



GC/MS BATCH NUMBER: O50106

ESSENTIAL OIL: OREGANO ORGANIC
BOTANICAL NAME: ORIGANUM VULGARE
ORIGIN: MERSIN / TURKEY

KEY CONSTITUENTS PRESENT IN THIS BATCH OF OREGANO ORGANIC OIL	%
CARVACROL	67.1
γ -TERPINENE	6.3
p-CYMENE	5.3
LINALOOL	4.3
β -BISABOLENE	1.7
MYRCENE	1.7
α -TERPINENE	1.6
α -THUJENE	1.1
β -CARYOPHYLLENE	1.1

Comments from Robert Tisserand: Beautiful, if slightly unusual odor quality. This is due to higher than normal linalool content (4.4% against ISO standard of 0 - 3%). The other 10 key ISO constituents are within range.

Date : November 15, 2017

SAMPLE IDENTIFICATION

Internal code : 17K10-PTH4-1-CC

Customer identification : Oregano Organic - Mersin / Turkey - O5010679R

Type : Essential oil

Source : *Origanum vulgare*

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 : 2017-11-14

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.	
Isovaleral	0.67	674	0.06	0.09	735	0.63*	Aliphatic aldehyde
2-Methylbutyral	0.70	678	0.04	[0.09]	735	0.63*	Aliphatic aldehyde
Methyl 2-methylbutyrate	1.40	770	0.05	0.05	915	1.02*	Aliphatic ester
<i>trans</i> -2-Hexenal	2.47	863	0.01	0.46	944	1.13*	Aliphatic aldehyde
<i>cis</i> -Hex-3-en-1-ol	2.51	866	0.01	0.01	1340	5.77	Aliphatic alcohol
Tricyclene	3.22	915	0.02	[0.05]	915	1.02*	Monoterpene
α -Thujene	3.31	920	1.13	1.31	956	1.18	Monoterpene
α -Pinene	3.41	926	0.76	[0.46]	944	1.13*	Monoterpene
Camphene	3.70	943	0.32	0.26	998	1.42	Monoterpene
β -Pinene	4.19	972	0.15	0.12	1036	1.77	Monoterpene
Myrcene	4.48*	989	2.21	1.66	1114	2.53	Monoterpene
Octen-3-ol	4.48*	989	[2.21]	0.24	1394	6.60	Aliphatic alcohol
Octan-3-one	4.51	991	0.26	5.29	1207	3.76*	Aliphatic ketone
α -Phellandrene	4.75*	1004	0.40	0.18	1107	2.44	Monoterpene
Δ 3-Carene	4.75*	1004	[0.40]	0.09	1077	2.25	Monoterpene
Octan-3-ol	4.81	1007	0.01	0.02	1351	5.93	Aliphatic alcohol
α -Terpinene	4.94	1015	1.56	2.07	1120	2.61	Monoterpene
<i>para</i> -Cymene	5.15	1026	5.27	[5.29]	1207	3.76*	Monoterpene
Limonene	5.17	1027	0.25	0.18	1138	2.85	Monoterpene
β -Phellandrene	5.20	1029	0.29	0.42	1143	2.92*	Monoterpene
1,8-Cineole	5.23	1030	0.03	[0.42]	1143	2.92*	Monoterp. ether
<i>cis</i> - β -Ocimene	5.34	1037	0.03	6.17	1188	3.50*	Monoterpene
<i>trans</i> - β -Ocimene	5.52	1047	0.10	[5.29]	1207	3.76*	Monoterpene
γ -Terpinene	5.74	1058	6.26	[6.17]	1188	3.50*	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	5.99	1072	0.02	0.02	1370	6.25	Monoterp. alcohol
<i>cis</i> -Sabinene hydrate	6.05	1075	0.31	0.33	1402	6.73*	Monoterp. alcohol
Terpinolene	6.19	1083	0.23	0.23	1222	3.98	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	6.31	1089	0.02	[0.33]	1402	6.73*	Monoterp. alcohol
<i>para</i> -Cymenene	6.41	1095	0.04	0.02	1363	6.12	Monoterpene
Linalool	6.73*	1107	4.46	4.33	1491	8.84*	Monoterp. alcohol
<i>trans</i> -Sabinene hydrate	6.73*	1107	[4.46]	0.13	1474	8.44	Monoterp. alcohol
<i>cis</i> - <i>para</i> -Menth-2-en-1-ol	7.22	1125	0.05	[4.33]	1491	8.84*	Monoterp. alcohol
α -Campholenal	7.26	1127	0.05				Monoterp. aldehyde
<i>trans</i> - <i>para</i> -Menth-2-en-1-ol	7.74	1144	0.04	0.05	1560	11.23	Monoterp. alcohol
Borneol	8.64	1177	0.73	1.08	1612	13.26*	Monoterp. alcohol
Terpinen-4-ol	8.80	1182	0.68	0.92	1522	9.82*	Monoterp. alcohol
α -Terpineol	9.46	1203	0.14	0.16	1626	13.97	Monoterp. alcohol
Carvacrol methyl ether	10.95	1236	0.10	[0.92]	1522	9.82*	Monoterp. ether
Linalyl acetate	11.37	1245	0.34	0.34	1497	8.98	Monoterp. ester
Geraniol	11.81	1255	0.15	0.12	1780	22.99	Monoterp. alcohol
Thymol	15.13	1318	0.83	0.77	2099	39.81	Monoterp. alcohol

