Date : 2024-05-06

Certificate of Analysis - GC Profiling

Sample Identification

Internal code : 24D22-PTH01
Customer Identification : Organic Wintergreen - Nepal - W20108R
Type : Essential Oil
Source : *Gaultheria fragrantissima*
Customer : Plant Therapy

Checked an approved by:

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

Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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

Méthode certifiée ISO 17025:2017 Certified method

Laboratoire PhytoChemia

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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 : 2024-05-06

Physicochemical data

Refractive index : 1.5358 ± 0.0003 (20 °C)
Method : PC-MAT-016 - Measure of the refractive index of a liquid.
Analyst : Cindy Caron B. Sc.
Date : 2024-04-25

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
Ethanol	0.01	Aliphatic alcohol
Isovaleral	tr	Aliphatic aldehyde
2-Methylbutyral	tr	Aliphatic aldehyde
Hexanal	0.01	Aliphatic aldehyde
(3*Z*)-Hexenol	0.04	Aliphatic alcohol
Hexanol	0.01	Aliphatic alcohol
α-Pinene	tr	Monoterpene
β-Pinene	0.01	Monoterpene
Phenol	tr	Simple phenolic
(3*Z*)-Hexenyl acetate	tr	Aliphatic ester
para-Cymene	tr	Monoterpene
1,8-Cineole	0.01	Monoterpenic ether
Benzyl alcohol	0.02	Simple phenolic
Octanol	0.01	Aliphatic alcohol
Linalool	0.03	Monoterpenic alcohol
Nonanal	0.01	Aliphatic aldehyde
Ethyl benzoate	0.01	Phenolic ester
Methyl salicylate	98.56	Phenolic ester
α-Terpineol	0.02	Monoterpenic alcohol
Nerol	0.02	Monoterpenic alcohol
Geraniol	0.04	Monoterpenic alcohol
Ethyl salicylate	0.23	Phenolic ester
Vitispirane	0.01	Terpenic ether
Eugenol	0.08	Phenylpropanoid
β-Caryophyllene	0.01	Sesquiterpene
γ-Cadinene	0.01	Sesquiterpene
Consolidated total	**99.15**	

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 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.

