

Polymer Vol. 50, No. 2, 16 January 2009

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FEATURE ARTICLE

Structure–mechanical property correlations of model siloxane elastomers with controlled network topology

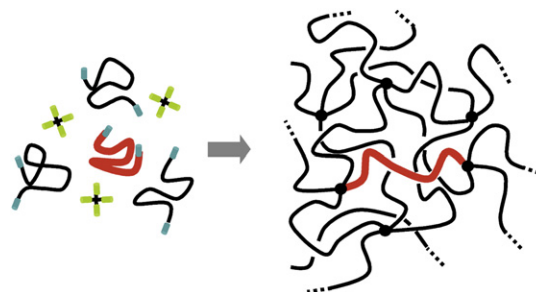
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Kenji Urayama^{a,*}, Takanobu Kawamura^b, Shinzo Kohjiya^c

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^b Department of Chemical Engineering, Kanazawa University, Ishikawa 920-1192, Japan

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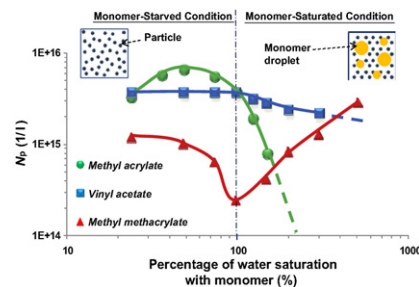
POLYMER PAPERS

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Yan Chen, Shahriar Sajjadi*

Division of Engineering, ECLAT, King's College London, London WC2R 2LS, UK



Silk–elastinlike protein polymer hydrogels: Influence of monomer sequence on physicochemical properties

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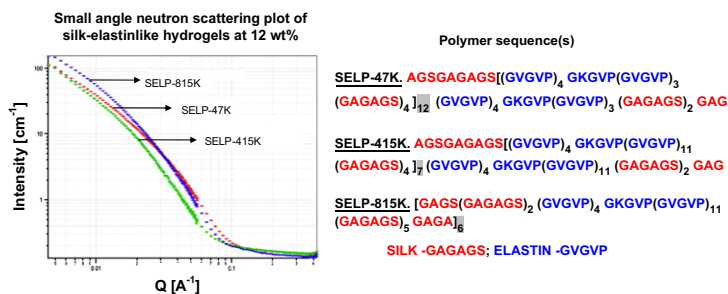
Ramesh Dandu^a, Arthur Von Cresce^a, Robert Briber^b,
Paul Dowell^a, Joseph Cappello^c, Hamidreza Ghandehari^{a, d, *}

^a Center for Nanomedicine and Cellular Delivery and Department of
Pharmaceutical Sciences, University of Maryland, Baltimore, MD, USA

^b Department of Materials Science and Engineering, University of
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Bioengineering, Center for Nanomedicine, Nano Institute of Utah,
University of Utah, Salt Lake City, UT, USA



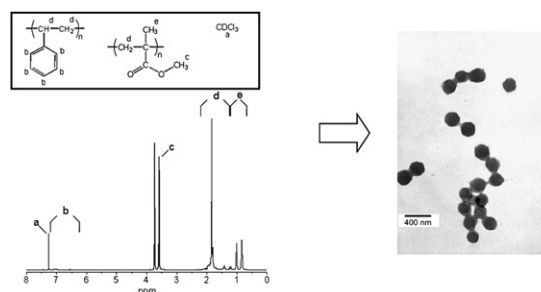
Secondary particle formation in seeded suspension polymerization

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Odinei Hess Gonçalves^a, Ricardo A.F. Machado^a,
Pedro Henrique Hermes de Araújo^{a, *}, José M. Asua^b

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^b Institute for Polymer Materials, POLYMAT, Departamento de Química Aplicada,
Facultad de Ciencias Químicas, University of the Basque Country, Joxe Mari Korta
zentroa, Tolosa Etorbidea 72, 20018 Donostia, San Sebastián, Spain

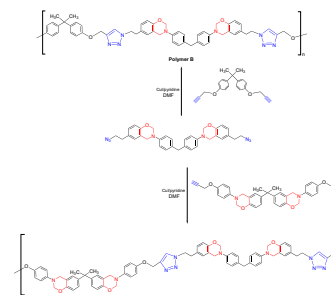


Synthesis of linear polymers containing benzoxazine moieties in the main chain with high molecular design versatility via click reaction

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Andrey Chernykh, Tarek Agag, Hatsuo Ishida^{*}

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OH 44106-7202, USA



Poly(7-oxanorbornenes) carrying 2,2,6,6-tetramethylpiperidine-1-oxo (TEMPO) radicals: Synthesis and charge/discharge properties

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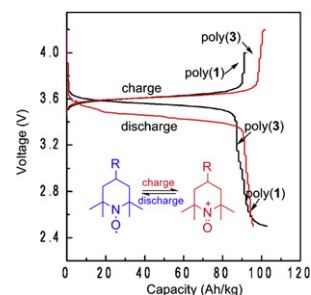
Jinqing Qu^a, Toru Katsumata^b, Masaharu Satoh^c, Jun Wada^d, Toshio Masuda^{b, *}

^a School of Chemistry and Chemical Engineering, South China University of Technology, Guangzhou,
Guangdong 510640, China

