

Date : 2025-07-24

CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 25G10-PTH03

Customer Identification : Black Spruce - Canada - SA5112R

Type : Essential Oil

Source : *Picea mariana*

Customer : Plant Therapy

Checked and approved by:

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

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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 : 2025-07-22

PHYSICOCHEMICAL DATA

Refractive index : 1.4703 ± 0.0003 (20 °C)

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

Analyst : Cindy Caron B. Sc.

Date : 2025-07-14

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
2-Methyl-3-buten-2-ol	tr	Aliphatic alcohol
Toluene	0.01	Simple phenolic
Hexanal	tr	Aliphatic aldehyde
Octane	tr	Alkane
Unknown	tr	Alkene
(3Z)-Hexenol	0.01	Aliphatic alcohol
Hexanol	0.01	Aliphatic alcohol
Santene	1.13	Normonoterpene
Styrene	tr	Simple phenolic
Unknown	0.03	Normonoterpene
Bornylene	0.02	Monoterpene
Unknown	0.02	Unknown
Tricyclene	1.55	Monoterpene
α -Thujene	0.18	Monoterpene
α -Pinene	21.68	Monoterpene
Unknown	0.03	Unknown
α -Fenchene	0.17	Monoterpene
Camphene	10.96	Monoterpene
Thuja-2,4(10)-diene	0.03	Monoterpene
3,7,7-Trimethylcyclohepta-1,3,5-triene	0.04	Monoterpene
β -Pinene	12.89	Monoterpene
6-Methyl-5-hepten-2-one	0.02	Aliphatic ketone
2-Pentylfuran	0.01	Furan
Myrcene	1.77	Monoterpene
2-Carene	0.02	Monoterpene
Pseudolimonene	0.02	Monoterpene
α -Phellandrene	0.16	Monoterpene
Unknown	0.02	Oxygenated monoterpene
Δ^3 -Carene	10.99	Monoterpene
α -Terpinene	0.29	Monoterpene
Carvomenthene	0.01	Aliphatic alcohol
<i>meta</i> -Cymene	0.01	Monoterpene
<i>para</i> -Cymene	0.28	Monoterpene
β -Phellandrene	[0.94]	Monoterpene
Limonene	6.53	Monoterpene
1,8-Cineole	[0.94]	Monoterpenic ether
(Z)- β -Ocimene	0.02	Monoterpene
(E)- β -Ocimene	0.02	Monoterpene
γ -Terpinene	0.20	Monoterpene
Unknown	0.02	Oxygenated monoterpene

Unknown	0.01	Unknown
<i>meta</i> -Cymenene	0.02	Monoterpene
Isoterpinolene	0.02	Monoterpene
γ -Campholenal	0.05	Aliphatic alcohol
<i>para</i> -Cymenene	0.08	Monoterpene
Terpinolene	1.13	Monoterpene
2-Nonanone	0.02	Aliphatic ketone
α -Pinene oxide	0.01	Monoterpenic ether
Unknown	0.03	Unknown
Linalool	0.25	Monoterpenic alcohol
Nonanal	0.01	Aliphatic aldehyde
endo-Fenchol	0.07	Monoterpenic alcohol
3-Methyl-3-butenyl isovalerate	0.01	Aliphatic ester
<i>cis-para</i> -Menth-2-en-1-ol	0.03	Monoterpenic alcohol
α -Campholenal	0.04	Monoterpenic aldehyde
Cosmene isomer I	0.01	Monoterpene
<i>trans</i> -Pinocarveol	0.07	Monoterpenic alcohol
Camphor	0.07	Monoterpenic ketone
<i>trans-para</i> -Menth-2-en-1-ol	0.01	Monoterpenic alcohol
Camphene hydrate	0.13	Monoterpenic alcohol
Isoborneol	0.06	Monoterpenic alcohol
Pinocamphone	tr	Monoterpenic ketone
Citronellal	0.02	Monoterpenic aldehyde
Pinocarvone	0.02	Monoterpenic ketone
Borneol	0.81	Monoterpenic alcohol
Unknown	0.02	Unknown
Isopinocamphone	0.03	Monoterpenic ketone
Terpinen-4-ol	0.20	Monoterpenic alcohol
<i>meta</i> -Cymen-8-ol	0.01	Monoterpenic alcohol
Cryptone	0.04	Normoterpenic ketone
<i>para</i> -Cymen-8-ol	0.02	Monoterpenic alcohol
<i>trans</i> -Isocarveol	0.02	Monoterpenic alcohol
α -Terpineol	0.83	Monoterpenic alcohol
Myrtenol	0.04	Monoterpenic alcohol
Methylchavicol	0.01	Phenylpropanoid
Verbenone	0.05	Monoterpenic ketone
Unknown	0.01	Unknown
endo-Fenchyl acetate	0.11	Monoterpenic ester
<i>trans</i> -Carveol	0.01	Monoterpenic alcohol
<i>cis</i> -Carveol	0.01	Monoterpenic alcohol
Citronellol	0.04	Monoterpenic alcohol
Thymol methyl ether	0.02	Monoterpenic ether
Unknown	0.02	Oxygenated monoterpene
Carvone	0.01	Monoterpenic ketone
Piperitone	0.02	Monoterpenic ketone

