



**PLANT THERAPY**  
100% PURE ESSENTIAL OILS

## GC/MS BATCH NUMBER: GK0101

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**ESSENTIAL OIL:** GRAPEFRUIT PINK ORGANIC

**BOTANICAL NAME:** CITRUS X PARADISI

**ORIGIN:** USA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF GRAPEFRUIT PINK ORGANIC OIL	%
Limonene	92.06
Myrcene	1.92

Comments from Robert Tisserand: Excellent fresh, fruity odor quality. Meets 8 of 10 ISO standards, with b-pinene and limonene marginally low - not a concern.

**Date :** June 26, 2017

*SAMPLE IDENTIFICATION*

**Internal code :** 17F22-PTH1-1-DM

**Customer identification :** Grapefruit Pink Organic - USA - GK010172R

**Type :** Essential oil

**Source :** *Citrus x paradisi*

**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 :** 2017-06-26

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	923	tr	0.51	945	1.03*	Monoterpene
$\alpha$ -Pinene	3.43	929	0.51	[0.51]	945	1.03*	Monoterpene
Sabinene	4.14	972	0.47	0.47	1060	1.76	Monoterpene
$\beta$ -Pinene	4.21	976	0.03	0.02	1043	1.60	Monoterpene
Myrcene	4.49	993	1.92	1.90	1118	2.31	Monoterpene
$\alpha$ -Phellandrene	4.77	1008	0.02	0.01	1110	2.24	Monoterpene
Octanal	4.88	1014	0.31	0.29	1232	3.80	Aliphatic aldehyde
Limonene	5.31*	1038	92.21	92.06	1154	2.78	Monoterpene
1,8-Cineole	5.31*	1038	[92.21]	0.80	1155	2.79	Monoterp. ether
<i>trans</i> - $\beta$ -Ocimene	5.55	1051	0.10	0.10	1202	3.38	Monoterpene
Octanol	6.19	1086	0.02	0.02	1499	8.34	Aliphatic alcohol
Linalool	6.68	1109	0.09	0.09	1489	8.12	Monoterp. alcohol
Nonanal	6.79	1113	0.08	0.08	1338	5.33	Aliphatic aldehyde
<i>cis</i> -Limonene oxide	7.35	1133	0.04	0.03	1371	5.83	Monoterp. ether
<i>trans</i> -Limonene oxide	7.47	1137	0.02	0.02	1382	6.01	Monoterp. ether
Citronellal	7.97	1156	0.09	0.07	1416	6.54	Monoterp. aldehyde
$\alpha$ -Terpineol	9.44	1206	0.04	0.03	1635	12.79	Monoterp. alcohol
Decanal	9.79	1214	0.33	0.34	1442	7.01	Aliphatic aldehyde
Neral	11.15	1244	0.03	0.02	1598	11.47	Monoterp. aldehyde
Geranial	12.66	1277	0.05	0.06	1653	13.60	Monoterp. aldehyde
$\alpha$ -Copaene	17.71	1361	0.10	0.07	1439	6.93	Sesquiterpene
$\beta$ -Cubebene	18.69	1376	0.10	0.07	1477	7.83	Sesquiterpene
Geranyl acetate	19.35	1386	0.03	0.04	1692	15.56	Monoterp. ester
$\beta$ -Caryophyllene	20.59	1404	0.26	0.29	1523	8.90	Sesquiterpene
$\alpha$ -Humulene	23.38	1437	0.04	0.03	1584	10.91	Sesquiterpene
<i>trans</i> - $\beta$ -Farnesene	24.52	1451	0.04	0.05	1618	12.20	Sesquiterpene
Germacrene D	25.59	1464	0.07	0.10	1625	12.40	Sesquiterpene
$\delta$ -Cadinene	29.33	1510	0.10	0.11	1677	14.83	Sesquiterpene
$\beta$ -Sinensal	39.76	1698	0.06	0.06	2132	39.39	Sesquiterp. aldehyde
Nootkatone	42.97	1798	0.23	0.22	2350	44.85	Sesquiterp. ketone
7-Methoxy-8-(2-formyl-methylpropyl)-coumarin	53.56*	2238	0.20	0.22	3418	63.40*	Coumarin
Auraptene	61.25	2636	0.82	0.60	3722	67.67	Coumarin
Epoxyaurapten?	63.64	2772	0.20				Coumarin
<b>Total identified</b>			<b>98.61%</b>	<b>98.78%</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*

