

AllSpice Essential Oil

# ESSENTIAL OIL ANALYSIS

Laboratoire  
**Phyto**Chemia





SAMPLE IDENTIFICATION

**Internal code :** 17E19-FSE10-1-DM

**Customer identification :** All Spice CO2 - Lot #321004

**Type :** Essential oil

**Source :** *Pimenta officinalis*

**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).

**Analyst :** Sylvain Mercier, M. Sc., chimiste

**Analysis date :** 2017-05-29

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Note: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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

livinglibation

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
$\alpha$ -Thujene	3.31	922	0.01	0.01	952	1.12	Monoterpene
$\alpha$ -Pinene	3.41	929	0.02	0.01	942	1.07	Monoterpene
Sabinene	4.13	971	0.02	0.01	1059	1.83	Monoterpene
$\beta$ -Pinene	4.19	975	0.02	0.01	1043	1.67	Monoterpene
Myrcene	4.47	992	4.58	3.86	1116	2.39	Monoterpene
para-Cymene	5.11	1027	0.04	0.03	1205	3.55	Monoterpene
Limonene	5.15	1029	0.13	0.10	1138	2.69	Monoterpene
$\beta$ -Phellandrene	5.18	1031	0.01	0.26	1144	2.75*	Monoterpene
1,8-Cineole	5.22	1033	0.28	[0.26]	1144	2.75*	Monoterp. ether
cis- $\beta$ -Ocimene	5.33	1039	0.02	0.04	1185	3.29*	Monoterpene
trans- $\beta$ -Ocimene	5.51	1049	0.42	0.33	1199	3.47	Monoterpene
$\gamma$ -Terpinene	5.70	1059	0.03	[0.04]	1185	3.29*	Monoterpene
Terpinolene	6.18	1085	0.05	0.04	1221	3.77	Monoterpene
Linalool	6.64	1107	0.26	0.21	1490	8.39	Monoterp. alcohol
Terpinen-4-ol	8.72	1183	0.14	0.10	1529	9.36	Monoterp. alcohol
$\alpha$ -Terpineol	9.36	1204	0.11	0.10	1624	12.83	Monoterp. alcohol
Chavicol	12.77	1280	0.11	0.13	2232	42.55	Phenylpropanoid
Eugenol	17.82*	1363	41.95	35.84	2059	37.66	Phenylpropanoid
$\alpha$ -Copaene	17.82*	1363	[41.95]	0.33	1432	7.03	Sesquiterpene
$\beta$ -Caryophyllene	20.53	1403	3.94	3.41	1522	9.15	Sesquiterpene
Methyleugenol	21.40	1414	0.61	0.49	1932	31.96	Phenylpropanoid
$\alpha$ -Humulene	23.25	1436	0.42	0.37	1579	11.20	Sesquiterpene
$\gamma$ -Murolene	25.30	1460	0.04	0.05	1608	12.25	Sesquiterpene
Germacrene D	25.44	1462	0.06	0.04	1622	12.74	Sesquiterpene
$\delta$ -Cadinene	29.14	1508	0.24	0.21	1673	15.26	Sesquiterpene
Caryophyllene oxide	33.66*	1571	1.37	0.98	1850	26.06	Sesquiterp. ether
Spathulenol	33.66*	1571	[1.37]	0.10	2024	36.25	Sesquiterp. alcohol
Humulene epoxide II	35.33	1594	0.13	0.10	1903	29.82	Sesquiterp. ether
Methoxyeugenol	36.11	1608	0.17	0.13	2431	46.97	Phenylpropanoid
Caryophylla-4(12),8(13)-dien-5 $\beta$ -ol	36.92	1628	0.06	0.07	2182	41.27	Sesquiterp. alcohol
$\tau$ -Murolol	37.46	1641	0.02	0.03	2088	38.54	Sesquiterp. alcohol
meta-Camphorene	46.85	1944	0.17	0.15	2139	40.08	Diterpene
para-Camphorene	47.73	1979	0.07	0.07	2178	41.17	Diterpene
Palmitic acid	48.11	1994	1.64	2.16	2845	54.71	Fatty acid
Methyl linoleate	50.53	2098	0.03	0.06	2421	46.77	Fatty acid ester
Methyl stearate	50.91	2116	0.08				Fatty acid ester
Linoleic acid	52.01	2166	5.06	4.03	3062	58.31	Fatty acid
Oleic acid	52.14	2172	2.75	6.69	3128	59.36	Fatty acid
Stearic acid	52.70	2197	2.70	2.34	3079	58.60	Fatty acid
$\alpha$ -Tocopherol	69.38	3128	2.99				Tocopherol

