

Date : March 10, 2017

SAMPLE IDENTIFICATION

Internal code : 17C03-NGA3-1-DM

Customer identification : Cajeput - AU-16046

Type : Essential oil

Source : *Melaleuca cajuputi*

Customer : Nature's Gift Aromatherapy

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 : 2017-03-03

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	3.19	915	0.01	2.67	951	1.19*	Monoterpene
α -Thujene	3.30	922	0.04	0.06	961	1.23	Monoterpene
α -Pinene	3.40	928	2.78	[2.67]	951	1.19*	Monoterpene
α -Fenchene	3.67	944	0.01	0.01	994	1.42	Monoterpene
Camphene	3.68	945	0.05	0.04	1001	1.48	Monoterpene
Thuja-2,4(10)-diene	3.77	950	0.01	0.10	1061	2.02*	Monoterpene
Sabinene	4.11	970	0.10	[0.10]	1061	2.02*	Monoterpene
β -Pinene	4.17	974	0.43	0.41	1043	1.85	Monoterpene
Myrcene	4.45*	990	0.55	0.49	1119	2.61	Monoterpene
<i>trans</i> -Dehydroxylinalool oxide	4.45*	990	[0.55]	0.09	1162	3.17	Monoterp. ether
α -Phellandrene	4.72*	1006	0.55	0.46	1112	2.52	Monoterpene
Δ^3 -Carene	4.72*	1006	[0.55]	0.03	1097	2.33	Monoterpene
α -Terpinene	4.91*	1016	0.19	0.18	1126	2.70	Monoterpene
<i>cis</i> -Dehydroxylinalool oxide	4.91*	1016	[0.19]				Monoterp. ether
para-Cymene	5.11	1027	1.06	6.61	1215	3.88	Monoterpene
1,8-Cineole	5.30*	1038	85.05	77.32	1161	3.16	Monoterp. ether
Limonene	5.30*	1038	[85.05]	2.10	1147	2.97	Monoterpene
<i>cis</i> - β -Ocimene	5.33	1039	0.26	5.23	1195	3.60*	Monoterpene
<i>trans</i> - β -Ocimene	5.50	1048	0.08	0.08	1206	3.76	Monoterpene
γ -Terpinene	5.70	1059	5.12	[5.23]	1195	3.60*	Monoterpene
Unknown (m/z = 79, 93 (67), 43 (55), 94 (49), 137 (32)... 152 (20))	5.95	1073	0.04				Oxygenated monoterp.
<i>cis</i> -Linalool oxide (fur.)	5.98	1075	0.04	0.04	1381	6.42	Monoterp. alcohol
Terpinolene	6.15	1084	0.30	0.28	1227	4.06	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	6.26	1090	0.03	0.03	1410	6.92	Monoterp. alcohol
para-Cymenene	6.33	1094	0.09	0.08	1371	6.25	Monoterpene
Linalool	6.57*	1105	0.20	0.18	1500	9.07	Monoterp. alcohol
Isoamyl isovalerate	6.57*	1105	[0.20]	0.03	1252	4.43	Aliphatic ester
2-Isopropyl-5-methyl-(2Z)-hexenal	6.69	1109	0.03				Aliphatic aldehyde
endo-Fenchol	6.98	1119	0.05	0.25	1520	9.71*	Monoterp. alcohol
allo-Ocimene	7.13	1125	0.02	0.02	1320	5.47	Monoterpene
<i>cis</i> -para-Mentha-2,8-dien-1-ol	7.42	1136	0.01	0.03	1604	12.83*	Monoterp. alcohol
<i>trans</i> -Pinocarveol	7.45	1137	0.18	0.17	1573	11.68	Monoterp. alcohol
<i>trans</i> -Verbenol	7.68	1145	0.01	0.02	1612	13.15	Monoterp. alcohol
Nerol oxide	7.87	1152	tr				Monoterp. ether
Pinocamphone	8.04	1158	0.01	0.01	1430	7.40	Monoterp. ketone

δ-Terpineol	8.40*	1172	0.04	[0.03]	1604	12.83*	Monoterp. alcohol
Borneol	8.40*	1172	[0.04]	0.06	1620	13.58	Monoterp. alcohol
Terpinen-4-ol	8.61	1179	0.37	0.34	1532	10.15	Monoterp. alcohol
para-Cymen-8-ol	9.06	1196	0.02				Monoterp. alcohol
α-Terpineol	9.21	1201	0.69	0.66	1629	14.02*	Monoterp. alcohol
Carvone	11.58	1253	0.01	[0.66]	1629	14.02*	Monoterp. ketone
α-Terpinyl acetate	16.40	1341	0.08	0.07	1627	13.94	Monoterp. ester
α-Ylangene	17.04*	1351	0.03	0.01	1423	7.24	Sesquiterpene
Eugenol	17.04*	1351	[0.03]	0.02	2070	38.81	Phenylpropanoid
α-Copaene	17.76	1362	0.01	0.01	1427	7.33	Sesquiterpene
β-Caryophyllene	20.28	1400	0.21	[0.25]	1520	9.71*	Sesquiterpene
Aromadendrene	21.62	1416	0.02	0.02	1529	10.05	Sesquiterpene
α-Humulene	23.01	1433	0.11	0.10	1582	12.01	Sesquiterpene
β-Selinene	25.78	1466	0.10	[0.66]	1629	14.02*	Sesquiterpene
δ-Selinene	26.00	1469	0.03				Sesquiterpene
α-Selinene	26.42	1474	0.09	0.08	1633	14.26	Sesquiterpene
Globulol	33.81	1573	0.06	0.05	1976	35.25	Sesquiterp. alcohol
Viridiflorol	34.30	1580	0.06	0.05	1983	35.60	Sesquiterp. alcohol
β-Eudesmol	37.63	1646	0.02	0.03	2115	40.18	Sesquiterp. alcohol
Total identified			99.21%	98.52%			

