Copper-Catalyzed Enantioselective Reduction of α,β-Unsaturated Esters

Significance: Buchwald and co-workers reported the use of copper and chiral bisphosphine ligands for the enantioselective 1,4-reduction of α,β-unsaturated esters. Polymethylhydroxiloxane (PMHS) was employed as a stoichiometric hydride source.

Comment: Novel methodologies have been developed since this seminal report on the enantioselective hydrofunctionalization of alkenes. Use of DTBM-SEGPHOS as the ligand and other hydride sources are now available for the asymmetric reduction of less activated alkenes.

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