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PMSE

DIVISION OF POLYMERIC MATERIALS SCIENCE AND ENGINEERING - **PREPRINT PRESENTATIONS ONLY**

M. Becker, S. Granados-Focil, A. Nelson, and C. Stafford, *Program Chairs*

SUNDAY AFTERNOON

Section B: **Polymer Science Research and Teaching: A Tribute to Professor Jeffrey S. Moore**

D. Venkataraman, J. Heemstra, M. Mio, *Organizers*
C. Possanza, N. Gavvalapalli, *Presiding*

Hyatt Regency Indianapolis
Regency E

4:25 [35. Self-healing materials technology: A new approach to improving corrosion resistance in coatings. G. O. Wilson](#) 1

MONDAY MORNING

Section A: **AkzoNobel Student Award Symposium**

Financially supported by AkzoNobel
J. Thomaides, *Organizer, Presiding*

Hyatt Regency Indianapolis
Regency A

8:35 [45. Rapid and versatile construction of polyphosphoester-based nanostructures for different biological applications. S. Zhang, F. Zhang, J. Zou, M. Elsbahy, K. L. Wooley](#) 2

9:05 [46. Hygro-responsive membranes for energy-efficient separation of oil-water mixture. G. Kwon, A. K. Kota, W. Choi, J. M. Mabry, A. Tuteja](#) 4

9:35 [47. Synthesis of functionalizable and degradable polymers by ROMP. J. M. Fishman, L. L. Kiessling](#) 6

10:05 Intermission.

10:20 [48. Photoresponsive hydrogels with tunable mechanical properties for selective cell capture and release. M. W. Tibbitt, K. S. Anseth](#) 9

10:50 [49. Coupling dynamic thermal shear field to block copolymer molecular ordering for highly oriented and hierarchically patternable nanostructures. G. Singh, K. G. Yager, H. Kim, A. Karim](#) 11

11:20 [50. Nondestructive light-initiated tuning of layer-by-layer microcapsule permeability. W. Xu, I. Choi, F. A. Plamper, C. V. Synatschke, A. H. Müller, V. V. Tsukruk](#) 14

Section D: **2nd International Symposium on Polybenzoxazines**

H. Ishida, *Organizer*

I. Hamerton, T. Chaisuwan, *Presiding*

Hyatt Regency Indianapolis

Regency C

11:10 [69. Optically responsive benzoxazine. S. Niyomsin, S. Chirachanchai](#) 18

MONDAY AFTERNOON

Section D: **2nd International Symposium on Polybenzoxazines**

H. Ishida, *Organizer, Presiding*

I. Gorodisher, *Presiding*

Hyatt Regency Indianapolis

Regency C

1:30 [91. Morphology control and aqueous systems based on benzoxazine chemistry. A. Taden](#) 19

TUESDAY MORNING

Section B: **Polymer Science Research and Teaching: A Tribute to Professor Jeffrey S. Moore**

D. Venkataraman, J. Heemstra, M. Mio, *Organizers*

N. Sekerak, W. Santa Cruz, *Presiding*

Hyatt Regency Indianapolis

Regency E

10:05 [109. Conjugated polymers copolymerized with flexible chains: A platform to create highly ordered polymer nanostructures. K. N. Plunkett, X. Zhu, M. C. Traub, S. E. Ingle, D. A. Vanden Bout](#) 20

Section D: **2nd International Symposium on Polybenzoxazines**

H. Ishida, *Organizer*

A. Taden, T. Takeichi, *Presiding*

Hyatt Regency Indianapolis

Regency C

10:15 [120. Diamine based benzoxazine supramolecular polymers under hydrogen bonding and metal-ligand binding. S. Chirachanchai, P. Tanphibal](#) 21

TUESDAY AFTERNOON

Section A: Smart Materials for Encapsulation and Controlled Release of Actives

Financially supported by Dow Chemical
A. Hughes, I. Drake, J. Katz, M. Johnson, *Organizers*
K. Harris, *Organizer, Presiding*

Hyatt Regency Indianapolis
Regency A

3:15 128. [Noncovalent interaction-stabilized polymeric micelles for targeted delivery of anticancer drugs. J. P. Tan, A. Attia, C. Yang, S. Gao, J. L. Hedrick, A. Nelson, Y. Y. Yang 22](#)

3:35 129. [Multicompartmental microcapsules from star copolymer micelles. I. Choi, S. T. Malak, W. Xu, W. T. Heller, C. Tsitsilianis, V. V. Tsukruk 24](#)

TUESDAY EVENING

Section A: Joint PMSE/POLY Poster Session

Cosponsored by POLY[‡]
S. Granados-Focil, *Organizer*

Indiana Convention Center
Hall I

5:30 - 7:30 - General Papers/New Concepts in Polymeric Materials.

165. [Water soluble PPEGMA-PnBA star block copolymer photo catalyst. K. Cho, S. Lee, K. Baek 27](#)

169. [Synthesis of polyester amines from reaction of triphenylarsenic, triphenylantimony, and triphenylbismuth dihalides with ampicillin. C. E. Carraher, Jr., J. Dorestant, M. R. Roner 29](#)

170. [Synthesis of norfloxacin-containing polyester amines from reaction of triphenylarsenic, triphenylantimony, and triphenylbismuth dihalides. C. E. Carraher, Jr., R. Thibodeau, M. R. Roner 33](#)

171. [Synthesis of polyamines from the interfacial polycondensation reaction of histamine with group VA dihalo reactants. C. E. Carraher, Jr., Z. Islam, M. R. Roner 37](#)

172. [Synthesis of organotin polyamines from the interfacial polycondensation reaction of histamine with organotin dihalides. C. E. Carraher, Jr., Z. Islam, M. R. Roner 41](#)

