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New Insights into Catalytic Production and Upgrading of Bio-Oil

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Message from the Guest Editors

Currently, increases in demands for biomass exploitation as a new sustainable energy source to solve the conventional energy source depletion and alleviate global warming are bringing about developments in conversion technologies. A series of techniques have been developed to convert biomass into fuels or chemicals, including biological and thermochemical pathways.

The bio-oil from biomass without any upgrading or downstream processing cannot be used as a drop-in fuel due to a high water content, a low corrosive pH, a higher oxygen content, a higher heating value, and hazardous materials including (S-compounds, metals, N-compounds, and a high content of oxygenated compounds). Therefore, it is highly essential to upgrade the overall quality of bio-oil and make it a competitive fuel.

The introduction of catalysts helps not only decreases the temperature of the biomass conversion processes for energy saving in maximizing bio-oil yields but also enhances the quality of those fuels to practical demands.

This Special Issue will collect the new contributions of this field, including original research, reviews, and short communications.