



**PLANT THERAPY**  
100% PURE ESSENTIAL OILS

## GC/MS BATCH NUMBER: P10104

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**ESSENTIAL OIL:** PALMAROSA

**BOTANICAL NAME:** CYMBOPOGON MARTINII

**ORIGIN:** INDIA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF PALMAROSA OIL	%
GERANIOL	79.5
GERANYL ACETATE	8.1
LINALOOL	3.1
$\beta$ -CARYOPHYLLENE	2.1
trans- $\beta$ -OCIMENE	1.8

Comments from Robert Tisserand: Fresh, green, grassy odor quality with a hint of lemon. All twelve key ISO constituents are within range.

**Date :** November 8, 2017

*SAMPLE IDENTIFICATION*

**Internal code :** 17K03-PTH3-1-CC

**Customer identification :** Palmarosa - India - P101041612R

**Type :** Essential oil

**Source :** *Cymbopogon martinii*

**Customer :** Plant Therapy

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

**Analysis date :** 2017-11-07

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.	
Isoamyl alcohol	1.16	738	0.02	0.19	1140	2.87*	Aliphatic alcohol
Myrcene	4.47	989	0.28	0.22	1116	2.55	Monoterpene
6-Methyl-5-hepten-2-one	4.55	993	0.07	0.06	1275	4.76	Aliphatic ketone
Limonene	5.16	1027	0.12	[0.19]	1140	2.87*	Monoterpene
<i>cis</i> - $\beta$ -Ocimene	5.34	1037	0.57	0.53	1186	3.48*	Monoterpene
<i>trans</i> - $\beta$ -Ocimene	5.53	1047	1.82	1.72	1203	3.69	Monoterpene
$\gamma$ -Terpinene	5.71	1057	0.02	[0.53]	1186	3.48*	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	5.99	1072	0.02	0.02	1373	6.28	Monoterp. alcohol
Terpinolene	6.19	1083	0.04	0.01	1223	4.01	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	6.31	1089	0.01				Monoterp. alcohol
Linalool	6.71	1107	3.10	3.09	1494	8.90	Monoterp. alcohol
$\alpha$ -Terpineol	9.47	1203	0.03	0.09	1635	14.40*	Monoterp. alcohol
Nerol	10.56	1227	0.19	0.16	1726	19.42	Monoterp. alcohol
Neral	11.14	1240	0.19	0.19	1596	12.53	Monoterp. aldehyde
Geraniol	12.51	1270	79.53	80.23	1789	23.60	Monoterp. alcohol
Geranial	12.79	1276	0.35	0.34	1644	14.89*	Monoterp. aldehyde
Geranyl formate	14.09	1303	0.11	[0.09]	1635	14.40*	Monoterp. ester
$\beta$ -Elemene	18.93	1376	0.08	2.08	1519	9.72*	Sesquiterpene
Geranyl acetate	19.53	1385	8.14	8.15	1693	17.47	Monoterp. ester
$\beta$ -Caryophyllene	20.64	1401	2.06	[2.08]	1519	9.72*	Sesquiterpene
$\alpha$ -Humulene	23.40	1434	0.12	0.12	1581	11.98	Sesquiterpene
$\alpha$ -Muurolene	27.78	1486	0.03	[0.34]	1644	14.89*	Sesquiterpene
$\gamma$ -Cadinene	28.73	1497	0.03	0.05	1661	15.81	Sesquiterpene
Geranyl butyrate	33.73	1567	0.16	0.15	1830	26.43	Monoterp. ester
Caryophyllene oxide	33.82*	1568	0.35	0.19	1845	27.55	Sesquiterp. ether
( <i>E</i> )-Nerolidol	33.82*	1568	[0.35]	0.19	1985	35.82	Sesquiterp. alcohol
(2 <i>E</i> ,6 <i>E</i> )-Farnesol	40.68	1720	0.79	0.89	2281	44.47	Sesquiterp. alcohol
Geranyl caproate	41.71	1752	0.66	0.66	2025	37.49	Monoterp. ester
(2 <i>E</i> ,6 <i>E</i> )-Farnesyl acetate	44.14	1834	0.08	0.08	2191	42.31	Sesquiterp. ester
Geranyl caprylate	47.07	1945	0.17	0.17	2227	43.20	Monoterp. ester
<b>Total identified</b>			<b>99.14%</b>	<b>99.58%</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

