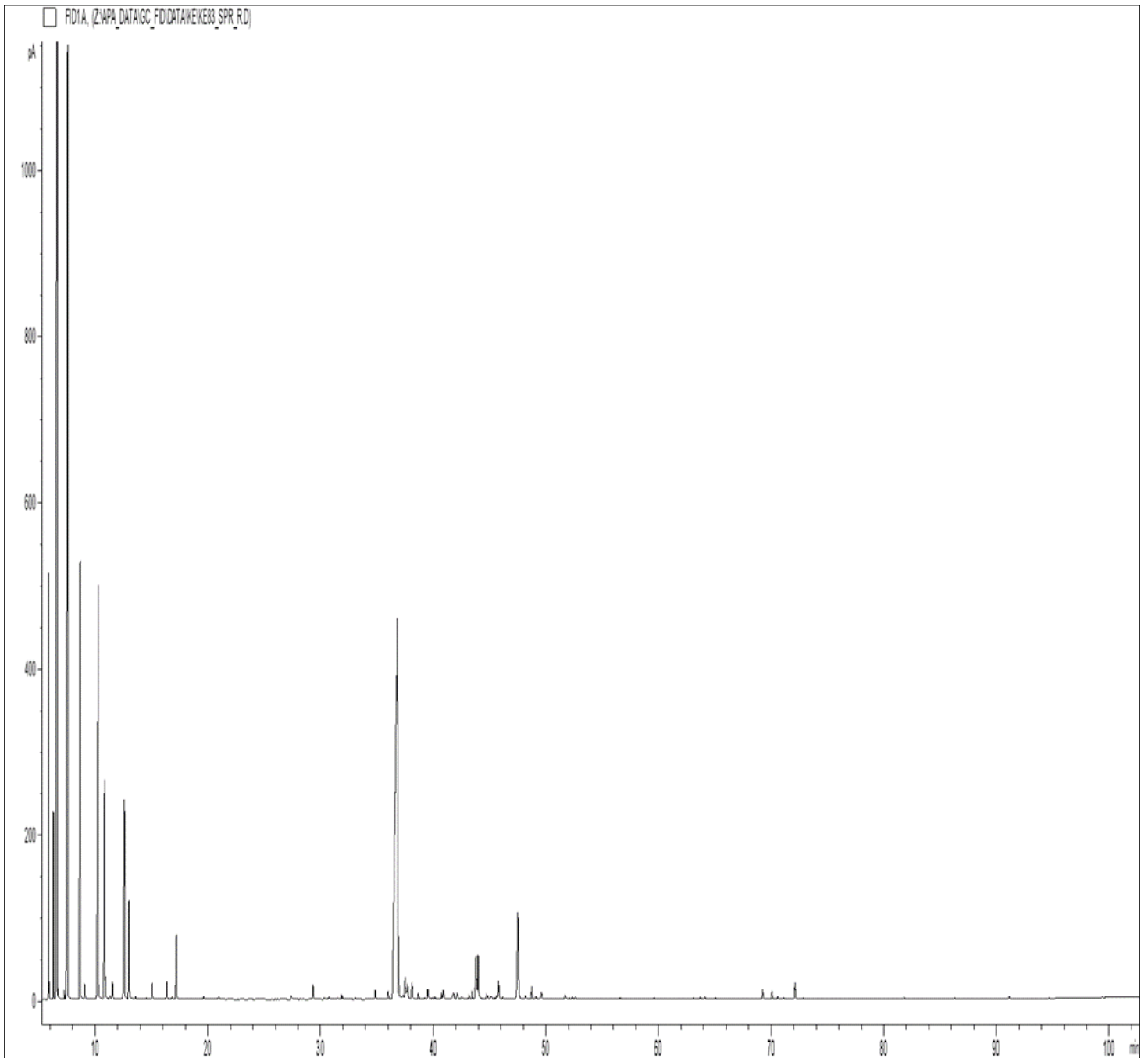


GCMS ANALYSIS

PRODUCT NAME: SPRUCE ESSENTIAL OIL - BLACK- 11137

DATE: September 11, 2023



*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: SPRUCE ESSENTIAL OIL - BLACK- 11137**

