

Date : November 22, 2021

CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

**Internal code :** 21K11-PTH06

**Customer identification :** Blue Tansy ORGANIC - Morocco - BH0105215R

**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 :** Seydou Ka, Ph. D.

**Analysis date :** November 17, 2021

Checked and approved by :

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

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#### *P*HYSICO*C*HEMICAL *D*ATA

**Physical aspect:** Dark blue liquid

**Refractive index:**  $1.5015 \pm 0.0003$  (20 °C; method PC-MAT-016)

#### *C*ONCLUSION

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-Ethylfuran	tr	Furan
Unknown	0.01	Unknown
Ethyl 2-methylbutyrate	0.07	Aliphatic ester
Ethyl isovalerate	0.02	Aliphatic ester
Propyl isobutyrate	0.01	Aliphatic ester
Hashishene	0.01	Monoterpene
Tricyclene	0.06	Monoterpene
α-Thujene	0.31	Monoterpene
Ethyl tiglate?	0.01	Aliphatic ester
α-Pinene	2.92	Monoterpene
Camphepane	1.12	Monoterpene
α-Fenchene	0.01	Monoterpene
Propyl 2-methylbutyrate	0.10	Aliphatic ester
Thuja-2,4(10)-diene	0.01	Monoterpene
β-Pinene	6.87	Monoterpene
Sabinene	14.58	Monoterpene
6-Methyl-5-hepten-2-one	0.04	Aliphatic ketone
2-Pentylfuran	0.02	Furan
Myrcene	7.10	Monoterpene
Menthatriene isomer I	0.01	Monoterpene
α-Phellandrene	5.45	Monoterpene
Octanal	0.05	Aliphatic aldehyde
Δ3-Carene	0.02	Monoterpene
α-Terpinene	0.68	Monoterpene
Isoamyl isobutyrate	0.01	Aliphatic ester
para-Cymene	5.59	Monoterpene
β-Phellandrene	0.59*	Monoterpene
1,8-Cineole	0.59*	Monoterpenic ether
Limonene	2.55	Monoterpene
(Z)-β-Ocimene	0.02	Monoterpene
Butyl 2-methylbutyrate	0.03	Aliphatic ester
(E)-β-Ocimene	0.03	Monoterpene
Butyl isovalerate	0.01	Aliphatic ester
γ-Terpinene	1.19	Monoterpene
Prenyl isobutyrate	0.02	Aliphatic ester
cis-Sabinene hydrate	0.09	Monoterpenic alcohol
Octanol	0.05	Aliphatic alcohol
para-Cymenene	0.04	Monoterpene
Terpinolene	0.44	Monoterpene
6,7-Epoxymyrcene	0.31	Monoterpenic ether
trans-Sabinene hydrate	0.07	Monoterpenic alcohol
Linalool	0.11	Monoterpenic alcohol
2-Methylbutyl 2-methylbutyrate	0.15	Aliphatic ester

