

Date : 2025-12-11

CERTIFICATE OF ANALYSIS - GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 25K27-PTH02

Customer Identification : Ginger Root CO2 - Vietnam,Nigeria - G40116R

Type : CO2 Extract

Source : *Zingiber officinale*

Customer : Plant Therapy

Checked an approved by:

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

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GAS CHROMATOGRAPHIC ANALYSIS

Method : PC-MAT-004 - Terpenes and volatiles profiling by response factor

Results : See analysis summary (next page)

Analyst : Jean-Christophe Fortin, M. Sc.

Date : 2025-12-11

PHYSICOCHEMICAL DATA

CONCLUSION

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

ANALYSIS SUMMARY

Identification	mg/g	% m/m	Class
2,3-Butanediol isomer I	0.26	0.03	Aliphatic alcohol
2,3-Butanediol isomer II	0.31	0.03	Aliphatic alcohol
Hexanal	45.15	4.51	Aliphatic aldehyde
2-Heptanone	0.86	0.09	Aliphatic ketone
2-Heptanol	0.61	0.06	Aliphatic alcohol
α -Pinene	2.91	0.29	Monoterpene
Camphene	9.65	0.97	Monoterpene
α -Fenchene	0.10	0.01	Monoterpene
β -Pinene	0.96	0.1	Monoterpene
Sabinene	0.11	0.01	Monoterpene
6-Methyl-5-hepten-2-one	0.69	0.07	Aliphatic ketone
Myrcene	1.64	0.16	Monoterpene
α -Phellandrene	0.37	0.04	Monoterpene
Octanal	7.94	0.79	Aliphatic aldehyde
Δ 3-Carene	0.06	0.01	Monoterpene
<i>para</i> -Cymene	0.12	0.01	Monoterpene
1,8-Cineole	6.59	0.66	Monoterpenic ether
β -Phellandrene	6.77	0.68	Monoterpene
Limonene	2.16	0.22	Monoterpene
2-Heptyl acetate	0.03	0.0	Aliphatic ester
γ -Terpinene	0.07	0.01	Monoterpene
Terpinolene	0.48	0.05	Monoterpene
Unknown	0.38	0.04	Oxygenated monoterpene
Rosefuran	0.79	0.08	Monoterpenic ether
Linalool	1.48	0.15	Monoterpenic alcohol
2-Nonanol	0.31	0.03	Aliphatic alcohol
(<i>E</i>)-4,8-Dimethylnona-1,3,7-triene	0.30	0.03	Terpene derivative
Unknown	0.09	0.01	Unknown
Camphor	0.28	0.03	Monoterpenic ketone
Camphene hydrate	0.28	0.03	Monoterpenic alcohol
exo-Isocitral	0.40	0.04	Monoterpenic aldehyde
Citronellal	0.39	0.04	Monoterpenic aldehyde
Borneol	3.69	0.37	Monoterpenic alcohol
Isoneral	0.38	0.04	Monoterpenic aldehyde
Terpinen-4-ol	0.38	0.04	Monoterpenic alcohol
Rosefuran oxide	0.71	0.07	Monoterpenic ether
Cryptone	0.36	0.04	Normonoterpenic ketone
<i>para</i> -Cymen-8-ol	0.23	0.02	Monoterpenic alcohol
α -Terpineol	2.41	0.24	Monoterpenic alcohol
Myrtenal	0.12	0.01	Monoterpenic aldehyde
Myrtenol	0.41	0.04	Monoterpenic alcohol

