

Client



Source



Chamomile, Roman (*Anthemis nobilis*)  
NF-ROMA-21-A

Sample

Chamomile, Roman (*Anthemis nobilis*)  
Batch #:..... NF-ROMA-21-A  
Type:..... Essential Oil  
CAS Number:... 8015-92-7  
**Nature's Fusions**

Client



Website

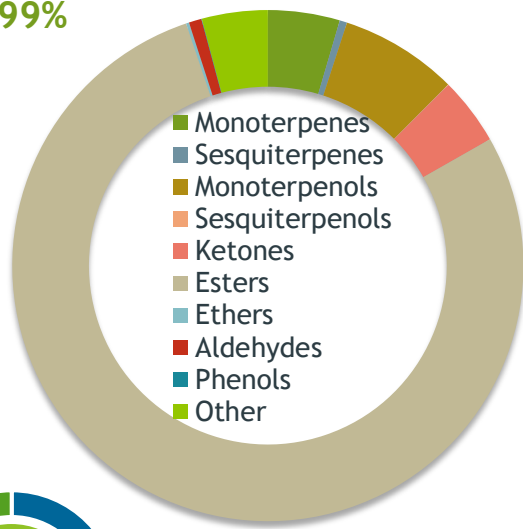


Primary

**20.39%** | 3-Methylamyl angelate  
**13.07** | Methallyl angelate  
**11.15%** | 3-Methylamyl isobutyrate

**Esters**

77.99%



**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 Chamomile, Roman (*Anthemis nobilis*)

Internal Number: | EVS-4220



**Essential Validation Services**

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

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

*Alan Chastain*

Monoterpenes	4.54%
Sesquiterpenes	0.47%
Monoterpenols	7.45%
Sesquiterpenols	0.03%
Ketones	4.27%
Esters	77.99%
Ethers	0.19%
Aldehydes	0.80%
Phenols	0.03%
Other	4.16%

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Client


 Nature's FUSIONS  
ESSENTIAL OILS

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NF-ROMA-21-A

Total Percentage		96.93%		
Number	RT	Area %	Compound Name	Chemical Family
1	3.74	0.02%	2,4-Dimethyl-3-pentanone	Aliphatic Ketone
2	4.05	0.06%	1-Octene	Alkene
3	4.29	0.03%	Hexanal	Aliphatic Aldehyde
4	4.61	0.01%	Butyl acetate	Aliphatic Ester
5	5.07	0.01%	Furfural	Furan
6	5.25	0.01%	Isovaleric acid	Aliphatic Acid
7	5.46	0.91%	3-Methylpentanol	Aliphatic Alcohol
8	5.66	Co-Eluting	(E)-2-Hexenal	Aliphatic Aldehyde
9	5.72	0.10%	Propyl isobutyrate	Aliphatic Ester
10	6.04	0.04%	(E)-2-Hexenol	Aliphatic Alcohol
11	6.15	0.04%	1-Hexanol	Aliphatic Alcohol
12	6.35	0.51%	Isoamyl acetate	Aliphatic Ester
13	6.42	0.11%	2-Methylbutyl acetate	Aliphatic Ester
14	6.73	0.02%	3-Methyl-3-buten-1-yl acetate	Aliphatic Ester
15	6.99	0.10%	Ethyl angelate	Aliphatic Ester
16	7.63	0.74%	Isobutyl isobutyrate	Aliphatic Ester
17	7.87	0.07%	Prenyl acetate	Aliphatic Ester
18	8.29	3.43%	alpha-Pinene	Monoterpene
19	8.54	0.35%	Isobutyl methacrylate	Aliphatic Ester
20	8.81	0.02%	Propyl 2-methylbutyrate	Aliphatic Ester
21	8.90	0.53%	Camphene	Monoterpene
22	9.13	0.93%	3-Methyl cyclohexanone	Aliphatic Ketone
23	9.25	0.01%	2-Heptenal	Aliphatic Aldehyde
24	9.39	0.03%	Benzaldehyde	Simple Phenolic
25	9.79	0.08%	Isoamyl propionate	Aliphatic Ester
26	10.01	0.36%	beta-Pinene	Monoterpene
27	10.27	0.91%	6-Methyl-5-hepten-2-one	Aliphatic Ketone
28	10.60	0.08%	Myrcene	Monoterpene
29	10.72	0.87%	Isobutyl isovalerate	Aliphatic Ester
30	11.16	0.11%	Isobutyl 2-methylbutyrate	Aliphatic Ester
31	11.60	1.89%	Isoamyl isobutyrate	Aliphatic Ester
32	11.74	2.65%	2-Methylbutyl isobutyrate	Aliphatic Ester
33	12.05	0.05%	para-Cymene	Monoterpene
34	12.26	0.09%	Limonene	Monoterpene
35	12.36	0.15%	1,8-Cineole	Monoterpene Ether

