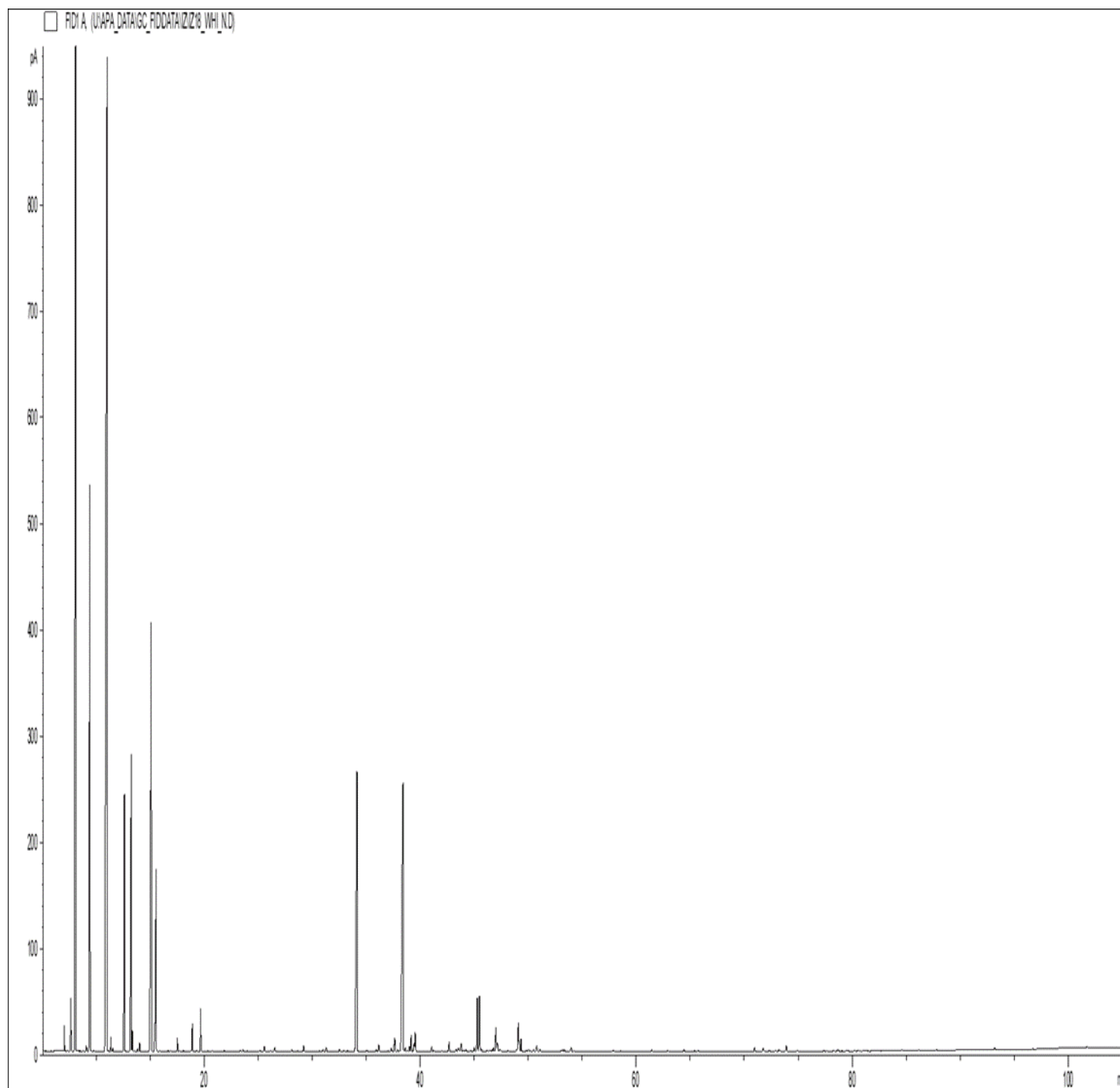


GCMS ANALYSIS

PRODUCT NAME: SPRUCE ESSENTIAL OIL - WHITE – 11136

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 - WHITE – 11136

Peak	RT (min)	Compound	%
1	7,07	SANTENE	0,24
2	7,67	TRICYCLEN	0,60
3	8,11	alpha-PINENE	18,73
4	8,14	alpha-THUYENE	0,11
5	9,09	alpha-FENCHENE	0,07
6	9,41	CAMPHENE	7,99
7	11,00	beta-PINENE	25,14
8	11,36	SABINENE	0,16
9	11,52	PINADIENE	0,03
10	12,62	delta3-CARENE	3,85
11	13,24	beta-MYRCENE	4,71
12	13,35	alpha-PHELLANDRENE	0,23
13	13,52	psi-LIMONENE	0,01
14	13,84	o-CYMENE	0,03
15	14,02	alpha-TERPINENE	0,11
16	15,10	LIMONENE	9,50
17	15,43	1,8-CINEOLE	0,39
18	15,54	beta-PHELLANDRENE	2,78
19	16,66	FURAN, 2-PENTYL-	0,01
20	17,52	gamma-TERPINENE	0,19
21	18,91	p-CYMENE	0,40
22	19,33	ISOTERPINOLENE	0,02
23	19,68	TERPINOLENE	0,65
24	20,30	AMYL ISOVALERATE	0,01
25	21,88	PINOL	0,01
26	23,38	5-HEPTEN-2-ONE, 6-METHYL-	0,02
27	23,62	CAMPHOLENAL ISOMER	0,03
28	25,16	alpha-PINENE OXIDE	0,02
29	25,59	3-HEXEN-1-OL	0,09
30	26,16	2-NONANONE	0,02