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

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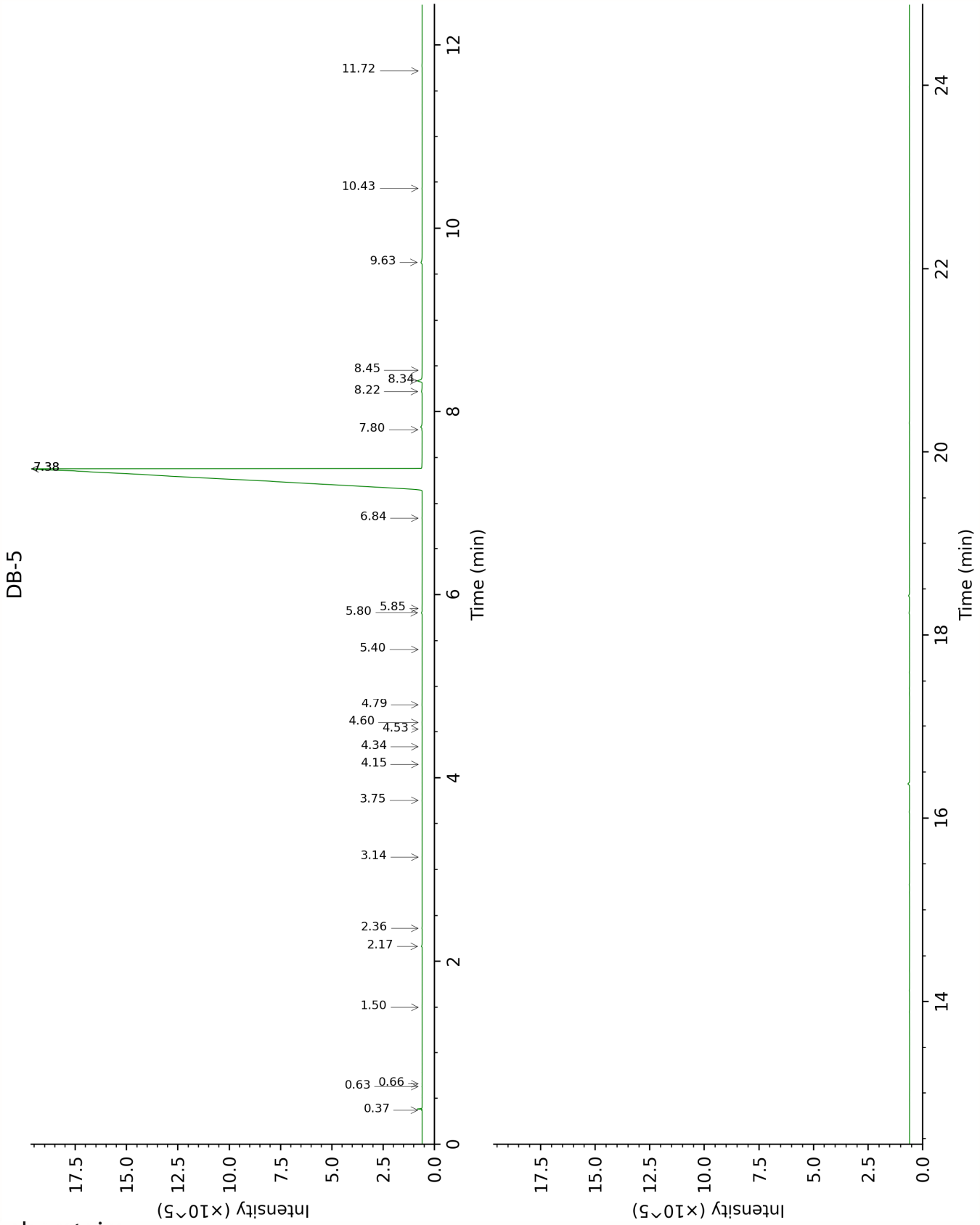
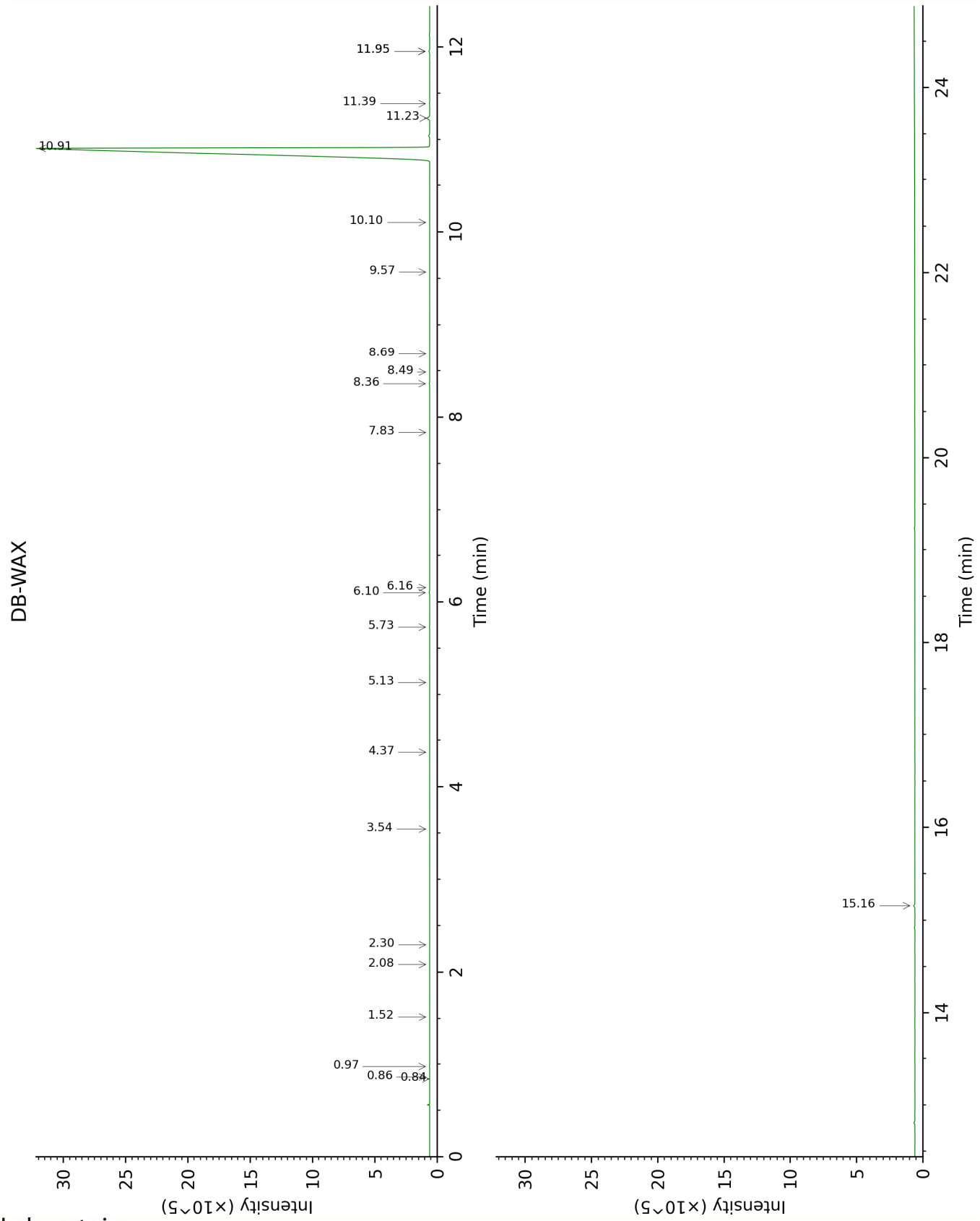

