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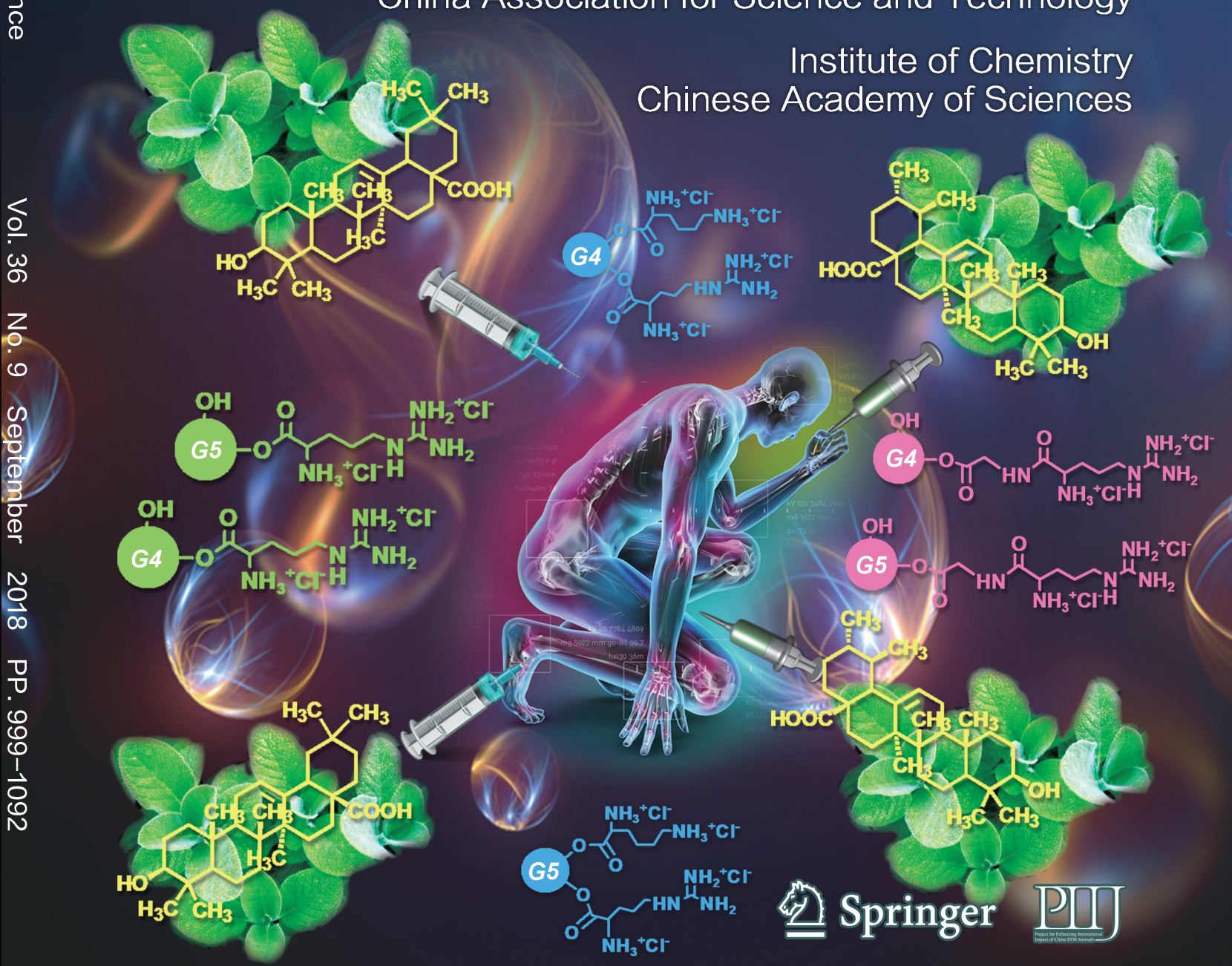
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ARTICLES

Synthesis of Water-soluble, Polyester-based Dendrimer Prodrugs for Exploiting Therapeutic Properties of Two Triterpenoid Acids **999**
Silvana Alfei, Gaby Brice Taptue, Silvia Catena, and Angela Bisio

