**Date :** July 4, 2023

# *Certificate of Analysis – GC Profiling & Check for Carrier Oil*

## *Sample identification*

**Internal code :** 23D20-PTH01
**Customer identification :** Ylang Ylang Complete - Madagascar - Y10111
**Type :** Essential oil
**Source :** *Cananga odorata* var. *genuina (Ylang-ylang)*
**Customer :** Plant Therapy

## *Analysis*

**Method:** PC-MAT-014 ISO - Analysis of the composition of an essential oil or other volatile liquid by FAST GC-FID (in French); identifications validated by GC-MS. Carrier oil determination by PC-MAT-010 – GC-FID quantitation of fatty acid methyl esters after derivatization, against an internal standard of tridecanoic acid.
**Analyst :** Alexis St-Gelais, Ph. D., Chimiste 2013-174
**Analysis date :** April 26, 2023

Checked and 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*Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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.*

*This report is an update from the first version issued on April 26, 2023, to update the customer identification.*



Méthode certifiée ISO 17025:2017 Certified method

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### *Physicochemical data*

**Physical aspect:** Light yellow liquid
**Refractive index:** 1.5002 ± 0.0003 (20 °C; method PC-MAT-016)

### *Carrier oil determination*

After derivatization, <0.1% m/m of fatty acids, in equivalents of tridecanoic acid, were found.

### *Conclusion*

No adulterant, contaminant or diluent has been detected using this method. Absence of fatty acids indicate that the oil is undiluted with a carrier oil.

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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-Methyl-3-buten-2-ol | 0.01 | Aliphatic alcohol |
| Ethyl acetate | 0.04 | Aliphatic ester |
| Pentanal | tr | Aliphatic aldehyde |
| Isobutyl acetate | tr | Aliphatic ester |
| Prenol | 0.01 | Aliphatic alcohol |
| Hexanal | tr | Aliphatic aldehyde |
| Octane | 0.01 | Alkane |
| Butyl acetate | 0.01 | Aliphatic ester |
| (3*Z*)-Hexenol | tr | Aliphatic alcohol |
| Hexanol | tr | Aliphatic alcohol |
| Isoamyl acetate | 0.02 | Aliphatic ester |
| 2-Methylbutyl acetate | 0.02 | Aliphatic ester |
| 3-Methyl-3-butenyl acetate | 0.06 | Aliphatic ester |
| Prenyl acetate | 0.20 | Aliphatic ester |
| α-Pinene | 0.22 | Monoterpene |
| Camphene | 0.01 | Monoterpene |
| Benzaldehyde | 0.03 | Simple phenolic |
| Sabinene | 0.01 | Monoterpene |
| β-Pinene | 0.08 | Monoterpene |
| 6-Methyl-5-hepten-2-one | 0.01 | Aliphatic ketone |
| Myrcene | 0.10 | Monoterpene |
| (3*Z*)-Hexenyl acetate | 0.07 | Aliphatic ester |
| para-Methylanisole | 4.29 | Simple phenolic |
| Limonene | 0.04 | Monoterpene |
| 1,8-Cineole | 0.25 | Monoterpenic ether |
| Benzyl alcohol | 0.07 | Simple phenolic |
| (*Z*)-β-Ocimene | 0.01 | Monoterpene |
| (*E*)-β-Ocimene | 0.02 | Monoterpene |
| *cis*-Sabinene hydrate | 0.01 | Monoterpenic alcohol |
| *cis*-Linalool oxide (fur.) | 0.02 | Monoterpenic alcohol |
| *trans*-Linalool oxide (fur.) | 0.03 | Monoterpenic alcohol |
| Methyl benzoate | 2.24 | Phenolic ester |
| para-Cresol | 0.07 | Simple phenolic |
| Linalool | 10.25 | Monoterpenic alcohol |
| Camphor | 0.02 | Monoterpenic ketone |
| ortho-Dimethoxybenzene | 0.02 | Simple phenolic |
| Benzyl acetate | 2.32 | Phenolic ester |
| para-Cresyl acetate | 0.04 | Phenolic ester |
| Ethyl benzoate | 0.07 | Phenolic ester |
| Terpinen-4-ol | 0.01 | Monoterpenic alcohol |
| α-Terpineol | 0.21 | Monoterpenic alcohol |
| Methyl salicylate | 0.02 | Phenolic ester |
| Methylchavicol | 0.16 | Phenylpropanoid |
| Nerol | 0.04 | Monoterpenic alcohol |
| Neral | 0.04 | Monoterpenic aldehyde |

