



## Research Article

### GC-MS ANALYSIS OF BIOACTIVE COMPONENTS ON THE LEAVES EXTRACT OF *ELAEAGNUS CONFERTA* ROXB

Lalitha G<sup>1\*</sup>, Nazeema T.H<sup>2</sup> and Anitha P<sup>1</sup>

<sup>1</sup>Assistant Professor, Department of Biochemistry, Rathnavel Subramaniam College of Arts and Science, Sulur, Coimbatore, Tamilnadu, India

<sup>2</sup>Principal, KSG College of Arts and Science, Coimbatore, Tamilnadu, India

\*Corresponding Author Email: lalithajune3@gmail.com

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#### ABSTRACT

*Elaeagnus conferta* Roxb leaf extract were screened for the study of phytochemical analysis with absolute alcohol, the phytochemical compound screened by GC-MS method. From this study, 27 bioactive phytochemical compounds were identified in leaf powder of *Elaeagnus conferta* Roxb. These compounds predominantly contains Phenolic and Flavonoids derivatives, Glycosides, Saponins, Phytosterols compounds, Proteins and alkaloids is found to be limited in the leaf extract. The presence of the active phytochemicals has been found to possess a wide range of activities, which may help in the protection against incurable diseases.

**Keywords:** GC – MS analysis, Phytochemicals, *Elaeagnus conferta* Roxb leaves

#### INTRODUCTION

Plants have great potential uses, especially as a traditional medicine and pharmacopoeia drugs<sup>1</sup>. Nowadays a large proportion of the world population depends on their traditional medicine due to scarcity and high costs of orthodox medicines<sup>2</sup>. Natural products play an important role in the development of novel drugs lead for the prevention and treatment of diseases<sup>3</sup>. "*Elaeagnus conferta* Roxb" is an evergreen shrub, often climbing into other plants and growing up to 12m. It originates in tropical Asia, is usually grow in mountain areas. This fruit juice serves as an antidiabetic<sup>4</sup>. The most important bioactive constituents of the plants are alkaloids, flavonoids, phenolic and tannin compounds. Commonly herbal medicines were taken from crude plant extracts, it is composed of different complex mixture of secondary metabolites<sup>5</sup>. The chemical structures of these constituents usually differ among their species. Gas Chromatography – Mass Spectrometry method is used for the analysis of the plant extracts, hence it can be an interesting tool used for identifying the amount of some active compounds in herbs which can be used in drugs, cosmetic, pharmaceutical and food industry<sup>6</sup>. Therefore the present investigation deals with the extraction of essential biological active compounds. This study will help to design the new drugs for many incurable drugs.

#### MATERIAL AND METHOD

##### Collection and Identification of Plant Material

The leaves of *Elaeagnus conferta* Roxb. were collected from the Annaikatti hills, Coimbatore District, Tamilnadu, India. The plant was authenticated by Dr. P. Satyanarayana, Botanical Survey of India, Tamil Nadu Agricultural University (TNAU) Campus, Coimbatore. The voucher number is BSI/SRC/5/23/3018/2785/Tech.

##### Extract Preparation

The fresh leaves were shade dried and powdered. 10g of the powder was taken and macerated in 100 ml of different solvents methanol, ethanol and aqueous. They were kept at room temperature for 24 hours. Thereafter the mixtures were filtered by using Whatman filter paper no .1 it was used for Phytochemical screening. 100g of powder was taken and extracted with 500ml of ethanol using Soxhlet apparatus nearly 6-8 hours and then it was filtered through Whatman filter paper No.1 along with the adding of 2g sodium sulfate, which is used to remove the sediment and traces of excess water in the filtrate. Then the filtrate is concentrated by bubbling nitrogen gas into the solution and reduce the volume to 1ml. The plant extract sample contains polar and non- polar phytoconstituents.

##### Phytochemical Studies

Preliminary phytochemical screening was performed for various phytoconstituents such as, Alkaloids, Flavonoids, Glycosides, Saponins, Phenols, Sterols, Amino acids, Diterpens and Anthraquinones<sup>5</sup>.

##### GC-MS Analysis

Gas Chromatography- Mass Spectrometry analysis was used for the *Elaeagnus conferta* Roxb plant with ethanolic extract. The instrument is composed of DB 35 – MS Capillary Standard non-polar column with dimension of 30mm × 0.25 mm ID × 0.25 μm film, Thermo GC Trace Ultra Version 5.0 Thermo MS DSQII. Helium is used as a carrier gas with at low of 1.0 ml/min. The injector was operated at 250 °C and the oven temperature was further programmed as follows: 60 °C for 15 min, then gradually increased to 280 °C for 3 min. The identification of the

compounds was based upon Willey and NIST library it was attached to the GC- MS instrument and the results obtained have been tabulated<sup>7</sup>.

