

Date : 2023-07-11

CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 23G04-PTH05

Customer Identification : Bourbon Geranium - Madagascar - G20109R

Type : Essential Oil

Source : *Pelargonium graveolens* ct. Bourbon

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 : Amélie Simard, Analyste

Date : 2023-07-11

PHYSICOCHEMICAL DATA

Physical aspect : Yellow greenish liquid

Analyst : Cindy Caron B. Sc.

Date : 2023-07-05

Refractive index : 1.4654 ± 0.0003 (20 °C)

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

Analyst : Cindy Caron B. Sc.

Date : 2023-07-05

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
Isobutyral	tr	Aliphatic aldehyde
2-Methyl-3-buten-2-ol	0.01	Aliphatic alcohol
Isovaleral	0.01	Aliphatic aldehyde
2-Methylbutyral	tr	Aliphatic aldehyde
Isoamyl alcohol	0.01	Aliphatic alcohol
2-Methylbutanol	tr	Aliphatic alcohol
Toluene	tr	Simple phenolic
Isoamyl formate	tr	Aliphatic ester
Hexanal	0.01	Aliphatic aldehyde
Unknown	0.02	Unknown
3-Methylpentanol	0.04	Aliphatic alcohol
(3Z)-Hexenol	0.01	Aliphatic alcohol
Hexanol	0.01	Aliphatic alcohol
3-Acetyl-3-methylcyclopentene	0.01	Aliphatic ketone
3-Methylpentyl formate?	0.02	Aliphatic ester
Hashishene	0.01	Monoterpene
Tricyclene	0.01	Monoterpene
α -Thujene	0.01	Monoterpene
α -Pinene	0.41	Monoterpene
Unknown	0.03	Simple phenolic
Camphene	0.03	Monoterpene
Geranic oxide	0.03	Monoterpenic ether
β -Pinene	0.04	Monoterpene
Sabinene	tr	Monoterpene
Octen-3-ol	0.03	Aliphatic alcohol
6-Methyl-5-hepten-2-one	0.08	Aliphatic ketone
<i>trans</i> -Dehydroxylinalool oxide	0.04	Monoterpenic ether
Myrcene	0.17	Monoterpene
6-Methyl-5-hepten-2-ol	0.02	Aliphatic alcohol
α -Phellandrene	0.08	Monoterpene
<i>cis</i> -Dehydroxylinalool oxide	0.02	Monoterpenic ether
Δ^3 -Carene	0.03	Monoterpene
α -Terpinene	0.01	Monoterpene
<i>para</i> -Cymene	0.09	Monoterpene
Limonene	0.17	Monoterpene
Unknown	0.02	Unknown
1,8-Cineole	[0.09]	Monoterpenic ether
β -Phellandrene	[0.09]	Monoterpene
Unknown	0.03	Unknown
Benzeneacetaldehyde	0.01	Simple phenolic

(Z)- β -Ocimene	0.16	Monoterpene
(E)- β -Ocimene	0.12	Monoterpene
Unknown	0.02	Unknown
Isobutyl angelate	0.03	Aliphatic ester
γ -Terpinene	0.02	Monoterpene
Unknown	0.02	Oxygenated monoterpene
<i>cis</i> -Linalool oxide (fur.)	0.19	Monoterpenic alcohol
Octanol	0.02	Aliphatic alcohol
Fenchone	0.03	Monoterpenic ketone
Terpinolene	0.03	Monoterpene
<i>para</i> -Cymenene	tr	Monoterpene
<i>trans</i> -Linalool oxide (fur.)	0.10	Monoterpenic alcohol
Rosefuran	0.04	Monoterpenic ether
Linalool	4.65	Monoterpenic alcohol
(Z)-6-Methyl-3,5-heptadien-2-one	0.03	Aliphatic ketone
<i>cis</i> -Rose oxide	1.02	Monoterpenic ether
Phenylethyl alcohol	0.02	Simple phenolic
<i>trans</i> -Rose oxide	0.44	Monoterpenic ether
<i>trans</i> -Pinocarveol	0.02	Monoterpenic alcohol
Unknown	0.06	Unknown
Unknown	0.04	Oxygenated normonoterpene
Menthone	0.50	Monoterpenic ketone
Citronellal	0.13	Monoterpenic aldehyde
Isomenthone	7.40	Monoterpenic ketone
neo-Menthol	0.08	Monoterpenic alcohol
Terpinen-4-ol	0.07	Monoterpenic alcohol
Menthol	0.01	Monoterpenic alcohol
Isomenthol	0.15	Monoterpenic alcohol
<i>para</i> -Cymen-8-ol	0.02	Monoterpenic alcohol
Myrtenol	0.05	Monoterpenic alcohol
α -Terpineol	0.30	Monoterpenic alcohol
Unknown	0.01	Unknown
Unknown	0.04	Oxygenated monoterpene
Nerol	0.74	Monoterpenic alcohol
Citronellol	21.71	Monoterpenic alcohol
Neral	0.37	Monoterpenic aldehyde
Piperitone	0.12	Monoterpenic ketone
Geraniol	14.35	Monoterpenic alcohol
Geranial	0.87	Monoterpenic aldehyde
Citronellyl formate	10.44	Monoterpenic ester
Neryl formate	0.28	Monoterpenic ester
Geranyl formate	6.20	Monoterpenic ester
(3Z)-Hexenyl tiglate	0.03	Aliphatic ester
Methyl geranate	0.01	Monoterpenic ester
α -Cubebene	0.11	Sesquiterpene

