

**Date :** 2025-09-04

*CERTIFICATE OF ANALYSIS - GC PROFILING*

*SAMPLE IDENTIFICATION*

**Internal code :** 25H20-PTH03

**Customer Identification :** Organic Blue Tansy - Morocco - BH0108R

**Type :** Essential Oil

**Source :** *Tanacetum annuum*

**Customer :** Plant Therapy

Checked and approved by:

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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 :** Sylvain Mercier, M. Sc., Chimiste 2014-005

**Date :** 2025-08-26

## *PHYSICOCHEMICAL DATA*

**Refractive index :**  $1.507 \pm 0.0003$  (20 °C)

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

**Analyst :** Kassandra Baker

**Date :** 2025-08-21

## *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              |
|-------------------------|-------|--------------------|
| 1,3-Cyclohexadiene      | 0.01  | Alkene             |
| Isovaleral              | tr    | Aliphatic aldehyde |
| 2-Methylbutyral         | 0.01  | Aliphatic aldehyde |
| 2-Ethylfuran            | tr    | Furan              |
| Isoamyl alcohol         | tr    | Aliphatic alcohol  |
| 2-Methylbutanol         | 0.02  | Aliphatic alcohol  |
| Ethyl isobutyrate       | tr    | Aliphatic ester    |
| Toluene                 | tr    | Simple phenolic    |
| Unknown                 | tr    | Unknown            |
| Methyl 2-methylbutyrate | 0.01  | Aliphatic ester    |
| Unknown                 | 0.01  | Unknown            |
| Octene                  | tr    | Alkene             |
| Hexanal                 | 0.01  | Aliphatic aldehyde |
| Ethyl 2-methylbutyrate  | 0.10  | Aliphatic ester    |
| Ethyl isovalerate       | 0.03  | Aliphatic ester    |
| Propyl isobutyrate      | 0.02  | Aliphatic ester    |
| Hexanol                 | 0.01  | Aliphatic alcohol  |
| Nonane                  | 0.01  | Alkane             |
| Hashishene              | 0.01  | Monoterpene        |
| Tricyclene              | 0.05  | Monoterpene        |
| Ethyl tiglate?          | 0.03  | Aliphatic ester    |
| $\alpha$ -Thujene       | 0.24  | Monoterpene        |
| $\alpha$ -Pinene        | 2.67  | Monoterpene        |
| $\alpha$ -Fenchene      | 0.01  | Monoterpene        |
| Camphene                | 0.86  | Monoterpene        |
| Thujadiene isomer       | 0.01  | Monoterpene        |
| Propyl 2-methylbutyrate | 0.13  | Aliphatic ester    |
| Thuja-2,4(10)-diene     | 0.01  | Monoterpene        |
| Propyl isovalerate      | 0.03  | Aliphatic ester    |
| Sabinene                | 14.61 | Monoterpene        |
| $\beta$ -Pinene         | 6.32  | Monoterpene        |
| 6-Methyl-5-hepten-2-one | 0.07  | Aliphatic ketone   |
| Myrcene                 | 7.70  | Monoterpene        |
| 2-Pentylfuran           | 0.02  | Furan              |
| $\alpha$ -Phellandrene  | 5.88  | Monoterpene        |
| Octanal                 | 0.04  | Aliphatic aldehyde |
| Menthatriene isomer I   | 0.01  | Monoterpene        |
| $\Delta^3$ -Carene      | 0.02  | Monoterpene        |
| $\alpha$ -Terpinene     | 0.45  | Monoterpene        |
| meta-Cymene             | 0.03  | Monoterpene        |

|                                                         |        |                         |
|---------------------------------------------------------|--------|-------------------------|
| <i>para</i> -Cymene                                     | 4.05   | Monoterpene             |
| $\beta$ -Phellandrene                                   | 0.31   | Monoterpene             |
| 1,8-Cineole                                             | 0.21   | Monoterpenic ether      |
| Limonene                                                | 1.92   | Monoterpene             |
| (Z)- $\beta$ -Ocimene                                   | 0.01   | Monoterpene             |
| Butyl 2-methylbutyrate                                  | 0.03   | Aliphatic ester         |
| Butyl isovalerate                                       | [0.04] | Aliphatic ester         |
| (E)- $\beta$ -Ocimene                                   | [0.04] | Monoterpene             |
| $\gamma$ -Terpinene                                     | 0.79   | Monoterpene             |
| Prenyl isobutyrate                                      | 0.01   | Aliphatic ester         |
| <i>cis</i> -Sabinene hydrate                            | 0.09   | Monoterpenic alcohol    |
| Octanol                                                 | 0.06   | Aliphatic alcohol       |
| Terpinolene                                             | 0.34   | Monoterpene             |
| <i>para</i> -Cymenene                                   | 0.03   | Monoterpene             |
| <i>trans</i> -Linalool oxide (fur.)                     | 0.12   | Monoterpenic alcohol    |
| 6,7-Epoxymyrcene                                        | 0.35   | Monoterpenic ether      |
| <i>trans</i> -Sabinene hydrate                          | 0.06   | Monoterpenic alcohol    |
| Linalool                                                | 0.18   | Monoterpenic alcohol    |
| Nonanal                                                 | 0.05   | Aliphatic aldehyde      |
| 2-Methylbutyl 2-methylbutyrate                          | 0.14   | Aliphatic ester         |
| Amyl isovalerate                                        | 0.03   | Aliphatic ester         |
| Unknown                                                 | 0.25   | Unknown                 |
| (E)-4,8-Dimethylnona-1,3,7-triene                       | 0.04   | Terpene derivative      |
| <i>cis-para</i> -Menth-2-en-1-ol                        | 0.07   | Monoterpenic alcohol    |
| $\alpha$ -Campholenal                                   | 0.04   | Monoterpenic aldehyde   |
| Limona ketone                                           | 0.48   | Normonoterpenic ketone  |
| Camphor                                                 | 9.52   | Monoterpenic ketone     |
| <i>trans</i> -Pinocarveol                               | 0.06   | Monoterpenic alcohol    |
| $\alpha$ ,4-Dimethyl-3-cyclohexene-1-methanol           | 0.14   | Normonoterpenic alcohol |
| $\alpha$ ,4-Dimethyl-3-cyclohexene-1-methanol<br>epimer | 0.07   | Normonoterpenic alcohol |
| Sabinaketone                                            | 0.03   | Normonoterpenic ketone  |
| Citronellal                                             | 0.05   | Monoterpenic aldehyde   |
| Pinocarvone                                             | 0.01   | Monoterpenic ketone     |
| Borneol                                                 | 2.42   | Monoterpenic alcohol    |
| Unknown                                                 | 0.03   | Oxygenated monoterpene  |
| Unknown                                                 | 0.08   | Oxygenated monoterpene  |
| Terpinen-4-ol                                           | 1.41   | Monoterpenic alcohol    |
| Unknown                                                 | 0.06   | Unknown                 |
| <i>para</i> -Cymen-8-ol                                 | 0.05   | Monoterpenic alcohol    |
| $\alpha$ -Terpineol                                     | 0.21   | Monoterpenic alcohol    |
| Myrtenal                                                | 0.04   | Monoterpenic aldehyde   |
| Myrtenol                                                | 0.06   | Monoterpenic alcohol    |
| Unknown                                                 | 0.06   | Unknown                 |
| <i>cis</i> - $\alpha$ -Phellandrene epoxide (iPr vs Me) | 0.14   | Monoterpenic ether      |

