

# Macromolecules

November 27, 2012

Volume 45, Issue 22

Pages 8939-9232

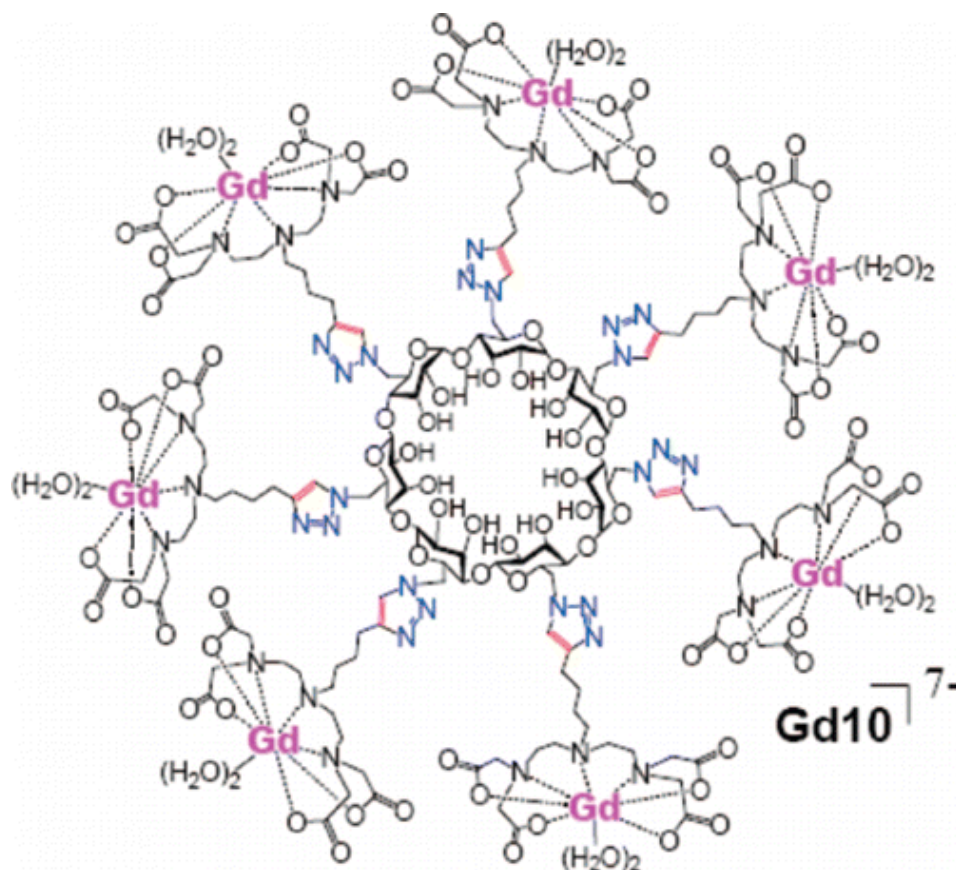


Figure 1 of 16

## ARTICLES

### Thermal Behavior, Stability, and Decomposition Mechanism of Poly(*N*-vinylimidazole)

Csaba Fodor, János Bozi, Marianne Blazsó, and Béla Iván

pp 8953-8960

Publication Date (Web): November 6, 2012 (Article)

DOI: 10.1021/ma301712k

COS Section:

Chemistry of Synthetic High Polymers

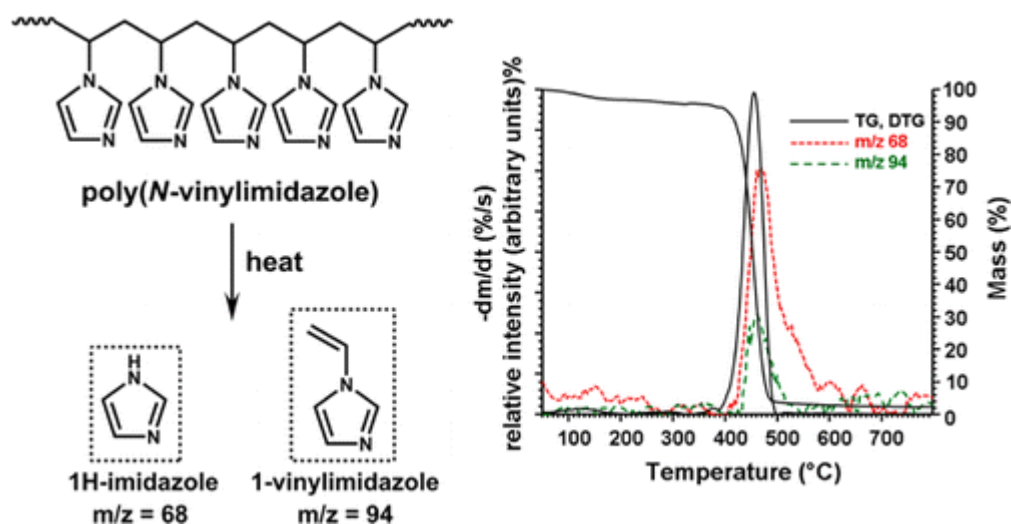


Figure 1 of 7

### “Helicity Inversion”: Linkage Effects of Chiral Poly(*n*-hexyl isocyanate)s

Priyank N. Shah, Joonkeun Min, Chang-Geun Chae, Naoki Nishikawa, Daichi Suemasa, Toyoji Kakuchi, Toshifumi Satoh, and Jae-Suk Lee

pp 8961-8969

Publication Date (Web): November 7, 2012 (Article)

DOI: 10.1021/ma301930s

COS Section:

Chemistry of Synthetic High Polymers

### “Helicity inversion” due to a linkage effect

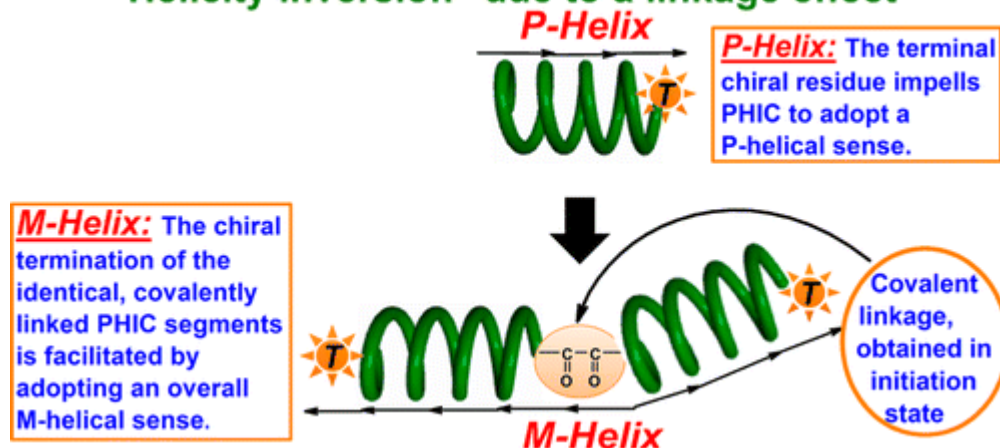


Figure 1 of 8

### Redox-Responsive Polymer Brushes Grafted from Polystyrene Nanoparticles by Means of Surface Initiated Atom Transfer Radical Polymerization

Markus Mazurowski, Markus Gallei, Junyu Li, Haiko Didzoleit, Bernd Stühn, and Matthias Rehahn

pp 8970-8981

Publication Date (Web): November 5, 2012 (Article)