Phenylethyl propionate	0.07	Phenolic ester
Citronellyl acetate	0.25	Monoterpenic ester
Neryl acetate	0.02	Monoterpenic ester
Geranic acid	0.05	Aliphatic acid
α -Copaene	0.40	Sesquiterpene
β -Bourbonene	1.14	Sesquiterpene
Geranyl acetate	0.41	Monoterpenic ester
β -Elemene	0.15	Sesquiterpene
Phenylethyl isobutyrate	0.12	Phenolic ester
α -Gurjunene	0.03	Sesquiterpene
β -Caryophyllene	1.09	Sesquiterpene
β -Ylangene	0.02	Sesquiterpene
β -Copaene	0.11	Sesquiterpene
Heptyl tiglate	0.01	Aliphatic ester
α -Guaiene	[0.70]	Sesquiterpene
<i>trans</i> - α -Bergamotene	[0.70]	Sesquiterpene
6,9-Guaiadiene	6.79	Sesquiterpene
Unknown	0.37	Sesquiterpene
Citronellyl propionate	0.39	Monoterpenic ester
α -Humulene	0.26	Sesquiterpene
allo-Aromadendrene	0.18	Sesquiterpene
<i>trans</i> -Cadina-1(6),4-diene	0.27	Sesquiterpene
γ -Murolene	0.04	Sesquiterpene
Germacrene D	1.16	Sesquiterpene
Geranyl propionate	1.09	Monoterpenic ester
β -Selinene	0.18	Sesquiterpene
γ -Amorphene	0.35	Sesquiterpene
Phenylethyl isovalerate	0.06	Phenolic ester
Viridiflorene	0.12	Sesquiterpene
4- <i>epi-cis</i> -Dihydroagarofuran	0.10	Sesquiterpenic ether
α -Murolene	0.10	Sesquiterpene
δ -Amorphene	0.09	Sesquiterpene
Cubebol	0.07	Sesquiterpenic alcohol
γ -Cadinene	0.21	Sesquiterpene
Geranyl isobutyrate	0.33	Monoterpenic ester
<i>trans</i> -Calamenene	0.13	Sesquiterpene
δ -Cadinene	0.49	Sesquiterpene
Zonarene	0.14	Sesquiterpene
Citronellyl butyrate	0.51	Monoterpenic ester
α -Cadinene	0.05	Sesquiterpene
α -Calacorene	0.05	Sesquiterpene
α -Agarofuran	0.12	Sesquiterpenic ether
Furopelargone isomer	0.13	Sesquiterpenic ketone
1-nor-Bourbonanone	0.04	Norsesquiterpenic ketone
Geranyl butyrate	1.04	Monoterpenic ester

