

## Abstract

Title: Polar ligands derived from a phosphinoferrocene hydrazide

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This thesis describes the syntheses of three new ligands derived from a phosphinoferrocene hydrazide, namely 1'-(diphenylphosphino)ferrocene-1-carbohydrazide. The reaction conditions were optimized by varying the reaction time and temperature in order to achieve high yields and purity of the products. Newly prepared compounds that bear extended polar groups were characterized by NMR spectroscopy, mass spectrometry, infrared spectroscopy and by elemental analysis. Additionally, the molecular structure of 1'-(diphenylphosphino)-1-[[2-(aminocarbonyl)hydrazino]-carbonyl]ferrocene (**8**) was determined by X-ray diffraction analysis.

**Key words:** Ferrocene, Phosphines, Hydrazides