Geraniol	0.02	Monoterpenic alcohol
Geranial	0.01	Monoterpenic aldehyde
Unknown	0.01	Unknown
<i>trans</i> -Verbenyl acetate	0.02	Monoterpenic ester
<i>cis</i> -Verbenyl acetate	0.07	Monoterpenic ester
Bornyl acetate	22.28	Monoterpenic ester
Isobornyl acetate	0.48	Monoterpenic ester
Unknown	0.08	Monoterpenic ester
<i>trans</i> -Pinocarvyl acetate	0.05	Monoterpenic ester
Car-3-en-5-one	0.03	Monoterpenic ketone
(2 <i>E</i> ,4 <i>E</i>)-Decadienal	0.02	Aliphatic aldehyde
Myrtenyl acetate	0.01	Monoterpenic ester
Terpinyl acetate analog	0.05	Monoterpenic ester
<i>trans</i> -Carvyl acetate	0.02	Monoterpenic ester
exo-2-Hydroxycineole acetate	0.02	Monoterpenic ester
Unknown	0.01	Unknown
α -Cubebene	0.02	Sesquiterpene
α -Terpinyl acetate	0.03	Monoterpenic ester
Citronellyl acetate	0.03	Monoterpenic ester
Unknown	0.01	Sesquiterpene
Longicyclone	0.02	Sesquiterpene
Unknown	0.01	Oxygenated monoterpene
α -Copaene	0.02	Sesquiterpene
Unknown	0.01	Sesquiterpene
Geranyl acetate	0.15	Monoterpenic ester
β -Elemene	0.04	Sesquiterpene
Longifolene	0.11	Sesquiterpene
β -Caryophyllene	0.16	Sesquiterpene
β -Copaene	0.01	Sesquiterpene
<i>cis</i> -Muurolo-3,5-diene	0.01	Sesquiterpene
<i>trans</i> -Muurolo-3,5-diene	0.01	Sesquiterpene
α -Humulene	0.05	Sesquiterpene
(<i>E</i>)- β -Farnesene	0.04	Sesquiterpene
<i>trans</i> -Cadina-1(6),4-diene	0.03	Sesquiterpene
γ -Muurolole	0.05	Sesquiterpene
Germacrene D	0.05	Sesquiterpene
β -Selinene	0.02	Sesquiterpene
α -Selinene	0.03	Sesquiterpene
α -Muurolole	0.10	Sesquiterpene
γ -Cadinene	0.14	Sesquiterpene
δ -Cadinene	0.41	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	0.02	Sesquiterpene
α -Cadinene	0.03	Sesquiterpene
α -Calacorene	0.01	Sesquiterpene
(<i>E</i>)- α -Bisabolene	0.09	Sesquiterpene

Unknown	0.01	Oxygenated sesquiterpene
Unknown	0.01	Oxygenated sesquiterpene
(E)-Nerolidol	0.01	Sesquiterpenic alcohol
Caryophyllene oxide	0.01	Sesquiterpenic ether
Unknown	0.01	Unknown
1,10-diepi-Cubenol	0.01	Sesquiterpenic alcohol
1-epi-Cubenol	0.01	Sesquiterpenic alcohol
Cubenol	0.01	Sesquiterpenic alcohol
τ -Cadinol	0.03	Sesquiterpenic alcohol
τ -Muurolool	0.03	Sesquiterpenic alcohol
α -Muurolool	0.01	Sesquiterpenic alcohol
α -Cadinol	0.05	Sesquiterpenic alcohol
(5Z)-Tetradecen-14-olide?	0.01	Aliphatic lactone
Unknown	0.01	Oxygenated sesquiterpene
Unknown	0.01	Oxygenated sesquiterpene
Unknown	0.02	Oxygenated diterpene
13-epi-Manoyl oxide	0.01	Diterpenic ether
Manool	0.02	Diterpenic alcohol
7,13-Abietadiene	0.01	Diterpene
(Z)-Abienol	0.03	Diterpenic alcohol
Isopimaral	0.01	Diterpenic aldehyde
Palustral	0.01	Diterpenic aldehyde
Consolidated total	99.88	

