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Bioactive GC-MS Analysis of Ethanolic Extracts of Adansonia Digitata Leaves

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ABSTRACT

Bioactive Screening was carried out on Gas Column Mass Spectrometry (GC-MS) Ethanolic extracts of Adansonia digitata stem bark, a total of eighteen components were found which include; Pentanal, 2,2-dimethyl, n- hexadecanoic acid, Oleic acid, Octadeneoic acid, Decane, 1-floro, 9-Octadecenal, Vitamin E.

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Introduction

The medicinal property of a plant depends upon the physiologically active biochemical compounds called secondary metabolites. Plants have an almost limitless ability to synthesize secondary metabolites which present in the plant parts like leaves, fruits, buds, stem, flowers, bark, roots, etc [1].

Materials and Method

Study Area

This study was conducted in the Department of Microbiology's Microbiology Laboratory at the University of Abuja in Abuja, Nigeria. Nigeria's Federal Capital Territory is Abuja. The domain spans a large area of land, around 8000 squares, and is centrally positioned. The majority of Abuja's population is made up of immigrants, Gbagi, Nupe, and Gwari.

Sample Collection and Identification

From Kwali Area Council FCT-Abuja, healthy Adansonia digitata leaves were collected, and they were sent to the University of Abuja Herbarium for identification. The extracts from the leaves were extracted mechanically after the Adansonia digitata leaves were separated, cleaned, and dried at room temperature to consistent weights.

Extraction and Sterilization of Adansonia Digitata Stem Bark

Extracts of Adansonia digitata leaves was gotten. 700 milliliters of ethanol was added to 1000 milliliter Erlermeyer flasks after two hundred grams (200 gm) of Adansonia digitata leaf powder was weighed. After thoroughly mixing the material, the bioshaker was left for a full day, it was then filtered and the ethanolic was left to evaporate leaving the extract.

Gas Column- Mass Spectrometry Analysis of Adansonia Digitata Stem Bark

This was carried out according to the methods described by Merlin et al [2].

Bioactive Screening

Bioactive components from Ethanol Extract of Stem Bark of Adansonia digitata GC-MS analysis were carried out according to methods described by Merlin et al [2].

Results

Gas Column- Mass Spectrometry Analysis of Adansonia Digitata Leaves

Major Bioactive Components from Ethanol Extract of Leaves of Adansonia Digitata GC-MS Analysis

S/No	Molecular Weight	Retention Time	Area%	Molecular Name of compound
1	128	3.129	35.93	2-Hexanone, 3,3-dimethyl
2	144	3.217	9.64	Pentanal, 2,2-dimethyl
3	256	17.586	16.16	n- hexadecanoic acid
4	282	20.493	25.22	Oleic acid
5	284	20.765	4.46	Octadeneoic acid
6	160	22.329	1.66	Decane, 1-floro
7	266	24.152	2.52	9-Octadecenal
8	430	24.928	4.40	Vitamin E

Conclusion

The results shows significant number of phytochemicals present in the GC-MS Ethanolic leaf extract. This implies that leaf extract of A. digitata has potential antimicrobial agents.

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