

Date : 2025-05-14

CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 25D30-PTH03

Customer Identification : Organic Black Spruce - Canada - SA3106R

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 : 2025-05-06

PHYSICOCHEMICAL DATA

Refractive index : 1.4696 ± 0.0003 (20 °C)

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

Analyst : Dany Massé B. Sc. Chimiste

Date : 2025-04-30

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
Isovaleral	tr	Aliphatic aldehyde
2-Methylbutyral	tr	Aliphatic aldehyde
2,5-Dimethylfuran	tr	Furan
Toluene	tr	Simple phenolic
Hexanal	tr	Aliphatic aldehyde
Octane	tr	Alkane
Unknown	tr	Alkene
(3Z)-Hexenol	0.07	Aliphatic alcohol
Hexanol	0.03	Aliphatic alcohol
Santene	4.16	Normonoterpene
Styrene	tr	Simple phenolic
Unknown	0.04	Normonoterpene
Bornylene	tr	Monoterpene
Unknown	0.01	Unknown
Tricyclene	2.36	Monoterpene
α -Thujene	0.11	Monoterpene
α -Pinene	15.43	Monoterpene
Camphene	21.01	Monoterpene
α -Fenchene	0.08	Monoterpene
Thuja-2,4(10)-diene	0.02	Monoterpene
Benzaldehyde	0.01	Simple phenolic
3,7,7-Trimethylcyclohepta-1,3,5-triene	0.02	Monoterpene
Sabinene	0.10	Monoterpene
β -Pinene	2.91	Monoterpene
Octan-3-one	0.02	Aliphatic ketone
6-Methyl-5-hepten-2-one	0.01	Aliphatic ketone
Dehydro-1,8-cineole	0.02	Monoterpenic ether
Myrcene	3.34	Monoterpene
2-Pentylfuran	tr	Furan
2-Carene	0.01	Monoterpene
Pseudolimonene	tr	Monoterpene
α -Phellandrene	0.38	Monoterpene
Unknown	0.03	Oxygenated monoterpene
(3Z)-Hexenyl acetate	0.01	Aliphatic ester
Δ^3 -Carene	5.39	Monoterpene
α -Terpinene	0.22	Monoterpene
<i>meta</i> -Cymene	0.01	Monoterpene
Carvomenthene	0.01	Aliphatic alcohol
<i>para</i> -Cymene	0.15	Monoterpene
β -Phellandrene	1.43	Monoterpene

Limonene	3.41	Monoterpene
(Z)- β -Ocimene	0.02	Monoterpene
(E)- β -Ocimene	0.02	Monoterpene
γ -Terpinene	0.20	Monoterpene
Unknown	0.06	Oxygenated monoterpene
Unknown	0.01	Unknown
<i>meta</i> -Cymenene	0.03	Monoterpene
Fenchone	0.01	Monoterpenic ketone
γ -Campholenal	0.09	Aliphatic alcohol
<i>para</i> -Cymenene	0.01	Monoterpene
Terpinolene	0.89	Monoterpene
2-Nonanone	tr	Aliphatic ketone
α -Pinene oxide	0.02	Monoterpenic ether
Unknown	0.17	Unknown
Linalool	0.08	Monoterpenic alcohol
Nonanal	0.01	Aliphatic aldehyde
<i>endo</i> -Fenchol	0.01	Monoterpenic alcohol
3-Methyl-3-butenyl isovalerate	0.01	Aliphatic ester
<i>cis-para</i> -Menth-2-en-1-ol	0.02	Monoterpenic alcohol
α -Campholenal	0.13	Monoterpenic aldehyde
<i>trans</i> -Pinocarveol	0.10	Monoterpenic alcohol
Camphor	0.14	Monoterpenic ketone
Camphene hydrate	0.52	Monoterpenic alcohol
Citronellal	0.01	Monoterpenic aldehyde
Isoborneol	0.12	Monoterpenic alcohol
Pinocamphone	0.06	Monoterpenic ketone
Borneol	1.51	Monoterpenic alcohol
Unknown	0.05	Unknown
Isopinocamphone	0.04	Monoterpenic ketone
Terpinen-4-ol	0.24	Monoterpenic alcohol
Cryptone	0.01	Normonoterpenic ketone
<i>para</i> -Cymen-8-ol	0.02	Monoterpenic alcohol
<i>trans</i> -Isocarveol	0.01	Monoterpenic alcohol
α -Terpineol	0.33	Monoterpenic alcohol
Myrtenal	0.09	Monoterpenic aldehyde
Myrtenol	0.03	Monoterpenic alcohol
Verbenone	0.05	Monoterpenic ketone
Unknown	0.08	Unknown
<i>trans</i> -Piperitol	0.01	Monoterpenic alcohol
<i>trans</i> -Carveol	0.05	Monoterpenic alcohol
<i>endo</i> -Fenchyl acetate	0.35	Monoterpenic ester
Citronellol	0.10	Monoterpenic alcohol
Thymol methyl ether	0.03	Monoterpenic ether
Carvone	0.02	Monoterpenic ketone
Piperitone	0.04	Monoterpenic ketone

