



Essential Oil University

GC/MS Report

Item	Lot
Lemon EO CP <i>Citrus limon</i>	5B
Date	Analyst
5/6/2025	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:** 5B**Production Method:** Cold Press**Sample Type:** EO - Single**Country of Origin:** Italy**Analysis Date:** 5/6/2025**Manufacture Date:** March 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

+61.40

1.47435

0.85323



Ret. Time	Component	Ret. Idx.	Conc. %	
11.608	alpha-Thujene	923	0.33%	
12.006	alpha-Pinene	930	2.4%	
12.792	alpha-Fenchene	945	0%	
12.890	Camphene	946	0.06%	
14.140	Sabinene	970	1.71%	
14.448	beta-Pinene	975	12.46%	
15.060	Myrcene	986	1.37%	
15.916	Octanal	1002	0.05%	
16.107	alpha-Phellandrene	1005	0.04%	
16.250	delta-3-Carene	1007	0.01%	
16.760	alpha-Terpinene	1015	0.2%	
17.243	para-Cymene	1022	0.37%	
17.613	Limonene	1028	62.69%	IFRA
17.679	beta-Phellandrene	1029	0.03%	
17.725	1,8-Cineole	1030	0.1%	
17.935	cis-beta-Ocimene	1033	0.04%	
18.606	trans-beta-Ocimene	1043	0.09%	
19.400	gamma-Terpinene	1056	11.47%	
20.155	trans-Sabinene hydrate	1067	0.05%	
20.295	Unidentified	1069	0.01%	
21.164	Terpinolene	1083	0.34%	
22.118	Linalool	1097	0.08%	IFRA
22.185	cis-Sabinene hydrate	1098	0.03%	
22.479	Nonanal	1103	0.06%	
24.362	cis-Limonene oxide	1130	0.01%	
24.646	trans-Limonene oxide	1134	0.01%	
25.332	Camphor	1144	0.01%	
25.699	Citronellal	1150	0.04%	IFRA
26.337	cis-Isocitral (Isoneral)	1159	0.01%	
27.637	Terpinen-4-ol	1178	0.06%	
28.643	alpha-Terpineol	1193	0.16%	
29.441	Decanal	1204	0.03%	
30.626	Nerol	1222	0.03%	
31.561	Neral	1235	1.22%	IFRA
31.962	Unidentified	1241	0.01%	
32.406	Geraniol	1248	0.02%	IFRA
33.580	Geranial	1265	1.97%	IFRA
34.109	Perillaldehyde	1273	0.01%	IFRA
36.330	Undecenal	1306	0.01%	
39.023	Citronellyl acetate	1347	0.02%	IFRA



Ret. Time	Component	Ret. Idx.	Conc. %	
39.599	Neryl acetate	1356	0.47%	
40.878	Geranyl acetate	1375	0.69%	
41.597	beta-Elemene	1386	0.01%	
42.375	Tetradecane	1398	0.01%	
42.915	Unidentified	1407	0.01%	
43.110	cis-alpha-Bergamotene	1410	0.02%	
43.489	trans-beta-Caryophyllene	1416	0.2%	
44.359	trans-alpha-Bergamotene	1430	0.33%	
44.550	Unidentified	1433	0.02%	
45.611	trans-beta-Farnesene	1450	0.02%	
45.734	alpha-Humulene	1452	0.01%	
45.976	Unidentified	1456	0.01%	
47.515	trans-beta-Bergamotene	1480	0.02%	
48.026	Valencene	1489	0.02%	
48.209	Bicyclogermacrene	1491	0.03%	
48.555	cis-alpha-Bisabolene	1497	0.04%	
48.991	beta-Bisabolene	1504	0.47%	
53.028	Unidentified	1572	0.01%	
59.366	alpha-Bisabolol	1684	0.02%	IFRA
73.956	Citropten	1967	0.01%	

Total Identified Compounds **99.96 %**

