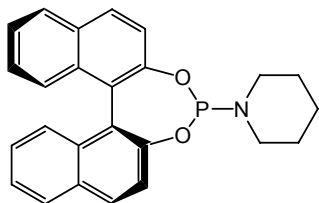


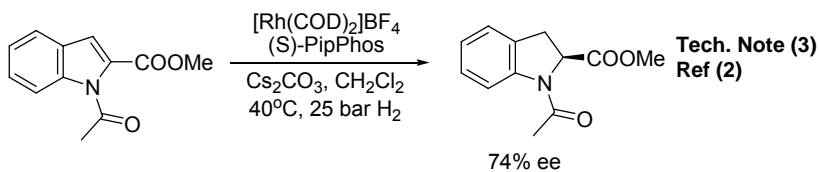
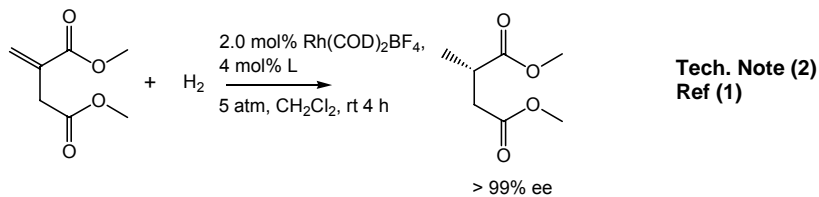
Catalog # 15-1234 (S)-(+)-(3,5-Dioxa-4-phospha-cyclohepta[2,1-a;3,4-a']dinaphthalen-4-yl)piperidine, min. 97% (S)-PipPhos



Note: Sold in collaboration with DSM for research purposes only. Patent WO 0204466. DSM's MonoPhos™ Ligand Kit component.

Technical Notes:

1. See [15-1232](#).
2. Ligand used in the enantioselective rhodium catalyzed low pressure high activity hydrogenation of α -dehydroaminoesters, enamides, and dimethylitaconate.
3. Ligand used in asymmetric hydrogenation of 2-substituted N-protected indoles using Rhodium-based catalysts.



References:

1. *J. Org. Chem.*, **2005**, *70*, 943.
2. *Tetrahedron*, **2010**, *21*, 7.
3. *Organometallics*, **2011**, *30*, 1942.
4. *Adv. Synth. Catal.*, **2011**, 353.