

GC/MS BATCH NUMBER: BQ0101

ESSENTIAL OIL: BERGAMOT ORGANIC
BOTANICAL NAME: CITRUS BERGAMIA
ORIGIN: ITALY

KEY CONSTITUENTS PRESENT IN THIS BATCH OF BERGAMOT ORGANIC OIL	%
LIMONENE	41.4
LINALYL ACETATE	28.2
LINALOOL	9.9
γ-TERPINENE	7.0
β-PINENE	6.3
α-PINENE	1.2
SABINENE	1.1
MYRCENE	1.0

Comments from Robert Tisserand: Very fine clean, fresh lemony odor quality. Meets 6 of 7 ISO standards for regular Bergamot oil, and this is bergapten-free, so not a problem.

Date : June 28, 2017

SAMPLE IDENTIFICATION

Internal code : 17F28-PTH1-1-DM

Customer identification : Bergamot Organic BF - Italy - BQ010174R

Type : Essential oil

Source : *Citrus aurantium ssp. bergamia*

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 : 2017-06-28

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.	
α -Thujene	3.33	923	0.30	0.45	955	1.07	Monoterpene
α -Pinene	3.44	930	1.15	0.98	946	1.03	Monoterpene
Camphene	3.72	947	0.03	0.03	1001	1.28	Monoterpene
Sabinene	4.16	973	1.13	1.20	1060	1.77	Monoterpene
β -Pinene	4.23	977	6.33	6.21	1045	1.63	Monoterpene
Myrcene	4.50	993	1.02	0.93	1117	2.31	Monoterpene
6-Methyl-5-hepten-2-one	4.57	997	0.01	0.01	1274	4.39	Aliphatic ketone
α -Phellandrene	4.77	1009	0.03	0.02	1110	2.24	Monoterpene
Octanal	4.89	1015	0.04	0.03	1232	3.80	Aliphatic aldehyde
α -Terpinene	4.96	1019	0.15	0.20	1124	2.40	Monoterpene
Limonene	5.27*	1036	41.97	41.39	1150	2.73	Monoterpene
para-Cymene	5.27*	1036	[41.97]	0.63	1207	3.45	Monoterpene
cis- β -Ocimene	5.38	1042	0.02	6.98	1190	3.24*	Monoterpene
trans- β -Ocimene	5.56	1051	0.25	0.21	1202	3.39	Monoterpene
γ -Terpinene	5.77	1063	6.99	[6.98]	1190	3.24*	Monoterpene
cis-Sabinene hydrate	6.07	1079	0.03	0.03	1402	6.32	Monoterp. alcohol
Terpinolene	6.22	1088	0.32	0.29	1224	3.67	Monoterpene
Linalool	6.77	1112	9.91	9.78	1491	8.18	Monoterp. alcohol
Nonanal	6.81	1113	0.03	0.02	1338	5.32	Aliphatic aldehyde
Terpinen-4-ol	8.81	1186	0.02	0.18	1533	9.17*	Monoterp. alcohol
α -Terpineol	9.49	1207	0.11	0.15	1622	12.35	Monoterp. alcohol
Decanal	9.82	1214	0.05	0.04	1442	7.02	Aliphatic aldehyde
Octyl acetate	9.96	1217	0.10	0.11	1427	6.71	Aliphatic ester
Nerol	10.66	1233	0.05	0.05	1730	17.51	Monoterp. alcohol
Neral	11.25	1246	0.17	0.16	1597	11.44	Monoterp. aldehyde
Linalyl acetate	11.66	1255	28.18	28.62	1505	8.50	Monoterp. ester
Geranial	12.68	1278	0.26	0.23	1652	13.57	Monoterp. aldehyde
α -Terpinyl acetate	16.68	1346	0.11	0.14	1616	12.10*	Monoterp. ester
Neryl acetate	17.90	1364	0.32	0.44	1661	14.04*	Monoterp. ester
Geranyl acetate	19.39	1387	0.18	0.17	1691	15.56	Monoterp. ester
β -Caryophyllene	20.64	1405	0.23	0.24	1525	8.95	Sesquiterpene
trans- α -Bergamotene	22.22	1423	0.16	[0.18]	1533	9.17*	Sesquiterpene
trans- β -Farnesene	24.57	1452	0.03	[0.14]	1616	12.10*	Sesquiterpene
Germacrene D	25.66	1465	0.02	[0.14]	1616	12.10*	Sesquiterpene
β -Bisabolene	28.91	1504	0.13	[0.44]	1661	14.04*	Sesquiterpene
Total identified			99.83%	99.92%			

