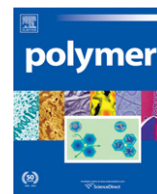




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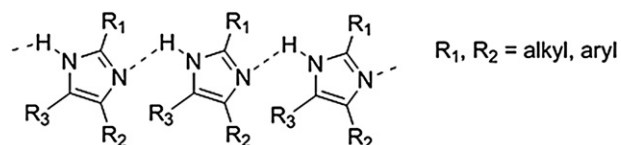
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Emily B. Anderson, Timothy E. Long\*

Macromolecules and Interfaces Institute, Department of Chemistry,  
Virginia Tech, Blacksburg, VA 24061, USA



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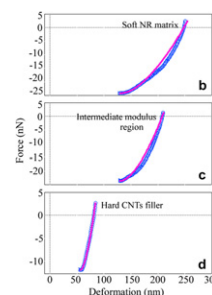
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Sendai 980-8577, Japan

<sup>b</sup> Nissin Kogyo Co., Ltd., 801 Kazawa, Toumi, Nagano 389-0514, Japan

<sup>c</sup> Institute of Carbon Sci. & Technol., Shinshu University, 4-17-1, Wakasato, Nagano 380-8553, Japan



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<sup>d</sup> Venture Business Laboratory, Niigata University, Niigata, 950-2181, Japan



## POLYMER PAPERS

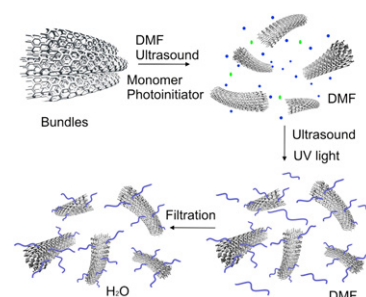
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<sup>b</sup> Department of Pharmaceutical Technology and Biopharmaceutics, Faculty of Pharmacy, Medical University of Sofia, 2 Dunav Street, 1000 Sofia, Bulgaria



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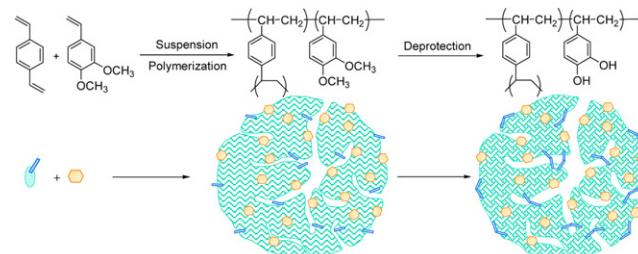
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<sup>a</sup> Laboratoire MAPIEM, EA 4323, Université du Sud Toulon Var, ISITV, Avenue George Pompidou, BP 56, 83162 La Valette du Var, France

<sup>b</sup> Universités d'Aix-Marseille I, II et III, CNRS UMR 6264, Laboratoire Chimie Provence, MATDIV Group, Madirel, Centre de St Jérôme, 13397 Marseille Cedex 20, France

<sup>c</sup> Institut Pluridisciplinaire de Recherche sur l'Environnement et les Matériaux (IPREM), CNRS UMR 5254, Université de Pau et des Pays de l'Adour Hétioparc, 2 Av. du Pt P. Angot, 64053 Pau Cedex 09, France



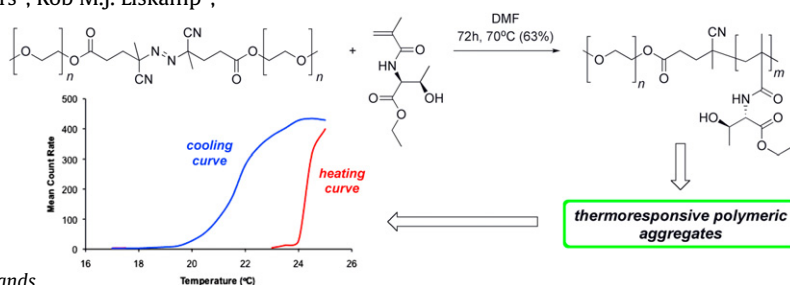
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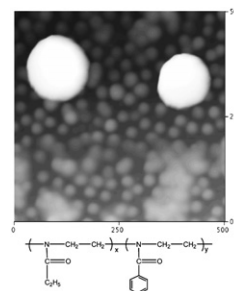


