

**Date :** February 20, 2020

**CERTIFICATE OF ANALYSIS – GC PROFILING**

**SAMPLE IDENTIFICATION**

**Internal code :** 20B06-PSC01

**Customer identification :** Clary Sage - Bulgaria - CS2019

**Type :** Essential oil

**Source :** *Salvia sclarea*

**Customer :** Pacha Soap Co.

**ANALYSIS**

**Method:** PC-MAT-007 - Analysis of the composition of an essential oil or other volatile liquide by FAST GC-FID (in French); identifications validated by GC-MS.

**Analyst :** Sylvain Mercier, M. Sc., Chimiste

**Analysis date :** February 11, 2020

Checked and approved by :

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

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#### PHYSICOCHEMICAL DATA

**Physical aspect:** Light yellow liquid  
**Refractive index:** 1.4632 ± 0.0003 (20 °C)  
**Optical rotation:** -10.72°

#### NFT 75-255:1992 - CLARY SAGE OIL - FRESHLY CRUSHED

| Compound                | Min. % | Max. % | Observed % | Complies? |
|-------------------------|--------|--------|------------|-----------|
| Sclareol                | 0.4    | 2.6    | 0.7        | Yes       |
| Germacrene D            | 1.2    | 7.5    | 3.0        | Yes       |
| α-Terpineol             | 1      | 5      | 3          | Yes       |
| Linalyl acetate         | 56.0   | 70.5   | 51.3       | No        |
| Linalool                | 13     | 24     | 20         | Yes       |
| <b>Optical rotation</b> | -20.0° | -10.0° | -10.7°     | Yes       |
| <b>Refractive index</b> | 1.456  | 1.466  | 1.463      | Yes       |

#### CONCLUSION

This sample features significant (>1%) amounts of matricaria esters and (E)-β-farnesene, neither of which are typical constituents of clary sage. We recommend that this observation is taken into account when evaluating this batch. The oil marginally does not comply with the AFNOR standard for freshly crushed clary sage oil.

## ANALYSIS SUMMARY – CONSOLIDATED CONTENTS

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

| Identification                        | %     | Classe               |
|---------------------------------------|-------|----------------------|
| Ethanol                               | tr    | Aliphatic alcohol    |
| Isobutyral                            | tr    | Aliphatic aldehyde   |
| Isovaleral                            | tr    | Aliphatic aldehyde   |
| 2-Methylbutyral                       | tr    | Aliphatic aldehyde   |
| 2-Ethylfuran                          | tr    | Furan                |
| 2-Methylbutanol                       | tr    | Aliphatic alcohol    |
| Toluene                               | tr    | Simple phenolic      |
| Hexanal                               | tr    | Aliphatic aldehyde   |
| (2E)-Hexenal                          | 0.01  | Aliphatic aldehyde   |
| (3Z)-Hexenal                          | 0.15  | Aliphatic alcohol    |
| (2E)-Hexenal                          | 0.03  | Aliphatic alcohol    |
| Hexanol                               | 0.05  | Aliphatic alcohol    |
| $\alpha$ -Thujene                     | tr    | Monoterpene          |
| $\alpha$ -Pinene                      | 0.03  | Monoterpene          |
| Camphene                              | 0.01  | Monoterpene          |
| Sabinene                              | 0.01  | Monoterpene          |
| $\beta$ -Pinene                       | 0.04  | Monoterpene          |
| Octen-3-ol                            | 0.04  | Aliphatic alcohol    |
| Octan-3-one                           | 0.02  | Aliphatic ketone     |
| <i>trans</i> -Dehydroxylinalool oxide | 0.05  | Monoterpenic ether   |
| Myrcene                               | 1.21  | Monoterpene          |
| <i>cis</i> -Dehydroxylinalool oxide   | 0.06  | Monoterpenic ether   |
| $\alpha$ -Terpinene                   | 0.02  | Monoterpene          |
| para-Cymene                           | 0.03  | Monoterpene          |
| $\beta$ -Phellandrene                 | 0.02  | Monoterpene          |
| Limonene                              | 0.41  | Monoterpene          |
| (Z)- $\beta$ -Ocimene                 | 0.48  | Monoterpene          |
| (E)- $\beta$ -Ocimene                 | 0.91  | Monoterpene          |
| $\gamma$ -Terpinene                   | 0.03  | Monoterpene          |
| <i>cis</i> -Linalool oxide (fur.)     | 0.02  | Monoterpenic alcohol |
| Terpinolene                           | 0.26  | Monoterpene          |
| <i>trans</i> -Linalool oxide (fur.)   | 0.02  | Monoterpenic alcohol |
| Hotrienol                             | 0.03  | Monoterpenic alcohol |
| Linalool                              | 20.11 | Monoterpenic alcohol |
| Dehydrosabinaketone                   | 0.01  | Normoterpenic ketone |
| Unknown                               | 0.01  | Unknown              |
| allo-Ocimene                          | 0.01  | Monoterpene          |
| Nerol oxide                           | 0.03  | Aliphatic ether      |
| Borneol                               | 0.02  | Monoterpenic alcohol |
| Terpinen-4-ol                         | 0.04  | Monoterpenic alcohol |
| $\alpha$ -Terpineol                   | 3.45  | Monoterpenic alcohol |
| Unknown                               | 0.04  | Unknown              |
| Unknown                               | 0.02  | Unknown              |
| Linalyl formate                       | 0.07  | Monoterpenic ester   |
| Nerol                                 | 0.78  | Monoterpenic alcohol |
| Linalyl acetate                       | 51.30 | Monoterpenic ester   |
| Geraniol                              | 2.14  | Monoterpenic alcohol |

