PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: C61100

ESSENTIAL OIL: CEDARWOOD ATLANTICA
BOTANICAL NAME: CEDRUS ATLANTICA
ORIGIN: MOROCCO

KEY CONSTITUENTS PRESENT IN THIS BATCH OF CEDARWOOD ATLANTICA	%
β-HIMACHALENE	45.0
α-HIMACHALENE	15.9
γ-HIMACHALENE	10.0
γ-ATLANTONE	2.8
Δ-CADINENE	1.8
CEDRENE ISOMER	1.7
1-METHYL-4-ACETYLCYCLOHEX-1-ENE	1.2
α-ATLANTONE	1.0
ALLO-HIMACHALOL	0.9
β-ATLANTONE	0.8

Comments from Robert Tisserand: This oil complies with standard in terms of constituents, and is a good-smelling Atlas Cedarwood Oil.

CUSTOMER :

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

Sample nature:	ESSENTIAL OIL
Botanical species:	CEDRUS ATLANTICA
Reference name:	CEDARWOOD
Batch number:	C61100
Origin:	MOROCCO
Part:	WOOD
Pyrenessences reference:	D233
Date of reception:	03/19/2015
Date analysis:	04/11/2015
Packaging:	Amber flask of 4 ml – ambient temperature
Analysis:	Classic GC

