Date : March 22, 2019

Certificate of Analysis – GC Profiling

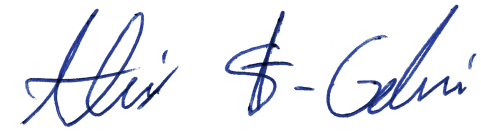
Sample identification

Internal code : 19C14-PTH08-1-SCC
Customer identification : Frankincense Carteri - Somalia - F30107812R
Type : Essential oil
Source : *Boswellia carterii*
Customer : Plant Therapy

Analysis

Method: PC-PA-014-17J19 - Analysis of the composition of an essential oil, or other volatile liquid, by FAST GC-FID (in French); identifications validated by GC-MS.
Analyst : Sylvain Mercier, M. Sc., Chimiste
Analysis date : March 20, 2019

Checked and approved by :



Alexis St-Gelais, M. Sc., chimiste 2013-174

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PHYSICOCHEMICAL DATA

Physical aspect: Faintly yellow liquid
Refractive index: 1.4698 ± 0.0003 (20 °C)

CONCLUSION

No adulterant, contaminant or diluent has been detected using this method.

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ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
2-Methyl-3-buten-2-ol	0.01	0.01	Aliphatic alcohol
3-Methyl-2-butanone	0.01	0.01	Aliphatic ketone
Toluene	0.06	7.73*	Simple phenolic
Unknown	0.01	0.01	Alkene
Unknown	0.02	0.01	Unknown
Hashishene	0.35	39.90*	Monoterpene
Tricyclene	0.05	0.06	Monoterpene
α-Thujene	7.69	[7.73]*	Monoterpene
α-Pinene	39.45	[39.90]*	Monoterpene
Unknown	0.28	0.28*	Monoterpene
Camphene	0.74*	0.73	Monoterpene
α-Fenchene	[0.74]*	0.01	Monoterpene
Thuja-2,4(10)-diene	0.32	5.62*	Monoterpene
meta-Cymene	0.09	5.30*	Monoterpene
β-Pinene	6.61*	1.33	Monoterpene
Sabinene	[6.61]*	[5.62]*	Monoterpene
Pseudolimonene isomer	0.02	0.02	Monoterpene
6-Methyl-5-hepten-2-one	0.03	0.01	Aliphatic ketone
Dehydro-1,8-cineole	0.06	0.05	Monoterpenic ether
Myrcene	5.19	[5.30]*	Monoterpene
6-Methyl-5-hepten-2-ol	0.01	0.02	Aliphatic alcohol
2-Carene	0.01	[0.28]*	Monoterpene
α-Phellandrene	2.21*	2.21	Monoterpene
Pseudolimonene	[2.21]*	0.02	Monoterpene
Octanal	[2.21]*	0.03	Aliphatic aldehyde
Δ3-Carene	0.83	0.76	Monoterpene
ortho-Methylanisole	0.02	0.01	Simple phenolic
α-Terpinene	0.16	0.16	Monoterpene
ortho-Cymene	0.04*	3.83*	Simple phenolic
Carvomenthene	[0.04]*	0.01	Aliphatic alcohol
para-Cymene	3.81	[3.83]*	Monoterpene
Limonene	9.75*	8.86	Monoterpene
1,8-Cineole	[9.75]*	0.22	Monoterpenic ether
β-Phellandrene	[9.75]*	0.55	Monoterpene
Methyl octyl ether	0.10	[5.30]*	Aliphatic ether
Cymene analog	0.03	0.02	Monoterpene
(*Z*)-β-Ocimene	0.49	0.48	Monoterpene
Unknown	0.09		Unknown
(*E*)-β-Ocimene	0.16	0.16	Monoterpene
Unknown	0.01	0.03	Unknown
γ-Terpinene	0.29	0.28	Monoterpene
cis-Sabinene hydrate	0.06	0.08*	Monoterpenic alcohol
Unknown	0.02	0.02	Oxygenated monoterpene
cis-Linalool oxide (fur.)	0.01	0.02	Monoterpenic alcohol
Unknown	0.05	0.05	Oxygenated monoterpene
Octanol	0.09*	0.08	Aliphatic alcohol
α-Pinene oxide analog	[0.09]*	0.01	Monoterpenic ether
Isoterpinolene	0.02	0.01	Monoterpene

