



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: F50102

ESSENTIAL OIL: FRANKINCENSE SERRATA ORGANIC

BOTANICAL NAME: BOSWELLIA SERRATA

ORIGIN: INDIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF FRANKINCENSE SERRATA ORGANIC OIL	%
α -THUJENE	60.1
α -PINENE	6.9
METHYLCHAVICOL	6.3
p-CYMENE	4.9
LIMONENE	4.9
MYRCENE	3.1
LINALOOL	3.1
Δ^3 -CARENE	2.8
SABINENE	2.5
β -PINENE	1.3

Comments from Robert Tisserand: A sweet-green, almost basil-like Indian Frankincense oil.

Date : March 31, 2017

SAMPLE IDENTIFICATION

Internal code : 17C20-PTH2-1-DM

Customer identification : Frankincense Serrata Organic - India - F5010268R

Type : Essential oil

Source : *Boswellia serrata*

Customer : Plant Therapy

ANALYSIS

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

Analyst : Benoit Roger Ph. D.

Analysis date : 2017-03-27

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.	
Hashishene	3.20	916	0.12	67.16	974	1.29*	Monoterpene
α -Thujene	3.38	926	60.06	[67.16]	974	1.29*	Monoterpene
α -Pinene	3.44	930	6.85	[67.16]	974	1.29*	Monoterpene
Unknown (m/z = 91, 92 (49), 65 (12)... 134? (2))	3.63	941	0.13	0.12	1066	2.07	Monoterpene
Camphene	3.69	945	0.10	0.12	997	1.46	Monoterpene
Thuja-2,4(10)-diene	3.78	951	0.01	2.47	1058	1.99*	Monoterpene
Sabinene	4.12	971	2.53	[2.47]	1058	1.99*	Monoterpene
β -Pinene	4.18	974	1.34	1.32	1039	1.82	Monoterpene
Myrcene	4.46	991	3.12	3.12	1116	2.57*	Monoterpene
Pseudolimonene	4.67	1003	0.14	[3.12]	1116	2.57*	Monoterpene
Δ^3 -Carene	4.74*	1007	3.58	2.83	1088	2.30	Monoterpene
α -Phellandrene	4.74*	1007	[3.58]	0.87	1109	2.47	Monoterpene
α -Terpinene	4.91	1016	0.20	0.20	1122	2.64	Monoterpene
meta-Cymene	5.01	1021	0.10	[3.12]	1116	2.57*	Monoterpene
para-Cymene	5.11	1027	4.90	5.00	1209	3.80	Monoterpene
Limonene	5.16	1030	4.85	4.69	1142	2.90	Monoterpene
β -Phellandrene	5.18	1031	0.22	0.29	1146	2.96*	Monoterpene
1,8-Cineole	5.22	1033	0.05	[0.29]	1146	2.96*	Monoterp. ether
cis- β -Ocimene	5.32	1038	0.19	0.15	1186	3.48	Monoterpene
trans- β -Ocimene	5.50	1048	0.10	0.10	1201	3.69	Monoterpene
Lavender lactone	5.65	1057	0.04	0.01	1618	13.48	Lactone
γ -Terpinene	5.68	1058	0.42	0.43	1188	3.50	Monoterpene
cis-Sabinene hydrate	5.99	1075	0.01	0.01	1410	6.92	Monoterp. alcohol
Isoterpinolene	6.11	1082	0.05	0.05	1224	4.02	Monoterpene
Terpinolene	6.16	1084	0.11	0.11	1222	3.99	Monoterpene
para-Cymenene	6.34	1095	0.15	0.04	1362	6.13	Monoterpene
Linalool	6.62	1106	3.10	3.13	1495	8.96	Monoterp. alcohol
α -Thujone	6.70	1109	0.01	0.01	1345	5.84	Monoterp. ketone
β -Thujone	6.95	1119	0.05	0.04	1359	6.08	Monoterp. ketone
cis-para-Menth-2-en-1-ol	7.16	1126	0.02	0.01	1499	9.05	Monoterp. alcohol
trans-Pinocarveol	7.42	1136	0.03	0.01	1570	11.57	Monoterp. alcohol
trans-para-Menth-2-en-1-ol	7.49	1138	0.03	0.02	1567	11.47	Monoterp. alcohol
Borneol	8.44	1173	0.02	0.02	1623	13.75*	Monoterp. alcohol
Terpinen-4-ol	8.66	1181	0.07	0.06	1527	9.98	Monoterp. alcohol
Myrtenal	9.07	1196	0.04	0.01	1539	10.43	Monoterp. aldehyde
α -Terpineol	9.23	1201	0.01	[0.02]	1623	13.75*	Monoterp. alcohol
Methylchavicol	9.40	1205	6.25	6.27	1584	12.10	Phenylpropanoid
Verbenone	9.53	1208	0.01	0.01	1600	12.67	Monoterp. ketone
Octyl acetate	9.89	1216	0.02	0.01	1427	7.32	Aliphatic ester
Linalyl acetate	11.59	1254	0.01	0.01	1505	9.20	Monoterp. ester

Unknown (m/z = 109, 43 (70), 41 (35), 111 (35), 87 (34)...) 15.00 1320 0.01							
α -Methylcinnamaldehyde 15.45 1327 0.02							Phenylpropanoid
α -Copaene 17.51 1358 0.01	0.01	1433	7.48				Sesquiterpene
β -Bourbonene 17.92 1364 0.08	0.08	1447	7.81				Sesquiterpene
β -Elemene 18.94 1380 0.01	0.03	1529	10.05				Sesquiterpene
β -Caryophyllene 20.35 1401 0.02	0.02	1523	9.81				Sesquiterpene
β -Copaene 20.73 1406 0.02	0.03	1517	9.60				Sesquiterpene
meta-Camphorene 46.79 1941 0.06	0.06	2131	40.67				Diterpene
Total identified	99.13%	98.81%					

*: 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 : Clear liquid

Refractive index : 1.4625 \pm 0.0003 (20 °C)

CONCLUSION

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



