

RAPID COMMUNICATIONS

Direct-writing Structure Color Patterns on the Electrospun Colloidal Fibers toward Wearable Materials

Shu-Jian Yuan, Wei-Hao Meng, Ai-Hua Du, Xin-Yu Cao, Yong Zhao, Jing-Xia Wang, and Lei Jiang

One-step Production of Continuous Supercapacitor Fibers for a Flexible Power Textile

Yang Hong, Xun-Liang Cheng, Ge-Jun Liu, Dong-Sheng Hong, Si-Si He, Bin-Jie Wang, Xue-Mei Sun, and Hui-Sheng Peng

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Block Copolymer Colloidal Particles with Unique Structures through Three-dimensional Confined Assembly and Disassembly

Jiang-Ping Xu and Jin-Tao Zhu

ARTICLES

Optimization of Ethylene Glycol Doped PEDOT:PSS Transparent Electrodes for Flexible Organic Solar Cells by Drop-coating Method

Hui-Qin Cui, Rui-Xiang Peng, Wei Song, Jian-Feng Zhang, Jia-Ming Huang, Li-Qiang Zhu, and Zi-Yi Ge

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Research on the Glass Transition Temperature and Mechanical Properties of Poly(vinyl chloride)/Diethyl Phthalate (PVC/DOP) Blends by Molecular Dynamics Simulations

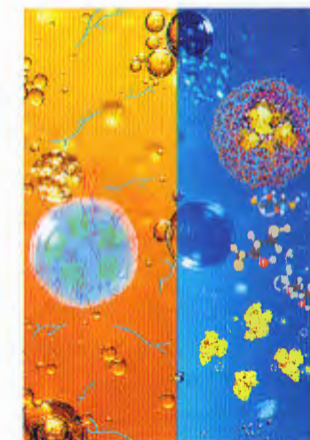
Jing Li, Shao-Hua Jin, Guan-Chao Lan, Zi-Shuai Xu, Lu-Ting Wang, Na Wang, and Li-Jie Li

Cover Image

Degradable Protein-loaded Polymer Capsules Fabricated by Thiol-disulfide Cross-linking Reaction at Liquid-liquid Interface

Xiaoteng Ma, Guangda Han, and Hanying Zhao

W/O emulsion droplets were used as soft templates and bovine serum albumin (BSA) encapsulated hollow capsules were prepared by liquid-liquid interfacial thiol-disulfide exchange reaction. The cleavage of disulfides on the membranes resulted in the degradation of the hollow structures and the release of the encapsulated protein molecules.



Chinese Journal of Polymer Science, 2019, 37(8), 790–796
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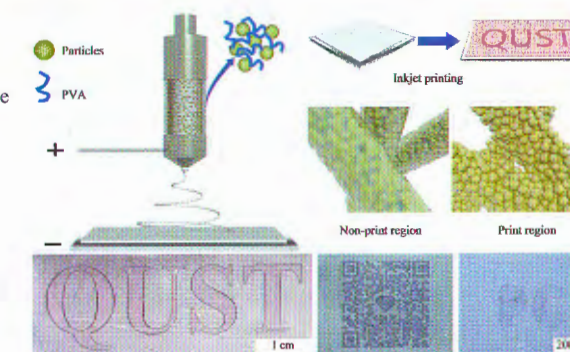
Contents

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Direct-writing Structure Color Patterns on the Electrospun Colloidal Fibers toward Wearable Materials

Shu-Jian Yuan, Wei-Hao Meng, Ai-Hua Du, Xin-Yu Cao, Yong Zhao, Jing-Xia Wang, and Lei Jiang

This study presents a direct fabrication of electrospun colloidal fibers with structure color and its extended application as various colorful pattern substrates.