Geraniol	0.04	Monoterpenic alcohol
Geranial	0.01	Monoterpenic aldehyde
Unknown	0.01	Unknown
Undec-(5Z)-en-2-one	0.04	Aliphatic ketone
<i>trans</i> -Verbenyl acetate	0.08	Monoterpenic ester
Isobornyl acetate	0.72	Monoterpenic ester
<i>cis</i> -Verbenyl acetate	0.04	Monoterpenic ester
Bornyl acetate	26.13	Monoterpenic ester
Unknown	0.30	Unknown
Unknown	0.18	Monoterpenic ester
<i>trans</i> -Pinocarvyl acetate	0.15	Monoterpenic ester
Car-3-en-5-one	0.01	Monoterpenic ketone
Myrtenyl acetate	0.02	Monoterpenic ester
Terpinyl acetate analog	0.10	Monoterpenic ester
<i>trans</i> -Carvyl acetate	0.05	Monoterpenic ester
<i>exo</i> -2-Hydroxycineole acetate	0.04	Monoterpenic ester
Unknown	0.02	Unknown
α -Cubebene	0.04	Sesquiterpene
α -Terpinyl acetate	0.07	Monoterpenic ester
Citronellyl acetate	0.09	Monoterpenic ester
Longicyclene	0.01	Sesquiterpene
Unknown	0.03	Oxygenated monoterpene
α -Copaene	0.05	Sesquiterpene
β -Bourbonene	0.01	Sesquiterpene
Geranyl acetate	0.22	Monoterpenic ester
β -Elemene	0.15	Sesquiterpene
Longifolene	0.07	Sesquiterpene
β -Caryophyllene	0.23	Sesquiterpene
β -Copaene	0.02	Sesquiterpene
<i>cis</i> -Muurolo-3,5-diene	0.03	Sesquiterpene
<i>trans</i> -Muurolo-3,5-diene	0.06	Sesquiterpene
α -Humulene	0.06	Sesquiterpene
Unknown	0.03	Unknown
<i>cis</i> -Muurolo-4(15),5-diene	0.06	Sesquiterpene
(<i>E</i>)- β -Farnesene	0.02	Sesquiterpene
<i>trans</i> -Cadina-1(6),4-diene	0.12	Sesquiterpene
γ -Muurolole	0.17	Sesquiterpene
Germacrene D	0.08	Sesquiterpene
Dodecanol	0.01	Aliphatic alcohol
β -Selinene	0.05	Sesquiterpene
<i>trans</i> -Muurolo-4(15),5-diene	0.01	Sesquiterpene
γ -Amorphene	0.05	Sesquiterpene
α -Selinene	0.01	Sesquiterpene
Bicyclogermacrene	0.06	Sesquiterpene
α -Muurolole	0.38	Sesquiterpene

(3Z,6E)- α -Farnesene	0.02	Sesquiterpene
γ -Cadinene	0.37	Sesquiterpene
Cubebol	0.01	Sesquiterpenic alcohol
β -Bisabolene	0.03	Sesquiterpene
(3E,6E)- α -Farnesene	0.02	Sesquiterpene
<i>trans</i> -Calamenene	0.02	Sesquiterpene
δ -Cadinene	1.34	Sesquiterpene
Zonarene	0.12	Sesquiterpene
<i>trans</i> -Cadina-1,4-diene	0.05	Sesquiterpene
α -Cadinene	0.08	Sesquiterpene
α -Calacorene	0.01	Sesquiterpene
(E)- α -Bisabolene	0.13	Sesquiterpene
Unknown	0.02	Oxygenated sesquiterpene
Unknown	0.01	Oxygenated sesquiterpene
Globulol	0.01	Sesquiterpenic alcohol
Unknown	0.02	Unknown
1,10-diepi-Cubenol	0.02	Sesquiterpenic alcohol
1-epi-Cubenol	0.02	Sesquiterpenic alcohol
Cubenol	0.01	Sesquiterpenic alcohol
τ -Cadinol	0.07	Sesquiterpenic alcohol
τ -Muurolol	0.07	Sesquiterpenic alcohol
α -Muurolol	0.02	Sesquiterpenic alcohol
α -Cadinol	0.13	Sesquiterpenic alcohol
Unknown	0.01	Oxygenated sesquiterpene
Unknown	0.01	Oxygenated sesquiterpene
(1,8Z,11Z,14Z)-Heptadecatetraene	0.01	Alkene
Amorpha-4,9-dien-2-ol	0.01	Sesquiterpenic alcohol
(5Z)-Tetradecen-14-olide?	0.02	Aliphatic lactone
Unknown	0.01	Oxygenated sesquiterpene
Unknown	0.03	Oxygenated sesquiterpene
Unknown	0.01	Oxygenated sesquiterpene
Unknown	0.01	Oxygenated diterpene
(E,E)-Geranyllinalool	0.01	Diterpenic alcohol
(Z)-Abienol	0.01	Diterpenic alcohol
Palustral	0.01	Diterpenic aldehyde
Consolidated total	99.55	

