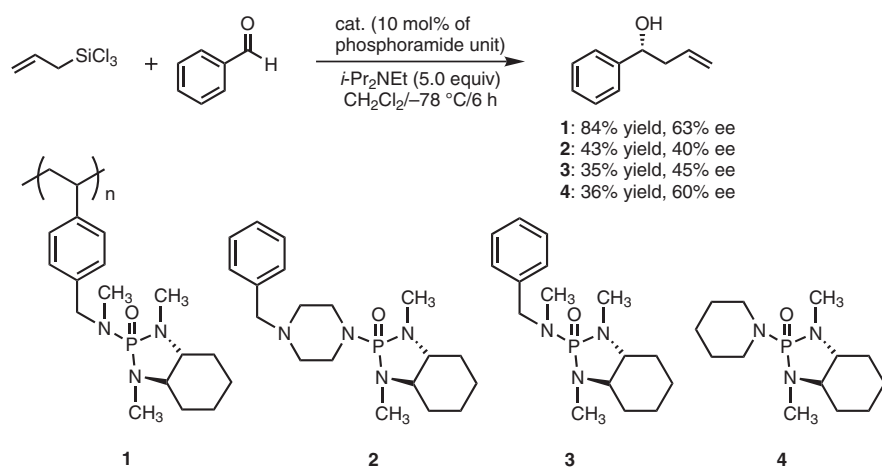


T. OYAMA,* H. YOSHIDA, M. TOMOI (YOKOHAMA NATIONAL UNIVERSITY, JAPAN)
Polystyrene with Chiral Phosphoramidate Substituents as Lewis Base Catalysts for Asymmetric Addition of Allyltrichlorosilane: Enhancement of Catalytic Performance by Polymer Effect
Chem. Commun. **2005**, 1857-1859.

Polymer-Supported Chiral Lewis Base Catalysts



Significance: Novel polymer-supported chiral phosphoramidates were used as a Lewis base catalyst **1** in the asymmetric addition of allyltrichlorosilane to benzaldehyde. The allylation of benzaldehyde proceeded in the presence of the catalyst **1** (10 mol% of phosphoramidate unit) at -78 °C for six hours in dichloromethane to give 1-phenylbut-3-en-1-ol in up to 84% yield with enantiomeric excesses of 63%. The reaction was accelerated by the addition of five equivalents of ethyldiisopropylamine. Catalyst **1** was found to be more effective than its homogeneous counterpart.

Comment: This is the first report on the synthesis of polymers having chiral phosphoramidates and their catalytic applications in asymmetric addition of allyltrichlorosilane to benzaldehyde.

SYNFACTS Contributors: Yasuhiro Uozumi, Ray Kawade
Synfacts 2005, 0, 0089-0089
DOI: 10.1055/s-2005-869891; **Reg-No.:** Y01305SF

2005 © THIEME STUTTGART • NEW YORK

Category

Polymer-Supported Synthesis

Key Words

asymmetric addition
allylation
Lewis bases
polymer effect