## RESULT AND DISCUSSION

### Phytochemical Analysis

The results of the preliminary phytochemical analysis were carried out in extracts of *Elaeagnus conferta* Roxb leaves (Table 1). The experiment showed the presence of secondary metabolites such as alkaloids, flavonoids, phenols, tannins, steroids, saponins and amino acid. The phenols in ethanol, methanol, chloroform and aqueous are found to present in all solvents. The Anthraquinone compound shows absence in all the solvents. Hence the phytochemical screening reveals that Aqueous, Methanol and Chloroform extract shows high secondary metabolites. Thus the preliminary screening analysis is helpful in the detection of bioactive compounds and lead to the discovery and development of novel drugs<sup>8,9</sup>.

### GC- MS Analysis

The GC- MS studies in the ethanolic extract of *Elaeagnus conferta* Roxb. showed the presence of rich variety of phytochemical compounds, The active principles with their retention time (RT), Molecular formula, molecular weight (MW),

concentration (peak area %) are presented in (Figure 1 and Tables 1- 3). Among the identified phytochemicals compounds, p-Cymene compound has the structure of Monoterpene have the property of antioxidant, Hexadecen-1-ol, trans-9-,  $\alpha$ -D-Mannofuranoside, 1-O-decyl it shows rich in glycosides thus they have the property of Antimicrobial, Antioxidant activity<sup>10</sup>. 2,2,3,3,4,4 hexadeutero octadecanal, Phytol has the anticancer activity<sup>10</sup>. Isopropyl myristate shows rich in Fatty acid shows synthetic oil used as an emollient, thickening agent<sup>11</sup>. 4H-1-Benzopyran-4-one, 2,3-dihydro-5,7-dihydroxy-2-phenyl, rich in flavonoids (-)-Ascorbic acid 2,6-dihexadecanoate, 1-Heneicosyl formate, these compounds are rich in antioxidant activity<sup>10</sup>. 2,2-dideutero octadecanal, Cholestan-3-ol, 2-methylene 1-Docosanol have the property of Anti-inflammatory<sup>11</sup>. Dotriacontane, Oxiranepentanoic acid, 3-undecyl-, methyl ester, trans, lucenin 2, Colchifoleine, Narceine, Pseudojervine, 2,6,10,14,18,22-Tetracosahexaene these are rich in Phenolic compounds these have the property of Anticancer, antimicrobial, antioxidant activity<sup>7,10</sup>. 17-Pentatriacontene it have the property of antiseptic, 2-Nonadecanone 2,4-dinitrophenylhydrazine can be used for Fragrance<sup>11</sup>. 13-Docosenamide it has an antidiabetic property<sup>10</sup>. From this study, it reveals the presence of different rich compounds in the whole plant of ethanolic extract of *Elaeagnus conferta* Roxb hence it can be used for various drug formulations.

Table 1: Preliminary qualitative investigation of extracts of *Elaeagnus conferta* Roxb.

S.no	Bioactive Compounds	Ethanol	Methanol	Petroleum ether	Chloroform	Aqueous
1	Alkaloids	+	+	+	+	+
2	Flavonoids	+	+	+	+	-
3	Glycosides	-	-	-	+	+
4	Phenols	+	+	-	+	+
5	Saponins	-	-	+	+	+
6	Tannins	+	+	+	-	+
7	Steroids	+	+	-	-	-
8	Amino acid	+	+	-	+	-
9	Diterpens	+	+	-	+	+
10	Anthraquinones	-	-	-	-	-