|                             |      |                          |
|-----------------------------|------|--------------------------|
| Neryl formate               | 0.03 | Monoterpenic ester       |
| Thymol                      | 0.03 | Monoterpenic alcohol     |
| Geranyl formate             | 0.04 | Monoterpenic ester       |
| δ-Elemene                   | 0.01 | Sesquiterpene            |
| Hodiendiol derivative       | 0.02 | Oxygenated monoterpene   |
| α-Cubebene                  | 0.03 | Sesquiterpene            |
| α-Terpinyl acetate          | 0.06 | Monoterpenic ester       |
| Unknown                     | 0.01 | Monoterpenic ester       |
| Unknown                     | 0.02 | Oxygenated monoterpene   |
| Neryl acetate               | 1.22 | Monoterpenic ester       |
| α-Copaene                   | 0.74 | Sesquiterpene            |
| (Z)-8-Hydroxylinalool?      | 0.02 | Monoterpenic alcohol     |
| β-Bourbonene                | 0.21 | Sesquiterpene            |
| 1,5-diepi-β-Bourbonene      | 0.02 | Sesquiterpene            |
| Geranyl acetate             | 2.36 | Monoterpenic ester       |
| β-Cubebene                  | 0.16 | Sesquiterpene            |
| β-Elemene                   | 0.08 | Sesquiterpene            |
| Isocaryophyllene            | 0.02 | Sesquiterpene            |
| β-Caryophyllene             | 1.63 | Sesquiterpene            |
| β-Copaene                   | 0.06 | Sesquiterpene            |
| <i>trans</i> -α-Bergamotene | 0.03 | Sesquiterpene            |
| α-Humulene                  | 0.11 | Sesquiterpene            |
| (E)-β-Farnesene             | 1.12 | Sesquiterpene            |
| 9-epi-β-Caryophyllene       | 0.02 | Sesquiterpene            |
| Germacrene D                | 2.99 | Sesquiterpene            |
| α-Amorphene                 | 0.02 | Sesquiterpene            |
| β-Selinene                  | 0.03 | Sesquiterpene            |
| Hodiendiol derivative IV    | 0.09 | Oxygenated monoterpene   |
| Bicyclogermacrene           | 0.39 | Sesquiterpene            |
| (Z)-α-Bisabolene            | 0.08 | Sesquiterpene            |
| Hodiendiol derivative II    | 0.01 | Oxygenated monoterpene   |
| γ-Cadinene                  | 0.02 | Sesquiterpene            |
| Cubebol                     | 0.04 | Sesquiterpenic alcohol   |
| (3E,6E)-α-Farnesene         | 0.17 | Sesquiterpene            |
| (Z)-2-Lachnophyllum ester   | 0.03 | Polyene ester            |
| Matricaria ester isomer II  | 0.12 | Polyene ester            |
| δ-Cadinene                  | 0.20 | Sesquiterpene            |
| <i>trans</i> -Calamenene    | tr   | Sesquiterpene            |
| Matricaria ester isomer I   | 1.02 | Polyene ester            |
| α-Calacorene                | 0.05 | Sesquiterpene            |
| Isocaryophyllene epoxide B  | 0.01 | Sesquiterpenic ether     |
| α-Elemol                    | 0.01 | Sesquiterpenic alcohol   |
| Salviadienol?               | 0.02 | Sesquiterpenic alcohol   |
| 1,5-Epoxysalvial-4(14)-ene  | 0.06 | Sesquiterpenic ether     |
| Spathulenol                 | 0.21 | Sesquiterpenic alcohol   |
| Caryophyllene oxide isomer  | 0.04 | Sesquiterpenic ether     |
| Caryophyllene oxide         | 0.57 | Sesquiterpenic ether     |
| Salvial-4(14)-en-1-one      | 0.06 | Aliphatic alcohol        |
| Unknown                     | 0.08 | Oxygenated sesquiterpene |
| Torilenol                   | 0.04 | Oxygenated sesquiterpene |
| Guaia-6,10(14)-dien-4β-ol   | 0.02 | Sesquiterpenic alcohol   |
| Hinesol                     | 0.07 | Sesquiterpenic alcohol   |

