



Essential Oil University

GC/MS Report

Item	Lot
Petitgrain (Bitter Orange) EO <i>Citrus aurantium</i> Petitgrain (Bitter Orange) EO	8D
Date	Analyst
11/7/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Petitgrain (Bitter Orange Leaf) EO, meets the expected chemical profile for authentic essential oil of *Citrus aurantium*. 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:** Petitgrain (Bitter Orange) EO**Botanical Name:** Citrus aurantium**Lot Number:** 8D**Production Method:** Steam Distilled**Sample Type:** EO - Single**Country of Origin:** Italy**Analysis Date:** 11/7/2025**Manufacture Date:** August 2023

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

-6.00

1.45914

0.88875



Ret. Time	Component	Ret. Idx.	Conc. %	
4.130	2-Ethylfuran	687	0%	
10.938	alpha-Thujene	911	0.02%	
11.316	alpha-Pinene	918	0.2%	ALLERGEN
12.177	Camphene	933	0.02%	
13.410	Sabinene	956	0.96%	
13.693	beta-Pinene	961	2.18%	ALLERGEN
14.340	Myrcene	973	1.73%	PROP. 65
15.357	alpha-Phellandrene	991	0.02%	
15.481	delta-3-Carene	994	0.13%	
16.000	alpha-Terpinene	1003	0.09%	ALLERGEN
16.468	para-Cymene	1010	0.02%	
16.747	Limonene	1014	2.97%	ALLERGEN IFRA
16.843	beta-Phellandrene	1016	0.09%	
16.913	1,8-Cineole	1017	0.08%	
17.165	cis-beta-Ocimene	1021	0.63%	
17.826	trans-beta-Ocimene	1031	2.27%	
18.578	gamma-Terpinene	1042	0.1%	
19.360	cis-Linalool oxide (furanoid)	1054	0.04%	
20.325	Terpinolene	1069	0.31%	ALLERGEN
20.395	trans-Linalool oxide (furanoid)	1070	0.03%	
21.395	Linalool	1086	23.96%	ALLERGEN IFRA
21.553	Hotrienol	1088	0.04%	
23.194	allo-Ocimene	1113	0.02%	
24.428	Camphor	1131	0.07%	ALLERGEN
24.841	Citronellal	1137	0.02%	IFRA
26.030	delta-Terpineol	1154	0.01%	ALLERGEN
26.113	Borneol	1155	0.02%	
26.718	Terpinen-4-ol	1164	0.09%	
27.752	alpha-Terpineol	1179	5.15%	ALLERGEN
29.709	Nerol	1208	0.38%	
29.911	Citronellol	1211	0.01%	ALLERGEN IFRA
31.554	Linalyl acetate + Geraniol	1235	50.22%	
32.697	Geranial	1252	0.03%	ALLERGEN IFRA
35.415	4-Vinyl guaiacol	1292	0.03%	
36.851	Linalyl propionate	1313	0.02%	
37.058	delta-Elemene	1317	0.01%	
37.840	alpha-Terpinyl acetate	1329	0.09%	
38.097	Citronellyl acetate	1332	0.01%	IFRA
38.661	Neryl acetate	1341	2.34%	
39.953	Geranyl acetate	1361	4.44%	ALLERGEN



Ret. Time	Component	Ret. Idx.	Conc. %	
40.596	beta-Elemene	1371	0.01%	
41.355	Ethyl 6-acetyloxyhexanoate	1382	0.03%	
42.453	trans-beta-Caryophyllene	1399	0.58%	ALLERGEN
44.694	alpha-Humulene	1435	0.11%	
46.297	Germacrene D	1460	0.03%	
47.184	Bicyclogermacrene	1475	0.23%	
47.416	alpha-Muurolene	1478	0.01%	
47.835	trans,trans-alpha-Farnesene	1485	0.02%	
48.593	delta-Cadinene	1497	0.03%	
51.184	trans-Nerolidol	1540	0.03%	
52.021	Spathulenol	1555	0.02%	
52.316	Caryophyllene oxide	1560	0.01%	

Total Identified Compounds **99.96 %**



TIC
11,354,754