DB-5
11.72
10.43
9.63
8.45
8.34
8.22
7.80
7.38
6.84
5.80
5.85
5.40
4.79
4.60
4.53
4.34
4.15
3.75
3.14
2.36
2.17
1.50
0.63
0.66
0.37
Time (min)
Intensity (×10^5)
Time (min)
Intensity (×10^5)



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FULL ANALYSIS DATA

Ethanol	Column DB-5			Column DB-WAX		
	0.37	499.2	0.01	0.98	906.1	0.01
Isovaleral	0.63	641.2	tr	0.86	887.4	tr
2-Methylbutyral	0.66	651.6	tr	0.84	880.5	tr
Hexanal	1.50	801.0	0.01	2.08	1045.3	tr
(3*Z*)-Hexenol	2.16	857.4	0.04	6.10	1351.7	0.04
Hexanol	2.36	873.7	0.01	5.73	1325.1	0.02
α-Pinene	3.14	931.2	tr	1.52	990.4	tr
β-Pinene	3.75	972.1	0.01	2.30	1065.7	tr
Phenol	4.15	998.0	tr			
(3*Z*)-Hexenyl acetate	4.34	1010.4	tr	5.13	1282.4	0.01
para-Cymene	4.53	1022.4	tr	4.37	1228.1	0.01
1,8-Cineole	4.60†	1027.0	0.01	3.54	1167.0	0.01
Benzyl alcohol	4.80	1039.1	0.02	11.95*	1810.6	[0.07]
Octanol	5.40	1077.3	0.01	8.49	1527.8	0.01
Linalool	5.80	1102.4	0.03	8.36	1518.1	0.04
Nonanal	5.85	1105.3	0.01	6.16	1355.7	0.01
Ethyl benzoate	6.84	1168.7	0.01	9.57	1611.4	0.02
Methyl salicylate	7.38*	1203.1	[98.87]	10.91	1719.1	98.56
α-Terpineol	7.38*	1203.1	[98.87]	10.10	1653.8	0.02
Nerol	7.80	1231.5	0.02	11.39	1762.9	0.03
Geraniol	8.22	1259.3	0.04	11.95*	1810.6	[0.07]
Ethyl salicylate	8.34	1267.2	0.23	11.23	1750.0	0.25
Vitispirane	8.45	1274.9	0.01	7.84	1478.3	0.02
Eugenol	9.63	1356.5	0.08	15.16	2102.4	0.10
β-Caryophyllene	10.43	1413.6	0.01	8.68	1542.9	0.01
γ-Cadinene	11.72	1509.7	0.01			
Total reported		99.44%			99.23%	

*: 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