Decanal	11.83	1.18	Aliphatic aldehyde
2,3-Epoxyneral?	0.27	0.03	Monoterpenic aldehyde
Bornyl formate	0.07	0.01	Monoterpenic ester
Citronellol	1.37	0.14	Monoterpenic alcohol
Neral	4.29	0.43	Monoterpenic aldehyde
Unknown	0.41	0.04	Oxygenated monoterpene
Geraniol	1.13	0.11	Monoterpenic alcohol
Geranial	6.95	0.7	Monoterpenic aldehyde
Bornyl acetate	0.33	0.03	Monoterpenic ester
2-Undecanone	1.08	0.11	Aliphatic ketone
2-Undecanol	0.10	0.01	Aliphatic alcohol
Carvacrol	0.22	0.02	Monoterpenic alcohol
8-Hydroxy-neo-menthol	0.17	0.02	Monoterpenic alcohol
δ -Elemene	0.42	0.04	Sesquiterpene
α -Cubebene	0.11	0.01	Sesquiterpene
Citronellyl acetate	0.27	0.03	Monoterpenic ester
Cyclosativene I	0.56	0.06	Sesquiterpene
Cyclosativene II	0.24	0.02	Sesquiterpene
α -Copaene	1.51	0.15	Sesquiterpene
Unknown	0.11	0.01	Unknown
Geranyl acetate	0.43	0.04	Monoterpenic ester
β -Cubebene	0.11	0.01	Sesquiterpene
β -Elemene	2.19	0.22	Sesquiterpene
Sesquithujene	0.75	0.07	Sesquiterpene
Dodecanal	0.57	0.06	Aliphatic aldehyde
β -Caryophyllene	0.29	0.03	Sesquiterpene
β -Copaene	0.17	0.02	Sesquiterpene
γ -Elemene	0.62	0.06	Sesquiterpene
<i>trans</i> - α -Bergamotene	0.37	0.04	Sesquiterpene
Sesquisabinene A	0.18	0.02	Sesquiterpene
Unknown	0.39	0.04	Sesquiterpene
α -Humulene	0.47	0.05	Sesquiterpene
allo-Aromadendrene	0.98	0.1	Sesquiterpene
Sesquisabinene B	0.85	0.08	Sesquiterpene
(<i>E</i>)- β -Farnesene	1.32	0.13	Sesquiterpene
Selina-4,11-diene	0.53	0.05	Sesquiterpene
γ -Murolene	0.51	0.05	Sesquiterpene
Germacrene D	4.56	0.46	Sesquiterpene
α -Curcumene	19.70	1.97	Sesquiterpene
Unknown	5.05	0.51	Sesquiterpene
Bicyclosesquiphellandrene?	8.06	0.81	Sesquiterpene
epi-Cubebol	0.27	0.03	Sesquiterpenic alcohol
α -Zingiberene	90.35	9.04	Sesquiterpene
β -Bisabolene	18.59	1.86	Sesquiterpene
(3 <i>E</i> ,6 <i>E</i>)- α -Farnesene	22.06	2.21	Sesquiterpene

γ -Cadinene	1.06	0.11	Sesquiterpene
Cubebol	0.48	0.05	Sesquiterpenic alcohol
7-epi- α -Selinene	0.20	0.02	Sesquiterpene
<i>trans</i> -Calamenene	0.22	0.02	Sesquiterpene
δ -Cadinene	0.56	0.06	Sesquiterpene
β -Sesquiphellandrene	37.53	3.75	Sesquiterpene
(<i>E</i>)- γ -Bisabolene	1.53	0.15	Sesquiterpene
Unknown	0.46	0.05	Oxygenated sesquiterpene
α -Elemol	1.59	0.16	Sesquiterpenic alcohol
Germacrene B	1.46	0.15	Sesquiterpene
<i>cis</i> -Sesquisabinene hydrate	0.75	0.07	Sesquiterpenic alcohol
(<i>E</i>)-Nerolidol	2.06	0.21	Sesquiterpenic alcohol
1'-Hydroxyeugenol	2.65	0.27	Phenylpropanoid
α -Turmerol	0.20	0.02	Sesquiterpenic alcohol
<i>trans</i> -Sesquisabinene hydrate	2.14	0.21	Sesquiterpenic alcohol
Unknown	0.24	0.02	Oxygenated sesquiterpene
<i>cis</i> -Zingiberenol	3.26	0.33	Sesquiterpenic alcohol
Unknown	1.72	0.17	Oxygenated sesquiterpene
γ -Eudesmol	0.52	0.05	Sesquiterpenic alcohol
<i>trans</i> -Zingiberenol	1.59	0.16	Sesquiterpenic alcohol
α -Eudesmol	0.69	0.07	Sesquiterpenic alcohol
Zingerone	126.19	12.62	Phenylbutanoid
β -Eudesmol	4.48	0.45	Sesquiterpenic alcohol
(3 <i>E</i> ,5 <i>E</i>)-7-Hydroxyfarnesene	0.96	0.1	Sesquiterpenic alcohol
Zingerone methyl ether	0.44	0.04	Simple phenolic
α -Bisabolol	1.52	0.15	Sesquiterpenic alcohol
Unknown	3.40	0.34	Oxygenated sesquiterpene
Unknown	2.78	0.28	Oxygenated sesquiterpene
Unknown	1.57	0.16	Oxygenated sesquiterpene
Oplopanone	0.18	0.02	Sesquiterpenic alcohol
Xanthorizzhol	1.03	0.1	Sesquiterpenic alcohol
Unknown	0.11	0.01	Oxygenated sesquiterpene
Unknown	0.33	0.03	Oxygenated sesquiterpene
Unknown	0.48	0.05	Oxygenated sesquiterpene
Unknown	0.37	0.04	Oxygenated sesquiterpene
Cryptomeridiol	0.61	0.06	Sesquiterpenic alcohol
Unknown	4.37	0.44	Oxygenated sesquiterpene
Unknown	1.33	0.13	Oxygenated sesquiterpene
Unknown	2.08	0.21	Oxygenated sesquiterpene
Unknown	0.65	0.07	Oxygenated sesquiterpene
Unknown	0.53	0.05	Oxygenated sesquiterpene
Geranyl- <i>para</i> -cymene	1.02	0.1	Diterpene
Palmitic acid	36.52	3.65	Aliphatic acid
[4]-Shogaol	1.15	0.11	Gingerol derivative
Unknown	0.60	0.06	Gingerol derivative

