



GC/MS BATCH NUMBER: W10104

ESSENTIAL OIL: WINTERGREEN

BOTANICAL NAME: GAULTHERIA PROCUMBENS

ORIGIN: CHINA

KEY CONSTITUENTS PRESENT IN THIS BATCH OF WINTERGREEN OIL	%
METHYL SALICYLATE	99.4

Comments from Robert Tisserand: Intense green/minty odor quality. Constituents are in expected amounts.

Date : July 19, 2018

CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 18G18-PTH1-1-CC

Customer identification : Wintergreen - China - W10104711R

Type : Essential oil

Source : *Gaultheria procumbens*

Customer : Plant Therapy

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 : Sylvain Mercier, M. Sc., Chimiste

Analysis date : July 19, 2018

Checked and approved by :

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

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This report is digitally signed, it is only considered valid if the digital signature is intact.

PHYSICOCHEMICAL DATA

Physical aspect: Clear liquid

Refractive index: 1.5350 ± 0.0003 (20 °C)

CONCLUSION

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

ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
(3Z)-Hexenol	0.03	0.04	Aliphatic alcohol
Hexanol	0.01	0.01	Aliphatic alcohol
α -Pinene	0.01	tr	Monoterpene
Phenol	0.01	0.01	Simple phenolic
para-Cymene	tr		Monoterpene
Limonene	0.03*	0.02	Monoterpene
1,8-Cineole	[0.03]*	tr	Monoterpenic ether
Benzyl alcohol	0.02	0.02	Simple phenolic
Octanol	0.01	0.01	Aliphatic alcohol
Linalool	0.05	0.05	Monoterpenic alcohol
Menthol	0.02	0.01	Monoterpenic alcohol
Methyl salicylate	99.37	99.39	Phenolic ester
Geraniol	0.03	0.04	Monoterpenic alcohol
Ethyl salicylate	0.09	0.09	Phenolic ester
β -Caryophyllene	0.01	0.01	Sesquiterpene
Total identified	99.70%	99.69%	

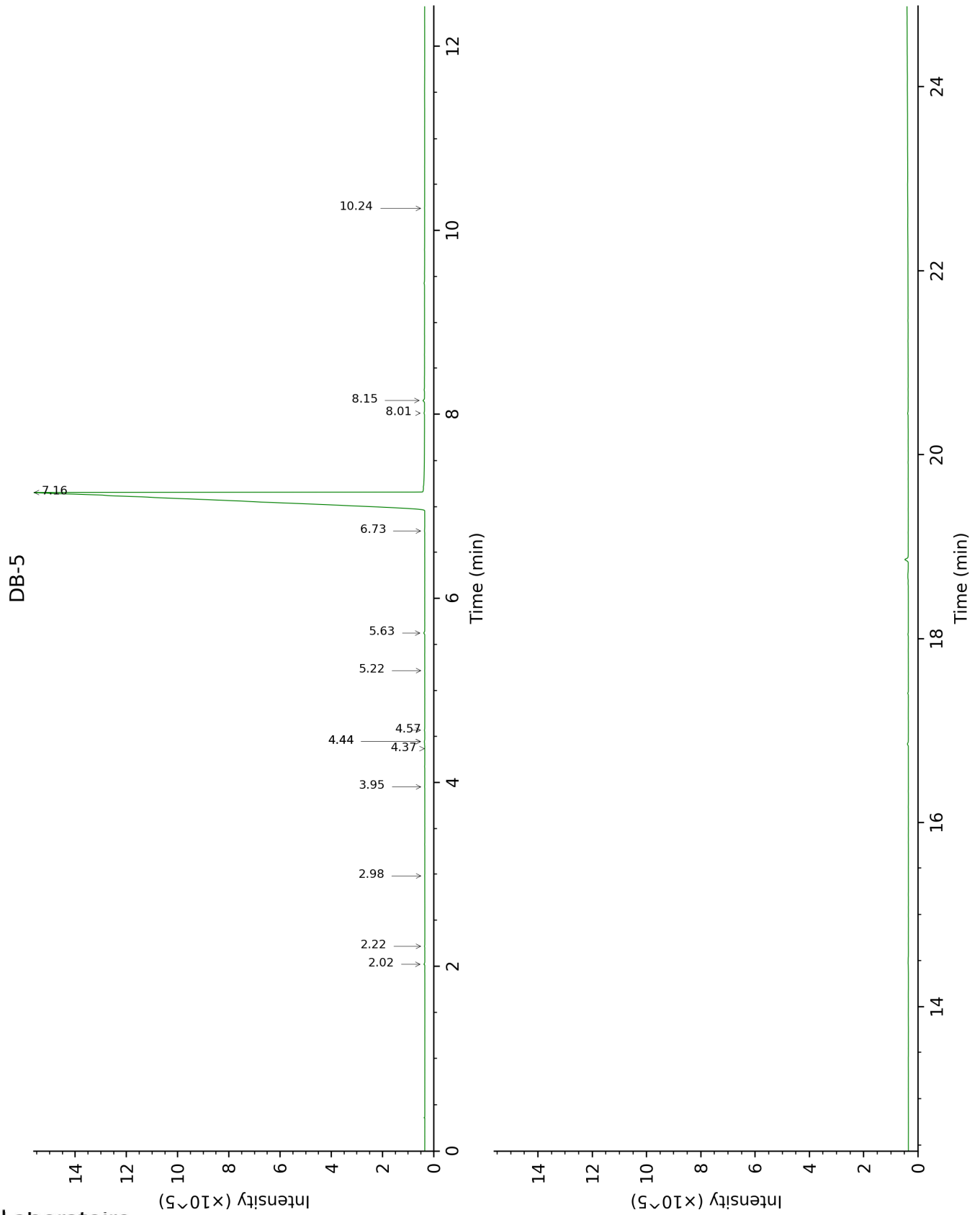
*: Two or more compounds are coeluting on this column