Client


**Nature's FUSIONS**  
 ESSENTIAL OILS

Source

Chamomile, Roman (*Anthemis nobilis*)

NF-ROMA-21-A

Number	RT	Area %	Compound Name	Chemical Family
36	12.828	1.10%	2-Methylbutyl methacrylate	Monoterpene Ether
37	12.88	0.45%	Isoamyl methacrylate	Aliphatic Ester
38	13.28	3.83%	Isobutyl angelate	Aliphatic Ester
39	13.55	0.22%	Prenyl isobutyrate	Aliphatic Ester
40	13.96	13.07%	Methallyl angelate	Aliphatic Ester
41	14.36	0.58%	3-Methylamyl propionate	Aliphatic Ester
42	15.02	0.37%	Butyl angelate	Aliphatic Ester
43	15.14	0.04%	Isobutyl tiglate	Aliphatic Ester
44	15.54	0.29%	Isoamyl isovalerate	Aliphatic Ester
45	15.69	0.22%	2-Methylbutyl 2-methylbutyrate	Aliphatic Ester
46	16.31	11.15%	3-Methylamyl isobutyrate	Aliphatic Ester
47	16.51	0.01%	trans-para-Mentha-2,8-dien-1-ol	Monoterpenol
48	16.69	0.04%	trans-2-Pinanol	Monoterpenol
49	17.16	0.01%	Nopinone	
50	17.33	6.27%	trans-Pinocarveol	Monoterpenol
51	17.60	2.24%	3-Methylamyl methacrylate	Aliphatic Ester
52	17.78	8.24%	Isoamyl angelate	Aliphatic Ester
53	17.95	6.39%	Isoamyl tiglate	Aliphatic Ester
54	18.28	2.36%	Pinocarvone	Monoterpene Ketone
55	18.75	0.41%	Isoborneol	Monoterpenol
56	18.89	0.05%	Pinocamphone	Monoterpene Ketone
57	19.60	0.02%	Dodecane	Alkane
58	19.78	0.73%	Myrtenal	Monoterpene Aldehyde
59	19.88	0.72%	Myrtenol	Monoterpenol
60	20.00	0.04%	Hexyl butyrate	Aliphatic Ester
61	20.30	1.39%	3-Methylamyl valerate	Aliphatic Ester
62	20.43	0.03%	Decanal	Aliphatic Aldehyde
63	22.29	0.03%	17.84 Heptyl isobutanoate	0.00
64	22.56	20.39%	3-Methylamyl angelate	Aliphatic Ester
65	23.63	0.02%	(Z)-3-Hexenyl angelate	Aliphatic Ester
66	24.38	0.04%	trans-Pinocaryyl acetate	Monoterpene Ether
67	27.50	0.04%	Longicyclene	Sesquiterpene
68	27.81	0.01%	alpha-Copaene	Sesquiterpene
69	28.05	0.02%	Geranyl acetate	Monoterpene Ester
70	28.34	0.26%	Hexyl hexanoate	Aliphatic Ester
71	28.43	Co-Eluting	beta-Elemene	Sesquiterpene

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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



