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Structure and Composition; 3.3 Processing Options for Accessing the Energy in the Lignocellulosic Matrix
3.4 Plant Tissue and Cell Types Respond Differently to Biomass Conversion3.5 The Basics of Plant Cell-wall Structure; 3.6 Cell-wall Surfaces and Multilamellar Architecture; 3.7 Cell-wall Ultrastructure and Nanoporosity; 3.8 Computer Simulation in Understanding Biomass Recalcitrance; 3.8.1 What Can We Learn from Molecular Simulation?; 3.8.2 Simulations of Lignin; 3.8.3 Simulations of Cellulose; 3.8.4 Simulation of Lignocellulosic Biomass; 3.8.5 Outlook for Biomass Simulations; 3.9 Summary; Acknowledgements; References
4 Biological Conversion of Plants to Fuels and Chemicals and the Effects of Inhibitors4.1 Introduction; 4.2 Overview of Biological Conversion; 4.3 Enzyme and Ethanol Fermentation Inhibitors Released during Pretreatment and/or Enzyme Hydrolysis; 4.3.1 Enzyme Inhibitors Derived from Plant Cell-wall Constituents (Lignin, Soluble Phenolics, and Hemicellulose); 4.3.2 Effect of Furfurals and Acetic Acid as Inhibitors of Ethanol Fermentations; 4.4 Hydrolysis of Pentose Sugar Oligomers Using Solid-acid Catalysts
4.4.1 Application of Solid-acid Catalysts for Hydrolysis of Sugar Oligomers Derived from Lignocelluloses4.4.2 Factors Affecting Efficiency of Solid-acid-catalyzed Hydrolysis; 4.5 Conclusions; Acknowledgements; References; 5 Catalytic Strategies for Converting Lignocellulosic Carbohydrates to Fuels and Chemicals; 5.1 Introduction; 5.2 Biomass Conversion Strategies; 5.3 Criteria for Fuels and Chemicals; 5.3.1 General Considerations in the Production of Fuels and Fuel Additives; 5.3.2 Consideration for Specialty Chemicals; 5.4 Primary Feedstocks and Platforms; 5.4.1 Cellulose
5.4.2 Hemicellulose

Sommario/riassunto

Plant biomass is attracting increasing attention as a sustainable resource for large-scale production of renewable fuels and chemicals. However, in order to successfully compete with petroleum, it is vital that biomass conversion processes are designed to minimize costs and maximize yields. Advances in pretreatment technology are critical in order to develop high-yielding, cost-competitive routes to renewable fuels and chemicals. Aqueous Pretreatment of Plant Biomass for Biological and Chemical Conversion to Fuels and Chemicals presents a comprehensive overview of the currently