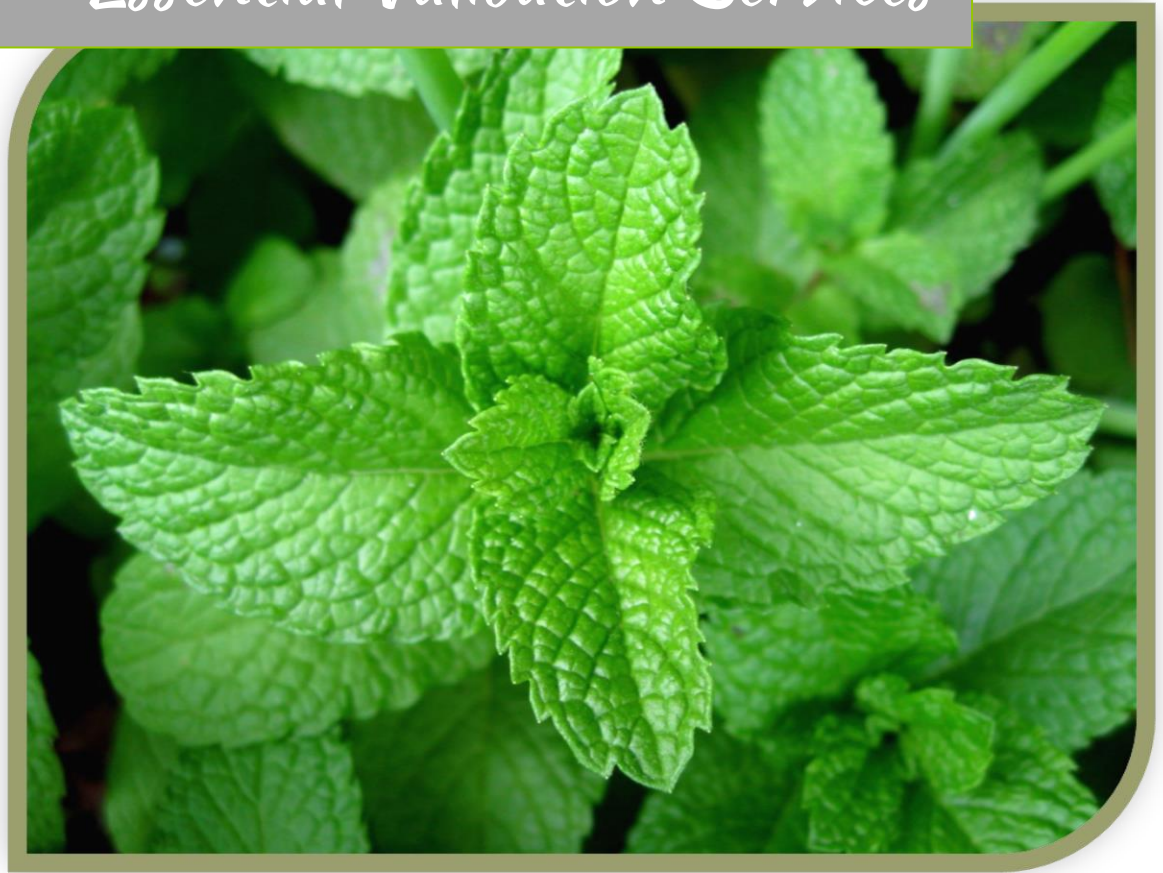




Essential Validation Services



Sample:

Client: | Artisan Aromatics
Sample: | Peppermint (Mentha x piperita)
Batch # | Peppermint Sample Report
CAS Number | 8006-90-4
Type: | Essential Oil

Conclusion:

- No adulterants, diluents, or contaminants were detected via this method.
- This oil meets the expected profile for genuine essential oil of Peppermint (Mentha x piperita).



X

Validated By:

Essential Validation Services

747 SW 2nd Ave, Gainesville, FL 32601

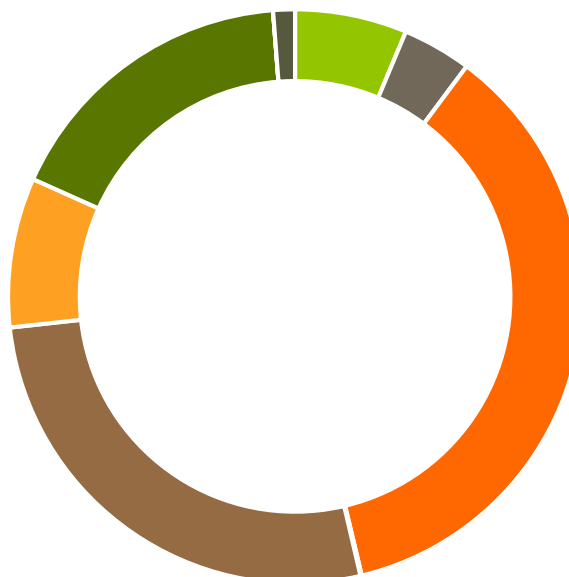
Phone: 317-361-5044 E-mail: Adam@essentialvalidationservices.com

