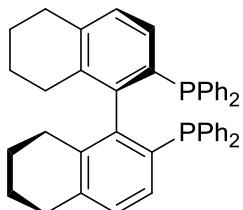


# Strem Chemicals, Inc.

[www.strem.com](http://www.strem.com)

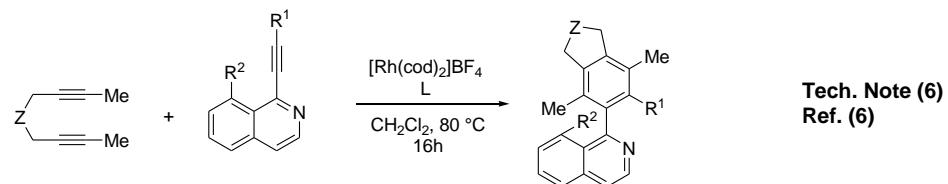
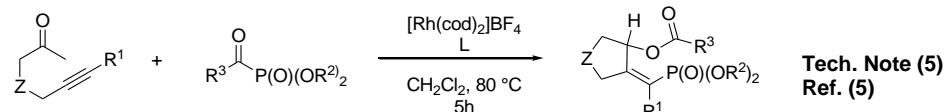
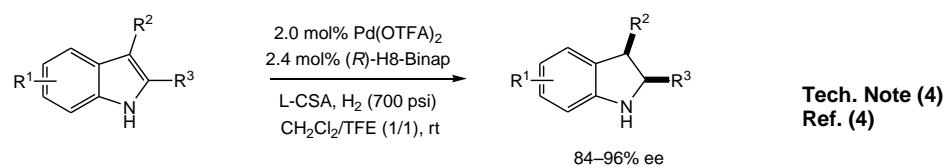
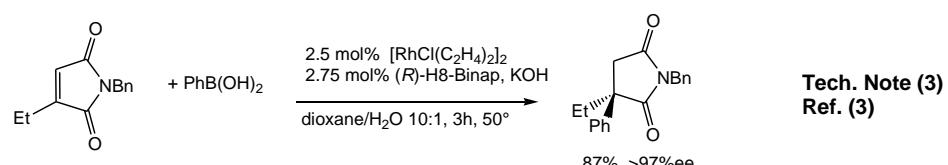
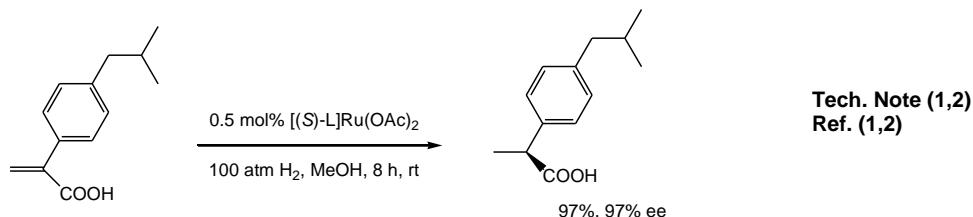
Catalog # 15-2972 (R)-(+)-2,2'-Bis(diphenylphosphino)-5,5'-6,6'-7,7',8,8'-octahydro-1,1'-binaphthyl (R)-H<sub>8</sub>-BINAP

