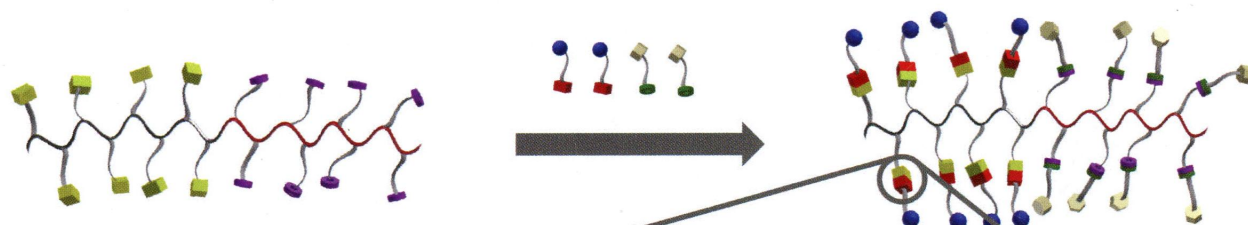


M13/r

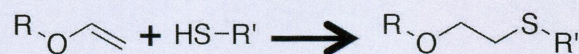
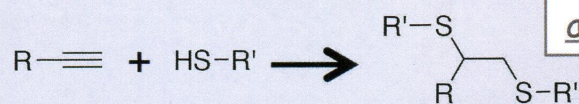
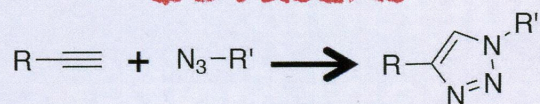
August 26, 2014
Volume 47
Number 16

Macromolecules

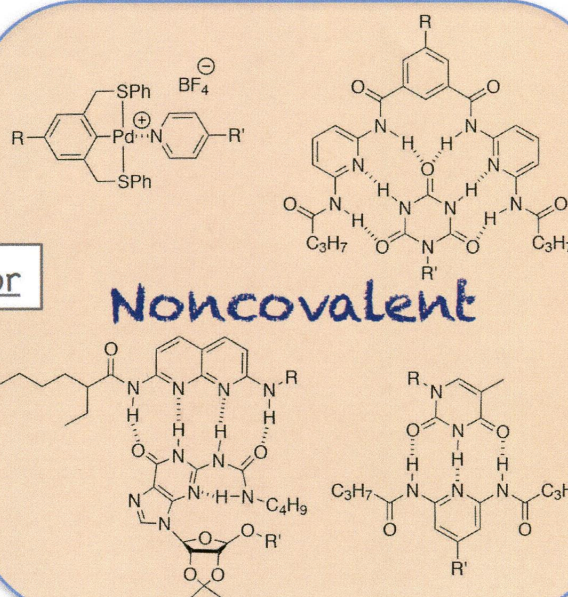
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Covalent



and/or



Noncovalent

Potential Applications:

Drug delivery, controlled-delivery assemblies,
stimuli-responsive materials, separations,
encapsulation, biomaterials, electronics



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ON THE COVER: Block copolymers that allow for modification of sidechains using covalent and/or noncovalent chemistries. Selected examples of common covalent and noncovalent chemistries are shown. Self-assembly of these types of structures have been shown to have promising potential in a range of applications. See page 5437.