Terpinolene	0.22*	0.09	Monoterpene
para-Cymenene	[0.22]*	0.22*	Monoterpene
trans-Linalool oxide (fur.)	[0.22]*	[0.08]*	Monoterpenic alcohol
6,7-Epoxymyrcene	0.05	0.09*	Monoterpenic ether
trans-Sabinene hydrate	0.05	0.06	Monoterpenic alcohol
Rosefuran	0.02	[0.09]*	Monoterpenic ether
Perillene	0.30*	0.02	Monoterpenic ether
Linalool	[0.30]*	0.19	Monoterpenic alcohol
α-Thujone	[0.30]*	0.03	Monoterpenic ketone
Isoamyl isovalerate	0.03	0.03	Aliphatic ester
Verbenol analog?	0.04	0.04	Monoterpenic alcohol
β-Thujone	0.26*	[0.22]*	Monoterpenic ketone
Unknown	[0.26]*		Oxygenated monoterpene
trans-para-Mentha-2,8-dien-1-ol	0.14*	0.25*	Monoterpenic alcohol
cis-para-Menth-2-en-1-ol	[0.14]*	0.06*	Monoterpenic alcohol
α-Campholenal	0.37*	0.31*	Monoterpenic aldehyde
Unknown	[0.37]*		Unknown
cis-Limonene oxide	0.06*	0.02	Monoterpenic ether
allo-Ocimene	[0.06]*	0.38*	Monoterpene
trans-Pinocarveol	0.55*	0.55*	Monoterpenic alcohol
trans-Limonene oxide	[0.55]*	0.04	Monoterpenic ether
(*Z*)-Myroxide	[0.55]*	0.02	Monoterpenic ether
trans-Sabinol	0.32	[0.85]	Monoterpenic alcohol
trans-Verbenol	0.91	1.24*	Monoterpenic alcohol
meta-Mentha-4,6-dien-8-ol	0.14	0.13	Monoterpenic alcohol
Unknown	0.05		Oxygenated monoterpene
Pinocamphone	0.06*	0.01	Monoterpenic ketone
Unknown	[0.06]*	0.08	Oxygenated monoterpene
Pinocarvone	0.08	0.08	Monoterpenic ketone
Borneol	0.07	0.85*	Monoterpenic alcohol
α-Phellandren-8-ol	0.34	0.35	Monoterpenic alcohol
Umbellulone	0.19*	[0.25]*	Monoterpenic ketone
cis-Sabinol	[0.19]*	0.01	Monoterpenic alcohol
Terpinen-4-ol	0.49	0.51	Monoterpenic alcohol
Thuj-3-en-10-al	0.07	0.07	Monoterpenic aldehyde
para-Cymen-8-ol	0.09	0.09	Monoterpenic alcohol
α-Terpineol	0.36	[0.85]*	Monoterpenic alcohol
Myrtenol	0.21	0.26	Monoterpenic alcohol
α-Phellandrene epoxide	0.12	0.13	Monoterpenic ether
Verbenone	0.29	0.34*	Monoterpenic ketone
trans-Piperitol	0.03	0.47*	Monoterpenic alcohol
Octyl acetate	0.27	0.27	Aliphatic ester
trans-Carveol	0.16	0.23	Monoterpenic alcohol
cis-Carveol	0.03	0.05	Monoterpenic alcohol
Methyl decyl ether	0.40	[0.38]*	Aliphatic ether
Cuminal	0.05	0.06	Monoterpenic aldehyde
Carvone	0.10	0.07	Monoterpenic ketone
Carvotanacetone	0.03	0.04	Monoterpenic ketone
Piperitone	0.06	0.04	Monoterpenic ketone
Unknown	0.01		Unknown
Linalyl acetate	0.02	[0.06]*	Monoterpenic ester
3,5-Dimethoxytoluene	0.02	0.03	Simple phenolic

Unknown	0.08		Oxygenated monoterpene
Unknown	0.05		Unknown
Decanol	0.03	0.03	Aliphatic alcohol
Bornyl acetate	0.27	0.29	Monoterpenic ester
para-Cymen-7-ol	0.03	0.01	Monoterpenic alcohol
Thymol	0.02	0.02	Monoterpenic alcohol
Unknown	0.04	0.06*	Unknown
Carvacrol	0.03	0.03	Monoterpenic alcohol
Bicycloelemene	0.03	[0.31]*	Sesquiterpene
Unknown	0.02		Unknown
α-Cubebene	0.20*	0.16	Sesquiterpene
α-Terpinyl acetate	[0.20]*	0.06	Monoterpenic ester
Cyclosativene II	0.06	[0.31]*	Sesquiterpene
α-Ylangene	0.04	[0.31]*	Sesquiterpene
α-Copaene	0.59	0.58	Sesquiterpene
β-Bourbonene	0.25	0.23	Sesquiterpene
1,5-diepi-β-Bourbonene	0.03	0.02	Sesquiterpene
β-Cubebene	0.08	0.09	Sesquiterpene
β-Elemene	0.46	3.16*	Sesquiterpene
α-Gurjunene	0.12	0.11	Sesquiterpene
β-Caryophyllene	2.71	[3.16]*	Sesquiterpene
β-Copaene	0.07	0.08	Sesquiterpene
trans-α-Bergamotene	0.15	[3.16]*	Sesquiterpene
6,9-Guaiadiene	0.04	0.06	Sesquiterpene
Unknown	0.03	0.04	Sesquiterpene
trans-Muurola-3,5-diene	0.04	0.03	Sesquiterpene
α-Humulene	0.50	0.51	Sesquiterpene
allo-Aromadendrene	0.15	[0.25]*	Sesquiterpene
cis-Muurola-4(15),5-diene	0.05	0.20	Sesquiterpene
trans-Cadina-1(6),4-diene	0.04	[0.55]*	Sesquiterpene
γ-Muurolene	0.37	[1.24]*	Sesquiterpene
Germacrene D	0.54	[0.85]*	Sesquiterpene
β-Selinene	0.29	0.33*	Sesquiterpene
δ-Selinene	0.12*	[0.34]*	Sesquiterpene
trans-Muurola-4(15),5-diene	[0.12]*	[0.33]*	Sesquiterpene
epi-Cubebol	0.42*	0.13	Sesquiterpenic alcohol
α-Selinene	[0.42]*	0.23*	Sesquiterpene
Bicyclogermacrene	[0.42]*	0.26*	Sesquiterpene
α-Muurolene	0.16	[0.26]*	Sesquiterpene
Germacrene A	0.03	0.57*	Sesquiterpene
δ-Amorphene	0.04	[0.23]*	Sesquiterpene
γ-Cadinene	0.45*	[0.47]*	Sesquiterpene
Cubebol	[0.45]*	0.36*	Sesquiterpenic alcohol
trans-Calamenene	0.03	0.03	Sesquiterpene
δ-Cadinene	0.58	[0.57]*	Sesquiterpene
trans-Cadina-1,4-diene	0.04	0.03	Sesquiterpene
α-Cadinene	0.04	0.05	Sesquiterpene
α-Calacorene	0.02	0.03	Sesquiterpene
α-Elemol	0.05	0.04	Sesquiterpenic alcohol
Germacrene B	0.05	0.06	Sesquiterpene
Palustrol	0.02	0.03	Sesquiterpenic alcohol
Unknown	0.08		Oxygenated sesquiterpene

