

Asymmetric hydrogenation of methyl acetoacetate over heterogenized BINAP-Ru complex catalysts

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Homogeneous BINAP-Ru complex can be used as a catalyst for the asymmetric hydrogenation of methyl acetoacetate. For the recycle of BINAP-Ru complex, distillation of reaction mixture, impregnation of catalyst, and anchoring on polymer or inorganic supports were tested. The BINAP-Ru complex reused by simple distillation was deactivated drastically, but the heterogenized homogenous catalysts showed a little decrease of activity and selectivity. Especially, the impregnation of BINAP-Ru complex on inorganic support could recycle the homogeneous catalyst in a very simple, and easy way with a high enantioselectivity.