

Client



Source



Helichrysum (Helichrysum Italicum)  
NF-HELI-21-A

Sample

Helichrysum (Helichrysum Italicum)

Batch #:..... NF-HELI-21-A

Type:..... Essential Oil

CAS Number:... 90045-56-0

Nature's Fusions

Client



Website



Primary

**36.43%**

Neryl acetate

**11.50%**

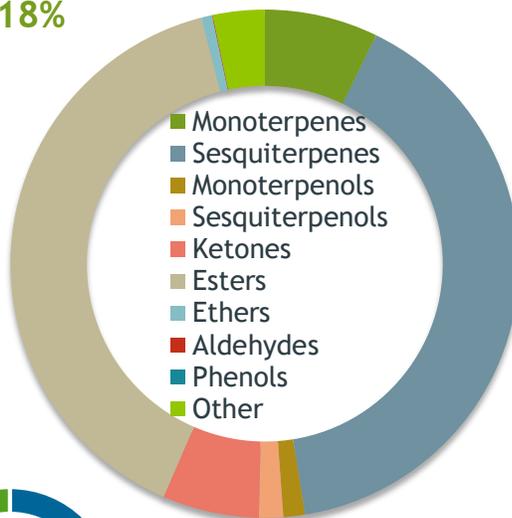
gamma-Curcumene

**6.00%**

beta-Selinene

Sesquiterpenes

40.18%



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 Helichrysum (Helichrysum Italicum)

Internal Number: | EVS-4328



Essential Validation Services

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

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

*Alan Christen*

Monoterpenes	7.21	7.21%
Sesquiterpenes	40.18%	40.18%
Monoterpenols		1.36%
Sesquiterpenols		1.54%
Ketones	6.1	6.13%
Esters	39.41%	39.41%
Ethers		0.68%
Aldehydes		0.04%
Phenols		0.00%
Other	3	3.28%

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Client


 Nature's FUSIONS  
ESSENTIAL OILS

Source

*Helichrysum (Helichrysum Italicum)*

NF-HELI-21-A

Total Percentage		96.81%		
Number	RT	Area %	Compound Name	Chemical Family
1	8.17	4.61%	alpha-Pinene	Monoterpene
2	8.72	0.07%	alpha-Fenchene	Monoterpene
3	8.78	0.03%	Camphene	Monoterpene
4	9.88	0.12%	beta-Pinene	Monoterpene
5	10.47	0.02%	Myrcene	Monoterpene
6	11.03	0.02%	Isobutyl 2-methylbutyrate	Aliphatic Ester
7	11.58	0.07%	2-Carene	Monoterpene
8	11.91	0.09%	para-Cymene	Monoterpene
9	12.12	1.12%	Limonene	Monoterpene
10	12.22	0.20%	1,8-Cineole	Monoterpene Ether
11	12.51	0.01%	(Z)-beta-Ocimene	Monoterpene
12	12.96	0.01%	(E)-beta-Ocimene	Monoterpene
13	13.13	0.15%	Isobutyl angelate	Aliphatic Ester
14	13.43	0.20%	gamma-Terpinene	Monoterpene
15	14.66	0.07%	Terpinolene	Monoterpene
16	14.87	0.01%	para-Cymenene	Monoterpene
17	15.00	0.06%	Undecane	Alkane
18	15.38	0.47%	Linalool	Monoterpenol
19	15.54	0.13%	2-Methylbutyl 2-methylbutyrate	Aliphatic Ester
20	15.80	0.01%	2-Methyl Butyl Isovalerate	Monoterpene Ester
21	16.16	0.04%	Fenchol	Monoterpenol
22	17.12	0.03%	trans-Pinocarveol	Monoterpenol
23	17.59	0.03%	Isoamyl angelate	Aliphatic Ester
24	17.76	0.75%	Isoamyl tiglate	Aliphatic Ester
25	18.56	0.05%	Borneol	Monoterpenol
26	18.98	0.19%	Terpinen-4-ol	Monoterpenol
27	19.10	0.12%	4,6-Dimethyl-3,5- octanedione	beta-Diketone
28	19.67	0.24%	alpha-Terpineol	Monoterpenol
29	20.28	0.04%	Decanal	Aliphatic Aldehyde
30	21.08	0.32%	Nerol	Monoterpenol
31	21.65	0.02%	Hexyl 2-methyl butanoate	Monoterpene Ester
32	23.45	0.02%	trans-Myrtanol	Monoterpenol
33	24.17	0.04%	2-Undecanone	Aliphatic Ketone
34	24.58	0.03%	Tridecane	Alkane
35	26.45	0.25%	alpha-Terpinyl acetate	Monoterpene Ester

