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Chiral Brønsted Acid Catalyzed Allylboration of Aldehydes

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## **Allylboration of Aldehydes**

Significance: A highly enantioselective allylboration of aldehydes catalyzed by the chiral Brønsted acid (R)-TRIP is reported by the authors. This transformation shows a broad substrate scope: aryl, heteroayrl,  $\alpha,\beta$ -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.

er = 98:2

er = 99:1

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.

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