

**Date :** August 16, 2022

**CERTIFICATE OF ANALYSIS – GC PROFILING**

**SAMPLE IDENTIFICATION**

**Internal code :** 22H09-PTH11

**Customer identification :** Blue Tansy ORGANIC - Morocco - BH0106R

**Type :** Essential oil

**Source :** *Tanacetum annuum*

**Customer :** Plant Therapy

**ANALYSIS**

**Method:** PC-MAT-014  - Analysis of the composition of an essential oil or other volatile liquid by FAST GC-FID (in French); identifications validated by GC-MS.

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

**Analysis date :** August 11, 2022

Checked and approved by :

\_\_\_\_\_  
Alexis St-Gelais, Ph. D., Chimiste 2013-174

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*PHYSICOCHEMICAL DATA*

**Physical aspect:** Dark blue liquid

**Refractive index:**  $1.5045 \pm 0.0003$  (20 °C; method PC-MAT-016)

*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
Isovaleral	0.01	Aliphatic aldehyde
2-Methylbutyral	0.01	Aliphatic aldehyde
2-Methylbutanol	tr	Aliphatic alcohol
Toluene	0.01	Simple phenolic
Methyl 2-methylbutyrate	0.01	Aliphatic ester
Unknown	0.01	Unknown
Hexanal	0.01	Aliphatic aldehyde
Ethyl 2-methylbutyrate	0.05	Aliphatic ester
Ethyl isovalerate	0.01	Aliphatic ester
Propyl isobutyrate	0.01	Aliphatic ester
Hexanol	0.01	Aliphatic alcohol
Hashishene	0.01	Monoterpene
Tricyclene	0.05	Monoterpene
Ethyl tiglate?	0.02	Aliphatic ester
$\alpha$ -Thujene	0.32	Monoterpene
$\alpha$ -Pinene	2.67	Monoterpene
Thujadiene isomer	0.02	Monoterpene
$\alpha$ -Fenchene	tr	Monoterpene
Propyl 2-methylbutyrate	0.05	Aliphatic ester
Camphene	0.89	Monoterpene
Thuja-2,4(10)-diene	0.05	Monoterpene
Propyl isovalerate	0.02	Aliphatic ester
$\beta$ -Pinene	6.35	Monoterpene
Sabinene	17.92	Monoterpene
6-Methyl-5-hepten-2-one	0.04	Aliphatic ketone
2-Pentylfuran	0.01	Furan
Myrcene	5.18	Monoterpene
Octanal	0.06	Aliphatic aldehyde
$\alpha$ -Phellandrene	5.72	Monoterpene
Menthatriene isomer I	0.01	Monoterpene
$\Delta^3$ -Carene	0.02	Monoterpene
$\alpha$ -Terpinene	0.82	Monoterpene
Isoamyl isobutyrate	0.01	Aliphatic ester
para-Cymene	4.84	Monoterpene
$\beta$ -Phellandrene	0.41	Monoterpene
Limonene	2.19	Monoterpene
1,8-Cineole	0.30	Monoterpenic ether
Unknown	0.01	Unknown
(Z)- $\beta$ -Ocimene	0.01	Monoterpene
Butyl 2-methylbutyrate	0.02	Aliphatic ester
(E)- $\beta$ -Ocimene	0.02	Monoterpene
Butyl isovalerate	0.02	Aliphatic ester
$\gamma$ -Terpinene	1.36	Monoterpene
Prenyl isobutyrate	0.02	Aliphatic ester
cis-Sabinene hydrate	0.06	Monoterpenic alcohol