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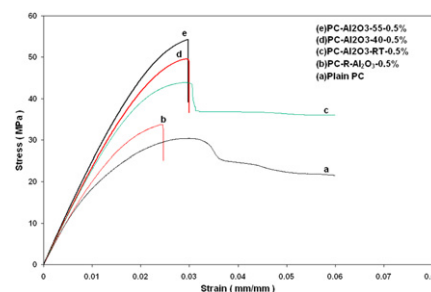
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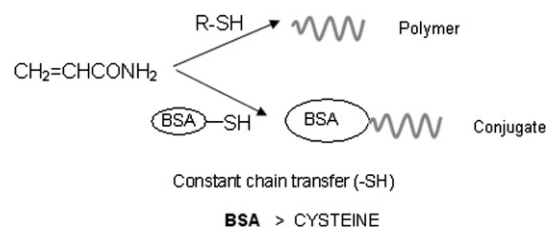
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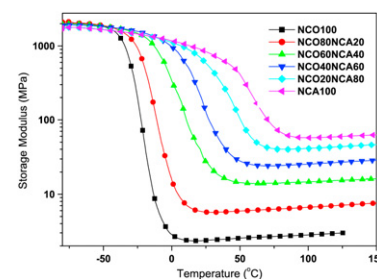
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Ying Xia, Richard C. Larock\*

Department of Chemistry, Iowa State University, Ames, IA 50011, USA

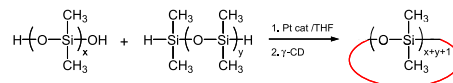


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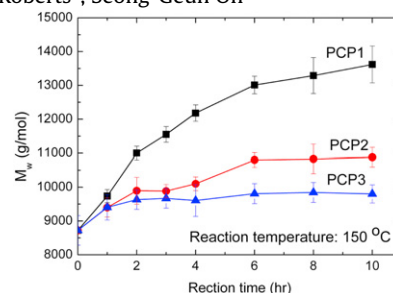
Marcus Foston, Haskell W. Beckham\*

School of Polymer, Textile and Fiber Engineering, Georgia Institute of Technology, Atlanta, GA 30332-0295, USA



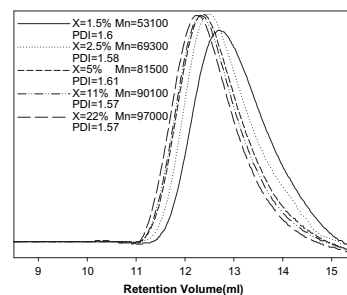
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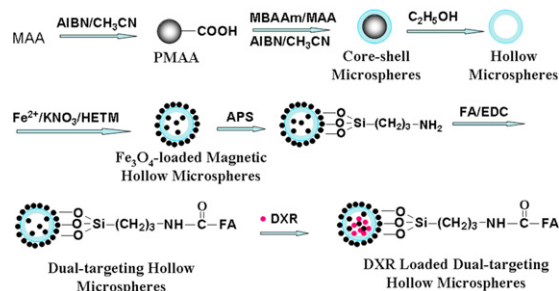
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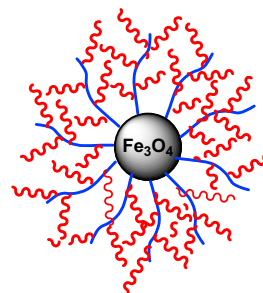
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**Fe<sub>3</sub>O<sub>4</sub>@poly(2-hydroxyethyl methacrylate)-graft-poly( $\epsilon$ -caprolactone) magnetic nanoparticles with branched brush polymeric shell**