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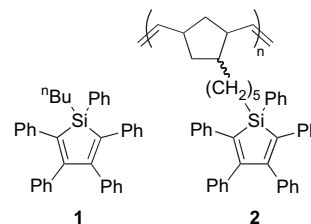
^c Murata Manufacturing Co., Ltd., 1-10-1 Higashikotari, Nagaokakyo-shi, Kyoto 520-2393, Japan

^d Corporate Planning Department, Nippon Kasei Chemical Co., Ltd., 1-8-8 Shinkawa,
Chuoku, Tokyo 104-0033, Japan

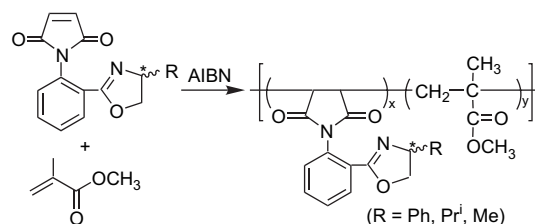


Synthesis, electron mobility, and electroluminescence of a polynorbornene-supported silole

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Xiaowei Zhan^{a, b, *}, Andreas Haldi^c, Junsheng Yu^c, Takeshi Kondo^c, Benoit Domercq^c, Jian-Yang Cho^a, Stephen Barlow^a, Bernard Kippelen^{c, **}, Seth R. Marder^{a, ***}^a School of Chemistry and Biochemistry and Center for Organic Photonics and Electronics, Georgia Institute of Technology, Atlanta, GA 30332, USA^b Beijing National Laboratory for Molecular Sciences and CAS Key Laboratory of Organic Solids, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China^c School of Electrical and Computer Engineering and Center for Organic Photonics and Electronics, Georgia Institute of Technology, Atlanta, GA 30332, USA**Optically active copolymers of N-(oxazolinyl)phenylmaleimides with methyl methacrylate: Synthesis and chiral recognition ability**

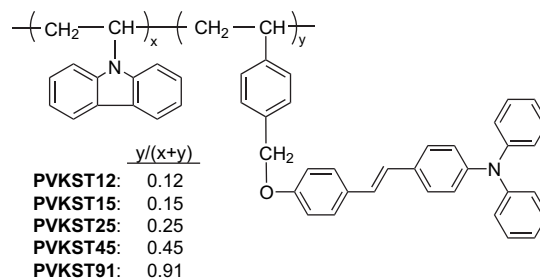
pp 404–409

Xiujuan Xi^{a, b}, Guangxuan Liu^a, Wei Lu^a, Liming Jiang^{a, *}, Weilin Sun^a, Zhiquan Shen^a^a Department of Polymer Science and Engineering, Zhejiang University, Key Laboratory of Macromolecule Synthesis and Functionalization, Ministry of Education, Zheda Road 38, Hangzhou 310027, China^b College of Materials Science and Engineering, Henan University of Technology, Zhengzhou 450007, China**Copolymers containing pendant styryltriphenylamine and carbazole groups: Synthesis, optical, electrochemical properties and its blend with Ir(ppy)₃**

pp 410–417

Chih-Cheng Lee, Kun-Ming Yeh, Yun Chen^{*}

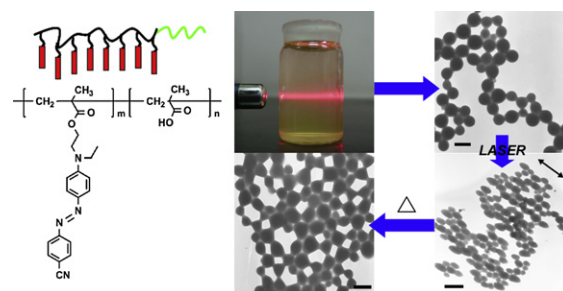
Department of Chemical Engineering, National Cheng Kung University, No. 1, Da-Syue Road, Tainan 701, Taiwan

**Amphiphilic block copolymers bearing strong push–pull azo chromophores: Synthesis, micelle formation and photoinduced shape deformation**

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Dongrui Wang, Junpeng Liu, Gang Ye, Xiaogong Wang^{*}

Department of Chemical Engineering, Laboratory for Advanced Materials, Tsinghua University, Beijing 100084, PR China

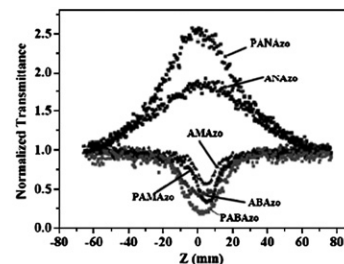
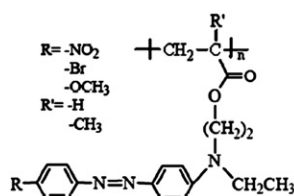


Synthesis and the third-order nonlinear optical properties of soluble polymers with different substituted azobenzene side chains

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Najun Li, Jianmei Lu*, Xuwei Xia, Qingfeng Xu, Lihua Wang

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College of Chemistry, Chemical Engineering and Materials Science,
Renai Road No. 199, Suzhou University, Suzhou, 215123 Jiangsu, PR China



New polyacetylene-based chemosensory materials for the “turn-on” sensing of α -amino acids

