Date : 2023-12-12

Certificate of Analysis - GC Profiling

Sample Identification

Internal code : 23L05-PTH01
Customer Identification : Organic Black Spruce - Canada - SA3104R
Type : Essential Oil
Source : *Picea mariana*
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Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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 : Benoit Roger, Ph. D.
Date : 2023-12-12

Physicochemical data

Refractive index : 1.4731 ± 0.0003 (20 °C)
Method : PC-MAT-016 - Measure of the refractive index of a liquid.
Analyst : Cindy Caron B. Sc.
Date : 2023-12-06

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
2-Ethylfuran	tr	Furan
Toluene	0.03	Simple phenolic
Hexanal	tr	Aliphatic aldehyde
Octane	0.01	Alkane
Unknown	0.01	Alkene
(3*Z*)-Hexenol	0.03	Aliphatic alcohol
Santene	2.32	Normonoterpene
Unknown	0.06	Normonoterpene
Bornylene	0.01	Monoterpene
Tricyclene	1.81	Monoterpene
α-Thujene	0.21	Monoterpene
α-Pinene	20.12	Monoterpene
α-Fenchene	0.13	Monoterpene
Camphene	16.47	Monoterpene
Thuja-2,4(10)-diene	0.03	Monoterpene
3,7,7-Trimethylcyclohepta-1,3,5-triene	0.12	Monoterpene
Sabinene	0.12	Monoterpene
β-Pinene	7.48	Monoterpene
Myrcene	2.15	Monoterpene
2-Carene	0.01	Monoterpene
α-Phellandrene	0.01	Monoterpene
Octanal	0.04	Aliphatic aldehyde
Unknown	0.03	Oxygenated monoterpene
Δ3-Carene	8.64	Monoterpene
α-Terpinene	0.02	Monoterpene
Unknown	0.34	Monoterpene
para-Cymene	0.82	Monoterpene
Limonene	3.80	Monoterpene
β-Phellandrene	0.77	Monoterpene
1,8-Cineole	0.38	Monoterpenic ether
(*Z*)-β-Ocimene	0.01	Monoterpene
(*E*)-β-Ocimene	0.01	Monoterpene
γ-Terpinene	0.05	Monoterpene
Unknown	0.06	Oxygenated monoterpene
Unknown	0.01	Unknown
meta-Cymenene	0.04	Monoterpene
Fenchone	0.04	Monoterpenic ketone
Isoterpinolene	0.08	Monoterpene
Terpinolene	0.19	Monoterpene
para-Cymenene	0.17	Monoterpene

γ-Campholenal	tr	Aliphatic alcohol
α-Pinene oxide	0.10	Monoterpenic ether
Perillene	0.03	Monoterpenic ether
Linalool	0.23	Monoterpenic alcohol
Unknown	0.07	Unknown
Nonanal	0.01	Aliphatic aldehyde
endo-Fenchol	0.13	Monoterpenic alcohol
3-Methyl-3-butenyl isovalerate	0.02	Aliphatic ester
cis-para-Menth-2-en-1-ol	0.05	Monoterpenic alcohol
α-Campholenal	0.03	Monoterpenic aldehyde
trans-Pinocarveol	0.19	Monoterpenic alcohol
Camphor	0.20	Monoterpenic ketone
Camphene hydrate	0.38	Monoterpenic alcohol
Isoborneol	0.10	Monoterpenic alcohol
Pinocamphone	0.04	Monoterpenic ketone
Citronellal	0.01	Monoterpenic aldehyde
Unknown	0.02	Unknown
Borneol	1.16	Monoterpenic alcohol
Isopinocamphone	0.07	Monoterpenic ketone
Terpinen-4-ol	0.39	Monoterpenic alcohol
meta-Cymen-8-ol	0.07	Monoterpenic alcohol
para-Cymen-8-ol	0.21	Monoterpenic alcohol
Myrtenal	0.17	Monoterpenic aldehyde
α-Terpineol	0.99	Monoterpenic alcohol
Myrtenol	0.09	Monoterpenic alcohol
Unknown	0.05	Unknown
Verbenone	0.09	Monoterpenic ketone
endo-Fenchyl acetate	0.29	Monoterpenic ester
trans-Carveol	0.03	Monoterpenic alcohol
cis-Isocarveol	0.02	Monoterpenic alcohol
Citronellol	0.12	Monoterpenic alcohol
Carvone	0.03	Monoterpenic ketone
Piperitone	0.04	Monoterpenic ketone
Geraniol	0.02	Monoterpenic alcohol
Geranial	0.02	Monoterpenic aldehyde
Unknown	0.03	Unknown
Bornyl acetate	20.20	Monoterpenic ester
trans-Verbenyl acetate	0.02	Monoterpenic ester
cis-Verbenyl acetate	0.01	Monoterpenic ester
Isobornyl acetate	0.61	Monoterpenic ester
Unknown	0.02	Unknown
Unknown	0.13	Monoterpenic ester
trans-Pinocarvyl acetate	0.10	Monoterpenic ester
Car-3-en-5-one	0.11	Monoterpenic ketone
Terpinyl acetate analog	0.11	Monoterpenic ester

