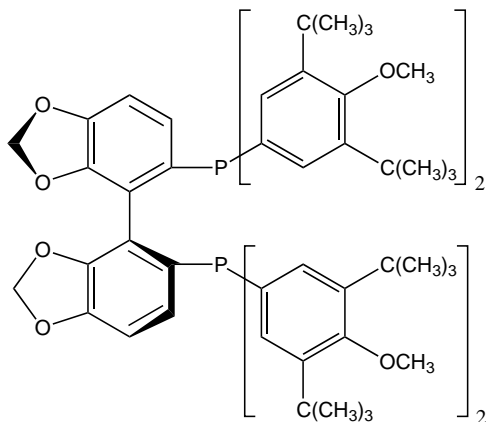


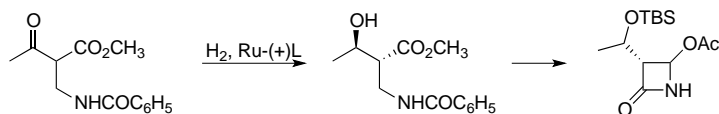
Catalog # 15-0067 (S)-(+)-5,5'-Bis[di(3,5-di-*t*-butyl-4-methoxyphenyl)phosphino]-4,4'-bi-1,3-benzodioxole, min. 98% (S)-DTBM-SEGPHOS®



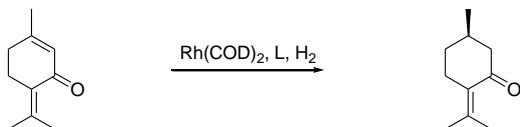
Note: Manufactured under license of Takasago patent. Takasago SEGPHOS® Ligand Kit component.

Technical Notes:

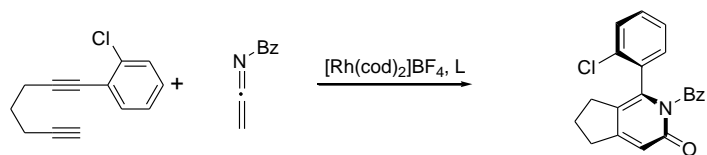
1. Biaryl bisphosphine ligand with narrow dihedral angle. The DTBM SEGPHOS® ligand, as the ruthenium complex, gives superior enantioselectivity and diastereoselectivity through dynamic kinetic resolution in the asymmetric hydrogenation of α -substituted- β -ketoesters useful in the synthesis of carbapenem antibiotics.¹
2. With rhodium, preferential enantioselective hydrogenation of more reactive olefin of extended enone structure.²
3. Rhodium catalyzed chemo-, regio, and enantioselective [2 + 2 + 2] cycloaddition of alkynes with isocyanates.³
4. With copper, enantioselective cross Aldol-type reaction of acetonitrile.⁴
5. With copper, enantioselective vinylsilane alkenylation of aldehydes.⁵
6. Gold carbene mediated stereoselective cyclopropanation of propargyl esters.⁶
7. With copper, enantioselective 1,2-reduction of ketones, and 1,4-reduction of α,β -unsaturated esters.⁷
8. With copper, catalytic enantioselective Mannich-type reaction.⁸
9. Enantioselective fluorination of β β -keto esters, *tert*-butoxycarbonyl lactones and lactams with Sodeoka's Pd-aqua complex and a fluorinating reagent.⁹
10. Rh-catalyzed intramolecular olefin or carbonyl hydroacylation.¹⁰
11. Pd-catalyzed γ -arylation of β,γ -unsaturated ketones.
12. Involved in numerous conjugate alkynylation, and ring-opening alkynylation of azabenzonorbornadienes.¹²
13. Involved in asymmetric hydroamination of bicyclic alkenes/dienes,^{13a} diamination of conjugated dienes,^{13b} and hydroalkoxylation/hydrosulfonylation of allenes.^{13c}
14. Used in cycloaddition reactions such as 1,3-dipolar cycloaddition of azomethine ylides,^{14a} and Au-catalyzed [2+2] cycloaddition of allenes.^{14b}
15. Asymmetric conjugate addition of nitroalkanes to α,β -unsaturated thioamides.¹⁵
16. Asymmetric synthesis of isothiazoles through Cu catalyzed conjugate addition of allyl cyanide to α,β -unsaturated thioamides.¹⁶
17. Asymmetric Ag-catalyzed cycloadditions.¹⁷
18. Rhodium-catalyzed C-C bond cleavage to generate acyclic, asymmetric quaternary centers.¹⁸
19. Iridium-catalyzed intermolecular hydroamidation of olefins.¹⁹
20. Iridium-catalyzed intermolecular hydroamidation of olefins.²⁰
21. CuH-catalyzed asymmetric hydroamination of olefins.²¹



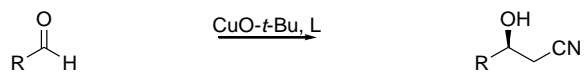
Tech. Note (1)
Ref. (1)