+ = Present      - = Absent

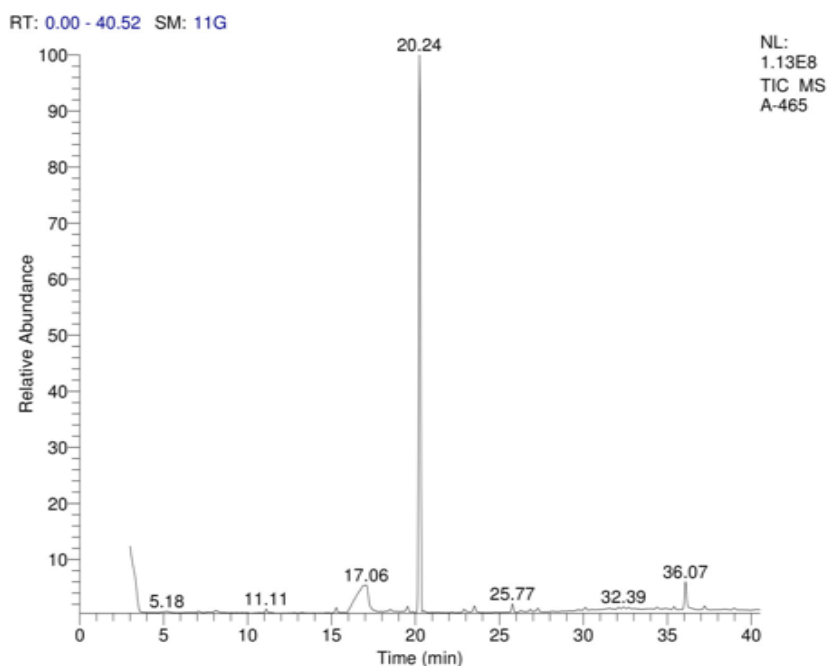
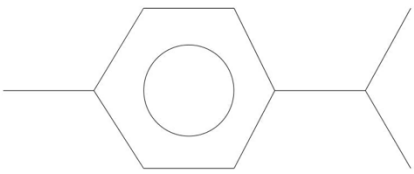
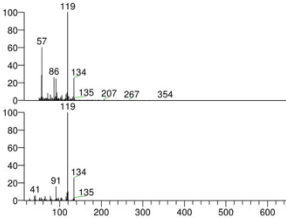
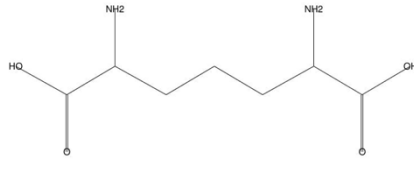
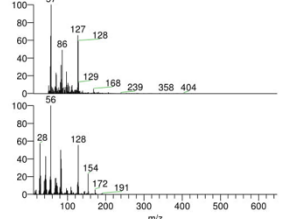
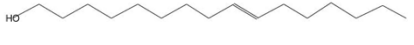
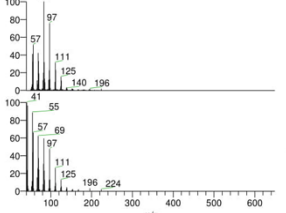



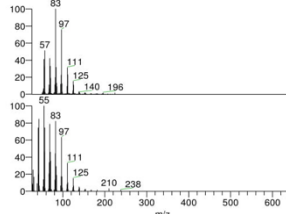
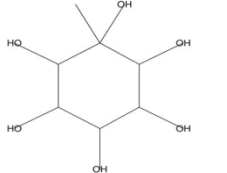
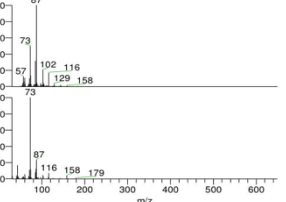
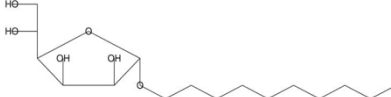
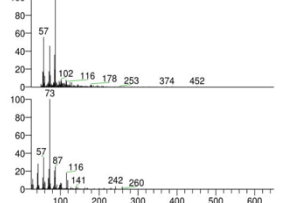

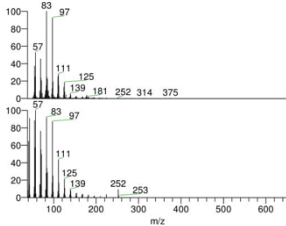

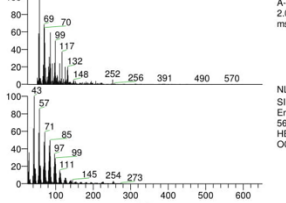
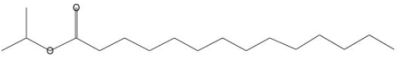
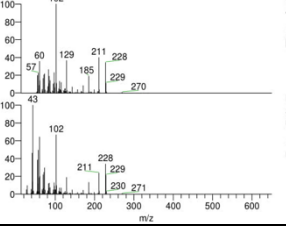
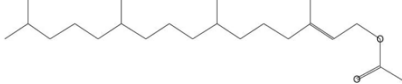
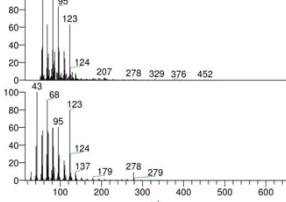
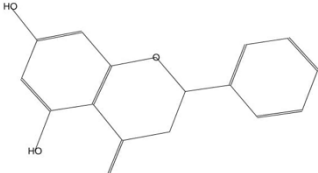
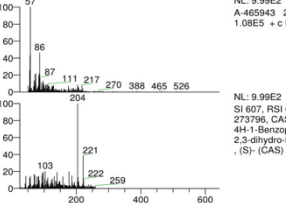
Figure 1: GCMS chromatogram of the ethanolic extract of *Elaeagnus conferta* Roxb.

