

GC/MS BATCH NUMBER: C50104

ESSENTIAL OIL: CEDARWOOD HIMALAYAN
BOTANICAL NAME: CEDRUS DEODARA
ORIGIN: INDIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF CEDARWOOD HIMALAYAN OIL	%
β -HIMACHALENE	35.8
α -HIMACHALENE	15.0
γ -HIMACHALENE	8.9
(E)- α -ATLANTONE	7.5
(E)- γ -ATLANTONE	3.5
(Z)- γ -ATLANTONE	3.3
(Z)- α -ATLANTONE	1.9
11- α H-HIMACHALA-1,4-DIENE	1.8
VESTITENONE	1.4
HIMACHALOL	1.3
LIMONA KETONE	1.2
TRANS- α -BISABOLENE	1.1
γ -DEHYDRO-AR-HIMACHALENE	1.1

Comments from Robert Tisserand: Beautiful lemon-woody-metallic odor profile. Constituents are in expected amounts.

Date : September 11, 2017

SAMPLE IDENTIFICATION

Internal code : 17I06-PTH4-1-DM

Customer identification : Cedarwood Himalayan - India - C5010471R

Type : Essential oil

Source : *Cedrus deodara*

Customer : Plant Therapy

ANALYSIS


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

Identifications double-checked by GC-MS

Analyst : Alexis St-Gelais, M. Sc., chimiste

Analysis date : 2017-09-07

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	1.68	803	0.04	0.04	1061	2.08	Aliphatic ketone
α -Pinene	3.42	926	0.06	0.05	940	1.20	Monoterpene
β -Pinene	4.20	972	0.02	0.01	1037	1.87	Monoterpene
Limonene	5.17	1027	0.02	0.02	1138	2.97	Monoterpene
Limona ketone	7.42	1133	1.19	1.20	1466	8.49	Simple phenolic
para-Methylacetophenone	9.16	1195	0.31	0.40	1659	16.28	Simple phenolic
α -Terpineol	9.46	1203	0.05	36.36	1629	14.70*	Monoterp. alcohol
α -Longipinene	15.87	1329	0.10	0.10	1403	6.97	Sesquiterpene
β -Elemene	18.71	1372	0.35	0.30	1516	9.93	Sesquiterpene
Sibirene	19.56	1385	0.12	0.71	1487	8.98*	Sesquiterpene
Longifolene	19.68	1387	0.58	[0.71]	1487	8.98*	Sesquiterpene
Himachala-2,4-diene	21.15	1407	0.70	0.58	1526	10.33	Sesquiterpene
Vestitenone isomer	21.70	1413	0.16				Terpenic ketone
Himachala-2,4-diene isomer	22.04	1417	0.42				Sesquiterpene
Unknown (m/z = 105, 93 (81), 43 (70), 120 (67), 91 (60), 145 (56), 107 (45)... 204 (0))	22.29	1420	0.29				Sesquiterpene
α -Himachalene	23.05	1429	15.04	14.96	1556	11.47	Sesquiterpene
Vestitenone	23.88	1439	1.41				Terpenic ketone
<i>trans</i> - β -Farnesene	24.66	1449	0.44	[36.36]	1629	14.70*	Sesquiterpene
γ -Himachalene	25.49	1459	8.90	10.55	1606	13.48*	Sesquiterpene
11- α H-Himachala-1,4-diene	25.79	1462	1.77	[10.55]	1606	13.48*	Sesquiterpene
β -Himachalene	27.72	1485	35.83	[36.36]	1629	14.70*	Sesquiterpene
δ -Amorphene	27.93	1488	0.14	0.30	1644	15.50	Sesquiterpene
<i>cis</i> - α -Bisabolene	28.33	1492	0.10	0.06	1656	16.13	Sesquiterpene
α -Dehydro-ar-himachalene	28.65	1496	0.49	0.50	1753	22.02	Sesquiterpene
γ -Dehydro-ar-himachalene	29.78	1512	1.09	1.36	1807	25.69	Sesquiterpene
Unknown (m/z = 187, 145 (91), 131 (64), 202 (42))	30.57	1523	0.26				Sesquiterpene
<i>trans</i> - α -Bisabolene	31.93	1542	1.11	1.12	1706	18.83	Sesquiterpene
Unknown (m/z = 96, 95 (16), 91 (110), 41 (10)... 202? (3))	33.50	1564	0.25				Sesquiterpene
(<i>E</i>)-Nerolidol	33.88	1569	0.11	0.11	1980	36.26	Sesquiterp. alcohol
Longiborneol	35.16	1587	0.29	0.50	2022	37.87	Sesquiterp. alcohol
β -Himachalene oxide	35.68	1595	0.22	0.20	1877	30.88	Sesquiterp. ether
Unknown (m/z = 138, 110 (77), 137 (72), 41 (71)... 220 (29))	35.87	1597	0.51				Oxygenated sesquiterpene

6-Methyl-6-m-tolyl-heptan-2-one	37.30	1632	0.20				Terpenic ketone
Unknown (m/z = 163, 95 (46), 107 (38), 147 (36), 93 (36), 93 (36)...))	37.61	1640	0.42				
Himachalol	37.77	1644	1.31	4.58	2083	39.81*	Sesquiterp. alcohol
Allohimachalol	38.27	1656	0.85	1.02	2119	40.84	Sesquiterp. alcohol
(E)-10,11-Dihydroatlantone	38.76*	1668	1.54	0.71	2042	38.51	Sesquiterp. ketone
β-Atlantone	38.76*	1668	[1.54]	0.67	2058	39.01	Sesquiterp. ketone
(Z)-γ-Atlantone	39.46	1685	3.32	[4.58]	2083	39.81*	Sesquiterp. ketone
Deodarone	39.65	1690	0.69	0.69	2093	40.12	Sesquiterp. ketone
Deodarone analog?	39.74	1692	0.71	0.59	2098	40.29	Sesquiterp. ketone
(E)-γ-Atlantone	39.95	1697	3.50	3.69	2105	40.47	Sesquiterp. ketone
(Z)-α-Atlantone	40.63	1718	1.86	1.94	2136	41.29	Sesquiterp. ketone
(E)-α-Atlantone	42.51	1777	7.53	7.59	2204	43.07	Sesquiterp. ketone
Nootkatone	43.02	1793	0.14	0.13	2351	46.38	Sesquiterp. ketone
Total identified			93.22%	91.04%			

*: 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 : 1.5118 ± 0.0003 (20 °C)

CONCLUSION

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

17106-PTH4-1-DM_BP5

