

Extraction, Isolation and Characterization of Isopropyl Isothiocyanate from Seeds powder of Drypetes roxburghii Wall

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Abstract

Present study deals with the isolation and characterization of the isothiocyanate from the seed powder of *Drypetes roxburghii*. The seeds were dried and powdered. Extraction of the seed powder was performed under reflux using 800 ml of a hot mixture of light petroleum ether and ethanol (1:1 ratio) as solvent for 8hrs. The solvent ratio of light petroleum ether and ethanol (9:1) are used for removing the fat from the marc of the first extraction. Purification of the extract was performed by paper chromatography analytical technique with n-Butanol: Ethanol: Water (4:1:4) as solvent system. The R_f value of the the isolated compound was found to be 0.58. Isolated compound was confirmed by chemical test, characterization instrumental analytical technique like UV- spectrometer, FT-IR, ¹³C-NMR, and LC-MS. The IR absorption spectrum shows the 2875.47- 2983.74 cm⁻¹ which indicate CH₃ asymmetric vibrations stretching and 2730.18 cm⁻¹ NCS asymmetric vibrations stretching, CN stretching. Experimented ¹H NMR and ¹³C NMR confirmed the number of protons and carbons and their position. Structure elucidation of the isolated compound was done by Mass spectrometer analysis. The peak and M+1 of CH₃CHNCSCH₃ and CH₃CHNCS was found to be (100.17 & 101.17) and (85.14 & 86.14) respectively.

Keywords: Extraction, Isolation, Characterization, Paper Chromatography.

Biography:

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