



# *Essential Validation Services*



## Sample:

Client: | 21 Drops  
Sample: | Eucalyptus Globulus (Eucalyptus globules)  
Batch # | BIO0217/1  
CAS Number | 8000-48-4  
Type: | Essential Oil

## Conclusion:

- No adulterants, diluents, or contaminants were detected via this method.
- All Compounds fall within our standards except for Aromadendrene (RT 18.83). However, there are instances in the literature of this compound being found up to 22%.



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Validated By:

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## Summary of Analyses

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

Monoterpenols	
trans-Pinocarveol	2.48%
alpha-Terpineol	0.54%

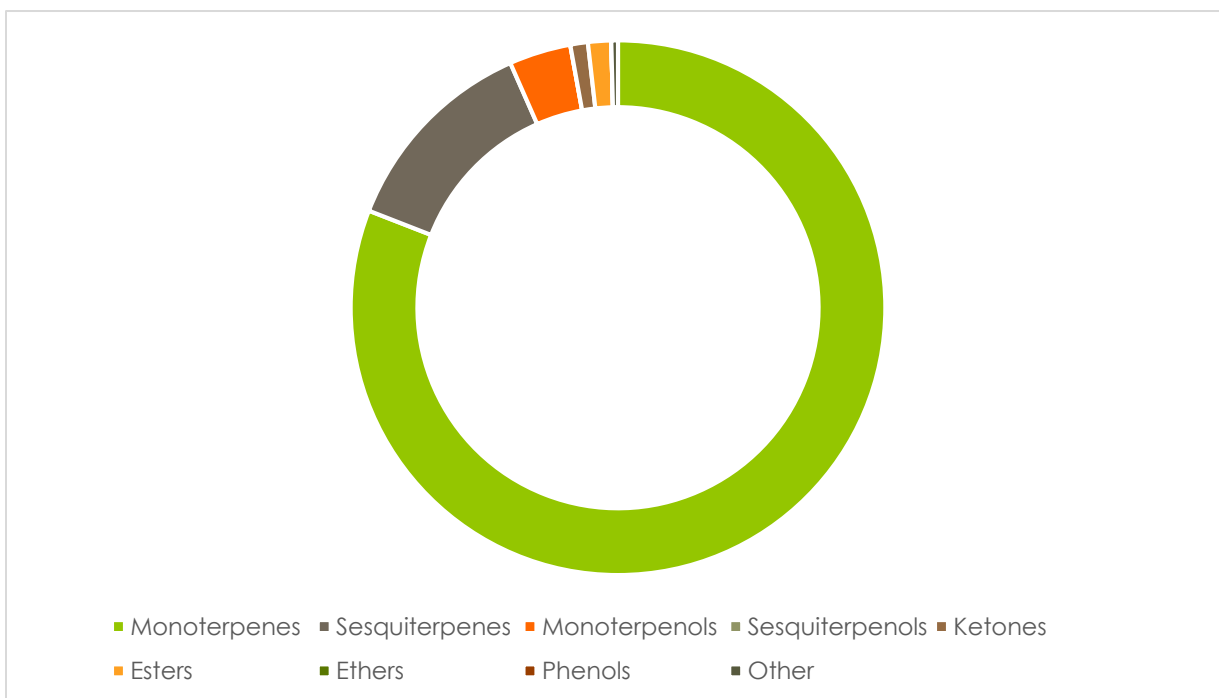
Sesquiterpenes	
Aromadendrene	8.49%
allo-Aromadendrene	1.45%
Viridiflorene	0.93%
alpha-Gurjunene	0.42%

