



GC/MS BATCH NUMBER: CB9100

ESSENTIAL OIL: CYPRESS ORGANIC
BOTANICAL NAME: CUPRESSUS SEMPERVIRENS
ORIGIN: SPAIN

KEY CONSTITUENTS PRESENT IN THIS BATCH OF CYPRESS ORGANIC OIL	%
α -PINENE	57.2
Δ 3-CARENE	22.0
TERPINOLENE	2.7
LIMONENE	2.3
MYRCENE	2.0
α -TERPINYL ACETATE	1.1
α -CEDROL	1.1

Date : May 30, 2017

SAMPLE IDENTIFICATION

Internal code : 17E23-PTH3-1-DM

Customer identification : Organic Cypress - Spain - CB910073R

Type : Essential oil

Source : *Cupressus sempervirens*

Customer : Plant Therapy

ANALYSIS

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

Analyst : Sylvain Mercier, M. Sc., chimiste

Analysis date : 2017-05-30

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.	
Toluene	1.31	758	0.01	56.65	959	1.15*	Simple phenolic
ξ-Fenchene	2.95	901	0.04	0.03	886	0.86	Monoterpene
Tricyclene	3.23	918	0.18	0.18	920	0.99	Monoterpene
α-Thujene	3.32	923	0.46	1.05	960	1.15	Monoterpene
α-Pinene	3.50	934	57.21	[56.65]	959	1.15*	Monoterpene
α-Fenchene	3.69	945	0.45	0.46	989	1.30	Monoterpene
Camphene	3.71	946	0.37	0.39	1008	1.35	Monoterpene
Thuja-2,4(10)-diene	3.80	951	0.03	0.59	1059	1.84*	Monoterpene
Sabinene	4.13	971	0.63	[0.59]	1059	1.84*	Monoterpene
β-Pinene	4.20	975	0.94	0.91	1043	1.68	Monoterpene
Myrcene	4.48	992	1.95	1.95	1116	2.40*	Monoterpene
2-Carene	4.58	998	0.03	0.02	1071	1.95	Monoterpene
Δ3-Carene	4.80*	1010	22.16	22.02	1097	2.20	Monoterpene
α-Phellandrene	4.80*	1010	[22.16]	0.16	1109	2.31	Monoterpene
α-Terpinene	4.94	1018	0.27	0.29	1122	2.47	Monoterpene
meta-Cymene	5.07	1025	0.10	[1.95]	1116	2.40*	Monoterpene
para-Cymene	5.12	1028	0.38	0.42	1205	3.55	Monoterpene
Limonene	5.17	1030	2.32	2.30	1141	2.71	Monoterpene
β-Phellandrene	5.20	1032	0.57	0.72	1146	2.78*	Monoterpene
1,8-Cineole	5.23	1034	0.07	[0.72]	1146	2.78*	Monoterp. ether
cis-β-Ocimene	5.34	1040	0.01	0.47	1185	3.30*	Monoterpene
trans-β-Ocimene	5.52	1049	0.03	0.03	1199	3.47	Monoterpene
Lavender lactone	5.61	1054	0.02	0.12	1607	12.24	Lactone
γ-Terpinene	5.71	1060	0.48	[0.47]	1185	3.30*	Monoterpene
Isoterpinolene	6.10	1081	0.08	0.06	1217	3.71	Monoterpene
Terpinolene	6.19	1086	2.66	2.63	1223	3.79	Monoterpene
para-Cymenene	6.38	1097	0.06	0.05	1365	5.91	Monoterpene
α-Pinene oxide	6.51	1102	0.03	0.03	1297	4.87	Monoterp. ether
Linalool	6.64	1107	0.51	0.75	1490	8.39*	Monoterp. alcohol
trans-Pinocarveol	7.58	1142	0.05	0.06	1565	10.68	Monoterp. alcohol
Camphor	7.72	1147	0.17	0.12	1424	6.83	Monoterp. ketone
Karahanaenone	7.97	1156	0.34	0.33	1435	7.10	Monoterp. ketone
Borneol	8.53	1176	0.05	0.36	1621	12.74*	Monoterp. alcohol
Terpinen-4-ol	8.73	1184	0.75	0.98	1529	9.37*	Monoterp. alcohol
para-Cymen-8-ol	9.21	1201	0.06	0.08	1766	20.48	Monoterp. alcohol
Myrtenal	9.28	1202	0.02	0.02	1534	9.57	Monoterp. aldehyde
α-Terpineol	9.36	1204	0.36	0.44	1624	12.84	Monoterp. alcohol
Eucarvone	9.61	1210	0.06				Monoterp. ketone
Carvacrol methyl ether	10.88	1238	0.03	0.02	1537	9.69	Monoterp. ether
Bornyl acetate	12.86	1282	0.05	0.08	1512	8.94*	Monoterp. ester
trans-Pinocarvyl acetate	13.43	1294	0.21	[0.98]	1529	9.37*	Monoterp. ester

