

Date : November 27, 2018

CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 18K26-PTH01-1-CC

Customer identification : Damiana EO - Mexico - DD0100810R

Type : Essential oil

Source : *Turnera diffusa*

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 : November 26, 2018

Checked and approved by :

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

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PHYSICOCHEMICAL DATA

Physical aspect: Light yellow liquid

Refractive index: 1.4880 ± 0.0003 (20 °C)

CONCLUSION

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

ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Dimethylsulfide	tr	tr	Aliphatic sulfide
Isovaleral	0.02	0.02	Aliphatic aldehyde
2-Methylbutyral	0.02	0.02	Aliphatic aldehyde
2-Ethylfuran	0.01	0.05	Furan
Isoamyl alcohol	0.01	0.01	Aliphatic alcohol
Methyl isovalerate	0.02	3.05*	Aliphatic ester
Ethyl 2-methylbutyrate	0.12	0.08	Aliphatic ester
Ethyl isovalerate	0.23*	0.22	Aliphatic ester
Unknown	[0.23]*		Unknown
(3Z)-Hexenol	0.02	0.03	Aliphatic alcohol
(2E)-Hexenol	0.02	0.01	Aliphatic alcohol
Hexanol	0.06	0.08	Aliphatic alcohol
Unknown	0.03*	0.02	Unknown
Isoamyl acetate	[0.03]*	0.02	Aliphatic ester
Unknown	0.01	0.01	Unknown
Heptanal	tr	0.01	Aliphatic aldehyde
Hashishene	0.01	[3.05]*	Monoterpene
Tricyclene	0.01	0.02	Monoterpene
α -Thujene	0.32	0.31	Monoterpene
α -Pinene	3.08	[3.05]*	Monoterpene
Unknown	0.04	0.03	Simple phenolic
Unknown	0.17	0.09	Monoterpene
Camphene	[0.17]*	0.05	Monoterpene
α -Fenchene	[0.17]*	0.01	Monoterpene
Thuja-2,4(10)-diene	0.13	0.46*	Monoterpene
Benzaldehyde	0.01	0.02	Simple phenolic
Sabinene	1.55*	[0.46]*	Monoterpene
β -Pinene	[1.55]*	1.21	Monoterpene
cis-Carane	0.01	0.01	Monoterpene
Dehydro-1,8-cineole	0.10*	0.08	Monoterpenic ether
6-Methyl-5-hepten-2-one	[0.10]*	0.05	Aliphatic ketone
2-Pentylfuran	0.23*	0.02	Furan
Myrcene	[0.23]*	0.21	Monoterpene
α -Phellandrene	0.13*	0.10	Monoterpene
Pseudolimonene	[0.13]*	0.01	Monoterpene
Δ^3 -Carene	0.34	0.30	Monoterpene
Hexyl acetate	0.02	0.12*	Aliphatic ester
α -Terpinene	0.09	0.09	Monoterpene
Unknown	0.03	0.02	Monoterpene
para-Cymene	0.69	0.67	Monoterpene
Unknown	18.47*	0.02	Monoterpene
Limonene	[18.47]*	0.21	Monoterpene
1,8-Cineole	[18.47]*	18.52	Monoterpenic ether
(Z)- β -Ocimene	0.02	0.01	Monoterpene
Unknown	0.03		Unknown
(E)- β -Ocimene	0.03	0.02	Monoterpene
Unknown	0.02	0.03	Monoterpene
Unknown	0.01	0.01	Unknown

γ-Terpinene	0.27	0.27	Monoterpene
cis-Sabinene hydrate	0.06	0.10*	Monoterpenic alcohol
Unknown	0.02	0.02	Oxygenated monoterpene
cis-Linalool oxide (fur.)	0.02	0.03	Monoterpenic alcohol
Unknown	0.02		Unknown
Unknown	0.01	0.02	Oxygenated monoterpene
Unknown	0.07	0.08	Unknown
Terpinolene	0.17*	[0.12]*	Monoterpene
para-Cymenene	[0.17]*	0.07*	Monoterpene
trans-Linalool oxide (fur.)	[0.17]*	[0.10]*	Monoterpenic alcohol
trans-Sabinene hydrate	0.03	0.03	Monoterpenic alcohol
Linalool	0.24*	0.24	Monoterpenic alcohol
α-Thujone	[0.24]*	0.02	Monoterpenic ketone
Nonanal	0.08*	0.02	Aliphatic aldehyde
Hotrienol	[0.08]*	0.38	Monoterpenic alcohol
Isoamyl isovalerate	[0.08]*	0.02	Aliphatic ester
Unknown	0.03*	0.02	Oxygenated monoterpene
Unknown	[0.03]*		Oxygenated monoterpene
β-Thujone	0.06	[0.07]*	Monoterpenic ketone
cis-para-Menth-2-en-1-ol	0.04	0.06	Monoterpenic alcohol
α-Campholenal	0.14	0.15*	Monoterpenic aldehyde
Nopinone	0.05	0.04	Normonoterpenic ketone
trans-Pinocarveol	0.23	0.24*	Monoterpenic alcohol
cis-Verbenol	0.06	0.29*	Monoterpenic alcohol
trans-Verbenol	0.22	0.26	Monoterpenic alcohol
meta-Mentha-4,6-dien-8-ol	0.02	0.53*	Monoterpenic alcohol
Sabinaketone	0.03	0.02	Normonoterpenic ketone
Pinocamphone	0.14	0.07	Monoterpenic ketone
Phellandrenol analog I	[0.14]*		Monoterpenic alcohol
Pinocarvone	[0.14]*	0.08	Monoterpenic ketone
Borneol	0.03	0.46*	Monoterpenic alcohol
α-Phellandren-8-ol	0.08	0.08	Monoterpenic alcohol
Terpinen-4-ol	0.16	0.15*	Monoterpenic alcohol
para-Cymen-8-ol	0.05	0.06	Monoterpenic alcohol
α-Terpineol	0.40	[0.46]*	Monoterpenic alcohol
Myrtenal	0.14	0.24	Monoterpenic aldehyde
Myrtenol	0.15	0.14	Monoterpenic alcohol
Verbenone	0.11	1.14*	Monoterpenic ketone
trans-Carveol	0.09	0.10	Monoterpenic alcohol
Thymol methyl ether analog I	0.02	2.59	Monoterpenic ether
cis-Carveol	0.02	0.03	Monoterpenic alcohol
Myrtenyl formate?	0.06	0.07	Monoterpenic ester
Hexyl 2-methylbutyrate?	0.10*	0.08	Aliphatic ester
Carvone	[0.10]*	0.27*	Monoterpenic ketone
Isopentyl hexanoate	0.05		Aliphatic ester
Linalyl acetate	0.06	0.04	Monoterpenic ester
Unknown	0.10		Unknown
Unknown	0.03	0.04	Unknown
Geranial	0.17*	0.03	Monoterpenic aldehyde
trans-Linalool oxide acetate (pyr.)	[0.17]*	[0.24]*	Monoterpenic ester
Thymol	0.28	0.32*	Monoterpenic alcohol
Carvacrol	0.41	0.51	Monoterpenic alcohol

