



Essential Oil University

GC/MS Report

Item	Lot
Turmeric EO <i>Curcuma longa</i>	9A
Date	Analyst
12/6/2024	Dr. Robert S. Pappas

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The analysis of this batch sample, Turmeric EO, meets the expected chemical profile for authentic essential oil of *Curcuma longa*. 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:** Turmeric EO**Botanical Name:** Curcuma longa**Lot Number:** 9A**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** India**Analysis Date:** 12/6/2024**Manufacture Date:** December 2021

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

+0.16

1.50944

0.93785



Ret. Time	Component	Ret. Idx.	Conc. %	
12.117	Tricyclene	920	0.01%	
12.266	alpha-Thujene	922	0.22%	
12.684	alpha-Pinene	930	1.24%	
13.506	alpha-Fenchene	944	0.01%	
13.602	Camphene	946	0.12%	
14.885	Sabinene	969	0.01%	
15.198	beta-Pinene	974	0.02%	
15.521	6-Methyl hept-5-en-2-one	980	0.01%	
15.825	Myrcene	986	0.06%	
16.906	alpha-Phellandrene	1004	0.7%	
17.058	delta-3-Carene	1006	0.02%	
17.575	alpha-Terpinene	1014	0.03%	
18.056	para-Cymene	1021	0.81%	
18.357	Limonene	1026	0.88%	IFRA
18.480	beta-Phellandrene	1028	0.18%	
18.546	1,8-Cineole	1029	3.34%	
18.747	cis-beta-Ocimene	1032	0.01%	
19.442	trans-beta-Ocimene	1042	0.02%	
20.249	gamma-Terpinene	1055	0.05%	
22.076	Terpinolene	1082	0.03%	
23.020	Linalool	1096	0.01%	IFRA
26.294	Camphor	1144	0.02%	
28.621	Terpinen-4-ol	1177	0.04%	
28.884	4'-Methyl acetophenone	1181	0.02%	
29.032	para-Cymen-8-ol	1183	0.02%	
29.621	alpha-Terpineol	1191	0.08%	
30.169	alpha-Phellandrene epoxide	1199	0.04%	
32.550	Neral	1234	0.02%	IFRA
33.382	Geraniol	1246	0.03%	IFRA
34.569	Geranial	1263	0.04%	IFRA
34.809	Unidentified	1267	0.05%	
38.050	Unidentified	1315	0.04%	
41.823	Unidentified	1372	0.03%	
42.562	7-epi-Sesquithujene	1383	0.01%	
42.681	beta-Elemene	1385	0.02%	
43.403	Unidentified	1396	0.05%	
43.514	alpha-Funebrene	1397	0.19%	
44.200	cis-alpha-Bergamotene	1408	0.03%	
44.286	Acora-3,7(14)-diene	1410	0.02%	
44.404	alpha-Cedrene	1412	0.02%	IFRA



