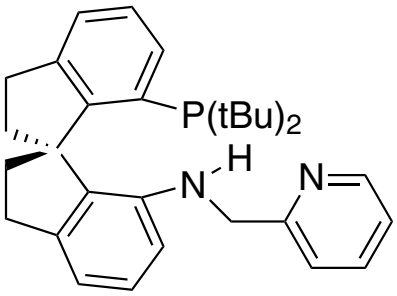
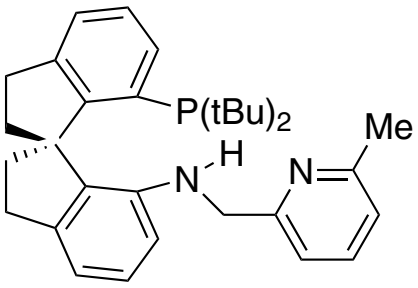
Chiral SpiroPAP Ligand Kit

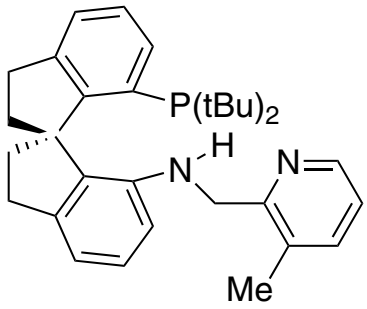
METALS • INORGANICS • ORGANOMETALLICS • CATALYSTS • LIGANDS • NANOMATERIALS • CUSTOM SYNTHESIS • cGMP FACILITIES



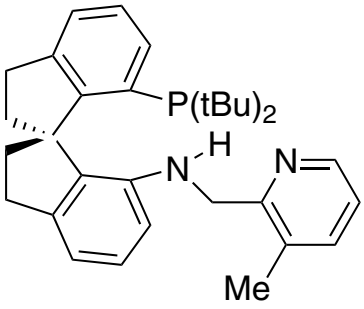
15-5167
(S)-DTB-SpiroPAP



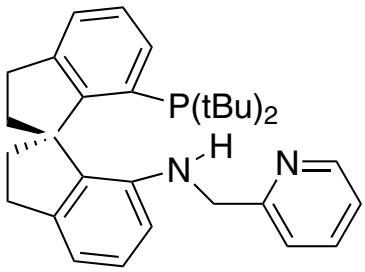
15-5148
(R)-DTB-SpiroPAP-6-Me



15-5158
(R)-DTB-SpiroPAP-3-Me



15-5159
(S)-DTB-SpiroPAP-3-Me



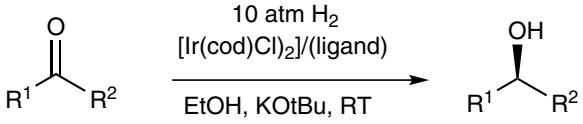
15-5166
(R)-DTB-SpiroPAP

96-0445	**Chiral SpiroPAP Ligand Kit** *This kit contains 25mg of each of the products shown above.*	1 kit

15-5148	**(R)-(+)-7-Bis(3,5-di-t-butylphenyl)phosphino-7'-[(6-methylpyridine-2-ylmethyl)amino]-2,2',3,3'-tetrahydro-1,1'-spirobiindane, min. 98% (>99% ee) (R)-DTB-SpiroPAP-6-Me** *[CAS# 1298133-26-2]* $C_{52}H_{65}N_2P$; FW: 749.06; white solid; m.p. 153-155°C; spec. rotation: +191° (c 1.0, CH_2Cl_2); *air sensitive*	25mg 100mg

Technical Notes:

1. Extremely efficient chiral iridium catalyst used for the asymmetric hydrogenation of ketones



R^1 = aryl, alkyl
R^2 = Me, Et, nBu

95-99% yields
88-99.9% ee
TON up to 4550000

Tech Note (1)
Ref. (1)

References:

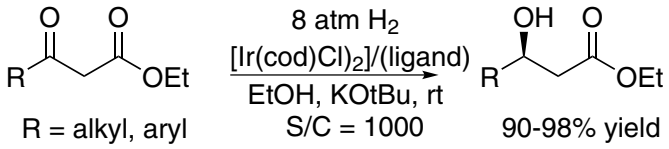
1. *Angew. Chem. Int. Ed.*, **2011**, *50*, 7329.

