



Essential Oil University

GC/MS Report

Item	Lot
Melissa EO <i>Melissa officinalis</i>	4Z
Date	Analyst
11/25/2024	Dr. Robert S. Pappas

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The analysis of this batch sample, Melissa EO, meets the expected chemical profile for authentic essential oil of *Melissa officinalis*. No contamination or adulteration was detected. The results provided in this GCMS quality analysis reflect the chemical composition of the oil and lot referenced above on the date of analysis.



Sample Information

Company: Revive
Sample Name: Melissa EO
Botanical Name: Melissa officinalis
Lot Number: 4Z
Production Method: Steam distilled

Sample Type: EO - Single
Country of Origin: Bulgaria
Analysis Date: 11/25/2024
Manufacture Date: April 2024

GC/MS

Inst. ID: Shimadzu GCMS-QP2010Ultra
Injection Type: Split
Split Ratio: 24.4

Column Type: ZB-5
Injection Volume: 0.1 µL
Temperature Program: 2C/min

Physical Data

ANALYSIS

Optical Rotation @20°C
Refractive Index @20°C
Specific Gravity @20°C

METHOD

USP[781]
USP[831]
USP[841]

RESULTS

-13.20
1.48842
0.89505



Ret. Time	Component	Ret. Idx.	Conc. %	
3.742	Isobutyl alcohol	718	0.01%	
4.044	3-Methylbutanal	725	0.1%	
4.149	2-Methylbutanal	728	0.07%	
4.368	3-Penten-2-ol	733	0.01%	
4.587	alpha-Ethylfuran	739	0.02%	
5.171	1-Pentanol	754	0.06%	
5.251	2-Methylbutanol	756	0.04%	
6.772	Hexanal	794	0.01%	
8.619	cis-3-Hexenol	840	0.26%	
9.031	trans-2-Hexen-1-ol	851	0.02%	
9.159	Hexanol	854	0.05%	
10.404	2,5-Diethyltetrahydrofuran	885	0.02%	
12.312	alpha-Pinene	923	0.18%	
13.210	Camphene	939	0.03%	
13.851	Benzaldehyde	951	0.02%	IFRA
14.479	Sabinene	962	0.02%	
14.817	1-Octen-3-ol	968	0.43%	
15.091	6-Methyl hept-5-en-2-one	973	1.47%	
15.413	Myrcene	978	0.16%	
15.603	6-Methyl Hept-5-en-2-ol	982	0.01%	
15.845	Octan-3-ol	986	0.04%	
16.331	Unidentified	995	0.07%	
16.620	delta-3-Carene	1000	0.26%	
16.984	1,4-Cineole	1005	0.03%	
17.608	Cymene isomer	1015	0.02%	
17.916	Limonene	1019	2.97%	IFRA
18.091	1,8-Cineole	1022	0.04%	
18.313	cis-beta-Ocimene	1025	0.87%	
18.555	Unidentified	1029	0.01%	
18.811	Phenylacetaldehyde	1033	0.02%	IFRA
18.991	trans-beta-Ocimene	1036	2.88%	
19.407	Melon aldehyde	1042	0.01%	
19.777	gamma-Terpinene	1047	0.02%	
20.574	cis-Linalool oxide (furanoid)	1059	0.05%	
21.587	Terpinolene	1075	0.03%	
22.000	Rosefuran	1081	0.02%	
22.529	Linalool	1089	1.06%	IFRA
22.897	Nonanal	1094	0.09%	
23.238	Rose Oxide A	1100	0.03%	
24.342	Rose Oxide B	1116	0.03%	



Ret. Time	Component	Ret. Idx.	Conc. %	
24.477	allo-Ocimene	1117	0.13%	
25.160	Epiphotocitral A	1127	0.1%	
25.300	Unidentified	1129	0.02%	
25.503	exo-Isocitral	1132	0.03%	IFRA
25.873	Neoisopulegol	1137	0.34%	
26.128	Citronellal	1141	2.67%	IFRA
26.392	Menthone	1145	0.02%	
26.564	Isoisopulegol	1147	0.07%	
26.756	Isoneral	1150	0.18%	IFRA
27.002	Menthone isomer	1154	0.02%	
27.308	Rose furan oxide	1158	0.02%	
27.464	Unidentified	1160	0.02%	
27.710	cis-Myrtanol	1164	0.04%	
28.053	Isogeranial	1169	0.4%	IFRA
28.847	Methyl salicylate	1180	0.03%	
29.089	alpha-Terpineol	1184	0.1%	
29.300	Unidentified	1187	0.02%	
29.433	trans-Isopiperitenol	1189	0.02%	
29.881	trans-p-Mentha-1(7),8-dien-2-ol	1195	0.06%	
30.294	Unidentified	1201	0.01%	
30.652	Unidentified	1206	0.03%	
31.083	Nerol	1212	0.66%	
31.255	Citronellol	1215	0.69%	IFRA
31.424	Isogeraniol	1217	0.02%	
32.086	Neral	1227	16.79%	IFRA
32.522	Methyl citronellate isomer	1233	0.04%	
32.853	Geraniol	1238	1.81%	IFRA
33.082	Piperitone	1242	0.05%	
33.361	Methyl citronellate	1246	1.03%	
34.133	Geranial	1257	24.46%	IFRA
34.648	Methyl geranate isomer	1264	0.03%	
34.962	trans-Carvone oxide	1269	0.16%	IFRA
35.547	Thymol	1277	0.02%	
36.095	Geranyl formate	1285	0.03%	
36.596	Citronellic acid	1293	0.03%	
37.113	cis-Neranic acid	1300	0.02%	
37.624	Methyl geranate	1308	0.8%	
38.496	Unidentified	1321	0.02%	
39.194	Geranic acid	1332	0.05%	
39.343	alpha-Cubebene	1334	0.04%	



