

Date : November 20, 2018

CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 18K14-PTH01-1-CC

Customer identification : Geranium Bourbon - Madagascar - G2010782R

Type : Essential oil

Source : *Pelargonium graveolens* ct. Madagascar

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 19, 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: 1.4643 ± 0.0003 (20 °C)

ISO 4731:2012 - OIL OF GERANIUM - MADAGASCAR

Compound	Min. %	Max. %	Observed %	Complies?
Phenylethyl tiglate	0.4	1.0	0.6	Yes
Geranyl tiglate	0.7	2.0	1.5	Yes
Geranyl butyrate	0.7	1.7	1.3	Yes
Geraniol	10.0	20.0	12.8	Yes
Citronellol	18.0	26.0	22.2	Yes
Geranyl formate	3.8	7.0	7.1	No
α-Terpineol	0.3	1.0	0.3	Yes
Citronellyl formate	6.5	11.0	11.2	No
6,9-Guaiadiene	5.0	9.0	6.3	Yes
Linalool	4.0	10.0	4.0	Yes
Isomenthone	5.0	10.0	6.9	Yes
Menthone		2.0	0.4	Yes
trans-Rose oxide	0.1	0.6	0.6	Yes
cis-Rose oxide	0.4	1.4	1.3	Yes
Refractive index	1.4620	1.4710	1.4643	Yes

CONCLUSION

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

ANALYSIS SUMMARY

Identification	DB-5 (%)	DB-WAX (%)	Classe
Acetic acid	tr	0.38*	Aliphatic acid
2-Methyl-3-buten-2-ol	0.01	0.01	Aliphatic alcohol
Isovaleral	tr	tr	Aliphatic aldehyde
2-Methylbutyral	tr	tr	Aliphatic aldehyde
Isoamyl alcohol	0.01	0.02	Aliphatic alcohol
2-Methylbutanol	0.01	0.05*	Aliphatic alcohol
Isoamyl formate	0.01	0.01*	Aliphatic ester
Dimethyl sulfoxide	0.03*	0.02	Aliphatic sulfoxide
Unknown	[0.03]*		Unknown
3-Methylpentanol	0.04	0.10*	Aliphatic alcohol
Unknown	0.02		Unknown
(3Z)-Hexenol	0.03	0.04	Aliphatic alcohol
Hexanol	0.01	0.01	Aliphatic alcohol
Unknown	0.01	0.01	Unknown
3-Methylpentyl formate?	0.03	0.05	Aliphatic ester
Hashishene	0.01	0.63*	Monoterpene
Tricyclene	0.02	0.02	Monoterpene
α -Pinene	0.65	[0.63]*	Monoterpene
Unknown	0.04	0.03	Simple phenolic
Camphene	0.03*	0.01	Monoterpene
α -Fenchene	[0.03]*	[0.01]*	Monoterpene
Geranic oxide	0.06	0.03	Monoterpenic ether
Sabinene	[0.06]*	0.02	Monoterpene
β -Pinene	[0.06]*	0.03	Monoterpene
Octen-3-ol	0.04	0.09*	Aliphatic alcohol
6-Methyl-5-hepten-2-one	0.07	[0.10]*	Aliphatic ketone
Myrcene	0.22*	0.18	Monoterpene
<i>trans</i> -Dehydroxylinalool oxide	[0.22]*	[0.05]*	Monoterpenic ether
6-Methyl-5-hepten-2-ol	0.02	0.08*	Aliphatic alcohol
α -Phellandrene	0.08	0.07	Monoterpene
Δ^3 -Carene	0.04	0.02	Monoterpene
α -Terpinene	0.01	0.01	Monoterpene
para-Cymene	0.09	0.08	Monoterpene
β -Phellandrene	0.28*	0.07	Monoterpene
1,8-Cineole	[0.28]*	0.02	Monoterpenic ether
Unknown	[0.28]*	0.02	Unknown
Limonene	[0.28]*	0.13	Monoterpene
Unknown	[0.28]	0.03	Unknown
(Z)- β -Ocimene	0.21*	0.19	Monoterpene
Benzeneacetaldehyde	[0.21]*	0.02	Simple phenolic
(E)- β -Ocimene	0.14*	0.12	Monoterpene
Unknown	[0.14]*	0.03	Unknown
Unknown	0.01*		Unknown
2,6-Dimethyl-5-heptenal (melonal)	[0.01]*	1.33*	Aliphatic aldehyde
γ -Terpinene	0.01	0.04	Monoterpene
Unknown	0.02	0.01	Oxygenated monoterpene
<i>cis</i> -Linalool oxide (fur.)	0.15	0.14	Monoterpenic alcohol
Fenchone	0.02	0.05	Aliphatic alcohol

