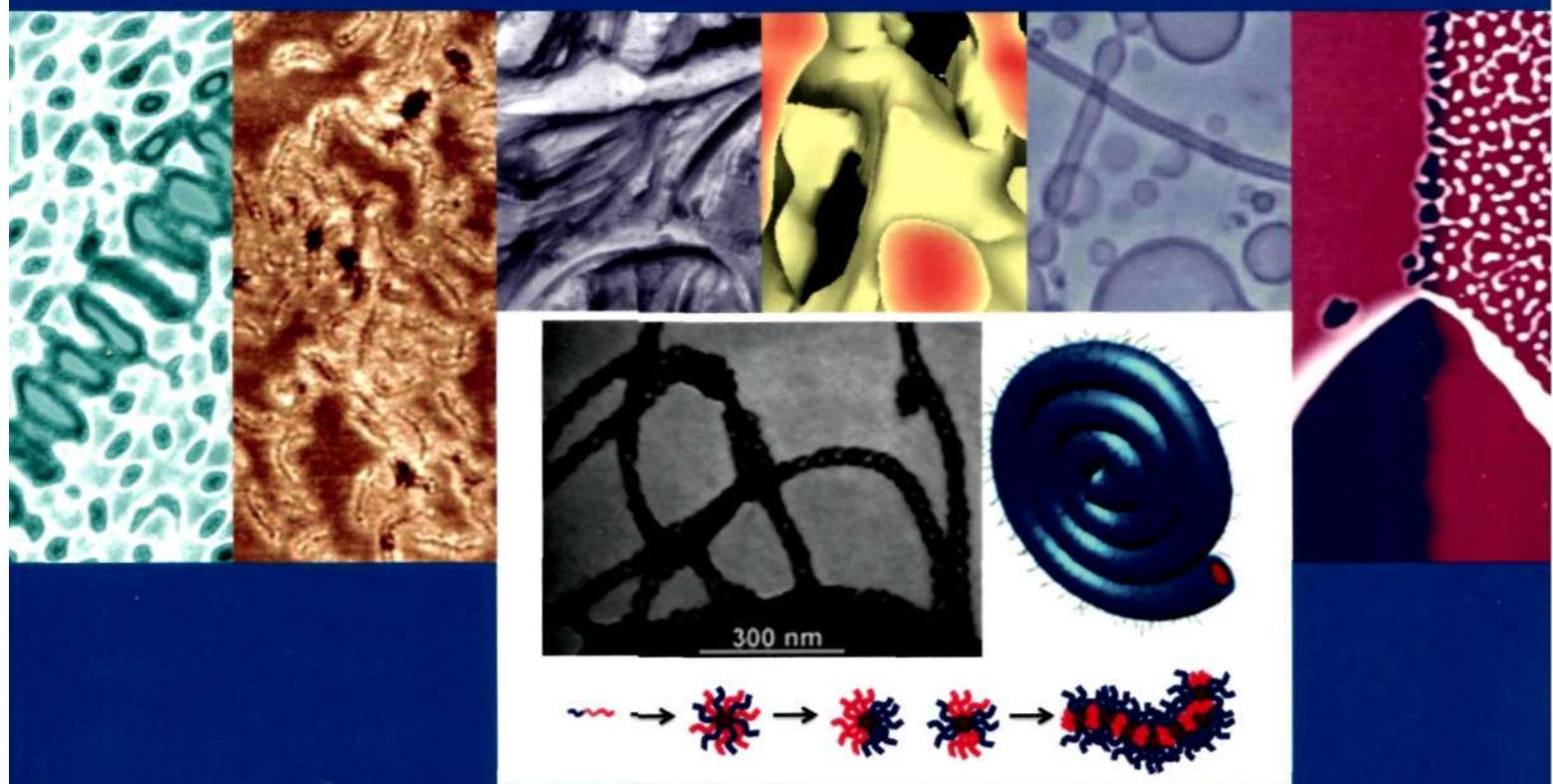




polymer



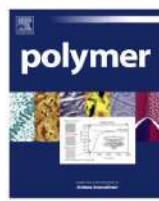
Special Issue in honor of Axel H.E. Müller

