

Date : 2026-08-21

CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 26G09-PTH06

Customer Identification : Yuzu - Japan - Y40107

Type : Essential Oil

Source : *Citrus junos* ct. Distilled

Customer : Plant Therapy

Checked and 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Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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. The compliance status of the sample is provided to facilitate the reading of the report. The client remains ultimately responsible for reviewing the results presented within this report and to establish compliance of the tested batch against relevant quality criteria.

This report is an update from the first version issued on 2026-07-15 to update the customer identification.

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 : Jean-Christophe Fortin, M. Sc.

Date : 2026-07-15

PHYSICOCHEMICAL DATA

Refractive index : 1.4735 ± 0.0003 (20 °C)

Method : PC-MAT-016 - Measure of the refractive index of a liquid.

Analyst : Cindy Caron B. Sc.

Date : 2026-07-10

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
α -Thujene	0.30	Monoterpene
α -Pinene	1.05	Monoterpene
Camphene	0.01	Monoterpene
Sabinene	0.19	Monoterpene
β -Pinene	0.61	Monoterpene
Myrcene	1.35	Monoterpene
α -Phellandrene	0.34	Monoterpene
Pseudolimonene	0.02	Monoterpene
α -Terpinene	0.16	Monoterpene
<i>para</i> -Cymene	0.97	Monoterpene
1,8-Cineole	2.46	Monoterpenic ether
Limonene	79.41	Monoterpene
(Z)- β -Ocimene	0.02	Monoterpene
(E)- β -Ocimene	0.18	Monoterpene
γ -Terpinene	8.44	Monoterpene
Terpinolene	0.33	Monoterpene
<i>para</i> -Cymenene	0.05	Monoterpene
Linalool	1.92	Monoterpenic alcohol
<i>trans-para</i> -Mentha-2,8-dien-1-ol	0.03	Monoterpenic alcohol
<i>cis</i> -Limonene oxide	0.04	Monoterpenic ether
<i>trans</i> -Limonene oxide	0.02	Monoterpenic ether
Cosmene isomer II	0.02	Monoterpene
<i>trans</i> -Sabinol	0.03	Monoterpenic alcohol
Terpinen-4-ol	0.11	Monoterpenic alcohol
α -Terpineol	0.10	Monoterpenic alcohol
Decanal	0.02	Aliphatic aldehyde
<i>trans</i> -Carveol	0.03	Monoterpenic alcohol
<i>cis</i> -Carveol	0.03	Monoterpenic alcohol
Carvone	0.02	Monoterpenic ketone
Thymol	0.10	Monoterpenic alcohol
Carvacrol	0.10	Monoterpenic alcohol
δ -Elemene	0.03	Sesquiterpene
α -Cubebene	0.01	Sesquiterpene
α -Copaene	0.03	Sesquiterpene
β -Cubebene	0.02	Sesquiterpene
β -Elemene	0.03	Sesquiterpene
β -Caryophyllene	0.10	Sesquiterpene
α -Humulene	0.03	Sesquiterpene
(E)- β -Farnesene	0.23	Sesquiterpene
Germacrene D	0.09	Sesquiterpene

Bicyclogermacrene	0.22	Sesquiterpene
α -Muurolene	0.03	Sesquiterpene
δ -Cadinene	0.04	Sesquiterpene
Unknown	0.03	Unknown
β -Sesquiphellandrene	0.02	Sesquiterpene
Germacrene B	0.07	Sesquiterpene
Spathulenol	0.18	Sesquiterpenic alcohol
Alismol	0.03	Sesquiterpenic alcohol
Isospathulenol	0.02	Sesquiterpenic alcohol
α -Cadinol	0.02	Sesquiterpenic alcohol
Consolidated total	99.66	

