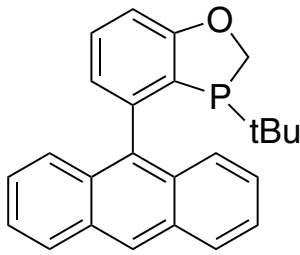
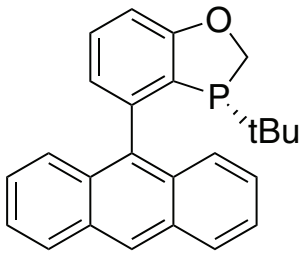
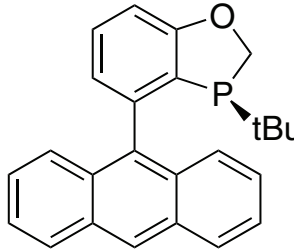
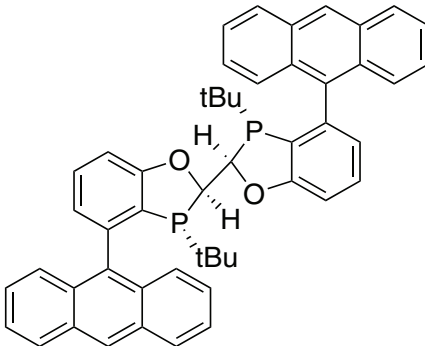
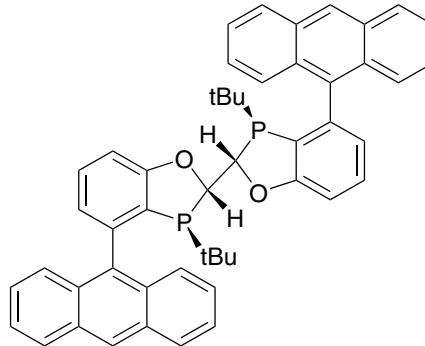


Sold in collaboration with Zejun for research purposes only. Patents ZL201310020371.1, CN 201610056390.

 <p><b>15-1960</b> <i>rac-AntPhos</i></p> <p><b>250mg</b></p>	 <p><b>15-1963</b> <i>(R)-AntPhos</i></p> <p><b>100mg</b></p>	 <p><b>15-1967</b> <i>(S)-AntPhos</i></p> <p><b>100mg</b></p>	
 <p><b>15-1970</b> <i>(2R,2'R,3R,3'R)-WingPhos</i></p> <p><b>25mg</b></p>		 <p><b>15-1975</b> <i>(2S,2'S,3S,3'S)-WingPhos</i></p> <p><b>25mg</b></p>	

<b>96-3810</b> <b>AntPhos and WingPhos Kit</b>	1 kit
<i>This kit contains the follow of each of the products shown above.</i>	
<b>15-1960</b> 4-(Anthracen-9-yl)-3-(t-butyl-2,3-dihydrobenzo[d][1,3]oxaphosphole, 98+% <i>rac-AntPhos</i> (1268693-24-8)	250mg
<b>15-1963</b> (R)-4-(Anthracen-9-yl)-3-(t-butyl-2,3-dihydrobenzo[d][1,3]oxaphosphole, 98+% (>99% ee) [(R)-AntPhos] (1456816-37-7)	100mg
<b>15-1967</b> (S)-4-(Anthracen-9-yl)-3-(t-butyl-2,3-dihydrobenzo[d][1,3]oxaphosphole, 99+% (>99% ee) [(S)-AntPhos] (1807740-34-6)	100mg
<b>15-1970</b> (2R,2'R,3R,3'R)-4,4'-Di(anthracen-9-yl)-3,3'-di-t-butyl-2,2',3,3'-tetrahydro-2,2'-bibenzo[d][1,3]oxaphosphole, min 98% (>90% ee), [(2R,2'R,3R,3'R)-WingPhos] (1884680-45-8)	25mg
<b>15-1975</b> (2S,2'S,3S,3'S)-4,4'-Di(anthracen-9-yl)-3,3'-di-t-butyl-2,2',3,3'-tetrahydro-2,2'-bibenzo[d][1,3]oxaphosphole, min 98%, (>99% ee), [(2S,2'S,3S,3'S)-WingPhos] (1435940-19-4)	25mg

