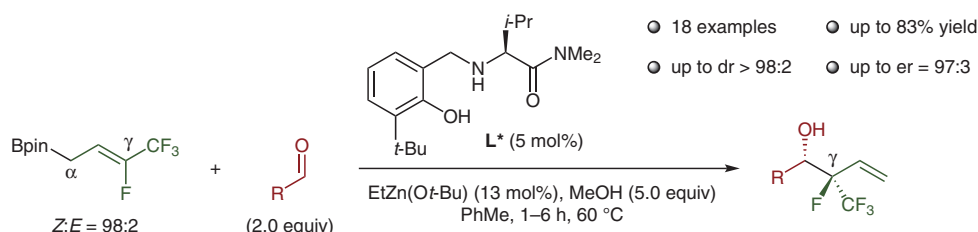
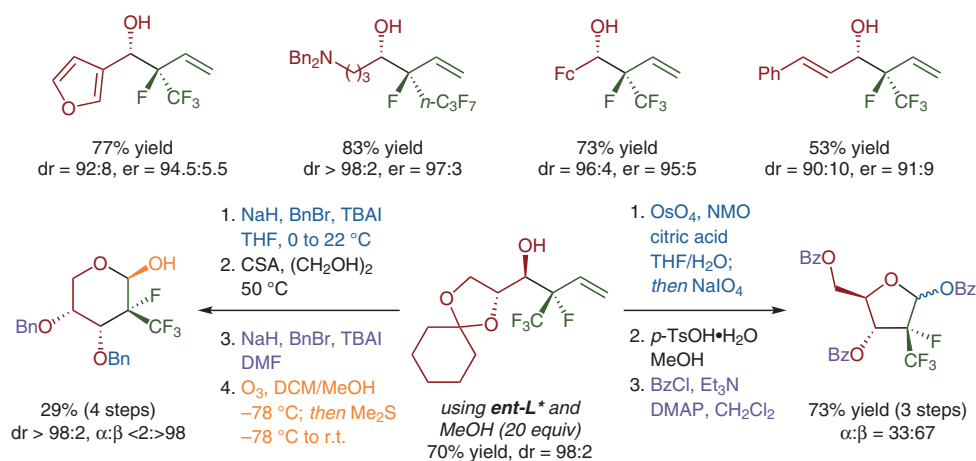


S. XU, J. DEL POZO, F. ROMITI, Y. FU, B. K. MAI, R. J. MORRISON, K. A. LEE, S. HU, M. J. KOH, J. LEE, X. LI, P. LIU, A. H. HOVEYDA\* (UNIVERSITY OF PITTSBURGH AND BOSTON COLLEGE, CHESTNUT HILL, USA; UNIVERSITY OF STRASBOURG, FRANCE)  
Diastereo- and Enantioselective Synthesis of Compounds with a Trifluoromethyl- and Fluoro-Substituted Carbon Centre  
*Nat. Chem.* **2022**, *14*, 1459–1469, DOI: 10.1038/s41557-022-01054-4.

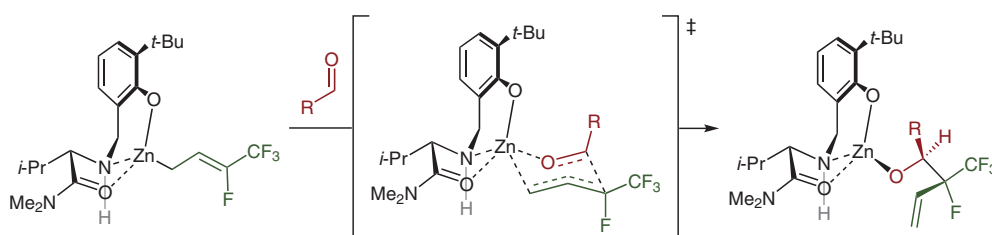
## Synthesis of Diastereo- and Enantioenriched Homoallylic Alcohols with a Chiral CF<sub>3</sub>- and F-Bound Carbon



### Selected examples:



### Origin of diastereoselectivity:



**Significance:** Hoveyda and coworkers report a regio-, diastereo- and enantioselective reaction between polyfluoro allylboronates and aldehydes. Diastereomeric polyfluoro monosaccharides were accessible from the homoallylic alcohols generated from the authors' catalyst-controlled methodology, and a known substrate-controlled route.

**Comment:** The CF<sub>3</sub> and F substituents are important for the  $\gamma$ -selectivity, as  $\alpha$ -selectivity resulting from direct allyl addition is observed when the F is replaced with an H atom. These substituents are also responsible for unusual preferential benzylation at the 2° over 1° alcohol, in one of the intermediates leading to the final pyranoside.

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