M. Pearce**

2004 Fall meeting

2:40 —307. Understanding the response nature of metallo-supramolecular polymer gels. **J. B. Beck**, S. J. Rowan

3:00 —308. Shape memory effect in smectic-C liquid crystalline elastomers. **I. A. Rousseau**, P. T. Mather

3:20 — Intermission.

3:35 —309. Controlled dispersion and assembly of quantum dots using polymers: Poly(para-phenylene)-quantum dot hybrids. **H. Skaff**, T. Emrick

3:55 —310. Fully functionalized photorefractive polymer based on novel chromophores. **W. You**, S. Cao, Z. Hou, L. Yu

4:15 —311. Bergman cyclization in the presence of monomer: A systematic study of polymerization and competing reactions. **J. D. Rule**, J. S. Moore

4:35 — Reception .

TUESDAY EVENING

Section A

Pennsylvania Convention Center -- Hall D

Polymers in Dental Materials

Joint POLY/PMSE Poster Session

J. W. Stansbury and J. M. Antonucci, *Organizers*

6:00 - 8:00

312. Characteristic photo- and thermo-polymerization behavior and mechanical properties of UDMA/MAA system. **J. Tanaka**, J. Stansbury, J. Antonucci, K. Suzuki

313. Dental polymeric composites activated with camphorquinone or diacyl phosphine oxide photoinitiators. **N. Richards**, S. Dickens, J. M. Antonucci

Section B

Pennsylvania Convention Center -- Hall D

New Developments in Coatings Technology

Joint POLY/PMSE Poster Session

P. Zarras, B. C. Benicewicz, T. G. Wood, and B. Richey, *Organizers*

6:00 - 8:00

314. Combinatorial development of polymer coating formulations for chemical sensor applications. **L. Hassib**, R. A. Potyrailo

315. A potential manganese-based catalyst for alkyd emulsion paints. Z. O. Oyman, **W. Ming**, R. van der Linde

316. Effect of aging on mechanical properties of a high temperature tolerant stereolithography resin. **J. Xu**, R. G. Chambers, J. Schaefer

317. Novel hyperbranched polymers for polyurethane coatings: Their preparation and crosslinking with polyisocyanates. **E. Pavlova**, B. I. Voit, M. Dušková-Smrèková, K. Dušek

318. Plasma polymer coated pigments for slow release in organic coatings. **H. Manian**, L. Yang, W. J. van Ooij

2004 Fall meeting

- 319.** Polymer coating of pharmaceutical ingredients in supercritical CO₂. **B. Yue**, C. Y. Huang
- 320.** Study on scratch profile of SSO-film/glass-substrate modified with TEOS. **P. Chen**, L. Hu
- 321.** Synthesis and formulation of a removable conformal coating using Diels-Alder thermally-reversible adducts. **J. H. Aubert**, D. R. Tallant, P. S. Sawyer, M. J. Garcia
- 322.** Zosteric acid: An effective antifoulant for reducing bacterial attachment on coatings. **B. M. Zhang Newby**, C. Barrios, Q. Xu, T. J. Cutright

Section C

Pennsylvania Convention Center -- Hall D

Advances in Photoinitiated Polymerization

Joint POLY/PMSE Poster Session

C. N. Bowman and A. B. Scranton, *Organizers*

6:00 - 8:00

- 323.** Activated camphorquinones as photoinitiators. **R. Liska**, G. Ullrich, D. Herzog, P. Burtscher, N. Moszner
- 324.** Fluorinated UV-cured coatings for plastics: Improvement of adhesion by surface functionalization assisted by Ar plasma. **A. Di Gianni**, R. Bongiovanni, A. Priola, M. Sangermano II, S. Turri, N. Nahal
- 325.** Kinetic studies of novel (meth)acrylic monomers. **H. Kilambi**, E. R. Beckel, J. W. Stansbury, C. N. Bowman
- 326.** Laser Flash Photolysis investigations of pyridine ketones. **R. Liska**, B. Seidl, G. Grabner
- 327.** New photopolymers for Rapid Prototyping of cellular structures. **R. Liska**, F. Schwager, C. Vives, J. Stampfl