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

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Essential Validation Services

4/10/2021

Client


**Nature's FUSIONS**  
 ESSENTIAL OILS

Source

*Helichrysum (Helichrysum italicum)*

NF-HELI-21-A

Number	RT	Area %	Compound Name	Chemical Family
36	26.671	0.10%	Dihydrocarvyl acetate	Monoterpene Ester
37	27.17	36.43%	Neryl acetate	Monoterpene Ester
38	27.31	0.32%	Longicyclene	Sesquiterpene
39	27.38	0.15%	alpha-Ylangene	Sesquiterpene
40	27.67	2.19%	alpha-Copaene	Sesquiterpene
41	27.90	0.50%	Geranyl acetate	Monoterpene Ester
42	28.28	0.05%	Sativene	Sesquiterpene
43	28.88	3.25%	Italicene	Sesquiterpene
44	29.29	0.91%	cis-alpha-Bergamotene	Sesquiterpene
45	29.46	3.86%	Isocaryophyllene	Sesquiterpene
46	29.89	0.01%	beta-Copaene	Sesquiterpene
47	30.11	3.44%	Italidione I	beta-Diketone
48	30.40	0.11%	6,9-Guaiadiene	Sesquiterpene
49	30.68	0.06%	Aromadendrene	Sesquiterpene
50	30.82	0.88%	Neryl propionate	Monoterpene Ester
51	30.91	0.30%	alpha-Humulene	Sesquiterpene
52	31.01	0.20%	(E)-beta-Farnesene	Sesquiterpene
53	31.28	0.41%	alpha-Acoradiene	Sesquiterpene
54	31.43	0.41%	beta-Acoradiene	Sesquiterpene
55	31.70	1.31%	gamma-Selinene	Sesquiterpene
56	31.85	1.53%	Italidione isomer	beta-Diketone
57	32.00	11.50%	gamma-Curcumene	Sesquiterpene
58	32.10	3.66%	ar-Curcumene	Sesquiterpene
59	32.11	Co-Eluting	Italidione II	beta-Diketone
60	32.31	6.00%	beta-Selinene	Sesquiterpene
61	32.50	0.30%	gamma-Muurolene	Sesquiterpene
62	32.61	3.57%	alpha-Selinene	Sesquiterpene
63	32.76	0.41%	alpha-Muurolene	Sesquiterpene
64	33.18	0.13%	beta-Bisabolene	Sesquiterpene
65	33.25	0.78%	beta-Curcumene	Monoterpene
66	33.54	0.81%	beta-Cadinene	Sesquiterpene
67	33.77	0.03%	beta-Sesquiphellandrene	Sesquiterpene
68	33.90	0.09%	trans-gamma-Bisabolene	Sesquiterpene
69	34.07	0.16%	Italicene ether	Sesquiterpene Ether
70	34.36	0.05%	alpha-Calacorene	Sesquiterpene
71	34.46	0.09%	trans-alpha-Bisabolene	Sesquiterpene

