



Synthesis of Bio-Based Polymers: Challenges and Opportunities

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Message from the Guest Editors

Fossil-fuel-based synthetic polymers have great properties but they can remain in the environment for several decades and do not degrade. Therefore, renewable-resource-based biopolymers, which are sustainable and potentially biodegradable, have been attracting the interest of researchers worldwide.

Bio-based polymers may be classified into three main categories: polymers directly extracted from biomass; polymers produced by micro-organisms or genetically modified bacteria; and polymers synthesized using bio-based monomers. To date, the major focus has been on the extraction and utilization of polymers from biomass, such as cellulose, starch, and protein. Only a limited number of studies have reported on the synthesis of monomers and biopolymers from renewables. At present, we have a great opportunity to produce renewable polymers from biomass; however, there are several challenges that need to be overcome, particularly those associated with the synthesis, properties and processing of such polymers.

This Special Issue aims to present a collection of original research papers and review articles that focus on challenges in and opportunities for the synthesis of bio-based monomers.





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