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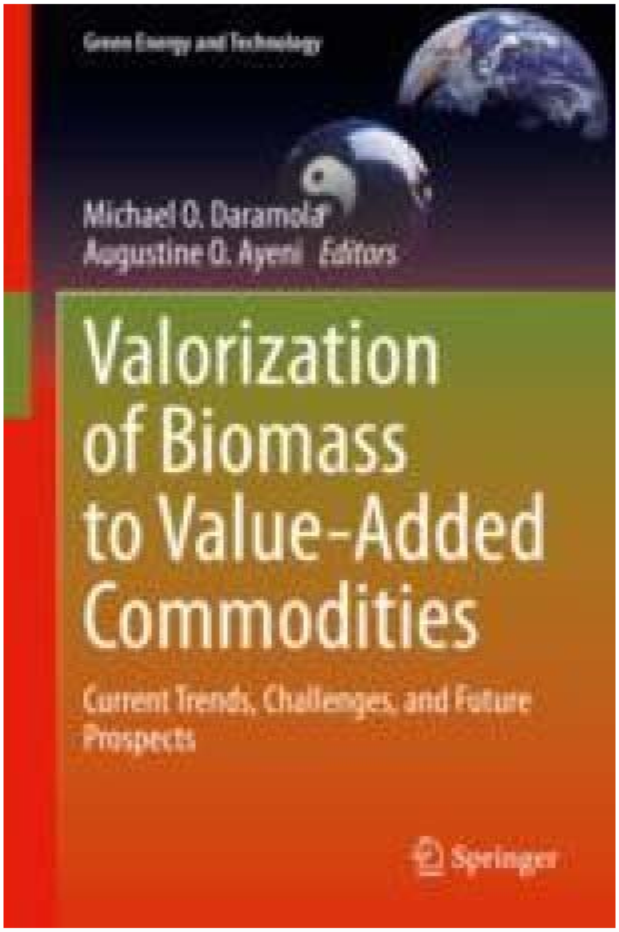
Valorization of Biomass to Value-Added Commodities



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Biological and Non-Biological Methods for Lignocellulosic Biomass Deconstruction

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Chapter

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Abstract

Owing to their abundance and cost-effectiveness, lignocellulosic materials have attracted increasing attention in clean energy technologies over the last decade. However, the complex polymer structure in these residues makes it difficult to extract the fermentable sugars. Therefore, various pretreatment regimes have been used resulting in the breaking of lignocelluloses' physical and chemical structures, thereby enhancing the availability of the polysaccharides which are subsequently hydrolysed into different biocommodities. This chapter provides an evaluation of some of the latest exploited methodologies that are used in the pretreatment of lignocellulosic materials. Moreover, the chapter discusses the advantages and disadvantages of each method.

Keywords

Lignocellulosic biomass Biological methods Non-biological methods Deconstruction Biocommodities

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