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**15-1960 4-(Anthracen-9-yl)-3-(t-butyl-2,3-dihydrobenzo[d][1,3]oxaphosphole, 98+% rac-AntPhos**

(1268693-24-8)

C<sub>25</sub>H<sub>23</sub>O<sub>3</sub>P; FW: 370.42; pale yellow powdr.

air sensitive, (store cold)

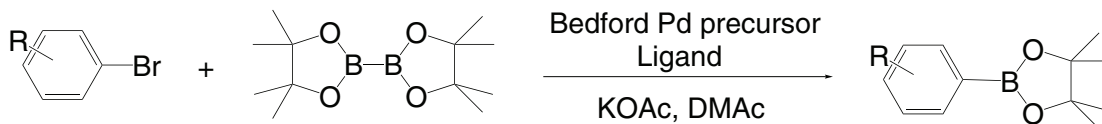
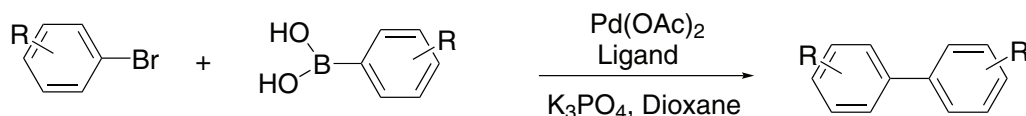
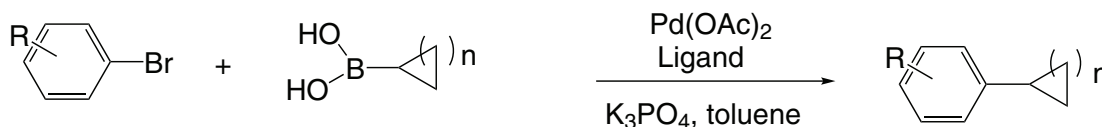
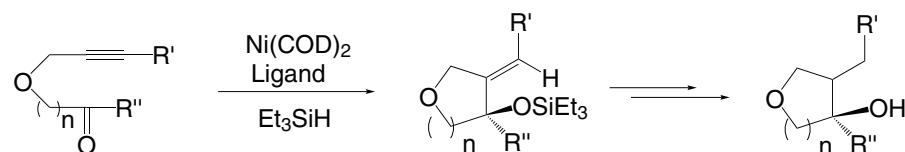
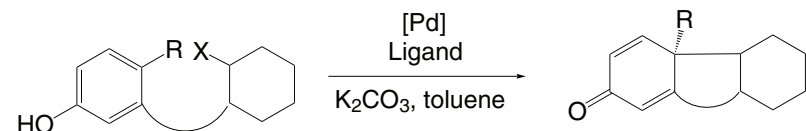
250mg

1g

5g

## Technical Notes:

1. Ligand/palladium catalyst for general Miyaura borylation reactions.
2. Ligand/palladium catalyst for general and sterically demanding Suzuki-Miyaura cross-coupling reactions
3. Ligand/palladium catalyst for aryl-alkyl Suzuki-Miyaura cross-coupling reactions.
4. Ligand/nickel catalyst for intramolecular reductive cyclization
5. Ligand/palladium catalyst for Dearomative cyclization

Tech Note (1)  
Ref (1)Tech Note (2)  
Ref (2)Tech Note (3)  
Ref (3)Tech Note (4)  
Ref (4)Tech Note (5)  
Ref (5,6)

## References:

1. *Org. Lett.*, **2011**, *13*, 1366.
2. *Chem. Eur. J.*, **2013**, *19*, 2261.
3. *Org. Chem. Front.*, **2014**, *1*, 225.
4. *Angew. Chem. Int. Ed.*, **2015**, *54*, 2520.
5. *Angew. Chem. Int. Ed.*, **2015**, *54*, 3033.
6. *Tetrahedron*, **2016**, *72*, 1782.

