**Date :** 2024-10-21

# *Certificate of Analysis - GC Profiling*

## *Sample Identification*

**Internal code :** 24J04-PTH02
**Customer Identification :** Organic Blue Yarrow - Bulgaria - Y50107R
**Type :** Essential Oil
**Source :** *Achillea millefolium*
**Customer :** Plant Therapy

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*Notes: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.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



Méthode certifiée ISO 17025:2017 Certified method

Laboratoire PhytoChemia

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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 :** Alexis St-Gelais, Ph. D., Chimiste 2013-174
**Date :** 2024-10-21

## *Physicochemical data*

**Refractive index :** 1.494 ± 0.0003 (20 °C)
**Method :** PC-MAT-016 - Measure of the refractive index of a liquid.
**Analyst :** Cindy Caron B. Sc.
**Date :** 2024-10-08

## *Conclusion*

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

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## *Analysis Summary - Consolidated Contents*

New readers of similar reports are encouraged to read table footnotes at least once.

| Identification | % | Class |
|---|---|---|
| Isovaleral | tr | Aliphatic aldehyde |
| 2-Methylbutyral | tr | Aliphatic aldehyde |
| 2-Ethylfuran | 0.01 | Furan |
| Octene | 0.02 | Alkene |
| Hexanal | 0.02 | Aliphatic aldehyde |
| Octane | 0.01 | Alkane |
| (3*Z*)-Hexenol | tr | Aliphatic alcohol |
| Hexanol | 0.01 | Aliphatic alcohol |
| 3-Acetyl-3-methylcyclopentene | tr | Aliphatic ketone |
| Nonene | 0.01 | Alkene |
| Heptanal | 0.01 | Aliphatic aldehyde |
| Santolinatriene | 0.14 | Monoterpene |
| Hashishene | 0.01 | Monoterpene |
| Tricyclene | 0.02 | Monoterpene |
| α-Thujene | 0.32 | Monoterpene |
| α-Pinene | 1.74 | Monoterpene |
| Unknown | 0.02 | Simple phenolic |
| Unknown | 0.02 | Monoterpene |
| Camphene | 0.15 | Monoterpene |
| α-Fenchene | tr | Monoterpene |
| Thuja-2,4(10)-diene | 0.01 | Monoterpene |
| Benzaldehyde | 0.02 | Simple phenolic |
| β-Pinene | 11.41 | Monoterpene |
| Sabinene | 16.75 | Monoterpene |
| Octen-3-ol | 0.01 | Aliphatic alcohol |
| 6-Methyl-5-hepten-2-one | 0.03 | Aliphatic ketone |
| Myrcene | 0.94 | Monoterpene |
| Yomogi alcohol isomer | 0.02 | Monoterpenic alcohol |
| α-Phellandrene | 0.05 | Monoterpene |
| Yomogi alcohol | 0.14 | Monoterpenic alcohol |
| Δ3-Carene | 0.01 | Monoterpene |
| (3*Z*)-Hexenyl acetate | 0.03 | Aliphatic ester |
| α-Terpinene | 0.37 | Monoterpene |
| *para*-Cymene | 0.25 | Monoterpene |
| Limonene | 11.37 | Monoterpene |
| β-Phellandrene | [2.51] | Monoterpene |
| 1,8-Cineole | [2.51] | Monoterpenic ether |
| Unknown | 0.01 | Unknown |
| (*Z*)-β-Ocimene | 0.15 | Monoterpene |
| (*E*)-β-Ocimene | 0.93 | Monoterpene |

| | | |
|---|---|---|
| γ-Terpinene | 0.63 | Monoterpene |
| Artemisia ketone | 4.15 | Monoterpenic ketone |
| *cis*-Sabinene hydrate | 0.10 | Monoterpenic alcohol |
| Octanol | 0.01 | Aliphatic alcohol |
| Artemisia alcohol | 0.15 | Monoterpenic alcohol |
| Terpinolene | 0.21 | Monoterpene |
| *trans*-Sabinene hydrate | 0.05 | Monoterpenic alcohol |
| Linalool | 0.30 | Monoterpenic alcohol |
| 2-Methylbutyl 2-methylbutyrate | 0.02 | Aliphatic ester |
| Nonanal | 0.10 | Aliphatic aldehyde |
| endo-Fenchol | 0.02 | Monoterpenic alcohol |
| β-Thujone | 0.01 | Monoterpenic ketone |
| *cis-para*-Menth-2-en-1-ol | 0.07 | Monoterpenic alcohol |
| α-Campholenal | 0.04 | Monoterpenic aldehyde |
| Unknown | 0.09 | Unknown |
| *trans*-Pinocarveol | 0.07 | Monoterpenic alcohol |
| Camphor | 0.28 | Monoterpenic ketone |
| *trans-para*-Menth-2-en-1-ol | 0.02 | Monoterpenic alcohol |
| Unknown | 0.01 | Unknown |
| Isoborneol | 0.03 | Monoterpenic alcohol |
| Pinocarvone | 0.13 | Monoterpenic ketone |
| *cis*-Chrysanthenol | 0.02 | Monoterpenic alcohol |
| Borneol | 0.08 | Monoterpenic alcohol |
| δ-Terpineol | 0.05 | Monoterpenic alcohol |
| Isopinocamphone | 0.02 | Monoterpenic ketone |
| Unknown | 0.05 | Unknown |
| Lavandulol | 0.15 | Monoterpenic alcohol |
| Terpinen-4-ol | 1.74 | Monoterpenic alcohol |
| Artemisyl acetate | 0.27 | Monoterpenic ester |
| Thuj-3-en-10-al | 0.02 | Monoterpenic aldehyde |
| α-Terpineol | 0.33 | Monoterpenic alcohol |
| Myrtenol | 0.06 | Monoterpenic alcohol |
| Decanal | 0.04 | Aliphatic aldehyde |
| *trans*-Piperitol | 0.03 | Monoterpenic alcohol |
| Unknown | 0.01 | Unknown |
| Nerol | 0.01 | Monoterpenic alcohol |
| *trans*-Chrysanthenyl acetate | 0.05 | Monoterpenic ester |
| Cuminal | 0.04 | Monoterpenic aldehyde |
| Neral | 0.02 | Monoterpenic aldehyde |
| *cis*-Chrysanthenyl acetate | 0.33 | Monoterpenic ester |
| Geraniol | 0.04 | Monoterpenic alcohol |
| 4-Thujen-2α-yl acetate | 0.65 | Monoterpenic ester |
| Bornyl acetate | 0.32 | Monoterpenic ester |
| *trans*-Chrysanthemyl acetate | 0.30 | Monoterpenic ester |
| *trans*-Sabinyl acetate | 0.12 | Monoterpenic ester |