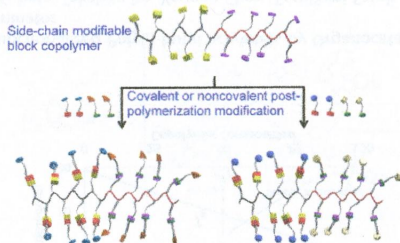
Perspective

5437

dx.doi.org/10.1021/ma5009918

Postpolymerization Modification of Block Copolymers

Joy Romulus, John T. Hensler, and Marcus Weck*



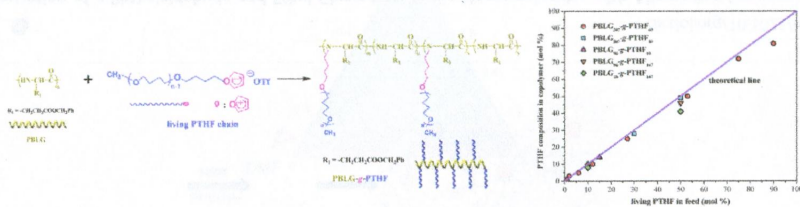
Articles

5450

dx.doi.org/10.1021/ma501060y

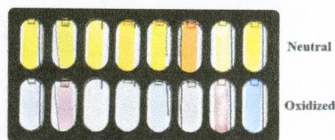
Well-Defined Poly(γ -benzyl-L-glutamate)-*g*-Polytetrahydrofuran: Synthesis, Characterization, and Properties

An-ru Guo, Wei-xi Yang, Fan Yang, Rui Yu, and Yi-xian Wu*



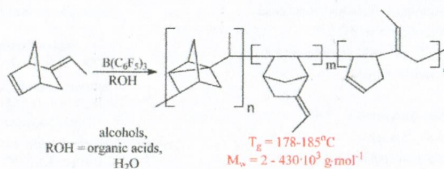
Follow the Yellow Brick Road: Structural Optimization of Vibrant Yellow-to-Transmissive Electrochromic Conjugated Polymers

Justin A. Kerszulis, Chad M. Amb, Aubrey L. Dyer, and John R. Reynolds*



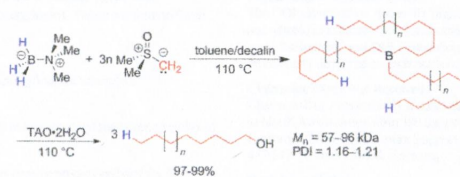
Cationic Polymerization of Norbornene Derivatives in the Presence of Boranes

Maxim V. Bermeshev,* Boris A. Bulgakov, Alexander M. Genaev, Julia V. Kostina, Galina N. Bondarenko, and Eugene Sh. Finkelshtein



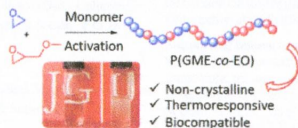
Synthesis of High Molecular Weight Polymethylene via C1 Polymerization. The Role of Oxygenated Impurities and Their Influence on Polydispersity

Jun Luo, Ruobing Zhao, and Kenneth J. Shea*



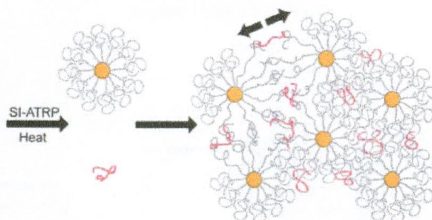
A Challenging Comonomer Pair: Copolymerization of Ethylene Oxide and Glycidyl Methyl Ether to Thermoresponsive Polyethers

Sophie S. Müller, Christian Moers, and Holger Frey*

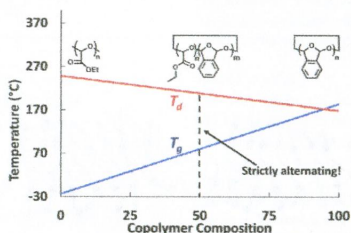


Effect of Thermal Self-Initiation on the Synthesis, Composition, and Properties of Particle Brush Materials

Chin Ming Hui, Alei Dang, Beibei Chen, Jiajun Yan, Dominik Konkolewicz, Hongkun He, Rachel Ferebee, Michael R. Bockstaller,* and Krzysztof Matyjaszewski*

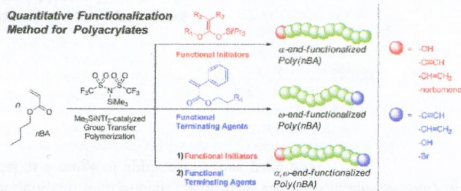
Copolymerization of *o*-Phthalaldehyde and Ethyl Glyoxylate: Cyclic Macromolecules with Alternating Sequence and Tunable Thermal Properties