Section D

Pennsylvania Convention Center -- Hall D

Excellence in Graduate Polymer Science Research Symposium

Joint POLY/PMSE Poster Session

Cosponsored with YCC, and PRES

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

6:00 - 8:00

- 328.** Synthesis, characterization and polymerization of monomers towards bridge trifluoromethylated poly(p-phenylenevinylene). A. J. Roche, **A. D. Loyle**, J. P. Pinto
- 329.** Vinyl sulfoxide: A versatile trigger for dendrimer disassembly. **M. L. Szalai**, D. McGrath
- 330.** Polymerization of vinyl monomers in cyclodextrin channels: Can confined free radical polymerization yield stereoregular polymers? **T. Uyar**, M. Rusa, A. E. Tonelli
- 331.** Synthesis of perfluorocyclobutyl linked hexabenzocoronene networks. **B. K. Spraul**, S. Suresh, S. Glaser, D. Perahia, D. W. Smith Jr.
- 332.** Characterization of semiflexible fibril networks formed via intramolecular folding and self-assembly of amphiphilic B-hairpin molecules. **B. Ozbas**, K. Rajagopal, J. K. Kretsinger, J. P. Schneider, D. J. Pochan
- 333.** Carbosilane films formation by thermal crosslinking of cycloliner polycarbosilanes. **Z. Wu**, J. Papandrea, A. P. Singh, P. G. Ganesan, T. Apple, R. Ganapathiraman, L. V. Interrante

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- 334.** Hydrosilation catalysis using alkene-platinum-silyl complexes. **J. L. Dingman**, B. A. Howell, R. B. Taylor
- 335.** Super-tough performance of modified carbon nanofiber (MCNF)/UHMWPE nanocomposite films. **X. Chen**, K. Yoon, C. Burger, I. Sics, B. Hsiao, B. Chu
- 336.** Structure and properties of single-walled carbon nanotubes reinforced nanocomposite fibrils by co-electrospinning. **H. L. Lam**, H. Ye, Y. Gogotsi, F. K. Ko
- 337.** Tailoring photopolymerization materials for nanotechnology. **M. D. Dickey**, E. Collister, E. K. Kim, C. G. Willson
- 338.** Modeling the flow of crosslinked guar gum in porous media. **M. T. Balhoff**
- 339.** Implication of hydrogen bonding on rheological/electrospinning relationships. **M. G. McKee**, T. E. Long
- 340.** Intramolecular electrostatic interactions in polyelectrolyte solutions: Comparison of a new empirical model to experimental data. **T. S. Rushing**, R. D. Hester

Section E

Pennsylvania Convention Center -- Hall D

6th International Biorelated Polymers Symposium

Joint POLY/PMSE Poster Session

R. M. Ottenbrite, *Organizer*

K. E. Uhrich, K. L. Kiick, and T. Emrick, *Presiding*

6:00 - 8:00

- 341.** Preparation and characterization of polymeric proteo-mimetics. P. D. Hamilton, **H. A. Aliyar**, N. Ravi
- 342.** Towards the development of an artificial human vitreous. P. D. Hamilton, **H. A. Aliyar**, W. Foster, N. Ravi
- 343.** Antimicrobial poly(oxazoline)s. **C. J. Waschinski**, V. Herdes, J. C. Tiller
- 344.** Molecular design of biocompatible hydrogel based on molecular mobility of waters and polymer chains. **T. Morisaku**, T. Ikehara, J. Watanabe, M. Takai, K. Ishihara
- 345.** Nanostructure of β -sheet fibrils constructed by unfolded β -hairpin peptide self-assembly. **M. S. Lamm**, K. Rajagopal, J. P. Schneider, D. J. Pochan
- 346.** Remarkable stereocontrol in the polymerization of racemic lactide using aluminum initiators supported by tetradentate aminophenoxide ligands. V. C. Gibson, **P. Hormnirun**, E. L. Marshall
- 347.** Synthesis and solution properties of poly(ethylene oxide-B-2-ethyl-2-oxazoline) and poly(ethylene oxide-B-ethyleneimine). **A. Y. Carmichael**, B. Caba, P. P. Huffstetler, R. M. Davis, J. S. Riffle
- 348.** A computational study on the ring-opening polymerization of lactide initiated by β -diketimate metal alkoxides: 1. The mechanism of chain propagation. V. C. Gibson, **E. L. Marshall**, H. S. Rzepa
- 349.** Biodegradable polymer micelle: Design of well-defined amphiphilic polyphosphate with hydrophilic graft chain via ATRP. **Y. Iwasaki**, K. Akiyoshi
- 350.** Effects of β -hairpin peptide turn sequences on hydrogel nanostructure and bulk material properties due to peptide intramolecular folding and consequent intermolecular self-assembly. **T. Yucel**, K. Rajagopal, D. J. Pochan, J. P. Schneider
- 351.** PLA-PEO-PLA hydrogels from triblock copolymers. **N. Sanabria-DeLong**, S. Agrawal, K. Aamer, S. R. Bhatia, G. N. Tew
- 352.** Synthesis and iron(II) chelation studies of bipyridine-centered poly(ethylene glycol). **A. Pfister**, T. J. Wedge, C. L.