Guest Editor

Georg Krausch

Available online at www.sciencedirect.com

SciVerse ScienceDirect



Polymer Vol. 54, No. 8, 3 April 2013

Contents

Special Issue

In honor of Axel H.E. Müller

Guest Editor

Georg Krausch

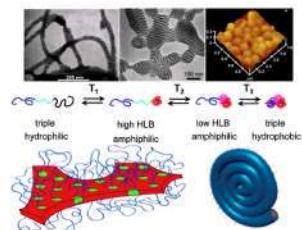
FEATURE ARTICLE

Micellar structures of linear triblock terpolymers: Three blocks but many possibilities

pp 1950–1978

Ian W. Wyman, Guojun Liu*

Department of Chemistry, Queen's University, 90 Bader Lane, Kingston, Ontario K7L 3N6, Canada



POLYMER PAPERS

Star polymer synthesis and gelation in ATRP copolymerization: Monte Carlo simulations

pp 1979–1986

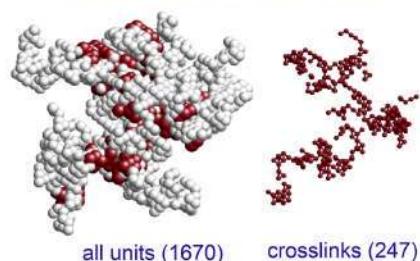
Piotr Polanowski^b, Jeremiasz K. Jeszka^c, Krzysztof Matyjaszewski^{a,*}

^a Department of Chemistry, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213, USA

^b Department of Molecular Physics, Technical University of Lodz, 90-924 Lodz, Poland

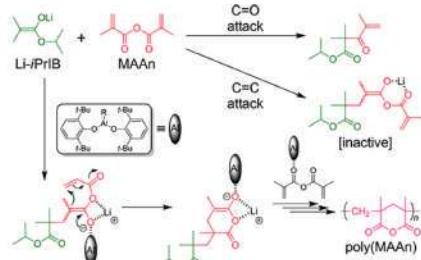
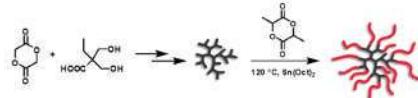
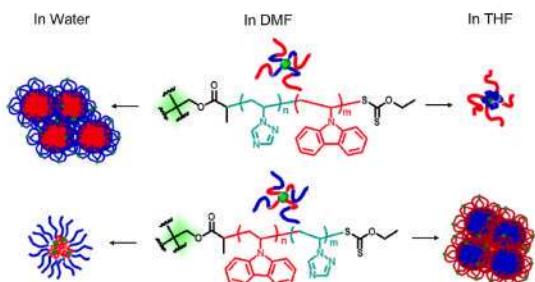
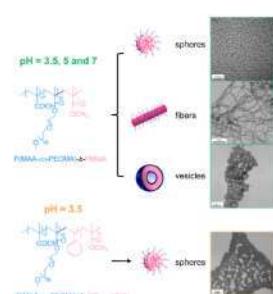
^c Department of Man-Made Fibres, Technical University of Lodz, 90-924 Lodz, Poland

Multiarm star - 25 primary chains



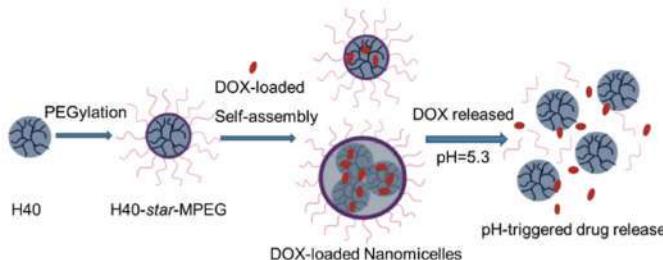
Anionic cyclopolymerization of methacrylic anhydride with the aid of bulky aluminum Lewis acid**pp 1987–1992**