Joshua A. Kaitz and Jeffrey S. Moore*

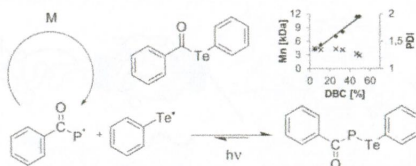
Synthesis of α -, ω -, and α,ω -End-Functionalized Poly(*n*-butyl acrylate)s by Organocatalytic Group Transfer Polymerization Using Functional Initiator and Terminator

Kenji Takada, Keita Fuchise, Naoya Kubota, Takahiro Ito, Yougen Chen, Toshifumi Satoh, and Toyoji Kakuchi*

Quantitative Functionalization Method for Polyacrylates

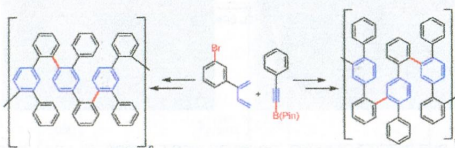


Benzoyl Phenylytelluride as Highly Reactive Visible-Light TERP-Reagent for Controlled Radical Polymerization
Stephan Benedikt, Norbert Moszner, and Robert Liska*



Regiodivergent Cobalt-Catalyzed Diels–Alder Reactions for the Synthesis of Bifunctional Building Blocks and Their Suzuki–Cross-Coupling Polymerizations

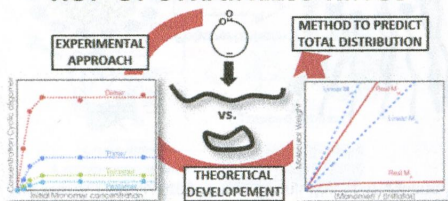
Julian R. Kuttner and Gerhard Hilt*



Theoretical and Experimental Approach to Accurately Predict the Complex Molecular Weight Distribution in the Polymerization of Strainless Cyclic Esters

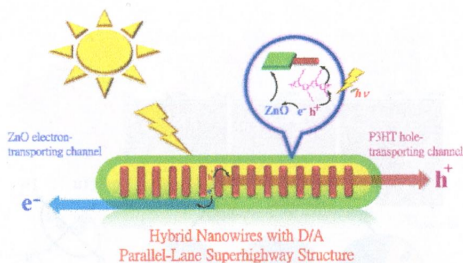
Mark P. F. Pepels, Paul Soullé, Ron Peters, and Rob Duchateau*

ROP OF STRAINLESS RINGS



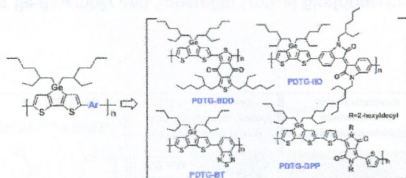
In Situ Fabrication of Poly(3-hexylthiophene)/ZnO Hybrid Nanowires with D/A Parallel-Lane Structure and Their Application in Photovoltaic Devices

Yi-Huan Lee, Yu-Ping Lee, Chi-Ju Chiang, Ching Shen, Yang-Hui Chen, Leeyih Wang,* and Chi-An Dai*



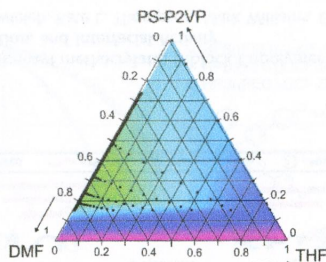
Investigations of the Conjugated Polymers Based on Dithienogermole (DTG) Units for Photovoltaic Applications

Qi Wang, Shaoqing Zhang, Long Ye, Yong Cui, Huili Fan,* and Jianhui Hou*



Topological Paths and Transient Morphologies during Formation of Mesoporous Block Copolymer Membranes

Corinna Stiegelmeier, Volkan Filiz, Volker Abetz, Jan Perlich, Andreas Fery, Pia Ruckdeschel, Sabine Rosenfeldt, and Stephan Förster*

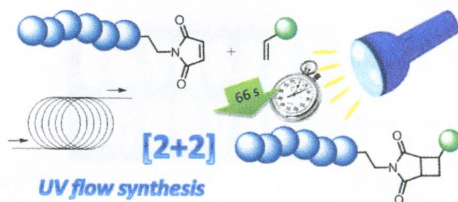


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dx.doi.org/10.1021/ma500751j