trans-Carvyl acetate	0.03	Monoterpenic ester
exo-2-Hydroxycineole acetate	0.03	Monoterpenic ester
Unknown	0.03	Unknown
α-Cubebene	0.02	Sesquiterpene
α-Terpinyl acetate	0.07	Monoterpenic ester
Citronellyl acetate	0.08	Monoterpenic ester
Longicyclene	0.03	Sesquiterpene
Unknown	0.02	Oxygenated monoterpene
α-Copaene	0.06	Sesquiterpene
Geranyl acetate	0.19	Monoterpenic ester
β-Elemene	0.08	Sesquiterpene
Longifolene	0.22	Sesquiterpene
β-Caryophyllene	0.16	Sesquiterpene
β-Copaene	0.02	Sesquiterpene
trans-Muurola-3,5-diene	0.01	Sesquiterpene
α-Humulene	0.05	Sesquiterpene
(*E*)-β-Farnesene	0.05	Sesquiterpene
trans-Cadina-1(6),4-diene	0.01	Sesquiterpene
γ-Muurolene	0.13	Sesquiterpene
Germacrene D	0.01	Sesquiterpene
Dodecanol	0.02	Aliphatic alcohol
β-Selinene	0.05	Sesquiterpene
trans-Muurola-4(15),5-diene	0.02	Sesquiterpene
α-Selinene	0.06	Sesquiterpene
α-Muurolene	0.27	Sesquiterpene
γ-Cadinene	0.35	Sesquiterpene
trans-Calamenene	0.16	Sesquiterpene
δ-Cadinene	0.78	Sesquiterpene
trans-Cadina-1,4-diene	0.02	Sesquiterpene
α-Cadinene	0.08	Sesquiterpene
α-Calacorene	0.05	Sesquiterpene
(*E*)-α-Bisabolene	0.12	Sesquiterpene
Unknown	0.02	Oxygenated sesquiterpene
Unknown	0.02	Oxygenated sesquiterpene
(*E*)-Nerolidol	0.02	Sesquiterpenic alcohol
Caryophyllene oxide	0.09	Sesquiterpenic ether
Caryophyllene oxide isomer	0.03	Sesquiterpenic ether
Globulol	0.02	Sesquiterpenic alcohol
Unknown	0.02	Unknown
1-epi-Cubenol	0.04	Sesquiterpenic alcohol
τ-Muurolol	0.14	Sesquiterpenic alcohol
τ-Cadinol	0.15	Sesquiterpenic alcohol
α-Muurolol	0.06	Sesquiterpenic alcohol
α-Cadinol	0.27	Sesquiterpenic alcohol
Amorpha-4,9-dien-2-ol	0.03	Sesquiterpenic alcohol

(5*Z*)-Tetradecen-14-olide?	0.04	Aliphatic lactone
Unknown	0.03	Oxygenated sesquiterpene
(3*E*)-Cembrene A	0.03	Diterpene
Unknown	0.04	Oxygenated diterpene
Manool	0.05	Diterpenic alcohol
(*Z*)-Abienol	0.03	Diterpenic alcohol
Consolidated total	**97.81**	

