

Date: April 8, 2022

CERTIFICATE OF ANALYSIS - GC PROFILING

Sample identification: Valerian India - JB2154-536883

Type: Root oil & fats

Source: Valeriana wallichii

ANALYSIS

Method: 101min_FAME.m - Fatty acid profiling of a vegetable oil or a

plant by hydrolysis and derivatization (FAMEs).

Analysis date: January 12, 2022

Physical aspect: Clear liquid

CONCLUSION

No adulterant or contaminant has been detected in this oil.

Peak	Compound	RT	Area Sum %
1	α-Pinene	8.88	0.15
2	Camphene	9.565	0.18
3	3-Methylvaleric acid	10.802	0.76
4	β-Pinene	11.096	0.2
5	p-Cymene	14.207	0.01
6	Limonene	14.459	0.03
7	y-Terpinene	16.657	0.01
8	Linalool	20.006	0.01
9	Isoamyl isovalerate	20.618	0.01
10	Borneol	24.717	0.04
11	Thymol methyl ether analog II	30.542	0.02
12	Thymol methyl ether	30.9	0.01
13	Bornyl acetate	34.834	0.14
14	δ-Elemene	38.952	0.12
15	β-Patchoulene	41.995	2.24
16	β-Elemene	43.332	1.19
17	unknown	43.941	0.54
18	α-Gurjunene	44.397	0.15
19	β-Caryophyllene	45.099	2.94
20	α-Santalene	45.59	0.28
21		46.057	2.47
22	β-Gurjunene	46.522	6.1
23	Seychellene	47.116	12.24
24	α-Guaiene		5.12
	α-Patchoulene	47.661	
25	γ-Patchoulene	47.939	2.61
26	Aromandendrene	48.304	0.07
27	Valerena-4,7(11)-diene	48.72	0.53
28	unknown	48.779	0.3
29	γ-Selinene	49.697	0.06
30	unknown	49.793	0.44
31	unknown	50.265	0.34
32	unknown	50.617	0.3
33	unknown	50.948	0.35
34	Aciphyllene	51.554	2.67
35	δ-Guaiene	52.258	17.54
36	unknown	52.674	0.39
37	Kessane	53.33	0.29
38	unknown	54.002	0.08
39	unknown	54.212	0.13
40	Norpatchoulenol	54.939	0.49
41	α-Elemol	55.055	0.11
42	Maaliol	56.266	3.85
43	Spathulenol	57.086	0.34
44	Globulol	57.348	0.39
45	unknown	58.065	0.6

46	unknown	59.256	0.18
47	unknown	59.645	0.11
48	unknown	59.963	0.19
49	unknown	60.357	0.21
50	unknown	60.849	0.45
51	unknown	61.367	0.4
52	Patchoulol + Pogostole	62.314	28.69
53	unknown	62.709	0.1
54	unknown	62.892	0.04
55	unknown	63.005	0.04
56	unknown	63.378	0.2
57	unknown	63.874	0.05
58	unknown	64.057	0.41
59	unknown	64.294	0.77
60	unknown	64.424	0.15
61	unknown	64.557	0.16
62	unknown	64.643	0.13
63	unknown	65.072	0.02
64	unknown	65.184	0.16
65	unknown	65.311	0.07
66	unknown	65.578	0.03
67	unknown	65.757	0.07
68	unknown	65.847	0.05
69	unknown	65.906	0.11
70	unknown	66.16	0.04
71	unknown	66.359	0.04
72	unknown	66.735	0.09
73	Cembrene A	67.54	0.02
74	unknown	68.23	0.02
75	unknown	68.785	0.02
76	unknown	69.846	0.03
77	unknown	70.467	0.07
78	unknown	71.871	0.02
	Total identified		92.10%

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