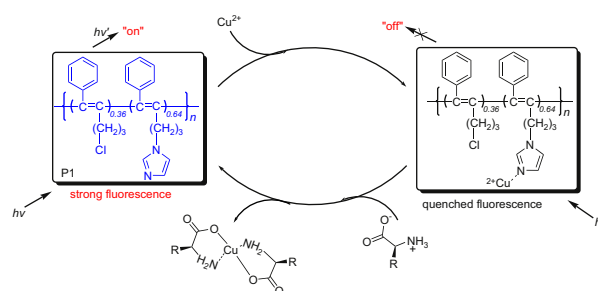
pp 434–440

Qi Zeng^a, Liyao Zhang^b, Zhen Li^{a,*}, Jingui Qin^a, Ben Zhong Tang^c

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^c Department of Chemistry, The Hong Kong University of Science & Technology, Clear Water Bay, Kowloon, Hong Kong



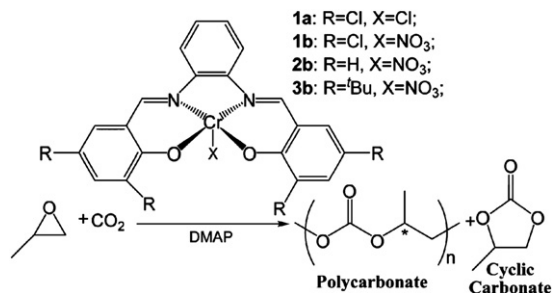
Carbon dioxide/propylene oxide coupling reaction catalyzed by chromium salen complexes

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Yongsheng Niu^{a,b}, Wanxi Zhang^a, Hongchun Li^{a,b}, Xuesi Chen^{b,*}, Jingru Sun^b, Xiuli Zhuang^b, Xiabin Jing^b

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^b State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Graduate School of Chinese Academy of Sciences, Changchun 130022, China



Graft copolymers prepared by atom transfer radical polymerization (ATRP) from cellulose

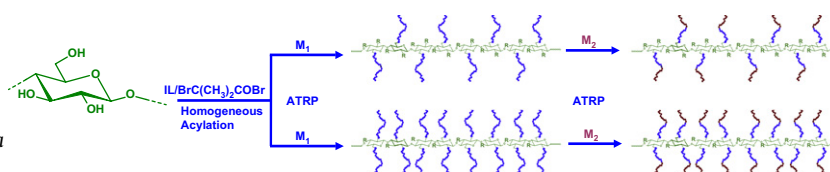
pp 447–454

Tao Meng^a, Xia Gao^b, Jun Zhang^{a,*}, Jinying Yuan^{c,**}, Yuzhu Zhang^a, Jiasong He^a

^a Beijing National Laboratory for Molecular Sciences (BNLMS), Key Laboratory of Engineering Plastics (KLEP), Joint Laboratory of Polymer Science and Materials, Institute of Chemistry, Chinese Academy of Sciences (CAS), Beijing 100190, China

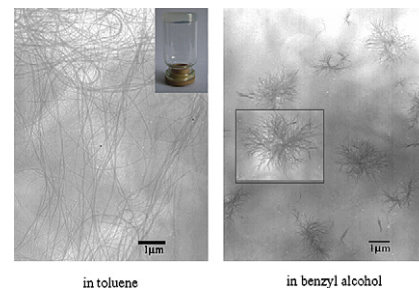
^b Beijing Center for Physical and Chemical Analysis (BCPCA), Beijing Academy of Science and Technology, Beijing 100089, China

^c Key Laboratory of Organic Optoelectronics and Molecular Engineering of the Ministry of Education, Department of Chemistry, Tsinghua University, Beijing 100084, China



Synthesis and self-assembly of a novel Y-shaped copolymer with a helical polypeptide arm

pp 455–461

Jing Sun^{a,b}, Xuesi Chen^a, Jinshan Guo^{a,b}, Quan Shi^{a,b}, Zhigang Xie^{a,b}, Xiabin Jing^{a,*}^a State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, 5625 Renmin Street, Changchun 130022, PR China^b Graduate School of Chinese Academy of Sciences, Beijing 100039, PR China

in toluene

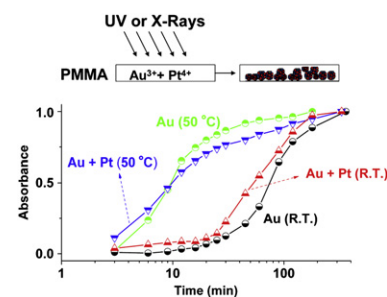
in benzyl alcohol

Preparation of Au and Au–Pt nanoparticles within PMMA matrix using UV and X-ray irradiation

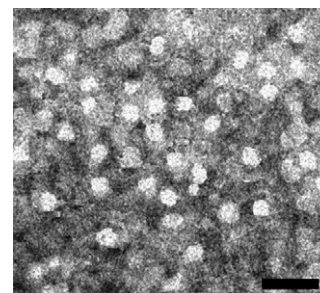
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Eda Ozkaraoglu, Ilknur Tunc, Sefik Suzer^{*}