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

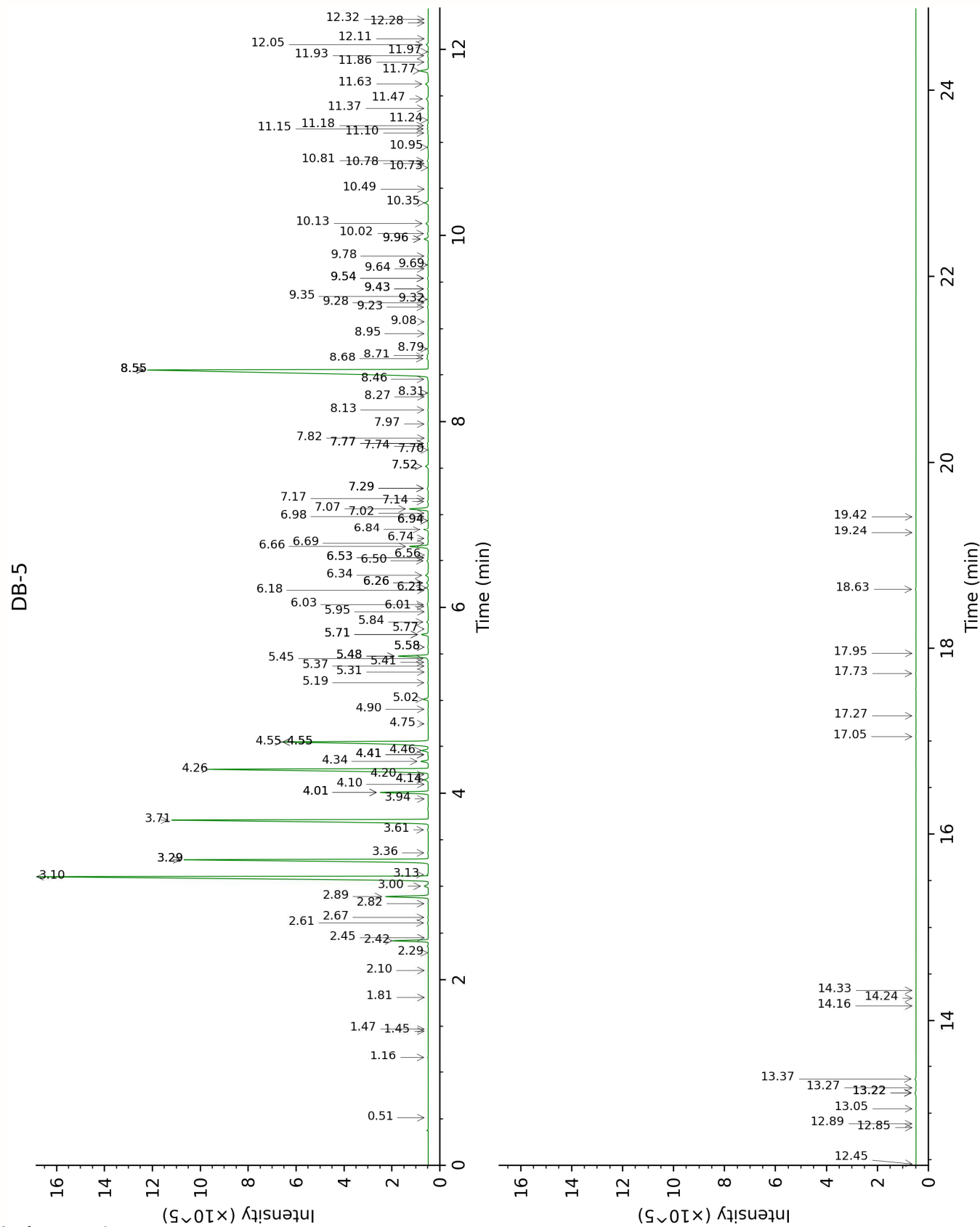
Note: no correction factor was applied

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.