Ret. Time	Component	Ret. Idx.	Conc. %	
44.562	alpha-Santalene	1414	1.19%	
45.212	gamma-Elemene	1424	0.14%	
45.448	trans-alpha-Bergamotene	1428	0.06%	
45.568	Unidentified	1430	0.12%	
46.144	cis-beta-Farnesene	1439	0.17%	
46.322	epi-beta-Santalene	1442	0.16%	
46.677	trans-beta-Farnesene	1448	0.49%	
46.856	alpha-Humulene	1451	0.19%	
47.376	beta-Acoradiene	1459	0.06%	
48.234	gamma-Curcumene	1473	0.11%	
48.438	Ar-Curcumene	1476	5.08%	
48.627	trans-beta-Bergamotene	1479	0.07%	
48.837	Unidentified	1482	0.08%	
49.305	alpha-Zingiberene	1490	5.5%	
49.837	Unidentified + E,E-alpha-Farnesene	1498	0.16%	
50.089	beta-Bisabolene	1502	1.6%	
50.175	beta-Curcumene	1504	0.09%	
50.284	alpha-Alaskene	1506	0.03%	
50.688	Unidentified	1512	1.18%	
51.060	beta-Sesquiphellandrene	1519	8.09%	
51.226	trans-gamma-Bisabolene	1521	0.27%	
51.280	Unidentified	1522	0.1%	
51.693	Unidentified	1529	0.07%	
51.828	Selina-4(15),7(11)-diene	1532	0.14%	
52.119	Selina-3,7(11)-diene	1536	0.24%	
52.706	Unidentified	1546	0.08%	
52.836	Sesquisabinene hydrate isomer	1549	0.21%	
52.890	Unidentified	1549	0.08%	
53.124	Germacrene B	1553	0.39%	
53.220	Unidentified	1555	0.11%	
53.641	Unidentified	1562	0.11%	
53.964	Unidentified	1567	0.13%	
54.084	Unidentified	1569	0.1%	
54.204	Ar-Tumerol	1572	1.54%	
54.481	Caryophyllene oxide	1576	0.06%	
54.941	Unidentified	1584	0.46%	
55.045	Unidentified	1586	0.02%	
55.416	Unidentified	1592	0.07%	
55.597	Unidentified	1595	0.28%	
55.723	Unidentified	1597	0.23%	



Ret. Time	Component	Ret. Idx.	Conc. %	
55.856	Unidentified	1599	0.13%	
55.938	Unidentified	1601	0.23%	
56.060	Unidentified	1603	0.08%	
56.342	cis-Zingiberenol	1608	0.6%	
56.703	anti-syn-syn-Helifolen-12-al C	1614	0.43%	
56.861	Unidentified	1617	0.14%	
57.314	trans-Zingiberenol	1625	0.54%	
57.501	Unidentified	1628	0.85%	
57.690	Unidentified	1632	0.13%	
58.032	Unidentified	1638	0.3%	
58.145	Unidentified	1640	0.04%	
58.766	Unidentified	1651	0.16%	
59.165	Ar-Tumerone	1658	24.62%	
59.380	Deodarone isomer	1662	1.88%	
59.450	Tumerone	1663	11.52%	
59.530	beta-Bisabolol	1664	0.49%	
59.690	Unidentified	1667	0.13%	
59.797	Unidentified	1669	0.23%	
59.960	trans-alpha-trans-Bergamotal	1672	0.13%	
60.410	Unidentified	1680	0.67%	
60.785	Germacrone	1686	0.14%	
60.864	Unidentified	1688	0.28%	
61.048	Curlone analogue	1691	0.27%	
61.256	Curlone	1695	11.71%	
61.511	Unidentified	1699	0.09%	
61.868	cis-alpha-Atlantone	1706	0.41%	
62.275	Unidentified	1714	0.04%	
62.503	cis-Nuciferol	1718	0.07%	
63.458	Unidentified	1736	1.08%	
63.659	Unidentified	1739	0.14%	
63.745	Unidentified	1741	0.13%	
64.054	Unidentified	1747	0.11%	
64.438	Unidentified	1754	0.19%	
64.549	Unidentified	1756	0.25%	
64.945	Unidentified	1763	0.07%	
65.099	trans-alpha-Atlantone	1766	1.93%	
65.462	Unidentified	1773	0.08%	
65.889	Unidentified	1781	0.05%	
65.998	Unidentified	1783	0.13%	
66.115	Unidentified	1785	0.24%	



Ret. Time	Component	Ret. Idx.	Conc. %	
66.862	Unidentified	1799	0.23%	
66.975	Unidentified	1801	0.06%	
67.060	Unidentified	1803	0.18%	
67.183	Unidentified	1805	0.08%	
68.572	Unidentified	1832	0.04%	
69.577	Unidentified	1852	0.04%	
70.616	Unidentified	1872	0.29%	
71.491	Unidentified	1889	0.13%	
72.709	Unidentified	1914	0.06%	
73.097	Unidentified	1922	0.18%	
75.756	Unidentified	1976	0.15%	

Total Identified Compounds **89 %**