Germacrene D-4-ol	0.07*	0.05	Sesquiterpenic alcohol
Spathulenol	[0.07]*	[0.06]*	Sesquiterpenic alcohol
Caryophyllene oxide	0.52*	0.50	Sesquiterpenic ether
Caryophyllene oxide isomer	[0.52]*	0.03	Sesquiterpenic ether
Salvial-4(14)-en-1-one	0.27*	0.02	Aliphatic alcohol
Viridiflorol	[0.27]*	0.24	Sesquiterpenic alcohol
Copaborneol	0.08	0.10	Sesquiterpenic alcohol
Humulene epoxide II	0.07	0.10*	Sesquiterpenic ether
10-epi-Cubenol	0.12		Sesquiterpenic alcohol
1-epi-Cubenol	0.04	0.05	Sesquiterpenic alcohol
τ-Cadinol	0.29	0.29	Sesquiterpenic alcohol
β-Eudesmol	0.07	0.09	Sesquiterpenic alcohol
α-Cadinol	0.02	0.03	Sesquiterpenic alcohol
(3*Z*)-Caryophylla-3,8(13)-dien-5β-ol	0.05	0.03	Sesquiterpenic alcohol
Germacra-4(15),5,10(14)-trien-1α-ol	0.01	0.01	Sesquiterpenic alcohol
Shyobunol	0.02	0.03	Sesquiterpenic alcohol
α-Phellandrene dimer I	0.01	0.01	Diterpene
α-Phellandrene dimer II	0.09	[0.36]*	Diterpene
α-Phellandrene dimer III	0.01	0.02	Diterpene
α-Phellandrene dimer IV	0.01	[0.10]*	Diterpene
(3*E*)-Cembrene A	0.11	0.11	Diterpene
Verticilla-4(20),7,11-triene	0.07	0.07	Diterpene
Cembrenol	0.05	0.04	Diterpenic alcohol
Incensole	0.37*	0.11	Diterpenic alcohol
Serratol	[0.37]*	0.27	Diterpenic alcohol
Total identified	**97.37%**	**96.66%**	

*: Two or more compounds are coeluting on this column
[xx]: Duplicate percentage due to coelutions, not taken account in the identified total
Note: no correction factor was applied

