



Essential Oil University

GC/MS Report

Item	Lot
Ginger EO Fresh <i>Zingiber officinale</i>	8A
Date	Analyst
6/9/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Ginger EO Fresh, meets the expected chemical profile for authentic essential oil of *Zingiber officinale*. 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: Ginger EO Fresh
Botanical Name: Zingiber officinale
Lot Number: 8A
Production Method: Hydrodiffused

Sample Type: EO - Single
Country of Origin: Sri Lanka
Analysis Date: 6/9/2025
Manufacture Date: May 2025

GC/MS

Inst. ID: Shimadzu GCMS-QP2010Ultra
Injection Type: Split
Split Ratio: 24.4

Column Type: ZB-5
Injection Volume: 0.1 μ L
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

-25.60
1.48955
0.88138



Ret. Time	Component	Ret. Idx.	Conc. %	
5.813	Toluene	762	0.01%	IFRA
6.600	Hexanal	799	0.25%	
9.823	2-Heptanone	886	0.03%	
10.335	2-Heptanol	899	0.04%	
11.465	Tricyclene	920	0.14%	
11.614	alpha-Thujene	923	0.03%	
12.013	alpha-Pinene	930	2.06%	
12.329	Unidentified	936	0.01%	
12.804	alpha-Fenchene	945	0.05%	
12.908	Camphene	947	6.39%	
13.530	Verbenene	958	0.01%	
14.142	Sabinene	970	0.1%	
14.437	beta-Pinene	975	0.24%	
14.761	6-Methyl hept-5-en-2-one	981	0.49%	
15.063	Myrcene	987	0.58%	
15.265	2-Methyl-6-hepten-1-ol	990	0.01%	
15.909	Octanal	1002	0.12%	
16.107	alpha-Phellandrene	1005	0.57%	
16.248	delta-3-Carene	1007	0.05%	
16.760	alpha-Terpinene	1015	0.05%	
17.236	para-Cymene	1022	0.27%	
17.540	Limonene	1027	2.8%	IFRA
17.641	beta-Phellandrene	1028	2.96%	
17.713	1,8-Cineole	1030	2.14%	
17.932	cis-beta-Ocimene	1033	0%	
18.091	2-Heptyl acetate	1035	0.01%	
18.607	trans-beta-Ocimene	1043	0.01%	
19.038	Melon aldehyde	1050	0.01%	
19.380	gamma-Terpinene	1055	0.04%	
20.157	trans-Sabinene hydrate	1067	0.01%	
21.163	Terpinolene	1083	0.16%	
21.507	2-Nonanone	1088	0.07%	
21.586	Rosefuran	1089	0.13%	
22.014	Unidentified	1096	0.07%	
22.113	Linalool	1097	0.39%	IFRA
22.246	2-Nonanol	1099	0.07%	
23.043	trans-4,8-Dimethyl-nona-1,3,7-triene	1111	0.04%	
23.426	endo-Fenchol	1117	0.01%	
23.789	cis-para-Menth-2-en-1-ol	1122	0.02%	
23.890	trans-Pinene hydrate	1123	0.02%	