Spathulenol	0.02	Sesquiterpenic alcohol
Caryophyllene oxide	0.21	Sesquiterpenic ether
Caryophyllene oxide isomer	0.02	Sesquiterpenic ether
Globulol	0.03	Sesquiterpenic alcohol
Furopelargone A	0.58	Sesquiterpenic ketone
Phenylethyl tiglate	0.45	Phenolic ester
Geranyl 2-methylbutyrate?	0.02	Monoterpenic ester
Geranyl isovalerate	0.38	Monoterpenic ester
10-epi-Cubenol	0.15	Sesquiterpenic alcohol
10-epi- γ -Eudesmol	0.07	Sesquiterpenic alcohol
1-epi-Cubenol	0.08	Sesquiterpenic alcohol
γ -Eudesmol	0.06	Sesquiterpenic alcohol
Citronellyl valerate?	0.01	Monoterpenic ester
τ -Cadinol	0.01	Sesquiterpenic alcohol
τ -Muurolol	0.05	Sesquiterpenic alcohol
Cubenol	0.07	Sesquiterpenic alcohol
β -Eudesmol	0.05	Sesquiterpenic alcohol
α -Eudesmol	0.06	Sesquiterpenic alcohol
α -Cadinol	0.03	Sesquiterpenic alcohol
<i>cis</i> -Calamene-10-ol	0.02	Sesquiterpenic alcohol
Valerianol	0.02	Sesquiterpenic alcohol
Geranyl valerate	0.11	Monoterpenic ester
Citronellyl tiglate	0.30	Monoterpenic ester
Citronellyl 4-methylvalerate	0.09	Monoterpenic ester
3 β ,4 β -Oxidoagarofuran?	0.07	Sesquiterpenic ether
Geranyl tiglate	1.27	Monoterpenic ester
Geranyl 4-methylvalerate?	0.16	Monoterpenic ester
Citronellyl caproate	0.03	Monoterpenic ester
Geranyl caproate	0.06	Monoterpenic ester
Citronellyl heptanoate	0.03	Monoterpenic ester
Phytone	0.02	Terpenic ketone
Geranyl heptanoate	0.04	Monoterpenic ester
Geranyl caprylate	0.04	Monoterpenic ester
Consolidated total	96.71	