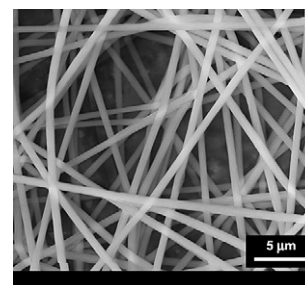
Department of Chemistry and Institute of Materials and Nanotechnology, Bilkent University, 06800 Ankara, Turkey

**Synthesis and association properties of thermoresponsive and permanently cationic charged block copolymers**

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Maria Loreta Patrizi^a, Marco Diociaiuti^c, Donatella Capitani^b, Giancarlo Masci^{a,*}^a Department of Chemistry, University of Rome La Sapienza, Piazzale Aldo Moro 5, 00185 Rome, Italy^b Institute of Chemical Methodologies, CNR, Via Salaria km 29300, 00016 Monterotondo Stazione, Rome, Italy^c Dipartimento di Tecnologie e Salute, Istituto Superiore di Sanita, Viale Regina Elena 299, 00161 Roma, Italy**Electrospinning of cyclodextrin functionalized poly(methyl methacrylate) (PMMA) nanofibers**

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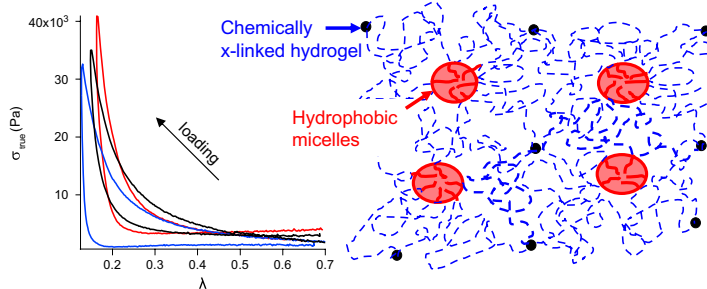
Tamer Uyar^{a,*}, Abidin Balan^c, Levent Toppare^c, Flemming Besenbacher^{a,b}^a Interdisciplinary Nanoscience Center (iNANO), Aarhus University, Ny Munkegade, Building 1521, DK-8000 Aarhus C, Denmark^b Department of Physics and Astronomy, Aarhus University, DK-8000 Aarhus C, Denmark^c Department of Chemistry, Middle East Technical University, Ankara 06531, Turkey

Large strain behaviour of nanostructured polyelectrolyte hydrogels

Guillaume Miquelard-Garnier, Dominique Hourdet, Costantino Creton*

pp 481–490

Physico-chimie des Polymères et des Milieux Dispersés, UMR 7615,
UPMC-CNRS-ESPCI, 10 Rue Vauquelin, 75005 Paris, France

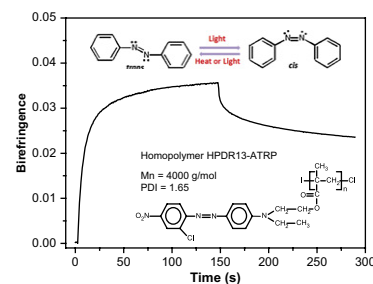


Synthesis of azopolymers with controlled structure and photoinduced birefringence in their LB films

Felippe J. Pavinatto*, Juliana Y. Barletta, Rafaela C. Sanfelice, Marcos R. Cardoso, Débora T. Balogh,
Cleber R. Mendonça, Osvaldo N. Oliveira, Jr.

pp 491–498

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CP 369, 13566-590 São Carlos, São Paulo, Brazil



Melting and chemical behaviors of isothermally crystallized gamma-irradiated syndiotactic polystyrene

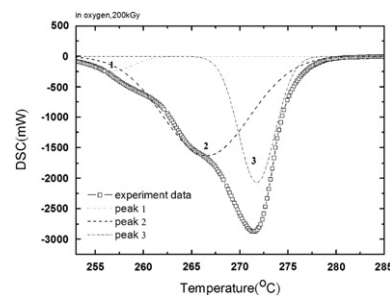
Chien-Kuo Liu^a, Tinh Nguyen^b, Tsong-Jen Yang^c, Sanboh Lee^{a,*}

pp 499–509

^a Department of Materials Science, National Tsing Hua University, Hsinchu, Taiwan

^b Building and Fire Laboratory, National Institute of Standards and Technology, Gaithersburg,
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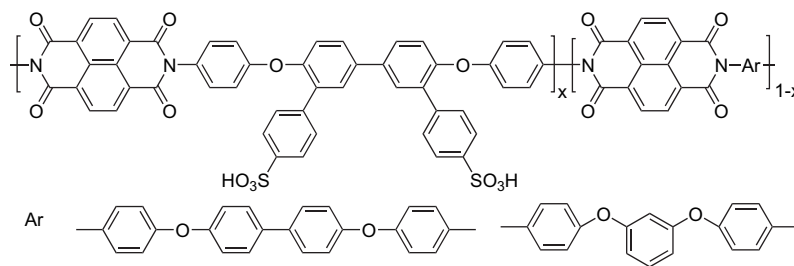


Synthesis and properties of novel sulfonated polyimides bearing sulfophenyl pendant groups for fuel cell application

Kangcheng Chen, Xinbing Chen, Kazuaki Yaguchi,
Noritaka Endo, Mitsuru Higa, Ken-ichi Okamoto*

