



PLANT THERAPY
100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: CF0107

ESSENTIAL OIL: CLARY SAGE
BOTANICAL NAME: SALVIA SCLAREA
ORIGIN: FRANCE

KEY CONSTITUENTS PRESENT IN THIS BATCH OF CLARY SAGE OIL	%
LINALYL ACETATE	69.7
LINALOOL	17.8
α -TERPINEOL	1.7
GERMACRENE D	1.4
β -CARYOPHYLLENE	1.4
GERANYL ACETATE	1.1

Comments from Robert Tisserand: Sweet, green-winey odor quality. Four of five key ISO constituents are within range, sclareol is marginally low - not a concern.

Date : October 25, 2017

SAMPLE IDENTIFICATION

Internal code : 17J18-PTH2-1-CC

Customer identification : Clary Sage - France - CF010759R

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).

Identifications double-checked by GC-MS

Analyst : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2017-10-25

Checked and approved by :



Alexis St-Gelais, M. Sc., chimiste 2013-174

Note: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.

This report is digitally signed, it is only considered valid if the digital signature is intact.

IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
Isoamyl alcohol	1.17	739	0.01	0.08	1155	3.06*	Aliphatic alcohol
2-Methylbutyl alcohol	1.19	742	0.01	[0.08]	1155	3.06*	Aliphatic alcohol
(2E)-Hexenal	2.47	862	0.03				Aliphatic aldehyde
cis-Hex-3-en-1-ol	2.50	865	0.05	0.05	1324	5.51	Aliphatic alcohol
trans-Hex-2-en-1-ol	2.67	878	0.07	0.08	1347	5.87	Aliphatic alcohol
Hexanol	2.73	883	0.04	0.02	1301	5.14	Aliphatic alcohol
α-Pinene	3.42	927	0.18	0.18	953	1.17	Monoterpene
Camphene	3.72	944	0.02	0.02	1003	1.46	Monoterpene
Sabinene	4.15	969	0.04	0.06	1057	2.00	Monoterpene
β-Pinene	4.21	973	0.12	0.12	1041	1.83	Monoterpene
Myrcene	4.49	989	0.58	0.48	1119	2.59	Monoterpene
Octen-3-ol	4.54	992	0.05	0.07	1400	6.71	Aliphatic alcohol
Limonene	5.18	1028	0.44	0.46	1143	2.92*	Monoterpene
1,8-Cineole	5.24	1031	0.01	[0.46]	1143	2.92*	Monoterp. ether
cis-β-Ocimene	5.36	1038	0.24	0.28	1190	3.53*	Monoterpene
trans-β-Ocimene	5.54	1048	0.35	0.34	1206	3.74	Monoterpene
γ-Terpinene	5.73	1058	0.02	[0.28]	1190	3.53*	Monoterpene
cis-Linalool oxide (fur.)	6.02	1073	0.03	0.02	1377	6.35	Monoterp. alcohol
Terpinolene	6.21	1084	0.06	0.05	1227	4.06	Monoterpene
trans-Linalool oxide (fur.)	6.34	1091	0.03	0.04	1407	6.86	Monoterp. alcohol
Linalool	6.82	1111	17.81	16.42	1501	9.08	Monoterp. alcohol
Hotrienol	6.86	1112	0.03	0.02	1540	10.48	Monoterp. alcohol
Camphor	7.81	1147	0.03	0.03	1424	7.27	Monoterp. ketone
Borneol	8.69	1178	0.08	3.37	1623	13.84*	Monoterp. alcohol
Terpinen-4-ol	8.84	1184	0.05	1.57	1526	10.00*	Monoterp. alcohol
α-Terpineol	9.59	1206	1.70	[3.37]	1623	13.84*	Monoterp. alcohol
Linalyl formate	9.87	1212	0.38	0.40	1438	7.57*	Monoterp. ester
Nerol	10.82	1233	0.27	0.33	1730	19.68	Monoterp. alcohol
Linalyl acetate	11.79	1254	69.07	71.16	1515	9.57*	Monoterp. ester
Geraniol	11.96	1258	0.60	0.62	1782	23.10	Monoterp. alcohol
Geranial	12.77	1276	0.03	0.18	1643	14.85*	Monoterp. aldehyde
Bornyl acetate	13.00	1281	0.05	[71.16]	1515	9.57*	Monoterp. ester
Geranyl formate	14.10	1303	0.06	0.04	1638	14.57	Monoterp. ester
α-Terpinyl acetate	16.67	1342	0.12	[3.37]	1623	13.84*	Monoterp. ester
α-Copaene	17.77	1358	0.41	[0.40]	1438	7.57*	Sesquiterpene
Neryl acetate	17.93	1361	0.56	0.62	1662	15.84*	Monoterp. ester
β-Bourbonene	18.19	1365	0.14	0.10	1459	8.09	Sesquiterpene
β-Cubebene	18.75	1373	0.09	0.08	1486	8.73	Sesquiterpene
β-Elemene	18.99	1377	0.06	[1.57]	1526	10.00*	Sesquiterpene
Geranyl acetate	19.44	1383	1.05	1.13	1695	17.55*	Monoterp. ester
β-Caryophyllene	20.69	1401	1.35	[1.57]	1526	10.00*	Sesquiterpene

