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Polymers; 3.1 Poly(lactic acid); 3.1.1 Production Processes for Poly(lactic acid); 3.1.2 Surface Modification of Fibers; 3.1.3 Influence of Fabrication Methods and Kenaf Fiber Length; 3.1.4 Kenaf fibers for Reinforcement of PP; 3.1.5 Reinforced Composites; 3.1.6 Laminated Composites from Kenaf Fiber; 3.1.7 Copolyesters; 3.1.8 Transparent Crystalline Poly(lactic acid)
3.1.9 Laminated Biocomposites3.2 Poly(glycolic acid)s; 3.2.1 Glycolic acid; 3.2.2 Polymers, Copolymers, and Blends; 3.2.3 Condensation Polymer of Glycerol; 3.3 Butyrolactone-based Vinyl Monomers; 3.3.1 Tulipalin A; 3.3.2 -Methylene--valerolactone; 3.4 Poly(caprolactone); References; 4 Ester and Amide Polymers; 4.1 Poly(ester)s; 4.1.1 Methyl-10-undecenoate; 4.1.2 Poly(butylene adipate) Copolyesters; 4.1.3 Poly (hydroxyalkanoate)s; 4.1.4 Poly(hydroxybutyrate); 4.1.5 Poly (hydroxyvalerate); 4.1.6 Poly(3-hydroxyhexanoic acid); 4.1.7 Poly(-hydroxyoctanoate); 4.1.8 Poly(-glutamic acid)
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5.1.1 Starch Modification

Sommario/riassunto

"Because of the recent explosion of interdisciplinary research in renewable polymers, the knowledge base is scattered and it is now timely to have an overview from a respected chemist and successful author. The book focuses on biopolymers as well as low molecular compounds that can be synthesized from renewable polymers. After introducing general aspects of the field, the subsequent chapters then look at the chemistry of biodegradable polymeric types sorted by their chemical compounds, including the synthesis of low molecular compounds. The factors influencing degradation and biodegradation of polymers for food packaging in various environments is detailed at length. The medical applications covered concentrate on controlled drug delivery, temporary prostheses, and scaffolds for tissue engineering. The author then turns his attention to renewable resources for fabricating biofuels and argues for localized biorefineries as biomass feedstocks are more efficiently handled locally"--