



Essential Oil University

GC/MS Report

Item	Lot
Grapefruit Essence <i>Citrus paradisi</i>	7Y
Date	Analyst
5/1/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Grapefruit Essence, meets the expected chemical profile for authentic essential oil of *Citrus paradisi*. 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:** Grapefruit Essence**Botanical Name:** Citrus paradisi**Lot Number:** 7Y**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** USA**Analysis Date:** 5/1/2025**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

+93.40

1.47409

0.85174



Ret. Time	Component	Ret. Idx.	Conc. %	
4.477	Heptane	698	0%	
11.618	alpha-Thujene	923	0.02%	
12.016	alpha-Pinene	930	0.44%	
12.906	Camphene	947	0.01%	
14.150	Sabinene	970	0.19%	
14.447	beta-Pinene	975	0.6%	
15.073	Myrcene	987	1.17%	
15.921	Octanal	1002	0.13%	
16.120	alpha-Phellandrene	1005	0.01%	
16.262	delta-3-Carene	1007	0.01%	
16.772	alpha-Terpinene	1015	0.01%	
17.262	para-Cymene	1023	0.38%	
17.667	Limonene	1029	90.39%	IFRA
17.720	beta-Phellandrene	1030	0.12%	
17.947	cis-beta-Ocimene	1033	0.01%	
18.625	trans-beta-Ocimene	1044	0.04%	
19.402	gamma-Terpinene	1056	0.38%	
20.189	1-Octanol	1068	0.06%	
21.179	Terpinolene	1083	0.03%	
22.129	Linalool	1098	0.13%	IFRA
22.489	Nonanal	1103	0.04%	
23.617	trans-para-Mentha-2,8-dienol	1119	0.14%	
24.124	Octyl formate	1127	0.01%	
24.368	cis-Limonene oxide	1130	0.05%	
24.613	cis-para-Mentha-2,8-dienol	1134	0.14%	
24.645	trans-Limonene oxide	1134	0.08%	
27.037	Unidentified	1169	0.01%	
27.513	Unidentified	1176	0.06%	
27.649	Terpinen-4-ol	1178	0.09%	
28.655	alpha-Terpineol	1193	0.32%	
28.856	cis-Dihydrocarvone	1196	0.03%	
28.985	cis-Piperitol	1198	0.09%	
29.443	Decanal	1204	0.2%	
29.725	Octyl acetate	1208	0.06%	
30.275	trans-Carveol	1217	0.17%	
31.176	cis-Carveol	1230	0.11%	
31.579	Neral	1236	0.05%	IFRA
31.971	Carvone	1241	0.14%	IFRA
33.599	Geranial	1265	0.1%	IFRA
34.120	Perillaldehyde	1273	0.02%	IFRA



Ret. Time	Component	Ret. Idx.	Conc. %	
38.717	Limonene glycol	1342	0.21%	
38.860	Unidentified	1344	0.02%	
39.044	Unidentified	1347	0.03%	
39.615	Neryl acetate	1356	0.04%	
40.716	alpha-Copaene	1373	0.12%	
40.896	Geranyl acetate	1375	0.06%	
41.507	beta-Cubebene	1385	0.08%	
41.615	beta-Elemene	1386	0.03%	
42.940	Decyl acetate	1407	0.04%	
43.509	beta-Caryophyllene	1416	1.65%	
44.376	trans-alpha-Bergamotene	1430	0.02%	
45.751	alpha-Humulene	1452	0.16%	
47.336	Germacrene D	1477	0.02%	
47.502	Selina-4,11-diene	1480	0.02%	
48.046	Valencene	1489	0.08%	
48.273	alpha-Selinene	1493	0.04%	
49.009	beta-Bisabolene	1505	0.03%	
49.615	delta-Cadinene	1515	0.14%	
53.054	Spathulenol	1573	0.01%	
53.360	Caryophyllene oxide	1578	0.66%	
54.973	Humulene epoxide II	1606	0.04%	
58.061	Intermedeol	1661	0.11%	
58.393	Unidentified	1666	0.03%	
62.234	Unidentified	1737	0.02%	
65.482	Nootkatone	1797	0.25%	IFRA

Total Identified Compounds **99.78 %**