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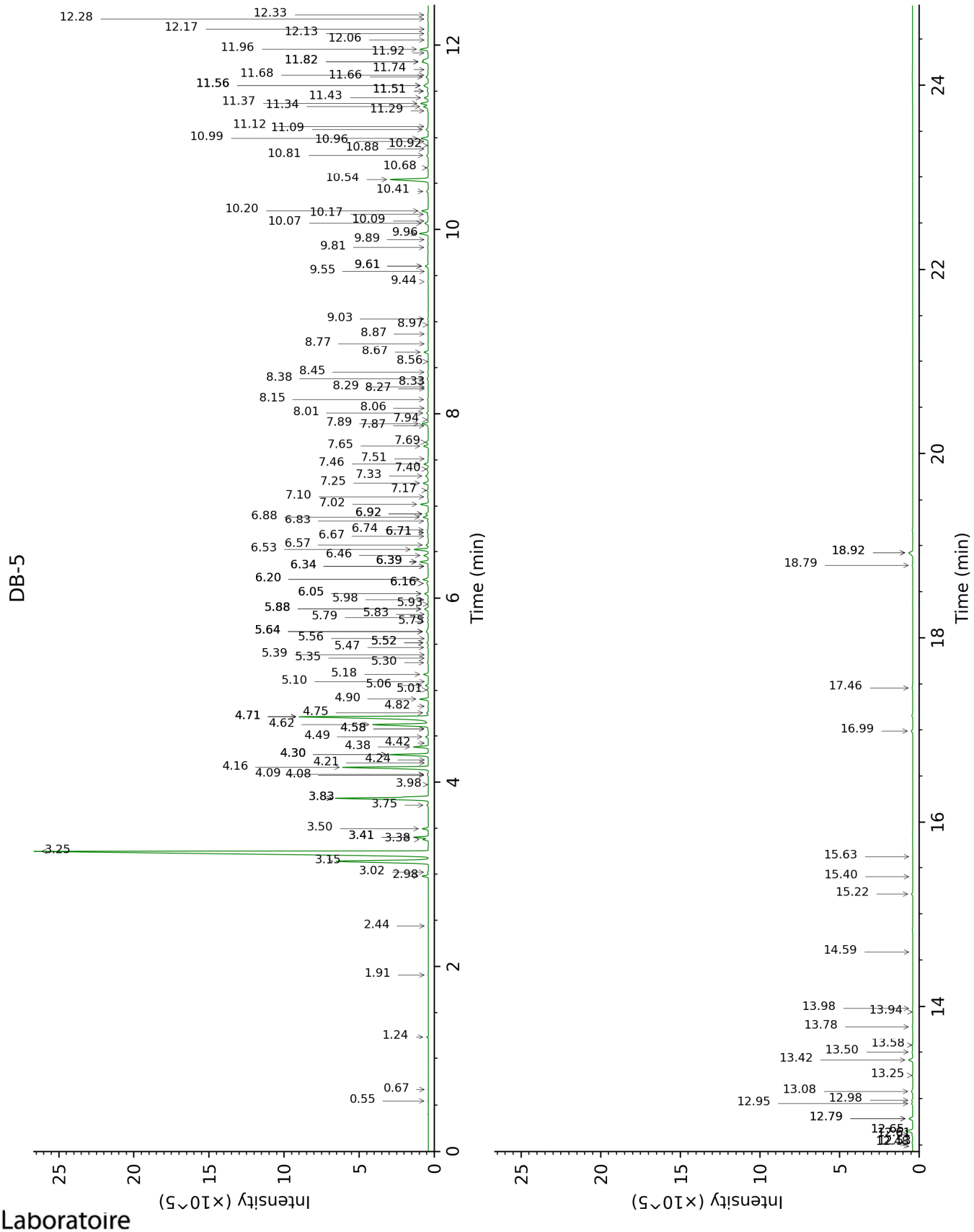
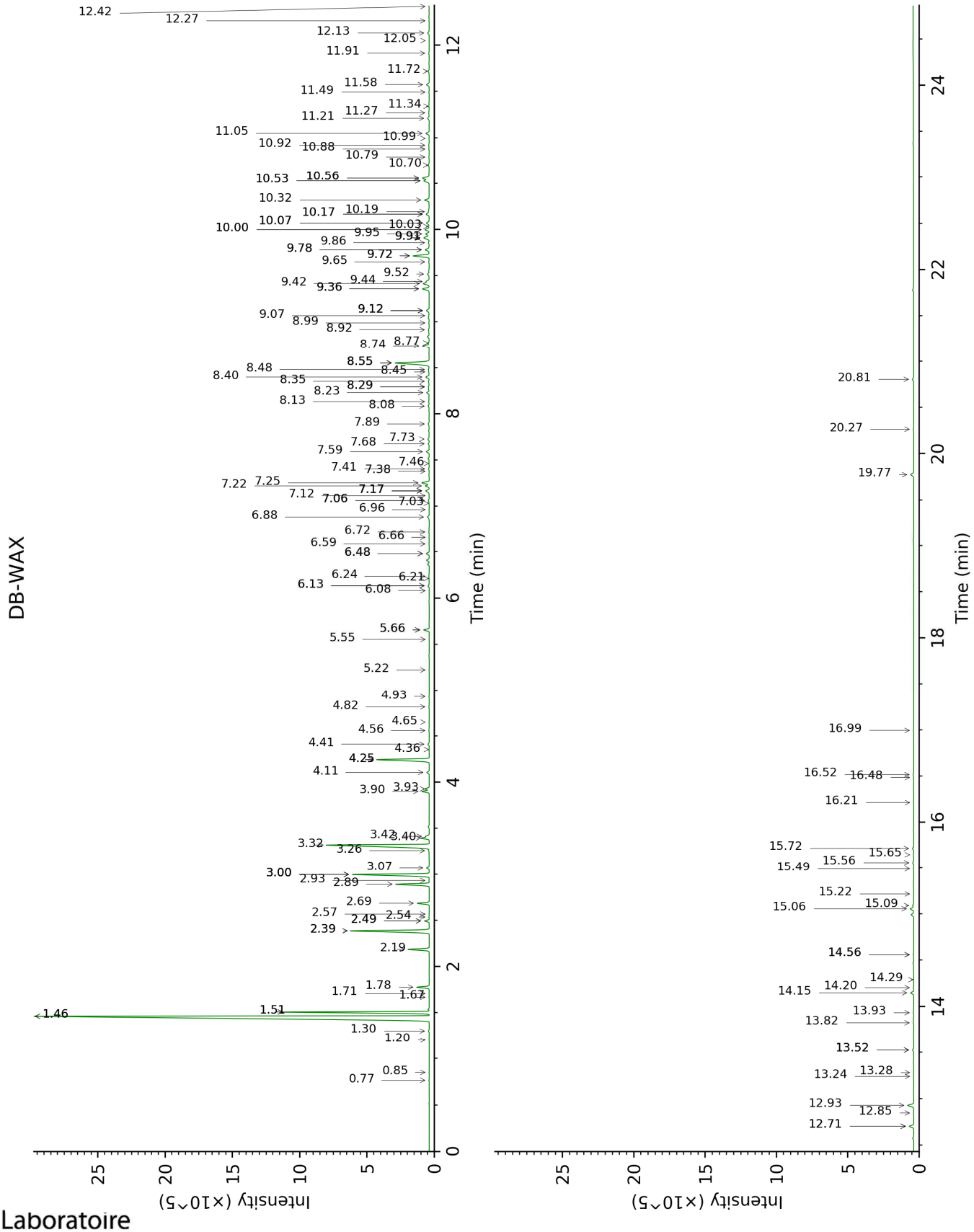

