

NMA/AGSM/2022/BCS/001- GC-MS Analysis of the Bioactive Compounds in Aqueous Ethanol, Dichloromethane, and N-Hexane Extracts of Pumpkin (CucubitaPepo) Seed

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Abstract

Background: The study analysed the bioactive compounds (BACs) present in aqueous ethanol, dichloromethane, and n-hexane extracts of pumpkin (Cucubita pepo) using Gas chromatography–mass spectrometry (GC-MS) technique.

Methodology: The dried grounded seed of C. pepo were successively extracted using the three solvents, and GC-MS analysis was performed to identify the differential quantitative BACs in the extracts of C. pepo seeds.

Results: The GC-MS results revealed the presence of 5, 22, and 17 for aqueous ethanol, dichloromethane, and n-hexane extracts respectively. Of the over 434 activities present in C. pepo, palmitic, stearic, linoleic compounds and their derivatives were bioactive compounds found in all three extracts. Scientific evidence suggests that palmitic, stearic, linoleic, barbituric acids, and their derivatives have significant biological effects. Compounds without documented scientific evidence such as Silane, dimethyl(2-methoxyethoxy) octadecyl-, (22R)-6.alpha.,11.beta.,21 Trihydroxy-16.alpha., 17.alpha.-propylmethylenedioxy-pregna-1,4-diene-3,20-dione, and Galactopyranose, 1,2,3,4,6-pentakis-O-(trimethylsilyl)-, .beta.-d- were found in n-hexane, while 2-hydroxy-1-(hydroxymethyl)ethyl ester E, Z-1,3,12-Nonadecatriene was found in dichloromethane extracts.

Conclusion: Results of this study may provide a foundation for the application of C. pepo in nonclinical settings and the designing of new drugs for several clinical purposes.

Keywords: Extracts; Pumpkin (Cucubita Pepo) Seed; Aqueous Ethanol; Dichloromethane; N-Hexane; GC-MS Analysis.

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