Stereoselective Synthesis of C-6 Hydroxy Tricyclic Sulfone as a γ-Secretase Inhibitor

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**Synthesis of a γ-Secretase Inhibitor**

![Chemical diagram]

**Significance:** γ-Secretase inhibitors are of interest for the treatment of Alzheimer’s disease. The key step in the synthesis of the target γ-secretase inhibitor is the stereoselective opening of the epoxide **E** using a (trialkylthio)boron reagent **F** derived from reaction of BH$_3$ with p-clorobenzenethiol.

**Comment:** The cis stereochemistry in **H** derives from prior coordination of the (trialkylthio)boron reagent to the epoxide oxygen in **E** followed by epoxide ring opening and intramolecular transfer of an arylthio group to the resultant carbocation **G**.