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CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 23L14-PTH02
Customer Identification : Eucalyptus Globulus - China - E20113R
Type : Essential Oil
Source : *Eucalyptus globulus*
Customer : Plant Therapy

Checked an approved by:

_____
Alexis St-Gelais, Ph. D., Chimiste 2013-174

MÉTHODE CERTIFIÉE
✱ISO 17025:2017
CERTIFIED METHOD

Laboratoire
Ph✿toChemia

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GAS CHROMATOGRAPHIC ANALYSIS

Method : PC-MAT-014 - Analysis of the composition of an essential oil or other volatile liquide by FAST GC-FID
☀ISO
Results : See analysis summary (next page)
Analyst : Sylvain Mercier, M. Sc., Chimiste 2014-005
Date : 2023-12-18

PHYSICOCHEMICAL DATA

Refractive index : 1.4603 ± 0.0003 (20 ℃)
Method : PC-MAT-016 - Measure of the refractive index of a liquid.
Analyst : Cindy Caron B. Sc.
Date : 2023-12-19

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
Isoamyl alcohol	0.01	Aliphatic alcohol
Hashishene	0.02	Monoterpene
α-Thujene	0.05	Monoterpene
α-Pinene	5.86	Monoterpene
α-Fenchene	0.01	Monoterpene
Camphene	0.02	Monoterpene
Thuja-2,4(10)-diene	0.01	Monoterpene
β-Pinene	0.31	Monoterpene
Sabinene	0.01	Monoterpene
6-Methyl-5-hepten-2-one	tr	Aliphatic ketone
trans-Dehydroxylinalool oxide	0.01	Monoterpenic ether
Myrcene	0.58	Monoterpene
α-Phellandrene	0.67	Monoterpene
α-Terpinene	0.17	Monoterpene
para-Cymene	2.40	Monoterpene
1,8-Cineole	80.73	Monoterpenic ether
β-Phellandrene	3.69	Monoterpene
Limonene	2.90	Monoterpene
(*Z*)-β-Ocimene	0.06	Monoterpene
(*E*)-β-Ocimene	0.03	Monoterpene
γ-Terpinene	2.05	Monoterpene
Unknown	0.01	Oxygenated monoterpene
cis-Linalool oxide (fur.)	0.01	Monoterpenic alcohol
para-Cymenene	0.01	Monoterpene
Terpinolene	0.06	Monoterpene
α-Pinene oxide	0.03	Monoterpenic ether
Linalool	0.03	Monoterpenic alcohol
trans-Pinocarveol	0.01	Monoterpenic alcohol
α-Terpineol	0.01	Monoterpenic alcohol
Myrtenol	tr	Monoterpenic alcohol
Verbenone	0.01	Monoterpenic ketone
Unknown	0.01	Unknown
Consolidated total	**99.79**	