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

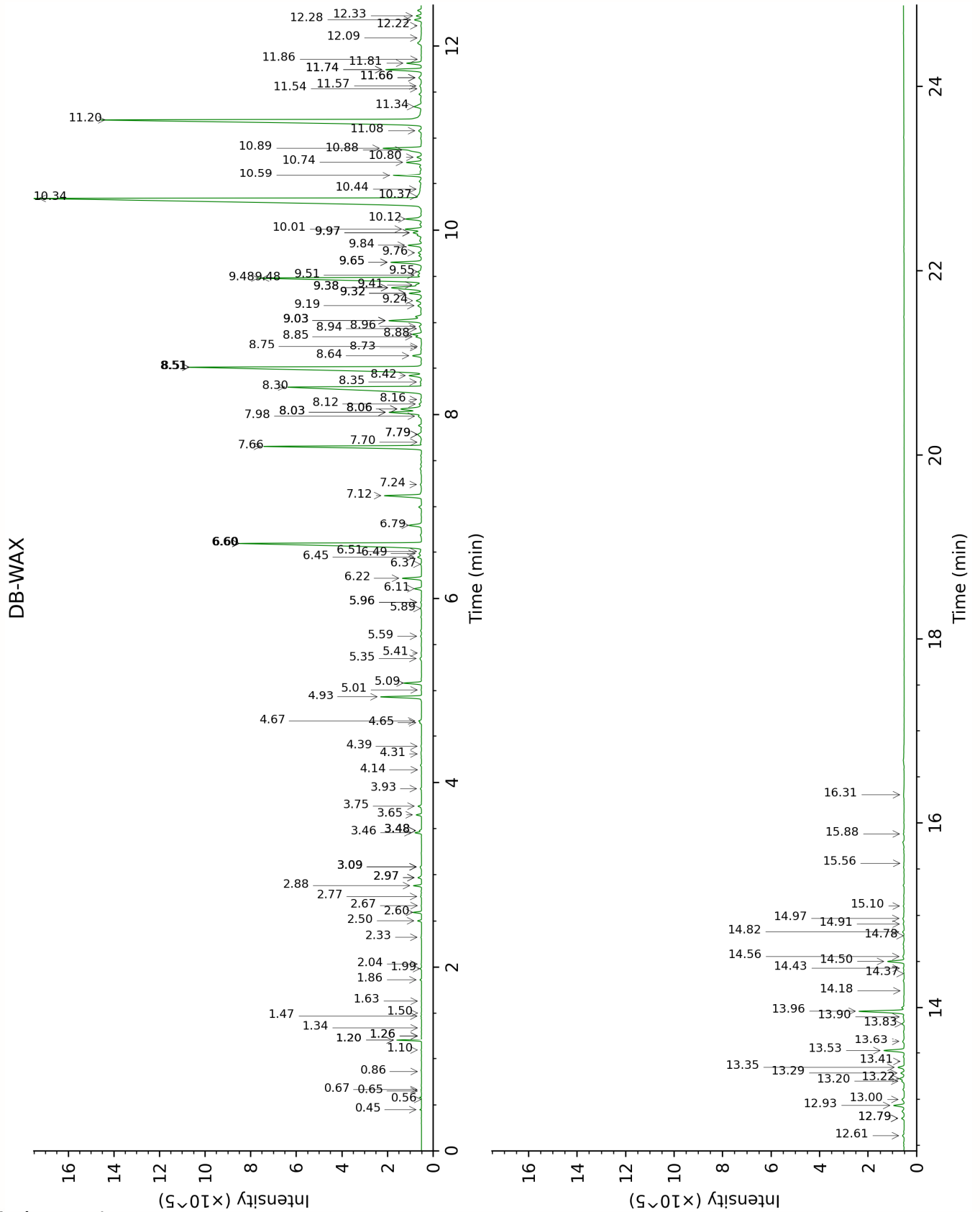
Note: no correction factor was applied

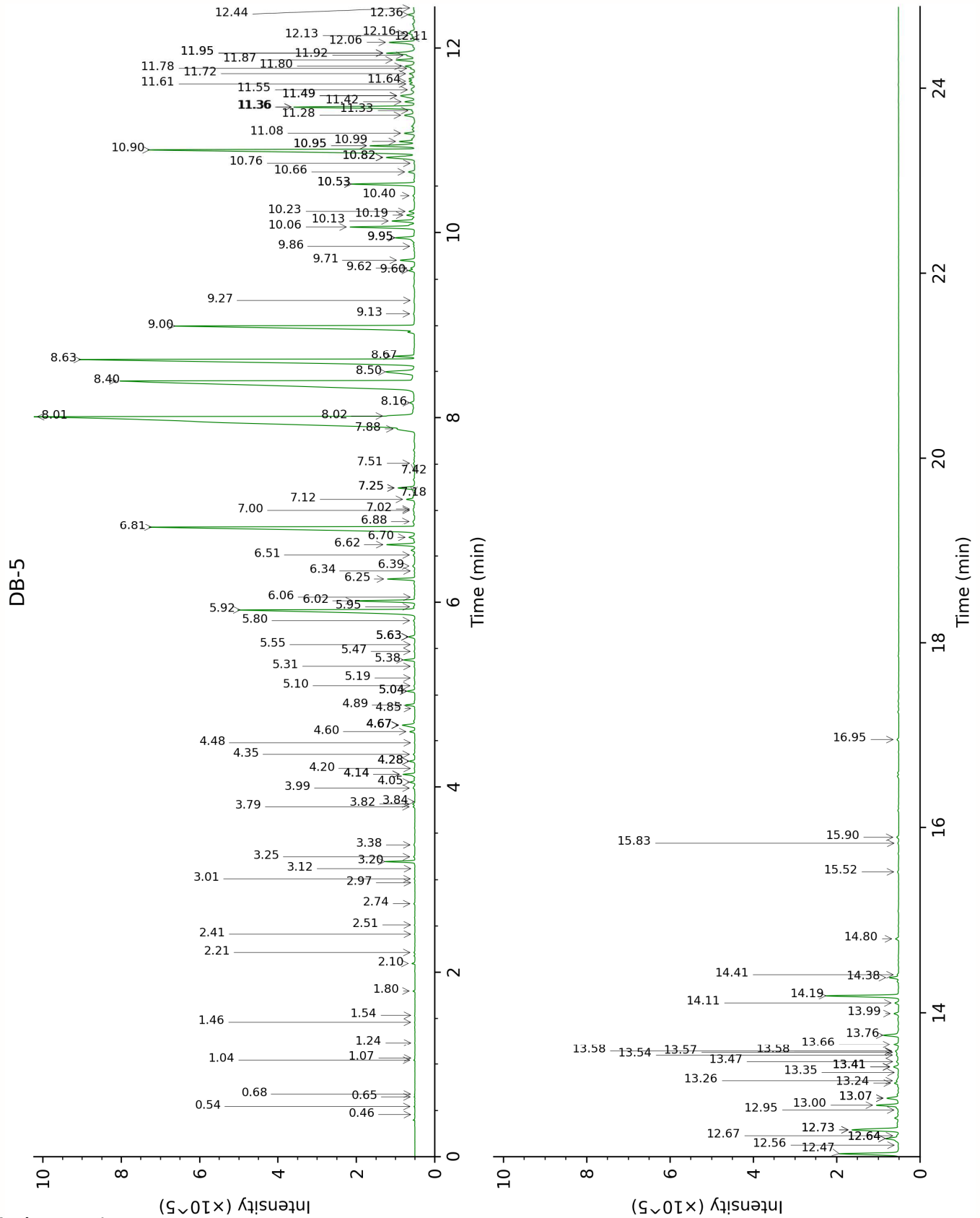
About "consolidated" data: The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm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

