



polymers



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Modifications and Applications of Natural Polymer Materials

Guest Editor:

Dr. Xugang Dang

Institute of Biomass and
Function Materials & College of
Bioresources Chemistry and
Materials Engineering, Shaanxi
University of Science and
Technology, Xi'an, China

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Message from the Guest Editor

Dear Colleagues,

Natural polymer materials are abundant, inexpensive, bio-based, renewable, extremely strong, durable, lightweight, biodegradable, recyclable, carbon binding and safe for people and the environment and less expensive than other advanced materials and nanomaterials. Used as a type of materials additive and in composites, natural polymer materials will help to drive the global move away from oil-based plastics and products to sustainable, bio-based alternatives. Natural polymer materials can be derived from a multitude of abundant biomass sources such as straw, wood pulp, agricultural crops, organic waste, leather, as well as from bacteria. Properties including high tensile strength, biocompatibility, biodegradability, and high aspect ratio make them attractive to a wide range of markets, from medical to construction to aerospace. As natural polymer materials originate from renewable matter, their potential to replace petroleum-derived materials in films, coatings, composites, and packaging is particularly interesting in the wake of the current political and societal movements towards the reduction in plastic consumption.



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Special Issue



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Editor-in-Chief

Prof. Dr. Alexander Böker

Lehrstuhl für Polymermaterialien
und Polymertechnologie,
University of Potsdam, 14476
Potsdam-Golm, Germany

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Polymers Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

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