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Catalog # 05-1001
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 $\mathsf{CALLERY}^{\texttt{M}} \text{ (S)-Methyl oxazaborolidine, 1M in toluene, (S)-MeCBS}$ 



(±)-R-CBS (R=H, alkyl) is a oxazaborolidine catalyst generally used in Corey-Bakshi-Shibata (CBS) reduction process, where an achiral ketone is enantioselectively reduced to produce the corresponding chiral, non-racemic alcohol [1]:

$$\begin{array}{c} O \\ R^{1} \\ R^{2} \\ \end{array} \xrightarrow{R-CBS \text{ catalyst}} \\ BH_{3} \cdot THF \\ \end{array} \xrightarrow{HO} \\ R^{1} \\ R^{2} \\ \end{array}$$

**Technical Notes:** 

- 1. Used in kinetic resolution process of α-silyloxy ketones via CBS reduction.
- 2. Used in CBS-reduction of 4-nitro-2-butanone with subsequent generation of 3-amino sugars.
- 3. Asymmetric reduction of ketone with subsequent generation of Actinorhodin.
- 4. Used in kinetic resolution process of ketones via CBS reduction during the enantioselective total synthesis of (–)-Englerin A and B.
- 5. Used in total synthesis of Tunicamycin V.
- 6. Used in synthesis of optically active hydroxyalkyl cycloheptatrienes.
- 7. Used for the enantioselective reduction of cyclobutanones.



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#### References:

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- 8. Chem. Sci., 2021, 12, 10598.