



Biomacromolecules and Biobased Polymers: Synthesis, Application and Natural Functions

Guest Editor:

Dr. Anton P. Bonartsev
Faculty of Biology, M. V.
Lomonosov Moscow State
University, 119234 Moscow,
Russia

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Message from the Guest Editor

Dear Colleagues

A number of biologically active molecules and biomaterials used for production of medicines and medical devices are biomacromolecules and bio-based polymers: nucleic acids, proteins, polysaccharides, lipids, macrocycles and polyketides. A series of antibiotics are plant macrocycles and polyketides, scaffolds for tissue engineering are manufactured from bacterial-origin polyhydroxyalkanoates and insect protein silk fibroin, modern vaccines are nucleic acids loaded in lipid nanoparticles. Therefore, biomacromolecules and polymers of natural-origin are playing an increasing role in modern pharmaceuticals and medicine. However, the natural properties of these biopolymers (informational, enzymatic, signal, regulatory, storage, structural, mechanical etc.) are not always adequately taken into account in the development of drugs and biomaterials with superior biomedical properties. The main feature of this special issue is to provide an open-source sharing of original research and review articles, which address the progress and fundamental aspects for the synthesis, characterization, properties, application, and natural functions of biomacromolecules and biobased polymers.





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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, Grosspeteranlage 5
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