Category

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

Key words

asymmetric catalysis

hydroamination

alkenes

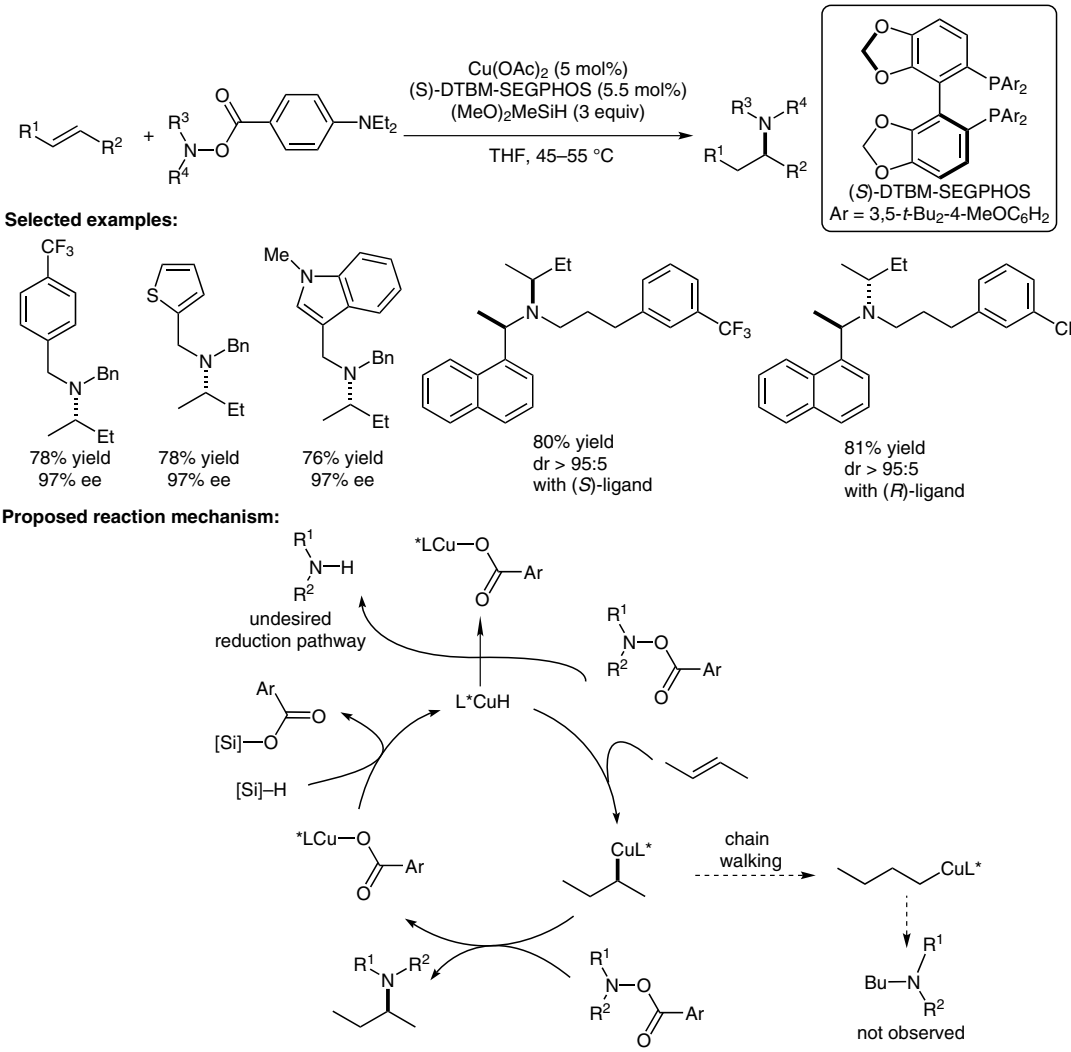
amines

copper

Y. YANG, S.-L. SHI, D. NIU, P. LIU, S. L. BUCHWALD* (MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE AND UNIVERSITY OF PITTSBURGH, USA)

Catalytic Asymmetric Hydroamination of Unactivated Internal Olefins to Aliphatic Amines
Science **2015**, *349*, 62–66.

Enantioselective Hydroamination of Unactivated Internal Olefins



Significance: Previous hydroaminations of alkenes have been achieved with a restricted range of substrates (for example, styrenes or terminal olefins). Here, the authors succeed in asymmetric hydroamination of nonactivated internal olefins. This system provides ready access to various α-branched chiral amines with high enantioselectivities (≥96% ee).

Comment: Electron-rich hydroxylamines are used as aminating reagent to suppress undesired reductions of hydroxylamines. The late-stage modification of pharmaceutical compounds is also demonstrated.

SYNFACTS Contributors: Hisashi Yamamoto, Yasushi Shimoda
Synfacts 2015, 11(9), 0946 Published online: 18.08.2015
DOI: 10.1055/s-0035-1560099; **Reg-No.:** H09815SF