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Nota di contenuto	Cover; About the Editor; Contents; Acknowledgment and How to Cite; List of Contributors; Introduction; Part I: Overview; Chapter 1: Catalysing Sustainable Fuel and Chemical Synthesis; Chapter 2: Catalytic Hydroprocessing of Liquid Biomass for Biofuels Production; Chapter 3: Analytical Approaches in the Catalytic Transformation of Biomass: What Needs to be Analyzed and Why?; Part II: Reaction Routes; Chapter 4: Catalytic Routes for the Conversion of Biomass Into Liquid Hydrocarbon Transportation Fuels Chapter 5: Catalytic Upgrading of Bio-Oil by Reacting with Olefins and Alcohols over Solid Acids: Reaction Paths via Model Compound Studies Chapter 6: Emission Abatement at Small-Scale Biomass Combustion Unit with High-Temperature Catalysts; Chapter 7: Catalytic Constructive Deoxygenation of Lignin-Derived phenols: New C-C Bond Formation Processes from Imidazole-Sulfonates and Ether Cleavage Reactions; Chapter 8: Efficient One-Pot Synthesis of 5-

Chloromethylfurfural (CMF) from Carbohydrates in Mild Biphasic Systems

Chapter 9: Periodic Mesoporous Organosilica Functionalized with Sulfonic Acid Groups as Acid Catalyst for Glycerol AcetylationPart III: Optimizing Catalytic Performance; Chapter 10: Alkaline and Alkaline-Earth Ceramic Oxides for CO<sub>2</sub> Capture, Separation and Subsequent Catalytic Chemical Conversion; Author Notes

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Sommario/riassunto

Sustainability demands that we meet the needs of our present world without compromising the needs of future generations. As a result, sources and methodologies for renewable energy are being urgently investigated. Biomass offers one of the most readily implemented, low-cost alternatives to fossil fuels. First-generation biofuels proved to have limited sustainability, but today's advanced biofuels are developing more efficient processes. This book contains the latest research on catalytic processing, a promising technology for making biofuel production truly sustainable. Included here are: Sever

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