Takehiro Kitaura, Naoko Moroi, Tatsuki Kitayama*

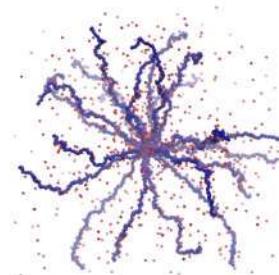
Department of Chemistry, Graduate School of Engineering Science, Osaka University,
Machikaneyama 1-3, Toyonaka, Osaka 560-8531, Japan**One-pot synthesis of poly(L-lactide) multi-arm star copolymers based on a polyester polyol macroinitiator****pp 1993–2000**Anna M. Fischer^a, Raphael Thiermann^b, Michael Maskos^b, Holger Frey^{a,*}^a Institute of Organic Chemistry, Johannes Gutenberg-University Mainz, Duesbergweg 10-14,
D-55099 Mainz, Germany^b BAM Federal Institute for Materials Research and Testing, Unter den Eichen 87, D-12205 Berlin, Germany**Water-soluble poly(N-vinyl-1,2,4-triazole) star and amphiphilic star block copolymers by RAFT polymerization****pp 2001–2010**Hideharu Mori^{a,b,*}, Kazunori Ishikawa^a, Yohei Abiko^b, Kazuhiro Nakabayashi^a,
Atsuhiro Onuma^c, Makoto Morishima^c^a Department of Polymer Science and Engineering, Graduate School of Science and Engineering,
Yamagata University, 4-3-16 Jonan, Yonezawa 992-8510, Japan^b Department of Organic Device Engineering, Graduate School of Science and Engineering,
Yamagata University, 4-3-16 Jonan, Yonezawa 992-8510, Japan^c Hitachi Research Laboratory, Hitachi Ltd., 7-1-1 Omika, Hitachi 319-1292, Japan**RAFT-mediated one-pot aqueous emulsion polymerization of methyl methacrylate in presence of poly(methacrylic acid-co-poly(ethylene oxide) methacrylate) trithiocarbonate macromolecular chain transfer agent****pp 2011–2019**Wenjing Zhang^a, Franck D'Agosto^a, Pierre-Yves Dugas^a, Jutta Rieger^{b,*}, Bernadette Charleux^{a,*}^a Université de Lyon, Univ Lyon 1, CPE Lyon, CNRS, UMR 5265, C2P2 (Chemistry, Catalysis,
Polymers & Processes), Team LCPP Bat 308F, 43 Bd du 11 Novembre 1918, 69616 Villeurbanne, France^b UPMC Univ. Paris 6, Sorbonne Universités and CNRS, Laboratoire de Chimie des Polymères,
UMR 7610, 3 rue Galilée, 94200 Ivry, France

Facile PEGylation of Boltorn® H40 for pH-responsive drug carriers

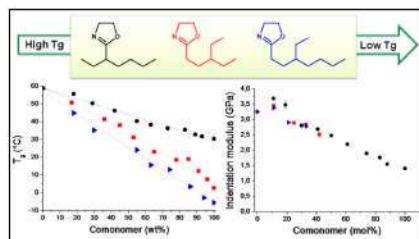
pp 2020–2027

Chunlai Tu^a, Lijuan Zhu^a, Feng Qiu^a, Dali Wang^a, Yue Su^a, Xinyuan Zhu^{a,b,**}, Deyue Yan^{a,*}^a School of Chemistry and Chemical Engineering,State Key Laboratory of Metal Matrix Composites, Shanghai Jiao Tong University,
800 Dongchuan Road, Shanghai 200240, People's Republic of China^b Instrumental Analysis Center, Shanghai Jiao Tong University,
800 Dongchuan Road, Shanghai 200240, People's Republic of China**Structure formation in polyelectrolytes induced by multivalent ions**