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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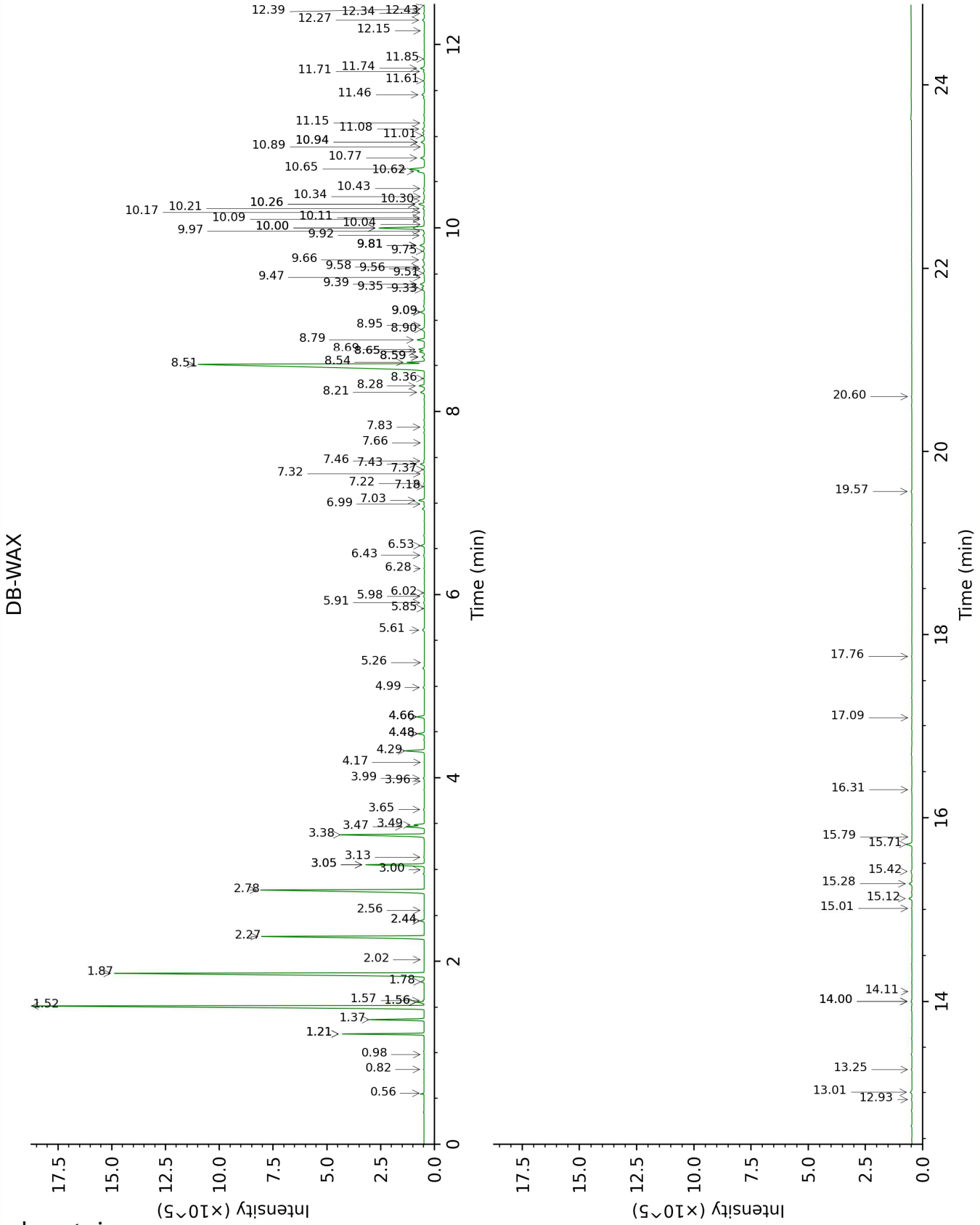
DB-WAX
Time (min)
Intensity (×10^5)
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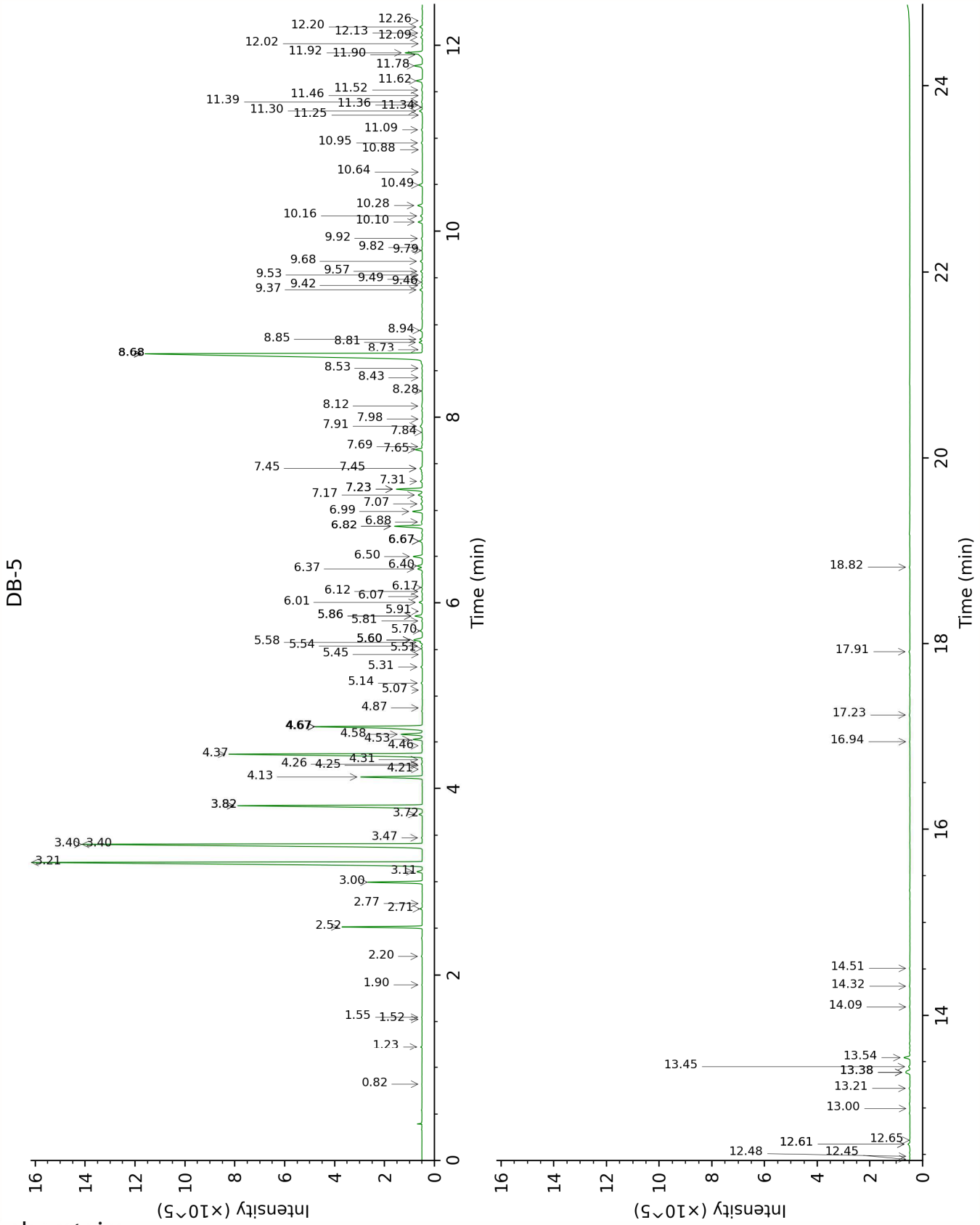
12.34
12.43
12.27
12.15
11.85
11.71
11.74
11.61
11.46
11.15
11.08
11.01
10.89
10.94
10.77
10.65
10.62
10.43
10.34
10.30
10.17
10.21
10.26
10.09
10.11
10.04
9.97
10.00
9.92
9.81
9.75
9.66
9.58
9.56
9.51
9.47
9.39
9.35
9.33
9.09
8.95
8.90
8.79
8.69
8.65
8.59
8.51
8.54
8.36
8.21
8.28
7.83
7.66
7.46
7.43
7.37
7.32
7.22
7.18
6.99
7.03
6.53
6.43
6.28
5.91
5.98
6.02
5.85
5.61
5.26
4.99
4.66
4.48
4.29
4.17
3.99
3.96
3.65
3.47
3.49
3.38
3.13
3.05
3.00
2.78
2.56
2.44
2.27
2.02
1.87
1.78
1.57
1.56
1.52
1.37
1.21
0.98
0.82
0.56
20.60
19.57
17.76
17.09
16.31
15.79
15.71
15.42
15.28
15.12
15.01
14.11
14.00
13.25
13.01
12.93