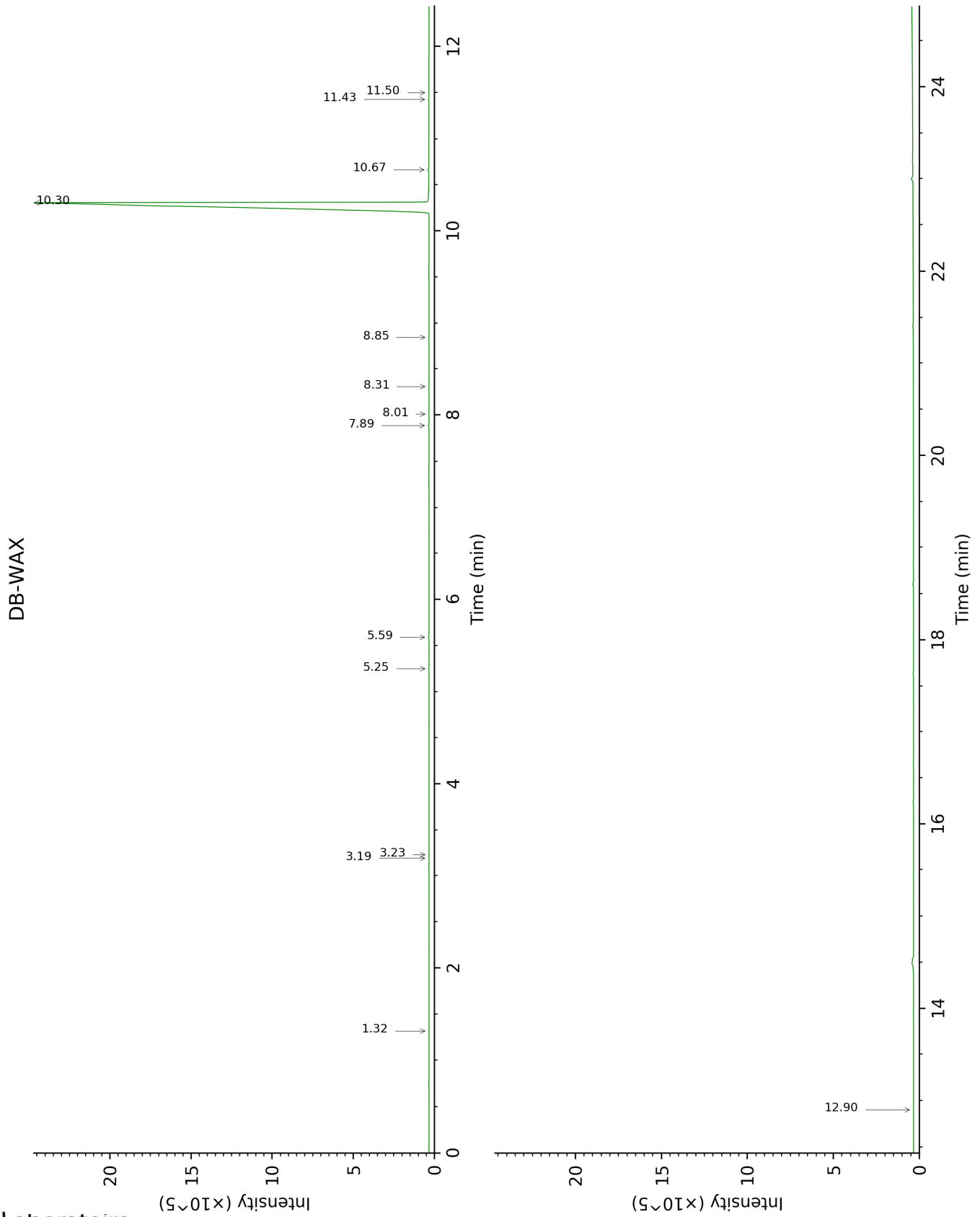
[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

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	%
(3Z)-Hexenol	2.02	853	0.03	5.59	1345	0.04
Hexanol	2.22	870	0.01	5.25	1320	0.01
α-Pinene	2.98	928	0.01	1.32	993	tr
Phenol	3.95	994	0.01	12.90	1938	0.01
para-Cymene	4.37	1020	tr			
Limonene	4.44*	1025	0.03	3.20	1168	0.02
1,8-Cineole	4.44*	1025	[0.03]	3.23	1171	tr
Benzyl alcohol	4.57	1033	0.02	11.50	1811	0.02
Octanol	5.22	1074	0.01	8.01	1525	0.01
Linalool	5.63	1100	0.05	7.89	1515	0.05
Menthol	6.73	1171	0.02	8.85	1590	0.01
Methyl salicylate	7.16	1198	99.37	10.30	1709	99.39
Geraniol	8.01	1256	0.03	11.43	1805	0.04
Ethyl salicylate	8.15	1265	0.09	10.67	1740	0.09
β-Caryophyllene	10.24	1411	0.01	8.31	1548	0.01
Total identified		99.70%			99.69%	
Total reported		99.70%			99.69%	

*: 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

R.T.: Retention time (minutes)

R.I.: Retention index