



Essential Oil University

GC/MS Report

Item	Lot
Sandalwood (album) EO <i>Santalum album</i>	3M
Date	Analyst
1/14/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Sandalwood (album) EO, meets the expected chemical profile for authentic essential oil of *Santalum album*. 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:** Sandalwood (album) EO**Botanical Name:** Santalum album**Lot Number:** 3M**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** India**Analysis Date:** 1/14/2025**Manufacture Date:** October 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

-16.12

1.50664

0.97774



Ret. Time	Component	Ret. Idx.	Conc. %	
9.583	Santene	879	0.04%	
22.175	Unidentified	1098	0.01%	
27.488	N-Furfuryl pyrrole	1176	0.02%	
27.724	Santalone	1179	0.01%	
30.781	trans-alpha-Santalal	1224	0.03%	
33.037	Unidentified	1257	0.01%	
33.552	Teresantalic acid	1265	0.07%	
36.385	Nortricyclo-eka-santalol	1307	0.01%	
37.918	delta-Elemene	1330	0%	
38.268	trans-alpha-Bergamotal	1335	0.11%	
39.205	trans-alpha-Santalal isomer	1350	0.02%	
40.914	Unidentified	1376	0.04%	
41.548	7-epi-Sesquithujene	1385	0.01%	
42.110	Unidentified	1394	0.01%	
42.368	Nortricyclo-eka-santalic acid	1398	0.01%	
42.697	alpha-Funebrene	1403	0.01%	
43.348	alpha-Cedrene	1414	0.02%	IFRA
43.539	alpha-Santalene	1417	0.81%	
44.430	trans-alpha-Bergamotene	1431	0.13%	
44.542	alpha-Teresantalic acid	1433	0.02%	
45.063	Unidentified	1441	0.01%	
45.305	epi-beta-Santalene	1445	0.85%	
45.877	Ekasantalic acid isomer	1454	0.04%	
46.066	beta-Santalene	1457	1.25%	
46.486	beta-Acoradiene	1464	0.02%	
46.597	Unidentified	1466	0.12%	
47.019	Unidentified	1472	0.01%	
47.218	gamma-Curcumene	1476	0.07%	
47.419	Ar-Curcumene	1479	0.19%	
47.589	trans-beta-Bergamotene	1482	0.03%	
47.779	Unidentified	1485	0.02%	
48.094	beta-Himachalene	1490	0.01%	
48.248	Ekasantalic acid isomer	1492	0.03%	
49.075	beta-Bisabolene	1506	0.04%	
49.170	beta-Curcumene	1507	0.19%	
49.404	Santalal isomer	1511	0.03%	
49.659	alpha-Teresantalic acid	1516	0.13%	
50.039	7-epi-cis-sesquisabinene hydrate	1522	0.02%	
50.768	Unidentified	1534	0.02%	
51.100	Ekasantalic acid isomer	1540	0.17%	



Ret. Time	Component	Ret. Idx.	Conc. %	
51.395	Unidentified	1545	0.02%	
51.450	Unidentified	1546	0.01%	
51.771	Ekasantalic acid isomer	1551	0.07%	
51.934	Santalol isomer	1554	0.01%	
52.055	Unidentified	1556	0.01%	
52.204	Santalal isomer	1559	0.09%	
52.457	Santalal isomer	1563	0.01%	
52.600	Unidentified	1565	0.01%	
52.688	Unidentified	1567	0.02%	
52.796	Unidentified	1569	0.02%	
52.965	Santalal isomer	1571	0.03%	
53.301	trans-Sesquisabinene hydrate	1577	0.02%	
53.439	Unidentified	1579	0.03%	
53.602	Unidentified	1582	0.09%	
53.778	Unidentified	1585	0.03%	
54.019	Unidentified	1589	0.03%	
54.305	Unidentified	1594	0.01%	
54.541	Unidentified	1598	0.01%	
54.715	Unidentified	1601	0.04%	
54.944	Santalal isomer	1605	0.02%	
55.335	Unidentified	1612	0.06%	
55.564	Unidentified	1616	0.05%	
55.895	Unidentified	1622	0.01%	
56.016	Santalol isomer	1624	0.04%	
56.110	cis-alpha-Santalol isomer	1626	0.01%	
56.294	Unidentified	1629	0.08%	
56.593	alpha-Acorenol	1634	0.11%	
57.135	Unidentified	1644	0.01%	
57.312	Unidentified	1647	0.02%	
57.355	Unidentified	1648	0%	
57.455	Unidentified	1650	0.02%	
57.584	Khusilal	1652	0.91%	
57.906	trans-alpha-Santalal	1658	0.5%	
58.070	Unidentified	1661	0.02%	
58.189	Unidentified	1663	0.16%	
58.357	cis-alpha-Santalal	1666	0.57%	
58.505	cis-alpha-Santalal isomer	1668	0.14%	
58.917	cis-alpha-Santalol	1676	52.25%	
59.199	Unidentified	1681	0.22%	
59.549	cis-alpha-trans-Bergamotol	1687	5.12%	



Ret. Time	Component	Ret. Idx.	Conc. %	
59.751	Epicedrol	1691	1.06%	
59.920	trans-alpha-Santalol	1694	0.47%	
60.040	Unidentified	1696	0.11%	
60.314	cis-epi-beta-Santalol	1701	4.16%	
60.417	Unidentified	1703	0.23%	
60.621	trans-alpha-trans-Santalol	1706	0.43%	
60.766	Unidentified	1709	0.05%	
61.113	cis-beta-Santalol	1716	20.21%	
61.406	cis-Nuciferol	1721	1.32%	
61.573	trans-epi-beta-Santalol	1724	0.26%	
61.828	Unidentified	1729	0.5%	
62.206	trans-beta-Santalol	1736	1.21%	
62.434	Unidentified	1740	0.87%	
62.817	Santalol acetate isomer	1748	0.48%	
63.036	trans-Nuciferol	1752	0.37%	
63.155	Unidentified	1754	0.13%	
63.399	cis-Lanceol	1758	1.77%	
63.670	Unidentified	1763	0.21%	
63.835	Unidentified	1767	0.07%	
64.127	Santalol isomer	1772	0.1%	
64.415	Unidentified	1777	0.04%	
64.536	Unidentified	1780	0.02%	
64.867	Unidentified	1786	0.01%	
65.011	Lanceol isomer	1789	0.17%	
65.357	Unidentified	1795	0.04%	
65.535	Unidentified	1798	0.01%	
65.778	Unidentified	1803	0.02%	
66.199	cis-beta-Santalol acetate	1811	0.03%	
66.822	Unidentified	1824	0.04%	
66.991	Unidentified	1827	0.02%	
67.227	cis-beta-Santalol acetate isomer	1832	0.01%	
67.663	Unidentified	1840	0.04%	
68.627	Unidentified	1859	0.01%	
69.121	Unidentified	1869	0.01%	
70.677	Unidentified	1899	0.02%	
71.495	Unidentified	1916	0.02%	
72.992	Santalol isomer	1947	0.01%	

Total Identified Compounds **96.35 %**

