2005 Spring NATIONAL ACS MEETING
SAN DIEGO (March 13-17, 2005)

Program Meeting Chair: Doug Kiserow

Deadline for Abstracts and Polymer Preprints: November 4, 2004.* (note date change)
*for general papers and some symposia (some symposium organizers may set an earlier deadline).

Biological and Synthetic Macromolecules for Emerging Nanotechnologies
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Biomimetic Polymers
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Carbon Nanotubes, Polymers, and Complex Fluids
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Degradable Polymers and Materials
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Polymer Surfaces and Interfaces
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Smart Polymer Films, Composites, and Devices
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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 ethynylenes. **S. Percec**, R. Getty, R. H. French, S. Lustig

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

Section A

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 polyepoxide ethers and lithium bis(allylmalonato)borate. **X. G. Sun**, J. B. Kerr, G. Liu, C. L. Reeder, Y. Han

Section B

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

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. Chai**, 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

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 polystyrenee-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-butylpeptiod). **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

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. Sauvé, R. D. McCullough

72. Synthesis and optical properties of organo-soluble hyperbranched polybenzthiazoles 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. Aamer**, G. N. Tew

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. Erdõdi, **B. Iván**

93. Carbocationic polymerization of isobutylene in benzotrifluoride, an environmentally advantageous solvent. P. Groh Werner, **B. Iván**, F. de Jong, T. Graaflland

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 a-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 alpha-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 alkoxysilane-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 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 byclic 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

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. Preperation 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(e-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. Menceloglu

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 AlGaN/GaN HEMT response to block copolymers. **S. Bernard**, C. Mathieu, B. S. Kang, G. Louche, Y. Gnanou, F. Ren, R. S. Duran

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. Hyperbranced 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(aroylarylene)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**

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. 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.

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 biocompatable 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

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. Lupitskyy, 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

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-polylactide 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 amphiphillic teeth. C. Zhang, L. M. Price, **W. H. Daly**

3:50 —236. From structural protiens 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

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

Section A

Pennsylvania Convention Center -- Hall D

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

Section A

Marriott -- Salon I&J

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

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. Zezin, 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 complexating 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-diketiminate 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

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

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-diyn-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. Uhrich, *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 opthalmic 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

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**

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. Charactristic 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

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 cyclolinear polycarbosilanes. **Z. Wu**, J. Papandrea, A. P. Singh, P. G. Ganesan, T. Apple, R. Ganapathiraman, L. V. Interrante

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-diketiminate 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. 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. McGeady, 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. Fahnestock**, **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

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. Photopolymerizationand copolymerizationof 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. 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 catheders 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. Guenthner, *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. Guenthner

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

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

Section B

Marriott -- Salon H

6th International Biorelated Polymers Symposium

Biorelated Nanostructures and Assemblies

R. M. Ottenbrite and K. Uhrich, *Organizers*
J. S. Riffle and H. Baumann, *Presiding*
1:30 —416. Gel and micelle type intermediate solution structures of PEG-b-polylactide 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. 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 alkoxysilyl-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

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 vinylester 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 ethynylenes 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

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-caste rigid polymer films. **A. J. Guenthner**, 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 dioxythiophene 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

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. Basser, 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*
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.