| | | |
|---|---|---|
| Phenylethyl acetate | 0.05 | Phenolic ester |
| Geraniol | 1.77 | Monoterpenic alcohol |
| Chavicol | 0.01 | Phenylpropanoid |
| Geranial | 0.11 | Monoterpenic aldehyde |
| (*E*)-Anethole | 0.07 | Phenylpropanoid |
| 1-Nitro-2-phenylethane | 0.09 | Simple phenolic |
| (*E*)-Cinnamyl alcohol | 0.02 | Phenylpropanoid |
| 4-Vinylguaiacol | 0.03 | Simple phenolic |
| δ-Elemene | 0.04 | Sesquiterpene |
| Bicycloelemene | 0.02 | Sesquiterpene |
| Benzyl butyrate | 0.05 | Phenolic ester |
| α-Cubebene | 0.14 | Sesquiterpene |
| Eugenol | 0.70 | Phenylpropanoid |
| Neryl acetate | 0.04 | Monoterpenic ester |
| α-Ylangene | 0.14 | Sesquiterpene |
| Hydrocinnamyl acetate | 0.04 | Phenylpropanoid ester |
| α-Copaene | 0.89 | Sesquiterpene |
| β-Bourbonene | 0.03 | Sesquiterpene |
| Geranyl acetate | 8.48 | Monoterpenic ester |
| β-Cubebene | 0.13 | Sesquiterpene |
| β-Elemene | 0.35 | Sesquiterpene |
| Cyperene | 0.04 | Sesquiterpene |
| Isocaryophyllene | 0.01 | Sesquiterpene |
| Methyleugenol | 0.04 | Phenylpropanoid |
| β-Caryophyllene | 11.43 | Sesquiterpene |
| Caryophylla-4(12),8(13)-diene | 0.07 | Sesquiterpene |
| β-Copaene | 0.43 | Sesquiterpene |
| Aromadendrene | 0.02 | Sesquiterpene |
| α-Guaiene | 0.04 | Sesquiterpene |
| Isogermacrene D | 0.08 | Sesquiterpene |
| (*E*)-Cinnamyl acetate | 0.69 | Phenylpropanoid ester |
| *trans*-Muurola-3,5-diene | 0.11 | Sesquiterpene |
| α-Humulene | 3.12 | Sesquiterpene |
| ε-Muurolene? | 0.08 | Sesquiterpene |
| (*E*)-Isoeugenol | 0.18 | Phenylpropanoid |
| allo-Aromadendrene | 0.05 | Sesquiterpene |
| *cis*-Cadina-1(6),4-diene | 0.01 | Sesquiterpene |
| *cis*-Muurola-4(15),5-diene | 0.14 | Sesquiterpene |
| *trans*-Cadina-1(6),4-diene | 0.21 | Sesquiterpene |
| γ-Muurolene | 1.88 | Sesquiterpene |
| Germacrene D | 12.46 | Sesquiterpene |
| *trans*-Muurola-4(15),5-diene | 0.50 | Sesquiterpene |
| γ-Amorphene | 0.04 | Sesquiterpene |
| Prenyl benzoate | 0.41 | Phenolic ester |
| Bicyclogermacrene | 0.15 | Sesquiterpene |
| Viridiflorene | 0.07 | Sesquiterpene |
| epi-Cubebol | 0.06 | Sesquiterpenic alcohol |
| Methyl (*E*)-isoeugenol | 0.06 | Phenylpropanoid |
| α-Muurolene | 0.89 | Sesquiterpene |
| (3*Z*,6*E*)-α-Farnesene | 0.03 | Sesquiterpene |
| δ-Amorphene | 0.31 | Sesquiterpene |
| Unknown | 1.01 | Sesquiterpene |

| | | |
|---|---|---|
| δ-Guaiene | 0.48 | Sesquiterpene |
| (3*E*,6*E*)-α-Farnesene | 5.43 | Sesquiterpene |
| Cubebol | 0.10 | Sesquiterpenic alcohol |
| γ-Cadinene | 1.08 | Sesquiterpene |
| δ-Cadinene | 2.86 | Sesquiterpene |
| *trans*-Calamenene | 0.13 | Sesquiterpene |
| *trans*-Cadina-1,4-diene | 0.18 | Sesquiterpene |
| α-Cadinene | 0.26 | Sesquiterpene |
| α-Calacorene | 0.05 | Sesquiterpene |
| *cis*-Dracunculifoliol | 0.02 | Sesquiterpenic alcohol |
| α-Elemol | 0.10 | Sesquiterpenic alcohol |
| Germacrene B | 0.01 | Sesquiterpene |
| Salviadienol? | 0.02 | Sesquiterpenic alcohol |
| Sesquirosefuran? | 0.03 | Sesquiterpenic ether |
| (*E*)-Nerolidol | 0.14 | Sesquiterpenic alcohol |
| (3*Z*)-Hexenyl benzoate | 0.03 | Phenolic ester |
| Germacrene D-4-ol | 0.06 | Sesquiterpenic alcohol |
| Spathulenol | 0.07 | Sesquiterpenic alcohol |
| *trans*-Dracunculifoliol | 0.10* | Sesquiterpenic alcohol |
| Caryophyllene oxide | 0.25 | Sesquiterpenic ether |
| 10-epi-Junenol | 0.10* | Sesquiterpenic alcohol |
| Unknown | 0.05 | Sesquiterpenic alcohol |
| Globulol | 0.05 | Sesquiterpenic alcohol |
| Unknown | 0.09 | Oxygenated sesquiterpene |
| Viridiflorol | 0.03 | Sesquiterpenic alcohol |
| Guaiol | 0.07 | Sesquiterpenic alcohol |
| Copaborneol | 0.06 | Sesquiterpenic alcohol |
| Humulene epoxide II | 0.08 | Sesquiterpenic ether |
| 10-epi-Cubenol | 0.05 | Sesquiterpenic alcohol |
| Junenol | 0.30 | Sesquiterpenic alcohol |
| (*E*)-Isoeugenyl acetate | 0.02 | Phenylpropanoid ester |
| Unknown | 0.06 | Oxygenated sesquiterpene |
| 1-epi-Cubenol | 0.25 | Sesquiterpenic alcohol |
| γ-Eudesmol | 0.14 | Sesquiterpenic alcohol |
| Caryophylladienol II | 0.02 | Sesquiterpenic alcohol |
| τ-Cadinol | 0.30 | Sesquiterpenic alcohol |
| τ-Muurolol | 0.74 | Sesquiterpenic alcohol |
| Cubenol | 0.09 | Sesquiterpenic alcohol |
| α-Muurolol | 0.40 | Sesquiterpenic alcohol |
| Unknown | 0.24 | Sesquiterpenic alcohol |
| α-Cadinol | 1.47 | Sesquiterpenic alcohol |
| *cis*-Calamenen-10-ol | 0.05 | Sesquiterpenic alcohol |
| *trans*-Calamenen-10-ol | 0.03 | Sesquiterpenic alcohol |
| Bulnesol | 0.04 | Sesquiterpenic alcohol |
| Unknown | 0.18 | Oxygenated sesquiterpene |
| (2*Z*,6*E*)-Farnesol | 0.02 | Sesquiterpenic alcohol |
| (2*E*,6*E*)-Farnesol | 1.86 | Sesquiterpenic alcohol |
| (2*E*,6*E*)-Farnesal | 0.04 | Sesquiterpenic aldehyde |
| Benzyl benzoate | 6.78 | Phenolic ester |
| Unknown | 0.03 | Unknown |
| (2*E*,6*E*)-Farnesyl acetate | 1.49 | Sesquiterpenic ester |
| Unknown | 0.02 | Oxygenated sesquiterpene |