Synthesis and Characterization of Butyl Acrylate-based Graft Polymers with Thermo-responsive Branching Sites *via* the Diels-Alder Reaction of Furan/Maleimide **1011**
Lin Ye, Shao-Feng Zhang, Yi-Chao Lin, Jia-Kang Min, Li Ma, and Tao Tang

Synthesis of Highly Regioregular, Head-to-Tail Coupled Poly(3-octylesterthiophene) *via* C—H/C—H Coupling Polycondensation **1019**
Qiang Zhang, Yue-Feng Li, Lu-Di Deng, Lin-Lin Zhao, Chen-Xi Li, and Yan Lu

Synthesis of Poly(isosorbide carbonate) *via* Melt Polycondensation Catalyzed by Ca/SBA-15 Solid Base **1027**
Xiao-Long Shen, Zi-Qing Wang, Qing-Yin Wang, Shao-Ying Liu, and Gong-Ying Wang

Dewetting Behavior of Hydrogen Bonded Polymer Complex Film under Hydrothermal Condition **1036**
Chao Su, Song-Mei Ma, Geng-Xin Liu, and Shu-Guang Yang

The Silk Textile Embedded in Silk Fibroin Composite: Preparation and Properties **1043**
Yu Duan, Xin Chen, and Zheng-Zhong Shao

Structures and Surface States of Polymer Brushes in Good Solvents: Effects of Surface Interactions **1047**
Yi-Xin Liu and Hong-Dong Zhang

Effects of Binding Energy of Bioinspired Sacrificial Bond on Mechanical Performance of *cis*-1,4-Polyisoprene with Dual-crosslink **1055**
Sheng Wang, Zheng-Hai Tang, Jing Huang, and Bao-Chun Guo

Improved Mechanical Properties of Poly(butylene succinate) Membrane by Co-electrospinning with Gelatin **1063**
Lu Chen, Hui-Hui Cheng, Jiang Xiong, Ya-Ting Zhu, Hong-Peng Zhang, Xi Xiong, Yu-Man Liu, Jian Yu, and Zhao-Xia Guo

Slow Down Dewetting in Polymer Films by Isocyanate-treated Graphite Oxide **1070**
Yong Zhou, Pei Bai, Miao Huo, Yu-Jie Chen, Hua Li, Hong-Mei Kang, He-Zhou Liu, and Yun-Long Guo

Establishment of Constitutive Model of Silicone Rubber Foams Based on Statistical Theory of Rubber Elasticity **1077**
Cheng-Sha Wei, Ai Lu, Su-Ming Sun, Xing-Wen Wei, Xiao-Yu Zhou, and Jie Sun

Phase Separation, Wetting and Dewetting in PS/PVME Blend Thin Films: Dependence on Film Thickness and Composition Ratio **1084**
Tian Xia, Ya-Ping Qin, and Ting Huang

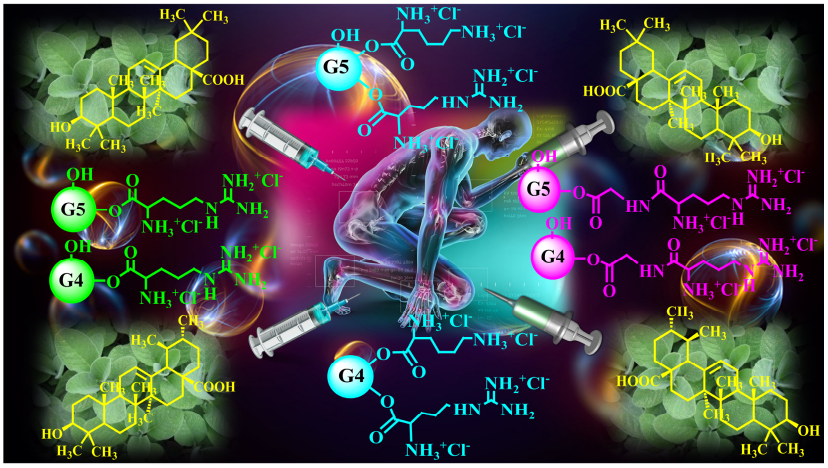
Chinese Journal of Polymer Science Vol. 36, No. 9, September 2018

Cover Image

Synthesis of Water-soluble, Polyester-based Dendrimer Prodrugs for Exploiting Therapeutic Properties of Two Triterpenoid Acids

Silvana Alfei, Gaby Brice Taptue, Silvia Catena, and Angela Bisio

Two pharmacologically active but non-soluble and non-bioavailable triterpenoids acids extracted from *Salvia Officinalis* were converted into highly water-soluble nanoformulations by their entrapment within six amino acids-modified dendrimers working as nanocontainers. The obtained dendriplexes, thanks to their physicochemical properties, are very promising for safe and therapeutically effective parenteral administration of triterpenoids.



