



International Journal of Polymer Science

Special Issue on
**Hybrid Polymeric Materials: Advances in Synthesis,
Characterization, and Biomedical Applications**

CALL FOR PAPERS

Over the last decade, there have been considerable efforts towards combining synthetic polymers with biological or inorganic materials at microscopic or molecular scale in order to take advantage of the unique benefits of each component. Such polymer-based materials containing multiple components are called hybrid polymeric materials. In nature, hybrid materials exist ubiquitously and exhibit excellent properties such as bones and nacres, which are mechanically both tough and strong. Recently, hybrid polymeric materials have shown efficient and versatile ways to resolve a wide range of challenges such as drug delivery, bioimaging, energy storage, tissue engineering, and self-healing materials.

The advances in polymer synthesis and nanotechnology will lead to the development of more novel materials tailored to applications. However, further exploration of the potential provided by hybrid polymeric materials will need an interdisciplinary effort to better understand the relationships between the synthesis, structures, and properties of these complex materials. This special issue is dedicated to the recent development in synthesis and characterization of hybrid polymeric materials and will mainly focus on their medical applications.

We invite the researchers to contribute the original research work and review articles that are related to hybrid polymeric materials. We hope that this special issue would provide an opportunity for the researchers to share their outstanding work in the field of hybrid polymeric materials for biological applications and be useful resource for the polymer research community.

Potential topics include, but are not limited to:

- ▶ Synthesis of hybrid polymeric materials that combine synthetic polymers and biomacromolecules or polymers and nanomaterials such as graphene, carbon nanotubes, metal nanoparticles, and metal-organic framework
- ▶ Characterization of properties of synthetic or natural hybrid polymeric materials, such as mechanical, thermal, optical, electromagnetic, and chemical properties
- ▶ Novel properties that evolve in hybrid materials such as enhanced toughness, self-assembly, and so on
- ▶ Biomedical application of hybrid polymeric materials, including biomimetic materials, biosensors, stimuli-responsive, drug/gene delivery, tissue engineering, and bioimaging

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