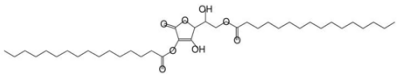
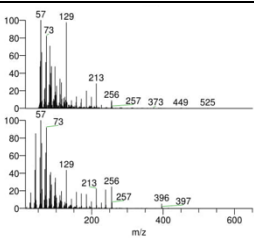
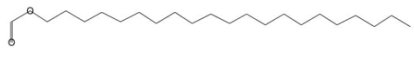
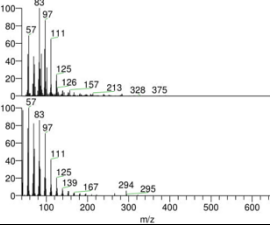
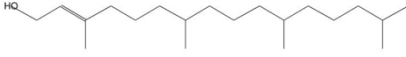
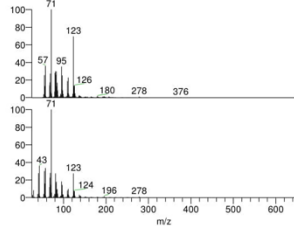
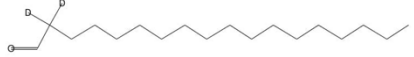
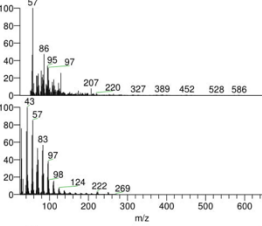
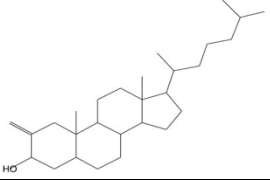
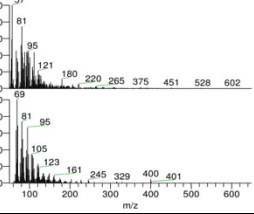
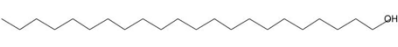
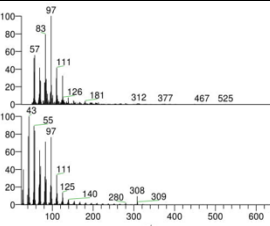
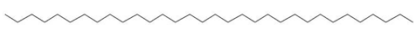
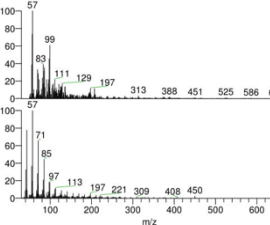
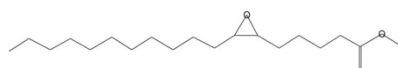
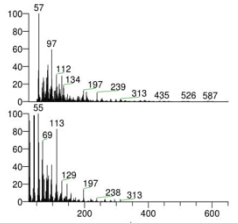
Table 2: Phytochemicals of the ethanolic extract of *Elaeagnus conferta* Roxb. identified by GC-MS analysis

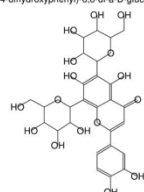
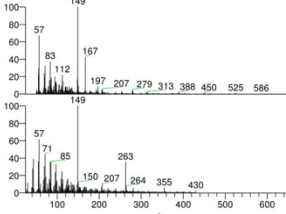
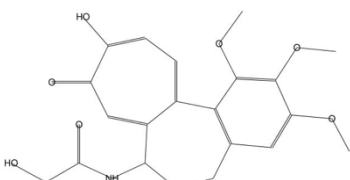
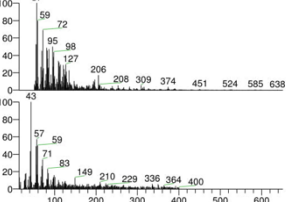