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

Note: no correction factor was applied

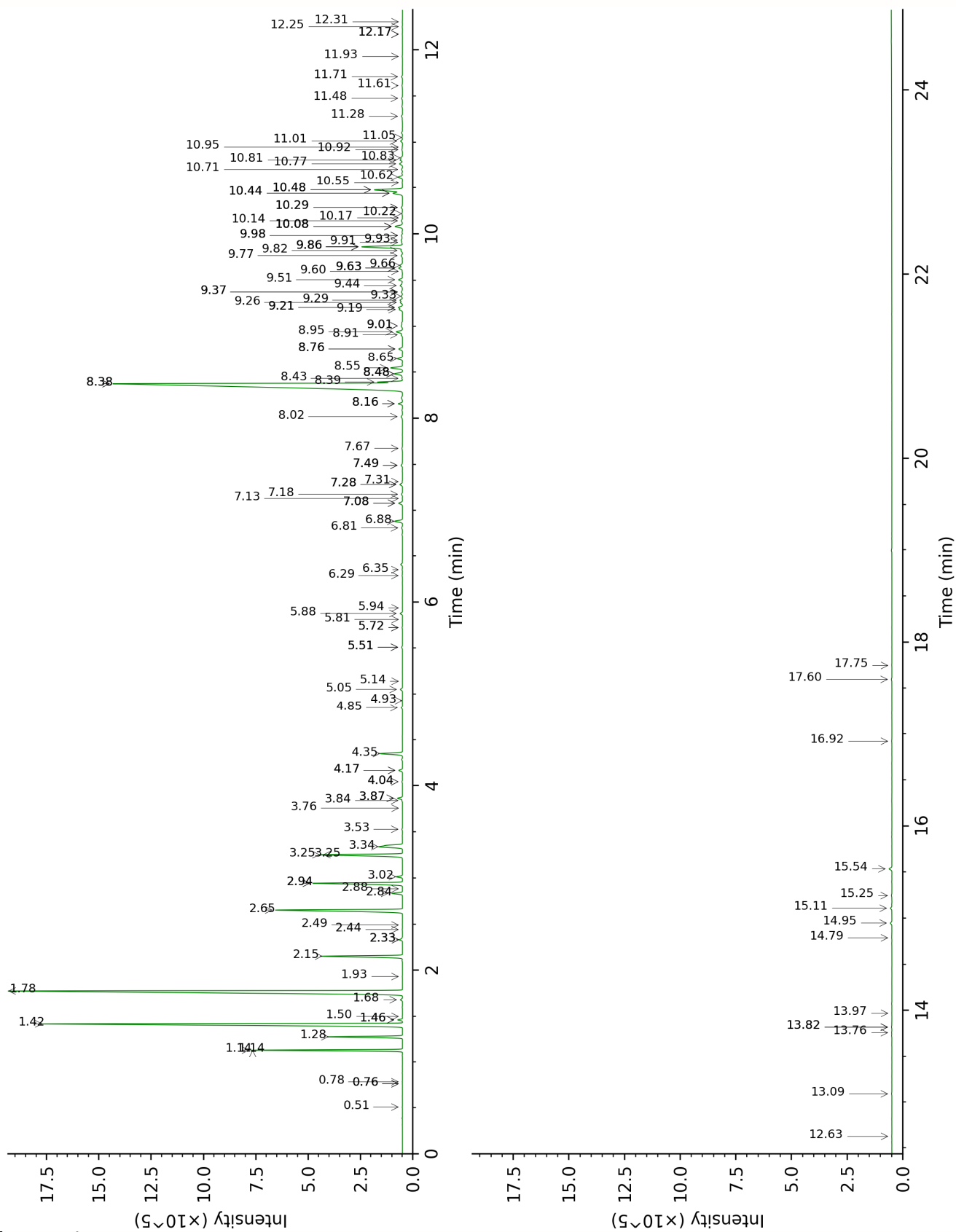
About "consolidated" data: The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm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

