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Gas chromatography mass spectroscopic analysis of Panchagandha Churnam

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***Abstract*---**The Gas Chromatography Mass Spectroscopic study Ayurvedicformulation, Panchagandhachurnam was performed in the present report.The formulation was subjected to Gas Chromatography Mass Spectroscopicanalysis after processing it as per standard protocol.The Gas Chromatography Mass Spectroscopicstudy of Panchagandhachurnamdepicted some bio-molecules, such as 3-Cyclopentene-1-ethanol, 2,2,4-trimethyl-, Ethyl p-methoxycinnamate, Methyl 2-hydroxy-octadeca-9,12,15-trienoate, 9,12,15-Octadecatrienoic acid, (Z,Z,Z)-, Methyl 2-hydroxy-octadeca-9,12,15-trienoate, which have medicinal roles realting to the function of this medicine.

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***Keywords*---**GC MS, Ayurvedic, Panchagandha Churnam.

Introduction

In order to understand the mechanismof action of Ayurvedic medicines it is imperative to subject them to modern analytical procedures such as GC MS, HPTLC etc. This report is in continuation of our earlier works in this regard.[1-29]The GC MS analysis of one Ayurvdic medicine, Panchagandhachurnam was performed in this work. Panchangadhachurnam is made up of equal parts of finely powdered following ingredients :*Curcuma zedoaria, Embelicaofficinalis, Rubiacordifolia, Glycyrrhizaglabra, Cedrusdeodara, Santalum album, Pterocarpusmarsupeum, Ferula asaafoetida), Picrorhizakurroa, Nigella sativa, Pluchealanceolata, Hemidesmusindicus, Crocus sativus, Shorearobusta, Cinnamomumcamphora, Cyperusrotundus, Sidacordifolia root, Pavoniaodorata, Vetiveriazizanoides, Saussurealappa, Papaversominiferum, Red ochre, Myristica fragrance* and *Tamarindusindica.* Panchagandhachurnam is used for external application. It is rubbed into butter or breast milk, dehydrated and then applied over the crown for ailments like insanity, giddiness and hot feeling in the head. It is manufactured by AryaVaidyaSalaKottakkal, AryaVaidya Pharmacy, VaidyaratnamOushadasala Pvt Ltd, among others.

Materials and Methods

Panchagandhachurnam was subjected to GC MS analysis by standard procedure.

Results

Table 1 and Figure one depict the results of Gas Chromatography Mass Spectroscopic results of Panchagandhachurnam, The metabolites were identified by NIST spectral library and data base of National Agriculture Library, USA and others as shown in Table 1[30].

Discussion

The GC MS profile of Panchagandhachurnam indicated the presence of some molecules, such as 3-Cyclopentene-1-ethanol, 2,2,4-trimethyl-, Ethyl p-methoxycinnamate, Methyl 2-hydroxy-octadeca-9,12,15-trienoate, 9,12,15-Octadecatrienoic acid, (Z,Z,Z)-, Methyl 2-hydroxy-octadeca-9,12,15-trienoate, which have medicinal roles which relate to the function of this medicine as depicted in Table 1.

Conclusion

The molecules shown in the GC MS profile of PanchagandhaChrunam reflect its medicinal activity.

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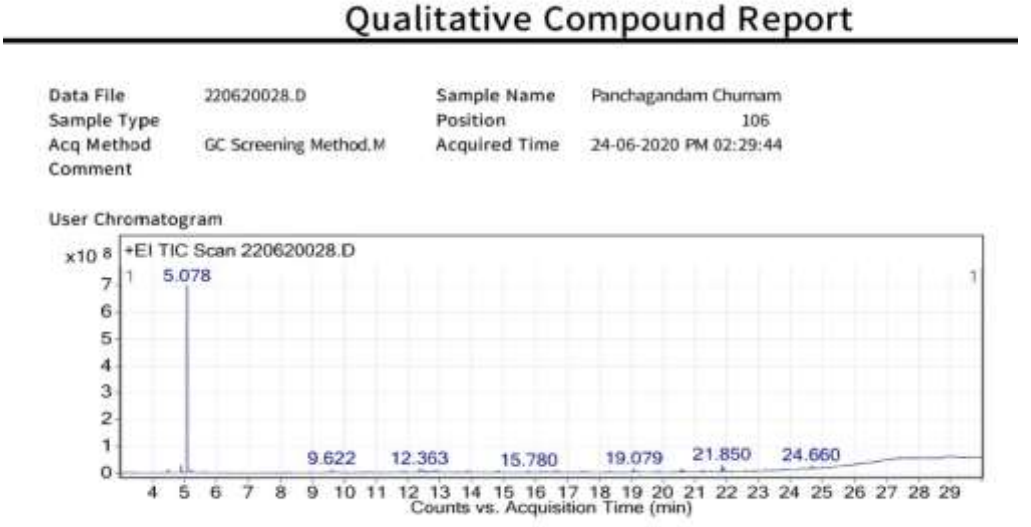

Figure1. Indicate the GC MS profile of PanchagandhaChurnam

Table1. Shows the various details of the GC MS profile ofPanchagandhaChurnam

Sl. No	Retention Time	Compound Name	Mol. Formula	Mol. Weight	% Peak Area	Possible medical Role
1	4.47	3-Cyclopentene-1-ethanol, 2,2,4-trimethyl-	C10H18O	154.1	1.14	Ethanol absorption inhibitor, ethanolytic

2	5.08	5-Caranol, (1S,3R,5S,6R)-(-)-	C10H18O	154.1	77.69	Not known
3	12.36	Ethyl p-methoxycinnamate	C12H14O3	206.1	6.63	Adrenalin-pressor, Algogenic, ANS Paralytic, Anti-cAMP-Phosphodiesterase, Anticancer, Anticarcinomic, antidote, Antimitral valve prolapse
4	19.08	1,2-15,16-Diepoxyhexadecane	C16H30O2	254.2	1.53	Not known
5	21.26	Octatriacontylpentafluoropropionate	C41H77F5O2	696.6	1.04	Not known
6	21.85	7-Propylidene-bicyclo[4.1.0]heptane	C10H16	136.1	3.14	Not known
7	21.88	Methyl 2-hydroxy-octadeca-9,12,15-trienoate	C19H32O3	308.2	1.41	Catechol-O-Methyl transferase inhibitor, methyl donor
8	24.66	Androstan-17-one, 3-ethyl-3-hydroxy-, (5.alpha.)-	C21H34O2	318.3	1.96	Not known