Chamomile, Roman (*Anthemis nobilis*)  
NF-ROMA-21-A

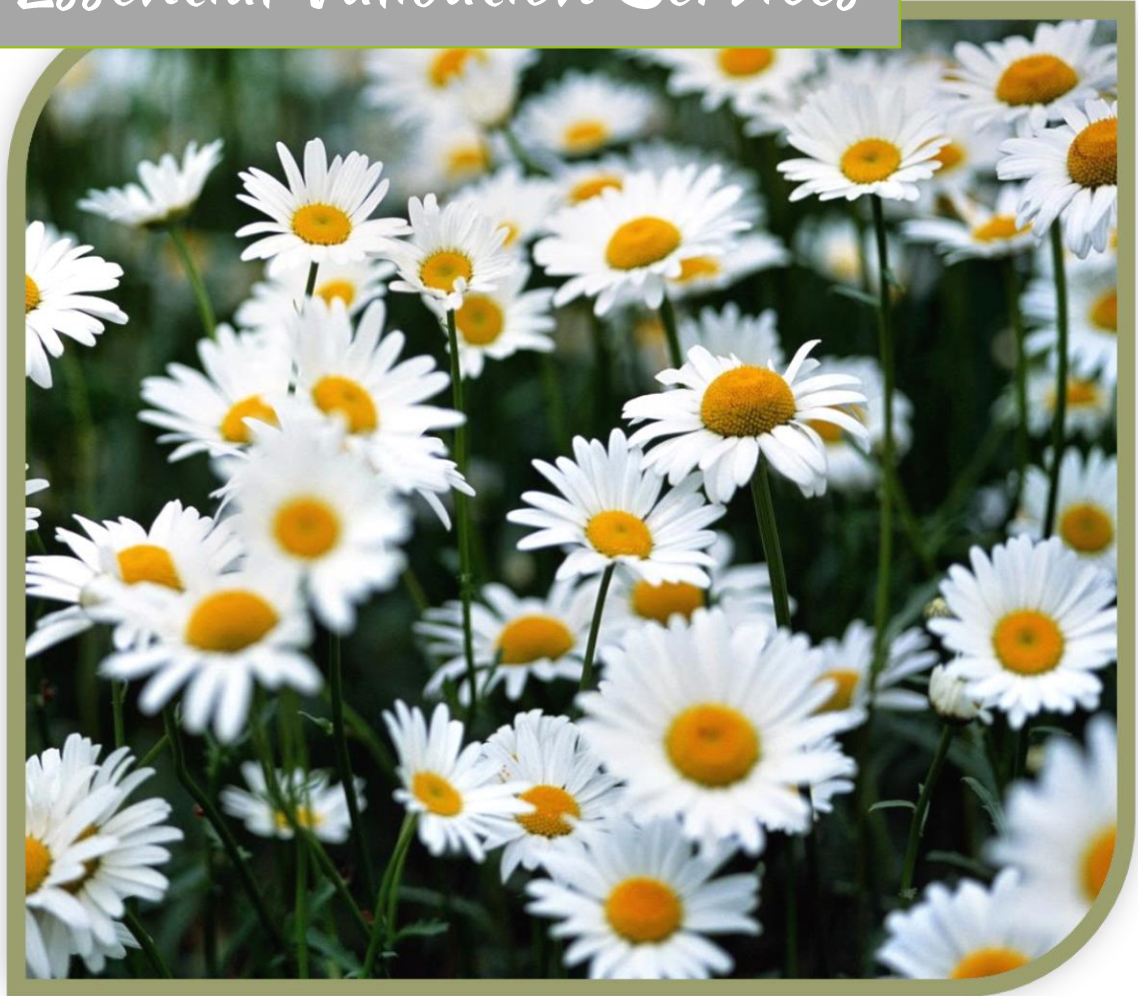
72	28.58	0.05%	Phenylethyl isobutyrate	Phenolic ester
73	29.60	0.02%	cis-Caryophyllene	Sesquiterpene
74	31.15	0.12%	(E)-beta-Farnesene	Sesquiterpene
75	32.13	0.09%	Germacrene D	Sesquiterpene
76	32.44	0.08%	beta-Selinene	Sesquiterpene
77	32.91	0.01%	alpha-Murolene	Sesquiterpene
78	33.25	0.09%	(E,E)-alpha-Farnesene	Sesquiterpene
79	33.40	0.04%	29.41 Geranyl isobutanoate	0.00
80	33.69	0.01%	delta-Cadinene	Sesquiterpene
81	37.11	0.03%	Viridiflorol	Sesquiterpenol

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- Chromatograph image may be requested
- This report is valid for 1 year from the analyzed date



# *Essential Validation Services*





**Sample:**

Client: | Nature's Fusions  
 Sample: | Roman Chamomile (Anthemis nobilis)  
 Batch # | 164007  
 CAS Number | 8015-92-7  
 Type: | Essential Oil

**Conclusion:**

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



X *Adam Christen*

Validated By:

Essential Validation Services

747 SW 2nd Ave, Gainesville, FL 32601

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

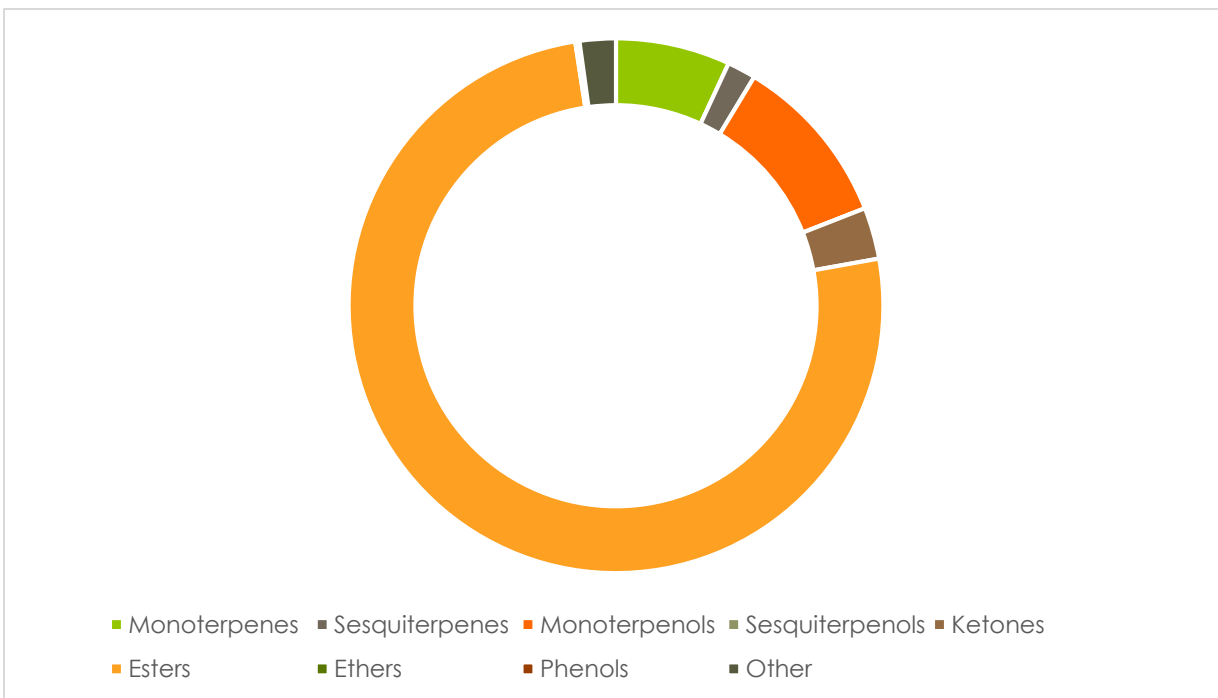
**Summary of Analyses**

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



Main Compounds	Percentages
3-Methylamyl angelate	21.64%
trans-Pinocarveol	8.96%
3-Methylamyl isobutyrate	8.18%
3-Methylamyl methacryla	7.47%
Isoamyl angelate	6.39%
Isobutyl angelate	4.07%
alpha-Pinene	3.84%
Pinocarvone	2.14%
Isoamyl isobutyrate	1.97%
Isobutyl isovalerate	1.29%
Isobutyl acetate	1.09%
beta-Pinene	1.04%
beta-Pinene	1.04%