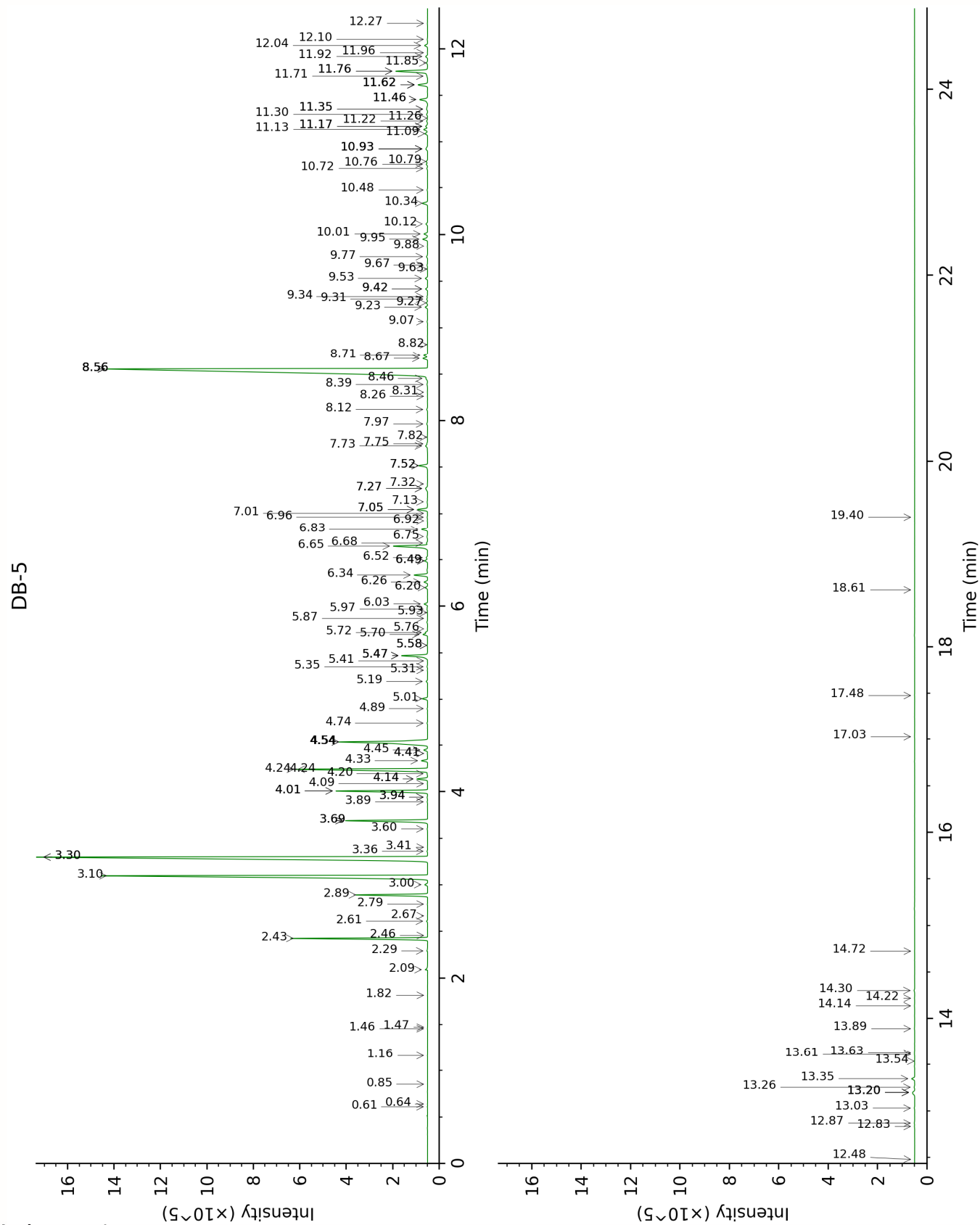
Unknowns: Unknown compounds' mass spectral data is presented in the "Full analysis data" table. The occurrence of unknown compounds is to be expected in many samples, and does not denote particular problems unless noted otherwise in the conclusion.