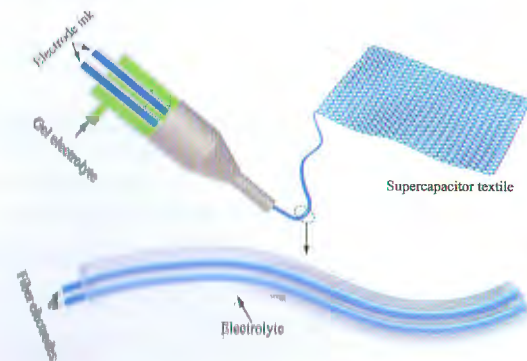


Chinese Journal of Polymer Science, 2019, 37(8), 729–736
<https://doi.org/10.1007/s10118-019-2286-0>

One-step Production of Continuous Supercapacitor Fibers for a Flexible Power Textile

Yang Hong, Xun-Liang Cheng, Ge-Jun Liu, Dong-Sheng Hong, Si-Si He, Bin-Jie Wang, Xue-Mei Sun, and Hui-Sheng Peng

A general multichannel spinning method was developed to continuously fabricate fiber-shaped supercapacitors with unique two-circle-in-one-circle architecture and length of kilometers through a wet-spinning process. These supercapacitor fibers simultaneously exhibited high flexibility, structure stability, and electrochemical stability, and were further woven into high-performance power textiles for promising wearable applications.



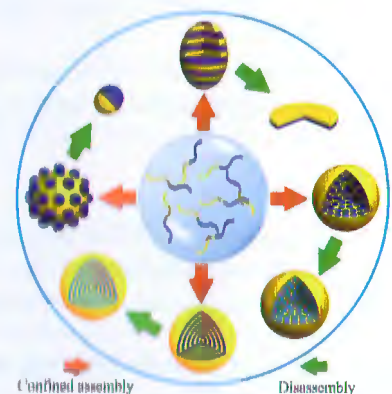
Chinese Journal of Polymer Science, 2019, 37(8), 737–743
<https://doi.org/10.1007/s10118-019-2301-5>

Feature Articles

Block Copolymer Colloidal Particles with Unique Structures through Three-dimensional Confined Assembly and Disassembly

Jiang-Ping Xu and Jin-Tao Zhu

In this feature article, we summarized the preparation of structured polymeric particles through three-dimensional confined self-assembly of block copolymers. Then, we highlighted the recent progress in using disassembly as a route to synthesize colloidal particles with unique structures.



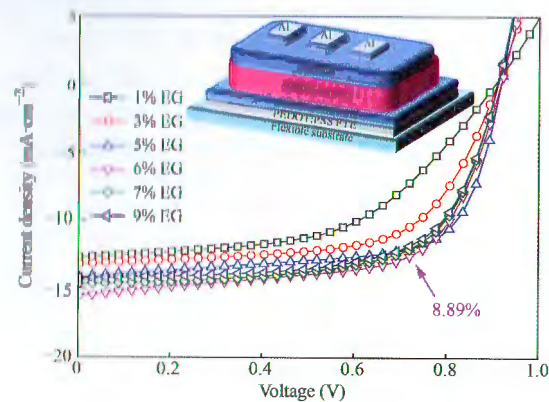
Chinese Journal of Polymer Science, 2019, 37(8), 744–759
<https://doi.org/10.1007/s10118-019-2294-0>

Articles

Optimization of Ethylene Glycol Doped PEDOT:PSS Transparent Electrodes for Flexible Organic Solar Cells by Drop-coating Method

Hui-Qin Cui, Rui-Xiang Peng, Wei Song, Jian-Feng Zhang, Jia-Ming Huang, Li-Qiang Zhu, and Zi-Yi Ge

A power conversion efficiency of 8.89% was achieved for flexible organic solar cells with 6% EG-doped PEDOT:PSS electrodes by drop-coating method, which was able to retain over 80% of the initial PCE value after 1000 bending cycles.

