Rhodium-Catalyzed Asymmetric Transfer Hydrogenation

**Significance:** Chiral flavanone moieties are among the largest secondary metabolites in plants. As such, they have been known for their antifungal, antibacterial, and antiviral effects. The authors present a practical and convenient method for the synthesis of both enantiomers of this class of molecules.

**Comment:** The catalytically active rhodium hydride species was generated in situ prior to the addition of the substrate. This method allowed the authors to reduce catalyst loading to 0.5 mol% while retaining high enantioselectivities. They were able to synthesize both enantiomers of the natural product glabrol.

**Selected examples:**

- **catalyst** (0.5–10 mol%) HCO₂H, Et₃N
  - up to 50% yield
  - up to >99% ee
  - 9 examples

- **Up to 0.373 mmol**
  - 50% yield
  - 97% ee

- **45% yield**
  - >99% ee
  - Standard conditions

**Synthesis of (S)- and (R)-glabrol:**

1. TPAP
2. NaBO₃

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