Ruthenium-Catalyzed Asymmetric Yne–Enone Cyclizations

**Significance:** The authors report asymmetric yne–enone cyclizations catalyzed by chiral cationic Cp^X^Ru(II) complexes. A variety of 4H-pyrans were obtained in good yields (≤95%) and high enantioselectivities (er ≤ 99:1).

**Comment:** A new class of chiral Cp^X^Ru(II) complexes was synthesized that provide opportunities for the development of synthetically valuable enantioselective transformations.

**Synthesis of the chiral Cp^X^Ru(II) complexes:**

1. TIOEt, C_6H_6, 80 °C, 21–77% yield
2. AgX, MeCN, r.t., 61–99% yield

**Selected examples:**

- **71% yield**
  - er = 97:3
- **87% yield**
  - er = 98.5:1.5
- **95% yield**
  - er = 89:11

- **78% yield**
  - er = 99:1
- **72% yield**
  - er = 98:2
- **95% yield**
  - er = 98:2