



Essential Oil University

GC/MS Report

Item	Lot
Frankincense EO, Carterii <i>Boswellia carterii</i>	4C
Date	Analyst
2/13/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Frankincense EO, Carterii, meets the expected chemical profile for authentic essential oil of *Boswellia carterii*. 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:** Frankincense EO, Carterii**Botanical Name:** Boswellia carterii**Lot Number:** 4C**Production Method:** Hydrodistillation**Sample Type:** EO - Single**Country of Origin:** Somaliland**Analysis Date:** 2/13/2025**Manufacture Date:** February 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

-7.88

1.47156

0.87090



Ret. Time	Component	Ret. Idx.	Conc. %	
5.814	Toluene	762	0.05%	IFRA
7.797	6,6-Dimethylhepta-2,4-diene	832	0.01%	
9.570	Unidentified	879	0.01%	
10.835	Unidentified	909	0.02%	
11.367	Hashishene	918	0.09%	
11.484	Tricyclene	921	0.1%	
11.638	alpha-Thujene	923	2.86%	
12.099	alpha-Pinene	932	47.97%	
12.560	Thujadiene isomer	940	0.04%	
12.824	alpha-Fenchene	945	0.02%	
12.917	Camphene	947	0.78%	
13.115	Thuja-2,4(10)-diene	951	0.21%	
14.100	Cymene isomer	969	0.06%	
14.172	Sabinene	970	4.35%	
14.469	beta-Pinene	976	4.15%	
15.091	Myrcene	987	2.83%	
15.505	Unidentified	995	0.01%	
15.985	Pseudolimonene	1003	0.02%	
16.070	Unidentified	1004	0.06%	
16.135	alpha-Phellandrene	1005	1.59%	
16.276	delta-3-Carene	1007	0.56%	
16.453	Hexyl acetate	1010	0.02%	
16.784	alpha-Terpinene	1015	0.13%	
17.271	para-Cymene	1023	2.74%	
17.387	Unidentified	1025	0.06%	
17.581	Limonene	1028	9.45%	IFRA
17.669	beta-Phellandrene	1029	0.38%	
17.736	1,8-Cineole	1030	0.17%	
17.955	cis-beta-Ocimene	1033	0.11%	
18.630	trans-beta-Ocimene	1044	0.07%	
18.819	Unidentified	1047	0.02%	
19.410	gamma-Terpinene	1056	0.75%	
20.194	1-Octanol	1068	0.26%	
20.309	Pinol	1070	0.03%	
21.205	Terpinolene	1083	0.11%	
21.520	para-Cymenene	1088	0.11%	
22.066	Perillene	1097	0.04%	
22.146	Linalool	1098	0.21%	IFRA
22.599	Isoamyl isovalerate	1105	0.03%	
22.789	Unidentified	1107	0.03%	



Ret. Time	Component	Ret. Idx.	Conc. %	
23.032	Unidentified	1111	0.02%	
23.384	beta-Thujone	1116	0.06%	IFRA
23.533	Myrcenol	1118	0.05%	
23.635	trans-para-Mentha-2,8-dienol	1120	0.03%	
23.821	cis-para-Menth-2-en-1-ol	1122	0.02%	
23.991	alpha-Campholenal	1125	0.16%	
24.153	Unidentified	1127	0.03%	
24.385	cis-Limonene oxide	1131	0.01%	
24.632	cis-para-Mentha-2,8-dienol	1134	0.04%	
24.933	trans-Pinocarveol	1139	0.41%	
25.009	cis-Verbenol	1140	0.1%	
25.259	trans-Verbenol	1143	0.45%	
25.366	Camphor	1145	0.02%	
25.599	alpha-Phellandrene-8-ol	1148	0.19%	
26.068	Sabina ketone	1155	0.02%	
26.205	Unidentified	1157	0.01%	
26.288	Unidentified	1158	0.06%	
26.419	Unidentified	1160	0.05%	
26.894	Unidentified	1167	0.05%	
27.055	Unidentified	1169	0.49%	
27.212	Unidentified	1172	0.02%	
27.538	Unidentified	1176	0.02%	
27.676	Terpinen-4-ol	1179	0.39%	
27.965	4'-Methylacetophenone	1183	0.01%	
28.108	para-Cymen-8-ol	1185	0.12%	
28.452	Myrtenol	1190	0.02%	
28.683	alpha-Terpineol	1193	0.71%	
29.013	cis-Piperitol	1198	0.04%	
29.216	alpha-Phellandrene epoxide	1201	0.1%	
29.470	Verbenone	1205	0.25%	
29.754	Octyl acetate	1209	3.33%	
30.303	trans-Carveol	1217	0.18%	
31.200	cis-Carveol	1230	0.05%	
31.746	Unidentified	1238	0.01%	
31.895	Cuminal	1240	0.04%	IFRA
31.993	Carvone	1242	0.12%	IFRA
32.327	Carvotanacetone	1247	0.03%	
33.467	3,5-Dimethoxytoluene	1263	0.03%	
34.285	Phellandral	1275	0.02%	
34.721	Bornyl acetate	1282	0.29%	



