

Date: October 15th, 2020

CERTIFICATE OF ANALYSIS - GC PROFILING

Sample identification: Ginger CO₂- 200793497

Type: Essential oil

Source: Zingiber officinale

Country of Origin: China

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: October 9th, 2020

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.



HBNO™
Health & Beauty Natural Oils
www.essentialnaturaloils.com

Note: This report may not be published, including online, without the written consent from IL Health & Beauty Natural Oils Co., Inc.

Peak	Compound	RT	Area Sum %
1	2-Heptanone	7.381	0.02
2	2-Heptanol	7.793	0.07
3	Tricyclene	8.584	0.07
4	α -Pinene	9.196	1.02
5	Camphene	9.927	3.86
6	Sabinene + β -Pinene	11.49	0.23
7	Neomenthol	12.498	0.16
8	β -Myrcene	12.689	0.64
9	α -Phellandrene	13.302	0.14
10	Octanal	13.502	0.02
11	δ 3-carene	13.664	0.02
12	unknown	14.142	0.02
13	p-Cymene	14.7	0.04
14	Limonene + β -Phellandrene	14.947	3.65
15	1,8-Cineole	15.085	2.53
16	γ -Terpinene	17.176	0.03
17	α -Terpinolene	19.356	0.16
18	trans-Linalool oxide	19.963	0.15
19	Rosefuran	20.367	0.15
20	Linalool	20.556	0.3
21	2-Nonanol	21.167	0.03
22	unknown	21.742	0.02
23	cis-para-Menth-2-en-1-ol	21.917	0.04
24	trans-para-Mentha-2-en-1-ol	23.407	0.02
25	Camphor	23.473	0.09
26	Camphene hydrate	23.765	0.07
27	Isoborneol	24.557	0.04
28	Citronellal	24.87	0.05
29	Borneol	25.332	0.97
30	Isoneral	25.581	0.05
31	Terpinen-4-ol	26.36	0.1
32	Rosefuran epoxide	26.698	0.13
33	α -Terpineol	27.567	0.63
34	Myrtenal	27.832	0.04
35	Myrtenol	28.025	0.02
36	Decanal	29.274	0.02
37	Citronellol	31.261	0.1
38	Neral	31.989	0.39
39	Geraniol	33.381	0.16

HEALTH & BEAUTY NATURAL OILS CO., INC.

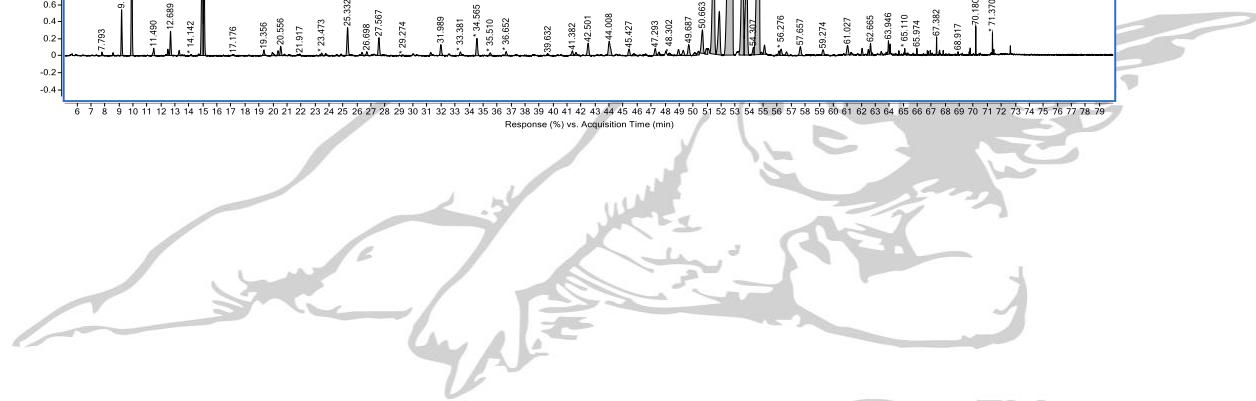
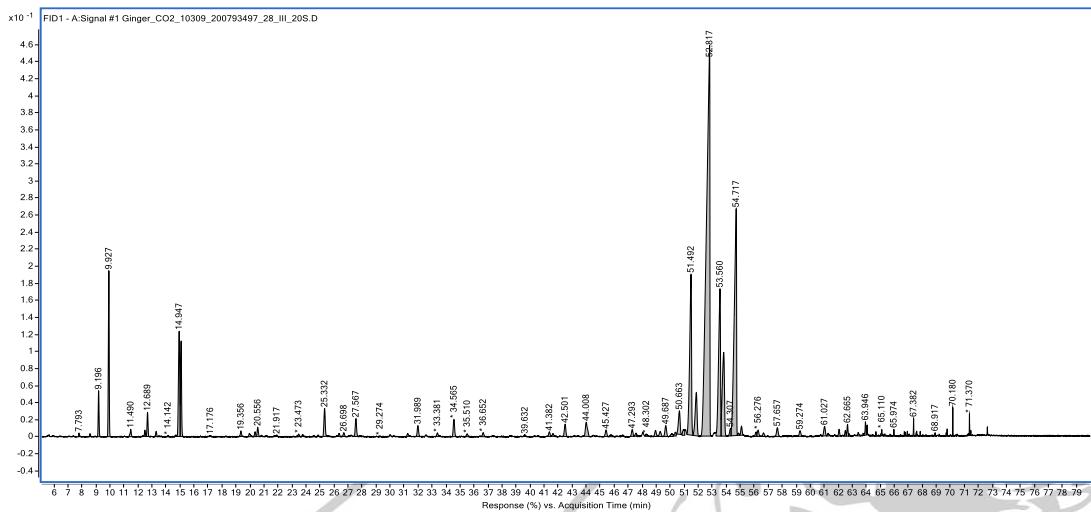