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Graduate School of Science and Engineering,
Yamaguchi University, Tokiwadai 2-16-1, Ube,
Yamaguchi 755-8611, Japan

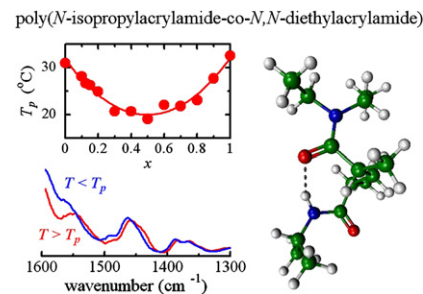


A unique phase behavior of random copolymer of *N*-isopropylacrylamide and *N,N*-diethylacrylamide in water

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Yasushi Maeda*, Masato Yamabe

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Rheological investigations of linear and hyperbranched polyethersulfone towards their as-spun phase inversion membranes' differences

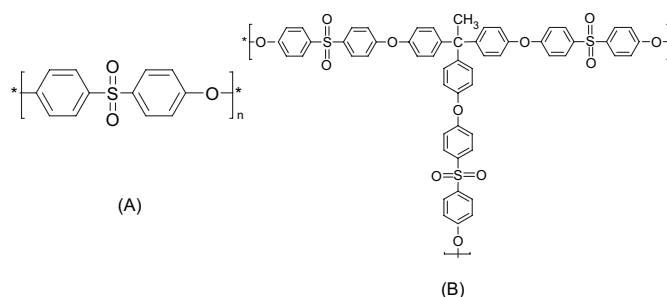
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Qian Yang^a, Tai-Shung Chung^{a,*}, M. Weber^b, K. Wollny^c

^a Department of Chemical and Biomolecular Engineering, National University of Singapore, Singapore 119260, Singapore

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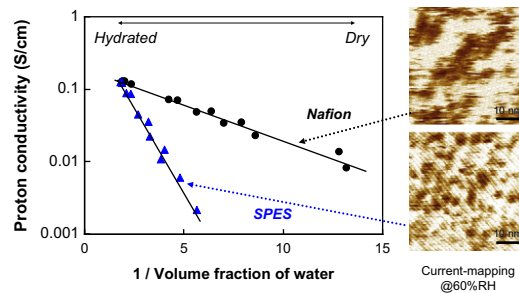
Hydration behavior of perfluorinated and hydrocarbon-type proton exchange membranes: Relationship between morphology and proton conduction

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Naohiko Takimoto^{a,*}, Libin Wu^a, Akihiro Ohira^{a,*}, Yuko Takeoka^{a,b}, Masahiro Rikukawa^b

^a Polymer Electrolyte Fuel Cell Cutting-edge Research Center (FC-Cubic), National Institute of AIST, 2-41-6 Aomi, Koto-ku, Tokyo 135-0064, Japan

^b Department of Materials and Life Science Engineering, Sophia University, 7-1 Kioi-cho, Chiyoda-ku, Tokyo 102-8554, Japan



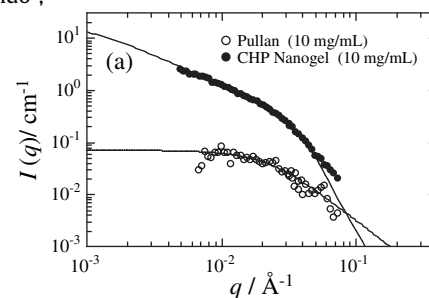
Interaction of nanogel with cyclodextrin or protein: Study by dynamic light scattering and small-angle neutron scattering

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Norihiro Inomoto^a, Noboru Osaka^a, Takuya Suzuki^a, Urara Hasegawa^b, Yayoi Ozawa^b, Hitoshi Endo^a, Kazunari Akiyoshi^b, Mitsuhiko Shibayama^{a,*}

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^b Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, 2-3-10 Kanda-Surugadai, Chiyoda-ku, Tokyo 101-0062, Japan

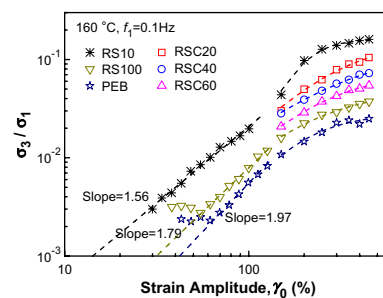


Control on the topological structure of polyolefin elastomer by reactive processing

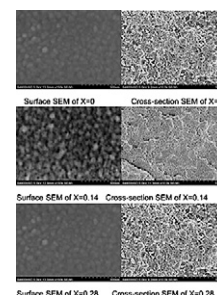
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Jianye Liu, Wei Yu*, Wei Zhou, Chixing Zhou

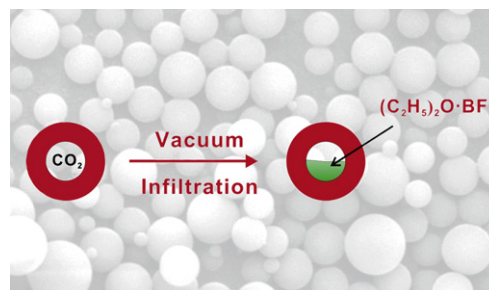
Advanced Rheology Institute, Department of Polymer Science and Engineering, Shanghai Jiao Tong University, Shanghai 200240, PR China

