

Deoxygenation of oleic acid over Ni-Ce_{0.6}Zr_{0.4}O₂ catalysts: The effects of Ni loading amount and calcination temperature

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The deoxygenation of oleic acid has been carried out at the reaction temperature of 300 oC over Ni-Ce_{0.6}Zr_{0.4}O₂ catalysts prepared by co-precipitation method. The Ni loading amount and calcination temperature were optimized to get highly active Ni-Ce_{0.6}Zr_{0.4}O₂ catalysts for deoxygenation of oleic acid. In the design step of experiment, we intended to introduce a small amount of hydrogen (20% H₂/N₂, 1bar) to maintain and activate the active sites of catalysts. The effect of Ni loading amount and calcination temperature on catalytic performance has been interpreted through characterization of TPR, BET, XRD, H₂-chemisorption and related to activity results in deoxygenation of oleic acid.