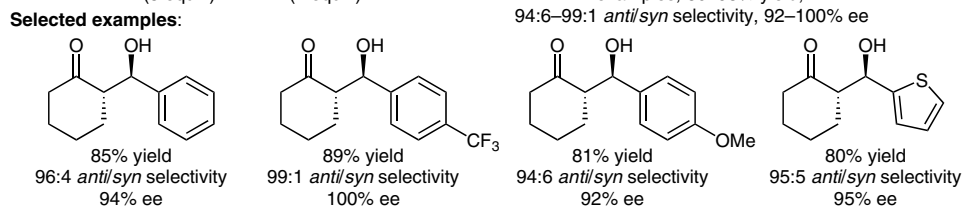
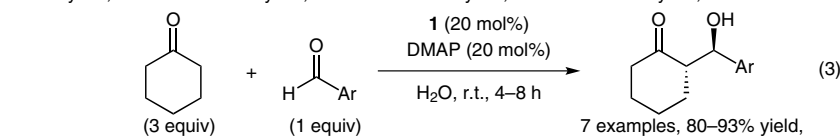
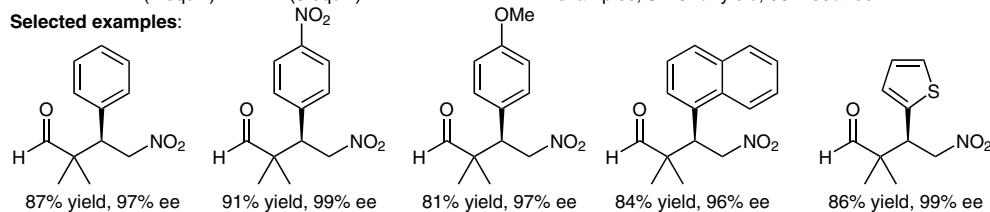
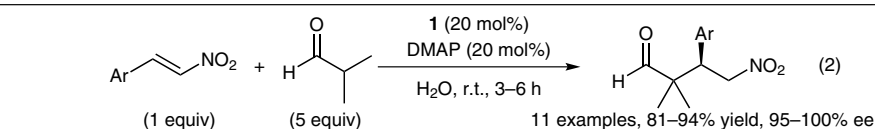
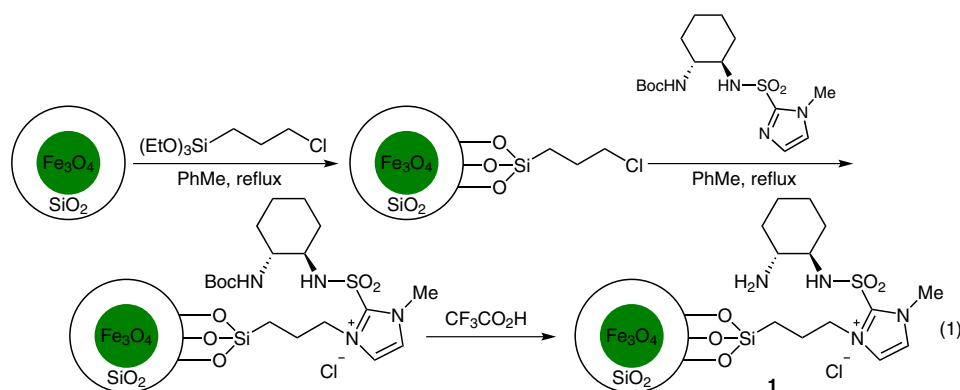


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 Magnetic Nanoparticles-Supported Chiral Catalyst with an Imidazolium Ionic Moiety: An Efficient and Recyclable Catalyst for Asymmetric Michael and Aldol Reactions
Adv. Synth. Catal. **2016**, *358*, 2116–2125.

Asymmetric Michael and Aldol Reactions with a Supported Chiral Diamine



Significance: A magnetic nanoparticle supported chiral aminocyclohexane **1** was prepared according to eq. 1. Asymmetric Michael and aldol reactions were carried out in the presence of **1** and DMAP in water at room temperature (eqs. 2 and 3, respectively) to give the corresponding adducts in $\leq 94\%$ yield and $\leq 100\%$ ee.

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Comment: The organocatalyst **1** was characterized by FT-IR, XRD, TEM, VSM, TG, and elemental analyses. In the reaction of nitrostyrene with isobutyraldehyde, the catalyst was magnetically recovered and reused four times without significant loss of its catalytic performance (fourth reuse: 83% yield, 95% ee).

Category

Polymer-Supported Synthesis

Key words

asymmetric catalysis

Michael addition

aldol reaction

organocatalysis

magnetic nanoparticles

Synfact
of the month

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