

# Macromolecules

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ERSPECTIVE

## Polymer Nanoparticles via Living Radical Polymerization in Aqueous Dispersions: Design and Applications

Michael J. Monteiro and Michael F. Cunningham

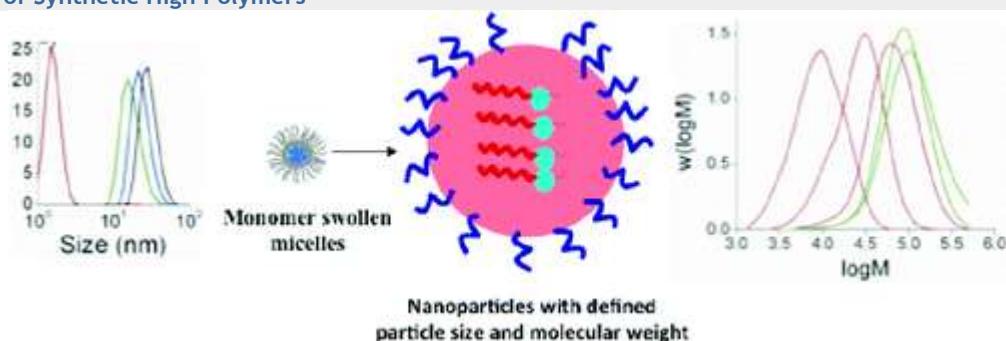
pp 4939-4957

Publication Date (Web): April 25, 2012 (Perspective)

DOI: 10.1021/ma300170c

Section:

Chemistry of Synthetic High Polymers



ARTICLES

## Aminoxy and Pyridyl Disulfide Telechelic Poly(poly(ethylene glycol) acrylate) by RAFT Polymerization

Gregory N. Grover, Juneyoung Lee, Nicholas M. Matsumoto, and Heather D. Maynard

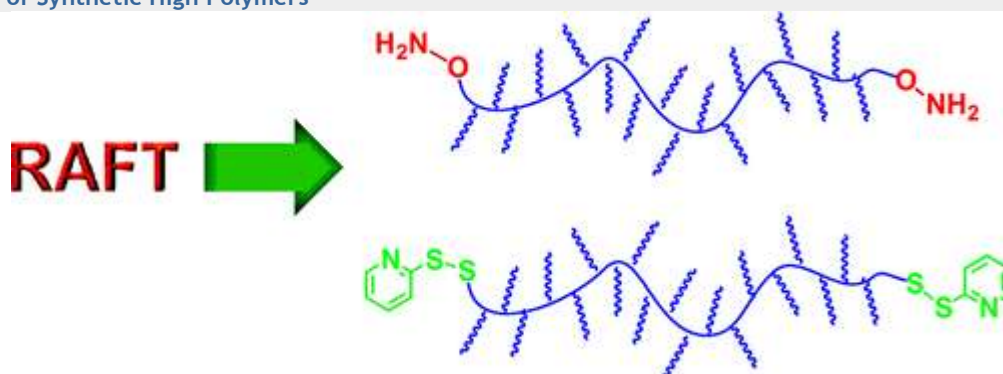
pp 4958-4965

Publication Date (Web): June 11, 2012 (Article)

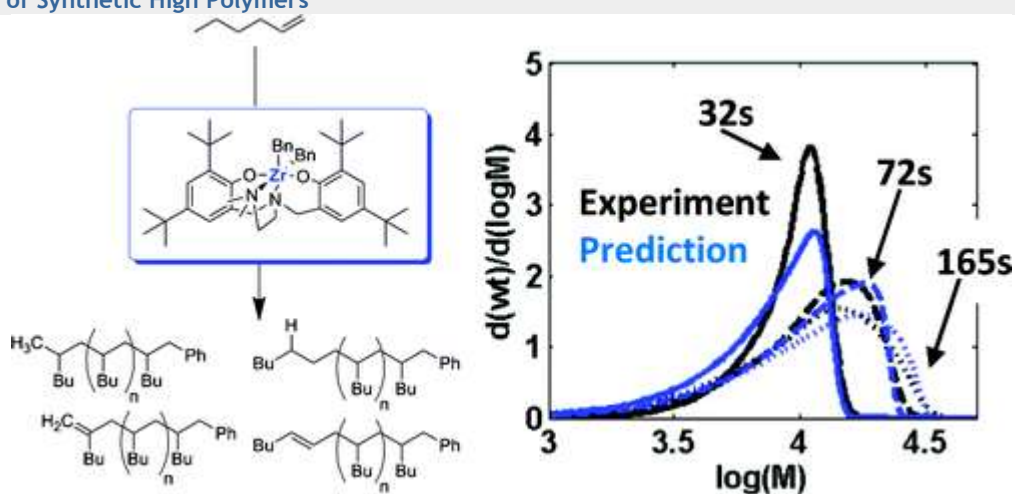
DOI: 10.1021/ma300575e

Section:

Chemistry of Synthetic High Polymers



## Chemistry of Synthetic High Polymers



## Novel Hydroxyl-Functionalized Caprolactone Poly(meth)acrylates Decorated with *tert*-Butyl Groups

Dorota Neugebauer, Katarzyna Bury, and Tadeusz Biela

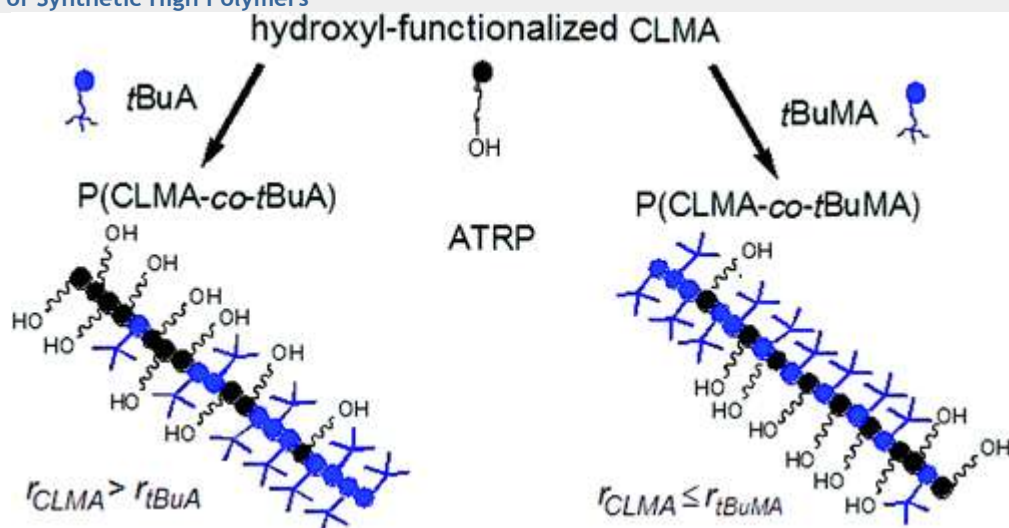
pp 4989-4996

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Section:

Chemistry of Synthetic High Polymers



## Precise Synthesis of Miktoarm Star Polymers by Using a New Dual-Functionalized 1,1-Diphenylethylene Derivative in Conjunction with Living Anionic Polymerization System

Shotaro Ito, Raita Goseki, Saeko Senda, and Akira Hirao

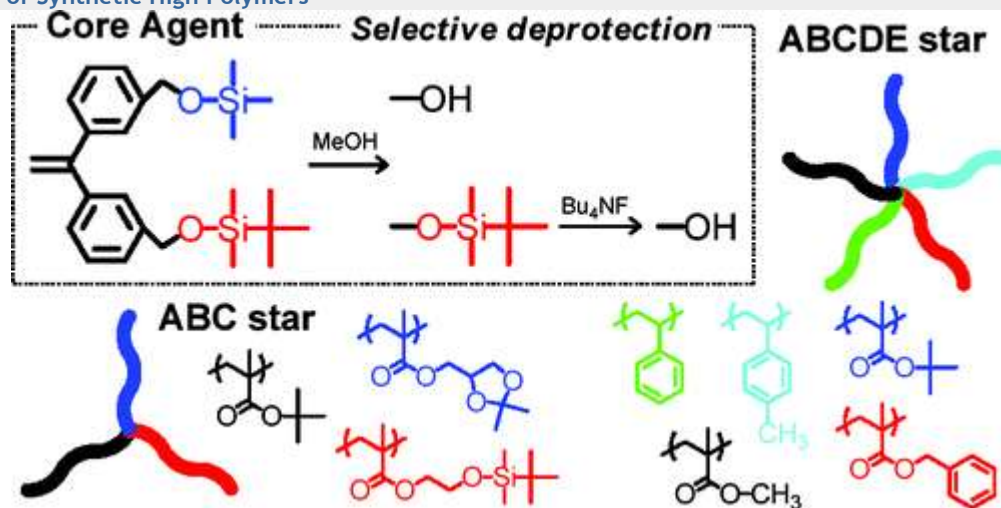
pp 4997-5011

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DOI: 10.1021/ma300699m

Section:

Chemistry of Synthetic High Polymers



## Highly Orthogonal Functionalization of ADMET Polymers via Photo-Induced Diels–Alder

### Reactions

Matthias Winkler, Jan O. Mueller, Kim K. Oehlenschlaeger, Lucas Montero de Espinosa, Michael A. R. Meier, and Christopher Barner-Kowollik

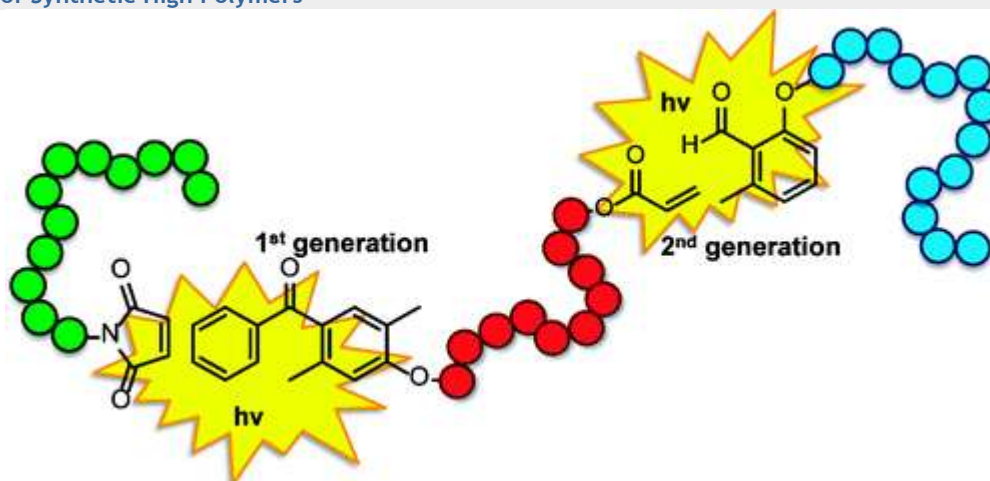
pp 5012-5019

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DOI: 10.1021/ma3007043

CCS Section:

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## Synthesis of Hyperbranched Poly(phenylacetylene)s Containing Pendant Alkyne Groups by One-Pot Pd-Catalyzed Copolymerization of Phenylacetylene with Diynes

Zhongmin Dong and Zhibin Ye

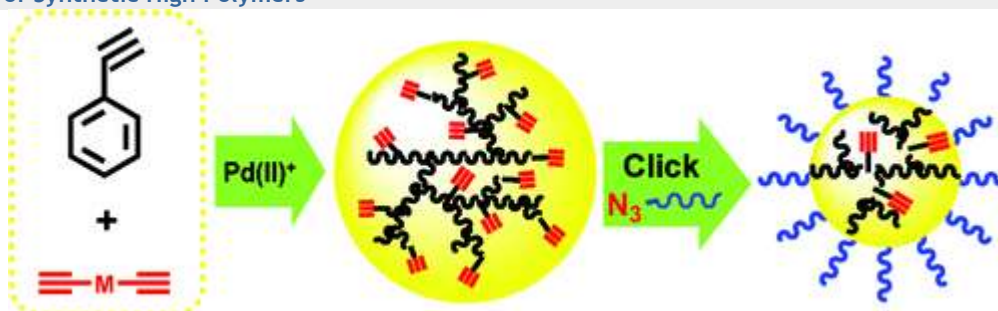
pp 5020-5031

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DOI: 10.1021/ma3007569

CCS Section:

Chemistry of Synthetic High Polymers



## Photosensitized Formation of Phosphorus-Centered Radicals: Application to the Design of Photoinitiating Systems

Jacques Lalevée, Fabrice Morlet-Savary, Mohamad Ali Tehfe, Bernadette Graff, and Jean Pierre Fouassier

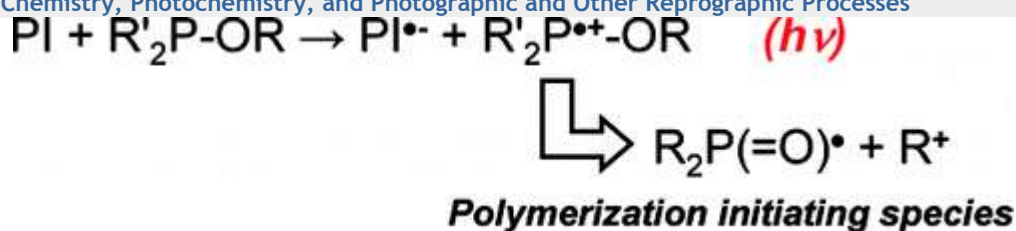
pp 5032-5039

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CCS Section:

Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes



## Bidentate Phenoxides as Ideal Activating Ligands for Living Ring-Opening Alkyne Metathesis Polymerization

Danielle F. Sedbrook, Daniel W. Paley, Michael L. Steigerwald, Colin Nuckolls, and Felix R. Fischer

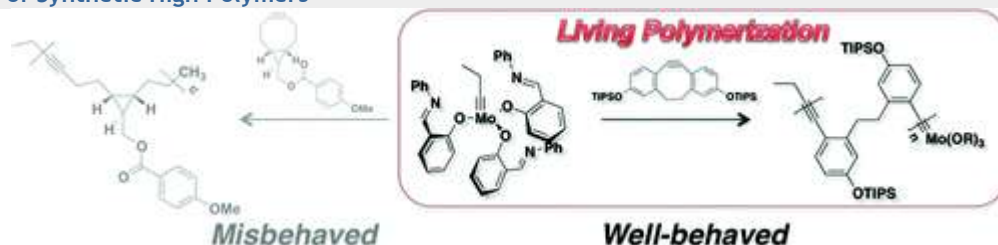
pp 5040-5044

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DOI: 10.1021/ma300876q

Section:

Chemistry of Synthetic High Polymers



## Supramolecular Functionalization of Single-Walled Carbon Nanotubes (SWNTs) with a Photoisomerizable Conjugated Polymer

Patigul Imin, Mokhtar Imit, and Alex Adronov

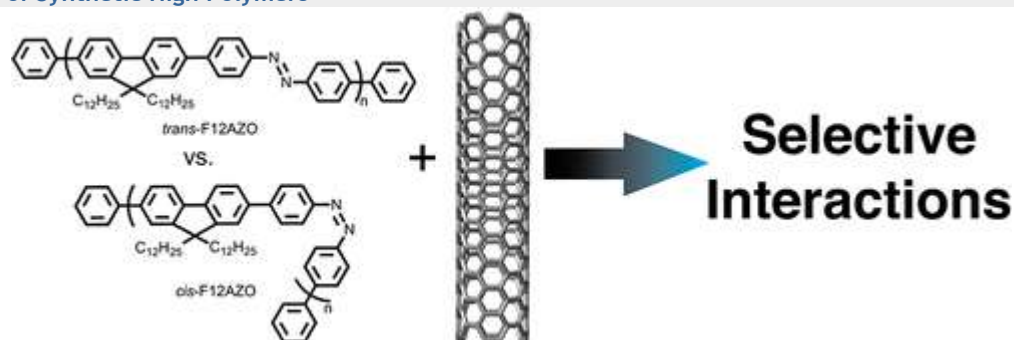
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DOI: 10.1021/ma300403q

Section:

Chemistry of Synthetic High Polymers



## Well-Defined Alternating Copolymers of Oligo(phenylenevinylene)s and Flexible Chains

Xinju Zhu, Matthew C. Traub, David A. Vanden Bout, and Kyle N. Plunkett

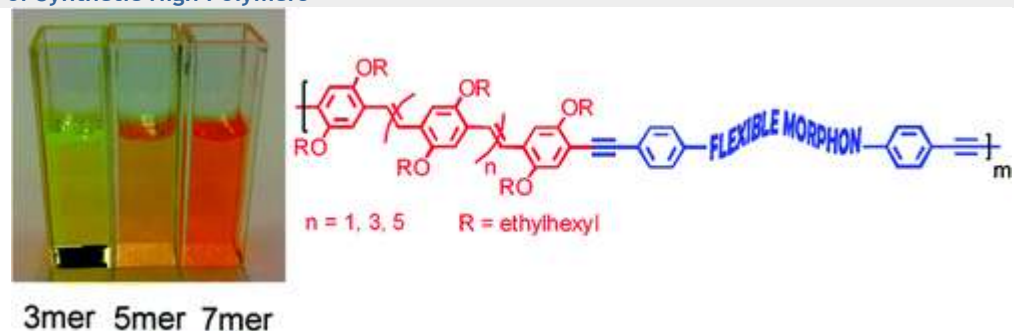
pp 5051-5057

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Section:

Chemistry of Synthetic High Polymers





## Synthesis and Self-Assembly of Thiophene-Based All-Conjugated Amphiphilic Diblock Copolymers with a Narrow Molecular Weight Distribution

In Young Song, Jinseck Kim, Min Jeong Im, Byung Joon Moon, and Taiho Park

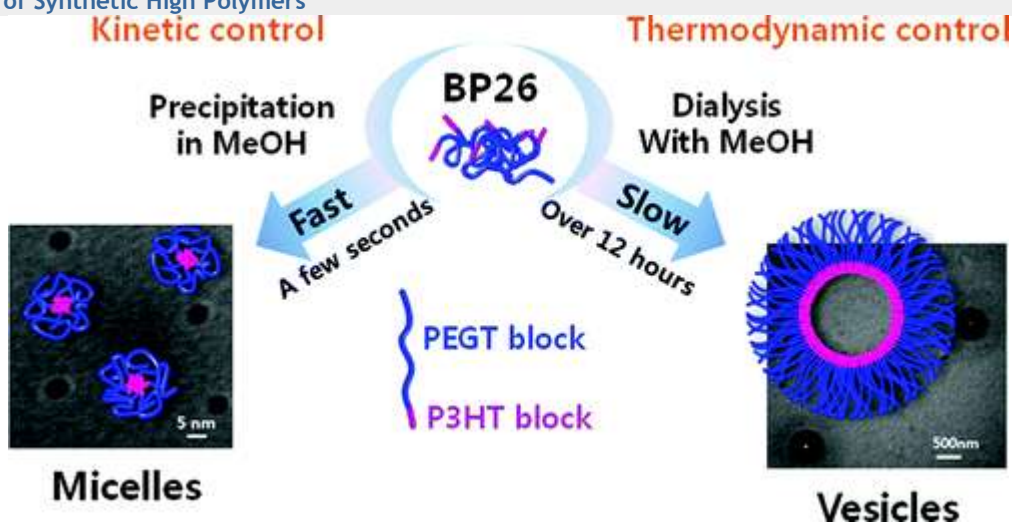
pp 5058-5068

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Section:

Chemistry of Synthetic High Polymers



## Semicrystalline Polyesters Based on a Novel Renewable Building Block

Jing Wu, Pieter Eduard, Shanmugam Thiagarajan, Lidia Jasinska-Walc, Artur Rozanski, Célia Fonseca Guerra, Bart A. J. Noordover, Jacco van Haveren, Daan S. van Es, and Cor E. Koning

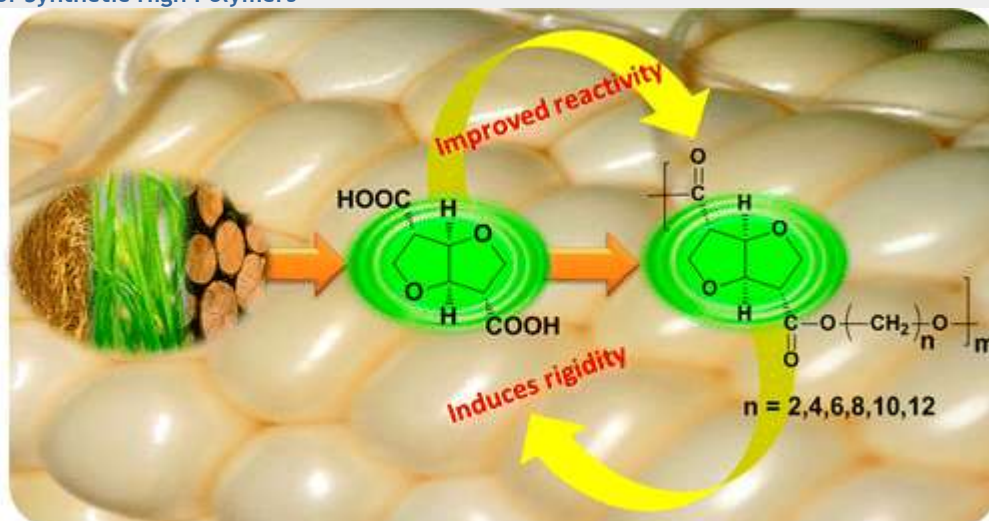
pp 5069-5080

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DOI: 10.1021/ma300782h

Section:

Chemistry of Synthetic High Polymers



## Facile Synthesis of Methacrylic ABC Triblock Copolymer Vesicles by RAFT Aqueous Dispersion Polymerization

P. Chambon, A. Blanazs, G. Battaglia, and S. P. Armes

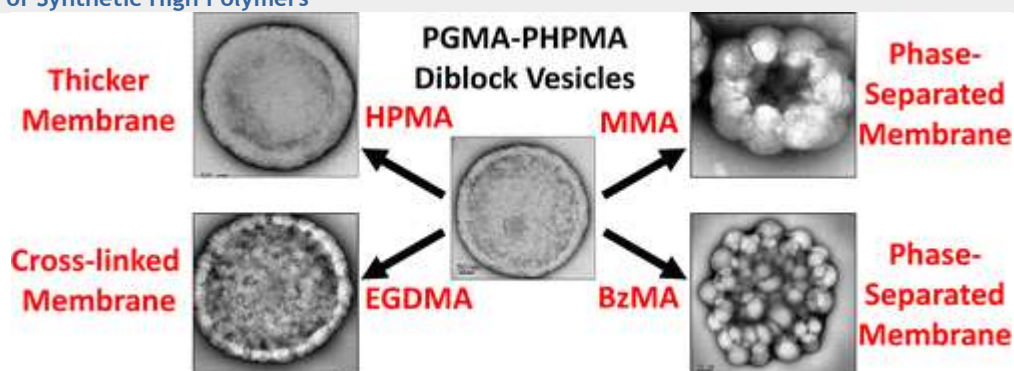
pp 5081-5090

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DOI: 10.1021/ma300816m

Section:

Chemistry of Synthetic High Polymers



## Efficient Synthesis of Amine-Functional Diblock Copolymer Nanoparticles via RAFT

### Dispersion Polymerization of Benzyl Methacrylate in Alcoholic Media

Elizabeth R. Jones, Mona Semsarilar, Adam Blanazs, and Steven P. Armes

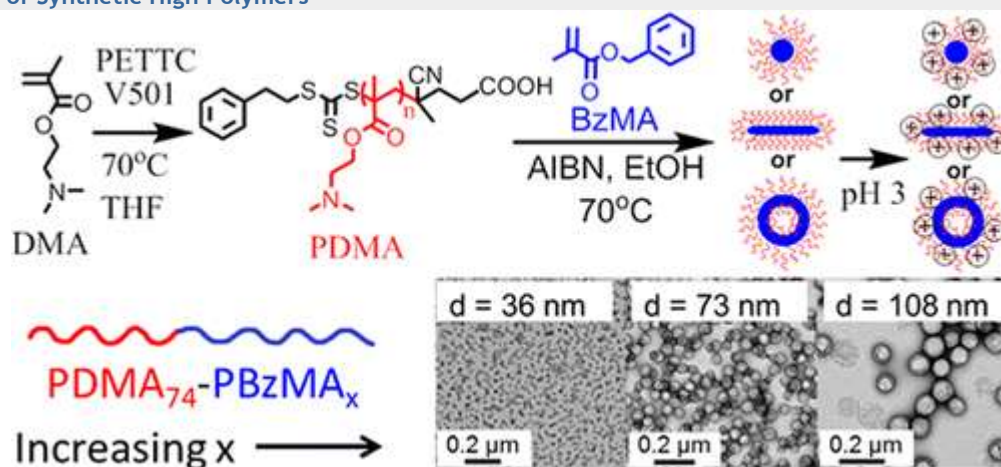
pp 5091-5098

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Section:

Chemistry of Synthetic High Polymers



## Predictive Phase Diagrams for RAFT Aqueous Dispersion Polymerization: Effect of Block Copolymer Composition, Molecular Weight, and Copolymer Concentration

A. Blanazs, A. J. Ryan, and S. P. Armes

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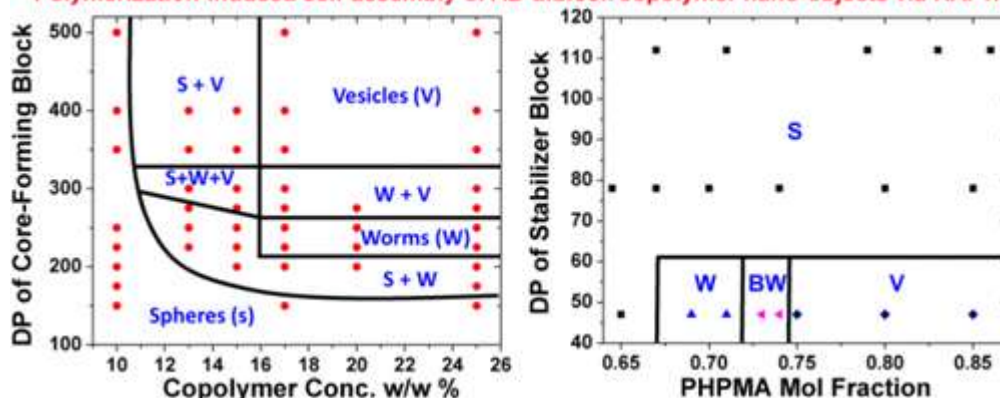
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DOI: 10.1021/ma301059r

Section:

Chemistry of Synthetic High Polymers

Polymerization-induced self-assembly of AB diblock copolymer nano-objects via RAFT:



## A New Design Strategy for the Synthesis of Unsubstituted Polythiophene with Defined High Molecular Weight

Jian Chen, Jie Shu, Simone Schobloch, Anja Kroeger, Robert Graf, Rafael Muñoz-Espí, Katharina Landfester, and Ulrich Ziener

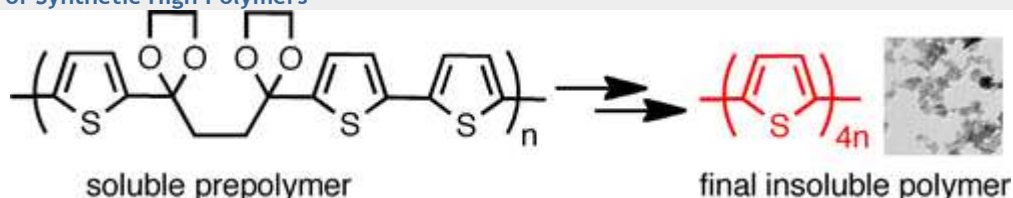
pp 5108-5113

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DOI: 10.1021/ma301074p

Section:

Chemistry of Synthetic High Polymers



## Interactive Crystallization Kinetics in Double-Crystalline Block Copolymer

Ming-Champ Lin, Hsin-Lung Chen, Wen-Bin Su, Chun-Jen Su, U-Ser Jeng, Fu-Yuan Tzeng, Jheng-Yuan Wu, Jing-Cherng Tsai, and Takeji Hashimoto

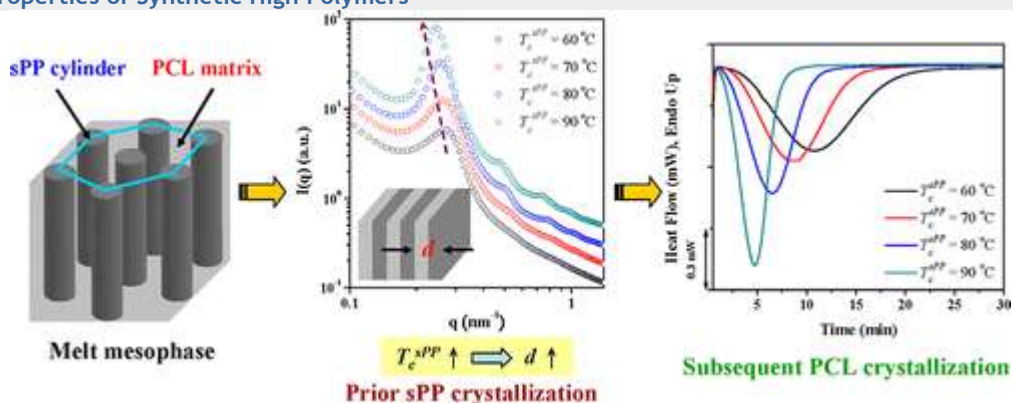
pp 5114-5127

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DOI: 10.1021/ma300711k

Section:

Physical Properties of Synthetic High Polymers





## Enhanced Electromechanical Response of Ionic Polymer Actuators by Improving Mechanical Coupling between Ions and Polymer Matrix

Yang Liu, Mehdi Ghaffari, Ran Zhao, Jun-Hong Lin, Minren Lin, and Q. M. Zhang

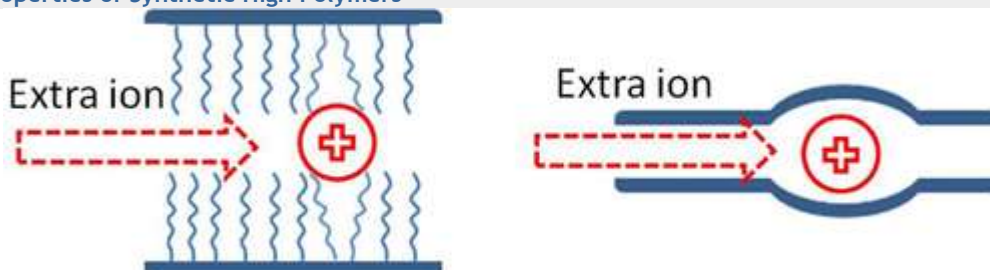
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DOI: 10.1021/ma300591a

Section:

Physical Properties of Synthetic High Polymers



## Decarboxylation-Induced Cross-Linking of Polymers of Intrinsic Microporosity (PIMs) for Membrane Gas Separation

Naiying Du, Mauro M. Dal-Cin, Gilles P. Robertson, and Michael D. Guiver

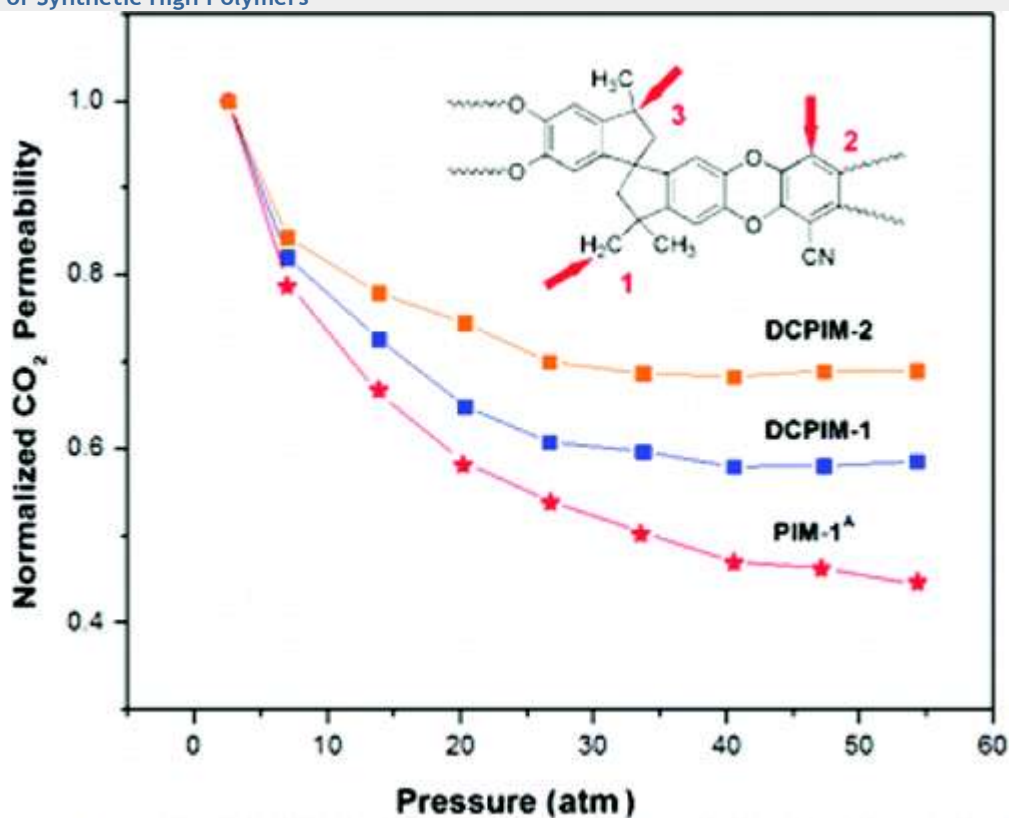
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DOI: 10.1021/ma300751s

Section:

Chemistry of Synthetic High Polymers



## Microporous Cyanate Resins: Synthesis, Porous Structure, and Correlations with Gas and Vapor Adsorptions

Hao Yu, Changjiang Shen, Mengzhe Tian, Jing Qu, and Zhonggang Wang

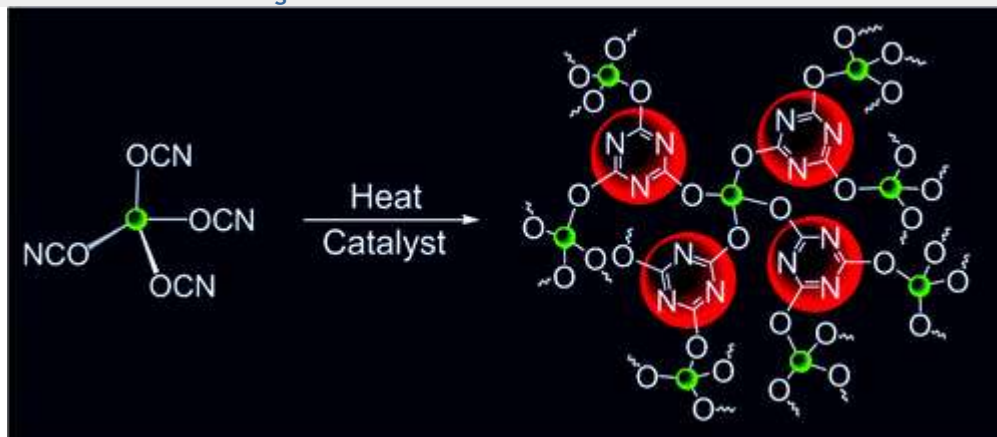
pp 5140-5150

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DOI: 10.1021/ma3008652

Section:

Plastics Manufacture and Processing



## Structure–Conductivity Relationship for Peptoid-Based PEO–Mimetic Polymer Electrolytes

Jing Sun, Gregory M. Stone, Nitash P. Balsara, and Ronald N. Zuckermann

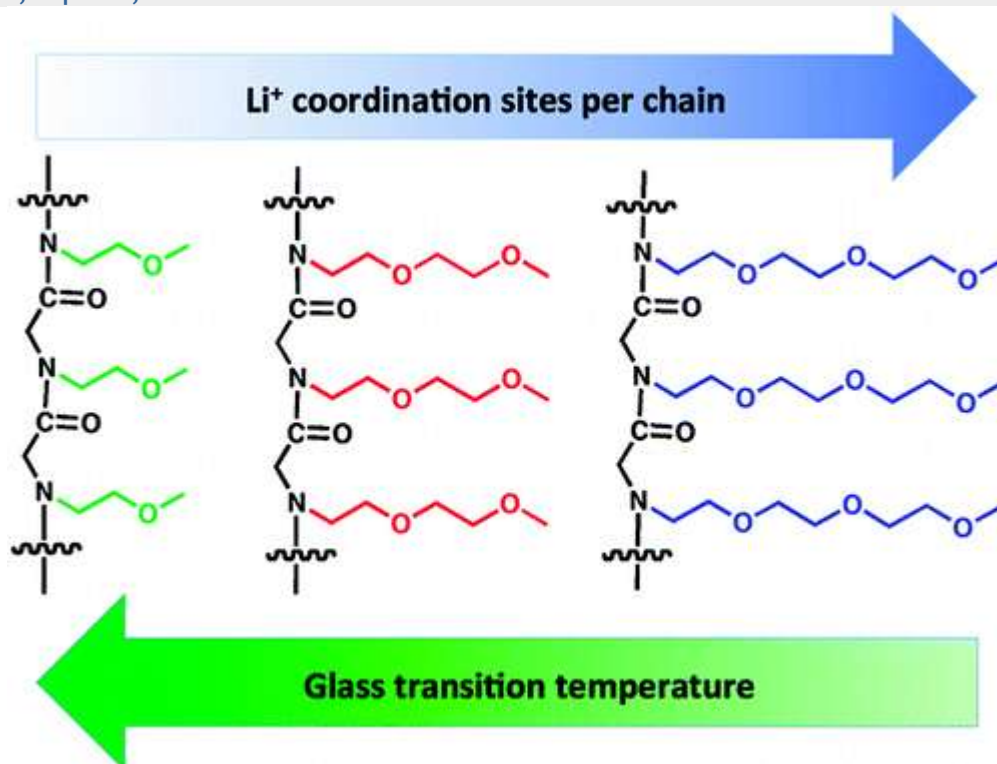
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DOI: 10.1021/ma300775b

Section:

Amino Acids, Peptides, and Proteins



## Effect of Adsorbed Amphiphilic Copolymers on the Interfacial Activity of Superparamagnetic Nanoclusters and the Emulsification of Oil in Water

Ki Youl Yoon, Zicheng Li, Bethany M. Neilson, Wonjae Lee, Chun Huh, Steven L. Bryant, Christopher W. Bielawski, and Keith P. Johnston

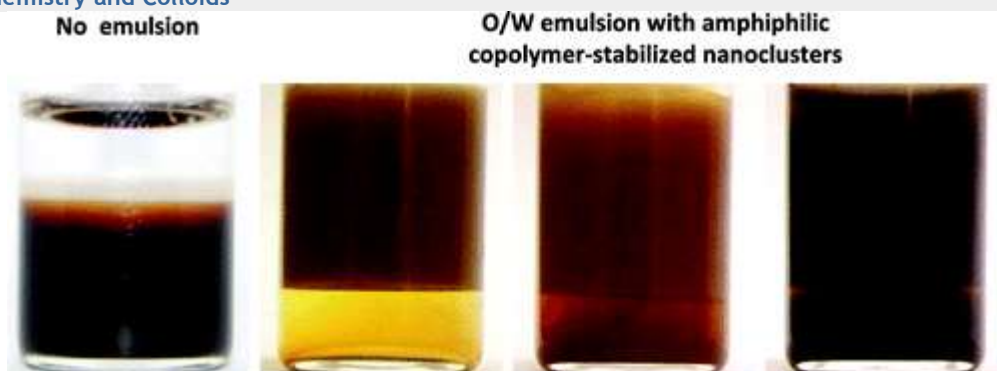
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DOI: 10.1021/ma202511b

Section:

Surface Chemistry and Colloids



## Helix–Coil Transition in Cylindrical Brush Polymers with Poly-L-lysine Side Chains

Mike Sahl, Sandra Muth, Robert Branscheid, Karl Fischer, and Manfred Schmidt

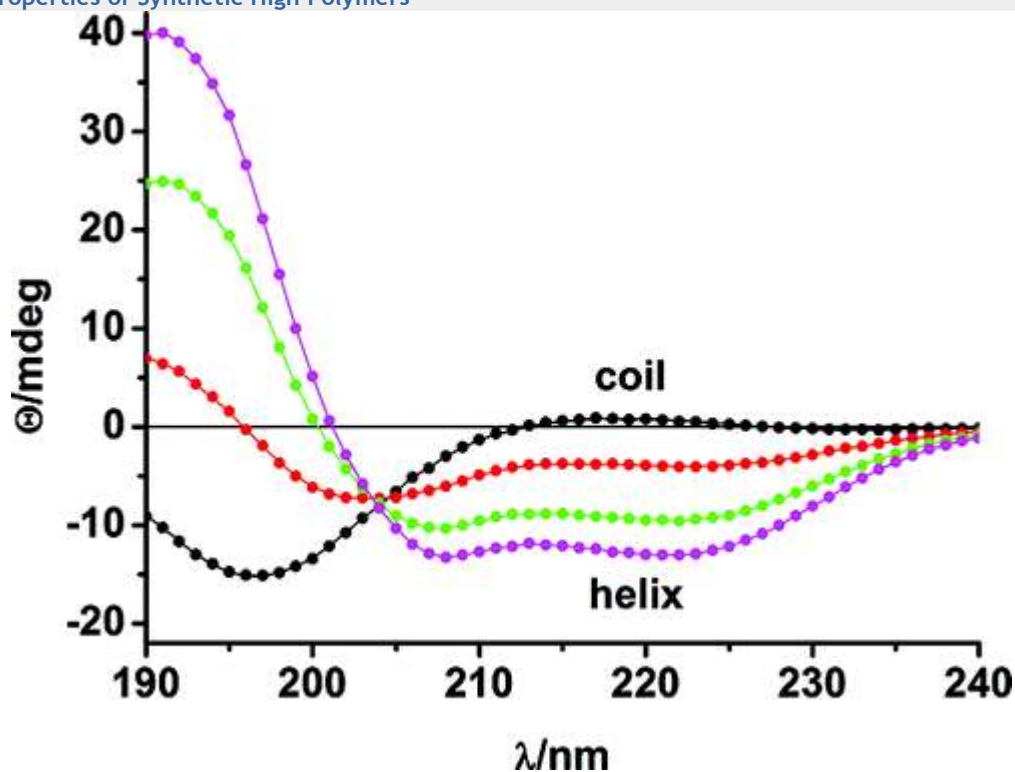
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DOI: 10.1021/ma300377v

Section:

Physical Properties of Synthetic High Polymers



## Robust Anisotropic Composite Particles with Tunable Janus Balance

Bao Liu, Jiguang Liu, Fuxin Liang, Qian Wang, Chengliang Zhang, Xiaozhong Qu, Jiaoli Li, Dong Qiu, and Zhenzhong Yang

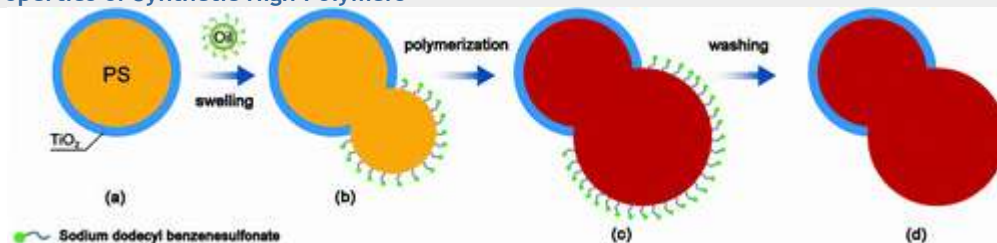
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Section:

Physical Properties of Synthetic High Polymers



## Stepwise Swelling of a Thin Film of Lamellae-Forming Poly(styrene-*b*-butadiene) in Cyclohexane Vapor

Zhenyu Di, Dorte Posselt, Detlef-M. Smilgies, Ruipeng Li, Markus Rauscher, Igor I. Potemkin, and Christine M. Papadakis

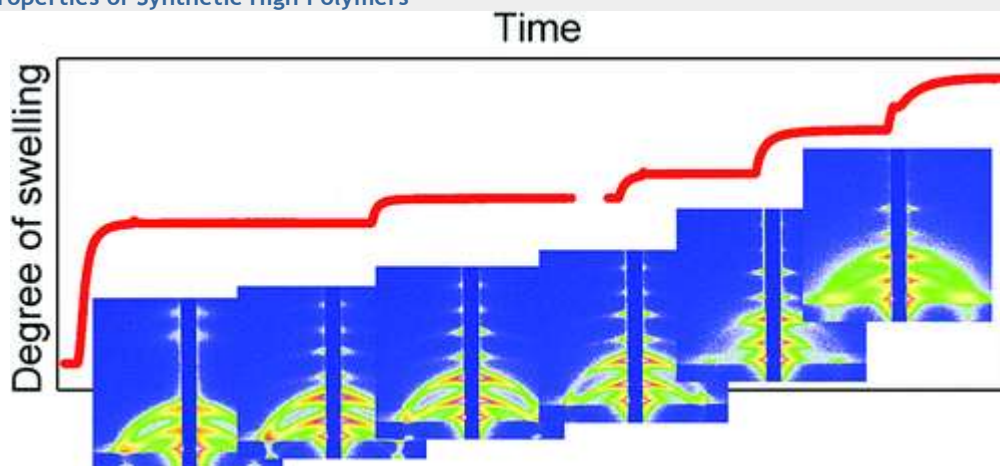
pp 5185-5195

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Section:

Physical Properties of Synthetic High Polymers





## Effects of Temperature and Template Surface on Crystallization of Syndiotactic Polystyrene in Cylindrical Nanopores

Meng Li, Hui Wu, Yan Huang, and Zhaohui Su

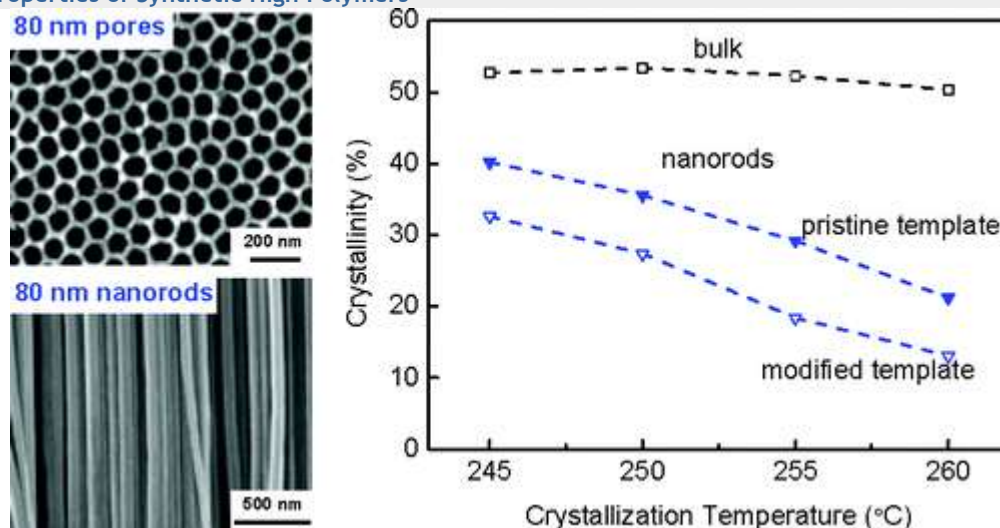
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Section:

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## Self-Assembly of Poly(3-dodecylthiophene)-*block*-poly(methyl methacrylate) Copolymers Driven by Competition between Microphase Separation and Crystallization

