

Date : June 12, 2023

CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 23F05-PTH02


Customer identification : Eucalyptus Globulus - China - E20112R

Type : Essential oil

Source : *Eucalyptus globulus*

Customer : Plant Therapy

ANALYSIS

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

Analyst : Sylvain Mercier, M. Sc., Chimiste 2014-005

Analysis date : June 12, 2023

Checked and approved by :

Sylvain Mercier, M. Sc., Chimiste 2014-005

Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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.

PHYSICOCHEMICAL DATA

Physical aspect: Clear liquid

Refractive index: 1.4604 ± 0.0003 (20 °C; method PC-MAT-016)

CONCLUSION

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

ANALYSIS SUMMARY – CONSOLIDATED CONTENTS

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

Identification	%	Class
Isovaleral	tr	Aliphatic aldehyde
Isoamyl alcohol	0.02	Aliphatic alcohol
Hashishene	0.01	Monoterpene
α -Thujene	0.03	Monoterpene
α -Pinene	4.72	Monoterpene
Camphene	0.03	Monoterpene
α -Fenchene	0.01	Monoterpene
Thuja-2,4(10)-diene	0.01	Monoterpene
β -Pinene	0.39	Monoterpene
Sabinene	tr	Monoterpene
Myrcene	0.74	Monoterpene
α -Phellandrene	0.92	Monoterpene
Δ^3 -Carene	0.01	Monoterpene
<i>cis</i> -Dehydroxylinalool oxide	0.01	Monoterpenic ether
α -Terpinene	0.20	Monoterpene
para-Cymene	2.34	Monoterpene
Limonene	6.73	Monoterpene
1,8-Cineole	80.59	Monoterpenic ether
(<i>Z</i>)- β -Ocimene	0.11	Monoterpene
(<i>E</i>)- β -Ocimene	0.03	Monoterpene
γ -Terpinene	2.09	Monoterpene
<i>cis</i> -Linalool oxide (fur.)	0.02	Monoterpenic alcohol
Terpinolene	0.09	Monoterpene
para-Cymenene	0.02	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	0.01	Monoterpenic alcohol
Linalool	0.04	Monoterpenic alcohol
endo-Fenchol	0.02	Monoterpenic alcohol
allo-Ocimene	0.02	Monoterpene
<i>trans</i> -Pinocarveol	0.03	Monoterpenic alcohol
δ -Terpineol	0.02	Monoterpenic alcohol
Terpinen-4-ol	0.13	Monoterpenic alcohol
α -Terpineol	0.27	Monoterpenic alcohol
Unknown	0.02	Unknown
α -Gurjunene	0.01	Sesquiterpene
Aromadendrene	0.02	Sesquiterpene
Consolidated total	99.72%	