Unknown	0.71	0.07	Gingerol derivative
Unknown	0.42	0.04	Oxygenated diterpene
Linoleic acid	3.02	0.3	Aliphatic acid
Oleic acid	20.92	2.09	Aliphatic acid
cis-Vaccenic acid?	2.74	0.27	Aliphatic acid
[4]-Isogingerol?	1.02	0.1	Gingerol derivative
[6]-Isoshogaol?	16.81	1.68	Gingerol derivative
[6]-Paradol	1.49	0.15	Gingerol derivative
Methyl [6]-isoshogaol?	4.91	0.49	Gingerol derivative
Methyl [6]-paradol?	0.46	0.05	Gingerol derivative
[6]-Dihydroparadol?	0.72	0.07	Gingerol derivative
[6]-Shogaol	51.38	5.14	Gingerol derivative
[6]-Gingerdione?	13.85	1.39	Gingerol derivative
Methyl [6]-shogaol	1.08	0.11	Gingerol derivative
Acetoxy-[6]-dihydroparadol	0.38	0.04	Gingerol derivative
Diacetoxy-[4]-gingerdiol	0.88	0.09	Gingerol derivative
Geranyl laurate	0.52	0.05	Monoterpenic ester
[6]-Gingerol	0.12	0.01	Gingerol derivative
Unknown	1.31	0.13	Gingerol derivative
1-(4'-Hydroxy-3'-methoxyphenyl)-7-dodecen-3-one?	2.67	0.27	Gingerol derivative
[8]-Paradol	0.66	0.07	Gingerol derivative
Acetoxy-[6]-gingerol	0.12	0.01	Gingerol derivative
Unknown	0.36	0.04	Gingerol derivative
[6]-Gingerdiol isomer I	17.96	1.8	Gingerol derivative
[6]-Gingerdiol isomer II	5.20	0.52	Gingerol derivative
[8]-Shogaol	7.49	0.75	Gingerol derivative
5-Acetoxy-[6]-gingerdiol	1.93	0.19	Gingerol derivative
Methyl 5-acetoxy-[6]-gingerdiol	1.09	0.11	Gingerol derivative
Diacetoxy-[6]-gingerdiol	11.42	1.14	Gingerol derivative
1-Dehydro-[6]-gingerdione	1.97	0.2	Gingerol derivative
[8]-Gingerol	0.14	0.01	Gingerol derivative
1-(4'-Hydroxy-3'-methoxyphenyl)-7-tetradecen-3-one?	2.33	0.23	Gingerol derivative
[10]-Isoshogaol	0.53	0.05	Gingerol derivative
[10]-Paradol	4.74	0.47	Gingerol derivative
Unknown	0.45	0.04	Gingerol derivative
Unknown	0.74	0.07	Gingerol derivative
[10]-Shogaol	7.30	0.73	Gingerol derivative
Unknown	0.59	0.06	Gingerol derivative
[10]-Gingerdione	0.12	0.01	Gingerol derivative
1-Dehydro-[8]-gingerdione	0.69	0.07	Gingerol derivative
[12]-Isoshogaol?	1.39	0.14	Gingerol derivative
[12]-Shogaol	0.36	0.04	Gingerol derivative
[12]-Gingerdione	0.23	0.02	Gingerol derivative

[6]-Gingerdiol geranial acetal	3.92	0.39	Gingerol derivative
(E)-Gingerenone A	1.41	0.14	Gingerol derivative
Consolidated total	764.20	76.42	

