Synthesis and Characterization of Diselenide Derivatives of 4-Substituted-N, N-Diisopropylpyridine-2-Carboxamide: X-Ray Structure of Bis(3-(4-Chloro-N, N-Diisopropylpyridine-2-carboxamide)) Diselenide

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Authors:

Rupy Dhir
Khanesh Kumar

Abstract

The lithiation of 4-substituted-N,N-diisopropylpyridine-2-carboxamide (1a/1b/1c) and its application in the synthesis of diselenide derivatives was investigated. 1a, 1b and 1c were lithiated with 2 equiv. of n-BuLi or LDA at -78 °C. Addition of elemental selenium to the carbanion led to the formation of corresponding selenolate anions respectively. The selenolate anions were aerial oxidized to afford the corresponding diselenides. The prepared compounds have been characterized by single crystal X-ray crystallography, NMR (1H, 13C and 77Se), FTIR, elemental analysis and Mass spectroscopy. Crystal structure of bis(3-(4-chloro-N,N-diisopropylpyridine-2-carboxamide)) diselenide (3a) reveals an intramolecular secondary 1,4-type Se/Cl interaction.
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