Special Issue

Synthesis, Characterization and Performance of Degradable Polymers: Roles of Curing, Crystallization and Biodegradation

Message from the Guest Editors

The development of advanced degradable polymers requires a synergistic understanding of synthesis, characterization, and the interplay between curing, crystallization, and biodegradation. Curing, as a critical crosslinking step, enhances mechanical stability and chemical resistance, ensuring that degradable polymers maintain their functionality during their intended lifespan. Crystallization governs thermal and mechanical properties by modulating the arrangement of polymer chains. Biodegradation addresses environmental concerns by enabling materials to break down under specific conditions, yet its efficiency depends on the initial molecular design influenced by curing and crystallization.

We seek contributions that explore the following:

- Novel synthesis and characterization methods for degradable systems;
- Fundamental insights into curing mechanisms and their impact on degradation pathways;
- Strategies to harmonize crystallization with biodegradation for performance optimization;
- Applications in eco-friendly coatings, biomedical devices, and sustainable electronics.

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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