|                                    |               |                        |
|------------------------------------|---------------|------------------------|
| Unknown                            | 0.01          | Unknown                |
| Unknown                            | 0.02          | Unknown                |
| $\beta$ -Eudesmol                  | 0.08          | Sesquiterpenic alcohol |
| Unknown                            | 0.02          | Unknown                |
| $\alpha$ -Eudesmol                 | 0.03          | Sesquiterpenic alcohol |
| $\alpha$ -Cadinol                  | 0.02          | Sesquiterpenic alcohol |
| Unknown                            | 0.01          | Unknown                |
| Mustakone                          | 0.02          | Sesquiterpenic ketone  |
| Eudesma-4(15),7-dien-1 $\beta$ -ol | 0.02          | Sesquiterpenic alcohol |
| Cyclocolorenone                    | 0.01          | Sesquiterpenic ketone  |
| Phytone                            | 0.03          | Terpenic ketone        |
| Sclareoloxide                      | 0.33          | Terpenic ether         |
| Geranyl- $\alpha$ -terpinene       | 0.13          | Diterpene              |
| Unknown                            | 0.13          | Unknown                |
| Geranyl-para-cymene                | 0.06          | Diterpene              |
| Manoyl oxide                       | 0.04          | Diterpenic ether       |
| 13-epi-Manoyl oxide                | 0.02          | Diterpenic ether       |
| Manool                             | 0.07          | Diterpenic alcohol     |
| Sclareolide?                       | 0.01          | Terpenic lactone       |
| Sclareol                           | 0.73          | Diterpenic alcohol     |
| <b>Consolidated total</b>          | <b>98.27%</b> |                        |