ESSENTIAL VALIDATION SERVICES | 14 / NW 27<sup>th</sup> AVE GAINESVILLE, FLORIDA 32601 | 352-350-5044

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Client



Source



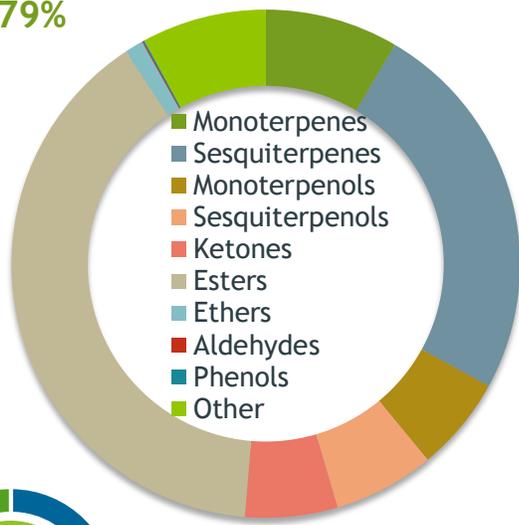
*Helichrysum Italicum (Helichrysum Italicum)*  
20112105

Sample

Helichrysum Italicum (Helichrysum Italicum)  
Batch #:..... 20112105  
Type:..... Essential Oil  
CAS Number:... 90045-56-0  
**Nature's Fusions**

**Esters**

38.79%



Client



Website



Primary

**30.33%** Neryl acetate  
**7.79%** gamma-Curcumene  
**6.60%** ar-Curcumene



**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 Helichrysum Italicum (Helichrysum Italicum)

Internal Number: | EVS-4128



**Essential Validation Services**

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Gainesville, FL 32601

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*Alan Christen*

Monoterpenes	8.35	8.35%
Sesquiterpenes	24.12%	24.12%
Monoterpenols	5.9	5.92%
Sesquiterpenols	6.3	6.32%
Ketones	5.7	5.78%
Esters	38.79%	38.79
Ethers		1.15%
Aldehydes		0.07%
Phenols		0.09%
Other	7.80	7.80%

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Client


 Nature's FUSIONS  
ESSENTIAL OILS

Source

*Helichrysum Italicum (Helichrysum Italicum)*

20112105

Total Percentage		92.45%		
Number	RT	Area %	Compound Name	Chemical Family
1	4.27	0.24%	3.32 Octene<Z>->	0.00
2	5.46	0.01%	2-Methylbutyric acid	Aliphatic Acid
3	5.67	0.01%	(E)-2-Hexenal	Aliphatic Aldehyde
4	5.97	0.02%	2-Methyloctane	Alkane
5	7.12	0.01%	Nonane	Alkane
6	7.24	0.04%	Bornylene	Monoterpene
7	8.28	1.94%	alpha-Pinene	Monoterpene
8	8.83	0.42%	alpha-Fenchene	Monoterpene
9	8.89	0.15%	Camphene	Monoterpene
10	10.00	0.49%	beta-Pinene	Monoterpene
11	10.40	0.02%	6-Methyl-5-hepten-2-one	Aliphatic Ketone
12	10.60	0.16%	trans-Dehydroxy linalool oxide	Monoterpene Ether
13	11.16	0.06%	Isobutyl 2-methylbutyrate	Aliphatic Ester
14	11.24	0.09%	Pseudolimonene	Monoterpene
15	11.71	0.09%	2-Carene	Monoterpene
16	12.04	0.30%	para-Cymene	Monoterpene
17	12.26	3.59%	Limonene	Monoterpene
18	12.35	0.84%	1,8-Cineole	Monoterpene Ether
19	12.63	0.02%	(Z)-beta-Ocimene	Monoterpene
20	13.09	0.10%	(E)-beta-Ocimene	Monoterpene
21	13.26	0.18%	Isobutyl angelate	Aliphatic Ester
22	13.57	0.47%	gamma-Terpinene	Monoterpene
23	14.79	0.11%	Isoterpinolene	Monoterpene
24	14.88	0.06%	Fenchone	Monoterpene Ketone
25	14.99	0.01%	para-Cymenene	Monoterpene
26	15.10	0.62%	2-Nonanone	Monoterpene Ketone
27	15.52	1.70%	Linalool	Monoterpenol
28	15.68	0.28%	2-Methylbutyl 2-methylbutyrate	Aliphatic Ester
29	15.94	0.01%	Isoamyl isovalerate	Aliphatic Ester
30	16.30	0.05%	Fenchol	Monoterpenol
31	17.25	0.03%	trans-Pinocarveol	Monoterpenol
32	17.52	0.03%	Camphor	Monoterpene Ketone
33	17.90	1.01%	Isoamyl angelate	Aliphatic Ester
34	18.48	0.03%	Isoamyl tiglate	Aliphatic Ester
35	18.71	0.06%	Borneol	Monoterpenol