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

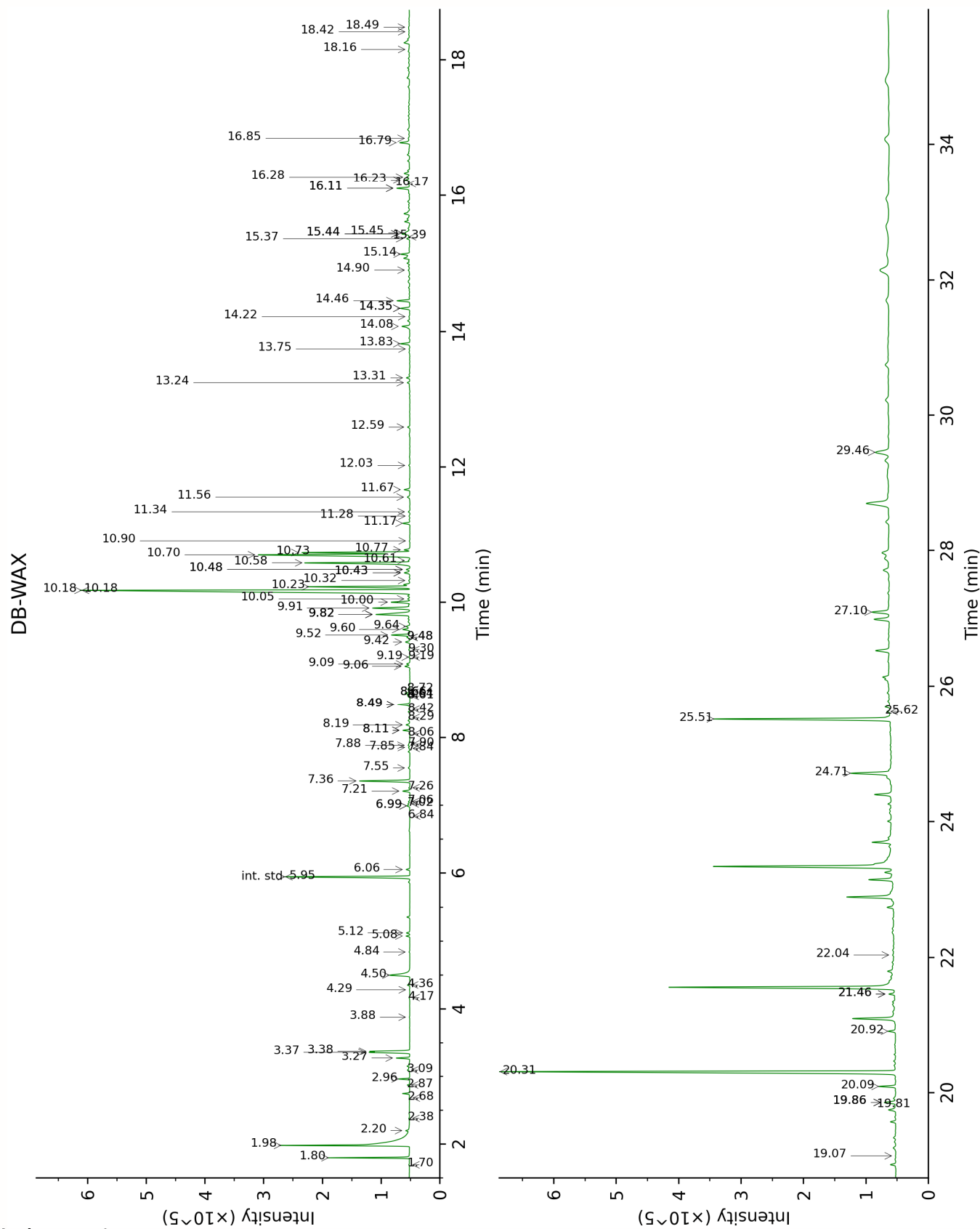
Note: Individual compounds contents were corrected following the method of Cachet et al., 2016 (Flavour and Fragrance Journal guidelines).

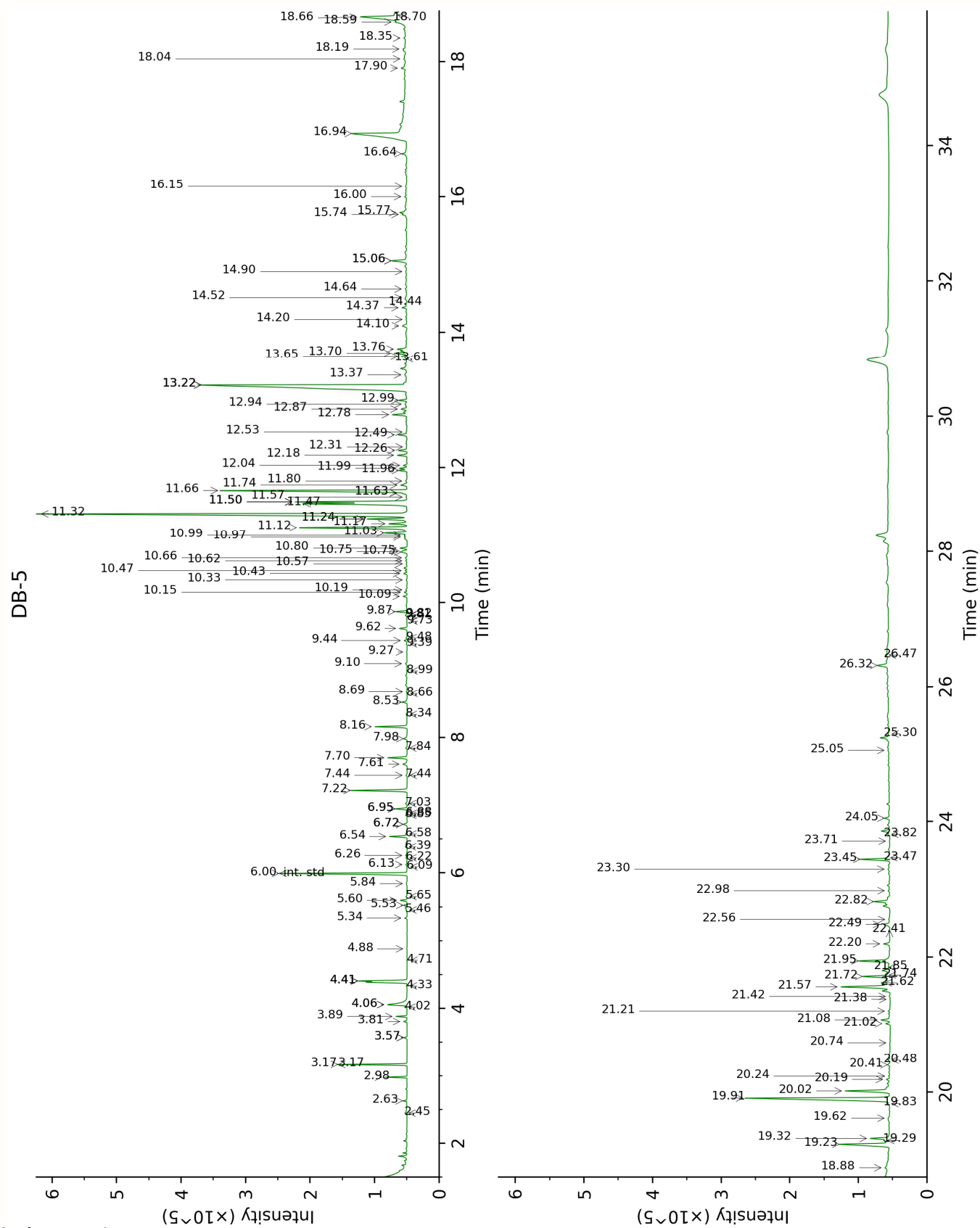
Unknown compounds are expressed in equivalents of internal standard without correction.