| | | |
|---|---|---|
| Lavandulyl acetate | 0.34 | Monoterpenic ester |
| *trans*-Pinocarvyl acetate | 0.07 | Monoterpenic ester |
| Thymol | 0.04 | Monoterpenic alcohol |
| (2*E*,4*E*)-Decadienal | 0.05 | Aliphatic aldehyde |
| δ-Elemene | 0.03 | Sesquiterpene |
| α-Terpinyl acetate | 0.08 | Monoterpenic ester |
| Neryl acetate | 0.03 | Monoterpenic ester |
| α-Ylangene | 0.01 | Sesquiterpene |
| α-Copaene | 0.09 | Sesquiterpene |
| β-Bourbonene | 0.48 | Sesquiterpene |
| Lavandulyl propionate | 0.03 | Monoterpenic ester |
| Geranyl acetate | 0.02 | Monoterpenic ester |
| β-Cubebene | 0.04 | Sesquiterpene |
| Dehydroionene analog | 0.01 | Terpene derivative |
| β-Elemene | 0.06 | Sesquiterpene |
| (*Z*)-Jasmone | 0.01 | Jasmonate |
| Isocaryophyllene | 0.03 | Sesquiterpene |
| Methyleugenol | 0.05 | Phenylpropanoid |
| β-Caryophyllene | 9.85 | Sesquiterpene |
| Himachala-2,4-diene | 0.01 | Sesquiterpene |
| β-Copaene | 0.10 | Sesquiterpene |
| *trans*-α-Bergamotene | 0.36 | Sesquiterpene |
| Isogermacrene D | 0.05 | Sesquiterpene |
| Sesquisabinene A | 0.27 | Sesquiterpene |
| α-Humulene | 1.25 | Sesquiterpene |
| allo-Aromadendrene | 0.03 | Sesquiterpene |
| (*E*)-β-Farnesene | 0.52 | Sesquiterpene |
| γ-Muurolene | 0.02 | Sesquiterpene |
| Germacrene D | 8.35 | Sesquiterpene |
| ar-Curcumene | 0.17 | Sesquiterpene |
| β-Selinene | 0.04 | Sesquiterpene |
| (*E*)-β-Ionone | 0.02 | Apocarotenoid |
| Bicyclogermacrene | 0.35 | Sesquiterpene |
| α-Selinene | 0.04 | Sesquiterpene |
| α-Muurolene | 0.76 | Sesquiterpene |
| α-Zingiberene | 0.02 | Sesquiterpene |
| (3*Z*,6*E*)-α-Farnesene | 0.08 | Sesquiterpene |
| β-Bisabolene | 0.06 | Sesquiterpene |
| γ-Cadinene | 0.11 | Sesquiterpene |
| β-Curcumene | 0.03 | Sesquiterpene |
| Cubebol | 0.02 | Sesquiterpenic alcohol |
| (2*E*?,8*Z*?)-Matricaria ester | 0.09 | Polyyne ester |
| δ-Cadinene | 0.21 | Sesquiterpene |
| β-Sesquiphellandrene | 0.27 | Sesquiterpene |
| (2*Z*?,8*Z*?)-Matricaria ester | 0.93 | Polyyne ester |

| | | |
|---|---|---|
| *trans*-Cadina-1,4-diene | 0.03 | Sesquiterpene |
| α-Copaen-11-ol | 0.02 | Sesquiterpenic alcohol |
| α-Calacorene | 0.01 | Sesquiterpene |
| Isocaryophyllene epoxide B | 0.04 | Sesquiterpenic ether |
| α-Elemol | 0.04 | Sesquiterpenic alcohol |
| Salviadienol? | 0.02 | Sesquiterpenic alcohol |
| Unknown | 0.03 | Oxygenated sesquiterpene |
| (*E*)-Nerolidol | 0.40 | Sesquiterpenic alcohol |
| Unknown | 0.02 | Unknown |
| Spathulenol | 0.13 | Sesquiterpenic alcohol |
| Caryophyllene oxide | 1.52 | Sesquiterpenic ether |
| Caryophyllene oxide isomer | 0.09 | Sesquiterpenic ether |
| Unknown | 0.03 | Oxygenated sesquiterpene |
| Viridiflorol | 0.04 | Sesquiterpenic alcohol |
| Salvial-4(14)-en-1-one | 0.04 | Aliphatic alcohol |
| Copaborneol | 0.02 | Sesquiterpenic alcohol |
| Humulene epoxide II | 0.11 | Sesquiterpenic ether |
| Junenol | 0.04 | Sesquiterpenic alcohol |
| 10-epi-γ-Eudesmol | 0.05 | Sesquiterpenic alcohol |
| Caryophylladienol I | 0.07 | Sesquiterpenic alcohol |
| Caryophylladienol II | 0.08 | Sesquiterpenic alcohol |
| τ-Cadinol | 0.03 | Sesquiterpenic alcohol |
| τ-Muurolol | 0.06 | Sesquiterpenic alcohol |
| β-Eudesmol | 0.42 | Sesquiterpenic alcohol |
| α-Eudesmol | 0.08 | Sesquiterpenic alcohol |
| α-Cadinol | 0.09 | Sesquiterpenic alcohol |
| Unknown | 0.39 | Oxygenated sesquiterpene |
| Germacra-4(15),5,10(14)-trien-1-ol isomer | 0.27 | Sesquiterpenic alcohol |
| α-Bisabolol | 0.10 | Sesquiterpenic alcohol |
| Unknown | 0.10 | Oxygenated sesquiterpene |
| Chamazulene | 7.67 | Azulene |
| Unknown | 0.03 | Oxygenated sesquiterpene |
| Unknown | 0.01 | Oxygenated sesquiterpene |
| Unknown | 0.06 | Unknown |
| Cryptomeridiol | 0.02 | Sesquiterpenic alcohol |
| Unknown | 0.03 | Unknown |
| Phytone | 0.19 | Terpenic ketone |
| Palmitic acid | 0.10 | Aliphatic acid |
| Heneicosane | 0.01 | Alkane |
| Phytol | 0.05 | Diterpenic alcohol |
| *trans*-Geranylgeraniol | 0.02 | Diterpenic alcohol |
| Unknown | 0.08 | Unknown |
| Tricosane | 0.05 | Alkane |
| Tetracosane | 0.01 | Alkane |
| Pentacosane | 0.05 | Alkane |