Hong Chul Moon, Dusik Bae, and Jin Kon Kim

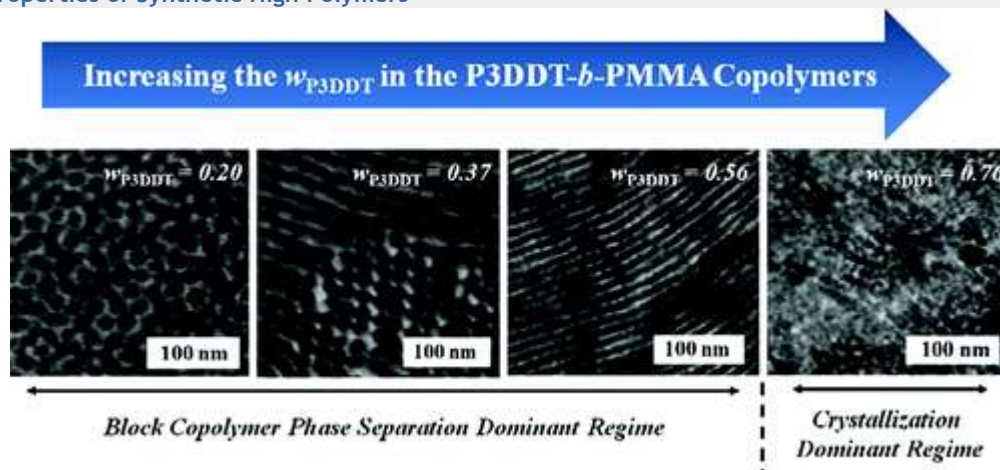
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Section:

Physical Properties of Synthetic High Polymers



## Nucleosome-like Structure from Dendrimer-Induced DNA Compaction

Chun-Jen Su, Chun-Yu Chen, Ming-Chang Lin, Hsin-Lung Chen, Hiroki Iwase, Satoshi Koizumi, and Takeji Hashimoto

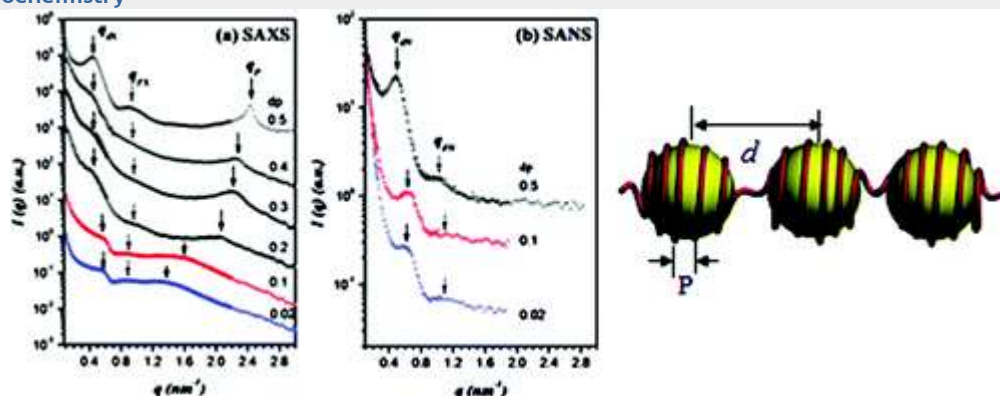
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DOI: 10.1021/ma300308y

Section:

General Biochemistry



## Structure Optimization and Mechanical Model for Microgel-Reinforced Hydrogels with High Strength and Toughness

Jian Hu, Takayuki Kurokawa, Kenta Hiwatashi, Tasuku Nakajima, Zi Liang Wu, Song Miao Liang, and Jian Ping Gong

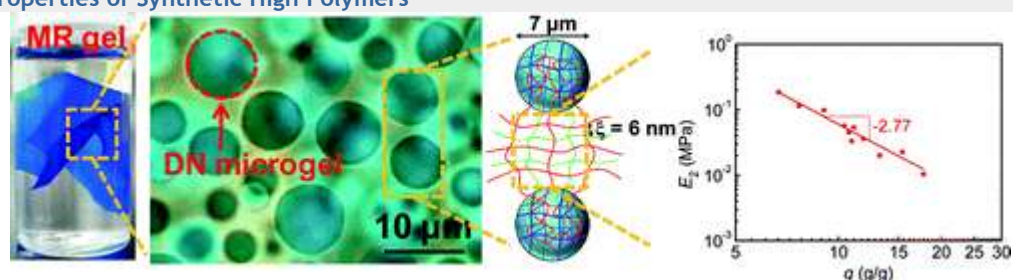
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DOI: 10.1021/ma3003664

Section:

Physical Properties of Synthetic High Polymers



## Impact of Hydrophobic Sequence Patterning on the Coil-to-Globule Transition of Protein-like Polymers

Hannah K. Murnen, Alexei R. Khokhlov, Pavel G. Khalatur, Rachel A. Segalman, and Ronald N. Zuckermann

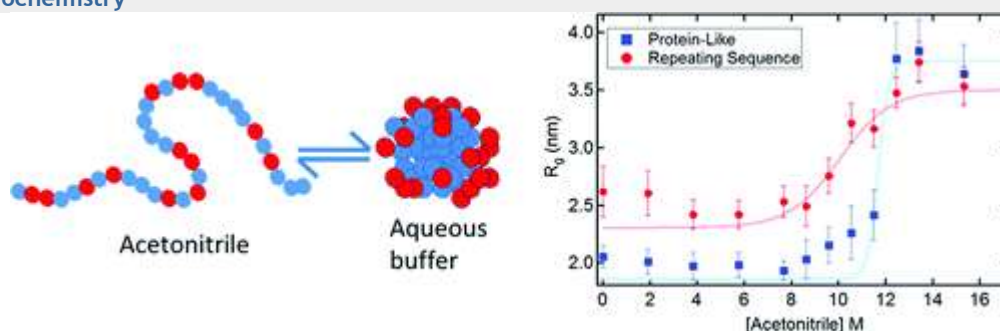
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Section:

General Biochemistry



## Gelation of Copolymers with Pendent Benzophenone Photo-Cross-Linkers

Scott K. Christensen, Maria C. Chiappelli, and Ryan C. Hayward

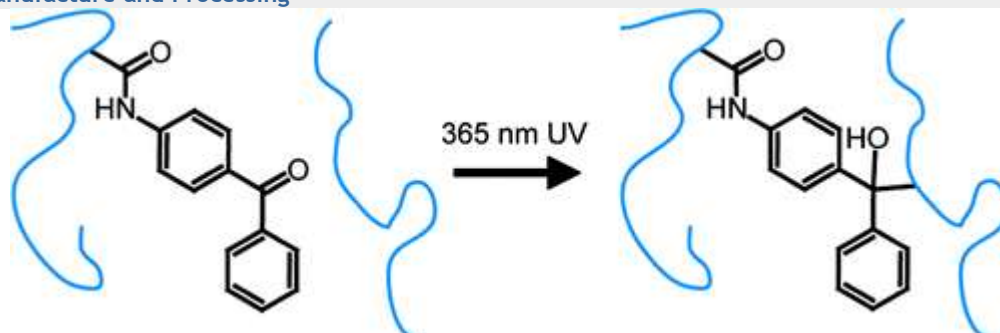
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Section:

Plastics Manufacture and Processing



## Direct Imaging of the Orientational Dynamics of Block Copolymer Lamellar Phase Subjected to Shear Flow

Oleksandr O. Mykhaylyk, Andrew J. Parnell, Andrew Pryke, and J. Patrick A. Fairclough

pp 5260-5272

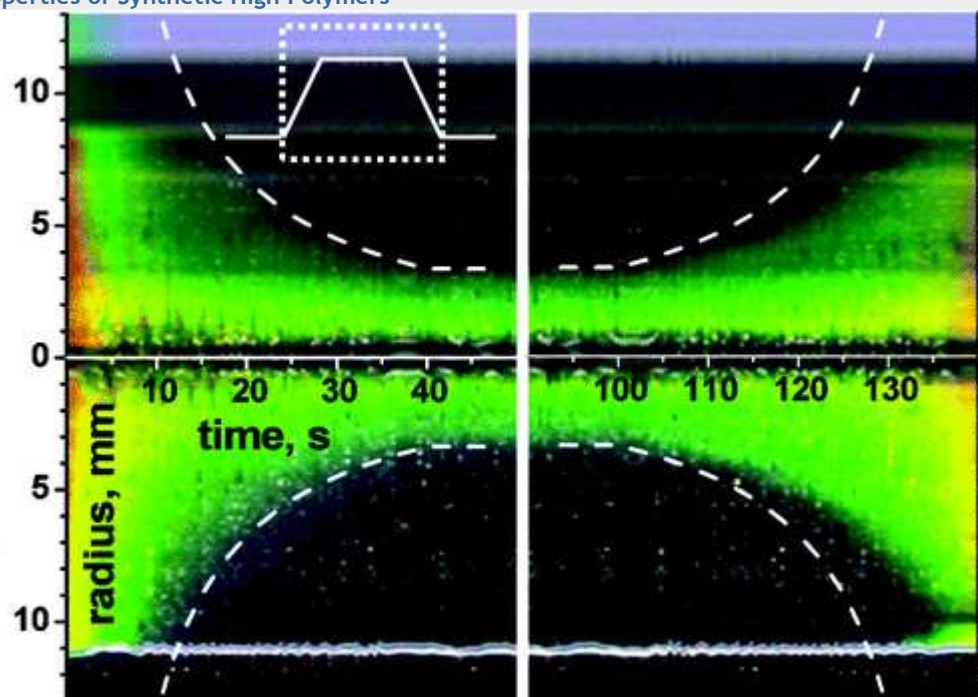
Publication Date (Web): June 12, 2012 (Article)

