

The effect of promoters on the performance over Ni-Ce_{0.6}Zr_{0.4}O₂ catalysts for deoxygenation of oleic acid

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The deoxygenation of oleic acid has been carried out at the reaction temperature of 300 °C over the promoted Ni-Ce_{0.6}Zr_{0.4}O₂ catalysts. The noble metals (Pt, Pd, and Ru) were introduced as a promoter to Ni-Ce_{0.6}Zr_{0.4}O₂ catalysts to get highly active catalysts for the deoxygenation of oleic acid. In the design step of experiment, small amount of hydrogen (20% H₂/N₂, 1bar) was introduced to maintain and activate the active sites of catalysts. The effect of noble metal promoters on catalytic performance has been interpreted through characterization of TPR, BET, XRD, NH₃-TPD and related to activity results in deoxygenation of oleic acid.