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL - WHITE – 11136

Peak	RT (min)	Compound	%
31	26,56	FENCHONE	0,08
32	28,14	PERILLENE	0,03
33	28,68	DIMETHYLSTYRENE ISOMER	0,01
34	29,22	alpha,p-DIMETHYLSTYRENE	0,11
35	29,40	MENTHATRIENE ISOMER	0,01
36	29,69	LIMONENE cis-1,2-EPOXIDE	0,01
37	30,70	alpha-CUBEBENE	0,01
38	31,00	4,8-TERPINOLENE EPOXIDE	0,03
39	31,25	FENCHYL ACETATE	0,03
40	31,30	alpha-LONGIPINENE	0,05
41	32,06	CITRONELLAL	0,01
42	32,54	alpha-CAMPHOLENAL	0,05
43	32,94	alpha-COPAENE	0,02
44	33,28	LONGICYCLEN	0,03
45	34,16	CAMPHOR	7,49
46	34,37	PINOCAMPHONE	0,01
47	34,51	BENZALDEHYDE	0,02
48	35,08	CAMPHOLENIC ALCOHOL	0,03
49	35,94	ISOPINOCAMPHONE	0,05
50	36,17	LINALOOL	0,15
51	37,04	trans-p-MENTH-2-EN-1-OL	0,02
52	37,35	PINOCARVONE	0,06
53	37,66	LONGIFOLENE	0,27
54	37,91	ALIPHATIC ALCOHOL	0,04
55	38,11	BORNYL FORMATE	0,02
56	38,41	BORNYL ACETATE	7,91
57	38,63	ISOBORNYL ACETATE	0,07
58	38,80	alpha-trans-BERGAMOTENE	0,03
59	39,02	beta-ELEMENE	0,09
60	39,17	METHYL THYMOL ETHER	0,31