Terpinolene	0.10*	0.03	Monoterpene
para-Cymenene	[0.10]*	0.01	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	[0.10]*	[0.08]*	Monoterpenic alcohol
Rosefuran	0.04	0.03	Monoterpenic ether
Linalool	3.96	3.92	Monoterpenic alcohol
(<i>Z</i>)-6-Methyl-3,5-heptadien-2-one	0.10	0.13	Aliphatic ketone
<i>cis</i> -Rose oxide	1.32	[1.33]*	Monoterpenic ether
Phenylethyl alcohol	0.01	1.29*	Simple phenolic
<i>trans</i> -Rose oxide	0.55	0.55	Monoterpenic ether
Unknown	0.02	0.02	Unknown
Unknown	0.04	0.08*	Oxygenated normonoterpene
neo-Isopulegol	0.06	0.06	Monoterpenic alcohol
Menthone	0.37	[0.38]*	Monoterpenic ketone
iso-Isopulegol	0.13*	0.04	Monoterpenic alcohol
Citronellal	[0.13]*	7.09*	Monoterpenic aldehyde
Isomenthone	6.95	[7.09]*	Monoterpenic ketone
Isoneral	0.02	0.02	Monoterpenic aldehyde
neo-Menthol	0.05	0.07*	Monoterpenic alcohol
Terpinen-4-ol	0.02	[0.07]*	Monoterpenic alcohol
Menthol	0.02	0.03	Monoterpenic alcohol
Isomenthol	0.17	0.17	Monoterpenic alcohol
para-Cymen-8-ol	0.06	0.09	Monoterpenic alcohol
α -Terpineol	0.30	1.42*	Monoterpenic alcohol
Myrtenol	0.04	0.06	Monoterpenic alcohol
Unknown	0.02		Oxygenated monoterpene
Nerol	[23.05]	0.69	Monoterpenic alcohol
Citronellol	23.05*	21.96*	Monoterpenic alcohol
Neral	[23.05]*	[1.19]	Monoterpenic aldehyde
Piperitone	0.08	7.16*	Monoterpenic ketone
Geraniol	12.85	12.59	Monoterpenic alcohol
Geranial	0.72	0.69	Monoterpenic aldehyde
Neryl formate	11.24*	1.19*	Monoterpenic ester
Citronellyl formate	[11.24]*	11.17	Monoterpenic ester
Geranyl formate	7.08	[7.16]*	Monoterpenic ester
(3 <i>Z</i>)-Hexenyl tiglate	0.04	[0.08]*	Aliphatic ester
Methyl geranate	0.07	0.07	Monoterpenic ester
α -Cubebene	0.21*	[0.09]*	Sesquiterpene
Unknown	[0.21]*	[0.08]*	Sesquiterpene
Phenylethyl propionate	[0.21]*	0.04	Phenolic ester
Citronellyl acetate	0.27	[1.19]*	Monoterpenic ester
Geranic acid	0.20	0.19	Aliphatic acid
Neryl acetate	0.03	0.26	Monoterpenic ester
α -Copaene	0.35	0.36	Sesquiterpene
β -Bourbonene	1.09	0.99	Sesquiterpene
Geranyl acetate	0.55	0.59	Monoterpenic ester
Phenylethyl isobutyrate	0.25	0.07	Phenolic ester
β -Elemene	[0.25]	[1.73]*	Sesquiterpene
α -Gurjunene	0.03	0.05	Sesquiterpene
β -Caryophyllene	1.00	1.73*	Sesquiterpene
β -Copaene	0.11	0.18	Sesquiterpene
Heptyl tiglate	0.02		Aliphatic ester
<i>trans</i> - α -Bergamotene	0.75*	[1.73]*	Sesquiterpene