**Effect of SiO₂ nanoparticle addition on the characteristics of a new organic–inorganic hybrid membrane**

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Shuili Yu^{a,b,*}, Xingtao Zuo^a, Ruiling Bao^a, Xia Xu^a, Juan Wang^a, Jun Xu^a^a State Key Laboratory of Urban Water Resource and Environment, Harbin Institute of Technology, Harbin 150090, China^b State Key Laboratory of Pollution Control and Resource Reuse, Tongji University, Shanghai 200092, China**Hollow polymeric microcapsules: Preparation, characterization and application in holding boron trifluoride diethyl etherate**

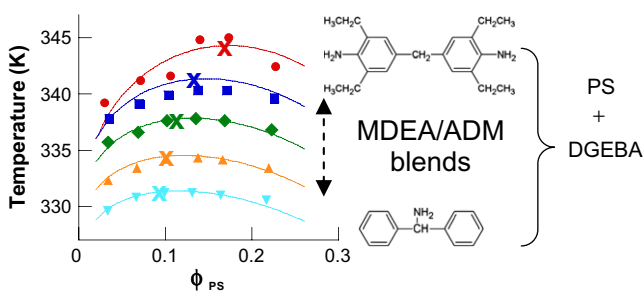
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Ding Shu Xiao^a, Yan Chao Yuan^a, Min Zhi Rong^{b,*}, Ming Qiu Zhang^b^a Key Laboratory for Polymeric Composite and Functional Materials of Ministry of Education, OFCM Institute, School of Chemistry and Chemical Engineering, Zhongshan University, Guangzhou 510275, PR China^b Materials Science Institute, Zhongshan University, Guangzhou 510275, PR China**Phase diagram of different epoxy-amine precursors modified with a thermoplastic: Effect of structure of epoxy-amine system on miscibility**

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Maite Rico, Joaquín López*, Carmen Ramírez, Javier Díez, Belén Montero

Departamento de Física, E.U.P. Ferrol, Universidad de A Coruña, Avda, 19 de Febrero s/n, 15405 Ferrol, Spain

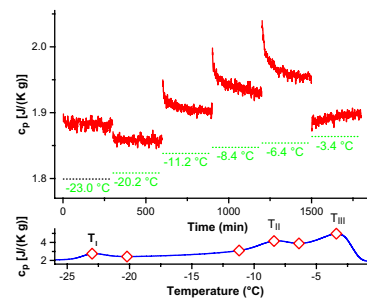


The melting process and the rigid amorphous fraction of cis-1,4-polybutadiene

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Maria Laura Di Lorenzo

Istituto di Chimica e Tecnologia dei Polimeri (CNR) – c/o Comprensorio Olivetti – Via Campi Flegrei, 34–80078 Pozzuoli (NA), Italy

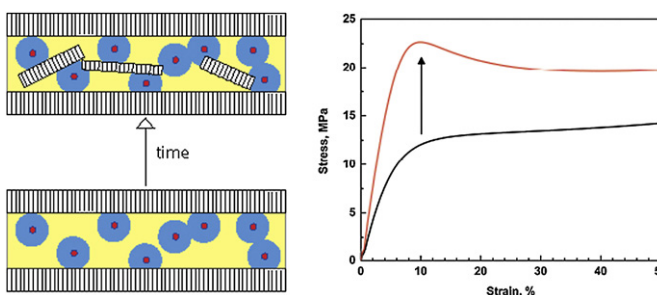


Yielding in ethylene/methacrylic acid ionomers

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Robert C. Scogna, Richard A. Register*

Department of Chemical Engineering, Princeton University, Princeton, NJ 08544-5263, United States



Fatigue testing of implantable specimens: Effect of sample size and branching on the dynamic fatigue properties of polyisobutylene-based biomaterials

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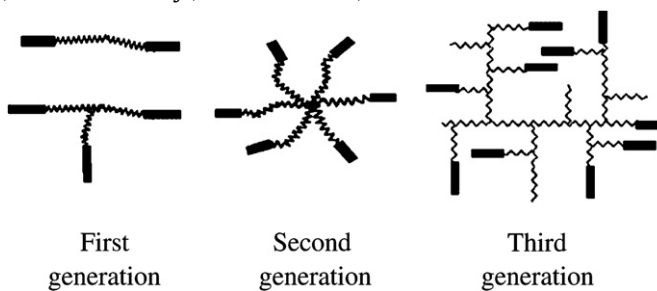
Judit E. Puskas^{a,*}, Lucas M. Dos Santos^a, Frank Fischer^b, Christian Götz^b, Mirosława El Fray^c, Volker Altstädt^b, Matthew Tomkins^d

^a Department of Polymer Science, The University of Akron, Goodyear Polymer Center, Room 420, 170 University Ave., Akron, OH 44325-3909, USA

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^c Division of Biomaterials and Microbiological Technologies, Polymer Institute, Szczecin University of Technology, Pulaskiego 10, Szczecin 70-322, Poland

^d Department of Chemical Engineering, The University of Western Ontario, London, ON, Canada

