Asymmetric Conjugate Addition of Dimethylzinc to (Z)-Nitroalkenes

Significance: Asymmetric conjugate addition of organometallic species to nitroalkenes can be an efficient way to access all-carbon quaternary stereocenters. Herein, the authors demonstrate that the use of [(MeCN)$_4$Cu]PF$_6$ plays a crucial role in the asymmetric conjugate addition of dimethylzinc to (Z)-nitroalkenes with the Hoveyda ligand.

Comment: With the reported conditions, the undesired nitroalkene isomerization, resulting in low enantioselectivity, has been solved. The authors also developed a practical and highly controlled method for the synthesis of (Z)-nitroalkenes (Z/E ratio ≥ 99:1).