DB-5
Time (min)
Intensity (×10^5)
12.28
12.33
12.17
12.13
12.06
11.96
11.92
11.82
11.74
11.68
11.66
11.56
11.51
11.43
11.37
11.34
11.29
11.12
11.09
10.99
10.96
10.88
10.92
10.81
10.68
10.54
10.41
10.20
10.17
10.07
10.09
9.96
9.89
9.81
9.61
9.55
9.44
9.03
8.97
8.87
8.77
8.67
8.56
8.45
8.38
8.29
8.27
8.33
8.15
8.06
8.01
7.89
7.87
7.94
7.65
7.69
7.51
7.46
7.40
7.33
7.25
7.17
7.10
7.02
6.92
6.88
6.83
6.74
6.71
6.67
6.53
6.57
6.46
6.39
6.34
6.20
6.16
6.05
5.98
5.93
5.88
5.83
5.79
5.75
5.64
5.56
5.52
5.47
5.39
5.35
5.30
5.18
5.10
5.06
5.01
4.90
4.82
4.75
4.71
4.62
4.58
4.49
4.42
4.38
4.30
4.24
4.21
4.16
4.09
4.08
3.98
3.83
3.75
3.50
3.41
3.38
3.25
3.15
3.02
2.98
2.44
1.91
1.24
0.67
0.55
18.92
18.79
17.46
16.99
15.63
15.40
15.22
14.59
13.98
13.94
13.78
13.58
13.50
13.42
13.25
13.08
12.98
12.95
12.79


DB-WAX
Time (min)
Intensity (×10^5)
12.42
12.27
12.13
12.05
11.91
11.72
11.58
11.49
11.34
11.27
11.21
11.05
10.99
10.92
10.88
10.79
10.70
10.56
10.53
10.32
10.19
10.17
10.07
10.03
10.00
9.95
9.91
9.86
9.78
9.72
9.65
9.52
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9.36
9.12
9.07
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8.35
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8.08
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7.68
7.59
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7.38
7.25
7.22
7.17
7.12
7.06
7.03
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6.24
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6.13
6.08
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5.22
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3.32
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2.57
2.54
2.49
2.39
2.19
1.78
1.71
1.67
1.51
1.46
1.30
1.20
0.85
0.77
20.81
20.27
19.77
16.99
16.52
16.48
16.21
15.72
15.65
15.56
15.49
15.22
15.09
15.06
14.56
14.29
14.20
14.15
13.93
13.82
13.52
13.28
13.24
12.93
12.85
12.71

FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
2-Methyl-3-buten-2-ol	0.54	608	0.01	1.67	1016	0.01
3-Methyl-2-butanone	0.67	647	0.01	0.85	900	0.01
Toluene	1.24	757	0.06	1.51*	1001	7.73
Unknown [m/z 109, 67 (32), 81 (14), 41 (12), 124 (10)]	1.91	830	0.01	0.77	878	0.01
Unknown [m/z 79, 78 (45), 91 (28), 77 (28), 41 (13), 80 (12), 107 (11)... 122 (1)]	2.44	873	0.02	1.20	956	0.01
Hashishene	2.98	914	0.35	1.46*	996	39.90
Tricyclene	3.02	917	0.05	1.30	972	0.06
α-Thujene	3.15	925	7.69	1.51*	1001	[7.73]
α-Pinene	3.26	932	39.45	1.46*	996	[39.90]
Unknown [m/z 91, 92 (47), 65 (11)... 134 (1)]	3.38	941	0.28	2.49*	1096	0.28
Camphene	3.41*	942	0.74	1.78	1027	0.73
α-Fenchene	3.41*	942	[0.74]	1.71	1020	0.01
Thuja-2,4(10)-diene	3.50	949	0.32	2.39*	1087	5.62
meta-Cymene	3.75	965	0.09	3.00*	1135	5.30
β-Pinene	3.83*†	970	6.61	2.19	1067	1.33
Sabinene	3.83*†	970	[6.61]	2.39*	1087	[5.62]
Pseudolimonene isomer	3.98	980	0.02	2.54	1100	0.02
6-Methyl-5-hepten-2-one	4.08	987	0.03	5.22	1299	0.01
Dehydro-1,8-cineole	4.09	987	0.06	3.26	1156	0.05
Myrcene	4.16	992	5.19	3.00*	1135	[5.30]
6-Methyl-5-hepten-2-ol	4.21	996	0.01	7.12	1436	0.02
2-Carene	4.24	998	0.01	2.49*	1096	[0.28]
α-Phellandrene	4.30*	1002	2.21	2.89	1127	2.21
Pseudolimonene	4.30*	1002	[2.21]	2.93	1130	0.02
Octanal	4.30*	1002	[2.21]	4.56	1251	0.03
Δ3-Carene	4.38	1007	0.83	2.69	1111	0.76
ortho-Methylanisole	4.42	1009	0.02	6.08	1360	0.01
α-Terpinene	4.49	1014	0.16	3.07	1140	0.16
ortho-Cymene	4.58*	1019	0.04	4.25*	1229	3.83
Carvomenthene	4.58*	1019	[0.04]	2.57	1102	0.01
para-Cymene	4.62	1022	3.81	4.25*	1229	[3.83]

Limonene	4.71*	1027	9.75	3.32	1160	8.86
1,8-Cineole	4.71*	1027	[9.75]	3.42	1168	0.22
β-Phellandrene	4.71*	1027	[9.75]	3.40	1166	0.55
Methyl octyl ether	4.75	1030	0.10	3.00*	1135	[5.30]
Cymene analog	4.82	1034	0.03	4.65	1258	0.02
(*Z*)-β-Ocimene	4.90	1039	0.49	3.90	1204	0.48
Unknown [m/z 109, 43 (57), 91 (28), 67 (25), 93 (24), 95 (22), 77 (21), 137 (21), 41 (17), 79 (14)...]	5.01	1046	0.09			
(*E*)-β-Ocimene	5.06	1049	0.16	4.11	1219	0.16
Unknown [m/z 109, 45 (67), 41 (40), 67 (39), 81 (33), 79 (27), 95 (24), 91 (23), 82 (21), 55 (21), 93 (20)...]	5.10	1052	0.01	7.03	1429	0.03
γ-Terpinene	5.18	1057	0.29	3.93	1206	0.28
cis-Sabinene hydrate	5.30	1065	0.06	7.06*	1432	0.08
Unknown [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	5.35	1068	0.02	4.93	1278	0.02
cis-Linalool oxide (fur.)	5.39	1070	0.01	6.66	1402	0.02
Unknown [m/z 43, 94 (63), 109 (61), 59 (55), 79 (51)...152 (2)]	5.47	1075	0.05	7.41	1457	0.05
Octanol	5.52*	1078	0.09	8.35	1528	0.08
α-Pinene oxide analog	5.52*	1078	[0.09]	5.55	1322	0.01
Isoterpinolene	5.56	1081	0.02	4.36	1236	0.01
Terpinolene	5.64*†	1086	0.22	4.41	1240	0.09
para-Cymenene	5.64*†	1086	[0.22]	6.48*	1389	0.22
trans-Linalool oxide (fur.)	5.64*†	1086	[0.22]	7.06*	1432	[0.08]
6,7-Epoxymyrcene	5.74	1093	0.05	6.13*	1364	0.09
trans-Sabinene hydrate	5.79	1095	0.05	8.13	1511	0.06
Rosefuran	5.82	1098	0.02	6.13*	1364	[0.09]
Perillene	5.88*	1101	0.30	6.21	1370	0.02
Linalool	5.88*	1101	[0.30]	8.23	1519	0.19
α-Thujone	5.88*	1101	[0.30]	6.24	1371	0.03
Isoamyl isovalerate	5.93	1105	0.03	4.82	1269	0.03
Verbenol analog?	5.98	1108	0.04	8.45	1536	0.04
β-Thujone	6.05*	1112	0.26	6.48*	1389	[0.22]
Unknown [m/z	6.05*	1112	[0.26]			