<i>cis</i> -Linalool oxide (fur.)	0.03	Monoterpenic alcohol
Octanol	0.06	Aliphatic alcohol
<i>trans</i> -Linalool oxide (fur.)	tr	Monoterpenic alcohol
para-Cymenene	0.04	Monoterpene
Terpinolene	0.50	Monoterpene
6,7-Epoxymyrcene	0.24	Monoterpenic ether
<i>trans</i> -Sabinene hydrate	0.06	Monoterpenic alcohol
$\alpha$ -Thujone	0.02	Monoterpenic ketone
Linalool	0.06	Monoterpenic alcohol
Nonanal	0.03	Aliphatic aldehyde
2-Methylbutyl 2-methylbutyrate	0.10	Aliphatic ester
Isoamyl isovalerate	0.01	Aliphatic ester
Amyl isovalerate	0.01	Aliphatic ester
( <i>E</i> )-4,8-Dimethylnona-1,3,7-triene	0.05	Terpene derivative
Unknown	0.20	Unknown
<i>cis</i> -para-Menth-2-en-1-ol	0.09	Monoterpenic alcohol
$\alpha$ -Campholenal	0.05	Monoterpenic aldehyde
Limona ketone	0.29	Normonoterpenic ketone
<i>trans</i> -Pinocarveol	0.02	Monoterpenic alcohol
Camphor	10.41	Monoterpenic ketone
$\alpha$ ,4-Dimethyl-3-cyclohexene-1-methanol	0.15	Normonoterpenic alcohol
Sabinaketone	0.02	Normonoterpenic ketone
Citronellal	0.06	Monoterpenic aldehyde
Pinocarvone	0.03	Monoterpenic ketone
Unknown	0.08	Oxygenated monoterpene
Borneol	1.69	Monoterpenic alcohol
Unknown	0.10	Oxygenated monoterpene
Terpinen-4-ol	1.53	Monoterpenic alcohol
Unknown	0.10	Unknown
para-Cymen-8-ol	0.04	Monoterpenic alcohol
$\alpha$ -Terpineol	0.18	Monoterpenic alcohol
Myrtenal	0.04	Monoterpenic aldehyde
Myrtenol	0.06	Monoterpenic alcohol
Unknown	0.05	Unknown
<i>cis</i> - $\alpha$ -Phellandrene epoxide (iPr vs Me)	0.12	Monoterpenic ether
Decanal	0.09	Aliphatic aldehyde
<i>trans</i> -Carveol	0.02	Monoterpenic alcohol
Unknown	0.07	Oxygenated monoterpene
(3 <i>Z</i> )-Hexenyl 2-methylbutyrate	0.01	Aliphatic ester
Hexyl 2-methylbutyrate	0.03	Aliphatic ester
Cuminal	0.08	Monoterpenic aldehyde
Pulegone	0.06	Monoterpenic ketone
(2 <i>E</i> )-Hexenyl isovalerate	0.02	Aliphatic ester
Neral	0.02	Monoterpenic aldehyde
Carvotanacetone	0.08	Monoterpenic ketone
Piperitone	0.06	Monoterpenic ketone
Phellandral	0.06	Monoterpenic aldehyde
Geranial	0.09	Monoterpenic aldehyde
$\alpha$ -Terpinen-7-al	0.03	Monoterpenic aldehyde
Anthemol?	0.01	Monoterpenic alcohol
Bornyl acetate	0.01	Monoterpenic ester
Perilla alcohol	0.01	Monoterpenic alcohol

Thymol	0.69	Monoterpenic alcohol
4-Methylhexyl 2-methylbutyrate	0.03	Aliphatic ester
Carvacrol	0.09	Monoterpenic alcohol
6-Hydroxycarvotanacetone	0.04	Monoterpenic alcohol
1,4-para-Menthadien-7-ol	0.05	Monoterpenic alcohol
$\alpha$ -Terpinyl acetate	0.01	Monoterpenic ester
$\alpha$ -Cubebene	0.03	Sesquiterpene
$\alpha$ -Copaene	0.08	Sesquiterpene
( <i>E</i> )- $\beta$ -Damascenone	0.04	Apocarotenoid
7-epi-Sesquithujene?	0.04	Sesquiterpene
$\beta$ -Elemene	0.28	Sesquiterpene
$\alpha$ -Cedrene	0.04	Sesquiterpene
$\beta$ -Caryophyllene	1.64	Sesquiterpene
$\beta$ -Copaene	0.02	Sesquiterpene
Octyl 2-methylbutyrate	0.09	Aliphatic ester
<i>trans</i> - $\alpha$ -Bergamotene	0.09	Sesquiterpene
Sesquisabinene A	1.06	Sesquiterpene
$\alpha$ -Humulene	0.19	Sesquiterpene
( <i>E</i> )- $\beta$ -Farnesene	0.10	Sesquiterpene
4,5-diepi-Aristolochene	0.05	Sesquiterpene
Dehydrosesquicineole	0.05	Sesquiterpenic ether
$\gamma$ -Muurolene	0.11	Sesquiterpene
Germacrene D	1.27	Sesquiterpene
$\beta$ -Selinene	tr	Sesquiterpene
$\gamma$ -Curcumene	0.09	Sesquiterpene
$\alpha$ -Curcumene	0.08	Sesquiterpene
Eremophilene	0.22	Sesquiterpene
Phenylethyl isovalerate	0.03	Phenolic ester
Valencene	0.03	Sesquiterpene
Phenylethyl 2-methylbutyrate	0.04	Phenolic ester
Bicyclogermacrene	0.11	Sesquiterpene
$\alpha$ -Muurolene	0.04	Sesquiterpene
$\delta$ -Guaiene	0.10	Sesquiterpene
3,6-Dihydrochamazulene	5.59	Azulene
$\beta$ -Curcumene	0.02	Sesquiterpene
$\gamma$ -Cadinene	0.08	Sesquiterpene
Dihydrochamazulene isomer I	1.14	Azulene
$\delta$ -Cadinene	0.16	Sesquiterpene
Dihydrochamazulene isomer II	0.07	Azulene
$\beta$ -Sesquiphellandrene	0.46	Sesquiterpene
Dihydrochamazulene isomer III	0.09	Azulene
Phenylethyl angelate?	0.04	Phenolic ester
Isocaryophyllene epoxide B	0.02	Sesquiterpenic ether
$\alpha$ -Elemol	0.07	Sesquiterpenic alcohol
( <i>E</i> )-Nerolidol	0.05	Sesquiterpenic alcohol
Spathulenol	0.07	Sesquiterpenic alcohol
Caryophyllene oxide	0.27	Sesquiterpenic ether
Humulene epoxide I	0.01	Sesquiterpenic ether
Humulene epoxide II	0.03	Sesquiterpenic ether
5,6-Dihydrochamazulene	0.56	Azulene
Junenol	0.02	Sesquiterpenic alcohol
Unknown	0.04	Sesquiterpene

