Ruthenium-Catalyzed Cycloaddition of Benzocyclobutenones with Diols

**Selected examples:**

![Selected examples](image_url)

- 88% yield, dr > 20:1
- 82% yield, dr > 20:1
- 89% yield, dr > 20:1
- 95% yield, dr > 20:1
- 64% yield, dr > 20:1
- 82% yield, dr > 20:1
- 86% yield, dr > 20:1
- 61% yield, dr > 20:1

**Proposed mechanism:**

![Proposed mechanism](image_url)

**Significance:** The authors have reported intermolecular cycloadditions through formal insertion of saturated C–H bonds into C–C σ-bonds. A ruthenium(0)/dppp complex catalyzed the diastereoselective coupling reactions of benzocyclobutenones to adjacent saturated carbon centers in diols.

**Comment:** The cycloaddition via ruthenacycles from the benzocyclobutenones and dehydrogenation of the alcohols provides a convergent method for the construction of type II polyketide substrutures.