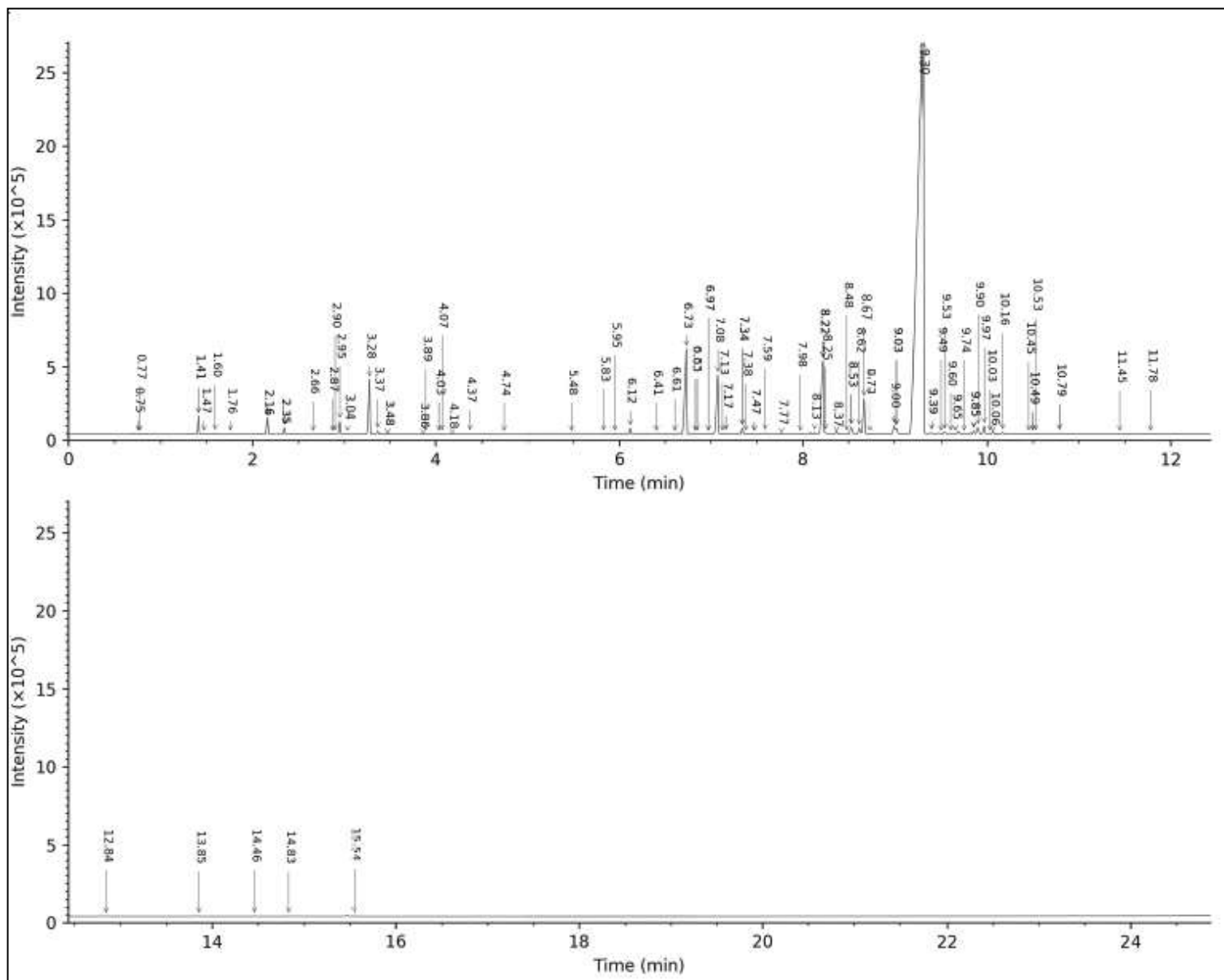


GCMS ANALYSIS

PRODUCT NAME: PEPPERMINT JAPANESE ORGANIC ESSENTIAL OIL - FAIR TRADE - 58101
 DATE: January 31, 2019



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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: PEPPERMINT JAPANESE ORGANIC ESSENTIAL OIL - FAIR TRADE - 58101

