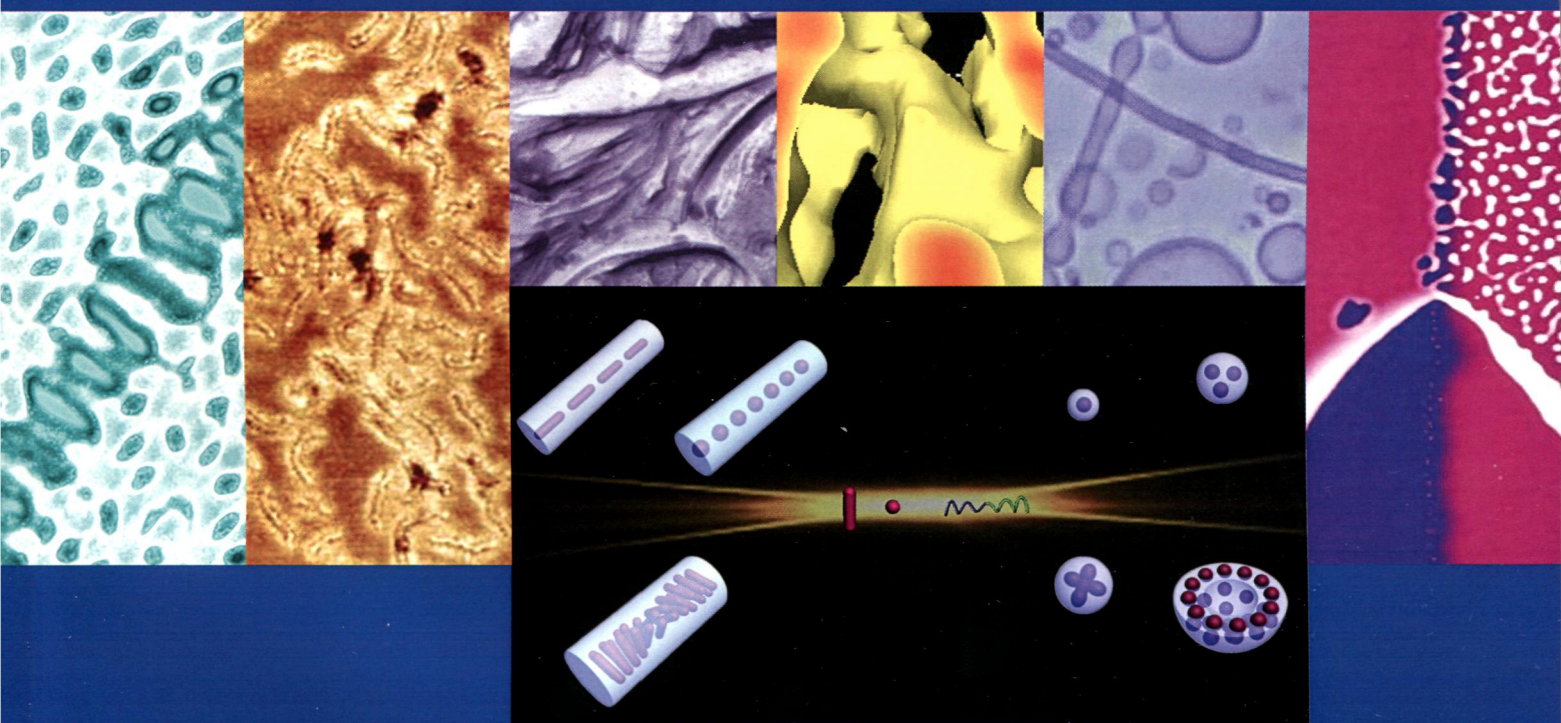


RVU  
p 80/3



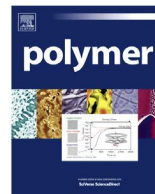
VOLUME 55 ISSUE 13, 13 JUNE 2014

# polymer



Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

**ScienceDirect**



**Polymer Vol. 55, No. 13, 13 June 2014**

**Contents**

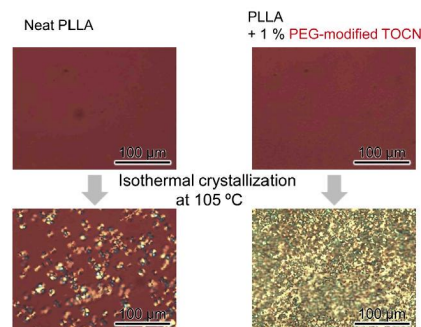
**POLYMER PAPERS**

**Cellulose nanofibrils as templates for the design of poly(L-lactide)-nucleating surfaces**

pp 2937–2942

Shuji Fujisawa, Jiaqi Zhang, Tsuguyuki Saito, Tadahisa Iwata, Akira Isogai\*

Graduate School of Agricultural and Life Sciences, The University of Tokyo, 1-1-1 Yayoi, Bunkyo-ku, Tokyo 113-8657, Japan