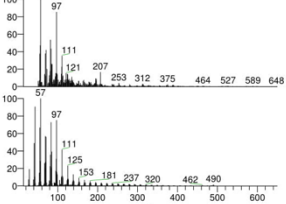
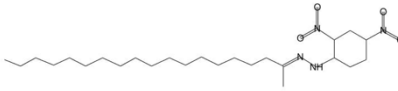
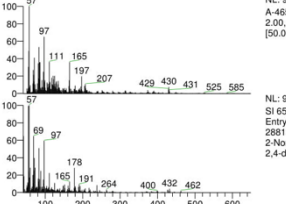
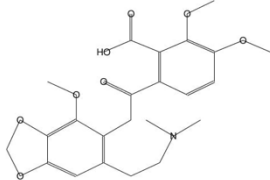
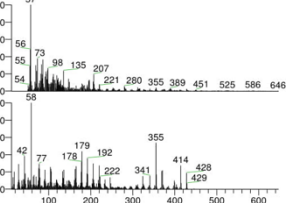
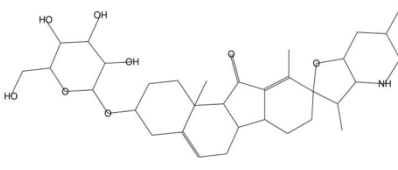
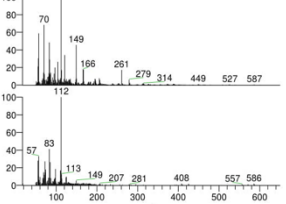
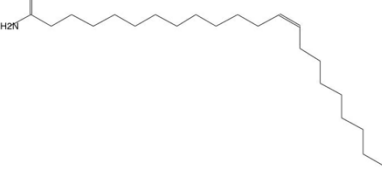
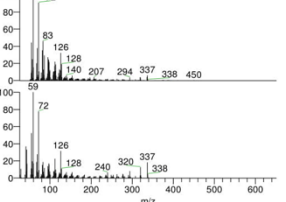
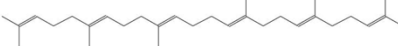
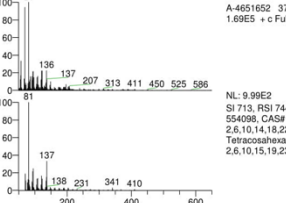
S.No	RT	Name of the compound	Probability	Molecular Formula	MW	Area %
1	7.08	p-Cymene	7.84	C <sub>10</sub> H <sub>14</sub>	134	0.21
2	8.12	dl-2,6-Diaminoheptanedioic acid	6.36	C <sub>7</sub> H <sub>14</sub> N <sub>2</sub> O <sub>4</sub>	190	0.33
3	11.11	Hexadecen-1-ol, trans-9-	4.56	C <sub>16</sub> H <sub>32</sub> O	240	0.48
4	15.29	1-Hexadecanol	6.24	C <sub>16</sub> H <sub>34</sub> O	242	0.65
5	17.06	Myo-Inositol, 2-C-methyl-	4.27	C <sub>7</sub> H <sub>14</sub> O <sub>6</sub>	194	13.60
6	18.49	à-D-Mannofuranoside, 1-O-decyl	5.05	C <sub>16</sub> H <sub>32</sub> O <sub>6</sub>	320	0.28
7	19.53	1-Octadecene	7.01	C <sub>18</sub> H <sub>36</sub>	252	0.76
8	19.83	2,2,3,3,4,4 Hexadeutero octadecanal	14.89	C <sub>18</sub> H <sub>30</sub> D <sub>60</sub>	268	0.12
9	20.24	Isopropyl myristate	32.52	C <sub>17</sub> H <sub>34</sub> O <sub>2</sub>	270	71.85
10	20.51	Phytol, acetate	8.24	C <sub>22</sub> H <sub>42</sub> O <sub>2</sub>	338	0.16
11	22.20	4H-1-Benzopyran-4-one, 2,3-dihydro-5,7-dihydroxy-2-phenyl	18.84	C <sub>15</sub> H <sub>12</sub> O <sub>4</sub>	256	0.14
12	22.89	l-(+)-Ascorbic acid 2,6-dihexadecanoate	14.51	C <sub>38</sub> H <sub>68</sub> O <sub>8</sub>	652	0.40
13	23.51	1-Heneicosyl formate	3.95	C <sub>22</sub> H <sub>44</sub> O <sub>2</sub>	340	0.79
14	25.77	Phytol	53.78	C <sub>20</sub> H <sub>40</sub> O	296	1.11
15	26.27	2,2-Dideutero octadecanal	20.01	C <sub>18</sub> H <sub>34</sub> D <sub>2</sub> O	268	0.26
16	26.86	Cholestan-3-ol, 2-methylene	5.97	C <sub>28</sub> H <sub>48</sub> O	400	0.37
17	27.28	1-Docosanol	4.72	C <sub>22</sub> H <sub>46</sub> O	326	0.65
18	29.66	Dotriacontane	13.30	C <sub>32</sub> H <sub>66</sub>	450	450
19	31.55	Oxiranepentanoic acid, 3-undecyl-, methyl ester, trans	13.42	C <sub>19</sub> H <sub>36</sub> O <sub>3</sub>	312	0.24
20	32.10	Lucenin 2	29.54	C <sub>27</sub> H <sub>30</sub> O <sub>16</sub>	610	0.23
21	32.39	Colchifoleine	17.99	C <sub>21</sub> H <sub>23</sub> NO <sub>7</sub>	401	0.28
22	32.69	17-Pentatriacontene	4.90	C <sub>35</sub> H <sub>70</sub>	490	0.21
23	34.38	2-Nonadecanone 2,4-dinitrophenylhydrazine	4.62	C <sub>25</sub> H <sub>42</sub> N <sub>4</sub> O <sub>4</sub>	462	0.27
24	34.85	Narceine	13.74	C <sub>23</sub> H <sub>27</sub> NO <sub>8</sub>	445	0.24
25	35.40	Pseudojervine	12.59	C <sub>33</sub> H <sub>49</sub> NO <sub>8</sub>	587	587
26	36.07	13-Docosamide	63.80	C <sub>22</sub> H <sub>43</sub> NO	337	3.55
27	37.21	2,6,10,14,18,22-Tetracosahexaene	8.33	C <sub>30</sub> H <sub>50</sub>	410	0.45