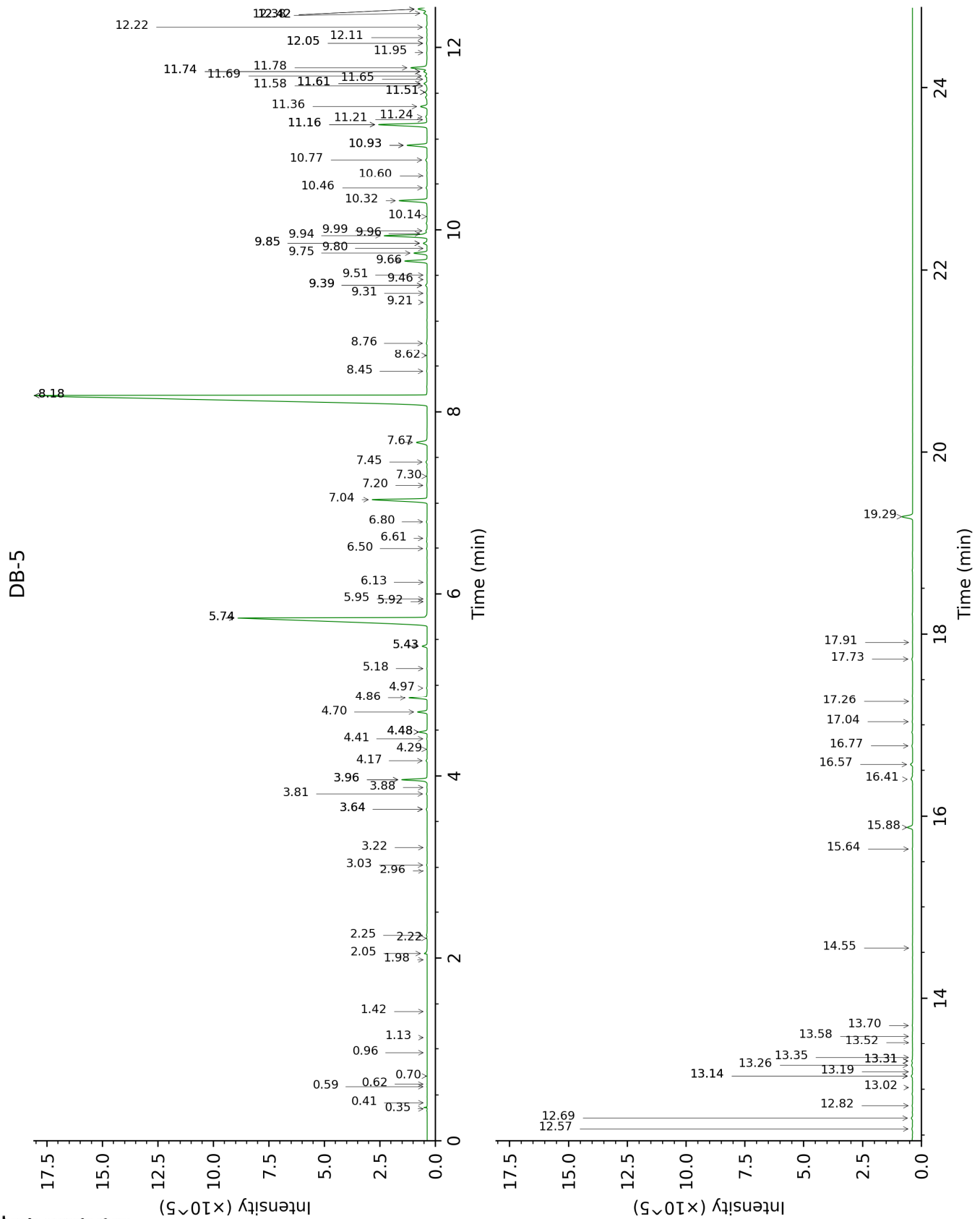
tr: The compound has been detected below 0.005% of total signal.