Ret. Time	Component	Ret. Idx.	Conc. %	
25.001	trans-para-Menth-2-en-1-ol	1140	0.01%	
25.326	Camphor	1144	0.05%	
25.693	Citronellal	1150	0.17%	IFRA
25.873	Camphene hydrate	1152	0.04%	
26.326	Isoneral	1159	0.02%	IFRA
26.447	Isoborneol	1161	0.02%	
26.741	trans-beta-Terpineol	1165	0.01%	
26.870	Rose furan oxide	1167	0.17%	
27.033	Borneol	1169	0.74%	
27.630	Terpinen-4-ol	1178	0.15%	
28.068	Unidentified	1184	0.03%	
28.638	alpha-Terpineol	1193	0.5%	
29.427	Decanal	1204	0.17%	
29.592	Unidentified	1206	0%	
29.792	Unidentified	1209	0.01%	
30.622	Nerol	1222	0.03%	
30.786	Citronellol	1224	0.21%	IFRA
31.284	Unidentified	1231	0.01%	
31.576	Neral	1236	2.78%	IFRA
32.285	Unidentified	1246	0.03%	
32.381	Geraniol	1247	0.36%	IFRA
32.620	Piperitone	1251	0.03%	
33.603	Geranial	1265	4.02%	IFRA
33.952	Citronellyl formate	1271	0.01%	
34.249	Phellandral	1275	0.01%	
34.509	trans-Carvone oxide	1279	0.01%	IFRA
34.678	Bornyl acetate	1281	0.09%	
35.273	Nonyl methyl ketone	1290	0.23%	
35.624	Geranyl formate	1295	0.02%	
35.946	Methyl nonyl carbinol	1300	0.02%	
36.345	Unidentified	1306	0.01%	
38.053	delta-Elemene	1332	0.1%	
38.825	alpha-Cubebene	1344	0.02%	
39.016	Citronellyl acetate	1347	0.07%	IFRA
40.207	Cyclosativene	1365	0.21%	
40.255	Isodene	1366	0.07%	
40.693	alpha-Copaene	1372	0.51%	
40.871	Geranyl acetate	1375	0.36%	
41.108	Elemene isomer	1379	0.02%	
41.481	trans-Muurolo-4(14),5-diene	1384	0.06%	



Ret. Time	Component	Ret. Idx.	Conc. %
41.589	beta-Elemene	1386	0.79%
42.427	alpha-Funebrene	1399	0.21%
43.478	beta-Caryophyllene	1416	0.2%
44.114	gamma-Elemene	1426	0.28%
44.346	cis-alpha-Bergamotene	1430	0.11%
44.525	Unidentified	1432	0.01%
44.824	Unidentified	1437	0.02%
45.231	Unidentified	1444	0.09%
45.614	trans-beta-Farnesene	1450	0.5%
45.725	alpha-Humulene	1452	0.03%
45.856	Amorpha-4,11-diene	1454	0.01%
45.999	Alloaromodendrene	1456	0.35%
46.844	Selina-4,11-diene	1470	0.2%
46.950	trans-Muurolo-4(14),5-diene	1471	0.3%
47.130	gamma-Curcumene	1474	0.22%
47.362	Ar-Curcumene	1478	7.78%
47.542	Isocaryophyllene	1481	0.16%
47.560	Germacrene D	1481	0.11%
47.807	beta-Selinene	1485	0.18%
48.003	Unidentified	1488	0.18%
48.291	alpha-Zingiberene	1493	27.56%
48.439	gamma-Amorphene	1495	3.22%
48.819	trans,trans-alpha-Farnesene	1501	6.31%
49.016	beta-Bisabolene	1505	5.7%
49.215	trans-Muurolo-4(14),5-diene	1508	0.5%
49.420	Cubedol	1512	0.07%
49.625	Zonarene	1515	0.64%
49.796	trans-Calamenene	1518	0.04%
49.982	beta-Sesquiphellandrene	1521	9.43%
50.124	trans-gamma-Bisabolene	1523	0.29%
51.015	Unidentified	1538	0.11%
51.363	alpha-Elemol	1544	0.29%
51.724	cis-Sesquisabinene hydrate	1550	0.11%
51.982	Germacrene B	1555	0.31%
52.132	trans-Nerolidol	1557	0.29%
53.833	trans-Sesquisabinene hydrate	1586	0.12%
55.226	cis-Zingiberenol	1610	0.24%
55.595	Unidentified	1617	0.03%
55.663	10-epi-gamma-Eudesmol	1618	0.07%
56.104	Unidentified	1626	0.08%

Ret. Time	Component	Ret. Idx.	Conc. %
56.197	trans-Zingiberenol	1627	0.17%
57.503	alpha-Eudesmol	1651	0.28%
57.693	Unidentified	1654	0.09%
58.365	beta-Bisabolol	1666	0.03%
59.272	Zingiberenol analogue	1682	0.19%
59.723	Unidentified	1690	0.12%
65.721	Unidentified	1802	0.04%
68.821	Unidentified	1863	0.04%
72.937	Geranyl-para-cymene	1946	0.03%
74.240	Geranyl-alpha-terpinene	1973	0.03%
77.775	Unidentified	2048	0%

Total Identified Compounds **99.02 %**

