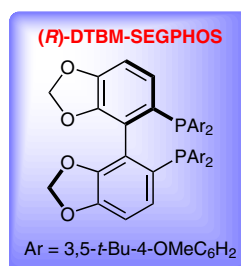


S. ZHU, S. L. BUCHWALD* (MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, USA)

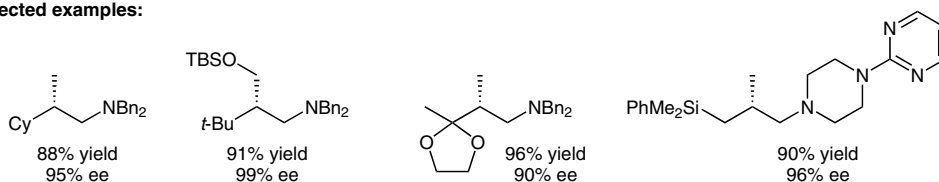
Enantioselective CuH-Catalyzed Anti-Markovnikov Hydroamination of 1,1-Disubstituted Alkenes

J. Am. Chem. Soc. **2014**, *136*, 15913–15916.

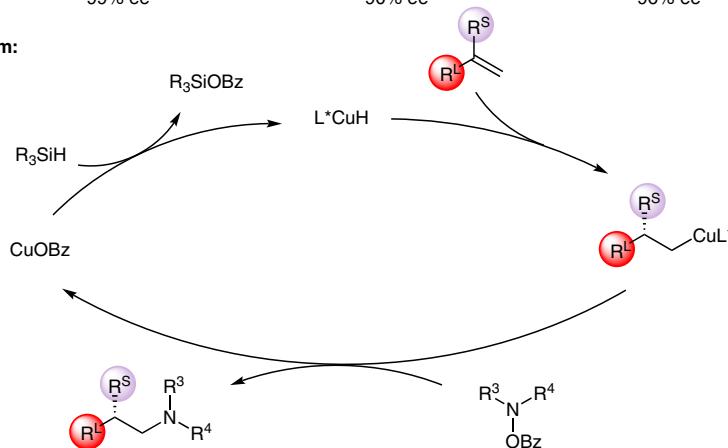
CuH-Catalyzed Enantioselective Anti-Markovnikov Hydroamination



Selected examples:



Proposed mechanism:



Significance: β -Chiral amines are ubiquitous motifs in a range of biologically active molecules, including pharmaceuticals and natural products. The catalytic enantioselective hydroamination of alkenes provides an efficient route to such molecules using simple, and often commercially available, starting materials. Herein, Buchwald and co-workers present an enantioselective CuH-catalyzed anti-Markovnikov hydroamination of 1,1-disubstituted alkenes.

Comment: The report expands upon the authors' previous work on the Cu-catalyzed enantioselective hydroamination of styrene derivatives (*J. Am. Chem. Soc.* **2013**, *135*, 15746). The proposed mechanism involves hydrocupration of the 1,1-disubstituted olefin in an anti-Markovnikov manner, which is intercepted by the hydroxylamine ester to give the final product and a Cu(I) alkoxide complex. The active CuH catalyst is regenerated by the addition of stoichiometric amounts of hydrosilane.

SYNFACTS Contributors: Mark Lautens, Christine M. Le
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