|                                      |      |                        |
|--------------------------------------|------|------------------------|
| Decanal                              | 0.05 | Aliphatic aldehyde     |
| <i>trans</i> -Piperitol              | 0.04 | Monoterpenic alcohol   |
| <i>trans</i> -Carveol                | 0.04 | Monoterpenic alcohol   |
| Unknown                              | 0.07 | Oxygenated monoterpene |
| (3Z)-Hexenyl 2-methylbutyrate        | 0.01 | Aliphatic ester        |
| Hexyl 2-methylbutyrate               | 0.03 | Aliphatic ester        |
| Cuminal                              | 0.12 | Monoterpenic aldehyde  |
| Pulegone                             | 0.06 | Monoterpenic ketone    |
| (2E)-Hexenyl isovalerate             | 0.03 | Aliphatic ester        |
| Carvotanacetone                      | 0.09 | Monoterpenic ketone    |
| Piperitone                           | 0.06 | Monoterpenic ketone    |
| Phellandral                          | 0.09 | Monoterpenic aldehyde  |
| $\alpha$ -Terpinen-7-al              | 0.05 | Monoterpenic aldehyde  |
| Bornyl acetate                       | 0.02 | Monoterpenic ester     |
| Cuminol                              | 0.05 | Monoterpenic alcohol   |
| Thymol                               | 0.72 | Monoterpenic alcohol   |
| 4-Methylhexyl 2-methylbutyrate       | 0.08 | Aliphatic ester        |
| Carvacrol                            | 0.03 | Monoterpenic alcohol   |
| 6-Hydroxycarvotanacetone             | 0.01 | Monoterpenic alcohol   |
| 1,4- <i>para</i> -Menthadien-7-ol    | 0.04 | Monoterpenic alcohol   |
| Bicycloelemene                       | 0.02 | Sesquiterpene          |
| $\alpha$ -Terpinyl acetate           | 0.10 | Monoterpenic ester     |
| $\alpha$ -Cubebene                   | 0.01 | Sesquiterpene          |
| $\alpha$ -Copaene                    | 0.07 | Sesquiterpene          |
| (E)- $\beta$ -Damascenone            | 0.04 | Apocarotenoid          |
| 7- <i>epi</i> -Sesquithujene?        | 0.03 | Sesquiterpene          |
| $\beta$ -Elemene                     | 0.35 | Sesquiterpene          |
| Benzyl isovalerate                   | 0.02 | Phenolic ester         |
| $\alpha$ -Cedrene                    | 0.02 | Sesquiterpene          |
| $\beta$ -Caryophyllene               | 1.68 | Sesquiterpene          |
| $\beta$ -Copaene                     | 0.02 | Sesquiterpene          |
| Octyl 2-methylbutyrate               | 0.09 | Aliphatic ester        |
| <i>trans</i> - $\alpha$ -Bergamotene | 0.07 | Sesquiterpene          |
| Sesquisabinene A                     | 0.87 | Sesquiterpene          |
| $\alpha$ -Humulene                   | 0.18 | Sesquiterpene          |
| (E)- $\beta$ -Farnesene              | 0.17 | Sesquiterpene          |
| 4,5- <i>diepi</i> -Aristolochene     | 0.11 | Sesquiterpene          |
| Dehydrosesquiceneole                 | 0.08 | Sesquiterpenic ether   |
| $\gamma$ -Murolene                   | 0.05 | Sesquiterpene          |
| Germacrene D                         | 1.71 | Sesquiterpene          |
| $\gamma$ -Curcumene                  | 0.06 | Sesquiterpene          |
| $\beta$ -Selinene                    | 0.41 | Sesquiterpene          |
| Phenylethyl isovalerate              | 0.07 | Phenolic ester         |
| $\alpha$ -Curcumene                  | 0.38 | Sesquiterpene          |
| Eremophilene                         | tr   | Sesquiterpene          |