Myrtenyl acetate	0.03	[1.14]*	Monoterpenic ester
Hexyl tiglate	0.10	0.27*	Aliphatic ester
δ-Elemene	0.15	[0.15]*	Sesquiterpene
α-Terpinyl acetate	0.74*	2.84	Monoterpenic ester
α-Cubebene	[0.74]*	0.31	Sesquiterpene
Cyclosativene I	0.40	0.44	Sesquiterpene
Cyclosativene II	0.21	0.22	Sesquiterpene
Unknown	0.15*	0.10	Sesquiterpene
α-Ylangene	[0.15]*	0.13	Sesquiterpene
α-Copaene	0.76	0.79	Sesquiterpene
β-Bourbonene	0.18*	0.14	Sesquiterpene
cis-β-Elemene	[0.18]*	0.10	Sesquiterpene
β-Cubebene	0.36	0.35	Sesquiterpene
β-Elemene	0.70	[2.59]*	Sesquiterpene
Unknown	0.13		Sesquiterpene
(Z)-Jasmone	0.05	0.04	Jasmonate
Unknown	0.08	0.10	Sesquiterpene
α-Gurjunene	0.16	0.18	Sesquiterpene
β-Caryophyllene	2.50	[2.59]*	Sesquiterpene
β-Copaene	0.35	[2.59]*	Sesquiterpene
Aromadendrene	0.04	[0.15]*	Sesquiterpene
α-Guaiene	0.18	[2.59]*	Sesquiterpene
6,9-Guaiadiene	1.30	1.32	Sesquiterpene
Unknown	0.46	0.43	Sesquiterpene
Unknown	0.23	[0.27]*	Sesquiterpene
α-Humulene	0.52	[0.53]*	Sesquiterpene
Unknown	0.75	0.77	Sesquiterpene
allo-Aromadendrene	0.66	0.66	Sesquiterpene
Geranylacetone	0.17	0.15	Monoterpenic ketone
4,5-diepi-Aristolochene	3.02	1.34	Sesquiterpene
trans-Cadina-1(6),4-diene	[3.02]*	[0.29]*	Sesquiterpene
Unknown	[3.02]*	3.21	Sesquiterpene
γ-Murolene	0.76	[1.14]*	Sesquiterpene
α-Amorphene	0.53	[1.14]*	Sesquiterpene
β-Selinene	0.40	0.48	Sesquiterpene
Unknown	7.95*	4.29	Unknown
γ-Amorphene	[7.95]*	0.55	Sesquiterpene
δ-Selinene	[7.95]	[2.84]	Sesquiterpene
α-Selinene	0.77	0.54	Sesquiterpene
4-epi-cis-Dihydroagarofuran	1.08*	0.68	Sesquiterpenic ether
epi-Cubebol	[1.08]*	0.42	Sesquiterpenic alcohol
α-Murolene	0.80	0.82	Sesquiterpene
δ-Amorphene	0.40	[0.27]*	Sesquiterpene
γ-Cadinene	1.18	1.22	Sesquiterpene
Cubebol	[1.18]	0.56	Sesquiterpenic alcohol
endo-1-Bourbonanol	0.66		Sesquiterpenic alcohol
δ-Cadinene	3.57*	3.07	Sesquiterpene
Zonarene	[3.57]*	[1.22]	Sesquiterpene
trans-Calamenene	[3.57]*	0.20	Sesquiterpene
trans-Cadina-1,4-diene	0.25	0.23	Sesquiterpene
Unknown	0.55*	0.44	Sesquiterpene
α-Cadinene	[0.55]*	0.14	Sesquiterpene

