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Asymmetric Synthesis of Triarylmethanes by Rhodium-Catalyzed Enantioselective Arylation of Diarylmethylamines with Arylboroxines
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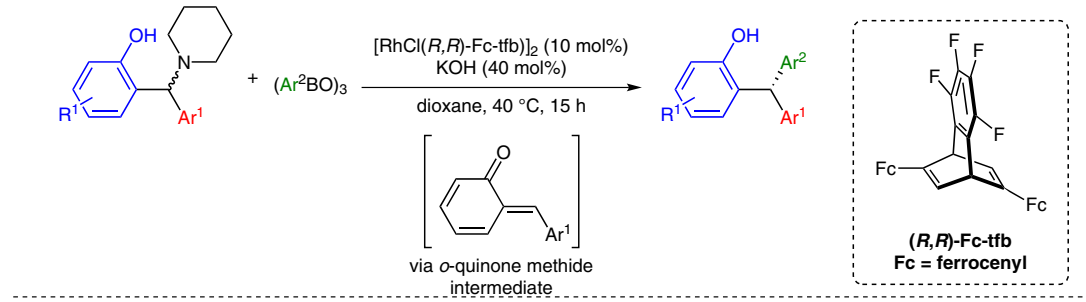
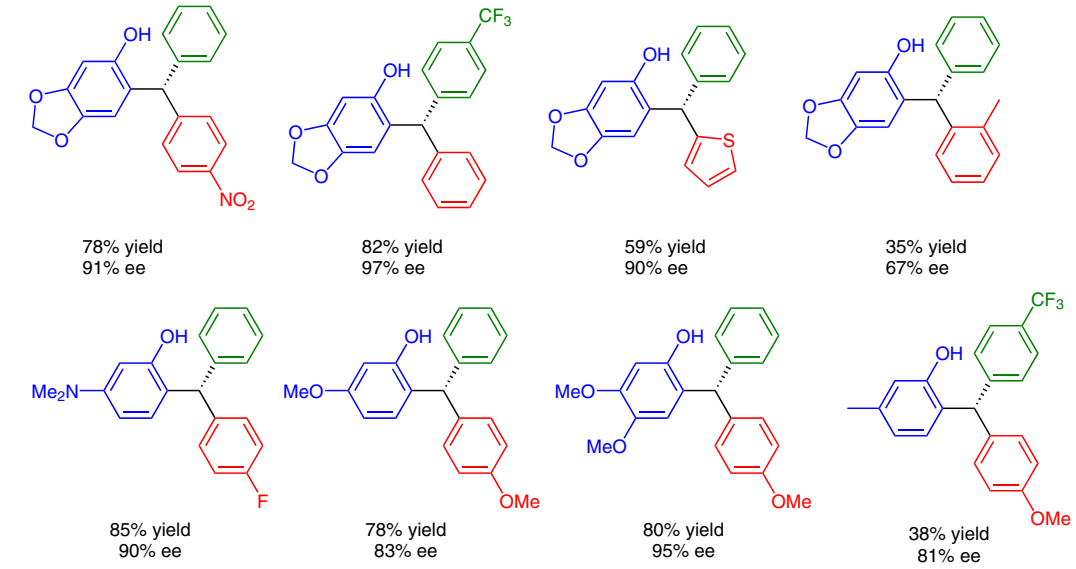
Rhodium-Catalyzed Asymmetric Arylation of Diarylmethylamines



Selected examples:



Significance: Triarylmethanes are an important class of compounds that are useful in medicinal chemistry and materials science. Reports on their asymmetric synthesis include cross-coupling (B. L. H. Taylor et al. *Angew. Chem. Int. Ed.* **2013**, *51*, 7790), selective oxidation (B. F. Shi et al. *Angew. Chem. Int. Ed.* **2008**, *47*, 4882) and Friedel–Crafts reaction (M.-H. Zhuo et al. *Org. Lett.* **2014**, *16*, 1096). The authors report a rhodium-catalyzed 1,4-addition strategy of an *o*-quinone methide generated in situ for the synthesis of chiral triarylmethanes.

Comment: A variety of triarylmethanes were generated using this strategy. Substitution of all three aryl groups were tolerated well, giving good to excellent enantioselectivities. One limitation was noted: the enantioselectivity was reduced for substrates with *ortho*-substitution on Ar^1. The final products could also be deoxygenated through triflation followed by palladium-catalyzed hydrogenolysis.

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Category

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

Key words

rhodium

diarylmethylamines

arylation