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

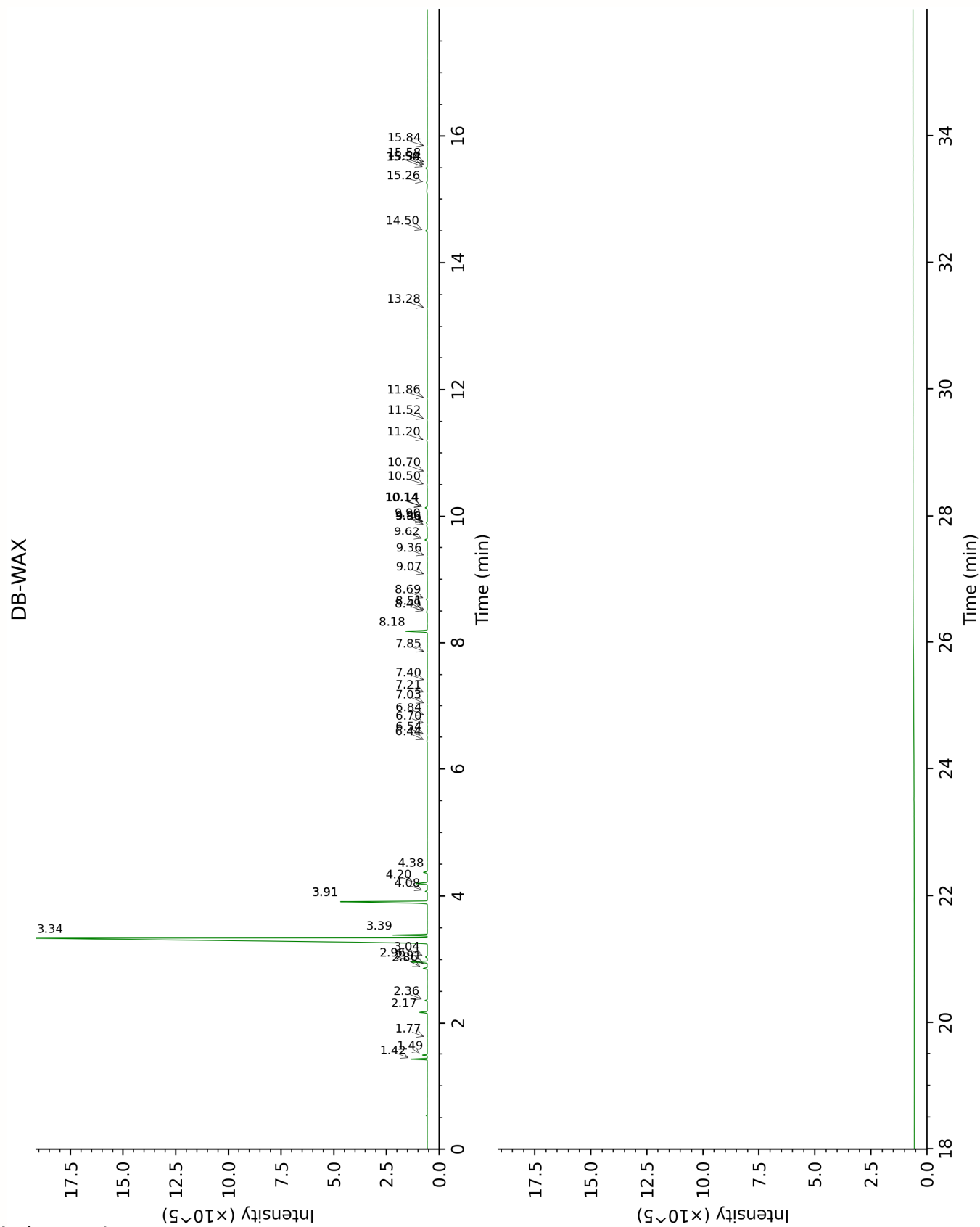
Note: no correction factor was applied

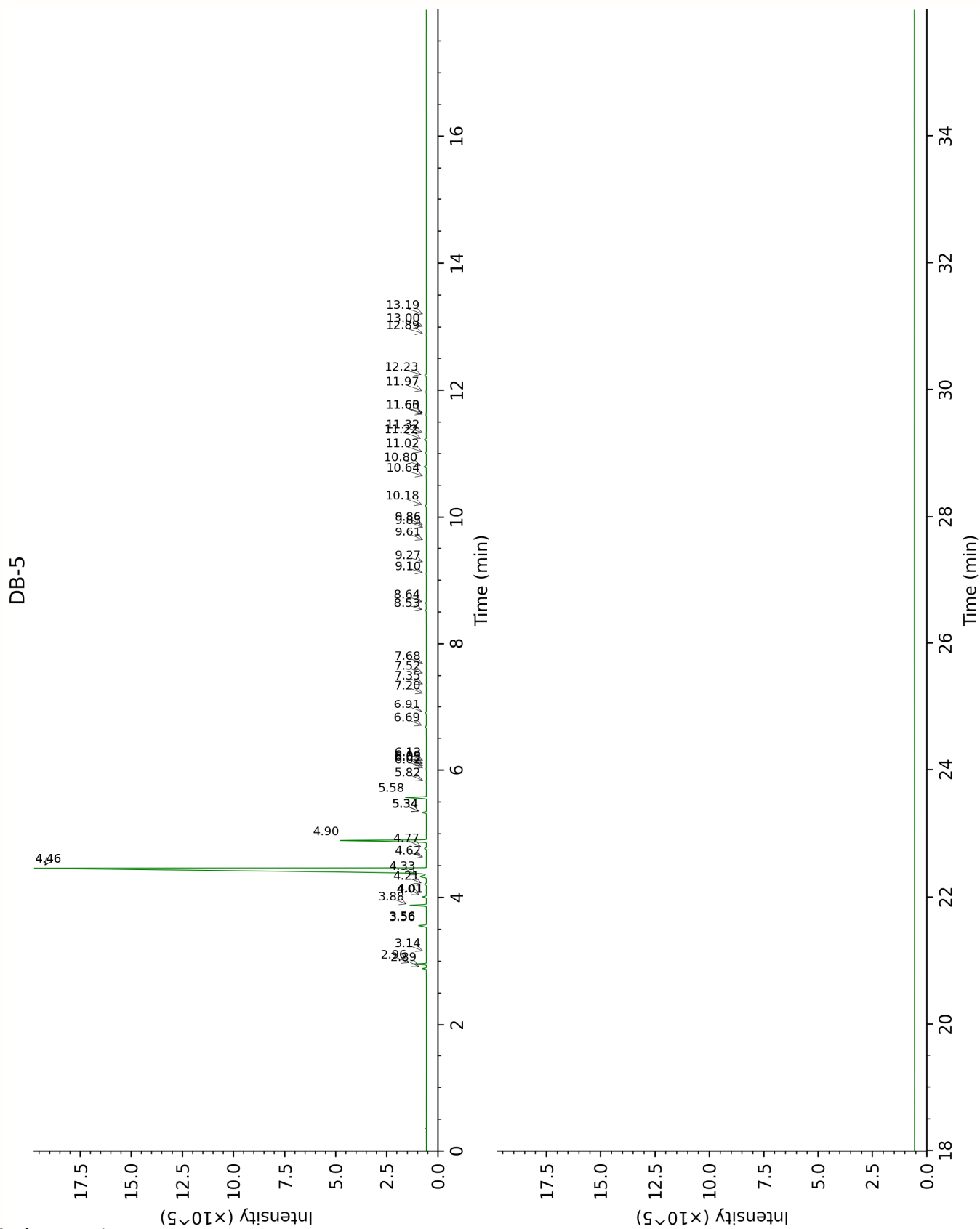
About "consolidated" data: The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm 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.