|                                                            |      |                        |
|------------------------------------------------------------|------|------------------------|
| Bicyclogermacrene                                          | 0.10 | Sesquiterpene          |
| Phenylethyl 2-methylbutyrate                               | 0.12 | Phenolic ester         |
| $\alpha$ -Muurolene                                        | 0.13 | Sesquiterpene          |
| $\delta$ -Guaiene                                          | 0.05 | Sesquiterpene          |
| 3,6-Dihydrochamazulene                                     | 3.51 | Azulene                |
| $\beta$ -Curcumene                                         | 0.06 | Sesquiterpene          |
| Dihydrochamazulene isomer I                                | 0.74 | Azulene                |
| $\delta$ -Cadinene                                         | 0.11 | Sesquiterpene          |
| $\beta$ -Sesquiphellandrene                                | 0.75 | Sesquiterpene          |
| Dihydrochamazulene isomer II                               | 0.06 | Azulene                |
| Phenylethyl angelate?                                      | 0.09 | Phenolic ester         |
| Isocaryophyllene epoxide B                                 | 0.01 | Sesquiterpenic ether   |
| $\alpha$ -Elemol                                           | 0.08 | Sesquiterpenic alcohol |
| ( <i>E</i> )-Nerolidol                                     | 0.02 | Sesquiterpenic alcohol |
| Spathulenol                                                | 0.08 | Sesquiterpenic alcohol |
| Caryophyllene oxide                                        | 0.34 | Sesquiterpenic ether   |
| Caryophyllene oxide isomer                                 | 0.01 | Sesquiterpenic ether   |
| 10-epi-Junenol                                             | 0.02 | Sesquiterpenic alcohol |
| Humulene epoxide II                                        | 0.04 | Sesquiterpenic ether   |
| 5,6-Dihydrochamazulene                                     | 0.34 | Azulene                |
| Junenol                                                    | 0.03 | Sesquiterpenic alcohol |
| Unknown                                                    | 0.03 | Sesquiterpene          |
| 7,12-Dehydro-5,6,7,8-tetrahydrochamazulene                 | 1.54 | Azulene                |
| Eremoligenol                                               | 0.07 | Sesquiterpenic alcohol |
| $\tau$ -Muurolol                                           | tr   | Sesquiterpenic alcohol |
| $\tau$ -Cadinol                                            | 0.05 | Sesquiterpenic alcohol |
| $\beta$ -Eudesmol                                          | 0.75 | Sesquiterpenic alcohol |
| Dihydrochamazulene isomer IV                               | 1.10 | Azulene                |
| $\alpha$ -Eudesmol                                         | 0.04 | Sesquiterpenic alcohol |
| (3 <i>E</i> ,5 <i>E</i> )-7-Hydroxyfarnesene               | 0.04 | Sesquiterpenic alcohol |
| Unknown                                                    | 0.20 | Azulene                |
| Chamazulene                                                | 9.04 | Azulene                |
| $\alpha$ -Phellandrene dimer II                            | 0.06 | Diterpene              |
| Dehydrochamazulene                                         | 0.05 | Azulene                |
| Phytone                                                    | 0.09 | Terpenic ketone        |
| <i>meta</i> -Camphorene                                    | 0.25 | Diterpene              |
| <i>para</i> -Camphorene                                    | 0.09 | Diterpene              |
| 9-(15,16-Dihydro-15-methyleneneryl)- $\alpha$ -terpinene?  | 0.23 | Homoditerpene          |
| 9-(15,16-Dihydro-15-methyleneneryl)- <i>para</i> -cymene?  | 0.05 | Homoditerpene          |
| 9-(15,16-Dihydro-15-methylenegeranyl)- <i>para</i> -cymene | 0.33 | Homoditerpene          |
| 9-(15,16-Dihydro-15-methylenegeranyl)- $\alpha$ -terpinene | 1.00 | Homoditerpene          |

|                           |              |         |
|---------------------------|--------------|---------|
| Unknown                   | 0.36         | Unknown |
| Unknown                   | 1.27         | Unknown |
| Unknown                   | 0.10         | Unknown |
| Unknown                   | 0.06         | Unknown |
| <b>Consolidated total</b> | <b>95.41</b> |         |

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

Note: no correction factor was applied

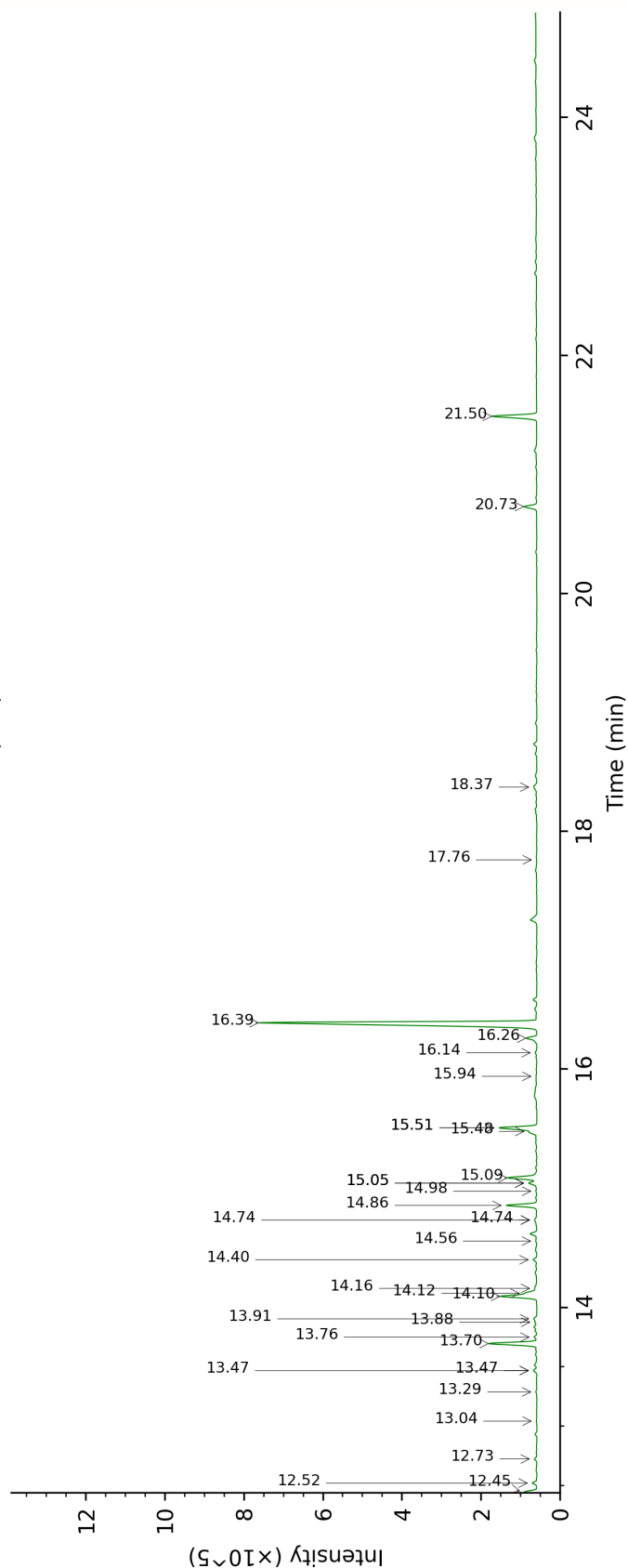
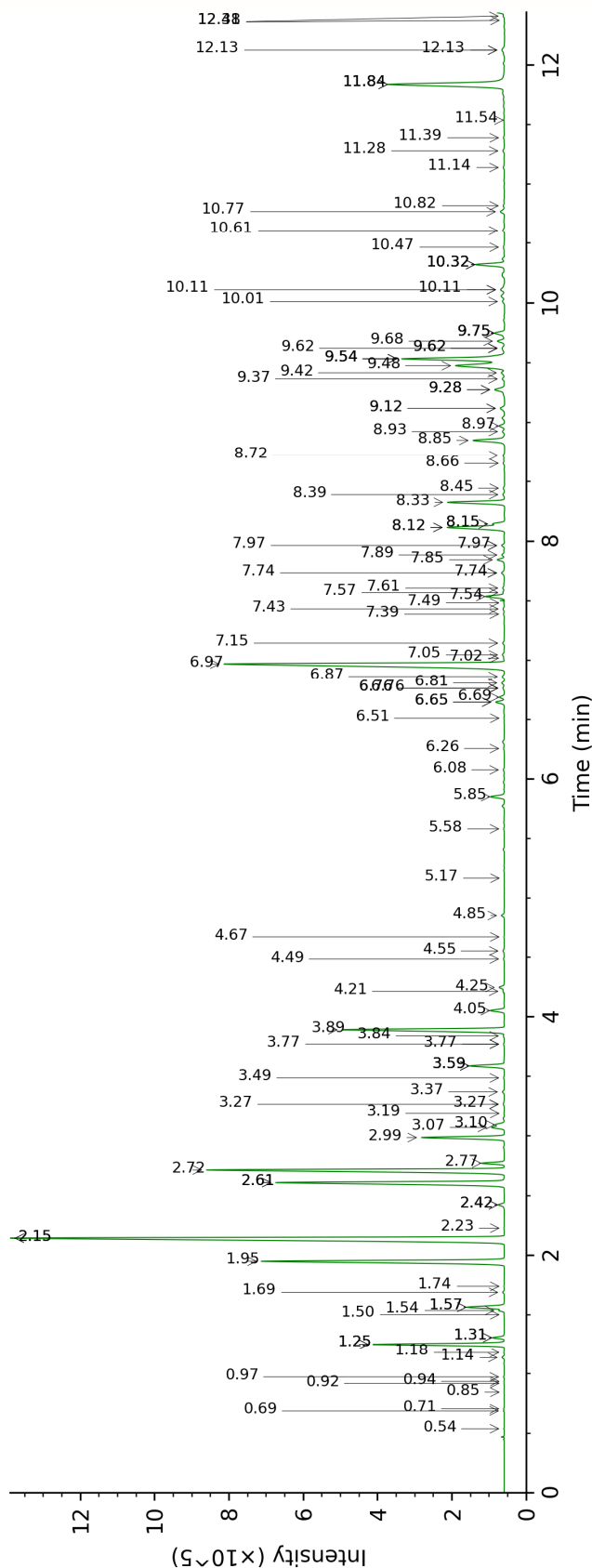
**About "consolidated" data:** The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm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

