CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 20J30-AOI11
Customer identification : Eucalyptus Globulus - Portugal - EUC-191
Type : Essential oil
Source : *Eucalyptus globulus*
Customer : Angies Organics Inc

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 : Sylvain Mercier, M. Sc., Chimiste
Analysis date : November 09, 2020

Checked and approved by :

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

✱ISO 17025:2017
MÉTHODE CERTIFIÉE
CERTIFIED METHOD

Laboratoire
Ph✲toChemia

628 Boulevard du Saguenay Ouest, Saguenay (Qc) G7J 1H4 | www.phytochemia.com

PHYSICOCHEMICAL DATA

Physical aspect: Clear liquid
Refractive index: 1.4606 ± 0.0003 (20 °C; method PC-MAT-016)

CONCLUSION

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

Laboratoire
Ph toChemia

Plus que des analyses... des conseils

ANALYSIS SUMMARY – CONSOLIDATED CONTENTS

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

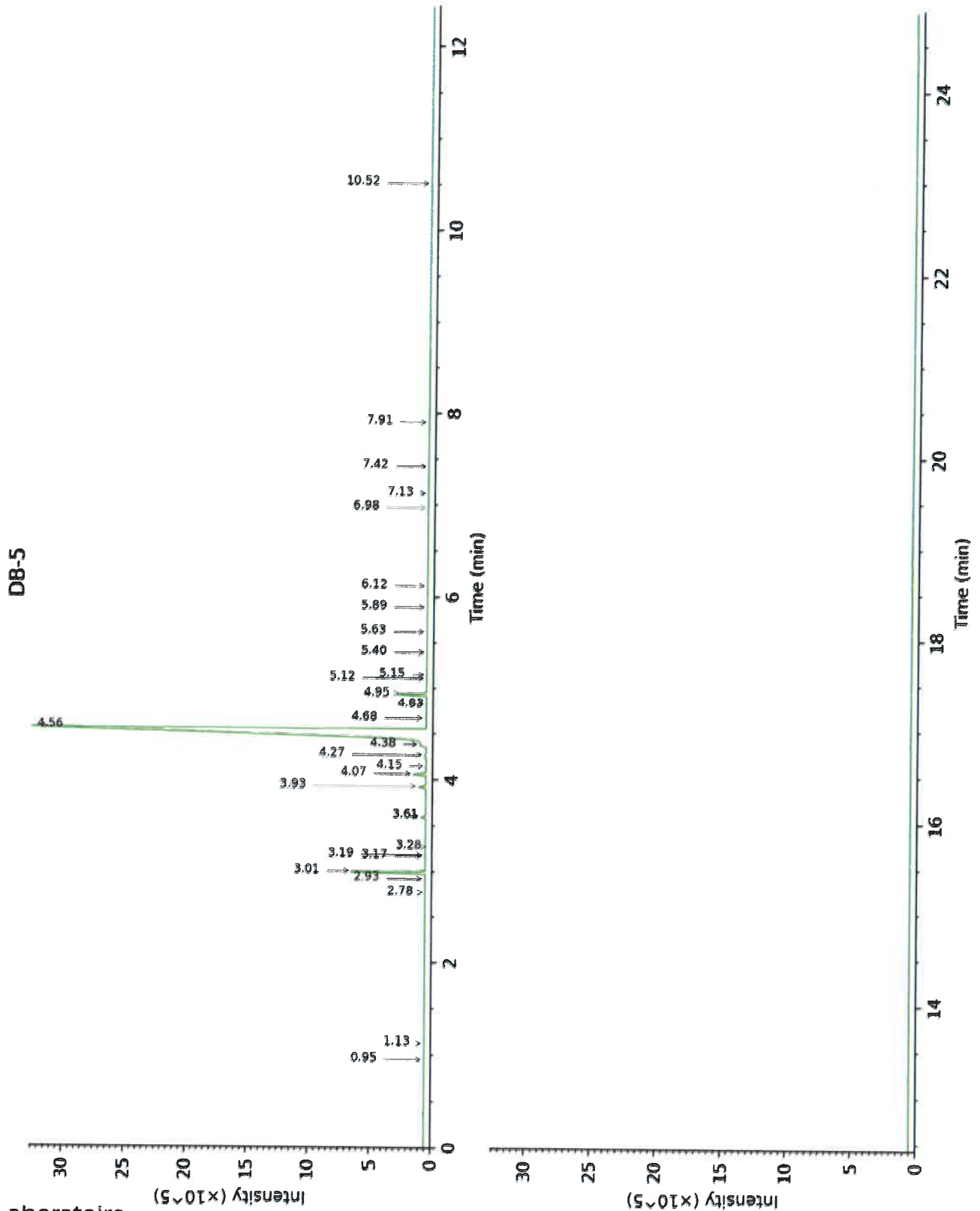| Identification	%	Class
Isoamyl alcohol	0.01	Aliphatic alcohol
Toluene	tr	Simple phenolic
Hashishene	0.01	Monoterpene
α-Thujene	0.03	Monoterpene
α-Pinene	4.62	Monoterpene
Camphene	0.01	Monoterpene
α-Fenchene	0.03	Monoterpene
Thuja-2,4(10)-diene	0.01	Monoterpene
β-Pinene	0.29	Monoterpene
Sabinene	tr	Monoterpene
Myrcene	0.53	Monoterpene
α-Phellandrene	0.97	Monoterpene
Δ3-Carene	0.02	Monoterpene
α-Terpinene	0.19	Monoterpene
para-Cymene	3.59	Monoterpene
Limonene	6.32	Monoterpene
1,8-Cineole	81.02	Monoterpenic ether
(Z)-β-Ocimene	0.06	Monoterpene
(E)-β-Ocimene	0.02	Monoterpene
γ-Terpinene	1.93	Monoterpene
Unknown	0.01	Oxygenated monoterpene
cis-Linalool oxide (fur.)	0.01	Monoterpenic alcohol
para-Cymenene	0.01	Monoterpene
Terpinolene	0.01	Monoterpene
Linalool	tr	Monoterpenic alcohol
α-Campholenal	0.01	Monoterpenic aldehyde
trans-Pinocarveol	0.01	Monoterpenic alcohol
α-Terpineol	0.01	Monoterpenic alcohol
cis-α-Phellandrene epoxide (IPP vs Me)	0.01	Monoterpenic ether
trans-Carveol	0.01	Monoterpenic alcohol
Unknown	0.03	Unknown
Aromadendrene	0.01	Sesquiterpene
Consolidated total	**99.78%**	

