

Client



Source



Sandalwood (*Santalum Album*)
NF-SAND-21-A

Sample

Sandalwood (*Santalum Album*)
Batch #:..... NF-SAND-21-A
Type:..... Essential Oil
CAS Number:... 8006-87-9
Nature's Fusions

Client



Website

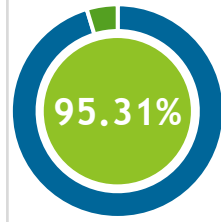
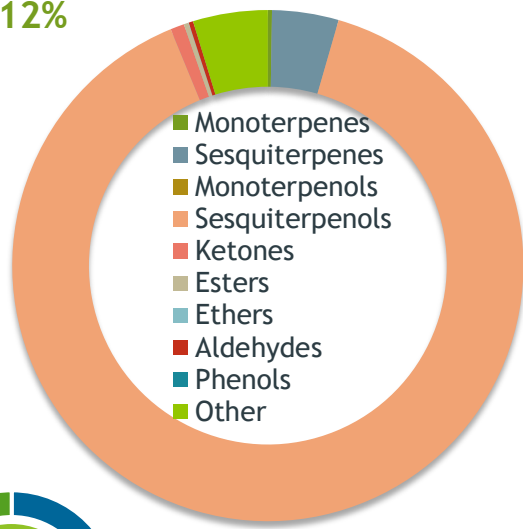


Primary

46.41% | (E)-alpha-Santalol
21.91% | cis-beta-Santalol
7.72% | (Z)-trans-alpha-

Sesquiterpenols

89.12%



Percentage Identified

Result



Conclusion

No adulterants, diluents, or contaminants were detected via this method. This oil meets the expected profile for genuine Essential Oil of Sandalwood (*Santalum Album*)

Internal Number: | EVS-4368



Essential Validation Services

747 SW 2nd Ave IMB 12 Suite 306
Gainesville, FL 32601

317.361.5044 | <https://essentialvalidationservices.com/>

Alan Chastain

Monoterpenes	0.26%
Sesquiterpenes	4.20%
Monoterpenols	0.00%
Sesquiterpenols	89.12%
Ketones	0.87%
Esters	0.30%
Ethers	0.02%
Aldehydes	0.28%
Phenols	0.00%
Other	4.72%

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- Essential Oil testing is performed by using qualitative GC-MS. Method: SOP.T.01 Client Method
- This report may not be published without the consent of Essential Validation Services.
- Chromatograph image may be requested
- This report is valid for 1 year from the analyzed date

Client


 Nature's FUSIONS
ESSENTIAL OILS

Source

Sandalwood (*Santalum Album*)