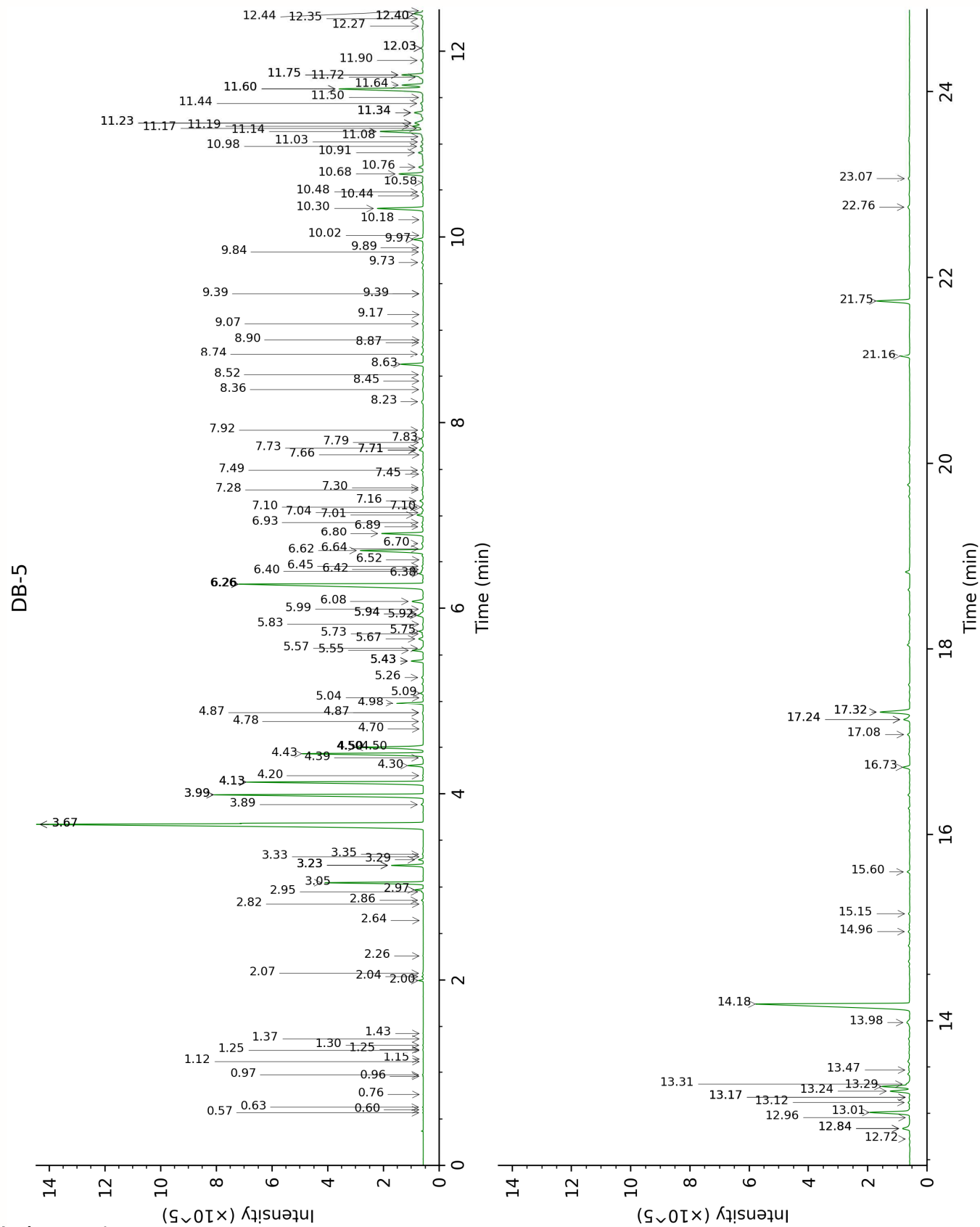
**Unknowns:** Unknown compounds' mass spectral data is presented in the "Full analysis data" table. The occurrence of unknown compounds is to be expected in many samples, and does not denote particular problems unless noted otherwise in the conclusion.