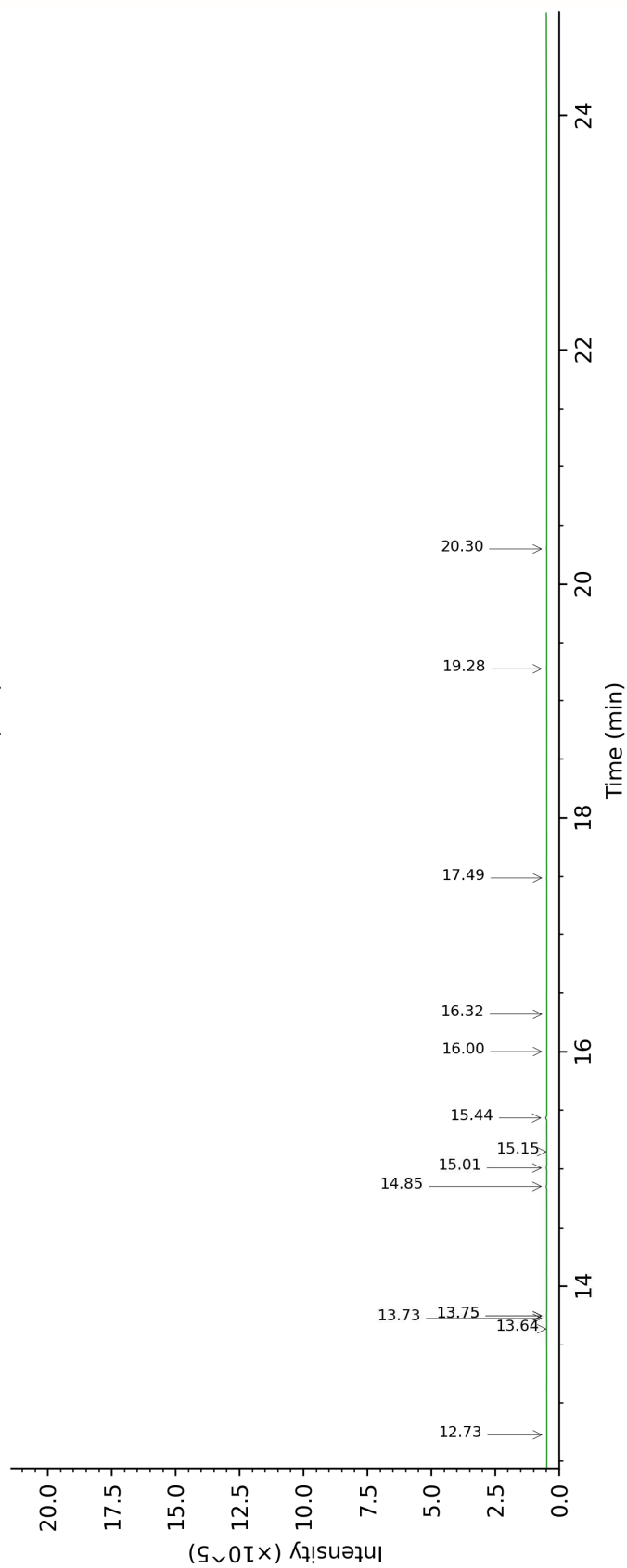
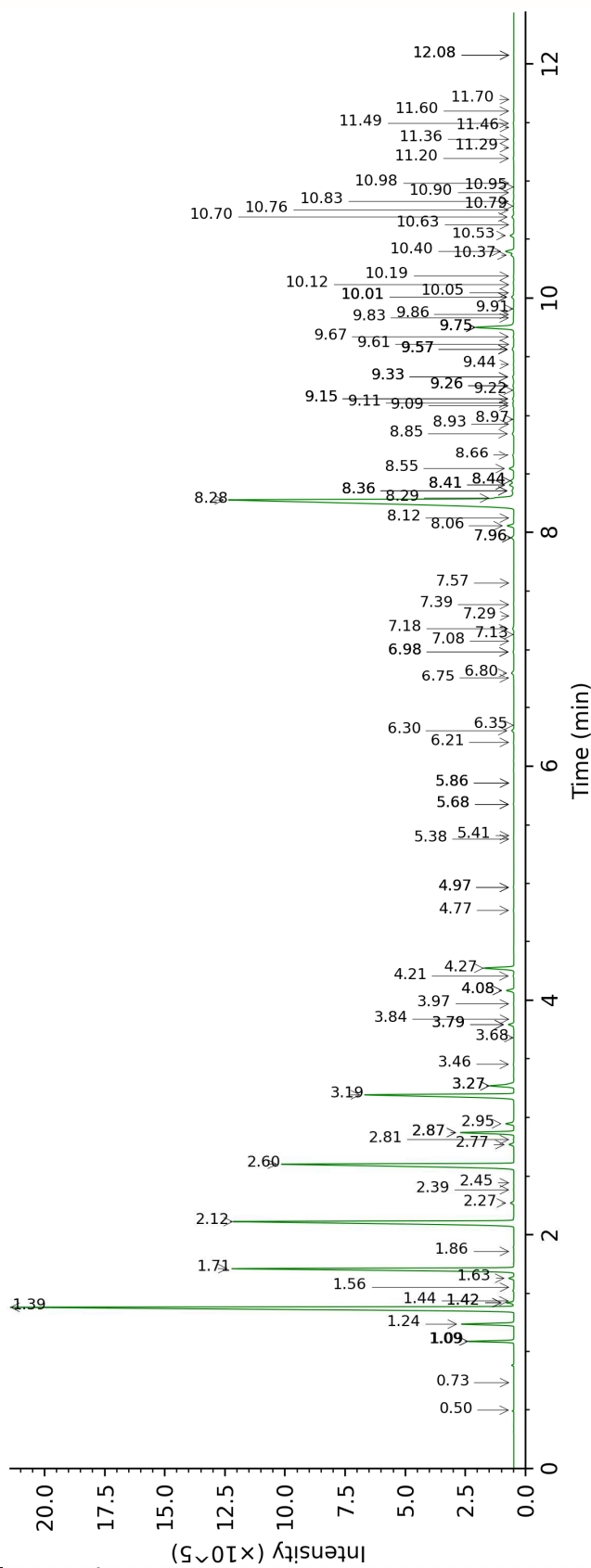
Unknowns: Unknown compounds' mass spectral data is presented in the "Full analysis data" table. The occurrence of unknown compounds is to be expected in many samples, and does not denote particular problems unless noted otherwise in the conclusion.

