Date : October 14, 2020

Certificate of Analysis – GC Profiling

Sample identification

Internal code : 20J13-PTH12
Customer identification : Ho wood - H80105206R
Type : Essential oil
Source : *Cinnamomum camphora* ct. Linalool
Customer : Plant Therapy

Analysis

Method: PC-MAT-014 ISO - Analysis of the composition of an essential oil or other volatile liquid by FAST GC-FID (in French); identifications validated by GC-MS.
Analyst : Fanny Charlier, B. Sc., chimiste à l'entraînement
Analysis date : October 14, 2020

Checked and approved by :

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

Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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. The results only describe the samples that were submitted to the assays.

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PHYSICOCHEMICAL DATA

Physical aspect: Clear liquid
Refractive index: 1.4622 ± 0.0003 (20 °C; method PC-MAT-016)

CONCLUSION

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

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Analysis summary – Consolidated contents

New readers of similar reports are encouraged to read table footnotes at least once.

Identification	%	Class
Limonene	0.01	Monoterpene
(*E*)-β-Ocimene	0.01	Monoterpene
cis-Sabinene hydrate	tr	Monoterpenic alcohol
trans-Linalool oxide (fur.)	0.67	Monoterpenic alcohol
Unknown	0.02	Monoterpenic alcohol
Linalool	97.80	Monoterpenic alcohol
cis-para-Menth-2-en-1-ol	0.02	Monoterpenic alcohol
trans-para-Mentha-2,8-dien-1-ol	0.04	Monoterpenic alcohol
cis-para-Mentha-2,8-dien-1-ol	0.01	Monoterpenic alcohol
trans-para-Menth-2-en-1-ol	0.03	Monoterpenic alcohol
Unknown	tr	Unknown
Unknown	tr	Unknown
Hodiendiol	0.03	Monoterpenic alcohol
cis-α-Phellandrene epoxide (IPP vs Me)	0.02	Monoterpenic ether
Unknown	tr	Oxygenated monoterpene
(*E*)-Isogeraniol?	0.01	Monoterpenic alcohol
δ-Cadinene	0.01	Sesquiterpene
Neointermedeol	0.01	Sesquiterpenic alcohol
Consolidated total	**98.70%**	

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

Note: no correction factor was applied

About "consolidated" data: The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm is set to prioritize data from the most standard DB-5 column, and smallest values so as to avoid overestimating individual content. This process is semi-automatic. Advanced users are invited to consult the "Full analysis data" table after the chromatograms in this report to access the full untreated data and perform their own calculations if needed.

Unknowns: Unknown compounds' mass spectral data is presented in the "Full analysis data" table. The occurrence of unknown compounds is to be expected in many samples, and does not denote particular problems unless noted otherwise in the conclusion.

This page was intentionally left blank. The following pages present the complete data of the analysis.