Ret. Time	Component	Ret. Idx.	Conc. %
35.654	Carvacrol	1296	0.05%
38.112	delta-Elemene	1333	0.01%
38.874	alpha-Cubebene	1345	0.18%
40.269	Cyclosativene	1366	0.03%
40.744	alpha-Copaene	1373	0.54%
40.926	Geranyl acetate	1376	0.02%
41.155	Unidentified	1379	0.01%
41.257	beta-Bourbonene	1381	0.06%
41.435	Hexyl hexanoate	1384	0.01%
41.530	beta-Cubebene	1385	0.04%
41.641	beta-Elemene	1387	0.57%
42.756	alpha-Gurjunene	1404	0.04%
43.545	beta-Caryophyllene	1417	3.56%
44.180	beta-Copaene	1427	0.02%
44.399	trans-alpha-Bergamotene	1430	0.06%
45.382	trans-Murrola-3,5-diene	1446	0.06%
45.779	alpha-Humulene	1453	0.47%
46.054	Alloaromadendrene	1457	0.11%
46.817	trans-Cadina-1(6),4-diene	1469	0.07%
46.885	Unidentified	1470	0.02%
46.997	gamma-Murolene	1472	0.16%
47.365	Germacrene D	1478	0.16%
47.759	delta-Selinene	1484	0.05%
47.860	beta-Selinene	1486	0.29%
48.029	gamma-Amorphene	1489	0.1%
48.283	alpha-Selinene	1493	0.35%
48.458	alpha-Murolene	1495	0.11%
49.330	gamma-Cadinene	1510	0.27%
49.450	Cubebol	1512	0.24%
49.642	delta-Cadinene	1515	0.69%
49.815	cis-Calamenene	1518	0.02%
49.907	Zonarene	1520	0.03%
50.486	trans-Cadina-1,4-diene	1530	0.04%
50.732	alpha-Cadinene	1534	0.02%
50.993	alpha-Calacorene	1538	0.02%
51.416	alpha-Elemol	1545	0.05%
52.195	Unidentified	1558	0.06%
52.910	Unidentified	1570	0.01%
53.078	Spathulenol	1573	0.06%
53.387	Caryophyllene oxide	1579	0.55%



Ret. Time	Component	Ret. Idx.	Conc. %	
54.109	Viridiflorol	1591	0.09%	
54.707	Unidentified	1601	0.01%	
54.996	Humulene epoxide II	1606	0.15%	
55.236	10-epi-gamma-Eudesmol	1610	0.1%	
55.324	Unidentified	1612	0.05%	
56.038	Epicubenol	1625	0.06%	
56.842	tau-Cadinol	1639	0.4%	
57.092	delta-Cadinol	1643	0.02%	
57.460	Unidentified	1650	0.02%	
57.587	Unidentified	1652	0.11%	
57.740	Unidentified	1655	0.03%	
58.419	Unidentified	1667	0.03%	
65.093	Phellandrene dimer	1790	0.06%	
73.087	Neocembrene	1949	0.12%	
75.273	Unidentified	1994	0.02%	
75.839	Verticilla-4(20),7,11-triene	2006	0.05%	
81.537	Cembrenol	2130	0.06%	
82.015	Incensole	2141	0.29%	
82.120	Serratol	2143	0.45%	
82.865	Incensyl acetate	2160	0.12%	

Total Identified Compounds **98.67 %**