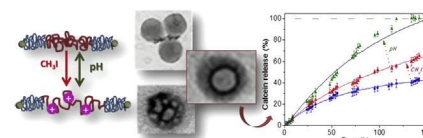
**CBABC terpolymer-based nanostructured vesicles with tunable membrane permeability as potential hydrophilic drug nanocarriers**

pp 2943–2951

Maria-Teodora Popescu<sup>a</sup>, Myrto Korogiannaki<sup>a</sup>, Katerina Marikou<sup>a</sup>, Constantinos Tsitsilianis<sup>a,b,\*</sup>

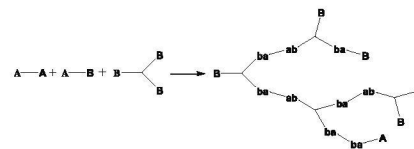
<sup>a</sup> Department of Chemical Engineering, University of Patras, 26504 Patras, Greece

<sup>b</sup> Institute of Chemical Engineering Sciences, ICE/HT-FORTH, 26504 Patras, Greece



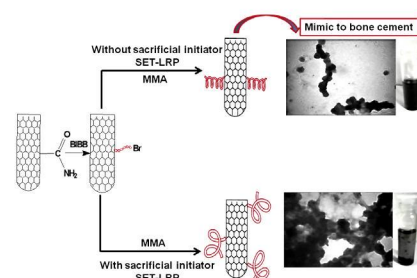
### Kinetic analysis of $A_2 + AB + B_3$ hyperbranched polymerization approach

pp 2952–2958

Zhiping Zhou<sup>a,\*</sup>, Jingjing Wang<sup>a</sup>, Deyue Yan<sup>b</sup><sup>a</sup> School of Materials Science and Engineering, Jiangsu University, 301 Xuefu Road, Zhenjiang 212013, China<sup>b</sup> School of Chemistry and Chemical Engineering, Shanghai Jiao Tong University, 800 Dongchuan Road, Shanghai 200240, China

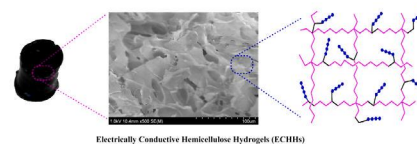
### Single-electron transfer living radical copolymerization of SWCNT-g-PMMA via graft from approach

pp 2959–2966

Sellamuthu N. Jaisankar<sup>a,\*</sup>, Neelamegan Haridharan<sup>a</sup>, Adhigan Murali<sup>a</sup>, Ponyrko Sergii<sup>b</sup>, Milena Špirková<sup>b</sup>, Asit Baran Mandal<sup>a,\*\*</sup>, Libor Matějka<sup>b,\*\*</sup><sup>a</sup> Polymer Division, Council of Scientific and Industrial Research (CSIR)-Central Leather Research Institute (CLRI), Adyar, Chennai 600 020, India<sup>b</sup> Institute of Macromolecular Chemistry AS CR v. i. i., Heyrovský Sq. 2, 162 06 Praha 6, Czech Republic

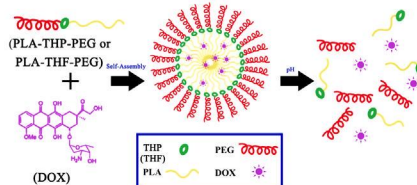
### A robust pathway to electrically conductive hemicellulose hydrogels with high and controllable swelling behavior

pp 2967–2976

Weifeng Zhao<sup>a,b</sup>, Lidija Glavas<sup>a</sup>, Karin Odellius<sup>a</sup>, Ulrica Edlund<sup>a</sup>, Ann-Christine Albertsson<sup>a,\*</sup><sup>a</sup> Fiber and Polymer Technology, School of Chemical Science and Engineering, Royal Institute of Technology (KTH), Teknikringen 56-58, SE-100 44 Stockholm, Sweden<sup>b</sup> College of Polymer Science and Engineering, State Key Laboratory of Polymer Materials Engineering, Sichuan University, Chengdu 610065, Sichuan, China