α-Guaiene	[0.75]*	[1.73]*	Sesquiterpene
6,9-Guaiadiene	6.32	6.27	Sesquiterpene
Citronellyl propionate	0.84*	0.45	Monoterpenic ester
Unknown	[0.84]*	0.33	Sesquiterpene
α-Humulene	0.22	0.22	Sesquiterpene
allo-Aromadendrene	0.19	0.23	Sesquiterpene
<i>trans</i> -Cadina-1(6),4-diene	0.26*	0.16	Sesquiterpene
γ-Muurolene	[0.26]*	0.12	Sesquiterpene
α-Amorphene	0.05	0.04	Sesquiterpene
Germacrene D	2.39*	[1.42]*	Sesquiterpene
Geranyl propionate	[2.39]*	1.32*	Monoterpenic ester
β-Selinene	0.16	[7.16]*	Sesquiterpene
Phenylethyl isovalerate	0.44*	0.02	Phenolic ester
γ-Amorphene	[0.44]*	[7.16]*	Sesquiterpene
Bicyclogermacrene	0.10*	0.13*	Sesquiterpene
Viridiflorene	[0.10]*	0.07	Sesquiterpene
4-epi- <i>cis</i> -Dihydroagarofuran	0.09	0.08	Sesquiterpenic ether
α-Muurolene	0.11	[0.13]*	Sesquiterpene
γ-Cadinene	0.10	0.85*	Sesquiterpene
7-epi-α-Selinene	0.19	[0.85]*	Sesquiterpene
Geranyl isobutyrate	0.38	0.53	Monoterpenic ester
<i>trans</i> -Calamenene	0.81	[1.32]*	Sesquiterpene
δ-Cadinene	[0.81]	[0.85]	Sesquiterpene
Citronellyl butyrate	0.58	0.55	Monoterpenic ester
α-Cadinene	0.11	[21.96]*	Sesquiterpene
α-Agarofuran	0.12	0.12	Sesquiterpenic ether
Furopelargone isomer	0.13	0.18	Sesquiterpenic ketone
1-nor-Bourbonanone	0.03	0.01	Norsesquiterpenic ketone
Geranyl butyrate	1.31	[1.29]*	Monoterpenic ester
Spathulenol	0.03	1.54*	Sesquiterpenic alcohol
Caryophyllene oxide	0.35*	0.33	Sesquiterpenic ether
Caryophyllene oxide isomer	[0.35]*	0.01	Sesquiterpenic ether
Globulol	0.04	0.03	Sesquiterpenic alcohol
Phenylethyl tiglate	1.33*	0.63	Phenolic ester
Furopelargone A	[1.33]*	0.71	Sesquiterpenic ketone
Geranyl 2-methylbutyrate?	0.02	0.54*	Monoterpenic ester
Geranyl isovalerate	0.55	[0.54]*	Monoterpenic ester
10-epi-γ-Eudesmol	0.27	0.06	Sesquiterpenic alcohol
1-epi-Cubenol	0.13	0.32*	Sesquiterpenic alcohol
γ-Eudesmol	0.06	0.02	Sesquiterpenic alcohol
Citronellyl valerate?	0.02	0.01	Monoterpenic ester
Cubenol	0.14	0.14	Sesquiterpenic alcohol
α-Cadinol	0.10	0.04	Sesquiterpenic alcohol
<i>cis</i> -Calamenen-10-ol	0.09*	0.04	Sesquiterpenic alcohol
Valerianol	[0.09]*	0.03	Sesquiterpenic alcohol
Geranyl valerate	0.12	0.07	Monoterpenic ester
Citronellyl tiglate	0.32	0.36	Monoterpenic ester
Citronellyl 4-methylvalerate	0.09		Monoterpenic ester
Geranyl tiglate	1.49	[1.54]*	Monoterpenic ester
Geranyl 4-methylvalerate?	0.17	[0.32]*	Monoterpenic ester
Citronellyl caproate	0.03		Monoterpenic ester
Geranyl caproate	0.10	0.12	Monoterpenic ester

Citronellyl heptanoate	0.03		Monoterpenic ester
Phytone	0.01	0.02	Terpenic ketone
Geranyl heptanoate	0.05	0.05	Monoterpenic ester
Citronellyl caprylate	0.04		Monoterpenic ester
Geranyl caprylate	0.05		Monoterpenic ester
Total identified	97.12%	95.58%	