| | | |
|---|---|---|
| Heptacosane | 0.03 | Alkane |
| Octacosane | 0.02 | Alkane |
| **Consolidated total** | **97.10** | |

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.

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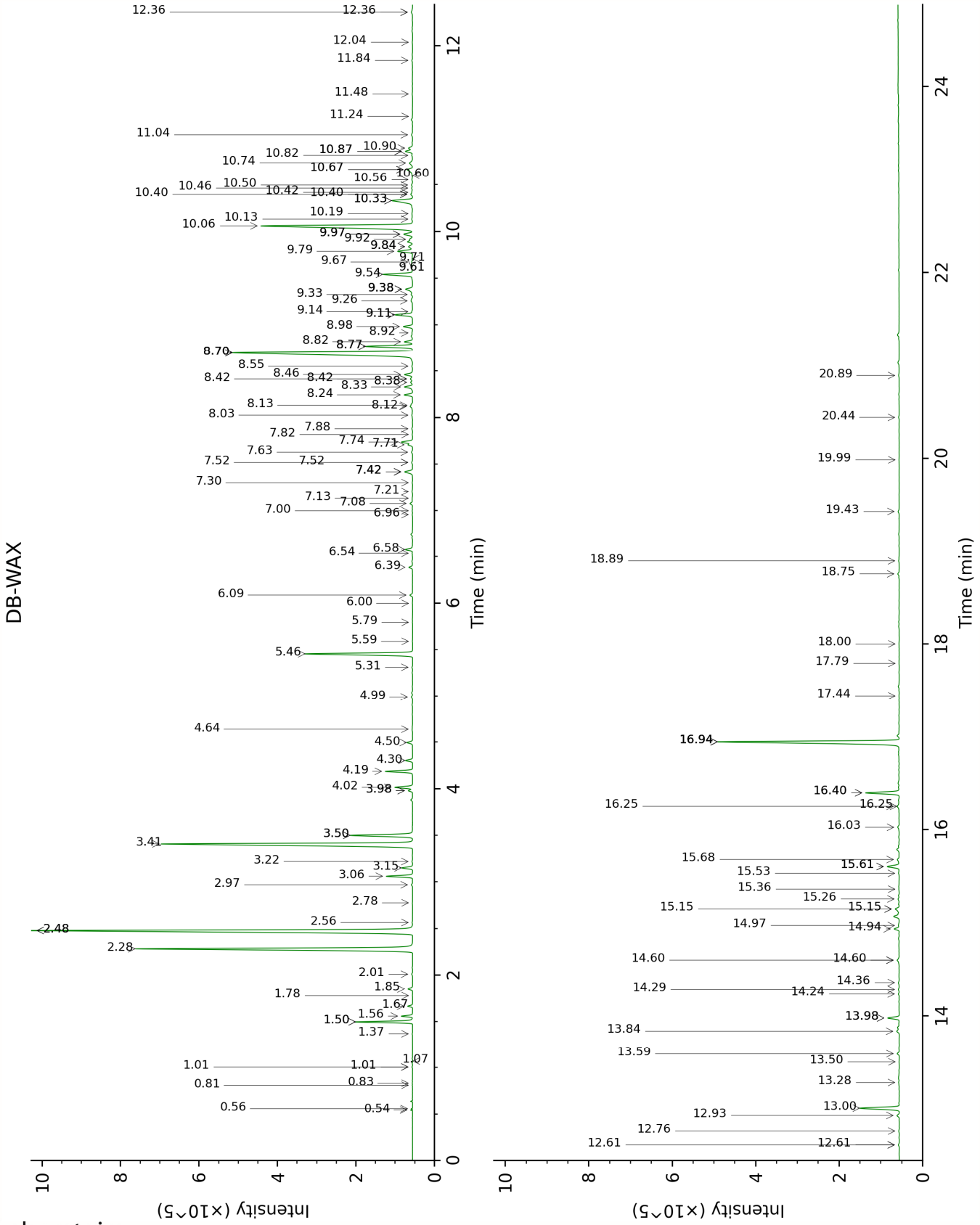
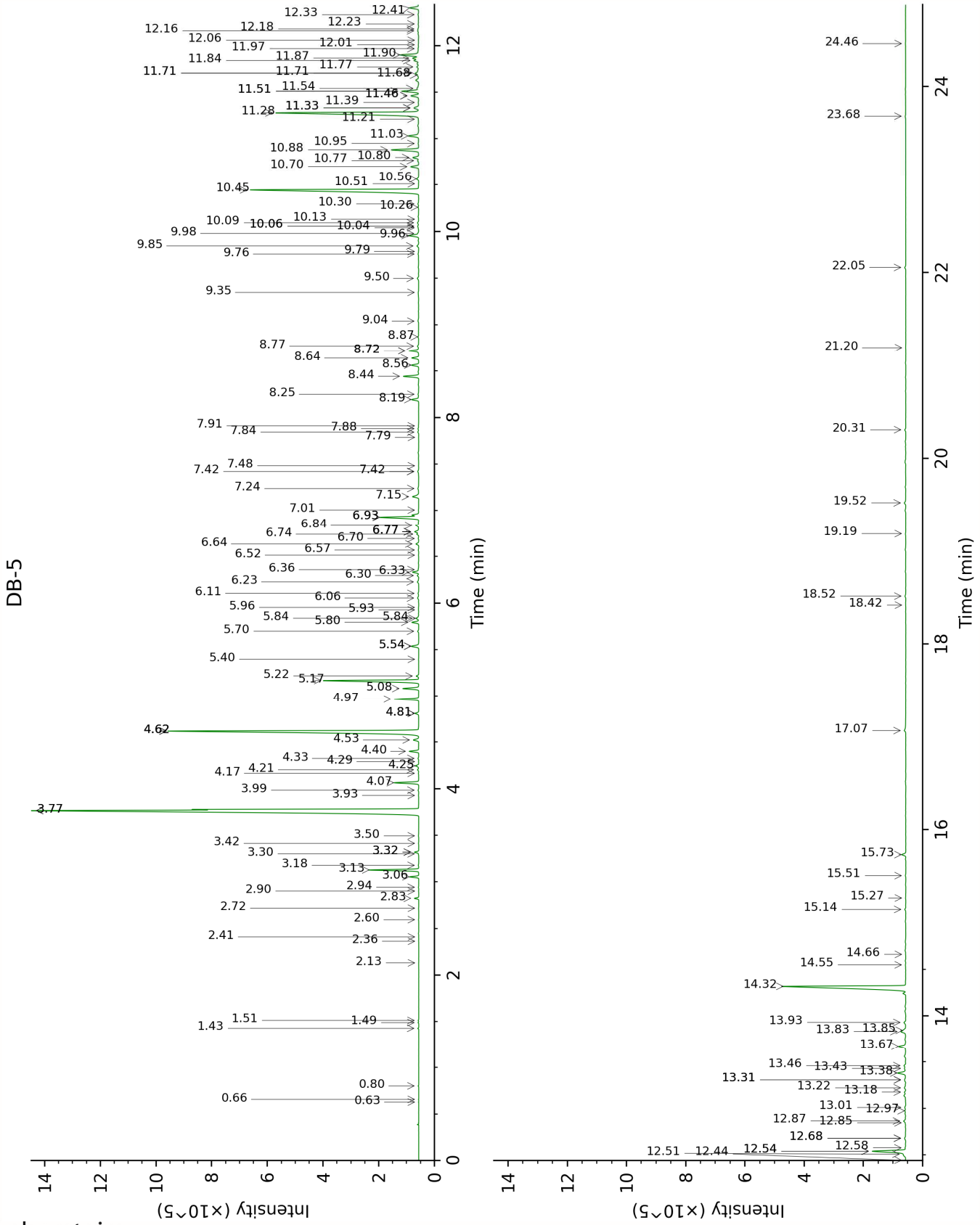