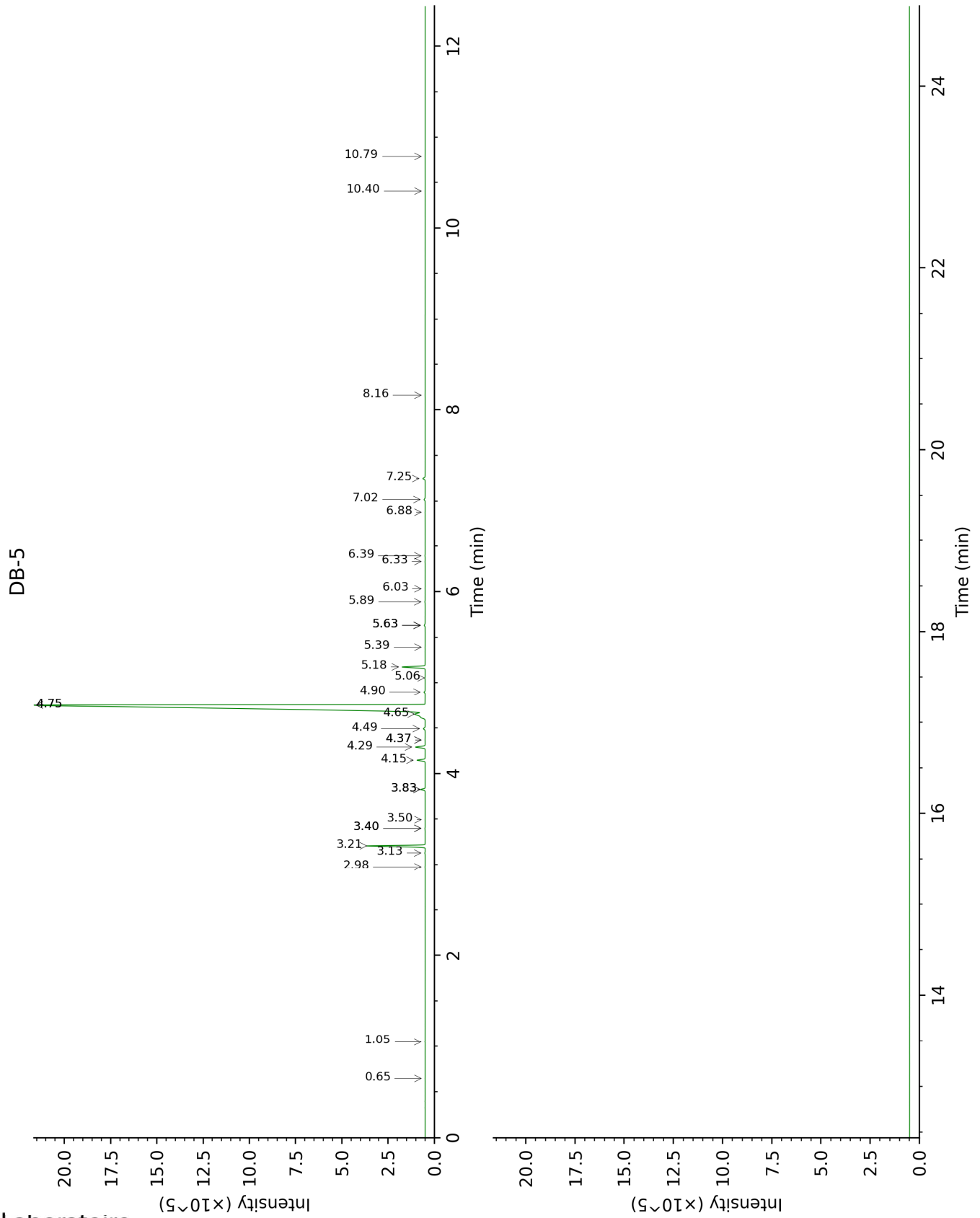
tr: The compound has been detected below 0.005% of total signal.

