

Sample:

Client: | Nature's Gift
Sample: | Piñon Pine (Pinus edulis)
Batch # | US-58671
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 Piñon Pine (Pinus edulis).



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

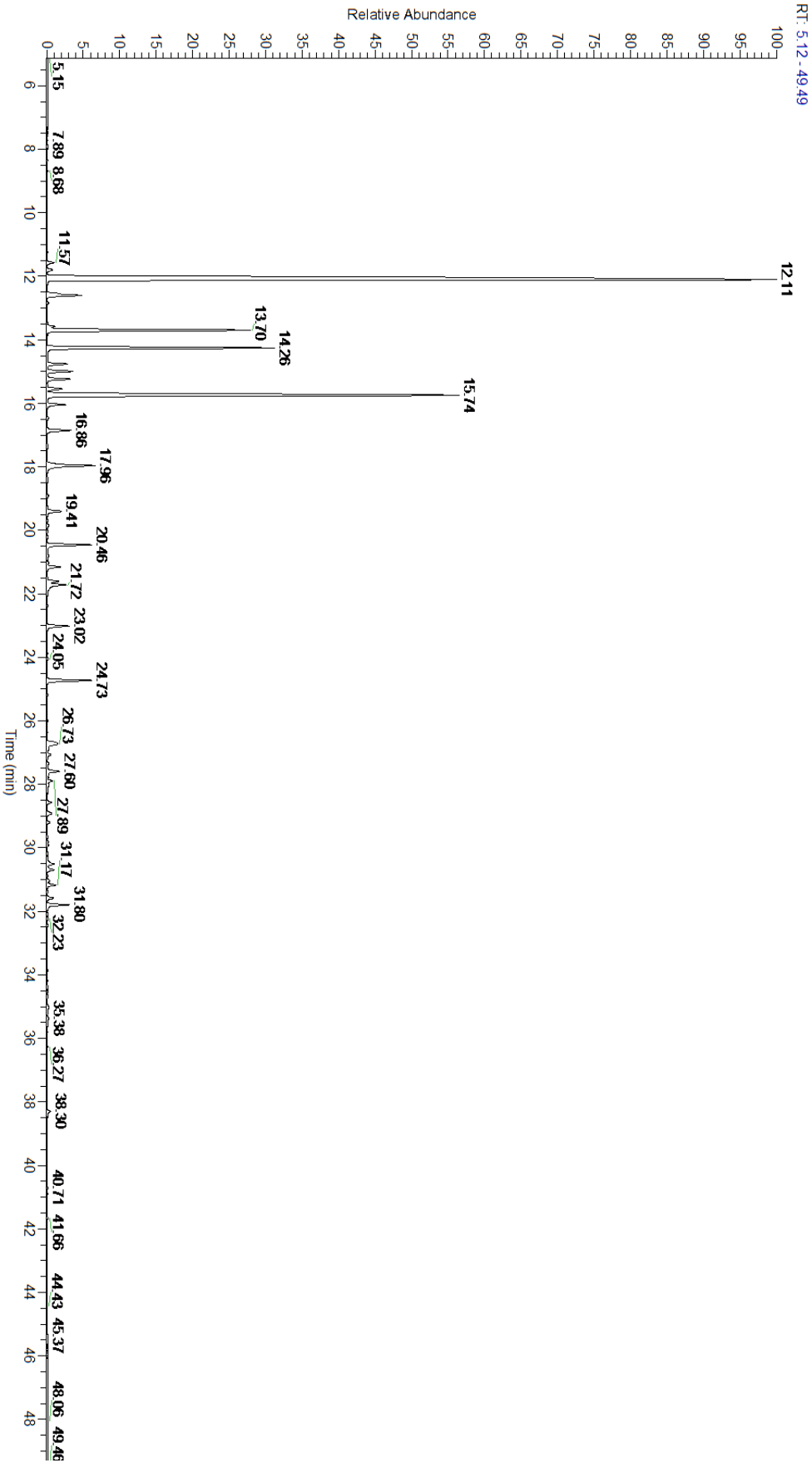
A fresh sample of Piñon Pine (Pinus edulis) Essential Oil (10 uL in .5 to .5 mL Hexane + ETOH) was prepared and analyzed via split injection GC/EI-MS.