DB-WAX
Time (min)
Intensity (×10^5)
12.36
12.04
11.84
11.48
11.24
11.04
10.87
10.90
10.82
10.74
10.67
10.56
10.60
10.46
10.50
10.42
10.40
10.33
10.40
10.19
10.13
10.06
9.97
9.92
9.84
9.79
9.71
9.67
9.61
9.54
9.38
9.33
9.26
9.14
9.11
8.98
8.92
8.82
8.77
8.70
8.55
8.46
8.42
8.42
8.33
8.38
8.24
8.13
8.12
8.03
7.88
7.82
7.74
7.71
7.63
7.52
7.52
7.42
7.30
7.21
7.13
7.08
7.00
6.96
6.58
6.54
6.39
6.09
6.00
5.79
5.59
5.46
5.31
4.99
4.64
4.50
4.30
4.19
4.02
3.98
3.50
3.41
3.22
3.15
3.06
2.97
2.78
2.56
2.48
2.28
2.01
1.85
1.78
1.67
1.56
1.50
1.37
1.07
1.01
1.01
0.83
0.81
0.56
0.54
20.89
20.44
19.99
19.43
18.89
18.75
18.00
17.79
17.44
16.94
16.40
16.25
16.25
16.03
15.68
15.61
15.53
15.36
15.26
15.15
15.15
14.97
14.94
14.60
14.60
14.36
14.29
14.24
13.98
13.84
13.59
13.50
13.28
13.00
12.93
12.76
12.61
12.61


DB-5
Time (min)
Intensity (×10^5)
12.33
12.41
12.16
12.18
12.23
12.06
11.97
12.01
11.84
11.87
11.90
11.71
11.71
11.77
11.68
11.51
11.54
11.46
11.28
11.33
11.39
11.21
11.03
10.88
10.95
10.77
10.80
10.70
10.51
10.56
10.45
10.30
10.26
10.09
10.06
10.13
10.04
9.98
9.96
9.85
9.76
9.79
9.50
9.35
9.04
8.87
8.77
8.72
8.64
8.56
8.44
8.25
8.19
7.91
7.84
7.88
7.79
7.42
7.48
7.42
7.24
7.15
7.01
6.93
6.84
6.74
6.77
6.70
6.64
6.57
6.52
6.36
6.30
6.33
6.23
6.11
6.06
5.96
5.93
5.84
5.80
5.84
5.70
5.54
5.40
5.22
5.17
5.08
4.97
4.81
4.62
4.53
4.40
4.33
4.29
4.25
4.17
4.21
4.07
3.99
3.93
3.77
3.50
3.42
3.30
3.32
3.18
3.13
3.06
2.90
2.94
2.83
2.72
2.60
2.41
2.36
2.13
1.51
1.43
1.49
0.80
0.66
0.63
24.46
23.68
22.05
21.20
20.31
19.52
19.19
18.52
18.42
17.07
15.73
15.51
15.27
15.14
14.66
14.55
14.32
13.93
13.83
13.85
13.67
13.46
13.43
13.38
13.31
13.22
13.18
13.01
12.97
12.87
12.85
12.68
12.58
12.51
12.44
12.54