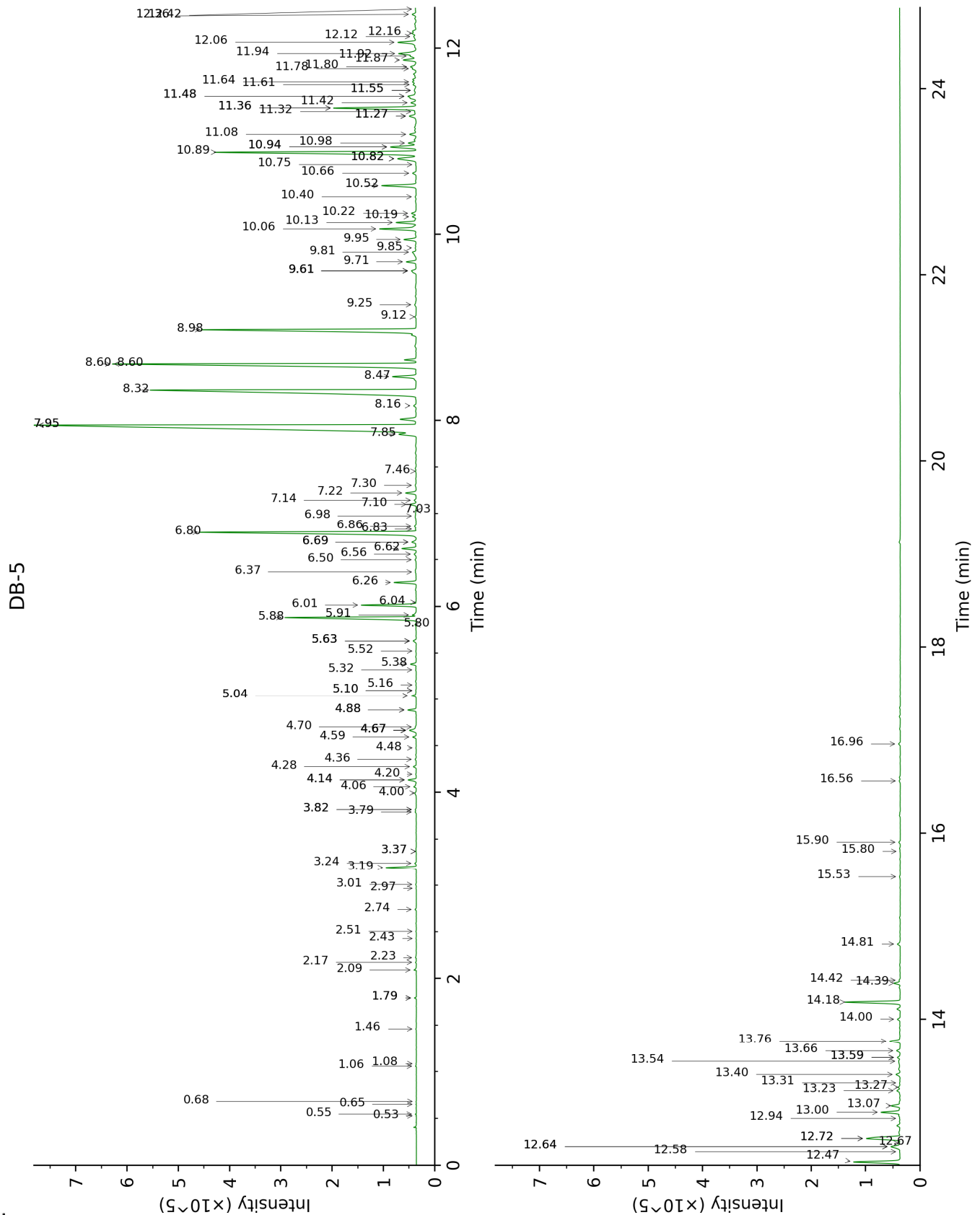
*: Two or more compounds are coeluting on this column