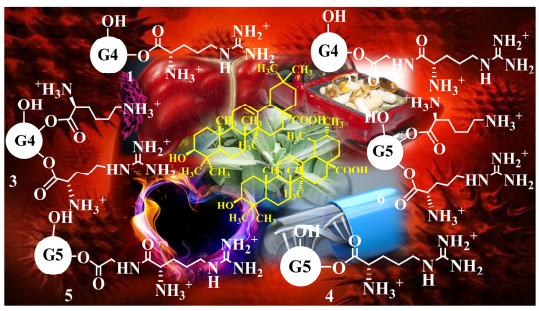
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Chinese Journal of Polymer Science Vol. 36, No. 9, September 2018

Contents

Articles

Synthesis of Water-soluble, Polyester-based Dendrimer Prodrugs for Exploiting Therapeutic Properties of Two Triterpenoid Acids



Silvana Alfei, Gaby Brice Taptue, Silvia Catena, and Angela Bisio

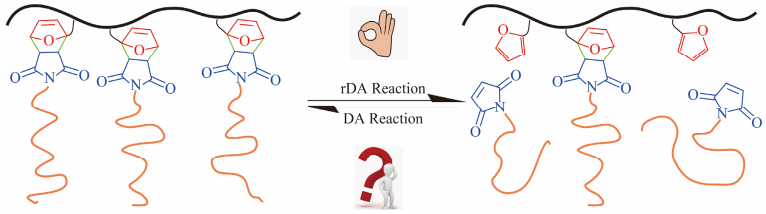
Non-PAMAM prodrugs of pharmacologically active triterpenoid acids were prepared by their incorporation into amino acids-modified dendrimers. Cationic but biodegradable structure, buffer capacity and high water solubility made the achieved complexes promising non-toxic versatile DDSs for safe and effective administration of the two triterpenoids or more generical drugs.

Chinese Journal of Polymer Science, 2018, 36(9), 999–1010
https://doi.org/10.1007/s10118-018-2124-9

Synthesis and Characterization of Butyl Acrylate-based Graft Polymers with Thermo-responsive Branching Sites *via* the Diels-Alder Reaction of Furan/Maleimide

Lin Ye, Shao-Feng Zhang, Yi-Chao Lin, Jia-Kang Min, Li Ma, and Tao Tang

After cleaving the DA linkage, the ability of the side chains relinking to the main chain *via* the thermo-reversible reaction of the furan and maleimide groups is strongly affected by the compatibility between the backbone and the side chains and the flexibility of the polymer chains, besides reaction temperature.

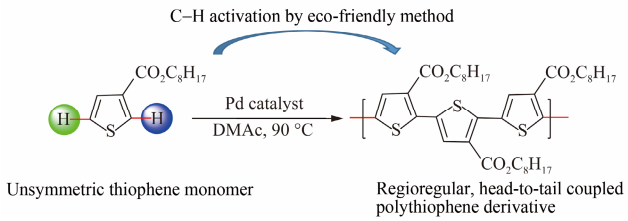


Chinese Journal of Polymer Science, 2018, 36(9), 1011–1018
https://doi.org/10.1007/s10118-018-2107-x

Synthesis of Highly Regioregular, Head-to-Tail Coupled Poly(3-octylesterthiophene) *via* C—H/C—H Coupling Polycondensation

Qiang Zhang, Yue-Feng Li, Lu-Di Deng, Lin-Lin Zhao, Chen-Xi Li, and Yan Lu

Highly regioregular, head-to-tail coupled poly(3-esterthiophene) was synthesized by the Pd-catalysed oxidative C—H/C—H coupling polycondensation.

