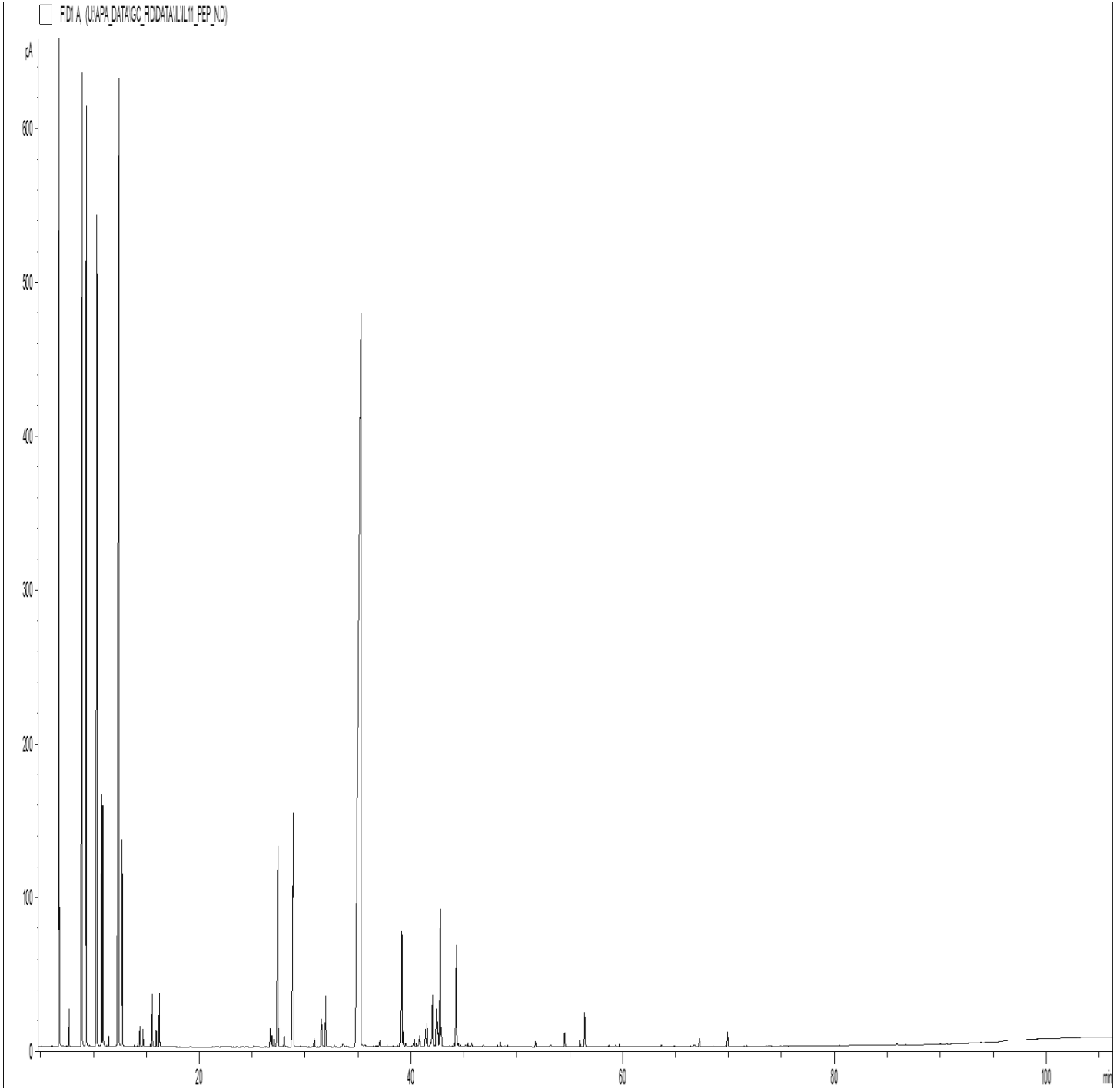


GCMS ANALYSIS

PRODUCT NAME: PEPPER BLACK ESSENTIAL OIL-11111

DATE: September 26, 2022



*Due to volume turnover, this report is not lot specific, It is representative of the quality of this oil produced by the manufacturer of this product, Specific lots may vary slightly as is the case in natural products,*

