

# Analysis Tangerine Essential Oil

Laboratoire  
**Phyto**Chemia



*Plus que des analyses... des conseils*



Date : August 9, 2017

#### SAMPLE IDENTIFICATION

**Internal code :** 17G28-FSE4-1-DM

**Customer Identification :** Tangerine - Argentina - 99MT12292168N

**Type :** Essential oil

**Source :** Citrus reticulata

**Customer :** Flowers Shining Everywhere Inc.

#### 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 :** Alexis St-Gelais, M. Sc., chimiste

**Analysis date :** 2017-08-04

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.	
$\alpha$ -Thujene	3.32	920	0.61	0.65	961	1.28	Monoterpene
$\alpha$ -Pinene	3.42	927	1.74	1.75	949	1.23	Monoterpene
Camphene	3.71	944	0.01	0.01	997	1.54	Monoterpene
Sabinene	4.14	969	0.22	0.23	1062	2.10	Monoterpene
$\beta$ -Pinene	4.21	973	1.31	1.33	1043	1.92	Monoterpene
Myrcene	4.49	990	1.69	1.72	1118	2.70	Monoterpene
$\alpha$ -Phellandrene	4.76	1005	0.06	0.06	1109	2.60	Monoterpene
Octanal	4.88	1011	0.06	0.06	1237	4.29	Aliphatic aldehyde
$\alpha$ -Terpinene	4.95	1015	0.26	0.27	1125	2.79	Monoterpene
Limonene	5.29*	1034	70.22	70.09	1153	3.17	Monoterpene
1,8-Cineole	5.29*	1034	[70.22]	0.22	1154	3.18	Monoterp. ether
trans- $\beta$ -Ocimene	5.55	1048	0.02	0.02	1207	3.87	Monoterpene
$\gamma$ -Terpinene	5.78	1061	16.50	16.87	1199	3.75	Monoterpene
Octanol	6.06	1076	0.04	0.04	1506	9.62	Aliphatic alcohol
Terpinolene	6.21	1084	0.74	0.72	1229	4.19	Monoterpene
Linalool	6.69	1106	0.19	0.12	1499	9.36	Monoterp. alcohol
Nonanal	6.78	1107	0.02	0.02	1338	5.86	Aliphatic aldehyde
cis-Limonene oxide	7.34	1130	0.03	0.04	1376	6.46	Monoterp. ether
trans-Limonene oxide	7.46	1134	0.03	0.03	1389	6.68	Monoterp. ether
Epoxysterpinolene	7.61	1139	0.04				Monoterp. ether
Citronellal	7.97	1152	0.03	0.03	1416	7.30	Monoterp. aldehyde
Terpinen-4-ol	8.79	1182	0.07	0.06	1529	10.45	Monoterp. alcohol
$\alpha$ -Terpineol	9.45	1203	0.33	0.34	1624	14.44	Monoterp. alcohol
Decanal	9.79	1210	0.07	0.09	1437	7.78	Aliphatic aldehyde
Nerol	10.80	1232	0.03	0.03	1732	20.62	Monoterp. alcohol
Citronellol	11.05*	1238	0.06	0.05	1710	19.12	Monoterp. alcohol
Neral	11.05*	1238	[0.06]				Monoterp. aldehyde
Geranial	12.83	1277	0.04				Monoterp. aldehyde
Thymol	14.94	1315	0.11	0.13	2116	40.77	Monoterp. alcohol
$\beta$ -Caryophyllene	20.57	1400	0.10	0.11	1518	10.01	Sesquiterpene
Dimethyl anthranilate	21.14	1407	0.44	0.46	1939	34.39	Phenolic ester
Dodecanal	21.70	1413	0.02	0.01	1642	15.38	Aliphatic aldehyde
Valencene	26.83	1475	0.05	0.06	1671	16.89	Sesquiterpene
(E,E)- $\alpha$ -Farnesene	29.08	1502	0.24	0.26	1691	17.98	Sesquiterpene
$\alpha$ -Sinensal	41.71	1752	0.43	0.45	2224	43.54	Sesquiterp. aldehyde
Nootkatone	42.97	1792	0.15				Sesquiterp. ketone
Tangeretin	70.27	3166	1.72				Flavonoid
Nobiletin	72.81	3320	0.34				Flavonoid
Heptamethoxyflavone isomer?	73.05	3332	0.30				Flavonoid
Hexamethoxyflavone	73.38	3349	0.77				Flavonoid

Essential oil, Citrus reticulata  
Internal Code: 17G28-FSE4-1-DM

Customer Identification:  
Tangerine - Argentina - 99MT1229216BN

Report prepared for  
Flowers Shining Everywhere Inc.

