Strem Chemicals, Inc.

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Catalog # 15-1510 (S)-(+)-(3,5-Dioxa-4-phosphacyclohepta[2,1-a;3,4-a']dinaphthalen-4-yl)benzyl(methyl)amine, 99%

Note: Sold in collaboration with DSM for research purposes only. Patent WO 02 04466. DSM's MonoPhos™ Ligand Kit

Technical Notes:

- 1. The ligand has been used in Ir-catalyzed asymmetric hydrogenation of substituted benzophenone N-H imines
- 2. The ligand has been used in the rhodium-catalyzed enantioselective hydrogenation of (E)-N-acylated dehydro-β-aminoacid esters (For (Z) isomer, use 15-1525).

$$R_{1} = Me, OMe, CF_{3}, F, CI, Br$$

$$\frac{2.5 \text{ mol}\% \left[Ir(COD)CI\right]_{2}, 10 \text{ mol}\% L^{*}}{H_{2}, rt, DCM-MeOH 3:1 (v:v)}$$

$$R_{1} = Me, OMe, CF_{3}, F, CI, Br$$

$$R_{1} = Me, OMe, CF_{3}, F, CI, Br$$

$$R_{1} = Me, OMe, CF_{3}, F, CI, Br$$

$$R_{2} = Me, OMe, CF_{3}, F, CI, Br$$

$$R_{3} = Me, OMe, CF_{3}, F, CI, Br$$

$$R_{3} = Me, OMe, CF_{3}, F, CI, Br$$

$$R_{3} = Me, OMe, CF_{3}, F, CI, Br$$

$$R_{4} = Me, OMe, CF_{3}, F, CI, Br$$

$$R_{5} = Me, OMe, CF_{3}, F, CI, Br$$

$$R_{6} = Me, OMe, CF_{3}, F, CI, Br$$

$$R_{7} = Me, OMe, CF_{3}, F, CI, Br$$

AcHN
$$\frac{1\% \text{ L*/0.5\% [Rh(cod)}_2\text{BF}_4]}{\text{H}_2 25 \text{ atms, 6 hrs.}}$$
 AcHN $\frac{100\% \text{ conv.}}{98\% \text{ ee}}$ Tech. Note (2) Ref. (2)

References:

- J. Am. Chem. Soc., 2010, 132, 2124.
 J. Am. Chem. Soc., 2002, 124, 14552.