This page was intentionally left blank. The following pages present the complete data of the analysis.





FULL ANALYSIS DATA

Isobutyral	Column DB-WAX			Column DB-5		
	0.45	781.6	0.02	0.46	538.8	tr
2-Methyl-3-buten-2-ol	1.34	1011.3	tr	0.54	606.2	0.01
Isovaleral	0.67	884.3	0.01	0.65	640.5	0.01
2-Methylbutyral	0.65	878.5	tr	0.68	650.8	tr
Isoamyl alcohol	3.09*	1173.2	[0.05]	1.04	732.4	0.01
2-Methylbutanol	3.09*	1173.2	[0.05]	1.07	735.5	tr
Toluene	1.26*	999.8	[0.01]	1.24	758.6	tr
Isoamyl formate	1.47	1024.3	0.01	1.46	789.1	tr
Hexanal	1.63	1040.9	tr	1.54	799.3	0.01
Unknown PEGR III [m/z 81, 69 (80), 41 (65), 83 (52), 109 (48), 55 (47)...]	0.56	843.0	tr	1.80	822.9	0.02
3-Methylpentanol	4.65	1296.0	0.04	2.10	847.2	0.04
(3Z)-Hexenol	5.41	1346.9	0.02	2.22	856.9	0.01
Hexanol	5.01	1317.8	0.01	2.41	873.0	0.01
3-Acetyl-3-methylcyclopentene	0.86	931.9	tr	2.51	881.2	0.01
3-Methylpentyl formate?	2.77	1146.9	0.02	2.74	899.9	0.02
Hashishene	1.20*	990.8	[0.40]	2.97	915.7	0.01
Tricyclene	1.10	972.0	0.01	3.01	918.5	0.01
α -Thujene	1.26*	999.8	[0.01]	3.12	925.7	0.01
α -Pinene	1.20*	990.8	[0.40]	3.20	930.7	0.41
Unknown ACMI I [m/z 122, 121 (36), 107 (33), 79 (27), 93 (25), 77 (25), 43 (20)]	3.48*†	1205.7	[0.05]	3.25	934.1	0.03
Camphene	1.50	1027.7	0.01	3.38	942.6	0.03
Geranic oxide	1.98	1077.2	0.03	3.79	969.5	0.03
β -Pinene	1.86	1064.7	0.03	3.82	971.6	0.04
Sabinene	2.04	1082.4	0.01	3.84	973.2	tr
Octen-3-ol	6.37	1417.4	0.03	3.99	982.8	0.03
6-Methyl-5-hepten-2-one	4.67	1297.5	0.07	4.05	987.1	0.08
<i>trans</i> -Dehydroxylinalool oxide	3.09*	1173.2	[0.05]	4.14*	992.6	[0.21]
Myrcene	2.60	1132.9	0.17	4.14*	992.6	[0.21]
6-Methyl-5-hepten-2-ol	6.51	1427.8	0.02	4.20	996.8	0.02
α -Phellandrene	2.50	1125.5	0.08	4.28*	1001.9	[0.10]