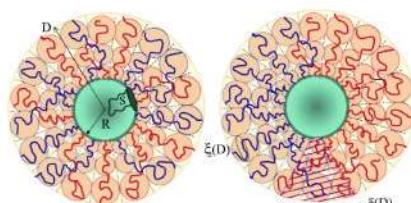
pp 2028–2035

Arben Jusufi^a, Oleg Borisov^{b,c}, Matthias Ballauff^{d,e,*}^a Department of Chemistry, College of Staten Island, The City University of New York,
2800 Victory Boulevard, Staten Island, NY 10314, USA^b Institute of Macromolecular Compounds, Russian Academy of Science, St. Petersburg 199004, Russia^c Institut Pluridisciplinaire de Recherche sur l'Environnement et des Matériaux, UMR 5254, UPPA CNRS,
64053 Pau, France^d Soft Matter and Functional Materials, Helmholtz-Zentrum Berlin für Materialien und Energie GmbH,
Hahn-Meitner-Platz 1, 14109 Berlin, Germany^e Department of Physics, Humboldt University Berlin, Newtonstr. 15, 12489 Berlin, Germany**A systematic investigation of the effect of side chain branching on the glass transition temperature and mechanical properties of aliphatic (co-)poly(2-oxazoline)s**

pp 2036–2042

Kristian Kempe^{a,b}, Erik F.-J. Rettler^{a,b,c}, Renzo M. Paulus^{a,b}, Anette Kuse^a,
Richard Hoogenboom^{d,**}, Ulrich S. Schubert^{a,b,c,*}^a Laboratory of Organic and Macromolecular Chemistry (IOMC), Friedrich-Schiller-University Jena,
Humboldtstr. 10, 07743 Jena, Germany^b Jena Center for Soft Matter (JCSM), Friedrich-Schiller-University Jena, Philosophenweg 7, 07743 Jena, Germany^c Dutch Polymer Institute (DPI), John F. Kennedylaan 2, 5612 AB Eindhoven, The Netherlands^d Supramolecular Chemistry Group, Department of Organic Chemistry, Ghent University, Krijgslaan 281 S4,
B-9000 Ghent, Belgium**Theory of self-assembly of triblock ter-polymers in selective solvent towards corona-compartmentalized (Janus) micelles**

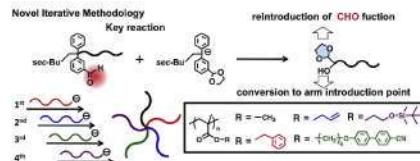
pp 2043–2048

O.V. Borisov^{a,b,*}, E.B. Zhulina^b^a IPREM, UMR 5254 CNRS UPPA, Pau, France^b Institute of Macromolecular Compounds of The Russian Academy of Sciences,
199004 St. Petersburg, Russia

Precise synthesis of poly(methacrylate)-based miktoarm star polymers by a new stepwise iterative methodology using a formyl-functionalized 1,1-diphenylethylene derivative pp 2049–2057

Raita Goseki, Yoko Ozama, Emi Akemine, Shotaro Ito, Sayato Ehara, Akira Hirao*

Polymeric and Organic Materials Department, Graduate School of Science and Engineering, Tokyo Institute of Technology, S1-6, 2-12-1, Ohokayama, Meguro-ku, Tokyo 152-8552, Japan



REGULAR PAPERS

POLYMER COMMUNICATIONS

Chemically imaging the effects of the addition of nanofibrillated cellulose on the distribution of poly(acrylic acid) in poly(vinyl alcohol) pp 2058–2061

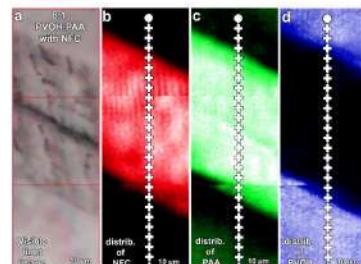
Craig Clemons^{a,*}, Julia Sedlmair^{a,b,c}, Barbara Illman^{a,b}, Rebecca Ibach^a, Carol Hirschmugl^{b,d}

^a USDA Forest Service, Forest Products Laboratory, Madison, WI, USA

^b Synchrotron Radiation Center, University of Wisconsin – Madison, Madison, WI, USA

^c Department of Agricultural and Biological Engineering, The Pennsylvania State University, University Park, PA, USA