DB-5
Time (min)
Intensity (×10^5)
12.26
12.20
12.13
12.09
12.02
11.92
11.90
11.78
11.62
11.52
11.46
11.39
11.36
11.34
11.30
11.25
11.09
10.95
10.88
10.64
10.49
10.28
10.16
10.10
9.92
9.82
9.79
9.68
9.57
9.53
9.49
9.46
9.42
9.37
8.94
8.85
8.81
8.73
8.68
8.53
8.43
8.28
8.12
7.98
7.91
7.84
7.69
7.65
7.45
7.45
7.31
7.23
7.17
7.07
6.99
6.88
6.82
6.67
6.50
6.40
6.37
6.17
6.12
6.07
6.01
5.91
5.86
5.81
5.70
5.60
5.58
5.54
5.51
5.45
5.31
5.14
5.07
4.87
4.67
4.58
4.53
4.46
4.37
4.31
4.26
4.25
4.21
4.13
3.82
3.72
3.47
3.40
3.40
3.21
3.11
3.00
2.77
2.71
2.52
2.20
1.90
1.55
1.52
1.23
0.82
18.82
17.91
17.23
16.94
14.51
14.32
14.09
13.54
13.45
13.38
13.21
13.00
12.65
12.61
12.48
12.45

FULL ANALYSIS DATA

	Column DB-WAX			Column DB-5		
2-Ethylfuran	0.98	916.0	tr	0.82	701.2	tr
Toluene	1.58	1003.5	0.03	1.23	759.5	0.03
Hexanal	2.02	1045.5	tr	1.52	800.3	tr
Octane	0.56	784.0	0.01	1.55	803.5	0.01
Unknown BOCA I [m/z 109, 67 (32), 81 (14), 41 (12), 124 (10)]	0.82	880.4	0.01	1.90	832.6	0.01
(3*Z*)-Hexenol	5.98	1348.4	0.04	2.20	857.6	0.03
Santene	1.21*	950.9	[2.33]	2.52	883.5	2.32
Unknown ABBA I [m/z 79, 93 (66), 94 (52), 91 (39), 77 (37), 122 (31)]	1.56*	1001.8	[0.28]	2.71	899.4	0.06
Bornylene	1.21*	950.9	[2.33]	2.77	904.1	0.01
Tricyclene	1.37	974.4	1.81	3.00	919.4	1.81
α-Thujene	1.56*	1001.8	[0.28]	3.11	926.7	0.21
α-Pinene	1.52	996.8	20.12	3.21	933.3	20.12
α-Fenchene	1.78	1022.7	0.13	3.40*	946.1	[16.60]
Camphene	1.87	1031.5	16.47	3.40*	946.1	[16.60]
Thuja-2,4(10)-diene	2.44*	1085.3	[0.16]	3.47	950.7	0.03
3,7,7-Trimethylcyclohepta-1,3,5-triene	3.05*	1134.3	[2.28]	3.72	967.2	0.12
Sabinene	2.44*	1085.3	[0.16]	3.82*	973.4	[7.61]
β-Pinene	2.27	1069.3	7.48	3.82*	973.4	[7.61]
Myrcene	3.05*	1134.3	[2.28]	4.13	993.6	2.15
2-Carene	2.56	1096.1	0.01	4.21	999.1	0.01
α-Phellandrene	3.00	1130.1	0.01	4.25	1001.9	0.01
Octanal	4.66*	1252.8	[0.33]	4.26	1002.7	0.04
Unknown PIMA 12 [m/z 109, 81 (35), 43 (34), 69 (33), 67 (29), 152 (29)]	3.65	1179.9	0.04	4.31	1005.9	0.03
Δ3-Carene	2.78	1113.4	8.61	4.37	1009.5	8.64
α-Terpinene	3.14	1140.5	0.02	4.46	1015.2	0.02
Unknown SASP I [m/z 109, 95 (89), 43 (51), 110 (30), 67 (25), 41 (22)... 138 (4)]	4.66*	1252.8	[0.33]	4.53	1019.5	0.34
para-Cymene	4.29	1226.5	0.83	4.58	1022.8	0.82
Limonene	3.38	1159.1	3.80	4.67*	1027.9	[4.94]
β-Phellandrene	3.47	1165.6	0.77	4.67*	1027.9	[4.94]

