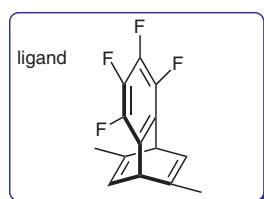


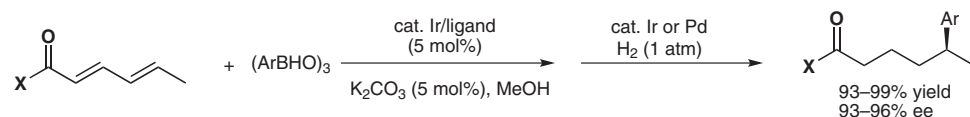
Iridium-Catalyzed Enantioselective 1,6-Addition



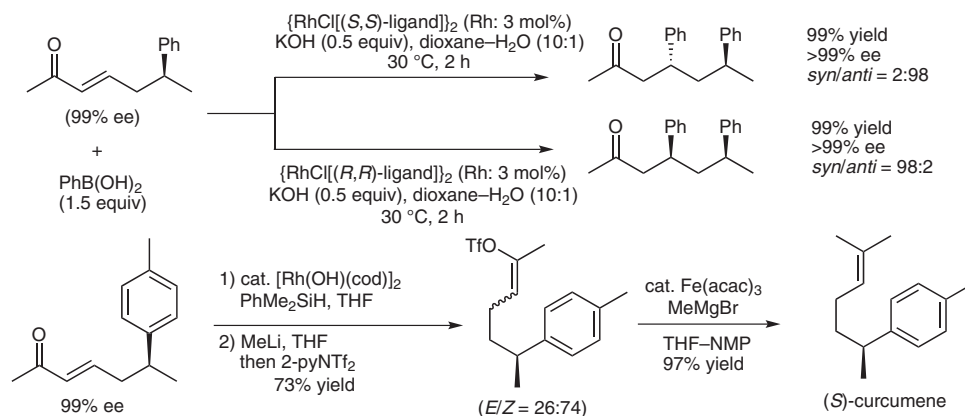
Ir/chiral diene catalyzed asymmetric 1,6-addition to dienones:



Ir/chiral diene catalyzed asymmetric 1,6-addition to dienamides and dienolate:



Synthetic application:



Significance: This work described an iridium-catalyzed asymmetric 1,6-addition of arylboroxines to $\alpha,\beta,\gamma,\delta$ -unsaturated carbonyl compounds by employing an iridium chiral diene complex. Various δ -arylated carbonyl compounds were obtained in high yields and enantioselectivity. Also, the authors elaborated the product in a short sequence to provide nature product and important building blocks.

Comment: Asymmetric 1,6-Michael additions to acyclic systems are challenging as a result of poor control of regioselectivity and enantioselectivity. Recently, the authors reported the hydroxo-iridium complex coordinated with COD< was able to catalyze the 1,6-addition of arylboronic acids to unsaturated carbonyl compounds (*Angew. Chem. Int. Ed.* **2006**, *45*, 5164). In this work, they developed an asymmetric version of this reaction. Excellent control of enantioselectivity and regioselectivity was achieved.