GCMS ANALYSIS (cont'd,)

PRODUCT NAME: PEPPER BLACK ESSENTIAL OIL-11111

Peak	RT (min)	Compound name	%
1	5.13	ISOVALERALDEHYDE	0.01
2	6.76	<b>α-PINENE</b>	<b>8.31</b>
3	6.79	α-THUYENE	0.94
4	7.04	TOLUENE	0.01
5	7.49	α-FENCHENE	0.01
6	7.70	CAMPHENE	0.22
7	8.91	<b>β-PINENE</b>	<b>8.63</b>
8	9.33	<b>SABINENE</b>	<b>8.07</b>
9	9.60	δ <sup>2</sup> -CARENE	0.01
10	10.33	<b>δ<sup>3</sup>-CARENE</b>	<b>8.26</b>
11	10.76	β-MYRCENE	1.70
12	10.88	α-PHELLANDRENE	1.58
13	10.99	psi-LIMONENE	0.04
14	11.26	o-CYMENE	0.01
15	11.42	α-TERPINENE	0.08
16	12.15	ISOSYLVESTRENE	0.01
17	12.40	<b>LIMONENE</b>	<b>13.99</b>
18	12.70	β-PHELLANDRENE	1.49
19	13.85	cis-β-OCIMENE	0.02
20	14.19	TERPENE ISOMER	0.03
21	14.38	γ-TERPINENE	0.17
22	14.68	trans-β-OCIMENE	0.14
23	15.39	m-CYMENE	0.02
24	15.53	p-CYMENE	0.43
25	15.93	ISOTERPINOLENE	0.14
26	16.23	TERPINOLENE	0.43
27	25.16	α,p-DIMETHYLSTYRENE	0.01
28	26.73	α-CUBEBENE	0.22
29	26.87	trans-THUYANOL	0.12
30	27.07	ELEMENE ISOMER	0.10

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GCMS ANALYSIS (cont'd,)

PRODUCT NAME: PEPPER BLACK ESSENTIAL OIL-11111

Peak	RT (min)	Compound name	%
31	27.44	<b>δ-ELEMENE</b>	<b>2.71</b>
32	28.03	ISOLEDENE	0.13
33	28.24	YLANGENE	0.02
34	28.91	<b>α-COPAENE</b>	<b>3.61</b>
35	29.55	CAMPHOR	0.01
36	30.87	α-GURJUNENE	0.11
37	31.56	<b>β1-CUBEBENE</b>	<b>0.34</b>
38	31.74	cis-THUYANOL	0.01
39	31.96	LINALOOL	0.49
40	32.79	trans-p-MENTH-2-EN-1-OL	0.02
41	33.57	ISOCARYOPHYLLENE	0.08
42	33.93	SESQUITERPENE	0.02
43	34.73	α-trans-BERGAMOTENE	0.03
44	35.29	<b>β-ELEMENE</b>	<b>28.32</b>
45		<b>β-CARYOPHYLLENE</b>	
46	35.59	6,9-GUAIADIENE	0.03
47	35.67	AROMADENDRENE	0.03
48	36.46	MYRTENAL	0.01
49	36.71	SESQUITERPENE	0.02
50	36.85	cis-p-MENTHA-2,8-DIEN-1-OL	0.01
51	37.06	CADINA-3,5-DIENE	0.08
52	37.50	GERMACRENE A	0.01
53	37.76	ALLO-AROMADENDRENE	0.03
54	38.00	trans-PINOCARVEOL	0.01
55	38.34	GURJUNENE ISOMER	0.02
56	38.71	SESQUITERPENE	0.03
57	38.98	ZONARENE	0.07
58	39.16	α-HUMULENE	1.37
59	39.31	E-β-FARNESENE	0.17
60	39.52	SESQUITERPENE	0.06