1,8-Cineole	3.49	1167.2	0.38	4.67*	1027.9	[4.94]
(*Z*)-β-Ocimene	3.96	1202.9	0.01	4.87	1040.5	0.01
(*E*)-β-Ocimene	4.17	1217.6	0.01	5.07	1052.9	0.01
γ-Terpinene	3.99	1205.3	0.05	5.14	1057.7	0.05
Unknown PIMA I [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	4.99	1276.1	0.06	5.31	1068.5	0.06
Unknown PIMA 2 [m/z 94, 79 (74), 67 (33), 41 (22), 95 (21)...]				5.45	1076.9	0.01
meta-Cymenene	6.43	1380.3	0.06	5.51	1080.7	0.04
Fenchone	5.91	1343.4	0.04	5.54	1082.5	0.04
Isoterpinolene	4.48*	1239.8	[0.28]	5.58	1085.0	0.08
Terpinolene	4.48*	1239.8	[0.28]	5.60*	1086.5	[0.46]
para-Cymenene	6.53	1387.8	0.17	5.60*	1086.5	[0.46]
γ-Campholenal	5.26	1295.4	tr	5.60*	1086.5	[0.46]
α-Pinene oxide	5.61	1322.1	0.10	5.70	1092.7	0.10
Perillene	6.28	1370.0	0.02	5.81	1099.4	0.03
Linalool	8.28	1517.2	0.23	5.86*	1102.6	[0.30]
Unknown PIMA 3 [m/z 79, 94 (87), 77 (25), 91 (21), 93 (16), 95 (12), 138 (8)]				5.86*	1102.6	[0.30]
Nonanal	6.02	1351.1	0.01	5.91	1105.8	0.01
endo-Fenchol	8.59*	1541.5	[0.12]	6.01	1111.9	0.13
3-Methyl-3-butenyl isovalerate	5.85	1338.9	0.01	6.07	1115.9	0.02
cis-para-Menth-2-en-1-ol	8.36	1523.5	0.04	6.12	1119.4	0.05
α-Campholenal	7.22	1437.9	0.04	6.17	1122.1	0.03
trans-Pinocarveol	9.39	1603.2	0.23	6.37	1134.8	0.19
Camphor	7.43	1453.5	0.21	6.40	1136.9	0.20
Camphene hydrate	8.68	1548.5	0.27	6.50	1143.3	0.38
Isoborneol	9.58	1618.3	0.10	6.66*	1153.9	[0.14]
Pinocamphone	7.46	1456.0	0.04	6.66*	1153.9	[0.14]
Citronellal	7.18	1435.5	0.01	6.66*	1153.9	[0.14]
Unknown PIMA 4 [m/z 109, 108 (48), 67 (41), 81 (40), 41 (28)...]	7.66	1470.7	0.02	6.82*	1164.0	[1.17]
Borneol	10.00*	1652.4	[2.23]	6.82*	1164.0	[1.17]
Isopinocamphone	7.83	1483.3	0.04	6.88	1167.5	0.07