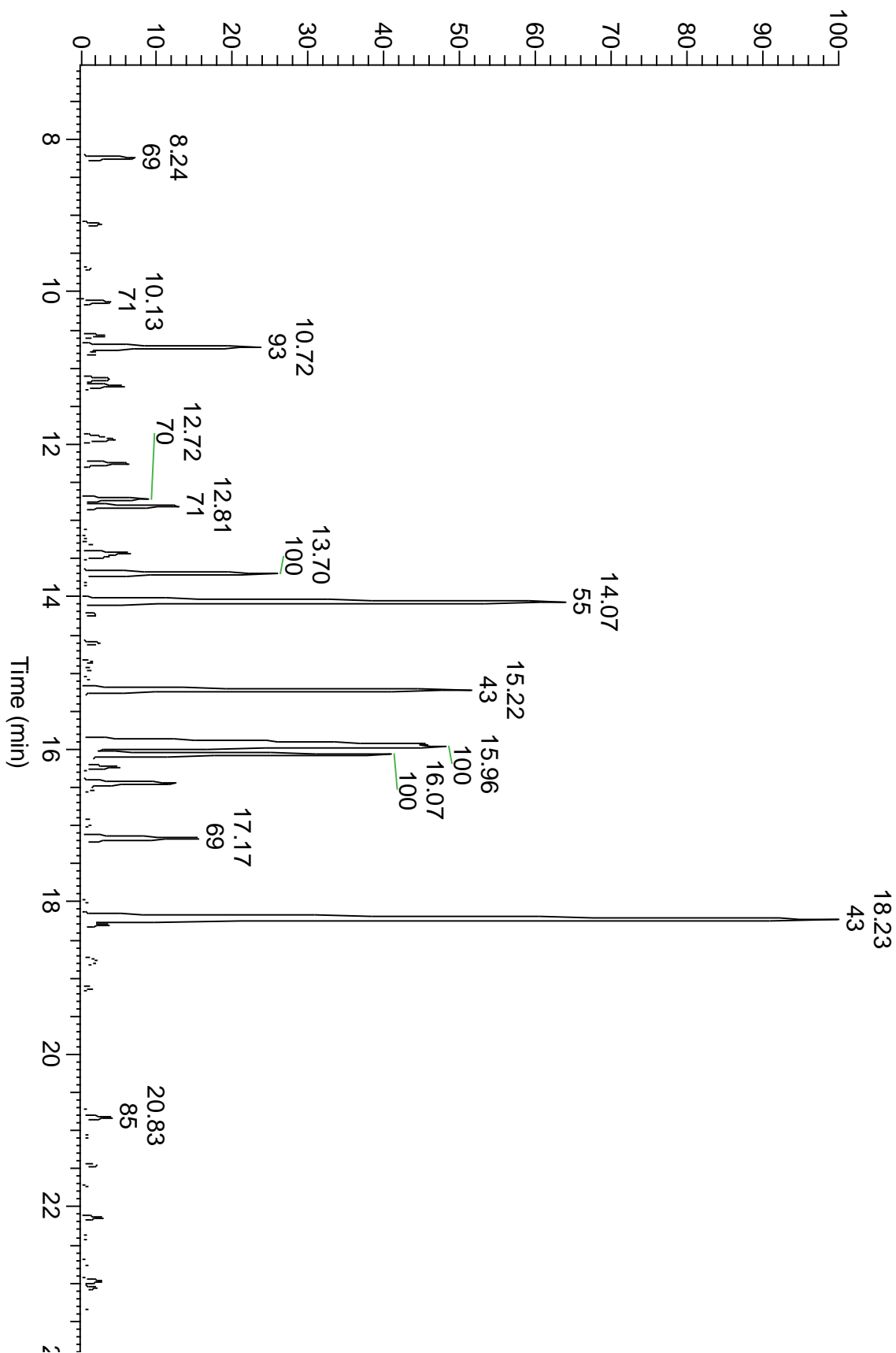
Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
6.78%	1.69%	10.19%	0.00%	3.05%
Esters	Ethers	Aldehydes	Phenols	Other
73.80%	0.25%	0.00%	0.00%	2.14%



