



Essential Oil University

GC/MS Report

Item	Lot
Bergamot EO CP <i>Citrus aurantium bergamia</i>	3F
Date	Analyst
10/29/2024	Dr. Robert S. Pappas

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The analysis of this batch sample, Bergamot EO CP, meets the expected chemical profile for authentic essential oil of *Citrus aurantium bergamia*. 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:** Bergamot EO CP**Botanical Name:** Citrus aurantium bergamia**Lot Number:** 3F**Production Method:** Cold Press**Sample Type:** EO - Single**Country of Origin:** Italy**Analysis Date:** 10/29/2024**Date of Distillation:** October 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

+38.96

1.46922

0.87140



Ret. Time	Component	Ret. Idx.	Conc. %	
11.806	alpha-Thujene	923	0.33%	
12.209	alpha-Pinene	930	1.23%	
13.102	Camphene	946	0.04%	
14.362	Sabinene	969	1.05%	
14.665	beta-Pinene	975	5.58%	
15.010	Unidentified	981	0.01%	
15.295	Myrcene	986	1.43%	
16.135	Octanal	1001	0.04%	
16.347	alpha-Phellandrene	1004	0.04%	
17.006	alpha-Terpinene	1015	0.19%	
17.487	para-Cymene	1022	0.29%	
17.841	Limonene	1027	43.17%	IFRA
17.909	beta-Phellandrene	1028	0.18%	
17.960	1,8-Cineole	1029	0.04%	
18.178	cis-beta-Ocimene	1033	0.08%	
18.857	trans-beta-Ocimene	1043	0.28%	
19.656	gamma-Terpinene	1055	7.8%	
20.416	transSabinene hydrate	1067	0.05%	
21.450	Terpinolene	1083	0.37%	
22.417	Linalool	1097	9.17%	IFRA
22.752	Nonanal	1102	0.02%	
24.901	Unidentified	1134	0.01%	
24.941	Unidentified	1134	0.01%	
27.935	Terpinen-4-ol	1178	0.04%	
28.935	alpha-Terpineol	1192	0.19%	
29.729	Decanal	1204	0.05%	
30.014	Octyl acetate	1208	0.13%	
30.931	Nerol	1221	0.05%	
31.406	Unidentified	1228	0.01%	
31.866	Neral	1235	0.22%	IFRA
32.720	Linalyl acetate	1248	24.34%	
33.881	Geranial	1265	0.35%	IFRA
35.006	Bornyl acetate	1281	0.03%	
36.760	Nonyl acetate	1307	0.03%	
38.139	Linalyl propionate	1328	0.04%	
38.397	delta-Elementene	1332	0.02%	
39.134	alpha-Terpinyl acetate	1343	0.17%	
39.344	Unidentified	1347	0.03%	
39.919	Neryl acetate	1355	0.55%	
41.197	Geranyl acetate	1375	0.5%	



Ret. Time	Component	Ret. Idx.	Conc. %	
43.239	Unidentified	1406	0.03%	
43.447	cis-alpha-Bergamotene	1410	0.03%	
43.840	beta-Caryophyllene	1416	0.3%	
44.708	trans-alpha-Bergamotene	1430	0.33%	
45.945	trans-beta-Farnesene	1450	0.06%	
46.079	alpha-Humulene	1452	0.04%	
46.336	Unidentified	1456	0.02%	
47.680	Germacrene D	1477	0.03%	
47.852	Unidentified	1480	0.02%	
48.908	cis-alpha-Bisabolene	1497	0.04%	
49.340	beta-Bisabolene	1504	0.48%	
52.486	Unidentified	1557	0.01%	
58.865	Unidentified	1668	0.02%	
58.959	Unidentified	1670	0.01%	
59.717	alpha-Bisabolol	1684	0.03%	IFRA
61.111	Unidentified	1709	0.01%	
61.251	Unidentified	1711	0.02%	
65.841	Unidentified	1797	0.02%	
72.385	Unidentified	1926	0.01%	
74.306	Citropten	1966	0.16%	
77.812	Bergaptene	2040	0.17%	IFRA
78.108	Unidentified	2046	0.02%	

Total Identified Compounds **99.76 %**

