## Strem Chemicals, Inc.

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Catalog # 15-1381

(11bR)-4-Hydroxy-2,6-bis[2,4,6-tris(1-methylethyl)phenyl]-4-oxide-dinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin, 98%, (99% ee)

### Technical Notes:

- 1. **Reductive Amination:** Catalyst for the organocatalytic asymmetric reductive amination of aldehydes. Treating racemic α-branched aldehydes with p-anisidine and a Hantzsch ester in the presence of catalyst, TRIP, gave β-branched secondary amines.
- 2. **α-Allylation:** Highly enantioselective Pd/chiral acid-catalyzed α-allylation of α-branched aldehydes with an allyl amine as the allylating species, that creates all-carbon quaternary stereogenic centers in high yields and enantioselectivities.
- 3. **Hydrogenation:** A achiral amine in combination with a catalytic amount of a chiral Brønsted acid can accomplish an aldol addition-dehydration-conjugate reduction-reductive amination to provide potential intermediates of pharmaceutically active compounds in good yields and excellent enantioselectivities.
- 4. **Friedel-Crafts Reaction:** The first enantioselective catalysis of the Friedel-Crafts reaction via activation of electron-rich multiple bonds by a chiral Brønsted acid.
- 5. **Allylboration:** A new high-yielding and highly enantioselective chiral Brønsted acid-catalyzed allylboration of aldehydes.
- 6. **Aza-Darzens Reaction:** Aza-Darzens reaction of ethyl diazoacetate with aldimines, derived from phenyl glyoxal, furnished cis-aziridine carboxylates with excellent enantioselectivities by means of a chiral phosphoric acid.
- 7. **Intramolecular Aldol Condensation:** Transformation applicable to a wide variety of substrates to give chiral cyclohexenones in high yields and with excellent enantioselectivity.

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Tech Note (6)

Ref. (6)

Hydrogen Transfer

R= Ar, >99% e.e.

### References:

- 1. J. Am. Chem. Soc., 2006, 128, 13074-13075.
- 2. J. Am. Chem. Soc., 2007, 129, 11336-11337.
- 3. J. Am. Chem. Soc., 2007, 129, 7498-7499.
- 4. J. Am. Chem. Soc., 2007, 129, 292-293.
- 5. J. Am. Chem. Soc., 2010, 132, 11884-11886.
- 6. J. Am. Chem. Soc., 2013, 135, 11740-11743.
- 7. Angew. Chem. Int. Ed., 2009, 48, 9652-9654.