



**PLANT THERAPY**  
100% PURE ESSENTIAL OILS

## GC/MS BATCH NUMBER: RG0100

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**ESSENTIAL OIL:** RAVINTSARA  
**BOTANICAL NAME:** CINNAMOMUM CAMPHORA  
**ORIGIN:** MADAGASCAR

KEY CONSTITUENTS PRESENT IN THIS BATCH OF RAVINTSARA OIL	%
1,8-CINEOLE + LIMONENE	59.9
SABINENE	12.9
$\alpha$ -TERPINEOL	7.3
$\alpha$ -PINENE	4.7
$\beta$ -PINENE	3.4
TERPINEN-4-OL	2.5
MYRCENE	1.6
$\gamma$ -TERPINENE	1.5

Comments from Robert Tisserand: Excellent Eucalyptus-Tea Tree odor profile. Constituents are in expected amounts.

**Date :** May 8, 2017

*SAMPLE IDENTIFICATION*

**Internal code :** 17E04-PTH6-1-DM

**Customer identification :** Ravintsara Camphora - Madagascar - RG010072R

**Type :** Essential oil

**Source :** *Cinnamomum camphora*

**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 :** 2017-05-08

Checked and approved by :

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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.	
Ethanol	0.35	632	0.01	0.01	796	0.68	Aliphatic alcohol
<i>cis</i> -Hex-3-en-1-ol	2.48	865	0.01	0.01	1324	5.34	Aliphatic alcohol
Hexanol	2.72	884	0.01	0.01	1299	4.98	Aliphatic alcohol
Tricyclene	3.22	917	0.01	0.01	920	1.01	Monoterpene
$\alpha$ -Thujene	3.31	922	0.86	0.93	956	1.15	Monoterpene
$\alpha$ -Pinene	3.42	929	4.72	4.52	947	1.11	Monoterpene
Camphene	3.70*	945	0.21	0.18	1000	1.38	Monoterpene
$\alpha$ -Fenchene	3.70*	945	[0.21]	0.01	994	1.33	Monoterpene
Sabinene	4.16	973	12.90	12.60	1058	1.93	Monoterpene
$\beta$ -Pinene	4.21	976	3.41	3.29	1040	1.74	Monoterpene
Myrcene	4.47	991	1.56	1.46	1117	2.45	Monoterpene
6-Methyl-5-hepten-2-one	4.55	996	tr	0.01	1276	4.64	Aliphatic ketone
$\alpha$ -Phellandrene	4.74	1007	0.11	0.10	1110	2.37	Monoterpene
$\alpha$ -Terpinene	4.93	1017	0.95	0.97	1124	2.55	Monoterpene
1,8-Cineole	5.30*	1038	59.21	59.87	1156	2.96*	Monoterp. ether
Limonene	5.30*	1038	[59.21]	[59.87]	1156	2.96*	Monoterpene
para-Cymene	5.30*	1038	[59.21]	0.27	1208	3.65	Monoterpene
<i>cis</i> - $\beta$ -Ocimene	5.34	1040	0.07	1.54	1189	3.39*	Monoterpene
<i>trans</i> - $\beta$ -Ocimene	5.52	1049	0.34	0.33	1202	3.56	Monoterpene
$\gamma$ -Terpinene	5.71	1060	1.51	[1.54]	1189	3.39*	Monoterpene
<i>cis</i> -Sabinene hydrate	6.00	1076	0.27	0.28	1404	6.62	Monoterp. alcohol
Terpinolene	6.17	1085	0.39	0.37	1223	3.86	Monoterpene
Linalool	6.61*	1106	0.18	0.15	1491	8.59*	Monoterp. alcohol
<i>trans</i> -Sabinene hydrate	6.61*	1106	[0.18]	0.14	1478	8.27	Monoterp. alcohol
<i>cis</i> -para-Menth-2-en-1-ol	7.13	1125	0.11	[0.15]	1491	8.59*	Monoterp. alcohol
Camphor	7.72	1147	0.01	0.01	1430	7.13	Monoterp. ketone
Borneol	8.49*	1175	0.72	0.19	1621	13.00	Monoterp. alcohol
$\delta$ -Terpineol	8.49*	1175	[0.72]	0.59	1596	12.08	Monoterp. alcohol
Terpinen-4-ol	8.71	1183	2.50	2.48	1529	9.62	Monoterp. alcohol
$\alpha$ -Terpineol	9.39	1205	7.26	7.43	1628	13.31*	Monoterp. alcohol
<i>trans</i> -Piperitol	9.80	1214	0.03	0.02	1671	15.57	Monoterp. alcohol
Nerol	10.40	1227	0.07	0.07	1731	18.76	Monoterp. alcohol
Neral	11.06	1242	0.01	0.02	1601	12.26	Monoterp. aldehyde
$\beta$ -Elemene	18.76	1377	0.06	0.06	1523	9.41	Sesquiterpene
$\beta$ -Caryophyllene	20.41	1402	0.57	0.57	1520	9.28	Sesquiterpene
$\alpha$ -Humulene	23.19	1435	0.61	0.61	1579	11.45	Sesquiterpene
$\gamma$ -Muurolene	25.36*	1461	0.23	0.04	1614	12.74	Sesquiterpene
Germacrene D	25.36*	1461	[0.23]	0.13	1618	12.91	Sesquiterpene
$\beta$ -Selinene	25.96	1468	0.17	[7.43]	1628	13.31*	Sesquiterpene
Bicyclogermacrene	26.61*	1476	0.37	0.26	1640	13.99	Sesquiterpene
$\alpha$ -Selinene	26.61*	1476	[0.37]	0.10	1633	13.61	Sesquiterpene