Table 3: Identified Mass spectrum and Structure of phytochemical compounds of the ethanolic extract of *Elaeagnus conferta* Roxb using GCMS

S.No	Name of the compound	Spectrum and structure of the compound
1	p-Cymene	<p>p-Cymene Formula C<sub>10</sub>H<sub>14</sub>, MW 134, CAS# 99-87-6, Entry# 89620 Benzene, 1-methyl-4-(1-methylethyl)-</p>   <p>NL: 9.98E2 A-465201 7.08 1 2.00, 5 1.35E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 680, RSI 720, mainlib, Entry# 89620, CAS# 99-87-6, p-Cymene</p>
2	dl-2,6-Diaminoheptanedioic acid	<p>dl-2,6-Diaminoheptanedioic acid Formula C<sub>7</sub>H<sub>14</sub>N<sub>2</sub>O<sub>4</sub>, MW 190, CAS# 2577-62-0, Entry# 20426 2,6-Diaminoheptanedioic acid #</p>   <p>NL: 9.99E2 A-465252 8.12 1 2.00, 5 1.20E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 618, RSI 628, mainlib, Entry# 20426, CAS# 2577-62-0, dl-2,6- Diaminoheptanedioic acid</p>
3	Hexadecen-1-ol, trans-9-	<p>Hexadecen-1-ol, trans-9- Formula C<sub>16</sub>H<sub>32</sub>O, MW 240, CAS# 64437-47-4, Entry# 2269 (9E)-9-Hexadecen-1-ol</p>   <p>NL: 9.98E2 A-465604 15.29 1 2.00, 5 2.62E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 833, RSI 672, mainlib, Entry# 2269, CAS# 64437-47-4, Hexadecen-1-ol, trans-9-</p>

4	1-Hexadecanol	<p>1-Heptadecanol (CAS) Formula C17H36O, MW 256, CAS# 1454-85-9, Entry# 274979 n-Heptadecanol</p> 	 <p>NL: 9.99E2 A-465504 15.29 1 2.00, 5 2.62E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 834, RSI 876, Wiley9, Entry# 274979, CAS# 1454-85-9, 1-Heptadecanol (CAS)</p>
5	Myo-Inositol, 2-C-methyl-	<p>Myo-Inositol, 2-C-methyl- Formula C7H14O6, MW 194, CAS# 472-96-8, Entry# 37966 Inositol, 2-C-methyl-, myo-</p> 	 <p>NL: 9.99E2 A-46591 17.06 1 2.00, 5 1.69E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 671, RSI 720, mainlib, Entry# 37966, CAS# 472-96-8, Myo-Inositol, 2-C-methyl-</p>
6	à-D-Mannofuranoside, 1-O-decyl	<p>à-D-Mannofuranoside, 1-O-decyl Formula C16H32O6, MW 320, CAS# NA, Entry# 37317 Decyl hexofuranoside #</p> 	 <p>NL: 9.99E2 A-465761 18.49 1 2.00, 5 1.18E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 820, RSI 658, mainlib, Entry# 37317, CAS# NA, à-D-Mannofuranoside, 1-O-decyl</p>
7	1-Octadecene	<p>1-Octadecene (CAS) Formula C18H36, MW 252, CAS# 112-88-9, Entry# 265774 à-Octadecene</p> 	 <p>NL: 9.99E2 A-465812 19.53 1 2.00, 5 2.88E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 808, RSI 879, Wiley9, Entry# 265774, CAS# 112-88-9, 1-Octadecene (CAS)</p>
8	2,2,3,3,4,4 hexadeutero octadecanal	<p>2,2,3,3,4,4 HEXADEUTERO OCTADECANAL Formula C18H30D6O, MW 268, CAS# 56554-51-9, Entry# 303205</p> 	 <p>NL: 9.99E2 A-465827 19.83 1 2.00, 5 9.12E4 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 696, RSI 701, Wiley9, Entry# 303205, CAS# 56554-51-9, 2,2,3,3,4,4 HEXADEUTERO OCTADECANAL</p>
9	Isopropyl myristate	<p>Isopropyl myristate Formula C17H34O2, MW 270, CAS# 110-27-0, Entry# 10204 Tetradecanoic acid, 1-methylethyl ester</p> 	 <p>NL: 9.99E2 A-465847 20.24 1 2.00, 5 2.83E7 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 830, RSI 841, mainlib, Entry# 10204, CAS# 110-27-0, Isopropyl myristate</p>
10	Phytol, acetate	<p>Phytol, acetate Formula C22H42O2, MW 338, CAS# NA, Entry# 7996</p> 	 <p>NL: 9.99E2 A-465860 20.51 1 2.00, 5 1.20E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 727, RSI 765, mainlib, Entry# 7996, CAS# NA, Phytol, acetate</p>
11	4H-1-Benzopyran-4-one, 2,3-dihydro-5,7-dihydroxy-2-phenyl	<p>4H-1-Benzopyran-4-one, 2,3-dihydro-5,7-dihydroxy-2-phenyl-, (S)- (CAS) Formula C15H12O4, MW 256, CAS# 480-39-7, Entry# 273796 5,7-DIHYDROXY-2-PHENYLFLAVONE</p> 	 <p>NL: 9.99E2 A-465943 22.20 1 2.00, 5 1.06E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 607, RSI 615, Wiley9, Entry# 273796, CAS# 480-39-7, 4H-1-Benzopyran-4-one, 2,3-dihydro-5,7-dihydroxy-2-phenyl- (S)- (CAS)</p>