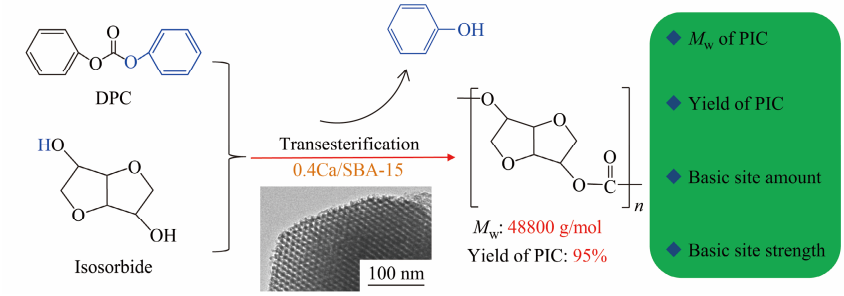


Chinese Journal of Polymer Science, 2018, 36(9), 1019–1026
https://doi.org/10.1007/s10118-018-2116-9

Synthesis of Poly(isosorbide carbonate) *via* Melt Polycondensation Catalyzed by Ca/SBA-15 Solid Base

Xiao-Long Shen, Zi-Qing Wang, Qing-Yin Wang, Shao-Ying Liu, and Gong-Ying Wang

Ca/SBA-15 solid base was found to be a high-efficient catalyst in transesterification of DPC with ISB to synthesize PIC. Basic site amount and strength were thought to play a critical role for this reaction.

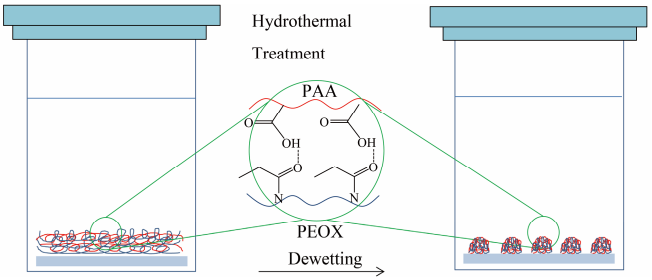


Chinese Journal of Polymer Science, 2018, 36(9), 1027–1035
https://doi.org/10.1007/s10118-018-2137-4

Dewetting Behavior of Hydrogen Bonded Polymer Complex Film under Hydrothermal Condition

Chao Su, Song-Mei Ma, Geng-Xin Liu, and Shu-Guang Yang

The dewetting behavior of hydrogen bonded layer-by-layer film PEOX/PAA under hydrothermal condition was investigated. The film changed into droplets and the chains of PEOX and PAA remained association during the dewetting process.

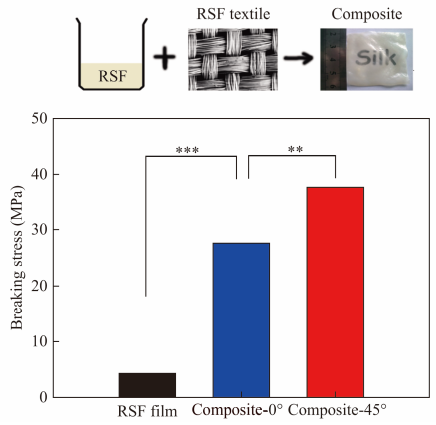


Chinese Journal of Polymer Science, 2018, 36(9), 1036–1042
https://doi.org/10.1007/s10118-018-2109-8

The Silk Textile Embedded in Silk Fibroin Composite: Preparation and Properties

Yu Duan, Xin Chen, and Zheng-Zhong Shao

An all fibroin composite was prepared by embedding silk textile into regenerated silk fibroin (RSF) solution. Compared with RSF film, the composite showed higher breaking stress in wet condition and slower degradation speed, which prompted its potential in biomedical applications.

