Allylboration of Aldehydes

**Significance:** A highly enantioselective allylboration of aldehydes catalyzed by the chiral Brønsted acid \((R)-\text{TRIP}\) is reported by the authors. This transformation shows a broad substrate scope: aryl, heteroaryl, \(\alpha,\beta\)-unsaturated and aliphatic aldehydes can all be efficiently allylated. Furthermore, the crotylboration of benzaldehyde also proceeded smoothly with high diastereo- and enantioselectivity in the presence of this acid catalyst.

**Comment:** Simple starting materials and a commercially available catalyst make this protocol a useful and efficient method for the synthesis of enantioenriched homoallylic alcohols. A transition state where the boronate is activated by protonation of the boronate oxygen with a chiral phosphoric acid is proposed by the authors. To confirm this activation model, further mechanistic investigation may be required.