



Essential Validation Services



Sample:

Client: | 21 Drops
Sample: | Sandalwood (Santalum Album)
Batch # | SA161002
CAS Number | 8006-87-9
Type: | Essential Oil

Conclusion:

- No adulterants, diluents, or contaminants were detected via this method.



X *Adam Christen*

Validated By:

Essential Validation Services

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Summary of Analyses

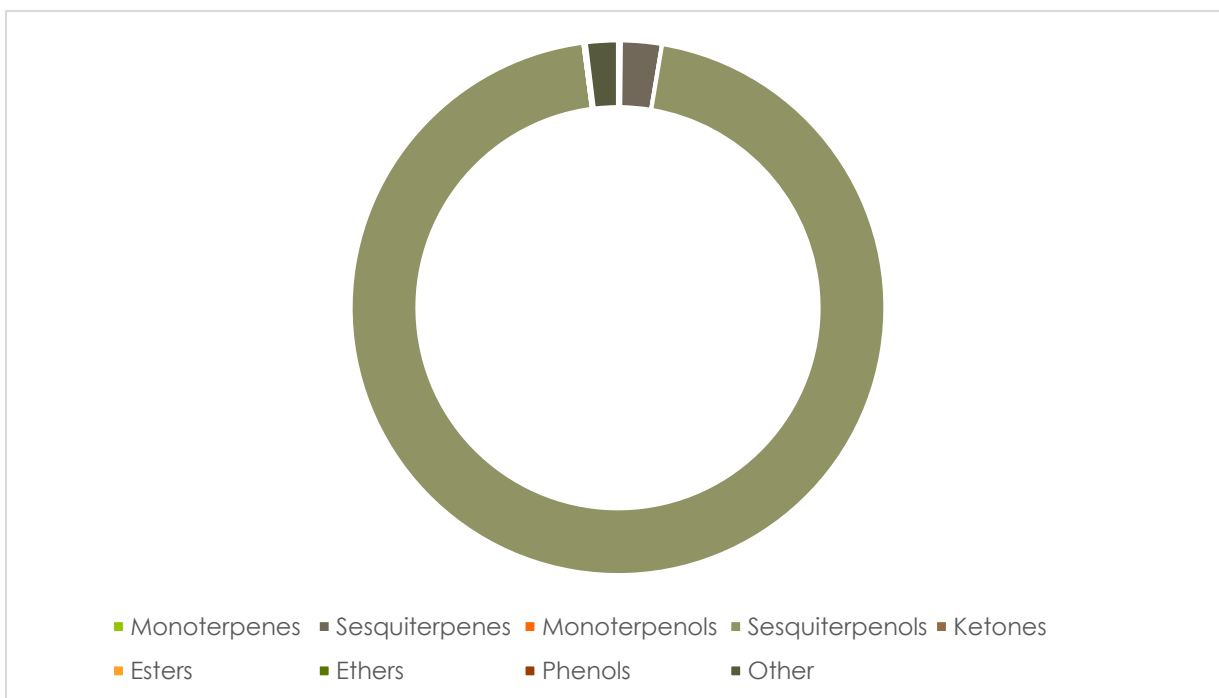
A fresh sample of Sandalwood (Santalum Album) Essential Oil (10 uL in .5 to .5 mL Hexane + ETOH) was prepared and analyzed via split injection GC/EI-MS.