15-5158 **(R)-(+)-7-Bis(3,5-di-t-butylphenyl)phosphino-7'-[(3-methylpyridine-2-ylmethyl)amino]-2,2',3,3'-tetrahydro-1,1'-spirobiindane, min. 98% (>99% ee) (R)-DTB-SpiroPAP-3-Me** *[CAS# 1298133-36-4]* 25mg 100mg

$C_{52}H_{65}N_2P$; FW: 749.06; white solid; m.p. 160-161°C; spec. rotation +213 (c 0.5, CH_2Cl_2); *air sensitive*

Technical Notes:

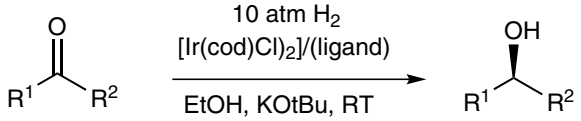
1. Iridium/ligand catalyst for the highly efficient, asymmetric hydrogenation of β-aryl and β-ketoesters.
2. Extremely efficient chrial iridium catalyst used for the asymmetric hydrogenation of ketones.
3. Iridium/ligand catalyst for the highly efficient, asymmetric hydrogenation of β-aryl and β-ketoesters.



R = alkyl, aryl

90-98% yield
88-99.8% ee
TON up to 1230000

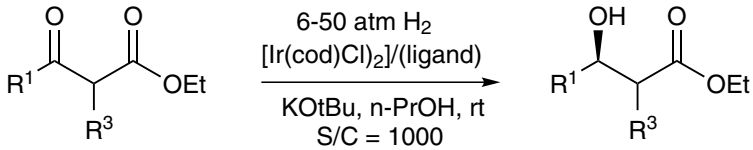
Tech Note (1)
Ref. (1)



R^1 = aryl, alkyl
R^2 = Me, Et, nBu

95-99% yields
88-99.9% ee
TON up to 4550000

Tech Note (2)
Ref. (2)



R^1 = H, C_6H_5
R^3 = alkyl, aryl

90-98% yield
97-99.7% ee
TON up to 100000

Tech Note (3)
Ref. (3)

References:

1. *Angew. Chem. Int. Ed.,* **2011**, *50*, 7329.
2. *Angew. Chem. Int. Ed.,* **2012**, *51*, 201.
3. *Org. Lett.,* **2012**, *14*, 6158.

15-5159 **(S)-(-)-7-Bis(3,5-di-t-butylphenyl)phosphino-7'-[(3-methylpyridine-2-ylmethyl)amino]-2,2',3,3'-tetrahydro-1,1'-spirobiindane, min. 98% (>99% ee) (S)-DTB-SpiroPAP-3-Me** 25mg 100mg

$C_{52}H_{65}N_2P$; FW: 749.06; off-white solid; m.p. 162-164°C; spec. rotation -216° (c 0.5, CH_2Cl_2); *air sensitive*

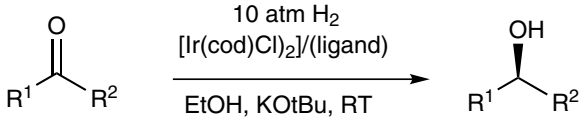
Technical Notes:

1. See 15-5158.

15-5166 **(R)-(+)-7-Bis(3,5-di-t-butylphenyl)phosphino-7'-[(pyridine-2-ylmethyl)amino]-2,2',3,3'-tetrahydro-1,1'-spirobiindane, min. 98% (>99% ee) (R)-DTB-SpiroPAP** *[CAS# 1298133-21-7]* 25mg 100mg

$C_{51}H_{63}N_2P$; FW: 735.03; white solid; m.p. 172-174°C; spec. rotation +172° (c 0.5, CH_2Cl_2); *air sensitive*

Technical Notes:



R^1 = aryl, alkyl
R^2 = Me, Et, nBu

95-99% yields
88-99.9% ee
TON up to 4550000

Tech Note (1)
Ref. (1)

References:

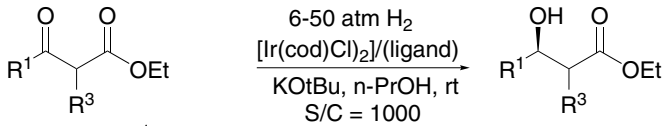
1. *Angew. Chem. Int. Ed.,* **2011**, *50*, 7329.

15-5167 **(S)-(-)-7-Bis(3,5-di-t-butylphenyl)phosphino-7'-[(pyridine-2-ylmethyl)amino]-2,2',3,3'-tetrahydro-1,1'-spirobiindane, min. 98% (>99% ee) (S)-DTB-SpiroPAP** *[CAS# 1415636-82-6]* 25mg 100mg

$C_{51}H_{63}N_2P$; FW: 735.03; white solid; m.p. 170-171°C, spec. rotation -175° (c 0.5, CH_2Cl_2); *air sensitive*

Technical Notes:

1. Iridium/ligand catalyst for the highly efficient, asymmetric hydrogenation of β-aryl and β-ketoesters



R = Me,Et,i-Pr: R^1 = H, C_6H_5
R^2, R^3 = alkyl, aryl

90-98% yield
97-99.7% ee
TON up to 100000

Tech Note (1)
Ref. (1)

References:

1. *Org. Lett.*, **2012**, *14*, 6158.