Terpinen-4-ol	8.79	1556.4	0.34	6.99	1174.6	0.39
meta-Cymen-8-ol	11.71	1794.6	0.05	7.07	1179.8	0.07
para-Cymen-8-ol	11.74	1797.6	0.19	7.17	1185.9	0.21
Myrtenal	8.90	1565.2	0.17	7.23*	1189.9	[1.15]
α-Terpineol	10.00*	1652.4	[2.23]	7.23*	1189.9	[1.15]
Myrtenol	11.08	1741.7	0.10	7.31	1195.3	0.09
Unknown PIMA 7 [m/z 95, 93 (32), 121 (24), 79 (22), 91 (21), 105 (16)... 154 (2)]	11.15	1747.2	0.05	7.45*	1204.0	[0.13]
Verbenone	9.81*	1637.1	[0.25]	7.45*	1204.0	[0.13]
endo-Fenchyl acetate	7.03	1424.4	0.28	7.65	1217.5	0.29
trans-Carveol	11.61	1786.0	0.04	7.69	1219.7	0.03
cis-Isocarveol	12.15	1833.4	0.02	7.84	1229.9	0.02
Citronellol	10.94*	1729.6	[0.18]	7.91	1234.3	0.12
Carvone	10.21	1669.4	0.08	7.98	1239.4	0.03
Piperitone	10.09	1659.9	0.04	8.12	1248.8	0.04
Geraniol	11.85	1806.5	0.03	8.28	1259.6	0.02
Geranial	10.34	1679.8	0.01	8.43	1269.1	0.02
Unknown PIMA 5 [m/z 43, 119 (72), 81 (66), 54 (48), 41 (47), 58 (44)...]				8.53	1275.9	0.03
Bornyl acetate	8.51	1535.3	20.20	8.68*	1286.2	[21.06]
trans-Verbenyl acetate	9.56	1616.7	0.02	8.68*	1286.2	[21.06]
cis-Verbenyl acetate	8.95	1568.6	0.01	8.68*	1286.2	[21.06]
Isobornyl acetate	8.54	1537.0	0.61	8.68*	1286.2	[21.06]
Unknown PIMA 13 [m/z 119, 43 (87), 91 (78), 92 (70), 134 (50)...]	9.09*	1579.7	[0.20]	8.73	1289.7	0.02
Unknown PIMA 6 [m/z 107, 43 (76), 150 (42), 91 (28), 108 (23)]	9.33	1598.3	0.10	8.81	1294.9	0.13
trans-Pinocarvyl acetate	9.35	1600.2	0.12	8.85	1297.2	0.10
Car-3-en-5-one	12.27	1843.7	0.10	8.94	1303.4	0.11
Terpinyl acetate analog	9.81*	1637.1	[0.25]	9.37	1333.9	0.11
trans-Carvyl acetate	10.43	1686.9	0.05	9.42	1337.2	0.03
exo-2-Hydroxycineole	10.30	1676.2	0.06	9.46	1339.7	0.03