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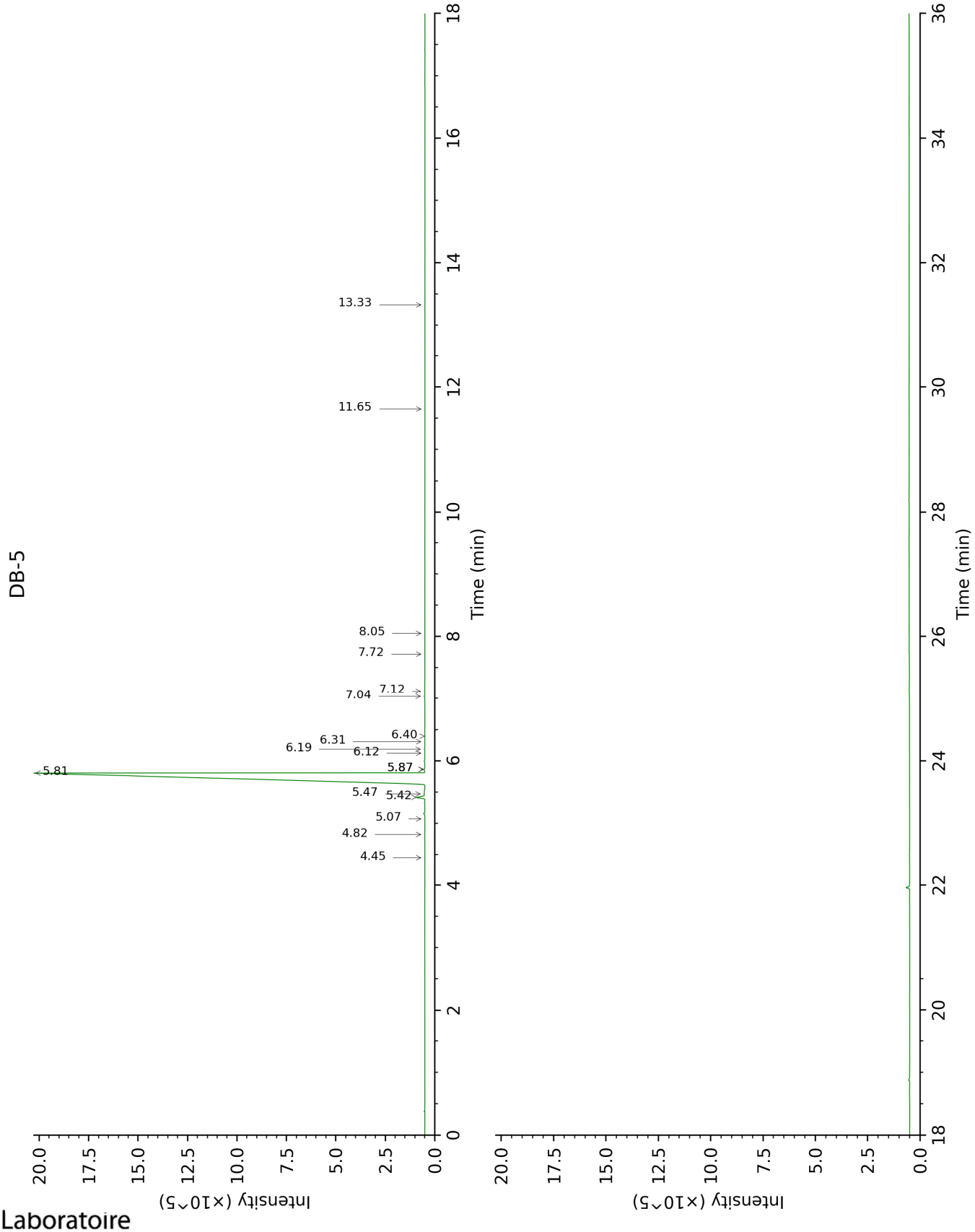
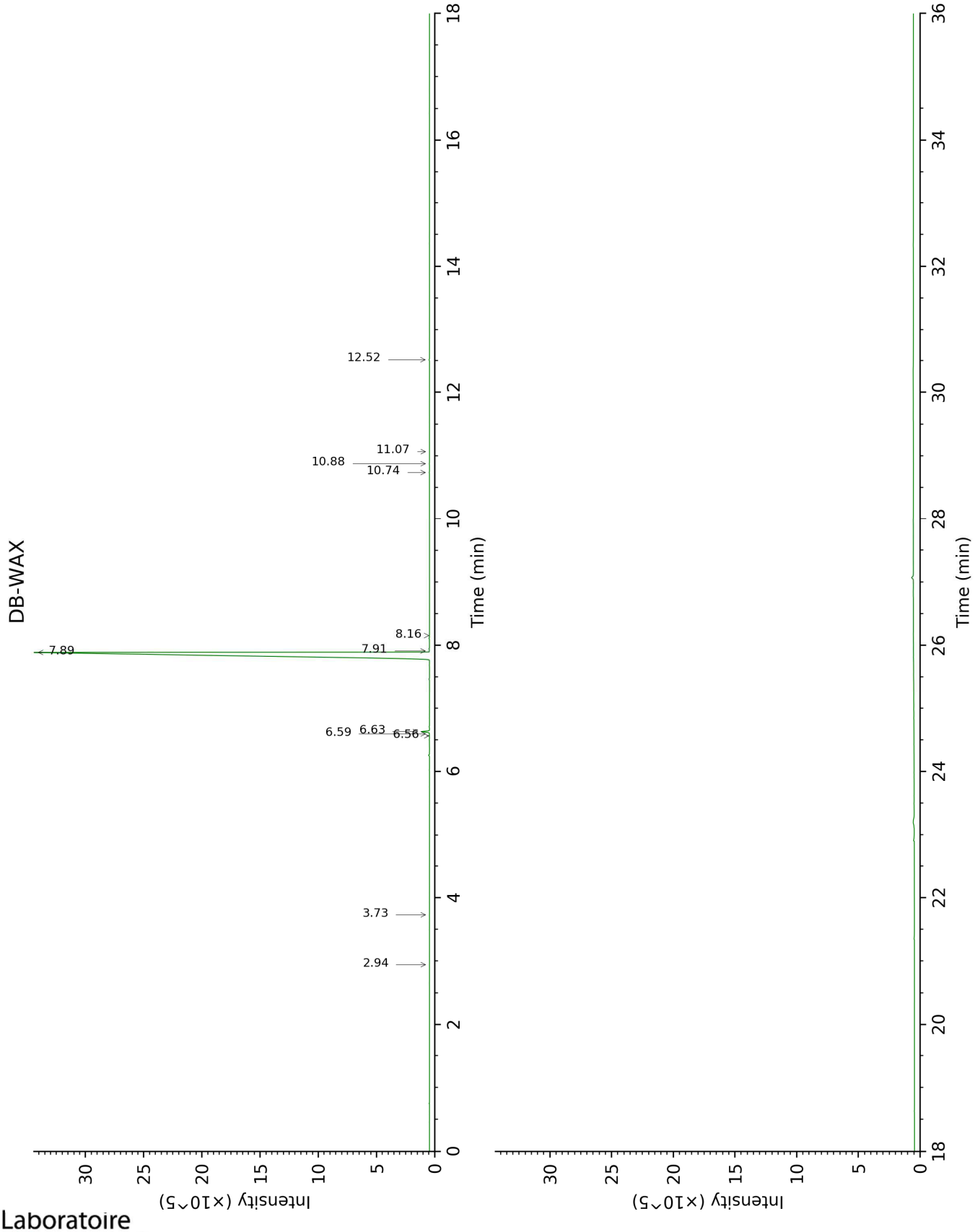