DOI: 10.1021/ma3020195

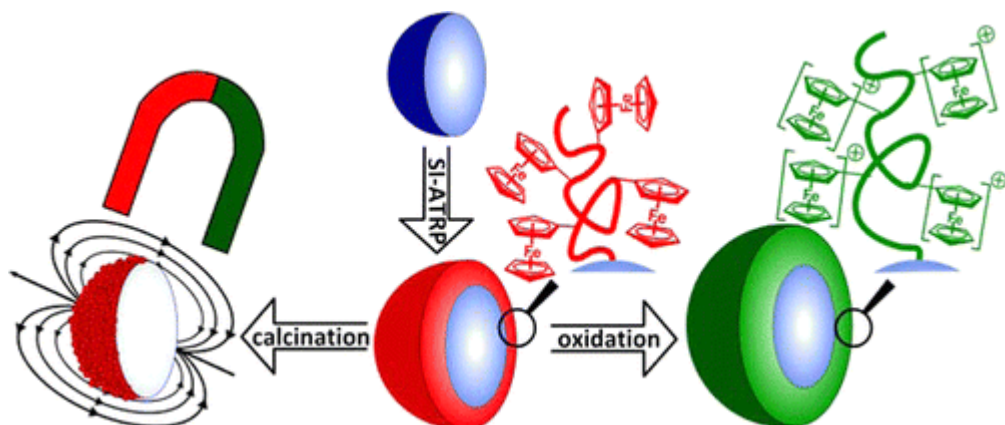


Figure 1 of 11

### Analysis of Lanthanide Complex Dendrimer Conjugates for Bimodal NIR and MRI Imaging

Christopher M. Andolina, Piper J. Klemm, William C. Floyd, III, Jean M. J. Fréchet, and Kenneth N. Raymond

pp 8982-8990

Publication Date (Web): November 12, 2012 (Article)

DOI: 10.1021/ma302206g

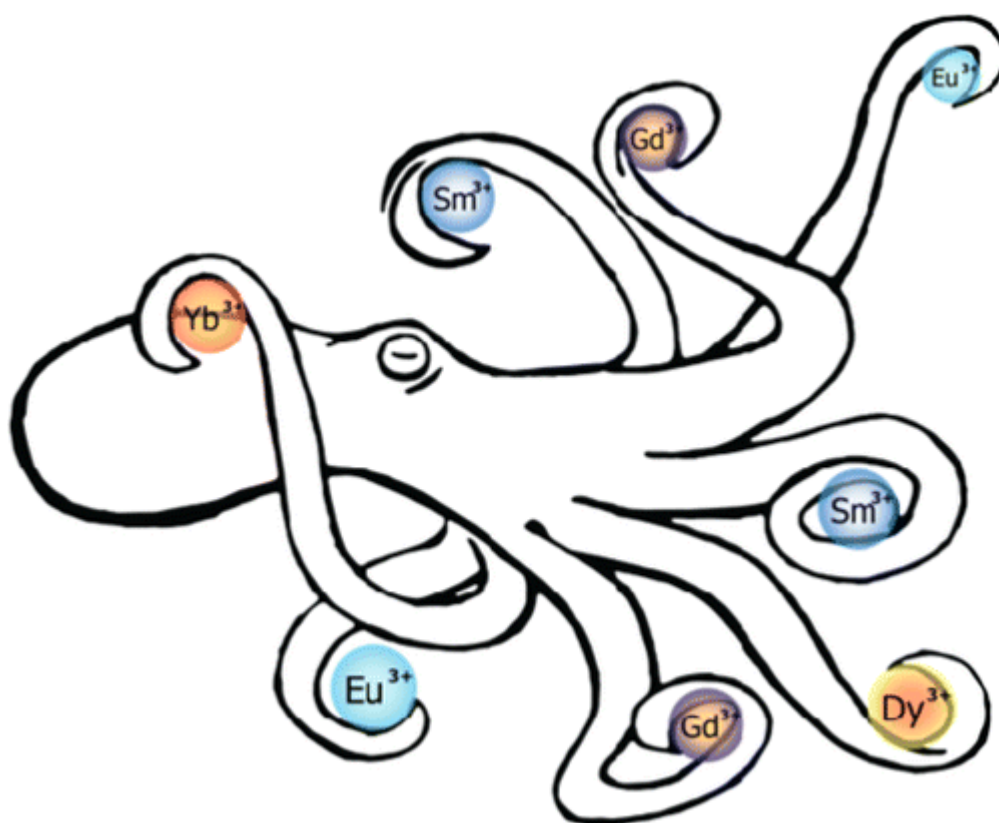


Figure 1 of 3

## Benzoxazole Resin: A Novel Class of Thermoset Polymer via Smart Benzoxazine Resin

Tarek Agag, Jia Liu, Robert Graf, Hans W. Spiess, and Hatsuo Ishida

pp 8991-8997

Publication Date (Web): November 12, 2012 (Article)

