ENANTIOSELECTIVE C-H ACTIVATION WITH Rh(I)JasCp COMPLEXES

Saad Shaaban\textsuperscript{a}, Houhua Li\textsuperscript{a}, Zhi-jun Jia\textsuperscript{a,b}, Andrey Antonchick\textsuperscript{a,b}, Herbert Waldmann\textsuperscript{a,b}

\textsuperscript{a}Max-Planck-Institute for Molecular Physiology-Otto-Hahn-Str. 11, 44227 Dortmund
\textsuperscript{b}Technical University of Dortmund-Faculty of Chemistry und Chemical Biology

The cyclopentadienyl (Cp) ligand and its pentamethyl analogue (Cp*) have emerged as versatile anionic ancillary ligands broadly applicable in transition-metal catalysis. In the past years, several chiral Cp\textsuperscript{a} ligands have been prepared and successfully tested in a plethora of reactions [1]. We have developed a general strategy for the synthesis of a new class of chiral Cp ligands (JasCp ligands) [2] embody four adjustable positions and can be accessed efficiently in three steps on gram scale from commercially available starting materials with an enantioselective [6+3] cycloaddition. These catalysts have been successfully applied in a variety of transformation leading to the desired products in high yields and enantioselectivities (Scheme 1).

\begin{center}
\textbf{Scheme 1. Application of the RhJasCp in enantioselective C-H activation reactions.}
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