109, 91 (57), 93 (47), 81 (44), 77 (40)... 154 (1)]						
trans-para-Mentha-2,8-dien-1-ol	6.16*	1119	0.14	9.12*	1588	0.25
cis-para-Menth-2-en-1-ol	6.16*	1119	[0.14]	8.29*	1524	0.06
α-Campholenal	6.20*	1122	0.37	7.17*	1439	0.31
Unknown [m/z 111, 43 (22), 55 (14), 41 (12), 110 (11)...]	6.20*	1122	[0.37]			
cis-Limonene oxide	6.34*	1131	0.06	6.59	1396	0.02
allo-Ocimene	6.34*	1131	[0.06]	5.66*	1330	0.38
trans-Pinocarveol	6.39*	1134	0.55	9.36*	1607	0.55
trans-Limonene oxide	6.39*	1134	[0.55]	6.72	1406	0.04
(*Z*)-Myroxide	6.39*	1134	[0.55]	6.96	1424	0.02
trans-Sabinol	6.46	1139	0.32	9.95†	1654	[0.85]
trans-Verbenol	6.53	1143	0.91	9.72*	1635	1.24
meta-Mentha-4,6-dien-8-ol	6.57	1146	0.14	9.52	1619	0.13
Unknown [m/z 109, 81 (39), 41 (38), 95 (24)... 152 (1)]	6.67	1152	0.05			
Pinocamphone	6.71*	1155	0.06	7.38	1455	0.01
Unknown [m/z 97, 81 (96), 109 (80), 43 (53), 53 (40), 41 (36), 56 (29), 95 (25)... 152 (1)]	6.71*	1155	[0.06]	7.68	1477	0.08
Pinocarvone	6.74	1157	0.08	8.08	1508	0.08
Borneol	6.83	1163	0.07	9.91*†	1651	0.85
α-Phellandren-8-ol	6.88	1166	0.34	10.32	1684	0.35
Umbellulone	6.92*	1168	0.19	9.12*	1588	[0.25]
cis-Sabinol	6.92*	1168	[0.19]	10.99	1740	0.01
Terpinen-4-ol	7.02	1175	0.49	8.74	1558	0.51
Thuj-3-en-10-al	7.10	1180	0.07	8.92	1572	0.07
para-Cymen-8-ol	7.17	1185	0.09	11.72	1802	0.09
α-Terpineol	7.25	1190	0.36	9.91*†	1651	[0.85]
Myrtenol	7.33	1195	0.21	11.05	1745	0.26
α-Phellandrene epoxide	7.40	1200	0.12	11.21	1759	0.13
Verbenone	7.46	1203	0.29	9.78*	1641	0.34
trans-Piperitol	7.51	1207	0.03	10.53*	1701	0.47
Octyl acetate	7.65	1216	0.27	7.22	1443	0.27
trans-Carveol	7.69	1219	0.16	11.58	1790	0.23
cis-Carveol	7.87	1231	0.03	11.92	1819	0.05
Methyl decyl ether	7.89	1233	0.40	5.66*	1330	[0.38]

Cuminal	7.94	1236	0.05	10.70	1716	0.06
Carvone	8.01	1240	0.10	10.19	1674	0.07
Carvotanacetone	8.06	1244	0.03	9.65	1630	0.04
Piperitone	8.16	1250	0.06	10.03	1661	0.04
Unknown [m/z 109, 124 (22), 110 (11), 95 (10), 43 (6), 41 (6)...]	8.27	1258	0.01			
Linalyl acetate	8.29	1260	0.02	8.29*	1524	[0.06]
3,5-Dimethoxytoluene	8.33	1263	0.02	11.49	1783	0.03
Unknown [m/z 109, 41 (22), 81 (14), 43 (11)... 152 (4)]	8.38	1266	0.08			
Unknown [m/z 83, 69 (66), 43 (65), 98 (38), 41 (36), 55 (32)...	8.45	1271	0.05			
Decanol	8.56	1278	0.03	10.88	1731	0.03
Bornyl acetate	8.67	1285	0.27	8.40	1532	0.29
para-Cymen-7-ol	8.76	1292	0.03	14.29	2037	0.01
Thymol	8.87	1299	0.02	15.22	2127	0.02
Unknown [m/z 43, 111 (84), 109 (71), 126 (70)...]	9.03	1306	0.04	14.56*	2063	0.06
Carvacrol	8.97	1306	0.03	15.49	2155	0.03
Bicycloelemene	9.44	1334	0.03	7.17*	1439	[0.31]
Unknown [m/z 133, 105 (45), 91 (38), 119 (36)... 150 (3)]	9.55	1342	0.02			
α-Cubebene	9.60*	1346	0.20	6.88	1418	0.16
α-Terpinyl acetate	9.60*	1346	[0.20]	9.86	1647	0.06
Cyclosativene II	9.81	1361	0.06	7.17*	1439	[0.31]
α-Ylangene	9.89	1367	0.04	7.17*	1439	[0.31]
α-Copaene	9.96	1371	0.59	7.26	1446	0.58
β-Bourbonene	10.07	1379	0.25	7.59	1471	0.23
1,5-diepi-β-Bourbonene	10.09	1381	0.03	7.46	1461	0.02
β-Cubebene	10.17	1386	0.08	7.89	1493	0.09
β-Elemene	10.20	1389	0.46	8.55*	1544	3.16
α-Gurjunene	10.41	1404	0.12	7.73	1481	0.11
β-Caryophyllene	10.54	1413	2.71	8.55*	1544	[3.16]
β-Copaene	10.68	1423	0.07	8.48	1538	0.08
trans-α-Bergamotene	10.81	1433	0.15	8.55*	1544	[3.16]
6,9-Guaiadiene	10.88	1438	0.04	8.77	1561	0.06
Unknown [m/z 91, 161 (92), 105 (85), 119 (63), 133 (53), 79 (49), 204 (46)]	10.92	1441	0.03	8.99	1577	0.04

