F. MENG, K. P. MCGRATH, A. H. HOVEYDA* (BOSTON COLLEGE, CHESTNUT HILL, USA)
Multifunctional Organoboron Compounds for Scalable Natural Product Synthesis

An Efficient, Practical, and Selective Multicomponent Copper-Catalyzed Process

Significance: The authors demonstrate the generation of multifunctional alkenylboron fragments starting from two simple unsaturated organic molecules and a commercially available diboron reagent. These fragments were shown to carry several advantageous properties. The catalyst used is generated in situ by the reaction of inexpensive CuCl with a chiral ligand which was prepared on multigram scale in good yield.

Comment: The practical protocol can be performed on large scale and makes gram quantities of a variety of complex organic molecules easily available. The products, which contain a stereo- genic carbon center, a monosubstituted alkene, and an easily functionalizable Z-trisubstituted alkenylboron group, are obtained in good yields and excellent selectivities.

SYNFACTS Contributors: Paul Knochel, Thomas Klatt
SYNFACTS 2015, 11(1), 0073 Published online: 15.12.2014
DOI: 10.1055/s-0034-1379656; Reg-No.: P16014SF