γ-Eudesmol	0.15	Sesquiterpenic alcohol
7,12-Dehydro-5,6,7,8-tetrahydrochamazulene	1.45	Azulene
Eremoligenol	0.03	Sesquiterpenic alcohol
τ-Cadinol	0.05	Sesquiterpenic alcohol
β-Eudesmol	0.46	Sesquiterpenic alcohol
α-Eudesmol	tr	Sesquiterpenic alcohol
Dihydrochamazulene isomer IV	1.20	Azulene
(3E,5E)-7-Hydroxyfarnesene	0.05	Sesquiterpenic alcohol
Unknown	0.17	Azulene
Chamazulene	7.20	Azulene
α-Phellandrene dimer II	0.04	Diterpene
Dehydrochamazulene	0.05	Azulene
Phytone	0.04	Terpenic ketone
meta-Camphorene	0.11	Diterpene
9-(15,16-Dihydro-15-methyleneneryl)-α-terpinene?	0.14	Homoditerpene
9-(15,16-Dihydro-15-methyleneneryl)-paracycymene?	0.03	Homoditerpene
9-(15,16-Dihydro-15-methylenegeranyl)-α-terpinene	0.71	Homoditerpene
9-(15,16-Dihydro-15-methylenegeranyl)-paracycymene	0.14	Homoditerpene
Unknown	0.22	Unknown
Unknown	0.83	Unknown
Unknown	0.08	Unknown
Unknown	0.05	Unknown
<b>Consolidated total</b>	<b>95.69%</b>	