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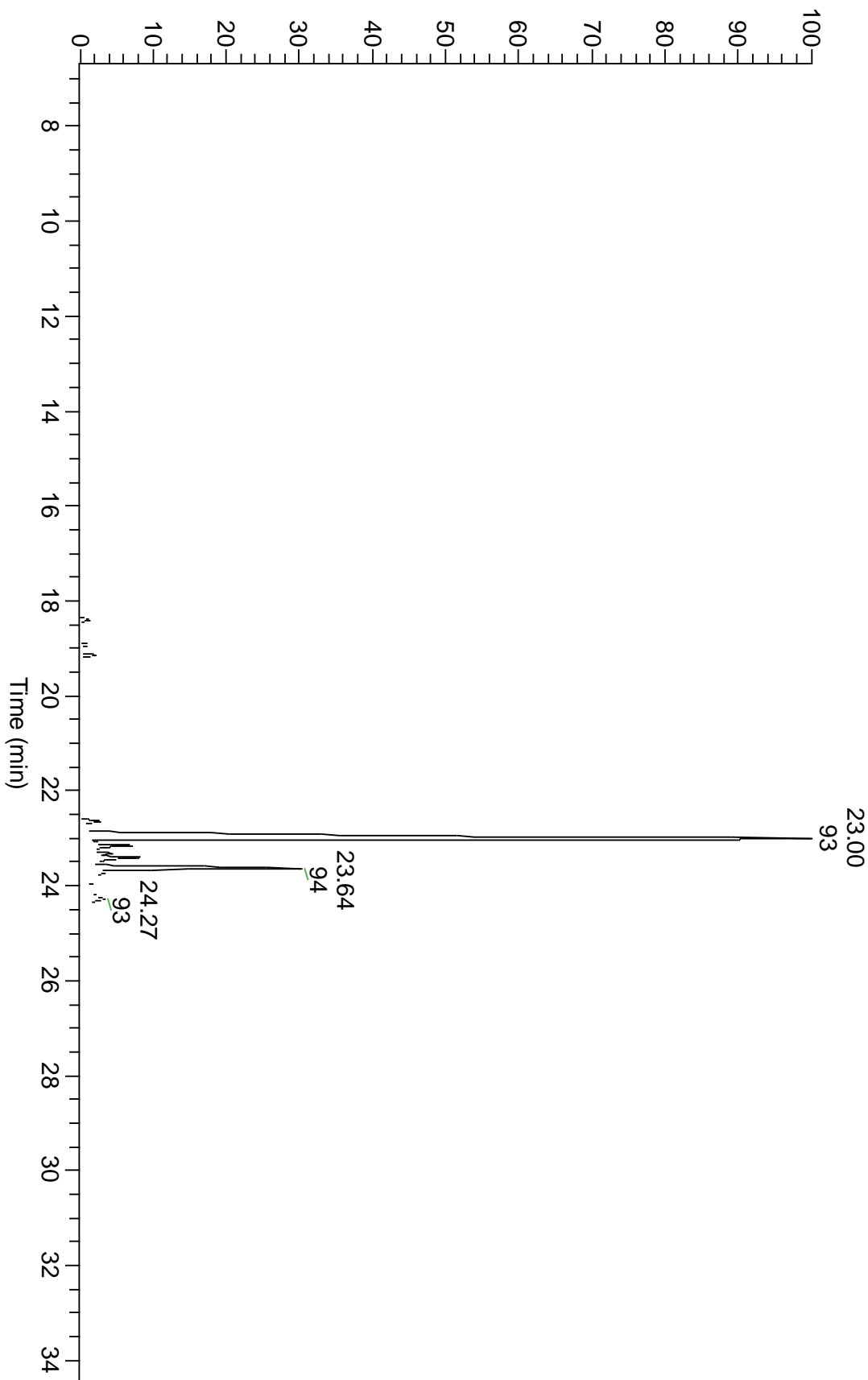
Other	
Teresantalol	1.10%
Sesquiterpenes	
beta-Santalene	0.85%
alpha-Santalene	0.56%
epi-beta-Santalene	0.55%

Sesquiterpenols	
cis-alpha-Santalol	44.47%
(Z)-beta-Santalol	18.74%
(E)-alpha-Santalol	7.51%
(E,E)-Farnesol	5.02%
epi-beta-bisabolol	3.50%
(Z)-beta-Curcumen-12	3.20%
(E)-Nuciferol	3.10%
(Z)-trans-alpha-Berga	1.76%
(E)-Nerolidol	1.30%
(E)-Nerolidol	1.30%
beta-Bisabolol	1.17%

Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
0.17%	2.45%	0.00%	94.47%	0.00%
Esters	Ethers	Aldehydes	Phenols	Other
0.00%	0.14%	0.00%	0.00%	1.91%