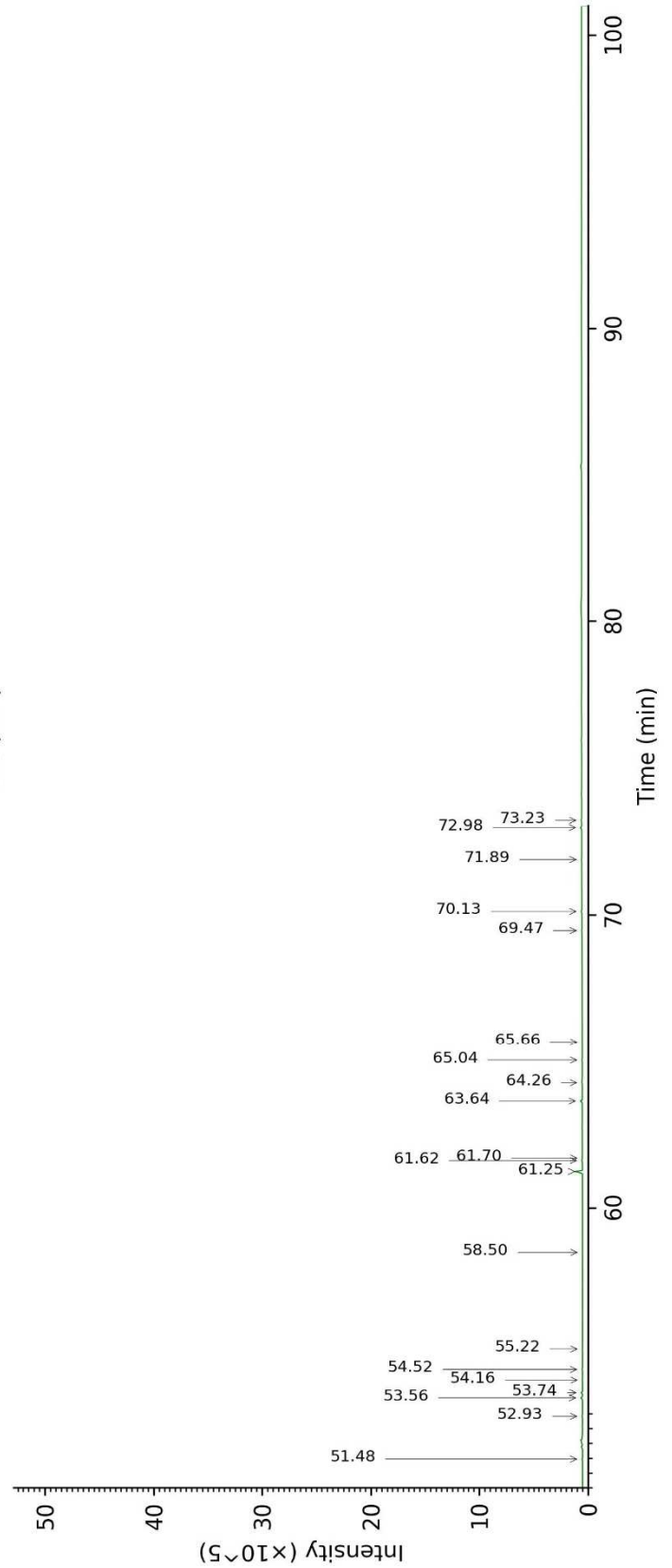
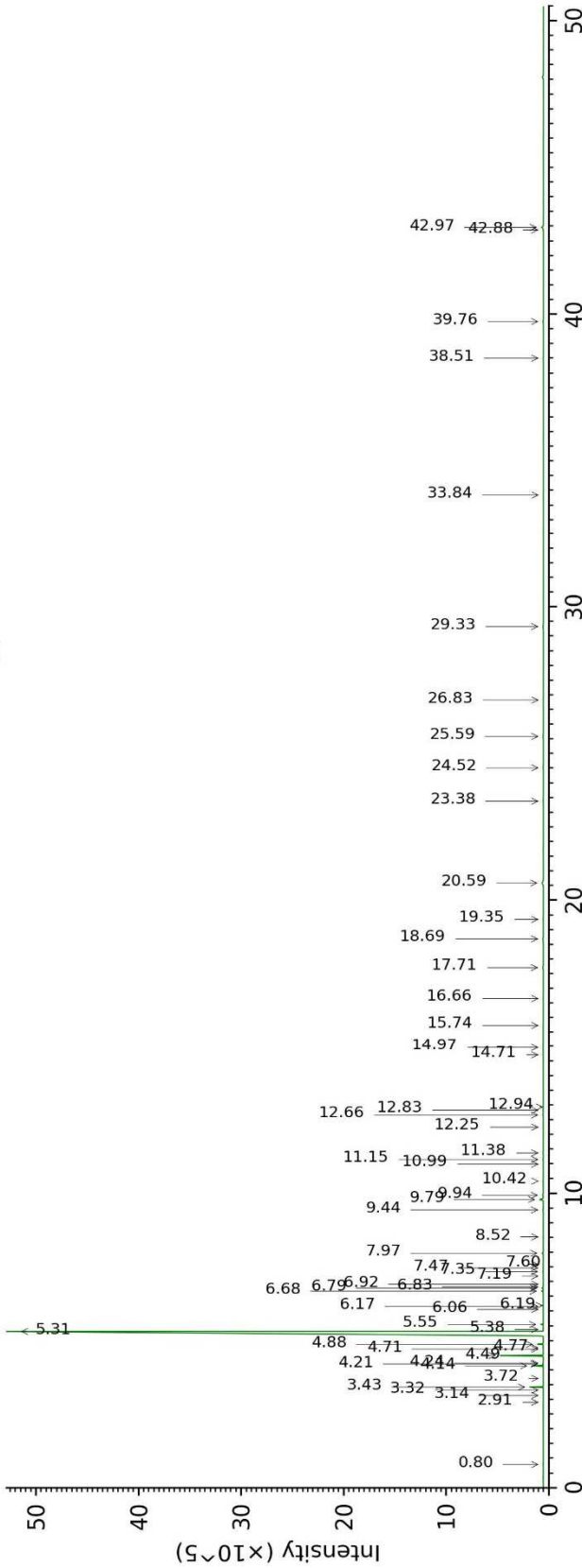
**Physical aspect :** Bright yellow liquid

**Refractive index :**  $1.4730 \pm 0.0003$  (20 °C)

*CONCLUSION*

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

17F22-PTH1-1-DM\_BP5



17F22-PTH1-1-DM\_WAX

