



## GC/MS ANALYSIS

**CUSTOMER:** Natural Living Supplies  
1d Belgrave Court  
83-87 Prince Regent Lane  
Lodon E13 8RP

**Sample nature :** Essential oil  
**Botanical name :** Boswellia neglecta  
**Reference name :** Olibanum  
**Batch number :**  
**Plant part :** Oleoresin  
**Packaging :** Amber flask of 10ml  
**Analysis :** Classic analysis  
**Shelf life in lab :** 1 year  
**Date of receipt :** 08/07/2019

**Date analysis :** 24/07/2019

### Comments and conclusions:

Validated report by:

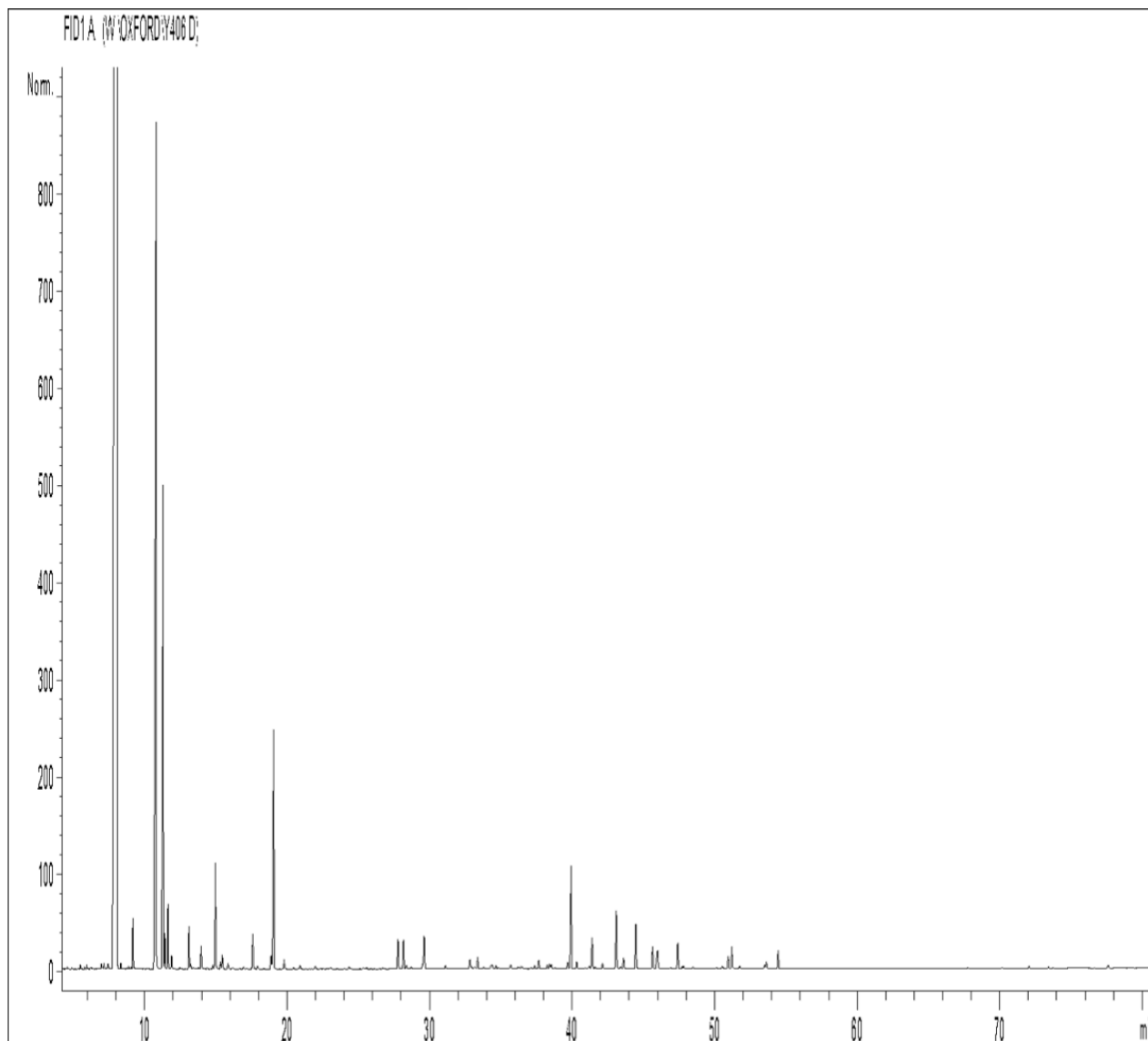
Allison Wild

## GAS CHROMATOGRAPHY norm NF ISO 11024

### Analysis conditions :

GC/MS 7890/5975 – Column : VF WAX polar 60 m × 0.25 mm × 0.25 μm  
GS/FID Agilent 6890 - Column : VF WAX polar 60 m × 0.25 mm × 0.25 μm  
Temperature program : 5 min to 60°C – 2°C/min → 250°C - 15 min at 250°C  
Carrier gas He : 23 psis/MS – 30 psis/FID  
Sample injection / split : 1 μl of 10 % solution in hexane,  
Mass range : 30 to 350, Oil components are identified by a combination of retention times  
(our own database) and mass spectra library NIST database  
Percentages are calculated from GC/FID peaks areas without using corrections factors,

### Chromatographic profile (GC/FID)



## Identification results 1: Frankincense (*Boswellia neglecta*)

Peak	RT (min)	COMPONENT	%	Norm (%)	Allergens (%)
1	4.59	TETRAMETHYL CYCLOPENTENE ISOMER Mw=124	0.01		