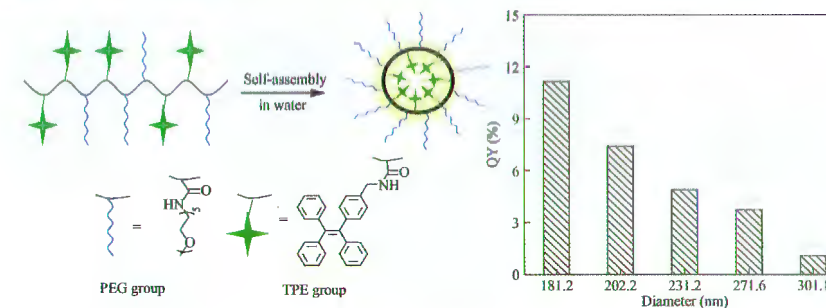


Chinese Journal of Polymer Science, 2019, 37(8), 760–766
<https://doi.org/10.1007/s10118-019-2257-5>

Controllable Emission via Tuning the Size of Fluorescent Nano-probes Formed by Polymeric Amphiphiles

Xiao-Cheng Wang, Shi-Xin Zhou, Lan Ding, Yu-Han Zhao, Shen-Xi Min, Bin Dong, and Bo Song

Post-polymerization-modification was demonstrated as a facile method for synthesizing amphiphilic copolymers functionalized with TPE and PEG groups. Fluorescent nano-probes with tunable sizes were obtained by self-assembly of the copolymer. It was found that the emission of the nano-probes showed a reverse function against the size.



Chinese Journal of Polymer Science, 2019, 37(8), 767–773
<https://doi.org/10.1007/s10118-019-2256-6>

Synthesis and Physico-chemical Properties of (Co)polymers of 2-[(2E)-1-methyl-2-buten-1-yl]aniline and Aniline

A. Andrianova, A. Shigapova, Y. Biglova, R. Salikhov, I. Abdrarkhmanov, and A. Mustafin

A new soluble polymer on 2-[(2E)-1-methyl-2-buten-1-yl]aniline and its copolymers with aniline basis have been synthesized in various molar ratios. For all samples, the electrical conductivity, morphology, solubility, electrochemical properties, as well as spectra and molecular mass characteristics have been studied.

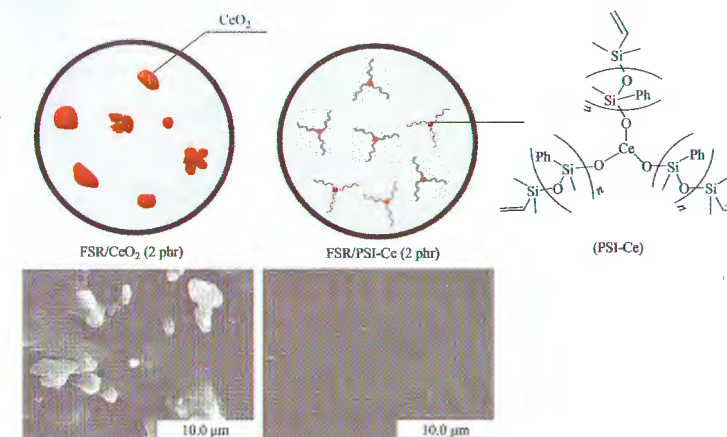


Chinese Journal of Polymer Science, 2019, 37(8), 774–782
<https://doi.org/10.1007/s10118-019-2261-9>

Synthesis of Cerium-containing Polymethylphenyl Silicone and Its Antioxidant Effect on Fluorosilicone Rubber

Yong Guan, Jian Hu, Yong-Kang Huang, Yang You, Huan-Yao Zhang, An-Na Zheng, Xiang Xu, and Da-Fu Wei

In this work, cerium-containing polymethylphenyl silicone (PSI-Ce) was successfully synthesized and used as antioxidant additive for FSR. PSI-Ce revealed much better dispersibility than that of the commercial CeO₂, and therefore performed better antioxidant effect.

