

Polymer Vol. 51, No. 15, 8 July 2010

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FEATURE ARTICLE

Current issues in research on structure–property relationships in polymer nanocomposites

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J. Jancar^{a,*}, J.F. Douglas^c, F.W. Starr^f, S.K. Kumar^d, P. Cassagnau^e, A.J. Lesser^g, S.S. Sternstein^h, M.J. Buehler^b

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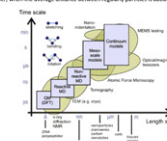
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Simplified view of the relative size of a single polymer chain with $R_g \approx 50$ nm and particles with diameter 20 nm at 7 vol. % of the filler, when the average distance between regularly particles is about 2 particle diameters



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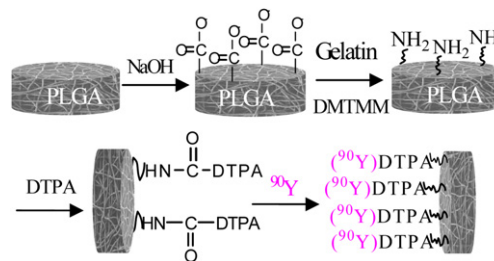
Huarong Nie^a, Aihua He^{b,*}, Bing Jia^c, Fan Wang^c, Qingsong Jiang^a, Charles C. Han^{d,*}

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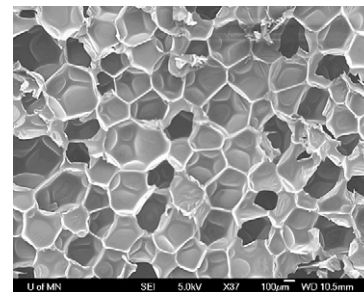
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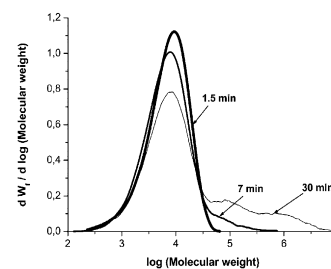
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G. Harikrishnan^{a,*}, Sachchida N. Singh^b, Elizabeth Kiesel^a, Christopher W. Macosko^a^aChemical Engineering and Material Science, University of Minnesota, Minneapolis, MN 55455, USA^bHuntsman Advanced Technology Center, The Woodlands, Texas, TX 77381, USA**POLYMER PAPERS****The kinetic evidence for the formation of multiple active species in a bis(phenoxy-imine) zirconium dichloride/MAO catalyst during ethylene polymerization**

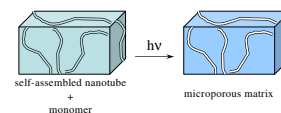
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Laboratory of Catalytic Polymerization, Boreskov Institute of Catalysis, SB RAS, Pr. Akademika Lalrentieva 5, 630090 Novosibirsk, Russia

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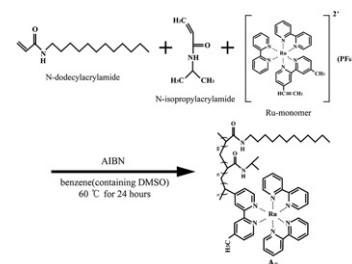
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Farid Ouhib^{a,b}, Emmanuelle Bugnet^a, Andrei Nossov^b, Jean-Luc Bonardet^b, Laurent Bouteiller^{a,*}^aUPMC Univ Paris 06, UMR 7610, Chimie des Polymères, F-75005 Paris, France, and CNRS, UMR 7610, Chimie des Polymères, F-75005 Paris, France^bUPMC Univ Paris 06, UMR 7197, Laboratoire de Réactivité des Surfaces (LRS), F-75005 Paris, France**Effect of amphiphilic copolymer containing ruthenium tris(bipyridyl) photosensitizer on the formation of honeycomb-patterned film**

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Department of Chemistry and Institute of Basic Science, Inje University, Obang 607 Gimhae City, Kyungnam 621-749, South Korea

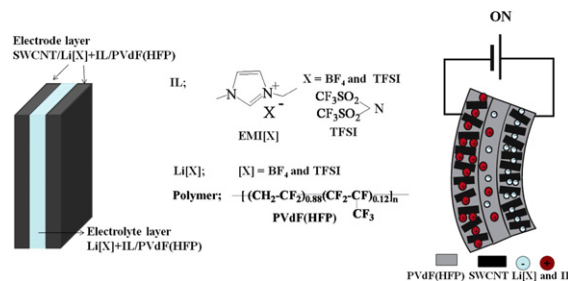


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Research Institute for Cell Engineering, National Institute of Advanced Industrial Science and Technology (AIST), 1-8-31 Midorigaoka, Ikeda, Osaka 563-8577, Japan