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

Isovaleral	Column DB-WAX			Column DB-5		
	0.78	889.5	tr	0.61	642.7	tr
2-Methylbutyral	0.76*	881.7	[tr]	0.64	653.4	tr
2,5-Dimethylfuran				0.85	714.2	tr
Toluene	1.50	1002.5	0.01	1.16	758.6	tr
Hexanal	1.93	1045.4	tr	1.46	800.7	tr
Octane	0.51	784.7	tr	1.47	803.1	tr
Unknown BOCA I [m/z 109, 67 (32), 81 (14), 41 (12), 124 (10)]	0.76*	881.7	[tr]	1.82	832.1	tr
(3Z)-Hexenol	5.88	1352.4	0.09	2.09	855.3	0.07
Hexanol	5.51*	1326.4	[0.04]	2.29	872.2	0.03
Santene	1.14*	948.9	[4.16]	2.43	883.6	4.16
Styrene	3.87*	1206.6	[0.20]	2.46	886.2	tr
Unknown ABBA I [m/z 79, 93 (66), 94 (52), 91 (39), 77 (37), 122 (31)]	1.46*	998.9	[0.14]	2.61	899.1	0.04
Bornylene	1.14*	948.9	[4.16]	2.67	903.9	tr
Unknown PIMA XXI [m/z 43, 59 (71), 44 (40), 85 (30), 41 (28), 45 (27)...]				2.80	912.3	0.01
Tricyclene	1.28	972.5	2.36	2.89	918.9	2.36
α -Thujene	1.46*	998.9	[0.14]	3.00	926.3	0.11
α -Pinene	1.42	994.6	15.44	3.10	932.7	15.43
Camphene	1.78	1029.9	21.01	3.30*	946.1	[21.10]
α -Fenchene	1.68	1020.4	0.08	3.30*	946.1	[21.10]
Thuja-2,4(10)-diene	2.33*	1085.0	[0.13]	3.36	950.3	0.02
Benzaldehyde	7.31	1456.3	0.01	3.41	953.2	0.01
3,7,7-Trimethylcyclohepta-1,3,5-triene	2.94*	1135.0	[3.35]	3.60	966.4	0.02
Sabinene	2.33*	1085.0	[0.13]	3.69*	972.3	[3.00]
β -Pinene	2.15	1067.3	2.91	3.69*	972.3	[3.00]
Octan-3-one	4.04*	1219.7	[0.02]	3.89	985.9	0.02
6-Methyl-5-hepten-2-one	5.14	1300.2	0.01	3.94*	989.2	[0.03]
Dehydro-1,8-cineole	3.25*	1159.3	[3.42]	3.94*	989.2	[0.03]
Myrcene	2.94*	1135.0	[3.35]	4.01*	993.7	[3.34]
2-Pentylfuran	3.76	1198.7	tr	4.01*	993.7	[3.34]
2-Carene	2.44	1095.6	0.01	4.09	998.9	0.01
Pseudolimonene	2.88	1130.2	tr	4.14*	1002.4	[0.39]