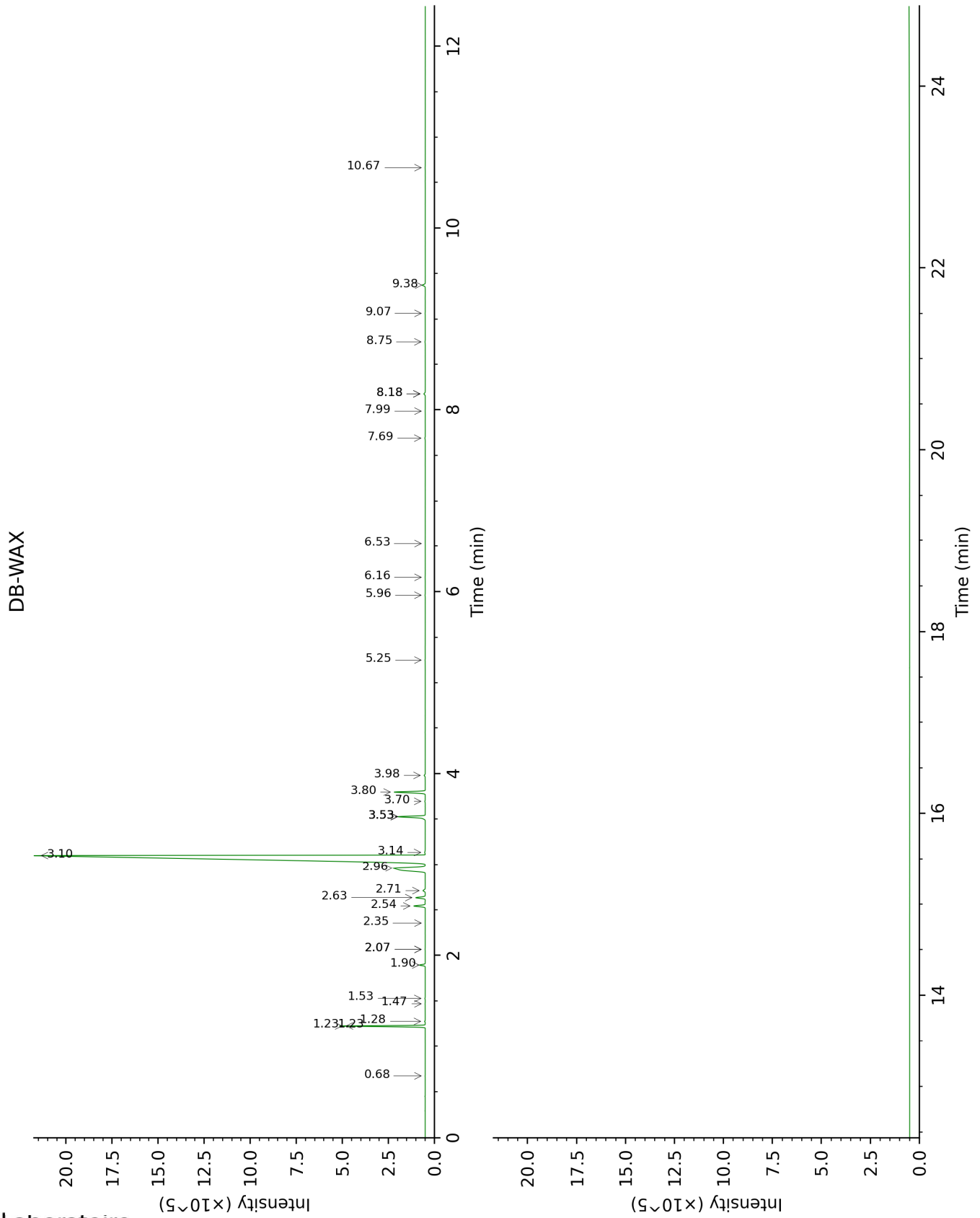
Note: no correction factor was applied

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.





FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
Isovaleral	0.65	641	tr	0.68	886	0.01
Isoamyl alcohol	1.05	733	0.02	3.14	1176	0.06
Hashishene	2.98	916	0.01	1.23*	993	4.76
α -Thujene	3.13	926	0.03	1.28	1002	0.03
α -Pinene	3.21	931	4.72	1.23*	993	[4.76]
Camphene	3.40*	944	0.03	1.53	1029	0.03
α -Fenchene	3.40*	944	[0.03]	1.47	1023	0.01
Thuja-2,4(10)-diene	3.50	950	0.01	2.07*	1084	0.01
β -Pinene	3.83*	972	0.40	1.90	1067	0.39
Sabinene	3.83*	972	[0.40]	2.07*	1084	[0.01]
Myrcene	4.15	993	0.74	2.63	1135	0.74
α -Phellandrene	4.29	1002	0.92	2.54	1128	0.90
Δ^3 -Carene	4.37*	1007	0.02	2.36	1112	0.01
<i>cis</i> -Dehydroxylinalool oxide	4.37*	1007	[0.02]	3.53*	1209	2.25
α -Terpinene	4.49	1015	0.20	2.71	1141	0.22
para-Cymene	4.65	1025	2.34	3.80	1230	2.42
Limonene	4.75*	1031	87.60	2.96	1162	6.73
1,8-Cineole	4.75*	1031	[87.60]	3.10	1174	80.59
(<i>Z</i>)- β -Ocimene	4.90	1040	0.11	3.53*	1209	[2.25]
(<i>E</i>)- β -Ocimene	5.06	1050	0.03	3.70	1222	0.04
γ -Terpinene	5.18	1058	2.09	3.53*	1209	[2.25]
<i>cis</i> -Linalool oxide (fur.)	5.39	1071	0.02	6.16	1400	0.01
Terpinolene	5.63*	1086	0.12	3.98	1244	0.09
para-Cymenene	5.63*	1086	[0.12]	5.96	1385	0.02
<i>trans</i> -Linalool oxide (fur.)	5.63*	1086	[0.12]	6.53	1428	0.01
Linalool	5.89	1102	0.04	7.69	1516	0.04
endo-Fenchol	6.03	1111	0.02	7.99	1539	0.02
allo-Ocimene	6.33	1130	0.02	5.25	1333	0.02
<i>trans</i> -Pinocarveol	6.40	1134	0.03	8.75	1600	0.03
δ -Terpineol	6.88	1165	0.02	9.07	1625	0.02
Terpinen-4-ol	7.02	1174	0.13	8.18*	1554	0.13
α -Terpineol	7.25	1189	0.27	9.38	1650	0.27
Unknown [m/z 43, 97 (69), 107 (46), 41 (28), 55 (21), 109 (20)...]	8.16	1249	0.02	10.67	1759	0.02
α -Gurjunene	10.40	1404	0.01			
Aromadendrene	10.79	1432	0.02	8.18*	1554	[0.13]
Total identified		99.97%			99.88%	
Total reported		99.99%			99.90%	

*: Two or more compounds are coeluting on this column

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

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