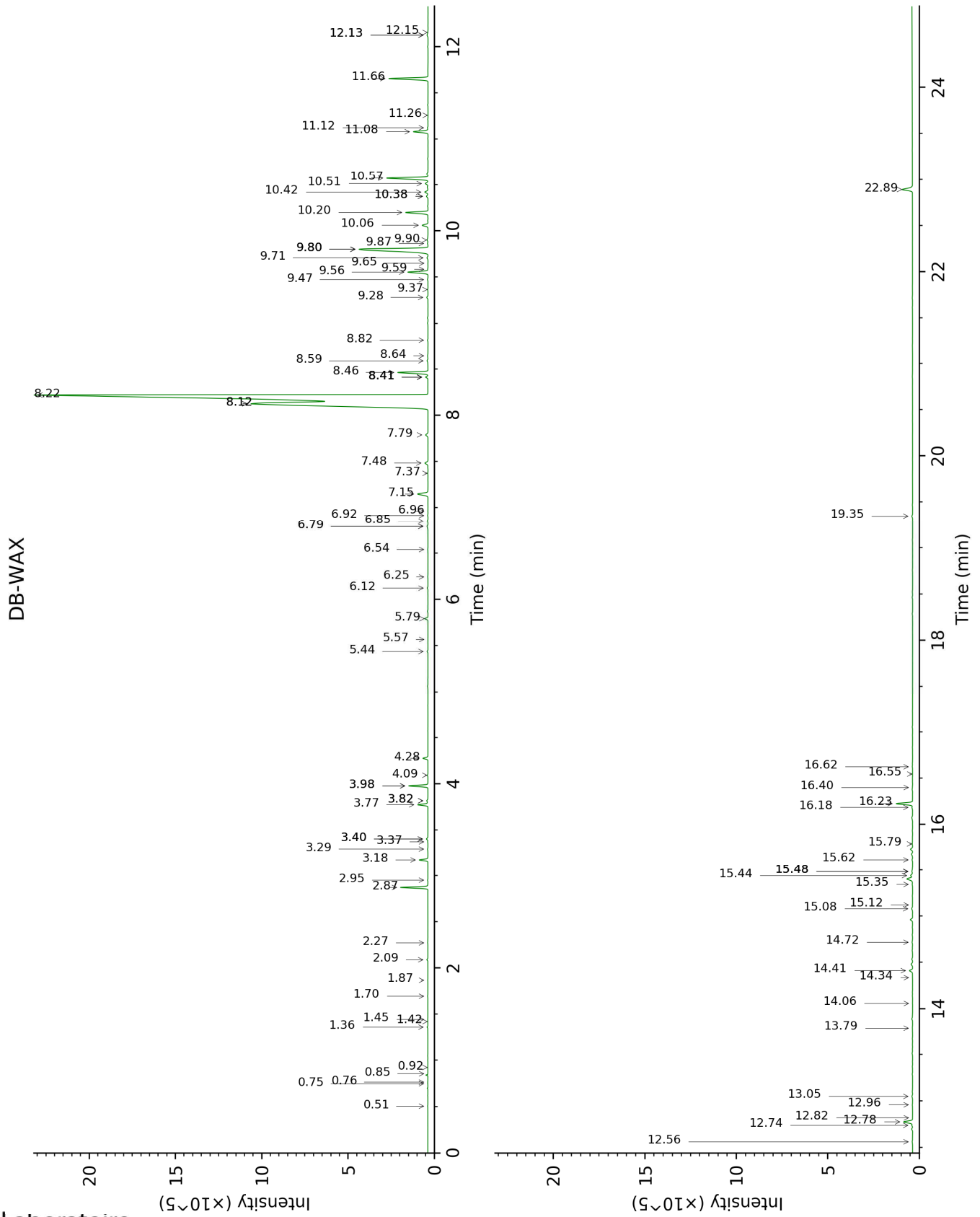
Note: no correction factor was applied

**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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FULL ANALYSIS DATA

