

Aldol condensation of renewable short-chain aldehydes and ketones over heterogeneous acido-basic catalysts

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Heterogeneously-catalyzed aldol condensation is a powerful tool for valorizing short-chain oxygenates. As a result of the controlled increase in molecular mass, new intermediates for automotive fuels and chemicals can be produced. Both acidic and basic catalysts can be applied and by fine-tuning the acido-basic properties, the catalytic performance can be optimized. The presentation will focus on comparing the performance of acidic and basic zeolites with that of mixed oxides and hydrotalcites. Special attention will be paid to shedding light on the origin of high activity of reconstructed hydrotalcites and on the reason of their deactivation.