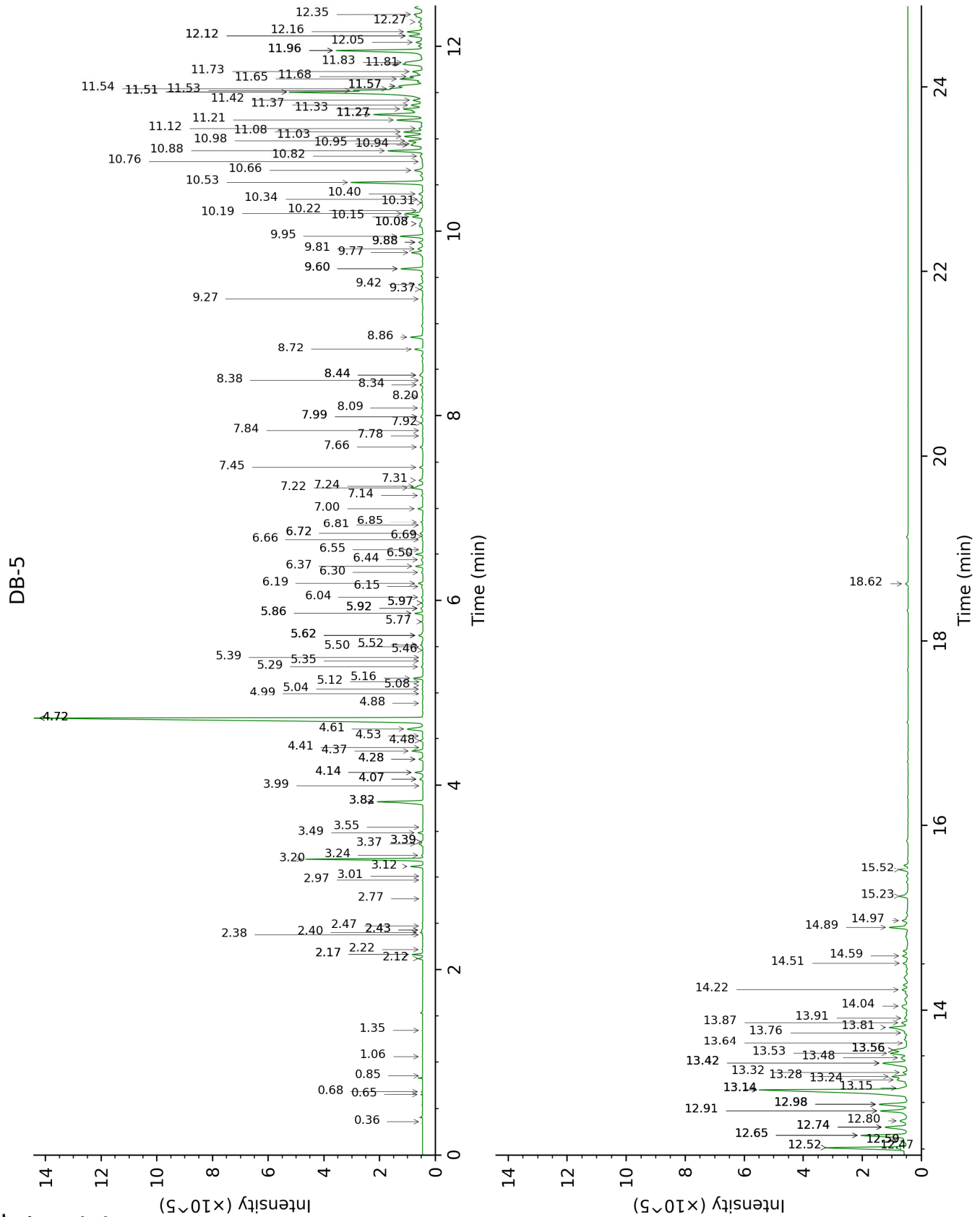
α-Calacorene	0.66	0.90*	Sesquiterpene
Isocaryophyllene epoxide B	0.20	[0.90]*	Sesquiterpenic ether
Furopelargone isomer	0.36	1.89*	Sesquiterpenic ketone
Palustrol	0.15	0.17	Sesquiterpenic alcohol
(E)-Nerolidol	3.50*	2.79*	Sesquiterpenic alcohol
β-Calacorene	[3.50]*	0.25*	Sesquiterpene
Germacrene D-4-ol	[3.50]*	0.78	Sesquiterpenic alcohol
Spathulenol	[3.50]*	0.12	Sesquiterpenic alcohol
Caryophyllene oxide	1.95*	[1.89]*	Sesquiterpenic ether
Caryophyllene oxide isomer	[1.95]*	[0.25]*	Sesquiterpenic ether
Globulol	[1.95]*	0.15	Sesquiterpenic alcohol
Furopelargone A	1.13*	0.22	Sesquiterpenic ketone
Unknown	[1.13]*		Sesquiterpene
Viridiflorol	[1.13]*	0.12	Sesquiterpenic alcohol
Unknown	0.52	0.33	Oxygenated sesquiterpene
Ledol	1.13*	1.10*	Sesquiterpenic alcohol
Humulene epoxide II	[1.13]*	[1.10]*	Sesquiterpenic ether
Unknown	1.32*		Oxygenated sesquiterpene
Unknown	[1.32]*	0.71	Sesquiterpene
Unknown	[1.32]*	[2.79]*	Oxygenated sesquiterpene
Eudesm-5-en-11-ol	[1.32]*	0.49	Sesquiterpenic alcohol
Selin-6-en-4α-ol	8.29*	6.60	Sesquiterpenic alcohol
Junenol	[8.29]*	0.44	Sesquiterpenic alcohol
10-epi-γ-Eudesmol	[8.29]*	0.67	Sesquiterpenic alcohol
Unknown	0.17	0.18	Oxygenated sesquiterpene
Guaia-6,10(14)-dien-4β-ol	0.55	0.25	Sesquiterpenic alcohol
Unknown	0.62		Unknown
Isospathulenol	0.21	0.63*	Sesquiterpenic alcohol
τ-Cadinol	1.43*	0.34	Sesquiterpenic alcohol
τ-Muurolol	[1.43]*	[0.32]*	Sesquiterpenic alcohol
Jinkoh-eremol	[1.43]*	1.13*	Sesquiterpenic alcohol
Valerianol	0.40	[1.13]*	Sesquiterpenic alcohol
Unknown	0.77	0.72	Sesquiterpenic alcohol
Unknown	0.76*	0.14	Oxygenated sesquiterpene
Intermedeol?	[0.76]*	[0.63]*	Sesquiterpenic alcohol
cis-Calamenen-10-ol	[0.76]*	0.11	Sesquiterpenic alcohol
trans-Calamenen-10-ol	0.09	0.07	Sesquiterpenic alcohol
(3Z)-Caryophylla-3,8(13)-dien-5β-ol	0.14	0.28	Sesquiterpenic alcohol
Unknown	0.98	0.80	Unknown
Eudesma-4(15),7-dien-1β-ol	0.31		Sesquiterpenic alcohol
Cyperotundone	0.21	0.16	Sesquiterpenic ketone
Juniper camphor	0.45	0.21	Sesquiterpenic alcohol
Unknown	0.26	0.17	Oxygenated sesquiterpene
Oplopanone	0.23	0.14	Sesquiterpenic alcohol
Unknown	0.25		Oxygenated sesquiterpene
Unknown	0.68	0.54	Oxygenated sesquiterpene
Unknown	0.23	0.29	Oxygenated sesquiterpene
Dehydrofukinone	0.35	0.39	Sesquiterpenic ketone
Unknown	0.31	0.32	Oxygenated sesquiterpene
Phytol	0.10	0.12	Diterpenic alcohol
Total identified	85.65%	74.06%	