| Identification  | Column DB-5 |      |         | Column DB-WAX |      |        |
|---|-------------|------|---------|---------------|------|--------|
|   | R.T         | R.I  | %       | R.T           | R.I  | %      |
| Ethanol   | 0.35        | 518  | tr      | 0.85          | 906  | tr     |
| Isobutyral  | 0.42        | 528  | tr      | 0.50          | 778  | tr     |
| Isovaleral  | 0.59        | 639  | tr      | 0.76          | 884  | tr     |
| 2-Methylbutyral   | 0.62        | 650  | tr      | 0.75          | 878  | tr     |
| 2-Ethylfuran  | 0.70        | 685  | tr      | 0.92          | 917  | tr     |
| 2-Methylbutanol   | 0.96        | 737  | tr      | 3.40*         | 1174 | 0.07   |
| Toluene   | 1.13        | 761  | tr      | 1.44          | 1001 | tr     |
| Hexanal   | 1.42        | 801  | tr      | 1.87          | 1043 | tr     |
| (2E)-Hexenal  | 1.98        | 850  | 0.01    | 3.37          | 1172 | 0.02   |
| (3Z)-Hexenol  | 2.05        | 855  | 0.15    | 5.79          | 1348 | 0.16   |
| (2E)-Hexenol  | 2.22        | 869  | 0.03    | 6.12          | 1371 | 0.04   |
| Hexanol   | 2.25        | 872  | 0.05    | 5.44          | 1322 | 0.04   |
| α-Thujene   | 2.96        | 925  | tr      | 1.42          | 999  | tr     |
| α-Pinene  | 3.03        | 930  | 0.03    | 1.36          | 990  | 0.02   |
| Camphene  | 3.22        | 942  | 0.01    | 1.70          | 1026 | 0.01   |
| Sabinene  | 3.64*       | 970  | 0.06    | 2.27          | 1083 | 0.01   |
| β-Pinene  | 3.64*       | 970  | [0.06]  | 2.09          | 1065 | 0.04   |
| Octen-3-ol  | 3.80        | 981  | 0.04    | 6.79*         | 1420 | 0.08   |
| Octan-3-one   | 3.88        | 986  | 0.02    | 3.98*         | 1217 | 0.93   |
| <i>trans</i> -Dehydroxylinalool oxide                   | 3.96*       | 991  | 1.26    | 3.40*         | 1174 | [0.07] |
| Myrcene   | 3.96*       | 991  | [1.26]  | 2.87          | 1133 | 1.21   |
| <i>cis</i> -Dehydroxylinalool oxide                     | 4.17        | 1005 | 0.06    | 3.82*         | 1206 | 0.07   |
| α-Terpinene   | 4.29        | 1013 | 0.02    | 2.95          | 1139 | 0.01   |
| para-Cymene   | 4.41        | 1020 | 0.03    | 4.09          | 1225 | 0.03   |
| β-Phellandrene  | 4.48*       | 1025 | 0.41    | 3.30          | 1166 | 0.02   |
| Limonene  | 4.48*       | 1025 | [0.41]  | 3.18          | 1156 | 0.41   |
| (Z)-β-Ocimene   | 4.70        | 1039 | 0.48    | 3.77          | 1202 | 0.51   |
| (E)-β-Ocimene   | 4.86        | 1049 | 0.91    | 3.98*         | 1217 | [0.93] |
| γ-Terpinene   | 4.97        | 1056 | 0.03    | 3.82*         | 1206 | [0.07] |
| <i>cis</i> -Linalool oxide (fur.)                       | 5.18        | 1069 | 0.02    | 6.54          | 1402 | 0.02   |
| Terpinolene   | 5.43*       | 1085 | 0.26    | 4.28          | 1238 | 0.26   |
| <i>trans</i> -Linalool oxide (fur.)                     | 5.43*       | 1085 | [0.26]  | 6.92          | 1429 | 0.02   |
| Hotrienol   | 5.74*       | 1104 | 20.14   | 8.82          | 1574 | 0.03   |
| Linalool  | 5.74*       | 1104 | [20.14] | 8.12*†        | 1520 | 71.43  |
| Dehydrosabinaketone                                     | 5.92        | 1116 | 0.01    | 8.64          | 1560 | 0.03   |
| Unknown [m/z 82, 81 (72), 43 (64), 54 (32), 41 (20)...] | 5.95        | 1118 | 0.01    | 9.65          | 1640 | 0.01   |
| allo-Ocimene  | 6.13        | 1130 | 0.01    | 5.57          | 1332 | 0.01   |
| Nerol oxide   | 6.50        | 1154 | 0.03    | 6.85          | 1425 | 0.05   |
| Borneol   | 6.61        | 1161 | 0.02    | 9.80*         | 1652 | 6.47   |
| Terpinen-4-ol   | 6.80        | 1174 | 0.04    | 8.59          | 1556 | 0.05   |
| α-Terpineol   | 7.04        | 1190 | 3.45    | 9.80*         | 1652 | [6.47] |