NF-SAND-21-A

Total Percentage		95.31%		
Number	RT	Area %	Compound Name	Chemical Family
1	6.40	0.03%	Santene	Normonoterpene
2	28.24	0.02%	7-epi-Sesquithujene	Sesquiterpene
3	29.27	0.02%	alpha-Cedrene	Sesquiterpene
4	29.52	0.94%	alpha-Santalene	Sesquiterpene
5	30.12	0.18%	trans-alpha-Bergamotene	Sesquiterpene
6	30.66	1.03%	epi-beta-Santalene	Sesquiterpene
7	31.17	1.64%	beta-Santalene	Sesquiterpene
8	31.94	0.09%	gamma-Curcumene	Sesquiterpene
9	32.07	0.17%	ar-Curcumene	Sesquiterpene
10	32.16	0.03%	Geranyl propionate	Monoterpene Ester
11	33.17	0.08%	beta-Bisabolene	Sesquiterpene
12	33.24	0.26%	beta-Curcumene	Monoterpene
13	33.80	0.02%	cis-alpha-Bisabolene	Sesquiterpene
14	33.91	0.01%	trans-gamma-Bisabolene	Sesquiterpene
15	34.55	0.10%	cis-Sesquisabinene hydrate	Monoterpene Ester
16	35.27	0.05%	(E)-Nerolidol	Sesquiterpenol
17	35.57	0.02%	Dendrolasin	Sesquiterpene Ether
18	35.94	0.09%	trans-Sesquisabinene hydrate	Monoterpene Ester
19	36.35	0.04%	Teresantalol	Sesquiterpenol
20	37.98	0.16%	alpha-Acorenol	Sesquiterpenol
21	38.63	0.75%	beta-Bisabolol	Sesquiterpenol
22	39.08	0.87%	epi-Zizanone	Sesquiterpene Ketone
23	39.76	46.41%	(E)-alpha-Santalol	Sesquiterpenol
24	40.14	7.72%	(Z)-trans-alpha-Bergamotol	Sesquiterpenol
25	40.33	0.59%	cis-alpha-Santalol	Sesquiterpenol
26	40.59	4.08%	(Z)-epi-beta-Santalol	Sesquiterpenol
27	41.18	21.91%	cis-beta-Santalol	Sesquiterpenol
28	41.32	1.07%	(Z)-Nuciferol	Sesquiterpenol
29	41.53	0.61%	Vetiselinenol	Sesquiterpenol
30	41.83	1.87%	trans-beta-Santalol	Sesquiterpenol
31	42.03	0.53%	(E,E)-Farnesol	Sesquiterpenol
32	42.20	0.28%	alpha-Sinensal	Sesquiterpene Aldehyde
33	42.39	1.08%	(Z)-beta-Curcumen-12-ol	Sesquiterpenol
34	42.63	2.25%	cis-Lanceol	Sesquiterpenol
35	43.34	0.08%	(Z)-alpha-Santalyl acetate	Sesquiterpene Ester

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- Essential Oil testing is performed by using qualitative GC-MS. Method: SOP.T.01 Client Method
 - This report may not be published without the consent of Essential Validation Services.
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Client	 Nature's FUSIONS ESSENTIAL OILS	Source	
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Sandalwood (*Santalum Album*)
 NF-SAND-21-A

Number	RT	Area %	Compound Name	Chemical Family
36	43.672	0.20%	40.20 Bergamotol acetate<(Z)-alpha-trans->	Sesquiterpene Ester
37	44.45	0.03%	41.05 Santalol acetate<(Z)-beta->	0.00

Client



Source



Sandalwood (*Santalum Album*)
NF-SANDA-19-A

Sample

Sandalwood (*Santalum Album*)
Batch #:..... NF-SANDA-19-A
Type:..... Essential Oil
CAS Number:... 8006-87-9

Nature's Fusions

Client



Website

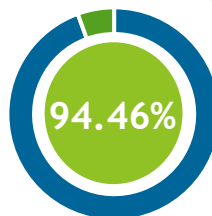
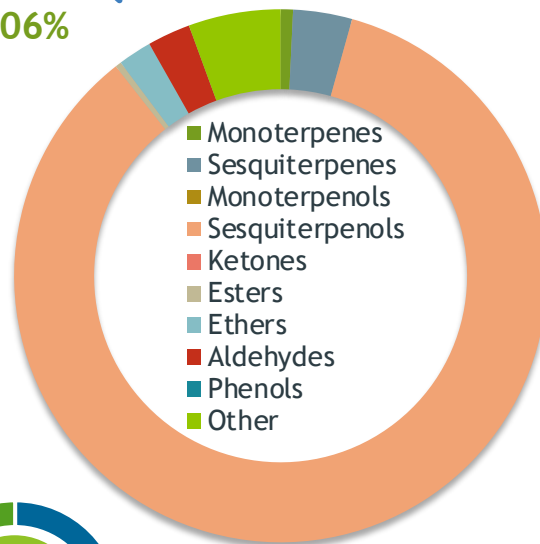


Primary

19.12% | cis-alpha-Santalol
14.55% | (E,E)-Farnesol
11.35% | cis-beta-Santalol

Sesquiterpenols

85.06%



Percentage Identified

Result



Conclusion

No adulterants, Diluents, or contaminants were detected via this method. This oil meets the expected profile for genuine Essential Oil of Sandalwood (*Santalum Album*)

Internal Number: | EVS-3150



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adam@essentialvalidationservices.com

