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Lignocellulosic Biomass III

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The transition toward a circular bio-based economy represents a critical pathway for achieving sustainable development and improving quality of life for current and future generations. Central to this paradigm is the integral valorization of lignocellulosic biomass, which offers renewable sources for materials, energy, platform molecules, and chemicals. This reprint, **Lignocellulosic Biomass III: From Waste to Functional Materials and Bioenergy through Biorefinery Approaches**, presents a comprehensive overview of the latest advances in the characterization, transformation, and application of lignocellulosic biomass and its by-products. It highlights innovative approaches to sustainable, scalable, and economically viable processes that bridge laboratory research with industrial implementation. Covering a wide range of topics, from microbial and chemical conversion strategies to the development of functional materials and bioenergy solutions, this volume serves as an authoritative reference for researchers, engineers, and practitioners engaged in biomass valorization. By systematically reviewing recent progress and showcasing cutting-edge developments, the book provides insights into how lignocellulosic biomass can be efficiently transformed into value-added products, supporting the global shift toward a more sustainable and circular bio-based economy.

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