*FULL ANALYSIS DATA*

| Isovaleral | Column DB-WAX | | | Column DB-5 | | |
|---|---|---|---|---|---|---|
| | 0.83 | 889.7 | 0.01 | 0.63 | 641.2 | tr |
| 2-Methylbutyral | 0.81 | 882.7 | tr | 0.66 | 651.3 | tr |
| 2-Ethylfuran | 1.01* | 921.7 | [0.01] | 0.80 | 701.5 | 0.01 |
| Octene | 0.56 | 795.8 | 0.01 | 1.43 | 791.3 | 0.02 |
| Hexanal | 2.01 | 1044.6 | 0.03 | 1.49 | 800.0 | 0.02 |
| Octane | 0.54 | 785.6 | 0.02 | 1.51 | 803.2 | 0.01 |
| (3*Z*)-Hexenol | 6.00 | 1349.5 | 0.01 | 2.13 | 855.0 | tr |
| Hexanol | 5.59 | 1320.3 | 0.01 | 2.36 | 874.3 | 0.01 |
| 3-Acetyl-3-methylcyclopentene | 1.07 | 931.2 | tr | 2.41 | 878.2 | tr |
| Nonene | 1.01* | 921.7 | [0.01] | 2.60 | 893.6 | 0.01 |
| Heptanal | 3.22 | 1148.5 | 0.02 | 2.72 | 903.8 | 0.01 |
| Santolinatriene | 1.67 | 1012.3 | 0.14 | 2.82 | 911.0 | 0.14 |
| Hashishene | 1.50* | 995.2 | [1.73] | 2.90 | 916.1 | 0.01 |
| Tricyclene | 1.37 | 975.8 | 0.01 | 2.94 | 918.8 | 0.02 |
| α-Thujene | 1.56 | 1002.2 | 0.32 | 3.06 | 926.2 | 0.32 |
| α-Pinene | 1.50* | 995.2 | [1.73] | 3.13 | 931.1 | 1.74 |
| Unknown ACMI I [m/z 122, 121 (36), 107 (33), 79 (27), 93 (25), 77 (25), 43 (20)] | 3.98* | 1207.6 | [0.14] | 3.18 | 934.4 | 0.02 |
| Unknown SAOF I [m/z 91, 92 (47), 65 (11)... 134 (1)] | 2.56 | 1097.6 | 0.02 | 3.30 | 942.5 | 0.02 |
| Camphene | 1.85 | 1029.7 | 0.15 | 3.32* | 943.8 | [0.16] |
| α-Fenchene | 1.78 | 1023.0 | tr | 3.32* | 943.8 | [0.16] |
| Thuja-2,4(10)-diene | 2.48* | 1089.4 | [16.77] | 3.42 | 950.0 | 0.01 |
| Benzaldehyde | 7.52* | 1460.6 | [0.04] | 3.50 | 955.3 | 0.02 |
| β-Pinene | 2.28 | 1070.7 | 11.41 | 3.77* | 973.3 | [28.15] |
| Sabinene | 2.48* | 1089.4 | [16.77] | 3.77* | 973.3 | [28.15] |
| Octen-3-ol | 6.96 | 1419.1 | 0.02 | 3.93 | 984.0 | 0.01 |
| 6-Methyl-5-hepten-2-one | 5.31 | 1300.4 | 0.03 | 3.99 | 987.8 | 0.03 |
| Myrcene | 3.06 | 1136.2 | 0.87 | 4.07 | 993.1 | 0.94 |
| Yomogi alcohol isomer | | | | 4.17 | 999.7 | 0.02 |
| α-Phellandrene | 2.97 | 1129.0 | 0.04 | 4.20 | 1002.3 | 0.05 |
| Yomogi alcohol | 6.39 | 1377.3 | 0.14 | 4.25 | 1005.0 | 0.14 |
| Δ3-Carene | 2.78 | 1114.1 | 0.01 | 4.29 | 1007.9 | 0.01 |
| (3*Z*)-Hexenyl acetate | 4.99 | 1283.0 | 0.05 | 4.33 | 1010.0 | 0.03 |
| α-Terpinene | 3.15 | 1143.2 | 0.37 | 4.40 | 1014.8 | 0.37 |
| *para*-Cymene | 4.30 | 1231.5 | 0.25 | 4.52 | 1022.4 | 0.25 |
| Limonene | 3.41 | 1163.2 | 11.37 | 4.62* | 1028.5 | [13.84] |

