



Essential Oil University

GC/MS Report

Item	Lot
Lemongrass EO <i>Cymbopogon flexuosus</i>	1A
Date	Analyst
2/12/2025	Dr. Robert S. Pappas

© Copyright 2025 by Essential Oil University. All rights reserved. Any publishing, copying, use, dissemination, or distribution of this report, including online, without the express written permission of Essential Oil University is strictly prohibited.

The analysis of this batch sample, Lemongrass EO, meets the expected chemical profile for authentic essential oil of *Cymbopogon flexuosus*. 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:** Lemongrass EO**Botanical Name:** Cymbopogon flexuosus**Lot Number:** 1A**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** India**Analysis Date:** 2/12/2025**Manufacture Date:** January 2025

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

-2.60

1.48679

0.89853



Ret. Time	Component	Ret. Idx.	Conc. %	
3.021	Unidentified	551	0.03%	
3.566	Unidentified	606	0.04%	
3.981	3-Methylbutanal	648	0.01%	
4.501	2-Ethylfuran	700	0.01%	
5.083	3-Methyl-1-butanol	728	0.01%	
7.555	Unidentified	825	0.01%	
9.101	4-Heptanone	866	0.01%	
11.491	Tricyclene	921	0.16%	
12.038	alpha-Pinene	931	0.27%	
12.925	Camphene	947	1.31%	
14.171	Sabinene	970	0.01%	
14.466	beta-Pinene	976	0.02%	
14.790	6-Methyl hept-5-en-2-one	981	2.18%	
15.097	Myrcene	987	0.08%	
15.153	para-Cymenene	988	0.06%	
15.294	6-Methyl-hept-5-en-2-ol	991	0.01%	
15.572	trans-Dehydroxylinalool oxide	996	0.01%	
15.675	Unidentified	998	0.01%	
15.952	Octanal	1002	0.03%	
16.138	alpha-Phellandrene	1005	0.01%	
17.272	para-Cymene	1023	0.02%	
17.566	Limonene	1027	1.66%	IFRA
17.667	beta-Phellandrene	1029	0.03%	
17.741	1,8-Cineole	1030	0.03%	
17.963	cis-beta-Ocimene	1033	0.25%	
18.639	trans-beta-Ocimene	1044	0.16%	
19.071	Melonal	1050	0.02%	
19.423	gamma-Terpinene	1056	0.02%	
20.270	4-Nonanone	1069	1.4%	
21.208	Terpinolene	1083	0.05%	
21.250	trans-Linalool oxide (furanoid)	1084	0.02%	
21.535	4-Nonanol	1088	0.03%	
21.628	Rosefuran	1090	0.13%	
22.085	Perillene	1097	0.07%	
22.153	Linalool	1098	1.31%	IFRA
22.551	alpha-Pinene oxide	1104	0.08%	
22.794	Unidentified	1107	0.02%	
23.761	Unidentified	1122	0.01%	
24.093	allo-Ocimene	1126	0.01%	
24.770	Epiphotocitral A	1136	0.14%	



