## Strem Chemicals, Inc

## www.strem.com

Catalog # 15-0565 (11aR)-3,7-Bis[3,5-bis[3,5-bis(trifluoromethyl)phenyl]phenyl]-10,11,12,13-tetrahydro-5-hydroxy-diindeno[7,1-de:1',7'-fg][1,3,2]dioxaphosphocin, 95%

## **Technical Notes**

- 1. Used in asymmetric N–H insertion reaction cooperatively catalyzed by rhodium and chiral spiro phosphoric acids.
- 2. Used in the chiral spiro phosphoric-acid-catalyzed regioselective and enantioselective C7-Friedel-Crafts alkylation of 4-Aminoindoles with trifluoromethyl ketones.

$$\begin{array}{c} N_2 \\ Ar \\ O \end{array} + BocNH_2 \xrightarrow{[Rh_2(TPA)_4]/SPA} Ar \xrightarrow{NHBoc} OR \\ \hline CHCl_3, 25^{\circ}C, 1min \\ O \end{array}$$

$$\begin{array}{c} NHBoc \\ OR \\ O \end{array}$$

$$\begin{array}{c} OR \\ OR \\ O \end{array}$$

$$CF_3$$
  $R^1$   $R^2$   $R^4$   $R^4$ 

Tech. Note (2); Ref. (2)

## References:

- 1. Angew. Chem. Int. Ed. 2011, 50, 11483.
- 2. Org. Lett. 2019, 21, 3538.