^d Department of Physics, University of Wisconsin, Milwaukee, WI, USA



A photoluminescence study of electrospun fibers of conjugated poly[2-methoxy-5-(2'-ethylhexyloxy)-1,4-phenylenevinylene] blended with poly(9-vinylcarbazole)

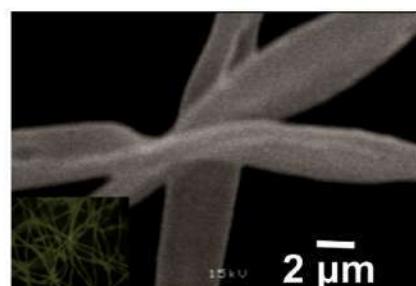
pp 2062–2066

Uriel Balderas^a, Ciro Falcony^b, Ivana Moggio^c, Eduardo Arias^c, Margarita Mondragón^{a,*}

^a Sección de Estudios de Posgrado, Escuela Superior de Ingeniería Mecánica y Eléctrica (ESIME), Unidad Azcapotzalco del IPN, 02250 D.F., Mexico

^b Departamento de Física, Centro de Investigación y de Estudios Avanzados (CINVESTAV) del IPN, 07360 D.F., Mexico

^c Centro de Investigación en Química Aplicada (CIQA), 25253 Saltillo, Coahuila, Mexico

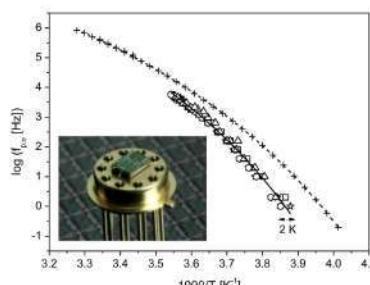


Calorimetric glass transition of ultrathin poly(vinyl methyl ether) films

pp 2067–2070

Huajie Yin, Andreas Schönhals*

BAM Federal Institute for Materials Research and Testing, Unter den Eichen 87, D-12200 Berlin, Germany



POLYMER PAPERS**BODIPY derivatives and boranil as new photoinitiating systems of cationic polymerization exhibiting a tunable absorption in the 400–600 nm spectral range**

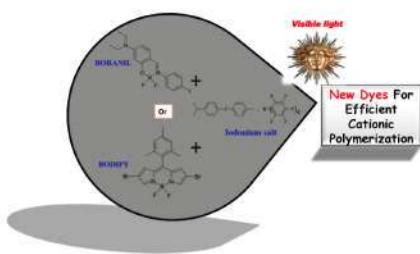
pp 2071–2076

Sofia Telitel^a, Nicolas Blanchard^b, Stéphane Schweizer^b, Fabrice Morlet-Savary^a, Bernadette Graff^a, Jean-Pierre Fouassier^c, Jacques Lalevée^{a,*}

^a Institut de Science des Matériaux de Mulhouse (LRC CNRS 7228), ENSCMu-UHA, 15 rue Jean Starcky, 68057 Mulhouse Cedex, France

^b Institut de Science des Matériaux de Mulhouse (LRC CNRS 7228), Chimie Organique et Bioorganique, ENSCMu-UHA, 3 rue Alfred Werner, 68 093 Mulhouse Cedex, France

^c ENSCMu-UHA, 3 rue Alfred Werner, 68200 Mulhouse, France

**One-pot photoinduced synthesis of conductive polythiophene-epoxy network films**

pp 2077–2080

Marco Sangermano^{a,*}, Federica Sordo^b, Alessandro Chiolerio^c, Yusuf Yagci^{d,e}

^a Politecnico di Torino, Dipartimento di Scienza dei Materiali e Ingegneria Chimica, C.so Duca degli Abruzzi, 24 I-10129 Torino, Italy

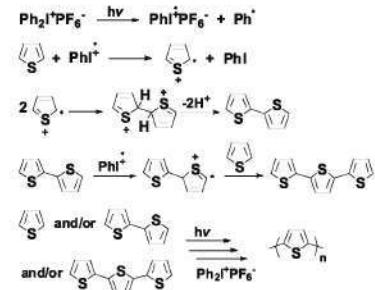
^b Laboratoire de Technologie des Composites et Polymères (LTC),

