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Enantioselective Iron-Catalysed O–H Bond Insertions
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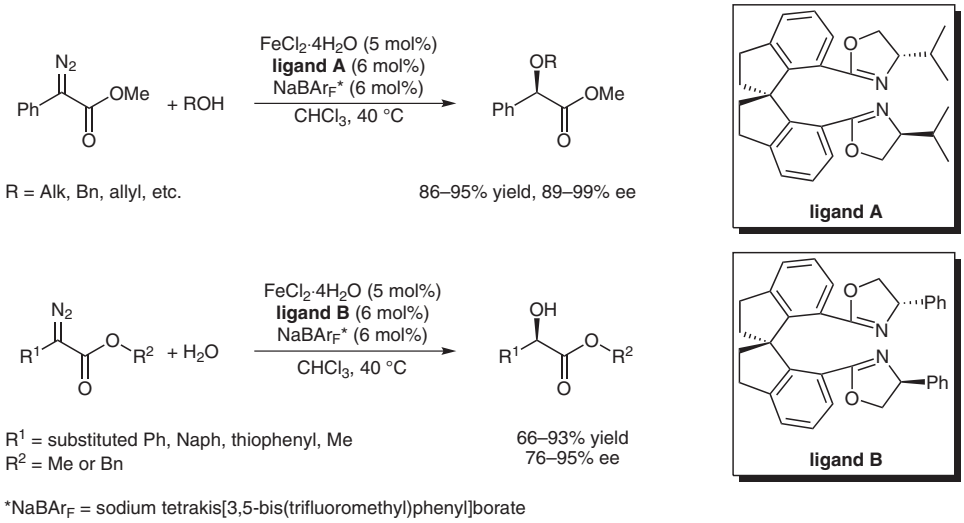
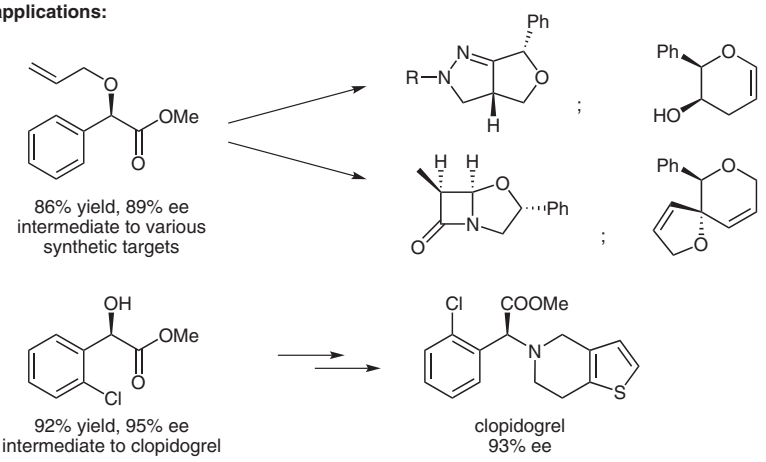
Iron-Catalyzed Asymmetric OH Bond Insertions



Selected applications:



Significance: The authors developed a highly efficient iron-catalyzed protocol for the enantioselective carbene OH insertion. The reaction produces various α-alkoxy and α-hydroxyl arylacetates, which are quite useful synthetic intermediates, in very high yield and enantioselectivities.

Comment: This work features not only the high efficiency of iron-catalyzed carbene insertion to alcohol OH bonds, but also the insertion to a water OH bond to generate corresponding chiral α-hydroxyl arylacetates in high yields and enantioselectivities. The results are better than the authors' previous work with copper catalysts (*Angew. Chem. Int. Ed.* **2008**, *47*, 932).

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