γ-Sitosterol	71.87	3290	9.32		Sterol
<b>Total identified</b>	<b>80.07%</b>			<b>62.89%</b>	

\*: 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

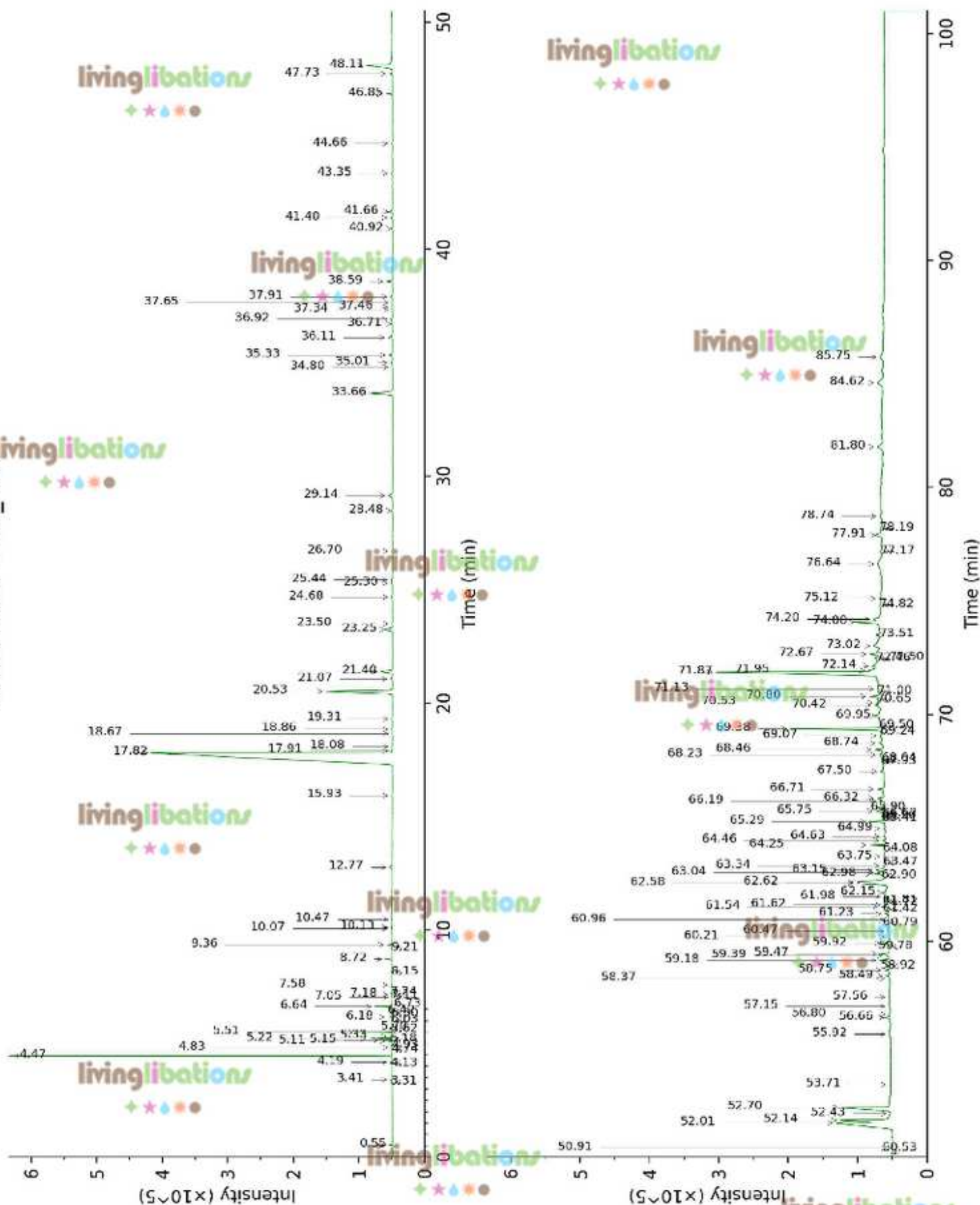
## OTHER DATA

**Physical aspect :** Brown liquid

**Refractive Index :**  $1.4890 \pm 0.0003$  (20 °C)



17E19-FSE10-1-DM\_BP5



17E19-FSE10-1-DM\_WAX