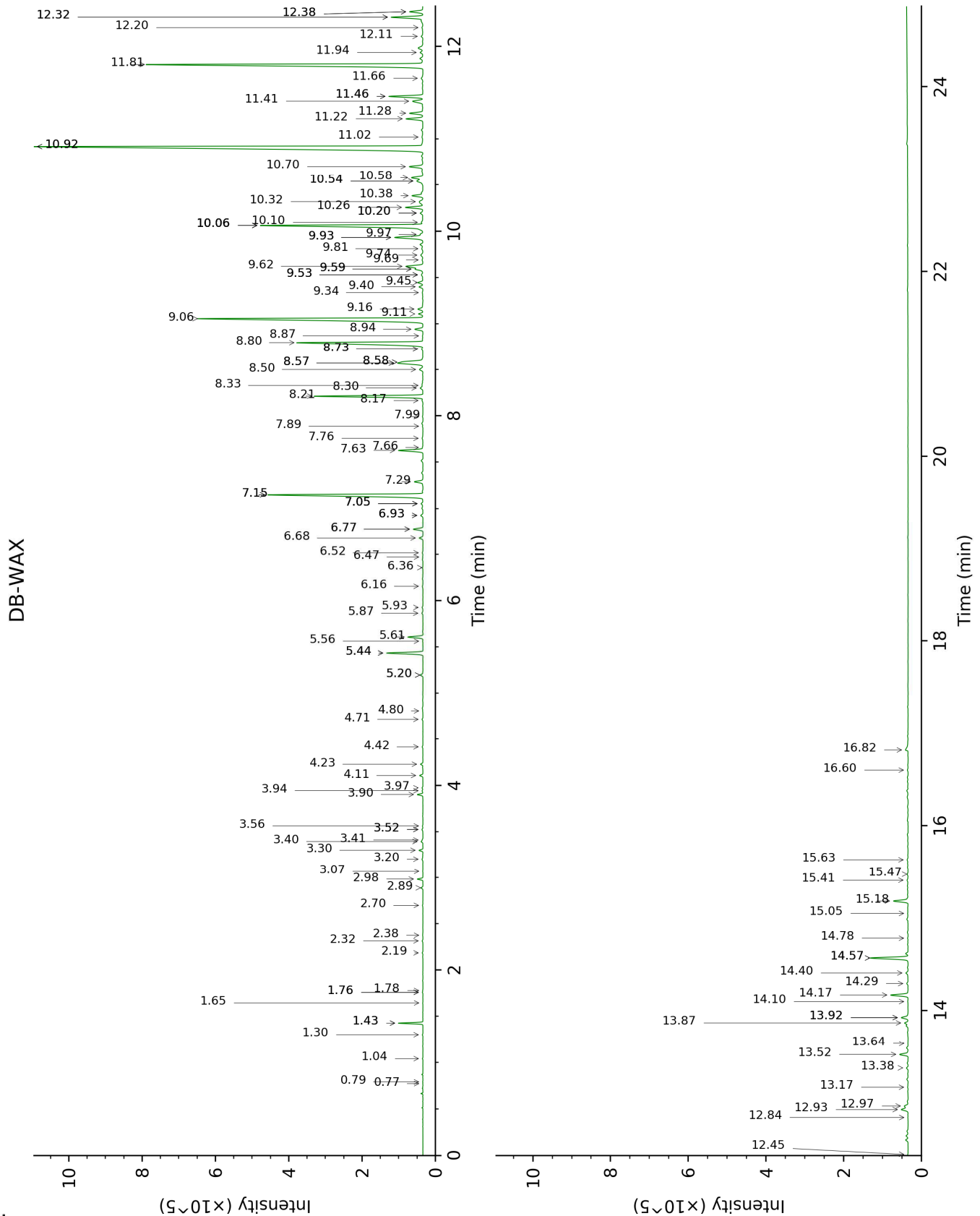
[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