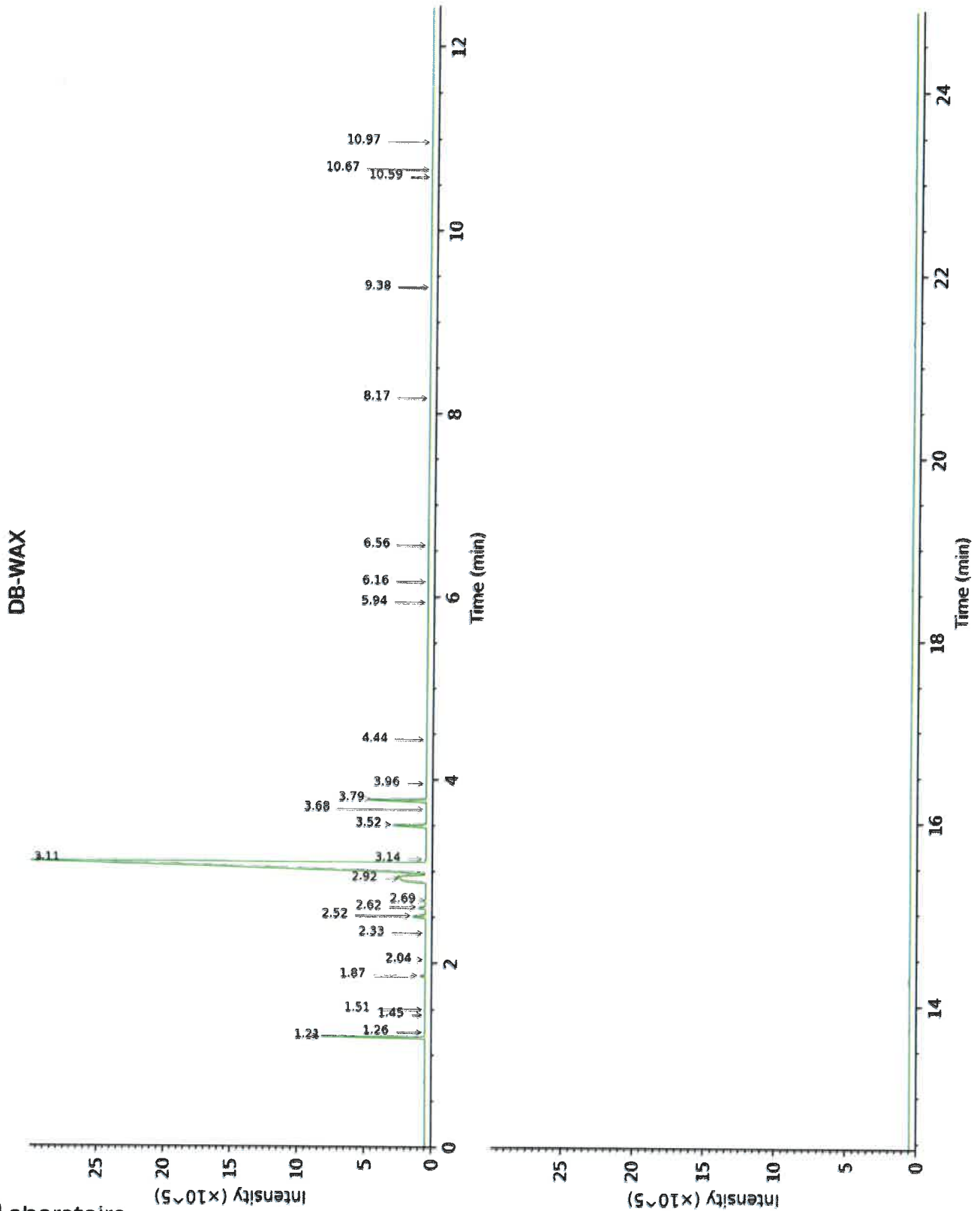tr: The compound has been detected below 0.005% of total signal.