Fast and Efficient [2 + 2] UV Cycloaddition for Polymer Modification via Flow Synthesis

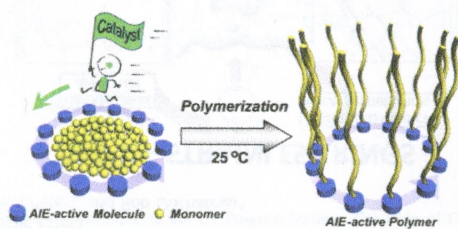
Matthias Conradi and Thomas Junkers*

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dx.doi.org/10.1021/ma500985j

A New Strategy To Access Polymers with Aggregation-Induced Emission Characteristics

Wei Zhao, Chuanyang Li, Bo Liu, Xue Wang, Ping Li, Yang Wang, Chunji Wu, Changguang Yao, Tao Tang, Xinli Liu, and Dongmei Cui*

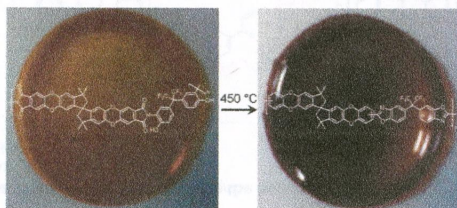


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dx.doi.org/10.1021/ma5011183

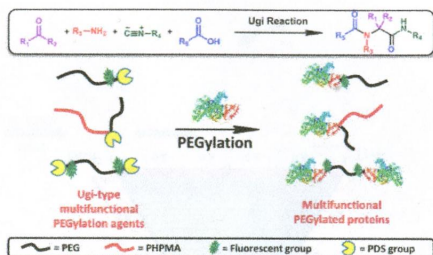
Thermally Rearrangeable PIM-Polyimides for Gas Separation Membranes

Hosna Shamsipur, Bann A. Dawood, Peter M. Budd,* Paola Bernardo, Gabriele Clarizia, and Johannes C. Jansen



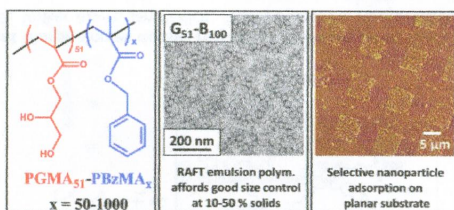
Synthesis of Multifunctional Polymers through the Ugi Reaction for Protein Conjugation

Bin Yang, Yuan Zhao, Shiqi Wang, Yaling Zhang, Changkui Fu, Yen Wei, and Lei Tao*



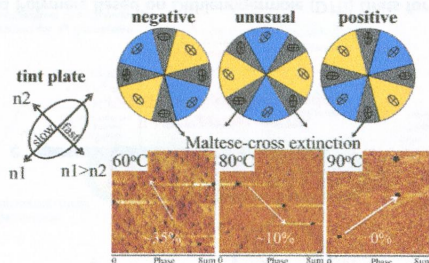
Poly(glycerol monomethacrylate)-Poly(benzyl methacrylate) Diblock Copolymer Nanoparticles via RAFT Emulsion Polymerization: Synthesis, Characterization, and Interfacial Activity

Victoria J. Cunningham, Abdullah M. Alswieleh, Kate L. Thompson, Mark Williams, Graham J. Leggett, Steven P. Armes,* and Osama M. Musa



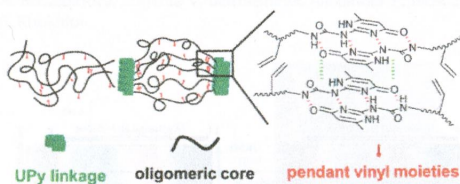
Phase-Separation Induced Lamellar Re-Assembly and Spherulite Optical Birefringence Reversion

