

ABSTRACT

The Synthesis and Coordination properties of Perfluoroalkyldiphosphines as Ligands in Catalysis and Organic Synthesis

Euclides José Velazco Rivero

The present dissertation examines the synthesis of two new perfluoroalkylferrocenyldiphosphines and their characterisation. Coordination properties of both diphosphines were also examined and various new complexes were isolated and characterised, revealing the stereoelectronic properties of both ligands, such as bite and cone angle and electron-withdrawing power. Preliminary investigations were carried out in the catalytic application of these two new diphosphines along with other perfluoroalkylmono- and diphosphines in the intramolecular direct arylation reactions.

Keywords: Euclides José Velazco Rivero, perfluoroalkyldiphosphines, perfluoroalkylferrocenyldiphosphines, metal complexes, catalysis, intramolecular direct arylation