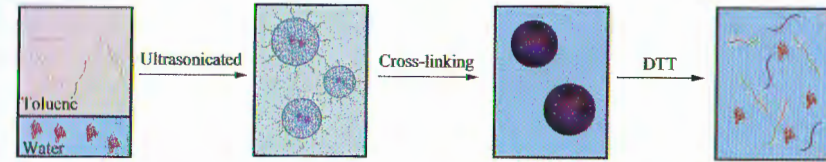


Chinese Journal of Polymer Science, 2019, 37(8), 783–789
<https://doi.org/10.1007/s10118-019-2266-4>

Degradable Protein-loaded Polymer Capsules Fabricated by Thiol-disulfide Cross-linking Reaction at Liquid-liquid Interface

Xiaoteng Ma, Guangda Han, and Hanying Zhao

BSA-encapsulated hollow capsules were prepared by interfacial thiol-disulfide exchange reaction. Capsules could protect BSA from hydrolysis by trypsin and maintain the bioactivity. The cleavage of disulfides resulted in the degradation of the capsules and the release of protein molecules.

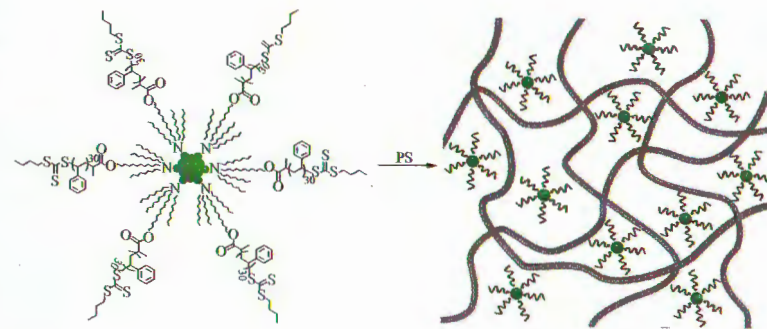


Chinese Journal of Polymer Science, 2019, 37(8), 790–796
<https://doi.org/10.1007/s10118-019-2253-9>

Ultrasmall Nanoparticles Diluted Chain Entanglement in Polymer Nanocomposites

Sheng-Chao Chai, Tian-Yang Xu, Xiao Cao, Gang Wang, Quan Chen, and Hao-Long Li

An ultrasmall nanoparticle system based on the bimodal-grafted polyoxometalates was developed, which could be uniformly dispersed in the polystyrene matrix and showed an entanglement dilution effect on the matrix chains, leading to a decrease in both plateau modulus and terminal relaxation time.

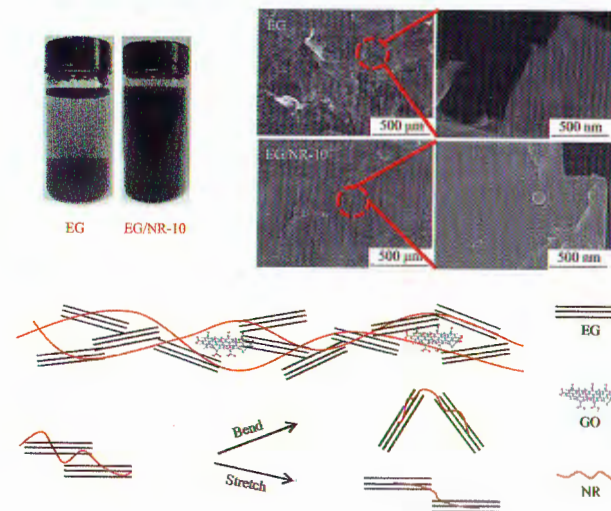


Chinese Journal of Polymer Science, 2019, 37(8), 797–805
<https://doi.org/10.1007/s10118-019-2262-8>

Preparation and Properties of Ultrathin Flexible Expanded Graphite Film via Adding Natural Rubber

Yan-Ling Mo, Yu-Xin Tian, Yu-Hang Liu, Feng Chen, and Qiang Fu

Natural rubber enhanced ultrathin flexible expanded graphite film with electric, thermal, and efficient electromagnetic interference shielding properties.