Nonanal	0.03	Aliphatic aldehyde
Isoamyl isovalerate	0.02	Aliphatic ester
cis-para-Menth-2-en-1-ol	0.25	Monoterpenic alcohol
α-Campholenal	0.08	Monoterpenic aldehyde
Limona ketone	0.32	Normonoterpenic ketone
Camphor	13.09	Monoterpenic ketone
trans-Pinocarveol	0.09	Monoterpenic alcohol
α,4-Dimethyl-3-cyclohexene-1-methanol	0.15	Normonoterpenic alcohol
Citronellal	0.09	Monoterpenic aldehyde
Pinocarvone	0.03	Monoterpenic ketone
Borneol	1.83	Monoterpenic alcohol
Unknown	0.05	Oxygenated monoterpane
Unknown	0.12	Oxygenated monoterpane
Terpinen-4-ol	1.29	Monoterpenic alcohol
Unknown	0.10	Unknown
para-Cymen-8-ol	0.05	Monoterpenic alcohol
α-Terpineol	0.25	Monoterpenic alcohol
Myrtenal	0.03	Monoterpenic aldehyde
Unknown	0.04	Unknown
Myrtenol	0.07	Monoterpenic alcohol
cis-α-Phellandrene epoxide (iPr vs Me)	0.12	Monoterpenic ether
Decanal	0.09	Aliphatic aldehyde
trans-Carveol	0.09	Monoterpenic alcohol
Unknown	0.01	Oxygenated monoterpane
(3Z)-Hexenyl 2-methylbutyrate	0.01	Aliphatic ester
trans-α-Phellandrene epoxide (iPr vs Me)	0.07	Monoterpenic ether
Cuminal	0.12	Monoterpenic aldehyde
Pulegone	tr	Monoterpenic ketone
Hexyl 2-methylbutyrate	0.02	Aliphatic ester
Carvotanacetone	0.06	Monoterpenic ketone
Piperitone	0.04	Monoterpenic ketone
Phellandral	0.06	Monoterpenic aldehyde
Geranal	0.06	Monoterpenic aldehyde
α-Terpinen-7-al	0.05	Monoterpenic aldehyde
Anthemol?	0.02	Monoterpenic alcohol
Cuminol	0.05	Monoterpenic alcohol
Perilla alcohol	0.03	Monoterpenic alcohol
Thymol	0.82	Monoterpenic alcohol
4-Methylhexyl 2-methylbutyrate	0.07	Aliphatic ester
Carvacrol	0.06	Monoterpenic alcohol
6-Hydroxycarvotanacetone	0.01	Monoterpenic alcohol
para-Menth-5-en-1,2-diol isomer III	0.01	Monoterpenic alcohol
1,4-para-Menthadien-7-ol	0.05	Monoterpenic alcohol
α-Cubebene	0.01	Sesquiterpene
α-Terpinal acetate	0.02	Monoterpenic ester
α-Copaene	0.08	Sesquiterpene
Modhephene	0.01	Sesquiterpene
(E)-β-Damascenone	0.03	Ionone or analog
7-epi-Sesquithujene?	0.02	Sesquiterpene
β-Elemene	0.30	Sesquiterpene
Benzyl isovalerate	0.01	Phenolic ester
α-Cedrene	0.02	Sesquiterpene

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$\beta$ -Caryophyllene	1.61	Sesquiterpene
$\beta$ -Copaene	0.01	Sesquiterpene
Octyl 2-methylbutyrate	0.10	Aliphatic ester
<i>trans</i> - $\alpha$ -Bergamotene	0.10	Sesquiterpene
Sesquisabinene A	1.48	Sesquiterpene
$\alpha$ -Humulene	0.15	Sesquiterpene
( <i>E</i> )- $\beta$ -Farnesene	0.13	Sesquiterpene
4,5-diepi-Aristolochene	0.01	Sesquiterpene
Dehydrosesquicineole	0.05	Sesquiterpenic ether
Selina-4,11-diene	0.03	Sesquiterpene
$\gamma$ -Murolene	0.05	Sesquiterpene
Germacrene D	1.26	Sesquiterpene
$\beta$ -Selinene	0.33	Sesquiterpene
$\gamma$ -Curcumene	0.09	Sesquiterpene
ar-Curcumene	0.40	Sesquiterpene
Phenylethyl isovalerate	0.08	Phenolic ester
Bicyclogermacrene	0.06	Sesquiterpene
Phenylethyl 2-methylbutyrate	0.03	Phenolic ester
$\alpha$ -Murolene	0.14	Sesquiterpene
$\delta$ -Guaiene	0.04	Sesquiterpene
3,6-Dihydrochamazulene	4.32	Azulene
$\beta$ -Curcumene	0.02	Sesquiterpene
$\gamma$ -Cadinene	0.11	Sesquiterpene
Dihydrochamazulene isomer I	0.86	Azulene
$\delta$ -Cadinene	0.11	Sesquiterpene
$\beta$ -Sesquiphellandrene	0.17	Sesquiterpene
Dihydrochamazulene isomer II	0.12	Azulene
Phenylethyl angelate?	0.04	Phenolic ester
$\alpha$ -Elemol	0.08	Sesquiterpenic alcohol
Spathulenol	0.08	Sesquiterpenic alcohol
Caryophyllene oxide	0.29	Sesquiterpenic ether
10-epi-Junenol	0.04	Sesquiterpenic alcohol
Caryophyllene oxide isomer	0.01	Sesquiterpenic ether
Humulene epoxide I	0.01	Sesquiterpenic ether
Humulene epoxide II	0.03	Sesquiterpenic ether
5,6-Dihydrochamazulene	0.68	Azulene
7,12-Dehydro-5,6,7,8-tetrahydrochamazulene	1.29	Azulene
Unknown	0.23	Sesquiterpene
$\gamma$ -Eudesmol	0.03	Sesquiterpenic alcohol
Eremoligenol	0.06	Sesquiterpenic alcohol
$\tau$ -Cadinol	0.02	Sesquiterpenic alcohol
$\beta$ -Eudesmol	0.58	Sesquiterpenic alcohol
$\alpha$ -Eudesmol	0.14	Sesquiterpenic alcohol
Dihydrochamazulene isomer IV	0.80	Azulene
(3 <i>E</i> ,5 <i>E</i> )-7-Hydroxyfarnesene	0.05	Sesquiterpenic alcohol
Unknown	0.19	Azulene
Chamazulene	7.00	Azulene
$\alpha$ -Phellandrene dimer II	0.01	Diterpene
Dehydrochamazulene	0.05	Azulene
Phytone	0.05	Terpenic ketone
meta-Camphorene	0.13	Diterpene