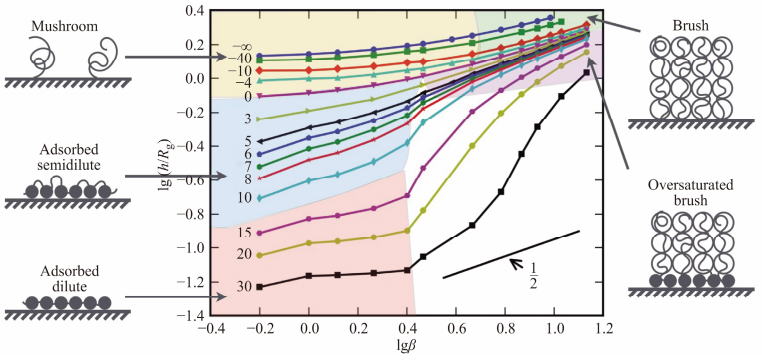


Chinese Journal of Polymer Science, 2018, 36(9), 1043–1046
https://doi.org/10.1007/s10118-018-2117-8

Structures and Surface States of Polymer Brushes in Good Solvents: Effects of Surface Interactions

Yi-Xin Liu and Hong-Dong Zhang

The influence of the surface interaction on the mesoscopic structure of grafted polymers in good solvents has been examined using self-consistent field theory calculations. Five surface states are revealed by analyzing the scaling relation between the brush height and the stretching parameter.

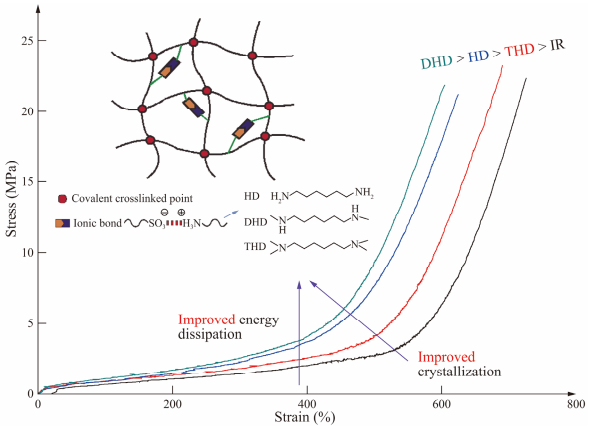


Chinese Journal of Polymer Science, 2018, 36(9), 1047–1054
https://doi.org/10.1007/s10118-018-2100-4

Effects of Binding Energy of Bioinspired Sacrificial Bond on Mechanical Performance of *cis*-1,4-Polyisoprene with Dual-crosslink

Sheng Wang, Zheng-Hai Tang, Jing Huang, and Bao-Chun Guo

The sacrificial ionic bonds with varying binding energies were engineered into IR *via* the reaction between sulfonic acid and three types of diamine with different alkalinity but the same spacer. Both the strain-induced crystallization and mechanical properties are disclosed to improve with the increase of binding energy of ionic bonds.

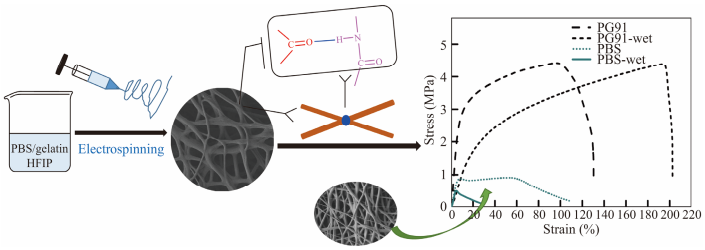


Chinese Journal of Polymer Science, 2018, 36(9), 1055–1062
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Improved Mechanical Properties of Poly(butylene succinate) Membrane by Co-electrospinning with Gelatin

Lu Chen, Hui-Hui Cheng, Jiang Xiong, Ya-Ting Zhu, Hong-Peng Zhang, Xi Xiong, Yu-Man Liu, Jian Yu, and Zhao-Xia Guo

The mechanical properties of PBS electrospun membrane have been greatly improved by co-electrospinning with gelatin because of the existence of interaction between PBS and gelatin and interaction among adjacent fibers at the intersections.