### Self-assembled polymeric micelles based on THP and THF linkage for pH-responsive drug delivery

pp 2977–2985

Fangxia Zhu<sup>a</sup>, Qinglai Yang<sup>a</sup>, Yuan Zhuang<sup>a</sup>, Yuanqing Zhang<sup>b</sup>, Zhifeng Shao<sup>c</sup>, Bing Gong<sup>d,e,\*\*</sup>, Yu-Mei Shen<sup>a,\*</sup><sup>a</sup> Shanghai Center for Systems Biomedicine, Key Laboratory of Systems Biomedicine and Bio-ID Center, Shanghai Jiao Tong University, Shanghai 200240, China<sup>b</sup> Shanghai Institute of Applied Physics, Chinese Academy of Sciences, Shanghai 201800, China<sup>c</sup> State Key Laboratory of Oncogenes and Bio-ID Center, School of Biomedical Engineering, Shanghai Jiao Tong University, Shanghai 200240, China<sup>d</sup> College of Chemistry, Beijing Normal University, Beijing 100875, China<sup>e</sup> Department of Chemistry, University at Buffalo, State University of New York, Buffalo, NY 14260, United States

**Tailoring the morphology of self-assembled block copolymer hollow fiber membranes**

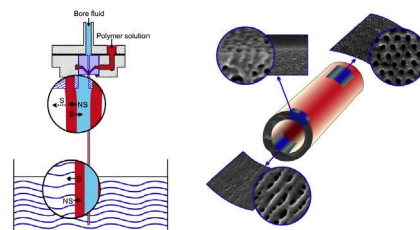
pp 2986–2997

Maryam Radjabian<sup>a</sup>, Joachim Koll<sup>a</sup>, Kristian Buhr<sup>a</sup>, Ulla Vainio<sup>b</sup>, Clarissa Abetz<sup>a</sup>, Ulrich A. Handge<sup>a</sup>, Volker Abetz<sup>a,c,\*</sup>

<sup>a</sup> Helmholtz-Zentrum Geesthacht, Institute of Polymer Research, Max-Planck-Str.1, 21502 Geesthacht, Germany

<sup>b</sup> Helmholtz-Zentrum Geesthacht, Institute of Materials Research, Max-Planck-Str.1, 21502 Geesthacht, Germany

<sup>c</sup> University of Hamburg, Institute of Physical Chemistry, Grindelallee 117, 20146 Hamburg, Germany



**Combination of fumed silica with carbon black for simultaneously improving the thermal stability, flame retardancy and mechanical properties of polyethylene**

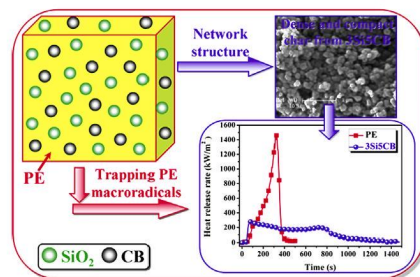
pp 2998–3007

Jiang Gong<sup>a,b</sup>, Ran Niu<sup>a,b</sup>, Nana Tian<sup>a</sup>, Xuecheng Chen<sup>a,c</sup>, Xin Wen<sup>a</sup>, Jie Liu<sup>a</sup>, Zhaoyan Sun<sup>a</sup>, Ewa Mijowska<sup>c</sup>, Tao Tang<sup>a,\*</sup>

<sup>a</sup> State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

<sup>b</sup> University of Chinese Academy of Sciences, Beijing 100049, China

<sup>c</sup> Institute of Chemical and Environment Engineering, West Pomeranian University of Technology, Szczecinul. Pulaskiego 10, 70-322 Szczecin, Poland



**Aligned assembly of nano and microscale polystyrene tubes with controlled morphology**

pp 3008–3014

Ji Wang<sup>a,b</sup>, Junbo Hou<sup>c</sup>, Eduardo Marquez<sup>c</sup>, Robert B. Moore<sup>c,d</sup>, Amrinder S. Nain<sup>a,b,e,\*</sup>

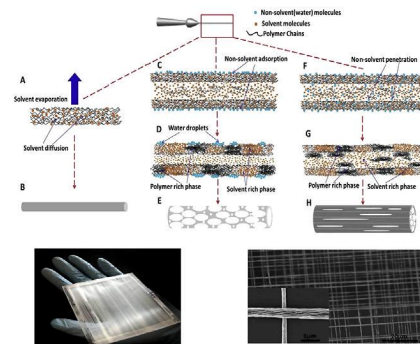
<sup>a</sup> Engineering Science and Mechanics Department, Virginia Tech, Blacksburg, VA 24061, USA

