

Lignocellulosic biomass catalytic conversion: where are we?

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Lignocellulosic biomass represents an almost inexhaustible carbonaceous resource that can be valorized in many ways into chemical products of interest and allow to reduce gradually the use of fossil resources. As it is the case for traditional refineries, heterogeneous catalysis is essential in biomass valorization processes and many studies are conducted in this field. Noble metals have been widely used but they are rare and expensive and it is important to find greener alternatives. Therefore, other more available transition metals are being extensively studied in their metallic, oxide, sulfide, phosphide, nitride or carbide form. Readily available transition metal sulfide catalysts are an option directly issued from traditional refining and are presenting interesting properties for the transformation of lignocellulosic biomass. One of the key aspects for the study of biomass catalytic conversion is the development of characterization methods to follow the evolution of complex feeds