α -Phellandrene	2.84	1126.4	0.38	4.14*	1002.4	[0.39]
Unknown PIMA 12 [m/z 109, 81 (35), 43 (34), 69 (33), 67 (29), 152 (29)]	3.53	1181.0	0.02	4.20	1006.0	0.03
(3Z)-Hexenyl acetate	4.93	1284.6	0.01	4.24*	1009.0	[5.39]
Δ^3 -Carene	2.65	1112.2	5.39	4.24*	1009.0	[5.39]
α -Terpinene	3.02	1140.6	0.21	4.34	1014.8	0.22
<i>meta</i> -Cymene	4.17*	1228.7	[0.14]	4.41*	1019.8	[0.01]
Carvomenthene	2.49	1099.4	0.01	4.41*	1019.8	[0.01]
<i>para</i> -Cymene	4.17*	1228.7	[0.14]	4.45	1022.1	0.15
β -Phellandrene	3.34	1166.2	1.43	4.54*	1027.6	[4.85]
Limonene	3.25*	1159.3	[3.42]	4.54*	1027.6	[4.85]
(Z)- β -Ocimene	3.84	1204.8	0.02	4.74	1040.4	0.02
(E)- β -Ocimene	4.04*	1219.7	[0.02]	4.89	1050.3	0.02
γ -Terpinene	3.87*	1206.6	[0.20]	5.01	1057.6	0.20
Unknown PIMA I [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	4.85	1278.6	0.05	5.19	1069.3	0.06
Unknown PIMA 2 [m/z 94, 79 (74), 67 (33), 41 (22), 95 (21)...]				5.31	1076.9	0.01
<i>meta</i> -Cymenene	6.29	1381.5	0.02	5.35	1079.4	0.03
Fenchone	5.72*	1341.5	[0.02]	5.41	1083.3	0.01
γ -Campholenal	5.05	1293.6	0.09	5.47*	1086.9	[1.10]
<i>para</i> -Cymenene	6.35	1386.0	0.01	5.47*	1086.9	[1.10]
Terpinolene	4.35	1242.1	0.89	5.47*	1086.9	[1.10]
2-Nonanone	5.81	1347.7	tr	5.58*	1093.9	[0.02]
α -Pinene oxide	5.51*	1326.4	[0.04]	5.58*	1093.9	[0.02]
Unknown PIMA 3 [m/z 79, 94 (87), 77 (25), 91 (21), 93 (16), 95 (12), 138 (8)]				5.70	1101.4	0.17
Linalool	8.16*	1519.3	[0.16]	5.72	1102.7	0.08
Nonanal	5.94	1356.6	0.01	5.76	1105.2	0.01
endo-Fenchol	8.43	1540.4	0.02	5.87	1112.5	0.01
3-Methyl-3-butenyl isovalerate	5.72*	1341.5	[0.02]	5.93	1116.5	0.01
<i>cis-para</i> -Menth-2-en- 1-ol	8.16*	1519.3	[0.16]	5.97	1119.0	0.02
α -Campholenal	7.08*	1439.1	[0.18]	6.02	1122.5	0.13
<i>trans</i> -Pinocarveol	9.26	1604.5	0.09	6.20	1134.0	0.10

Camphor	7.28*	1454.1	[0.12]	6.26	1137.8	0.14
Camphene hydrate	8.55	1549.2	0.50	6.34	1142.7	0.52
Citronellal	7.08*	1439.1	[0.18]	6.49*	1152.6	[0.13]
Isoborneol	9.44	1619.1	0.12	6.49*	1152.6	[0.13]
Pinocamphone	7.28*	1454.1	[0.12]	6.52	1154.8	0.06
Borneol	9.86*	1652.7	[1.88]	6.65	1162.9	1.51
Unknown PIMA 4 [m/z 109, 108 (48), 67 (41), 81 (40), 41 (28)...]	7.49*	1469.2	[0.07]	6.68	1165.0	0.05
Isopinocamphone	7.67	1482.7	0.04	6.75	1169.6	0.04
Terpinen-4-ol	8.65	1556.9	0.23	6.83	1174.7	0.24
Cryptone	9.21*	1600.1	[0.19]	6.92	1181.0	0.01
<i>para</i> -Cymen-8-ol	11.61	1798.6	0.04	6.96	1183.5	0.02
<i>trans</i> -Isocarveol	11.05	1750.9	0.02	7.01	1186.2	0.01
α -Terpineol	9.86*	1652.7	[1.88]	7.05*	1188.9	[0.42]
Myrtenal	8.76*	1565.4	[0.17]	7.05*	1188.9	[0.42]
Myrtenol	10.95	1742.1	0.01	7.13	1194.3	0.03
Verbenone	9.66*†	1636.6	[0.12]	7.27*	1203.6	[0.14]
Unknown PIMA 7 [m/z 95, 93 (32), 121 (24), 79 (22), 91 (21), 105 (16)... 154 (2)]	11.01	1747.7	0.08	7.27*	1203.6	[0.14]
<i>trans</i> -Piperitol	10.48*	1702.7	[1.35]	7.32	1206.8	0.01
<i>trans</i> -Carveol	11.48	1786.6	0.05	7.52*	1220.2	[0.38]
endo-Fenchyl acetate	6.88	1424.8	0.35	7.52*	1220.2	[0.38]
Citronellol	10.81	1730.4	0.10	7.73	1234.6	0.10
Thymol methyl ether	8.48*	1544.2	[0.39]	7.75	1236.2	0.03
Carvone	10.08*	1670.3	[0.36]	7.82	1241.1	0.02
Piperitone	9.98*	1662.5	[0.06]	7.97	1250.7	0.04
Geraniol	11.71	1807.1	0.05	8.12	1261.3	0.04
Geranial	10.17	1677.7	0.01	8.26	1271.0	0.01
Unknown PIMA 5 [m/z 43, 119 (72), 81 (66), 54 (48), 41 (47), 58 (44)...]				8.31	1274.0	0.01
Undec-(5Z)-en-2-one	9.01*	1584.5	[0.08]	8.39	1279.7	0.04
<i>trans</i> -Verbenyl acetate	9.37*	1613.5	[0.06]	8.46	1284.2	0.08
Isobornyl acetate	8.39	1537.3	0.72	8.56*	1291.1	[27.20]
<i>cis</i> -Verbenyl acetate	8.76*	1565.4	[0.17]	8.56*	1291.1	[27.20]
Bornyl acetate	8.38*	1535.9	[26.15]	8.56*	1291.1	[27.20]
Unknown PIMA 13 [m/z 119, 43 (87), 91	8.94	1579.6	0.30	8.56*	1291.1	[27.20]