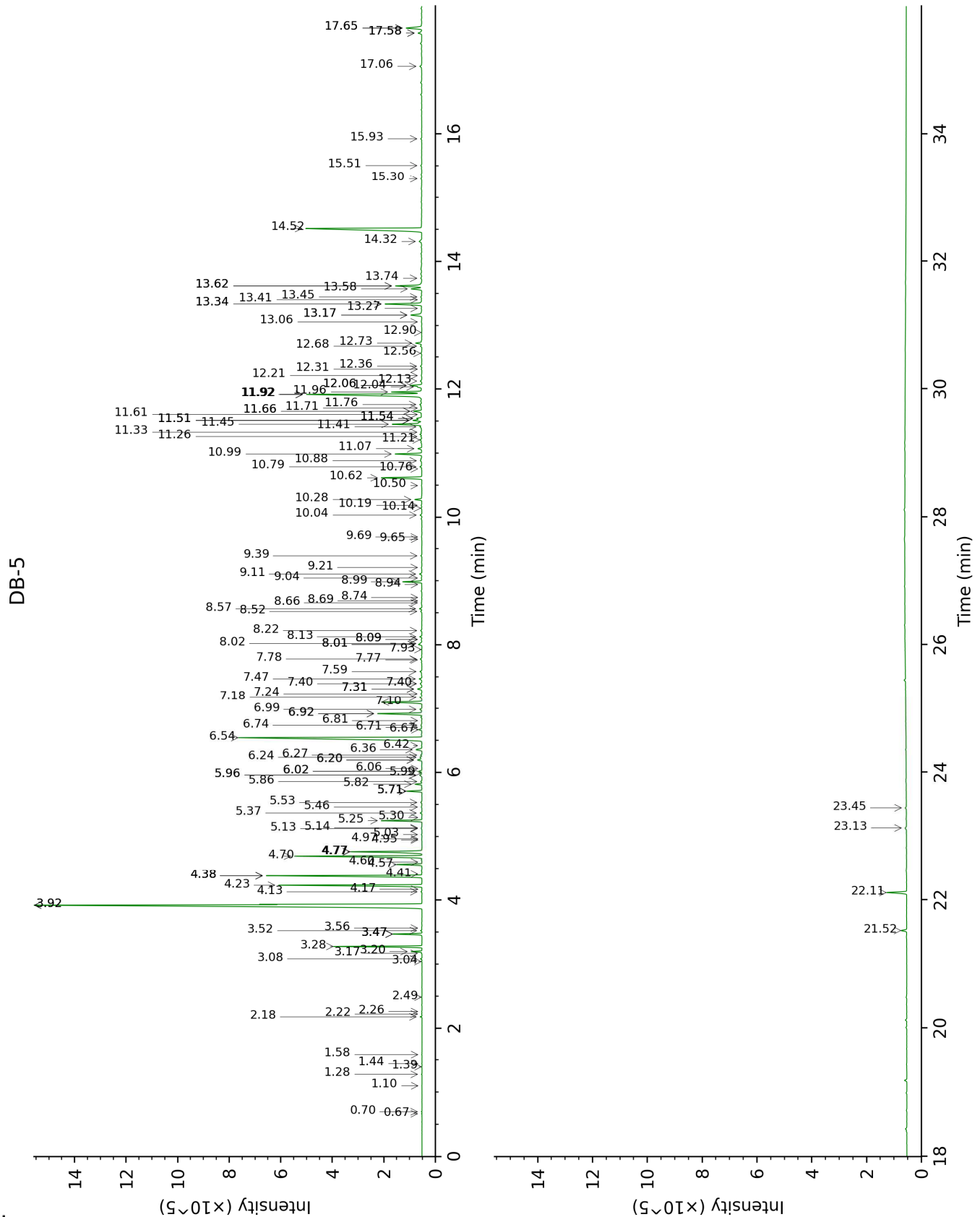
tr: The compound has been detected below 0.005% of total signal.

Note: no correction factor was applied

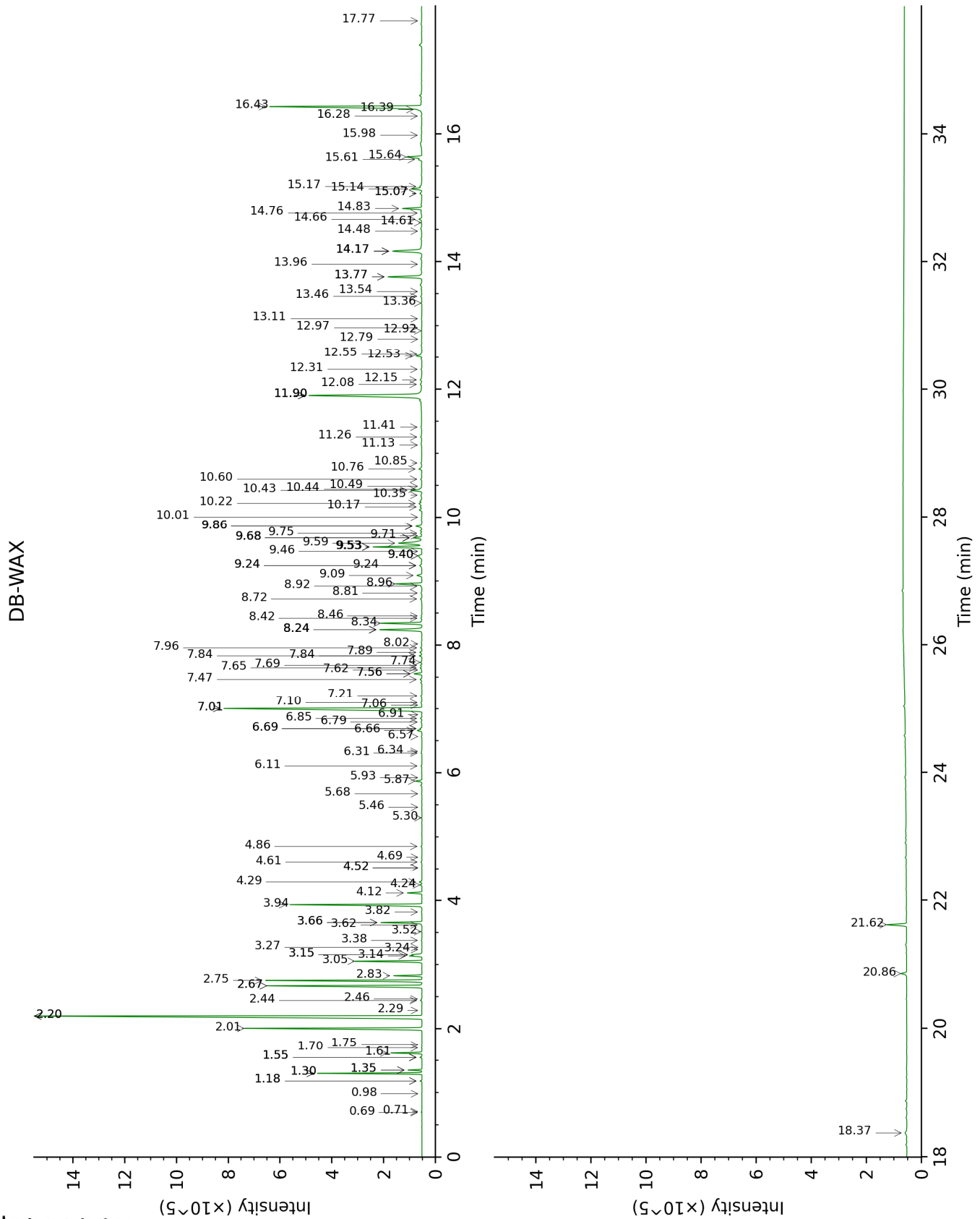
**About "consolidated" data:** The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm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