tr: The compound has been detected below 0.005% of the total signal
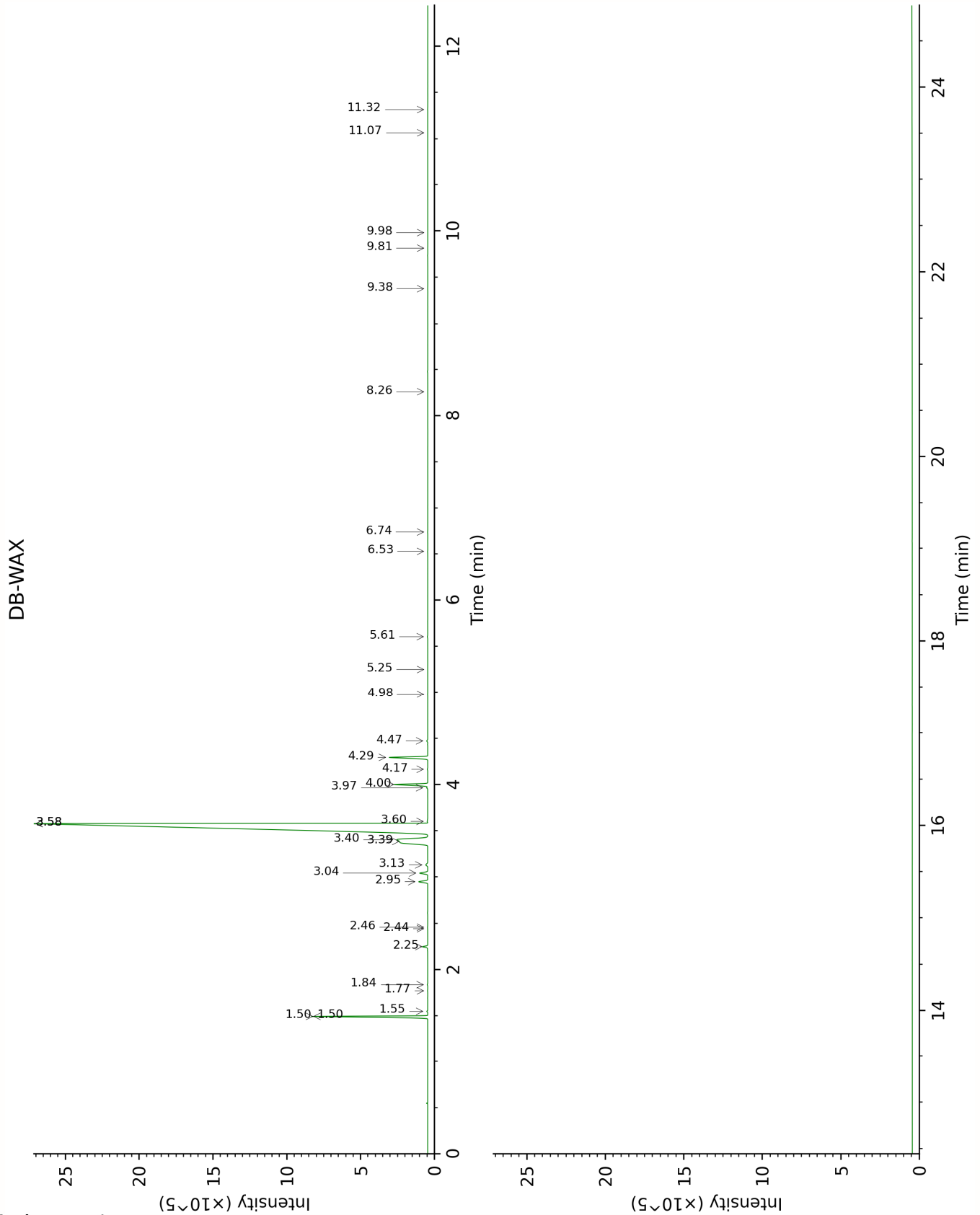
Note: no correction factor was applied

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.
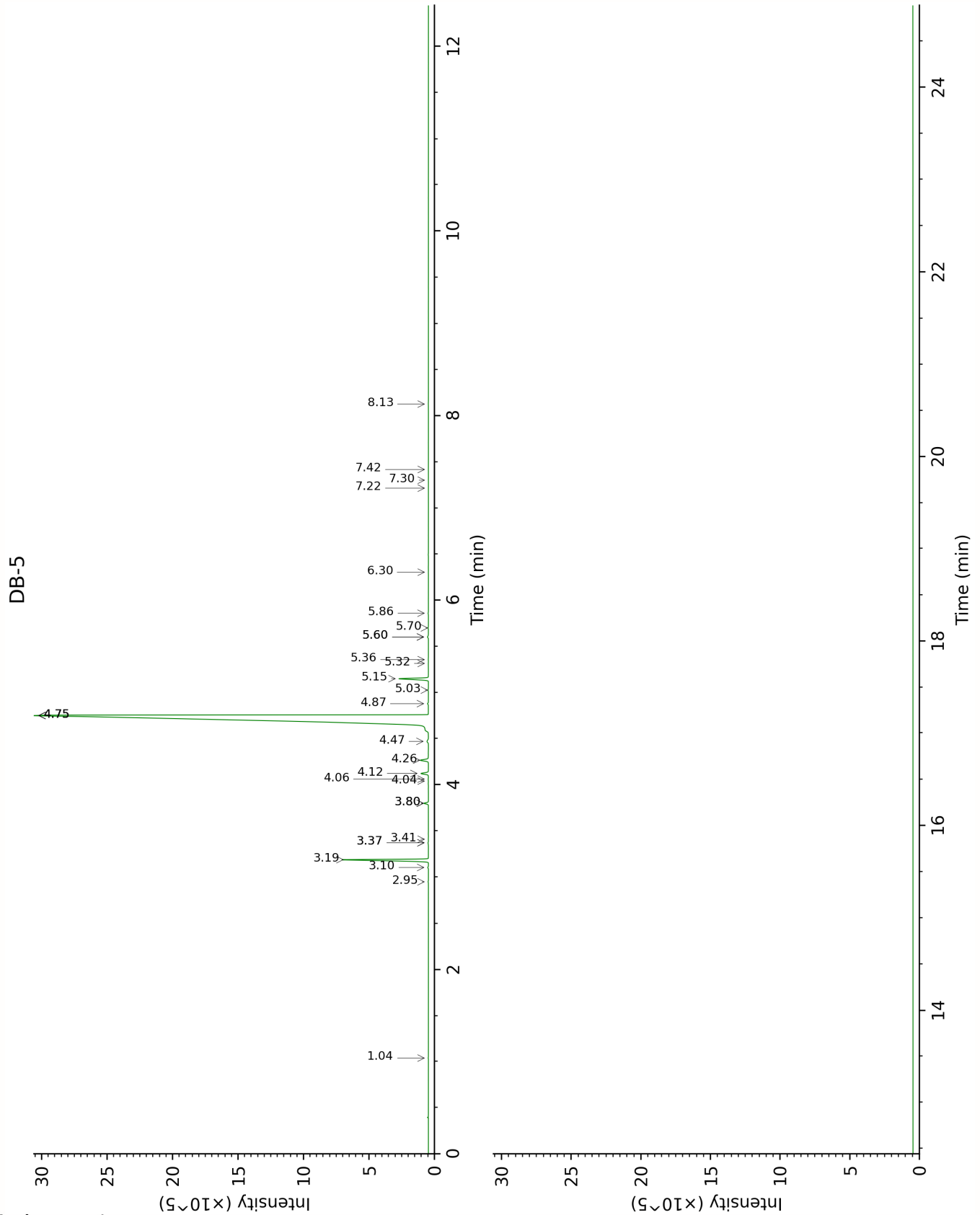
Unknowns: Unknown compounds' mass spectral data is presented in the "Full analysis data" table. The occurrence of unknown compounds is