DOI: 10.1021/ma300924s

COS Section:

Plastics Manufacture and Processing



## Controlled Copolymerization of 1-Octene and (Meth)acrylates via Organotellurium-Mediated Living Radical Polymerization (TERP)

Eri Mishima, Tomoki Tamura, and Shigeru Yamago

pp 8998-9003

Publication Date (Web): November 7, 2012 (Article)

DOI: 10.1021/ma301570r

CCS Section:

Chemistry of Synthetic High Polymers

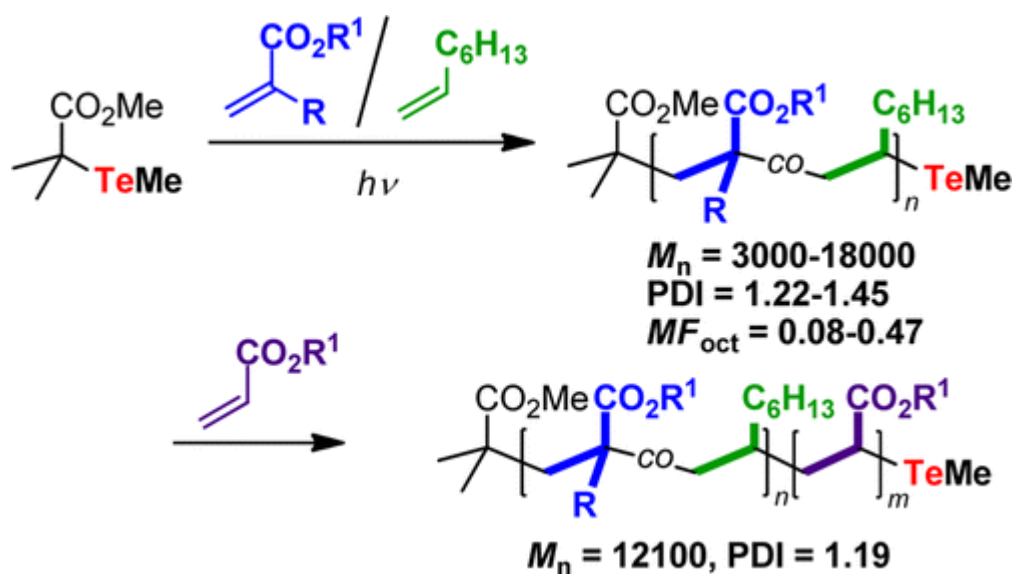


Figure 1 of 5

## Pd/C as a Clean and Effective Heterogeneous Catalyst for C–C Couplings toward Highly Pure Semiconducting Polymers

Shi-Yong Liu, Han-Ying Li, Min-Min Shi, Hao Jiang, Xiao-Lian Hu, Wang-Qiu Li, Lei Fu, and Hong-Zheng Chen

pp 9004-9009

Publication Date (Web): November 5, 2012 (Article)

DOI: 10.1021/ma3019238

CCS Section:

Chemistry of Synthetic High Polymers

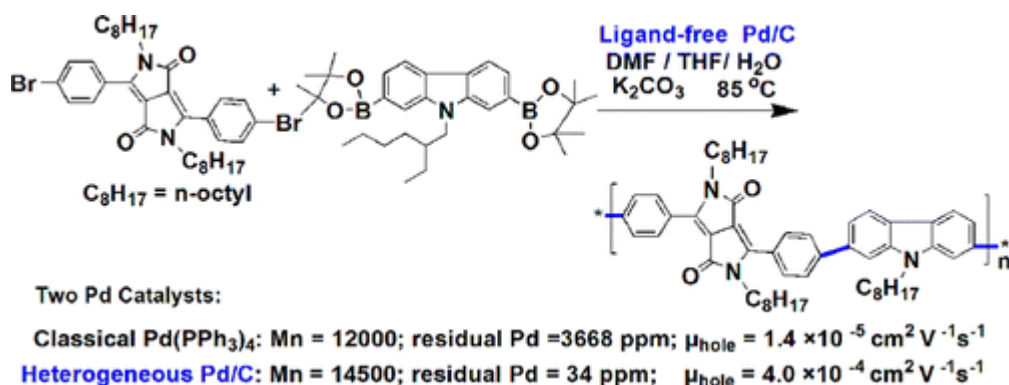


Figure 1 of 3

## Synthesis and Characterization of Novel Soybean-Oil-Based Elastomers with Favorable Processability and Tunable Properties