DB-5
13.33
11.65
8.05
7.72
7.04
7.12
6.40
6.31
6.19
6.12
5.87
5.81
5.47
5.42
5.07
4.82
4.45
Time (min)
Intensity (×10^5)
Time (min)
Intensity (×10^5)



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FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
Limonene	4.45	1027	0.01	2.94	1156	tr
(*E*)-β-Ocimene	4.82	1051	0.01	3.73	1218	tr
cis-Sabinene hydrate	5.07	1066	tr	6.56	1424	0.01
trans-Linalool oxide (fur.)	5.42†	1088	0.81	6.63	1429	0.67
Unknown [m/z 119, 109 (94), 43 (61), 95 (56), 91 (48), 77 (32), 152 (32), 137 (31), 134 (24)]	5.47†	1092	[0.81]	8.16	1545	0.02
Linalool	5.81	1113	97.80	7.89	1524	97.56
cis-para-Menth-2-en-1-ol	5.86*	1117	0.07	7.91	1526	0.02
trans-para-Mentha-2,8-dien-1-ol	5.86*	1117	[0.07]			
cis-para-Mentha-2,8-dien-1-ol	6.12	1133	0.01			
trans-para-Menth-2-en-1-ol	6.19	1137	0.03			
Unknown [m/z 109, 124 (45), 119 (41), 43 (35), 91 (28), 95 (25)...]	6.31	1145	tr	6.60	1426	0.01
Unknown [m/z 71, 85 (48), 43 (42), 57 (38), 58 (37), 41 (21), ... 155 (12)]	6.40	1151	tr			
Hodiendiol	7.04	1192	0.03	12.52	1912	0.04
cis-α-Phellandrene epoxide (IPP vs Me)	7.12	1197	0.02	10.74	1755	0.02
Unknown [m/z 137, 152 (28), 43 (25), 91 (24), 109 (23), 119 (19)]	7.72	1237	tr	11.07	1783	0.01
(*E*)-Isogeraniol?	8.05	1259	0.01	10.88	1767	0.02
δ-Cadinene	11.65	1518	0.01			
Neointermedeol	13.33	1652	0.01			
Total identified		**98.82%**			**98.34%**	
Total reported		**98.82%**			**98.38%**	

*: Two or more compounds are coeluting on this column
[xx]: Duplicate percentage due to coelutions, not taken into account in the consolidated 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

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