



Essential Oil University

GC/MS Report

Item	Lot
Angelica Root EO <i>Angelica archangelica</i>	1C
Date	Analyst
1/14/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Angelica Root EO, meets the expected chemical profile for authentic essential oil of *Angelica archangelica*. 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:** Angelica Root EO**Botanical Name:** Angelica archangelica**Lot Number:** 1C**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** France**Analysis Date:** 1/14/2025**Manufacture Date:** June 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

+46.92

1.47428

0.85574



Ret. Time	Component	Ret. Idx.	Conc. %	
4.261	3-Methylbutanal	674	0.01%	
4.379	2-Methylbutanal	679	0.01%	
4.834	Heptane	699	0.01%	
6.303	Toluene	762	0.07%	IFRA
7.180	Hexanal	800	0.05%	
9.582	Unidentified	859	0.01%	
11.285	Heptanal	901	0.01%	
12.449	Tricyclene	921	0.03%	
12.601	alpha-Thujene	924	0.34%	
13.062	alpha-Pinene	932	21.43%	
13.861	alpha-Fenchene	946	0.02%	
13.962	Camphene	948	0.6%	
14.159	Thuja-2,4(10)diene	951	0.3%	
15.170	para-Cymene	969	0.02%	
15.257	Sabinene	971	1.63%	
15.575	beta-Pinene	976	1.04%	
16.200	Myrcene	987	2.3%	
16.849	delta-2-Carene	999	0.08%	
16.925	para-Menth-3-ene	1000	0.03%	
17.072	Octanal	1002	0.08%	
17.345	alpha-Phellandrene	1006	21.57%	
17.482	delta-3-Carene	1008	10.77%	
17.838	1,4-Cineole	1014	0.17%	
17.969	alpha-Terpinene	1016	0.33%	
18.119	ortho-Cymene	1018	0.06%	
18.458	para-Cymene	1023	3.22%	
18.805	Limonene	1028	15.23%	IFRA
18.908	beta-Phellandrene	1030	6.5%	
18.985	1,8-Cineole	1031	0.38%	
19.159	cis-beta-Ocimene	1034	1.91%	
19.860	trans-beta-Ocimene	1044	3.66%	
20.315	Unidentified	1051	0.01%	
20.666	gamma-Terpinene	1056	1.3%	
22.225	Isoterpinolene	1080	0.24%	
22.495	Terpinolene	1084	0.36%	
22.803	para-Cymenene	1088	0.07%	
22.897	Rosefuran	1090	0.02%	
23.206	6-Camphenone	1094	0.01%	
23.443	alpha-Pinene oxide	1098	0.04%	
23.805	Nonanal	1103	0.01%	



Ret. Time	Component	Ret. Idx.	Conc. %	
24.136	Unidentified	1108	0.03%	
25.180	cis-para-Menth-2-en-1-ol	1123	0.04%	
25.409	allo-Ocimene	1126	0.1%	
25.872	Unidentified	1133	0.01%	
26.246	Unidentified	1138	0.02%	
26.404	trans-para-Menth-2-en-1-ol	1140	0.06%	
26.628	trans-Verbenol	1144	0.1%	
26.882	Unidentified	1147	0.04%	
27.501	(3Z, 3Z)Undeca-1,3,5-triene	1156	0.01%	
27.810	alpha-Phellandrene-8-ol	1161	0.02%	
28.440	para-Mentha-1,5-dien-8-ol	1170	0.04%	
28.606	Unidentified	1172	0.02%	
28.721	(3E, 3E)-Undeca-1,3,5-triene	1174	0.04%	
29.082	Unidentified + Terpinen-4-ol	1179	0.05%	
29.482	Cryptone	1184	0.06%	
30.101	Myrtenal	1193	0.1%	
30.230	cis-Piperitol	1195	0.01%	
30.635	alpha-Phellandrene epoxide	1201	0.06%	
30.892	Verbenone	1205	0.02%	
31.037	trans-Piperitol	1207	0.01%	
32.439	Thymol methyl ether	1227	0.01%	
33.320	Cuminal	1240	0.01%	IFRA
33.661	Unidentified	1245	0.02%	
33.768	Carvotanacetone	1247	0.05%	
35.748	Phellandral	1275	0.07%	
35.954	cis-Verbenyl acetate	1278	0.02%	
36.232	Bornyl acetate	1282	0.72%	
36.532	trans-Verbenyl acetate	1287	0.06%	
36.875	Unidentified	1292	0.07%	
37.086	Carvacrol	1295	0.09%	
37.565	Unidentified	1302	0.02%	
37.900	Unidentified	1307	0.03%	
38.548	Unidentified	1317	0.06%	
39.086	Terpin-1-en-4-yl acetate	1325	0.03%	
39.254	trans-Sabinyol acetate	1327	0.03%	
39.426	trans-Carvyl acetate	1330	0.03%	IFRA
39.605	cis-Piperitol acetate	1333	0.03%	
40.617	Eugenol	1348	0.01%	IFRA
41.923	Cyclosativene + Isoledene	1368	0.12%	
42.334	alpha-Copaene	1374	0.56%	



Ret. Time	Component	Ret. Idx.	Conc. %	
42.679	Unidentified	1379	0.02%	
43.215	beta-Elemene	1387	0.06%	
43.325	Unidentified	1389	0.02%	
43.500	Unidentified	1392	0.02%	
44.890	Unidentified	1413	0.01%	
45.006	beta-Cedrene	1415	0.04%	IFRA
45.154	beta-Caryophyllene	1417	0.07%	
45.792	beta-Copaene	1428	0.11%	
46.144	cis-Thujopsene	1433	0.02%	
46.561	Unidentified	1440	0.01%	
47.020	beta-Barbatene	1447	0.08%	
47.222	trans-beta-Farnesene	1450	0.04%	
47.413	alpha-Humulene	1453	0.55%	
48.609	trans-Cadina-1(6),4-diene	1472	0.03%	
48.880	alpha-Amorphene	1477	0.02%	
48.998	Germacrene D	1479	0.17%	
49.872	gamma-Curcumene	1493	0.09%	
50.071	alpha-Muurolene	1496	0.17%	
50.356	delta-Amorphene	1500	0.01%	
50.644	beta-Bisabolene	1505	0.56%	
51.023	Unidentified	1511	0.02%	
51.254	delta-Cadinene	1515	0.14%	
51.599	beta-Sesquiphellandrene	1521	0.01%	
52.244	gamma-Cuprenene	1532	0.01%	
52.626	alpha-Copaen-11-ol	1538	0.14%	
53.029	Elemol	1545	0.03%	
53.695	Germacrene B	1556	0.06%	
53.926	Unidentified	1560	0.06%	
54.722	Spathulenol	1574	0.02%	
55.102	Unidentified	1580	0.03%	
55.556	Unidentified	1588	0.01%	
56.672	Humulene epoxide II	1607	0.04%	
57.706	Pentadecanolide isomer	1625	0.1%	
57.938	Unidentified	1629	0.01%	
59.220	beta-Eudesmol	1652	0.04%	
59.403	Cyclocopacamphan-12-ol, epimer A	1655	0.01%	IFRA
68.539	Pentadecanolide	1823	0.33%	
82.665	Osthole	2114	0.06%	

Total Identified Compounds **99.43 %**

