Special Issue

Advances in Self-Assembly of Block Copolymers: Synthesis and Applications

Message from the Guest Editors

Block copolymers have emerged as a versatile class of materials with unparalleled potential in nanotechnology and advanced materials science due to their intrinsic ability to self-assemble into well-defined nanostructures. This Special Issue focuses on recent breakthroughs in the design, synthesis, and application of block copolymers, highlighting their growing impact across diverse fields ranging from nanotechnology to biomedicine. The controlled self-assembly of block copolymers enables the creation of periodic nanostructures with tunable morphologies (e.g., spheres, cylinders, lamellae, and gyroids) at length scales of 5–100 nm. These materials are revolutionizing areas such as nanolithography, membrane technology, drug delivery, and energy storage by providing precise control over nanoscale architecture and functionality. Therefore, a deep understanding of structure–property relationships and self-assembly behavior is crucial for harnessing the full potential of block copolymers in various technological applications.

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Since its foundation in 2009, *Polymers* has developed into an internationally renowned, extremely successful open access journal. The editorial team and the editorial board dedicatedly combine open-access publishing and high-quality rigorous peer reviewing. The performance of the journal has proven this strategy to be well-suited and highly successful. This is reflected in the increasing impact factor of *Polymers*, the most recent one being 4.7.

I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

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