Peak	RT (min)	Compound name	%
1	2.16	Isobutanol	0.75
2	0.77	Isovaleral	0.01
3	0.75	2-Methylbutyral	trace
4	3.48	Isoamyl alcohol	0.02
5	3.48	2-Methylbutanol	0.02
6	1.76	Ethyl 2-methylbutyrate	0.02
7	5.83	(3Z)-Hexenol	0.02
8	5.48	Hexanol	0.01
9	1.60	trans-2,5- Diethyltetrahydrofuran	0.05
10	1.41	Hashishene	0.70
11	1.47	α -Thujene	0.02
12	1.41	α -Pinene	0.70
13	6.83	trans-3- Methylcyclohexanol	0.03
14	4.74	3- Methylcyclohexanone	0.01
15	2.35	Thuja-2,4(10)-diene	0.30
16	2.16	β -Pinene	0.75
17	2.35	Sabinene	0.30
18	4.03	Octan-3-one	0.01
19	2.95	Myrcene	0.61
20	6.12	Octan-3-ol	0.31
21	2.87	Pseudolimonene	0.02
22	2.90	α -Phellandrene	0.02
23	2.66	Δ^3 -Carene	trace
24	3.04	α -Terpinene	0.01
25	4.18	para-Cymene	0.02
26	3.28	Limonene	2.98
27	3.37	1,8-Cineole	0.19
28	7.38	2-Ethylhexanol	0.03
29	3.86	(Z)- β -Ocimene	0.02
30	4.07	(E)- β -Ocimene	0.03

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: PEPPERMINT JAPANESE ORGANIC ESSENTIAL OIL - FAIR TRADE - 58101

Peak	RT (min)	Compound name	%
31	3.89	γ -Terpinene	0.03
32	6.97	cis-Sabinene hydrate	0.03
33	6.61	cis-Linalool oxide (fur.)	0.01
34	8.25	Octanol	0.09
35	4.37	Terpinolene	0.04
36	6.40	para-Cymenene	0.01
37	7.98	trans-Sabinene hydrate	0.01
38	8.13	Linalool	0.09
39	5.95	Nonanal	0.02
40	9.03	trans-para-Mentha-2,8-dien-1-ol	0.43
41	9.60	cis-para-Mentha-2,8-dien-1-ol	0.03
42	7.34	Camphor	0.35
43	9.85	trans-Sabinol	0.20
44	8.22	Isopulegol	6.00
45	8.22	neo-Isopulegol	6.00
46	6.73	Menthone	6.34
47	7.13	Citronellal	0.02
48	7.08	Isomenthone	3.96
49	6.97	Menthofuran	0.03
50	9.85	Borneol	0.20
51	8.67	neo-Menthol	2.08
52	9.30	Menthol	68.62
53	8.62	Terpinen-4-ol	0.42
54	9.03	Isomenthol	0.43
55	9.85	α -Terpineol	0.20
56	9.53	neoiso-Menthol	0.15
57	9.39	Methylchavicol	0.16
58	10.49	trans-Isopiperitenol	0.05
59	10.45	trans-Piperitol	0.02
60	7.17	Octyl acetate	0.08

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: PEPPERMINT JAPANESE ORGANIC ESSENTIAL OIL - FAIR TRADE - 58101

Peak	RT (min)	Compound name	%
31	11.44	trans-Carveol	0.01
32	11.78	cis-Carveol	0.02
33	10.79	Citronellol	0.09
34	9.00	Pulegone	0.53
35	10.06	Carvone	0.18
36	7.34	(3Z)-Hexenyl isovalerate	0.35
37	9.97	Piperitone	0.50
38	7.77	neo-Menthyl acetate	0.08
39	10.79	Decanol	0.09
40	8.22	Menthyl acetate	6.00
41	7.47	Dihydroedulan II	0.02
42	8.37	Isomenthyl acetate	0.18
43	7.17	Bicycloelemene	0.08
44	6.83	α -Cubebene	0.03
45	14.83	Eugenol	0.02
46	7.47	1,5-diepi- β - Bourbonene	0.02
47	7.60	β -Bourbonene	0.10
48	8.53	β -Elemene	0.57
49	8.53	β-Caryophyllene	0.57
50	8.22	β -Ylangene	6.00
51	8.48	β -Copaene	0.06
52	8.73	Aromadendrene	0.01
53	9.03	Isogermacrene D	0.43
54	9.39	α -Humulene	0.16
55	9.50	9-epi- β -Caryophyllene	0.02
56	9.65	γ -Muurolene	0.03
57	9.90	Germacrene D	0.53
58	10.16	Bicyclogermacrene	0.14
59	9.74	Viridiflorene	0.03
60	10.03	ϵ -Amorphene	0.02

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GCMS ANALYSIS (cont'd.)

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Peak	RT (min)	Compound name	%
91	10.49	γ -Cadinene	0.05
92	10.53	δ -Cadinene	0.06
93	13.85	(E)-Nerolidol	0.02
94	14.46	Spathulenol	0.01
95	12.84	Caryophyllene oxide	0.02
96	15.54	α -Cadinol	0.02
		TOTAL	98.74

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