PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: F50101

ESSENTIAL OIL: ORGANIC FRANKINCENSE SERRATA
BOTANICAL NAME: BOSWELLIA SERRATA ORGANIC
ORIGIN: INDIA

KEY CONSTITUENTS IN THIS BATCH OF ORGANIC FRANKINCENSE SERRATA OIL	%
α-THUJENE	65.4
Δ3-CARENE	6.4
p-CYMENE	6.3
SABINENE	5.8
LIMONENE	3.5
OXYGENED TERPENIC COMPONENT	1.4
γ-TERPINENE	1.0

Comments from Robert Tisserand: Indian frankincense oil with a characteristic odor profile, and constituents in expected concentrations.

CUSTOMER :

PLANT THERAPY
126 Locust Street South
Twin Falls, ID 83 301
USA

Sample nature:	ESSENTIAL OIL
Botanical species:	BOSWELLIA SERRATA ORGANIC
Reference name:	FRANKINCENSE ORGANIC
Batch number:	F50101
Origin:	INDIA
Part:	GUM
Pyrenessences reference:	D683
Date of reception:	05/07/2015
Date analysis:	05/13/2015
Packaging:	Amber flask of 5 ml – ambient temperature
Analysis:	Classic

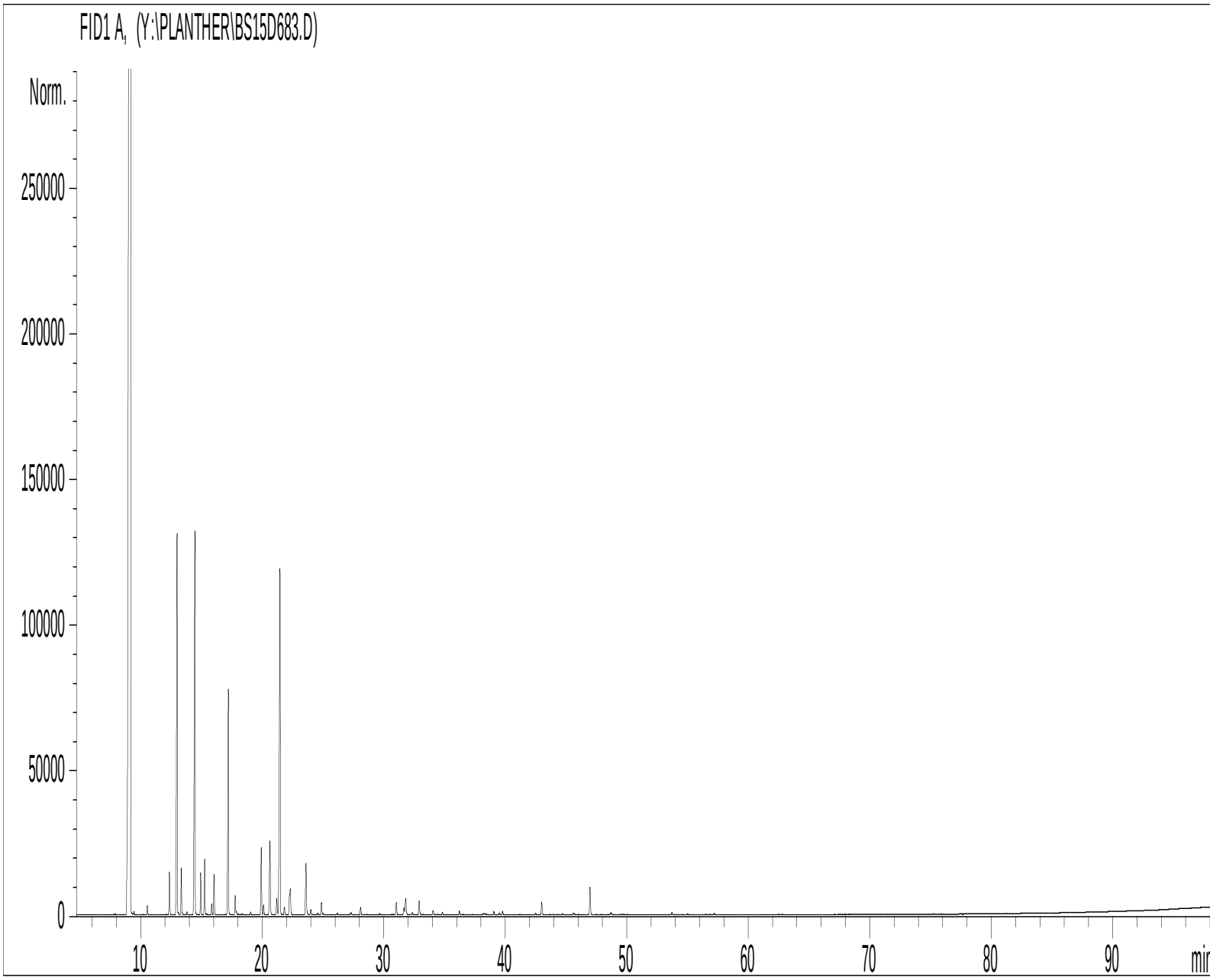
Validated report by : **Daniel DANTIN**

GAS CHROMATOGRAPHY norm NF ISO 11024

Analysis conditions :

CPG 7890 / MS 5975 – Column : VF WAX polar 60 m × 0,25 mm × 0,5 µm
CPG 5890 FID - Column : INNOWAX polar 60 m × 0,25 mm × 0,5 µm
Temperature program : 6 mn to 60 °C –2 °C/mn→250 °C - 20mn to 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 NKS 75 000 records,
Percentages are calculated from GC/FID peaks areas without using corrections factors,