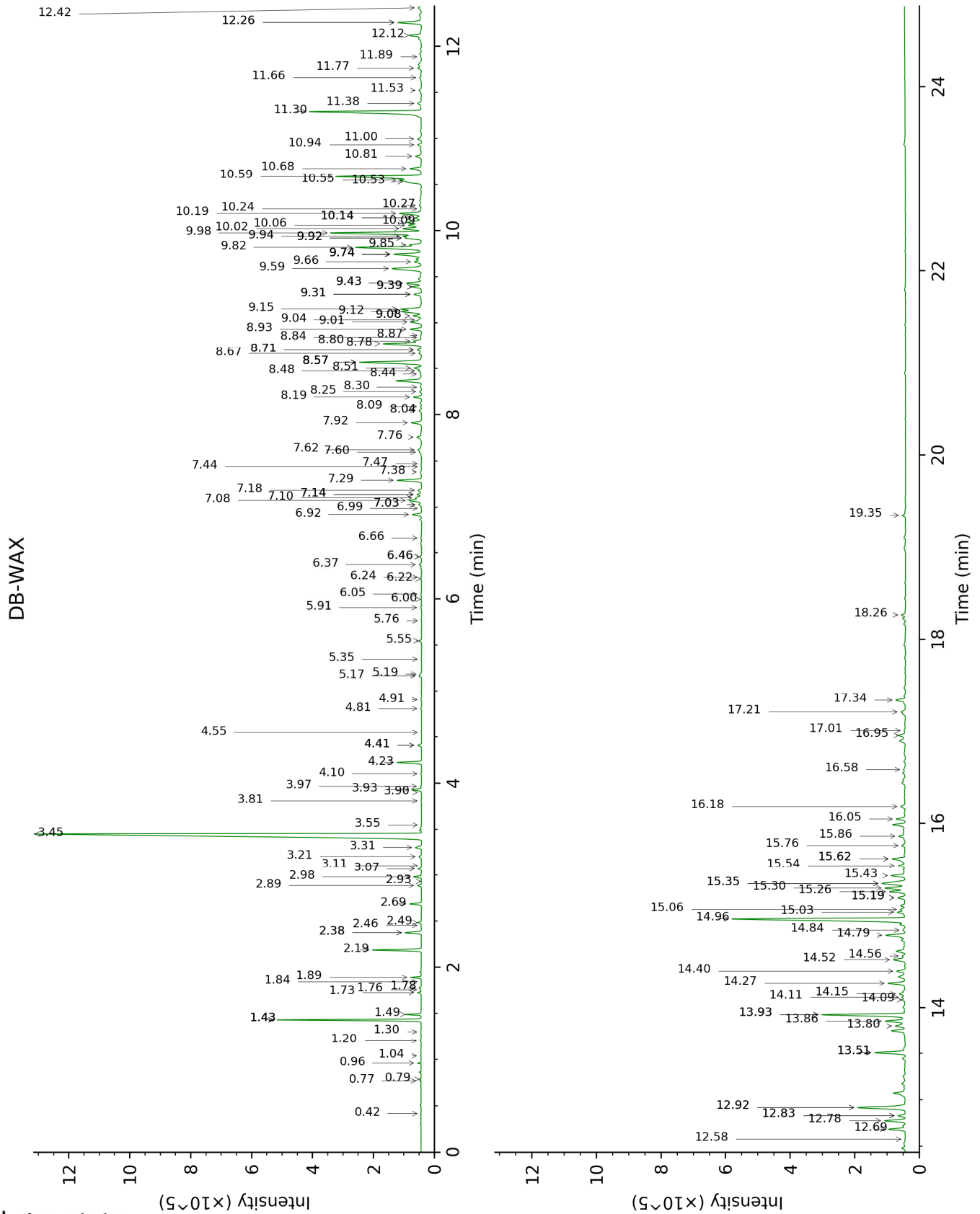
*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, not taken account in the identified total
tr: The compound has been detected below 0.005% of total signal.

