Catalytic Conversion of Cellulose and Lignin

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Message from the Guest Editors

Lignocellulosic biomass has been considered as an ideal feedstock to replace diminishing fossil fuels for the production of carbon-based fuels, chemical, and materials. In the last two decades, many new catalysts and catalytic processes have been developed, but issues such as high process complexity, low selectivity, low catalyst stability, and recyclability limit their large-scale applicability. Therefore, we are still in search of efficient and robust catalysts and catalytic processes that can lead to economic and sustainable conversion of lignocellulosic biomass. In particular, a catalyst or catalytic system that could effectively convert a mixture of feedstocks in inexpensive solvents would be attractive. Such a catalyst or catalytic system would lower the cost of feedstock fractionation and purification as well as solvent recovery.

This Special Issue reports the main recent advances in the catalytic conversion of lignocellulosic biomass. Full papers, short communications, and reviews related to the catalytic conversion of cellulose, hemicelluloses, and lignin to fuels, chemicals and materials are welcome.

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