Monoterpenes	
Limonene	64.02%
alpha-Pinene	11.44%
para-Cymene	2.35%

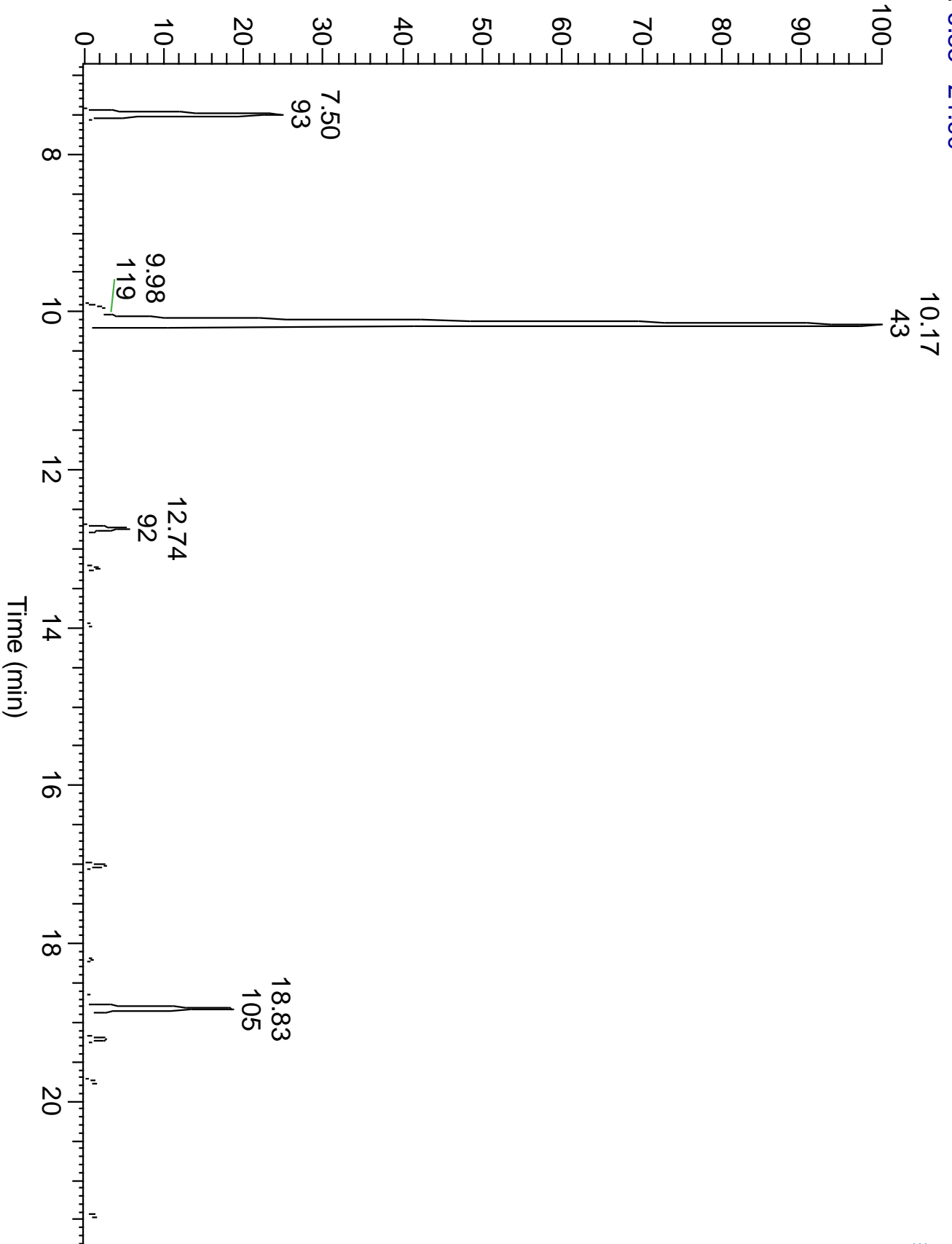
Ketones	
Pinocarvone	0.89%

Esters	
alpha-Terpinyl acetate	1.27%

Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
78.62%	12.14%	3.63%	0.00%	1.03%
Esters	Ethers	Aldehydes	Phenols	Other
1.36%	0.00%	0.00%	0.00%	0.39%



RT: 6.85 - 21.90



Total Percentage		97.17%			
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	7.50	11.44%	alpha-Pinene	936.10	Monoterpenes
2	7.92	0.10%	Camphene	950.30	Monoterpenes
3	8.05	0.03%	Verbenene	963.30	Monoterpenes
4	8.67	0.22%	beta-Pinene	977.70	Monoterpenes
5	9.02	0.05%	Myrcene	989.20	Monoterpenes
6	9.43	0.21%	alpha-Phellandrene	1004.10	Monoterpenes
7	9.98	2.35%	para-Cymene	1024.30	Monoterpenes
8	10.17	64.02%	Limonene	1029.50	Monoterpenes
9	10.17	Co-Eluting	beta-Phellandrene	1030.00	Monoterpenes
10	10.17	Co-Eluting	1,8-Cineole	1031.80	Ethers
11	10.23	0.39%	Fenchol Isomer	#N/A	#N/A
12	10.75	0.11%	gamma-Terpinene	1063.71	Monoterpenes
13	11.09	0.06%	p-2,4(8)-Menthadiene	1081.50	Monoterpenes
14	11.43	0.03%	Terpinolene	1089.43	Monoterpenes
15	11.75	0.05%	Linalool	1099.00	Monoterpenols
16	11.86	0.09%	Isoamyl isovalerate	1105.60	Esters
17	12.23	0.03%	alpha-Fenchol	1117.14	Monoterpenols
18	12.74	2.48%	trans-Pinocarveol	1144.00	Monoterpenols
19	13.05	0.02%	cis-Verbenol	1150.86	Monoterpenols
20	13.25	0.89%	Pinocaryone	1161.43	Ketones
21	13.44	0.06%	delta-Terpineol	1166.00	Monoterpenols
22	13.55	0.10%	Isopinocampnone	1173.00	Ketones
23	13.63	0.14%	Terpinen-4-ol	1180.57	Monoterpenols
24	13.79	0.24%	trans-p-Mentha-1(7),5-dien-2-ol	1188.00	Monoterpenols
25	13.96	0.54%	alpha-Terpineol	1191.71	Monoterpenols
26	14.72	0.07%	cis-Carveol	1232.25	Monoterpenols
27	14.87	0.04%	Carvotanacetone	1245.50	Ketones
28	17.01	1.27%	alpha-Terpinyl acetate	1353.00	Esters
29	17.48	0.06%	alpha-Ylangene	1371.33	Sesquiterpenes
30	17.59	0.07%	alpha-Copaene	1379.00	Sesquiterpenes
31	18.20	0.42%	alpha-Gurjunene	1412.00	Sesquiterpenes
32	18.32	0.06%	beta-Gurjunene	1431.71	Sesquiterpenes
33	18.65	0.36%	alpha-Guaiene	1438.67	Sesquiterpenes
34	18.83	8.49%	Aromadendrene	1447.71	Sesquiterpenes
35	19.21	1.45%	allo-Aromadendrene	1471.00	Sesquiterpenes
36	19.42	0.13%	beta-Guaiene	1490.67	Sesquiterpenes
37	19.75	0.93%	Viridiflorene	1494.14	Sesquiterpenes
38	19.87	0.08%	beta-Cadinene	1501.00	Sesquiterpenes
39	19.95	0.02%	beta-Bisabolene	1509.86	Sesquiterpenes
40	20.16	0.04%	gamma-Cadinene	1515.29	Sesquiterpenes
41	20.21	0.03%	delta-Cadinene	1524.14	Sesquiterpenes