Graecia Lugito, Chun-Yen Yang, and Eamor M. Woo*



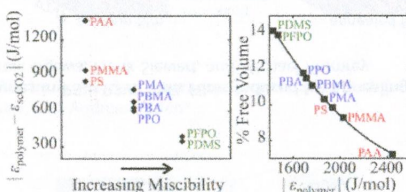
Probing the Interplay of Ultraviolet Cross-Linking and Noncovalent Interactions in Supramolecular Elastomers

Seyedali Monemian, Keon-Soo Jang, Hossein Ghassemi, and LaShanda T. J. Korley*



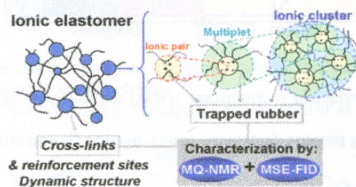
Polymer Miscibility in Supercritical Carbon Dioxide: Free Volume as a Driving Force

Jeffrey DeFelice and Jane E. G. Lipson*



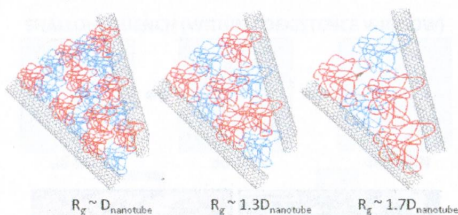
Characterization of Network Structure and Chain Dynamics of Elastomeric Ionomers by Means of ^1H Low-Field NMR

M. A. Malmierca,* A. González-Jiménez, I. Mora-Barrantes, P. Posadas, A. Rodríguez, L. Ibarra, A. Nogales, K. Saalwächter, and J. L. Valenti*



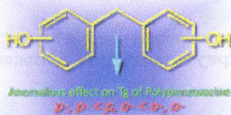
Influence of Chain Branching and Molecular Weight on Melt Rheology and Crystallization of Polyethylene/Carbon Nanotube Nanocomposites

Juan Francisco Vega, Yudith da Silva, Ernesto Vicente-Alique, Rafael Núñez-Ramírez, Mariselis Trujillo, María Luisa Arnal, Alejandro J. Müller,* Philippe Dubois, and Javier Martínez-Salazar*



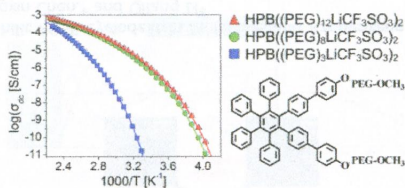
Anomalous Isomeric Effect on the Properties of Bisphenol F-based Benzoxazines: Toward the Molecular Design for Higher Performance

Jia Liu and Hatsuo Ishida*



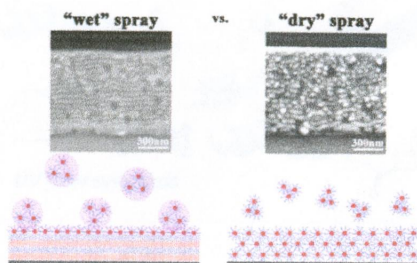
Poly(ethylene glycol)-Functionalized Hexaphenylbenzenes as Unique Amphiphiles: Supramolecular Organization and Ion Conductivity

Katrin Wunderlich, Christos Grigoriadis, George Zardalidis, Markus Klapper, Robert Graf, Hans-Jürgen Butt, Klaus Müllen,* and George Floudas*



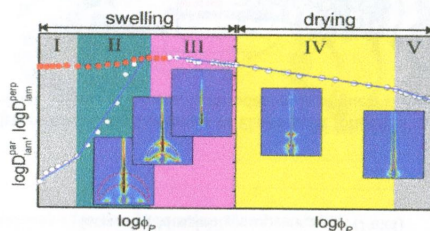
Morphology Development in Thin Films of a Lamellar Block Copolymer Deposited by Electro spray

Hanqiong Hu, Jonathan P. Singer, and Chinedum O. Osuji*



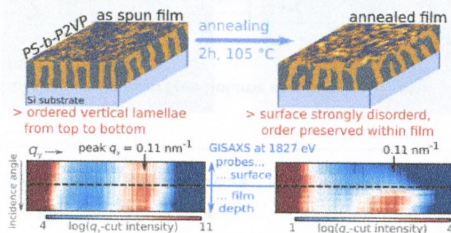
Lamellar Diblock Copolymer Thin Films during Solvent Vapor Annealing Studied by GISAXS: Different Behavior of Parallel and Perpendicular Lamellae