|   |        |      |         |        |      |         |
|---|--------|------|---------|--------|------|---------|
| Unknown [m/z 43, 71 (80), 67 (55), 59 (51), 68 (44), 41 (43)...]            | 7.20   | 1200 | 0.04    |        |      |         |
| Unknown [m/z 43, 71 (66), 59 (52), 41 (47), 68 (46)...]                     | 7.30   | 1207 | 0.02    | 6.24   | 1380 | 0.02    |
| Linalyl formate   | 7.45   | 1217 | 0.07    | 8.41*  | 1542 | 0.12    |
| Nerol   | 7.67   | 1232 | 0.78    | 11.08  | 1758 | 0.80    |
| Linalyl acetate   | 8.18*  | 1268 | 53.81   | 8.22†  | 1527 | [71.43] |
| Geraniol  | 8.18*  | 1268 | [53.81] | 11.66  | 1807 | 2.14    |
| Neryl formate   | 8.44   | 1286 | 0.03    | 9.47   | 1625 | 0.04    |
| Thymol  | 8.62   | 1298 | 0.03    | 15.12  | 2129 | 0.02    |
| Geranyl formate   | 8.76   | 1308 | 0.04    | 9.90   | 1660 | 0.08    |
| δ-Elemene   | 9.21   | 1334 | 0.01    | 6.96   | 1433 | 0.01    |
| Hodiendiol derivative   | 9.31   | 1341 | 0.02    | 12.96  | 1923 | 0.03    |
| α-Cubebene  | 9.39*  | 1347 | 0.09    | 6.79*  | 1420 | [0.08]  |
| α-Terpinyl acetate  | 9.39*  | 1347 | [0.09]  | 9.71   | 1644 | 0.06    |
| Unknown [m/z 43, 121 (52), 93 (48), 79 (33), 41 (30), 136 (26), 81 (25)...] | 9.46   | 1352 | 0.01    |        |      |         |
| Unknown [m/z 43, 79 (46), 71 (30), 94 (25), 41 (23), 81 (21)... 197 (0)]    | 9.50   | 1355 | 0.02    | 11.12  | 1762 | 0.03    |
| Neryl acetate   | 9.66   | 1366 | 1.22    | 10.20  | 1684 | 1.24    |
| α-Copaene   | 9.75   | 1372 | 0.74    | 7.15   | 1447 | 0.73    |
| (Z)-8-Hydroxylinalool?  | 9.80   | 1376 | 0.02    | 13.79  | 2000 | 0.03    |
| β-Bourbonene  | 9.85*  | 1380 | 0.23    | 7.48   | 1471 | 0.21    |
| 1,5-diepi-β-Bourbonene  | 9.85*  | 1380 | [0.23]  | 7.37   | 1463 | 0.02    |
| Geranyl acetate   | 9.94†  | 1386 | 2.51    | 10.57  | 1715 | 2.36    |
| β-Cubebene  | 9.96†  | 1387 | [2.51]  | 7.79   | 1494 | 0.16    |
| β-Elemene   | 9.99   | 1390 | 0.08    | 8.41*  | 1542 | [0.12]  |
| Isocaryophyllene  | 10.14  | 1401 | 0.02    | 8.12*† | 1520 | [71.43] |
| β-Caryophyllene   | 10.32  | 1413 | 1.63    | 8.46   | 1546 | 1.60    |
| β-Copaene   | 10.46  | 1424 | 0.06    | 8.41*  | 1542 | [0.12]  |
| trans-α-Bergamotene   | 10.60  | 1434 | 0.03    | 8.41*  | 1542 | [0.12]  |
| α-Humulene  | 10.77  | 1447 | 0.11    | 9.28   | 1610 | 0.08    |
| (E)-β-Farnesene   | 10.93* | 1459 | 1.13    | 9.56   | 1632 | 1.12    |
| 9-epi-β-Caryophyllene   | 10.93* | 1459 | [1.13]  | 9.37   | 1617 | 0.02    |
| Germacrene D  | 11.16* | 1476 | 3.03    | 9.80*  | 1652 | [6.47]  |
| α-Amorphene   | 11.16* | 1476 | [3.03]  | 9.59   | 1634 | 0.02    |
| β-Selinene  | 11.21  | 1480 | 0.03    | 9.87   | 1657 | 0.03    |
| Hodiendiol derivative IV  | 11.24  | 1482 | 0.09    |        |      |         |
| Bicyclogermacrene   | 11.36  | 1491 | 0.39    | 10.06  | 1673 | 0.36    |
| (Z)-α-Bisabolene  | 11.51* | 1502 | 0.12    | 10.38* | 1698 | 0.11    |
| Hodiendiol derivative II  | 11.51* | 1502 | [0.12]  | 12.82  | 1910 | 0.01    |
| γ-Cadinene  | 11.58  | 1508 | 0.02    | 10.38* | 1698 | [0.11]  |