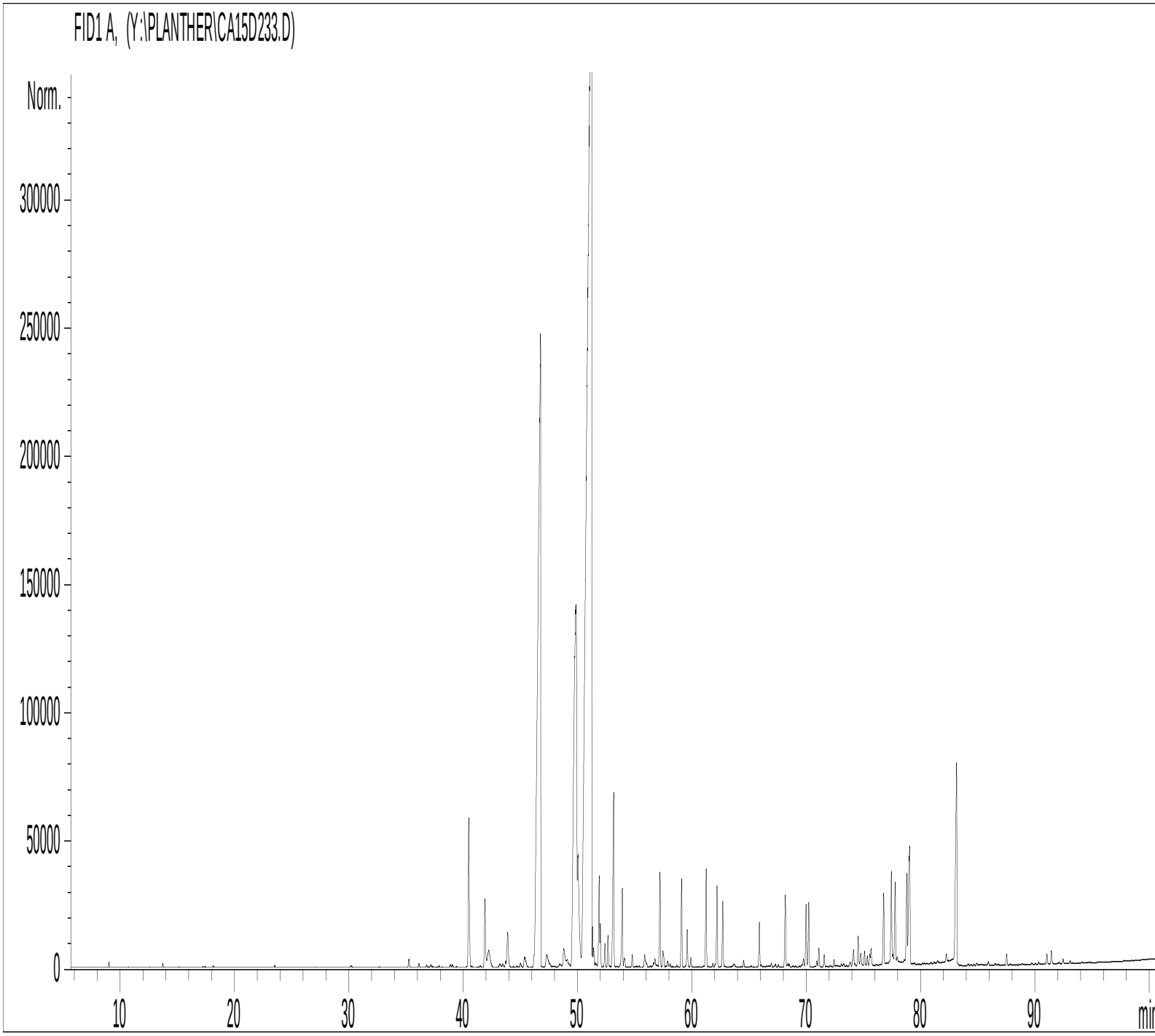
Validated report by : **Daniel DANTIN**

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 : HP 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 : CEDARWOOD BATCH C61100

Peak	RT (min)	Compound name	%	Norm	Allergens
1	4,7	ACETONE	0,04		
2	9,0	α-PINENE	0,04		
3	10,7	CAMPHENE	0,01		
4	11,9	UNDECANE	0,01		
5	12,6	β-PINENE	0,01		
6	13,7	4-METHYL-3-PENTEN-2-ONE	0,03		
7	15,2	β-MYRCENE	0,01		
8	17,2	DODECANE	0,01		
9	17,4	LIMONENE	0,01		0,01
10	18,1	1,8-CINEOLE	0,02		
11	22,5	TERPINOLENE	0,01		
12	23,5	TRIDECANE	0,02		
13	30,2	TETRADECANE	0,04		
14	32,7	α-p-DIMETHYLSTYRENE	0,01		
15	35,3	α-LONGIPINENE	0,08		
16	36,1	YLANGENE	0,04		
17	36,8	PENTADECANE	0,03		
18	37,2	α-COPAENE	0,04		
19	37,9	CEDRENE ISOMER	0,02		
20	38,9	CEDRENE ISOMER	0,03		
21	39,1	α-GURJUNENE	0,03		
22	39,4	SESQUITERPENE	0,01		
23	40,3	ISHWARANE	0,01		
24	40,5	1-METHYL-4-ACETYLCYCLOHEX-1-ENE	1,18		
25	40,5	SESQUITERPENE	0,25		
26	40,8	CEDRENE ISOMER	0,02		
27	41,5	ISOLONGIFOLENE	0,03		
28	41,9	α-CEDRENE + LONGIFOLENE	0,73		
29	42,2	EUDESMATRIENE ISOMER Mw=202	0,45		
30	43,2	β-CUBEBENE	0,06		
31	43,5	SESQUITERPENE	0,05		
32	43,7	SESQUITERPENE	0,06		
33	43,9	β-CEDRENE ISOMER	0,47		
34	44,7	SESQUITERPENE	0,02		
35	45,0	THUYOPSENE	0,06		
36	45,4	CEDRENE ISOMER	0,20		
37	46,2	SESQUITERPENE Mw=202	0,09		
38	46,8	**α-HIMACHALENE**	**15,94**		
39	47,3	E-β-FARNESENE	0,28		
40	47,5	CEDRENE ISOMER	0,04		
41	47,9	HIMACHALENE ISOMER	0,02		
42	48,0	HUMULENE	0,02		
43	48,4	SESQUITERPENE	0,08		
44	48,8	SESQUITERPENE	0,36		
45	49,1	CEDRENE ISOMER	0,12		
46	49,3	HEPTADECANE	0,04		

