

Date : July 20, 2017

SAMPLE IDENTIFICATION

Internal code : 17G11-PTH5

Customer identification : Clary Sage Organic - France - CC410016R

Type : Essential oil

Source : *Salvia sclarea*

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 : 2017-07-18

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.	
<i>cis</i> -Hex-3-en-1-ol	2.49	866	0.08	0.06	1315	4.99	Aliphatic alcohol
<i>trans</i> -Hex-2-en-1-ol	2.66	879	0.06	0.05	1340	5.36*	Aliphatic alcohol
Hexanol	2.73	884	0.03	0.02	1292	4.66	Aliphatic alcohol
α -Pinene	3.43	930	0.10	0.09	940	1.01	Monoterpene
Camphene	3.72	947	0.02	0.02	996	1.26	Monoterpene
Sabinene	4.15	972	0.06	0.05	1057	1.73	Monoterpene
β -Pinene	4.21	976	0.11	0.10	1040	1.58	Monoterpene
Myrcene	4.49*	993	0.57	0.45	1112	2.26	Monoterpene
Octen-3-ol	4.49*	993	[0.57]	0.04	1398	6.26	Aliphatic alcohol
Octan-3-ol	4.79	1010	0.05	[0.05]	1340	5.36*	Aliphatic alcohol
para-Cymene	5.15	1029	0.02	0.33	1197	3.33*	Monoterpene
Limonene	5.18	1031	0.17	0.17	1138	2.57	Monoterpene
1,8-Cineole	5.25	1035	0.02	0.07	1149	2.71	Monoterp. ether
<i>cis</i> - β -Ocimene	5.36	1041	0.21	0.25	1182	3.13*	Monoterpene
<i>trans</i> - β -Ocimene	5.55	1051	0.33	[0.33]	1197	3.33*	Monoterpene
γ -Terpinene	5.73	1061	0.02	[0.25]	1182	3.13*	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	6.01	1077	0.03	0.02	1370	5.82	Monoterp. alcohol
Terpinolene	6.21	1087	0.06	0.06	1219	3.62	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	6.33	1094	0.03	0.02	1397	6.23	Monoterp. alcohol
Linalool	6.80	1113	17.71	17.52	1489	8.12*	Monoterp. alcohol
Borneol	8.64	1180	0.04	0.05	1610	11.88	Monoterp. alcohol
Terpinen-4-ol	8.81	1187	0.02	1.34	1522	8.88*	Monoterp. alcohol
α -Terpineol	9.53	1208	1.36	1.23	1619	12.21	Monoterp. alcohol
γ -Terpineol	9.85	1215	0.25	2.61	1622	12.35*	Monoterp. alcohol
Linalyl formate	10.41	1227	0.02	0.16	1459	7.40*	Monoterp. ester
Nerol	10.75	1235	0.28	0.36	1724	17.26	Monoterp. alcohol
Linalyl acetate	11.78	1258	67.74	69.12	1506	8.52	Monoterp. ester
Geraniol	11.91	1261	0.76	0.72	1778	20.37	Monoterp. alcohol
Bornyl acetate	12.99	1285	0.04	0.22	1515	8.73*	Monoterp. ester
Geranyl formate	14.09	1306	0.05	0.03	1633	12.71	Monoterp. ester
α -Cubebene	16.02	1336	0.02	0.02	1413	6.48	Sesquiterpene
α -Terpinyl acetate	16.58	1344	0.08	[2.61]	1622	12.35*	Monoterp. ester
α -Copaene	17.75	1362	0.51	0.51	1440	6.97	Sesquiterpene
Neryl acetate	17.91	1364	0.50	0.61	1658	13.85*	Monoterp. ester
β -Bourbonene	18.18	1368	0.17	[0.16]	1459	7.40*	Sesquiterpene
β -Cubebene	18.73	1377	0.14	[17.52]	1489	8.12*	Sesquiterpene
β -Elemene	18.97	1380	0.09	[1.34]	1522	8.88*	Sesquiterpene
Geranyl acetate	19.42	1387	1.00	1.00	1688	15.36	Monoterp. ester
β -Caryophyllene	20.66	1405	1.26	[1.34]	1522	8.88*	Sesquiterpene
β -Copaene	21.56	1416	0.04	[0.22]	1515	8.73*	Sesquiterpene
Aromadendrene	22.03	1421	0.04	[1.34]	1522	8.88*	Sesquiterpene