9-(15,16-Dihydro-15-methyleneryl)-para-cymene?	0.20	Homoditerpene
9-(15,16-Dihydro-15-methyleneryl)- $\alpha$ -terpinene?	0.81	Homoditerpene
9-(15,16-Dihydro-15-methylenegeranyl)-para-cymene	0.02	Homoditerpene
Unknown	0.21	Unknown
Unknown	0.75	Unknown
Unknown	0.05	Unknown
Unknown	0.03	Unknown
<b>Consolidated total</b>	<b>97.02%</b>	

\*: Individual compounds concentration could not be found due to overlapping coelutions on columns considered

[xx]: Duplicate percentage due to coelutions, not taken into account in the consolidated total

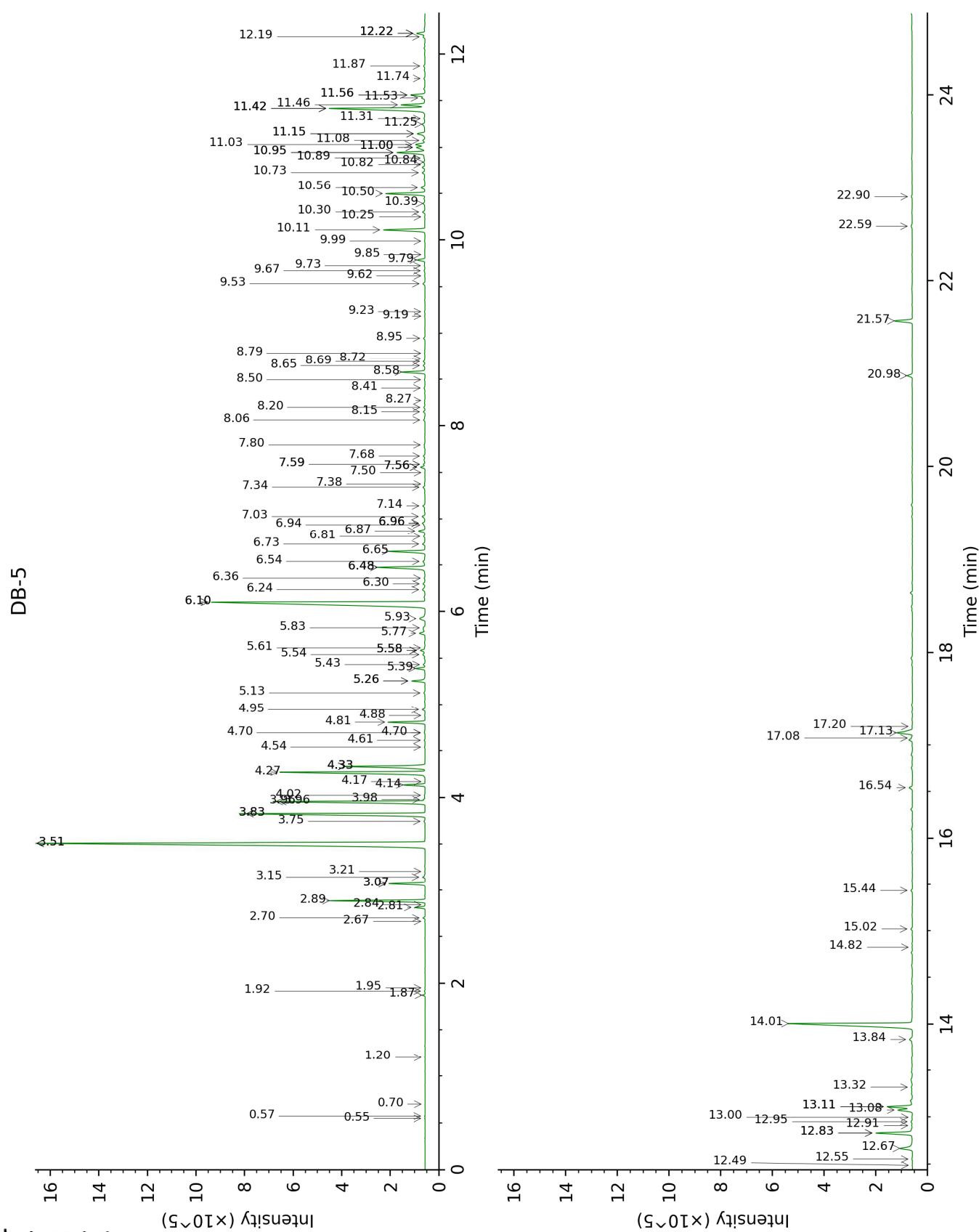
tr: The compound has been detected below 0.005% of total signal.