Zhao Wang, Xing Zhang, Runguo Wang, Hailan Kang, Bo Qiao, Jun Ma, Liqun Zhang, and Hao Wang

pp 9010-9019

Publication Date (Web): November 5, 2012 (Article)

DOI: 10.1021/ma301938a

CCS Section:

Synthetic Elastomers and Natural Rubber

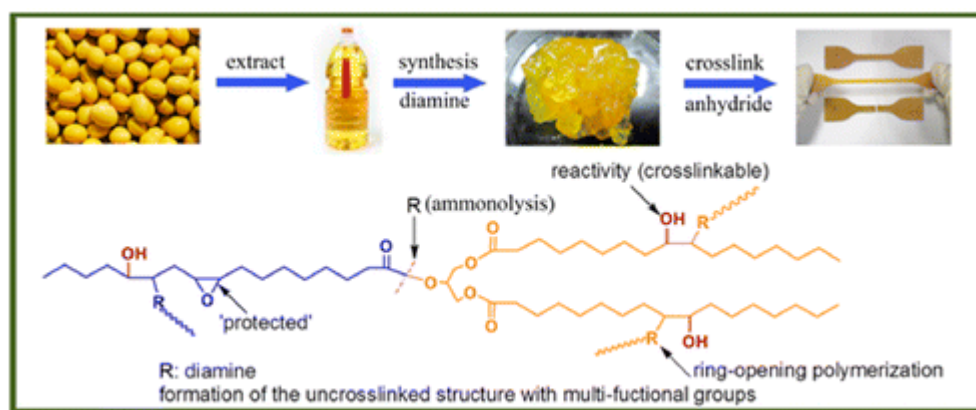


Figure 1 of 12

## Complementary Multiple Hydrogen Bonding Interactions Induce the Self-Assembly of Supramolecular Structures from Heteronucleobase-Functionalized Benzoxazine and Polyhedral Oligomeric Silsesquioxane Nanoparticles

Wei-Hsun Hu, Kai-Wei Huang, Chin-Wei Chiou, and Shiao-Wei Kuo

pp 9020-9028

Publication Date (Web): November 14, 2012 (Article)

DOI: 10.1021/ma302077x

CCS Section:

Chemistry of Synthetic High Polymers



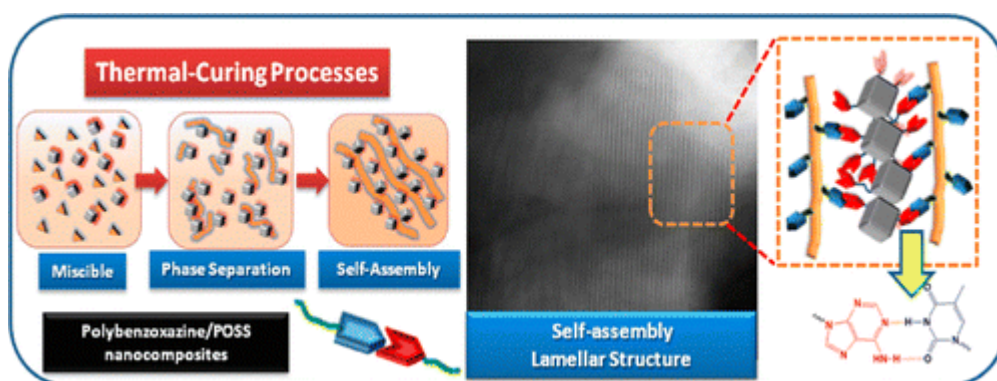


Figure 1 of 12

## High Mobility Thiazole–Diketopyrrolopyrrole Copolymer Semiconductors for High Performance Field-Effect Transistors and Photovoltaic Devices