| | | | | | | |
|---|---|---|---|---|---|---|
| β-Phellandrene | 3.50* | 1170.5 | [2.51] | 4.62* | 1028.5 | [13.84] |
| 1,8-Cineole | 3.50* | 1170.5 | [2.51] | 4.62* | 1028.5 | [13.84] |
| Unknown ARAN I [m/z 43, 55 (65), 41 (34), 67 (32), 107 (30), 122 (26)... 125 (10)] | 5.80 | 1334.9 | 0.01 | 4.81* | 1040.4 | [0.16] |
| (*Z*)-β-Ocimene | 3.98* | 1207.6 | [0.14] | 4.81* | 1040.4 | [0.16] |
| (*E*)-β-Ocimene | 4.19 | 1223.0 | 0.95 | 4.97 | 1050.2 | 0.93 |
| γ-Terpinene | 4.02 | 1210.3 | 0.65 | 5.08 | 1057.5 | 0.63 |
| Artemisia ketone | 5.46 | 1310.8 | 4.17 | 5.17 | 1062.9 | 4.15 |
| *cis*-Sabinene hydrate | 7.08 | 1428.0 | 0.10 | 5.22 | 1065.9 | 0.10 |
| Octanol | 8.42* | 1528.3 | [0.10] | 5.40 | 1077.2 | 0.01 |
| Artemisia alcohol | 7.71 | 1474.7 | 0.15 | 5.54* | 1086.0 | [0.37] |
| Terpinolene | 4.50 | 1245.9 | 0.21 | 5.54* | 1086.0 | [0.37] |
| *trans*-Sabinene hydrate | 8.13 | 1506.4 | 0.05 | 5.70 | 1096.1 | 0.05 |
| Linalool | 8.24 | 1515.1 | 0.29 | 5.80 | 1102.1 | 0.30 |
| 2-Methylbutyl 2-methylbutyrate | 4.64 | 1256.6 | 0.02 | 5.84* | 1104.8 | [0.15] |
| Nonanal | 6.09 | 1355.9 | 0.10 | 5.84* | 1104.8 | [0.15] |
| endo-Fenchol | 8.55 | 1538.9 | 0.03 | 5.93 | 1110.6 | 0.02 |
| β-Thujone | 6.54 | 1388.1 | 0.02 | 5.96 | 1112.3 | 0.01 |
| *cis-para*-Menth-2-en-1-ol | 8.38 | 1525.4 | 0.08 | 6.06 | 1118.7 | 0.07 |
| α-Campholenal | 7.21 | 1437.4 | 0.03 | 6.11 | 1121.9 | 0.04 |
| Unknown ACMI IV [m/z 81, 41 (84), 69 (57), 79 (42), 80 (27), 135 (27), 91 (20), 53 (16)...] | 7.42* | 1453.1 | [0.38] | 6.23 | 1129.8 | 0.09 |
| *trans*-Pinocarveol | 9.33 | 1598.9 | 0.05 | 6.30 | 1134.2 | 0.07 |
| Camphor | 7.42* | 1453.1 | [0.38] | 6.33 | 1136.5 | 0.28 |
| *trans-para*-Menth-2-en-1-ol | 9.14 | 1584.6 | 0.02 | 6.36 | 1138.2 | 0.02 |
| Unknown ACMI V [m/z 137, 67 (13), 95 (13), 81 (13)... 152 (6)] | 7.00 | 1422.2 | 0.02 | 6.52 | 1148.1 | 0.01 |
| Isoborneol | 9.61 | 1621.5 | 0.02 | 6.57 | 1151.7 | 0.03 |
| Pinocarvone | 8.12 | 1505.5 | 0.11 | 6.64 | 1155.9 | 0.13 |
| *cis*-Chrysanthenol | 10.60 | 1702.6 | 0.02 | 6.70 | 1159.6 | 0.02 |
| Borneol | 9.97* | 1651.1 | [0.40] | 6.74 | 1162.6 | 0.08 |
| δ-Terpineol | 9.67 | 1627.0 | 0.05 | 6.77* | 1164.3 | [0.20] |

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|---|---|---|---|---|---|---|
| Isopinocamphone | 7.82 | 1482.8 | 0.02 | 6.77* | 1164.3 | [0.20] |
| Unknown PIMA 4 [m/z 109, 108 (48), 67 (41), 81 (40), 41 (28)...] | 7.63 | 1468.7 | 0.05 | 6.77* | 1164.3 | [0.20] |
| Lavandulol | 9.84* | 1640.3 | [0.20] | 6.84 | 1168.8 | 0.15 |
| Terpinen-4-ol | 8.77* | 1555.9 | [1.74] | 6.93*† | 1174.5 | [1.74] |
| Artemisyl acetate | 6.58 | 1391.0 | 0.27 | 6.93*† | 1174.5 | [1.74] |
| Thuj-3-en-10-al | 8.92 | 1567.0 | 0.03 | 7.01 | 1179.5 | 0.02 |
| α-Terpineol | 9.97* | 1651.1 | [0.40] | 7.15 | 1188.8 | 0.33 |
| Myrtenol | 11.04 | 1739.8 | 0.05 | 7.24 | 1194.3 | 0.06 |
| Decanal | 7.52* | 1460.6 | [0.04] | 7.42* | 1206.1 | [0.07] |
| *trans*-Piperitol | 10.56 | 1698.5 | 0.03 | 7.42* | 1206.1 | [0.07] |
| Unknown ACMI VII [m/z 109, 41 (42), 81 (39), 69 (32), 79 (25), 159 (23)... 174 (7)] | | | | 7.48 | 1210.2 | 0.01 |
| Nerol | 11.24 | 1756.5 | 0.01 | 7.79 | 1230.6 | 0.01 |
| *trans*-Chrysanthenyl acetate | 7.88 | 1487.4 | 0.03 | 7.84 | 1234.4 | 0.05 |
| Cuminal | 10.82 | 1721.1 | 0.04 | 7.88 | 1236.9 | 0.04 |
| Neral | 9.71 | 1630.0 | 0.01 | 7.91 | 1238.9 | 0.02 |
| *cis*-Chrysanthenyl acetate | 8.33 | 1521.7 | 0.34 | 8.19 | 1257.8 | 0.33 |
| Geraniol | 11.84 | 1808.0 | 0.03 | 8.25 | 1261.6 | 0.04 |
| 4-Thujen-2α-yl acetate | 9.11* | 1582.1 | [0.69] | 8.44 | 1274.5 | 0.65 |
| Bornyl acetate | 8.46 | 1532.0 | 0.34 | 8.56 | 1282.6 | 0.32 |
| *trans*-Chrysanthemyl acetate | 8.82 | 1559.8 | 0.31 | 8.64 | 1287.8 | 0.30 |
| *trans*-Sabinyl acetate | 9.38* | 1603.5 | [0.35] | 8.72* | 1293.1 | [0.46] |
| Lavandulyl acetate | 8.98 | 1572.3 | 0.34 | 8.72* | 1293.1 | [0.46] |
| *trans*-Pinocarvyl acetate | 9.38* | 1603.5 | [0.35] | 8.77 | 1296.6 | 0.07 |
| Thymol | 15.36 | 2136.4 | 0.02 | 8.87 | 1303.3 | 0.04 |
| (2*E*,4*E*)-Decadienal | 11.48 | 1776.9 | 0.02 | 9.04 | 1315.1 | 0.05 |
| δ-Elemene | 7.14 | 1432.1 | 0.02 | 9.35 | 1336.8 | 0.03 |
| α-Terpinyl acetate | 9.92 | 1646.7 | 0.12 | 9.50 | 1347.4 | 0.08 |
| Neryl acetate | 10.42 | 1687.3 | 0.03 | 9.76 | 1365.7 | 0.03 |
| α-Ylangene | 7.30 | 1444.5 | 0.02 | 9.79 | 1367.7 | 0.01 |
| α-Copaene | 7.42* | 1453.1 | [0.38] | 9.85 | 1371.9 | 0.09 |
| β-Bourbonene | 7.74 | 1476.8 | 0.46 | 9.96 | 1379.7 | 0.48 |
| Lavandulyl | | | | 9.98 | 1381.3 | 0.03 |