**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.

DB-WAX





FULL ANALYSIS DATA

| 1,3-Cyclohexadiene                                                                           | Column DB-WAX |        |         | Column DB-5 |        |         |
|----------------------------------------------------------------------------------------------|---------------|--------|---------|-------------|--------|---------|
|                                                                                              |               |        |         | 0.57        | 627.8  | 0.01    |
| Isovaleral                                                                                   | 0.71          | 885.4  | 0.01    | 0.60        | 639.7  | tr      |
| 2-Methylbutyral                                                                              | 0.69          | 878.2  | 0.01    | 0.63        | 649.7  | 0.01    |
| 2-Ethylfuran                                                                                 | 0.85          | 916.9  | tr      | 0.76        | 699.7  | tr      |
| Isoamyl alcohol                                                                              | 3.27*         | 1179.7 | [0.04]  | 0.96        | 730.6  | tr      |
| 2-Methylbutanol                                                                              | 3.27*         | 1179.7 | [0.04]  | 0.98        | 732.7  | 0.02    |
| Ethyl isobutyrate                                                                            | 0.94          | 933.2  | tr      | 1.12        | 753.5  | tr      |
| Toluene                                                                                      | 1.31*         | 999.4  | [0.23]  | 1.14        | 757.5  | tr      |
| Unknown HEIT III [m/z 73, 41 (54), 87 (50), 56 (47), 54 (29), 55 (25), 100 (23)... 115? (6)] | 0.92          | 930.4  | tr      | 1.24        | 772.0  | tr      |
| Methyl 2-methylbutyrate                                                                      | 1.18          | 977.2  | 0.01    | 1.25        | 773.3  | 0.01    |
| Unknown HEIT II [m/z 73, 87 (52), 41 (45), 56 (42), 100 (29)...]                             | 0.98          | 940.1  | 0.01    | 1.30        | 780.1  | 0.01    |
| Octene                                                                                       | 0.54          | 816.0  | tr      | 1.37        | 790.0  | tr      |
| Hexanal                                                                                      | 1.74          | 1044.6 | 0.01    | 1.43        | 798.5  | 0.01    |
| Ethyl 2-methylbutyrate                                                                       | 1.54          | 1023.4 | 0.09    | 2.00        | 848.8  | 0.10    |
| Ethyl isovalerate                                                                            | 1.69          | 1039.3 | 0.04    | 2.04        | 852.4  | 0.03    |
| Propyl isobutyrate                                                                           | 1.57*         | 1026.3 | [0.91]  | 2.07        | 855.4  | 0.02    |
| Hexanol                                                                                      | 5.17          | 1321.0 | 0.01    | 2.26        | 871.2  | 0.01    |
| Nonane                                                                                       |               |        |         | 2.64        | 903.5  | 0.01    |
| Hashishene                                                                                   | 1.25*         | 990.2  | [2.70]  | 2.82        | 915.4  | 0.01    |
| Tricyclene                                                                                   | 1.14          | 969.5  | 0.05    | 2.86        | 918.1  | 0.05    |
| Ethyl tiglate?                                                                               | 3.37          | 1187.9 | 0.05    | 2.95        | 924.2  | 0.03    |
| $\alpha$ -Thujene                                                                            | 1.31*         | 999.4  | [0.23]  | 2.97        | 925.6  | 0.24    |
| $\alpha$ -Pinene                                                                             | 1.25*         | 990.2  | [2.70]  | 3.05        | 930.8  | 2.67    |
| $\alpha$ -Fenchene                                                                           | 1.50          | 1019.7 | 0.01    | 3.23*       | 943.3  | [0.88]  |
| Camphene                                                                                     | 1.57*         | 1026.3 | [0.91]  | 3.23*       | 943.3  | [0.88]  |
| Thujadiene isomer                                                                            | 2.23          | 1095.6 | 0.01    | 3.23*       | 943.3  | [0.88]  |
| Propyl 2-methylbutyrate                                                                      | 2.42*         | 1112.0 | [0.15]  | 3.29        | 947.4  | 0.13    |
| Thuja-2,4(10)-diene                                                                          | 2.14*         | 1086.8 | [14.71] | 3.32        | 949.4  | 0.01    |
| Propyl isovalerate                                                                           | 2.61*         | 1127.0 | [5.96]  | 3.35        | 951.3  | 0.03    |
| Sabinene                                                                                     | 2.14*         | 1086.8 | [14.71] | 3.67*       | 972.8  | [20.92] |
| $\beta$ -Pinene                                                                              | 1.95          | 1066.6 | 6.32    | 3.67*       | 972.8  | [20.92] |
| 6-Methyl-5-hepten-2-one                                                                      | 4.85          | 1296.9 | 0.07    | 3.89        | 987.1  | 0.07    |
| Myrcene                                                                                      | 2.72          | 1135.5 | 7.70    | 3.99*       | 994.2  | [7.67]  |
| 2-Pentylfuran                                                                                | 3.49          | 1197.3 | 0.02    | 3.99*       | 994.2  | [7.67]  |
| $\alpha$ -Phellandrene                                                                       | 2.61*         | 1127.0 | [5.96]  | 4.13*       | 1003.3 | [5.93]  |
| Octanal                                                                                      | 4.21          | 1250.6 | 0.04    | 4.13*       | 1003.3 | [5.93]  |
| Menthatriene isomer I                                                                        | 3.19          | 1173.5 | 0.01    | 4.13*       | 1003.3 | [5.93]  |