trans-Muurola-3,5-diene	10.96	1444	0.04	9.07	1583	0.03
α-Humulene	10.99	1447	0.50	9.42	1611	0.51
allo-Aromadendrene	11.09	1454	0.15	9.12*	1588	[0.25]
cis-Muurola-4(15),5-diene	11.12	1456	0.05	9.44	1613	0.20
trans-Cadina-1(6),4-diene	11.29	1469	0.04	9.36*	1607	[0.55]
γ-Muurolene	11.34	1472	0.37	9.72*	1635	[1.24]
Germacrene D	11.37	1475	0.54	9.91*†	1651	[0.85]
β-Selinene	11.43	1480	0.29	10.00*	1658	0.33
δ-Selinene	11.50*†	1485	0.12	9.78*	1641	[0.34]
trans-Muurola-4(15),5-diene	11.50*†	1485	[0.12]	10.00*	1658	[0.33]
epi-Cubebol	11.56*	1490	0.42	12.13	1839	0.13
α-Selinene	11.56*	1490	[0.42]	10.07*	1664	0.23
Bicyclogermacrene	11.56*	1490	[0.42]	10.17*	1672	0.26
α-Muurolene	11.66	1496	0.16	10.17*	1672	[0.26]
Germacrene A	11.68	1498	0.03	10.56*	1704	0.57
δ-Amorphene	11.74	1502	0.04	10.07*	1664	[0.23]
γ-Cadinene	11.82*	1509	0.45	10.53*	1701	[0.47]
Cubebol	11.82*	1509	[0.45]	12.70*	1889	0.36
trans-Calamenene	11.92	1517	0.03	11.34	1770	0.03
δ-Cadinene	11.96	1520	0.58	10.56*	1704	[0.57]
trans-Cadina-1,4-diene	12.06	1528	0.04	10.79	1723	0.03
α-Cadinene	12.13	1533	0.04	10.92	1734	0.05
α-Calacorene	12.17	1537	0.02	12.26	1850	0.03
α-Elemol	12.28	1545	0.05	14.20	2028	0.04
Germacrene B	12.33	1549	0.05	11.27	1764	0.06
Palustrol	12.48	1561	0.02	12.42	1864	0.03
Unknown [m/z 152, 109 (61), 43 (21), 137 (16), 151 (16)... 222 (6)]	12.53	1564	0.08			
Germacrene D-4-ol	12.61*	1571	0.07	13.82	1992	0.05
Spathulenol	12.61*	1571	[0.07]	14.56*	2063	[0.06]
Caryophyllene oxide	12.66*	1575	0.52	12.93	1910	0.50
Caryophyllene oxide isomer	12.66*	1575	[0.52]	12.85	1902	0.03
Salvial-4(14)-en-1-one	12.79*	1585	0.27	13.24	1938	0.02
Viridiflorol	12.79*	1585	[0.27]	14.15	2023	0.24
Copaborneol	12.95	1598	0.08	15.09	2115	0.10
Humulene epoxide II	12.98	1600	0.07	13.52*	1964	0.10
10-epi-Cubenol	13.08	1608	0.12			
1-epi-Cubenol	13.25	1622	0.04	13.93	2003	0.05
τ-Cadinol	13.42	1636	0.29	15.06	2111	0.29
β-Eudesmol	13.50	1643	0.07	15.56	2162	0.09

α-Cadinol	13.58	1649	0.02	15.65	2170	0.03
(3*Z*)-Caryophylla-3,8(13)-dien-5β-ol	13.78	1666	0.05	16.99	2310	0.03
Germacra-4(15),5,10(14)-trien-1α-ol	13.94	1680	0.01	16.21	2228	0.01
Shyobunol	13.98	1683	0.02	16.48	2256	0.03
α-Phellandrene dimer I	14.59	1735	0.01	12.05	1831	0.01
α-Phellandrene dimer II	15.22	1789	0.09	12.70*	1889	[0.36]
α-Phellandrene dimer III	15.40	1805	0.01	13.28	1942	0.02
α-Phellandrene dimer IV	15.63	1826	0.01	13.52*	1964	[0.10]
(3*E*)-Cembrene A	16.99	1951	0.11	15.72	2177	0.11
Verticilla-4(20),7,11-triene	17.46	1996	0.07	16.52	2260	0.07
Cembrenol	18.79	2129	0.05	20.27	2683	0.04
Incensole	18.92*	2143	0.37	20.81	2750	0.11
Serratol	18.92*	2143	[0.37]	19.78	2624	0.27
Total identified		**97.37%**			**96.66%**	
Total reported		**98.21%**			**96.90%**	

*: Two or more compounds are coeluting on this column
[xx]: Duplicate percentage due to coelutions, not taken account in the identified total
†: Peaks apexes were resolved, but peaks overlapped and were summed for analysis

Note: no correction factor was applied
R.T.: Retention time (minutes)
R.I.: Retention index