Selvam Subramaniyan, Felix Sunjoo Kim, Guoqiang Ren, Haiyan Li, and Samson A. Jenekhe

pp 9029-9037

Publication Date (Web): November 5, 2012 (Article)

DOI: 10.1021/ma301660j

CCS Section:

Chemistry of Synthetic High Polymers

# Hole Mobility $\mu_h = 1.2 \text{ cm}^2/\text{Vs}$

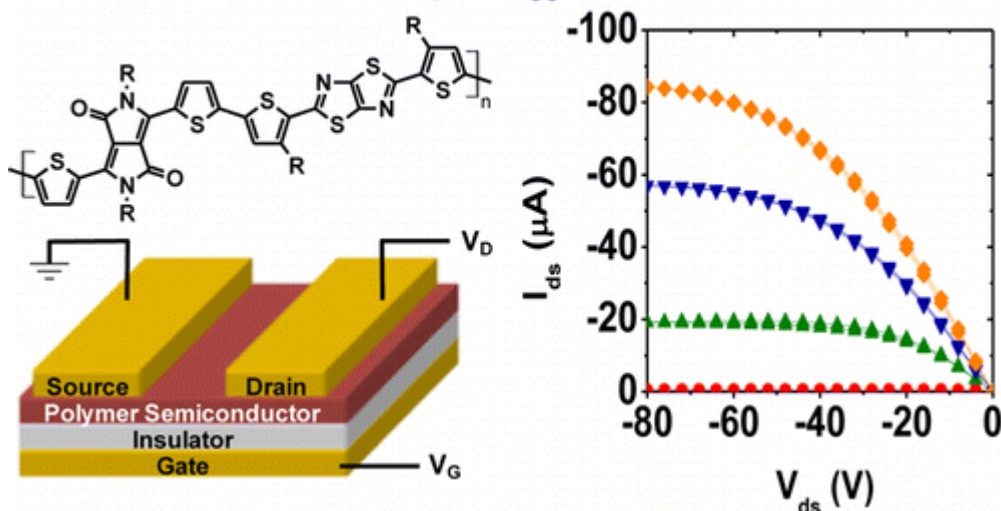


Figure 1 of 7

## Odd–Even and Hydrophobicity Effects of Diacetylene Alkyl Chains on Thermochromic Reversibility of Symmetrical and Unsymmetrical Diyndiamide Polydiacetylenes

Sasikarn Ampornpun, Suriyakamon Montha, Gamolwan Tumcharern, Viwat Vchirawongkwin, Mongkol Sukwattanasinitt, and Sumrit Wacharasindhu

pp 9038-9045

Publication Date (Web): November 12, 2012 (Article)

DOI: 10.1021/ma3019798



Chemistry of Synthetic High Polymers

### Synthesis of Thiophene-Based $\pi$ -Conjugated Polymers Containing Oxadiazole or Thiadiazole Moieties and Their Application to Organic Photovoltaics

Tomoya Higashihara, Hung-Chin Wu, Tetsunari Mizobe, Chien Lu, Mitsuru Ueda, and Wen-Chang Chen

pp 9046-9055

Publication Date (Web): November 12, 2012 (Article)

DOI: 10.1021/ma302005j



Electrochemical, Radiational, and Thermal Energy Technology

### n-Type Naphthalene Diimide–Biselenophene Copolymer for All-Polymer Bulk Heterojunction Solar Cells

Ye-Jin Hwang, Guoqiang Ren, Nishit M. Murari, and Samson A. Jenekhe

pp 9056-9062

Publication Date (Web): November 14, 2012 (Article)

DOI: 10.1021/ma3020239



Electrochemical, Radiational, and Thermal Energy Technology

### Surface-Initiated Polymerization of Azidopropyl Methacrylate and Its Film Elaboration via Click Chemistry

Sampa Saha, Merlin L. Bruening, and Gregory L. Baker

pp 9063-9069

Publication Date (Web): November 13, 2012 (Article)

