

“THE GAS CHROMATOGRAPHY MASS SPECTROSCOPIC STUDY OF UNANI DRUG, “DAVA UL MEDA”

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ABSTRACT

The present work deals with the Gas chromatography mass spectroscopic study of a Unani drug, Dawa - Ul – Meda, which is prescribed for weak digestion as a good appetizer. The medicine was bought from Unani medicine vendor at Chennai and was processed suitably to be analysed by GC MS process. The profile showed many molecules such as Succinic acid, 4-methoxy-2-methylbutyl octadecyl ester, Trichloroacetic acid, undecyl ester, trans-2-methyl-4-n-pentylthiane, S, S-dioxide which have wide range of medicinal roles. These roles could contribute to the appetizing role of Dawa-ul-Meda.

Key words: GC MS, Unani, Dawa-ul-meda, Succinic acid, 4-methoxy-2-methylbutyl octadecyl ester, Trichloroacetic acid

INTRODUCTION

Dawa - Ul - Meda was introduced as a Unani proprietary medicine which is primarily prescribed as a good appetizer. It contains equal quantities of Gulkand (*Rosa centifolia*) and Murabbaadrak.

Gulkand (*Rosa centifolia*) is an excellent medicine for digestive disorders of all types.

MurabbaAdrak

This is prepared in the following method: 100 g of sugar is mixed with small quantity of water and slowly heated to make into pasty consistency. Finely ground fresh ginger is added to the sugar paste and allowed to boil in low flame for a few minutes to get a paste, which is known as MurabbaAdrak. This is a very good expectorant and used for cold related problems. It is also known to help kidney function, gives relief in flatulence etc. The present workers have worked to scientifically evaluate the veracity of Ayurvedic and Sidhha medicine systems by latest techniques so that deeper knowledge of the mechanism of action of these medicines could be gained.¹⁻¹⁹ The present study in one step further in this endeavour. Not much work in this direction is reported as far as Dawa - Ul - Medais concerned.

MATERIALS AND METHODS

The medicine Dawa - Ul - Medawas purchased from Unani medicine vendor at Chennai. The medicine was suitably processed by standard procedures and the GC-MS analysis was performed.

RESULTS

The profile of Dawa - Ul - Meda and possible medicinal role of each molecule indicated is tabulated in Table 1. Figure 1 is the profile of the Dawa Ul Meda. The molecules were compared with NIST spectral library and possible pharmaceutical roles of each bio molecule as per National Agriculture Library, USA and others as shown in Table 1.²⁰

DISCUSSION

Dawa - Ul - Meda indicated the presence of Succinic acid, 4-methoxy-2-methylbutyl octadecyl ester, Trichloroacetic acid, undecyl ester, trans-2-methyl-4-n-pentylthiane, S, S-dioxide etc. which have medicinal properties as mentioned in Table 1. The variety of biological roles of these molecules could contribute to the role of Dawa - Ul - Meda as a good appetizer.

CONCLUSION

It could be summarized from the results and discussion that Dawa - Ul - Meda does contain important biomolecules which provides a clue to its prescription for the ailments it is given. It will be of interest to probe into the medicinal roles of the compounds present in Dawa - Ul - Meda whose roles are not yet reported.

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Figure 1. Indicates the GC MS profile of Dawa - Ul - Meda

Qualitative Compound Report

Data File	030221054.D	Sample Name	Dava-ul-Meda
Sample Type		Position	104
Acq Method	GC Screening New Method.M	Acquired Time	06-02-2021 PM 07:56:51
Comment			

User Chromatogram

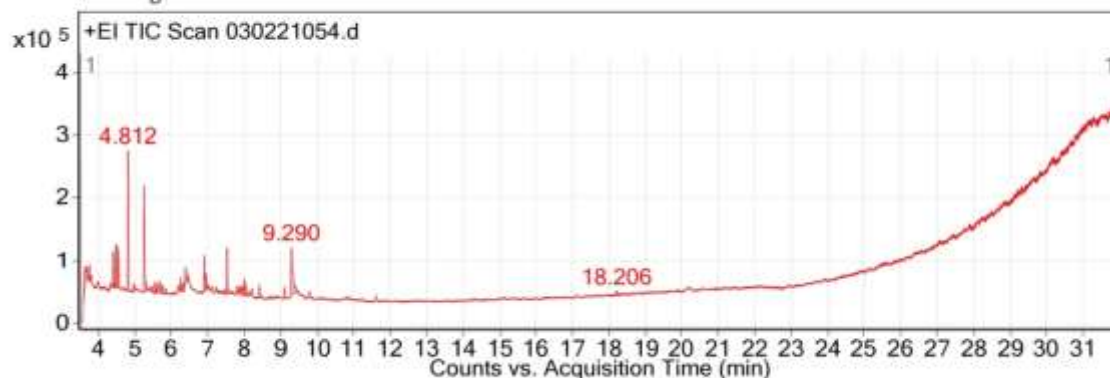


Table1. Indicates the retentions values, types of possible compound, their molecular formulae, molecular mass, peak area and their medicinal roles of each compound as shown in the GC MS profile of Dawa - Ul - Meda

Ret. Time	Molecule	Mol. Formula	Mol. Mass	% Pea Area	Possible Medicinal Role
4.48	Cyclopentane, 1-pentyl-2-propyl-	C13H26	182.2	8.89	Not known
4.81	Benzene, 1,3-bis(1,1-dimethylethyl)-	C14H22	190.2	22.62	Not known

4.98	Succinic acid, 4-methoxy-2-methylbutyl octadecyl ester	C28H54O5	470.4	2.44	Succinic dehydrogenase inhibitor, Acidifier, Acidulant, Arachidonic acid-Inhibitor, Increase Aromatic Amino Acid Decarboxylase Activity, Inhibit Production of Uric Acid
5.25	Dodecane, 1-fluoro-	C12H25F	188.2	22.71	Not known
6.39	1-Nonylcycloheptane	C16H32	224.3	3.88	Not known
6.95	1,3-Cyclohexadiene, 5-(1,5-dimethyl-4-hexenyl)-2-methyl-, [S- (R*,S*)]-	C15H24	204.2	2.63	Not known
7.53	Phenol, 2,4-bis(1,1-dimethylethyl)-	C14H22O	206.2	8.49	Not known
7.91	2-Octene, 2,3,7-trimethyl-	C11H22	154.2	2.01	Not known
7.99	Trichloroacetic acid, undecyl ester	C13H23Cl3O2	316.1	3.42	Arachidonic acid-Inhibitor, Increases Aromatic Amino Acid Decarboxylase Activity, Inhibits Production of Uric Acid
8.04	trans-2-methyl-4-n-pentylthiane, S,S-dioxide	C11H22O2S	218.1	2.32	Glutathione-S-Tansferase inhibitor, increases glutathione – S-transferase (GST) activity, decreases oxaloacetate transaminase activity, Decrease Glutamate PuruvateTransaminase, Glucosyl-Transferase inhibitor, increases glyoxalate transamination, reverse transcriptase inhibitor, transdermal, smart drug, adrenocortical stimulant
9.10	Diethyl Phthalate	C12H14O4	222.1	2.31	Not known
9.29	Propylparaben	C10H12O3	180.1	16.56	Not known
18.21	Didodecyl phthalate	C32H54O4	502.4	1.71	Not known