



Essential Oil University

GC/MS Report

Item	Lot
Geranium EO <i>Pelargonium graveolens</i>	5Y
Date	Analyst
2/4/2025	Dr. Robert S. Pappas

© Copyright 2025 by Essential Oil University. All rights reserved. Any publishing, copying, use, dissemination, or distribution of this report, including online, without the express written permission of Essential Oil University is strictly prohibited.

The analysis of this batch sample, Geranium EO, meets the expected chemical profile for authentic essential oil of *Pelargonium graveolens*. 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:** Geranium EO**Botanical Name:** Pelargonium graveolens**Lot Number:** 5Y**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** Egypt**Analysis Date:** 2/4/2025**Manufacture Date:** August 2023

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

-9.32

1.46717

0.89230



Ret. Time	Component	Ret. Idx.	Conc. %	
7.490	3-Methyl pentanol	825	0.03%	
11.280	alpha-Pinene	917	0.34%	
13.205	Bois de Rose oxide	952	0.04%	
14.048	6-Methyl hept-5-en-2-one	967	0.03%	
14.306	Myrcene	972	0.11%	
14.622	Unidentified	978	0.02%	
15.240	cis-Dehydrolinalool oxide	989	0.02%	
15.307	alpha-Phellandrene	990	0.05%	
15.950	alpha-Terpinolene	1002	0.01%	
16.421	para-Cymene	1009	0.06%	
16.698	Limonene	1013	0.12%	IFRA
16.791	beta-Phellandrene	1015	0.04%	
16.900	Dihydromyrcenol analogue	1016	0.03%	
17.024	Dihydromyrcenol	1018	0.03%	
17.121	cis-beta-Ocimene	1020	0.06%	
17.778	trans-beta-Ocimene	1030	0.09%	
17.934	Unidentified	1032	0.02%	
18.221	Melon aldehyde	1037	0.01%	
18.455	Unidentified	1040	0.01%	
18.529	gamma-Terpinolene	1042	0.01%	
19.062	Unidentified	1050	0.01%	
19.311	cis-Linalool oxide (furanoid)	1054	0.2%	
19.415	Unidentified	1055	0.02%	
20.275	Terpinolene	1068	0.02%	
20.356	trans-Linalool oxide (furanoid)	1070	0.11%	
21.270	Linalool	1084	4.87%	IFRA
21.400	Unidentified	1086	0.02%	
21.478	6-Methyl heptadi-3,5-en-2-one	1087	0.05%	IFRA
21.919	cis-Rose oxide	1094	1.3%	
22.989	trans-Rose oxide	1110	0.54%	
24.492	Unidentified	1132	0.08%	
24.783	Citronellal	1136	0.12%	IFRA
25.011	Menthone	1139	1.35%	
25.207	Unidentified	1142	0.11%	
25.630	Isomenthone	1148	6.18%	
25.935	Unidentified	1153	0.01%	
26.084	alpha-Phellandrene-8-ol	1155	0.03%	
26.304	Unidentified	1158	0.04%	
26.505	Citronellyl isobutyrate	1161	0.02%	
26.679	Terpinen-4-ol	1164	0.05%	



Ret. Time	Component	Ret. Idx.	Conc. %	
27.215	Isomenthol	1171	0.15%	
27.676	alpha-Terpineol	1178	0.37%	
28.436	Unidentified	1189	0.03%	
29.014	Unidentified	1198	0.03%	
29.134	Unidentified	1200	0.05%	
29.667	Nerol	1207	0.19%	
29.991	Citronellol	1212	32.3%	IFRA
30.626	Neral	1221	0.32%	IFRA
31.521	Geraniol	1235	13.08%	IFRA
31.656	Unidentified	1237	0.13%	
31.984	Neomenthyl acetate	1241	0.02%	
32.333	Isogeraniol	1247	0.07%	
32.622	Geranial	1251	0.51%	IFRA
33.010	Citronellyl formate	1256	8.41%	
33.188	Neryl formate	1259	0.08%	
34.650	Geranyl formate	1281	3.37%	
36.781	delta-Elementene	1312	0.03%	
37.774	alpha-Cubebene	1328	0.2%	
38.029	Citronellyl acetate	1331	0.36%	IFRA
38.231	Unidentified	1334	0.04%	
39.203	alpha-Ylangene	1349	0.04%	
39.624	alpha-Copaene	1356	0.49%	
39.889	Geranyl acetate	1360	0.38%	
40.128	beta-Bourbonene	1363	1.01%	
40.313	alpha-Bourbonene	1366	0.08%	
40.533	beta-Elementene	1370	0.1%	
40.818	Unidentified	1374	0.05%	
41.463	cis-beta-Caryophyllene	1384	0.01%	
41.618	alpha-Gurjunene	1386	0.06%	
42.398	beta-Caryophyllene	1398	1.58%	
43.056	beta-Copaene	1408	0.14%	
43.302	Unidentified	1412	0.03%	
43.409	Unidentified	1414	0.01%	
43.580	Aromadendrene	1417	0.06%	
43.780	Unidentified	1420	0.23%	
43.795	Citronellyl propionate	1420	0.44%	
43.953	Isogermacrene D	1423	0.13%	
44.260	Unidentified	1428	0.55%	
44.642	alpha-Humulene	1434	0.28%	
44.810	Unidentified	1437	0.02%	