(78), 92 (70), 134 (50)...						
Unknown PIMA 6 [m/z 107, 43 (76), 150 (42), 91 (28), 108 (23)]	9.21*	1600.1	[0.19]	8.67	1299.0	0.18
<i>trans</i> -Pinocarvyl acetate	9.18	1598.3	0.14	8.70	1301.3	0.15
Car-3-en-5-one	12.17*	1847.6	[0.01]	8.82	1305.6	0.01
Myrtenyl acetate	9.63*†	1634.3	[0.19]	9.07	1323.2	0.02
Terpinyl acetate analog	9.63*†	1634.3	[0.19]	9.23	1334.3	0.10
<i>trans</i> -Carvyl acetate	10.29*	1686.8	[0.06]	9.27	1337.6	0.05
<i>exo</i> -2-Hydroxycineole acetate	10.14	1675.2	0.06	9.31	1340.5	0.04
Unknown CIAU VI [m/z 133, 105 (45), 91 (38), 119 (36)... 150 (3)]				9.34	1342.4	0.02
α -Cubebene	6.81	1419.5	0.04	9.42*	1348.2	[0.08]
α -Terpinyl acetate	9.77	1645.0	0.07	9.42*	1348.2	[0.08]
Citronellyl acetate	9.51	1624.1	0.17	9.53	1356.2	0.09
Longicyclene	7.13	1442.9	0.01	9.63	1363.3	0.01
Unknown PIMA 8 [m/z 93, 121 (68), 43 (67), 67 (44), 136 (36), 107 (34)... 180 (4)]	10.08*	1670.3	[0.36]	9.67	1366.3	0.03
α -Copaene	7.18	1446.2	0.05	9.76	1372.8	0.05
β -Bourbonene	7.49*	1469.2	[0.07]	9.88	1380.8	0.01
Geranyl acetate	10.62	1714.8	0.19	9.95	1386.1	0.22
β -Elemene	8.48*	1544.2	[0.39]	10.01	1390.1	0.15
Longifolene	8.02	1508.6	0.07	10.12	1397.7	0.07
β -Caryophyllene	8.48*	1544.2	[0.39]	10.34	1414.0	0.23
β -Copaene	8.38*	1535.9	[26.15]	10.48	1424.5	0.02
<i>cis</i> -Muurolo-3,5-diene	9.01*	1584.5	[0.08]	10.72	1442.5	0.03
<i>trans</i> -Muurolo-3,5-diene	8.91	1577.1	0.06	10.76	1445.9	0.06
α -Humulene	9.33	1609.8	0.06	10.79	1448.1	0.06
Unknown PIMA 9 [m/z 95, 43 (94), 79 (93), 91 (71), 93 (65), 177 (54), 41 (52)...	10.92	1739.8	0.03	10.93*	1458.2	[0.11]
<i>cis</i> -Muurolo-4(15),5-	9.37*	1613.5	[0.06]	10.93*	1458.2	[0.11]