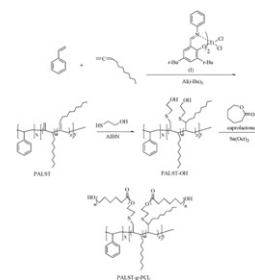
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Weizhong Yuan<sup>a,b</sup>, Jinying Yuan<sup>a,\*</sup>, Lilin Zhou<sup>a</sup>, Sizhu Wu<sup>c</sup>, Xiaoyin Hong<sup>a</sup><sup>a</sup> Key Lab of Organic Optoelectronics & Molecular Engineering of Ministry of Education, Department of Chemistry, Tsinghua University, Beijing 100084, People's Republic of China<sup>b</sup> Institute of Nano and Bio-Polymeric Materials, School of Material Science and Engineering, Tongji University, Shanghai 200092, People's Republic of China<sup>c</sup> Key Lab of Science and Technology of Controlled Chemical Reactions, Beijing University of Chemical Technology, Beijing 100029, People's Republic of China**Synthesis and characterization of a novel graft copolymer with poly(*n*-octylallene-co-styrene) backbone and poly( $\epsilon$ -caprolactone) side chain**

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Xufeng Ni<sup>\*</sup>, Weiwei Zhu, Zhiqian Shen<sup>\*</sup>

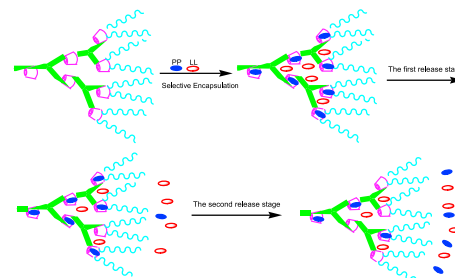
MOE Key Laboratory of Macromolecular Synthesis and Functionalization, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou 310027, People's Republic of China

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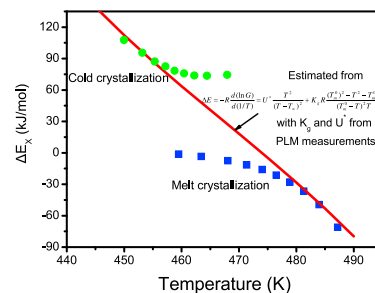
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George Z. Papageorgiou<sup>\*</sup>, Dimitris S. Achilias<sup>\*</sup>, George P. Karayannidis

Laboratory of Organic Chemical Technology, Department of Chemistry, Aristotle University of Thessaloniki, 541 24 Thessaloniki, Greece

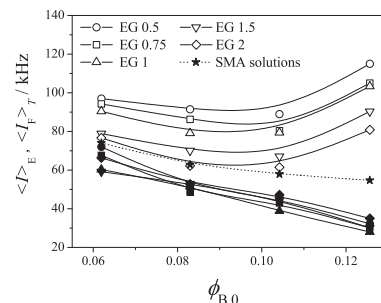


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Franziska Krahl<sup>\*</sup>, Volodymyr Boyko, Karl-Friedrich Arndt

Department of Chemistry, Physical Chemistry of Polymers, Technische Universität Dresden, 01062 Dresden, Germany



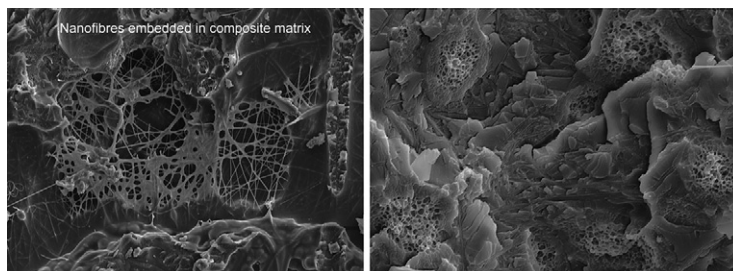
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K. Magniez<sup>a,b,\*</sup>, C. De Lavigne<sup>a,b</sup>, B.L. Fox<sup>a</sup>