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	%
Acetic acid	0.53	596	tr	6.77*	1411	0.38
2-Methyl-3-buten-2-ol	0.55	608	0.01	1.65	1016	0.01
Isovaleral	0.65	642	tr	0.79	889	tr
2-Methylbutyral	0.68	651	tr	0.77	883	tr
Isoamyl alcohol	1.06	733	0.01	3.56	1180	0.02
2-Methylbutanol	1.08	736	0.01	3.52*	1176	0.05
Isoamyl formate	1.46	787	0.01	1.76*	1026	0.01
Dimethyl sulfoxide	1.79*	822	0.03	7.99	1502	0.02
Unknown [m/z 81, 69 (80), 41 (65), 83 (52), 109 (48), 55 (47)...]	1.79*	822	[0.03]			
3-Methylpentanol	2.09	846	0.04	5.20*	1298	0.10
Unknown [m/z 109, 43 (28), 124 (28), 41 (14), 55 (11), 79 (9), 81 (8)...]	2.18	852	0.02			
(3Z)-Hexenol	2.22	856	0.03	5.93	1350	0.04
Hexanol	2.43	873	0.01	5.56	1324	0.01
Unknown [m/z 81, 79 (20), 80 (12), 82 (9)... 124 (7)]	2.51	879	0.01	1.04	935	0.01
3-Methylpentyl formate?	2.74	898	0.03	3.20	1151	0.05
Hashishene	2.97	914	0.01	1.43*	993	0.63
Tricyclene	3.01	917	0.02	1.30	974	0.02
α-Pinene	3.20	929	0.65	1.43*	993	[0.63]
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
Camphene	3.37*†	941	0.03	1.78	1028	0.01
α-Fenchene	3.37*†	941	[0.03]	1.76*	1026	[0.01]
Geranic oxide	3.79†	968	0.06	2.32	1079	0.03
Sabinene	3.82*†	970	[0.06]	2.38	1085	0.02
β-Pinene	3.82*†	970	[0.06]	2.19	1066	0.03
Octen-3-ol	4.00	982	0.04	6.93*	1422	0.09
6-Methyl-5-hepten-2-one	4.06	986	0.07	5.20*	1298	[0.10]
Myrcene	4.14*	991	0.22	2.98	1134	0.18
<i>trans</i> -Dehydroxylinalool oxide	4.14*	991	[0.22]	3.52*	1176	[0.05]
6-Methyl-5-hepten-2-ol	4.20	995	0.02	7.05*	1432	0.08
α-Phellandrene	4.28	1000	0.08	2.89	1126	0.07
Δ ³ -Carene	4.36	1006	0.04	2.70	1112	0.02
α-Terpinene	4.48	1013	0.01	3.07	1140	0.01

para-Cymene	4.60	1021	0.09	4.23	1230	0.08
β-Phellandrene	4.67*†	1025	0.28	3.40	1166	0.07
1,8-Cineole	4.67*†	1025	[0.28]	3.41	1168	0.02
Unknown [m/z 59, 43 (11), 109 (10), 41 (10), 127 (8)...]	4.67*†	1025	[0.28]	6.36	1381	0.02
Limonene	4.67*†	1025	[0.28]	3.30	1159	0.13
Unknown [m/z 59, 43 (12), 109 (11), 41 (10), 127 (8)...]	4.70†	1027	[0.28]	6.52	1392	0.03
(Z)-β-Ocimene	4.88*	1039	0.21	3.90	1206	0.19
Benzeneacetaldehyde	4.88*	1039	[0.21]	8.87	1569	0.02
(E)-β-Ocimene	5.04*	1049	0.14	4.11	1221	0.12
Unknown [m/z 125, 69 (75), 41 (34), 55 (25), 93 (22)... 140 (3)]	5.04*	1049	[0.14]	4.71	1267	0.03
Unknown [m/z 67, 59 (93), 82 (75), 81 (43), 43 (36), 79 (24), 41 (19)...]	5.10*	1052	0.01			
2,6-Dimethyl-5-heptenal (melonal)	5.10*	1052	[0.01]	5.44*	1315	1.33
γ-Terpinene	5.16	1056	0.01	3.94	1209	0.04
Unknown [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	5.32	1066	0.02	4.80	1274	0.01
cis-Linalool oxide (fur.)	5.38	1070	0.15	6.68	1404	0.14
Fenchone	5.52	1079	0.02	5.86	1346	0.05
Terpinolene	5.63*	1086	0.10	4.42	1244	0.03
para-Cymenene	5.63*	1086	[0.10]	6.47	1389	0.01
trans-Linalool oxide (fur.)	5.63*	1086	[0.10]	7.05*	1432	[0.08]
Rosefuran	5.80	1097	0.04	6.16	1366	0.03
Linalool	5.88	1102	3.96	8.21	1518	3.92
(Z)-6-Methyl-3,5-heptadien-2-one	5.91	1104	0.10	8.30	1525	0.13
cis-Rose oxide	6.02	1110	1.32	5.44*	1315	[1.33]
Phenylethyl alcohol	6.04	1112	0.01	12.32*	1856	1.29
trans-Rose oxide	6.26	1126	0.55	5.61	1327	0.55
Unknown [m/z 95, 67 (86), 41 (68), 82 (64), 123 (62)...]	6.37	1133	0.02	7.66	1477	0.02
Unknown [m/z 41, 69 (87), 82 (66), 67 (55), 109 (46)... 142 (18)]	6.50	1142	0.04	9.53*	1621	0.08
neo-Isopulegol	6.56	1146	0.06	8.33	1527	0.06
Menthone	6.62	1150	0.37	6.77*	1411	[0.38]
iso-Isopulegol	6.69*	1154	0.13	8.17	1515	0.04
Citronellal	6.69*	1154	[0.13]	7.15*	1439	7.09
Isomenthone	6.80	1161	6.95	7.15*	1439	[7.09]