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Fraser

- 353.** A fatty acid biosensor constructed from a fatty acid binding protein immobilized in a hydrogel. **W. Cai**, B. J. Pitner
- 354.** A novel approach for the synthesis of acrylonitrile-based copolymers containing phospholipid moieties. X. J. Huang, **Z. K. Xu**, J. Q. Wang, L. S. Wan, Q. Yang
- 355.** Design and synthesis of novel helical protein polymers with controlled functional group placement. **R. S. Farmer**, J. D. Sharp, K. L. Kiick
- 356.** Self-organization of polyphosphazene-polystyrene block copolymers. **Y. Chang**, E. S. Powell, H. R. Allcock, C. Kim
- 357.** Synthesis of PLA by direct condensation of lactic acid with modified gneiss as catalyst. **Z. Wang**, H. Ni
- 358.** Biocompatibility of thiol-containing polyacrylamide polymers suitable for ophthalmic applications. P. D. Hamilton, H. A. Aliyar, **N. Ravi**
- 359.** Biocompatible polythiophenes and non-natural helical poly(3-methyl-4-vinylpyridine)/amino acid complexes: Developing novel biofriendly materials. I. M. Khan, **B. Sannigrahi**, P. McGeedy, M. Waugaman
- 360.** Characterization of heparin-peptide interactions and their use in hydrogel assembly. **L. Zhang**, N. Yamaguchi, K. L. Kiick
- 361.** Influence of side chain structure on peptide intramolecular folding and consequent self-assembly. **Z. Li**, L. A. Haines, B. Ozbas, J. P. Schneider, D. J. Pochan
- 362.** Oligoethylene-end-capped polylactide. **N. K. Abayasinghe**, S. Glaser, D. W. Smith Jr.
- 363.** Artificial glycopolypeptides for the inhibition of bacterial toxins. **B. D. Polizzotti**, K. L. Kiick
- 364.** Effect of molecular architecture on the vesicle formation of amphiphilic diblock copolypeptides. **K. D. Hales**, L. M. Pakstis, E. Bellomo, T. J. Deming, D. Pochan
- 365.** Incorporation of 5-aminosalicylic acid into poly (anhydride-esters) by solution polymerization. **Y. Kim**, K. E. Uhrich
- 366.** Synthesis and characterization of phenyleneethynylene oligomer having hydrogen bonding sites. **M. Obata**, S. Yano, Y. Shinya
- 367.** Interactions of proteins with laponite. **Q. Hu**, **K. L. Kiick**, **D. J. Pochan**, **S. R. Fahnstock**, **R. H. Staley**
- 368.** Morphology of amphiphilic diblock polypeptides that controllably self-assemble into hydrogels and vesicles. **L. Pakstis**, A. Nowak, E. Holowka, T. J. Deming, D. J. Pochan
- 369.** Pendant Pegylation of aliphatic polyester for biomaterials applications. **B. Parrish**, T. Emrick
- 370.** Quantitative structure-activity relationship of acrylate and methacrylate derivatives. A. Ravi, E. Spitznagel, **N. Ravi**
- 371.** Cosolvent effects on aqueous solution properties of dextran: Static light scattering investigation. P. Alexandridis, **K. T. Yong**
- 372.** Graded modification of PAMAM dendrimer with poly(ethylene glycol). **E. O. Akala**, G. Pan
- 373.** NMR imaging of water diffusion into PEM/P(HEMA-CO-THFMA) semi-IPN matrices. **D. J. T. Hill**, M. Chowdhury, A. K. Whittaker, M. Braden, M. Patel
- 374.** Incorporating N-vinyl-2-pyrrolidone into polyacrylonitrile by water- phase precipitation copolymerization to improve its biocompatibility. L. S. Wan, **Z. K. Xu**, H. Y. Yu, M. X. Hu, X. J. Huang
- 375.** Novel polymer bound bactericidal surfaces. **J. H. Wynne**, A. W. Snow, J. M. Jones-Meehan, W. L. Straube
- 376.** Bile acid-based resins as hydrophobic sponges. S. L. Regen, V. Janout, **D. H. McCullough III**, T. Vrablik, B. Jing

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377. Withdrawn.