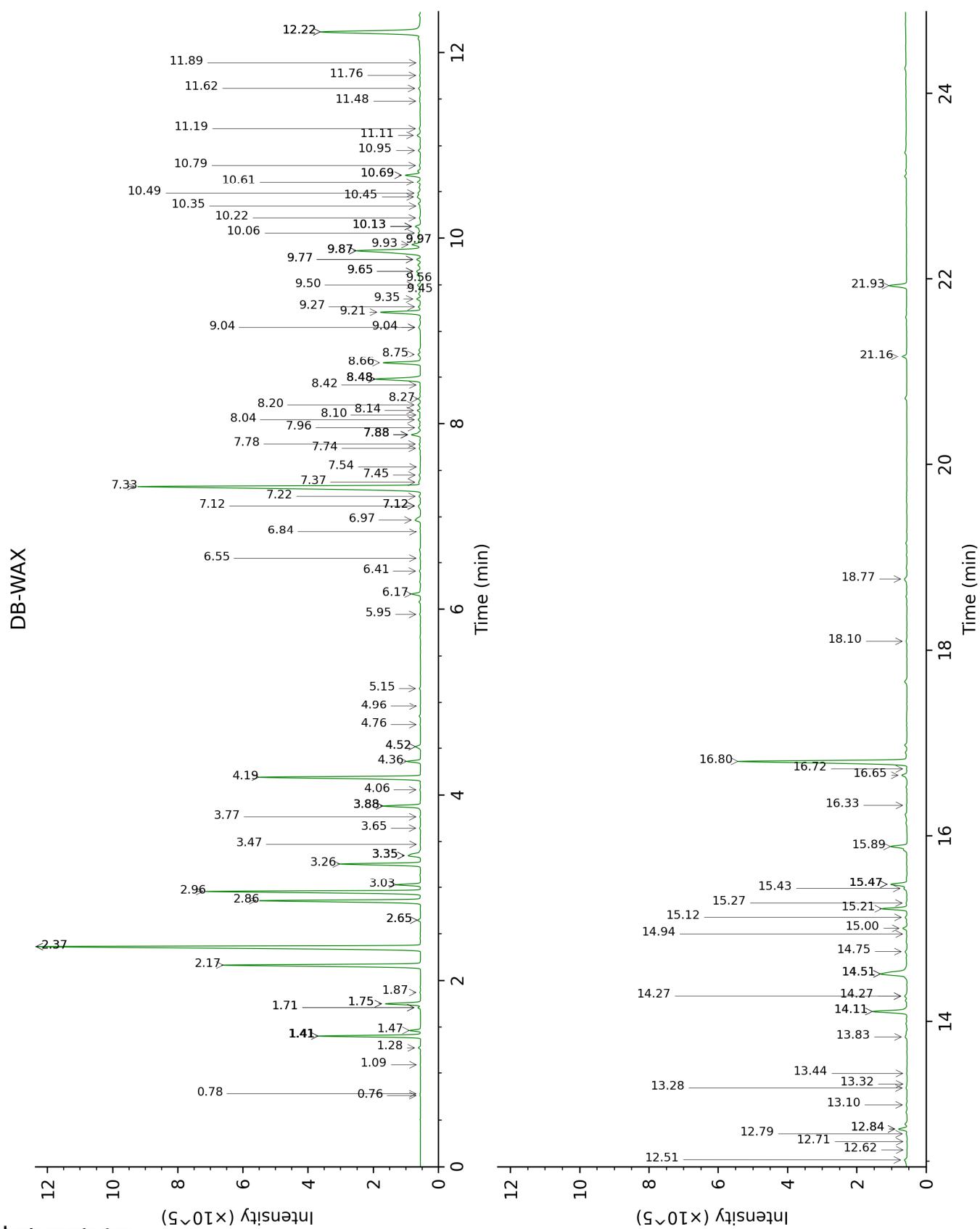
Note: no correction factor was applied

**About "consolidated" data:** The table above presents the breakdown of the sample volatile constituents after applying an algorithm to collapse data acquired from the multi-columns system of PhytoChemia into a single set of consolidated contents. In case of discrepancies between columns, the algorithm is set to prioritize data from the most standard DB-5 column, and smallest values so as to avoid overestimating individual content. This process is semi-automatic. Advanced users are invited to consult the "Full analysis data" table after the chromatograms in this report to access the full untreated data and perform their own calculations if needed.

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

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	0.55	639	0.01	0.78	889	0.01
2-Methylbutyral	0.57	650	0.01	0.76	882	0.01
2-Ethylfuran	0.70	700	tr			
Unknown [m/z 73, 87 (52), 41 (45), 56 (42), 100 (29)...]	1.20	780	0.01	1.09	941	0.01
Ethyl 2-methylbutyrate	1.87	848	0.07	1.71*	1022	0.08
Ethyl isovalerate	1.92	852	0.02	1.87	1039	0.02
Propyl isobutyrate	1.95	855	0.01	1.75*	1027	1.13
Hashishene	2.66	914	0.01	1.41*	992	2.94
Tricyclene	2.70	917	0.06	1.28	972	0.06
$\alpha$ -Thujene	2.82	924	0.31	1.47	998	0.30
Ethyl tiglate?	2.84	926	0.01	3.64	1190	0.03
$\alpha$ -Pinene	2.89	929	2.92	1.41*	992	[2.94]
Camphepane	3.07*	942	1.13	1.75*	1027	[1.13]
$\alpha$ -Fenchene	3.07*	942	[1.13]	1.71*	1022	[0.08]