RT: 6.67 - 34.91



Total Percentage		99.14%			
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	16.92	0.14%	Santalol Isomer	#N/A	#N/A
2	17.77	0.05%	7-epi-Sesquithujene	1398.00	Sesquiterpenes
3	18.39	0.56%	alpha-Santalene	1426.50	Sesquiterpenes
4	18.64	0.09%	trans-alpha-Bergamotene	1435.00	Sesquiterpenes
5	18.92	0.55%	epi-beta-Santalene	1450.25	Sesquiterpenes
6	19.14	0.85%	beta-Santalene	1464.00	Sesquiterpenes
7	19.36	0.13%	gamma-Curcumene	1476.00	Sesquiterpenes
8	19.54	0.16%	ar-Curcumene	1482.71	Sesquiterpenes
9	19.87	0.06%	beta-Himachalene	1497.75	Sesquiterpenes
10	20.03	0.17%	beta-Curcumene	1520.00	Monoterpenes
11	20.22	0.09%	Unknown Sandal	#N/A	#N/A
12	20.66	1.30%	(E)-Nerolidol	1542.25	Sesquiterpenols
13	20.66	Co-Eluting	Unknown Sandal	#N/A	#N/A
14	20.91	0.13%	(Z)-Nerolidol	1567.00	Sesquiterpenols
15	21.00	1.10%	Teresantalol	#N/A	#N/A
16	21.00	Co-Eluting	Dendrolasin	1574.00	Ethers
17	21.18	0.10%	Unknown Sandal	#N/A	#N/A
18	21.42	0.05%	Unknown Sandal	#N/A	#N/A
19	21.49	0.14%	Caryophyllene oxide	1594.86	Ethers
20	21.72	0.01%	Unknown Sandal	#N/A	#N/A
21	21.74	0.01%	Guaiol	1603.86	Sesquiterpenols
22	21.84	0.02%	Unknown Sandal	#N/A	#N/A
23	21.89	0.07%	Unknown Sandal	#N/A	#N/A
24	22.08	0.04%	Unknown Sandal	#N/A	#N/A
25	22.12	0.03%	Unknown Sandal	#N/A	#N/A
26	22.16	0.02%	alpha-Acorenol	1629.50	Sesquiterpenols
27	22.27	0.06%	beta-Acorenol	1641.00	Sesquiterpenols
28	22.34	0.15%	Unknown Sandal	#N/A	#N/A
29	22.64	1.17%	beta-Bisabolol	1670.00	Sesquiterpenols
30	22.75	0.18%	Bulnesol	1666.14	Sesquiterpenols
31	23.00	44.47%	cis-alpha-Santalol	1676.50	Sesquiterpenols
32	23.00	Co-Eluting	Beta-Santalal	#N/A	#N/A
33	23.00	Co-Eluting	Santalal Isomer	#N/A	#N/A
34	23.07	1.30%	alpha-Bisabolol	1684.43	Sesquiterpenols
35	23.16	3.50%	epi-beta-bisabolol	1684.86	Sesquiterpenols
36	23.32	1.76%	(Z)-trans-alpha-Bergamotol	1693.00	Sesquiterpenols
37	23.40	7.51%	(E)-alpha-Santalol	1695.00	Sesquiterpenols
38	23.64	18.74%	(Z)-beta-Santalol	1713.75	Sesquiterpenols
39	23.64	Co-Eluting	(Z)-Nuciferol	1724.50	Sesquiterpenols
40	23.72	5.02%	(E,E)-Farnesol	1726.57	Sesquiterpenols
41	23.72	Co-Eluting	(Z)-gamma-Curcumen-12-ol	1729.80	Sesquiterpenols
42	24.00	3.10%	(E)-Nuciferol	1755.00	Sesquiterpenols

43	24.00	Co-Eluting	trans-beta-Santalol	1741.00	Sesquiterpenols
44	24.05	3.20%	(Z)-beta-Curcumen-12-ol	1761.00	Sesquiterpenols
45	24.27	2.68%	cis-Lanceol	1763.00	Sesquiterpenols
46	24.27	Co-Eluting	(E)-Nuciferol	1755.00	Sesquiterpenols
47	24.41	0.32%	(Z)-Lanceol	1766.00	Sesquiterpenols
48	25.02	0.08%	Unknown Sandal	#N/A	#N/A
49	25.61	0.03%	Unknown Sandal	#N/A	#N/A

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