

Special Issue

Pretreatment, Enzymatic Hydrolysis, and Fermentation Applied to Ethanol from Lignocellulosic Biomasses

Message from the Guest Editor

The growing world demand for increased food production, combined with pressure from society and environmental agencies to reduce the need for fuels obtained from non-renewable energy sources, makes the production of ethanol obtained from lignocellulosic residues, also known as second-generation ethanol, of particular importance in the current scenario. In this context, the pre-treatment and hydrolysis steps are essential for a successful process, with two more steps, fermentation and distillation. Hydrolysis and fermentation steps have been carried out by means of different strategies, e.g., separate hydrolysis and fermentation (SHF), simultaneous saccharification and fermentation (SSF), and saccharification and semi-simultaneous fermentation (SSSF). They aim to reach a higher yield of fermentable sugars and a higher conversion of sugars into ethanol. In this context, the current edition highlights these three main steps and the use of different strategies applied to lignocellulosic biomass for second-generation ethanol. Additionally, it aims to contribute to the state of the art and highlight the importance of ethanol from lignocellulosic biomass.

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