Propyl 2-methylbutyrate	3.14	947	0.10	2.65*	1111	0.10
Thuja-2,4(10)-diene	3.21	951	0.01	2.37*	1088	14.81
$\beta$ -Pinene	3.51*	972	21.45	2.17	1068	6.87
Sabinene	3.51*	972	[21.45]	2.37*	1088	[14.81]
6-Methyl-5-hepten-2-one	3.74	988	0.04	5.15	1299	0.04
2-Pentylfuran	3.83*	993	7.11	3.77	1199	0.02
Myrcene	3.83*	993	[7.11]	2.96	1135	7.10
Menthatriene isomer I	3.96*	1002	5.40	3.47	1176	0.01
$\alpha$ -Phellandrene	3.96*	1002	[5.40]	2.86	1128	5.45
Octanal	3.98	1003	0.05	4.52*	1255	0.20
$\Delta^3$ -Carene	4.02	1006	0.02	2.65*	1111	[0.10]
$\alpha$ -Terpinene	4.14	1013	0.68	3.03	1141	0.69
Isoamyl isobutyrate	4.17	1016	0.01	3.35*	1166	0.65
para-Cymene	4.27	1022	5.59	4.19	1230	5.63
$\beta$ -Phellandrene	4.33*	1026	3.14	3.35*	1166	[0.65]
1,8-Cineole	4.33*	1026	[3.14]	3.35*	1166	[0.65]
Limonene	4.33*	1026	[3.14]	3.26	1159	2.55
(Z)- $\beta$ -Ocimene	4.54	1039	0.02	3.88*	1208	1.25
Butyl 2-methylbutyrate	4.61	1044	0.03	3.88*	1208	[1.25]
(E)- $\beta$ -Ocimene	4.70*	1049	0.04	4.06	1220	0.03
Butyl isovalerate	4.70*	1049	[0.04]			
$\gamma$ -Terpinene	4.81	1056	1.19	3.88*	1208	[1.25]
Prenyl isobutyrate	4.88	1061	0.02	4.96	1287	0.01
cis-Sabinene hydrate	4.95	1065	0.09	6.97	1430	0.30
Octanol	5.13	1076	0.05	8.27	1527	0.07
para-Cymenene	5.26*	1084	0.48	6.41	1389	0.04
Terpinolene	5.26*	1084	[0.48]	4.36	1243	0.44
6,7-Epoxymyrcene	5.39	1093	0.31	6.17	1371	0.31
trans-Sabinene hydrate	5.43	1096	0.07	8.04	1510	0.09
Linalool	5.54	1102	0.11	8.14	1517	0.11