|                                                                                   |       |        |        |       |        |        |
|-----------------------------------------------------------------------------------|-------|--------|--------|-------|--------|--------|
| Δ3-Carene                                                                         | 2.42* | 1112.0 | [0.15] | 4.20  | 1007.8 | 0.02   |
| α-Terpinene                                                                       | 2.77  | 1140.1 | 0.45   | 4.30  | 1014.6 | 0.45   |
| meta-Cymene                                                                       | 3.84  | 1223.3 | 0.02   | 4.39  | 1019.9 | 0.03   |
| para-Cymene                                                                       | 3.89  | 1227.0 | 4.10   | 4.43  | 1022.7 | 4.05   |
| β-Phellandrene                                                                    | 3.07  | 1164.1 | 0.31   | 4.50* | 1027.0 | [2.41] |
| 1,8-Cineole                                                                       | 3.10  | 1165.9 | 0.21   | 4.50* | 1027.0 | [2.41] |
| Limonene                                                                          | 2.99  | 1157.3 | 1.92   | 4.50* | 1027.0 | [2.41] |
| (Z)-β-Ocimene                                                                     | 3.59* | 1204.9 | [0.84] | 4.70  | 1039.6 | 0.01   |
| Butyl 2-methylbutyrate                                                            | 3.59* | 1204.9 | [0.84] | 4.78  | 1044.6 | 0.03   |
| Butyl isovalerate                                                                 | 3.77* | 1218.2 | [0.02] | 4.87* | 1050.7 | [0.04] |
| (E)-β-Ocimene                                                                     | 3.77* | 1218.2 | [0.02] | 4.87* | 1050.7 | [0.04] |
| γ-Terpinene                                                                       | 3.59* | 1204.9 | [0.84] | 4.98  | 1057.4 | 0.79   |
| Prenyl isobutyrate                                                                | 4.67  | 1283.9 | 0.01   | 5.04  | 1061.2 | 0.01   |
| cis-Sabinene hydrate                                                              | 6.65* | 1428.7 | [0.22] | 5.09  | 1064.4 | 0.09   |
| Octanol                                                                           | 7.97* | 1528.4 | [0.07] | 5.26  | 1075.1 | 0.06   |
| Terpinolene                                                                       | 4.05  | 1238.8 | 0.34   | 5.44* | 1086.3 | [0.37] |
| para-Cymenene                                                                     | 6.08  | 1386.6 | 0.03   | 5.44* | 1086.3 | [0.37] |
| trans-Linalool oxide (fur.)                                                       | 6.69  | 1431.7 | 0.12   | 5.44* | 1086.3 | [0.37] |
| 6,7-Epoxymyrcene                                                                  | 5.85  | 1370.4 | 0.36   | 5.55  | 1093.6 | 0.35   |
| trans-Sabinene hydrate                                                            | 7.74* | 1510.5 | [0.11] | 5.57  | 1095.0 | 0.06   |
| Linalool                                                                          | 7.85  | 1519.1 | 0.21   | 5.67  | 1101.4 | 0.18   |
| Nonanal                                                                           | 5.58  | 1350.9 | 0.02   | 5.73  | 1104.8 | 0.05   |
| 2-Methylbutyl 2-methylbutyrate                                                    | 4.25  | 1253.0 | 0.13   | 5.76  | 1106.7 | 0.14   |
| Amyl isovalerate                                                                  | 4.48  | 1270.4 | 0.02   | 5.83  | 1111.6 | 0.03   |
| Unknown TAAN I [m/z 71, 43 (95), 81 (82), 79 (73), 67 (67), 41 (49), 109 (14)...] | 6.65* | 1428.7 | [0.22] | 5.92  | 1117.6 | 0.25   |
| (E)-4,8-Dimethylnona-1,3,7-triene                                                 | 4.55  | 1275.3 | 0.04   | 5.94* | 1118.7 | [0.07] |
| cis-para-Menth-2-en-1-ol                                                          | 7.89  | 1522.2 | 0.07   | 5.94* | 1118.7 | [0.07] |
| α-Campholenal                                                                     | 6.76* | 1437.4 | [0.05] | 5.99  | 1122.0 | 0.04   |
| Limona ketone                                                                     | 7.54  | 1495.3 | 0.51   | 6.08  | 1127.4 | 0.48   |
| Camphor                                                                           | 6.97  | 1453.0 | 9.52   | 6.26* | 1139.4 | [9.35] |
| trans-Pinocarveol                                                                 | 8.93  | 1603.5 | 0.06   | 6.26* | 1139.4 | [9.35] |
| α,4-Dimethyl-3-cyclohexene-1-methanol                                             |       |        |        | 6.38  | 1146.7 | 0.14   |
| α,4-Dimethyl-3-cyclohexene-1-methanol epimer                                      |       |        |        | 6.40  | 1148.3 | 0.07   |
| Sabinaketone                                                                      | 8.45  | 1565.8 | 0.04   | 6.42  | 1149.5 | 0.03   |
| Citronellal                                                                       | 6.76* | 1437.4 | [0.05] | 6.45  | 1151.9 | 0.05   |
| Pinocarpone                                                                       | 7.61  | 1500.6 | 0.08   | 6.52  | 1156.3 | 0.01   |
| Borneol                                                                           | 9.54* | 1653.0 | [3.03] | 6.62  | 1162.8 | 2.42   |

|                                                                                            |        |        |        |       |        |        |
|--------------------------------------------------------------------------------------------|--------|--------|--------|-------|--------|--------|
| Unknown CALU II [m/z 95, 110 (38), 81 (21), 79 (16)... 152 (7)]                            | 7.39   | 1484.3 | 0.03   | 6.64  | 1163.9 | 0.03   |
| Unknown CALU III [m/z 95, 110 (43), 81 (28), 41 (15)... 152 (8)]                           | 7.43   | 1487.5 | 0.04   | 6.70  | 1167.6 | 0.08   |
| Terpinen-4-ol                                                                              | 8.33   | 1556.6 | 1.41   | 6.80  | 1174.6 | 1.41   |
| Unknown EUDI I [m/z 69, 68 (65), 110 (51), 67 (39), 41 (27), 83 (26)...]                   | 7.57   | 1497.7 | 0.04   | 6.89  | 1179.8 | 0.06   |
| <i>para</i> -Cymen-8-ol                                                                    | 11.28  | 1799.8 | 0.04   | 6.93  | 1182.7 | 0.05   |
| $\alpha$ -Terpineol                                                                        | 9.54*  | 1653.0 | [3.03] | 7.01  | 1187.9 | 0.21   |
| Myrtenal                                                                                   | 8.39   | 1561.6 | 0.05   | 7.04  | 1189.6 | 0.04   |
| Myrtenol                                                                                   | 10.61  | 1742.5 | 0.06   | 7.10* | 1193.4 | [0.12] |
| Unknown ABCO I [m/z 79, 107 (72), 41 (58), 55 (47), 77 (41), 67 (41)...]                   |        |        |        | 7.10* | 1193.4 | [0.12] |
| <i>cis</i> - $\alpha$ -Phellandrene epoxide (iPr vs Me)                                    | 10.77  | 1756.2 | 0.12   | 7.16  | 1197.8 | 0.14   |
| Decanal                                                                                    | 7.05   | 1458.8 | 0.06   | 7.28  | 1205.4 | 0.05   |
| <i>trans</i> -Piperitol                                                                    | 10.11* | 1700.1 | [0.16] | 7.30  | 1206.9 | 0.04   |
| <i>trans</i> -Carveol                                                                      | 11.14  | 1787.8 | 0.04   | 7.45  | 1216.9 | 0.04   |
| Unknown TAAN II [m/z 93, 41 (68), 79 (67), 91 (66), 92 (57), 67 (42), 77 (41)... 150 (12)] |        |        |        | 7.49  | 1219.7 | 0.07   |
| (3Z)-Hexenyl 2-methylbutyrate                                                              | 6.81   | 1440.7 | 0.07   | 7.66  | 1230.9 | 0.01   |
| Hexyl 2-methylbutyrate                                                                     | 6.26   | 1399.6 | 0.03   | 7.71* | 1234.4 | [0.15] |
| Cuminal                                                                                    | 10.32* | 1718.0 | [0.80] | 7.71* | 1234.4 | [0.15] |
| Pulegone                                                                                   | 8.66   | 1582.2 | 0.04   | 7.73  | 1235.7 | 0.06   |
| (2E)-Hexenyl isovalerate                                                                   | 7.02   | 1456.7 | 0.02   | 7.79  | 1239.9 | 0.03   |
| Carvotanacetone                                                                            | 9.12*  | 1619.3 | [0.14] | 7.83  | 1242.7 | 0.09   |
| Piperitone                                                                                 | 9.62*  | 1660.2 | [0.11] | 7.92  | 1248.8 | 0.06   |
| Phellandral                                                                                | 9.68   | 1665.0 | 0.20   | 8.23  | 1269.6 | 0.09   |
| $\alpha$ -Terpinen-7-al                                                                    | 10.47  | 1730.4 | 0.05   | 8.36  | 1278.4 | 0.05   |
| Bornyl acetate                                                                             | 7.97*  | 1528.4 | [0.07] | 8.45  | 1284.6 | 0.02   |
| Cuminol                                                                                    | 13.88  | 2039.0 | 0.05   | 8.52  | 1289.2 | 0.05   |
| Thymol                                                                                     | 14.86  | 2135.4 | 0.79   | 8.63  | 1296.9 | 0.72   |
| 4-Methylhexyl 2-methylbutyrate                                                             | 7.15   | 1466.1 | 0.05   | 8.74  | 1304.6 | 0.08   |
| Carvacrol                                                                                  | 15.05* | 2154.2 | [0.25] | 8.87  | 1310.1 | 0.03   |
| 6-Hydroxycarvotanacetone                                                                   | 11.39  | 1809.6 | 0.02   | 8.90  | 1312.2 | 0.01   |
| 1,4- <i>para</i> -Menthadien-7-                                                            | 13.47* | 1999.0 | [0.11] | 9.07  | 1324.6 | 0.04   |