Isoneral	6.83	1163	0.02	7.89	1494	0.02
neo-Menthol	6.86	1165	0.05	8.73*	1558	0.07
Terpinen-4-ol	6.98	1173	0.02	8.73*	1558	[0.07]
Menthol	7.03	1176	0.02	9.34	1606	0.03
Isomenthol	7.10	1181	0.17	9.11	1587	0.17
para-Cymen-8-ol	7.14	1184	0.06	11.66	1798	0.09
α-Terpineol	7.22	1189	0.30	9.93*	1654	1.42
Myrtenol	7.30	1194	0.04	11.02	1744	0.06
Unknown [m/z 123, 81 (40), 67 (29), 79 (29), 93 (26), 121 (25), 41 (24), 55 (18), 69 (15)...]	7.46	1204	0.02			
Nerol	7.85†	1231	[23.05]	11.22	1760	0.69
Citronellol	7.95*†	1238	23.05	10.92*	1735	21.96
Neral	7.95*†	1238	[23.05]	9.62†	1628	[1.19]
Piperitone	8.16	1252	0.08	10.06*	1664	7.16
Geraniol	8.32	1264	12.85	11.81	1811	12.59
Geranial	8.47	1273	0.72	10.26	1680	0.69
Neryl formate	8.60*†	1283	11.24	9.59*†	1626	1.19
Citronellyl formate	8.60*†	1283	[11.24]	9.06	1584	11.17
Geranyl formate	8.98	1302	7.08	10.06*	1664	[7.16]
(3Z)-Hexenyl tiglate	9.12	1312	0.04	9.53*	1621	[0.08]
Methyl geranate	9.25	1321	0.07	9.97	1656	0.07
α-Cubebene	9.61*†	1347	0.21	6.93*	1422	[0.09]
Unknown [m/z 95, 147 (61), 96 (39), 93 (37), 94 (37)... 204 (4)]	9.61*†	1347	[0.21]	7.05*	1432	[0.08]
Phenylethyl propionate	9.61*†	1347	[0.21]	12.20	1846	0.04
Citronellyl acetate	9.71	1354	0.27	9.59*†	1626	[1.19]
Geranic acid	9.81	1361	0.20	16.82	2291	0.19
Neryl acetate	9.85	1365	0.03	10.32	1685	0.26
α-Copaene	9.94	1371	0.35	7.29	1449	0.36
β-Bourbonene	10.06	1379	1.09	7.63	1474	0.99
Geranyl acetate	10.13	1384	0.55	10.70	1717	0.59
Phenylethyl isobutyrate	10.19†	1388	0.25	12.11	1837	0.07
β-Elemene	10.22†	1391	[0.25]	8.58*†	1547	[1.73]
α-Gurjunene	10.40	1404	0.03	7.76	1484	0.05
β-Caryophyllene	10.52	1413	1.00	8.57*†	1546	1.73
β-Copaene	10.66	1423	0.11	8.50	1541	0.18
Heptyl tiglate	10.75	1430	0.02			
trans-α-Bergamotene	10.82*	1435	0.75	8.58*†	1547	[1.73]
α-Guaiene	10.82*	1435	[0.75]	8.57*†	1546	[1.73]
6,9-Guaiadiene	10.89	1440	6.32	8.80	1564	6.27
Citronellyl propionate	10.94*	1444	0.84	10.38	1690	0.45
Unknown [m/z 91, 161 (92), 105 (85), 119 (63), 133 (53), 79 (49), 204 (46)]	10.94*	1444	[0.84]	8.94	1575	0.33
α-Humulene	10.98	1448	0.22	9.45	1614	0.22