α-Humulene	23.43	1438	0.05	0.05	1580	10.81	Sesquiterpene
Germacrene D	25.70	1465	2.29	[2.61]	1622	12.35*	Sesquiterpene
β-Selinene	26.32	1473	0.23	[2.61]	1622	12.35*	Sesquiterpene
Bicyclogermacrene	26.89	1480	0.15	0.11	1645	13.17	Sesquiterpene
Valencene	27.81	1491	0.07	[0.61]	1658	13.85*	Sesquiterpene
γ-Cadinene	28.51	1499	0.05	0.05	1666	14.23	Sesquiterpene
(E,E)-α-Farnesene	29.14	1508	0.16	0.09	1692	15.58	Sesquiterpene
δ-Cadinene	29.38	1511	0.09	0.13	1674	14.67	Sesquiterpene
Caryophyllene oxide	33.83	1573	0.27	0.20	1848	24.95	Sesquiterp. ether
Spathulenol	33.95	1575	0.13	0.11	2021	35.51	Sesquiterp. alcohol
Humulene epoxide II	35.08	1590	0.10	0.08	1901	28.68	Sesquiterp. ether
β-Eudesmol	37.86	1651	0.09	0.08	2110	38.72	Sesquiterp. alcohol
Bulnesol	38.39	1664	0.04	0.04	2118	38.98	Sesquiterp. alcohol
Sclareoloxide	44.90	1868	0.16	0.12	2097	38.32	Diterp. ether
Manool	49.39	2049	0.04	0.06	2541	48.79	Diterp. alcohol
Sclareol	53.21	2221	0.61	0.66	2974	56.52	Diterp. alcohol
Total identified			98.62%	99.08%			

*: 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

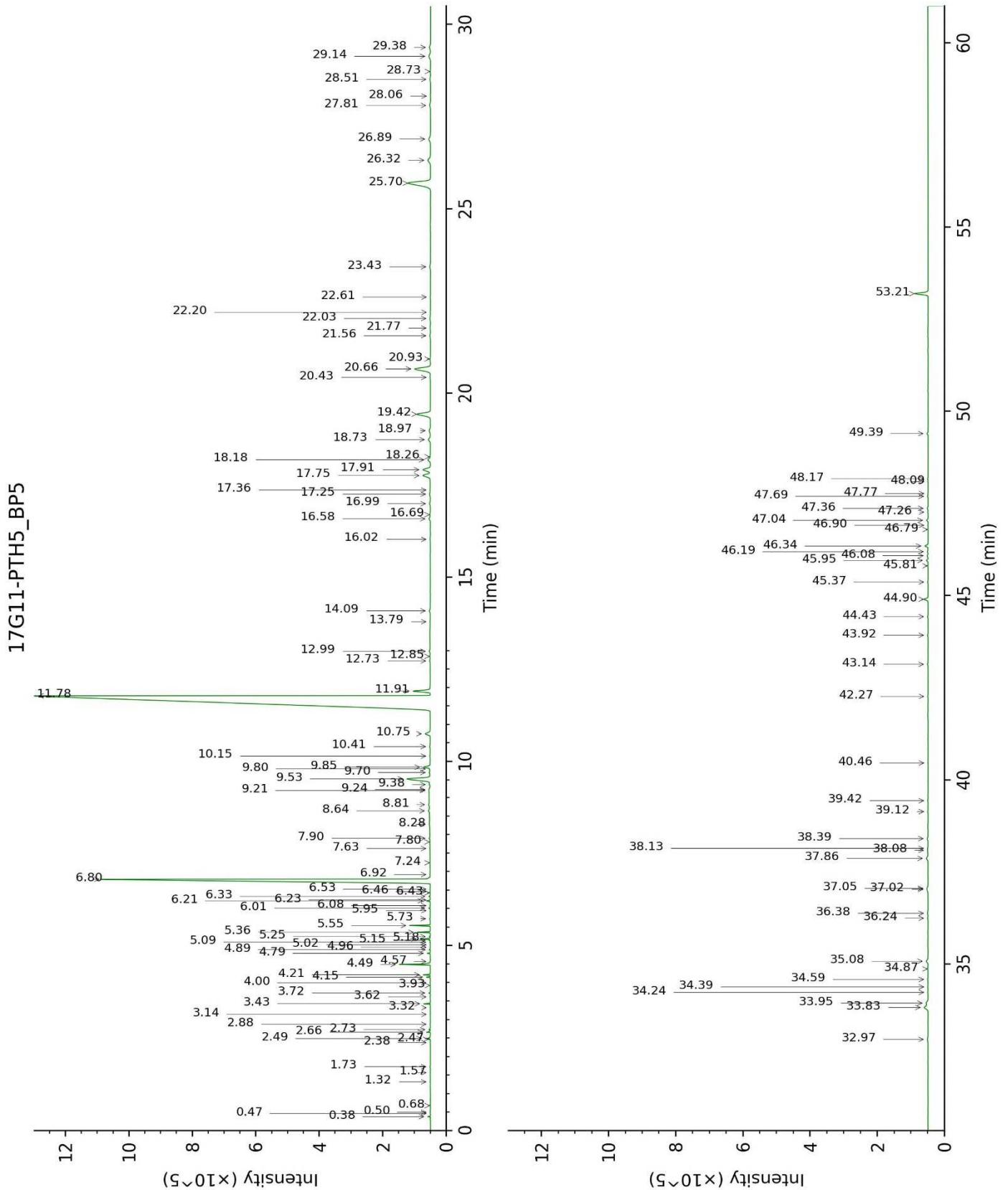
OTHER DATA

Physical aspect : Clear liquid

Refractive index : 1.4575 ± 0.0003 (20 °C)

CONCLUSION

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



17G11-PTH5_WAX