<sup>a</sup> Institute for Technology Research and Innovation, Deakin University, Waurn Ponds, Victoria 3217, Australia

<sup>b</sup> École nationale supérieure des arts et industries textiles (ENSAT), Roubaix 59056, France



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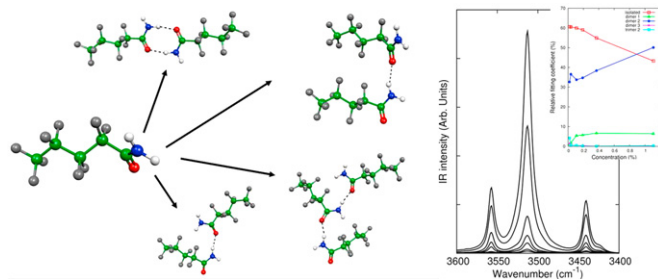
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A. Milani<sup>a,\*</sup>, C. Castiglioni<sup>a</sup>, E. Di Dedda<sup>b</sup>, S. Radice<sup>c</sup>, G. Canil<sup>c</sup>, A. Di Meo<sup>c</sup>, R. Picozzi<sup>c</sup>, C. Tonelli<sup>c</sup>

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<sup>c</sup> Solvay Solexis R&D Center, Viale Lombardia 20, 20021 Bollate (MI), Italy



## The role of interfacial viscoelasticity in the stabilization of an electrospun jet

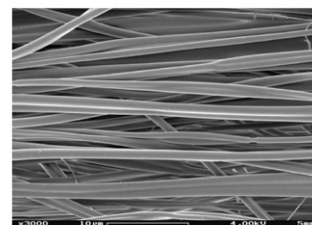
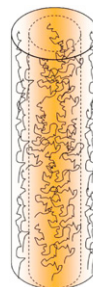
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Omri Regev<sup>a</sup>, Steven Vandebril<sup>b</sup>, Eyal Zussman<sup>a,c,\*</sup>, Christian Clasen<sup>b</sup>

<sup>a</sup> Russell Berrie Nanotechnology Institute (RBNI), Technion – Israel Institute of Technology, Haifa, Israel

<sup>b</sup> Department of Chemical Engineering, Katholieke Universiteit Leuven, Leuven, Belgium

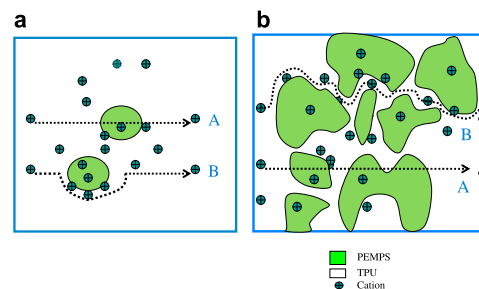
<sup>c</sup> Faculty of Mechanical Engineering, Technion – Israel Institute of Technology, Haifa, Israel



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Shanshan Wang<sup>\*</sup>, Kyonsuku Min

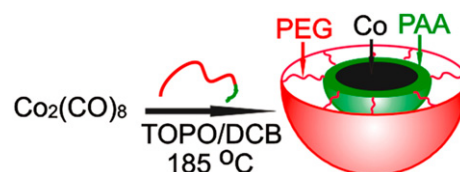
Department of Polymer Engineering, University of Akron, Akron, OH 44325-0301, USA



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Nemesio Martinez-Castro, Zhihan Zhou, Guojun Liu<sup>\*</sup>

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

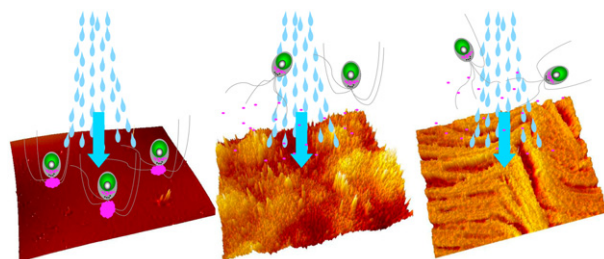


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<sup>a</sup> Department of Materials Science and Engineering, Cornell University, Bard Hall, Ithaca, New York, NY 14853, USA

