**Diastereo- and Enantioselective Conjunctive Cross-Coupling via a Metalate Shift**

**Significance:** The authors describe a conjunctive cross-coupling process to access products with vicinal stereogenic centers. This method avoids the generation of Suzuki–Miyaura stilbene byproducts obtained when typical boronic esters are employed.

**Comment:** Products are obtained in moderate yields and excellent enantio- and diastereoselectivities. The synthetic utility of the –B(mac) handle is demonstrated. Additionally, this methodology was used for the synthesis of (+)-obtusafuran.