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: 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.





FULL ANALYSIS DATA

2,3-Butanediol isomer I	Column DB-WAX			Column DB-5		
	7.90	1500.4	0.03	1.32	792.7	0.02
2,3-Butanediol isomer II	8.10*	1516.2	[0.14]	1.39	803.5	0.02
Hexanal	1.98	1051.3	4.71	1.46	809.0	4.35
2-Heptanone	3.09	1148.2	0.08	2.45	894.9	0.09
2-Heptanol	5.12	1296.0	0.08	2.63	909.0	0.06
α-Pinene	1.49	1002.3	0.34	2.98	932.7	0.36
Camphene	1.80	1033.1	1.11	3.17*	945.4	[1.18]
α-Fenchene	1.70	1022.7	0.01	3.17*	945.4	[1.18]
β-Pinene	2.20	1073.1	0.11	3.57*	972.8	[0.06]
Sabinene	2.38	1091.0	0.01	3.57*	972.8	[0.06]
6-Methyl-5-hepten-2-one	5.08	1297.9	0.07	3.81	988.9	0.07
Myrcene	2.96	1137.9	0.19	3.89	994.0	0.20
α-Phellandrene	2.87	1130.8	0.04	4.02	1003.2	0.04
Octanal	4.50	1255.4	0.78	4.06*	1005.5	[0.85]
Δ3-Carene	2.68	1115.7	0.01	4.06*	1005.5	[0.85]
para-Cymene	4.17	1231.0	0.02	4.34	1022.9	0.02
1,8-Cineole	3.38	1171.0	0.67	4.41*	1027.6	[1.78]
β-Phellandrene	3.37	1169.8	0.78	4.41*	1027.6	[1.78]
Limonene	3.27	1162.3	0.25	4.41*	1027.6	[1.78]
2-Heptyl acetate	4.29	1239.5	0.01	4.72	1047.0	tr
γ-Terpinene	3.88	1209.9	0.01	4.88	1057.6	0.01
Terpinolene	4.36	1244.7	0.05	5.34	1086.3	0.06
Unknown ZIOF IX [m/z 96, 109 (55), 79 (41), 67 (38), 41 (36)... 150 (3)]	8.72	1563.7	0.06	5.46	1093.9	0.04
Rosefuran	6.06	1363.4	0.08	5.52	1098.2	0.08
Linalool	8.10*	1516.2	[0.14]	5.60	1102.9	0.16
2-Nonanol	7.85	1496.6	0.03	5.65	1106.5	0.03
(E)-4,8-Dimethylnona-1,3,7-triene	4.84	1280.5	0.02	5.84	1118.7	0.04
Unknown ZIOF XXXVI [m/z 83, 43 (99), 97 (75), 59 (44)...]				6.09	1134.6	0.01
Camphor	7.26	1452.2	0.03	6.13	1136.7	0.03
Camphene hydrate	8.49*	1546.0	[0.32]	6.22	1143.1	0.03
exo-Isocitral	7.55	1473.9	0.04	6.26	1145.3	0.04
Citronellal	7.02	1434.5	0.05	6.39	1153.6	0.04
Borneol	9.82*	1651.8	[1.15]	6.54	1163.3	0.40
Isoneral	7.88	1499.1	0.04	6.58	1165.6	0.04
Terpinen-4-ol	8.61	1555.7	0.04	6.72*	1174.8	[0.10]
Rosefuran oxide	8.66*	1559.4	[0.12]	6.72*	1174.8	[0.10]
Cryptone	9.19*	1601.0	[0.03]	6.85	1183.4	0.04
para-Cymen-8-ol	11.56	1797.5	0.09	6.88	1185.2	0.03