| | | |
|---|---|---|
| Benzyl salicylate | 1.79 | Phenolic ester |
| Unknown | 0.01 | Unknown |
| Unknown | 0.02 | Unknown |
| Geranyl benzoate | 0.15 | Phenolic ester |
| Unknown | 0.01 | Unknown |
| Unknown | 0.11 | Unknown |
| Unknown | 0.01 | Unknown |
| Unknown | 0.02 | Unknown |
| Unknown | 0.05 | Unknown |
| **Consolidated total** | **97.58%** | |

*: Individual compounds concentration could not be found due to overlapping coelutions on columns considered
[xx]: Duplicate percentage due to coelutions, not taken into account in the consolidated total
tr: The compound has been detected below 0.005% of 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.

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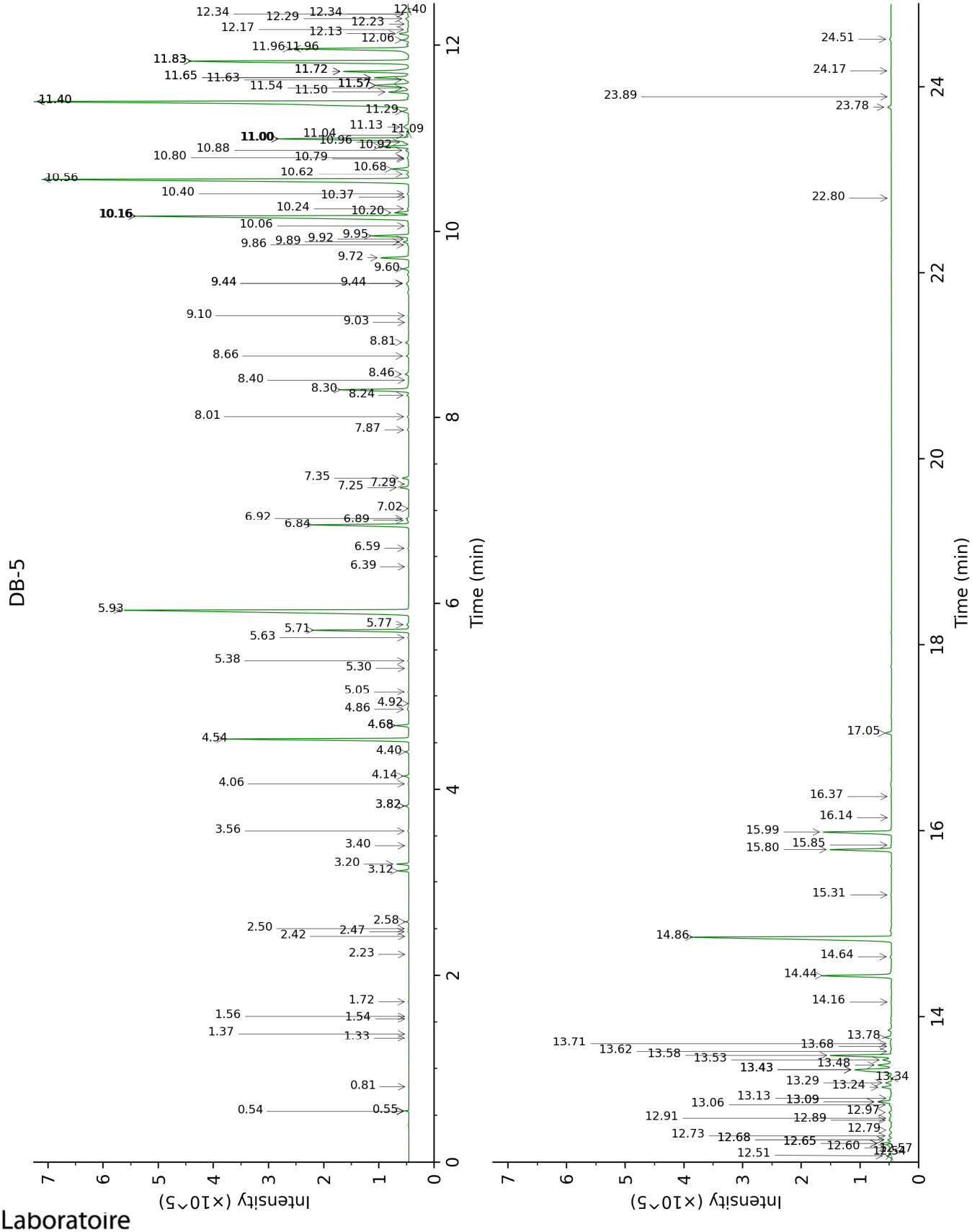
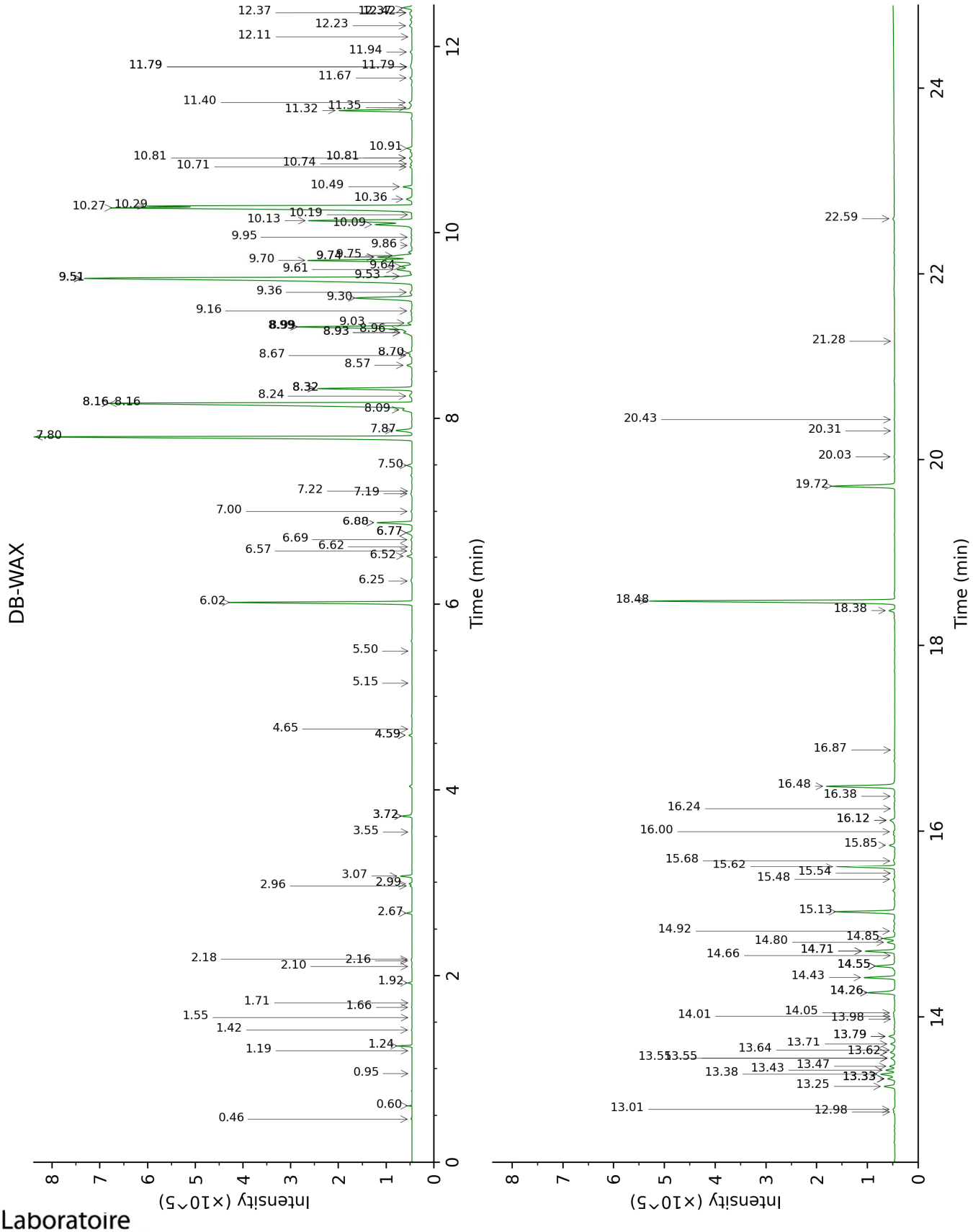

