Rh-Catalyzed Asymmetric Addition of Trifluoroborates to Sulfonylketimines

**Significance:** Easily accessible potassium organotrifluoroborates undergo a rhodium-catalyzed asymmetric addition to both N-tosyl and N-nosyl ketimines. The use of a chiral bicyclooctadiene-based ligand allows high enantiomeric excess in the product formation.

**Comment:** In the case of nosyl groups, the addition products can easily be deprotected using thiophenolpotassium carbonate, retaining the enantiomeric purity. For related applications of dienic ligands, see: K. Okamoto, T. Hayashi, V. H. Rawal Org. Lett. 2008, 10, 4387.

**Selected examples:**

- \( \text{HN}^\text{Ts} \) (98% ee, 84% yield)
- \( \text{HN}^\text{Ph} \) (99% ee, 86% yield)
- \( \text{HN}^\text{Ns} \) (95% ee, 71% yield)
- \( \text{HN}^\text{Me} \) (98% ee, 91% yield)
- \( \text{HN}^\text{OMe} \) (95% ee, 80% yield)

**Typical deprotection of the addition products:**

- \( \text{HN}^\text{Ns} \) (95% ee, 89% yield)