2	5.49	DIMETHYL HEPTADIENE ISOMER Mw=124	0.03		
3	5.95	Z-SALVENE	0.03		
4	6.21	AROMATIC COMPOUND	0.01		
5	6.28	COMPOUND Mw=122	0.01		
6	6.99	AROMATIC COMPOUND	0.05		
7	7.07	TERPENE ISOMER	0.01		
8	7.15	CYCLOALKYL COMPOUND	0.05		
9	7.44	TRICYCLENE	0.08		
10	8.00	<b>alpha-PINENE</b>	<b>52.35</b>		
11	8.06	<b>alpha-THUYENE</b>	<b>13.89</b>		
12	8.13	TOLUENE	0.02		
13	8.34	beta-FENCHENE	0.05		
14	8.89	alpha-FENCHENE	0.02		
15	9.05	TERPENE ISOMER	0.01		
16	9.18	CAMPHENE	0.41		
17	10.81	<b>beta-PINENE</b>	<b>12.55</b>		
18	11.29	<b>SABINENE</b>	<b>5.21</b>		
19	11.41	PINADIENE	0.28		
20	11.64	THUYA-2,4-DIENE	0.54		
21	11.89	p-MENTH-2-ENE	0.13		
22	12.46	delta3-CARENE	0.01		
23	13.11	beta-MYRCENE	0.40		
24	13.23	alpha-PHELLANDRENE	0.05		
25	13.43	psi-LIMONENE	0.02		
26	13.77	TERPENE ISOMER	0.02		
27	13.96	alpha-TERPINENE	0.24		
28	14.39	1,8-CINEOLE, 2,3-DEHYDRO-	0.02		
29	14.79	MENTHATRIENE ISOMER	0.04		
30	14.97	LIMONENE	1.16		1.16
31	15.15	1,8-CINEOLE	0.01		
32	15.32	1,3,8-p-MENTHATRIENE	0.07		
33	15.45	beta-PHELLANDRENE	0.15		
34	15.86	MENTHATRIENE ISOMER	0.06		
35	16.17	2-HEXENAL	0.02		
36	16.94	cis-beta-OCIMENE	0.03		
37	17.58	gamma-TERPINENE	0.42		
38	17.92	trans-beta-OCIMENE	0.04		
39	18.86	m-CYMENE	0.17		
40	19.06	<b>p-CYMENE</b>	<b>2.93</b>		
41	19.79	TERPINOLENE	0.11		
42	20.45	DIMETHYLSTYRENE ISOMER	0.02		
43	20.90	CYMENE ISOMER	0.04		
44	21.99	PINOL	0.04		
45	23.06	5-HEPTEN-2-ONE, 6-METHYL-	0.02		