Valencene	27.50	1487	0.05	0.05	1662	15.08	Sesquiterpene
$\delta$ -Cadinene	29.07	1507	0.02	0.02	1668	15.40	Sesquiterpene
Germacrene B	31.77	1544	0.07	0.06	1720	18.12	Sesquiterpene
Spathulenol	33.57*	1569	0.05	0.02	2020	36.57	Sesquiterp. alcohol
Caryophyllene oxide	33.57*	1569	[0.05]	0.02	1847	26.50	Sesquiterp. ether
<b>Total identified</b>			<b>99.64%</b>	<b>99.81%</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

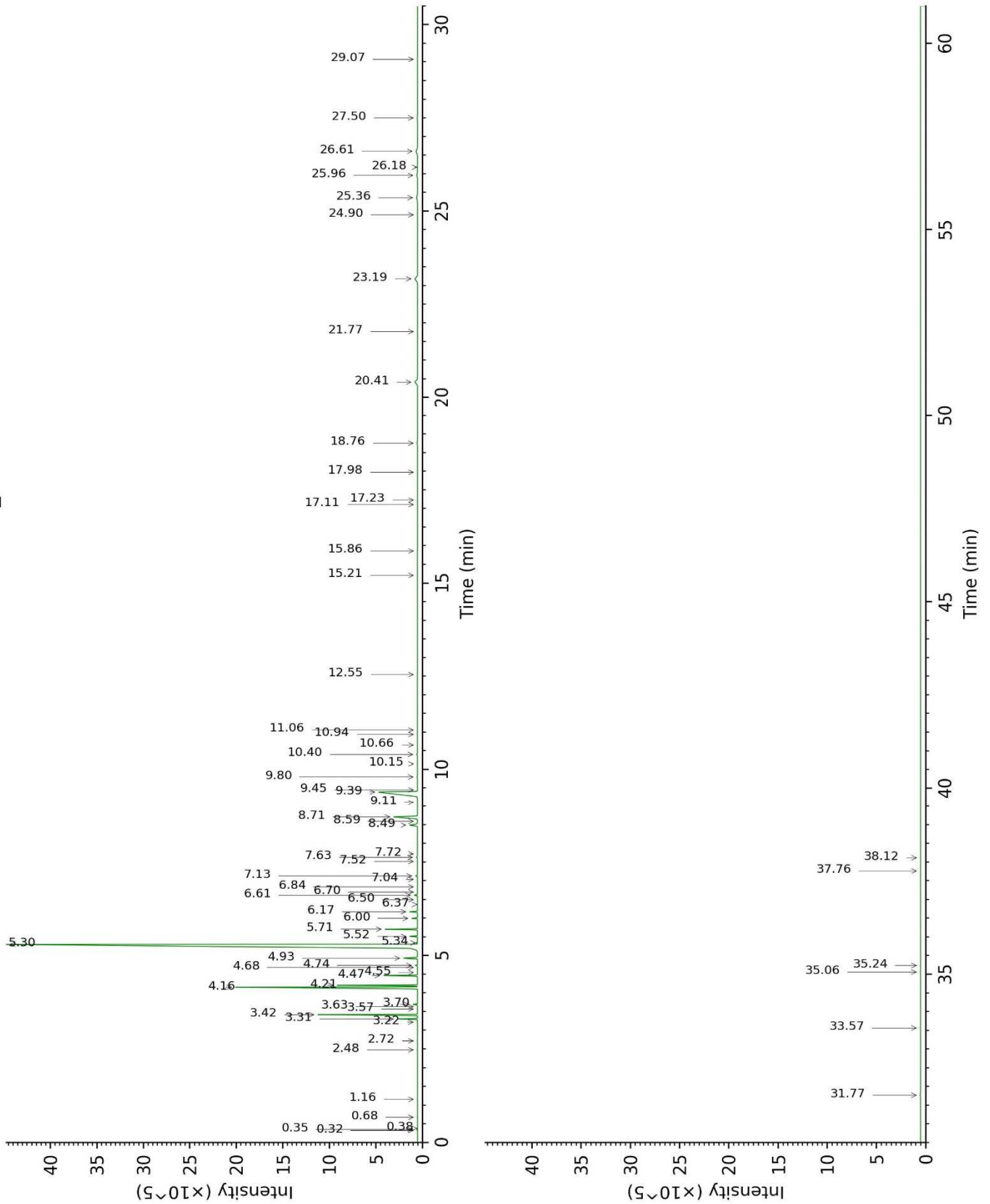
**Physical aspect :** Clear liquid

**Refractive index :** 1.4633  $\pm$  0.0003 (20 °C)

#### CONCLUSION

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

17E04-PTH6-1-DM\_BP5



17E04-PTH6-1-DM\_WAX