Monoterpenes	0.75%
Sesquiterpenes	3.58%
Monoterpenols	0.00%
Sesquiterpenols	85.06%
Ketones	0.00%
Esters	0.37%
Ethers	2.04%
Aldehydes	2.61%
Phenols	0.00%
Other	5.59%

Client


Nature's FUSIONS
 ESSENTIAL OILS

Source



Sandalwood (Santalum Album)
 NF-SANDA-19-A

Total Percentage		94.46%			
Number	RT	Area %	Compound Name	RI	Chemical Family
1	10.05	0.05%	Santene	884.00	Normonoterpene
2	27.53	0.05%	alpha-Santalal	1335.23	Sesquiterpene Aldehyde
3	29.71	0.09%	Sesquithujene	1405.00	Sesquiterpene
4	30.07	0.18%	alpha-Cedrene	1410.75	Sesquiterpene
5	30.22	0.51%	alpha-Santalene	1426.50	Sesquiterpene
6	30.69	0.18%	cis-alpha-Bergamotene	1411.50	Sesquiterpene
7	31.08	0.33%	epi-beta-Santalene	1450.25	Sesquiterpene
8	31.26	0.30%	(E)-beta-Farnesene	1456.29	Sesquiterpene
9	31.48	0.52%	beta-Santalene	1464.00	Sesquiterpene
10	31.66	0.16%	beta-Acoradiene	1475.00	Sesquiterpene
11	32.04	0.31%	gamma-Curcumene	1476.00	Sesquiterpene
12	32.13	0.35%	ar-Curcumene	1480.50	Sesquiterpene
13	32.44	0.29%	UK Sandalwood		
14	32.51	0.07%	UK Sandalwood		
15	32.64	0.06%	alpha-Selinene	1492.50	Sesquiterpene
16	32.85	0.11%	(E,E)-alpha-Farnesene	1508.14	Sesquiterpene
17	32.93	0.15%	beta-Bisabolene	1509.86	Sesquiterpene
18	33.02	0.75%	beta-Curcumene	1512.00	Monoterpene
19	33.11	0.33%	Sesquicineole	1515.20	Sesquiterpenol
20	33.40	0.15%	beta-Sesquiphellandrene	1524.57	Sesquiterpene
21	33.93	0.11%	beta-Sesquiphellandrene	1524.57	Sesquiterpene
22	34.20	0.07%	gamma-Cuprenene	1535.50	Sesquiterpene
23	34.51	2.36%	(E)-Nerolidol	1567.00	Sesquiterpenol
24	34.82	2.04%	Dendrolasin	1573.35	Sesquiterpene Ether
25	35.63	0.40%	Guaiol	1603.86	Sesquiterpenol
26	36.00	0.14%	beta-Acorenol	1641.00	Sesquiterpenol
27	36.45	0.36%	Cubenol	1642.14	Sesquiterpenol
28	36.61	0.44%	Himachalol	1648.50	Sesquiterpenol
29	37.30	0.49%	UK Sandalwood		
30	37.64	3.81%	beta-Bisabolol	1666.25	Sesquiterpenol
31	37.94	19.12%	cis-alpha-Santalol	1668.00	Sesquiterpenol
32	38.14	7.54%	(Z)-trans-alpha-Bergamotol	1684.20	Sesquiterpenol
33	38.32	4.15%	alpha-Bisabolol	1684.43	Sesquiterpenol
34	38.64	0.97%	(Z)-epi-beta-Santalol	1697.23	Sesquiterpenol
35	38.84	0.44%	Cedr-8-en-15-ol	1702.00	Sesquiterpenol

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Sandalwood (*Santalum Album*)
NF-SANDA-19-A