Peak	RT (min)	Compound name	%
1	5,87	<b>SANTENE</b>	<b>3,21</b>
2	6,29	TRICYCLENENE	1,77
3	6,62	<b>alpha-PINENE</b>	<b>19,26</b>
4	6,63	alpha-THUYENE	0,27
5	6,72	COMPOUND Mw=122	0,10
6	6,80	TOLUENE	0,07
7	7,26	alpha-FENCHENE	0,11
8	7,54	<b>CAMPHENE</b>	<b>15,81</b>
9	8,67	<b>beta-PINENE</b>	<b>6,57</b>
10	9,05	SABINENE	0,23
11	9,42	PINADIENE	0,01
12	10,29	<b>delta3-CARENE</b>	<b>8,83</b>
13	10,83	<b>beta-MYRCENE</b>	<b>3,20</b>
14	10,89	alpha-PHELLANDRENE	0,36
15	11,31	o-CYMENE	0,06
16	11,53	alpha-TERPINENE	0,25
17	12,37	ISOSYLVESTRENE	0,02
18	12,59	<b>LIMONENE</b>	<b>3,39</b>
19	13,01	1,8-CINEOLE	1,60
20		beta-PHELLANDRENE	
21	13,27	1,3,8-p-MENTHATRIENE	0,03
22	13,57	COMPOUND Mw=152	0,05
23	14,50	cis-beta-OCIMENE	0,03
24	15,03	gamma-TERPINENE	0,27
25	15,48	trans-beta-OCIMENE	0,02
26	16,34	p-CYMENE	0,29
27	16,83	ISOTERPINOLENE	0,04
28	17,19	TERPINOLENE	1,03
29	18,25	ALIPHATIC COMPOUND	0,02
30	19,62	PINOL	0,05

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**GCMS ANALYSIS (cont'd,)**

**PRODUCT NAME: SPRUCE ESSENTIAL OIL - BLACK- 11137**

Peak	RT (min)	Compound name	%
31	20,96	CAMPHOLENAL ISOMER	0,07
32	21,83	ALIPHATIC ESTER	0,02
33	23,62	3-METHYL-3-BUTENYL ISOVALERATE	0,03
34	24,29	3-HEXEN-1-OL	0,02
35	26,53	ALIPHATIC ESTER	0,01
36	26,75	DIMETHYLSTYRENE ISOMER	0,02
37	27,37	alpha,p-DIMETHYLSTYRENE	0,12
38	27,80	COSMENE	0,01
39	29,18	alpha-CUBEBENE	0,01
40	29,32	FENCHYL ACETATE	0,28
41	30,33	CITRONELLAL	0,04
42	30,76	alpha-CAMPHOLENAL	0,09
43	31,43	LONGICYCLENE	0,01
44	31,53	alpha-COPAENE	0,04
45	31,90	CAMPHOR	0,09
46	32,22	PINOCAMPHONE	0,02
47	33,06	COMPOUND MW152 (CAMPHOLENIC ALCOHOL?)	0,05
48	34,04	ISOPINOCAMPHONE	0,03
49	34,86	LINALOOL	0,18
50	35,39	PINOCARVONE	0,02
51	35,69	trans-p-MENTH-2-EN-1-OL	0,03
52	35,99	LONGIFOLENE	0,17
53	36,81	<b>BORNYL ACETATE</b>	<b>19,97</b>
54	36,93	ISOBORNYL ACETATE	0,97
55	37,34	beta-ELEMENE	0,10
56	37,51	CAMPHENE HYDRATE	0,42
57	37,62	METHYL THYMOL ETHER	0,14
58	37,73	beta-CARYOPHYLLENE	0,38
59	38,11	TERPINENE-4-OL	0,28
60	38,68	COMPOUND Mw=194	0,09