Identification results 2 : CEDARWOOD BATCH C61100

Peak	RT (min)	Compound name	%	Norm	Allergens
46	49,9	**γ-HIMACHALENE**	**9,96**		
47	50,0	CEDRENE ISOMER	1,73		
48	51,2	**β-HIMACHALENE**	**45,04**		
49	51,3	γ-CURCUMENE	0,19		
50	51,4	EUDESMA-3,5,11-TRIENE	0,15		
51	51,6	HIMACHALENE ISOMER	0,04		
52	51,6	CURCUMENE ISOMER	0,03		
53	51,9	LONGIPINENE ISOMER	0,76		
54	52,0	β-CURCUMENE	0,29		
55	52,4	EUDESMATRIENE ISOMER	0,20		
56	52,7	SESQUITERPENIC EPOXIDE Mw=220	0,27		
57	52,8	DEHYDROISOLONGIFOLENE ISOMER Mw=202	0,01		
58	53,2	δ-CADINENE	1,83		
59	53,4	p-METHYLACETOPHENONE	0,01		
60	53,5	α-CURCUMENE	0,01		
61	53,9	Cis-α-BISABOLENE	0,75		
62	54,1	CYPERA-2,4-DIENE	0,12		
63	54,8	CADINA-1,4-DIENE	0,11		
64	55,0	SESQUITERPENE Mw=204	0,01		
65	55,2	CALAMENENE ISOMER	0,01		
66	55,4	SESQUITERPENE Mw=202	0,01		
67	55,9	SESQUITERPENE Mw=202	0,13		
68	56,0	SESQUITERPENE Mw=202	0,07		
69	56,6	SESQUITERPENE	0,05		
70	56,8	CYPERADIENE ISOMER	0,12		
71	57,2	EUDESMA-2,4,11-TRIENE	0,81		
72	57,5	CALAMENENE	0,21		
73	57,9	AROMATIC COMPONENT	0,07		
74	58,1	COMPONENT Mw=200	0,03		
75	58,7	AROMATIC COMPONENT	0,02		
76	59,1	OCTAHYDRO METHYLPHENANTHRENE Mw=200	0,74		
77	59,6	EUDESMA-3,5,11-TRIENE	0,31		
78	59,9	SESQUITERPENE Mw=202	0,08		
79	61,0	AROMATIC COMPONENT	0,02		
80	61,3	OCTAHYDRO METHYLPHENANTHRENE Mw=200	0,85		
81	61,8	COMPOUND Mw=200	0,03		
81	62,0	COMPOUND Mw=218	0,02		
82	62,2	α-CALACORENE	0,68		
83	62,7	CYCLOTERPENIC ESTER Mw=178	0,54		
84	62,9	AROMATIC COMPONENT	0,01		
85	63,7	COMPONENT Mw=218	0,05		
86	64,5	β-CALACORENE	0,05		
87	65,2	AROMATIC COMPONENT	0,02		
88	65,9	SESQUITERPENONE Mw=218	0,38		
89	68,2	SESQUITERPENOL	0,66		
90	69,8	NEROLIDOL	0,06		

Identification results 3 : CEDARWOOD BATCH C61100

Peak	RT (min)	Compound name	%	Norm	Allergens
91	70,0	β-HIMACHALENOXIDE Mw=220	0,54		
92	70,2	SESQUITERPENOL	0,52		
93	70,9	SESQUITERPENIC EPOXIDE	0,04		
94	71,8	COMPOUND Mw=220	0,14		
95	71,6	SESQUITERPENIC EPOXIDE Mw=220	0,10		
96	72,4	HYDROXYSESQUITERPENIC ACETATE	0,05		
97	73,8	SESQUITERPENIC EPOXIDE	0,06		
98	74,1	LEDENE EPOXIDE	0,17		
99	74,5	SESQUITERPENOL Mw=222	0,27		
100	74,8	SESQUITERPENOL Mw=220	0,15		
101	75,1	FURANIC COMPONENT	0,12		
102	75,3	SESQUITERPENOL Mw=222	0,08		
103	75,6	SESQUITERPENOL	0,10		
104	75,7	SESQUITERPENIC EPOXIDE	0,14		
105	76,8	TUMERONE Mw=218	0,61		
106	77,4	SESQUITERPENONE Mw=218	0,85		
107	77,6	SESQUITERPENOL Mw=220	0,08		
108	77,8	TUMERONE ISOMER Mw=218	0,85		
109	77,9	CADALENE	0,04		
110	78,8	**α-ATLANTONE**	**0,95**		
111	78,9	**β-ATLANTONE**	**0,75**		
112	79,0	**ALLO-HIMACHALOL**	**0,92**		
113	82,3	SESQUITERPENOL Mw=220	0,07		
114	83,1	**γ-ATLANTONE**	**2,84**		
115	85,9	AROMATIC COMPONENT	0,03		
116	87,5	SESQUITERPENONE Mw=218	0,09		
117	91,0	SESQUITERPENIC EPOXIDE	0,09		
118	91,4	SESQUITERPENOL Mw=220	0,12		
119	92,5	SESQUITERPENOL Mw=220	0,04		
		TOTAL	**99,48**		**0,01**