J. DONG, Y. LIU,* Y. CUI* (SHANGHAI JIAO TONG UNIVERSITY AND COLLABORATIVE INNOVATION CENTER OF CHEMICAL SCIENCE AND ENGINEERING, TIANJIN, P. R. OF CHINA)

Chiral Porous Organic Frameworks for Asymmetric Heterogeneous Catalysis and Gas Chromatographic Separation *Chem. Commun.* **2014**, *50*, 14949–14952.

Asymmetric Conjugate Addition of ArB(OH)₂ to Enones with Chiral Rh-POF

Significance: A rhodium complex supported on a chiral porous organic framework (chiral POF-Rh) was prepared by the Suzuki–Miyaura coupling of chiral bistriflate **1** and **2**, followed by the complexation with $[Rh(C_2H_4)_2Cl]_2$ (eq 1). Chiral POF-Rh catalyzed the asymmetric conjugate addition of arylboronic acids to enones to give the corresponding 1,4-addition products in up to 93% yield with up to 93% ee (15 examples, eq. 2).

Comment: Chiral POF and chiral POF-Rh were characterized by NMR, BET, TEM, SEM, TGA, PXRD, and ICP analyses. In the reaction of phenylboronic acid with 2-cyclohexenone, chiral POF was recovered by centrifugation and reused by treatment with [Rh(C₂H₄)₂Cl]₂ without significant loss of activity and enantioselectivity (5th recycling run: 87% yield, 84% ee).

SYNFACTS Contributors: Yasuhiro Uozumi, Takao Osako Synfacts 2015, 11(2), 0207 Published online: 19.01.2015 **DOI:** 10.1055/s-0034-1379762; **Reg-No.:** Y15714SF

Category

Polymer-Supported Synthesis

Key words

porous organic framework

conjugate addition

rhodium

enones

arylboronic acids



207