Summary of Analyses

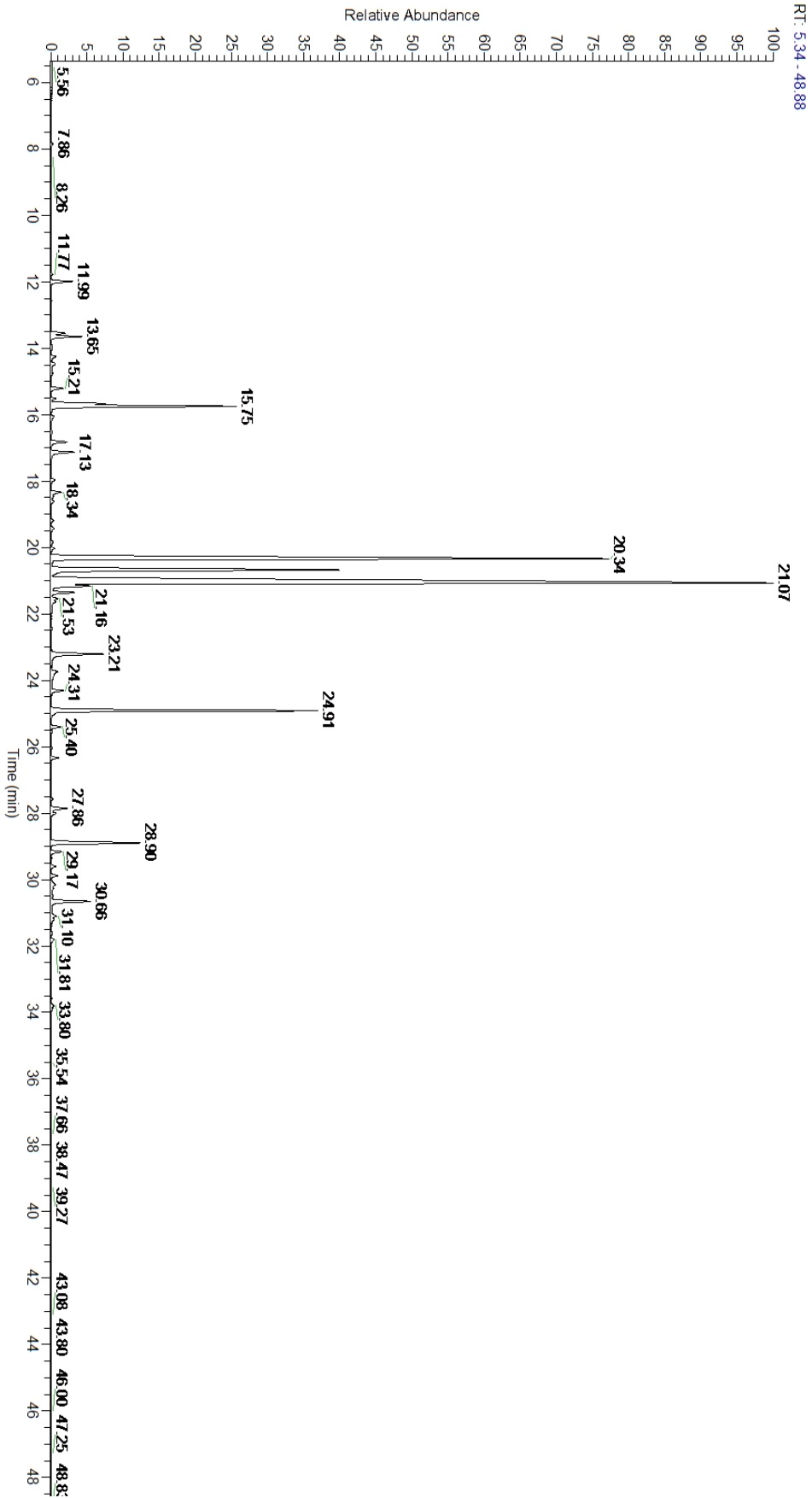
A fresh sample of Peppermint (Mentha x piperita) Essential Oil (10 uL in .5to.5 mL Hexane + ETOH) was prepared and analyzed via split injection GC/EI-MS.

