

Date : May 03, 2018

CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 18D26-HBN10-1-CC

Customer identification : Wintergreen Oil - 171225-3/20

Type : Essential oil

Source : *Gaultheria procumbens*

Customer : Health & Beauty Natural Oils

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 : Sarah-Eve Tremblay, M. Sc. A., Chimiste

Analysis date : May 01, 2018

Checked and approved by :

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

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PHYSICOCHEMICAL DATA

Physical aspect: Clear liquid

Refractive index: 1.5340 ± 0.0003 (20 °C)

CONCLUSION

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

ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Toluene	tr	tr	Simple phenolic
(3Z)-Hexenol	0.11	0.12	Aliphatic alcohol
Hexanol	0.06	0.06	Aliphatic alcohol
α -Pinene	0.07	0.07	Monoterpene
β -Pinene	0.04	0.03	Monoterpene
para-Cymene	0.02	0.01	Monoterpene
Limonene	0.05*	0.02	Monoterpene
1,8-Cineole	[0.05]*	0.04	Monoterpenic ether
Benzyl alcohol	0.02	0.03	Simple phenolic
Linalool	0.08	0.08	Monoterpenic alcohol
Terpinen-4-ol	0.03	0.01	Monoterpenic alcohol
Methyl salicylate	98.06	98.50	Phenolic ester
Neral	tr	tr	Monoterpenic aldehyde
Ethyl salicylate	0.09	0.09	Phenolic ester
Safrole	0.01	0.01	Phenylpropanoid
β -Caryophyllene	0.02	0.02	Sesquiterpene
Total identified	98.66%	99.09%	

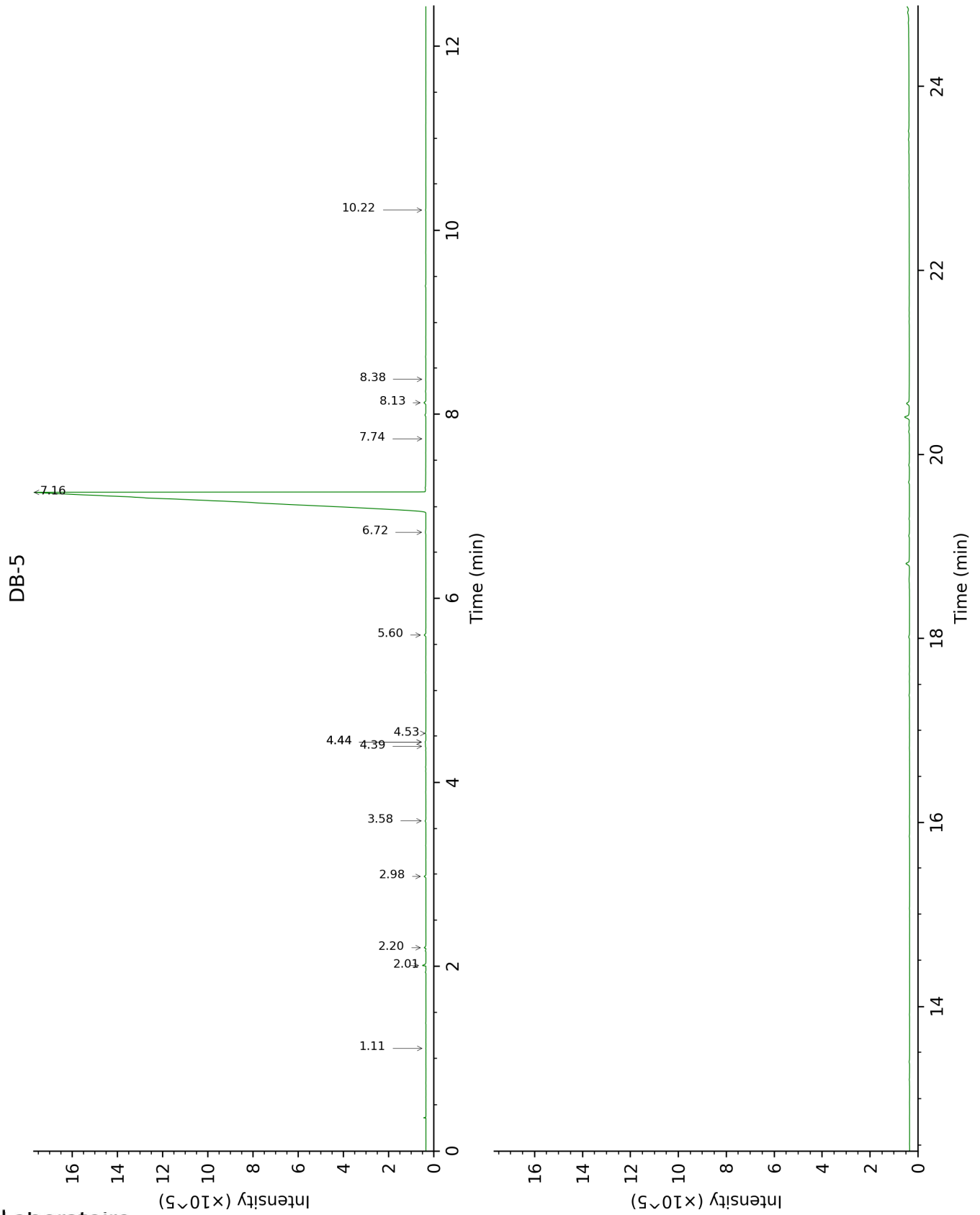
*: Two or more compounds are coeluting on this column