α -Longipinene	15.42	1326	0.05	0.05	1391	6.31	Sesquiterpene
<i>trans</i> - β -Terpinyl acetate	15.74	1331	0.15	0.14	1601	12.01	Monoterp. ester
α -Cubebene	15.91	1334	0.07	0.07	1405	6.52	Sesquiterpene
α -Terpinyl acetate	16.58	1344	1.12	1.20	1616	12.54	Monoterp. ester
α -Copaene	17.61	1360	0.02	0.02	1431	7.02	Sesquiterpene
β -Elemene	18.81	1378	0.05	0.05	1525	9.23	Sesquiterpene
Longifolene	19.56	1389	0.02	0.02	1495	8.52	Sesquiterpene
α -Cedrene	20.04	1396	0.12	0.14	1500	8.64	Sesquiterpene
β -Funebrene?	20.11	1398	0.11	[0.75]	1490	8.39*	Sesquiterpene
β -Caryophyllene	20.47	1402	0.33	0.34	1519	9.09	Sesquiterpene
β -Cedrene	20.64	1405	0.04	[0.08]	1512	8.94*	Sesquiterpene
α -Humulene	23.23	1436	0.08	0.10	1579	11.18	Sesquiterpene
γ -Muuroolene	25.33	1461	0.05	0.11	1606	12.18	Sesquiterpene
Germacrene D	25.45	1462	0.39	[0.36]	1621	12.74*	Sesquiterpene
Bicyclogermacrene	26.72	1478	0.03	0.03	1636	13.39	Sesquiterpene
α -Muuroolene	27.46	1486	0.04	0.05	1643	13.69	Sesquiterpene
γ -Cadinene	28.48	1499	0.06	0.05	1667	14.95	Sesquiterpene
δ -Cadinene	29.15	1508	0.21	0.20	1672	15.24	Sesquiterpene
<i>trans</i> - α -Bisabolene	31.85	1545	0.08	0.06	1699	16.63	Sesquiterpene
Caryophyllene oxide	33.65	1571	0.06	0.03	1849	25.95	Sesquiterp. ether
α -Cedrol	35.24	1593	1.09	1.16	1996	35.02	Sesquiterp. alcohol
α -Cadinol	37.90	1652	0.03	0.05	2127	39.73	Sesquiterp. alcohol
Isopimaradiene?	46.73	1938	tr				Diterpene
Manoyl oxide	47.57	1972	0.10	0.12	2202	41.76	Diterp. ether
Total identified			98.50%	98.76%			

*: 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

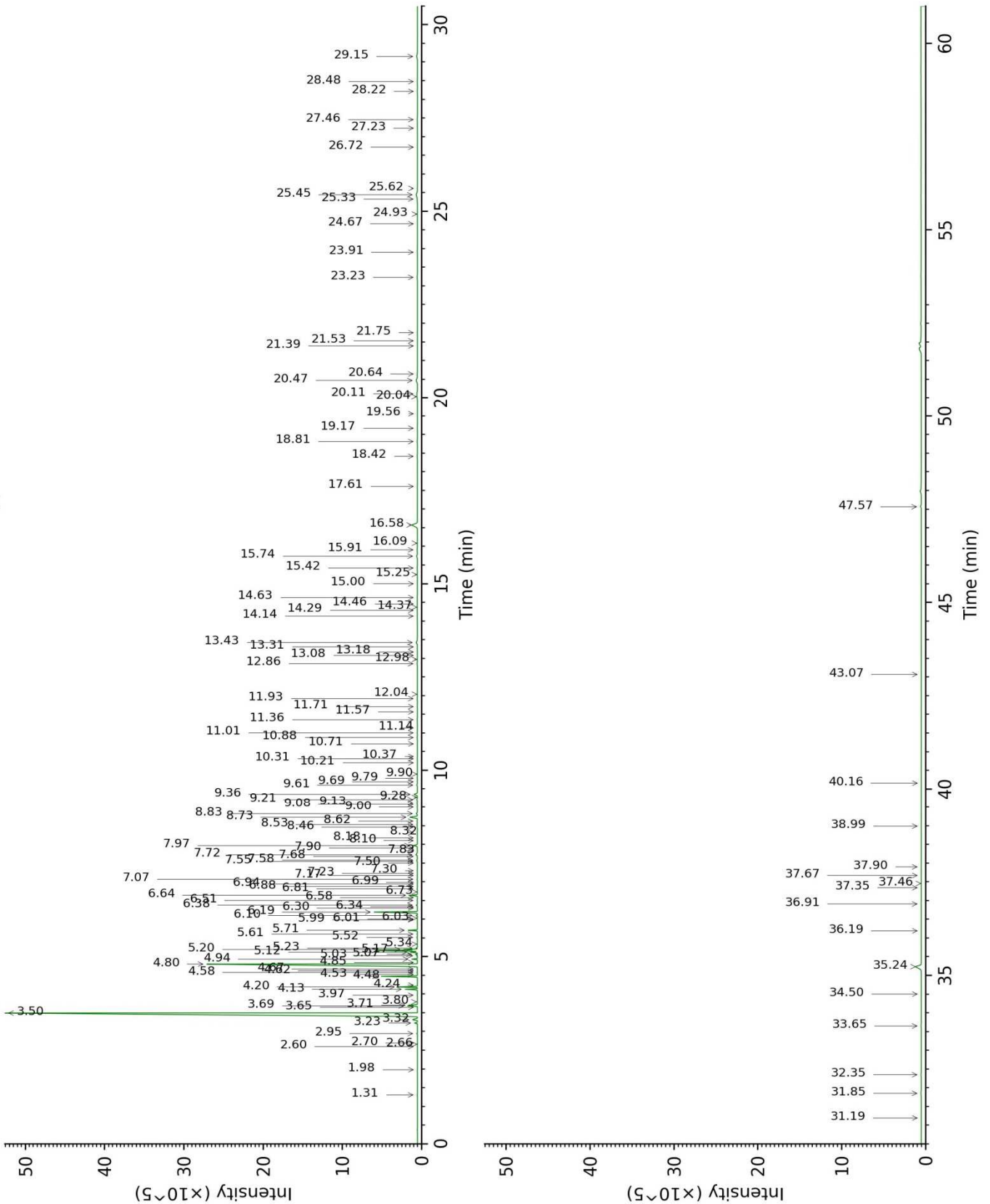
Physical aspect : Clear liquid

Refractive index : 1.4703 \pm 0.0003 (20 °C)

CONCLUSION

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

17E23-PTH3-1-DM_BP5



17E23-PTH3-1-DM_WAX