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







FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
Isovaleral	0.66	642	0.01	0.71	885	0.01
2-Methylbutyral	0.70	653	0.01	0.69	879	0.01
2-Methylbutanol	1.10	736	tr	3.27	1176	tr
Toluene	1.28	760	0.01	1.35*	1002	0.34
Methyl 2-methylbutyrate	1.39	776	0.01	1.18*	974	0.05
Unknown [m/z 73, 87 (52), 41 (45), 56 (42), 100 (29)...]	1.44	782	0.01	0.98	942	tr
Hexanal	1.58	801	0.01	1.74	1042	0.01
Ethyl 2-methylbutyrate	2.18	850	0.05	1.55*	1023	0.06
Ethyl isovalerate	2.22	854	0.01	1.70	1038	0.01
Propyl isobutyrate	2.26	857	0.01	1.55*	1023	[0.06]
Hexanol	2.49	875	0.01	5.30	1324	0.01
Hashishene	3.04	917	0.01	1.30*	994	2.67
Tricyclene	3.08	920	0.05	1.18*	974	[0.05]
Ethyl tiglate?	3.17	925	0.02	3.38	1185	0.02
$\alpha$ -Thujene	3.20	927	0.32	1.35*	1002	[0.34]
$\alpha$ -Pinene	3.28	932	2.67	1.30*	994	[2.67]
Thujadiene isomer	3.47*	945	0.90	2.29	1096	0.02
$\alpha$ -Fenchene	3.47*	945	[0.90]	1.55*	1023	[0.06]
Propyl 2-methylbutyrate	3.47*	945	[0.90]	2.44	1111	0.05
Camphene	3.47*	945	[0.90]	1.62	1030	0.89
Thuja-2,4(10)-diene	3.52	948	0.05	2.20*	1088	18.01
Propyl isovalerate	3.56	951	0.02	2.67*	1129	5.75
$\beta$ -Pinene	3.92*†	974	24.27	2.01	1069	6.35
Sabinene	3.92*†	974	[24.27]	2.20*	1088	[18.01]
6-Methyl-5-hepten-2-one	4.13	988	0.04	4.86	1296	0.04
2-Pentylfuran	4.17	991	0.01	3.52	1196	0.02
Myrcene	4.23	995	5.18	2.76	1135	5.19
Octanal	4.38*	1004	5.79	4.24	1250	0.06
$\alpha$ -Phellandrene	4.38*	1004	[5.79]	2.67*	1129	[5.75]
Menthatriene isomer I	4.38*	1004	[5.79]	3.24	1173	0.01
$\Delta$ 3-Carene	4.41	1006	0.02	2.46	1112	0.02
$\alpha$ -Terpinene	4.57	1016	0.82	2.83	1141	0.82
Isoamyl isobutyrate	4.60	1018	0.01	3.16*	1167	0.33
para-Cymene	4.70	1024	4.84	3.94	1228	4.87
$\beta$ -Phellandrene	4.77*	1028	2.89	3.14	1166	0.41
Limonene	4.77*	1028	[2.89]	3.05	1159	2.19
1,8-Cineole	4.77*	1028	[2.89]	3.16*	1167	[0.33]
Unknown [m/z 43, 55 (65), 41 (34), 67 (32), 107 (30), 122 (26)... 125 (10)]	4.95	1040	0.01	5.46	1336	0.02
(Z)- $\beta$ -Ocimene	4.97	1041	0.01	3.62	1204	0.02
Butyl 2-methylbutyrate	5.03	1045	0.02	3.66*	1207	1.40
(E)- $\beta$ -Ocimene	5.13	1051	0.02	3.82	1219	0.02
Butyl isovalerate	5.14	1052	0.02			
$\gamma$ -Terpinene	5.25	1059	1.36	3.66*	1207	[1.40]