α -Humulene	23.47	1434	0.05	0.05	1587	12.19	Sesquiterpene
Germacrene D	25.73	1461	1.43	[3.37]	1623	13.84*	Sesquiterpene
β -Selinene	26.35	1469	0.17	[3.37]	1623	13.84*	Sesquiterpene
Bicyclogermacrene	26.94	1476	0.17	[0.18]	1643	14.85*	Sesquiterpene
γ -Cadinene	28.79	1498	0.02	[0.62]	1662	15.84*	Sesquiterpene
(<i>E,E</i>)- α -Farnesene	29.43*	1507	0.15	[1.13]	1695	17.55*	Sesquiterpene
δ -Cadinene	29.43*	1507	[0.15]	0.06	1678	16.63	Sesquiterpene
Caryophyllene oxide	33.90	1570	0.13	0.14	1848	27.78	Sesquiterp. ether
Spathulenol	34.07	1572	0.10	0.11	2017	37.23	Sesquiterp. alcohol
β -Eudesmol	37.95	1648	0.03	0.05	2109	40.13	Sesquiterp. alcohol
Sclareoloxide	44.97	1864	0.04	0.07	2098	39.81	Diterp. ether
Sclareol	53.32	2216	0.23	0.25	2989	57.82	Diterp. alcohol
Total identified			98.84%	99.15%			

*: 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

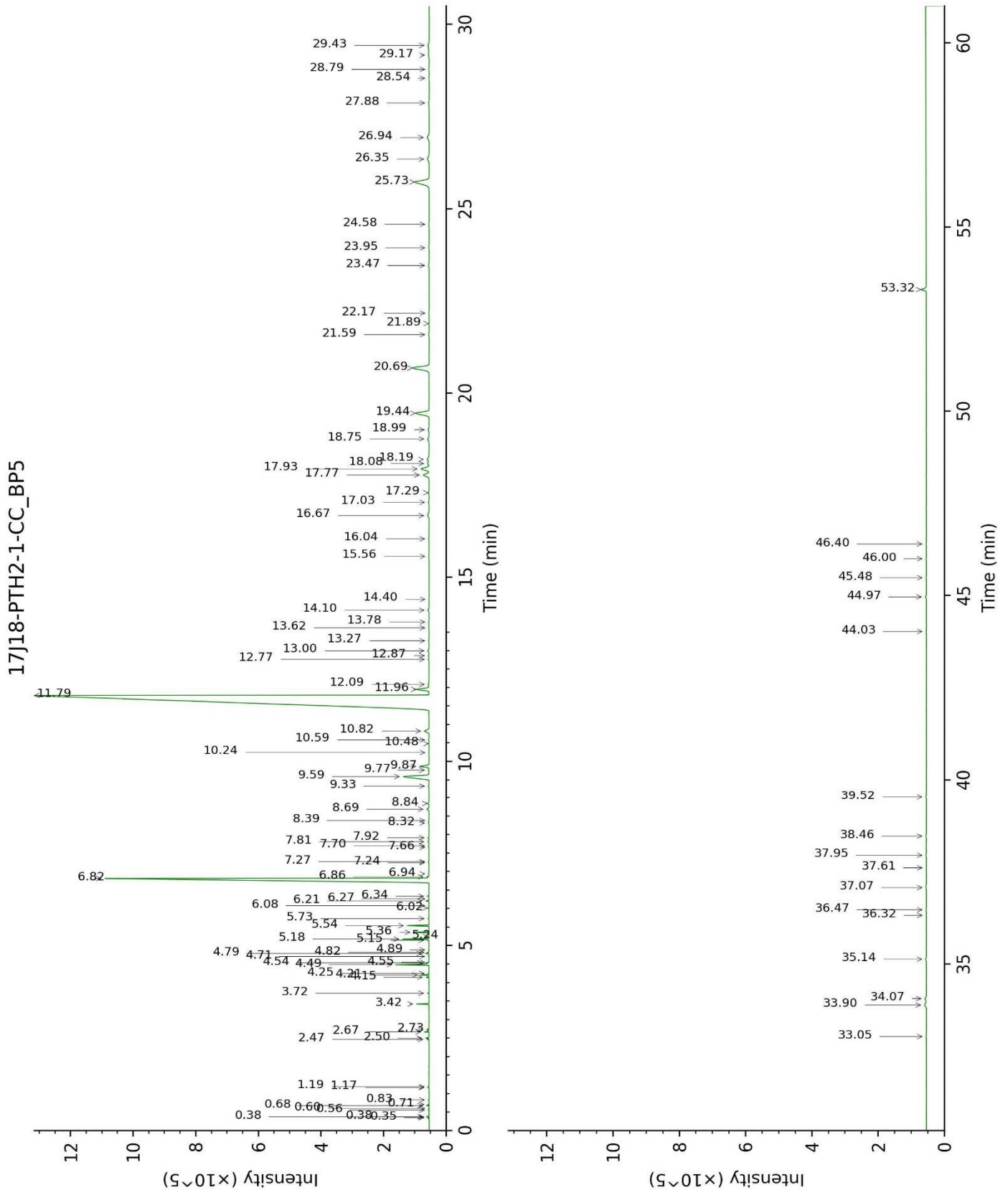
OTHER DATA

Physical aspect : Clear liquid

Refractive index : 1.4560 \pm 0.0003 (20 °C)

CONCLUSION

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



17J18-PTH2-1-CC_WAX

