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SYNFACTS Highlights in Current Synthetic Organic Chemistry

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Key words

silver

nitroso aldol reaction

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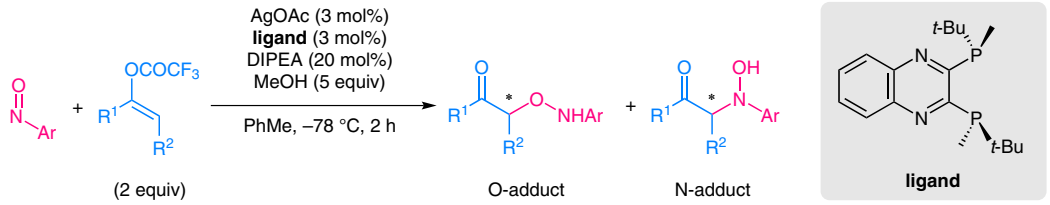
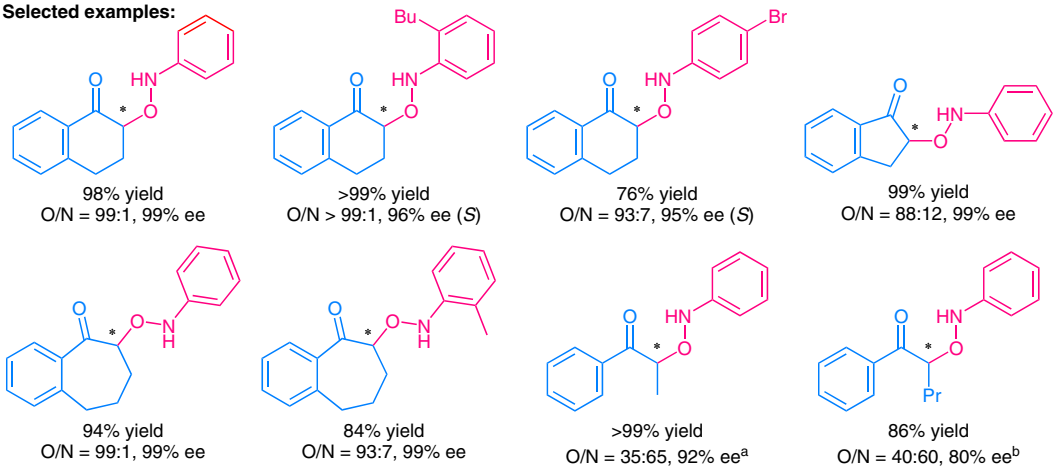
Enantioselective Nitroso Aldol Reaction Catalyzed by a Chiral Phosphine–Silver Complex
Eur. J. Org. Chem. **2016**, 5355–5359.

Silver-Catalyzed Enantioselective Nitroso Aldol Reaction of Nitrosoarenes

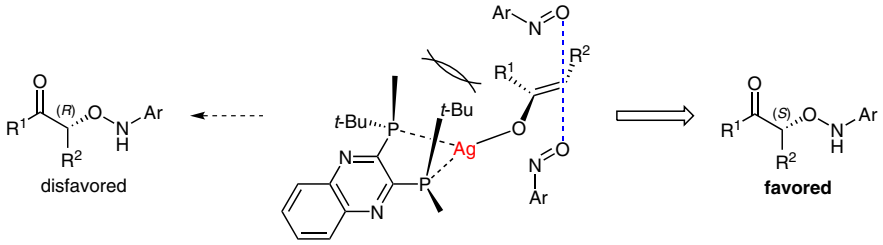


Selected examples:



[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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