ABSTRACT

M.Sc. Thesis

SYNTHESIS OF NEW AMINODIBORANE(4) DERIVATIVES AND CHARACTERIZATION

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In this study has been prepared and characterized new aminodiborane(4) compounds. Aminodiborane(4) compounds have been prepared from reaction of 1,2-bis-dichloro–1,2-bis-dimethylaminodiboran and 1,2-bis-dichloro–1,2-bis-diduriyldiboran with different lithiumamides. Phenylamine (aniline) and 2,4,6-trimethylphenylamine (mesitylaniline) were selected as lithiumamides derivatives. Phenylamine and 2,4,6-trimethylphenylamine were converted to lithium salts of amine using 2 equiv of n-buthylithium. Aminodiborane(4) compounds were converted to dilithium salts of diborane(4) using 2 equiv of n-buthylithium. Boron heterocycles were prepared by reacting diborate(4) dilithium salts with dichlorodimethylsilane, dimethyltin dichloride and dichlorophenylborane. Due to diborane(4) compounds, lithiumamides and dilithium salts of diborane(4) which have more sensetive of air and moisture, all experimental works were performed by using Schlenk techniques under argon atmosphere. Structural characterization of all compounds were made with Nuclear Magnetic Resonance Spectroscopy (NMR) analiysis.

2008, 69 pages

Key words:
Boron compounds, aminodiborane(4) compounds, diborate, lithiumamide, boron heterocycles.