378. Preparation of multilayer microcapsules using non-toxic materials. **W. H. Jeon**, G. H. Kim, I. Kim, C. S. Ha

379. Phosphazene-silicate hybrid network membranes: Synthesis, characterization, and applications. **Y. Chang, D. T. Welna**, H. R. Allcock

380. Anti-microbial poly(dimethylsiloxane) surfaces obtained by microwave plasma reactions. **W. S. Bae, M. W. Urban**

WEDNESDAY MORNING

Section A

Marriott -- Salon I&J

Advances in Photoinitiated Polymerization

Thiol-Ene Photopolymerizations

C. N. Bowman and A. B. Scranton, *Organizers*

8:00 —381. Kinetics and mechanism of thiol-ene photopolymerizations with and without photoinitiators. **C. N. Bowman**, N. B. Cramer, S. K. Reddy

8:30 —382. Highly functional thiols synthesized by an amine-catalyzed thiol-ene reaction. **T. S. Clark**, C. E. Hoyle, S. E. Jönsson

9:00 —383. Nanocontact molding of thiol-ene photopolymers. M. Malkoch, E. C. Hagberg, C. J. Hawker, **K. R. Carter**

9:30 —384. Photopolymerization and copolymerization of novel self-initiating monomers with thiol and vinyl ether. T. Y. Lee, C. A. Guymon, **S. E. Jonsson**, C. E. Hoyle

10:00 — Intermission.

10:15 —385. Thermal and photopolymerization of thiol-ene network forming systems. **W. D. Cook**, D. Pattison

10:50 —386. Controlled network architectures through thiol-ene and thiol-acrylate photopolymerizations. **S. K. Reddy**, N. B. Cramer, A. Rydholm, K. S. Anseth, C. N. Bowman

11:20 —387. Investigation of the effect of alkene structure on the reaction kinetics and mechanisms of photoinduced thiol-ene polymerizations. **T. M. Roper**, C. A. Guymon, S. Jonsson, C. E. Hoyle

Section B

Marriott -- Salon H

6th International Biorelated Polymers Symposium

New Advances in Biorelated Polymers in Honor of Junzo Sunamoto

K. E. Uhrich, *Organizer*

A. V. Kabanov, *Presiding*

R. M. Ottenbrite, *Organizer, Presiding*

8:30 —388. Synthesis of folic acid moiety-conjugated hydrophobized pullulan (FA-CHP) as a carrier of anticancer drugs. **J. Sunamoto**, K. Ushio, D. Lai

8:50 —389. Polymer genomics: Shifting the drug delivery paradigms. **A. V. Kabanov**, E. V. Batrakova, S. Sriadibhatla, Z.

2004 Fall meeting

Yang, D. L. Kelly, V. Y. Alakhov

9:10 —390. Design of lactide-based copolymers for bioabsorbable materials. **T. Ouchi**, Y. Ohya

9:30 —391. Polymeric nanohybrids for targeting tumor angiogenesis. A. Mitra, J. Mulholland, A. Nan, E. McNeill, **H. Ghandehari**, B. Line

9:50 —392. Active control of DNA recognition behavior of alfa-peptide ribonucleic acids containing basic amino acid residues by external factors. **T. Wada**

10:10 — Intermission.

10:30 —393. Surface modification of retinal implants. **C. Scholz**, R. Sweitzer, P. Stewart, M. Gingerich, D. Shire, S. Montezuma, J. Rizzo

10:50 —394. Recent developments of athrombogenic coatings for artificial kidney, microvascular blood vessels and Midline catheters with blood vessel Heparansulfate and related mimetics. **H. Baumann**

11:10 —395. Physical and biological evaluation of silk fibroin gels. **C. Migliaresi**, A. Motta, P. Torricelli, M. Fini, R. Giardino

11:30 —396. Design and synthesis of biomolecular materials based on Spider and Bombyx mori silks. **D. Y. Sogah**, R. Osman, J. Geno

Section C

Marriott -- Salon G

New Developments in Coatings Technology

Nanocomposites and Inorganic-Organic Hybrid Coatings

Cosponsored with Federation of Societies for Coatings Technology, and PMSE

P. Zarras, B. C. Benicewicz, and T. G. Wood, *Organizers*

A. J. Guenther, *Presiding*

B. Richey, *Organizer, Presiding*

9:00 — Introductory Remarks.

9:05 —397. Carbon nanotube thin film architectures and nanocomposites. **P. M. Ajayan**

9:50 —398. An approach to novel conductive coatings based on processable linear-carbon. **M. E. Wright**, S. Fallis, A. J. Guenther

10:25 — Intermission.

10:35 —399. Synthesis and characterization of emulsion polymer/clay nanocomposites. **D. P. Lorah**, R. V. Slone, W. C. Finch

11:10 —400. UV-curable, hybrid organic-inorganic coatings containing metal oxide nanoparticles. **B. J. Chisholm**, J. Resue

11:45 — Concluding Remarks.

