

Special Issue

Biodegradable Polymers in Biological Application

Message from the Guest Editors

Biodegradable polymers are vital in biological applications, enabling controlled release of active agents, temporary structural frameworks, and materials that degrade after use. Both naturally derived and synthetic polymers are widely used, offering unique properties and compatibility with biological systems. They can be processed through techniques such as extrusion, injection molding, thermoforming, electrospinning, casting, 3D (bio)printing, and spray drying. Synthetic polymers generally provide superior processing and mechanical strength, while natural polymers add bioactivity, renewability, and mild processing conditions. Combining both allows balanced mechanical and biological performance. Chemical modifications and physical modifications further enhance and fine-tune properties. This Special Issue, “Biodegradable Polymers in Biological Application,” invites research on natural and synthetic biopolymers, including synthesis, extraction, characterization, processing, and validation, across fields such as pharmaceuticals, biomedical engineering, tissue engineering, agriculture, environmental sciences, and materials engineering.

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As the premier open access journal dedicated to experimental organic chemistry, and now in its 25th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts and novel materials. Pushing the boundaries of the discipline, we invite papers on multidisciplinary topics bridging biochemistry, biophysics and materials science, as well as timely reviews and topical issues on cutting edge fields in all these areas.

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