allo-Aromadendrene	11.08	1455	0.19	9.16	1591	0.23
<i>trans</i> -Cadina-1(6),4-diene	11.27*	1469	0.26	9.40	1611	0.16
γ-Muurolene	11.27*	1469	[0.26]	9.74	1638	0.12
α-Amorphene	11.32	1473	0.05	9.69	1634	0.04
Germacrene D	11.36*	1476	2.39	9.93*	1654	[1.42]
Geranyl propionate	11.36*	1476	[2.39]	11.46*	1781	1.32
β-Selinene	11.42	1480	0.16	10.06*	1664	[7.16]
Phenylethyl isovalerate	11.48*†	1485	0.44	13.17	1932	0.02
γ-Amorphene	11.48*†	1485	[0.44]	10.06*	1664	[7.16]
Bicyclogermacrene	11.55*	1490	0.10	10.20*	1675	0.13
Viridiflorene	11.55*	1490	[0.10]	9.81	1644	0.07
4- <i>epi-cis</i> -Dihydroagarofuran	11.61	1495	0.09	10.10	1667	0.08
α-Muurolene	11.64	1497	0.11	10.20*	1675	[0.13]
γ-Cadinene	11.78	1508	0.10	10.54*†	1703	0.85
7- <i>epi-α</i> -Selinene	11.80	1509	0.19	10.54*†	1703	[0.85]
Geranyl isobutyrate	11.87	1515	0.38	11.41	1776	0.53
<i>trans</i> -Calamenene	11.92†	1518	0.81	11.46*	1781	[1.32]
δ-Cadinene	11.94†	1520	[0.81]	10.58†	1706	[0.85]
Citronellyl butyrate	12.06	1530	0.58	11.28	1766	0.55
α-Cadinene	12.12	1535	0.11	10.92*	1735	[21.96]
α-Agarofuran	12.16	1538	0.12	11.94	1822	0.12
Furopelargone isomer	12.36	1554	0.13	12.97	1914	0.18
1-nor-Bourbonanone	12.42	1558	0.03	13.64	1976	0.01
Geranyl butyrate	12.47	1562	1.31	12.32*	1856	[1.29]
Spathulenol	12.58	1571	0.03	14.57*	2064	1.54
Caryophyllene oxide	12.64*	1575	0.35	12.93	1910	0.33
Caryophyllene oxide isomer	12.64*	1575	[0.35]	12.84	1903	0.01
Globulol	12.67	1578	0.04	14.10	2019	0.03
Phenylethyl tiglate	12.72*	1582	1.33	15.18	2124	0.63
Furopelargone A	12.72*	1582	[1.33]	14.17	2026	0.71
Geranyl 2-methylbutyrate?	12.94	1599	0.02	12.38*	1861	0.54
Geranyl isovalerate	13.00	1604	0.55	12.38*	1861	[0.54]
10- <i>epi-γ</i> -Eudesmol	13.07	1610	0.27	14.29	2038	0.06
1- <i>epi</i> -Cubenol	13.23	1623	0.13	13.92*	2002	0.32
γ-Eudesmol	13.27	1626	0.06	15.05	2111	0.02
Citronellyl valerate?	13.31	1630	0.02	12.45	1867	0.01
Cubenol	13.40	1638	0.14	13.87	1997	0.14
α-Cadinol	13.54	1649	0.10	15.63	2169	0.04
<i>cis</i> -Calamenen-10-ol	13.58*	1653	0.09	16.60	2269	0.04
Valerianol	13.58*	1653	[0.09]	15.47	2153	0.03
Geranyl valerate	13.66	1659	0.12	13.38	1952	0.07
Citronellyl tiglate	13.76	1668	0.32	13.52	1965	0.36
Citronellyl 4-methylvalerate	14.00	1687	0.09			
Geranyl tiglate	14.18	1702	1.49	14.57*	2064	[1.54]
Geranyl 4-	14.39	1720	0.17	13.92*	2002	[0.32]

methylvalerate?						
Citronellyl caproate	14.42	1723	0.03			
Geranyl caproate	14.81	1757	0.10	14.40	2049	0.12
Citronellyl heptanoate	15.53	1820	0.03			
Phytone	15.80	1846	0.01	14.78	2084	0.02
Geranyl heptanoate	15.90	1854	0.05	15.41	2147	0.05
Citronellyl caprylate	16.56	1915	0.04			
Geranyl caprylate	16.96	1952	0.05			
Total identified		97.12%			95.58%	
Total reported		97.31%			96.07%	

*: 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