Section D

Marriott -- Salon K

Excellence in Graduate Polymer Science Research Symposium

2004 Fall meeting

Cosponsored with YCC, and PRES

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

E. H. Martin and T. J. Pacansky, *Organizers, Presiding*

8:15 — Introductory Remarks.

8:20 —401. Rational design of the catalyst for atom transfer radical polymerization in aqueous media. **N. V. Tsarevsky**, K. Matyjaszewski

8:40 —402. Main chain perfluorocyclobutyl (PFCB) liquid crystalline polymers with oligo-p-phenylene vertebrae. **J. Jin**, S. Glaser, J. Ballato, D. W. Smith Jr.

9:00 —403. Branched polyethylene from ethylene monomer: Are neutral Ni(II) iminophosphonamide complexes involved in polymerization catalysis? **R. A. Stapleton**, A. Nuamthanom, P. L. Rinaldi, N. J. Taylor, S. Collins

9:20 —404. Lipase-catalyzed route to hyperbranched polymers with dendritic glycerol units. **A. Kulshrestha**, W. Gao, D. Kudasheva, R. A. Gross

9:40 —405. Exploring the architectural and hydrogen bonding mediated long-range connectivity of the hard segment phase in model oligomeric polyurethanes. **J. P. Sheth**, A. R. Fornof, T. E. Long, I. Yilgor, G. L. Wilkes

10:00 — Intermission.

10:15 —406. Antigen-decorated shell crosslinked nanoparticles. **M. J. Joralemon**, K. L. Wooley

10:35 —407. Biomaterials with tightly controlled pore size that promote vascular in-growth. **A. J. Marshall**, C. A. Irvin, T. Barker, E. H. Sage, K. D. Hauch, B. D. Ratner

10:55 —408. Control of bioresponse to polymers. **L. H. Wilson**

11:15 —409. The impact of oxygen on photopolymerization kinetics and polymer structure. **A. K. O'Brien**, C. N. Bowman

11:35 —410. Functional perfluoropolyethers as novel materials for microfluidics and soft lithography. **J. Rolland**, R. M. van Dam, E. C. Hagberg, K. R. Carter, S. R. Quake, J. DeSimone

WEDNESDAY AFTERNOON

Section A

Marriott -- Salon I&J

Advances in Photoinitiated Polymerization

Cationic Photopolymerizations

C. N. Bowman and A. B. Scranton, *Organizers*

1:30 —411. Synthesis of microspheres by cationic suspension photopolymerization. **J. V. Crivello**, B. Falk

2:05 —412. Characterization of kinetic rate constants of cationic photopolymerizations of epoxides. V. Sipani, A. Kirsch, **A. B. Scranton**

2:40 —413. Hyperbranched polymer in cationic photopolymerization of epoxy systems. **M. Sangermano II**, R. Bongiovanni, A. Priola, G. Malucelli, A. Harden, B. Voit, R. R. Thomas

3:15 — Intermission.

3:35 —414. Synthesis and cationic photopolymerization of new silicon-containing oxetane monomers. **M. Sangermano II**, R. Bongiovanni, G. Malucelli, A. Priola, A. Harden, N. Rehnberg

4:10 —415. Dark and light reactions in EB cationic polymerization of epoxies. **J. Lee**, G. R. Palmese

2004 Fall meeting

Section B

Marriott -- Salon H

6th International Biorelated Polymers Symposium

Biorelated Nanostructures and Assemblies

R. M. Ottenbrite and K. Urich, *Organizers*

J. S. Riffle and H. Baumann, *Presiding*

1:30 —416. Gel and micelle type intermediate solution structures of PEG-b-poly lactide for hydrophilic and hydrophobic drug delivery. I. M. Khan, J. K. Krangle, **K. P. Pemawansa**

1:50 —417. Novel block ionomer micelles with cross-linked ionic cores. **T. K. Bronich**, A. V. Kabanov

2:10 —418. Core/shell nanoparticles with lipid core for a drug delivery system. **S. H. Yuk**, K. S. Oh, S. H. Cho

2:30 —419. Enhanced anticancer activity of core-surface-crosslinked nanoparticles. P. Xu, E. A. Van Kirk, S. Li, J. Ren, W. J. Murdoch, M. Radosz, **Y. Shen**

2:50 —420. Selective and effective cytotoxicity of folic acid-conjugated CHP hydrogel nanoparticles complexed with anticancer drugs in in vitro studies. **M. Hidaka**, M. Yamamoto, K. Ichinose, T. Kanematsu, N. Ishii, K. Ushio, J. Sunamoto

3:10 — Intermission.