|  |        |      |        |        |      |        |
|--|--------|------|--------|--------|------|--------|
| Cubebol  | 11.61* | 1510 | 0.20   | 12.56  | 1887 | 0.04   |
| (3E,6E)- $\alpha$ -Farnesene   | 11.61* | 1510 | [0.20] | 10.51  | 1710 | 0.17   |
| (Z)-2-Lachnophyllum ester  | 11.66  | 1513 | 0.03   | 15.62  | 2178 | 0.03   |
| Matricaria ester isomer II   | 11.69  | 1516 | 0.12   |        |      |        |
| $\delta$ -Cadinene   | 11.74* | 1520 | 0.19   | 10.42  | 1702 | 0.20   |
| <i>trans</i> -Calamenene   | 11.74* | 1520 | [0.19] | 11.26  | 1773 | tr     |
| Matricaria ester isomer I  | 11.78  | 1523 | 1.02   | 16.23  | 2240 | 0.93   |
| $\alpha$ -Calacorene   | 11.95  | 1536 | 0.05   | 12.13* | 1848 | 0.08   |
| Isocaryophyllene epoxide B   | 12.05* | 1544 | 0.05   | 12.16  | 1851 | 0.01   |
| $\alpha$ -Elemol   | 12.05* | 1544 | [0.05] | 14.06  | 2025 | 0.01   |
| Salviadienol?  | 12.11  | 1549 | 0.02   | 14.34  | 2052 | 0.01   |
| 1,5-Epoxy-salvial-4(14)-ene  | 12.22  | 1558 | 0.06   | 12.13* | 1848 | [0.08] |
| Spathulenol  | 12.38  | 1570 | 0.21   | 14.41  | 2059 | 0.20   |
| Caryophyllene oxide isomer   | 12.42* | 1574 | 0.58   | 12.74  | 1903 | 0.04   |
| Caryophyllene oxide  | 12.42* | 1574 | [0.58] | 12.78  | 1906 | 0.57   |
| Salvial-4(14)-en-1-one   | 12.57  | 1585 | 0.06   | 13.05  | 1931 | 0.05   |
| Unknown [m/z 91, 119 (91), 79 (86), 93 (85), 41 (74), 107 (68), 105 (67), 134 (65)... 220 (1)] | 12.69  | 1594 | 0.08   |        |      |        |
| Torilenol  | 12.82  | 1605 | 0.04   | 15.48* | 2165 | 0.07   |
| Guaia-6,10(14)-dien-4 $\beta$ -ol  | 13.02  | 1621 | 0.02   | 15.79  | 2195 | 0.03   |
| Hinesol  | 13.14* | 1632 | 0.08   | 15.08  | 2125 | 0.07   |
| Unknown [m/z 135, 93 (29), 79 (29), 41 (26), 107 (22), 67 (21), 69 (20)...]                    | 13.14* | 1632 | [0.08] |        |      |        |
| Unknown [m/z 123, 43 (86), 81 (75), 95 (73), 82 (68), 161 (64), 105 (63)... 220 (6)]           | 13.19  | 1636 | 0.02   |        |      |        |
| $\beta$ -Eudesmol  | 13.26  | 1641 | 0.08   | 15.44  | 2160 | 0.13   |
| Unknown [m/z 159, 91 (58), 105 (54), 93 (51), 81 (50), 177 (44)...]                            | 13.31* | 1645 | 0.05   |        |      |        |
| $\alpha$ -Eudesmol   | 13.31* | 1645 | [0.05] | 15.34  | 2151 | 0.03   |
| $\alpha$ -Cadinol  | 13.35  | 1648 | 0.02   | 15.48* | 2165 | [0.07] |
| Unknown [m/z 81, 41 (46), 79 (46), 93 (39), 91 (33), 107 (33)... 206 (8)]                      | 13.52  | 1662 | 0.01   |        |      |        |
| Mustakone  | 13.58  | 1668 | 0.02   | 15.48* | 2165 | [0.07] |
| Eudesma-4(15),7-   | 13.70  | 1678 | 0.02   |        |      |        |

|   |       |               |      |       |               |      |
|---|-------|---------------|------|-------|---------------|------|
| dien-1β-ol  |       |               |      |       |               |      |
| Cyclocolorenone   | 14.55 | 1750          | 0.01 | 16.55 | 2273          | 0.01 |
| Phytone   | 15.64 | 1846          | 0.03 | 14.72 | 2089          | 0.05 |
| Sclareoloxide   | 15.88 | 1868          | 0.33 |       |               |      |
| Geranyl-α-terpinene   | 16.40 | 1916          | 0.13 |       |               |      |
| Unknown [m/z 109, 132 (88), 157 (76), 119 (66), 91 (57), 105 (55)...] | 16.57 | 1931          | 0.13 |       |               |      |
| Geranyl-para-cymene   | 16.77 | 1950          | 0.06 | 16.18 | 2236          | 0.04 |
| Manoyl oxide  | 17.04 | 1976          | 0.04 | 16.62 | 2282          | 0.02 |
| 13-epi-Manoyl oxide   | 17.26 | 1997          | 0.02 | 16.40 | 2258          | 0.01 |
| Manool  | 17.73 | 2043          | 0.07 | 19.35 | 2583          | 0.05 |
| Sclareolide?  | 17.91 | 2061          | 0.01 |       |               |      |
| Sclareol  | 19.29 | 2202          | 0.73 | 22.89 | 3027          | 0.72 |
| <b>Total identified</b>   |       | <b>98.29%</b> |      |       | <b>97.05%</b> |      |
| <b>Total reported</b>   |       | <b>98.64%</b> |      |       | <b>97.11%</b> |      |

\*: 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