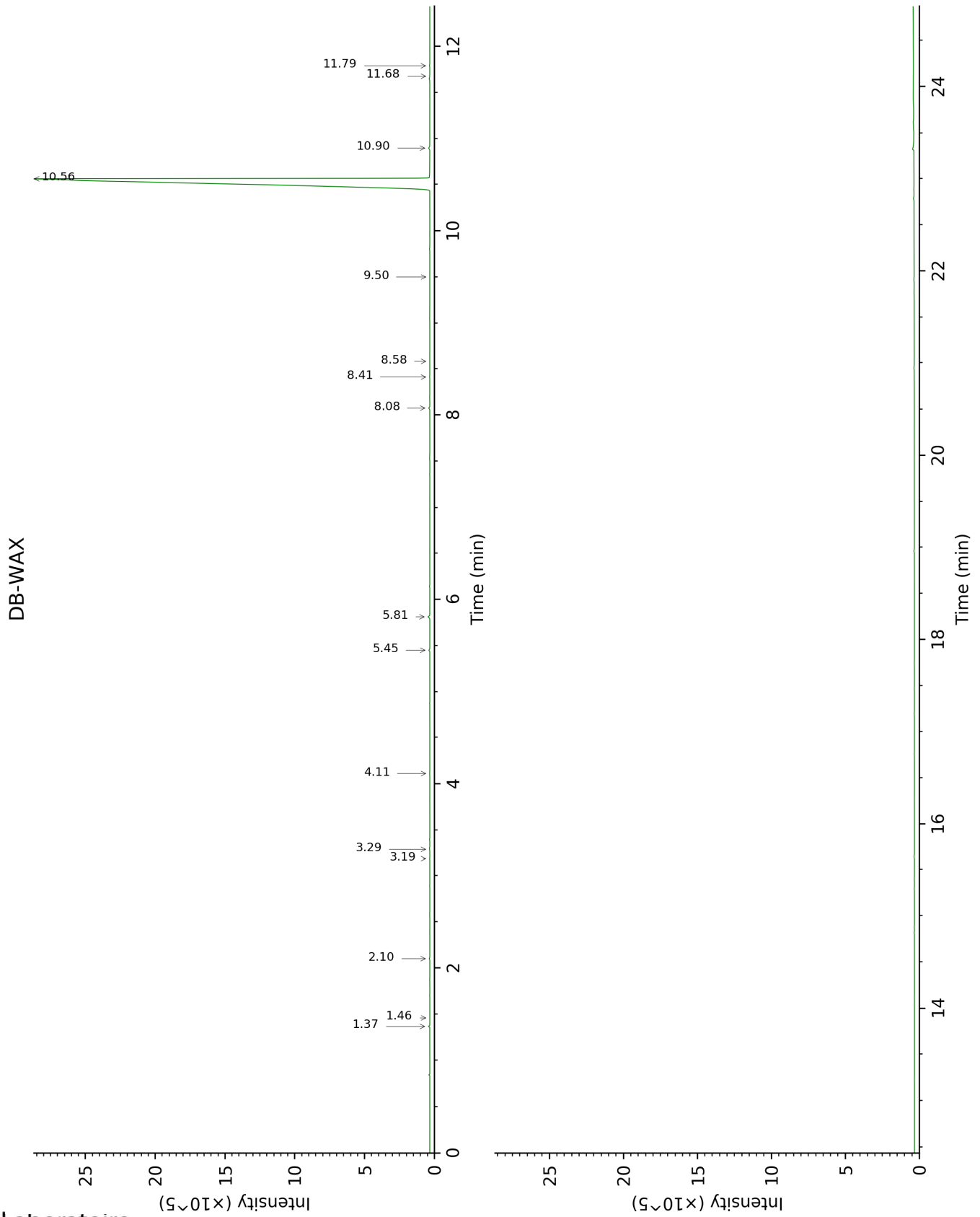
[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

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	%
Toluene	1.11	752	tr	1.46	1004	tr
(3Z)-Hexenol	2.01	850	0.11	5.81	1350	0.12
Hexanol	2.20	867	0.06	5.45	1324	0.06
α-Pinene	2.98	926	0.07	1.37	992	0.07
β-Pinene	3.58	967	0.04	2.10	1068	0.03
para-Cymene	4.39	1020	0.02	4.11	1227	0.01
Limonene	4.44*†	1023	0.05	3.19	1159	0.02
1,8-Cineole	4.44*†	1023	[0.05]	3.29	1167	0.04
Benzyl alcohol	4.53	1029	0.02	11.79	1820	0.03
Linalool	5.60	1097	0.08	8.08	1516	0.08
Terpinen-4-ol	6.72	1169	0.03	8.58	1556	0.01
Methyl salicylate	7.16	1197	98.06	10.56	1715	98.50
Neral	7.74	1236	tr	9.50	1628	tr
Ethyl salicylate	8.13	1262	0.09	10.90	1744	0.09
Safrole	8.38	1279	0.01	11.68	1810	0.01
β-Caryophyllene	10.22	1408	0.02	8.41	1542	0.02
Total identified		98.66%			99.09%	
Total reported		98.66%			99.09%	

*: 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