<sup>b</sup> Macromolecule and Interface Institute, Virginia Tech, Blacksburg, VA 24061, USA

<sup>c</sup> Institute for Critical Technology and Applied Science, Virginia Tech, Blacksburg, VA 24061, USA

<sup>d</sup> Department of Chemistry, Virginia Tech, Blacksburg, VA 24061, USA

<sup>e</sup> Department of Mechanical Engineering, Virginia Tech, Blacksburg, VA 24061, USA



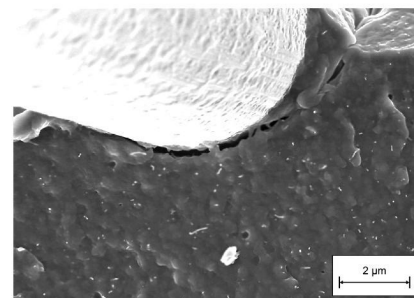
**Morphology and tensile properties of unreinforced and short carbon fibre reinforced Nylon 6/multiwalled carbon nanotube-composites**

pp 3015–3025

Florian Puch\*, Christian Hopmann

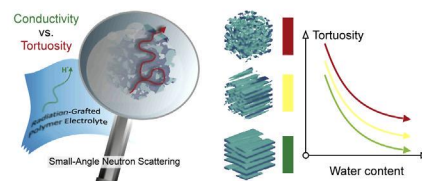
Institute of Plastics Processing (IKV) at RWTH Aachen University, Seffenter Weg 201, 52074 Aachen, Germany

Scanning electron microscopy image of a short carbon fibre (SCF) reinforced Nylon 6/multiwalled carbon nanotube (MWCNT)-composite.

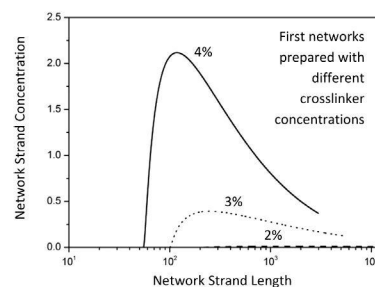


**Structure of the aqueous phase and its impact on the conductivity of graft copolymer ionomers at saturation**

pp 3026–3036

Sandor Balog<sup>a,b,\*</sup>, Kaewta Jetsrisuparb<sup>c</sup>, Urs Gasser<sup>b</sup>, Günther G. Scherer<sup>c</sup>, Lorenz Gubler<sup>c</sup><sup>a</sup>Adolphe Merkle Institute, University of Fribourg, 1723 Marly 1, Switzerland<sup>b</sup>Laboratory for Neutron Scattering, Paul Scherrer Institut, 5232 Villigen PSI, Switzerland<sup>c</sup>Electrochemistry Laboratory, Paul Scherrer Institut, 5232 Villigen PSI, Switzerland**Molecular weight distribution of network strands in double network hydrogels estimated by mechanical testing**

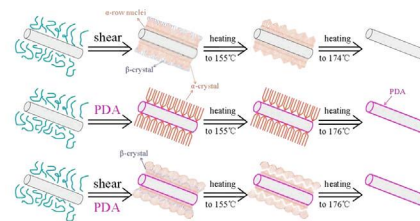
pp 3037–3044

Hai Xin<sup>a</sup>, Hugh R. Brown<sup>a,b</sup>, Geoffrey M. Spinks<sup>a,b,\*</sup><sup>a</sup>ARC Centre of Excellence for Electromaterials Science and Intelligent Polymer Research Institute, University of Wollongong, Innovation Campus, Squires Way, North Wollongong, NSW 2522, Australia<sup>b</sup>School of Mechanical, Materials and Mechatronic Engineering, University of Wollongong, Wollongong, NSW 2522, Australia**Transcrystalline formation and properties of polypropylene on the surface of ramie fiber as induced by shear or dopamine modification**

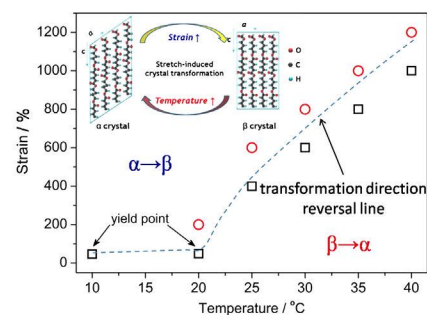
pp 3045–3053

Mi Zhou, Shuman Xu, Yuhang Li, Chao He, Tianxiang Jin, Ke Wang, Hua Deng, Qin Zhang, Feng Chen, Qiang Fu<sup>\*</sup>

