Nickel-Catalyzed Asymmetric Claisen Rearrangement

Significance: The authors present an asymmetric propargyl and allyl Claisen rearrangement using a readily available chiral $N,N'$-dioxide–nickel(II) complex. Product allyl and allenyl compounds were obtained with good yield and excellent enantio- and diastereoselectivities.

Comment: This rearrangement works with relatively inexpensive metal (nickel) under mild reaction conditions. The produced $\beta$-keto esters with all-carbon quaternary stereogenic centers with allenyl and allyl substituents are highly useful chiral building blocks.