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**GCMS ANALYSIS (cont'd,)**

**PRODUCT NAME: SPRUCE ESSENTIAL OIL - BLACK- 11137**

Peak	RT (min)	Compound name	%
61	39,28	MYRTENAL	0,04
62	39,52	ALIPHATIC ESTER	0,19
63	39,63	ALIPHATIC ESTER	0,03
64	39,74	ALIPHATIC ESTER	0,03
65	39,92	SESQUITERPENE	0,04
66	40,14	CADINA-3,5-DIENE	0,06
67	40,75	trans-PINOCARVYL ACETATE	0,10
68	40,92	ZONARENE	0,23
69	41,79	GERMACRENE A	0,21
70	42,11	CITRONELLYL ACETATE	0,17
71		alpha-HUMULENE	
72	42,34	ISOBORNEOL	0,01
73	42,50	cis-4,5-MUUROLADIENE	0,06
74	42,59	E-beta-FARNESENE	0,05
75	43,19	SESQUITERPENE	0,11
76	43,45	gamma-MUUROLENE	0,17
77	43,60	SESQUITERPENE	0,01
78	43,80	BORNEOL	1,14
79	43,99	alpha-TERPINEOL	1,01
80	44,74	GERMACRENE D	0,10
81	44,85	ALIPHATIC ESTER	0,07
82	45,11	beta-SELINENE	0,06
83	45,19	SESQUITERPENE	0,07
84	45,48	alpha-SELINENE	0,03
85	45,81	alpha-MUUROLENE	0,40
86	46,16	SESQUITERPENE	0,07
87	46,35	beta-BISABOLENE	0,02
88	46,80	trans-PIPERITOL	0,02
89	47,33	SESQUITERPENE	0,04
90	47,52	delta-CADINENE	2,23
91		GERANYL ACETATE	

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**GCMS ANALYSIS (cont'd,)**

**PRODUCT NAME: SPRUCE ESSENTIAL OIL - BLACK- 11137**

Peak	RT (min)	Compound name	%
92	48,19	CITRONELLOL	0,14
93	48,74	trans-alpha-BISABOLENE	0,23
94	49,09	CADINA-1,4-DIENE	0,09
95	49,46	MYRTENOL	0,04
96	49,61	CAMPHOLENOL	0,15
97	49,86	AROMATIC COMPOUND	0,02
98	49,93	SESQUITERPENIC COMPOUND	0,04
99	51,44	AROMATIC COMPOUND	0,02
100	51,58	cis-CALAMENENE	0,02
101	51,71	trans-CALAMENENE	0,13
102	52,07	m-CYMENE-8-OL	0,03
103	52,35	p-CYMENE-8-OL	0,06
104	52,61	GERANIOL	0,06
105	52,93	ALIPHATIC ESTER	0,02
106	55,08	SESQUITERPENIC COMPOUND	0,02
107	56,13	PIPERITENONE	0,02
108	56,59	alpha-CALACORENE	0,04
109	56,89	SESQUITERPENIC OXIDE	0,01
110	57,50	SESQUITERPENOL	0,02
111	58,37	AROMATIC COMPOUND	0,01
112	58,49	beta-CALACORENE	0,01
113	59,59	ALIPHATIC ALCOHOL	0,03
114	63,13	SESQUITERPENIC COMPOUND	0,02
115	63,70	Epi-CUBENOL	0,07
116	63,92	SESQUITERPENIC OXIDE	0,01
117	64,11	CUBENOL	0,04
118	65,05	ACID COMPOUND	0,03
119	68,22	ACID COMPOUND	0,01
120	68,49	ALIPHATIC ESTER	0,02

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**GCMS ANALYSIS (cont'd,)**

**PRODUCT NAME: SPRUCE ESSENTIAL OIL - BLACK- 11137**

Peak	RT (min)	Compound name	%
121	69,26	T-CADINOL	0,18
122	70,09	alpha-MUUROLOL	0,16
123	70,60	delta-CADINOL	0,05
124	71,09	TERPENIC COMPOUND	0,03
125	72,13	alpha-CADINOL	0,30
126	72,87	ACID COMPOUND	0,02
127	76,55	DITERPENIC COMPOUND	0,01
128	76,75	DITERPENIC COMPOUND	0,01
129	77,67	MANOYL OXIDE	0,01
130	78,32	AROMATIC COMPOUND	0,01
131	78,80	ACID COMPOUND	0,02
132	81,80	AROMATIC COMPOUND	0,05
133	83,69	19-NORABIETA-8,11,13-TRIENE	0,01
134	86,28	GERANYLLINALOOL	0,02
135	91,14	Epi-MANOOL	0,04
136	99,40	COMPOUND Mw=286	0,01
		<b>TOTAL</b>	<b>99,73</b>

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