α -Terpineol	9.82*	1651.8	[1.15]	6.95*	1189.4	[0.27]
Myrtenal	8.66*	1559.4	[0.12]	6.95*	1189.4	[0.27]
Myrtenol	10.90	1741.8	0.01	7.02	1194.4	0.04
Decanal	7.36	1459.7	1.18	7.22	1207.1	1.29
2,3-Epoxyneral?				7.44*	1222.0	[0.03]
Bornyl formate	8.06	1512.4	0.01	7.44*	1222.0	[0.03]
Citronellol	10.77	1730.6	0.14	7.61	1233.0	0.15
Neral	9.52	1627.3	0.43	7.70	1239.4	0.45
Unknown BODA V [m/z 109, 119 (84), 91 (81), 134 (55)... 137 (27)...]	11.34	1779.0	0.04	7.84	1249.0	0.04
Geraniol	11.67	1807.3	0.14	7.98	1258.2	0.12
Geranial	10.18*	1680.6	[11.20]	8.16	1270.1	0.73
Bornyl acetate	8.29	1530.8	0.03	8.34	1282.2	0.03
2-Undecanone	8.64	1557.4	0.05	8.53	1295.1	0.12
2-Undecanol	10.32	1692.4	0.03	8.66	1303.8	0.01
Carvacrol	15.39	2156.0	0.01	8.69	1305.6	0.03
8-Hydroxy-neo-menthol	14.22	2041.2	0.02	8.99	1327.2	0.02
δ -Elemene	6.99*	1432.4	[0.07]	9.10	1334.8	0.05
α -Cubebene	6.84	1421.2	0.01	9.27	1346.9	0.01
Citronellyl acetate	9.48*	1624.5	[0.07]	9.39	1355.4	0.03
Cyclosativene I	6.99*	1432.4	[0.07]	9.44	1358.9	0.07
Cyclosativene II	7.06	1437.1	0.03	9.48	1361.7	0.03
α -Copaene	7.21	1448.6	0.16	9.62	1371.5	0.19
Unknown ZIOF XII [m/z 139, 69 (63), 83 (53), 43 (49), 41 (39)...]	16.17	2235.6	0.05	9.73	1379.0	0.01
Geranyl acetate	10.61	1717.2	0.04	9.81	1385.0	0.04
β -Cubebene	7.84	1495.5	0.01	9.82	1385.9	0.01
β -Elemene	8.49*	1546.0	[0.32]	9.87	1389.0	0.27
Sesquithujene	8.19	1522.4	0.11	10.09	1405.1	0.09
Dodecanal	10.05	1670.4	0.06	10.15	1409.6	0.06
β -Caryophyllene	8.49*	1546.0	[0.32]	10.19	1412.3	0.04
β -Copaene	8.42	1540.4	0.03	10.33	1423.1	0.02
γ -Elemene	9.09	1592.7	0.08	10.43	1430.3	0.08
<i>trans</i> - α -Bergamotene	8.49*	1546.0	[0.32]	10.47	1433.3	0.05
Sesquisabinene A	9.19*	1601.0	[0.03]	10.57	1440.9	0.02
Unknown ZIOF XVI [m/z 139, 69 (43), 91 (42), 41 (36), 81 (36), 43 (36)... 204 (5)]	14.34*	2052.9	[0.23]	10.62	1444.2	0.04
α -Humulene	9.30	1609.9	0.03	10.66	1447.5	0.06
allo-Aromadendrene	9.06	1590.1	0.12	10.75	1453.8	0.12
Sesquisabinene B	9.42	1619.0	0.12	10.75	1454.3	0.11
(<i>E</i>)- β -Farnesene	9.60	1633.9	0.18	10.80	1458.2	0.16
Selina-4,11-diene	9.48*	1624.5	[0.07]	10.97	1470.5	0.07

