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Advanced Materials, Technologies, Systems & Processes

APRIL 2-6, 2017 | San Francisco, CA

ACS POLY Symposium on
**STRUCTURE TO FUNCTION
IN SUPRAMOLECULAR POLYMERS & MATERIALS**

Organizers: Roxanne Kieltyka, Pol Besenius, John Matson

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TUESDAY MORNING (4/4/2017)

Section E, Moscone Center, 124

Structure to Function in Supramolecular Polymers & Materials

R. Kieltyka, J. B. Matson, *Organizers*
P. Besenius, *Organizer, Presiding*

8:00 Introductory Remarks

8:05 POLY 250. Living crystallization-driven, seeded growth approaches to functional supramolecular materials. **I. MANNERS**

8:30 POLY 251. Living supramolecular polymerization of perylene bisimide J-aggregates.
W.J. WAGNER, V. STEPANENKO, F. WUERTHNER

8:50 POLY 252. Probing hydro- gen bond-aromaticity coupling in squaramide-based supramolecular polymers. **R. KIELTYKA**

9:15 POLY 253. Supramolecular polymers in aqueous media: From mechanisms to materials. **B. RYBTCHINSKI**

9:40 Intermission.

9:55 POLY 254. Zerovalent metallosupramolecular polymers for the *in situ* nucleation of platinum nanoparticles. **L. MONTERO DE ESPINOSA, L. OLAECHEA, C. WEDER**

10:20 POLY 255. Network structure-property relationships in polymer metal-organic-cage gels.
A.V. Zhukhovitskiy, J. ZHAO, M. ZHONG, E.G. KEELER, E. ALT, P. TEICHEN, R.G. GRIF N, M.J. HORE, A. WILLARD, J.A. JOHNSON

10:40 POLY 256. Metallo-Supramolecular crosslinked elastomers. **R.H. LAMBETH, A.M. SAVAGE, F.L. BEYER**

11:00 POLY 257. Porous functional nanostructures mediated by directed supramolecular interactions.
F. BEUERLE

11:25 POLY 258. Withdrawn.

TUESDAY AFTERNOON (4/4/2017)

Section E, Moscone Center, 124

Structure to Function in Supramolecular Polymers & Materials

P. Besenius, *Organizer*

R. Kieltyka, J. B. Matson, *Organizers, Presiding*

1:00 Introductory Remarks.

1:05 POLY 306. Self-Assembly of exfoliated monolayer crystals as photoswitchable soft matter.

R.H. ZHA, J.A. BERROCAL, G. VANTOMME, R. GOSENS, B. DE WAAL, E.W. MEIJER

1:30 POLY 307. N-annulated perylenes. Outstanding scaffolds to build up functional supramolecular polymers. **L. SÁNCHEZ, J. BUENDÍA, E. GRECIANO, J. VALERA, Y. DORCA, R. GÓMEZ**

1:55 POLY 308. Controlling the assembly of multicomponent supramolecular gelator systems.

E. DRAPER, C. COLQUHOUN, E. CROSS, D. ADAMS

2:20 POLY 309. Supramolecular control over thermoresponsive polymers. **R. HOOGENBOOM**

2:45 POLY 310. Control of functional materials and supramolecular network dynamics at both the molecular and colloidal length scales. **O.A. SCHERMAN**

3:10 Intermission.

3:25 POLY 311. Functional materials from self-assembled *bis*-urea macrocycles. **L.S. SHIMIZU, S.R. SALPAGE, B. SOM, A.J. SINDT**

3:50 POLY 312. Impact of solvency and secondary structure on the conformation of single chain polymeric nanoparticles. **G. TER HUURNE, L. DE WINDT, A. PALMANS, E.W. MEIJER, I. VOETS**

4:15 POLY 313. Single-chain nanoparticles with sequenced defined segments via multicomponent reactions. **E.B. BERDA, J. COLE**

4:40 POLY 314. Controlled self-assembly of peptidic Au(I)-metalloamphiphiles into 1D nanorods in water. **B. KEMPER, P. BESENIUS**

5:00 POLY 315. Photo- and magnetoresponsive self-assembly of nanoparticles. **B. RAVOO**

TUESDAY EVENING – POSTER SESSION (4/4/2017)

Section A, Moscone Center, Hall A

Structure to Function in Supramolecular Polymers & Materials

P. Besenius, R. Kieltyka, J. B. Matson, *Organizers*

6:00 - 8:00

POLY 443. Thermodynamic insights into the entropically driven self-assembly of rylene bisimide dyes in water. **P. PEETHAMBARAN NAIR SYAMALA, D. GOERL, B. SOBERATS, F. WUERTHNER**

POLY 444. Kinetic control of supramolecular polymerization by ultrasonication. **M. WEHNER, S. OGI, W.J. WAGNER, V. STEPANENKO, F. WUERTHNER**

POLY 445. Molecular weaving of flexible covalent organic frameworks. **Y. LIU, Y. MA, O. TERASAKI, O.M. YAGHI**

POLY 446. Unique dynamics of poly(di- methyl siloxanes) with associating chain ends. **K. XING, P. CAO, M. TRESS, T. SAITO, V. NOVIKOV, S. CHENG, A.P. SOKOLOV**

POLY 447. Structure and rheology of hydrophobic modified polyacryl-amide-nanoparticle mixture. **F. PENG, Y. KE**

POLY 448. Heparin-Treated trehalose-based polymers exhibit enhanced transfection efficiency in challenging cell types. **W. BOYLE, T.M. REINEKE**

WEDNESDAY MORNING (5/4/2017)

Section E, Moscone Center, 124

Structure to Function in Supramolecular Polymers & Materials

R. Kieltyka, *Organizer*

P. Besenius, J. B. Matson, *Organizers, Presiding*

8:00 Introductory Remarks.