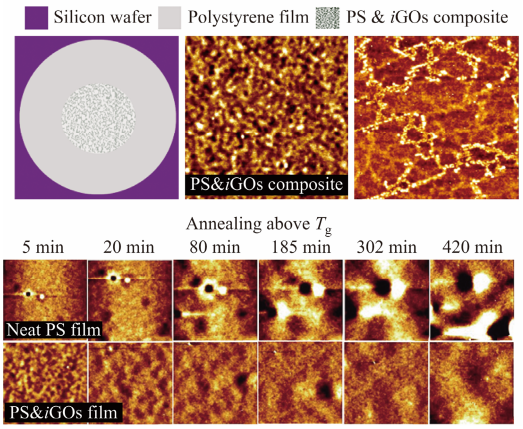


Chinese Journal of Polymer Science, 2018, 36(9), 1063–1069
https://doi.org/10.1007/s10118-018-2112-0

Slow Down Dewetting in Polymer Films by Isocyanate-treated Graphite Oxide

Yong Zhou, Pei Bai, Miao Huo, Yu-Jie Chen, Hua Li, Hong-Mei Kang, He-Zhou Liu, and Yun-Long Guo

The figure presents how the isocyanate-treated graphite nanoplates were imbedded into the ultra-thin polystyrene films (< 100 nm), and also shows the different dewetting phenomenons for both neat films and composite films above its transition temperature.

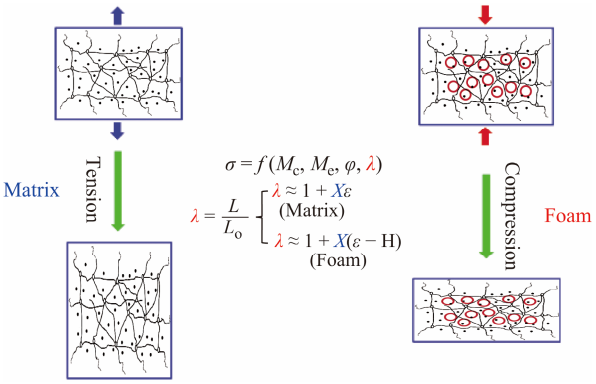


Chinese Journal of Polymer Science, 2018, 36(9), 1070–1076
https://doi.org/10.1007/s10118-018-2147-2

Establishment of Constitutive Model of Silicone Rubber Foams Based on Statistical Theory of Rubber Elasticity

Cheng-Sha Wei, Ai Lu, Su-Ming Sun, Xing-Wen Wei, Xiao-Yu Zhou, and Jie Sun

We reported the establishment of constitutive models of silicone rubber foams based on statistical theory of rubber elasticity, which could fit the experiment data in the tensile test of mono- and bi-modal foam matrix and compressive test of these foams well.

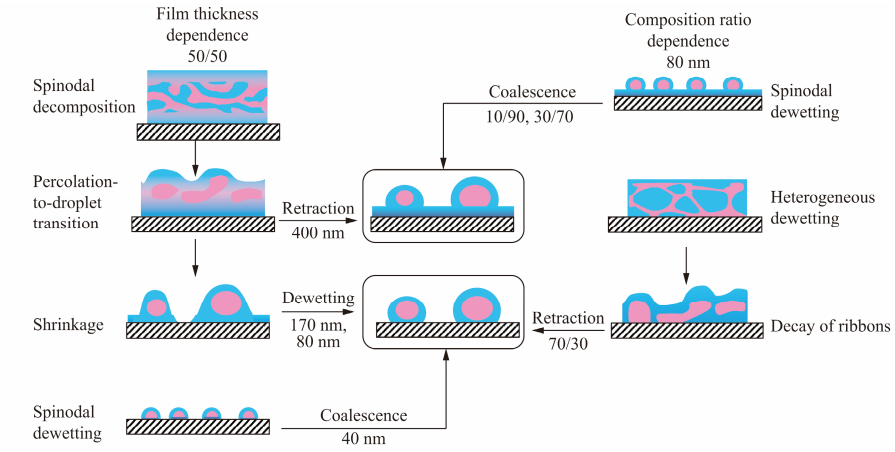


Chinese Journal of Polymer Science, 2018, 36(9), 1077–1083
https://doi.org/10.1007/s10118-018-2125-8

Phase Separation, Wetting and Dewetting in PS/PVME Blend Thin Films: Dependence on Film Thickness and Composition Ratio

Tian Xia, Ya-Ping Qin, and Ting Huang

The morphology evolution of PS/PVME blend films has a strong dependence on thickness and composition ratio under the complex effects of phase separation, dewetting and preferential wetting. Special attention was put on the comparison between the thickness of bottom PVME layer and the twice of gyration radius $2R_g$ (PVME).



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