Jianqi Zhang,* Dorte Posselt, Detlef-M. Smilgies, Jan Perlich, Konstantinos Kyriakos, Sebastian Jaksch, and Christine M. Papadakis



Depth-Dependent Structural Changes in PS-*b*-P2VP Thin Films Induced by Annealing

Jan Wernecke,* Hiroshi Okuda, Hiroki Ogawa, Frank Siewert, and Michael Krumrey

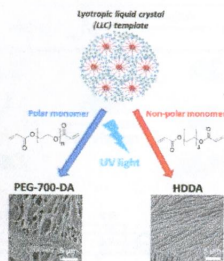


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dx.doi.org/10.1021/ma500823q

Polymer Structure Development in Lyotropic Liquid Crystalline Solutions

Michael A. DePierro and C. Allan Guymon*



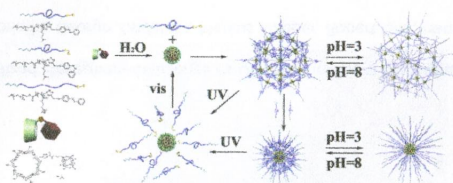
5739

S

dx.doi.org/10.1021/ma501100r

Hierarchical Assembly of Amphiphilic POSS-Cyclodextrin Molecules and Azobenzene End-Capped Polymers

Jinze Li, Zheng Zhou, Li Ma, Guangxin Chen,* and Qifang Li*

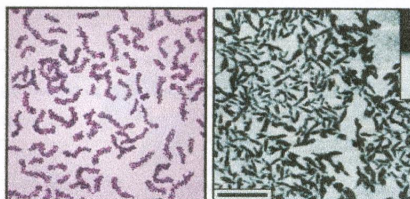


5749

dx.doi.org/10.1021/ma501169c

Stabilization of Chitosan Aggregates at the Nanoscale in Solutions in Carbonic Acid

Marina A. Pigaleva,* Ivan V. Portnov, Andrey A. Rudov, Inesa V. Blagodatikh, Timofei E. Grigoriev, Marat O. Gallyamov, and Igor I. Potemkin

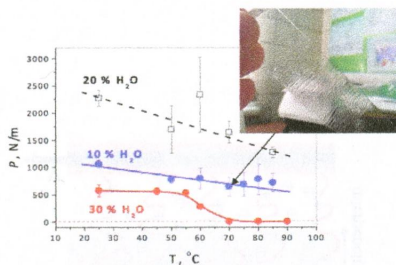


5759 **S**

dx.doi.org/10.1021/ma501191k

Thermo-Switchable Pressure-Sensitive Adhesives Based on Poly(*N*-vinyl caprolactam) Non-Covalently Cross-Linked by Poly(ethylene glycol)

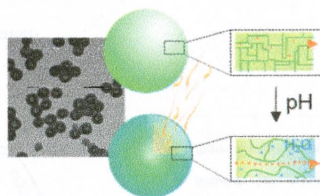
Mikhail M. Feldstein,* Kermen A. Bovaldinova, Eugenia V. Bermesheva, Alexander P. Moscalets, Elena E. Dormidontova, Valery Y. Grinberg, and Alexei R. Khokhlov

5768 **S**

dx.doi.org/10.1021/ma501388w

pH-Sensitive Nanocapsules with Barrier Properties: Fragrance Encapsulation and Controlled Release

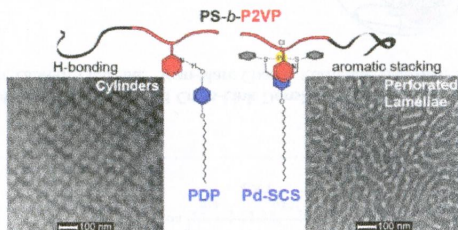
Ines Hofmeister, Katharina Landfester, and Andreas Taden*