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GCMS ANALYSIS (cont'd,)

PRODUCT NAME: PEPPER BLACK ESSENTIAL OIL-11111

Peak	RT (min)	Compound name	%
61	40.11	LAVANDULAL	0.01
62	40.23	TERPENIC COMPOUND	0.03
63	40.32	$\gamma$ -MUUROLENE	0.10
64	40.54	CALARENE ISOMER	0.05
65	40.83	$\alpha$ -TERPINEOL	0.10
66	40.90	LEDENE	0.07
67	41.39	GURJUNENE ISOMER	0.19
68	41.52	<b>GERMACRENE D</b>	<b>0.27</b>
69	41.86	SESQUITERPENE	0.05
70	42.04	<b><math>\beta</math>-SELINENE</b>	<b>0.60</b>
71	42.25	$\alpha$ -ZINGIBERENE	0.02
72	42.41	<b><math>\alpha</math>-SELINENE</b>	<b>0.44</b>
73	42.54	$\alpha$ -MUUROLENE	0.27
74	42.79	<b><math>\beta</math>-BISABOLENE</b>	1.67
75	42.89	BICYCLOGERMACRENE	0.18
76	43.64	COMPOUND Mw=152	0.02
77	43.87	TERPENIC KETONE	0.01
78	44.08	E,E- $\alpha$ -FARNESENE	0.04
79	44.30	$\delta$ -CADINENE	1.19
80	44.50	$\gamma$ -CADINENE	0.04
81	44.68	TERPENIC COMPOUND	0.03
82	45.14	<b><math>\beta</math>-SESQUIPELLANDRENE</b>	0.02
83	45.22	$\alpha$ -CURCUMENE	0.02
84	45.39	trans- $\alpha$ -BISABOLENE	0.05
85	45.76	CADINA-1,4-DIENE	0.05
86	46.66	COMPOUND Mw=152	0.01
87	46.85	trans-SABINOL	0.03
88	48.16	GERMACRENE B	0.03
89	48.43	CALAMENENE	0.06
90	48.87	m-CYMENE-8-OL	0.01

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GCMS ANALYSIS (cont'd,)

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Peak	RT (min)	Compound name	%
91	49.14	p-CYMENE-8-OL	0.02
92	51.77	Epi-CUBEBOL	0.06
93	51.94	$\alpha$ -CALACORENE	0.01
94	53.19	HUMULENE EPOXIDE	0.05
95	54.53	CUBEBOL	0.17
96	55.98	ISOCARYOPHYLLENE OXIDE	0.08
97	56.42	<b>CARYOPHYLLENE OXIDE</b>	<b>0.39</b>
98	58.71	SESQUITERPENIC OXIDE	0.02
99	59.34	EPOXY-6,7-HUMULENE	0.02
100	59.72	NEROLIDOL	0.03
101	60.06	GERMACRENE D-4-OL	0.01
102	63.68	SPATHULENOL	0.03
103	64.89	SESQUITERPENOL	0.01
104	65.24	EUGENOL	0.01
105	66.40	T-CADINOL	0.01
106	66.72	SESQUITERPENIC OXIDE	0.02
107	66.81	$\alpha$ -MUUROLOL	0.03
108	67.26	$\delta$ -CADINOL	0.10
109	68.54	DITERPENE	0.01
110	69.73	EUDESMA-7(11)-EN-4-OL	0.02
111	69.93	$\beta$ -NOOTKATOL	0.16
112	71.68	CARYOPHYLLA-2,6-DIEN-5- $\alpha$ -OL	0.02
113	85.89	KETONIC COMPOUND	0.02
		<b>TOTAL</b>	<b>99.95</b>

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