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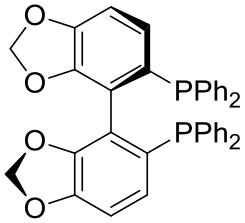
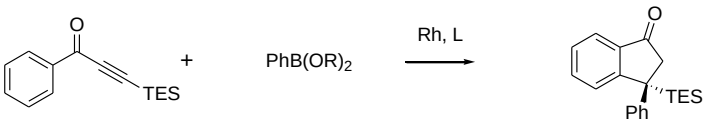
Catalog # 15-0136 (R)-(+)-5,5'-Bis(diphenylphosphino)-4,4'-bi-1,3-benzodioxole, min. 98% (R)-SEGPHOS®



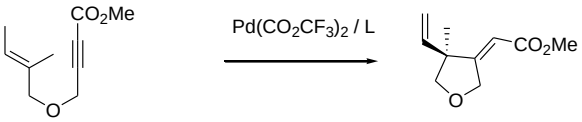
Note: Manufactured under license of Takasago patent. Takasago SEGPHOS® Ligand Kit component.

Technical Notes:

1. Biaryl bisphosphine ligand with narrow dihedral angle. The SEGPHOS® ligand has been applied to a variety of metal catalyzed reactions. In many cases, yields and enantioselectivities, exceed results obtained earlier using BINAP.[1,2]
2. As ruthenium complex, SEGPHOS® generally gives higher levels of chiral induction in asymmetric hydrogenations of α,β,and γ-functionalized ketones. See ruthenium complexes 44-0096, 44-0518, 44-0168.
3. Used in Rh-catalyzed transformations such as: (a) 1,4-addition of boronic acids to coumarins,[4] (b) addition of titanium reagents to imines,[6] (c) cotrimerization of alkenes and acetylenes,[10] (d) double [2+2+2] cycloaddition,[11] (e) indanone formation.[12a,b]
4. Used in Pd-catalyzed transformations such as: (a) cycloaddition of 1,6-enyne,[5] (b) arylative cyclization of allenyl aldehydes with boronic acids,[13] (c) synthesis of chromans.[14]
5. Used in Cu-catalyzed transformations such as: (a) nitroso Diels-Alder,[7] (b) reductive aldol condensation,[9] (c) conjugate reduction of unsaturated sulfones,[15] and phophonates.[16]
6. Iridium-catalyzed asymmetric hydrogenation of quinolines activated by chloroformates.
7. Iridium-catalyzed asymmetric transfer hydrogenation used in polyketide construction.[17]
8. Rhodium-catalyzed asymmetric hydroarylation of 3-pyrrolines.[18]
9. Palladium-catalyzed regio- and enantioselective dearomatization of pyrroles to 2*H*-pyrroles.[19]
10. Rhodium-catalyzed asymmetric synthesis of cyclopentanols.[20]
11. Silver-catalyzed asymmetric Mannich-type reaction.[21]



Tech. Note (3)
Ref. (12a)



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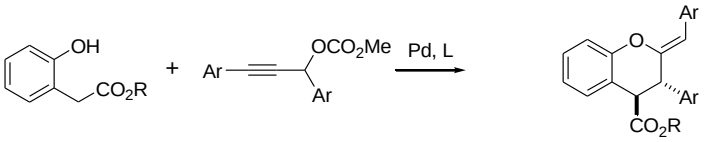

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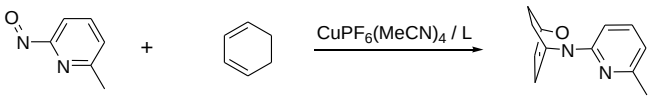

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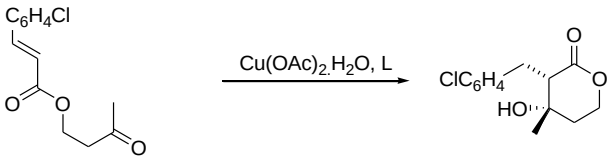

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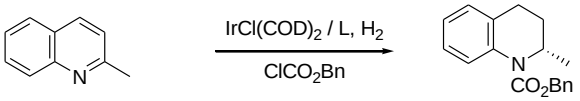

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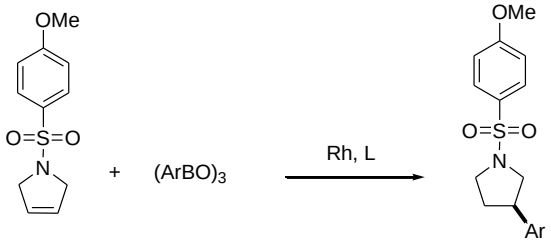

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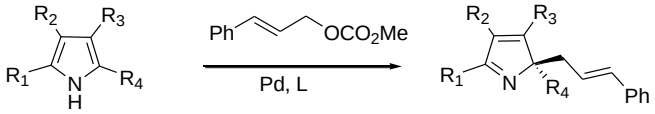

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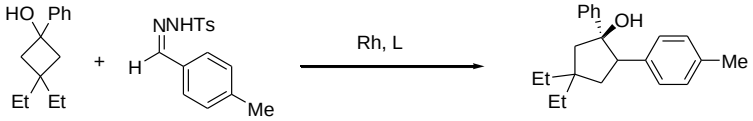

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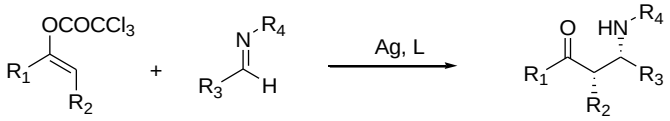

Tech. Note (11)
Ref. (21)

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