*: 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

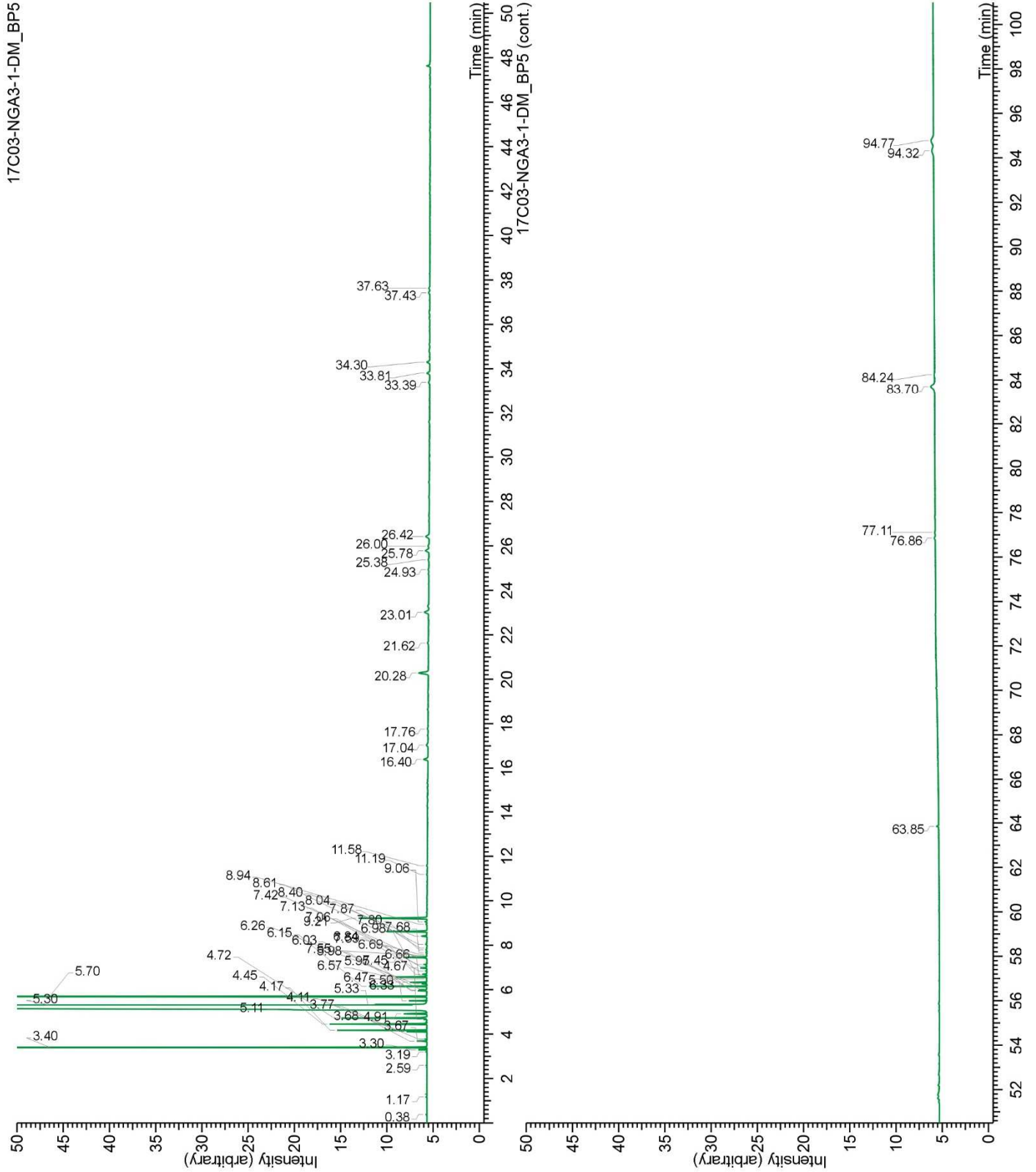
OTHER DATA

Physical aspect : Light green liquid

Refractive index : 1.4615 ± 0.0003 (20 °C)

CONCLUSION

No adulterant, contaminant or diluent were detected using this method. Targeted analysis for chamazulene and its derivatives did not reveal any trace thereof.



17C03-NGA3-1-DM_WAX

