



Essential Oil University

GC/MS Report

Item	Lot
Helichrysum italicum (Immortelle) EO <i>Helichrysum italicum</i>	6E
Date	Analyst
5/8/2025	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:** 5/8/2025**Botanical Name:** Helichrysum italicum**Manufacture Date:** January 2025**Lot Number:** 6E**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

-1.84

1.47685

0.89881



Ret. Time	Component	Ret. Idx.	Conc. %	
5.386	2-Methyl-3-pentanone	742	0.04%	
6.628	2-Methyl-2-heptene	800	0.1%	
7.859	4-Methyl-3-hexanone	833	0.1%	
10.340	Nonane	899	0.02%	
10.620	Bornylene	905	0.01%	
12.070	alpha-Pinene	931	13.08%	
12.845	alpha-Fenchene	946	0.2%	
12.939	Camphene	947	0.11%	
13.139	Thuja-2,4(10)diene	951	0.01%	
14.484	beta-Pinene	976	0.27%	
15.119	Myrcene	988	0.04%	
15.155	Unidentified	988	0.02%	
15.876	Isobutyl 2-methylbutyrate	1001	0.03%	
16.055	Hex-(3Z)-enyl acetate	1004	0.03%	
16.157	alpha-Phellandrene	1006	0.02%	
16.808	alpha-Terpinene	1016	0.11%	
17.028	para-Methylanisole	1019	0.01%	
17.286	para-Cymene	1023	0.18%	
17.582	Limonene	1028	1.92%	IFRA
17.695	beta-Phellandrene	1029	0.01%	
17.758	1,8-Cineole	1030	0.34%	
17.991	cis-beta-Ocimene	1034	0.01%	
18.658	trans-beta-Ocimene	1044	0.02%	
18.855	Isobutyl angelate	1047	0.23%	
19.434	gamma-Terpinene	1056	0.28%	
21.222	Terpinolene	1084	0.11%	
21.572	2-Nonanone	1089	0.04%	
21.647	2,4-Dimethylheptane-3,5-dione	1090	0.03%	
22.168	Linalool	1098	0.54%	IFRA
22.397	2-Methylbutyl-2-methylbutyrate	1102	0.11%	
22.534	Nonanal	1104	0.07%	
23.482	endo-Fenchol	1117	0.06%	
24.020	alpha-Campholenal	1125	0.01%	
24.954	trans-Pinocarveol	1139	0.05%	
25.406	Isoamyl angelate	1145	0.02%	
25.667	Isoamyl tiglate	1149	0.89%	
25.806	Unidentified	1151	0.01%	
25.937	trans-beta-Terpineol	1153	0.02%	
26.546	Unidentified	1162	0.02%	
27.090	Borneol	1170	0.07%	



Ret. Time	Component	Ret. Idx.	Conc. %	
27.693	Terpinen-4-ol	1179	0.47%	
28.696	alpha-Terpineol	1193	0.27%	
29.233	Unidentified	1201	0.01%	
29.497	Decanal	1205	0.05%	
30.677	Nerol	1222	0.39%	
31.487	Hexyl 2-methylbutyrate	1234	0.02%	
32.480	Unidentified isomer I	1249	0.12%	
32.803	Unidentified isomer I	1254	0.05%	
33.660	Geranial	1266	0.01%	IFRA
34.242	(3Z)-Hexenyl angelate	1275	0.02%	
34.713	Hexyl angelate	1282	0.42%	
35.349	2-Undecanone	1291	0.04%	
35.893	Tridecane	1299	0.04%	
38.866	alpha-Terpinyl acetate	1344	0.04%	
39.083	Unidentified	1348	0.02%	
39.736	Neryl acetate	1358	26.55%	
40.308	Cyclosativene	1366	0.38%	
40.350	alpha-Ylangene	1367	0.12%	
40.779	alpha-Copaene	1374	2.51%	
40.944	Geranyl acetate	1376	0.08%	
41.802	Sativene	1389	0.02%	
42.437	Tetradecane	1399	0.03%	
42.677	Italicene	1403	3.64%	
42.892	Italicene isomer	1406	0.11%	
43.174	cis-alpha-Bergamotene	1411	0.98%	
43.343	alpha-Cedrene	1413	0.03%	IFRA
43.566	beta-Caryophyllene	1417	4.24%	
44.203	beta-Copaene	1427	0.01%	
44.408	Italidione	1431	2.58%	
44.931	6,9-Guaiadiene	1439	0.12%	
45.370	Neryl propionate	1446	0.77%	
45.672	trans-beta-Farnesene	1451	0.12%	
45.797	alpha-Humulene	1453	0.26%	
45.932	Amorpha-4,11-diene	1455	0.04%	
46.066	Alloaromodendrene	1457	0.18%	
46.323	alpha-Acoradiene	1461	0.3%	
46.480	Acoradiene isomer	1464	0.09%	
46.552	beta-Acoradiene	1465	0.23%	
46.705	4,5-di-epi-Aristolochene	1467	0.09%	
46.915	Selina-4,11-diene	1471	1.24%	