12	l-(+)-Ascorbic acid 2,6-dihexadecanoate	<p>l-(+)-Ascorbic acid 2,6-dihexadecanoate Formula C38H68O6, MW 652, CAS# 28474-90-0, Entry# 23751</p> 	 <p>NL: 9.99E2 A-465977 22.89 1 2.00, 5 1.21E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 750, RSI 756, mainlib, Entry# 23751, CAS# 28474-90-0, l-(+)-Ascorbic acid 2,6-dihexadecanoate</p>
13	1-Heneicosyl formate	<p>1-Heneicosyl formate Formula C22H44O2, MW 340, CAS# 77899-03-7, Entry# 455213</p> 	 <p>NL: 9.99E2 A-4651006 23.51 1 2.00, 5 3.02E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 745, RSI 866, Wiley9, Entry# 455213, CAS# 77899-03-7, 1-Heneicosyl formate</p>
14	Phytol	<p>Phytol Formula C20H40O, MW 296, CAS# 150-96-7, Entry# 35090</p> 	 <p>NL: 9.98E2 A-4651110 25.77 1 2.00, 5 7.04E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 833, RSI 846, mainlib, Entry# 35090, CAS# 150-96-7, Phytol</p>
15	2,2-dideutero octadecanal	<p>2,2-DIDEUTERO OCTADECANAL Formula C18H34D2O, MW 288, CAS# 96555-07-8, Entry# 303204</p> 	 <p>NL: 9.99E2 A-4651153 26.27 1 2.00, 5 1.08E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 701, RSI 716, Wiley9, Entry# 303204, CAS# 96555-07-8, 2,2-DIDEUTERO OCTADECANAL</p>
16	Cholestan-3-ol, 2-methylene	<p>Cholestan-3-ol, 2-methylene-, (3a,5a)- Formula C28H46O, MW 400, CAS# 22599-96-8, Entry# 32460</p> 	 <p>NL: 9.99E2 A-4651158 26.86 1 2.00, 5 9.76E4 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 710, RSI 781, mainlib, Entry# 32460, CAS# 22599-96-8, Cholestan-3-ol, 2-methylene-, (3a,5a)-</p>
17	1-Docosanol	<p>1-Docosanol (CAS) Formula C22H44O, MW 326, CAS# 661-19-8, Entry# 429316</p> 	 <p>NL: 9.99E2 A-4651176 27.28 1 2.00, 5 1.42E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 761, RSI 791, Wiley9, Entry# 429316, CAS# 661-19-8, 1-Docosanol (CAS)</p>
18	Dotriacontane	<p>Dotriacontane (CAS) Formula C32H66, MW 450, CAS# 544-85-4, Entry# 589615</p> 	 <p>NL: 9.99E2 A-4651281 29.66 1 2.00, 5 8.28E4 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 698, RSI 757, Wiley9, Entry# 589615, CAS# 544-85-4, Dotriacontane (CAS)</p>
19	Oxiranepentanoic acid, 3-undecyl-, methyl ester, trans	<p>Oxiranepentanoic acid, 3-undecyl-, methyl ester, trans- (CAS) Formula C19H36O3, MW 312, CAS# 6175-11-7, Entry# 400609</p> 	 <p>NL: 9.99E2 A-4651374 31.55 1 2.00, 5 6.32E4 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 643, RSI 697, Wiley9, Entry# 400609, CAS# 6175-11-7, Oxiranepentanoic acid, 3-undecyl-, methyl ester, trans- (CAS)</p>