2-Methylbutyl 2-methylbutyrate	5.58*	1105	0.19	4.52*	1255	[0.20]
Nonanal	5.58*	1105	[0.19]	5.95	1356	0.03
Isoamyl isovalerate	5.61	1107	0.02	4.76	1272	0.01
cis-para-Menth-2-en-1-ol	5.77	1117	0.25	8.20	1522	0.11
α-Campholenal	5.83	1121	0.08	7.12*	1441	0.12
Limona ketone	5.93	1127	0.32	7.88*	1497	0.38
Camphor	6.10*	1139	13.15	7.33	1456	13.09
trans-Pinocarveol	6.10*	1139	[13.15]	9.27	1604	0.09
α,4-Dimethyl-3-cyclohexene-1-methanol	6.24	1147	0.15			
Citronellal	6.30	1151	0.09	7.12*	1441	[0.12]
Pinocarvone	6.36	1155	0.03	7.96	1503	0.07
Borneol	6.48*	1163	1.88	9.87*	1653	3.34
Unknown [m/z 95, 110 (38), 81 (21), 79 (16)... 152 (7)]	6.48*	1163	[1.88]	7.74	1486	0.05
Unknown [m/z 95, 110 (43), 81 (28), 41 (15)... 152 (8)]	6.54	1167	0.12	7.78	1490	0.05
Terpinen-4-ol	6.65	1174	1.29	8.66	1557	1.29
Unknown [m/z 69, 68 (65), 110 (51), 67 (39), 41 (27), 83 (26)...]	6.73	1179	0.10	7.88*	1497	[0.38]
para-Cymen-8-ol	6.81	1184	0.05	11.62	1799	0.07
α-Terpineol	6.87	1188	0.25	9.87*	1653	[3.34]
Myrtenal	6.94	1192	0.03	8.75	1564	0.10
Unknown [m/z 79, 107 (72), 41 (58), 55 (47), 77 (41), 67 (41)...]	6.96*	1194	0.10			
Myrtenol	6.96*	1194	[0.10]	10.95	1742	0.07
cis-α-Phellandrene epoxide (iPr vs Me)	7.03	1198	0.12	11.11	1756	0.13
Decanal	7.14	1206	0.09	7.37	1459	0.10
trans-Carveol	7.34	1219	0.09	11.48	1787	0.03
Unknown [m/z 93, 41 (68), 79 (67), 91 (66), 92 (57), 67 (42), 77 (41)... 150 (12)]	7.38	1221	0.01			
(3Z)-Hexenyl 2-methylbutyrate	7.50	1230	0.01	7.12*	1441	[0.12]
trans-α-Phellandrene epoxide (iPr vs Me)	7.56*†	1233	0.22	12.22*	1853	4.85
Cuminal	7.56*†	1233	[0.22]	10.61	1713	0.12
Pulegone	7.59*†	1236	[0.22]	9.04*	1587	0.10
Hexyl 2-methylbutyrate	7.59*†	1236	[0.22]	6.55	1399	0.02
Carvotanacetone	7.68	1241	0.06	9.56	1628	0.04
Piperitone	7.80	1249	0.04	9.97*	1661	0.06
Phellandral	8.06	1267	0.06	10.06	1668	0.09
Geranal	8.15	1273	0.06	10.22	1681	0.04
α-Terpinen-7-al	8.20	1276	0.05	10.79	1729	0.03
Anthemol?	8.27	1281	0.02			