Main Compounds	Percentages
alpha-Pinene	43.52%
beta-Phellandrene	18.96%
Myrcene	8.01%
beta-Pinene	7.65%
Terpinolene	2.24%
Bornyl acetate	1.65%
UK (M/Z: 41,43,45,52,55,60)	1.56%
Camphene	1.54%
delta-3-Carene	0.92%
Ethyl octanoate	0.89%
Methyl thymol	0.88%
gamma-Terpinene	0.87%
delta-Cadinene	0.86%

Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
88.02%	3.39%	1.12%	0.00%	0.02%
Esters	Ethers	Aldehydes	Phenols	Other
2.76%	1.63%	0.01%	0.00%	3.05%



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



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

Total Percentage		96.95%			
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	10.92	0.01%	Bornylene	902.50	Monoterpene
2	11.25	0.01%	Hashishene	922.00	Monoterpene
3	11.57	0.25%	Tricyclene	923.00	Monoterpene
4	11.80	0.22%	alpha-Thujene	927.80	Monoterpene
5	12.11	43.52%	alpha-Pinene	936.10	Monoterpene
6	12.60	1.54%	Camphene	950.30	Monoterpene
7	12.84	0.05%	Thuja-2,4(10)-diene	953.00	Monoterpene
8	13.59	0.26%	Sabinene	973.00	Monoterpene
9	13.70	7.65%	beta-Pinene	974.00	Monoterpene
10	14.26	8.01%	Myrcene	989.20	Monoterpene
11	14.62	0.01%	2-Carene	1001.75	Monoterpene
12	14.77	0.73%	alpha-Phellandrene	1002.00	Monoterpene
13	14.99	0.92%	delta-3-Carene	1008.00	Monoterpene
14	15.24	0.85%	alpha-Terpinene	1014.00	Monoterpene
15	15.55	0.58%	meta-Cymene	1022.00	Monoterpene
16	15.74	18.96%	beta-Phellandrene	1030.00	Monoterpene
17	15.74	Co-Eluting	1,8-Cineole	1031.80	Monoterpene Ether
18	15.74	Co-Eluting	Limonene	1029.50	Monoterpene
19	16.04	0.64%	(Z)-beta-Ocimene	1037.80	Monoterpene
20	16.47	0.07%	(E)-beta-Ocimene	1047.70	Monoterpene
21	16.86	0.87%	gamma-Terpinene	1054.00	Monoterpene
22	17.96	2.24%	Terpinolene	1092.10	Monoterpene
23	18.91	0.06%	Fenchol	1099.10	Monoterpenol
24	19.41	0.62%	allo-Ocimene	1129.90	Monoterpene
25	19.85	0.06%	alpha-Pinocarveol	1143.75	Monoterpenol
26	20.46	1.56%	UK (M/Z: 41,43,45,52,55,60,70,73)		
27	21.15	0.54%	Terpinen-4-ol	1180.57	Monoterpenol
28	21.61	0.46%	alpha-Terpineol	1191.71	Monoterpenol
29	21.72	0.89%	Ethyl octanoate	1197.50	Monoterpene Ester
30	23.02	0.88%	Methyl thymol	1234.57	Monoterpene Ether
31	23.86	0.02%	Piperitone	1258.50	Monoterpene Ketone
32	24.58	0.01%	Phellandral	1273.00	Monoterpene Aldehyde
33	24.73	1.65%	Bornyl acetate	1288.29	Monoterpene Ester
34	25.18	0.02%	trans-Pinocarvyl acetate	1305.00	Monoterpene Ether
35	25.99	0.01%	Myrtenyl acetate	1329.00	Monoterpene Ester
36	26.36	0.01%	delta-Elemene	1335.83	Sesquiterpene
37	26.73	0.73%	alpha-Terpinyl acetate	1353.00	Monoterpene Ether
38	26.73	Co-Eluting	Citronellyl acetate	1357.83	Monoterpene Ester
39	27.06	0.18%	Neryl acetate	1362.90	Monoterpene Ester
40	27.48	0.03%	Geranyl acetate	1378.50	Monoterpene Ester
41	27.60	0.48%	alpha-Copaene	1379.00	Sesquiterpene
42	27.89	0.19%	beta-Bourbonene	1388.70	Sesquiterpene
43	28.04	0.09%	beta-Elemene	1389.20	Sesquiterpene

