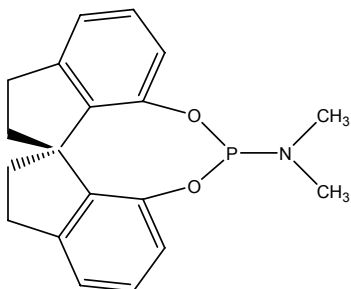


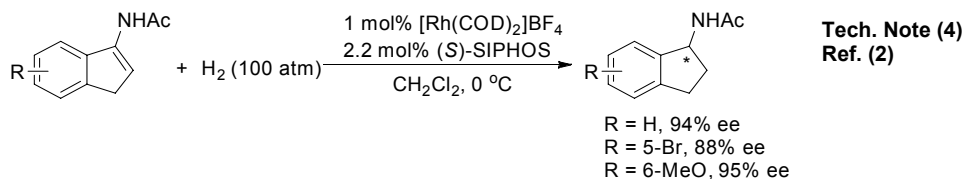
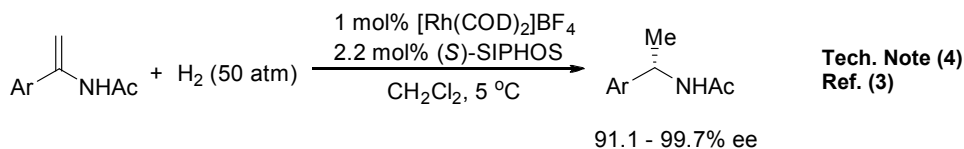
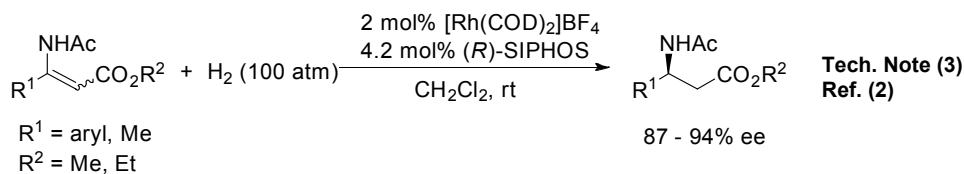
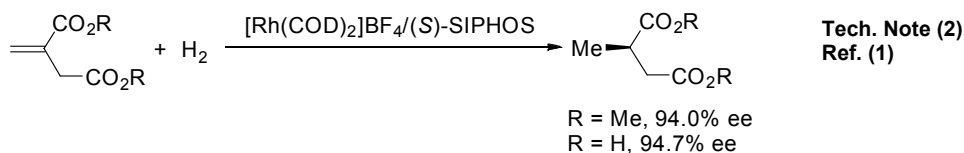
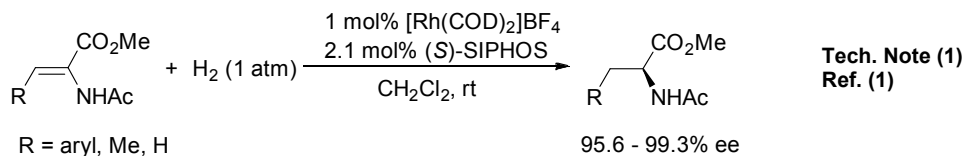
Catalog # 15-5150. (11aR)-(+)-10,11,12,13-Tetrahydroindeno[7,1-de:1',7'-fg][1,3,2]dioxaphosphocin-5-dimethylamine, min. 98% (R)-SIPHOS

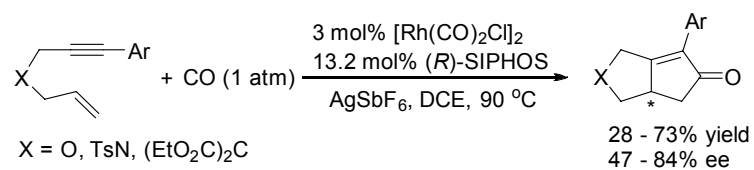


Note: Spiro Monophosphite and Monophosphoramidite Ligand Kit component.

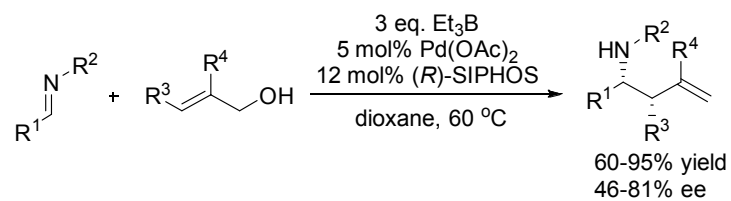
Technical Notes:

1. Chiral ligands for the rhodium-catalyzed asymmetric hydrogenation of α -dehydroamino esters.
2. Chiral ligands for the rhodium-catalyzed asymmetric hydrogenation of itaconic acid derivatives.
3. Chiral ligands for rhodium-catalyzed asymmetric hydrogenation of β -dehydroaminoesters.
4. Chiral ligands for rhodium-catalyzed asymmetric hydrogenation of enamides.
5. Chiral ligands for rhodium-catalyzed asymmetric Pauson-Khand reaction.
6. Chiral ligands for palladium-catalyzed asymmetric umpolung allylation of aldehydes.





Tech. Note (5)
Ref. (4)



Tech. Note (6)
Ref. (5)

References:

1. *Chem. Commun.* **2002**, 480.
2. *J. Org. Chem.* **2004**, 69, 4648.
3. *Angew. Chem., Int. Ed.* **2002**, 41, 2348.
4. *Adv. Synth. Catal.* **2005**, 347, 759.
5. *Tetrahedron: Asymm.* **2010**, 21, 1216.