Ret. Time	Component	Ret. Idx.	Conc. %	
44.914	Alloaromodendrene	1438	0.19%	
45.076	Unidentified	1441	0.04%	
45.440	Unidentified	1447	0.05%	
45.625	Geranyl propanoate	1450	0.72%	
45.685	trans-Cadina-1(6),4-diene	1451	0.18%	
45.892	Unidentified	1454	0.17%	
46.247	Germacrene D	1460	1.4%	
46.406	Selina-4,11-diene	1462	0.13%	
46.610	Unidentified	1465	0.05%	
46.725	beta-Selinene	1467	0.16%	
46.880	gamma-Murolene + Unidentified	1470	0.33%	
47.132	Bicyclogermacrene	1474	0.52%	
47.353	alpha-Murolene	1477	0.19%	
47.505	Unidentified	1480	0.02%	
47.645	Unidentified	1482	0.07%	
47.688	Dihydroagarofuran analogue	1483	0.11%	
47.768	trans,trans-alpha-Farnesene	1484	0.08%	
47.980	Geranyl isobutyrate	1487	0.1%	
48.218	gamma-Cadinene	1491	0.23%	
48.344	Cubebol analogue	1493	0.04%	
48.539	delta-Cadinene	1496	0.86%	
48.737	cis-Calamenene	1499	0.25%	
48.780	Zonarene	1500	0.15%	
49.035	Citronellyl butyrate	1504	0.66%	
49.373	trans-Cadina-1,4-diene	1510	0.2%	
49.493	Unidentified	1512	0.03%	
49.613	Selina-4(15),7(11)-diene	1514	0.09%	
49.885	alpha-Calacorene	1519	0.06%	
50.223	alpha-Agarofuran	1524	0.24%	
50.855	Geranyl butyrate	1535	1.2%	
51.116	Unidentified	1539	0.03%	
51.435	Unidentified	1545	0.03%	
51.552	Unidentified	1547	0.05%	
51.970	Spathulenol	1554	0.22%	
52.145	Unidentified	1557	0.03%	
52.261	Caryophyllene oxide	1559	0.16%	
52.425	Phenethyl tiglate	1561	0.73%	
52.997	Viridiflorol	1571	0.05%	
53.145	Cubeban-11-ol	1573	0.06%	
53.261	Neryl isovalerate	1575	0.09%	



Ret. Time	Component	Ret. Idx.	Conc. %	
53.597	Unidentified	1581	0.04%	
53.742	Eudesmol analogue	1583	0.09%	
53.881	Humulene epoxide II	1586	0.04%	
54.230	1,10-di-epi-Cubenol	1592	0.17%	
54.614	10-epi-gamma-Eudesmol	1598	4.08%	
54.946	Epicubenol	1604	0.14%	
55.187	gamma-Eudesmol	1608	0.13%	
55.402	Hinesol	1612	0.18%	
55.785	Cubenol analogue	1619	0.12%	
55.887	Unidentified	1621	0.16%	
55.976	Unidentified	1622	0.16%	
56.419	Unidentified + Unidentified	1630	0.66%	
56.687	Unidentified	1635	0.25%	
56.952	trans-Citronellyl tiglate	1640	0.32%	
58.072	Citronellyl hexanoate	1659	0.1%	
58.854	Geranyl tiglate	1673	1.36%	
59.412	Unidentified	1683	0.02%	
59.819	Neryl hexanoate	1690	0.16%	
59.996	Citronellyl hexanoate isomer	1693	0.06%	
61.730	Geranyl hexanoate	1725	0.06%	
62.600	Unidentified	1742	0.03%	

Total Identified Compounds **96.26 %**