Ecole Polytechnique Fédérale de Lausanne (EPFL), Station 12, CH-1015 Lausanne, Switzerland

^c Istituto Italiano di Tecnologia, Center for Space and Human Robotics, C.so Trento 21, 10129 Torino, Italy

^d Department of Chemistry, Istanbul Technical University, Maslak 34469, Istanbul, Turkey

^e Faculty of Science, Chemistry Department, King Abdulaziz University, Jeddah, Saudi Arabia

**Chitosan hydrophobic domains are favoured at low degree of acetylation and molecular weight**

pp 2081–2087

Ramon Novoa-Carballal, Ricardo Riguera*, Eduardo Fernandez-Megia*

Department of Organic Chemistry and Center for Research in Biological Chemistry and Molecular Materials (CIRB), University of Santiago de Compostela, Jenaro de la Fuente s/n, 15782 Santiago de Compostela, Spain

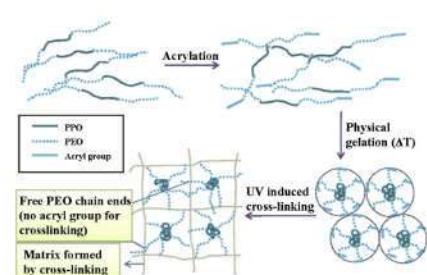
**Synthesis and characterization of biocompatible hydrogel using Pluronics-based block copolymers**

pp 2088–2095

Mahati Elluru^a, Hongyang Ma^a, Michael Hadjigaryrou^{b,**}, Benjamin S. Hsiao^a, Benjamin Chu^{a,*}

^a Department of Chemistry, Stony Brook University, Stony Brook, NY 11794, USA

^b Department of Biomedical Engineering, Stony Brook University, Stony Brook, NY 11794, USA

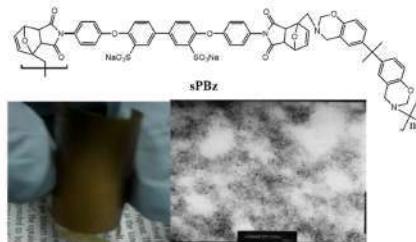


Synthesis and characterization of benzoxazine-containing, crosslinkable, and sulfonated polymer through Diels–Alder reaction for direct methanol fuel cells **pp 2096–2104**

Nan-Hsun Chen^a, Hsieh-Yu Li^b, Juin-Yih Lai^a, Ying-Ling Liu^{b,*}

^a Department of Chemical Engineering and R&D Center for Membrane Technology, Chung Yuan Christian University, Chungli, Taoyuan 32023, Taiwan

^b Department of Chemical Engineering, National Tsing Hua University, Hsinchu 30013, Taiwan



Design of a cellulose-based nanocomposite as a potential polymeric scaffold in tissue engineering

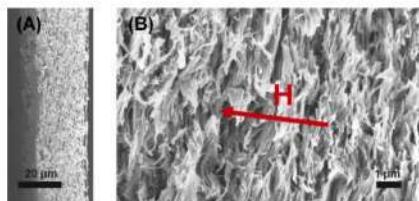
pp 2105–2114

Parisa Pooyan^{a,b}, Il Tae Kim^b, Karl I. Jacob^{a,b}, Rina Tannenbaum^{c,*}, Hamid Garmestani^b

^a The Woodruff School of Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA 30332, USA

^b School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA 30332, USA

^c Department of Biomedical Engineering, The School of Medicine and the UAB Comprehensive Cancer Center, University of Alabama at Birmingham, Birmingham, AL 35294, USA

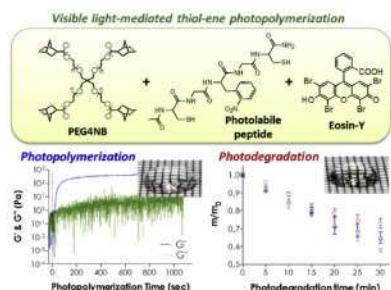


Facile preparation of photodegradable hydrogels by photopolymerization

pp 2115–2122

Chang Seok Ki, Han Shih, Chien-Chi Lin*

Department of Biomedical Engineering, Purdue School of Engineering and Technology, Indiana University-Purdue University at Indianapolis, Indianapolis, IN 46202, USA