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.

Laboratoire
Ph✿toChemia

Plus que des analyses... des conseils

628 Boulevard du Saguenay, Saguenay (Qc) G7J 1H4 | www.phytochemia.com

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

Laboratoire
Ph✿toChemia

Plus que des analyses... des conseils

DB-5

DB-WAX

Laboratoire
PhytoChemia

Plus que des analses... des conseils

FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
Isoamyl alcohol	0.95	733	0.01	3.14	1179	0.06
Toluene	1.13	759	tr	1.26*	1003	0.03
Hashishene	2.78	915	0.01	1.21*	995	4.62
α-Thujene	2.93	925	0.03	1.26*	1003	[0.03]
α-Pinene	3.01	931	4.62	1.21*	995	[4.62]
Camphene	3.18	942	0.01	1.45	1023	0.01
α-Fenchene	3.19	943	0.03	1.51	1029	0.02
Thuja-2,4(10)-diene	3.28	949	0.01	2.04*	1085	0.01
β-Pinene	3.61*	971	0.29	1.87	1067	0.29
Sabinene	3.61*	971	[0.29]	2.04*	1085	[0.01]
Myrcene	3.93	992	0.53	2.62	1136	0.51
α-Phellandrene	4.07	1002	0.97	2.52	1128	0.94
Δ3-Carene	4.15	1007	0.02	2.33	1112	0.01
α-Terpinene	4.27	1014	0.19	2.69	1142	0.20
para-Cymene	4.38*†	1022	90.85	3.79	1230	3.59
Limonene	4.38*†	1022	[90.85]	2.92	1161	6.32
1,8-Cineole	4.56†	1033	[90.85]	3.11	1177	81.02
(Z)-β-Ocimene	4.68	1040	0.06	3.52*	1209	2.05
(E)-β-Ocimene	4.83	1050	0.02	3.68	1222	0.03
γ-Terpinene	4.95	1057	1.93	3.52*	1209	[2.05]
Unknown [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	5.12	1068	0.01	4.44	1280	0.01
cis-Linalool oxide (fur.)	5.15	1070	0.01	6.16	1403	0.01
para-Cymenene	5.40*	1086	0.01	5.94	1387	0.01
Terpinolene	5.40*	1086	[0.01]	3.96	1243	0.01
Linalool	5.63	1101	tr			
α-Campholenal	5.89	1118	0.01	6.56	1432	tr
trans-Pinocarveol	6.12	1132	0.01			
α-Terpineol	6.98	1188	0.01	9.38	1652	0.01
cis-α-Phellandrene epoxide (IPP vs Me)	7.13	1198	0.01	10.59	1753	0.01
trans-Carveol	7.42	1218	0.01	10.97	1786	0.01
Unknown [m/z 43, 97 (69), 107 (46), 41 (28), 55 (21), 109 (20)...]	7.91	1251	0.03	10.67	1760	0.03
Aromadendrene	10.52	1432	0.01	8.17	1555	0.01
Total identified		**99.65%**			**99.78%**	
Total reported		**99.70%**			**99.82%**	

*: Two or more compounds are coeluting on this column

Laboratoire
Ph~toChemia

Plus que des analyses... des conseils

[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

Laboratoire
Ph toChemia

Plus que des analyses... des conseils

628 Boulevard du Saguenay, Saguenay (Qc) G7J 1H4 | www.phytochemia.com