<sup>b</sup> School of Biosciences, University of Birmingham, Birmingham B15 2TT, UK

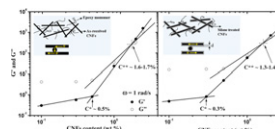


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<sup>a</sup> Integrated Composites Laboratory (ICL), Dan F Smith Department of Chemical Engineering, Lamar University, Beaumont, TX 77710, USA

<sup>b</sup> Department of Chemistry and Physics, Lamar University, Beaumont, TX 77710, USA



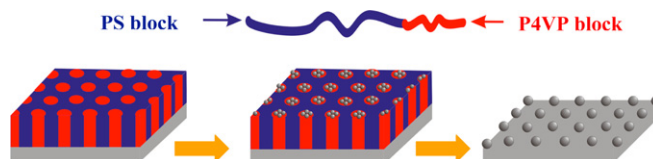
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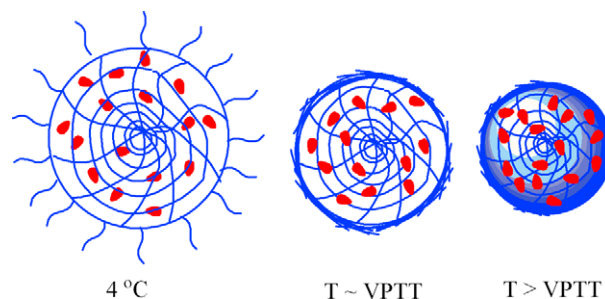
E. Bhoje Gowd<sup>a,\*</sup>, Bhanu Nandan<sup>a,\*</sup>, Nadja C. Bigall<sup>b,c</sup>, Alexander Eychmüller<sup>b</sup>, Petr Formanek<sup>a</sup>, Manfred Stamm<sup>a</sup><sup>a</sup> Leibniz Institute of Polymer Research Dresden, Hohe Strasse 6, 01069, Dresden, Germany<sup>b</sup> Physical Chemistry, Technical University of Dresden, Bergstrasse 66b, 01062, Dresden, Germany<sup>c</sup> Istituto Italiano di Tecnologia, Via Morego 30, 16163 Genoa, Italy

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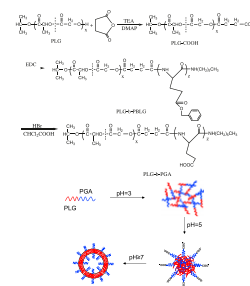
Pengxiao Liu, Qiaofang Luo, Ying Guan, Yongjun Zhang<sup>\*</sup>

Key Laboratory of Functional Polymer Materials, Institute of Polymer Chemistry, College of Chemistry, Nankai University, Tianjin 300071, China



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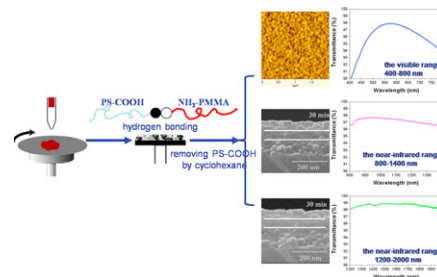
Yanan Yang<sup>a,b</sup>, Jing Cai<sup>a,b</sup>, Xiuli Zhuang<sup>a</sup>, Zhaopei Guo<sup>a</sup>, Xiabin Jing<sup>a</sup>, Xuesi Chen<sup>a,\*</sup><sup>a</sup> State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China<sup>b</sup> Chemical Engineering Institute, Changchun University of Technology, Changchun 130012, China

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Junpeng Gao, Xiao Li, Binyao Li, Yanchun Han\*