Note: no correction factor was applied

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FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
Dimethylsulfide	0.36	515	tr	0.42	704	tr
Isovaleral	0.65	641	0.02	0.79	888	0.02
2-Methylbutyral	0.68	650	0.02	0.77	883	0.02
2-Ethylfuran	0.85	700	0.01	0.96	924	0.05
Isoamyl alcohol	1.06	733	0.01	3.55	1178	0.01
Methyl isovalerate	1.35	772	0.02	1.43*	993	3.05
Ethyl 2-methylbutyrate	2.12	848	0.12	1.73	1023	0.08
Ethyl isovalerate	2.17*	852	0.23	1.89	1039	0.22
Unknown [m/z 109, 43 (28), 124 (28), 41 (14), 55 (11), 79 (9), 81 (8)...]	2.17*	852	[0.23]			
(3Z)-Hexenol	2.22	856	0.02	5.91	1348	0.03
(2E)-Hexenol	2.38	869	0.02	6.24	1372	0.01
Hexanol	2.40	871	0.06	5.55	1323	0.08
Unknown [m/z 79, 78 (45), 91 (28), 77 (28), 41 (13), 80 (12), 107 (11)... 122 (1)]	2.43*	873	0.03	1.20	959	0.02
Isoamyl acetate	2.43*	873	[0.03]	2.46	1092	0.02
Unknown [m/z 81, 79 (20), 80 (12), 82 (9)... 124 (7)]	2.47	877	0.01	1.04	935	0.01
Heptanal	2.77	900	tr	3.11	1144	0.01
Hashishene	2.97	914	0.01	1.43*	993	[3.05]
Tricyclene	3.01	917	0.01	1.30	974	0.02
α-Thujene	3.12	925	0.32	1.49	1001	0.31
α-Pinene	3.20	930	3.08	1.43*	993	[3.05]
Unknown [m/z 122, 121 (36), 107 (33), 79 (27), 93 (25), 77 (25), 43 (20)]	3.24	932	0.04	3.97	1211	0.03
Unknown [m/z 91, 92 (47), 65 (11)... 134 (1)]	3.37†	941	0.17	2.49	1095	0.09
Camphene	3.39*†	942	[0.17]	1.78	1028	0.05
α-Fenchene	3.39*†	942	[0.17]	1.76	1026	0.01
Thuja-2,4(10)-diene	3.49	948	0.13	2.38*	1085	0.46
Benzaldehyde	3.55	952	0.01	7.47	1463	0.02
Sabinene	3.82*	970	1.55	2.38*	1085	[0.46]
β-Pinene	3.82*	970	[1.55]	2.19	1067	1.21
cis-Carane	3.99	982	0.01	1.84	1034	0.01
Dehydro-1,8-cineole	4.06*	986	0.10	3.21	1151	0.08

6-Methyl-5-hepten-2-one	4.06*	986	[0.10]	5.19	1297	0.05
2-Pentylfuran	4.14*	991	0.23	3.81	1199	0.02
Myrcene	4.14*	991	[0.23]	2.98	1134	0.21
α-Phellandrene	4.28*	1001	0.13	2.89	1126	0.10
Pseudolimonene	4.28*	1001	[0.13]	2.93	1130	0.01
Δ ³ -Carene	4.37	1006	0.34	2.69	1111	0.30
Hexyl acetate	4.41	1009	0.02	4.41*	1244	0.12
α-Terpinene	4.48	1013	0.09	3.07	1140	0.09
Unknown [m/z 117, 132 (96), 115 (65), 91 (44), 131 (19), 116 (18)]	4.53	1017	0.03	4.55	1254	0.02
para-Cymene	4.61	1021	0.69	4.23	1230	0.67
Unknown [m/z 95, 123 (60), 67 (50), 41 (27)... 138 (20)]	4.72*	1029	18.47	5.35	1309	0.02
Limonene	4.72*	1029	[18.47]	3.30	1159	0.21
1,8-Cineole	4.72*	1029	[18.47]	3.45	1171	18.52
(Z)-β-Ocimene	4.88	1039	0.02	3.90	1206	0.01
Unknown [m/z 109, 43 (57), 91 (28), 67 (25), 93 (24), 95 (22), 77 (21), 137 (21), 41 (17), 79 (14)...]	4.99	1046	0.03			
(E)-β-Ocimene	5.04	1049	0.03	4.10	1221	0.02
Unknown [m/z 41, 69 (97), 95 (33), 67 (31), 53 (18)...]	5.08	1051	0.02	6.05	1359	0.03
Unknown [m/z 109, 45 (67), 41 (40), 67 (39), 81 (33), 79 (27), 95 (24), 91 (23), 82 (21), 55 (21), 93 (20)...]	5.12	1054	0.01	6.99	1427	0.01
γ-Terpinene	5.16	1056	0.27	3.93	1208	0.27
cis-Sabinene hydrate	5.28	1064	0.06	7.03*	1430	0.10
Unknown [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	5.35	1068	0.02	4.90	1282	0.02
cis-Linalool oxide (fur.)	5.39	1070	0.02	6.66	1403	0.03
Unknown [m/z 56, 55 (94), 41 (85), 69 (74), 43 (65), 70 (63)...]	5.46	1075	0.02			
Unknown [m/z 43, 94 (63), 109 (61),	5.50	1078	0.01	7.44	1460	0.02