DB-5
Time (min)
Intensity (×10^5)
12.34
12.29
12.34
12.40
12.17
12.23
12.13
12.06
11.96
11.96
11.83
11.72
11.65
11.63
11.54
11.50
11.57
11.40
11.29
11.13
11.09
11.00
11.04
10.96
10.92
10.88
10.80
10.79
10.68
10.62
10.56
10.40
10.37
10.24
10.20
10.16
10.06
9.86
9.89
9.92
9.95
9.72
9.60
9.44
9.44
9.10
9.03
8.81
8.66
8.46
8.40
8.30
8.24
8.01
7.87
7.35
7.25
7.29
7.02
6.92
6.84
6.89
6.59
6.39
5.93
5.71
5.77
5.63
5.38
5.30
5.05
4.86
4.92
4.68
4.54
4.40
4.14
4.06
3.82
3.56
3.40
3.20
3.12
2.58
2.50
2.47
2.42
2.23
1.72
1.56
1.54
1.37
1.33
0.81
0.54
0.55
24.51
24.17
23.89
23.78
22.80
17.05
16.37
16.14
15.99
15.85
15.80
15.31
14.86
14.64
14.44
14.16
13.78
13.71
13.68
13.62
13.58
13.53
13.48
13.43
13.34
13.29
13.24
13.13
13.09
13.06
12.97
12.91
12.89
12.79
12.73
12.68
12.65
12.60
12.57
12.54
12.51


