

Date: July 30, 2019

CERTIFICATE OF ANALYSIS - GC PROFILING

Sample identification: Copaiba - 190422456

Type: Essential oil

Source: Copaiba Reticulata

ANALYSIS

Method: 10152018_10:1split.m - Analysis of the composition of an essential oil, or other volatile liquid, by GC-FID, identifications validated by GC-MS.

Analysis date: July 29, 2019

Physical aspect: Light yellow liquid

CONCLUSION

No adulterant, contaminant or diluent has been detected using this method.

Analyzed and approved by:

Dr. Hussam Bdour
Chief Quality Control Chemist
IL Health & Beauty Natural Oils Co., Inc.

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Peak	Compound	RT	Area Sum %
1	Limonene	15.565	0.04
2	(Z)- β -Ocimene	16.587	0.13
3	Allo-Ocimene	23.506	0.05
4	δ -Elemene	40.295	0.68
5	α -Cubebene	41.25	0.66
6	Cyclosativene I	42.059	0.07
7	α -Ylangene	42.817	0.1
8	α -Copaene	43.25	4.95
9	β -Cubebene	44.477	0.61
10	β -Elemene	44.713	1.66
11	α -Gurjunene	45.768	0.08
12	β -Caryophyllene	46.838	43.45
13	β -Copaene	47.333	0.31
14	γ -Elemene	47.996	1.54
15	trans- α -Bergamotene	48.352	7.33
16	Sesquisabinene	48.882	0.41
17	α -Humulene	49.226	6.11
18	Alloaromadendrene	49.675	0.39
19	cis-Muurolo-4(15),5-diene	49.897	0.24
20	(E)- β -Farnesene	50.333	0.44
21	trans-Cadina-1(6),4-diene	50.936	0.32
22	γ -Muurolole	51.373	3.53
23	Germacrene D	51.461	5.97
24	β -Selinene	51.688	0.79
25	unknown	51.914	0.84
26	α -Selinene	52.392	0.72
27	Viridiflorene	52.533	0.94
28	α -Muurolole	53.058	0.72
29	unknown	53.617	0.6
30	β -Bisabolene	54.041	4.52
31	(3E,6E)- α -Farnesene	54.239	0.13
32	unknown	54.364	0.25
33	δ -Cadinene	54.895	2.97
34	trans-Cadina-1,4-diene	55.358	0.29
35	(E)- γ -Bisabolene	55.769	0.41
36	α -Calacorene	56.057	0.15
37	(E)- α -Bisabolene	56.584	0.5
38	Germacrene B	56.872	1.12
39	Maaliol	57.58	0.12
40	Caryophyllenyl alcohol	57.787	0.2
41	Caryophyllene oxide	58.728	0.21

42	Viridiflorol	59.418	0.1
43	Globulol	59.668	0.05
44	Ledol	60.243	0.18
45	1-epi-Cubenol	61.223	0.63
46	10-Di-epi-Cubenol	62.067	0.13
47	unknown	62.207	0.06
48	T-Cadinol	62.698	0.59
49	α -Muurolol	62.876	0.53
50	Cubenol	63.012	0.29
51	T-Muurolol	63.123	0.48
52	α -Cadinol	63.281	0.07
53	unknown	63.616	0.04
54	α -Bisabolol	63.718	0.14
55	Juniper camphor	64.151	0.28
56	cis-3,14-Clerodadien-13-ol	67.954	0.12
57	Manool	68.618	0.12
58	Kolavelool	68.726	0.33
59	unknown	69.157	0.02
60	unknown	69.737	0.1
61	Copalol	70.415	0.1
62	unknown	70.484	0.03
63	unknown	70.661	0.09
64	unknown	70.7	0.18
65	unknown	70.829	0.64
66	unknown	71.101	0.09
67	unknown	72.577	0.08
	Total identified		96.98%