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RT: 7.02 - 24.01







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Total Percentage	97.90%				
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	5.41	0.21%	Isobutanol	630.50	Aliphatic Alcohols
2	5.50	0.17%	2-Methylbutyl alcohol	727.00	Aliphatic Alcohols
3	7.73	0.10%	(E)-2-Methyl-2-butenyl acetate	774.00	Esters
4	8.24	1.09%	Isobutyl acetate	781.00	Esters
5	8.56	0.12%	Ethyl 2-methylbutyrate	853.50	Esters
6	9.11	0.39%	Isoamyl acetate	881.25	Esters
7	9.19	0.09%	2-Methylbutyl acetate	882.50	Esters
8	9.69	0.16%	Ethyl angelate	904.00	Esters
9	10.13	0.56%	Isobutyl isobutyrate	921.00	Esters
10	10.58	0.45%	alpha-Thujene	927.80	Monoterpenes
11	10.72	3.84%	alpha-Pinene	936.10	Monoterpenes
12	10.80	0.30%	Isobutyl methacrylate	949.00	Esters
13	11.14	0.66%	Propyl2-methylbutyrate	950.00	Esters
14	11.24	0.88%	Camphene	953.30	Monoterpenes
15	11.94	1.04%	beta-Pinene	977.70	Monoterpenes
16	12.25	0.97%	Methylallyl isobutyrate	986.00	Esters
17	12.48	0.10%	Isobutyl 2-methylbutyrate	1010.00	Esters
18	12.72	1.29%	Isobutyl isovalerate	1011.50	Esters
19	12.81	1.97%	Isoamyl isobutyrate	1013.00	Esters
20	13.08	0.15%	para-Cymene	1024.30	Monoterpenes
21	13.21	0.08%	Limonene	1029.50	Monoterpenes
22	13.31	0.20%	1,8-Cineole	1031.80	Ethers
23	13.31	Co-Eluting	beta-Phellandrene	1030.00	Monoterpenes
24	13.43	1.04%	Isoamyl methacrylate	1046.00	Esters
25	13.47	0.42%	2-Methylbutyl methacrylate	1047.00	Esters
26	13.70	4.07%	Isobutyl angelate	1059.00	Esters
27	13.78	0.05%	gamma-Terpinene	1063.71	Monoterpenes
28	13.83	0.11%	Prenyl isobutyrate	1065.00	Esters
29	14.07	12.10%	Methylallyl angelate	1074.00	Esters
30	14.15	0.05%	3-Methylamyl propionate	1084.00	Esters
31	14.23	0.29%	Terpinolene	1089.43	Monoterpenes
32	14.61	0.35%	Butyl angelate	1092.00	Esters
33	14.85	0.21%	Isobutyl tiglate	1096.00	Esters
34	14.95	0.25%	2-Methylbutyl2-methylbutyrate	1102.10	Esters
35	15.07	0.20%	Methylallyl tiglate	1114.10	Esters
36	15.22	8.18%	3-Methylamyl isobutyrate	1115.00	Esters
37	15.94	8.96%	trans-Pinocarveol	1144.10	Monoterpenols
38	15.96	7.47%	3-Methylamyl methacrylate	1146.00	Esters
39	16.07	6.39%	Isoamyl angelate	1153.00	Esters
40	16.15	0.28%	2-Methylbutyl angelate	1154.00	Esters
41	16.23	0.80%	Isoborneol	1158.20	Monoterpenols
42	16.44	2.14%	Pinocarvone	1161.43	Ketones

43	16.52	0.29%	Borneol	1168.71	Monoterpenols
44	16.64	0.10%	Unknown (Mass 172)	#N/A	#N/A
45	16.72	0.10%	Isopinocampnone	1173.00	Ketones
46	16.79	0.06%	Terpinen-4-ol	1180.57	Monoterpenols
47	16.84	0.08%	para-Cymen-8-ol	1184.43	Monoterpenols
48	16.94	0.43%	Isoamyl tiglate	1194.00	Esters
49	17.17	2.81%	3-Methylamyl valerate	1212.00	Esters
50	18.23	21.64%	3-Methylamyl angelate	1255.00	Esters
51	18.30	0.51%	Sesquiterpene (Mass 172)	#N/A	#N/A
52	18.76	0.33%	Sesquiterpene (Mass 172)	#N/A	#N/A
53	18.80	0.30%	Sesquiterpene (Mass 178)	#N/A	#N/A
54	19.13	0.26%	Sesquiterpene (Mass 178)	#N/A	#N/A
55	20.74	0.15%	alpha-Copaene	1379.00	Sesquiterpenes
56	22.14	0.39%	(Z)-beta-Farnesene	1453.40	Sesquiterpenes
57	22.39	0.17%	alpha-Humulene	1461.43	Sesquiterpenes
58	22.97	0.49%	Bicyclogermacrene	1495.71	Sesquiterpenes
59	23.06	0.42%	(E,E)-alpha-Farnesene	1508.14	Sesquiterpenes
60	23.46	0.07%	trans-Cadina-1,4-diene	1532.71	Sesquiterpenes
61	24.87	0.05%	Caryophyllene oxide	1594.86	Ethers
62	25.03	0.26%	Chamazulene	1723.50	Azulene
63	34.94	0.81%	Phytone	1854.00	Ketones