Ret. Time	Component	Ret. Idx.	Conc. %	
46.995	Italidione	1472	1.36%	
47.246	gamma-Curcumene	1476	14.39%	
47.425	Ar-Curcumene	1479	2.64%	
47.599	trans-beta-Bergamotene	1482	0.51%	
47.905	beta-Selinene	1487	6.01%	
48.109	gamma-Murolene	1490	0.21%	
48.334	alpha-Selinene	1493	3.44%	
48.481	alpha-Murolene	1496	0.31%	
48.745	delta-Amorphene	1500	0.34%	
49.056	beta-Bisabolene	1505	0.13%	
49.157	beta-Curcumene	1507	0.46%	
49.352	gamma-Cadinene	1510	0.36%	
49.662	delta-Cadinene	1516	0.77%	
49.850	cis-Calamenene	1519	0.04%	
49.934	Zonarene	1520	0.09%	
50.177	trans-gamma-Bisabolene	1524	0.06%	
50.511	trans-Cadine-1,4-diene	1530	0.07%	
50.586	Unidentified	1531	0.13%	
50.752	alpha-Cadinene	1534	0.06%	
51.003	Unidentified	1538	0.16%	
52.204	trans-Nerolidol	1559	0.07%	
52.478	Italidione	1563	0.23%	
52.791	Italidione	1568	0.48%	
53.030	Caryophyllenyl alcohol	1573	0.04%	
53.300	Neryl isovalerate	1577	0.08%	
53.399	Caryophyllene oxide	1579	0.13%	
54.272	Guaiol	1593	0.08%	
54.799	Unidentified	1603	0.1%	
54.968	Copaborneol	1606	0.19%	
55.202	Rosifoliol	1610	0.25%	
55.340	Unidentified	1612	0.02%	
55.470	Intermedeol	1614	0.07%	
55.565	Geranyl tiglate	1616	0.03%	
56.050	Epicubenol	1625	0.02%	
56.280	Unidentified	1629	0.03%	
56.401	Unidentified	1631	0.03%	
56.507	beta-Eudesmol	1633	0.06%	
56.865	tau-Cadinol	1639	0.02%	
57.604	alpha-Eudesmol	1652	0.14%	
57.761	Pogostol	1655	0.16%	



Ret. Time	Component	Ret. Idx.	Conc. %	
58.439	beta-Bisabolol	1667	0.05%	
58.540	Unidentified	1669	0.03%	
59.093	Unidentified	1679	0.03%	
59.300	alpha-Bisabolol	1683	0.02%	IFRA
60.980	Unidentified	1713	0.01%	
61.451	Geranyl hexanoate	1722	0.05%	
63.014	Unidentified	1751	0.01%	
63.324	Unidentified	1757	0.01%	
63.628	Unidentified	1763	0.02%	
64.447	Unidentified	1778	0.06%	

Total Identified Compounds **99.1 %**