3:30 —421. Effect of pluronic block copolymers on gene expression. **A. V. Kabanov**, S. Sriadibhatla, Z. Yang, V. Y. Alakhov

3:50 —422. Block ionomer complexes from combinations of surfactants: Particle morphology and surfactant mixing. **S. V. Solomatin**, T. K. Bronich, V. A. Kabanov, A. Eisenberg, A. V. Kabanov

4:10 —423. Magnetic poly(L-lactide)-cobalt complexes and microspheres. **M. Vadala**, M. S. Thompson, M. Zalich, T. G. St. Pierre, J. S. Riffle

Section C

Marriott -- Salon G

New Developments in Coatings Technology

Nanocomposites and Inorganic-Organic Hybrid Coatings

Cosponsored with Federation of Societies for Coatings Technology, and PMSE

T. G. Wood and B. Richey, *Organizers*

P. Zarras and B. C. Benicewicz, *Organizers, Presiding*

1:30 — Introductory Remarks.

1:35 —424. Nanostructured inorganic conversion coatings. **J. L. Liang**, W. E. Fristad, K. Meagher, T. Bryden

2:10 —425. Nanosystems for film formation. A. Üveges, J. F. Hartmann, **J. Borbely**

2:35 —426. Nanocomposite coating materials from hybrid latexes. **V. Castelvetro**, C. De Vita, M. Geppi, S. Giaiacopi, G. Giannini, M. Martinelli

3:00 — Intermission.

3:10 —427. Polyurethane/polysiloxane ceramer coatings. H. Ni, W. J. Simonsick Jr., **M. D. Soucek**

3:45 —428. Synthesis and photopolymerization of UV curable polyhedral oligomeric silsesquioxane (POSS). **B. Pan**, C. E.

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Hoyle, J. Lichtenhan

4:10 — Concluding Remarks.

Section D

Marriott -- Salon K

General Papers

Polymer Synthesis - B

D. Garcia, *Organizer*

R. Ranade, *Presiding*

1:00 —429. Peroxide crosslinking of an unsaturated thermotropic polyester. **H. Qin**, P. T. Mather

1:20 —430. Towards thermally cross-linked diblock copolymer templates using poly[(styrene-r-benzocyclobutene)-b-D,L-lactic acid]. **J. Leiston-Belanger**, E. Drockenmuller, C. Hawker, T. P. Russell

1:40 —431. Synthesis and properties of a masked maleimide-containing poly(phenyleneethynylene). T. M. Swager, **G. C. Bailey**

2:00 —432. New synthetic route for conjugated thiophenes. **W. G. Skene**, T. Trefz

2:20 —433. Synthesis of starch maleate half-esters under microwave irradiation. **A. Biswas**, R. L. Shogren, J. L. Willett

2:40 —434. Polymerization of higher alpha-olefins with metallocene catalysts. **M. R. Mosia**, R. Duchateau, G. J. G. J. M. Gruter

3:00 —435. Synthesis of narrow distribution polycyclopentene using a ruthenium-based ring opening metathesis initiator. **S. B. Myers**, R. A. Register

3:20 —436. Triisobutylaluminum as powerful catalyst for the anionic polymerization of propylene oxide initiated by alkali metal derivatives or tetralkylammonium salts. **A. Deffieux**, C. Billouard, S. Carlotti, P. Desbois

3:40 —437. Novel methodology for star polymer synthesis using the reaction of living polymers with alkoxy-silyl-functionalized polymers. M. D. Foster, R. P. Quirk, C. Wesdemiotis, K. M. Wollyung, **J. S. Lee**

4:00 —438. Influence of surfactants on properties of chemically synthesized polypyrrole. **M. Omastová**, M. Trchová, J. Stejskal

4:20 —439. Photolytic and free radical polymerization of epoxidized plant oil triglycerides. **H. Esen**, S. H. Kusefoglu, R. P. Wool

4:40 —440. Enhanced epoxidation of soybean oil through microemulsion technique. D. Rethwisch, A. B. Scranton, **K. Jain**, P. G. Rasmussen

THURSDAY MORNING

Section A

Marriott -- Salon A

Advances in Photoinitiated Polymerization

Materials Development

2004 Fall meeting

C. N. Bowman and A. B. Scranton, *Organizers*

8:00 —445. Synthesis of composite materials by photopolymerization. **C. Decker**, L. Keller, S. Benfarhi, K. Zahouily, C. Bianchi

8:35 —442. Nanocontact molding of functional photopolymer resins for direct fabrication of organic electronics. **E. C. Hagberg**, K. R. Carter

9:00 —443. Kinetic studies of surface-confined, photoiniferter mediated photopolymerization. **S. B. Rahane**, S. M. Kilbey II, A. T. Metters

9:25 —444. Effect of polymer-brush modified filler on photopolymerization. **X. Ding**, J. W. Stansbury, S. Newman

9:50 — Intermission.