<i>cis</i> -Dehydroxylinalool oxide	3.48*†	1205.7	[0.05]	4.28*	1001.9	[0.10]
Δ3-Carene	2.32	1111.1	0.01	4.35	1006.7	0.03
α-Terpinene	2.67	1138.9	0.01	4.48	1014.4	0.01
<i>para</i> -Cymene	3.74	1226.2	0.10	4.60	1022.0	0.09
Limonene	2.88	1156.6	0.17	4.67*	1026.4	[0.29]
Unknown COCI XLIV [m/z 59, 43 (12), 109 (11), 41 (10), 127 (8)...]	5.96*	1387.0	[0.02]	4.67*	1026.4	[0.29]
1,8-Cineole	2.97*	1163.7	[0.09]	4.67*	1026.4	[0.29]
β-Phellandrene	2.97*	1163.7	[0.09]	4.67*	1026.4	[0.29]
Unknown COCI XLIII [m/z 59, 43 (11), 109 (10), 41 (10), 127 (8)...]	5.89	1382.1	0.03	4.67*	1026.4	[0.29]
Benzeneacetaldehyde	8.35	1569.0	0.04	4.85	1037.6	0.01
(<i>Z</i>)-β-Ocimene	3.46*†	1203.8	[0.15]	4.89	1040.0	0.16
(<i>E</i>)-β-Ocimene	3.65	1219.0	0.12	5.04*	1049.8	[0.14]
Unknown COCI V [m/z 125, 69 (75), 41 (34), 55 (25), 93 (22)... 140 (3)]	4.31	1269.7	0.02	5.04*	1049.8	[0.14]
Isobutyl angelate	4.14	1256.4	0.01	5.10	1053.4	0.03
γ-Terpinene	3.48*†	1205.7	[0.05]	5.19	1058.7	0.02
Unknown PIMA I [m/z 79, 93 (60), 43 (40), 94 (35), 137 (33), 77 (26), 91 (20), 152 (18)]	4.39	1276.2	0.02	5.31	1066.5	0.02
<i>cis</i> -Linalool oxide (fur.)	6.11	1397.8	0.18	5.38	1070.9	0.19
Octanol	7.79*	1524.4	[0.18]	5.47	1076.6	0.02
Fenchone	5.35	1342.6	0.06	5.55	1081.2	0.03
Terpinolene	3.93	1240.7	0.03	5.63*	1086.4	[0.13]
<i>para</i> -Cymenene	5.96*	1387.0	[0.02]	5.63*	1086.4	[0.13]
<i>trans</i> -Linalool oxide (fur.)	6.49	1426.1	0.10	5.63*	1086.4	[0.13]
Rosefuran	5.59	1360.2	0.03	5.80	1097.4	0.04
Linalool	7.66	1514.2	4.52	5.92	1104.6	4.65
(<i>Z</i>)-6-Methyl-3,5-heptadien-2-one	7.79*	1524.4	[0.18]	5.95	1106.7	0.03
<i>cis</i> -Rose oxide	4.93	1311.8	1.02	6.02	1110.8	1.02
Phenylethyl alcohol	11.66*	1847.1	[0.12]	6.06	1113.3	0.02
<i>trans</i> -Rose oxide	5.09	1323.2	0.43	6.25	1125.8	0.44
<i>trans</i> -Pinocarveol	8.73	1598.4	0.02	6.34	1131.3	0.02
Unknown MEOF V [m/z 70, 81 (94), 67	6.60*	1434.3	[7.42]	6.39	1134.7	0.06