New epoxy systems based on ionic liquid

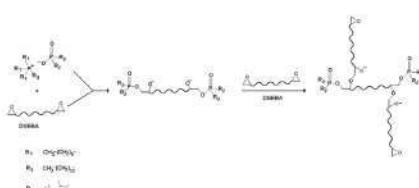
pp 2123–2129

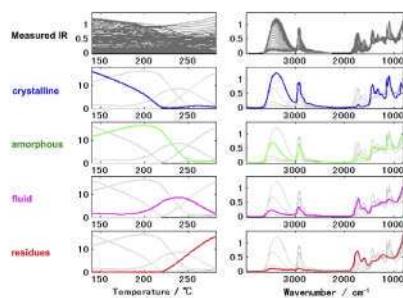
Adriana A. Silva^a, Sébastien Livi^{b,c,**}, Debora B. Netto^a, Bluma G. Soares^{a,*}, Jannick Duchet^{b,c}, Jean-François Gérard^{b,c}

^a Universidade Federal do Rio de Janeiro - Escola de Química/Instituto de Macromoléculas - Centro de Tecnologia, Bl. J. Ilha do Fundão, 21941-598, Rio de Janeiro, RJ, Brazil

^b Université de Lyon, F-69003, Lyon, France

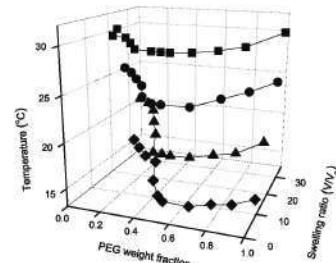
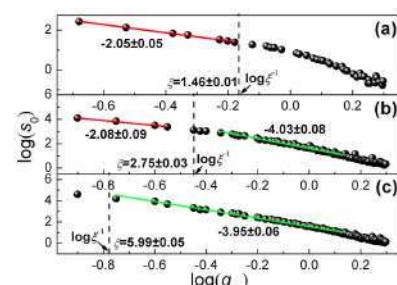
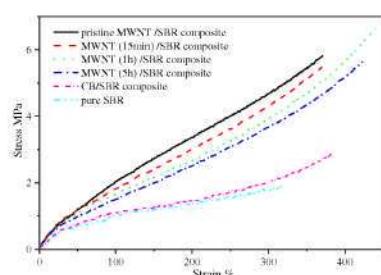
^c CNRS, UMR 5223, Ingénierie des Matériaux Polymères, INSA Lyon F-69621, Villeurbanne, France



Thermal degradation of a poly(vinyl alcohol) film studied by multivariate curve resolution analysis**pp 2130–2137**Akifumi Uda^{a,*}, Shigeaki Morita^b, Yukihiko Ozaki^c^a Advanced Technology Development Laboratory, Mizushima R&D Center, Mitsubishi Chemical Corporation, 3-10, Ushiodori, Kurashiki, Okayama 712-8054, Japan^b Division of Energy Science, EcoTopia Science Institute, Nagoya University, Furo-cho, Chigusa-ku, Nagoya 464-8603, Japan^c Department of Chemistry, School of Science and Technology, Kwansei-Gakuin University, Sanda 669-1337, Japan**Co-nonsolvency effect of thermosensitive *N*-isopropylacrylamide nanometer-sized gel particles in water–PEG systems****pp 2138–2145**

Sung Min Kim, Young Chan Bae*

Division of Chemical Engineering and Molecular Thermodynamics Laboratory, Hanyang University, Seoul 133-791, Republic of Korea