Client


**Nature's FUSIONS**  
 ESSENTIAL OILS

Source

*Helichrysum Italicum (Helichrysum Italicum)*

20112105

Number	RT	Area %	Compound Name	Chemical Family
36	19.131	0.38%	Terpinen-4-ol	Monoterpenol
37	19.25	0.58%	4,6-Dimethyl-3,5- octanedione	beta-Diketone
38	19.82	0.51%	alpha-Terpineol	Monoterpenol
39	19.96	0.09%	Methyl chavicol	Phenylpropanoid
40	20.22	0.03%	Dodecane	Alkane
41	20.43	0.04%	Decanal	Aliphatic Aldehyde
42	21.26	3.19%	Nerol	Monoterpenol
43	21.74	0.24%	Pulegone	Monoterpene Ketone
44	23.17	0.02%	Geranial	Monoterpene Aldehyde
45	24.32	0.19%	2-Undecanone	Aliphatic Ketone
46	24.73	0.07%	Tridecane	Alkane
47	26.60	0.02%	alpha-Terpinyl acetate	Monoterpene Ester
48	27.32	30.33%	Neryl acetate	Monoterpene Ester
49	27.59	0.02%	Decanoic acid	Monoterpene Acid
50	28.05	0.07%	Geranyl acetate	Monoterpene Ester
51	28.29	0.25%	cis-Caryyl acetate	Monoterpene Ester
52	29.04	2.96%	Italicene	Sesquiterpene
53	29.44	0.52%	cis-alpha-Bergamotene	Sesquiterpene
54	29.60	0.21%	beta-Caryophyllene	Sesquiterpene
55	30.29	4.55%	trans-alpha-Bergamotene	Sesquiterpene
56	30.29	Co-Eluting	Italidione I	beta-Diketone
57	31.00	6.10%	Neryl propionate	Monoterpene Ester
58	31.17	0.15%	(E)-beta-Farnesene	Sesquiterpene
59	31.28	0.08%	Amorpha-4,11-diene	Sesquiterpene
60	31.44	0.29%	alpha-Acoradiene	Sesquiterpene
61	31.59	0.33%	10-epi-beta-Acoradiene	Sesquiterpene
62	32.01	2.45%	Italidione II	beta-Diketone
63	32.14	7.79%	gamma-Curcumene	Sesquiterpene
64	32.24	6.60%	ar-Curcumene	Sesquiterpene
65	32.45	0.14%	beta-Chamigrene	Sesquiterpene
66	32.77	0.09%	alpha-Selinene	Sesquiterpene
67	33.03	0.08%	delta-Guaiene	Sesquiterpene
68	33.33	0.08%	beta-Bisabolene	Sesquiterpene
69	33.40	0.53%	beta-Curcumene	Monoterpene
70	33.60	0.09%	Italidione II isomer	beta-Diketone
71	33.70	0.07%	delta-Cadinene	Sesquiterpene