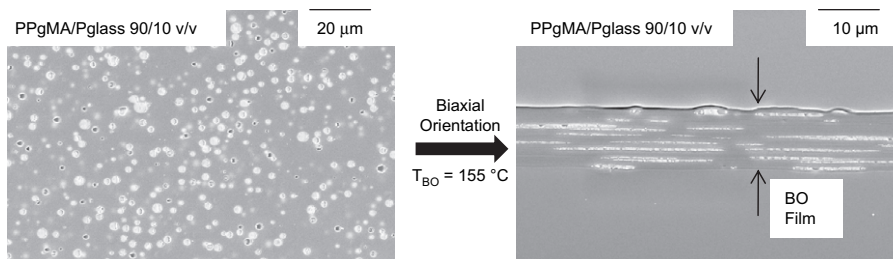


Biaxially oriented poly(propylene-g-maleic anhydride)/phosphate glass composite films for high gas barrier applications

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Mohit Gupta, Yijian Lin, Taneisha Deans, Alexis Crosby, Eric Baer, Anne Hiltner, David A. Schiraldi*

Department of Macromolecular Science and Engineering, NSF Center for Layered Polymeric Systems, Case Western Reserve University, 2100 Adelbert Road, Cleveland, OH 44106, USA

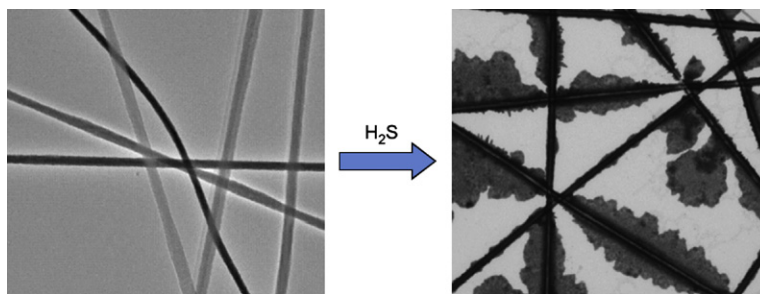


Electrospun polyacrylonitrile/zinc chloride composite nanofibers and their response to hydrogen sulfide

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Liwen Ji, Andrew J. Medford, Xiangwu Zhang*

Fiber and Polymer Science Program,
Department of Textile Engineering, Chemistry and Science,
North Carolina State University, 2401 Research Drive,
Box 8301, Raleigh, NC 27695-8301, USA

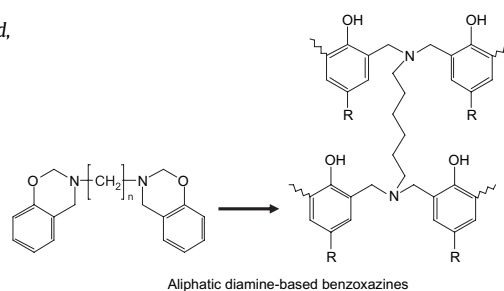


Effect of phenol substitution on the network structure and properties of linear aliphatic diamine-based benzoxazines

pp 613–626

Douglas J. Allen, Hatsuo Ishida*

Department of Macromolecular Science and Engineering, Case Western Reserve University, Cleveland,
OH 44106-7202, United States



Coupling effects of spinodal decomposition and crystallization on mechanical properties of polyolefin blends

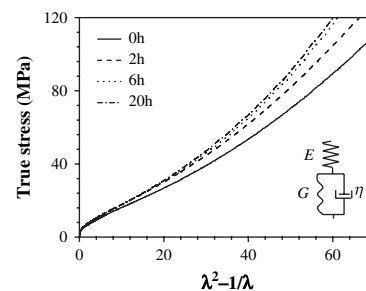
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Liang Yang^{a,b}, Yanhua Niu^a, Howard Wang^c, Zhigang Wang^{a,*}

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Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, PR China

^b Graduate School, Chinese Academy of Sciences, Beijing 100049, PR China

^c Department of Mechanical Engineering, State University of New York at Binghamton, Binghamton,
NY 13902, USA



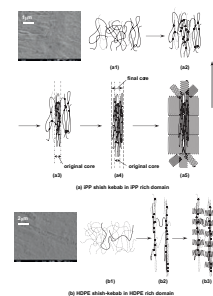
Shear-induced crystallization in a blend of isotactic polypropylene and high density polyethylene

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Yan Wang^a, Kun Meng^{b,*}, Song Hong^b, Xuming Xie^{a,**}, Chenggui Zhang^b, Charles C. Han^{a,b,*}

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Effect of compatibilization on the deformation and breakup of drops in step-wise increasing shear flow

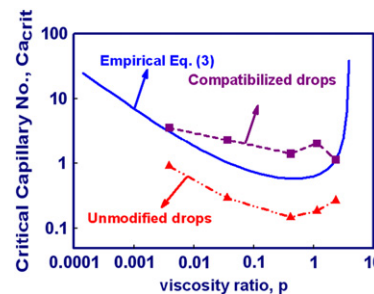
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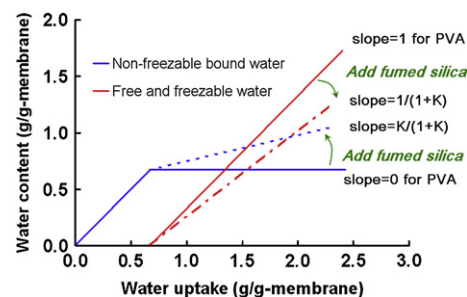


