



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: C50103

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

KEY CONSTITUENTS PRESENT IN THIS BATCH OF CEDARWOOD HIMALAYAN OIL	%
β -HIMACHALENE	37.6
α -HIMACHALENE	14.0
(E)- α -ATLANTONE	9.2
γ -HIMACHALENE	8.7
(Z)- γ -ATLANTONE	3.2
(E)- γ -ATLANTONE	3.3
(Z)- α -ATLANTONE	1.8
11- α H-HIMACHALA-1,4-DIENE	1.7
VESTITENONE	1.7
β -HIMACHALENE OXIDE	1.2

Comments from Robert Tisserand: Dry-woody odor quality with a hint of blackcurrant bud. Constituents are in expected amounts.

Date : August 1, 2017

SAMPLE IDENTIFICATION

Internal code : 17G31-PTH2-1-SM

Customer identification : Cedarwood Himalayan - India - C50103R

Type : Essential oil

Source : *Cedrus deodara*

Customer : Plant Therapy

ANALYSIS

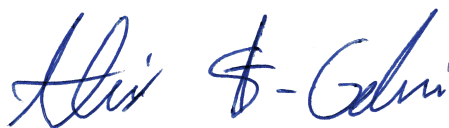
Method : PC-PA-001-15E06, "Analysis of the composition of a liquid essential oil by GC-FID" (in French).

Identifications double-checked by GC-MS

Analyst : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2017-07-31

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	1.70	805	0.07	0.05	1055	1.72	Aliphatic ketone
α -Pinene	3.44	930	0.02	0.02	946	1.01	Monoterpene
Limonene	5.20	1032	0.01				Monoterpene
Limona ketone	7.47	1137	0.82	0.83	1464	7.38	Simple phenolic
para-Methylacetophenone	9.23	1201	0.11	0.12	1668	13.92	Simple phenolic
α -Terpineol	9.54	1208	0.03	10.35	1616	11.79*	Monoterp. alcohol
α -Longipinene	15.95	1334	0.09	0.09	1413	6.39	Sesquiterpene
Sibirene	19.66	1391	0.15	0.09	1487	7.90	Sesquiterpene
Longifolene	19.79	1393	0.51	0.53	1492	8.02	Sesquiterpene
Himachala-2,4-diene	21.27	1412	0.65	0.52	1539	9.10	Sesquiterpene
<i>trans</i> - α -Bergamotene	22.17	1423	0.18	0.11	1518	8.64	Sesquiterpene
Himachala-2,4-diene isomer	22.41	1426	0.21				Sesquiterpene
α -Himachalene	23.16	1435	13.96	14.13	1567	10.05	Sesquiterpene
Vestitenone	24.05	1446	1.65				Terpenic ketone
<i>trans</i> - β -Farnesene	24.51	1451	0.12	[10.35]	1616	11.79*	Sesquiterpene
Unknown (m/z = 131, 105 (87), 119 (86), 91 (83), 159 (63), 187 (61), 202 (59))	24.86	1455	1.12	0.93	1651	13.08	Sesquiterpene
γ -Himachalene	25.61	1464	8.67	[10.35]	1616	11.79*	Sesquiterpene
11- α H-Himachala-1,4-diene	25.93	1468	1.74	[10.35]	1616	11.79*	Sesquiterpene
β -Himachalene	27.86	1491	37.64	38.49	1644	12.82	Sesquiterpene
<i>cis</i> - α -Bisabolene	28.08	1494	0.21	0.24	1657	13.37	Sesquiterpene
α -Dehydro-ar-himachalene	28.79	1503	0.42	0.33	1762	18.79	Sesquiterpene
γ -Dehydro-ar-himachalene	29.92	1519	0.82	1.44	1816	22.21	Sesquiterpene
Unknown (m/z = 187, 145 (91), 131 (64), 202 (42))	30.73	1530	0.32				Sesquiterpene
α -Calacorene	31.52	1541	0.13	0.16	1805	21.56	Sesquiterpene
<i>trans</i> - α -Bisabolene	32.05	1548	0.77	0.76	1714	16.31	Sesquiterpene
Himachalene oxide	32.79	1559	0.17	0.20	1862	25.16	Sesquiterp. ether
Unknown (m/z = 96, 95 (16), 91 (110' 41 (10)... 202? (3))	33.29	1566	0.34				Sesquiterpene
(<i>E</i>)-Nerolidol	34.02	1576	0.10	0.13	1993	33.77	Sesquiterp. alcohol
Longiborneol	35.31	1594	0.31	0.26	2014	34.64	Sesquiterp. alcohol
β -Himachalene oxide	35.81	1601	1.18	1.11	1891	27.26	Sesquiterp. ether
Unknown (m/z = 138, 110 (77), 137 (72), 41 (71)... 220 (29))	35.98	1605	0.47				Sesquiterpene
Himachalol	37.86	1651	0.68	3.70	2091	37.80*	Sesquiterp. alcohol
Allohimachalol	38.38	1664	0.98	1.03	2128	38.89	Sesquiterp. alcohol

β -Atlantone	38.84*	1675	1.45	0.69	2066	36.93	Sesquiterp. ketone
(E)-10,11-Dihydroatlantone	38.84*	1675	[1.45]	0.71	2053	36.35	Sesquiterp. ketone
(Z)- γ -Atlantone	39.54	1692	3.20	[3.70]	2091	37.80*	Sesquiterp. ketone
Deodarone	39.73	1697	0.51	0.56	2105	38.21	Sesquiterp. ketone
Deodarone analog?	39.83	1699	0.70	3.87	2117	38.54*	Sesquiterp. ketone
(E)- γ -Atlantone	40.03	1706	3.33	[3.87]	2117	38.54*	Sesquiterp. ketone
(Z)- α -Atlantone	40.71	1727	1.76	1.80	2147	39.48	Sesquiterp. ketone
(E)- α -Atlantone	42.60	1787	9.24	9.49	2217	41.39	Sesquiterp. ketone
Nootkatone	43.10	1803	0.11	0.10	2356	44.68	Sesquiterp. ketone
Total identified			92.70%	91.91%			

*: 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 : 1.5130 \pm 0.0003 (20 °C)

CONCLUSION

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

17G31-PTH2-1-SM_BP5