DB-WAX
Time (min)
Intensity (×10^5)
12.37
12.23
12.11
11.94
11.79
11.67
11.40
11.32
11.35
10.91
10.81
10.71
10.74
10.49
10.36
10.27
10.29
10.13
10.19
10.09
9.95
9.86
9.70
9.61
9.64
9.53
9.51
9.36
9.30
9.16
9.03
8.93
8.96
8.67
8.70
8.57
8.24
8.16
8.09
7.80
7.87
7.50
7.22
7.19
7.00
6.88
6.77
6.69
6.62
6.57
6.52
6.25
6.02
5.50
5.15
4.65
4.59
3.72
3.55
3.07
2.99
2.96
2.67
2.18
2.16
2.10
1.92
1.71
1.66
1.55
1.42
1.19
1.24
0.95
0.60
0.46
22.59
21.28
20.43
20.31
20.03
19.72
18.48
18.38
16.87
16.48
16.38
16.24
16.12
16.00
15.85
15.68
15.62
15.54
15.48
15.13
14.92
14.85
14.80
14.71
14.66
14.55
14.43
14.26
14.05
14.01
13.98
13.79
13.71
13.64
13.62
13.55
13.47
13.43
13.38
13.33
13.25
13.01
12.98

*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 | 606 | 0.01 | 1.42 | 1014 | 0.01 |
| Ethyl acetate | 0.55 | 608 | 0.04 | 0.60 | 854 | 0.03 |
| Pentanal | 0.80 | 693 | tr | 0.95 | 941 | tr |
| Isobutyl acetate | 1.33 | 771 | tr | 1.19 | 983 | tr |
| Prenol | 1.37 | 777 | 0.01 | 4.59* | 1288 | 0.07 |
| Hexanal | 1.54 | 799 | tr | 1.71 | 1044 | tr |
| Octane | 1.56 | 803 | 0.01 | 0.46 | 786 | 0.01 |
| Butyl acetate | 1.72 | 816 | 0.01 | 1.66 | 1039 | 0.01 |
| (3*Z*)-Hexenol | 2.23 | 858 | tr | 5.50 | 1347 | tr |
| Hexanol | 2.42 | 874 | tr | 5.15 | 1321 | tr |
| Isoamyl acetate | 2.47 | 878 | 0.02 | 2.18 | 1092 | 0.02 |
| 2-Methylbutyl acetate | 2.50 | 880 | 0.02 | 2.16 | 1091 | 0.01 |
| 3-Methyl-3-butenyl acetate | 2.58 | 886 | 0.06 | 2.99 | 1160 | 0.06 |
| Prenyl acetate | 3.12 | 926 | 0.20 | 3.72* | 1220 | 0.22 |
| α-Pinene | 3.20 | 931 | 0.22 | 1.24 | 992 | 0.22 |
| Camphene | 3.40 | 944 | 0.01 | 1.55 | 1027 | 0.01 |
| Benzaldehyde | 3.56 | 954 | 0.03 | 7.00 | 1458 | 0.03 |
| Sabinene | 3.82* | 972 | 0.09 | 2.10 | 1084 | 0.01 |
| β-Pinene | 3.82* | 972 | [0.09] | 1.92 | 1066 | 0.08 |
| 6-Methyl-5-hepten-2-one | 4.06 | 987 | 0.01 | 4.65 | 1293 | 0.01 |
| Myrcene | 4.14 | 993 | 0.10 | 2.67 | 1135 | 0.11 |
| (3*Z*)-Hexenyl acetate | 4.40 | 1010 | 0.07 | 4.59* | 1288 | [0.07] |
| para-Methylanisole | 4.54 | 1018 | 4.29 | 6.02 | 1385 | 4.26 |
| Limonene | 4.68* | 1027 | 0.29 | 2.96 | 1159 | 0.04 |
| 1,8-Cineole | 4.68* | 1027 | [0.29] | 3.07 | 1167 | 0.25 |
| Benzyl alcohol | 4.86 | 1038 | 0.07 | 11.40 | 1816 | 0.10 |
| (*Z*)-β-Ocimene | 4.92 | 1042 | 0.01 | 3.55 | 1207 | 0.01 |
| (*E*)-β-Ocimene | 5.05 | 1050 | 0.02 | 3.72* | 1220 | [0.22] |
| *cis*-Sabinene hydrate | 5.30 | 1066 | 0.01 | 6.62 | 1429 | 0.02 |
| *cis*-Linalool oxide (fur.) | 5.38 | 1071 | 0.02 | 6.25 | 1401 | 0.04 |
| *trans*-Linalool oxide (fur.) | 5.63 | 1086 | 0.03 | 6.57 | 1426 | 0.04 |
| Methyl benzoate | 5.71 | 1091 | 2.24 | 8.32* | 1560 | 2.29 |
| para-Cresol | 5.77 | 1095 | 0.07 | 13.55* | 2014 | 0.14 |
| Linalool | 5.93 | 1105 | 10.25 | 7.80 | 1519 | 10.20 |
| Camphor | 6.39 | 1134 | 0.02 | 6.88* | 1449 | 0.88 |
| ortho-Dimethoxybenzene | 6.59 | 1147 | 0.02 | | | |