(52), 69 (45), 109 (44), 82 (35)...]						
Unknown COCI VIII [m/z 41, 69 (87), 82 (66), 67 (55), 109 (46)... 142 (18)]	8.94	1615.3	0.04	6.51	1142.3	0.04
Menthone	6.22	1406.0	0.49	6.62	1149.4	0.50
Citronellal	6.60*	1434.3	[7.42]	6.70	1154.5	0.13
Isomenthone	6.60*	1434.3	[7.42]	6.81	1161.5	7.40
neo-Menthol	8.16	1554.1	0.04	6.88	1165.8	0.08
Terpinen-4-ol	8.12	1550.3	0.07	7.00*†	1173.5	[0.04]
Menthol	8.75	1600.0	0.01	7.02*†	1174.4	[0.04]
Isomenthol	8.51*	1581.7	[10.58]	7.12	1181.0	0.15
para-Cymen-8-ol	11.08	1795.9	0.10	7.18	1184.8	0.02
Myrtenol	10.44	1740.7	0.05	7.24*	1188.9	[0.35]
α-Terpineol	9.32*	1646.8	[0.33]	7.24*	1188.9	[0.35]
Unknown MEPI V [m/z 43, 99 (84), 81 (46), 986 (43), 126 (36), 71 (28)... 170 (12)]				7.42	1200.1	0.01
Unknown DRMO II [m/z 123, 81 (40), 67 (29), 79 (29), 93 (26), 121 (25), 41 (24), 55 (18), 69 (15)...]				7.51	1205.9	0.04
Nerol	10.59	1753.8	0.74	7.88*†	1230.7	[0.41]
Citronellol	10.34	1732.1	21.71	8.01*†	1239.4	[22.22]
Neral	9.02*†	1622.5	[1.12]	8.02	1239.9	0.37
Piperitone	9.41	1654.1	0.13	8.16	1249.5	0.12
Geraniol	11.20	1806.1	14.34	8.40	1265.2	14.35
Geranial	9.65*	1674.3	[0.92]	8.50	1271.8	0.87
Citronellyl formate	8.51*	1581.7	[10.58]	8.63	1280.6	10.44
Neryl formate	9.02*†	1622.5	[1.12]	8.67	1283.0	0.28
Geranyl formate	9.48*	1660.3	[6.29]	9.00	1305.2	6.20
(3Z)-Hexenyl tiglate	8.96	1617.3	0.07	9.13	1314.5	0.03
Methyl geranate	9.32*	1646.8	[0.33]	9.27	1324.6	0.01
α-Cubebene	6.45	1423.1	0.12	9.60	1347.3	0.11
Phenylethyl propionate	11.57	1839.0	0.07	9.62	1349.1	0.07
Citronellyl acetate	9.02*†	1622.5	[1.12]	9.71	1355.1	0.25
Neryl acetate	9.76	1682.8	0.10	9.86	1365.6	0.02
Geranic acid	16.31	2306.4	0.05	9.95*	1372.1	[0.43]
α-Copaene	6.79	1449.1	0.40	9.95*	1372.1	[0.43]
β-Bourbonene	7.12	1473.8	1.12	10.06	1380.2	1.14
Geranyl acetate	10.12	1713.0	0.49	10.13	1384.8	0.41

β-Elemene	8.03*†	1543.2	[1.05]	10.19	1389.2	0.15
Phenylethyl isobutyrate	11.54	1836.2	0.02	10.23	1392.1	0.12
α-Gurjunene	7.24	1482.9	0.04	10.40	1404.0	0.03
β-Caryophyllene	8.03*†	1543.2	[1.05]	10.52*	1413.2	[1.11]
β-Ylangene	7.70	1517.8	0.02	10.52*	1413.2	[1.11]
β-Copaene	7.98*†	1539.9	[0.11]	10.66	1423.5	0.11
Heptyl tiglate				10.76	1430.4	0.01
α-Guaiene	8.06*†	1546.1	[0.78]	10.82*	1435.2	[0.70]
<i>trans</i> -α-Bergamotene	8.06*†	1546.1	[0.78]	10.82*	1435.2	[0.70]
6,9-Guaiadiene	8.30	1564.7	6.66	10.90	1441.2	6.79
Unknown BOCA IV [m/z 91, 161 (92), 105 (85), 119 (63), 133 (53), 79 (49), 204 (46)]	8.42	1574.5	0.37	10.95*	1444.5	[0.82]
Citronellyl propionate	9.84	1689.5	0.39	10.95*	1444.5	[0.82]
α-Humulene	8.88	1610.3	0.25	10.99	1448.0	0.26
allo-Aromadendrene	8.64	1591.4	0.27	11.08	1454.6	0.18
<i>trans</i> -Cadina-1(6),4-diene	8.85	1608.2	0.15	11.28	1469.0	0.27
γ-Murolene	9.19	1635.8	0.14	11.33	1472.8	0.04
Germacrene D	9.38*	1651.7	[1.24]	11.36*	1475.6	[2.25]
Geranyl propionate	10.89	1779.5	1.09	11.36*	1475.6	[2.25]
β-Selinene	9.48*	1660.3	[6.29]	11.42	1479.9	0.18
γ-Amorphene	9.38*	1651.7	[1.24]	11.49*	1484.7	[0.41]
Phenylethyl isovalerate	12.61	1933.7	0.06	11.49*	1484.7	[0.41]
Viridiflorene	9.24	1640.2	0.18	11.55	1489.5	0.12
4-epi- <i>cis</i> -Dihydroagarofuran	9.51	1662.8	0.13	11.61	1494.1	0.10
α-Murolene	9.65*	1674.3	[0.92]	11.64	1496.4	0.10
δ-Amorphene	9.55	1665.9	0.14	11.72	1502.4	0.09
Cubebol	12.09	1885.9	0.03	11.78	1506.7	0.07
γ-Cadinene	9.97*	1700.6	[0.27]	11.80	1508.5	0.21
Geranyl isobutyrate	10.88	1778.0	0.36	11.87	1513.8	0.33
<i>trans</i> -Calamenene	10.80	1771.2	0.13	11.92	1517.8	0.13
δ-Cadinene	10.01	1703.8	0.49	11.95*	1519.7	[0.63]
Zonarene	9.97*	1700.6	[0.27]	11.95*	1519.7	[0.63]
Citronellyl butyrate	10.74	1766.4	0.46	12.06	1528.8	0.51
α-Cadinene	10.36	1734.0	0.24	12.11	1532.4	0.05
α-Calacorene	11.66*	1847.1	[0.12]	12.13	1534.5	0.05
α-Agarofuran	11.34	1818.8	0.30	12.16	1536.4	0.12
Furopelargone isomer	12.33	1907.6	0.14	12.36	1552.3	0.13
1-nor-Bourbonanone	13.00	1970.9	0.08	12.44	1558.1	0.04