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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DB-WAX



FULL ANALYSIS DATA

2-Methyl-3-buten-2-ol	Column DB-5			Column DB-WAX		
	0.51	607.9	tr	1.56	1011.4	tr
Toluene	1.16	758.2	0.01	1.44	1000.0	0.01
Hexanal	1.45	799.7	tr	1.86	1041.6	0.01
Octane	1.47	802.9	tr	0.50	782.3	tr
Unknown BOCA I [m/z 109, 67 (32), 81 (14), 41 (12), 124 (10)]	1.81	831.8	tr	0.74	876.3	tr
(3Z)-Hexenol	2.10	856.1	0.01	5.68*	1339.6	[0.02]
Hexanol	2.29	872.1	0.01	5.38	1318.3	0.01
Santene	2.42	882.9	1.13	1.10*	946.1	[1.16]
Styrene	2.45	885.6	tr	3.84	1208.6	0.01
Unknown ABBA I [m/z 79, 93 (66), 94 (52), 91 (39), 77 (37), 122 (31)]	2.61	899.0	0.03	1.42*†	998.5	[0.22]
Bornylene	2.67	903.9	0.02	1.10*	946.1	[1.16]
Unknown PIMA XXI [m/z 43, 59 (71), 44 (40), 85 (30), 41 (28), 45 (27)...]	2.82	913.8	0.02			
Tricyclene	2.89	918.9	1.55	1.24	969.8	1.56
α-Thujene	3.00	926.3	0.18	1.42*†	998.5	[0.22]
α-Pinene	3.10	933.1	21.68	1.38*†	993.0	[21.87]
Unknown PIMA XX [m/z 43, 73 (38), 85 (29), 72 (28), 57 (26)...]	3.13	934.6	0.03			
α-Fenchene	3.29*	945.3	[11.02]	1.63	1019.0	0.17
Camphene	3.29*	945.3	[11.02]	1.71	1027.1	10.96
Thuja-2,4(10)-diene	3.36	950.2	0.03	2.27	1082.5	0.12
3,7,7-Trimethylcyclohepta-1,3,5-triene	3.61	966.8	0.04	2.87*	1132.8	[1.79]
β-Pinene	3.71	973.8	12.89	2.12	1066.8	12.90
6-Methyl-5-hepten-2-one	3.94	989.0	0.02	4.97*	1292.3	[0.02]
2-Pentylfuran	4.01*	993.6	[1.78]	3.68	1196.8	0.01
Myrcene	4.01*	993.6	[1.78]	2.87*	1132.8	[1.79]
2-Carene	4.10	999.5	0.02	2.39	1093.7	0.01
Pseudolimonene	4.14*	1002.7	[0.19]	2.81	1128.2	0.02
α-Phellandrene	4.14*	1002.7	[0.19]	2.77	1124.8	0.16
Unknown PIMA 12	4.20	1006.4	0.02	3.46	1178.8	0.02