Carvacrol	16.13	1333	67.05	68.42	2119	40.44*	Monoterp. alcohol
α-Terpinyl acetate	16.32	1336	0.27	[1.08]	1612	13.26*	Monoterp. ester
β-Bourbonene	18.11	1363	0.04	0.04	1450	7.87	Sesquiterpene
Carvacryl acetate	18.47	1369	0.14				Monoterp. ester
β-Caryophyllene	20.60	1400	1.05	0.84	1517	9.65	Sesquiterpene
Aromadendrene	21.98	1417	0.17	[0.92]	1522	9.82*	Sesquiterpene
α-Humulene	23.39	1434	0.05	0.06	1578	11.88	Sesquiterpene
Viridiflorene	26.42	1470	0.08	[1.08]	1612	13.26*	Sesquiterpene
β-Bisabolene	28.88	1499	1.69	1.68	1656	15.54	Sesquiterpene
δ-Cadinene	29.33	1505	0.06	0.08	1670	16.30	Sesquiterpene
Caryophyllene oxide	33.79	1568	0.24	0.23	1847	27.69	Sesquiterp. ether
Spathulenol	33.97	1571	0.13	0.13	2014	37.10	Sesquiterp. alcohol
τ-Cadinol	37.52	1637	0.18	0.20	2068	38.83	Sesquiterp. alcohol
α-Cadinol	38.07	1651	0.03	[68.42]	2119	40.44*	Sesquiterp. alcohol
Shyobunol	39.43	1684	0.03	0.02	2207	42.70	Sesquiterp. alcohol
Manoyl oxide	47.65	1968	0.02	0.03	2193	42.36	Diterp. ether
Total identified			98.64%	98.85%			

*: 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

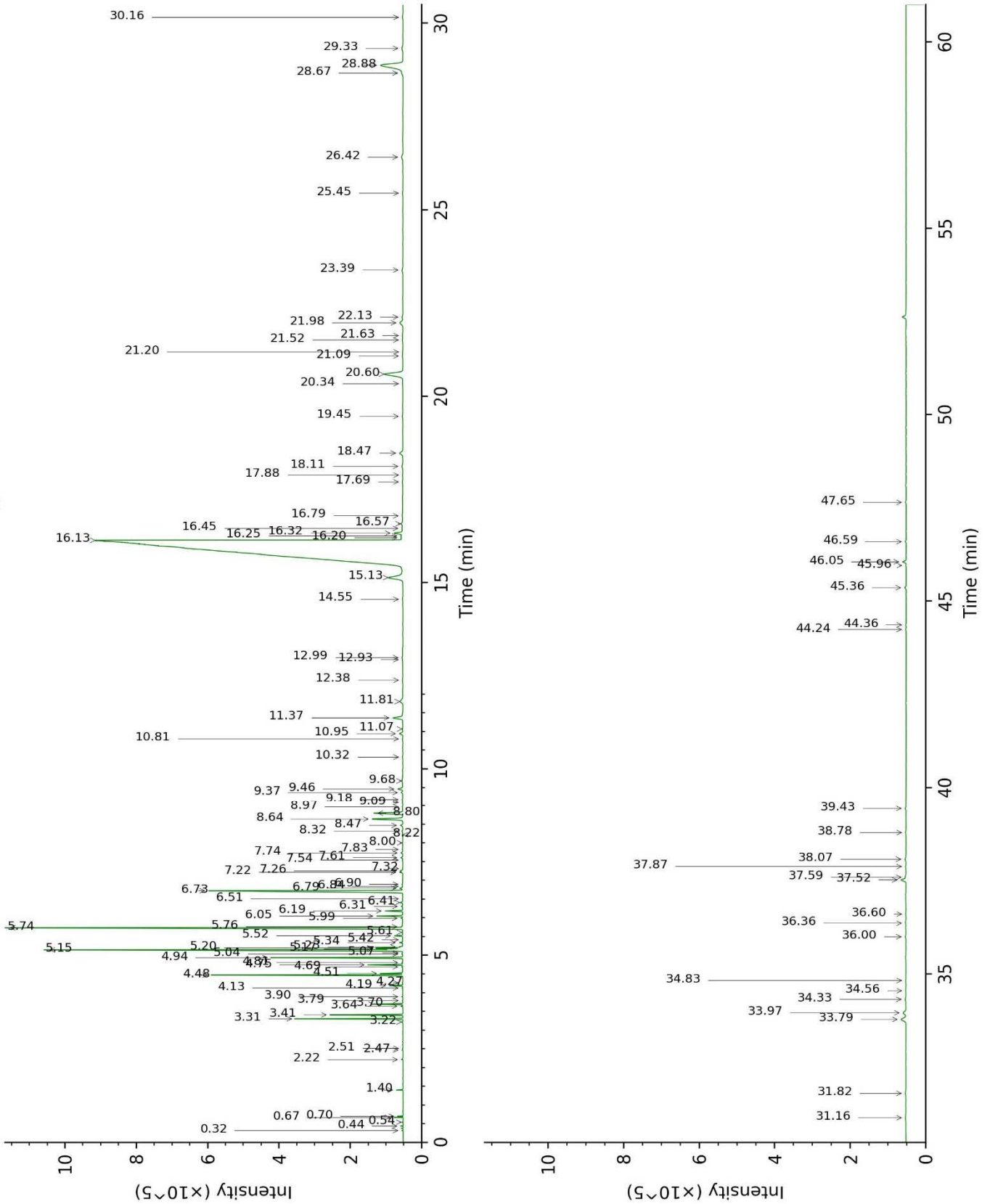
Physical aspect : Light orange liquid

Refractive index : 1.5048 ± 0.0003 (20 °C)

CONCLUSION

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

17K10-PTH4-1-CC_BP5



17K10-PTH4-1-CC_WAX

