



Essential Oil University

GC/MS Report

Item	Lot
Helichrysum italicum (Immortelle) EO <i>Helichrysum italicum</i>	8C
Date	Analyst
7/25/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Helichrysum italicum (Immortelle) EO, meets the expected chemical profile for authentic essential oil of *Helichrysum italicum*. 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:** Helichrysum italicum (Immortelle)
EO**Botanical Name:** Helichrysum italicum**Lot Number:** 8C**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** Greece**Analysis Date:** 7/25/2025**Manufacture Date:** July 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

-.44

1.47647

0.89877



Ret. Time	Component	Ret. Idx.	Conc. %	
4.736	Unidentified	695	0.01%	
5.697	2-Methyl-3-pentanone	736	0.03%	
6.471	Unidentified	769	0.01%	
7.013	2-Methyl-2-heptene	792	0.1%	
8.320	4-Methyl-3-hexanone	828	0.08%	
10.925	Nonane	892	0.02%	
11.220	Bornylene	900	0.02%	
12.297	alpha-Thujene	919	0.01%	
12.738	alpha-Pinene	926	12.95%	
13.532	alpha-Fenchene	940	0.2%	
13.631	Camphene	942	0.11%	
13.830	Thuja-2,4(10)-diene	946	0.01%	
14.913	Sabinene	965	0.01%	
15.222	beta-Pinene	970	0.31%	
15.860	Myrcene	981	0.08%	
15.925	Unidentified	982	0.01%	
16.633	Isobutyl 2-methylbutyrate	995	0.03%	
16.826	Unidentified	998	0.02%	
16.928	alpha-Phellandrene	1000	0.03%	
17.589	alpha-Terpinene	1010	0.14%	
18.070	para-Cymene	1017	0.2%	
18.380	Limonene	1022	2.05%	IFRA
18.495	beta-Phellandrene	1024	0.03%	
18.571	1,8-Cineole	1025	0.37%	
18.777	cis-beta-Ocimene	1028	0.02%	
19.467	trans-beta-Ocimene	1038	0.05%	
19.662	Isobutyl angelate	1041	0.21%	
20.265	gamma-Terpinene	1050	0.31%	
22.085	Terpinolene	1078	0.14%	
22.427	2-Nonanone	1083	0.03%	
22.498	2,4-Dimethylheptane-3,5-dione	1084	0.03%	
23.027	Linalool	1092	0.52%	IFRA
23.269	2-Methylbutyl-2-methylbutyrate	1095	0.1%	
23.391	Nonanal	1097	0.05%	
24.383	endo-Fenchol	1111	0.05%	
25.877	trans-Pinocarveol	1133	0.05%	
26.307	Isoamyl angelate	1139	0.02%	
26.565	Isoamyl tiglate	1143	0.79%	
26.878	trans-beta-Terpineol	1147	0.02%	
27.461	Unidentified	1156	0.02%	



Ret. Time	Component	Ret. Idx.	Conc. %	
28.035	Borneol	1164	0.08%	
28.644	Terpinen-4-ol	1172	0.43%	
29.641	alpha-Terpineol	1187	0.25%	
30.428	Decanal	1198	0.05%	
31.624	Nerol	1215	0.35%	
31.808	Unidentified	1218	0.04%	
32.451	Hexyl 2-methylbutyrate	1227	0.02%	
33.456	Unidentified isomer I	1242	0.09%	
33.776	Unidentified isomer I	1247	0.03%	
35.220	cis-3-Hexenyl angelate	1268	0.02%	
35.686	Hexyl angelate	1274	0.36%	
36.327	2-Undecanone	1284	0.03%	
36.901	Tridecane	1292	0.04%	
39.895	alpha-Terpinyl acetate	1337	0.02%	
40.764	Neryl acetate	1350	23.2%	
41.395	Cyclosativene	1360	0.48%	
41.860	alpha-Copaene	1367	2.63%	
42.901	Sativene	1383	0.03%	
43.490	Tetradecane	1391	0.02%	
43.775	Italicene	1396	3.53%	
43.865	Italicene isomer	1397	0.11%	
44.012	Italicene isomer	1399	0.14%	
44.253	cis-alpha-Bergamotene	1403	1%	
44.449	alpha-Cedrene	1406	0.02%	IFRA
44.675	beta-Caryophyllene	1410	4.22%	
45.300	Unidentified	1420	0.01%	
45.454	2,5,7-Trimethyldec-2-en-6,8-dione	1422	1.53%	
45.480	trans-alpha-Bergamotene	1423	1.12%	
45.645	Unidentified	1425	0.17%	
45.846	Unidentified	1428	0.12%	
46.023	6,9-Guaiadiene	1431	0.3%	
46.205	Unidentified	1434	0.11%	
46.410	Neryl propionate	1437	1.01%	
46.515	Unidentified	1439	0.2%	
46.738	trans-beta-Farnesene	1443	0.25%	
46.912	alpha-Humulene	1445	0.35%	
47.016	Amorpha-4,11-diene	1447	0.09%	
47.169	Alloaromodendrene	1450	0.28%	
47.315	Unidentified	1452	0.04%	
47.431	alpha-Acoradiene	1454	0.4%	