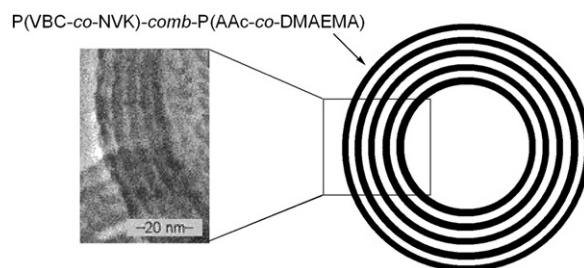
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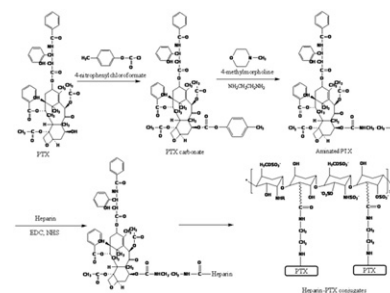
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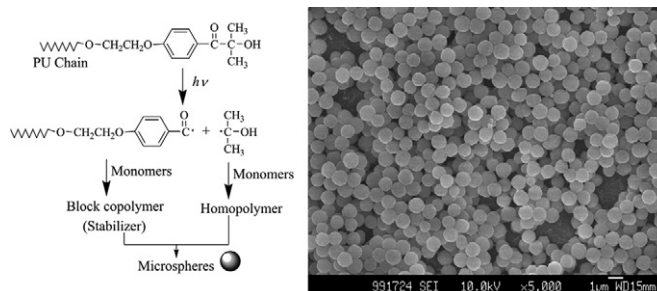
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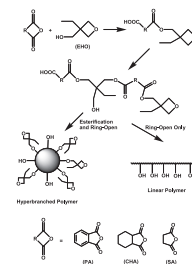
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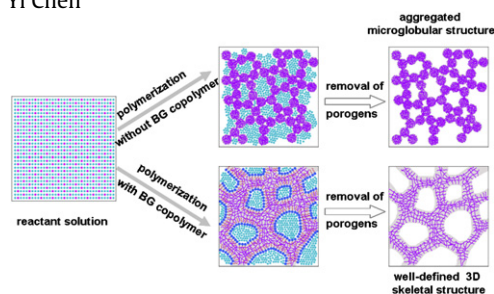
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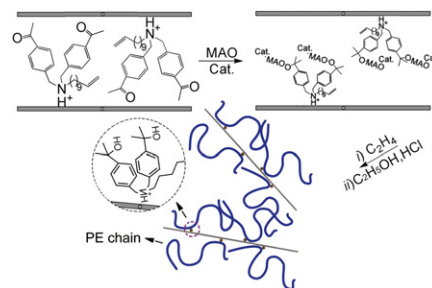
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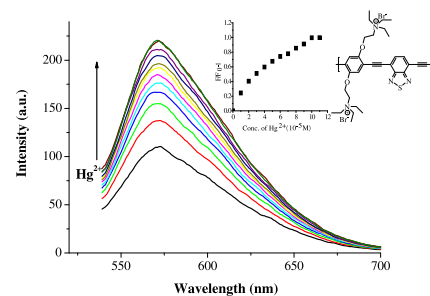
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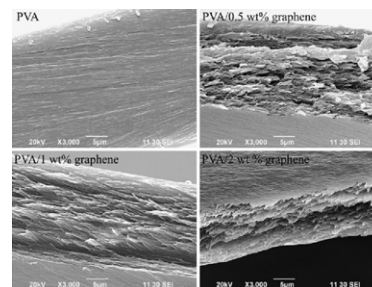
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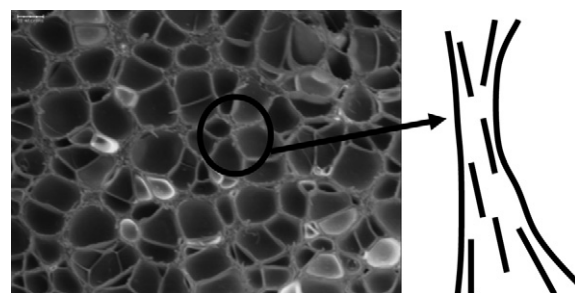
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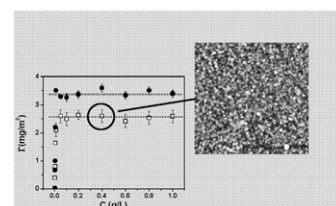
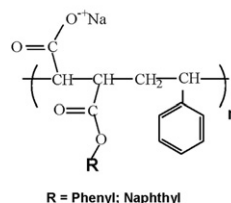
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Adsorption of Anionic Amphiphilic Polyelectrolyte onto Amino-Terminated Surfaces.

