

SYNFACTS Highlights in Current Synthetic Organic Chemistry

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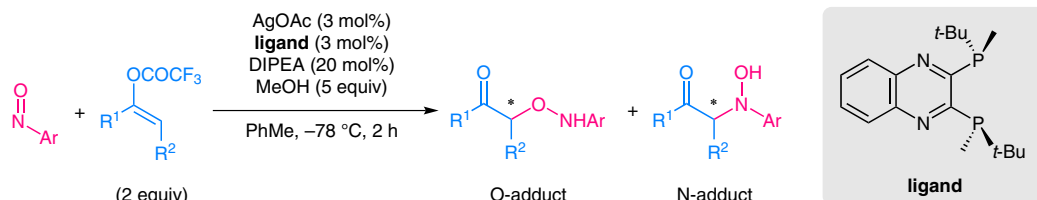
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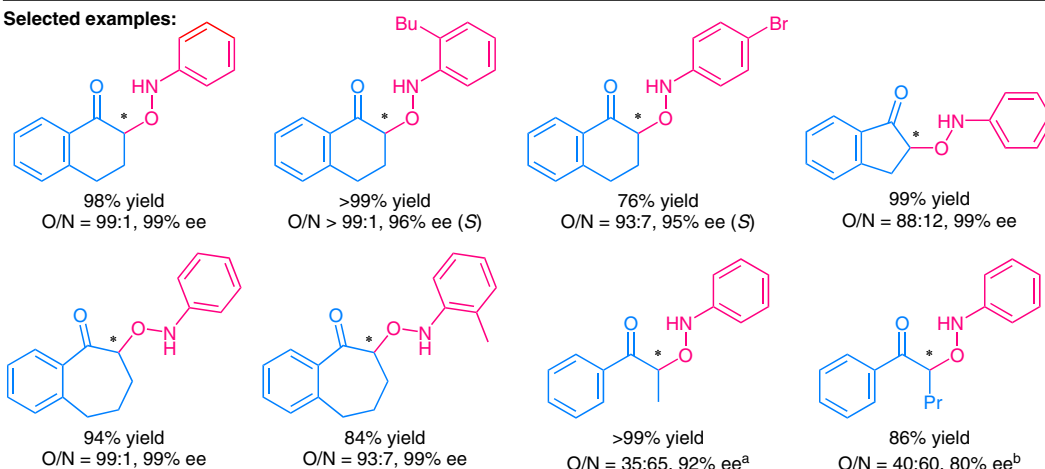
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A. YANAGISAWA,* Y. LIN, A. TAKEISHI, K. YOSHIDA (CHIBA UNIVERSITY, JAPAN)
Enantioselective Nitroso Aldol Reaction Catalyzed by a Chiral Phosphine–Silver Complex
Eur. J. Org. Chem. **2016**, 5355–5359.

Silver-Catalyzed Enantioselective Nitroso Aldol Reaction of Nitrosoarenes

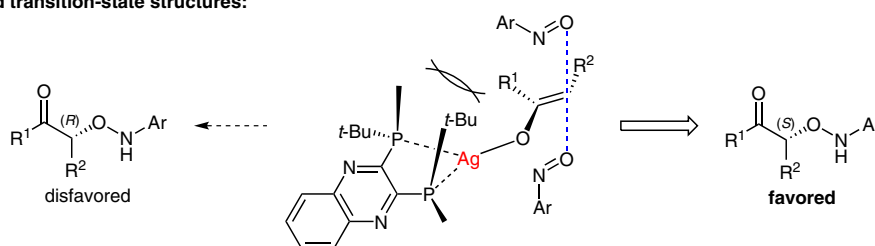


Selected examples:



^a *E/Z* ratio of the alkenyl trifluoroacetate is 1:13. ^b *E/Z* ratio of the alkenyl trifluoroacetate is 1:22.

Proposed transition-state structures:



Significance: The asymmetric nitroso aldol reaction is one of the most widely used strategies for producing chiral centers at the α -positions of carbonyl compounds. The authors disclose a novel method for the enantioselective O-nitroso aldol reaction catalyzed by a chiral silver–phosphine complex.

Comment: The authors have developed a valuable catalytic method for preparing a wide range of optically active α -aminooxy ketones in high yields and with excellent enantioselectivities. The authors proposed the transition-state structures shown in the scheme.

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