Cuminol	8.41	1290	0.05	14.27*	2042	0.11
Perilla alcohol	8.50	1296	0.03	13.32	1952	0.01
Thymol	8.58	1302	0.82	15.21	2134	0.85
4-Methylhexyl 2-methylbutyrate	8.65	1307	0.07	7.45	1465	0.06
Carvacrol	8.69	1310	0.06	15.47*	2160	0.67
6-Hydroxycarvotanacetone	8.72	1312	0.01	11.76	1811	0.02
para-Menth-5-en-1,2-diol isomer III	8.79	1316	0.01	15.27	2140	0.04
1,4-para-Menthadien-7-ol	8.95	1328	0.05	13.83	2000	0.11
$\alpha$ -Cubebene	9.18	1345	0.01	6.84	1420	0.02
$\alpha$ -Terpinyl acetate	9.23	1348	0.02	9.77*	1645	0.14
$\alpha$ -Copaene	9.53	1369	0.08	7.22	1448	0.05
Modhephene	9.62	1375	0.01	7.54	1472	0.01
(E)- $\beta$ -Damascenone	9.67	1379	0.03	11.18	1762	0.05
7-epi-Sesquithujene?	9.73	1383	0.02	7.88*	1497	[0.38]
$\beta$ -Elemene	9.79	1388	0.30	8.48*	1543	1.87
Benzyl isovalerate	9.84	1392	0.01	11.89	1823	0.01
$\alpha$ -Cedrene	9.99	1402	0.02	8.10	1514	0.03
$\beta$ -Caryophyllene	10.11	1411	1.61	8.48*	1543	[1.87]
$\beta$ -Copaene	10.25	1421	0.01	8.42	1538	0.02
Octyl 2-methylbutyrate	10.30	1425	0.10	9.04*	1587	[0.10]
trans- $\alpha$ -Bergamotene	10.39	1432	0.10	8.48*	1543	[1.87]
Sesquisabinene A	10.50	1440	1.48	9.21	1600	1.48
$\alpha$ -Humulene	10.56	1445	0.15	9.35	1611	0.14
(E)- $\beta$ -Farnesene	10.73	1457	0.13	9.65*	1635	0.18
4,5-diepi-Aristolochene	10.82	1464	0.01	9.45	1619	0.01
Dehydrosesquicineole	10.84	1466	0.05	10.13*	1674	0.26
Selina-4,11-diene	10.89	1469	0.03	9.50	1623	0.13
$\gamma$ -Muurolene	10.95*	1473	1.19	9.65*	1635	[0.18]
Germacrene D	10.95*	1473	[1.19]	9.87*	1653	[3.34]
$\beta$ -Selinene	11.00*	1477	0.43	9.93	1658	0.33
$\gamma$ -Curcumene	11.00*	1477	[0.43]	9.77*	1645	[0.14]
ar-Curcumene	11.03	1480	0.40	10.69*	1720	0.57
Phenylethyl isovalerate	11.08	1483	0.08	13.10	1932	0.04
Bicyclogermacrene	11.15*	1488	0.35	10.13*	1674	[0.26]
Phenylethyl 2-methylbutyrate	11.15*	1488	[0.35]	12.84*	1908	0.32
$\alpha$ -Muurolene	11.25	1496	0.14	10.13*	1674	[0.26]
$\delta$ -Guaiene	11.31	1500	0.04	9.97*	1661	[0.06]
3,6-Dihydrochamazulene	11.42*	1509	4.45	12.22*	1853	[4.85]
$\beta$ -Curcumene	11.42*	1509	[4.45]	10.35	1691	0.02
$\gamma$ -Cadinene	11.42*	1509	[4.45]	10.49	1703	0.11
Dihydrochamazulene isomer I	11.46	1512	0.86	12.22*	1853	[4.85]
$\delta$ -Cadinene	11.53	1518	0.11	10.44	1700	0.16
$\beta$ -Sesquiphellandrene	11.56*	1520	0.55	10.69*	1720	[0.57]
Dihydrochamazulene isomer II	11.56*	1520	[0.55]	12.51	1878	0.12
Phenylethyl angelate?	11.74	1534	0.04	14.27*	2042	[0.11]