[m/z 109, 81 (35), 43 (34), 69 (33), 67 (29), 152 (29)]						
Δ ³ -Carene	4.26	1009.9	10.99	2.60	1111.6	11.07
α-Terpinene	4.34	1015.3	0.29	2.95	1138.8	0.29
Carvomenthene	4.41*	1019.9	[0.03]	2.45	1099.2	0.01
meta-Cymene	4.41*	1019.9	[0.03]	4.08*	1226.7	[0.28]
para-Cymene	4.46	1022.7	0.28	4.08*	1226.7	[0.28]
β-Phellandrene	4.55*	1028.5	[7.47]	3.27*	1164.3	[0.99]
Limonene	4.55*	1028.5	[7.47]	3.20	1158.3	6.53
1,8-Cineole	4.55*	1028.5	[7.47]	3.27*	1164.3	[0.99]
(Z)-β-Ocimene	4.74	1040.8	0.02	3.79*	1205.2	[0.21]
(E)-β-Ocimene	4.90	1050.7	0.02	3.97	1218.2	0.02
γ-Terpinene	5.02	1058.0	0.20	3.79*	1205.2	[0.21]
Unknown PIMA 1 [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	5.19	1069.3	0.02	4.77	1277.2	0.02
Unknown PIMA 2 [m/z 94, 79 (74), 67 (33), 41 (22), 95 (21)...]	5.31	1076.5	0.01			
meta-Cymenene	5.37	1080.6	0.02	6.21	1377.6	0.02
Isoterpinolene	5.41	1083.2	0.02	4.21	1235.8	0.03
γ-Campholenal	5.45*†	1085.7	[0.03]	4.97*	1292.3	[0.02]
para-Cymenene	5.48*†	1087.4	[1.23]	6.30	1384.7	0.08
Terpinolene	5.48*†	1087.4	[1.23]	4.27	1240.7	1.13
2-Nonanone	5.58*	1093.5	[0.03]	5.86*	1352.7	[0.01]
α-Pinene oxide	5.58*	1093.5	[0.03]	5.41	1320.5	0.01
Unknown PIMA 3 [m/z 79, 94 (87), 77 (25), 91 (21), 93 (16), 95 (12), 138 (8)]	5.71*	1102.1	[0.28]			
Linalool	5.71*	1102.1	[0.28]	8.06	1515.4	0.25
Nonanal	5.77	1105.8	0.01	5.86*	1352.7	[0.01]
endo-Fenchol	5.84	1110.8	0.07	8.36*	1538.5	[0.10]
3-Methyl-3-butenyl isovalerate	5.95	1117.9	0.01	5.68*	1339.6	[0.02]
cis-para-Menth-2-en-1-ol	6.01	1121.6	0.03	8.12	1520.5	0.02
α-Campholenal	6.03	1122.9	0.04	6.98*	1434.8	[0.04]
Cosmene isomer I	6.18	1132.8	0.01	6.35	1388.1	0.01
trans-Pinocarveol	6.21	1134.5	0.07	9.15*	1599.9	[0.05]
Camphor	6.26*	1138.0	[0.07]	7.18	1449.4	0.07