Chinese Academy of Sciences, Graduate School of the Chinese Academy of Sciences, State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, 5625 Renmin Street, Changchun 130022, PR China



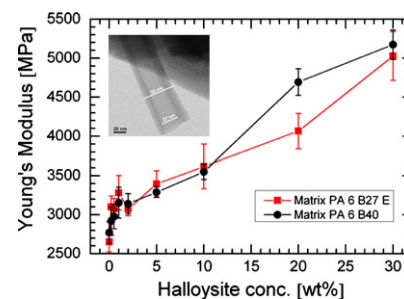
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<sup>a</sup> Department of Polymer Engineering, Faculty of Engineering Science, University of Bayreuth, Universitätsstrasse 30, 95447 Bayreuth, Germany

<sup>b</sup> Polymer Engineering, Technical University of Hamburg-Harburg, Neuhöfer Strasse 23, 21107 Hamburg, Germany

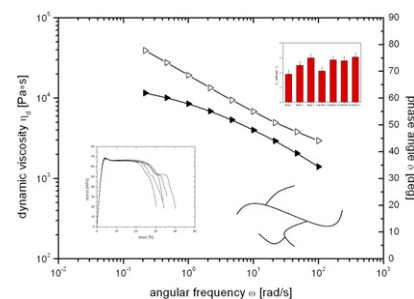


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Paul Steeman\*, Atze Nijenhuis

DSM Research, SRU-PM, P.O. Box 18, 6160 MD Geleen, The Netherlands

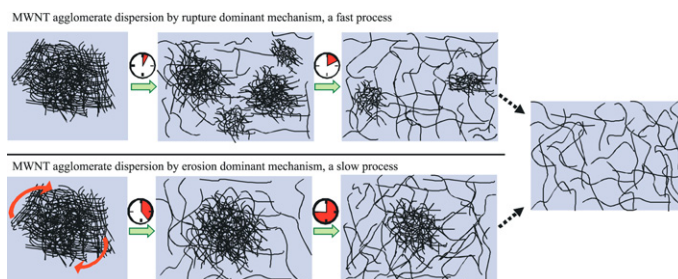


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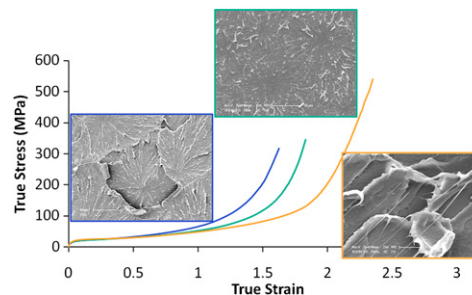
Gaurav R. Kasaliwal, Sven Pegel, Andreas Gödel, Petra Pötschke\*, Gert Heinrich

Leibniz Institute of Polymer Research Dresden, Hohe Str. 6, 01069 Dresden, Germany



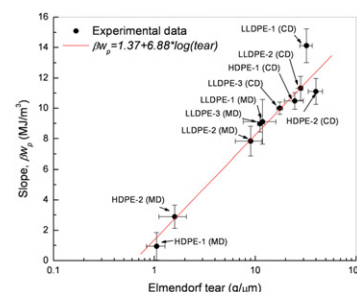
## Ultra high molecular weight polyethylene with improved plasticity and toughness by high temperature melting

pp 2721–2731

Jun Fu<sup>a,b</sup>, Bassem W. Ghali<sup>a</sup>, Andrew J. Lozynsky<sup>a</sup>, Ebru Oral<sup>a,b,\*</sup>, Orhun K. Muratoglu<sup>a,b</sup><sup>a</sup> Harris Orthopaedic Laboratory, Massachusetts General Hospital, Boston, MA 02114, United States<sup>b</sup> Department of Orthopedic Surgery, Harvard Medical School, Boston, MA, United States