173. [Synthesis of polyesters formed from the reaction of chelidonic acid with group VA dihalo reactants. C. E. Carraher, Jr., M. Ayoub, M. R. Roner, N. Pham 44](#)

174. [Synthesis of group VA polyesters containing thiodiglycolic acid. C. E. Carraher, Jr., N. Pham, M. R. Roner 47](#)

177. [Enhanced thermal and mechanical properties of polyester/graphene oxide nanocomposites by thermal treatment. S. Cho, Y. Yun, H. Park, H. Jin 51](#)

187. [Anthracene-based covalent organic frameworks and layer locking-and-unlocking driven by external stimuli. N. Huang, A. Nagai, D. Jiang 53](#)

- [193. Mechanical properties of graphene oxide-incorporated poly\(hexamethylene sebacamide\). H. Jin, S. Cho, H. Park 54](#)
- [194. Inorganic composite nanostructures via the self-assembly of block copolymer blends. K. Kim, J. Lee, S. Kim 56](#)
- [195. Highly-ordered nanoporous thin films from PLA-containing block copolymers. O. Kim, J. Lee, S. Choi, S. Kim 57](#)
- [199. Fluorescent dendron-cyclodextrin nanotubes as a biosensory platform. J. Lee, C. Sol, C. Park, C. Kim 58](#)
- [200. Glutathione-responsive mesoporous silica nanocarriers with cyclodextrin gatekeepers for drug delivery application. J. Lee, E. Hong, H. Lee, H. Park, C. Kim 60](#)
- [206. Effect of ultraviolet irradiation on an n-doped semiconductor thin film transistor. A. Rosado, N. Pinto 62](#)
- [220. Construction of new heterogeneous organocatalysts using covalent organic frameworks. H. Xu, A. Nagai, D. Jiang 64](#)
- [223. Preparation of disulfide cross-linked hydrogels based on sodium alginate and their pH- and glutathione-sensitivity. J. Feng, T. Liu, K. Shu, C. Dan, Y. Yin 65](#)

WEDNESDAY MORNING

Section B: Excellence in Graduate Student Research

Financially supported by IBM Almaden Research Center
A. Nelson, M. Becker, C. Stafford, *Organizers, Presiding*

Hyatt Regency Indianapolis
Regency E

8:30 [234. Dynamic thermal field induced-gradient soft-shear for highly oriented and hierarchically patterned block copolymer thin films. G. Singh, K. G. Yager, H. Kim, A. Karim 67](#)

Section D: 2nd International Symposium on Polybenzoxazines

H. Ishida, *Organizer*
S. Kuo, S. Chirachanchai, *Presiding*

Hyatt Regency Indianapolis
Regency C

9:00 [250. Preparation of liquid-crystalline benzoxazines. T. Takeichi, M. Ito, T. Kawauchi, K. Tsuchiya 70](#)

11:35 [254. Preparation of nanosized Al₂O₃/polybenzoxazine copolymer for improved thermal properties. C. Jubsilp, T. Takeichi, S. Rimdusit, S. Ando 72](#)

THURSDAY MORNING

Section A: General Papers/New Concepts in Polymeric Materials

S. Granados-Focil, *Organizer*

K. Yang, *Presiding*

Hyatt Regency Indianapolis
Regency C

9:30 [285. Increasing the dispersibility of multiwalled carbon nanotubes with living polymer brushes: Nanofillers for enhancing polymer processibility. T. J. Aitchison, M. Ginic-Markovic, S. Clarke 74](#)

Section B: General Papers/New Concepts in Polymeric Materials

S. Granados-Focil, *Organizer, Presiding*

Hyatt Regency Indianapolis
Regency E

10:15 [294. In-situ pH dependent swelling studies of polymer bilayers: Chitosan grafted onto a poly\(acrylic acid\) brush. H. Lee, D. M. Eckmann, R. J. Composto 76](#)

Section C: General Papers/New Concepts in Polymeric Materials

S. Granados-Focil, *Organizer, Presiding*

Hyatt Regency Indianapolis
Discovery B

9:00 [298. Cell-rolling microchip for the detection of circulating-tumor cells. A. Mahara, H. Chen, C. Agudelo, K. Ishihara, T. Yamaoka 78](#)

THURSDAY AFTERNOON

Section A: General Papers/New Concepts in Polymeric Materials

S. Granados-Focil, *Organizer, Presiding*

Hyatt Regency Indianapolis
Regency C

2:45 [306. Mechanical properties and nanostructure in extruded films of polylactide acid and polyethylene: Influence of rate of deformation. A. Reyes-Mayer, A. Romo-Urbe 80](#)

Section B: General Papers/New Concepts in Polymeric Materials

S. Granados-Focil, *Organizer*

C. Lin, *Presiding*

Hyatt Regency Indianapolis
Regency E

1:30 [307. Light and X-ray scattering of heat treated thermotropic polymers. A. Reyes-Mayer, A. Romo-Urbe, B. Alvarado-Tenorio, M. Jaffe 82](#)

2:00 [308. Nanocomposites based on poly \(alkyl methacrylate\) and an organically modified Algerian bentonite via in situ polymerization initiated by Ni\(II\) \$\alpha\$ -benzoinoxime complex. S. Djadoun, O. Kamal 84](#)

3:45 [311. Effects of silane-grafted silica nanoparticle on the volume shrinkage in the cure of vinyl ester resins. Y. Huang, Y. Tassia, R. Rau, Y. Yu, I. Liu 86](#)

Section C: **General Papers/New Concepts in Polymeric Materials**

S. Granados-Focil, *Organizer*
X. Gong, *Presiding*

Hyatt Regency Indianapolis
Discovery B

3:45 [318. Compression and expansion in single chain globules. X. Wang, Y. Mi 90](#)