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL - WHITE – 11136

Peak	RT (min)	Compound	%
61	39,44	beta-CARYOPHYLLENE	0,17
62	39,56	TERPINENE-4-OL	0,36
63	39,97	CITRONELLYL FORMATE	0,02
64	41,08	MYRTENAL	0,11
65	41,26	CADINA-3,5-DIENE	0,02
66	41,59	GERMACRENE A	0,01
67	42,01	ALLO-AROMADENDRENE	0,02
68	42,15	FARNESENE ISOMER	0,01
69	42,68	trans-PINOCARVEOL	0,17
70	43,35	ZONARENE	0,07
71	43,56	CITRONELLYL ACETATE	0,10
72	53,35	CRYPTONE	0,04
73	43,75	E-beta-FARNESENE	0,09
74	43,82	alpha-HUMULENE	0,13
75	43,97	cis-4,5-MUUROLADIENE	0,02
76	44,07	trans-VERBENOL	0,02
77	44,24	gamma-SELINENE	0,04
78	45,02	gamma-MUUROLENE	0,08
79	45,30	alpha-TERPINEOL	0,97
80	45,51	BORNEOL	1,11
81	45,69	VERBENONE	0,05
82	45,95	GERMACRENE D	0,01
83	46,22	beta-HIMACHALENE	0,04
84	46,43	CADINADIENE ISOMER	0,02
85	46,52	MUUROLADIENE ISOMER	0,02
86	46,70	PHELLANDRAL	0,03
87	46,80	beta-SELINENE	0,08
88	47,01	PIPERITONE	0,48
89	47,16	alpha-SELINENE	0,20
90		alpha-MUUROLENE	

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL - WHITE – 11136

Peak	RT (min)	Compound	%
91	47,34	CARVONE	0,03
92	47,43	beta-BISABOLENE	0,05
93	48,14	beta-CURCUMENE	0,02
94	48,63	E,E-alpha-FARNESENE	0,01
95	48,95	GERANYL ACETATE	0,04
96	49,10	delta-CADINENE	0,57
97	49,18	gamma-CADINENE	0,15
98	49,35	CITRONELLOL	0,24
99	49,83	METHYL SALICYLATE	0,02
100	50,07	trans-alpha-BISABOLENE	0,03
101	50,51	CADINA-1,4-DIENE	0,03
102	50,79	MYRTENOL	0,12
103	51,10	alpha-AMORPHENE	0,04
104	53,00	CITRONELLYL BUTYRATE	0,02
105	53,12	GERMACRENE B	0,02
106	53,23	cis-CALAMENENE	0,04
107	53,37	trans-CALAMENENE	0,03
108	53,99	p-CYMENE-8-OL	0,09
109	54,23	GERANIOL	0,02
110	57,81	alpha-CALACORENE	0,02
111	57,95	PIPERITENONE	0,02
112	58,57	ALIPHATIC ESTER	0,02
113	61,45	CARYOPHYLLENE OXIDE	0,03
114	62,93	METHYLEUGENOL	0,02
115	64,44	EPOXY-6,7-HUMULENE	0,02
116	64,50	NEROLIDOL	0,02
117	65,41	Epi-CUBENOL	0,02
118	65,73	CUBENOL	0,03
119	70,98	T-CADINOL	0,08
120	71,75	alpha-MUUROL	0,07

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GCMS ANALYSIS (cont'd.)

PRODUCT NAME: SPRUCE ESSENTIAL OIL - WHITE – 11136

Peak	RT (min)	Compound	%
121	72,31	delta-CADINOL	0,02
122	72,89	GERANYLGERANIADIENE ISOMER	0,02
123	73,20	COMPOUND Mw=224	0,04
124	73,89	alpha-CADINOL	0,12
125	74,89	EUDESMA-7(11)-EN-4-OL	0,02
126	78,27	DITERPENE	0,02
127	78,68	SANDARACOPIMARADIENE	0,03
128	79,46	COMPOUND Mw=270	0,01
129	80,19	MANOYL OXIDE	0,01
130	84,60	BIFORMENE	0,01
131	86,13	ABIETATRIENE	0,01
132	87,79	GERANYLLINALOL	0,02
133	93,18	Epi-MANOOL	0,05
134	101,71	DITERPENIC COMPOUND Mw=286	0,03
		TOTAL	99,84

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