## Strem Chemicals, Inc.

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Catalog # 15-1386 (11bR)-4-Hydroxy-2,6-diphenyl-4-oxide-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin, 98%, (99% ee)

## **Technical Notes:**

- 1. **Diels-Alder Reaction:** A highly enantioselective anti-diastereoselective hetero-Diels-Alder reaction between a glyoxylate and siloxy- or methoxydienes using a chiral phosphoric acid catalyst that possesses less bulky phenyl groups at the 3 and 3' positions of binaphthyl has been developed.
- 2. **Kinetic Resolution:** In the presence of 10 mol% of a chiral phosphoric acid, a variety of racemic N-benzylic sulfonamides having N-(3-indolyl)methyl groups smoothly undergo kinetic resolution with benzyl thiol at 0 °C or at room temperature and the remaining sulfonamides are recovered in moderate to excellent yields and with excellent ee.

R<sup>1</sup>
R<sup>2</sup>
+ R
Chiral Lewis Acid
endo

R<sup>3</sup>

$$R^3$$
 $R^1$ 
 $R^3$ 
 $R^1$ 
 $R^2$ 
+ R
Chiral Lewis Acid
endo

R<sup>3</sup>
 $R^1$ 
 $R^2$ 
 $R^3$ 
 $R^1$ 
 $R^3$ 
 $R^4$ 
 $R^3$ 
 $R^4$ 
 $R^3$ 
 $R^4$ 
 $R^3$ 
 $R^4$ 
 $R^4$ 

$$R,R^{1} = \text{aryl, alkyl}$$

$$R^{2} = H, \text{ alkoxy, halo}$$

$$R^{3} = H, \text{ alkyl}$$

$$R^{3} = H, \text{ alkyl}$$

$$R^{3} = H, \text{ alkyl}$$

$$SO_{2}R$$

$$R^{3} \cdot N$$

$$R^{2} = R^{3} \cdot N$$

$$Catalyst (10 \text{ mol}\%)$$

$$DCE, 0-25C$$

$$R^{3} = H, \text{ alkyl}$$

$$DCE, 0-25C$$

$$R^{3} = H, \text{ alkyl}$$

$$DCE, 0-25C$$

$$R^{3} = H, \text{ alkyl}$$

$$Tech \text{ Note (2)}$$

$$Ref. (2)$$

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## References:

- 1. J. Am. Chem. Soc., 2009, 131, 12882-12883.
- 2. Chem. Commun., 2012, 48, 898-900.