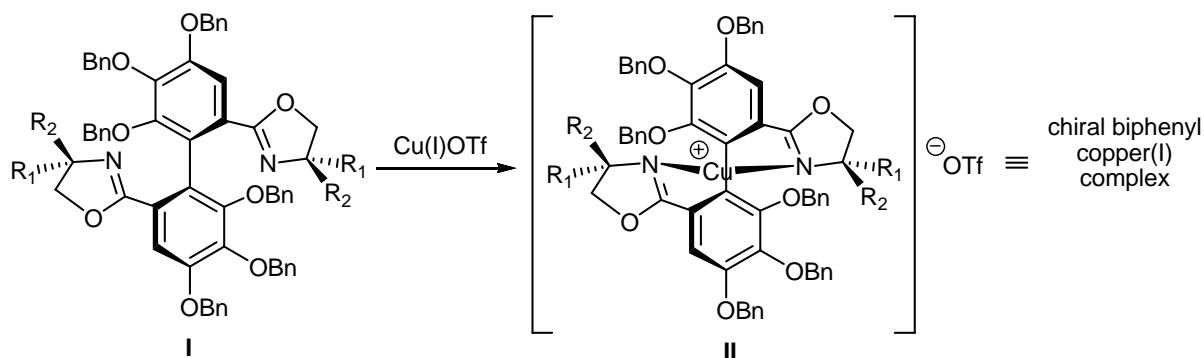


The synthesis and investigation of the preparative potential novel chiral Biaryl-Transition metal Catalyst

Since the separation of the first racemic tartaric acid by Louis Pasteur in 1848, a new field of chemistry named stereoselective synthesis of stereocenter molecules has been developed. The asymmetrical synthesis is the most interesting procedure for the synthesis of pure enantiomers. With asymmetrical synthesis, achiral or prochiral molecules are converted into chiral molecules by chemical reactions. The resulting stereoisomer Products are in unequal quantities. For the asymmetrical catalysis, the use of chiral catalysts which consist of metals and optically active ligands, is of central importance. The metal atom as catalytically active center is not alone crucial for the result of the catalysis but the ligands also play a steering function. It produces a characteristic environment, which control the stereochemical operational sequence of the catalysis at the metal atom. The primary goal of this work consisted of creating a synthetic way to differentiate axially chiral and sterically challenging Biaryl ligands of the type **I** and examine their catalytic characteristics.



Additionally, the synthesis of chiral bifunctional Biaryl ligands of the type **III** was examined in this work, which was coordinated both with oxophilic and nitrophilic metals.