DOI: 10.1021/ma301556v



Chemistry of Synthetic High Polymers

### Preparation of a Diblock Supramolecular Copolymer via Self-Sorting Organization

Shengyi Dong, Bo Zheng, Mingming Zhang, Xuzhou Yan, Xia Ding, Yihua Yu, and Feihe Huang

pp 9070-9075

Publication Date (Web): November 7, 2012 (Article)

DOI: 10.1021/ma301642y





### Facile Preparation of Highly Oriented Poly(vinylidene fluoride) Langmuir–Blodgett Nanofilms Assisted by Amphiphilic Polymer Nanosheets

Huie Zhu, Masaya Mitsuishi, and Tokuji Miyashita

pp 9076-9084

Publication Date (Web): November 8, 2012 (Article)

DOI: 10.1021/ma301711g



### Trichloroethoxy-Substituted Polyphosphazenes: Synthesis, Characterization, and Properties

Chen Chen, Xiao Liu, Zhicheng Tian, and Harry R. Allcock

pp 9085-9091

Publication Date (Web): November 5, 2012 (Article)

DOI: 10.1021/ma301822m



### Stimuli-Responsive and Mechanically-Switchable Electrospun Composites

Nandula D. Wanasekara, David A. Stone, Gary E. Wnek, and LaShanda T. J. Korley

pp 9092-9099

Publication Date (Web): November 12, 2012 (Article)

DOI: 10.1021/ma301896u



### Substituent Exchange Reactions with High Polymeric Organophosphazenes

Xiao Liu, Jonathan P. Breon, Chen Chen, and Harry R. Allcock

pp 9100-9109

Publication Date (Web): November 13, 2012 (Article)

DOI: 10.1021/ma302087a



### Influence of Water on the Structure and Properties of PDMS-Containing Multiblock Polyurethanes

Kimberly A. Chaffin, Adam J. Buckalew, James L. Schley, Xiangji Chen, Matthew Jolly, Julie A. Alkatout, Jennifer

P. Miller, Darrel F. Untereker, Marc A. Hillmyer, and Frank S. Bates

pp 9110-9120

Publication Date (Web): November 13, 2012 ([Article](#))

DOI: 10.1021/ma301965y



Synthetic Elastomers and Natural Rubber

### **Hierarchical Structure Analysis of Graft-Type Polymer Electrolyte Membranes Consisting of Cross-Linked Polytetrafluoroethylene by Small-Angle Scattering in a Wide-Q Range**

Hiroki Iwase, Shin-ichi Sawada, Tetsuya Yamaki, Satoshi Koizumi, Masato Ohnuma, and Yasunari Maekawa

pp 9121-9127

Publication Date (Web): November 6, 2012 ([Article](#))

DOI: 10.1021/ma301415r



Physical Properties of Synthetic High Polymers

### **Dynamics of Di(propylene glycol) Dibenzoate- $d_{10}$ in Poly(vinyl acetate) by Solid-State Deuterium NMR**

Boonta Hetayothin, Roy A. Cabaniss, and Frank D. Blum

pp 9128-9138

Publication Date (Web): November 9, 2012 ([Article](#))

DOI: 10.1021/ma301463n



Physical Properties of Synthetic High Polymers

### **Direct Observation of the Relief Structure Formation in the Nearly Symmetric Poly(styrene)-*b*-block-poly( $\epsilon$ -caprolactone) Diblock Copolymer Thin Film**

Peng Zhang, Zongbao Wang, Haiying Huang, and Tianbai He

pp 9139-9146

Publication Date (Web): November 14, 2012 ([Article](#))

DOI: 10.1021/ma301531a



Physical Properties of Synthetic High Polymers

### **Pressure Jump Kinetics of Disorder to BCC Ordering in Diblock Copolymer Micelles in a Selective Solvent**

Yongsheng Liu, Julian D. Spring, Milos Steinhart, and Rama Bansil

pp 9147-9154

Publication Date (Web): November 8, 2012 ([Article](#))

