



Essential Oil University

GC/MS Report

Item	Lot
Helichrysum italicum (Immortelle) EO <i>Helichrysum italicum</i>	8E
Date	Analyst
2/10/2025	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 Type:** EO - Single**Sample Name:** Helichrysum italicum (Immortelle)
EO**Country of Origin:** Greece**Analysis Date:** 2/10/2025**Botanical Name:** Helichrysum italicum**Manufacture Date:** January 2025**Lot Number:** 8E**Production Method:** Steam distilled

GC/MS

Inst. ID: Shimadzu GCMS-QP2010Ultra**Column Type:** ZB-5**Injection Type:** Split**Injection Volume:** 0.1 µL**Split Ratio:** 24.4**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

-.20

1.47658

0.89760



Ret. Time	Component	Ret. Idx.	Conc. %	
5.386	2-Methyl 3-pentanone	742	0.01%	
6.105	Unidentified	776	0.01%	
6.621	2-Methyl-2-heptene	800	0.06%	
7.854	4-Methyl-3-hexanone	833	0.04%	
10.330	Nonane	899	0.02%	
10.609	Bornylene	904	0.02%	
11.644	alpha-Thujene	924	0.02%	
12.059	alpha-Pinene	931	15.43%	
12.830	alpha-Fenchene	945	0.22%	
12.925	Camphene	947	0.1%	
13.126	Thuja-2,4(10)-diene	951	0%	
14.175	Sabinene	970	0.04%	
14.469	beta-Pinene	976	0.39%	
15.100	Myrcene	987	0.05%	
15.160	Unidentified	988	0.01%	
15.705	Unidentified	998	0.01%	
15.861	Isobutyl 2-methylbutyrate	1001	0.03%	
15.960	Unidentified	1003	0.01%	
16.050	Unidentified	1004	0.02%	
16.140	alpha-Phellandrene	1005	0.02%	
16.793	alpha-Terpinene	1015	0.17%	
17.010	para-Methylanisole	1019	0.01%	
17.270	para-Cymene	1023	0.18%	
17.564	Limonene	1027	2.17%	IFRA
17.695	beta-Phellandrene	1029	0.03%	
17.742	1,8-Cineole	1030	0.37%	
17.975	cis-beta-Ocimene	1034	0.01%	
18.640	trans-beta-Ocimene	1044	0.02%	
18.839	Isobutyl angelate	1047	0.16%	
19.414	gamma-Terpinene	1056	0.39%	
21.203	Terpinolene	1083	0.13%	
21.562	2-Nonanone	1089	0.03%	
21.640	2,4-Dimethylheptane-3,5-dione	1090	0.02%	
22.147	Linalool	1098	0.5%	IFRA
22.377	2-Methylbutyl-2-methylbutyrate	1101	0.09%	
22.520	Nonanal	1103	0.03%	
23.464	endo-Fenchol	1117	0.04%	
24.932	trans-Pinocarveol	1139	0.04%	
25.390	Isoamyl angelate	1145	0.02%	
25.647	Isoamyl tiglate	1149	0.55%	



Ret. Time	Component	Ret. Idx.	Conc. %	
27.070	Borneol	1170	0.04%	
27.674	Terpinen-4-ol	1178	0.38%	
28.676	alpha-Terpineol	1193	0.22%	
29.482	Decanal	1205	0.03%	
30.657	Nerol	1222	0.19%	
31.474	Hexyl 2-methylbutyrate	1234	0.01%	
32.462	Unidentified isomer I	1249	0.05%	
32.782	Unidentified isomer I	1253	0.02%	
34.225	Unidentified	1275	0.02%	
34.692	Hexyl angelate	1281	0.28%	
35.331	2-Undecanone	1291	0.03%	
35.871	Tridecane	1299	0.02%	
38.844	alpha-Terpinyl acetate	1344	0.03%	
39.072	Neryl acetate isomer	1348	0.02%	
39.712	Neryl acetate	1357	27.3%	
40.286	Cyclosativene	1366	0.41%	
40.756	alpha-Copaene	1373	1.14%	
40.780	Isoitalicene	1374	0.83%	
40.927	Geranyl acetate	1376	0.08%	
41.303	Unidentified	1382	0.01%	
41.534	7-epi-Sesquithujene	1385	0.01%	
41.645	Unidentified	1387	0.01%	
41.786	Sativene	1389	0.02%	
42.422	Tetradecane	1399	0.02%	
42.652	Italicene	1402	2.73%	
42.720	Italicene isomer	1403	0.12%	
42.869	Italicene isomer	1406	0.09%	
43.152	cis-alpha-Bergamotene	1410	0.93%	
43.322	alpha-Cedrene	1413	0.02%	IFRA
43.541	beta-Caryophyllene	1417	3.95%	
44.187	beta-Copaene	1427	0.01%	
44.385	4,6,9-Trimethyl-dec-8-en-3,5-dione	1430	2.38%	
44.610	Italidione	1434	0%	
44.907	6,9-Guaiadiene	1439	0.11%	
45.349	Neryl propionate	1446	0.82%	
45.653	trans-beta-Farnesene	1451	0.15%	
45.774	alpha-Humulene	1452	0.23%	
45.920	Unidentified	1455	0.04%	
46.047	Alloaromodendrene	1457	0.14%	
46.299	alpha-Acoradiene	1461	0.24%	



