Novel Chiral CpxRu(II) Complexes for Asymmetric Catalysis: Enantio- and Regioseclective Synthesis of Dihydrobenzoindoles

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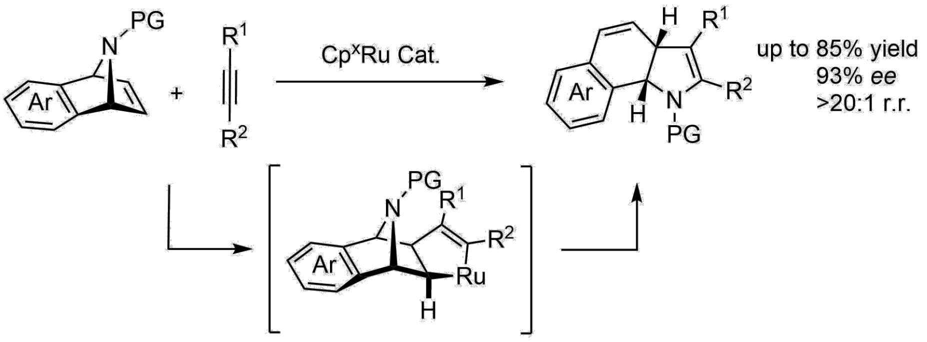
Cyclopentadienyl (Cp) group and its derivatives has emerged as powerful and versatile ligands for the construction of robust and catalytically competent transition-metal complexes. However, studies on chiral cyclopentadienyl (Cp^x) ligands in asymmetric catalysis have long remained underdeveloped. Recently, the synthesis and application of efficient Cp^x ligands has become an emerging field, which exhibited intriguing potentials particularly in Rh-catalyzed enantioselcetive C-H functionalizations.[1] Despite these elegant contributions, the design and synthesis of novel cyclopentadienyl ligands is still in its infancy, and the application of such ligands for alternative transformations are highly desirable. Herein, we report a concise and efficient synthesis of novel chiral Cp^xRu(II) complexes and demonstrate their potential in a highly enantio- and regioseclective synthesis of dihydrobenzoindoles *via* cyclization of azabenzonorbornadienes with alkynes.[2]



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