



GC/MS BATCH NUMBER: H80103

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**ESSENTIAL OIL:** HO WOOD  
**BOTANICAL NAME:** CINNAMOMUM CAMPHORA  
**ORIGIN:** CHINA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF HO WOOD OIL	%
LINALOOL	98.2

Comments from Robert Tisserand: Light, Lavender-Rose odor quality. Constituents are in expected amounts.

Date : September 19, 2018

CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

**Internal code :** 18I10-PTH1-1-CC

**Customer identification :** Ho Wood - China - H8010386R

**Type :** Essential oil

**Source :** *Cinnamomum camphora*

**Customer :** Plant Therapy


ANALYSIS

**Method:** PC-PA-014-17J19 - Analysis of the composition of an essential oil, or other volatile liquid, by FAST GC-FID (in French); identifications validated by GC-MS.

**Analyst :** Lindsay Girard, B. Sc.

**Analysis date :** September 11, 2018

Checked and approved by :



Alexis St-Gelais, M. Sc., chimiste 2013-174

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*This report is digitally signed, it is only considered valid if the digital signature is intact.*

*PHYSICOCHEMICAL DATA*

**Physical aspect:** Clear liquid

**Refractive index:**  $1.4615 \pm 0.0003$  (20 °C)

*CONCLUSION*

No adulterant, contaminant or diluent has been detected using this method.

## ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Sabinene	tr	tr	Monoterpene
Myrcene	0.03	0.03	Monoterpene
$\alpha$ -Phellandrene	tr	0.01	Monoterpene
$\alpha$ -Terpinene	0.01	0.01	Monoterpene
para-Cymene	0.14	0.02	Monoterpene
$\beta$ -Phellandrene	[0.14]*	0.08*	Monoterpene
1,8-Cineole	[0.14]*	[0.08]*	Monoterpenic ether
Limonene	[0.14]*	0.04	Monoterpene
(Z)- $\beta$ -Ocimene	0.02	0.02	Monoterpene
(E)- $\beta$ -Ocimene	0.09	0.06	Monoterpene
$\gamma$ -Terpinene	0.01	0.01	Monoterpene
cis-Sabinene hydrate	0.03	0.55*	Monoterpenic alcohol
cis-Linalool oxide (fur.)	0.18	0.17	Monoterpenic alcohol
Fenchone	0.01	0.02	Aliphatic alcohol
Terpinolene	0.44*	0.02	Monoterpene
trans-Linalool oxide (fur.)	[0.44]*	[0.55]*	Monoterpenic alcohol
Linalool	98.22	97.68	Monoterpenic alcohol
cis-Limonene oxide	0.01	0.01	Monoterpenic ether
trans-Limonene oxide	0.05	0.07	Monoterpenic ether
Camphor	0.09	0.19	Monoterpenic ketone
Unknown	0.02	0.01	Oxygenated monoterpene
Cryptone	tr	tr	Normonoterpenic ketone
$\alpha$ -Terpineol	0.01		Monoterpenic alcohol
cis-Piperitol	0.01		Monoterpenic alcohol
Hodiendiol	0.04		Monoterpenic alcohol
$\alpha$ -Phellandrene epoxide	0.01	0.01	Monoterpenic ether
Dodecane	0.07		Alkane
Unknown	0.05		Unknown
Unknown	0.01		Oxygenated monoterpene
Unknown	tr		Unknown
<b>Total identified</b>	<b>99.47%</b>	<b>99.00%</b>	