59 (55), 79 (51)...152 (2)]						
Unknown [m/z 43, 56 (90), 55 (51), 70 (48), 69 (37), 41 (28), 57 (26)...]	5.52	1079	0.07	5.17	1302	0.08
Terpinolene	5.62*	1085	0.17	4.41*	1244	[0.12]
para-Cymenene	5.62*	1085	[0.17]	6.46*	1388	0.07
trans-Linalool oxide (fur.)	5.62*	1085	[0.17]	7.03*	1430	[0.10]
trans-Sabinene hydrate	5.77	1095	0.03	8.09	1509	0.03
Linalool	5.86*	1100	0.24	8.19	1517	0.24
α-Thujone	5.86*	1100	[0.24]	6.22	1371	0.02
Nonanal	5.92*	1104	0.08	6.00	1355	0.02
Hotrienol	5.92*	1104	[0.08]	8.93	1574	0.38
Isoamyl isovalerate	5.92*	1104	[0.08]	4.81	1274	0.02
Unknown [m/z 111, 69 (70), 41 (68), 55 (53), 43 (51)... 154 (7)]	5.97*	1108	0.03	5.76	1338	0.02
Unknown [m/z 109, 91 (57), 93 (47), 81 (44), 77 (40)... 154 (1)]	5.97*	1108	[0.03]			
β-Thujone	6.04	1112	0.06	6.46*	1388	[0.07]
cis-para-Menth-2- en-1-ol	6.15	1119	0.04	8.25	1521	0.06
α-Campholenal	6.19	1121	0.14	7.14*	1438	0.15
Nopinone	6.30	1129	0.05	8.44	1536	0.04
trans-Pinocarveol	6.37	1133	0.23	9.31*	1604	0.24
cis-Verbenol	6.44	1138	0.06	9.39*	1610	0.29
trans-Verbenol	6.50	1142	0.22	9.66	1632	0.26
meta-Mentha-4,6- dien-8-ol	6.55	1145	0.02	9.43*	1613	0.53
Sabinaketone	6.66	1152	0.03	8.87	1569	0.02
Pinocamphone	6.69†	1154	0.14	7.38	1456	0.07
Phellandrenol analog I	6.72*†	1156	[0.14]			
Pinocarvone	6.72*†	1156	[0.14]	8.04	1506	0.08
Borneol	6.81	1162	0.03	9.92*	1653	0.46
α-Phellandren-8-ol	6.85	1164	0.08	10.27	1681	0.08
Terpinen-4-ol	7.00	1174	0.16	8.70*	1556	0.15
para-Cymen-8-ol	7.14	1183	0.05	11.66	1798	0.06
α-Terpineol	7.22	1189	0.40	9.92*	1653	[0.46]
Myrtenal	7.24	1190	0.14	8.80	1564	0.24
Myrtenol	7.31	1194	0.15	11.00	1742	0.14
Verbenone	7.44	1203	0.11	9.74*	1638	1.14
trans-Carveol	7.66	1218	0.09	11.53	1786	0.10
Thymol methyl ether analog I	7.78	1226	0.02	8.51†	1541	2.59
cis-Carveol	7.84	1230	0.02	11.89	1818	0.03