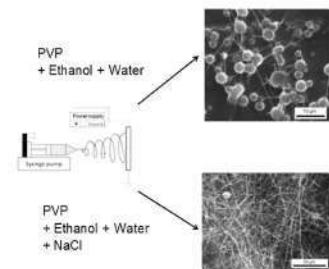
**Interfacial properties and phase transitions in ternary symmetric homopolymer–copolymer blends: A dissipative particle dynamics study****pp 2146–2157**Zhiqiang Bai^{a,b,c}, Hongxia Guo^{a,b,c,*}^a Beijing National Laboratory for Molecular Sciences, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China^b Joint Laboratory of Polymer Sciences and Materials, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China^c State Key Laboratory of Polymer Physics and Chemistry, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China**Relations between carbon nanotubes' length and their composites' mechanical and functional performance****pp 2158–2165**Fen Li^{a,b}, Yonglai Lu^a, Li Liu^a, Liqun Zhang^{a,b,**}, Jiaxin Dai^b, Jun Ma^{a,b,*}^a State Key Laboratory of Organic–Inorganic Composites and Key Laboratory of Beijing City on Preparation and Processing of Novel Polymer Materials, Beijing University of Chemical Technology, Beijing 100029, China^b School of Engineering, University of South Australia, SA 5095, Australia

The influence of salt and solvent concentrations on electrospun polyvinylpyrrolidone fiber diameters and bead formation

pp 2166–2173

Kitchaporn Nartetamrongkutt, George G. Chase*

Chemical and Biomolecular Engineering, The University of Akron, Akron, OH, USA

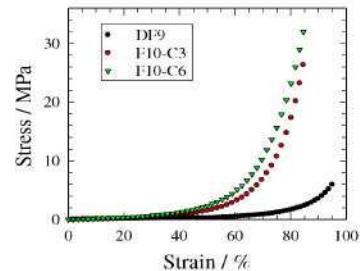


Mechanical behavior of hybrid hydrogels composed of a physical and a chemical network

pp 2174–2182

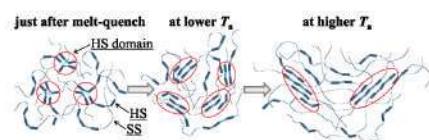
Jinkun Hao, R.A. Weiss*

Department of Polymer Engineering, University of Akron, 250 South Forge Street, Akron, OH 44325-0301, USA



Thermal annealing behavior and structure development of crystalline hard segment domain in a melt-quenched thermoplastic polyurethane

pp 2183–2189

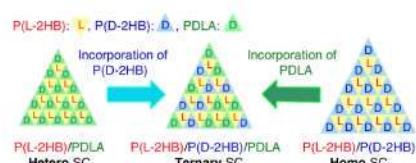
Yu Yanagihara^{a,b,*}, Noboru Osaka^{a,*}, Satoshi Murayama^b, Hiromu Saito^a^a Department of Organic and Polymer Materials Chemistry, Tokyo University of Agriculture and Technology, Koganei, Tokyo 184-8588, Japan^b Central Research Laboratory, Nippon Polyurethane Industry Co., Ltd., Yokohama, Kanagawa 245-0052, Japan

Ternary stereocomplex crystallization of poly(L-2-hydroxybutanoic acid), poly(D-2-hydroxybutanoic acid), and poly(D-lactic acid) from the melt

pp 2190–2198

Hideto Tsuji*, Mao Hosokawa, Yuzuru Sakamoto

Department of Environmental and Life Sciences, Graduate School of Engineering, Toyohashi University of Technology, Tempaku-cho, Toyohashi, Aichi 441-8580, Japan



OTHER CONTENT

Calendar

*Corresponding author

Available online at www.sciencedirect.com

SciVerse ScienceDirect

Full text of this journal is available, on-line from **SciVerse ScienceDirect**. Visit www.sciencedirect.com for more information.

Abstracted/indexed in: AGRICOLA, Beilstein, BIOSIS Previews, CAB Abstracts, Chemical Abstracts, Current Contents: Life Sciences, Current Contents: Physical, Chemical and Earth Sciences, Current Contents Search, Derwent Drug File, Ei Compendex, EMBASE/Excerpta Medica, Medline, PASCAL, Research Alert, Science Citation Index, SciSearch. Also covered in the abstract and citation database SciVerse SCOPUS®. Full text available on SciVerse ScienceDirect®



ISSN 0032-3861