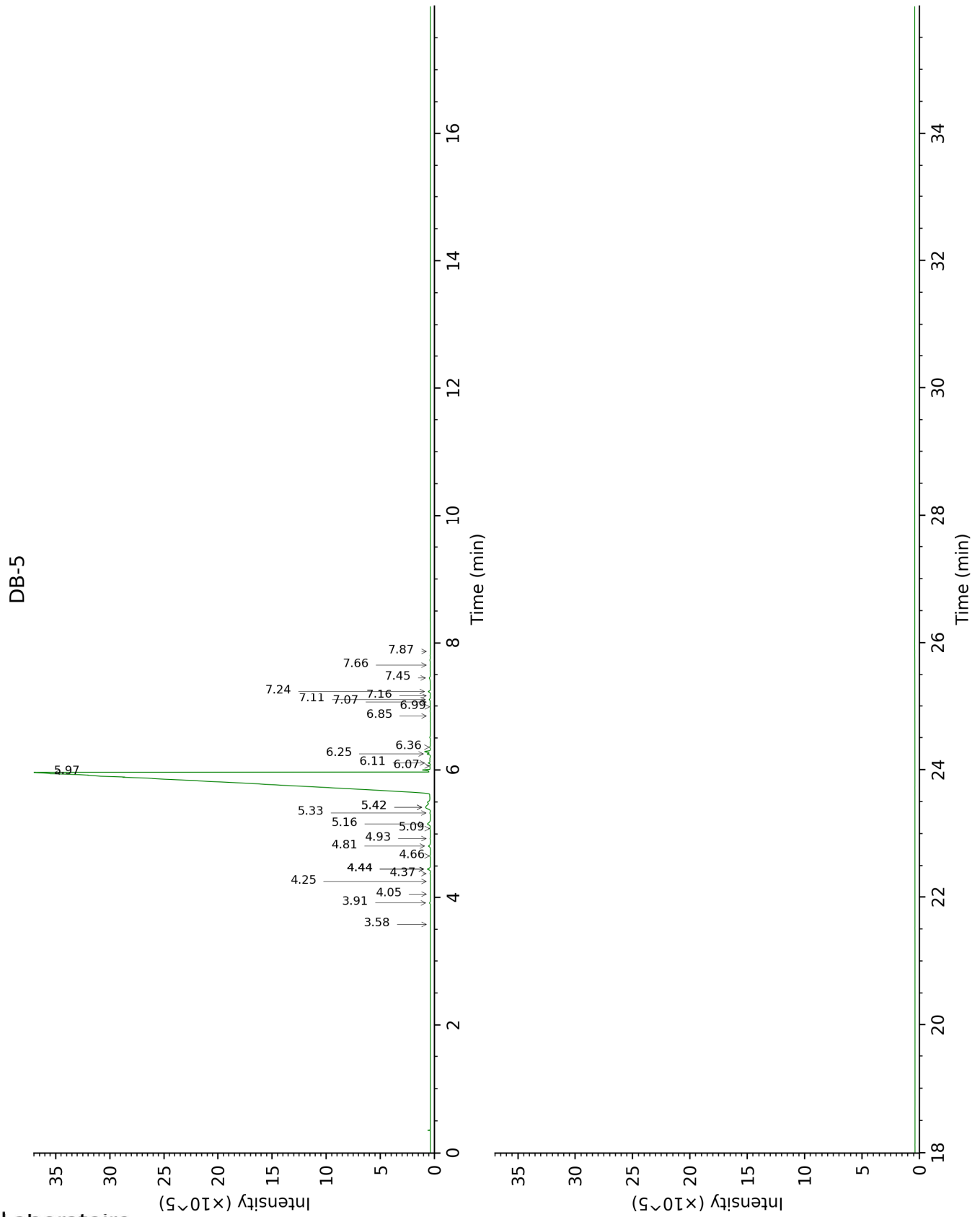
\*: Two or more compounds are coeluting on this column

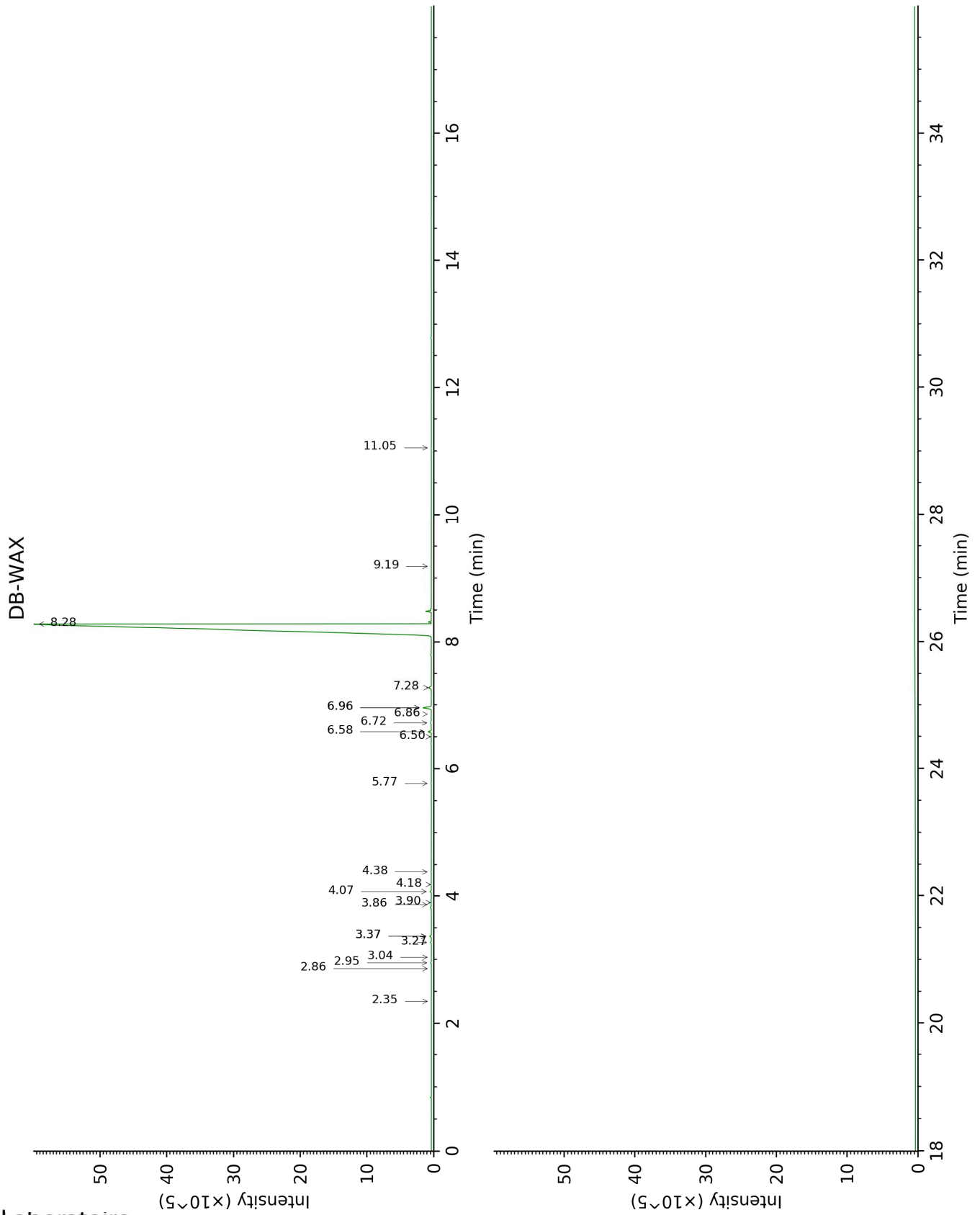
[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

