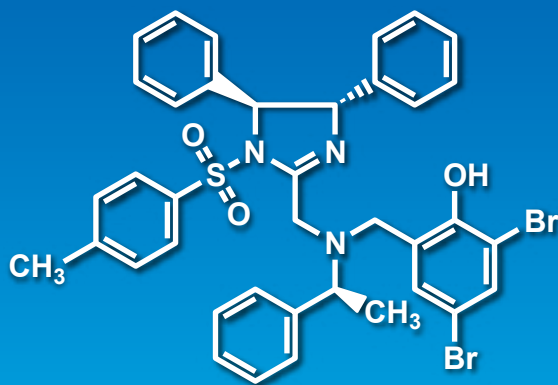
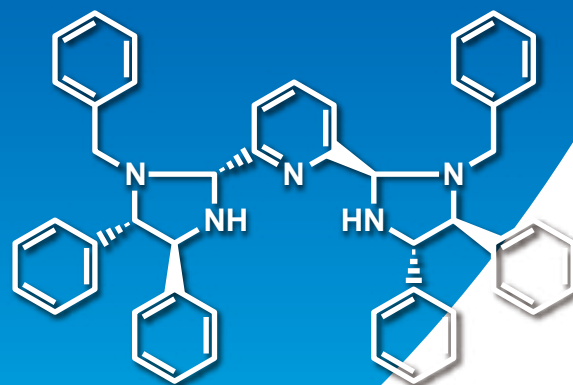


Useful Chiral Ligands for Asymmetric [3+2] Cycloaddition



IAP
[D4168]

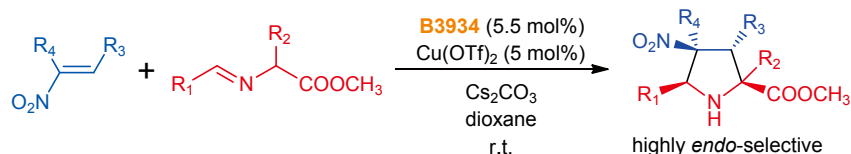
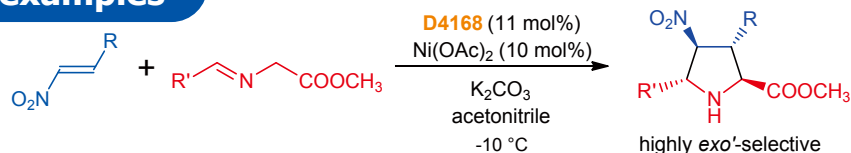


PyBidine
[B3934]

Advantages

IAP (D4168) and PyBidine (B3934) are applicable to the formation of pyrrolidine rings by [3+2] cycloaddition of iminoesters with alkenes, i.e. the use of IAP and PyBidine affords highly *exo'*-selective products^{1, 2)} and *endo*-selective products³⁾, respectively.

Reaction examples



D4168 IAP (= 2,4-Dibromo-6-[[[[(4*S*,5*S*)-4,5-dihydro-4,5-diphenyl-1-tosyl-1*H*-imidazol-2-yl]methyl][(S)-1-phenylethyl]amino]methyl]phenol) 50mg

B3934 PyBidine (= 2,6-Bis[(2*R*,4*S*,5*S*)-1-benzyl-4,5-diphenylimidazolidin-2-yl]pyridine) 50mg

1) T. Arai, N. Yokoyama, A. Mishiro, H. Sato, *Angew. Chem. Int. Ed.* **2010**, *49*, 7895. 2) A. Awata, T. Arai, *Chem. Eur. J.* **2012**, *18*, 8278. 3) T. Arai, A. Mishiro, N. Yokoyama, K. Suzuki, H. Sato, *J. Am. Chem. Soc.* **2010**, *132*, 5338.

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