



Essential Validation Services





Sample:

Client: | Nature's Fusions
Sample: | Thyme (Thymus vulgaris)
Batch # | NF-THYM-18-A
CAS Number | 85085-75-2
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 Thyme (Thymus vulgaris).
- Borneol Chemotype

X

Validated By:



Essential Validation Services

747 SW 2nd Ave, Gainesville, FL 32601

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

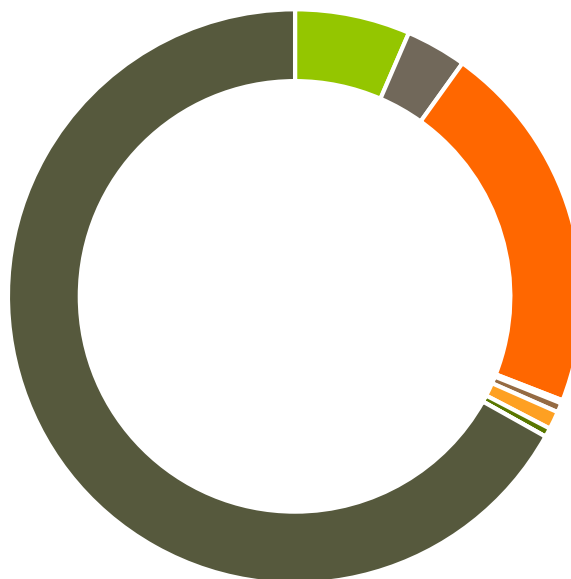
Summary of Analyses

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



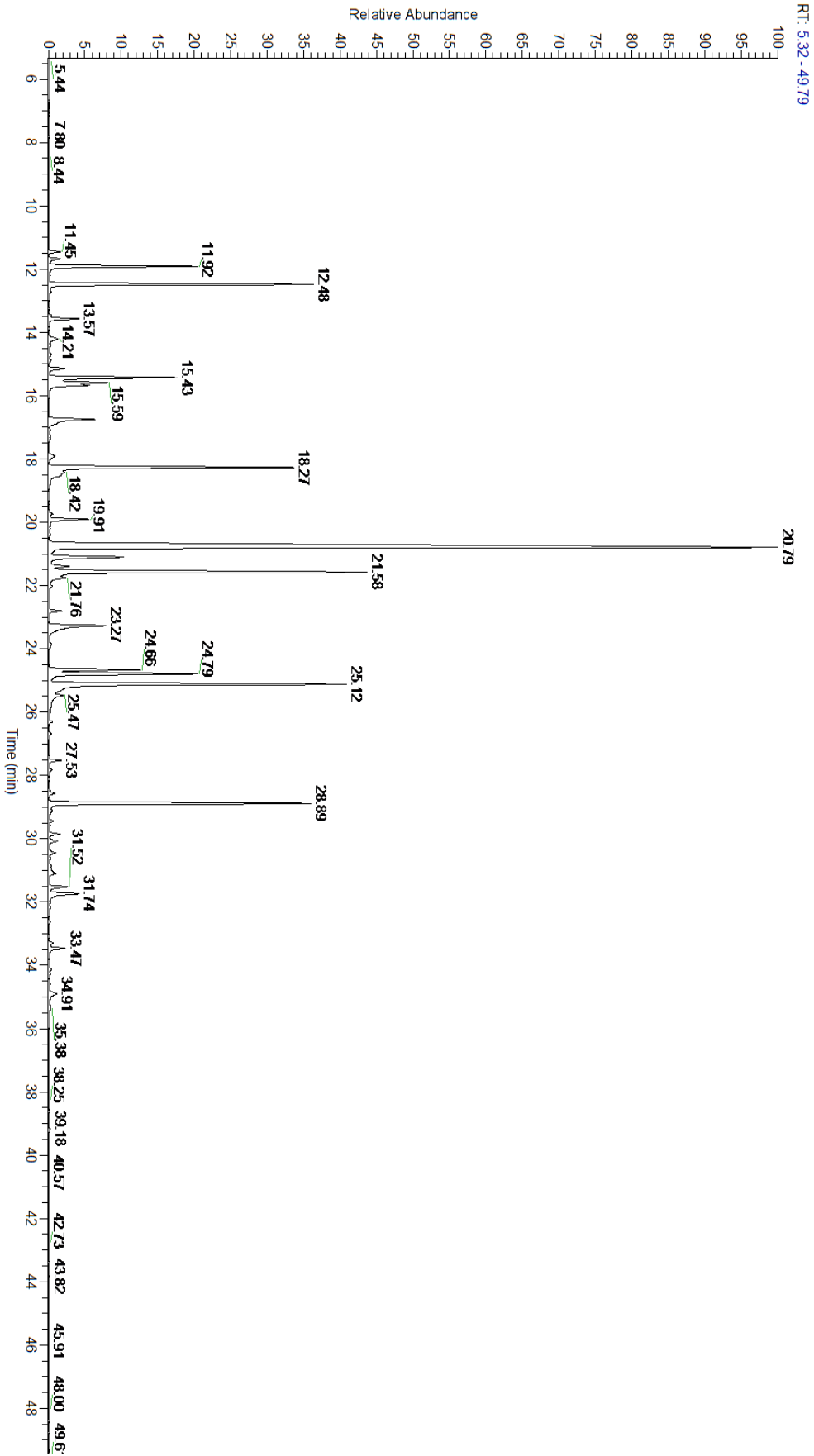
Main Compounds	Percentages
Borneol	29.94%
alpha-Terpineol	8.90%
Carvacrol	8.68%
beta-Caryophyllene	6.41%
Linalool	6.31%
Camphene	6.07%
Thymol	3.93%
alpha-Pinene	3.48%
para-Cymene	3.28%
Carvacrolmethylether	2.22%
Bornyl acetate	2.16%
Terpinen-4-ol	2.07%
gamma-Terpinene	1.67%

Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
18.74%	9.88%	60.61%	0.53%	1.53%
Esters	Ethers	Aldehydes	Phenols	Other
2.91%	1.46%	0.00%	2.22%	2.12%



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

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Total Percentage		97.95%			
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	11.45	0.26%	Tricyclene	923.00	Monoterpene
2	11.68	0.31%	alpha-Thujene	927.80	Monoterpene
3	11.92	3.48%	alpha-Pinene	936.10	Monoterpene
4	12.48	6.07%	Camphene	950.30	Monoterpene
5	12.72	0.06%	Thuja-2,4(10)-diene	953.00	Monoterpene
6	13.47	0.05%	Sabinene	973.00	Monoterpene
7	13.57	0.75%	beta-Pinene	974.00	Monoterpene
8	14.21	0.34%	Myrcene	989.20	Monoterpene
9	14.41	0.07%	3-Octanol	992.00	Aliphatic Alcohol
10	14.69	0.09%	alpha-Phellandrene	1002.00	Monoterpene
11	14.88	0.06%	delta-3-Carene	1008.00	Monoterpene
12	15.14	0.42%	alpha-Terpinene	1014.00	Monoterpene
13	15.43	3.28%	para-Cymene	1024.30	Monoterpene
14	15.59	1.59%	Limonene	1029.50	Monoterpene
15	15.67	0.96%	1,8-Cineole	1031.80	Monoterpene Ether
16	16.75	1.67%	gamma-Terpinene	1054.00	Monoterpene
17	17.07	0.03%	trans-Sabinene hydrate	1094.50	Monoterpenol
18	17.27	0.05%	cis-Linalool oxide (5) (furanoid)	1075.10	Monoterpenol
19	17.91	0.26%	Terpinolene	1092.10	Monoterpene
20	18.27	6.31%	Linalool	1099.00	Monoterpenol
21	19.11	0.02%	cis-para-Menth-2-en-1-ol	1118.25	Monoterpenol
22	19.74	0.11%	trans-Pinocarveol	1143.75	Monoterpenol
23	19.91	1.01%	Camphor	1147.55	Monoterpene Ketone
24	20.08	0.04%	Camphene hydrate	1151.00	Monoterpenol
25	20.38	0.03%	Isoborneol	1159.70	Monoterpenol
26	20.79	29.94%	Borneol	1168.71	Monoterpenol
27	21.10	2.07%	Terpinen-4-ol	1180.57	Monoterpenol
28	21.39	0.49%	gamma-Terpineol	1198.50	Monoterpenol
29	21.58	8.90%	alpha-Terpineol	1191.71	Monoterpenol
30	21.76	0.44%	cis-Dihydrocarvone	1197.57	Monoterpene Ketone
31	22.02	0.04%	trans-Dihydrocarvone	1203.83	Monoterpene Ketone
32	22.56	0.01%	trans-Carveol	1223.14	Monoterpenol
33	22.80	0.30%	Bornyl formate	1227.00	Monoterpene Ester
34	23.27	2.22%	Carvacrolmethylether	1247.50	Phenylpropanoid
35	23.53	0.04%	Carvone	1248.14	Monoterpene Ketone
36	23.84	0.14%	Carvenone		
37	24.66	2.16%	Bornyl acetate	1288.29	Monoterpene Ester
38	24.79	3.93%	Thymol	1288.15	Monoterpenol
39	25.12	8.68%	Carvacrol	1304.40	Monoterpenol
40	25.47	0.45%	trans-Dihydrocarvyl acetate	1330.50	Monoterpene Ester
41	26.30	0.07%	delta-Elemene	1335.83	Sesquiterpene
42	26.68	0.05%	alpha-Cubebene	1355.71	Sesquiterpene
43	27.53	0.30%	alpha-Copaene	1379.00	Sesquiterpene

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44	27.83	0.08%	beta-Bourbonene	1388.70	Sesquiterpene
45	28.57	0.16%	alpha-Gurjunene	1412.00	Sesquiterpene
46	28.89	6.41%	beta-Caryophyllene	1427.14	Sesquiterpene
47	29.12	0.12%	beta-Copaene	1445.00	Sesquiterpene
48	29.44	0.11%	Aromadendrene	1449.80	Sesquiterpene
49	29.85	0.28%	alpha-Humulene	1461.43	Sesquiterpene
50	30.07	0.25%	allo-Aromadendrene	1471.00	Sesquiterpene
51	30.45	0.19%	gamma-Muurolene	1478.86	Sesquiterpene
52	30.63	0.03%	Germacrene D	1484.71	Sesquiterpene
53	30.96	0.05%	1-epi-Bicyclosesquiphellandrene	1489.25	Monoterpene
54	31.10	0.27%	alpha-Muurolene	1500.25	Sesquiterpene
55	31.52	0.52%	gamma-Cadinene	1515.29	Sesquiterpene
56	31.74	0.99%	delta-Cadinene	1524.14	Sesquiterpene
57	32.16	0.04%	alpha-Cadinene	1537.86	Sesquiterpene
58	32.35	0.01%	alpha-Calacorene	1537.14	Sesquiterpene
59	33.30	0.10%	Spathulenol	1587.00	Sesquiterpenol
60	33.47	0.50%	Caryophyllene oxide	1594.86	Sesquiterpene Ether
61	34.26	0.03%	1,10-di-epi-Cubenol	1612.29	Sesquiterpenol
62	34.59	0.02%	1-epi-Cubenol	1628.00	Sesquiterpenol
63	34.91	0.35%	T-Cadinol	1640.43	Sesquiterpenol
64	35.28	0.03%	T-Muurolol	1643.29	Sesquiterpenol