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|---|---|---|---|---|---|---|
| propionate | | | | | | |
| Geranyl acetate | 10.74 | 1714.1 | 0.18 | 10.04 | 1385.6 | 0.02 |
| β-Cubebene | 8.03 | 1498.2 | 0.04 | 10.06* | 1386.7 | [0.05] |
| Dehydroionene analog | | | | 10.06* | 1386.7 | [0.05] |
| β-Elemene | 8.70* | 1550.3 | [10.19] | 10.09 | 1389.4 | 0.06 |
| (*Z*)-Jasmone | 12.61* | 1875.7 | [0.04] | 10.13 | 1392.0 | 0.01 |
| Isocaryophyllene | 8.42* | 1528.3 | [0.10] | 10.26 | 1401.1 | 0.03 |
| Methyleugenol | 13.50 | 1957.3 | 0.01 | 10.30 | 1403.6 | 0.05 |
| β-Caryophyllene | 8.70* | 1550.3 | [10.19] | 10.45 | 1414.8 | 9.85 |
| Himachala-2,4-diene | 8.77* | 1555.9 | [1.74] | 10.51 | 1419.7 | 0.01 |
| β-Copaene | 8.70* | 1550.3 | [10.19] | 10.56 | 1423.6 | 0.10 |
| *trans*-α-Bergamotene | 8.70* | 1550.3 | [10.19] | 10.70 | 1433.7 | 0.36 |
| Isogermacrene D | 9.11* | 1582.1 | [0.69] | 10.77 | 1438.6 | 0.05 |
| Sesquisabinene A | 9.38* | 1603.5 | [0.35] | 10.80 | 1441.1 | 0.27 |
| α-Humulene | 9.54 | 1616.4 | 1.23 | 10.88 | 1447.2 | 1.25 |
| allo-Aromadendrene | 9.26 | 1593.6 | 0.05 | 10.95 | 1452.3 | 0.03 |
| (*E*)-β-Farnesene | 9.79 | 1636.3 | 0.59 | 11.03 | 1458.4 | 0.52 |
| γ-Muurolene | 9.84* | 1640.3 | [0.20] | 11.21 | 1471.7 | 0.02 |
| Germacrene D | 10.06 | 1658.3 | 8.23 | 11.28 | 1476.8 | 8.35 |
| ar-Curcumene | 10.90 | 1727.7 | 0.17 | 11.33* | 1480.7 | [0.27] |
| β-Selinene | 10.13 | 1664.1 | 0.04 | 11.33* | 1480.7 | [0.27] |
| (*E*)-β-Ionone | 12.61* | 1875.7 | [0.04] | 11.39 | 1485.1 | 0.02 |
| Bicyclogermacrene | 10.33* | 1680.2 | [1.12] | 11.46* | 1490.5 | [0.39] |
| α-Selinene | 10.19 | 1668.9 | 0.04 | 11.46* | 1490.5 | [0.39] |
| α-Muurolene | 10.33* | 1680.2 | [1.12] | 11.51* | 1494.1 | [0.77] |
| α-Zingiberene | 10.40* | 1685.6 | [0.08] | 11.51* | 1494.1 | [0.77] |
| (3*Z*,6*E*)-α-Farnesene | 10.50 | 1693.7 | 0.04 | 11.54 | 1496.3 | 0.08 |
| β-Bisabolene | 10.40* | 1685.6 | [0.08] | 11.68 | 1507.1 | 0.06 |
| γ-Cadinene | 10.67* | 1708.1 | [0.32] | 11.70* | 1508.8 | [0.17] |
| β-Curcumene | 10.46 | 1691.0 | 0.03 | 11.70* | 1508.8 | [0.17] |
| Cubebol | 12.76 | 1888.9 | 0.02 | 11.70* | 1508.8 | [0.17] |
| (2*E*?,8*Z*?)-Matricaria ester | 15.15* | 2115.1 | [0.21] | 11.77 | 1514.1 | 0.09 |
| δ-Cadinene | 10.67* | 1708.1 | [0.32] | 11.84 | 1519.4 | 0.21 |
| β-Sesquiphellandrene | 10.87* | 1724.7 | [0.30] | 11.87 | 1521.5 | 0.27 |
| (2*Z*?,8*Z*?)-Matricaria ester | 16.40* | 2241.7 | [1.25] | 11.90 | 1524.2 | 0.93 |
| *trans*-Cadina-1,4-diene | 10.87* | 1724.7 | [0.30] | 11.97 | 1529.4 | 0.03 |
| α-Copaen-11-ol | 13.98* | 2001.8 | [0.43] | 12.01 | 1532.7 | 0.02 |