Ret. Time	Component	Ret. Idx.	Conc. %	
47.578	Acoradiene isomer	1456	0.14%	
47.661	beta-Acoradiene	1457	0.27%	
47.818	4,5-di-epi-Aristolochene	1460	0.13%	
48.030	Selina-4,11-diene	1463	1.04%	
48.034	Unidentified	1463	1.59%	
48.349	gamma-Curcumene	1468	13.29%	
48.518	Ar-Curcumene	1471	3.07%	
48.712	trans-beta-Bergamotene	1474	0.67%	
49.033	beta-Selinene	1479	6.25%	
49.229	trans-Murrola-4(14),5-diene	1482	0.31%	
49.459	alpha-Selinene	1486	3.63%	
49.581	alpha-Murolene	1488	0.32%	
49.865	Cadinene isomer	1492	0.46%	
50.148	beta-Bisabolene	1497	0.14%	
50.253	beta-Curcumene	1499	0.49%	
50.467	gamma-Cadinene	1502	0.32%	
50.520	Unidentified	1503	0.11%	
50.766	delta-Cadinene	1507	0.84%	
51.049	Zonarene	1512	0.11%	
51.280	trans-gamma-Bisabolene	1516	0.1%	
51.614	trans-Cadina-1,4-diene	1521	0.09%	
51.717	Unidentified	1523	0.14%	
51.870	alpha-Cadinene	1526	0.06%	
52.102	trans-alpha-Bisabolene	1530	0.17%	
52.941	Unidentified	1544	0.02%	
53.297	trans-Nerolidol	1550	0.08%	
53.385	Unidentified	1551	0.01%	
53.566	Italidione isomer	1554	0.2%	
53.695	Italidione isomer	1556	0.1%	
53.856	Italidione isomer	1559	0.58%	
54.080	Italidione isomer	1563	0.18%	
54.375	Unidentified	1568	0.16%	
54.543	Caryophyllene oxide	1571	0.2%	
54.833	Unidentified	1575	0.02%	
55.170	Unidentified	1581	0.05%	
55.397	Guaiol	1585	0.1%	
55.900	Unidentified	1593	0.09%	
56.113	Copaborneol	1597	0.21%	
56.349	Rosifoliol	1601	0.3%	
56.435	Unidentified	1602	0.03%	



Ret. Time	Component	Ret. Idx.	Conc. %	
56.625	Unidentified	1606	0.15%	
57.090	Unidentified	1614	0.02%	
57.188	1,10-di-epi-Cubenol	1616	0.04%	
57.421	Unidentified	1620	0.02%	
57.540	Unidentified	1622	0.04%	
57.651	Unidentified	1624	0.07%	
57.984	epi-alpha-Cadinol	1630	0.03%	
58.082	Unidentified	1631	0.02%	
58.743	alpha-Eudesmol	1643	0.16%	
58.904	Unidentified	1646	0.17%	
59.282	Bulnesol	1653	0.02%	
59.568	beta-Bisabolol	1658	0.07%	
59.655	Unidentified	1659	0.05%	
60.212	Unidentified	1669	0.03%	
60.431	epi-alpha-Bisabolol	1673	0.04%	IFRA
60.550	Unidentified	1675	0.02%	
60.656	Neryl hexanoate	1677	0.03%	
62.096	Pentadecanal	1702	0.01%	
62.568	Geranyl hexanoate	1711	0.09%	
63.109	Unidentified	1721	0.01%	
64.156	Unidentified	1741	0.02%	
64.326	Unidentified	1744	0.01%	
64.455	Unidentified	1746	0.02%	
64.631	Unidentified	1750	0.01%	
64.748	Unidentified	1752	0.04%	
65.257	Unidentified	1761	0.02%	
65.592	Unidentified	1767	0.17%	
66.281	Unidentified	1780	0.04%	
68.751	Phytone	1827	0.02%	
96.294	Unidentified	2435	0.02%	

Total Identified Compounds **95.89 %**