Myrtenyl formate?	7.92	1236	0.06	9.04	1582	0.07
Hexyl 2-methylbutyrate?	7.99*	1240	0.10	6.37	1382	0.08
Carvone	7.99*	1240	[0.10]	10.14*	1670	0.27
Isopentyl hexanoate	8.08	1247	0.05			
Linalyl acetate	8.20	1255	0.06	8.30	1525	0.04
Unknown [m/z 97, 109 (23), 95 (17), 67 (14), 81 (13), 166 (12)...]	8.34	1264	0.10			
Unknown [m/z 43, 111 (47), 93 (41), 55 (28), 67 (23), 41 (22)...]	8.38	1267	0.03	8.84	1567	0.04
Geranial	8.44*†	1271	0.17	10.24	1678	0.03
<i>trans</i> -Linalool oxide acetate (pyr.)	8.44*†	1271	[0.17]	9.31*	1604	[0.24]
Thymol	8.72	1291	0.28	15.19*	2125	0.32
Carvacrol	8.86	1300	0.41	15.43	2149	0.51
Myrtenyl acetate	9.27	1323	0.03	9.74*	1638	[1.14]
Hexyl tiglate	9.37	1330	0.10	9.08*	1585	0.27
δ-Elemene	9.42	1334	0.15	7.14*	1438	[0.15]
α-Terpinyl acetate	9.60*	1346	0.74	9.85†	1647	2.84
α-Cubebene	9.60*	1346	[0.74]	6.92	1422	0.31
Cyclosativene I	9.77	1359	0.40	7.08	1433	0.44
Cyclosativene II	9.81	1361	0.21	7.10	1435	0.22
Unknown [m/z 189, 91 (89), 82 (78), 109 (72), 93 (68), 67 (63), 161 (59)... 204 (tr)]	9.88*	1366	0.15	7.60	1472	0.10
α-Ylangene	9.88*	1366	[0.15]	7.18	1441	0.13
α-Copaene	9.95	1371	0.76	7.29	1449	0.79
β-Bourbonene	10.08*	1381	0.18	7.62	1474	0.14
<i>cis</i> -β-Elemene	10.08*	1381	[0.18]	8.48	1539	0.10
β-Cubebene	10.16	1386	0.36	7.92	1496	0.35
β-Elemene	10.19	1389	0.70	8.57*†	1546	[2.59]
Unknown [m/z 93, 122 (98), 161 (98), 107 (86), 95 (46), 105 (72)... 204 (34)]	10.22	1391	0.13			
(<i>Z</i>)-Jasmone	10.31	1397	0.05	12.58	1879	0.04
Unknown [m/z 117, 118 (95), 159 (82), 131 (81), 91 (71)... 202 (15), 204 (9)]	10.34	1400	0.08	8.67	1553	0.10
α-Gurjunene	10.40	1404	0.16	7.76	1484	0.18
β-Caryophyllene	10.53	1413	2.50	8.57*†	1546	[2.59]
β-Copaene	10.66	1424	0.35	8.57*†	1546	[2.59]
Aromadendrene	10.76	1430	0.04	8.70*	1556	[0.15]

α-Guaiene	10.82	1435	0.18	8.57*†	1546	[2.59]
6,9-Guaiadiene	10.88	1439	1.30	8.78	1562	1.32
Unknown [m/z 91, 161 (92), 105 (85), 119 (63), 133 (53), 79 (49), 204 (46)]	10.94	1444	0.46	9.01	1580	0.43
Unknown [m/z 161, 105 (70), 91 (51), 133 (50), 204 (45), 119 (37)...]	10.95	1445	0.23	9.08*	1585	[0.27]
α-Humulene	10.98	1447	0.52	9.43*	1613	[0.53]
Unknown [m/z 105, 161 (78), 93 (70), 133 (67), 91 (66), 204 (63), 119 (41)]	11.03	1451	0.75	9.12	1589	0.77
allo-Aromadendrene	11.08	1455	0.66	9.15	1591	0.66
Geranylacetone	11.12	1457	0.17	11.76	1807	0.15
4,5-diepi-Aristolochene	11.21†	1464	3.02	9.59	1626	1.34
<i>trans</i> -Cadina-1(6),4-diene	11.27*†	1469	[3.02]	9.39*	1610	[0.29]
Unknown [m/z 145, 202 (85), 159 (64), 187 (39), 131 (35), 117 (34)]	11.27*†	1469	[3.02]	9.98	1657	3.21
γ-Murolene	11.33	1473	0.76	9.74*	1638	[1.14]
α-Amorphene	11.37	1476	0.53	9.74*	1638	[1.14]
β-Selinene	11.42	1480	0.40	10.06	1664	0.48
Unknown [m/z 109, 67 (10), 110 (9), 43 (9), 107 (7), 81 (6)...]	11.51*†	1487	7.95	11.30	1767	4.29
γ-Amorphene	11.51*†	1487	[7.95]	9.94	1654	0.55
δ-Selinene	11.53†	1488	[7.95]	9.82†	1644	[2.84]
α-Selinene	11.54	1490	0.77	10.09	1666	0.54
4-epi- <i>cis</i> -Dihydroagarofuran	11.57*	1492	1.08	10.02	1661	0.68
epi-Cubebol	11.57*	1492	[1.08]	12.12	1838	0.42
α-Murolene	11.65	1498	0.80	10.19	1674	0.82
δ-Amorphene	11.68	1500	0.40	10.14*	1670	[0.27]
γ-Cadinene	11.73†	1504	1.18	10.53†	1702	1.22
Cubebol	11.81†	1510	[1.18]	12.69	1888	0.56
endo-1-Bourbonanol	11.83	1511	0.66			
δ-Cadinene	11.96*†	1522	3.57	10.59	1707	3.07
Zonarene	11.96*†	1522	[3.57]	10.55†	1704	[1.22]
<i>trans</i> -Calamenene	11.96*†	1522	[3.57]	11.38	1774	0.20
<i>trans</i> -Cadina-1,4-diene	12.05	1528	0.25	10.81	1726	0.23
Unknown [m/z 12.12*]	12.12*	1534	0.55	10.68	1715	0.44

