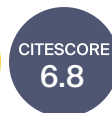




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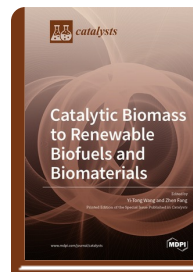
Special Issue Reprint

Catalytic Biomass to Renewable Biofuels and Biomaterials

www.mdpi.com/books/reprint/2498

Edited by
Zhen Fang
Yi-Tong Wang

ISBN 978-3-03936-312-4 (Hardback)
ISBN 978-3-03936-313-1 (PDF)



Biomass is the only renewable carbon source that can be converted into high value-added carbon products. This book presents a collection of studies on the conversion of catalytic biomass to renewable biofuels and biomaterials by chemical conversion, co-combustion technology, and biological conversion technology. The fundamentals and mechanisms of catalytic materials design, process optimization, product development, and by-product utilization are outlined. All articles were contributed by experts in catalysis and bioenergy fields to provide readers with a broad range of perspectives on cutting-edge applications. This book is an ideal reference guide for academic researchers and engineering technicians in the fields of catalytic material synthesis, biomass energy conversion, enzyme catalysis, pyrolysis, combustion, vaporization, and fermentation. It can also be used as a comprehensive reference source for university students in renewable energy science and engineering, agricultural engineering, thermal engineering, chemical engineering, material science, and environmental engineering. This book contains 12 articles: (1) “Catalytic Biomass to Renewable Biofuels and Biomaterials”; (2) “Experimental Design to Improve Cell Growth and Ethanol Production in Syngas Fermentation by *Clostridium carboxidivorans*”; (3) “Glycerol Acetylation Mediated by Thermally Hydrolysed Biosolids-Based Material”; (4) “Influence of Base-Catalyzed Organosolv Fractionation of Larch Wood Sawdust on Fraction Yields and Lignin Properties”; (5) “Ca-based Catalysts for the Production of High-Quality Bio-Oils from the Catalytic Co-Pyrolysis of Grape Seeds and Waste Tyres”; (6) “Synthesis of Diesel Range Cycloalkanes with Cyclopentanone and Furfural”; (7) “Gel-Type and Cross-Linked Copolymers Functionalized with Acid Groups for the Hydrolysis of Pretreated with an Ionic Liquid”; (8) “Role of Humic Acid-Crystallites Separated Derived from Different Biomass Feedstocks on Fe(III) Bioreduction Activity: Implication for Sustainable Use of Bioresources”; (9) “Selective Production of Terephthalonitrile and



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