|                              |         |        |        |        |        |        |
|------------------------------|---------|--------|--------|--------|--------|--------|
| ol                           |         |        |        |        |        |        |
| Bicycloelemene               | 6.76*   | 1437.4 | [0.05] | 9.17   | 1331.5 | 0.02   |
| $\alpha$ -Terpinyl acetate   | 9.42    | 1643.5 | 0.10   | 9.39*  | 1347.4 | [0.03] |
| $\alpha$ -Cubebene           | 6.51    | 1418.6 | 0.01   | 9.39*  | 1347.4 | [0.03] |
| $\alpha$ -Copaene            | 6.87    | 1445.1 | 0.06   | 9.73   | 1371.3 | 0.07   |
| (E)- $\beta$ -Damascenone    | 10.82   | 1760.5 | 0.03   | 9.84   | 1379.3 | 0.04   |
| 7-epi-Sesquithujene?         | 7.48    | 1491.3 | 0.02   | 9.89   | 1382.6 | 0.03   |
| $\beta$ -Elemene             | 8.15*†  | 1542.5 | [0.26] | 9.97   | 1388.8 | 0.35   |
| Benzyl isovalerate           | 11.54   | 1822.8 | 0.02   | 10.02  | 1391.9 | 0.02   |
| $\alpha$ -Cedrene            | 7.74*   | 1510.5 | [0.11] | 10.18  | 1403.8 | 0.02   |
| $\beta$ -Caryophyllene       | 8.12*†  | 1540.2 | [1.73] | 10.30  | 1412.8 | 1.68   |
| $\beta$ -Copaene             | 8.12*†  | 1540.2 | [1.73] | 10.44  | 1423.0 | 0.02   |
| Octyl 2-methylbutyrate       | 8.72    | 1587.5 | 0.05   | 10.48  | 1426.2 | 0.09   |
| trans- $\alpha$ -Bergamotene | 8.15*†  | 1542.5 | [0.26] | 10.58  | 1433.6 | 0.07   |
| Sesquisabinene A             | 8.85    | 1597.5 | 0.90   | 10.68  | 1441.2 | 0.87   |
| $\alpha$ -Humulene           | 8.97    | 1607.3 | 0.15   | 10.76  | 1446.6 | 0.18   |
| (E)- $\beta$ -Farnesene      | 9.28*   | 1632.0 | [0.37] | 10.91  | 1458.3 | 0.17   |
| 4,5-diepi-Aristolochene      | 9.12*   | 1619.3 | [0.14] | 10.98  | 1463.4 | 0.11   |
| Dehydrosesquicineole         | 9.75*   | 1670.4 | [0.31] | 11.03  | 1466.9 | 0.08   |
| $\gamma$ -Murolene           | 9.28*   | 1632.0 | [0.37] | 11.08  | 1471.2 | 0.05   |
| Germacrene D                 | 9.48    | 1648.3 | 1.82   | 11.14  | 1475.4 | 1.71   |
| $\gamma$ -Curcumene          | 9.37    | 1639.3 | 0.07   | 11.17  | 1477.9 | 0.06   |
| $\beta$ -Selinene            | 9.54*   | 1653.0 | [3.03] | 11.19  | 1479.6 | 0.41   |
| Phenylethyl isovalerate      | 12.73   | 1930.0 | 0.07   | 11.23* | 1482.2 | [0.45] |
| $\alpha$ -Curcumene          | 10.32*  | 1718.0 | [0.80] | 11.23* | 1482.2 | [0.45] |
| Eremophilene                 | 9.62*   | 1660.2 | [0.11] | 11.34* | 1490.5 | [0.37] |
| Bicyclgermacrene             | 9.75*   | 1670.4 | [0.31] | 11.34* | 1490.5 | [0.37] |
| Phenylethyl 2-methylbutyrate | 12.52   | 1911.2 | 0.12   | 11.34* | 1490.5 | [0.37] |
| $\alpha$ -Murolene           | 9.75*   | 1670.4 | [0.31] | 11.44  | 1497.9 | 0.13   |
| $\delta$ -Guaiene            | 9.62*   | 1660.2 | [0.11] | 11.50  | 1502.7 | 0.05   |
| 3,6-Dihydrochamazulene       | 11.84*  | 1849.5 | [4.10] | 11.60* | 1510.0 | [3.58] |
| $\beta$ -Curcumene           | 10.01   | 1692.0 | 0.06   | 11.60* | 1510.0 | [3.58] |
| Dihydrochamazulene isomer I  | 11.84*  | 1849.5 | [4.10] | 11.64  | 1513.2 | 0.74   |
| $\delta$ -Cadinene           | 10.11*  | 1700.1 | [0.16] | 11.72  | 1519.9 | 0.11   |
| $\beta$ -Sesquiphellandrene  | 10.32*  | 1718.0 | [0.80] | 11.75* | 1521.8 | [0.81] |
| Dihydrochamazulene isomer II | 12.13*  | 1875.1 | [0.12] | 11.75* | 1521.8 | [0.81] |
| Phenylethyl angelate?        | 13.91   | 2041.8 | 0.11   | 11.90  | 1534.1 | 0.09   |
| Isocaryophyllene epoxide B   | 11.84*  | 1849.5 | [4.10] | 12.03* | 1544.6 | [0.08] |
| $\alpha$ -Elemol             | 13.76   | 2026.9 | 0.08   | 12.03* | 1544.6 | [0.08] |
| (E)-Nerolidol                | 13.47*  | 1999.0 | [0.11] | 12.27  | 1563.3 | 0.02   |
| Spathulenol                  | 14.12*† | 2062.4 | [0.24] | 12.35  | 1569.6 | 0.08   |

