

and oligosaccharide synthesis are described in the subsequent chapters. The detailed information on functionalization of sugars, strategies towards C-glycosides, from sugars to carbosugars, and sugars with endocyclic heteroatoms other than oxygen is provided in Part II.

Carbohydrates are prominent among the chiral raw materials available from nature. This is because of several factors, such as the high enantiomeric purity of sugars and the number of available chiral centers. Part III explores the sugars as tools, chiral pool starting materials and formidable synthetic targets. It consists of four chapters, which discuss sugar as chiral auxiliaries, sugars as chiral starting materials in enantiospecific synthesis, synthesis of carbohydrate containing natural compounds, and total asymmetric synthesis of monosaccharides and analogs.

In recent years, interest in chemical glycobiology has grown significantly because of the involvement of carbohydrates and carbohydrate conjugates in the vital biological processes. In Part IV, additional topics are presented, which are focussed on combinatorial carbohydrate chemistry, glycopeptides, and carbohydrate mimetics in drug discovery.

Numerous examples throughout the volume provide excellent illustrative material to support the detailed information presented in the text. In conclusion, this comprehensive volume would be highly useful to all the persons working in this area. It may not only support research and development but also be suitable for teaching.

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R. Smith, editor. Biodegradable Polymers for Industrial Application (2005, Woodhead Publishing Ltd/CRC Press, Cambridge, UK/Boca Raton, FL, USA) (xvi + 531 pp., £135.00, ISBN 0-8493-3466-7)

Biodegradable polymers can be classified according to their origin into two groups, natural polymers and synthetic polymers. Natural polymers are the polymers coming from natural resources and, synthetic polymers are synthesized from crude oil. Biopolymers from natural

origin include six sub-groups, namely polysaccharides, proteins, lipids, polyesters produced by microorganisms/plants, polyesters synthesized from bio-derived monomers, and miscellaneous polymers. Biopolymers from mineral origins include four sub-groups called aliphatic polyesters, aromatic polyesters, polyvinylalcohols and modified polyolefins. In view of the environmental problems due to the disposal of plastic products, the production of biodegradable polymers has attracted the attention of the researchers.

Biodegradable Polymers for Industrial Applications explores the classification, production, and applications of biodegradable polymers. The volume is divided into four parts. Part I discusses the classification and development of biopolymers. It includes the chapters on classification, polyhydroxyalkanoates, oxo-biodegradable polyolefins, new developments in aliphatic polyesters synthesis, biodegradable polyesteramides, and thermoplastic starch biodegradable polymers. Part II is focussed on the materials for production of biodegradable polymers. It provides the information on the biopolymers from sugars, natural fibres, renewable forest resources, poly(lactic acid)-based bioplastics, and biodegradable protein-nanoparticle composites.

The properties and mechanisms of degradation of biopolymers are explained in Part III of the book. It includes the chapters on standards for environmentally biodegradable plastics, material properties of biodegradable polymers, mechanism of biodegradation, and enzymatic degradation of polymers. Part IV is focussed on the industrial applications, in which topics on oxo-biodegradable polyolefins in packaging, biodegradable plastics in agriculture, generation of biodegradable polycaprolactone foams in supercritical carbon dioxide, and biodegradable polymers in agricultural applications are discussed.

In conclusion, this comprehensive volume explores the different aspects of biodegradable polymers from fundamental issues to industrial applications, and would be highly useful for all the individuals working in the area of polymers. It may not only support research and development but may also be suitable for teaching.

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