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FULL ANALYSIS DATA

α-Thujene	Column DB-WAX			Column DB-5		
	1.49	997.9	0.30	2.89	926.9	0.30
α-Pinene	1.42	989.8	1.05	2.96	931.7	1.05
Camphene	1.77	1026.0	0.01	3.14	944.1	0.01
Sabinene	2.36	1084.1	0.19	3.56*	972.5	[0.78]
β-Pinene	2.17	1065.6	0.61	3.56*	972.5	[0.78]
Myrcene	2.96	1133.6	1.37	3.88	994.1	1.35
α-Phellandrene	2.86	1125.8	0.34	4.01*	1003.1	[0.36]
Pseudolimonene	2.91	1129.4	0.02	4.01*	1003.1	[0.36]
α-Terpinene	3.04	1139.8	0.16	4.21	1015.8	0.16
para-Cymene	4.20	1226.9	0.98	4.33	1023.5	0.97
1,8-Cineole	3.39	1166.6	2.46	4.46*	1031.9	[82.09]
Limonene	3.34	1162.7	79.41	4.46*	1031.9	[82.09]
(Z)-β-Ocimene	3.91*	1206.3	[8.44]	4.62	1041.8	0.02
(E)-β-Ocimene	4.08	1217.9	0.18	4.77	1051.4	0.18
γ-Terpinene	3.91*	1206.3	[8.44]	4.90	1059.5	8.44
Terpinolene	4.38	1239.3	0.33	5.34*	1087.3	[0.38]
para-Cymenene	6.44	1389.6	0.05	5.34*	1087.3	[0.38]
Linalool	8.18	1517.6	1.94	5.58	1102.4	1.92
trans-para-Mentha-2,8-dien-1-ol	9.07	1584.9	0.03	5.82	1118.3	0.03
cis-Limonene oxide	6.54	1396.1	0.04	6.02	1130.8	0.04
trans-Limonene oxide	6.70	1408.5	0.02	6.05	1133.2	0.02
Cosmene isomer II				6.09	1135.6	0.02
trans-Sabinol	9.90*	1651.5	[0.10]	6.13	1138.3	0.03
Terpinen-4-ol	8.69	1556.0	0.10	6.69	1174.0	0.11
α-Terpineol	9.90*	1651.5	[0.10]	6.90	1188.1	0.10
Decanal	7.40	1459.0	0.02	7.20	1207.2	0.02
trans-Carveol	11.52	1785.6	0.03	7.35	1217.0	0.03
cis-Carveol	11.86	1814.9	0.03	7.52	1228.9	0.03
Carvone	10.14*	1670.5	[0.24]	7.68	1239.3	0.02
Thymol	15.26	2131.8	0.09	8.53	1296.6	0.10
Carvacrol	15.50	2155.7	0.16	8.64	1304.4	0.10
δ-Elemene	7.03	1432.4	0.03	9.10	1336.8	0.03
α-Cubebene	6.84	1418.1	0.02	9.27	1349.1	0.01
α-Copaene	7.21	1445.2	0.03	9.61	1373.3	0.03
β-Cubebene	7.85	1491.9	0.02	9.83	1388.3	0.02
β-Elemene	8.51	1542.3	0.02	9.86	1390.7	0.03
β-Caryophyllene	8.49	1540.7	0.10	10.18	1414.0	0.10
α-Humulene	9.36	1608.4	0.02	10.64	1448.3	0.03
(E)-β-Farnesene	9.62	1629.3	0.23	10.80	1460.2	0.23
Germacrene D	9.86	1647.9	0.08	11.02	1476.5	0.09
Bicyclogermacrene	10.14*	1670.5	[0.24]	11.22	1492.0	0.22

α -Murolene	10.14*	1670.5	[0.24]	11.32	1499.4	0.03
δ -Cadinene	10.50	1699.7	0.05	11.60	1521.2	0.04
Unknown UNKN XXVIII [m/z 68, 67 (84), 81 (69), 54 (58), 55 (53), 41 (50)...]	13.28	1942.4	0.03	11.63*	1523.5	[0.04]
β - Sesquiphellandrene	10.70	1716.3	0.02	11.63*	1523.5	[0.04]
Germacrene B	11.20	1758.1	0.07	11.97	1550.4	0.07
Spathulenol	14.50	2057.2	0.18	12.23	1570.8	0.18
Alismol	15.84	2189.6	0.03	12.89	1623.4	0.03
Isospathulenol	15.58	2163.8	0.01	13.00	1632.7	0.02
α -Cadinol	15.54	2159.9	0.02	13.19	1648.6	0.02
Total reported		99.66%			99.87%	

*: 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