ESSENTIAL VALIDATION SERVICES | 14 / SW 2<sup>ND</sup> AVE GAINESVILLE, FLORIDA 32601 | 351-301-5044

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# *Essential Validation Services*





**Sample:**

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Client: | Nature's Fusions  
Sample: | Helichrysum Italicum (Helichrysum Italicum)  
Batch # | 13042550  
CAS Number | 8023-95-8  
Type: | Essential Oil

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**Conclusion:**

- No adulterants, diluents, or contaminants were detected via this method.
- Total Italidiones 5 ½-6%



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**

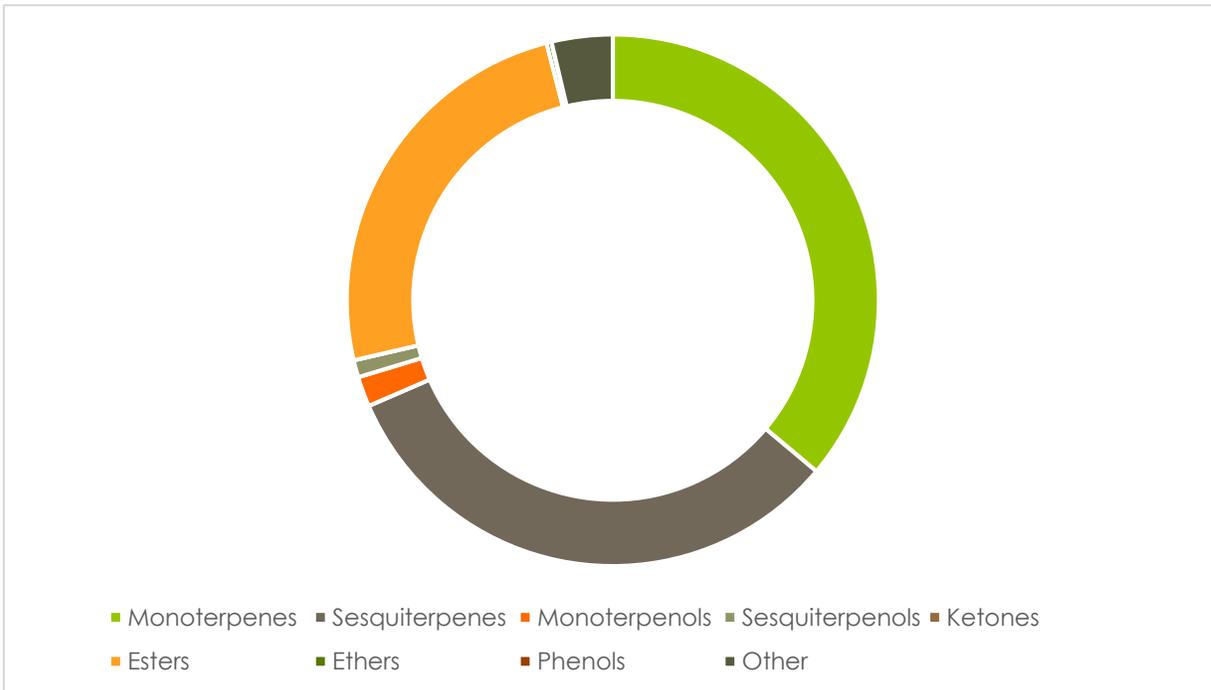
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A fresh sample of Helichrysum Italicum (Helichrysum Italicum) Essential Oil (10 uL in .5to.5 mL Hexane + ETOH) was prepared and analyzed via split injection GC/EI-MS.



