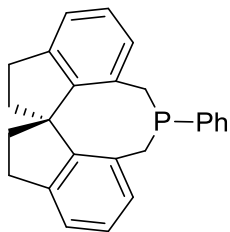
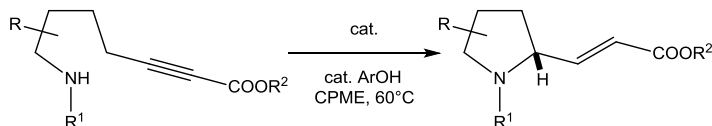


Catalog # 15-5185 (11aS)-(+)-5,6,10,11,12,13-Hexahydro-5-phenyl-4H-diinden[7,1-cd:1',7'-ef]phosphocin, min. 97% (S)-SITCP

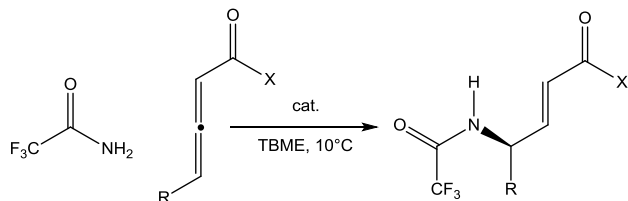


Technical Note:

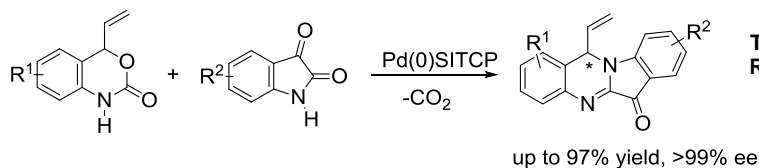
1. Phosphine-catalyzed intra- and intermolecular gamma-addition of nitrogen nucleophiles to allenates and alkynoates.
2. Catalytic asymmetric construction of the tryptanthrin skeleton via enantioselective decarboxylative [4+2] cyclization.
3. Catalytic, enantioselective carbon-oxygen bond formation – phosphine-catalyzed synthesis of benzylic esters via oxidation of benzylic C-H bonds.
4. Use of a new spirophosphine to achieve catalytic, enantioselective [4+1] annulations of amines with allenes to generate dihydropyroles.



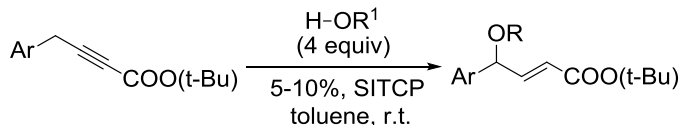
Tech. Note (1)  
Ref. (1)



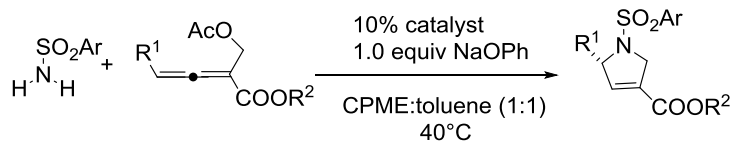
Tech. Note (1)  
Ref. (1)



Tech. Note (2)  
Ref. (2)



Tech. Note (3)  
Ref. (3)



Tech. Note (4)  
Ref. (4)

References:

1. *Angew. Chem. Int. Ed.*, **2013**, 52, 2525.
2. *Org. Lett.*, **2017**, 19, 3219.
3. *J. Am. Chem. Soc.*, **2016**, 138, 12069.
4. *J. Am. Chem. Soc.*, **2015**, 137, 3803.