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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Foreword (Plan to invite Dr. Akira Isogai from University of Tokyo at Japan) -- Preface -- Preparation and properties of nanopolysaccharides family -- Functional modifications on nanopolysaccharides -- Nanopolysaccharides in tunable optical materials -- Nanopolysaccharides in energy related applications -- Nanopolysaccharides in biomedical applications -- Nanopolysaccharides in emulsion stability -- Nanopolysaccharides in environmental treatments -- Nanopolysaccharides templates in synthesis of inorganic nanoparticles and catalysis -- Nanopolysaccharides in coating -- Nanopolysaccharides in barrier composites -- Nanopolysaccharides-based green additives -- Nanopolysaccharides in high-value products -- Concluding remarks and future perspectives.

Sommario/riassunto

This book describes the latest research on nanopolysaccharides in the development of functional materials, from their preparation, properties and functional modifications to the architecture of diverse functional materials. Polysaccharide-based nanoparticles, including nanocellulose, nanochitin, and nanostarch have attracted interest in the field of nanoscience, nanotechnology, and materials science that encompasses various industrial sectors, such as biomedicine, catalyst, coating, energy, optical materials, environmental materials, construction materials, and antibacterial materials. This book establishes a fundamental framework, highlighting the architecture strategies of typical functional systems based on nanopolysaccharides and integrated analysis of their significant influence and properties to various functional behaviors of materials, to help readers to fully understand the fundamental features of nanopolysaccharides and functional materials. Addressing the potential for practical applications, the book also covers the related industrial interests and reports on highly valued products from nanopolysaccharides, providing ideas for future studies in the area. Intended both for academics and professionals who are interested in nanopolysaccharides, it is also a valuable resource for postgraduate students, researchers, and engineers involved in R&D of natural polymers, nanotechnology, and functional materials.