189, 204 (92), 161 (65), 133 (51), 105 (51), 91 (51), 119 (45)]						
α-Cadinene	12.12*	1534	[0.55]	10.94	1736	0.14
α-Calacorene	12.16	1538	0.66	12.26*	1851	0.90
Isocaryophyllene epoxide B	12.27	1546	0.20	12.26*	1851	[0.90]
Furopelargone isomer	12.35	1552	0.36	12.92*	1909	1.89
Palustrol	12.47	1562	0.15	12.42	1865	0.17
(E)-Nerolidol	12.52*†	1566	3.50	13.93*	2003	2.79
β-Calacorene	12.52*†	1566	[3.50]	12.83*	1901	0.25
Germacrene D-4-ol	12.59*†	1571	[3.50]	13.86	1996	0.78
Spathulenol	12.59*†	1571	[3.50]	14.56	2063	0.12
Caryophyllene oxide	12.65*	1576	1.95	12.92*	1909	[1.89]
Caryophyllene oxide isomer	12.65*	1576	[1.95]	12.83*	1901	[0.25]
Globulol	12.65*	1576	[1.95]	14.09	2018	0.15
Furopelargone A	12.74*	1583	1.13	14.15	2024	0.22
Unknown [m/z 202, 187 (91), 91 (51), 79 (46), 93 (44), 43 (40)...]	12.74*	1583	[1.13]			
Viridiflorol	12.74*	1583	[1.13]	14.11	2021	0.12
Unknown [m/z 111, 126 (82), 109 (60), 162 (54), 81 (54), 55 (53), 121 (52)... 220 (12)]	12.80	1589	0.52	14.40	2048	0.33
Ledol	12.91*	1597	1.13	13.51*	1964	1.10
Humulene epoxide II	12.91*	1597	[1.13]	13.51*	1964	[1.10]
Unknown [m/z 149, 43 (95), 93 (84), 177 (66), 109 (62), 67 (60)...220 (11)]	12.98*	1603	1.32			
Unknown [m/z 187, 202 (86), 145 (25), 131 (19), 105 (16), 188 (15)]	12.98*	1603	[1.32]	12.78	1896	0.71
Unknown [m/z 177, 43 (97), 109 (65), 67 (57), 96 (51)... 220 (13)]	12.98*	1603	[1.32]	13.93*	2003	[2.79]
Eudesm-5-en-11-ol	12.98*	1603	[1.32]	14.52	2060	0.49
Selin-6-en-4α-ol	13.14*	1616	8.29	14.96	2102	6.60
Junenol	13.14*	1616	[8.29]	13.80	1991	0.44
10-epi-γ-Eudesmol	13.14*	1616	[8.29]	14.26	2035	0.67
Unknown [m/z 81,	13.16	1617	0.17	15.06	2112	0.18

43 (52), 161 (49), 105 (30), 207 (27), 95 (26), 93 (24), 109 (24)...						
Guaia-6,10(14)-dien-4 β -ol	13.24	1624	0.55	15.86	2192	0.25
Unknown [m/z 145, 59 (97), 161 (87), 218 (76), 43 (76), 179 (63)...	13.28	1627	0.62			
Isospathulenol	13.32	1631	0.21	15.62*	2168	0.63
τ -Cadinol	13.42*	1639	1.43	15.03	2109	0.34
τ -Muurolol	13.42*	1639	[1.43]	15.19*	2125	[0.32]
Jinkoh-eremol	13.42*	1639	[1.43]	15.34*	2141	1.13
Valerianol	13.48	1644	0.40	15.34*	2141	[1.13]
Unknown cadinol analog II [m/z 95, 121 (73), 43 (57), 79 (43), 161 (43), 109)40)... 204 (35), 222 (2)]	13.53	1648	0.77	15.30	2136	0.72
Unknown [m/z 161, 59 (67), 95 (45), 93 (40), 105 (40), 149 (39), 81 (39), 43 (38), 204 (37)... 220 (5)]	13.56*	1651	0.76	14.84	2090	0.14
Intermedeol?	13.56*	1651	[0.76]	15.62*	2168	[0.63]
<i>cis</i> -Calamenen-10-ol	13.56*	1651	[0.76]	16.58	2267	0.11
<i>trans</i> -Calamenen-10-ol	13.64	1657	0.09	17.01	2312	0.07
(3 <i>Z</i>)-Caryophylla-3,8(13)-dien-5 β -ol	13.76	1667	0.14	16.95	2306	0.28
Unknown [m/z 175, 176 (14), 218 (13), 105 (11), 91 (11), 119 (10)...	13.81	1672	0.98	14.78	2085	0.80
Eudesma-4(15),7-dien-1 β -ol	13.87	1676	0.31			
Cyperotundone	13.92	1680	0.21	15.76	2182	0.16
Juniper camphor	14.04	1691	0.45	16.18	2226	0.21
Unknown [m/z 91, 105 (66), 133 (48), 159 (46), 117 (39), 119 (34), 189 (34)... 220 (12)]	14.22	1706	0.26	17.21	2333	0.17
Oplopanone	14.51	1730	0.23	18.26	2449	0.14
Unknown [m/z 109, 55 (70), 41 (69), 43 (64)... 236 (27)]	14.59	1738	0.25			

Unknown [m/z 105, 145 (97), 202 (96), 131 (96), 43 (66), 187 (64)...220 (53)]	14.89	1764	0.68	15.26	2132	0.54
Unknown [m/z 161, 43 (89), 105 (62), 119 (53), 81 (51), 189 (50), 204 (42)]	14.97	1771	0.23	15.54	2160	0.29
Dehydrofukinone	15.23	1794	0.35	17.34	2347	0.39
Unknown [m/z 159, 117 (66), 43 (48), 131 (42), 91 (41), 202 (38)...220 (2)]	15.52	1819	0.31	16.05	2212	0.32
Phytol	18.62	2116	0.10	19.35	2573	0.12
Total identified	85.65%			74.06%		
Total reported	92.63%			88.02%		

*: 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

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