<i>trans-para-Menth-2-en-1-ol</i>	6.26*	1138.0	[0.07]	8.97	1586.2	0.01
Camphene hydrate	6.34	1143.2	0.13	8.44*†	1545.1	[0.15]
Isoborneol	6.50	1153.3	0.06	9.33*	1614.9	[0.07]
Pinocamphone	6.53*	1155.4	[0.03]	7.29	1457.6	tr
Citronellal	6.53*	1155.4	[0.03]	6.98*	1434.8	[0.04]
Pinocarvone	6.56	1157.3	0.02	7.96*	1507.4	[0.11]
Borneol	6.66	1163.3	0.81	9.75*	1649.0	[1.72]
Unknown PIMA 4 [m/z 109, 108 (48), 67 (41), 81 (40), 41 (28)...]	6.69	1165.5	0.02	7.39	1464.7	0.01
Isopinocamphone	6.74	1168.9	0.03	7.57	1478.3	0.01
Terpinen-4-ol	6.84	1175.2	0.20	8.55	1553.2	0.20
<i>meta</i> -Cymen-8-ol	6.94*	1181.7	[0.02]	11.46	1791.7	0.01
Cryptone	6.94*	1181.7	[0.02]	9.11	1596.9	0.04
<i>para</i> -Cymen-8-ol	6.98	1184.6	0.02	11.50	1794.6	0.02
<i>trans</i> -Isocarveol	7.02	1187.0	0.02	10.90	1744.6	0.02
α -Terpineol	7.06	1190.0	0.83	9.75*	1649.0	[1.72]
Myrtenol	7.14	1195.1	0.04	10.83	1738.3	0.03
Methylchavicol	7.18	1197.1	0.01	9.26*	1608.8	[0.04]
Verbenone	7.28*	1204.3	[0.06]	9.57*	1633.8	[0.09]
Unknown PIMA 7 [m/z 95, 93 (32), 121 (24), 79 (22), 91 (21), 105 (16)... 154 (2)]	7.28*	1204.3	[0.06]	10.95	1748.7	0.01
endo-Fenchyl acetate	7.52*	1220.3	[0.13]	6.80	1421.4	0.11
<i>trans</i> -Carveol	7.52*	1220.3	[0.13]	11.36	1783.2	0.01
<i>cis</i> -Carveol	7.70	1232.2	0.01	11.70	1812.6	0.01
Citronellol	7.74	1234.8	0.04	10.76	1732.0	0.03
Thymol methyl ether	7.77*	1237.0	[0.04]	8.44*†	1545.1	[0.15]
Unknown CIAU II [m/z 137, 152 (28), 43 (25), 91 (24), 109 (23), 119 (19)]	7.77*	1237.0	[0.04]	11.29	1777.1	0.02
Carvone	7.82	1240.9	0.01	10.01*	1669.9	[0.10]
Piperitone	7.97	1251.1	0.02	9.86	1657.9	0.02
Geraniol	8.13	1261.5	0.02	11.60	1803.9	0.02
Geranial	8.27	1271.1	0.01	10.12	1678.4	0.01
Unknown PIMA 5 [m/z 43, 119 (72), 81 (66), 54 (48), 41 (47), 58 (44)...]	8.31	1273.9	0.01			
<i>trans</i> -Verbenyl	8.46	1284.0	0.02	9.33*	1614.9	[0.07]

acetate						
cis-Verbenyl acetate	8.55*	1290.7	[22.72]	8.66	1562.2	0.07
Bornyl acetate	8.55*	1290.7	[22.72]	8.28	1532.5	22.28
Isobornyl acetate	8.55*	1290.7	[22.72]	8.30	1533.7	0.48
Unknown PIMA 6 [m/z 107, 43 (76), 150 (42), 91 (28), 108 (23)]	8.68	1299.0	0.08	9.15*	1599.9	[0.05]
trans-Pinocarvyl acetate	8.71	1301.4	0.05	9.09	1595.1	0.03
Car-3-en-5-one	8.79	1306.7	0.03	12.08*	1846.0	[0.01]
(2E,4E)-Decadienal	8.95	1314.6	0.02	11.20	1769.3	0.02
Myrtenyl acetate	9.08	1323.7	0.01	9.61	1637.3	0.01
Terpinyl acetate analog	9.23	1334.7	0.05	9.57*	1633.8	[0.09]
trans-Carvyl acetate	9.28	1338.1	0.02	10.19	1684.3	0.02
exo-2- Hydroxycineole acetate	9.32	1340.6	0.02	10.05	1672.8	0.02
Unknown CIAU VI [m/z 133, 105 (45), 91 (38), 119 (36)... 150 (3)]	9.35	1342.9	0.01			
α-Cubebene	9.43*	1348.6	[0.04]	6.76	1417.8	0.02
α-Terpinyl acetate	9.43*	1348.6	[0.04]	9.67	1642.6	0.03
Citronellyl acetate	9.54*	1356.7	[0.04]	9.44	1623.6	0.03
Unknown PIMA XXVI [m/z 43, 81 (96), 95 (85), 67 (74), 69 (68), 41 (66)...204 (1)]	9.54*	1356.7	[0.04]			
Longicyclene	9.64	1363.9	0.02	7.08	1441.6	0.01
Unknown PIMA 8 [m/z 93, 121 (68), 43 (67), 67 (44), 136 (36), 107 (34)... 180 (4)]	9.68	1366.9	0.01	10.01*	1669.9	[0.10]
α-Copaene	9.78	1373.6	0.02	7.13	1445.8	0.01
Unknown PIMA XIV [m/z 119, 91 (24), 134 (24), 43 (16)... 204 (2)]	9.96*	1386.5	[0.18]	10.98	1751.4	0.01
Geranyl acetate	9.96*	1386.5	[0.18]	10.53	1712.9	0.15
β-Elementene	10.02	1390.6	0.04	8.41*†	1542.3	[0.21]
Longifolene	10.13	1398.3	0.11	7.96*	1507.4	[0.11]
β-Caryophyllene	10.35	1414.5	0.16	8.41*†	1542.3	[0.21]
β-Copaene	10.49	1425.5	0.01	8.36*	1538.5	[0.10]
cis-Murola-3,5-	10.73	1443.2	0.01	8.93	1583.0	0.02

