



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: C60101

ESSENTIAL OIL: CEDARWOOD ATLANTICA ORGANIC

BOTANICAL NAME: CEDRUS ATLANTICA

ORIGIN: MORROCO

KEY CONSTITUENTS PRESENT IN THIS BATCH OF CEDARWOOD ATLANTICA ORGANIC OIL	%
β -HIMACHALENE	44.9
α -HIMACHALENE	16.3
γ -HIMACHALENE	9.9
(E)- α -ATLANTONE	3.2
11- α H-Himachala-1,4-diene	1.9
δ -CADINENE	1.7
cis- α -BISABOLENE	1.6
α -DEHYDRO- α -HIMACHALENE	1.0
ALLOHIMACHALOL	1.0

Comments from Robert Tisserand: Excellent sweet-woody odor quality, and the lab report looks fine.

Date : January 26, 2017

SAMPLE IDENTIFICATION

Internal code : 17A17-PTH9-1-DM

Customer identification : Cedarwood Atlas Organic - Morocco - C6010169R

Type : Essential Oil

Source : *Cedrus atlantica*

Customer : Plant Therapy

ANALYSIS

Method : PC-PA-001-15E06, "Analysis of the composition of a liquid essential oil by GC-FID" (in French).

Analyst : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2017-01-25

Checked and approved by :

Alexis St-Gelais, M. Sc., chimiste 2013-174

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IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
Mesityl oxide	1.64	804	0.03	0.03	1078	2.20	Aliphatic ketone
α-Pinene	3.34	927	0.03	0.02	944	1.24	Monoterpene
Limonene	5.09	1029	0.01	0.01	1143	3.04	Monoterpene
para-Cymenene	6.34	1094	0.01	0.01	1370	6.45	Monoterpene
Limona ketone	7.32	1131	0.35	0.37	1472	8.78	Simple phenolic
para-Methylacetophenone	9.06	1195	0.06	0.07	1667	17.02	Simple phenolic
α-Longipinene	15.53	1326	0.07	0.07	1402	7.06	Sesquiterpene
Longicyclene	16.90	1347	0.03	0.02	1427	7.67	Sesquiterpene
α-Copaene	17.36	1354	0.02	0.02	1432	7.81	Sesquiterpene
Unknown (m/z = 131, 146 (36), 91 (20), 202 (19), 145 (16), 159 (14))	18.37	1368	0.35				Sesquiterpene
Sibirene	19.19	1381	0.58	0.54	1487	9.13	Sesquiterpene
Longifolene	19.30	1383	0.52	0.53	1480	8.97	Sesquiterpene
Himachala-2,4-diene	20.78	1403	0.51	0.44	1524	10.48	Sesquiterpene
Thujopsen	21.33	1410	0.10	0.17	1540	11.09	Sesquiterpene
Unknown (m/z = 105, 93 (59), 43 (52), 120 (49), 91 (49), 145 (43)... 204 (2))	21.90	1416	0.21				Sesquiterpene
α-Himachalene	22.66	1426	16.25	16.43	1556	11.68	Sesquiterpene
Vestitenone	23.55	1436	0.68				Terpenic ketone
Unknown (m/z = 131, 105 (87), 119 (86), 91 (83), 159 (63), 187 (61), 202 (59))	24.29	1445	0.96	1.21	1632	15.16	Sesquiterpene
γ-Himachalene	25.07	1455	9.92	10.03	1604	13.72	Sesquiterpene
11-αH-Himachala-1,4-diene	25.37	1458	1.92	1.39	1605	13.78	Sesquiterpene
β-Himachalene	27.36*	1482	45.39	44.90	1627	14.96	Sesquiterpene
α-Muurolene	27.36*	1482	[45.39]	0.41	1644	15.78	Sesquiterpene
cis-α-Bisabolene	27.91	1489	0.14	1.61	1672	17.29*	Sesquiterpene
α-Dehydro-ar-himachalene	28.27	1493	1.02	0.93	1752	22.41	Sesquiterpene
δ-Cadinene	29.03	1503	1.68	[1.61]	1672	17.29*	Sesquiterpene
Unknown (m/z = 131, 91 (25), 202 (20), 115 (18), 159(16), 129 (16))	29.41*	1508	1.83	0.96	1780	24.30	Sesquiterpene
γ-Dehydro-ar-himachalene	29.41*	1508	[1.83]	0.42	1810	26.42	Sesquiterpene
Unknown (m/z = 187, 145 (91), 131 (64), 202 (42))	30.15	1519	0.40				Sesquiterpene
α-Calacorene	30.97	1530	0.66	0.62	1799	25.61	Sesquiterpene
trans-α-Bisabolene	31.50	1537	0.49	0.46	1702	19.02	Sesquiterpene
β-Calacorene	32.38	1549	0.04	0.06	1838	28.48	Sesquiterpene
Himachalene oxide	33.21	1561	0.37	0.36	1853	29.62	Sesquiterp. ether

(E)-Nerolidol	33.70	1567	0.09	0.07	2004	37.57	Sesquiterp. alcohol
Unknown (m/z = 96, 95 (16), 91 (110), 41 (10)... 202? (3))	33.85	1570	0.17				Sesquiterpene
Longiborneol	34.98	1585	0.31	0.33	2026	38.27	Sesquiterp. alcohol
β -Himachalene oxide	35.43	1591	0.46	0.38	1879	31.57	Sesquiterp. ether
Unknown (m/z = 138, 110 (77), 137 (72), 41 (71)... 220 (29))	35.62	1594	0.68				Oxygenated sesquiterp.
1,10-diepi-Cubenol	36.44	1613	0.68	0.52	1953	35.37	Sesquiterp. alcohol
1-epi-Cubenol	36.57	1616	0.22	0.22	1975	36.37	Sesquiterp. alcohol
Himachalol	37.58	1641	0.64	0.92	2096	40.47	Sesquiterp. alcohol
Allohimachalol	38.11	1654	1.00	0.90	2123	41.19	Sesquiterp. alcohol
(E)-10,11-Dihydroatlantone	38.54*	1664	0.47	0.20	2040	38.70	Sesquiterp. ketone
β -Atlantone	38.54*	1664	[0.47]	0.16	2054	39.17	Sesquiterp. ketone
(Z)- γ -Atlantone	39.24	1681	0.73	1.31	2084	40.10*	Sesquiterp. ketone
Deodarone	39.47	1686	0.93	[1.31]	2084	40.10*	Sesquiterp. ketone
Deodarone analog?	39.57	1689	0.95	0.92	2103	40.64	Sesquiterp. ketone
(E)- γ -Atlantone	39.73	1693	0.87	0.76	2107	40.75	Sesquiterp. ketone
(Z)- α -Atlantone	40.44	1714	0.64	0.56	2137	41.56	Sesquiterp. ketone
(E)- α -Atlantone	42.29	1771	3.24	2.95	2205	43.33	Sesquiterp. ketone
Nootkatone	42.88	1790	0.11	0.09	2358	46.80	Sesquiterp. ketone
Total identified			92.22%	90.21%			

*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

Note: no correction factor was applied

OTHER DATA

Physical aspect : Yellow liquid

Refractive index : 1,5110 \pm 0.0003 (20 °C)

CONCLUSION

No adulterant, contaminant or diluent were detected using this method.



