



Essential Oil University

GC/MS Report

Item	Lot
Lemon EO CP <i>Citrus limon</i>	5K
Date	Analyst
1/14/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Lemon EO CP, meets the expected chemical profile for authentic essential oil of *Citrus limon*. 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:** Lemon EO CP**Botanical Name:** Citrus limon**Lot Number:** 5K**Production Method:** Cold Press**Sample Type:** EO - Single**Country of Origin:** Italy**Analysis Date:** 1/14/2025**Manufacture Date:** November 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

+62.84

1.47411

0.85310



Ret. Time	Component	Ret. Idx.	Conc. %	
6.957	Hexan-2-ol	809	0%	
11.511	Tricyclene	921	0.01%	
11.656	alpha-Thujene	924	0.25%	
12.057	alpha-Pinene	931	2.51%	
12.848	alpha-Fenchene	946	0.01%	
12.943	Camphene	947	0.07%	
14.195	Sabinene	971	2.2%	
14.506	beta-Pinene	976	13.95%	
14.838	Unidentified	982	0.01%	
14.980	para-Menth-3-ene	985	0.01%	
15.117	Myrcene	987	1.33%	
15.968	Octanal	1003	0.07%	
16.164	alpha-Phellandrene	1006	0.07%	
16.306	delta-3-Carene	1008	0.02%	
16.676	1,4-Cineole	1014	0.08%	
16.819	alpha-Terpinene	1016	0.24%	
17.303	para-Cymene	1023	0.56%	
17.675	Limonene	1029	64.75%	IFRA
17.741	beta-Phellandrene	1030	0.22%	
17.796	1,8-Cineole	1031	0.09%	
17.989	cis-beta-Ocimene	1034	0.03%	
18.665	trans-beta-Ocimene	1044	0.08%	
19.458	gamma-Terpinene	1056	8.14%	
20.227	trans-Sabinene hydrate	1068	0.03%	
21.230	Terpinolene	1084	0.64%	
21.449	Fenchone	1087	0.01%	
22.180	Linalool	1098	0.08%	IFRA
22.265	Unidentified	1100	0.01%	
22.545	Nonanal	1104	0.04%	
23.499	endo-Fenchol	1118	0.02%	
23.675	Unidentified	1120	0.01%	
24.429	cis-Limonene oxide	1131	0.04%	
24.638	Terpin-3-en-1-ol	1134	0.02%	
24.722	trans-Limonene oxide	1136	0.03%	
25.134	Unidentified	1141	0.04%	
25.566	cis-beta-Terpineol	1148	0.01%	
25.769	Citronellal	1151	0.03%	IFRA
27.702	Terpinen-4-ol	1179	0.06%	
28.713	alpha-Terpineol	1194	0.18%	
29.037	Unidentified	1198	0.02%	



Ret. Time	Component	Ret. Idx.	Conc. %	
29.507	Decanal	1205	0.02%	
30.334	trans-Carveol	1217	0%	
30.463	Unidentified	1219	0.01%	
30.698	Nerol	1223	0.02%	
30.860	Citronellol	1225	0.02%	IFRA
31.193	Unidentified	1230	0.02%	
31.632	Neral	1236	0.71%	IFRA
32.037	Carvone	1242	0.01%	IFRA
32.468	Geraniol	1249	0.03%	IFRA
33.650	Geranial	1266	1.14%	IFRA
34.188	Unidentified	1274	0.01%	
36.399	Unidentified	1307	0.01%	
39.103	Citronellyl acetate	1348	0.01%	IFRA
39.676	Neryl acetate	1357	0.44%	
40.953	Geranyl acetate	1376	0.49%	
43.188	cis-alpha-Bergamotene	1411	0.02%	
43.571	beta-Caryophyllene	1417	0.16%	
44.436	trans-alpha-Bergamotene	1431	0.27%	
44.635	Unidentified	1434	0.01%	
45.693	trans-beta-Farnesene	1451	0.02%	
45.807	alpha-Humulene	1453	0.01%	
47.599	trans-beta-Bergamotene	1482	0.02%	
48.111	Valencene	1490	0.02%	
48.290	Unidentified	1493	0.01%	
48.638	alpha-Bisabolene	1498	0.03%	
49.072	beta-Bisabolene	1506	0.51%	
53.122	Spathulenol	1574	0.02%	
53.414	Caryophyllene oxide	1579	0.01%	
57.899	Unidentified	1658	0.01%	
58.605	Unidentified	1670	0.01%	
59.446	alpha-Bisabolol	1685	0.01%	IFRA
74.017	Citropten	1968	0.01%	

Total Identified Compounds **99.88 %**