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|---|---|---|---|---|---|---|
| α-Calacorene | 12.36* | 1853.7 | [0.08] | 12.06 | 1536.5 | 0.01 |
| Isocaryophyllene epoxide B | 12.36* | 1853.7 | [0.08] | 12.16 | 1544.4 | 0.04 |
| α-Elemol | 14.29 | 2031.2 | 0.05 | 12.18 | 1546.0 | 0.04 |
| Salviadienol? | 14.60* | 2061.5 | [0.14] | 12.23 | 1550.3 | 0.02 |
| Unknown CULO XVI [m/z 138, 96 (100), 95 (85), 109 (74), 110 (60), 105 (57)... 220 (10)] | | | | 12.33 | 1558.1 | 0.03 |
| (*E*)-Nerolidol | 13.98* | 2001.8 | [0.43] | 12.41 | 1563.9 | 0.40 |
| Unknown THCI III [m/z 69, 41 (78), 93 (74), 57 (57), 68 (57), 80 (39), 67 (36)...] | 12.04 | 1825.2 | 0.02 | 12.44 | 1566.5 | 0.02 |
| Spathulenol | 14.60* | 2061.5 | [0.14] | 12.51 | 1571.8 | 0.13 |
| Caryophyllene oxide | 13.00 | 1911.4 | 1.52 | 12.54* | 1574.4 | [1.63] |
| Caryophyllene oxide isomer | 12.92 | 1904.1 | 0.09 | 12.54* | 1574.4 | [1.63] |
| Unknown HEBR VI [m/z 109, 43 (95), 81 (81), 93 (76), 69 (75), 95 (74), 107 (71)... 204 (22), 220 (6)] | | | | 12.58 | 1577.2 | 0.03 |
| Viridiflorol | 14.24 | 2026.6 | 0.04 | 12.68* | 1585.3 | [0.07] |
| Salvial-4(14)-en-1-one | 13.28 | 1936.8 | 0.04 | 12.68* | 1585.3 | [0.07] |
| Copaborneol | 15.15* | 2115.1 | [0.21] | 12.85 | 1598.3 | 0.02 |
| Humulene epoxide II | 13.59 | 1965.5 | 0.09 | 12.86 | 1599.9 | 0.11 |
| Junenol | 13.84 | 1988.2 | 0.12 | 12.98 | 1608.7 | 0.04 |
| 10-epi-γ-Eudesmol | 14.36 | 2038.3 | 0.05 | 13.01 | 1611.7 | 0.05 |
| Caryophylladienol I | 16.25* | 2226.6 | [0.13] | 13.18 | 1625.3 | 0.07 |
| Caryophylladienol II | 16.25* | 2226.6 | [0.13] | 13.22 | 1629.1 | 0.08 |
| τ-Cadinol | | | | 13.31* | 1636.2 | [0.09] |
| τ-Muurolol | 15.26 | 2125.9 | 0.06 | 13.31* | 1636.2 | [0.09] |
| β-Eudesmol | 15.60* | 2160.7 | [0.53] | 13.38 | 1642.3 | 0.42 |
| α-Eudesmol | 15.53 | 2153.4 | 0.05 | 13.43 | 1646.4 | 0.08 |
| α-Cadinol | 15.68 | 2168.3 | 0.11 | 13.46 | 1648.9 | 0.09 |
| Unknown ACMI IX [m/z 205, 93 (93), 43 (58), 79 (510, 91 (48), 119 (45)... 220 (3)] | 16.40* | 2241.7 | [1.25] | 13.67 | 1666.4 | 0.39 |
| Germacra-4(15),5,10(14)-trien- | 16.94* | 2298.9 | [7.79] | 13.83 | 1679.7 | 0.27 |

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|---|---|---|---|---|---|---|
| 1-ol isomer | | | | | | |
| α-Bisabolol | 15.60* | 2160.7 | [0.53] | 13.85 | 1680.8 | 0.10 |
| Unknown PINI V [m/z 43, 108 (62), 93 (51), 41 (42), 109 (37), 69 (36)...] | 16.94* | 2298.9 | [7.79] | 13.93 | 1687.8 | 0.10 |
| Chamazulene | 16.94* | 2298.9 | [7.79] | 14.32 | 1720.6 | 7.67 |
| Unknown FOHO X [m/z 107, 93 (54), 105 (54), 91 (53), 119 (53), 109 (39)...220 (13)] | 17.44 | 2352.7 | 0.01 | 14.55 | 1740.6 | 0.03 |
| Unknown UNKN XXXVI [m/z 119, 93 (88), 91 (68), 79 (65), 43 (52), 107 (49)...220 (2)] | 18.00 | 2413.8 | 0.01 | 14.66 | 1750.4 | 0.01 |
| Unknown VAOF VIII [m/z 43, 93 (82), 133 (63), 91 (59), 79 (51), 105 (49)...] | 16.03 | 2203.2 | 0.09 | 15.14 | 1792.2 | 0.06 |
| Cryptomeridiol | 19.99 | 2642.4 | 0.01 | 15.27 | 1802.9 | 0.02 |
| Unknown THAR V [m/z 123, 191 (88), 81 (86), 41 (86), 151 (80), 91 (76)...] | 18.89 | 2514.3 | 0.03 | 15.51 | 1824.6 | 0.03 |
| Phytone | 14.94 | 2093.8 | 0.20 | 15.73 | 1845.2 | 0.19 |
| Palmitic acid | | | | 17.06 | 1969.0 | 0.10 |
| Heneicosane | 14.97 | 2097.5 | 0.05 | 18.42 | 2102.1 | 0.01 |
| Phytol | 19.43 | 2576.6 | 0.06 | 18.52 | 2112.0 | 0.05 |
| *trans*-Geranylgeraniol | 20.89 | 2753.0 | 0.03 | 19.19 | 2181.6 | 0.02 |
| Unknown ACMI XIII [m/z 95, 81 (69), 55 (50), 93 (43), 69 (39), 107 (39)...] | | | | 19.52 | 2217.0 | 0.08 |
| Tricosane | 16.94* | 2298.9 | [7.79] | 20.31 | 2301.7 | 0.05 |
| Tetracosane | 17.79 | 2390.4 | 0.01 | 21.20 | 2401.1 | 0.01 |
| Pentacosane | 18.75 | 2498.1 | 0.07 | 22.06 | 2501.1 | 0.05 |
| Heptacosane | 20.44 | 2697.2 | 0.03 | 23.68 | 2701.1 | 0.03 |
| Octacosane | | | | 24.46 | 2802.0 | 0.02 |
| Total reported | | 96.31% | | | 97.22% | |

*: 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

†: 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

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