Prenyl isobutyrate	5.30	1062	0.02	4.69	1283	0.01
<i>cis</i> -Sabinene hydrate	5.37	1066	0.06	6.69*	1426	0.07
<i>cis</i> -Linalool oxide (fur.)	5.46	1072	0.03	6.34	1400	0.02
Octanol	5.53	1076	0.06	7.96	1523	0.05
<i>trans</i> -Linalool oxide (fur.)	5.71*	1087	0.54	6.69*	1426	[0.07]
para-Cymenene	5.71*	1087	[0.54]	6.11	1383	0.04
Terpinolene	5.71*	1087	[0.54]	4.12	1241	0.50
6,7-Epoxymyrcene	5.82	1094	0.24	5.87	1366	0.24
<i>trans</i> -Sabinene hydrate	5.86	1097	0.06	7.74	1505	0.06
$\alpha$ -Thujone	5.96*	1103	0.12	5.93	1370	0.02
Linalool	5.96*	1103	[0.12]	7.84*	1513	0.10
Nonanal	5.99	1105	0.03	5.68	1351	0.02
2-Methylbutyl 2-methylbutyrate	6.02*	1107	0.12	4.29	1254	0.10
Isoamyl isovalerate	6.02*	1107	[0.12]	4.52*	1271	0.02
Amyl isovalerate	6.06	1109	0.01	4.52*	1271	[0.02]
( <i>E</i> )-4,8-Dimethylnona-1,3,7-triene	6.20*	1118	0.21	4.61	1278	0.05
Unknown [m/z 71, 43 (95), 81 (82), 79 (73), 67 (67), 41 (49), 109 (14)...]	6.20*	1118	[0.21]	6.66	1424	0.20
<i>cis</i> -para-Menth-2-en-1-ol	6.24	1120	0.09	7.89	1518	0.10
$\alpha$ -Campholenal	6.27	1123	0.05	6.79	1434	0.04
Limona ketone	6.36	1128	0.29	7.56*	1492	0.29
<i>trans</i> -Pinocarveol	6.42	1132	0.02	8.92	1599	0.03
Camphor	6.54	1140	10.41	7.01*	1450	10.37
$\alpha$ ,4-Dimethyl-3-cyclohexene-1-methanol	6.67	1148	0.15			
Sabinaketone	6.71	1150	0.02	8.46	1562	0.03
Citronellal	6.74	1152	0.06	6.85	1438	0.06
Pinocarvone	6.81	1157	0.03	7.69	1502	0.06
Unknown [m/z 95, 110 (38), 81 (21), 79 (16)... 152 (7)]	6.92*	1164	1.77	7.47	1485	0.08
Borneol	6.92*	1164	[1.77]	9.53*	1649	1.97
Unknown [m/z 95, 110 (43), 81 (28), 41 (15)... 152 (8)]	6.99	1168	0.10	7.56*	1492	[0.29]
Terpinen-4-ol	7.10	1175	1.53	8.34	1554	1.52
Unknown [m/z 69, 68 (65), 110 (51), 67 (39), 41 (27), 83 (26)...]	7.18	1180	0.10	7.65	1499	0.08
para-Cymen-8-ol	7.24	1184	0.04	11.26	1795	0.05
$\alpha$ -Terpineol	7.31*	1189	0.22	9.53*	1649	[1.97]
Myrtenal	7.31*	1189	[0.22]	8.42	1560	0.04
Myrtenol	7.40*	1194	0.11	10.60	1738	0.06
Unknown [m/z 79, 107 (72), 41 (58), 55 (47), 77 (41), 67 (41)...]	7.40*	1194	[0.11]			
<i>cis</i> - $\alpha$ -Phellandrene epoxide (iPr vs Me)	7.47	1199	0.12	10.76	1752	0.14
Decanal	7.59	1206	0.09	7.10	1457	0.06