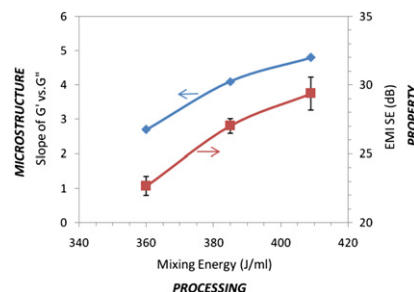
## Evaluation of the tear properties of polyethylene blown films using the essential work of fracture concept

pp 2732–2739

Byoung-Ho Choi<sup>b,\*</sup>, Mehmet Demirors<sup>a</sup>, Rajen M. Patel<sup>a</sup>, A. Willem deGroot<sup>a</sup>, Kenneth W. Anderson<sup>a</sup>, Victor Juarez<sup>a</sup><sup>a</sup> The Dow Chemical Company, 2301N. Brazosport Blvd., Freeport, TX 77566, USA<sup>b</sup> Division of Mechanical Engineering, Korea University, Seoul 136-701, Republic of Korea

## Processing-microstructure-property relationship in conductive polymer nanocomposites

pp 2740–2747

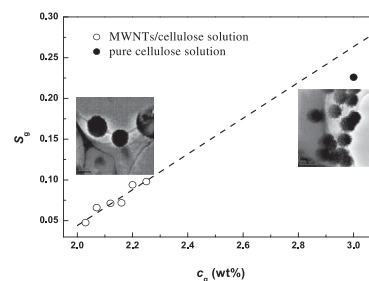
Mohammed H. Al-Saleh<sup>a</sup>, Uttandaraman Sundararaj<sup>a,b,\*</sup><sup>a</sup> Department of Chemical and Materials Engineering, University of Alberta, Edmonton, Alberta T6G 2G6, Canada<sup>b</sup> Department of Chemical and Petroleum Engineering, Schulich School of Engineering, University of Calgary, 2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4

## Effects of carbon nanotubes on rheological behavior in cellulose solution dissolved at low temperature

pp 2748–2754

Ang Lue, Lina Zhang<sup>\*</sup>

Department of Chemistry, Wuhan University, Wuhan 430072, China



## Novel ultraviolet-opaque, visible-transparent and light-emitting ZnO-QD/silicone composites with tunable luminescence colors

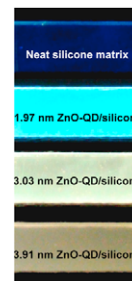
pp 2755–2762

Yang Yang<sup>a</sup>, Wan-Nan Li<sup>a</sup>, Yong-Song Luo<sup>a</sup>, Hong-Mei Xiao<sup>a</sup>, Shao-Yun Fu<sup>a,b,\*</sup>, Yiu-Wing Mai<sup>c,\*</sup>

<sup>a</sup> Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, PR China

<sup>b</sup> International Centre for Materials Physics, Chinese Academy of Sciences, Shenyang 110016, PR China

<sup>c</sup> Centre for Advanced Materials Technology, School of Aerospace, Mechanical and Mechatronic Engineering J07, The University of Sydney, Sydney, NSW 2006, Australia



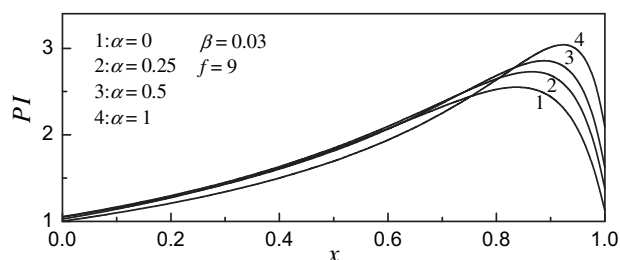
## Kinetic analysis of co-polycondensation of AB<sub>2</sub> and AB type monomers in presence of multi-functional cores

pp 2763–2768

Zhiping Zhou<sup>a,\*</sup>, Zhengwei Jia<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> The State Key Laboratory of Metal Matrix Composites, Shanghai Jiao Tong University, 800 Dongchuan Road, Shanghai 200240, China