acetate						
Unknown CIAU VI [m/z 133, 105 (45), 91 (38), 119 (36)... 150 (3)]				9.49	1341.9	0.03
α-Cubebene	6.99	1421.4	0.03	9.53	1345.1	0.02
α-Terpinyl acetate	9.92	1645.8	0.08	9.57	1347.9	0.07
Citronellyl acetate	9.66	1624.5	0.10	9.68	1355.4	0.08
Longicyclene	7.32	1445.8	0.03	9.79	1363.5	0.03
Unknown PIMA 8 [m/z 93, 121 (68), 43 (67), 67 (44), 136 (36), 107 (34)... 180 (4)]	10.26*	1673.2	[0.30]	9.82	1365.7	0.02
α-Copaene	7.37	1449.2	0.03	9.92	1372.7	0.06
Geranyl acetate	10.77	1715.1	0.18	10.10	1385.0	0.19
β-Elemene	8.65*	1545.8	[0.23]	10.16	1389.6	0.08
Longifolene	8.21	1511.8	0.23	10.28	1397.4	0.22
β-Caryophyllene	8.65*	1545.8	[0.23]	10.49	1413.3	0.16
β-Copaene	8.59*	1541.5	[0.12]	10.64	1424.2	0.02
trans-Muurola-3,5-diene	9.09*	1579.7	[0.20]	10.88	1442.0	0.01
α-Humulene	9.51	1612.8	0.06	10.95	1447.5	0.05
(*E*)-β-Farnesene	9.75	1632.0	0.07	11.09	1457.9	0.05
trans-Cadina-1(6),4-diene	9.47	1609.2	0.01	11.25	1469.7	0.01
γ-Muurolene	9.81*	1637.1	[0.25]	11.30	1472.9	0.13
Germacrene D	9.97	1649.6	0.03	11.34	1475.9	0.01
Dodecanol	13.25	1932.0	0.03	11.36	1477.6	0.02
β-Selinene	10.11	1661.3	0.05	11.39	1480.1	0.05
trans-Muurola-4(15),5-diene	10.04	1655.5	0.02	11.46	1485.3	0.02
α-Selinene	10.17	1666.0	0.03	11.52	1489.7	0.06
α-Muurolene	10.26*	1673.2	[0.30]	11.62	1497.0	0.27
γ-Cadinene	10.62	1702.7	0.36	11.78	1509.2	0.35
trans-Calamenene	11.46	1773.1	0.14	11.90	1518.5	0.16
δ-Cadinene	10.65	1705.0	0.79	11.92	1520.1	0.78
trans-Cadina-1,4-diene	10.89	1725.2	0.01	12.02	1527.8	0.02
α-Cadinene	11.01	1735.7	0.08	12.09	1533.3	0.08
α-Calacorene	12.34	1850.2	0.04	12.13	1536.8	0.05
(*E*)-α-Bisabolene	10.94*	1729.6	[0.18]	12.20	1542.0	0.12
Unknown PIMA XV [m/z 95, 81 (70), 109 (68), 93 (59), 67 (53), 41 (49), 139 (40)...	12.39	1854.6	0.02	12.26	1547.1	0.02

220 (3)]						
Unknown LESC I [m/z 93, 135 (99), 107 (72), 177 (72), 81 (57), 149 (53)... 220 (25)]	12.43	1858.1	0.02	12.45	1561.4	0.02
(*E*)-Nerolidol	14.00*	2001.2	[0.04]	12.48	1564.2	0.02
Caryophyllene oxide	13.00	1909.3	0.09	12.61*	1574.4	[0.11]
Caryophyllene oxide isomer	12.92	1901.9	0.03	12.61*	1574.4	[0.11]
Globulol	14.11	2011.5	0.02	12.66	1577.8	0.02
Unknown PIMA 10 [m/z 108, 43 (56), 109 (33), 93 (26), 119 (24)... 212 (2)]	15.01	2098.4	0.02	13.00	1604.5	0.02
1-epi-Cubenol	14.00*	2001.2	[0.04]	13.21	1622.3	0.04
τ-Muurolol	15.28	2125.2	0.14	13.38*	1636.5	[0.31]
τ-Cadinol	15.12	2109.1	0.15	13.38*	1636.5	[0.31]
α-Muurolol	15.42	2138.6	0.07	13.45	1641.6	0.06
α-Cadinol	15.71	2168.0	0.27	13.54	1649.6	0.27
Amorpha-4,9-dien-2-ol	17.09	2310.7	0.02	14.09	1695.1	0.03
(5*Z*)-Tetradecen-14-olide?				14.32	1713.9	0.04
Unknown PIMA 11 [m/z 159, 132 (79), 135 (37), 91 (35), 177 (33)... 220 (16)]	17.76	2383.3	0.02	14.51	1730.5	0.03
(3*E*)-Cembrene A	15.79	2176.1	0.01	16.94	1949.9	0.03
Unknown PISI V [m/z 105, 91 (100), 81 (89), 79 (86), 109 (86), 257 (83)... 275 (12)...]	16.31	2228.8	0.04	17.23	1977.1	0.04
Manool	19.57	2587.8	0.05	17.91	2044.0	0.05
(*Z*)-Abienol	20.60	2711.8	0.02	18.82	2135.2	0.03
Total reported		97.56%			98.12%	

*: 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