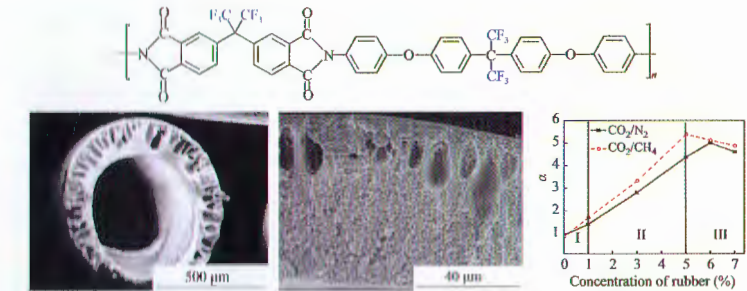


Chinese Journal of Polymer Science, 2019, 37(8), 806–814
<https://doi.org/10.1007/s10118-019-2264-6>

Fabrication of 6FDA-HFBAPP Polyimide Asymmetric Hollow Fiber Membranes and Their CO₂/CH₄ Separation Properties

Cong-Jun Gan, Xiao-Chen Xu, Xue-Wei Jiang, Feng Gan, Jie Dong, Xin Zhao, and Qing-Hua Zhang

Polyimide hollow fiber membranes for high flux gas separation were fabricated through dry-jet wet spinning, which contained trifluoromethyl and polyether segments in polymer chains. By coating silicone rubber outside to repair the defects on the denser layer, the composite hollow fiber membrane with uniform coating layer showed an improved separation property.

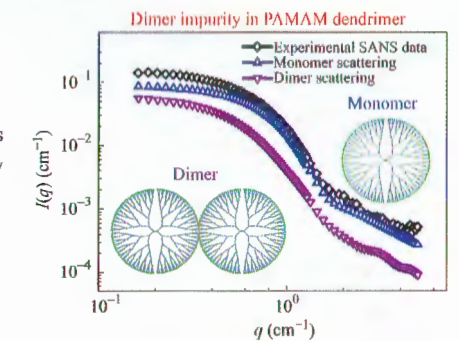


Chinese Journal of Polymer Science, 2019, 37(8), 815–826
<https://doi.org/10.1007/s10118-019-2255-7>

Analysis of Dimer Impurity in Polyamidoamine Dendrimer Solutions by Small-angle Neutron Scattering

Tian-Fu Li, Yi-Yun Cheng, Yu Wang, Hui Wang, Dong-Feng Chen, Yun-Tao Liu, Li Zhang, Wen-Ze Han, Rong-Deng Liu, Zi-Jun Wang, Chun-Ming Yang, Charl J. Jafta, Daniel Clemens, and Uwe Keiderling

We employed small-angle neutron scattering (SANS) technique to investigate the dimer impurities in different batches of polyamidoamine dendrimer products. The analysis results provided not only firm evidence for the existence of dimer impurities but also their quantitative amount.

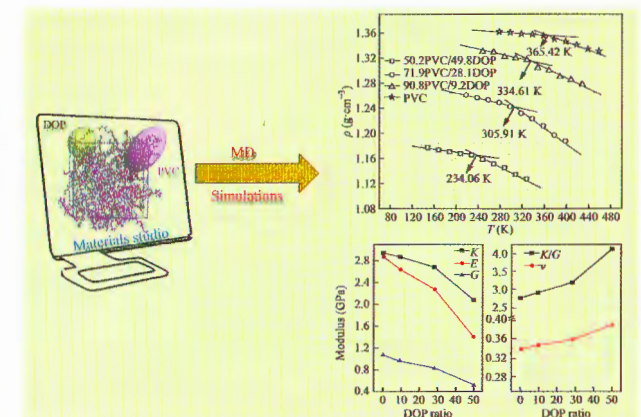


Chinese Journal of Polymer Science, 2019, 37(8), 827–833
<https://doi.org/10.1007/s10118-019-2260-x>

Research on the Glass Transition Temperature and Mechanical Properties of Poly(vinyl chloride)/Diocetyl Phthalate (PVC/DOP) Blends by Molecular Dynamics Simulations

Jing Li, Shao-Hua Jin, Guan-Chao Lan, Zi-Shuai Xu, Lu-Ting Wang, Na Wang, and Li-Jie Li

Molecular dynamics (MD) simulations on miscibility, glass transition temperature, and mechanical properties of poly(vinyl chloride)/dioctyl phthalate (PVC/DOP) blends have been carried out in this work.



Chinese Journal of Polymer Science, 2019, 37(8), 834–840
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