Number	RT	Area %	Compound Name	RI	Chemical Family
36	39.05	11.35%	cis-beta-Santalol	1713.75	Sesquiterpenol
37	39.09	6.90%	(Z)-Nuciferol	1724.50	Sesquiterpenol
38	39.27	14.55%	(E,E)-Farnesol	1742.60	Sesquiterpenol
39	39.78	2.56%	alpha-Sinensal	1751.00	Sesquiterpene Aldehyde
40	40.06	9.29%	(Z)-beta-Curcumen-12-ol	1754.00	Sesquiterpenol
41	40.18	2.91%	cis-Lanceol	1765.00	Sesquiterpenol
42	40.46	0.40%	UK Sandalwood		
43	40.54	0.68%	UK Sandalwood		
44	40.82	0.50%	UK Sandalwood		
45	40.97	0.59%	UK Sandalwood		
46	41.41	0.30%	(Z)-alpha-Santalyl acetate	1789.00	Sesquiterpene Ester
47	42.06	0.07%	(E,E)-Farnesyl acetate	1839.67	Sesquiterpene Ester

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Essential Validation Services



Sample:

Client: | Nature's Fusions
Sample: | Sandalwood (Santalum Album)
Batch # | 11130-A14
CAS Number | 8006-87-9
Type: | Essential Oil

Conclusion:

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



X 

Validated By:

Essential Validation Services

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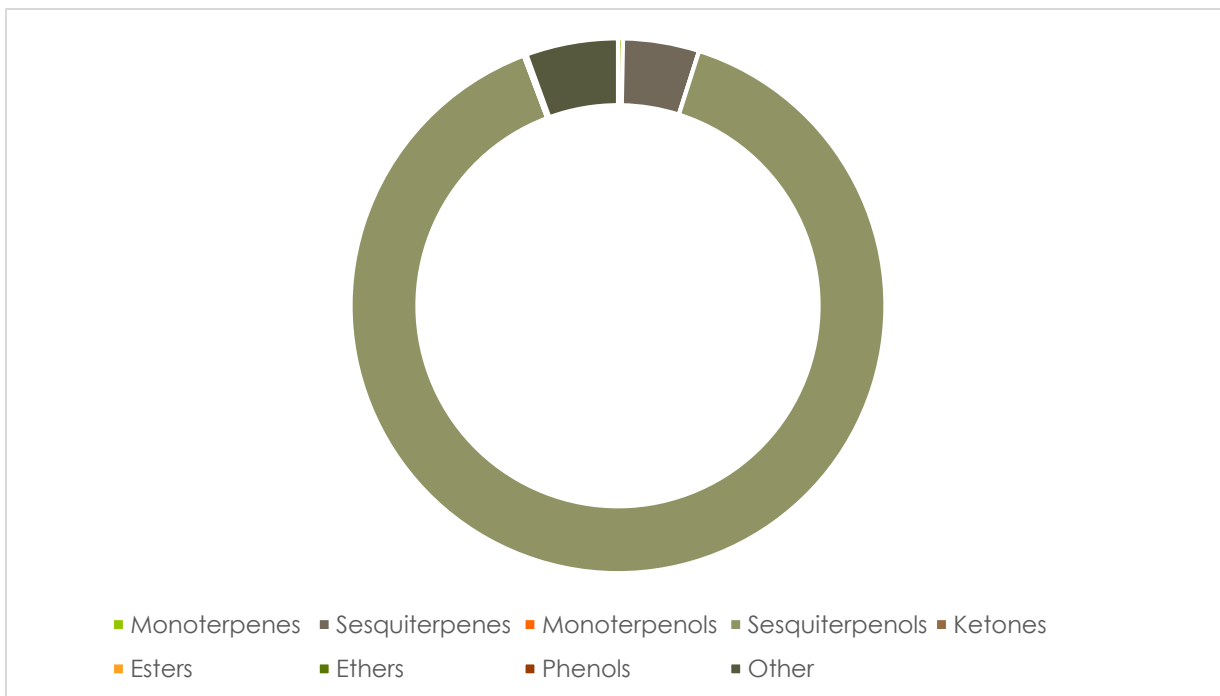
Phone: 317-361-5044 E-mail: Adam@essentialvalidationservices.com