Main Compounds	Percentages
Menthol	31.43%
Menthone	24.80%
Menthofuran (Co-Eluting)	12.32%
Menthyl acetate	7.59%
1,8-Cineole	4.76%
Terpinen-4-ol	3.21%
Limonene	2.34%
Pulegone	1.77%
beta-Pinene	1.23%
beta-Caryophyllene	1.20%
Germacrene D	1.15%
alpha-Pinene	0.85%
Sabinene	0.52%

Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
6.31%	3.89%	36.07%	0.07%	26.93%
Esters	Ethers	Aldehydes	Phenols	Other
8.43%	17.08%	0.00%	0.00%	1.23%



- Monoterpenes
- Sesquiterpenes
- Monoterpenols
- Sesquiterpenols
- Ketones
- Esters
- Ethers
- Phenols
- Other





Total Percentage		98.95%			
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	11.77	0.04%	alpha-Thujene	927.80	Monoterpene
2	11.99	0.85%	alpha-Pinene	936.10	Monoterpene
3	12.58	0.01%	Camphene	950.30	Monoterpene
4	13.55	0.52%	Sabinene	973.00	Monoterpene
5	13.65	1.23%	beta-Pinene	974.00	Monoterpene
6	13.91	0.02%	1-Octen-3-ol	980.00	Aliphatic Alcohol
7	13.98	0.01%	Octan-3-one	981.00	Aliphatic Ketone
8	14.25	0.14%	Myrcene	989.20	Monoterpene
9	14.49	0.15%	3-Octanol	992.00	Aliphatic Alcohol
10	14.75	0.05%	alpha-Phellandrene	1002.00	Monoterpene
11	15.21	0.23%	alpha-Terpinene	1014.00	Monoterpene
12	15.52	0.12%	para-Cymene	1024.30	Monoterpene
13	15.67	2.34%	Limonene	1029.50	Monoterpene
14	15.75	4.76%	1,8-Cineole	1031.80	Monoterpene Ether
15	16.05	0.11%	(Z)-beta-Ocimene	1037.80	Monoterpene
16	16.52	0.03%	(E)-beta-Ocimene	1047.70	Monoterpene
17	16.82	0.50%	gamma-Terpinene	1054.00	Monoterpene
18	17.13	0.30%	trans-Sabinene hydrate	1072.00	Monoterpenol
19	17.98	0.14%	Terpinolene	1092.10	Monoterpene
20	18.33	0.23%	Linalool	1099.00	Monoterpenol
21	20.03	0.13%	Isopulegol	1151.25	Monoterpenol
22	20.34	24.80%	Menthone	1155.00	Monoterpene Ketone
23	20.68	12.32%	Menthofuran	1164.00	Monoterpene Ether
24	20.68	Co-Eluting	Isomenthone	1164.33	Monoterpene Ketone
25	20.68	Co-Eluting	Neomenthol	1165.00	Monoterpenol
26	21.07	31.43%	Menthol	1177.40	Monoterpenol
27	21.16	3.21%	Terpinen-4-ol	1180.57	Monoterpenol
28	21.35	0.34%	Isomenthol	1183.75	Monoterpenol
29	21.53	0.30%	alpha-Terpineol	1191.71	Monoterpenol
30	21.63	0.13%	Neoisomenthol	1193.50	Monoterpenol
31	23.21	1.77%	Pulegone	1244.43	Monoterpene Ketone
32	23.74	0.35%	Piperitone	1258.50	Monoterpene Ketone
33	24.31	0.35%	Neomenthyl acetate	1275.00	Monoterpene Ester
34	24.91	7.59%	Menthyl acetate	1297.00	Monoterpene Ester
35	25.40	0.28%	Isomenthyl acetate	1306.00	Monoterpene Ester
36	26.33	0.21%	cis-Caryyl acetate	1368.00	Monoterpene Ester
37	27.58	0.05%	alpha-Copaene	1379.00	Sesquiterpene
38	27.86	0.24%	beta-Bourbonene	1388.70	Sesquiterpene
39	28.01	0.17%	beta-Elemene	1389.20	Sesquiterpene
40	28.90	1.20%	beta-Caryophyllene	1427.14	Sesquiterpene
41	29.17	0.30%	beta-Copaene	1445.00	Sesquiterpene
42	29.61	0.12%	(Z)-beta-Farnesene	1453.40	Sesquiterpene
43	29.89	0.18%	alpha-Humulene	1461.43	Sesquiterpene