*: 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

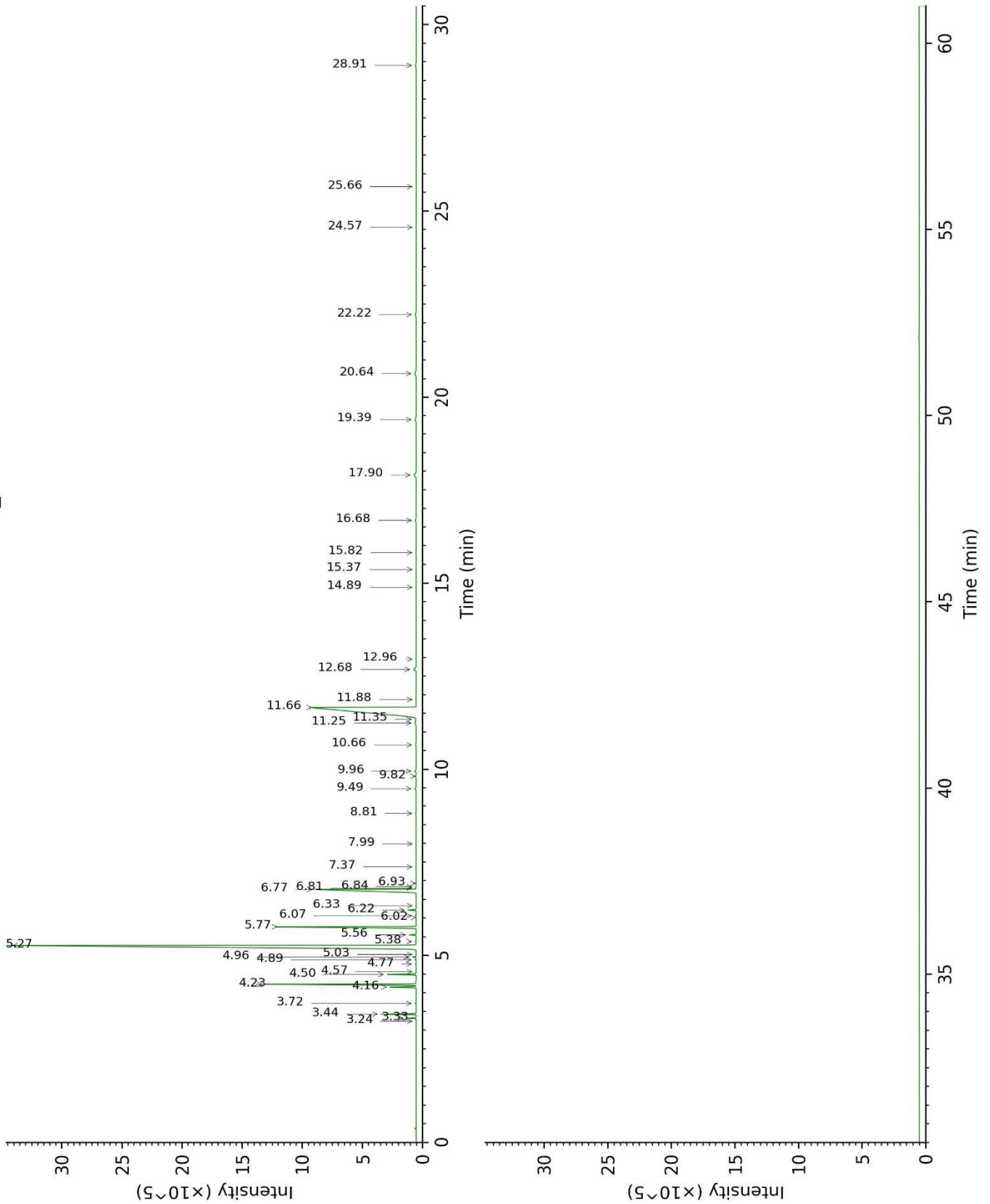
Physical aspect : Clear liquid

Refractive index : 1.4628 ± 0.0003 (20 °C)

CONCLUSION

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

17F28-PTH1-1-DM_BP5



17F28-PTH1-1-DM_WAX