Summary of Analyses

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

Main Compounds	Percentages
cis-alpha-Santalol	44.52%
cis-beta-Santalol	23.58%
(Z)-trans-alpha-Bergamo	6.94%
epi-beta-bisabolol	6.68%
Unknown Sandal	2.73%
trans-beta-Santalol	2.47%
Unknown Sandal	1.54%
beta-Bisabolol	1.47%
beta-Santalene	1.46%
beta-Bisabolol	1.38%
trans-alpha-Santalol	1.25%
epi-beta-Santalene	0.93%
alpha-Santalene	0.75%

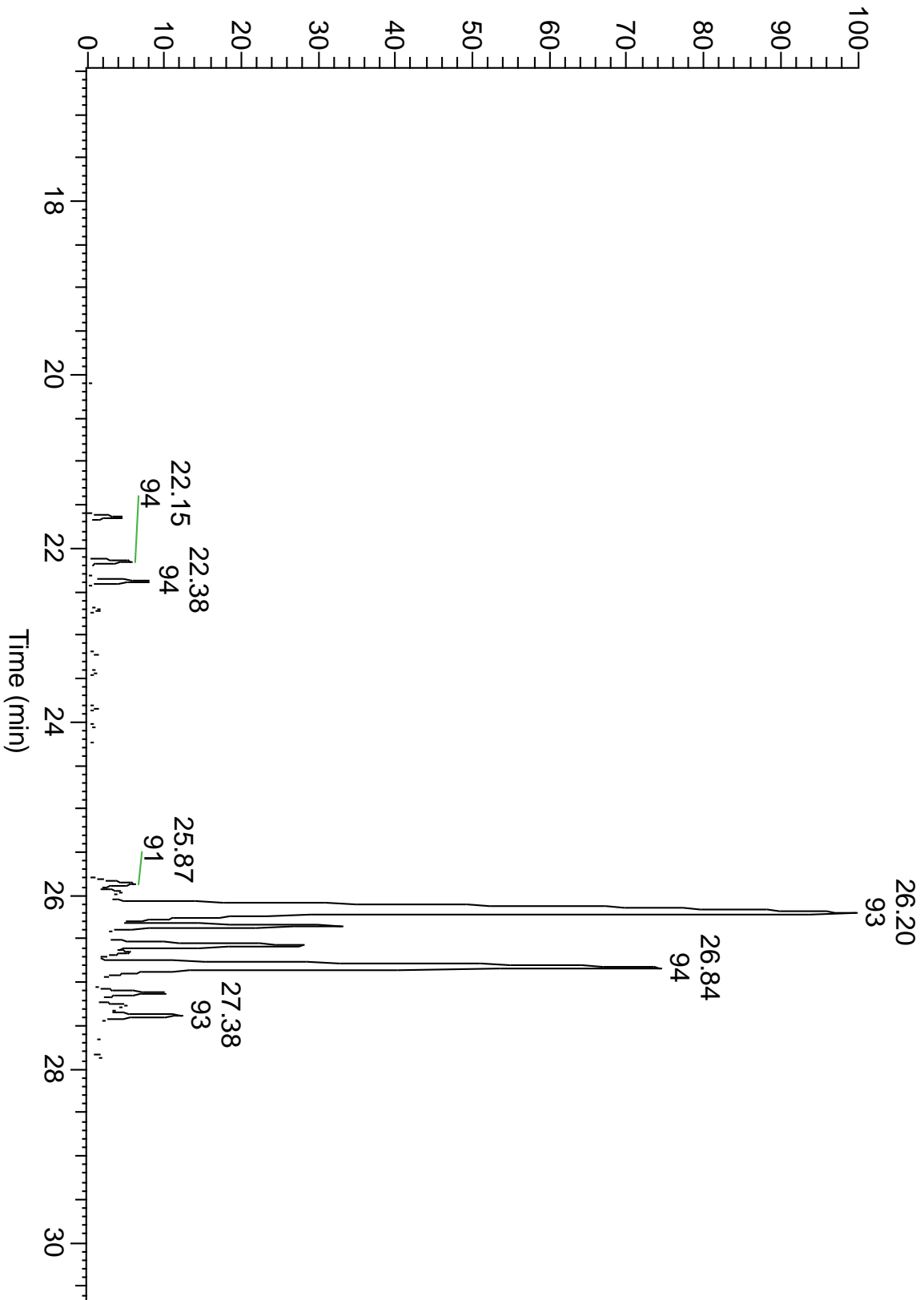
Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
0.30%	4.59%	0.00%	89.04%	0.00%
Esters	Ethers	Aldehydes	Phenols	Other
0.00%	0.17%	0.00%	0.00%	5.54%



