



Essential Oil University

GC/MS Report

Item	Lot
Valerian EO <i>Valeriana officinalis</i>	3G
Date	Analyst
1/17/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Valerian EO, meets the expected chemical profile for authentic essential oil of *Valeriana officinalis*. 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:** Valerian EO**Botanical Name:** Valeriana officinalis**Lot Number:** 3G**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** India**Analysis Date:** 1/17/2025**Manufacture Date:** September 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

-19.08

1.47311

0.94697



Ret. Time	Component	Ret. Idx.	Conc. %	
5.976	Methyl isopentionate	770	0.11%	
8.089	Isovaleric acid	839	2.9%	
8.372	Ethyl isovalerate	847	0.01%	
9.595	Methyl 3-methylpentanoate	879	0.02%	
11.511	Tricyclene	921	0.25%	
11.660	alpha-Thujene	924	0.05%	
12.064	alpha-Pinene	931	4.15%	
12.372	3-Methylpentanoic acid	937	0.25%	
12.860	alpha-Fenchene	946	1.09%	
12.973	Camphene	948	15.82%	
14.196	Sabinene	971	0.17%	
14.495	beta-Pinene	976	2.79%	
15.120	Myrcene	988	0.06%	
16.162	alpha-Phellandrene	1006	0.01%	
16.817	alpha-Terpinene	1016	0.07%	
17.297	para-Cymene	1023	0.29%	
17.597	Limonene	1028	3.32%	IFRA
17.695	beta-Phellandrene	1029	0.04%	
17.769	1,8-Cineole	1030	0.03%	
19.445	gamma-Terpinene	1056	0.04%	
21.232	Terpinolene	1084	0.03%	
22.185	Linalool	1098	0.02%	IFRA
24.966	trans-Pinocarveol	1139	0.02%	
25.295	trans-Verbenol	1144	0.01%	
25.397	Camphor	1145	0.12%	
25.950	trans-beta-Terpineol	1153	0.03%	
27.110	Borneol	1170	1.15%	
27.708	Terpinen-4-ol	1179	0.1%	
28.150	para-Cymen-8-ol	1185	0.02%	
28.717	alpha-Terpineol + Myrtenol	1194	0.58%	
30.241	endo-Fenchyl acetate	1216	0.01%	
30.332	Unidentified	1217	0.01%	
30.370	Unidentified	1218	0.01%	
30.705	Thymol methyl ether	1223	0.23%	
30.980	Bornyl acetate	1227	0.03%	
31.056	Carvacryl methyl ether	1228	0.13%	
31.676	Unidentified	1237	0.04%	
32.538	Unidentified	1250	0.02%	
34.550	Unidentified	1279	0.05%	
34.862	Bornyl acetate	1284	40.7%	



Ret. Time	Component	Ret. Idx.	Conc. %	
34.968	Isobornyl acetate	1286	0.23%	
35.410	Unidentified	1292	0.02%	
35.511	trans-Pinocarvyl acetate	1294	0.05%	
36.949	Unidentified	1315	0.02%	
37.337	Myrtenyl acetate	1321	2.18%	
37.928	Unidentified	1330	0.03%	
38.139	delta-Elemene	1333	0.02%	
38.880	alpha-Terpinyl acetate	1345	1.33%	
39.098	Citronellyl acetate	1348	0.01%	IFRA
39.178	Eugenol	1349	0.01%	IFRA
39.674	cis-Carveyl acetate	1357	0.02%	
41.334	beta-Patchoulene	1382	0.09%	
41.672	beta-Elemene	1387	0.07%	
42.792	alpha-Gurjunene	1405	0.03%	
43.037	beta-Ionol	1409	0.05%	
43.192	Thymohydroquinone dimethyl ether	1411	0.17%	
43.575	beta-Caryophyllene	1417	3.6%	
44.250	Calarene	1428	0.49%	
44.430	trans-alpha-Bergamotene	1431	0.07%	
44.565	alpha-Guaiene	1433	0.1%	
45.124	Unidentified	1442	0.17%	
45.394	Seychellene	1446	0.2%	
45.653	Valerena-4,7(11)-diene	1451	0.27%	
45.815	alpha-Humulene	1453	1.41%	
45.952	Unidentified	1455	0.71%	
46.090	Unidentified	1458	0.04%	
46.158	alpha-Patchoulene	1459	0.1%	
46.408	9-epi-Caryophyllene isomer + Unidentified	1463	0.13%	
46.793	Unidentified	1469	0.02%	
47.228	trans-beta-Ionone	1476	0.59%	
47.403	Unidentified	1479	0.05%	
47.890	Dihydroagarofuran isomer	1486	0.25%	
48.301	Bicyclogermacrene	1493	0.11%	
48.503	Unidentified	1496	0.05%	
48.675	alpha-Bulnesene	1499	0.34%	
48.775	Unidentified	1501	0.05%	
49.582	Bornyl isovalerate	1514	0.11%	
49.686	delta-Cadinene	1516	0.11%	
50.301	Kessane	1526	0.36%	
50.742	Epiligulyl oxide	1534	0.06%	



Ret. Time	Component	Ret. Idx.	Conc. %	
51.445	Elemol	1546	0.02%	
52.019	Unidentified	1555	0.35%	
52.219	trans-Nerolidol	1559	0.18%	
52.689	Unidentified	1567	0.67%	
52.914	Unidentified	1571	0.17%	
53.115	Spathulenol	1574	0.6%	
53.420	Caryophyllene oxide	1579	0.18%	
53.571	Unidentified	1582	0.42%	
53.746	Unidentified	1585	0.04%	
54.060	Unidentified	1590	0.06%	
54.160	Viridiflorol	1592	0.02%	
54.390	Unidentified	1595	0.04%	
54.648	Unidentified	1600	0.64%	
54.874	Rosifoliol	1604	0.05%	
55.043	Humulene epoxide II	1607	0.07%	
56.087	Unidentified	1625	0.09%	
56.335	Unidentified	1630	0.1%	
56.952	Eudesmol isomer	1641	0.12%	
57.275	Unidentified	1647	0.02%	
57.432	Unidentified	1649	0.16%	
57.628	Cadin-4-en-10-ol	1653	0.09%	
57.785	neo-Intermedeol	1656	0.24%	
58.464	Patchouli alcohol	1668	0.21%	
58.692	Unidentified	1672	0.02%	
60.395	Unidentified	1702	0.04%	
61.624	Unidentified	1725	0.09%	
61.832	Valerenal	1729	5.33%	
62.924	Valerenal isomer	1750	0.03%	
63.579	Unidentified	1762	0.05%	
63.877	Unidentified	1767	0.1%	
65.232	Unidentified	1793	0.54%	
66.038	Unidentified	1808	0.01%	
67.218	Unidentified	1831	0.03%	
69.331	Unidentified	1873	0.02%	
70.141	Unidentified	1889	0.14%	
72.189	Unidentified	1930	0.02%	
73.004	Unidentified	1947	0.21%	
73.145	Unidentified	1950	0.03%	
73.302	Unidentified	1953	0.07%	
74.637	Unidentified	1981	0.02%	



Ret. Time	Component	Ret. Idx.	Conc. %	
74.730	Unidentified	1983	0.01%	
76.758	Unidentified	2026	0.16%	
79.246	Unidentified	2079	0.05%	
83.905	Unidentified	2183	0.01%	

Total Identified Compounds **94.22 %**