10:10 —441. Photopolymerization of synthetic hydrogel niches for 3D cell culture and tissue regeneration. M. A. Rice, P. Martens, S. J. Bryant, M. J. Mahoney, C. N. Bowman, **K. S. Anseth**

10:45 —446. Synthesis and photopolymerization of novel multifunctional vinyl ester dendrimers. **T. Y. Lee**, C. A. Guymon, S. E. Jonsson, C. E. Hoyle

11:10 —447. Reverse-selective polymeric membranes for hydrogen purification. **H. Lin**, B. D. Freeman, L. Toy, V. Bondar, R. Gupta, S. Pas, A. Hill

11:35 —448. Thermal UV dual cure of oxetane acrylates. **M. Sangermano**, M. Manea

Section B

Marriott -- Salon I&J

6th International Biorelated Polymers Symposium

Biosensors and Assays

R. M. Ottenbrite and K. Uhrich, *Organizers*

A. Guiseppi-Elie and C. Scholz, *Presiding*

8:30 —449. Multi-mode conjugation of enzymes on polymer nanoparticles covered with phosphorylcholine groups for high-sensitive diagnosis. **K. Ishihara**, T. Konno, J. Watanabe

8:50 —450. Mimicking the immunological synapse with multicomponent protein-patterned surfaces. **D. J. Irvine**, J. Doh

9:10 —451. Cationic facially amphiphilic phenylene ethynyls as host defense peptide mimics. G. N. Tew, **L. Arnt**

9:30 —452. Synthesis and characterization of bioconjugates of natural polymers and peptides for the detection of bacterial spores. **N. K. Sharma**, K. Levon

9:50 —453. The self-assembly of hydrogel sensors into a functional array. **S. M. Grayson**, M. J. Schmid, J. E. Meiring, V. Desai, D. U. K. Manthiram, A. D. Ellington, C. G. Willson

10:10 — Intermission.

10:30 —454. Solid-phase immunoassay on polymer-based microanalytical devices. **S. Wei**, S. A. Soper, R. L. McCarley

10:50 —455. Transduction and molecular recognition of Clostridium botulinum using polyaniline nanowire modified antibody attached to quartz crystal microbalance. **J. Lou**, H. Yin

11:10 —456. Structure analysis of the beta1-28 fragment of the amyloid peptide by polarized Raman, IR and electronic CD spectroscopy. **R. Schweitzer-Stenner**, F. Eker, K. Griebenow

2004 Fall meeting

Section C

Marriott -- Salon B

New Developments in Coatings Technology

Specialty and Advanced Coatings

Cosponsored with Federation of Societies for Coatings Technology, and PMSE

P. Zarras, B. C. Benicewicz, and B. Richey, *Organizers*

S. Feng, *Presiding*

T. G. Wood, *Organizer, Presiding*

8:00 — Introductory Remarks.

8:05 —**457**. Effect of processing parameters on the anisotropy of solvent-cast rigid polymer films. **A. J. Guenther**, K. R. Davis, L. Steinmetz, J. M. Pentony

8:35 —**458**. Combinatorial and high-throughput development of polymer sensor materials for optical and resonant sensors. **R. A. Potyrailo**

9:05 —**459**. Spray coatable electroactive dioxathiophene polymers. B. D. Reeves, C. R. G. Grenier, **J. R. Reynolds**

9:35 —**460**. New functional fluorinated acrylate coating: PTFEA with two hydroxyl groups at same chain end. **H. Hong**, T. C. Chung

9:55 — Intermission.

10:05 —**461**. Responsive coatings for the sequestration and removal of toxic heavy metals from surfaces. **H. N. Gray**, B. S. Jorgensen

10:35 —**462**. Novel autodepositing coating composition produced by mini-emulsion synthetic approach. **B. D. Bammel**, J. D. McGee

11:05 —**463**. Oligomers of H12-MDI and diethylmalonate as precursors for low temperature powder coatings crosslinkers. **T. P. Fäcke**, S. Feng

11:35 — Concluding Remarks.