**15-1963 (R)-4-(Anthracen-9-yl)-3-(t-butyl-2,3-dihydrobenzo[d][1,3]oxaphosphole, 98+% (>99% ee)**

[(R)-AntPhos] (1456816-37-7)

C<sub>25</sub>H<sub>23</sub>O<sub>3</sub>P; FW: 370.42; light-yellow xtl.

air sensitive, (store cold)

100mg

500mg

2g

## Technical Notes:

1. See 15-1960

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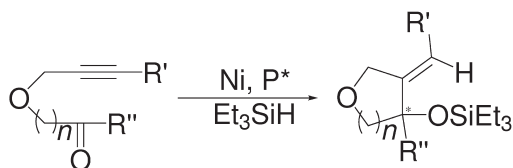
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**15-1967 (S)-4-(Anthracen-9-yl)-3-(t-butyl-2,3-dihydrobenzo[d][1,3]oxaphosphole,99+% (>99% ee)**  
**[(S)-AntPhos]** (1807740-34-6)  
 C<sub>25</sub>H<sub>23</sub>O<sub>3</sub>P; FW: 370.42; light yellow xtl.  
*air sensitive, (store cold)*

100mg  
 500mg  
 2g

Technical Notes:

- Ligand for the enantioselective nickel-catalyzed intramolecular reductive cyclization of alkynes.



**Tech Note (1)**  
**Ref (1)**

References:

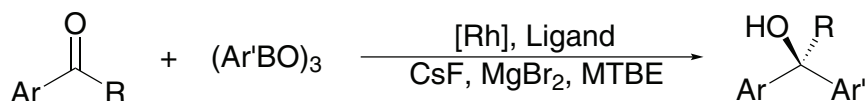
- Angew. Chem.Int Ed.*, **2015**, *54*, 2520.

**15-1970 (2R,2'R,3R,3'R)-4,4'-Di(anthracen-9-yl)-3,3'-di-t-butyl-2,2',3,3'-tetrahydro-2,2'-bibenzo[d][1,3]oxaphosphole, min 98% (>90% ee), [(2R,2'R,3R,3'R)-WingPhos]** (1884680-45-8)  
 C<sub>50</sub>H<sub>44</sub>O<sub>2</sub>P<sub>2</sub>; FW: 738.83; light yellow powdr.  
*air sensitive, (store cold)*

25mg  
 100mg  
 500mg

Technical Notes:

- Ligand for rhodium-catalyzed enantioselective addition of arylboroxines to simple aryl ketones.



**Tech Note (1)**  
**Ref (1)**

References:

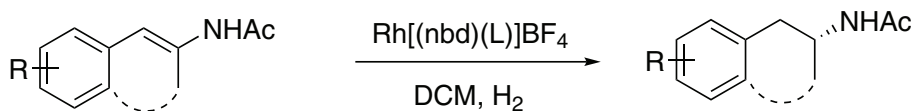
- Angew. Chem.Int Ed.*, **2016**, *55*, 4527.

**15-1975 (2S,2'S,3S,3'S)-4,4'-Di(anthracen-9-yl)-3,3'-di-t-butyl-2,2',3,3'-tetrahydro-2,2'-bibenzo[d][1,3]oxaphosphole, min 98%, (>99% ee), [(2S,2'S,3S,3'S)-WingPhos]** (1435940-19-4)  
 C<sub>50</sub>H<sub>44</sub>O<sub>2</sub>P<sub>2</sub>; FW: 738.83; light yellow powdr.  
*air sensitive, (store cold)*

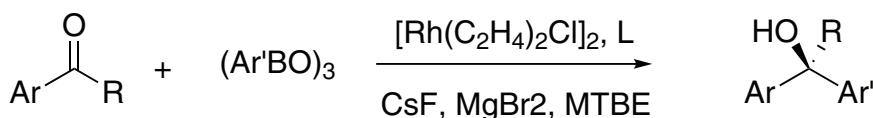
25mg  
 100mg  
 500mg

Technical Notes:

- Ligand/Rhodium catalyst for asymmetric hydrogenation.
- Ligand/Rhodium catalyst for asymmetric arylboronic reagents addition to aryl ketones.



**Tech Note (1)**  
**Ref (1)**



**Tech Note (2)**  
**Ref (2)**

References:

- Angew. Chem.Int Ed.*, **2013**, *52*, 4235.
- Angew. Chem.Int Ed.*, **2016**, *55*, 4527.

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