Main Compounds	Percentages
Neryl acetate	24.03%
alpha-Pinene	21.96%
ar-Curcumene	9.89%
delta-3-Carene	6.12%
Italicene	3.84%
Limonene	3.44%
beta-Caryophyllene	2.83%
alpha-Copaene	2.28%
Italidione I	1.18%
trans-alpha-Bergamotene	1.14%
Unknown	1.06%
beta-Selinene	0.93%
cis-alpha-Bergamotene	0.84%

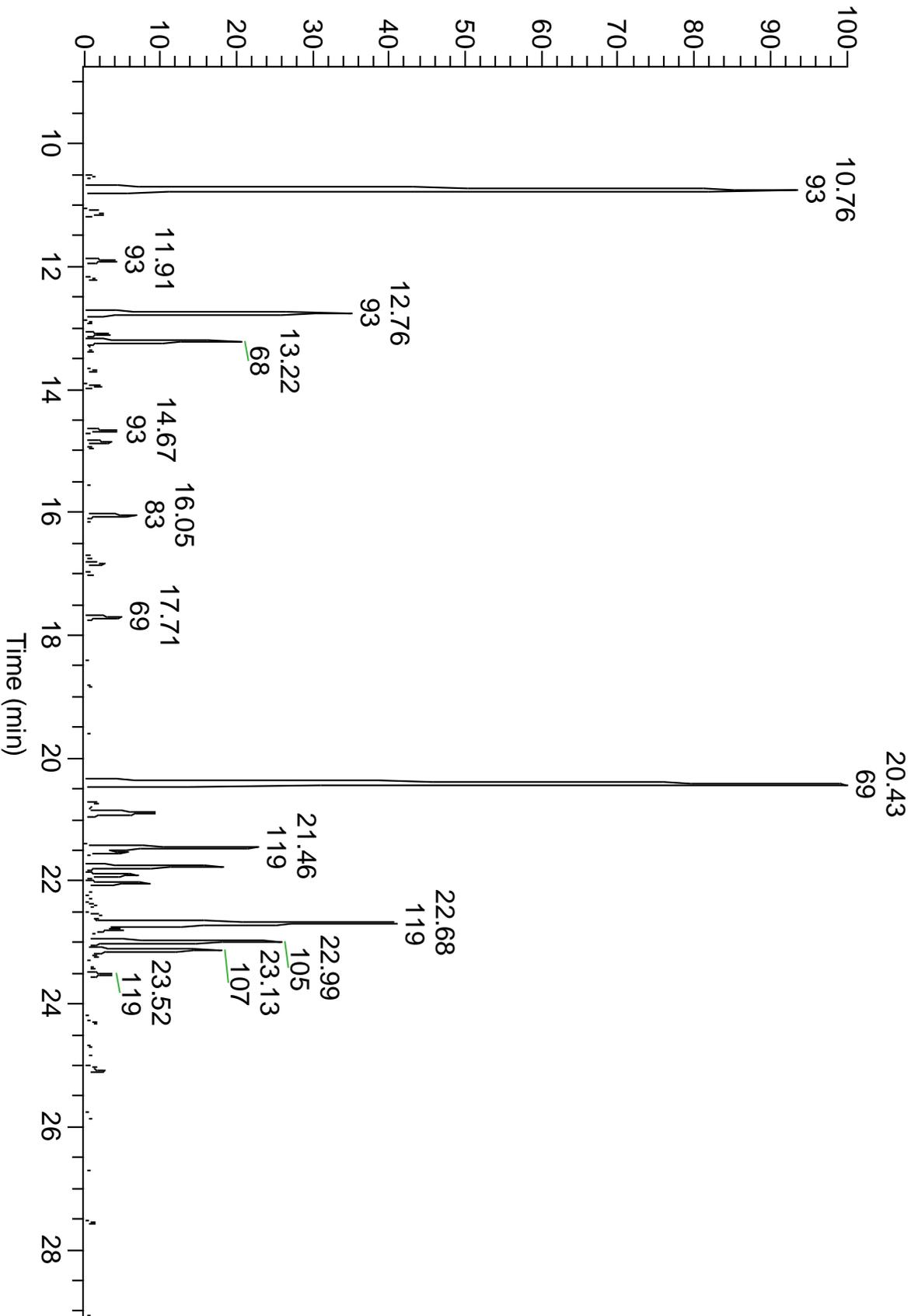
Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
35.87%	32.13%	1.82%	1.04%	0.00%
Esters	Ethers	Aldehydes	Phenols	Other
24.44%	0.30%	0.00%	0.00%	3.68%