THURSDAY AFTERNOON

Section A

Marriott -- Salon A

Advances in Photoinitiated Polymerization

Photopolymerization Kinetics

C. N. Bowman and A. B. Scranton, *Organizers*

1:00 —**464**. Kinetic modeling of photo initiated acrylate polymerization. **J. F. G. A. Jansen**, T. J. G. Zwartkruis

1:30 —**465**. Composition dependence of the photopolymerization kinetics in holographic polymer dispersed liquid crystals (HPDLCs). **T. J. White**, C. A. Guymon

1:55 —**466**. In situ monitoring of conversion extent and viscoelastic properties during the photocrosslinking of an acrylate formulation. **J. Dupuy**, A. Botella, A. A. Roche, H. Sautereau, V. Verney

2:20 —**467**. Thermal and photochemical curing of acrylic resins. **K. Studer**, C. Decker, E. Beck, R. Schwalm

2004 Fall meeting

2:50 —468. Effect of the molecular dynamics on the photopolymerization process. **E. Andrzejewska**, P. Ziobrowski, A. Maciejewska, E. Socha, M. Drozdowski, M. Andrzejewski

3:20 — Intermission.

3:35 —469. Influence of hydrogen bonding on the photopolymerization rates of mono- and multifunctional (meth)acrylates. T. Y. Lee, **C. A. Guymon**, T. M. Roper, S. E. Jonsson, C. E. Hoyle

4:05 —470. Study of laser-initiated polymerizations by optical pyrometry. **M. Jang**, J. V. Crivello, B. Falk, P. Lin

4:30 —471. Photoinitiated frontal polymerization kinetics of meth(acrylates). **C. Nason**, C. E. Hoyle, J. Pojman

Section B

Marriott -- Salon I&J

6th International Biorelated Polymers Symposium

Protein, DNA and Polysaccharides

R. M. Ottenbrite and K. Uhrich, *Organizers*

D. Y. Sogah and H. Ghandehari, *Presiding*

1:30 —472. Synthesis of DNA-polymer hybrids using aqueous solution-based atom transfer radical polymerization (ATRP). X. Lou, **L. He**

1:50 —473. A novel polysaccharide DNA-carrier to deliver CpG motifs to endosome. **K. Sakurai**, S. Shinkai

2:10 —474. Osmotic and small-angle neutron scattering properties of DNA gels. **F. Horkay**, P. J. Bassler, A. M. Hecht, E. Geissler

2:30 —475. Structure-based design and synthesis of artificial protein polymers for toxin inhibition. R. S. Farmer, B. D. Polizzotti, J. D. Sharp, **K. L. Kiick**

2:50 —476. Dynamics and interactions of complexes formed by carrageenan/furcelleran and bovine serum albumin hybrids. **Q. Huang**, J. Lee, C. Ruengruglikit

3:10 — Intermission.

3:30 —477. Microencapsulation and controlled-release of food enzyme using protein-polysaccharide coacervates. **Y. Jiang**, Q. Huang

3:50 —478. Enzyme-polymer composites with high activity and stability. **J. Kim**, T. J. Kosto II, J. C. Manimala, E. B. Nauman, J. S. Dordick

4:10 —479. Enzymatic modification of polysaccharide biopolymers: Rheology, kinetics and synergistic effects of multiple glycosidase enzymes. **S. Mahammad**, S. A. Khan

Section C

Marriott -- Salon B

New Developments in Coatings Technology

Specialty and Advanced Coatings

Cosponsored with Federation of Societies for Coatings Technology, and PMSE

P. Zarras, B. C. Benicewicz, and T. G. Wood, *Organizers*

2004 Fall meeting

D. B. Pourreau, *Presiding*

B. Richey, *Organizer, Presiding*

1:00 — Introductory Remarks.

1:05 —**480.** Modified urea based liquid rheology additives for coatings. **J. Hajas**

1:30 —**481.** Weathering and gloss loss in thermoplastic paints: Case of PVDF architectural paints. **K. A. Wood**

2:00 —**482.** New low-viscosity acrylic-urethane prepolymers and their acrylated oligomers for moisture- and UV-curable coatings and adhesives. **D. B. Pourreau**, S. E. Smyth

2:30 — Intermission.

2:40 —**483.** High performance UV-cured acrylic coatings. **C. Decker**

3:10 —**484.** Development of a UV-curing polyurethane dispersion for soft feel application. **P. D. Schmitt**, L. K. Gindin, A. Lockhart, P. D. Lunney

3:40 —**485.** Surface-fluorinated polyurethane coatings. **W. Ming**

4:05 —**486.** Thiophene oligomer as a "redox mediator" for the biocatalytic synthesis of Poly(3,4-Ethylenedioxythiophene) [PEDOT]. **R. Nagarajan**, F. F. Bruno, L. A. Samuelson, J. Kumar

4:35 — Concluding Remarks.