Enantioselective Allyl–Allylsilane Cross-Coupling Catalyzed by Iridium

**Significance:** An iridium-catalyzed cross-coupling of allylic alcohols with allylsilanes is reported. A series of chiral 1,5-dienes were prepared in good yields (up to 95%) with excellent regio- (up to >25:1) and enantioselectivities (up to >99% ee).

**Comment:** This allyl–allylsilane cross-coupling proceeds with excellent regio- and enantioselectivity under operationally simple conditions. The utility of this reaction is demonstrated in the enantioselective synthesis of the pyrethroid insecticide protrifenbute.

**Selected examples:**

- **79% yield, >99% ee**
- **87% yield, >99% ee**
- **65% yield, >99% ee**
- **61% yield, >99% ee**
- **84% yield, 99% ee**
- **87% yield, >99% ee**
- **69% yield, 99% ee**
- **87% yield, >99% ee**
- **59% yield**
- **75% yield, regioselectivity (25:1)**
- **94% yield**
- **59% yield**

**Synthesis of (–)-protrifenbute:**

**SYNFACTS Contributors:** Hisashi Yamamoto, Masahiro Sai

**DOI:** 10.1055/s-0034-1379323; **Reg-No.:** H13214SF

This document was downloaded for personal use only. Unauthorized distribution is strictly prohibited.