

Asymmetric hydrogenation of methyl acetoacetate over modified Ni catalysts

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Enantio-selective hydrogenation of methyl acetoacetate was performed over supported nickel catalysts modified by L-tartaric acid or L-malic acid and NaBr solution. The preparation condition of supported nickel and the modification condition of catalysts affected the enantiomeric excess. The reduction temperature of supported nickel was the most important factor determining the enantio-selectivity of catalysts. The control of reduction temperature changed the nickel dispersion by which the quantity of modifier adsorption was varied. At the appropriate coverage of modifier on surface, the adsorption of MAA was constructive and the enantio-selective hydrogenation was carried out. The maximum ee was 71.99% at the reduction temperature of 973K.