8:05 POLY 519. Self-assembly and hydrogelation of a peptide derived from semenogelin I. **K.S. AKERFELDT**

8:30 POLY 520. Tubular supramolecular polymers. **H. Cui**

8:55 POLY 521. Withdrawn.

9:15 POLY 522. Light-triggered self-assembly and actuation of DNA nanostructures using photocaged nucleotides. **N. STEPHANOPOULOS**

9:40 Intermission.

9:55 POLY 523. Supramolecular materials from virus-like particles as building blocks. **J.J. CORNELISSEN**

10:20 POLY 524. Supramolecular gels for delivery of hydrogen sulfide. **J.B. MATSON, Y. QIAN, K. KAUR**

10:45 POLY 525. Tubular supramolecular polymers. **S. PERRIER**

11:10 POLY 526. Synthesis of a tough thermoplastic elastomer that rapidly absorb water for use in hemorrhage control applications. **T.R. LONG, E. BAIN, F.L. BEYER, R. MROZEK, A.M. SAVAGE, J. LENHART**

11:30 POLY 527. Functional, bio-inspired supramolecular polymeric materials – the interplay between covalent and non-covalent bonds. **O. GOOR, M. GRILLAUD, P. FRANSEN, P.Y. DANKERS**

WEDNESDAY AFTERNOON (5/4/2017)

Section E, Moscone Center, 124

Structure to Function in Supramolecular Polymers & Materials

R. Kieltyka, J. B. Matson, *Organizers*
P. Besenius, *Organizer, Presiding*

1:00 Introductory Remarks.

1:05 POLY 570. Programmable brush polymer self-assembly via DNA hybridization. **K. ZHANG**

1:30 POLY 571. Self- and co-assemblies of BODIPY derivatives as drug nanocarriers. **A. RÖDLE, A. RAMOS TORRES, V. STEPANENKO, G. FERNANDEZ**

1:55 POLY 572. Developing functional platforms for responsive materials and combination antimicrobials via non-covalent bonding in macromolecular systems. **J.C. BARNES, A.F. GREENE, X. LI**

2:20 POLY 573. Molecular organization, mechanical properties, and ion transport in hierarchically structured repeat-protein materials. **T. ZARKOVIC GROVE, N. CARTER**

2:45 POLY 574. Active materials by coupling self assembly to the consumption of fuel. **R. EELKEMA, J. VAN ESCH, G. KOPER, J. BOEKHOVEN, W. HENDRIKSEN**

3:10 Intermission.

3:25 POLY 575. Super resolution imaging of supramolecular materials. **L. ALBERTAZZI**

3:50 POLY 576. Tunable structure and function of electrostatically self-assembled polymer nano-objects in solution. **F. GROEHN, A. KUTZ, M. WAGNER, A. KRIEGER, S. FRÜHBEISER, G. MARIANI, R. SCHWEINS**

4:15 POLY 577. Withdrawn.

4:40 POLY 578. Reversible H- and J-type aggregation of a single perylene bisimide leading to different photoconductivity. **E. DRAPER, M.A. ZWIJNENBURG, D.J. ADAMS**

5:00 POLY 579. Conductivity and mechanics in self-organized networks. **G.N. TEW**

THURSDAY MORNING (6/4/2017)

Section E, Moscone Center, 124

Structure to Function in Supramolecular Polymers & Materials

P. Besenius, R. Kieltyka, J. B. Matson, *Organizers*
K. J. Arrington, B. Kemper, *Presiding*

8:00 Introductory Remarks.

8:05 POLY 633. Recyclable elastomeric net- works based on reversible cross-linking chemistry.
P. BERTO, F. PERUCH, S. GRELIER

8:25 POLY 634. Topology trans- formable polymers derived by mechanical linkage. **T. TAKATA**

8:50 POLY 635. Supramolecular structures of polymers around nanocarbons. **S. ZHANG**

9:15 POLY 636. Tensile property enhancement and photo-actuation of supramolecular self-assembled copolymers of P3HT. **T.M. PATHIRANAGE, J.M. BOOTHBY, M.C. BIEWER, T.H. WARE, M.C. STEFAN**

9:35 Intermission.

9:50 POLY 637. Hydrogen bonding supramolecular polymers with temperature controlled switchable mechanical properties reveal photoheable effects. **A. RAZGONIAEV, K. MIKHAILOV, F. OBREZKOV, A. OSTROWSKI**

10:10 POLY 638. Regioselective, metal free C-C coupling of hexa- uorobenzene for stable porous polymer networks. **D. THIRION, V. ROZZYEV, A. ADISHEV, C.T. YAVUZ**

10:35 POLY 639. UV Patterned calixarene-derived supramolecular gels with spatially resolved mechanical and fluorescent properties. **J. LEE, J.H. JUNG, K. SAKURAI**

10:55 POLY 640. Trefoil knotted block copolymer via ring-expansion strategy. **P. CAO, L. RONG, J. MANGADLAO, R.C. ADVINCULA**

11:15 POLY 641. Perylene bisimide aggregation in water: Self-assembly features and development of stimuli responsive materials. **B. SOBERATS, D. GÖRL, P. SYAMALA, F. WUERTHNER**