Geranyl butyrate	11.74*	1855.0	[1.00]	12.47	1561.1	1.04
Spathulenol	13.90	2057.9	0.06	12.56	1568.3	0.02
Caryophyllene oxide	12.28	1903.7	0.21	12.64*	1574.0	[0.32]
Caryophyllene oxide isomer	12.22	1897.8	0.02	12.64*	1574.0	[0.32]
Globulol	13.41	2009.8	0.02	12.67	1576.3	0.03
Furopelargone A	13.53	2021.4	0.58	12.73*	1581.3	[1.04]
Phenylethyl tiglate	14.50	2117.2	0.45	12.73*	1581.3	[1.04]
Geranyl 2-methylbutyrate?	11.74*	1855.0	[1.00]	12.94	1598.1	0.02
Geranyl isovalerate	11.81	1861.3	0.43	13.00	1602.2	0.38
10-epi-Cubenol	13.22	1992.2	0.15	13.07*	1608.3	[0.25]
10-epi-γ-Eudesmol	13.63	2031.1	0.07	13.07*	1608.3	[0.25]
1-epi-Cubenol	13.29	1998.0	0.10	13.24	1621.7	0.08
γ-Eudesmol	14.43	2109.8	0.03	13.26	1623.9	0.06
Citronellyl valerate?	11.86	1865.0	0.01	13.35	1631.2	0.01
τ-Cadinol	14.37	2104.1	0.01	13.41*	1636.2	[0.11]
τ-Muurolol	14.56	2122.7	0.05	13.41*	1636.2	[0.11]
Cubenol	13.20	1989.6	0.07	13.41*	1636.2	[0.11]
β-Eudesmol	14.91	2158.8	0.04	13.47	1640.9	0.05
α-Eudesmol	14.82	2150.0	0.04	13.54	1646.8	0.06
α-Cadinol	14.97	2165.1	0.05	13.57	1649.3	0.03
cis-Calamenen-10-ol	15.88	2261.0	0.02	13.58*	1650.3	[0.08]
Valerianol	14.78	2145.8	0.02	13.58*	1650.3	[0.08]
Geranyl valerate	12.79*	1951.5	[0.08]	13.66	1656.5	0.11
Citronellyl tiglate	12.93	1964.7	0.29	13.76	1665.1	0.30
Citronellyl 4-methylvalerate				13.99	1684.3	0.09
3β,4β-Oxidoagarofuran?	15.56	2226.9	0.02	14.11	1693.8	0.07
Geranyl tiglate	13.96	2064.0	1.29	14.19	1700.2	1.27
Geranyl 4-methylvalerate?	13.35	2003.8	0.18	14.38	1716.9	0.16
Citronellyl caproate	12.79*	1951.5	[0.08]	14.41	1719.6	0.03
Geranyl caproate	13.83	2050.5	0.06	14.80	1753.1	0.06
Citronellyl heptanoate				15.52	1816.2	0.03
Phytone	14.18	2085.7	0.01	15.83	1844.3	0.02
Geranyl heptanoate				15.90	1850.2	0.04
Geranyl caprylate	15.10	2178.9	0.03	16.95	1947.8	0.04
Total reported		96.52%			97.06%	

*: 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

Essential Oil, *Pelargonium graveolens* ct. Bourbon

Internal code: 23G04-PTH05

Bourbon Geranium - Madagascar - G20109R

Report prepared for:

Plant Therapy

†: 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