Engineered Carbohydrate-Based Materials for Biomedical Applications
Polymers, Surfaces, Dendrimers, Nanoparticles, and Hydrogels

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University of Alberta, Canada.

This book addresses the need for a comprehensive book on the design, synthesis, and characterization of synthetic carbohydrate-based polymeric materials along with their biological applications. The first two chapters cover the synthesis and self-assembly of glycopolymers and different techniques for creating these synthetic polymers.

Subsequent chapters account for the preparation of block copolymers, branched glycopolymers, glycosurfaces, glycodendrimers, cationic glycopolymers, bioconjugates, glyconanoparticles and hydrogels. While these chapters comprehensively review the synthetic and characterization methods of those carbohydrate-based materials, their biological applications are discussed in detail.

Key Features:

• Covers the design, synthesis, characterization of synthetic carbohydrate-based materials and their biological applications

• Helps readers understand synthetic approaches and applications of glycopolymer biomaterials

• Guides the design and synthesis of biomacromolecules including dendrimers, nanoparticles, and hydrogels

• Features biological applications in each chapter

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