$\alpha$ -Elemol	11.87	1545	0.08	14.11*	2026	1.37
Spathulenol	12.19	1569	0.08	14.51*	2065	1.68
Caryophyllene oxide	12.22*	1572	0.34	12.84*	1908	[0.32]
10-epi-Junenol	12.22*	1572	[0.34]	12.79	1903	0.04
Caryophyllene oxide isomer	12.22*	1572	[0.34]	12.71	1896	0.01
Humulene epoxide I	12.49	1593	0.01	13.28	1948	0.05
Humulene epoxide II	12.55	1598	0.03	13.44	1962	0.02
5,6-Dihydrochamazulene	12.67	1607	0.68	14.51*	2065	[1.68]
7,12-Dehydro-5,6,7,8-tetrahydrochamazulene	12.83*	1621	1.51	14.11*	2026	[1.37]
Unknown [m/z 145, 173 (83), 159 (57), 174 (47), 129 (47), 115 (44), 128 (43), 91 (43), 157 (36), 202 (30)]	12.83*	1621	[1.51]			
$\gamma$ -Eudesmol	12.91	1628	0.03	15.00	2113	0.16
Eremoligenol	12.95	1631	0.06	15.12	2124	0.07
$\tau$ -Cadinol	13.00	1635	0.02	14.94	2106	0.03
$\beta$ -Eudesmol	13.08	1641	0.58	15.47*	2160	[0.67]
$\alpha$ -Eudesmol	13.11*	1644	0.94	15.43	2155	0.14
Dihydrochamazulene isomer IV	13.11*	1644	[0.94]	14.51*	2065	[1.68]
(3E,5E)-7-Hydroxyfarnesene	13.32	1661	0.05	16.33	2248	0.01
Unknown [m/z 143, 142 (92), 157 (79), 158 (61), 141 (59), 128 (57), 159 (43), 115 (41), 202 (41)]	13.84	1704	0.19	18.76	2515	0.16
Chamazulene	14.01	1719	7.00	16.80	2297	6.93
$\alpha$ -Phellandrene dimer II	14.82	1790	0.01	12.62	1888	0.01
Dehydrochamazulene	15.02	1807	0.05	18.10	2439	0.03
Phytone	15.44	1845	0.05	14.75	2088	0.09
meta-Camphorene	16.54	1948	0.13	15.47*	2160	[0.67]
9-(15,16-Dihydro-15-methyleneneryl)-para-cymene?	17.08	1999	0.20	16.65	2281	0.23
9-(15,16-Dihydro-15-methyleneneryl)- $\alpha$ -terpinene?	17.13	2004	0.81	15.89	2202	0.66
9-(15,16-Dihydro-15-methylenegeranyl)-para-cymene	17.20	2011	0.02	16.72	2288	0.01
Unknown analog I	20.98	2412	0.21	21.16	2805	0.19
Unknown [m/z 186, 157 (37), 171 (18), 322 (15)]	21.57	2481	0.75	21.93	2903	0.70
Unknown analog II	22.59	2603	0.05			
Unknown analog III	22.90	2642	0.03			
<b>Total identified</b>			<b>95.89%</b>			<b>95.22%</b>
<b>Total reported</b>			<b>97.35%</b>			<b>96.37%</b>

\*: Two or more compounds are coeluting on this column

Essential oil, *Tanacetum annuum*  
Internal code: 21K11-PTH06

Blue Tansy ORGANIC - Morocco - BH0105215R

Report prepared for  
Plant Therapy

[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