Ret. Time	Component	Ret. Idx.	Conc. %	
46.450	Unidentified	1463	0.07%	
46.531	beta-Acoradiene	1465	0.2%	
46.684	4,5-di-epi-Aristolochene	1467	0.08%	
46.893	Selina-4,11-diene	1470	1.33%	
46.973	Italidione isomer	1472	1.01%	
47.223	gamma-Curcumene	1476	14.72%	
47.402	Ar-Curcumene	1479	2.45%	
47.577	(Z,E)-alpha-Farnesene	1481	0.53%	
47.877	beta-Selinene	1486	5.82%	
48.086	trans-Murrola-4(14),5-diene	1490	0.19%	
48.310	alpha-Selinene	1493	3.57%	
48.460	alpha-Murolene	1496	0.25%	
48.721	Cadinene analogue	1500	0.33%	
49.033	beta-Bisabolene	1505	0.13%	
49.137	beta-Curcumene	1507	0.45%	
49.332	gamma-Cadinene	1510	0.3%	
49.640	delta-Cadinene	1515	0.65%	
49.830	cis-Calamenene	1518	0.02%	
49.914	Zonarene	1520	0.06%	
49.985	Unidentified	1521	0.03%	
50.154	trans-gamma-Bisabolene	1524	0.07%	
50.490	trans-Cadina-1,4-diene	1530	0.07%	
50.565	Unidentified	1531	0.14%	
50.732	alpha-Cadinene	1534	0.05%	
50.983	Unidentified	1538	0.15%	
52.180	trans-Nerolidol	1558	0.1%	
52.466	Italidione isomer	1563	0.07%	
52.761	Italidione isomer	1568	0.21%	
53.273	Neryl isovalerate	1577	0.08%	
53.381	Caryophyllene oxide	1578	0.16%	
53.880	Unidentified	1587	0.02%	
54.018	Unidentified	1589	0.02%	
54.252	Guaiol	1593	0.09%	
54.779	Unidentified	1602	0.15%	
54.947	Copaborneol	1605	0.22%	
55.180	Rosifoliol	1609	0.31%	
55.301	Unidentified	1611	0.03%	
55.449	Unidentified	1614	0.11%	
55.544	Neryl tiglate	1616	0.05%	
56.022	1-Epicubenol	1624	0.04%	



Ret. Time	Component	Ret. Idx.	Conc. %	
56.270	gamma-Eudesmol	1629	0.03%	
56.385	Unidentified	1631	0.04%	
56.486	beta-Eudesmol	1633	0.07%	
56.841	tau-Cadinol	1639	0.03%	
56.965	Unidentified	1641	0.01%	
57.585	alpha-Eudesmol	1652	0.15%	
57.740	Intermedeol	1655	0.21%	
58.121	Bulnesol	1662	0.01%	
58.420	beta-Bisabolol	1667	0.08%	
58.507	Unidentified	1668	0.04%	
59.064	Unidentified	1678	0.05%	
59.282	alpha-Bisabolol	1682	0.04%	IFRA
59.533	Neryl hexanoate	1687	0.02%	
61.432	Geranyl hexanoate	1722	0.06%	
62.997	Unidentified isomer II	1751	0.02%	
63.308	Unidentified isomer II	1757	0.02%	
63.594	Unidentified	1762	0.02%	
64.100	Unidentified	1772	0.02%	
64.430	Unidentified	1778	0.11%	
65.140	Unidentified	1791	0.02%	
95.010	Unidentified	2451	0.02%	

Total Identified Compounds **98.7 %**