tr: The compound has been detected below 0.005% of total signal.

Note: no correction factor was applied

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FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
Sabinene	3.58	968	tr	2.35	1088	tr
Myrcene	3.91	990	0.03	2.95	1139	0.03
$\alpha$ -Phellandrene	4.05	1000	tr	2.86	1132	0.01
$\alpha$ -Terpinene	4.25	1012	0.01	3.04	1145	0.01
para-Cymene	4.37†	1020	0.14	4.18	1230	0.02
$\beta$ -Phellandrene	4.44*†	1025	[0.14]	3.37*	1170	0.08
1,8-Cineole	4.44*†	1025	[0.14]	3.37*	1170	[0.08]
Limonene	4.44*†	1025	[0.14]	3.27	1163	0.04
(Z)- $\beta$ -Ocimene	4.66	1038	0.02	3.86	1208	0.02
(E)- $\beta$ -Ocimene	4.81	1048	0.09	4.07	1222	0.06
$\gamma$ -Terpinene	4.93	1055	0.01	3.90	1210	0.01
<i>cis</i> -Sabinene hydrate	5.09	1065	0.03	6.96*	1429	0.55
<i>cis</i> -Linalool oxide (fur.)	5.16	1070	0.18	6.58	1402	0.17
Fenchone	5.33	1081	0.01	5.77	1344	0.02
Terpinolene	5.42*	1086	0.44	4.38	1244	0.02
<i>trans</i> -Linalool oxide (fur.)	5.42*	1086	[0.44]	6.96*	1429	[0.55]
Linalool	5.97	1121	98.22	8.28	1528	97.68
<i>cis</i> -Limonene oxide	6.07	1128	0.01	6.50	1396	0.01
<i>trans</i> -Limonene oxide	6.11	1130	0.05	6.72	1412	0.07
Camphor	6.26	1140	0.09	7.28	1453	0.19
Unknown [m/z 109, 41 (49), 124 (41), 43 (31), 95 (28), 84 (22)... 152 (7)]	6.36	1146	0.02	6.86	1422	0.01
Cryptone	6.85	1178	tr	9.19	1598	tr
$\alpha$ -Terpineol	6.99	1187	0.01			
<i>cis</i> -Piperitol	7.07	1192	0.01			
Hodiendiol	7.10	1194	0.04			
$\alpha$ -Phellandrene epoxide	7.16	1198	0.01	11.05	1752	0.01
Dodecane	7.24	1203	0.07			
Unknown [m/z 43, 97 (72), 41 (44), 71 (27), 55 (26), 82 (25)...]	7.45	1217	0.05			
Unknown [m/z 137, 152 (28), 43 (25), 91 (24), 109 (23), 119 (19)]	7.66	1231	0.01			
Unknown [m/z 43, 97 (69), 107	7.87	1245	tr			



(46), 41 (28), 55 (21), 109 (20)...		
<b>Total identified</b>	<b>99.47%</b>	<b>99.00%</b>
<b>Total reported</b>	<b>99.56%</b>	<b>99.01%</b>

\*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

†: Peaks apexes were resolved, but peaks overlapped and were summed for analysis

tr: The compound has been detected below 0.005% of total signal.

Note: no correction factor was applied

R.T.: Retention time (minutes)

R.I.: Retention index