diene						
<i>trans</i> -Muurolo-3,5-diene	10.78	1446.6	0.01	8.85	1576.7	0.08
α -Humulene	10.81	1448.9	0.05	9.26*	1608.8	[0.04]
(<i>E</i>)- β -Farnesene	10.95	1459.7	0.04	9.57*	1633.8	[0.09]
<i>trans</i> -Cadina-1(6),4-diene	11.10	1471.1	0.03	9.22	1605.8	0.03
γ -Muurolole	11.15	1474.4	0.05	9.57*	1633.8	[0.09]
Germacrene D	11.18	1477.0	0.05	9.75*	1649.0	[1.72]
β -Selinene	11.24	1481.5	0.02	9.83	1655.5	0.02
α -Selinene	11.37	1490.8	0.03	9.91	1661.8	0.02
α -Muurolole	11.47	1498.4	0.10	10.01*	1669.9	[0.10]
γ -Cadinene	11.63	1510.7	0.14	10.37	1698.8	0.12
δ -Cadinene	11.77	1521.9	0.41	10.40	1701.5	0.37
<i>trans</i> -Cadina-1,4-diene	11.86	1529.3	0.02	10.63	1721.4	0.01
α -Cadinene	11.93	1534.8	0.03	10.79	1734.9	0.02
α -Calacorene	11.97	1538.0	0.01	12.08*	1846.0	[0.01]
(<i>E</i>)- α -Bisabolene	12.05	1544.0	0.09	10.70	1727.0	0.09
Unknown PIMA XV [m/z 95, 81 (70), 109 (68), 93 (59), 67 (53), 41 (49), 139 (40)... 220 (3)]	12.11	1549.0	0.01			
Unknown LESC I [m/z 93, 135 (99), 107 (72), 177 (72), 81 (57), 149 (53)... 220 (25)]	12.28	1562.5	0.01			
(<i>E</i>)-Nerolidol	12.32	1565.5	0.01	13.75*	1999.0	[0.01]
Caryophyllene oxide	12.45	1575.7	0.01	12.73	1904.3	0.01
Unknown PIMA 10 [m/z 108, 43 (56), 109 (33), 93 (26), 119 (24)... 212 (2)]	12.85	1606.9	0.01			
1,10-diepi-Cubenol	12.89	1610.3	0.01	13.73	1996.9	0.01
1-epi-Cubenol	13.05	1623.8	0.01	13.75*	1999.0	[0.01]
Cubenol	13.22*	1637.9	[0.06]	13.64	1988.5	0.01
τ -Cadinol	13.22*	1637.9	[0.06]	14.85	2105.7	0.03
τ -Muurolol	13.22*	1637.9	[0.06]	15.01	2121.4	0.03
α -Muurolol	13.27	1642.4	0.01	15.15	2135.3	0.01
α -Cadinol	13.37	1650.3	0.05	15.44	2164.1	0.05
(5 <i>Z</i>)-Tetradecen-14-olide?	14.16	1716.5	0.01			
Unknown PIMA XVII [m/z 159, 220 (92), 93	14.24	1723.6	0.01			

(88), 177 (63), 91 (57), 107 (55)]						
Unknown PIMA 11 [m/z 159, 132 (79), 135 (37), 91 (35), 177 (33)... 220 (16)]	14.33	1731.0	0.01	17.49	2380.1	0.01
Unknown PISI V [m/z 105, 91 (100), 81 (89), 79 (86), 109 (86), 257 (83)... 275 (12)...]	17.05	1978.5	0.02	16.00	2222.1	0.01
13-epi-Manoyl oxide	17.27	1999.8	0.01	16.32	2255.2	0.01
Manool	17.73	2045.4	0.02	19.28	2583.5	0.02
7,13-Abietadiene	17.95	2066.9	0.01			
(Z)-Abienol	18.63	2136.3	0.03	20.30	2706.3	0.02
Isopimaral	19.24	2199.2	0.01			
Palustral	19.42	2218.0	0.01			
Total reported		99.64%			99.61%	

*: 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