Diastereoselective Addition of Grignard Reagents to α-Epoxy N-Sulfonyl Hydrazones


Diastereoselective α-Alkylation of α-Epoxy N-Sulfonyl Hydrazones

**Significance:** Coltart and co-workers report the diastereoselective addition of Grignard reagents to α-epoxy N-sulfonyl hydrazones to give various β-hydroxy N-sulfonyl hydrazones with quaternary α-stereocenters in very high yields.

**Comment:** The alkoxide, which is generated in situ through base-induced ring-opening of the epoxide, selectively directs the addition syn in a 1,4-manner.

**Selected examples:**

- **TsHNN**
  - 63% yield (X = Br)
  - syn/anti > 25:1

- **TsHNN**
  - 62% yield (X = Br)
  - syn/anti > 25:1

- **TsHNN**
  - 88% yield (X = Br)
  - syn/anti > 25:1

- **TsHNN**
  - 70% yield (X = Br)
  - syn/anti > 25:1

- **TsHNN**
  - 52% yield (X = Cl)
  - syn/anti > 25:1

- **TsHNN**
  - 95% yield (X = Br)
  - syn/anti > 25:1

- **TsHNN**
  - 88% yield (X = Br)
  - syn/anti > 25:1

- **TsHNN**
  - 38% yield (X = Br)
  - syn/anti > 25:1