5774 **S**

dx.doi.org/10.1021/ma5010343

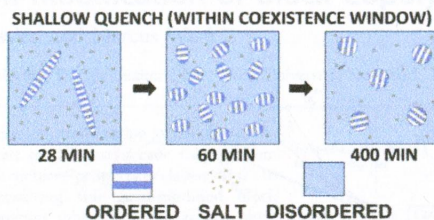
Hierarchical Structures of Polystyrene-*block*-poly(2-vinylpyridine)/Palladium–Pincer Surfactants: Effect of Weak Surfactant–Polymer Interactions on the Morphological Behavior

Inbal Davidi, Debabrata Patra, Daniel Hermida-Merino, Giuseppe Portale, Vincent M. Rotello, Uri Raviv, and Roy Shenhar*



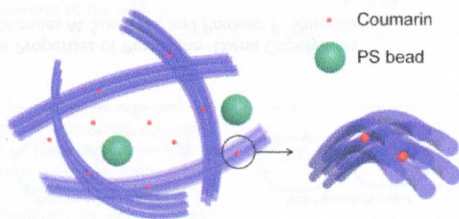
Evolution of Grain Structure during Disorder-to-Order Transitions in a Block Copolymer/Salt Mixture Studied by Depolarized Light Scattering

Xin Wang, Jacob L. Thelen, Alexander A. Teran, Mahati Chintapalli, Issei Nakamura, Zhen-Gang Wang, Maurice C. Newstein, Nitash P. Balsara, and Bruce A. Garetz*



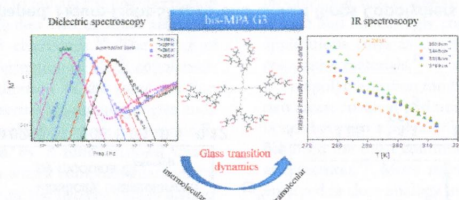
Nanoparticle Diffusion in Methycellulose Thermoreversible Association Polymer

Ah-Young Jee, Jaime L. Curtis-Fisk, and Steve Granick*



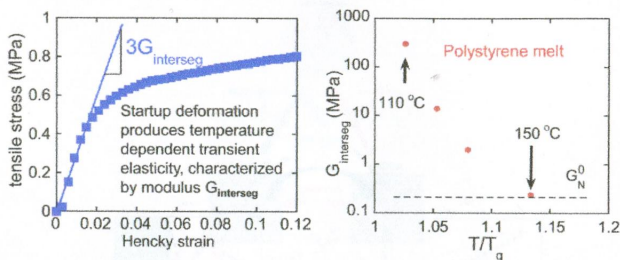
Dynamic Glass Transition and Electrical Conductivity Behavior Dominated by Proton Hopping Mechanism Studied in the Family of Hyperbranched Bis-MPA Polyesters

K. Adrjanowicz,* K. Kaminski, M. Dulski, M. Jasiurkowska-Delaporte, K. Kolodziejczyk, M. Jarek, G. Bartkowiak, L. Hawelek, S. Jurga, and M. Paluch



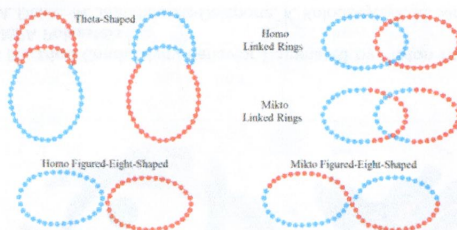
Rheology of Entangled Polymers Not Far above Glass Transition Temperature: Transient Elasticity and Intersegmental Viscous Stress

Hao Sun, Gengxin Liu, Konstantinos Ntetsikas, Apostolos Avgeropoulos, and Shi-Qing Wang*



Micellization Properties of Θ -Shaped, Figure-Eight-Shaped and Linked Rings Copolymers

Andreas Kalogirou, Othonas A. Moultois, Leonidas N. Gergidis, and Costas Vlahos*



Modeling of Synthesis and Flow Properties of Propylene–Diene Copolymers

Chinmay Das,* Daniel J. Read, Johannes M. Soulages, and Pradeep P. Shirodkar

