

Title: Synthesis and characterization of a phosphinoferrocene ligand modified by an amidosulfonate substituent

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Abstract: This bachelor thesis describes the synthesis of a new compound, 1-(diphenylphosphino)-1'-(methylsulfonamino)ferrocene (compound **2**), from 1,1'-dibromoferrocene. Compound **2** was prepared by reaction of 1-(diphenylphosphino)-1'-aminoferrocene-borane (1: 1) with methanesulfonyl chloride in the presence of pyridine, followed by deprotection of the diphenylphosphine group. The conditions of the reaction were optimised so that the reaction was performed with complete consumption of the starting material. The synthesis proceeds via 1-(diphenylphosphino)-1'-(methylsulfonamino)ferrocene-borane (1: 1) (compound **2**), which is also a new compound. Both compounds were characterised by nuclear magnetic resonance, mass spectroscopy, infrared spectroscopy, elemental analysis and their crystal structure was determined by single-crystal X-ray crystallography.

Key words: ferrocene, phosphines, sulfonamides, synthesis.