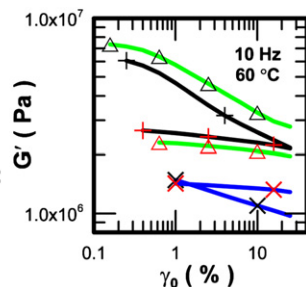
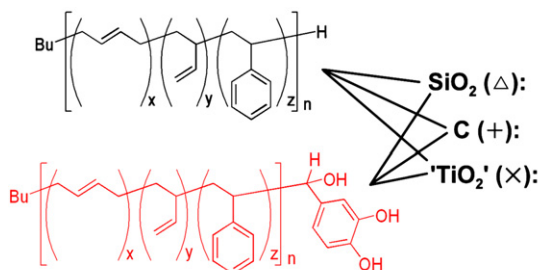


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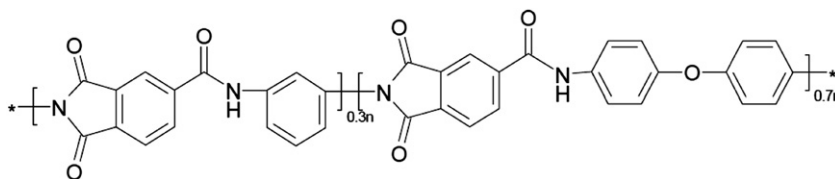
Xiao-Dong Pan^{*}, Zengquan Qin, Yuan-Yong Yan, Pat Sadhukhan

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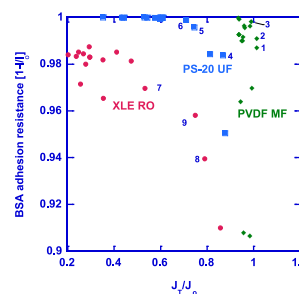


Effects of casting and post casting annealing on xylene isomer transport properties of Torlon® 4000T films

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Raymond Chafin^{*}, Jong Suk Lee, William J. Koros^{*}School of Chemical and Biomolecular Engineering,
Georgia Institute of Technology, Atlanta, GA-30332, USA**Influence of polydopamine deposition conditions on pure water flux and foulant adhesion resistance of reverse osmosis, ultrafiltration, and microfiltration membranes**

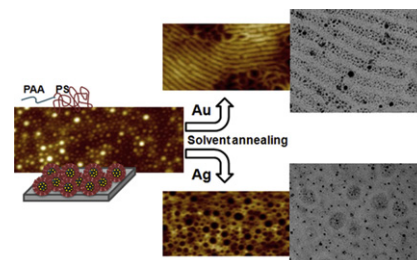
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Bryan D. McCloskey^a, Ho Bum Park^b, Hao Ju^a, Brandon W. Rowe^a, Daniel J. Miller^a,
Byeong Jae Chun^a, Katherine Kin^a, Benny D. Freeman^{a,*}^a University of Texas at Austin, Department of Chemical Engineering, Center for Energy and Environmental Resources, 10100 Burnet Road, Building 133, Austin, TX 78758, USA^b Hanyang University, School of Chemical Engineering and WCU Department of Energy Engineering, Seoul 133-791, South Korea**Structure and phase transition in thin films of block copolymer micelles complexed with inorganic precursors**

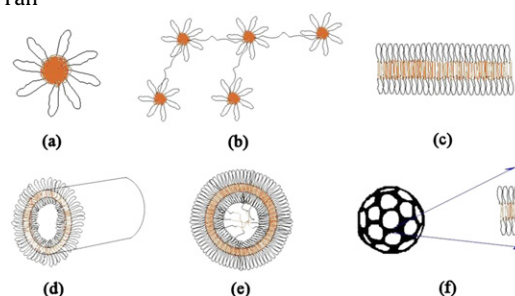
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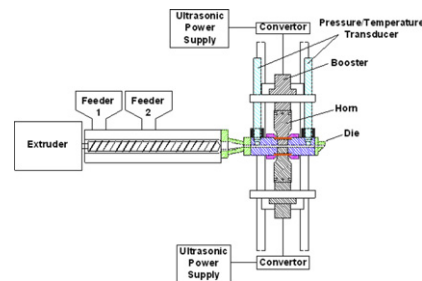
Binyang Du^{a,*}, Aixiong Mei^a, Yong Yang^a, Qinfen Zhang^b, Qi Wang^a, Junting Xu^a, Zhiqiang Fan^a^a MOE Key Laboratory of Macromolecular Synthesis and Functionalization, Department of Polymer Science & Engineering, Zhejiang University, Hangzhou 310027, China^b BioEM lab, State Key Lab of Biocontrol, School of Life Sciences, Sun Yat-Sen University, Guangzhou 510275, China