<i>trans</i> -Carveol	7.77	1219	0.02	11.13	1784	0.02
Unknown [m/z 93, 41 (68), 79 (67), 91 (66), 92 (57), 67 (42), 77 (41)... 150 (12)]	7.78	1220	0.07			
(3 <i>Z</i> )-Hexenyl 2-methylbutyrate	7.93	1229	0.01	6.91	1443	0.02
Hexyl 2-methylbutyrate	8.01*	1235	0.15	6.31	1398	0.03
Cuminal	8.01*	1235	[0.15]	10.35	1717	0.08
Pulegone	8.02	1236	0.06	8.72	1584	0.06
(2 <i>E</i> )-Hexenyl isovalerate	8.09*	1240	0.04	7.06	1454	0.02
Neral	8.09*	1240	[0.04]	9.24*	1625	0.12
Carvotanacetone	8.13	1243	0.08	9.24*	1625	[0.12]
Piperitone	8.22	1249	0.06	9.68*	1661	0.36
Phellandral	8.52	1269	0.06	9.75	1667	0.07
Geranial	8.57	1272	0.09	9.86*	1676	0.29
$\alpha$ -Terpinen-7-al	8.66	1278	0.03	10.49	1729	0.02
Anthemol?	8.69	1280	0.01			
Bornyl acetate	8.74	1284	0.01	8.02	1528	0.01
Perilla alcohol	8.94	1297	0.01	12.97	1950	0.02
Thymol	8.99	1300	0.69	14.83	2129	0.75
4-Methylhexyl 2-methylbutyrate	9.04	1304	0.03	7.21	1466	0.05
Carvacrol	9.11	1308	0.09	15.07*	2153	0.10
6-Hydroxycarvotanacetone	9.21	1315	0.04	11.41	1808	0.03
1,4-para-Menthadien-7-ol	9.39	1328	0.05	13.46	1996	0.06
$\alpha$ -Terpinyl acetate	9.65	1346	0.01	9.46	1644	0.02
$\alpha$ -Cubebene	9.68	1349	0.03	6.57	1417	0.02
$\alpha$ -Copaene	10.04	1374	0.08	7.01*	1450	[10.37]
( <i>E</i> )- $\beta$ -Damascenone	10.14	1381	0.04	10.85	1760	0.05
7-epi-Sesquithujene?	10.19	1384	0.04	7.62	1496	0.02
$\beta$ -Elemene	10.28	1391	0.28	8.24*	1546	1.87
$\alpha$ -Cedrene	10.50	1406	0.04	7.84*	1513	[0.10]
$\beta$ -Caryophyllene	10.62	1415	1.64	8.24*	1546	[1.87]
$\beta$ -Copaene	10.76	1426	0.02	8.24*	1546	[1.87]
Octyl 2-methylbutyrate	10.79	1428	0.09	8.82	1591	0.05
<i>trans</i> - $\alpha$ -Bergamotene	10.88	1435	0.09	8.24*	1546	[1.87]
Sesquisabinene A	10.99	1443	1.06	8.96	1602	1.06
$\alpha$ -Humulene	11.07	1449	0.19	9.09	1612	0.23
( <i>E</i> )- $\beta$ -Farnesene	11.21	1459	0.10	9.40*	1638	0.31
4,5-diepi-Aristolochene	11.26	1463	0.05	9.24*	1625	[0.12]
Dehydrosesquicineole	11.33	1468	0.05	9.86*	1676	[0.29]
$\gamma$ -Muurolene	11.42	1474	0.11	9.40*	1638	[0.31]
Germacrene D	11.45	1477	1.27	9.59	1654	1.44
$\beta$ -Selinene	11.51*†	1482	0.49	9.68*	1661	[0.36]
$\gamma$ -Curcumene	11.51*†	1482	[0.49]	9.53*†	1649	[1.97]
$\alpha$ -Curcumene	11.51*†	1482	[0.49]	10.44	1725	0.08
Eremophilene	11.54*	1484	0.24	9.68*	1661	[0.36]
Phenylethyl isovalerate	11.54*	1484	[0.24]	12.79	1934	0.03
Valencene	11.61	1488	0.03	9.71	1664	0.02