γ -Murololene	9.64	1637.6	0.11	11.00	1472.3	0.06
Germacrene D	9.82*	1651.8	[1.15]	11.03	1474.9	0.57
ar-Curcumene	10.73	1727.2	2.28	11.12	1481.3	2.60
Unknown ZIOF XVII [m/z 161, 91 (100), 105 (93), 79 (89), 93 (89), 107 (79)... 204 (34)]	10.00	1666.6	0.45	11.17	1485.6	0.47
Bicyclosquiphellandrene?	9.92	1659.5	0.94	11.24*	1490.9	[1.02]
epi-Cubebol	12.02	1838.8	0.03	11.24*	1490.9	[1.02]
α -Zingiberene	10.18*	1680.6	[11.20]	11.32	1496.4	11.21
β -Bisabolene	10.23	1684.9	2.18	11.47†	1508.0	2.61
(3E,6E)- α -Farnesene	10.58	1714.4	2.58	11.50*†	1510.2	[2.62]
γ -Cadinene	10.43*	1702.0	[0.16]	11.50*†	1510.2	[2.62]
Cubebol	12.59	1888.6	0.05	11.50*†	1510.2	[2.62]
7-epi- α -Selinene	10.48*	1706.1	[0.09]	11.57	1515.6	0.02
trans-Calamenene	11.28	1773.6	0.03	11.63*	1520.5	[0.10]
δ -Cadinene	10.48*	1706.1	[0.09]	11.63*	1520.5	[0.10]
β -Sesquiphellandrene	10.70	1724.4	4.44	11.66	1523.2	4.66
(E)- γ -Bisabolene	10.43*	1702.0	[0.16]	11.74	1529.6	0.19
Unknown ZIOF XIX [m/z 177, 159 (67), 41 (43), 91 (43), 43 (41)... 220 (t)]	13.31	1955.3	0.08	11.80	1534.3	0.04
α -Elemol	14.08	2027.5	0.24	11.96	1546.5	0.18
Germacrene B	11.17	1764.6	0.17	11.99	1548.9	0.18
cis-Sesquisabinene hydrate	13.24	1948.7	0.07	12.04	1552.4	0.09
(E)-Nerolidol	13.83	2003.1	0.23	12.18	1564.1	0.23
1'-Hydroxyeugenol	19.86*	2644.2	[0.36]	12.26	1569.8	0.23
ar-Turmerol	15.45†	2161.8	0.12	12.31	1573.7	0.02
trans-Sesquisabinene hydrate	14.34*	2052.9	[0.23]	12.49	1587.8	0.24
Unknown ZIOF XXIII [m/z 132, 118 (89), 145 (85), 119 (79), 117 (60)...]	13.75	1995.6	0.02	12.53	1591.0	0.02
cis-Zingiberenol	14.46	2063.7	0.31	12.78	1611.7	0.37
Unknown CULO XXV [m/z 119, 85 (92), 105 (37), 120 (36), 91 (28)... 218 (6)]	16.23	2241.3	0.16	12.86	1618.5	0.16
γ -Eudesmol	14.90	2107.3	0.05	12.94	1624.4	0.06
trans-Zingiberenol	15.14	2130.7	0.23	13.00	1629.2	0.18
α -Eudesmol	15.37	2153.3	0.07	13.22*	1647.9	[11.90]
Zingerone	20.31	2698.7	10.68	13.22*	1647.9	[11.90]
β -Eudesmol	15.44*†	2160.3	[0.22]	13.22*	1647.9	[11.90]
(3E,5E)-7-Hydroxyfarnesene	16.28	2246.2	0.10	13.37	1660.3	0.11
Zingerone methyl ether	19.07	2551.9	0.02	13.61	1680.2	0.04
α -Bisabolol	15.44*†	2160.3	[0.22]	13.65	1683.3	0.17

Unknown ZIOF XXXVIII [m/z 137, 119 (70), 84 (69), 41 (68), 69 (53), 55 (45), 109 (38)... 222 (2)]	16.11*	2228.5	[0.32]	13.70	1687.2	0.32
Unknown ZIOF XXVI [m/z 69, 41 (59), 118 (33), 43 (32), 55 (31)... 234? (t)]	16.79	2299.3	0.27	13.76	1692.3	0.26
Unknown ZIOF XXXIX [m/z 119, 91 (31), 105 (29), 41 (25), 133 (23), 158 (21)...]	16.85	2306.1	0.05	14.10	1721.6	0.15
Oplopanone	18.16	2448.5	0.02	14.20	1729.7	0.02
Xanthorizzhol	19.86*	2644.2	[0.36]	14.37	1744.8	0.12
Unknown ZIOF XXVII [m/z 82, 43 (85), 91 (67), 93 (66), 41 (66), 69 (59), 106 (47)... 218 (5)...]				14.44	1750.6	0.01
Unknown ZIOF XXIX [m/z 43, 82 (100), 41 (86), 69 (76), 93 (72), 91 (72)... 218 (4)...]				14.52	1757.5	0.03
Unknown ZIOF XXX [m/z 79, 41 (77), 135 (75), 69 (74), 43 (70)... 220 (9)]	18.49	2484.9	0.02	14.64	1768.5	0.05
Unknown ZIOF XXXII [m/z 69, 41 (96), 43 (90), 109 (51), 55 (42), 81 (33)...]	18.42	2477.4	0.02	14.90	1790.8	0.03
Cryptomeridiol	19.86*	2644.2	[0.36]	15.06*	1804.7	[0.47]
Unknown AMBA XVIII [m/z 69, 43 (95), 41 (84), 109 (78), 95 (54), 93 (49)... 177 (36), 220 (2)...]	20.09	2672.4	0.38	15.06*	1804.7	[0.47]
Unknown MOPE V [m/z 109, 69 (58), 43 (56), 41 (42), 135 (37), 55 (27)... 220 (5)]	21.46*	2842.3	[0.14]	15.74	1866.4	0.12
Unknown ZIOF XL [m/z 137, 218 (84), 119 (72), 69 (64), 175 (61), 41 (60), 93 (58)]	20.92	2773.2	0.18	15.76	1868.9	0.19
Unknown ZIOF XXXIII [m/z 125, 41 (88), 109 (76), 69 (76), 151 (68), 55 (45), 95 (36)... 236 (21)]	21.46*	2842.3	[0.14]	16.00	1890.3	0.06
Unknown ZIOF XXXIV [m/z 125, 41 (86), 151 (78), 109 (67), 69 (63)... 236 (22)]	22.04	2916.2	0.03	16.15	1904.3	0.05
Geranyl- <i>para</i> -cymene	16.11*	2228.5	[0.32]	16.64	1950.8	0.13
Palmitic acid				16.94	1979.1	3.94