Thermotropic LCP/CNF nanocomposites prepared with aid of ultrasonic waves

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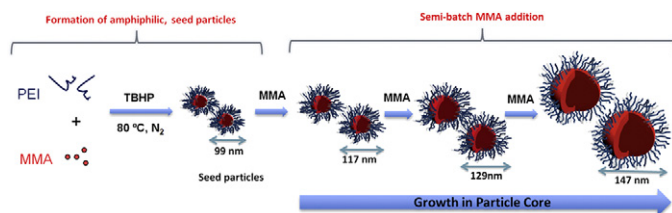
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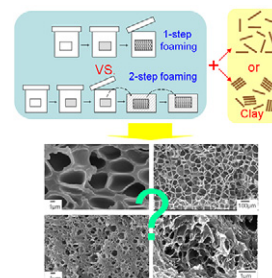
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Effects of sodium and zinc neutralization on large deformation hysteresis of an ethylene methacrylic acid butyl acrylate copolymer

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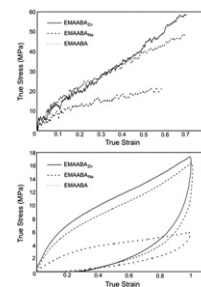
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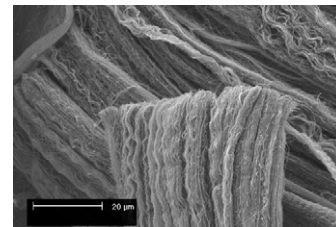


The effect of carbon nanotube properties on the degree of dispersion and reinforcement of high density polyethylene pp 3540–3550

Melanie Morcom^a, Ken Atkinson^b, George P. Simon^{a,*}

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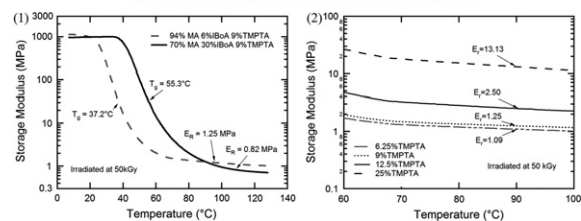
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Walter Voit^{a,*}, Taylor Ware^a, Ken Gall^b

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

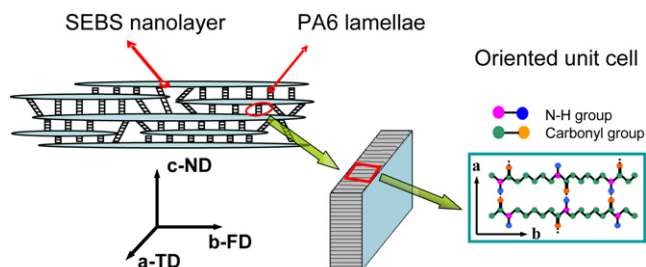
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Guozhang Wu^{*}, Haibo Xu, Ting Zhou

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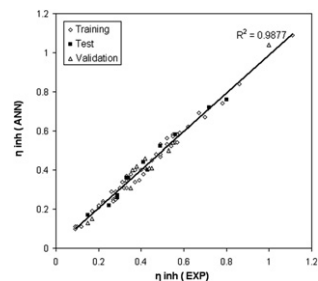


Prediction of inherent viscosity for polymers containing natural amino acids from the theoretical derived molecular descriptors pp 3568–3574

Shadpour Mallakpour^{a,*}, Mehdi Hatami^a, Hassan Golmohammadi^b

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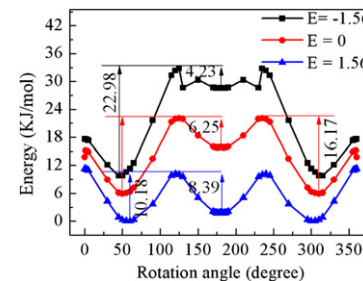


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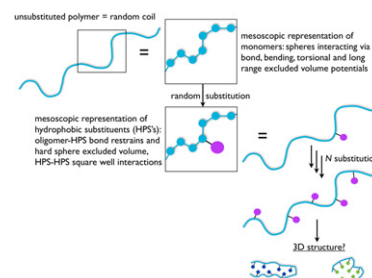
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**Structural properties of hydrophilic polymeric chains bearing covalently-linked hydrophobic substituents: Exploring the effects of chain length, fractional loading and hydrophobic interaction strength with coarse grained potentials and Monte Carlo simulations**

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