Ret. Time	Component	Ret. Idx.	Conc. %	
40.072	Neryl acetate	1345	0.11%	
41.215	alpha-Copaene	1363	0.64%	
41.362	Geranyl acetate	1365	2.44%	
41.538	3,4-Dihydrocoumarin	1367	0.32%	IFRA
41.731	beta-Bourbonene	1370	0.21%	
42.004	cis-Cadina-1(6),4-diene	1375	0.21%	
42.110	beta-Elementene	1376	0.38%	
43.071	Isocaryophyllene	1391	0.04%	
44.059	beta-Caryophyllene	1406	19.88%	
44.356	Unidentified	1411	0.01%	
44.661	beta-Copaene	1416	0.08%	
44.860	cis-alpha-Bergamotene	1419	0.12%	
46.109	trans-beta-Farnesene	1439	0.18%	
46.256	alpha-Humulene	1441	0.84%	
46.532	9-epi-beta-Caryophyllene	1445	0.09%	
46.662	cis-Cadina-1(6),4-diene	1448	0.04%	
47.049	Unidentified	1454	0.02%	
47.290	trans-Cadina-1(6),4-diene	1458	0.03%	
47.479	gamma-Murolene	1461	0.14%	
47.861	Germacrene D	1467	6.32%	
48.457	trans,trans-alpha-Farnesene	1476	0.46%	
48.739	Bicyclogermacrene	1481	0.14%	
48.936	alpha-Murolene	1484	0.25%	
49.294	alpha-Farnesene	1490	0.25%	
49.501	beta-Bisabolene	1493	0.02%	
49.809	gamma-Cadinene	1498	0.24%	
49.931	Cubebol	1500	0.03%	
50.122	delta-Cadinene	1503	0.91%	
50.967	trans-Cadine-1,4-diene	1517	0.03%	
51.216	alpha-Cadinene	1521	0.06%	
52.062	Caryophyllene oxide	1536	0.03%	
53.564	Germacren D-4-ol	1561	0.28%	
53.878	Caryophyllene oxide	1566	0.61%	
54.743	trans-gamma-Bisabolene	1581	0.04%	
55.491	Humulene epoxide II	1593	0.03%	
55.813	Cubebol	1599	0.02%	
56.221	Junenol	1606	0.03%	
56.528	Epicubenol	1611	0.03%	
57.330	alpha-Murolol	1625	0.18%	
57.439	epi-alpha-Murolol	1627	0.23%	



Ret. Time	Component	Ret. Idx.	Conc. %	
57.582	Unidentified	1630	0.07%	
58.080	Cadin-4-en-10-ol	1639	0.52%	
58.916	Unidentified	1653	0.02%	
68.078	6,10,14-Trimethyl-2-Pentadecanone	1823	0.05%	
70.475	beta-Bisabolene	1870	0.03%	
71.132	Octadecane	1882	0.02%	
73.392	Unidentified	1928	0.04%	
73.882	Hexadecanoic acid	1938	0.04%	
76.823	Unidentified	1998	0.03%	
79.583	Unidentified	2057	0.02%	
80.392	Thiogeraniol	2075	0.02%	
80.628	Unidentified	2080	0.02%	
81.784	Linoleic acid	2105	0.07%	
82.105	cis-Vaccenic acid	2112	0.27%	
83.406	Unidentified	2141	0.04%	
94.057	Unidentified	2391	0.02%	
94.319	Oleoyl chloride	2398	0.05%	
95.875	Unidentified	2437	0.1%	
96.203	Unidentified	2445	0.04%	
96.645	Unidentified	2456	0.02%	

Total Identified Compounds **99.43 %**

