SYNFACTS

Highlights in Current
Synthetic Organic
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Thieme

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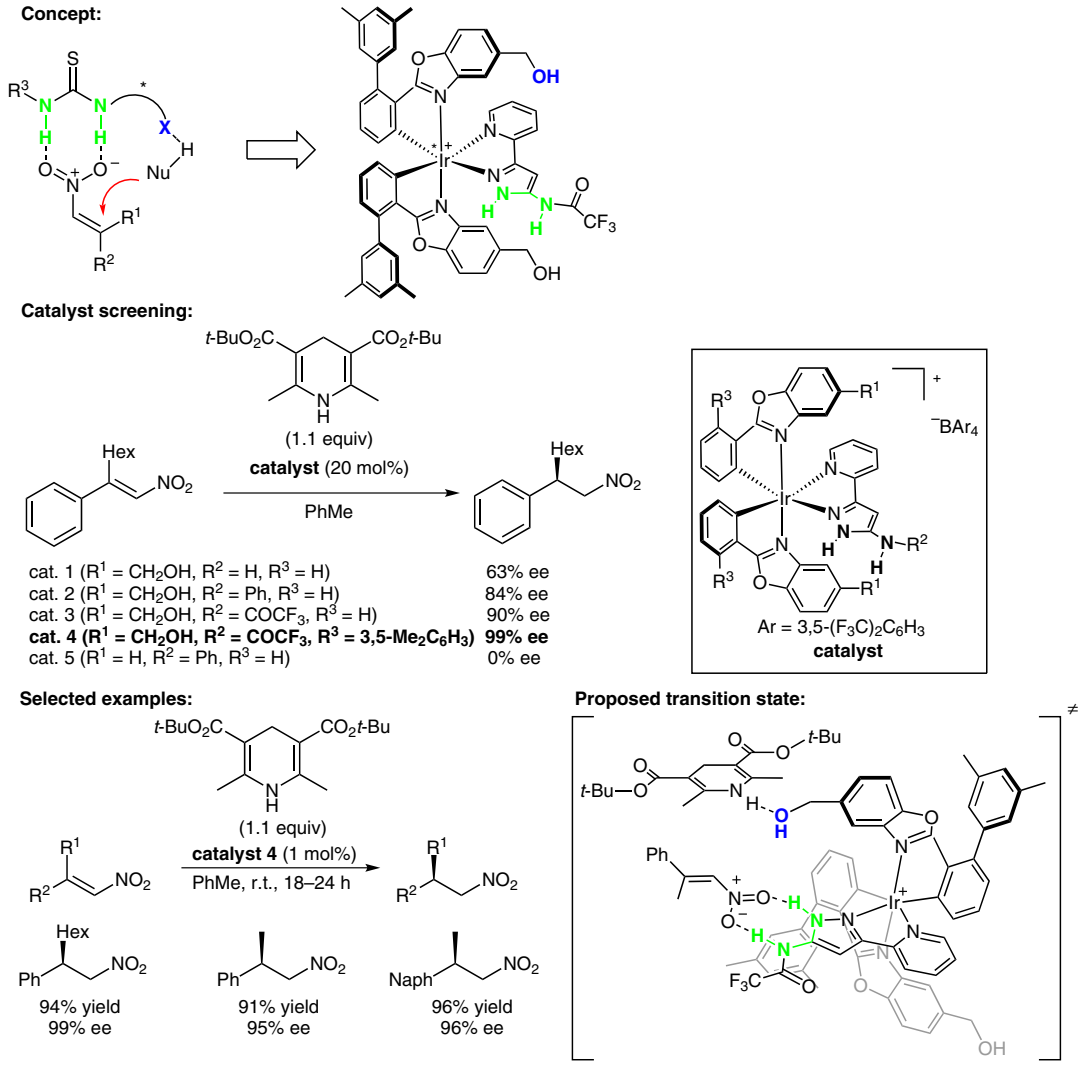
Asymmetric Catalysis with an Inert Chiral-at-Metal Iridium Complex
J. Am. Chem. Soc. **2013**, *135*, 10598–10601.

Asymmetric Transfer Hydrogenation of Nitroalkenes by an Iridium Complex



Significance: The authors reported a highly efficient asymmetric transfer hydrogenation of nitroalkenes by a biscyclometalated iridium complex. This catalyst exceeds the performance of most organocatalysts with respect to enantiomeric excess (up to 99% ee) and catalyst loading (down to 0.1 mol%).

Comment: Inspired by the design of non-covalent organocatalysts, the authors prepared a substitutionally inert biscyclometalated iridium complex. In the catalyst, the pyrazole moiety acts as a double hydrogen-bond donor for the nitroalkene, whereas a hydroxy group serves as a hydrogen-bond acceptor for the Hantzsch ester.

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