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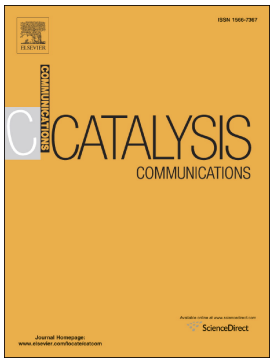

Meerwein-Ponndorf-Verley reaction of acetophenone over ZrO2-La2O3/MCM-41: Influence of loading order of ZrO2 and La2O3

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ACCEPTED MANUSCRIPT

Meerwein–Ponndorf–Verley reaction of acetophenone over ZrO_2-La_2O_3/MCM-41: Influence of loading order of ZrO_2 and La_2O_3

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Abstract

The influence of loading order of ZrO_2 and La_2O_3 into MCM-41 mesoporous molecular sieve supports on their catalytic activities in the Meerwein-Ponndorf-Verley reduction reaction (MPV) of acetophenone was investigated. The results indicate that comparing with ZrO_2/MCM-41, loading ZrO_2 first and then La_2O_3 into MCM-41 mesoporous molecular sieve supports could significantly improve the catalytic activity, followed by loading La_2O_3 first and ZrO_2 latter, the last is loading ZrO_2 and La_2O_3 at the same times, attributed to the changes in the acidity strength and the amount of acidic sites. The stronger acidity and/or more acid sites could lead to the higher catalytic activity.

Keywords: Meerwein-Ponndorf-Verley reaction; acetophenone; zirconia; lanthana; loading order; MCM-41 mesoporous molecular sieve

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