| Benzyl acetate | 6.84 | 1163 | 2.32 | 9.70 | 1671 | 2.65 |
| para-Cresyl acetate | 6.89 | 1166 | 0.04 | | | |
| Ethyl benzoate | 6.92 | 1168 | 0.07 | 8.99* | 1613 | 3.19 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Terpinen-4-ol | 7.02 | 1174 | 0.01 | 8.32* | 1560 | [2.29] |
| α-Terpineol | 7.25 | 1189 | 0.21 | 9.51* | 1655 | 14.14 |
| Methyl salicylate | 7.29 | 1191 | 0.02 | 10.19 | 1712 | 0.02 |
| Methylchavicol | 7.35 | 1195 | 0.16 | 8.96 | 1610 | 0.18 |
| Nerol | 7.87 | 1229 | 0.04 | 10.74 | 1759 | 0.04 |
| Neral | 8.01 | 1239 | 0.04 | 9.16 | 1627 | 0.04 |
| Phenylethyl acetate | 8.24 | 1254 | 0.05 | 10.71 | 1756 | 0.06 |
| Geraniol | 8.30 | 1258 | 1.77 | 11.32 | 1809 | 1.79 |
| Chavicol | 8.40 | 1265 | 0.01 | 16.12* | 2273 | 0.19 |
| Geranial | 8.46 | 1269 | 0.11 | 9.75† | 1676 | [1.15] |
| (*E*)-Anethole | 8.66 | 1282 | 0.07 | 10.81* | 1765 | 0.08 |
| 1-Nitro-2-phenylethane | 8.81 | 1292 | 0.09 | 13.79* | 2038 | 0.18 |
| (*E*)-Cinnamyl alcohol | 9.03 | 1307 | 0.02 | 15.54 | 2212 | 0.02 |
| 4-Vinylguaiacol | 9.10 | 1312 | 0.03 | 14.71* | 2128 | 0.77 |
| δ-Elemene | 9.44* | 1336 | 0.11 | 6.69 | 1435 | 0.04 |
| Bicycloelemene | 9.44* | 1336 | [0.11] | 6.77* | 1440 | 0.19 |
| Benzyl butyrate | 9.44* | 1336 | [0.11] | 11.35 | 1812 | 0.05 |
| α-Cubebene | 9.60 | 1347 | 0.14 | 6.52 | 1422 | 0.13 |
| Eugenol | 9.72 | 1355 | 0.70 | 14.43 | 2099 | 0.74 |
| Neryl acetate | 9.86 | 1365 | 0.04 | 9.86 | 1684 | 0.03 |
| α-Ylangene | 9.89 | 1367 | 0.14 | 6.77* | 1440 | [0.19] |
| Hydrocinnamyl acetate | 9.92 | 1369 | 0.04 | 12.11 | 1879 | 0.01 |
| α-Copaene | 9.95 | 1372 | 0.89 | 6.88* | 1449 | [0.88] |
| β-Bourbonene | 10.06 | 1379 | 0.03 | 7.22 | 1475 | 0.02 |
| Geranyl acetate | 10.16* | 1387 | 8.61 | 10.28† | 1720 | [14.16] |
| β-Cubebene | 10.16* | 1387 | [8.61] | 7.50 | 1495 | 0.13 |
| β-Elemene | 10.20 | 1389 | 0.35 | 8.09 | 1542 | 0.32 |
| Cyperene | 10.24 | 1392 | 0.04 | 7.19 | 1472 | 0.05 |
| Isocaryophyllene | 10.37 | 1401 | 0.01 | 7.87 | 1524 | 0.48 |
| Methyleugenol | 10.40 | 1404 | 0.04 | 12.98 | 1960 | 0.05 |
| β-Caryophyllene | 10.56 | 1415 | 11.43 | 8.16* | 1547 | 11.36 |
| Caryophylla-4(12),8(13)-diene | 10.62 | 1420 | 0.07 | 8.32* | 1560 | [2.29] |
| β-Copaene | 10.68 | 1424 | 0.43 | 8.16* | 1547 | [11.36] |
| Aromadendrene | 10.79 | 1432 | 0.02 | 8.24 | 1553 | 0.12 |
| α-Guaiene | 10.80 | 1433 | 0.04 | 8.16* | 1547 | [11.36] |
| Isogermacrene D | 10.88 | 1439 | 0.08 | 8.67 | 1588 | 0.07 |
| (*E*)-Cinnamyl acetate | 10.92 | 1442 | 0.69 | 14.26* | 2083 | 0.76 |
| *trans*-Muurola-3,5-diene | 10.96 | 1445 | 0.11 | 8.57 | 1579 | 0.15 |
| α-Humulene | 11.00* | 1448 | 3.40 | 8.99* | 1613 | [3.19] |
| ε-Muurolene? | 11.00* | 1448 | [3.40] | 8.93* | 1608 | 0.29 |
| (*E*)-Isoeugenol | 11.00* | 1448 | [3.40] | 16.12* | 2273 | [0.19] |
| allo-Aromadendrene | 11.04 | 1451 | 0.05 | 8.70* | 1590 | 0.12 |
| *cis*-Cadina-1(6),4-diene | 11.09 | 1454 | 0.01 | 8.70* | 1590 | [0.12] |