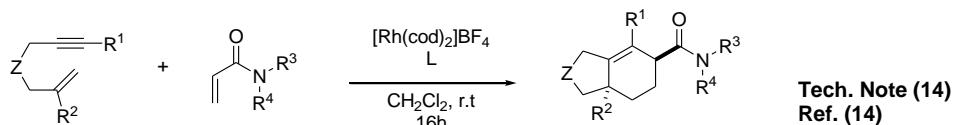
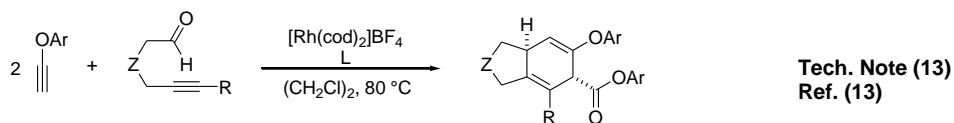
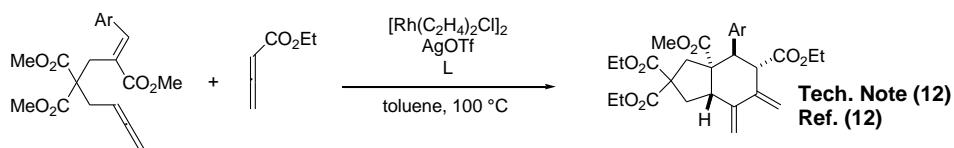
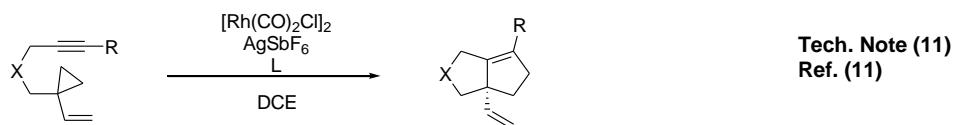
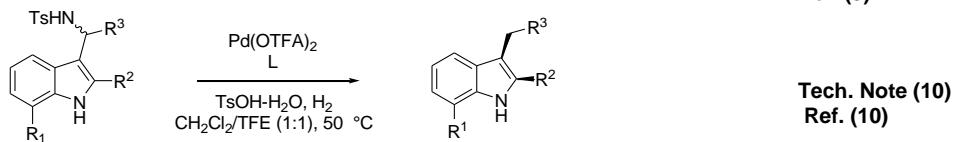
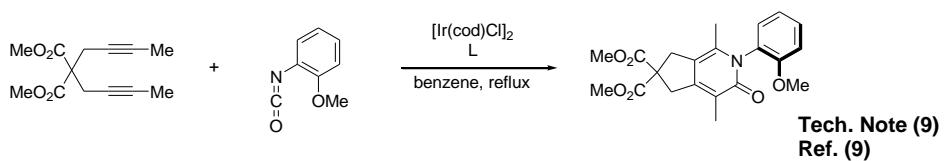
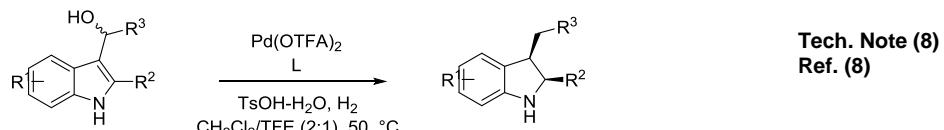
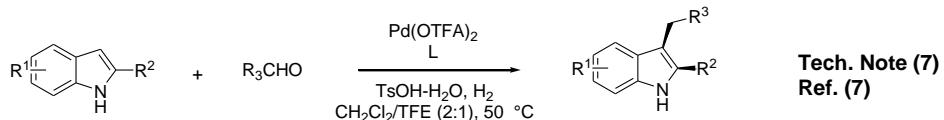


Note: Takasago BINAP Ligand Kit component.

#### Technical Notes:

1. Biaryl bisphosphine ligand. The H8-BINAP ligand, as the ruthenium complex, catalyzes hydrogenation of unsaturated carboxylic acids to a higher ee than does BINAP. (Ref. 1,2)
2. The ruthenium catalyzed hydrogenation of aryl propenoic acid to produce the drug Ibuprofen.
3. Rhodium catalyzed asymmetric regioselective 1,4-addition of arylboronic acids to 3-substituted maleimides.
4. Ligand for palladium-catalyzed enantioselective hydrogenation of substituted indoles.
5. Rhodium-catalyzed enantioselective cyclization of  $\gamma$ -alkynylaldehydes with acyl phosphonates.
6. Enantioselective synthesis of axially chiral 1-arylisquinolines by Rh-catalyzed [2+2+2] cycloaddition.
7. Enantioselective synthesis of 2,3-disubstituted indolines through Bronsted acid/Pd-complex-promoted tandem reactions.
8. Dehydration triggered asymmetric hydrogenation of 3-( $\alpha$ -hydroxyalkyl)indoles
9. Iridium-catalyzed [2+2+2] cycloaddition of  $\alpha,\omega$ -dienes with arylisocyanates
10. Asymmetric hydrogenation of 3-(toluenesulfonamidoalkyl)-indoles
11. Asymmetric Rh(I)-catalyzed intramolecular [3+2] cycloaddition of 1-yne-vinylcyclopropanes for bicyclo[3.3.0] compounds with a chiral quaternary carbon stereocenter.
12. Enantioselective intermolecular [2+2+2] cycloadditions of ene-allenes with allenoates.
13. Rh-catalyzed one-pot intermolecular [2+2+2] trimerization/asymmetric intramolecular [4+2] cycloaddition of two aryl ethynyl ethers and 5-alkynals.
14. Rh-catalyzed regio-, diastereo-, and enantioselective [2+2+2] cycloaddition of 1,6-enynes with acrylamides.





#### References:

1. *J. Org. Chem.*, **1996**, *61*, 5510.
2. *Topics Organometal. Chem.* **2004**, *6*, 63 (review).
3. *J. Am. Chem. Soc.*, **2006**, *128*, 5628.
4. *J. Am. Chem. Soc.*, **2010**, *132*, 8909.
5. *J. Am. Chem. Soc.* **2011**, *133*, 6918.
6. *Chem. Eur. J.* **2011**, *17*, 1428.
7. *Chem. Eur. J.* **2011**, *17*, 7193.
8. *Chem. Sci.*, **2011**, *2*, 803.
9. *J. Org. Chem.*, **2012**, *77*, 908.
10. *Org. Biomol. Chem.*, **2012**, *10*, 1235.
11. *J. Am. Chem. Soc.*, **2012**, *134*, 398.
12. *Org. Lett.*, **2012**, *14*, 6096.
13. *Org. Lett.*, **2012**, *14*, 5856.
14. *Angew. Chem. Int. Ed.*, **2012**, *51*, 13031.