40	Geranial	34.565	0.64
41	Bornyl acetate	35.51	0.11
42	2-Undecanone	36.652	0.16
43	δ -Elemene	39.632	0.06
44	Citronellol acetate	41.382	0.17
45	Cyclosativene II	41.638	0.1
46	α -Copaene	42.501	0.5
47	β -Elemene	44.008	0.78
48	7-epi-Sesquithujene	45.427	0.27
49	β -Caryophyllene	45.758	0.1
50	β -Copaene	46.614	0.04
51	γ -Elemene	47.293	0.27
52	trans- α -Bergamotene	47.552	0.12
53	unknown	48.302	0.11
54	Alloaromadendrene	48.957	0.25
55	Sesquisabinene B	49.295	0.23
56	(E)- β -Famesene	49.687	0.48
57	Selina-4,11-diene	50.1	0.15
58	γ -Muurolene	50.372	0.16
59	Germacrene D	50.663	1.1
60	β -Selinene	50.953	0.29
61	Ar-Curcumene	51.492	8.1
62	unknown	51.867	2.26
63	α -Zingiberene	52.817	35.68
64	β -Bisabolene	53.56	7.57
65	(3E,6E)- α -Farnesene	53.825	4.88
66	δ -Cadinene	54.307	0.27
67	β -Sesquiphellandrene	54.717	14.08
68	unknown	54.883	0.07
69	(E)- γ -Bisabolene	55.092	0.31
70	α -Elemol	56.138	0.17
71	Germacrene B	56.276	0.26
72	trans-Sesquisabinene hydrate	56.667	0.14
73	(E)-Nerolidol	57.657	0.39
74	unknown	59.274	0.24
75	unknown	61.027	0.4
76	unknown	61.287	0.1
77	cis-Zingiberenol	62.064	0.2
78	β -Eudesmol	62.509	0.15
79	γ -Eudesmol	62.665	0.32
80	α -Eudesmol	62.786	0.06

HEALTH & BEAUTY NATURAL OILS CO., INC.



81	unknown	63.427	0.11
82	unknown	63.777	0.04
83	unknown	63.946	0.28
84	unknown	64.063	0.13
85	unknown	64.276	0.03
86	unknown	64.414	0.02
87	unknown	64.458	0.03
88	unknown	64.689	0.08
89	unknown	64.872	0.02
90	unknown	65.11	0.11
91	unknown	65.198	0.01
92	unknown	65.325	0.03
93	unknown	65.406	0.01
94	unknown	65.701	0.02
95	unknown	65.82	0.02
96	unknown	65.974	0.08
97	unknown	66.437	0.02
98	unknown	66.545	0.02
99	unknown	66.722	0.04
100	unknown	66.788	0.04
101	unknown	66.932	0.04
102	unknown	66.986	0.01
103	unknown	67.067	0.02
104	unknown	67.262	0.01
105	unknown	67.382	0.17
106	unknown	67.572	0.03
107	unknown	67.603	0.05
108	unknown	67.638	0.01
109	unknown	67.853	0.05
110	unknown	68.042	0.01
111	unknown	68.267	0.02
112	unknown	68.699	0.01
113	unknown	68.917	0.03
114	unknown	69.207	0.01
115	unknown	69.711	0.03
116	unknown	69.775	0.06
117	unknown	70.18	0.24
118	unknown	71.37	0.1
Total identified			94.76%



HBNO™
Health & Beauty Natural Oils