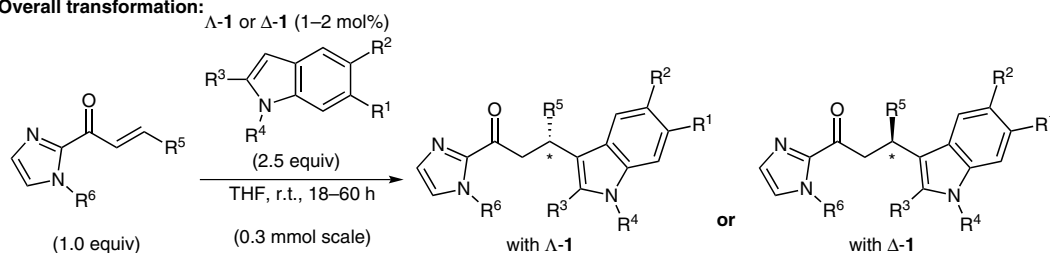


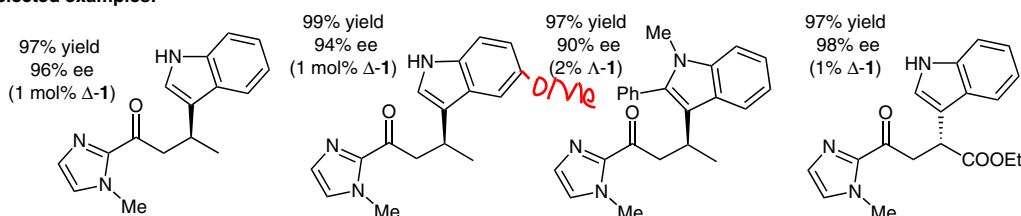
H. HUO, C. FU, K. HARMS, E. MEGGERS* (PHILIPPS-UNIVERSITÄT MARBURG, GERMANY AND XIAMEN UNIVERSITY, P. R. OF CHINA)
 Asymmetric Catalysis with Substitutionally Labile yet Stereochemically Stable Chiral-at-Metal Iridium(III) Complex
J. Am. Chem. Soc. **2014**, *136*, 2990–2993.

Asymmetric Friedel–Crafts Reaction Using a Chiral-at-Metal Iridium Catalyst

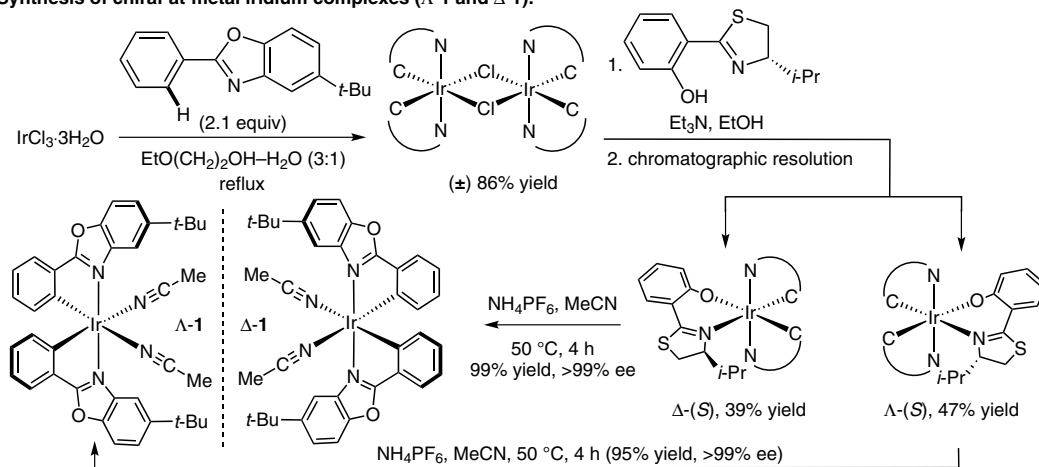
Overall transformation:



Selected examples:



Synthesis of chiral-at-metal iridium complexes ($\Delta-1$ and $\Delta-1$):



Significance: The widespread use of asymmetric catalysis in academia and industry can be directly attributed to the vast array of synthetically and commercially available chiral ligands. However, the utilization of chiral-at-metal complexes in asymmetric catalysis is relatively underdeveloped. Here, the authors report the efficient synthesis of a chiral-at-iridium catalyst and its application to an asymmetric Friedel–Crafts reaction.

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 Synfacts 2014, 10(5), 0487 Published online: 17.04.2014
 DOI: 10.1055/s-0033-1341177; Reg-No.: L03514SF

Comment: The authors present the asymmetric Friedel–Crafts reaction of indoles and acyl imidazole derivatives using a chiral-at-iridium complex as catalyst. The reaction proceeds with excellent yields and selectivities by employing a low loading (1–2 mol%) of this interesting catalyst. The authors suggest that once coordinated, the achiral ligands block the *re* face of the indole, resulting in a highly selective *si*-face attack.