20	<p>Lucenin 2</p>	<p>Lucenin 2 Formula C27H30O16, MW 610, CAS# 29428-58-8, Entry# 645795 4H-1-Benzopyran-4-one, 2-(3,4-dihydroxyphenyl)-6,8-di-O-D-glucopyranosyl-5,7-dihydroxy- (CAS)</p> 	 <p>NL: 9.99E2 A-4651401 32.10 1 2.00, 5 1.84E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 696, RSI 701, Wiley9, Entry# 645795, CAS# 29428-58-8, Lucenin 2</p>
21	<p>Colchifoleine</p>	<p>Colchifoleine Formula C21H23NO7, MW 401, CAS# 78517-64-3, Entry# 543651</p> 	 <p>NL: 9.99E2 A-4651415 32.39 1 2.00, 5 9.97E4 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 671, RSI 688, Wiley9, Entry# 543651, CAS# 78517-64-3, Colchifoleine</p>
22	<p>17-Pentatriacontene</p>	<p>17-Pentatriacontene Formula C35H70, MW 490, CAS# 6971-40-0, Entry# 22797 (17E)-17-Pentatriacontene #</p> 	 <p>NL: 9.99E2 A-4651430 32.69 1 2.00, 5 1.28E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 697, RSI 719, mainlib, Entry# 22797, CAS# 6971-40-0, 17-Pentatriacontene</p>
23	<p>2-Nonadecanone 2,4-dinitrophenylhydrazine</p>	<p>2-Nonadecanone 2,4-dinitrophenylhydrazine Formula C29H42N2O4, MW 462, CAS# 28813-61-8, Entry# 23031 2-Nonadecanone, (2,4-dinitrophenyl)hydrazine</p> 	 <p>NL: 9.99E2 A-4651513 34.38 1 2.00, 5 8.18E4 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 657, RSI 690, mainlib, Entry# 23031, CAS# 28813-61-8, 2-Nonadecanone 2,4-dinitrophenylhydrazine</p>
24	<p>Narceine</p>	<p>Narceine Formula C23H27NO8, MW 445, CAS# 131-28-2, Entry# 585708</p> 	 <p>NL: 9.99E2 A-4651536 34.85 1 2.00, 5 9.28E4 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 597, RSI 632, Wiley9, Entry# 585708, CAS# 131-28-2, Narceine</p>
25	<p>Pseudojervine</p>	<p>Pseudojervine Formula C33H49NO8, MW 587, CAS# 36069-05-3, Entry# 641971</p> 	 <p>NL: 9.99E2 A-4651563 35.40 1 2.00, 5 1.19E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 626, RSI 702, Wiley9, Entry# 641971, CAS# 36069-05-3, Pseudojervine</p>
26	<p>13-Docosenamide</p>	<p>13-Docosenamide, (Z)- Formula C22H43NO, MW 337, CAS# 112-84-5, Entry# 27662 Eucylamide</p> 	 <p>NL: 9.98E2 A-4651596 36.07 1 2.00, 5 9.42E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 785, RSI 816, mainlib, Entry# 27662, CAS# 112-84-5, 13-Docosenamide, (Z)-</p>
27	<p>2,6,10,14,18,22-Tetracosahexaene</p>	<p>2,6,10,14,18,22-Tetracosahexaene, 2,6,10,15,19,23-hexamethyl- (CAS) Formula C38H50, MW 410, CAS# 7883-84-9, Entry# 554099 Squalene</p> 	 <p>NL: 9.98E2 A-4651652 37.21 1 2.00, 5 1.69E5 + c Full ms [50.00-650.00]</p> <p>NL: 9.99E2 SI 713, RSI 744, Wiley9, Entry# 554099, CAS# 7883-84-9, 2,6,10,14,18,22- Tetracosahexaene, 2,6,10,15,19,23-hexamethyl- (CAS)</p>



## CONCLUSION

*Elaeagnus conferta* Roxb ethanolic plant extract was analysed by GC – MS analysis which shows the presence of 27 rich varieties of bioconstituents. Among the different identified compounds namely, Lucenin 2, Phytol, Colchifoleine, 2,6,10,14,18,22-Tetracosahexaene, octadecanoic acid, n-hexadecanoic acid, Pseudojervine, Docosanol have the role in antioxidant, anticancer and antimicrobial activities. Hence from this study it can be proved that this plant has been used as a new potential source for drug formulations.

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