







Figure 3: Chromatogram of methanolic root extract *P. volubilis* by GC-MS

Table 2: GC-MS analysis showed phytochemical compounds and their biological activities of methanol leaf extract of *P. volubilis*

S. No.	R.Time	Name of compounds	Molecular Formula	Molecular Weight	Peak Area (%)	Biological activity
1.	10.466	Dodecanal	C <sub>12</sub> H <sub>24</sub> O	184	0.13	antibacterial activity against both of gram positive and gram negative bacteria <sup>(10)</sup> .
2.	14.203	Dodecanoic acid	C <sub>12</sub> H <sub>24</sub> O <sub>2</sub>	200	1.15	
3.	15.819	DODECANAL DIMETHYLACETAL	C <sub>14</sub> H <sub>30</sub> O <sub>2</sub>	230	0.15	
4.	18.509	Tetradecanoic acid	C <sub>14</sub> H <sub>28</sub> O <sub>2</sub>	228	0.82	antibacterial, antifungal <sup>(11)</sup> Antioxidant, Cancer preventive, Nematicide, Lubricant Hypocholesterolemic <sup>(12)</sup>
5.	20.509	PENTADECANOIC ACID	C <sub>15</sub> H <sub>30</sub> O <sub>2</sub>	242	0.12	Antimicrobial, antioxidant activity <sup>(13)</sup>
6.	20.653	1,2-Benzenedicarboxylic acid, bis(2-methylpropyl) ester	C <sub>16</sub> H <sub>22</sub> O <sub>4</sub>	278	1.90	
7.	21.680-++	Hexadecanoic acid, methyl ester	C <sub>17</sub> H <sub>34</sub> O <sub>2</sub>	270	0.42	Antioxidant, Hypocholesterolemic, Nematicide, Pesticide, Antiandrogenic flavor, Hemolytic, 5-Alpha reductase inhibitor <sup>(14)</sup>
8.	22.140	Oleic Acid	C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	282	0.81	Antitumor, anticancer <sup>(15)</sup>
9.	22.701	n-Hexadecanoic acid	C <sub>16</sub> H <sub>32</sub> O <sub>2</sub>	256	12.19	Antioxidant, Hypocholesterolemic Nematicide, Pesticide, Lubricant, Antiandrogenic, Flavor, Hemolytic, 5-Alpha reductase inhibitor <sup>(16,17)</sup>
10.	24.890	9,12-Octadecadienoic acid, methyl ester	C <sub>19</sub> H <sub>34</sub> O <sub>2</sub>	294	0.55	
11.	25.024	9-OCTADECENOIC ACID (Z)-, METHYL ESTER	C <sub>19</sub> H <sub>36</sub> O <sub>2</sub>	296	3.35	Antifungal Antioxidant, anticancer <sup>(18)</sup>

12.	25.451	OCTADECANOIC ACID, METHYL ESTER	C <sub>19</sub> H <sub>38</sub> O <sub>2</sub>	298	0.10	Potent Antifungal, antimicrobial, antibacterial and at low PH. <sup>(19)</sup>
13.	26.351	1,2-Benzenedicarboxylic acid, mono(2-ethylhexyl) ester	C <sub>16</sub> H <sub>22</sub> O <sub>4</sub>	278	61.97	Antifungal, anti retroviral, anti tumor, <b>anti diabetic</b> anti cancer, antioxi antioxidant, anti scabies anti inflammatory, potent antimicrobial agent <sup>(20,21)</sup>
14.	26.549	Octadecanoic acid	C <sub>18</sub> H <sub>36</sub> O <sub>2</sub>	284	3.32	Cancer preventive Insectifuge <sup>(22)</sup>
15.	26.779	4,7-Octadecadienoic acid, methyl ester	C <sub>19</sub> H <sub>34</sub> O <sub>2</sub>	294	0.23	
16.	27.360	3,6-OCTADECADIENOIC ACID, METHYL ESTER	C <sub>19</sub> H <sub>34</sub> O <sub>2</sub>	294	0.49	
17.	28.578	2-Nonenal, 2-pentyl-	C <sub>14</sub> H <sub>26</sub> O	210	0.46	
18.	28.846	E,E,Z-1,3,12-Nonadecatriene-5,14-diol	C <sub>19</sub> H <sub>34</sub> O <sub>2</sub>	294	0.17	
19.	29.083	BICYCLO[3.3.1]NONAN-9-ONE, 2-BUTYL-7-(1,1-DIMETHYLETHYL)-3-NITRO-, [1S-(2-EXO,3-EXO,7-ENDO)]-	C <sub>17</sub> H <sub>29</sub> NO <sub>3</sub>	295	0.58	
20.	29.210	2H-Pyran, 2-(2-heptadecyloxy)tetrahydro-	C <sub>22</sub> H <sub>40</sub> O <sub>2</sub>	336	1.18	
21.	29.408	BICYCLO[3.3.1]NONAN-9-ONE, 2-BUTYL-7-(1,1-DIMETHYLETHYL)-3-NITRO-, [1S-(2-EXO,3-EXO,7-ENDO)]-	C <sub>17</sub> H <sub>29</sub> NO <sub>3</sub>	295	2.18	
22.	29.504	9-Octadecenal, (Z)-	C <sub>18</sub> H <sub>34</sub> O	226	2.66	anti-aloopic, Antitumour, Cholerectic, Dermatitigenic, immunostimulant, Anti leukotriene, anti- androgenic, Haemolytic, Hypercholesterolemic, <sup>(23)</sup>
23.	30.182	Cyclohexane, 1,1'-dodecylidenebis[4-methyl-	C <sub>26</sub> H <sub>50</sub>	362	0.93	
24.	30.308	1-Cyclohexanol, 4-tert.butyl-1-methyl-	C <sub>11</sub> H <sub>22</sub> O	170	0.74	
25.	30.870	CYCLOHEXANONE OXIME	C <sub>6</sub> H <sub>10</sub> DNO	114	0.54	
26.	31.414	Z-5-Methyl-6-heneicosen-11-one	C <sub>22</sub> H <sub>42</sub> O	322	0.54	
27.	32.519	1,2-BENZENEDICARBOXYLIC ACID	C <sub>24</sub> H <sub>38</sub> O <sub>4</sub>	390	0.29	Antimicrobial Antifouling <sup>(12)</sup>
28.	35.208	9-Octadecenoic acid (Z)-, 2,3-dihydroxypropyl ester	C <sub>21</sub> H <sub>40</sub> O <sub>4</sub>	356	0.66	
29.	36.299	6-Octadecenoic acid, (Z)-	C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	282	0.25	
30.	49.316	Biphenylene, 1,2,3,6,7,8,8a,8b-octahydro-4,5-dimethyl-	C <sub>14</sub> H <sub>20</sub>	188	0.37	
31.	50.026	Betulin	C <sub>30</sub> H <sub>50</sub> O <sub>2</sub>	442	0.44	Wound healing activity, cholesterol lowering action, anti-inflammatory, cholerectic and liver-protecting activity <sup>(25)</sup> hypolipidemic properties

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