Isomer?			
Total identified	99.09%	96.33%	

~: 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

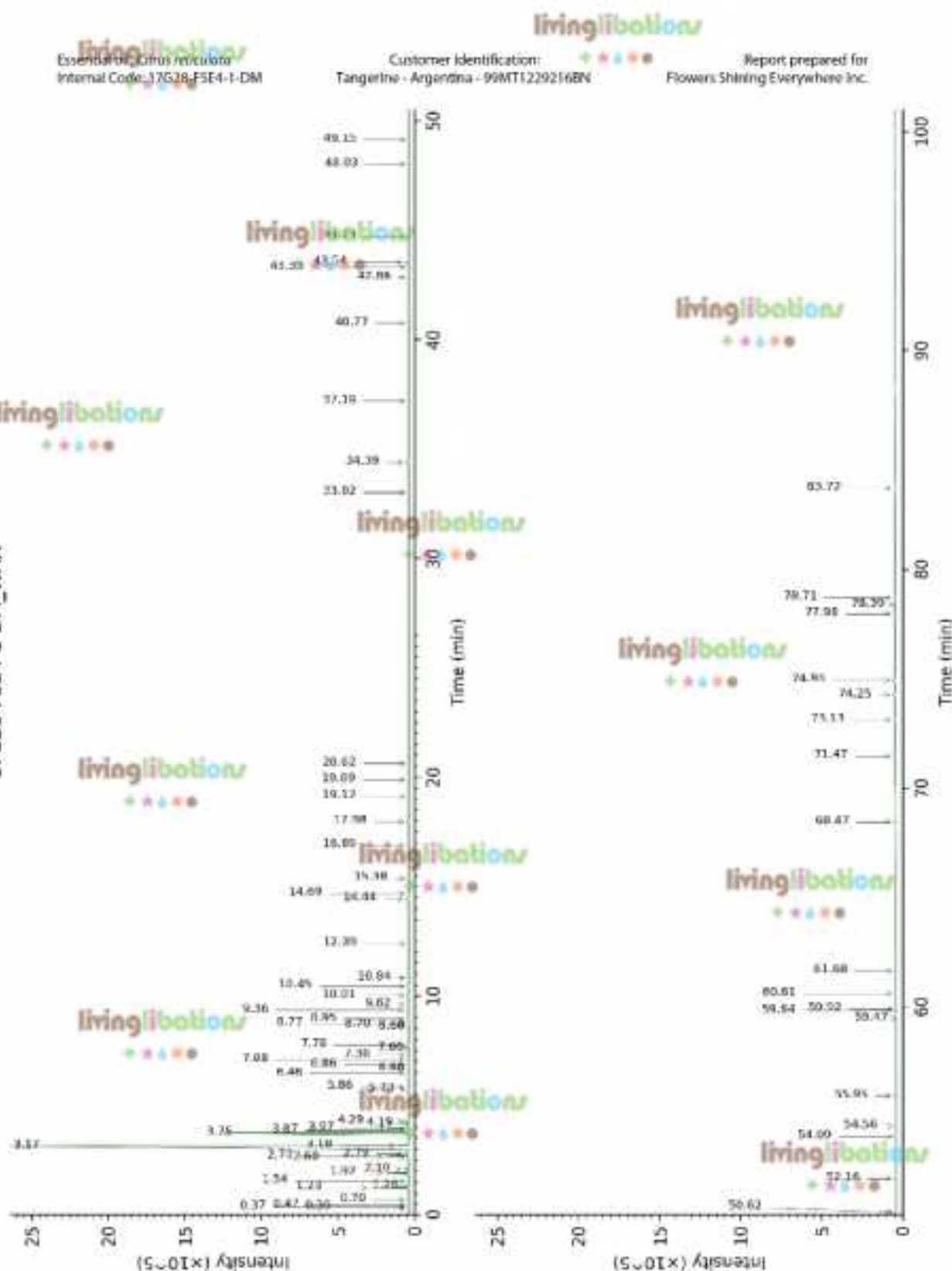
#### OTHER DATA

Physical aspect : Green/yellow liquid

Refractive Index :  $1.4748 \pm 0.0003$  (20°C)

#### CONCLUSION

17G28-FSE4-1-DM\_WAX



17G28-FSE4-1-DM\_BP5