DOI: 10.1021/ma301462d



#### Physical Properties of Synthetic High Polymers

### Reaction-Induced Microphase Separation in Epoxy Thermosets Containing Block Copolymers Composed of Polystyrene and Poly( $\epsilon$ -caprolactone): Influence of Copolymer Architectures on Formation of Nanophases

Rentong Yu and Sixun Zheng , Xiuhong Li and Jie Wang

pp 9155-9168

Publication Date (Web): November 14, 2012 ([Article](#))

DOI: 10.1021/ma3017212



#### Chemistry of Synthetic High Polymers

### pH-Dependent Thermal Transitions in Hydrated Layer-by-Layer Assemblies Containing Weak Polyelectrolytes

Ajay Vidyasagar, Choonghyun Sung, Kristen Losensky, and Jodie L. Lutkenhaus

pp 9169-9176

Publication Date (Web): November 15, 2012 ([Article](#))

DOI: 10.1021/ma3020454



#### Physical Properties of Synthetic High Polymers

### Aqueous Solute Partitioning and Mesh Size in HEMA/MAA Hydrogels

Csaba Kotsmar, Teresa Sells, Nicole Taylor, David E. Liu, J. M. Prausnitz, and C. J. Radke

pp 9177-9187

Publication Date (Web): November 9, 2012 ([Article](#))

DOI: 10.1021/ma3018487



#### Pharmaceuticals

### Mesoporous Block Copolymer Morphology Studied by Contrast-Matched Resonant Soft X-ray Scattering

David T. Wong, Cheng Wang, Keith M. Beers, Jeffrey B. Kortright, and Nitash P. Balsara

pp 9188-9195

Publication Date (Web): November 13, 2012 (Article)

DOI: 10.1021/ma3019206

COSSection:

Physical Properties of Synthetic High Polymers

### Conformational Transition of Poly(*N*-isopropylacrylamide) Single Chains in Its Cononsolvency Process: A Study by Fluorescence Correlation Spectroscopy and Scaling Analysis

Fei Wang, Yi Shi, Shuangjiang Luo, Yongming Chen, and Jiang Zhao

pp 9196-9204

Publication Date (Web): November 8, 2012 (Article)

DOI: 10.1021/ma301780f

COSSection:

Physical Properties of Synthetic High Polymers



### Coarse-Grained Modeling of Polystyrene in Various Environments by Iterative Boltzmann Inversion

Beste Bayramoglu and Roland Faller

pp 9205-9219

Publication Date (Web): November 6, 2012 (Article)

DOI: 10.1021/ma301280b

COSSection:

Physical Properties of Synthetic High Polymers

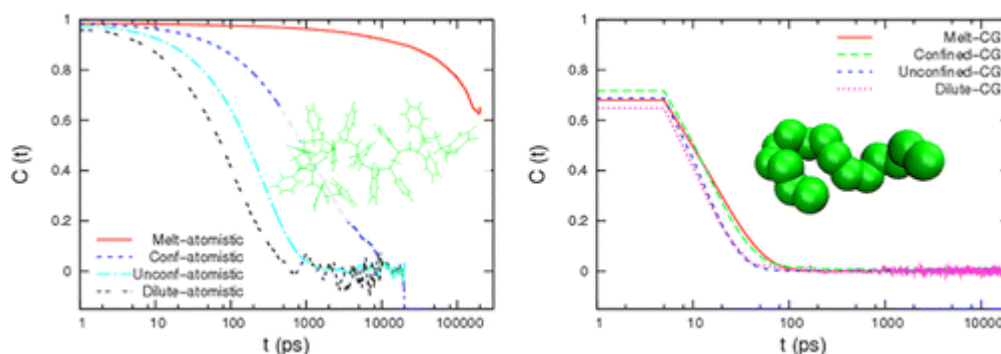


Figure 1 of 11

### Polymer-Grafted Magnetic Nanoparticles in Nanocomposites: Curvature Effects, Conformation of Grafted Chain, and Bimodal Nanotriggering of Filler Organization by Combination of Chain Grafting and Magnetic Field

Anne-Sophie Robbes, Fabrice Cousin, Florian Meneau, Florent Dalmas, Ralf Schweins, Didier Gigmes, and Jacques Jestina