## Identification results 2: Frankincense (*Boswellia neglecta*)

Peak	RT (min)	COMPONENT	%	Norm (%)	Allergens (%)
46	24.36	MENTHENE ISOMER Mw=138	0.03		
47	25.35	alpha-PINENE OXIDE	0.02		
48	25.59	COMPOUND Mw=122	0.02		
49	26.73	ANISALDEHYDE, TRIMETHYL-	0.02		
50	27.78	o-METHYLANISOLE	0.34		
51	28.17	COMPOUND Mw=152	0.34		
52	28.37	alpha-THUYONE	0.06		
53	28.70	COMPOUND Mw=152	0.03		
54	29.52	alpha-p-DIMETHYLSTYRENE	0.05		
55	29.63	beta-THUYONE	0.43		
56	31.11	trans-THUYANOL	0.04		
57	32.83	alpha-CAMPHOLENAL	0.16		
58	33.17	COMPOUND Mw=150	0.04		
59	33.38	DIMETHYL CUCLOHEXENYL ETHANONE ISOMER Mw=152	0.14		
60	33.80	alpha-COPAENE	0.02		
61	34.32	CAMPHOR	0.04		
62	34.39	alpha-PINOCAMPHONE	0.06		
63	34.65	COMPOUND Mw=152	0.04		
64	34.82	CAMPHOLENIC ALCOHOL	0.01		
65	35.71	COMPOUND Mw=152	0.07		
66	36.22	beta-PINOCAMPHONE	0.02		
67	36.41	cis-THUYANOL	0.03		
68	36.51	LINALOOL	0.03		0.03
69	37.12	COMPOUND Mw=152	0.02		
70	37.36	trans-p-MENTH-2-EN-1-OL	0.05		
71	37.66	PINOCARVONE	0.11		
72	38.25	NOPINONE	0.05		
73	38.41	COMPOUND Mw=152	0.06		
74	38.53	BORNYL ACETATE	0.06		
75	38.78	FENCHOL	0.02		
76	39.69	COMPOUND Mw=152	0.09		
77	39.93	TERPINENE-4-OL	1.32		
78	40.31	COMPOUND Mw=152	0.08		
79	40.93	DEHYDROSABINAKETONE	0.02		
80	41.17	COMPOUND Mw=150	0.02		
81	41.21	SABINAKETONE	0.03		
82	41.40	MYRTENAL	0.42		
83	41.61	cis-p-MENTH-2-EN-1-OL	0.03		
84	42.13	UMBELLULONE	0.08		
85	42.39	SESQUITERPENE	0.01		
86	43.09	trans-PINOCARVEOL	0.62		
87	43.20	cis-VERBENOL	0.14		
88	43.40	COMPOUND Mw=140	0.03		
89	43.61	p-MENTHA-1(7),2-DIEN-8-OL	0.14		

### Identification results 3: Frankincense (*Boswellia neglecta*)

Peak	RT (min)	COMPONENT	%	Norm (%)	Allergens (%)
90	43.88	CRYPTONE	0.01		
91	44.47	trans-VERBENOL	0.58		
92	45.64	TERPENYL ACETATE + SABINOL ISOMER	0.28		
93	45.96	alpha-TERPINEOL	0.14		
94	45.99	VERBENONE	0.23		
95	46.91	CARVENONE	0.02		
96	47.41	trans-p-MENTHA-1,2-DIEN-8-OL	0.31		
97	47.72	KETONIC COMPOUND	0.03		
98	47.83	CARVONE	0.03		
99	48.48	trans-PIPERITOL	0.03		
100	50.11	p-METHYLACETOPHENONE	0.02		
101	50.53	CUMINAL	0.03		
102	50.64	MENTHADIENOL ISOMER	0.01		
103	50.95	cis-SABINOL	0.16		
104	51.21	MYRTENOL	0.29		
105	51.50	COMPOUND Mw=152	0.01		
106	51.75	MYRTENOL ISOMER	0.03		
107	53.50	COMPOUND Mw=152	0.05		
108	53.62	trans-CARVEOL	0.09		
109	54.45	3,5-DIMETHOXYTOLUENE + THYMYLE ACETATE	0.24		
110	67.76	CUMINOL	0.01		
111	70.17	BENZENE 1,3,5-TRIMETHOXY- Mw=168	0.01		
112	72.04	THYMOL	0.03		
113	73.41	CARVACROL	0.02		
114	73.74	AROMATIC COMPOUND Mw=168	0.01		
115	77.60	AROMATIC COMPOUND Mw=168	0.03		
		<b>TOTAL</b>	<b>99.99</b>		<b>1.19</b>