Phenylethyl 2-methylbutyrate	11.66*	1492	0.40	12.55	1911	0.04
Bicyclogermacrene	11.66*	1492	[0.40]	9.86*	1676	[0.29]
α-Muurolene	11.71	1496	0.04	9.86*	1676	[0.29]
δ-Guaiene	11.76	1500	0.10	9.68*	1661	[0.36]
3,6-Dihydrochamazulene	11.92*	1512	5.98	11.90*	1853	6.76
β-Curcumene	11.92*	1512	[5.98]	10.01	1688	0.02
γ-Cadinene	11.92*	1512	[5.98]	10.17	1702	0.08
Dihydrochamazulene isomer I	11.96	1515	1.14	11.90*	1853	[6.76]
δ-Cadinene	12.04	1522	0.16	10.22	1706	0.18
Dihydrochamazulene isomer II	12.06*	1523	0.48	12.15	1875	0.07
β-Sesquiphellandrene	12.06*	1523	[0.48]	10.43	1723	0.46
Dihydrochamazulene isomer III	12.13	1529	0.09	12.08	1868	0.06
Phenylethyl angelate?	12.21	1535	0.04	13.96	2044	0.03
Isocaryophyllene epoxide B	12.31	1543	0.02	11.90*	1853	[6.76]
α-Elemol	12.36	1547	0.07	13.77*	2025	1.58
(E)-Nerolidol	12.56	1562	0.05	13.54	2003	0.03
Spathulenol	12.68	1572	0.07	14.17*	2064	1.79
Caryophyllene oxide	12.73	1576	0.27	12.53	1909	0.26
Humulene epoxide I	12.90	1589	0.01	12.92	1946	0.02
Humulene epoxide II	13.06	1602	0.03	13.11	1964	0.03
5,6-Dihydrochamazulene	13.17*	1610	0.59	14.17*	2064	[1.79]
Junenol	13.17*	1610	[0.59]	13.36	1986	0.02
Unknown [m/z 145, 173 (83), 159 (57), 174 (47), 129 (47), 115 (44), 128 (43), 91 (43), 157 (36), 202 (30)]	13.27	1619	0.04			
γ-Eudesmol	13.34*	1625	1.60	14.66	2112	0.15
7,12-Dehydro-5,6,7,8-tetrahydrochamazulene	13.34*	1625	[1.60]	13.77*	2025	[1.58]
Eremoligenol	13.41	1630	0.03	14.76	2122	0.03
τ-Cadinol	13.45	1634	0.05	14.61	2107	0.02
β-Eudesmol	13.58	1644	0.46	15.14	2160	0.46
α-Eudesmol	13.62*	1648	1.20	15.07*	2153	[0.10]
Dihydrochamazulene isomer IV	13.62*	1648	[1.20]	14.17*	2064	[1.79]
(3E,5E)-7-Hydroxyfarnesene	13.74	1658	0.05	15.98	2248	0.03
Unknown [m/z 143, 142 (92), 157 (79), 158 (61), 141 (59), 128 (57), 159 (43), 115 (41), 202 (41)]	14.32	1705	0.17	18.37	2508	0.18
Chamazulene	14.52	1723	7.20	16.43	2295	7.44
α-Phellandrene dimer II	15.30	1790	0.04	12.31	1890	0.04
Dehydrochamazulene	15.51	1809	0.05	17.77	2440	0.02
Phytone	15.93	1847	0.04	14.48	2094	0.02
meta-Camphorene	17.06	1951	0.11	15.17	2164	0.10

9-(15,16-Dihydro-15-methyleneneryl)- $\alpha$ -terpinene?	17.58*	2000	0.19	15.61	2208	0.14
9-(15,16-Dihydro-15-methyleneneryl)-paracymene?	17.58*	2000	[0.19]	16.28	2279	0.03
9-(15,16-Dihydro-15-methylenegeranyl)- $\alpha$ -terpinene	17.65*	2008	0.82	15.64	2212	0.71
9-(15,16-Dihydro-15-methylenegeranyl)-paracymene	17.65*	2008	[0.82]	16.38	2290	0.14
Unknown analog I	21.52	2417	0.22	20.86	2807	0.27
Unknown [m/z 186, 157 (37), 171 (18), 322 (15)]	22.11	2486	0.83	21.62	2904	0.84
Unknown analog II	23.13	2609	0.08			
Unknown analog III	23.44	2648	0.05			
<b>Total identified</b>		<b>94.84%</b>			<b>93.81%</b>	
<b>Total reported</b>		<b>96.50%</b>			<b>95.49%</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