|                                                                                                                     |         |        |        |        |        |        |
|---------------------------------------------------------------------------------------------------------------------|---------|--------|--------|--------|--------|--------|
| Caryophyllene oxide                                                                                                 | 12.45   | 1904.3 | 0.34   | 12.40* | 1573.9 | [0.39] |
| Caryophyllene oxide isomer                                                                                          | 12.38   | 1897.4 | 0.01   | 12.40* | 1573.9 | [0.39] |
| 10-epi-Junenol                                                                                                      | 12.41   | 1900.8 | 0.04   | 12.44  | 1576.4 | 0.02   |
| Humulene epoxide II                                                                                                 | 13.04   | 1959.5 | 0.02   | 12.72  | 1599.2 | 0.04   |
| 5,6-Dihydrochamazulene                                                                                              | 14.16*† | 2066.4 | [0.08] | 12.84* | 1608.3 | [0.37] |
| Junenol                                                                                                             | 13.29   | 1982.3 | 0.03   | 12.84* | 1608.3 | [0.37] |
| Unknown TAAN III [m/z 145, 173 (83), 159 (57), 174 (47), 129 (47), 115 (44), 128 (43), 91 (43), 157 (36), 202 (30)] |         |        |        | 12.96  | 1618.1 | 0.03   |
| 7,12-Dehydro-5,6,7,8-tetrahydrochamazulene                                                                          | 13.70   | 2021.7 | 1.32   | 13.01  | 1622.7 | 1.54   |
| Eremoligenol                                                                                                        | 14.74*  | 2123.0 | [0.13] | 13.12  | 1631.6 | 0.07   |
| τ-Murolol                                                                                                           | 14.74*  | 2123.0 | [0.13] | 13.17* | 1636.2 | [0.04] |
| τ-Cadinol                                                                                                           | 14.56   | 2105.2 | 0.05   | 13.17* | 1636.2 | [0.04] |
| β-Eudesmol                                                                                                          | 15.09   | 2158.7 | 0.84   | 13.24  | 1641.7 | 0.75   |
| Dihydrochamazulene isomer IV                                                                                        | 14.10*† | 2060.0 | [1.11] | 13.29† | 1646.0 | 1.01   |
| α-Eudesmol                                                                                                          | 14.98   | 2147.4 | 0.04   | 13.32† | 1648.0 | 0.13   |
| (3E,5E)-7-Hydroxyfarnesene                                                                                          | 15.94   | 2246.1 | 0.03   | 13.47  | 1660.6 | 0.04   |
| Unknown TAAN IV [m/z 143, 142 (92), 157 (79), 158 (61), 141 (59), 128 (57), 159 (43), 115 (41), 202 (41)]           | 18.37   | 2512.9 | 0.15   | 13.98  | 1703.6 | 0.20   |
| Chamazulene                                                                                                         | 16.39   | 2293.0 | 9.18   | 14.18  | 1720.8 | 9.04   |
| α-Phellandrene dimer II                                                                                             | 12.13*  | 1875.1 | [0.12] | 14.96  | 1788.5 | 0.06   |
| Dehydrochamazulene                                                                                                  | 17.76   | 2443.5 | 0.01   | 15.15  | 1805.2 | 0.05   |
| Phytone                                                                                                             | 14.40   | 2089.7 | 0.11   | 15.60  | 1846.2 | 0.09   |
| meta-Camphorene                                                                                                     | 15.05*  | 2154.2 | [0.25] | 16.73  | 1950.7 | 0.25   |
| para-Camphorene                                                                                                     | 15.48   | 2198.0 | 0.19   | 17.08  | 1984.1 | 0.09   |
| 9-(15,16-Dihydro-15-methyleneneryl)-α-terpinene?                                                                    | 15.51*  | 2201.2 | [1.14] | 17.24* | 1999.5 | [0.29] |
| 9-(15,16-Dihydro-15-methyleneneryl)-para-cymene?                                                                    | 16.14   | 2266.7 | 0.05   | 17.24* | 1999.5 | [0.29] |
| 9-(15,16-Dihydro-15-methylenegeranyl)-para-cymene                                                                   | 16.26   | 2279.5 | 0.33   | 17.32* | 2007.2 | [1.33] |
| 9-(15,16-Dihydro-15-methylenegeranyl)-α-                                                                            | 15.51*  | 2201.2 | [1.14] | 17.32* | 2007.2 | [1.33] |

|                                                        |        |        |      |        |        |      |
|--------------------------------------------------------|--------|--------|------|--------|--------|------|
| terpinene                                              |        |        |      |        |        |      |
| Unknown TAAN V analog I                                | 20.73  | 2798.1 | 0.38 | 21.16  | 2412.3 | 0.36 |
| Unknown TAAN V [m/z 186, 157 (37), 171 (18), 322 (15)] | 21.50  | 2896.3 | 1.31 | 21.75  | 2481.2 | 1.27 |
| Unknown TAAN V analog II                               |        |        |      | 22.76  | 2600.9 | 0.10 |
| Unknown TAAN V analog III                              |        |        |      | 23.07  | 2639.8 | 0.06 |
| Total reported                                         | 94.53% |        |      | 95.04% |        |      |
|                                                        |        |        |      |        |        |      |

\*: 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