Chromatographic profile (GC/FID)



Identification results 1 : FRANKINCENSE SERRATA BATCH F50101

Peak	RT (min)	COMPONENT name	%	Norm (%)	Allergens (%)
1	7,8	TERPENE ISOMER	0,01		
2	7,9	TRICYCLENE	0,02		
3	8,8	α-PINENE	0,70		
4	9,1	**α-THUYENE**	**65,36**		
5	9,4	TOLUENE	0,06		
6	10,2	α-FENCHENE	0,02		
7	10,5	CAMPHENE	0,12		
8	12,0	OXYGENED COMPONENT	0,01		
9	12,4	β-PINENE	0,59		
10	13,0	**SABINENE**	**5,77**		
11	13,1	PINADIENE	0,04		
12	13,3	THUYADIENE	0,60		
13	13,8	p-MENTH-2-ENE	0,05		
14	14,4	**Δ3-CARENE**	**6,39**		
15	14,9	β-MYRCENE	0,53		
16	15,3	α-PHELLANDRENE	0,73		
17	15,4	ψ-LIMONENE	0,02		
18	15,8	o-CYMENE	0,16		
19	16,0	α-TERPINENE	0,56		
20	16,9	ISOSYLVESTRENE	0,01		
21	17,2	**LIMONENE**	**3,49**		3,49
22	17,7	β-PHELLANDRENE + 1,8-CINEOLE	0,34		
23	18,3	MENTHATRIENE ISOMER	0,02		
24	19,0	Cis-β-OCIMENE	0,04		
25	19,9	γ-TERPINENE	1,04		
26	20,1	Trans-β-OCIMENE	0,17		
27	20,6	OXYGENED TERPENIC COMPONENT	1,35		
28	21,1	m-CYMENE	0,29		
29	21,4	**p-CYMENE**	**6,32**		
30	21,8	ALIPHATIC ALCOHOL Mw=166 ISOMER	0,14		
31	22,2	ALIPHATIC ALCOHOL Mw=166 ISOMER	0,42		
32	22,3	TERPINOLENE	0,30		
33	23,5	Cis-4-METHOXY THUYANE	0,98		
34	24,0	Trans-4-METHOXY THUYANE	0,10		
35	24,5	AROMATIC COMPONENT	0,04		
36	24,8	AROMATIC COMPONENT Mw=166	0,24		
37	26,2	AROMATIC COMPONENT Mw=168 ISOMER	0,03		
38	27,3	AROMATIC COMPONENT	0,06		
39	28,1	ALLO-OCIMENE ISOMER	0,14		
40	28,6	AROMATIC COMPONENT	0,02		
41	29,6	ALLO-OCIMENE	0,02		
42	29,7	TRIMETHYL ANISALDEHYDE	0,01		
43	31,0	TERPENIC EPOXIDE	0,21		
44	31,6	TERPENIC COMPONENT	0,34		
45	31,8	α-THUYONE	0,13		

Identification results 2 : FRANKINCENSE SERRATA BATCH F50101

Peak	RT (min)	COMPONENT name	%	Norm (%)	Allergens (%)
46	32,3	α,p-DIMETHYLSTYRENE	0,05		
47	32,9	β-THUYONE	0,28		
48	34,0	Trans-THUYANOL	0,08		
49	34,4	EPOXYDE-4,8-TERPINOLENE	0,02		
50	34,8	OCTYL ACETATE	0,05		
51	36,2	TERPENIC ALCOHOL + α-COPAENE	0,07		
52	38,2	β-BOURBONENE	0,05		
53	38,4	BENZENE, 2-METHOXY-4-METHYL-1-METHYLETHYL	0,03		
54	39,0	LINALOOL	0,06		0,06
55	39,5	Cis-THUYANOL	0,04		
56	39,7	1-OCTANOL	0,07		
57	42,5	ALIPHATIC KETONE	0,03		
58	43,0	TERPINENE-4-OL	0,19		
59	43,1	TERPENIC EPOXIDE + β-CARYOPHYLLENE	0,04		
60	44,7	SESQUITERPENE	0,03		
61	45,6	UMBELLULONE	0,05		
62	46,0	Trans-PINOCARVEOL	0,02		
63	46,9	ESTRAGOL	0,51		
64	47,5	Cis-VERBENOL + CRYPTONE	0,01		
65	47,9	CARVOTANACETONE	0,01		
66	48,5	α-TERPINEOL	0,01		
67	48,6	Trans-SABINOL	0,06		
68	49,5	EUCARVONE Mw=150	0,02		
69	53,7	SABINOL ISOMER	0,05		
70	54,6	MYRTENOL	0,01		
71	55,0	SABINOL ISOMER	0,02		
72	56,5	Trans-CARVEOL	0,02		
73	56,5	Trans-CARVEOL	0,01		
74	56,8	m-CYMENE-8-OL	0,01		
75	57,2	p-CYMENE-8-OL	0,03		
76	62,8	TERPENIC KETONE Mw=150	0,01		
77	69,3	p-CRESOL	0,01		
78	70,0	1-4-DIHYDRO-p-MENTH-2-ENE	0,01		
79	70,1	CYCLOOCTANONE	0,01		
80	75,3	ACETYLKETONE COMPONENT	0,01		
81	77,4	POLYOXYCYCLIC COMPONENT	0,01		
		TOTAL	**99,98**		**3,55**