Modeling water states in polyvinyl alcohol-fumed silica nano-composites

pp 654–661

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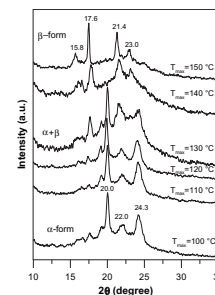


Thermal, spectroscopy, and morphological studies on polymorphic crystals in poly(heptamethylene terephthalate)

pp 662–669

Kai C. Yen, Eamor M. Woo*

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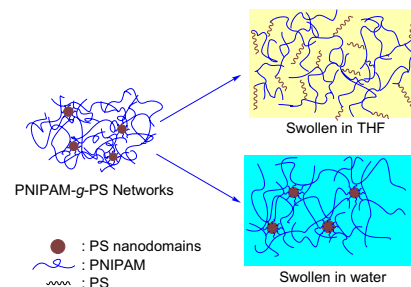


Effect of hydrophobic polystyrene microphases on temperature-responsive behavior of poly(N-isopropylacrylamide) hydrogels

pp 670–678

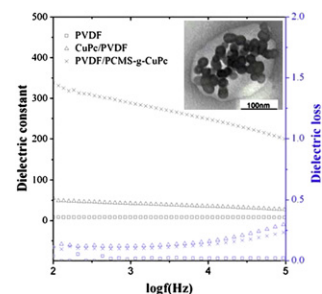
Fangping Yi, Sixun Zheng*

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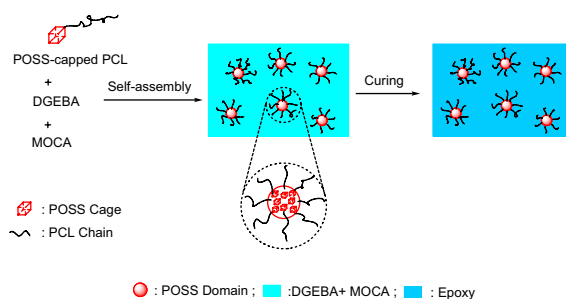
A large enhancement in dielectric properties of poly(vinylidene fluoride) based all-organic nanocomposite

pp 679–684

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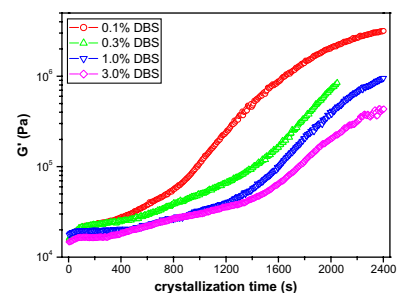
Self-assembly behavior of hepta(3,3,3-trifluoropropyl) polyhedral oligomeric silsesquioxane-capped poly(ϵ -caprolactone) in epoxy resin: Nanostructures and surface properties

pp 685–695

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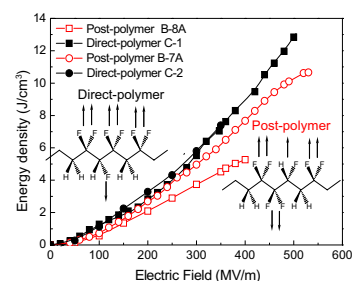
Rheologically determined negative influence of increasing nucleating agent content on the crystallization of isotactic polypropylene

pp 696–706

Ke Wang^a, Chenjuan Zhou^a, Changyu Tang^a, Qin Zhang^a, Rongni Du^a, Qiang Fu^{a,*}, Lin Li^b^a Department of Polymer Science and Materials, State Key Laboratory of Polymer Materials Engineering, Sichuan University, Chengdu 610065, PR China^b State Key Laboratory of Polymer Physics and Chemistry, Institute of Chemistry, Chinese Academy of Sciences, Peking 100080, PR China

Energy storage study of ferroelectric poly(vinylidene fluoride-trifluoroethylene-chlorotrifluoroethylene) terpolymers

pp 707–715

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Water wettability/non-wettability of polymer materials by molecular orbital studies

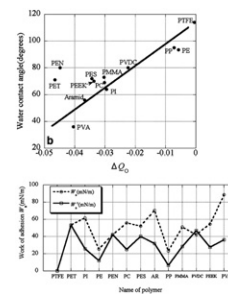
pp 716–720

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Cooperative surface-induced self-assembly of symmetric diblock copolymers confined films with embedded nanorods

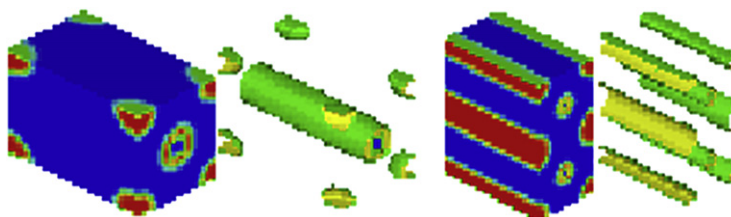
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