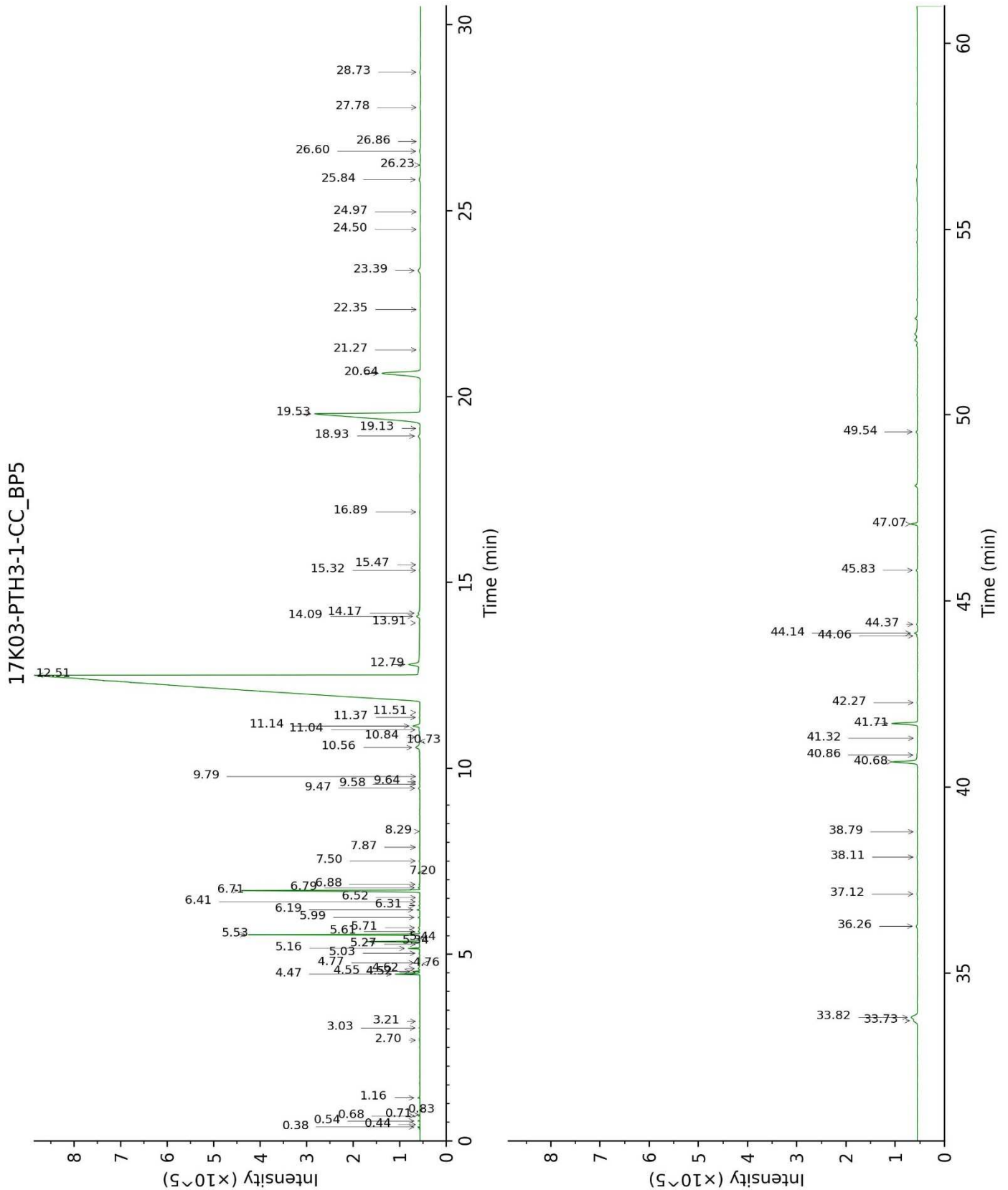
*OTHER DATA*

**Physical aspect :** Light yellow liquid

**Refractive index :**  $1.4728 \pm 0.0003$  (20 °C)

*CONCLUSION*

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



17K03-PTH3-1-CC\_WAX