[4]-Shogaol				17.90	2073.8	0.11
Unknown ZIOF XLI [m/z 135, 150 (34), 77 (13), 163 (11)... 262 (2)]				18.04	2087.3	0.06
Unknown ZIOF XLII [m/z 137, 203 (15), 138 (11), 105 (11), 41 (9)... 274 (7), 286? (1)]				18.19	2101.8	0.07
Unknown ZIOF XLIII [m/z 69, 41 (44), 121 (37), 107 (36), 81 (33)... 272 (2)]				18.35	2118.6	0.04
Linoleic acid				18.58	2143.1	0.33
Oleic acid				18.66	2151.1	2.28
cis-Vaccenic acid?				18.70	2155.4	0.30
[4]-Isogingerol?				18.88	2174.0	0.09
[6]-Isoshogaol?	24.71	3282.3	1.45	19.23	2210.5	1.71
[6]-Paradol				19.29	2216.5	0.15
Methyl [6]-isoshogaol?				19.32	2219.8	0.51
Methyl [6]-paradol?				19.62	2251.9	0.05
[6]-Dihydroparadol?	25.62	3415.8	0.08	19.83	2275.1	0.08
[6]-Shogaol	25.51	3399.5	4.66	19.91	2283.9	5.21
[6]-Gingerdione?				20.02	2295.3	1.31
Methyl [6]-shogaol				20.19	2314.3	0.11
Acetoxy-[6]-dihydroparadol				20.24	2319.7	0.04
Diacetoxy-[4]-gingerdiol				20.40	2338.5	0.07
Geranyl laurate	19.81	2639.0	0.03	20.48	2346.5	0.06
[6]-Gingerol				20.74	2375.7	0.01
Unknown ZIOF XLIV [m/z 137, 138 (9), 316 (6), 122 (5)]				21.02	2407.9	0.12
1-(4'-Hydroxy-3'- methoxyphenyl)-7- dodecen-3-one?				21.08	2414.3	0.28
[8]-Paradol				21.21	2429.4	0.07
Acetoxy-[6]-gingerol				21.38	2449.5	0.01
Unknown ZIOF XLV [m/z 137, 316 (31), 109 (24), 179 (21), 150 (20)]				21.42	2454.6	0.03
[6]-Gingerdiol isomer I				21.56	2471.0	1.56
[6]-Gingerdiol isomer II				21.62	2477.8	0.50
[8]-Shogaol				21.72	2488.8	0.78
5-Acetoxy-[6]-gingerdiol				21.74	2491.2	0.18
Methyl 5-acetoxy-[6]- gingerdiol				21.85	2504.7	0.10
Diacetoxy-[6]-gingerdiol	27.10	3612.6	0.61	21.95	2516.1	1.01

1-Dehydro-[6]-gingerdione				22.20	2546.4	0.18
[8]-Gingerol				22.41	2571.3	0.01
1-(4'-Hydroxy-3'-methoxyphenyl)-7-tetradecen-3-one?				22.49	2580.9	0.25
[10]-Isoshogaol				22.56	2589.7	0.06
[10]-Paradol				22.82	2622.4	0.51
Unknown ZIOF XLVII [m/z 137, 109 (24), 207 (24), 43 (24)... 344 (14)]				22.98	2642.4	0.04
Unknown ZIOF XLVI [m/z 137, 55 (23), 41 (21), 69 (18), 150 (17), 135 (14)... 330 (12)]				23.30	2682.1	0.07
[10]-Shogaol	29.46	3827.5	0.75	23.45	2700.5	0.78
Unknown ZIOF XLVIII [m/z 137, 205 (13), 332 (9), 122 (7)]				23.47	2703.4	0.05
[10]-Gingerdione				23.71	2735.0	0.01
1-Dehydro-[8]-gingerdione				23.82	2748.1	0.07
[12]-Isoshogaol?				24.05	2778.8	0.15
[12]-Shogaol				25.05	2912.3	0.04
[12]-Gingerdione				25.30	2945.7	0.02
[6]-Gingerdiol geranial acetal				26.32	3086.1	0.41
(E)-Gingerenone A				26.47	3105.2	0.13
Total reported		64.47%			84.45%	

*: 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