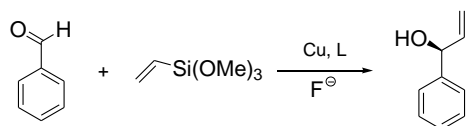
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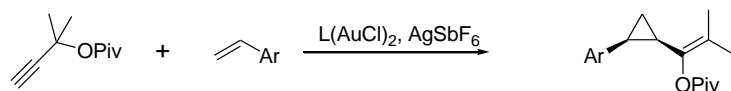
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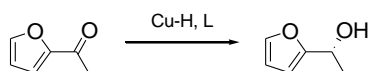
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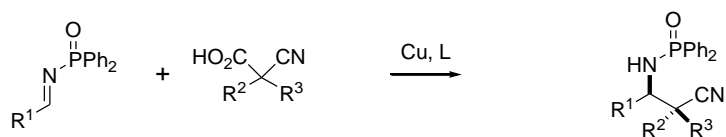
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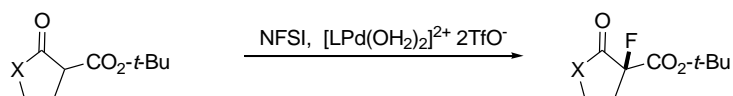
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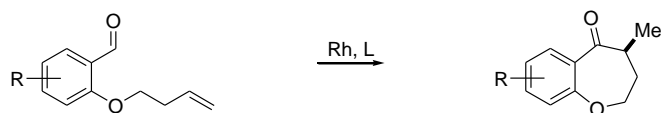
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Ref. (7b)



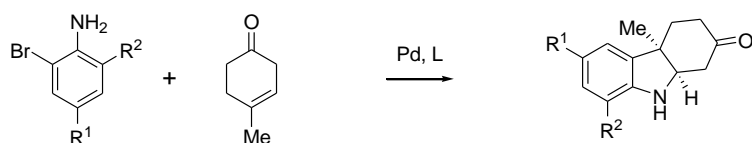
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Ref. (8)



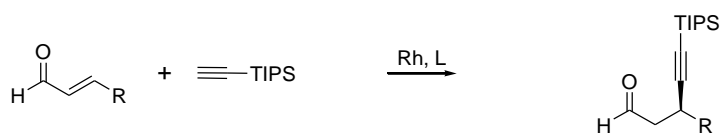
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Ref. (9a)



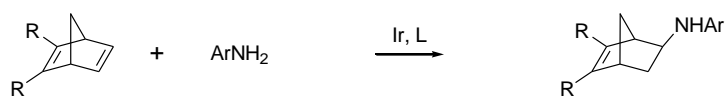
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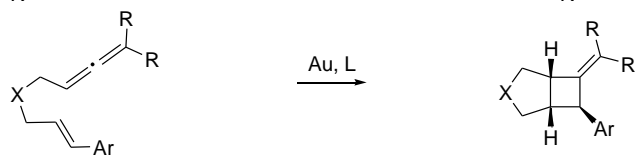
Tech. Note (11)
Ref. (11)



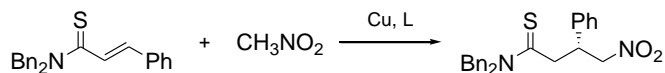
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Ref. (12a)



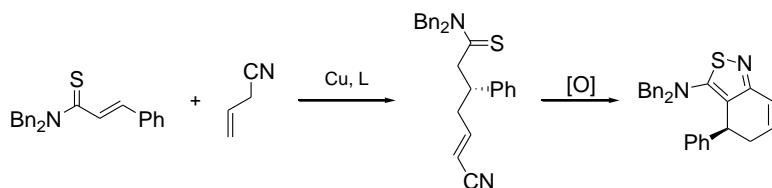
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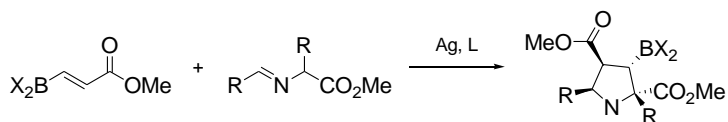
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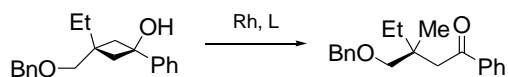
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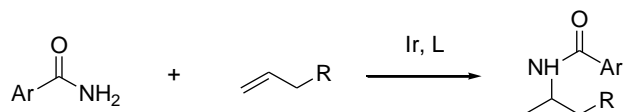
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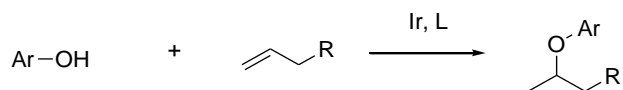
Tech. Note (17)
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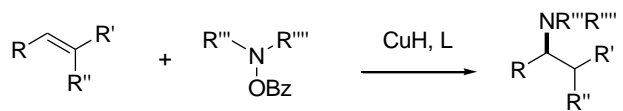
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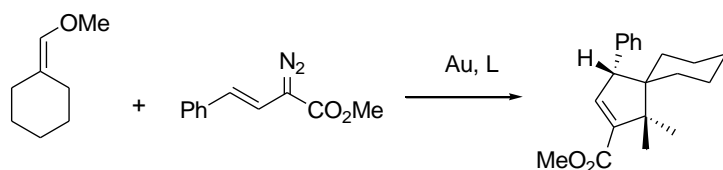
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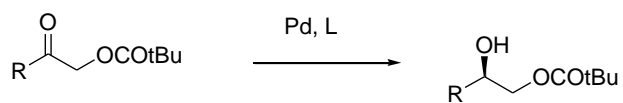
Tech. Note (20)
Ref. (20)



Tech. Note (21)
Ref. (21)



Tech. Note (22)
Ref. (22)



Tech. Note (23)
Ref. (23)

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