| | | | | | | |
|---|---|---|---|---|---|---|
| *cis*-Muurola-4(15),5-diene | 11.13 | 1457 | 0.14 | 9.03 | 1616 | 0.12 |
| *trans*-Cadina-1(6),4-diene | 11.29 | 1470 | 0.21 | 8.93* | 1608 | [0.29] |
| γ-Muurolene | 11.40* | 1478 | 14.34 | 9.30 | 1638 | 1.88 |
| Germacrene D | 11.40* | 1478 | [14.34] | 9.51* | 1655 | [14.14] |
| *trans*-Muurola-4(15),5-diene | 11.50 | 1485 | 0.50 | 9.51* | 1655 | [14.14] |
| γ-Amorphene | 11.54 | 1488 | 0.04 | 9.53 | 1657 | 0.08 |
| Prenyl benzoate | 11.57* | 1490 | 1.10 | 13.38 | 1998 | 0.41 |
| Bicyclogermacrene | 11.57* | 1490 | [1.10] | 9.74*† | 1674 | 1.15 |
| Viridiflorene | 11.57* | 1490 | [1.10] | 9.36 | 1643 | 0.07 |
| epi-Cubebol | 11.57* | 1490 | [1.10] | 11.67 | 1840 | 0.06 |
| Methyl (*E*)-isoeugenol | 11.63 | 1495 | 0.06 | 14.66 | 2123 | 0.03 |
| α-Muurolene | 11.66* | 1496 | 0.92 | 9.74*† | 1674 | [1.15] |
| (3*Z*,6*E*)-α-Farnesene | 11.66* | 1496 | [0.92] | 9.95 | 1692 | 0.03 |
| δ-Amorphene | 11.72* | 1502 | 1.80 | 9.64 | 1666 | 0.31 |
| Unknown [m/z 119, 41 (95), 123 (53), 80 (49), 161 (44), 105 (42)... 204 (2)] | 11.72* | 1502 | [1.80] | | | |
| δ-Guaiene | 11.72* | 1502 | [1.80] | 9.60 | 1663 | 0.48 |
| (3*E*,6*E*)-α-Farnesene | 11.83* | 1510 | 6.62 | 10.27† | 1718 | 14.16 |
| Cubebol | 11.83* | 1510 | [6.62] | 12.23 | 1890 | 0.10 |
| γ-Cadinene | 11.83* | 1510 | [6.62] | 10.09 | 1703 | 1.08 |
| δ-Cadinene | 11.96* | 1520 | 3.04 | 10.13 | 1706 | 2.86 |
| *trans*-Calamenene | 11.96* | 1520 | [3.04] | 10.91 | 1774 | 0.13 |
| *trans*-Cadina-1,4-diene | 12.06 | 1528 | 0.18 | 10.36 | 1726 | 0.19 |
| α-Cadinene | 12.13 | 1533 | 0.26 | 10.49 | 1738 | 0.23 |
| α-Calacorene | 12.17 | 1536 | 0.05 | 11.78* | 1851 | 0.09 |
| *cis*-Dracunculifoliol | 12.23 | 1541 | 0.02 | 11.78* | 1851 | [0.09] |
| α-Elemol | 12.29 | 1546 | 0.10 | 13.71 | 2029 | 0.11 |
| Germacrene B | 12.34* | 1550 | 0.04 | 10.81* | 1765 | [0.08] |
| Salviadienol? | 12.34* | 1550 | [0.04] | 13.98 | 2055 | 0.02 |
| Sesquirosefuran? | 12.40 | 1555 | 0.03 | 11.78* | 1851 | [0.09] |
| (*E*)-Nerolidol | 12.51 | 1563 | 0.14 | 13.47 | 2006 | 0.13 |
| (3*Z*)-Hexenyl benzoate | 12.54 | 1566 | 0.03 | 14.01 | 2058 | 0.04 |
| Germacrene D-4-ol | 12.57 | 1568 | 0.06 | 13.33* | 1993 | 0.20 |
| Spathulenol | 12.60 | 1570 | 0.07 | 14.05 | 2062 | 0.06 |
| *trans*-Dracunculifoliol | 12.65* | 1574 | 0.35 | 12.36* | 1902 | 0.11 |
| Caryophyllene oxide | 12.65* | 1574 | [0.35] | 12.42 | 1908 | 0.25 |
| 10-epi-Junenol | 12.65* | 1574 | [0.35] | 12.36* | 1902 | [0.11] |
| Unknown cadinol or muurolol analog [m/z 161, 119 (77), | 12.68* | 1577 | 0.10 | 11.94 | 1865 | 0.05 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 120 (76), 105 (73), 93 (57)... 204 (36)] | | | | | | |
| Globulol | 12.68* | 1577 | [0.10] | 13.55* | 2014 | [0.14] |
| Unknown [m/z 161, 105 (84), 43 (80), 119 (72), 93 (62), 121 (54)... 204 (38), 222 (2)] | 12.73 | 1580 | 0.09 | 13.62 | 2020 | 0.13 |
| Viridiflorol | 12.79 | 1585 | 0.03 | 13.64 | 2022 | 0.04 |
| Guaiol | 12.89 | 1593 | 0.07 | 13.79* | 2038 | [0.18] |
| Copaborneol | 12.91 | 1595 | 0.06 | 14.55* | 2111 | 0.50 |
| Humulene epoxide II | 12.98 | 1600 | 0.08 | 13.01 | 1963 | 0.06 |
| 10-epi-Cubenol | 13.06 | 1606 | 0.05 | 13.33* | 1993 | [0.20] |
| Junenol | 13.09* | 1609 | 0.37 | 13.25 | 1986 | 0.30 |
| (*E*)-Isoeugenyl acetate | 13.09* | 1609 | [0.37] | 16.87 | 2354 | 0.02 |
| Unknown [m/z 179, 161 (66), 119 (44), 95 (38), 105 (35)... 204 (24), 222 (1)] | 13.13 | 1612 | 0.06 | 14.26* | 2083 | [0.76] |
| 1-epi-Cubenol | 13.24 | 1622 | 0.25 | 13.43 | 2002 | 0.23 |
| γ-Eudesmol | 13.29 | 1625 | 0.14 | 14.55* | 2111 | [0.50] |
| Caryophylladienol II | 13.34 | 1629 | 0.02 | 15.68 | 2227 | 0.03 |
| τ-Cadinol | 13.43* | 1637 | 1.34 | 14.55* | 2111 | [0.50] |
| τ-Muurolol | 13.43* | 1637 | [1.34] | 14.71* | 2128 | [0.77] |
| Cubenol | 13.43* | 1637 | [1.34] | 13.33* | 1993 | [0.20] |
| α-Muurolol | 13.48 | 1641 | 0.40 | 14.84 | 2141 | 0.29 |
| Unknown cadinol analog II [m/z 95, 121 (73), 43 (57), 79 (43), 161 (43), 109 (40)... 204 (35), 222 (2)] | 13.53 | 1645 | 0.24 | 14.80 | 2137 | 0.20 |
| α-Cadinol | 13.58 | 1649 | 1.47 | 15.13 | 2170 | 1.49 |
| *cis*-Calamenen-10-ol | 13.62 | 1653 | 0.05 | 16.00 | 2260 | 0.04 |
| *trans*-Calamenen-10-ol | 13.68 | 1657 | 0.03 | 16.38 | 2300 | 0.03 |
| Bulnesol | 13.71 | 1660 | 0.04 | 14.92 | 2149 | 0.06 |
| Unknown [m/z 123, 95 (31), 81 (29), 105 (27)... 222 (5)] | 13.78 | 1666 | 0.18 | 15.85 | 2245 | 0.16 |
| (2*Z*,6*E*)-Farnesol | 14.16 | 1697 | 0.02 | 16.24 | 2286 | 0.02 |
| (2*E*,6*E*)-Farnesol | 14.44 | 1721 | 1.86 | 16.48 | 2312 | 1.91 |
| (2*E*,6*E*)-Farnesal | 14.64 | 1739 | 0.04 | 15.48 | 2206 | 0.05 |
| Benzyl benzoate | 14.86 | 1757 | 6.78 | 18.48 | 2536 | 6.72 |
| Unknown [m/z 121, 107 (86), 81 (71), 93 (71), 59 (68), 43 (67)...] | 15.31 | 1796 | 0.03 | | | |