## Barb formation in electrospinning: Experimental and theoretical investigations

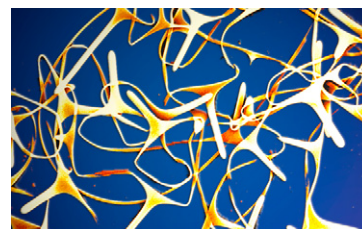
pp 2769–2778

A. Holzmeister<sup>a</sup>, A.L. Yarin<sup>b,c</sup>, J.H. Wendorff<sup>a,\*</sup>

<sup>a</sup> Department of Chemistry and Center of Material Science, Philipps-Universität Marburg, Marburg, Germany

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<sup>c</sup> Center of Smart Interfaces, Technische Universität Darmstadt, Petersenstr. 32, 64287 Darmstadt, Germany



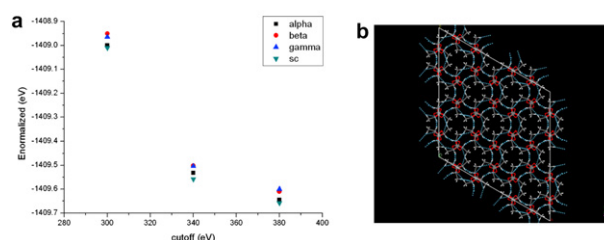
## A DFT study on poly(lactic acid) polymorphs

pp 2779–2785

Ting Ting Lin<sup>a,b</sup>, Xiang Yang Liu<sup>b</sup>, Chaobin He<sup>a,\*</sup>

<sup>a</sup> Institute of Materials Research and Engineering, A\*STAR (Agency for Science, Technology and Research), 3 Research Link, Singapore 117602

<sup>b</sup> Department of Physics, National University of Singapore, 2 Science Drive 3, Singapore 117542



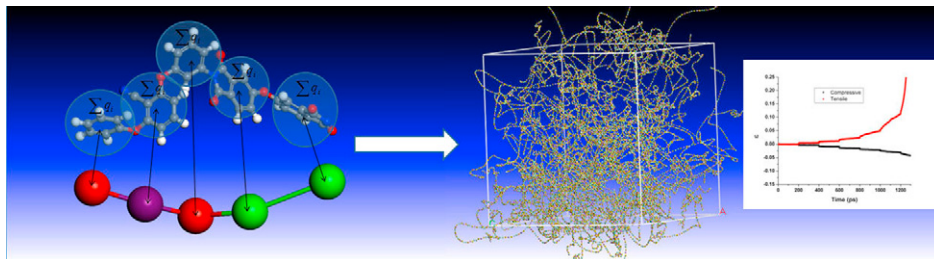
(a) Convergence of poly(lactic acid) monomer energy in the four polymorphs with respect to plane wave basis set energy cutoff: 300, 340 and 380 eV. DFT calculations show stereocomplex (sc) form is energetically most favorable. (b) The stability is attributed to the unique three dimensional non-conventional hydrogen bonding C-H...O networks (light blue dashed lines) formed in the stereocomplex.

## Coarse grain modeling of polyimide copolymers

pp 2786–2794

Arnab Chakrabarty, Tahir Cagin\*

Artie McFerrin Department of Chemical Engineering, Texas A&M University, College Station, TX 77843-3122, USA



## Translocation of compact polymer chains through a nanopore

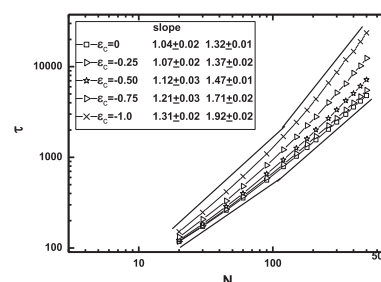
pp 2795–2801

Zhiyong Yang<sup>a</sup>, Zhengquan Pan<sup>a</sup>, Linxi Zhang<sup>b,\*</sup>, Haojun Liang<sup>c</sup>

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