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RT: 8.74 - 29.22





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

Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	10.41	0.06%	Tricyclene	923.20	Monoterpenes
2	10.53	0.21%	alpha-Thujene	927.80	Monoterpenes
3	10.76	21.96%	alpha-Pinene	936.10	Monoterpenes
4	11.10	0.27%	alpha-Fenchene	949.40	Monoterpenes
5	11.15	0.47%	Camphene	953.30	Monoterpenes
6	11.80	0.08%	Sabinene	973.00	Monoterpenes
7	11.91	0.75%	beta-Pinene	977.70	Monoterpenes
8	12.20	0.27%	Myrcene	989.20	Monoterpenes
9	12.48	0.10%	Isobutyl 2-methylbutyrate	1010.00	Esters
10	12.76	6.12%	delta-3-Carene	1011.30	Monoterpenes
11	12.91	0.17%	alpha-Terpinene	1017.10	Monoterpenes
12	13.10	0.56%	para-Cymene	1024.30	Monoterpenes
13	13.22	3.44%	Limonene	1029.50	Monoterpenes
14	13.31	0.12%	1,8-Cineole	1031.80	Ethers
15	13.31	Co-Eluting	beta-Phellandrene	1030.00	Monoterpenes
16	13.37	0.16%	(Z)-beta-Ocimene	1037.80	Monoterpenes
17	13.69	0.26%	(E)-beta-Ocimene	1047.70	Monoterpenes
18	13.95	0.37%	gamma-Terpinene	1063.71	Monoterpenes
19	14.67	0.72%	Terpinolene	1089.43	Monoterpenes
20	14.85	0.60%	Linalool	1099.00	Monoterpenols
21	14.95	0.20%	2-Methylbutyl 2-methylbutyrate	1102.10	Esters
22	15.54	0.10%	Alloocimene	1129.90	Other
23	16.05	1.06%	Unknown	#N/A	#N/A
24	16.13	0.10%	Nerol oxide	1159.50	Ethers
25	16.73	0.20%	Terpinen-4-ol	1180.57	Monoterpenols
26	16.83	0.44%	4,6-Dimethyl-3,5- octanedione	1185.13	beta-Diketone
27	17.00	0.25%	alpha-Terpineol	1191.71	Monoterpenols
28	17.71	0.77%	Nerol	1230.67	Monoterpenols
29	20.43	24.03%	Neryl acetate	1362.90	Esters
30	20.73	0.27%	alpha-Ylangene	1371.33	Sesquiterpenes
31	20.89	2.28%	alpha-Copaene	1379.00	Sesquiterpenes
32	21.46	3.84%	Italicene	1401.10	Sesquiterpenes
33	21.53	0.84%	cis-alpha-Bergamotene	1424.50	Sesquiterpenes
34	21.76	2.83%	beta-Caryophyllene	1427.14	Sesquiterpenes
35	21.91	1.14%	trans-alpha-Bergamotene	1435.00	Sesquiterpenes
36	22.04	1.18%	Italidione I	1448.30	beta-Diketone
37	22.14	0.23%	(Z)-beta-Farnesene	1453.40	Sesquiterpenes
38	22.28	0.11%	Neryl propionate	1454.00	Esters
39	22.39	0.24%	alpha-Humulene	1461.43	Sesquiterpenes
40	22.55	0.53%	alpha-Acoradiene	1463.00	Sesquiterpenes
41	22.68	9.89%	ar-Curcumene	1482.71	Sesquiterpenes
42	22.68	Co-Eluting	Italidione II	1493.00	beta-Diketone