DOI: 10.1021/ma3004289



Section:

Physical Properties of Synthetic High Polymers



## Viscoelastic Properties of Water Suspensions of Polymer Nanofibers Synthesized via RAFT-Mediated Emulsion Polymerization

Wenjing Zhang, Bernadette Charleux, and Philippe Cassagnau

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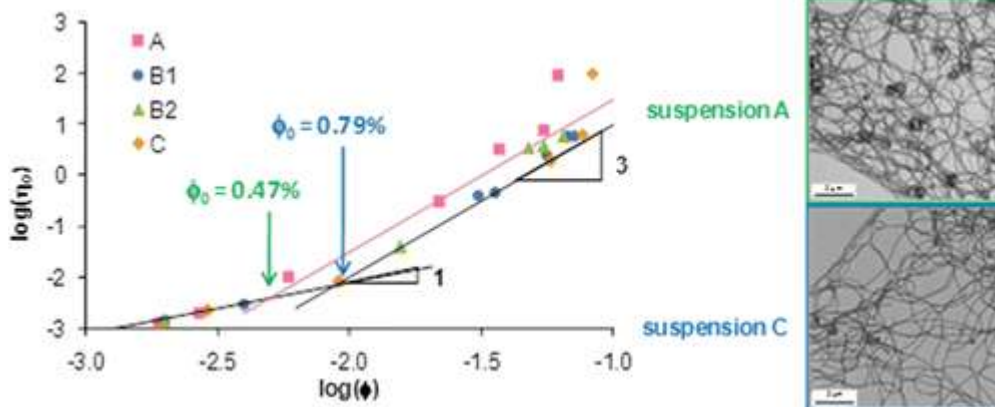
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DOI: 10.1021/ma300529t



Section:

Physical Properties of Synthetic High Polymers





## Entropy of Mixing: Rigid vs Flexible Molecules: Effect of Varying Solvent on Dissolution Temperature

E. B. Sirota, H. Rangwalla, and P. Peczak

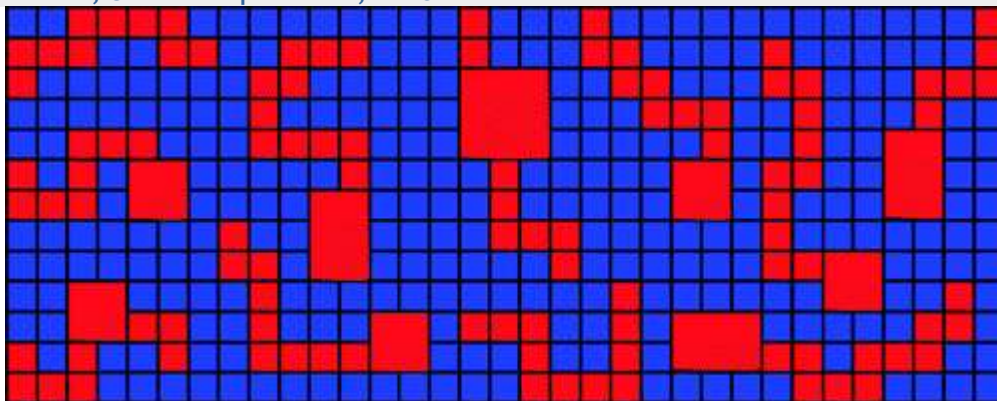
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Publication Date (Web): June 6, 2012 (Article)

DOI: 10.1021/ma202151g

Section:

Phase Equilibria, Chemical Equilibria, and Solutions



## Enthalpy Recovery in Nanometer to Micrometer Thick Polystyrene Films

Virginie M. Boucher, Daniele Cangialosi, Angel Alegria, and Juan Colmenero

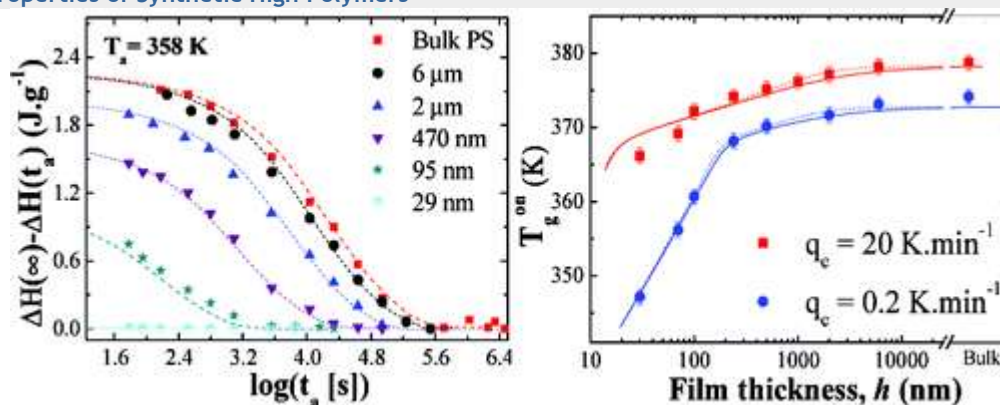
pp 5296-5306

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Section:

Physical Properties of Synthetic High Polymers



# Molecular Modeling Approach to Prediction of Thermo-Mechanical Behavior of Thermoset Polymer Networks

Natalia B. Shenogina, Mesfin Tsige, Soumya S. Patnaik, and Sharmila M. Mukhopadhyay

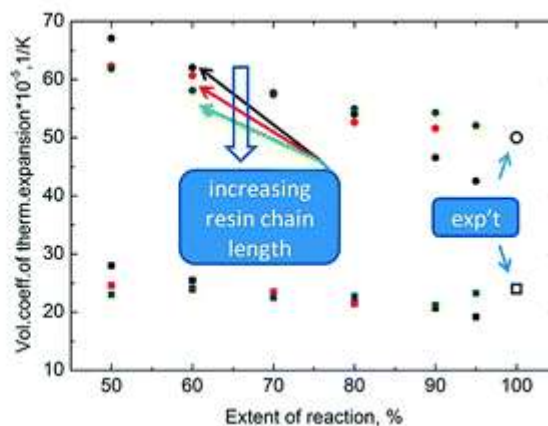
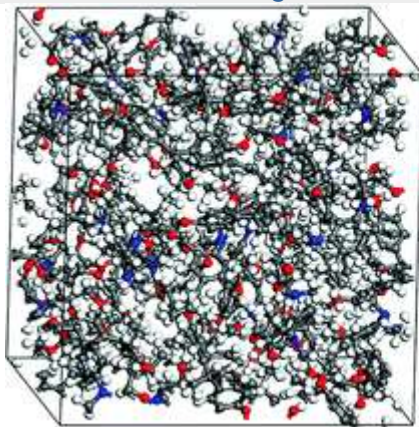
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Section:

Plastics Manufacture and Processing



NOTES

## Best Practices for Purification and Characterization of PAMAM Dendrimer

Douglas G. Mullen, Ankur Desai, Mallory A. van Dongen, Mark Barash, James R. Baker, Jr., and Mark M. Banaszak Holl

pp 5316-5320

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CCS Section:

Physical Properties of Synthetic High Polymers