Department of Polymer Science and Materials, State Key Laboratory of Polymer Materials Engineering, Sichuan University, Chengdu 610065, People's Republic of China

**Stretch-induced bidirectional polymorphic transformation of crystals in poly(butylene adipate)**

pp 3054–3061

Yun-Yang Song<sup>a</sup>, Hai-Mu Ye<sup>a,\*</sup>, Jun Xu<sup>b,\*\*</sup>, Kai Hou<sup>a</sup>, Qiong Zhou<sup>a</sup>, Gui-Wu Lu<sup>a</sup><sup>a</sup>Department of Materials Science and Engineering, China University of Petroleum, Beijing 102249, China<sup>b</sup>Department of Chemical Engineering, Tsinghua University, Beijing 100084, China

**Localization of carbon nanotubes in polyamide 6 blends with non-reactive and reactive rubber**

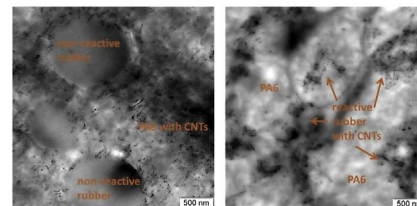
pp 3062–3067

Beate Krause<sup>a,\*</sup>, Cecile Schneider<sup>b</sup>, Regine Boldt<sup>a</sup>, Martin Weber<sup>b</sup>, Hye Jin Park<sup>b</sup>, Petra Pötschke<sup>a</sup>

<sup>a</sup>Leibniz Institute of Polymer Research Dresden, Dresden, Germany

<sup>b</sup>BASF SE, Ludwigshafen, Germany

Localization of MWCNT in PA6/rubber (60 wt.% / 40 wt.%) blends



Selective MWCNT localization in the PA6 component by using a non-reactive rubber      Selective MWCNT localization in the rubber component by using a reactive rubber

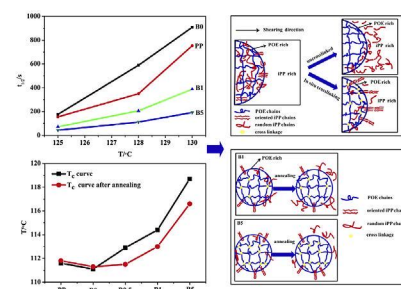
**Interfacial crystallization and its mechanism in in-situ dynamically vulcanized iPP/POE blends**

pp 3068–3074

Ming Tian<sup>a,b</sup>, Ting Li<sup>b</sup>, Liqun Zhang<sup>a,b</sup>, Hongchi Tian<sup>b</sup>, Youping Wu<sup>a,b</sup>, Nanying Ning<sup>a,b,\*</sup>

<sup>a</sup>State Key Laboratory of Organic-Inorganic Composites, Beijing University of Chemical Technology, Beijing 100029, China

<sup>b</sup>Key Laboratory of Beijing City on Preparation and Processing of Novel Polymer Materials, Beijing University of Chemical Technology, Beijing 100029, China

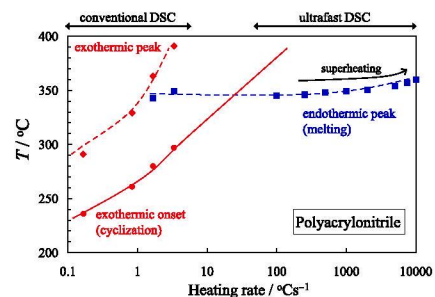


**Study of melting and crystallization behavior of polyacrylonitrile using ultrafast differential scanning calorimetry**

pp 3075–3081

Yoshitomo Furushima\*, Masaru Nakada, Hideaki Takahashi, Kazuhiko Ishikiriyama

Toray Research Center Inc., 3-7, Sonoyama 3-chome, Otsu, Shiga 520-8567, Japan



\*Corresponding author

---

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

**ScienceDirect**

Full text of this journal is available, on-line from **ScienceDirect**. Visit [www.sciencedirect.com](http://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 SCOPUS<sup>®</sup>. Full text available on ScienceDirect<sup>®</sup>

---



ELSEVIER

ISSN 0032-3861