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to be expected in many samples, and does not denote particular problems unless noted otherwise in the conclusion.

Bracketed value ([xx]): A bracketed percent value indicate that two or more compound percentage could not be solved due to coelution.

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

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DB-WAX

DB-5

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FULL ANALYSIS DATA

Isoamyl alcohol	Column DB-WAX			Column DB-5		
	3.60	1176.0	0.04	1.04	733.1	0.01
Hashishene	1.50*	993.8	[5.88]	2.95	916.2	0.02
α-Thujene	1.55	1001.1	0.04	3.10	926.4	0.05
α-Pinene	1.50*	993.8	[5.88]	3.19	932.0	5.86
α-Fenchene	1.77	1022.0	0.01	3.37*†	944.0	[0.03]
Camphene	1.84	1028.3	0.02	3.37*†	944.0	[0.03]
Thuja-2,4(10)-diene	2.46	1086.9	0.01	3.41	946.5	0.01
β-Pinene	2.25	1067.1	0.31	3.80*	972.0	[0.30]
Sabinene	2.44	1085.3	0.01	3.80*	972.0	[0.30]
6-Methyl-5-hepten-2-one	5.25	1294.7	tr	4.04	987.8	tr
trans-Dehydroxylinalool oxide	3.58*	1174.2	[80.75]	4.06	989.3	0.01
Myrcene	3.04	1133.7	0.57	4.12	993.3	0.58
α-Phellandrene	2.95	1126.6	0.63	4.26	1002.7	0.67
α-Terpinene	3.13	1140.3	0.17	4.47	1015.5	0.17
para-Cymene	4.29	1226.6	2.40	4.75*	1032.9	[89.83]
1,8-Cineole	3.58*	1174.2	[80.75]	4.75*	1032.9	[89.83]
β-Phellandrene	3.40	1161.0	3.69	4.75*	1032.9	[89.83]
Limonene	3.39	1159.6	2.90	4.75*	1032.9	[89.83]
(Z)-β-Ocimene	3.97	1203.3	0.06	4.87	1041.0	0.06
(E)-β-Ocimene	4.17	1217.5	0.03	5.03	1050.6	0.03
γ-Terpinene	4.00	1205.8	2.11	5.15	1058.3	2.05
Unknown PIMA I [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	4.98	1275.4	0.01	5.32	1068.6	0.01
cis-Linalool oxide (fur.)	6.74	1402.4	0.01	5.36	1071.2	0.01
para-Cymenene	6.53	1387.4	0.01	5.60*	1086.5	[0.08]
Terpinolene	4.47	1239.3	0.06	5.60*	1086.5	[0.08]
α-Pinene oxide	5.61	1321.5	0.03	5.70	1092.6	0.03
Linalool	8.26	1515.7	tr	5.86	1102.5	0.03
trans-Pinocarveol	9.38	1602.1	0.01	6.30	1130.8	0.01
α-Terpineol	9.98	1650.8	tr	7.22	1189.1	0.01
Myrtenol	11.07	1740.2	0.01	7.30	1194.6	tr
Verbenone	9.82	1637.4	0.01	7.42	1202.0	0.01
Unknown CALU IV [m/z 43, 97 (69), 107 (46), 41 (28),	11.32	1761.4	0.01	8.13	1249.1	0.01

55 (21), 109 (20)...]						
Total reported	99.79%			99.89%		

*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, only the first one is 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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