

SpringerBriefs in Molecular Science

Biobased Polymers

Series editor

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Published under the auspices of EPNOE**Springerbriefs in Biobased polymers* covers all aspects of biobased polymer science, from the basis of this field starting from the living species in which they are synthesized (such as genetics, agronomy, plant biology) to the many applications they are used in (such as food, feed, engineering, construction, health, ...) through to isolation and characterization, biosynthesis, biodegradation, chemical modifications, physical, chemical, mechanical and structural characterizations or biomimetic applications. All biobased polymers in all application sectors are welcome, either those produced in living species (like polysaccharides, proteins, lignin, ...) or those that are rebuilt by chemists as in the case of many bioplastics.

Under the editorship of Patrick Navard and a panel of experts, the series will include contributions from many of the world's most authoritative biobased polymer scientists and professionals. Readers will gain an understanding of how given biobased polymers are made and what they can be used for. They will also be able to widen their knowledge and find new opportunities due to the multidisciplinary contributions.

This series is aimed at advanced undergraduates, academic and industrial researchers and professionals studying or using biobased polymers. Each brief will bear a general introduction enabling any reader to understand its topic.

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Polysaccharide Based Hybrid Materials

Metals and Metal Oxides, Graphene and
Carbon Nanotubes

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Preface

Polysaccharides, the most abundant family of natural polymers, had gained considerable attention in the last decades as a source of innovative bio-based materials, including an extensive assortment of polysaccharide hybrid nanomaterials for distinct applications. This book presents the current knowledge about polysaccharide-based hybrid nanomaterials with metal and metal oxide nanoparticles, carbon nanotubes and graphene. The book covers the main polysaccharides, namely cellulose, chitin, chitosan and starch, as well as their most relevant derivatives, and features the description of the most significant production methodologies, properties and utmost applications of these types of hybrids.

Keywords Polysaccharides · Hybrid materials · Metal nanoparticles
Graphene · Carbon nanotubes

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