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|---|---|---|---|---|---|---|
| (2*E*,6*E*)-Farnesyl acetate | 15.80 | 1840 | 1.49 | 15.62 | 2220 | 1.48 |
| Unknown [m/z 43, 107 (97), 81 (83), 121 (77), 123 (74), 93 (73)... 220 (26)...] | 15.85 | 1845 | 0.02 | 20.03 | 2722 | 0.02 |
| Benzyl salicylate | 15.99 | 1857 | 1.79 | 19.72 | 2684 | 1.76 |
| Unknown [m/z 91, 93 (98), 81 (92), 41 (92), 105 (86), 107 (86)...] | 16.14 | 1871 | 0.01 | 20.43 | 2772 | 0.02 |
| Unknown [m/z 123, 81 (96), 41 (74), 43 (64), 91 (62), 95 (57)...] | 16.37 | 1892 | 0.02 | 20.31 | 2757 | 0.01 |
| Geranyl benzoate | 17.05 | 1956 | 0.15 | 18.38 | 2524 | 0.16 |
| Unknown [m/z 326, 311 (47), 327 (22), 202 (16), 137 (15)...] | 22.80 | 2575 | 0.01 | | | |
| Unknown [m/z 326, 327 (22), 311 (17), 137 (8), 202 (7)...] | 23.78 | 2696 | 0.11 | | | |
| Unknown [m/z 69, 83 (59), 81 (56), 137 (48), 41 (29), 139 (28)...] | 23.89 | 2710 | 0.01 | 21.28 | 2881 | 0.01 |
| Unknown [m/z 69, 81 (44), 147 (31), 41 (26), 119 (26), 93 (24)...] | 24.17 | 2746 | 0.02 | | | |
| Unknown [m/z 69, 81 (42), 147 (26), 119 (25), 93 (25), 41 (24)...] | 24.51 | 2790 | 0.05 | 22.59 | 3057 | 0.05 |
| **Total identified** | | **97.47%** | | | **97.21%** | |
| **Total reported** | | **98.33%** | | | **97.86%** | |

*: Two or more compounds are coeluting on this column
[xx]: Duplicate percentage due to coelutions, not 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