diene						
(E)- β -Farnesene	9.60	1631.4	0.02	10.93*	1458.2	[0.11]
<i>trans</i> -Cadina-1(6),4-diene	9.29	1606.4	0.11	11.09	1470.5	0.12
γ -Muurolene	9.63*†	1634.3	[0.19]	11.14	1473.9	0.17
Germacrene D	9.82	1649.5	0.08	11.17*	1476.4	[0.10]
Dodecanol	13.09	1930.1	0.01	11.17*	1476.4	[0.10]
β -Selinene	9.91	1656.5	0.04	11.22	1480.6	0.05
<i>trans</i> -Muurolo-4(15),5-diene	9.93	1658.4	0.08	11.26	1483.0	0.01
γ -Amorphene	9.86*	1652.7	[1.88]	11.30	1486.0	0.05
α -Selinene	9.98*	1662.5	[0.06]	11.35*	1490.3	[0.08]
Bicyclogermacrene	10.08*	1670.3	[0.36]	11.35*	1490.3	[0.08]
α -Muurolene	10.08*	1670.3	[0.36]	11.46*	1498.0	[0.39]
(3Z,6E)- α -Farnesene	10.29*	1686.8	[0.06]	11.46*	1498.0	[0.39]
γ -Cadinene	10.44*	1699.5	[0.47]	11.62*	1510.1	[0.43]
Cubebol	12.63	1887.6	0.01	11.62*	1510.1	[0.43]
β -Bisabolene	10.22	1681.4	0.03	11.62*	1510.1	[0.43]
(3E,6E)- α -Farnesene	10.55	1709.1	0.02	11.62*	1510.1	[0.43]
<i>trans</i> -Calamenene	11.28	1770.2	0.05	11.71	1517.5	0.02
δ -Cadinene	10.48*	1702.7	[1.35]	11.76*	1521.7	[1.46]
Zonarene	10.44*	1699.5	[0.47]	11.76*	1521.7	[1.46]
<i>trans</i> -Cadina-1,4-diene	10.70	1721.7	0.04	11.85	1528.7	0.05
α -Cadinene	10.83	1732.3	0.08	11.92	1534.2	0.08
α -Calacorene	12.17*	1847.6	[0.01]	11.96	1537.4	0.01
(E)- α -Bisabolene	10.77	1726.9	0.15	12.04	1543.5	0.13
Unknown PIMA XV [m/z 95, 81 (70), 109 (68), 93 (59), 67 (53), 41 (49), 139 (40)... 220 (3)]	12.25	1854.8	0.02	12.10	1548.7	0.02
Unknown LESC I [m/z 93, 135 (99), 107 (72), 177 (72), 81 (57), 149 (53)... 220 (25)]	12.31	1859.4	0.01	12.27	1562.3	0.01
Globulol	13.97	2012.2	0.01	12.48	1578.3	0.01
Unknown PIMA 10 [m/z 108, 43 (56), 109 (33), 93 (26), 119 (24)... 212 (2)]	14.79	2090.8	0.01	12.83	1606.6	0.02
1,10-diepi-Cubenol	13.82*	1997.8	[0.02]	12.87	1609.5	0.02
1-epi-Cubenol	13.82*	1997.8	[0.02]	13.03	1622.9	0.02
Cubenol	13.76	1992.0	0.01	13.20*	1637.0	[0.15]
τ -Cadinol	14.95	2106.9	0.07	13.20*	1637.0	[0.15]

τ-Muurolol	15.11	2123.0	0.07	13.20*	1637.0	[0.15]
α-Muurolol	15.25	2136.6	0.02	13.26	1641.6	0.02
α-Cadinol	15.54	2165.6	0.13	13.35	1649.3	0.13
Unknown LESC IV [m/z 159, 177 (59), 135 (57), 91 (47), 105 (47)... 220? (25)]				13.54	1664.9	0.01
Unknown PIMA XVI [m/z 177, 159 (98), 93 (94), 136 (84), 121 (68), 135 (65), 91 (57)... 220 (23)]				13.61	1671.2	0.01
(1,8Z,11Z,14Z)- Heptadecatetraene	11.93	1826.4	0.02	13.63	1672.4	0.01
Amorpha-4,9-dien-2- ol	16.92	2309.7	0.02	13.89	1694.5	0.01
(5Z)-Tetradecen-14- olide?				14.14	1715.3	0.02
Unknown PIMA XVII [m/z 159, 220 (92), 93 (88), 177 (63), 91 (57), 107 (55)]	17.75	2399.9	0.01	14.22	1722.4	0.01
Unknown PIMA 11 [m/z 159, 132 (79), 135 (37), 91 (35), 177 (33)... 220 (16)]	17.60	2383.0	0.03	14.30	1729.7	0.03
Unknown PIMA XIX [m/z 43, 147 (93), 159 (76), 187 (76), 81 (64), 93 (56), 121 (56), 220 (51)]				14.72	1766.5	0.01
Unknown PISI V [m/z 105, 91 (100), 81 (89), 79 (86), 109 (86), 257 (83)... 275 (12)...]				17.03	1977.6	0.01
(E,E)-Geranyllinalool				17.48	2021.1	0.01
(Z)-Abienol				18.61	2134.9	0.01
Palustral				19.40	2216.7	0.01
Total reported		99.08%			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