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RT: 16.46 - 30.83



ESSENTIAL VALIDATION SERVICES | 747 SW 2ND AVE GAINESVILLE, FLORIDA 32601 | 317-361-5044

Total Percentage	99.64%				
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	9.34	0.04%	Santene	891.33	Monoterpenes
2	20.91	0.07%	7-epi-Sesquithujene	1398.00	Sesquiterpenes
3	21.64	0.75%	alpha-Santalene	1426.50	Sesquiterpenes
4	21.90	0.12%	trans-alpha-Bergamotene	1435.00	Sesquiterpenes
5	21.94	0.10%	Sesquithujene	1435.10	Sesquiterpenes
6	22.15	0.93%	epi-beta-Santalene	1450.25	Sesquiterpenes
7	22.38	1.46%	beta-Santalene	1464.00	Sesquiterpenes
8	22.60	0.18%	gamma-Curcumene	1476.00	Sesquiterpenes
9	22.71	0.38%	ar-Curcumene	1482.71	Sesquiterpenes
10	23.08	0.10%	beta-Himachalene	1497.75	Sesquiterpenes
11	23.21	0.25%	beta-Bisabolene	1509.86	Sesquiterpenes
12	23.32	0.05%	Santalol Isomer	#N/A	#N/A
13	23.42	0.26%	beta-Curcumene	1520.00	Monoterpenes
14	23.84	0.25%	beta-Sesquiphellandrene	1524.57	Sesquiterpenes
15	24.04	0.17%	Dendrolasin	1574.00	Ethers
16	24.22	0.08%	Teresantalol	1579.30	Sesquiterpenols
17	24.71	0.24%	Unknown Sandal	#N/A	#N/A
18	24.91	0.07%	Unknown Sandal	#N/A	#N/A
19	25.01	0.14%	Unknown Sandal	#N/A	#N/A
20	25.32	0.09%	alpha-Acorenol	1629.50	Sesquiterpenols
21	25.49	0.08%	beta-Acorenol	1641.00	Sesquiterpenols
22	25.87	1.47%	beta-Bisabolol	1670.00	Sesquiterpenols
23	25.96	1.38%	beta-Bisabolol	1670.00	Sesquiterpenols
24	26.20	44.52%	cis-alpha-Santalol	1676.50	Sesquiterpenols
25	26.35	6.68%	epi-beta-bisabolol	1684.86	Sesquiterpenols
26	26.58	6.94%	(Z)-trans-alpha-Bergamotol	1693.00	Sesquiterpenols
27	26.65	1.25%	trans-alpha-Santalol	1695.00	Sesquiterpenols
28	26.84	23.58%	cis-beta-Santalol	1713.75	Sesquiterpenols
29	27.12	2.47%	trans-beta-Santalol	1718.00	Sesquiterpenols
30	27.26	1.54%	Unknown Sandal	#N/A	#N/A
31	27.38	2.73%	Unknown Sandal	#N/A	#N/A
32	27.56	0.12%	(Z)-Nuciferol	1724.50	Sesquiterpenols
33	27.56	Co-Eluting	cis-Lanceol	1763.00	Sesquiterpenols
34	27.64	0.38%	(E,E)-Farnesol	1726.57	Sesquiterpenols
35	27.85	0.38%	Unknown Sandal	#N/A	#N/A
36	28.24	0.09%	Unknown Sandal	#N/A	#N/A
37	28.53	0.11%	Unknown Sandal	#N/A	#N/A
38	28.67	0.05%	Unknown Sandal	#N/A	#N/A
39	28.85	0.09%	Lanceol Isomer	#N/A	#N/A
40	29.08	0.05%	Unknown Sandal	#N/A	#N/A