Ret. Time	Component	Ret. Idx.	Conc. %	
25.118	exo-Isocitral	1141	0.04%	IFRA
25.481	trans-Chrysanthemal	1147	0.28%	
25.735	Citronellal	1150	0.18%	IFRA
26.362	Isoneral	1159	0.28%	IFRA
26.912	Isoborneol	1167	0.19%	
27.073	Borneol	1170	0.23%	
27.491	Menthol	1176	0.03%	
27.658	Isogeranial	1178	0.59%	IFRA
27.705	Unidentified	1179	0.13%	
28.580	Unidentified	1192	0.03%	
28.683	alpha-Terpineol	1193	0.18%	
29.026	Unidentified	1198	0.02%	
29.477	Unidentified	1205	0.15%	
30.248	Unidentified	1216	0.02%	
30.676	Nerol	1222	0.12%	
30.866	Citronellol	1225	0.09%	IFRA
31.714	Neral	1238	28.55%	IFRA
32.469	Geraniol	1249	6.54%	IFRA
32.672	Piperitone	1252	0.11%	
33.767	Geranial	1268	40.65%	IFRA
33.991	4-Undecanone	1271	0.07%	
34.558	Unidentified	1279	0.39%	
35.671	Geranyl formate	1296	0.02%	
37.199	Methyl geranate	1319	0.03%	
38.057	Unidentified	1332	0.03%	
38.871	alpha-Cubebene	1345	0.01%	
39.065	Citronellyl acetate	1348	0.01%	IFRA
39.641	Neryl acetate	1356	0.02%	
39.790	Unidentified	1359	0.02%	
40.275	Cyclosativene	1366	0.09%	
40.319	Isodene	1367	0.18%	
40.431	Unidentified	1368	0.03%	
40.746	alpha-Copaene	1373	0.04%	
40.927	Geranyl acetate	1376	4.49%	
41.255	beta-Bourbonene	1381	0.03%	
41.531	beta-Cubebene	1385	0.04%	
41.639	beta-Elemene	1387	0.13%	
41.770	Sativene	1389	0.02%	
43.533	beta-Caryophyllene	1417	1.83%	
44.177	beta-Copaene	1427	0.04%	



Ret. Time	Component	Ret. Idx.	Conc. %	
45.226	trans-Isoeugenol	1444	0.24%	IFRA
45.373	cis-Murrola-3,5-diene	1446	0.04%	
45.776	alpha-Humulene	1452	0.18%	
46.184	Unidentified	1459	0.02%	
46.805	trans-Cadina-1(6),4-diene	1469	0.03%	
47.360	Germacrene D	1478	0.16%	
48.033	trans-Muurolo-4(14),5-diene	1489	0.03%	
48.160	Unidentified	1491	0.01%	
48.259	epi-Cubebol	1492	0.14%	
48.453	alpha-Muuroloene	1495	0.04%	
48.718	delta-Amorphene	1500	0.01%	
48.889	alpha-Chamigrene	1503	0.02%	
49.027	Cuparene	1505	0.02%	
49.326	gamma-Cadinene	1510	1.25%	
49.444	Cubebol	1512	0.22%	
49.634	delta-Cadinene	1515	0.34%	
49.901	Unidentified	1520	0.03%	
50.148	trans-gamma-Bisabolene	1524	0.15%	
50.329	Unidentified	1527	0.03%	
50.486	trans-Cadina-1,4-diene	1530	0.02%	
50.730	alpha-Cadinene	1534	0.03%	
51.404	alpha-Elemol	1545	0.04%	
51.885	Geranyl butyrate	1553	0.06%	
52.013	Germacrene B	1555	0.02%	
53.378	Caryophyllene oxide	1578	0.51%	
54.999	Humulene epoxide II	1606	0.04%	
55.318	1,10-di-epi-Cubenol	1612	0.02%	
56.033	Epicubenol	1624	0.03%	
58.129	Unidentified	1662	0.02%	
68.345	Unidentified	1854	0.01%	
76.297	Unidentified	2016	0.02%	
76.652	Unidentified	2023	0.01%	
78.197	Unidentified	2057	0.09%	
78.509	Unidentified	2063	0.02%	
79.560	Unidentified	2086	0.02%	
79.666	Unidentified	2088	0.05%	
79.873	Unidentified	2093	0.13%	
80.089	Unidentified	2097	0.06%	
80.967	Unidentified	2117	0.03%	
81.536	Unidentified	2130	0.04%	



Ret. Time	Component	Ret. Idx.	Conc. %	
82.969	Unidentified	2162	0.03%	
83.562	Unidentified	2175	0.01%	
85.476	Unidentified	2219	0.03%	
86.202	Unidentified	2236	0.03%	

Total Identified Compounds **98.37 %**

