

Date : August 26, 2021

CERTIFICATE OF ANALYSIS – GC PROFILING

SAMPLE IDENTIFICATION

Internal code : 21H12-PTH02

Customer identification : Buddha Wood - BO0104212R

Type : Essential oil

Source : *Eremophila mitchellii*

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 : August 19, 2021

Checked and approved by :

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

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PHYSICOCHEMICAL DATA

Physical aspect: Brown-red viscous liquid

Refractive index: 1.5379 ± 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
Furfural	0.01	Furan
5-Methylfurfural	0.01	Furan
4-Vinylguaiacol	0.02	Simple phenolic
Unknown	0.02	Unknown
β -Elemene	0.01	Sesquiterpene
Selina-5,11-diene	0.01	Sesquiterpene
Unknown	0.05	Unknown
4,5-diepi-Aristolochene	0.21	Sesquiterpene
Unknown	0.03	Sesquiterpene
β -Selinene	0.35	Sesquiterpene
Eremophilene	0.98	Sesquiterpene
α -Selinene	0.25	Sesquiterpene
Eremophila-1(10),8,11-triene	0.14	Sesquiterpene
Nootkatene	0.01	Sesquiterpene
γ -Vetivenene	0.06	Sesquiterpene
Unknown	0.10	Oxygenated sesquiterpene
β -Vetivenene	0.01	Sesquiterpene
Eremophila ketone	0.02	Sesquiterpenic ketone
Eremophila-1(10),11-dien-9 β -ol	0.03	Sesquiterpenic alcohol
Unknown	0.07	Unknown
Unknown	0.04	Unknown
Unknown	0.01	Unknown
Unknown	0.01	Oxygenated sesquiterpene
Unknown	0.09	Unknown
Unknown	0.02	Oxygenated sesquiterpene
Unknown	0.01	Unknown
Unknown	1.03	Oxygenated sesquiterpene
Unknown	0.24	Unknown
γ -Eudesmol	0.02	Sesquiterpenic alcohol
Unknown	1.08	Oxygenated sesquiterpene
Neointermedeol	0.21	Sesquiterpenic alcohol
Unknown	0.56	Unknown
Unknown	0.13	Sesquiterpene
Eremophila-1,11-dien-9-one	2.91	Sesquiterpenic ketone
Unknown	0.09	Unknown
Unknown	0.06	Oxygenated sesquiterpene
Unknown	0.16	Unknown
Unknown	0.07	Unknown
Eremophilone	30.64	Sesquiterpenic ketone
8-Hydroxydihydroeremophilone	13.82	Sesquiterpenic alcohol
8 α -Hydroxyeremophila-1,11-dien-9-one	1.47	Sesquiterpenic alcohol
Unknown	1.12	Unknown
Unknown	0.14	Unknown
Unknown	0.82	Unknown
Dehydrofukinone	0.33	Sesquiterpenic ketone

Unknown	0.27	Unknown
Unknown	0.10	Unknown
Unknown	0.16	Unknown
Hydroxyeremophilone	31.70	Sesquiterpenic ketone
Unknown	0.43	Unknown
Unknown	0.06	Unknown
9-Hydroxy-1,7(11),9-eremophilatrien-8-one	6.70	Unknown
Cembrene?	0.04	Diterpene
Unknown	0.09	Unknown
Unknown	0.13	Unknown
Consolidated total	97.15%	

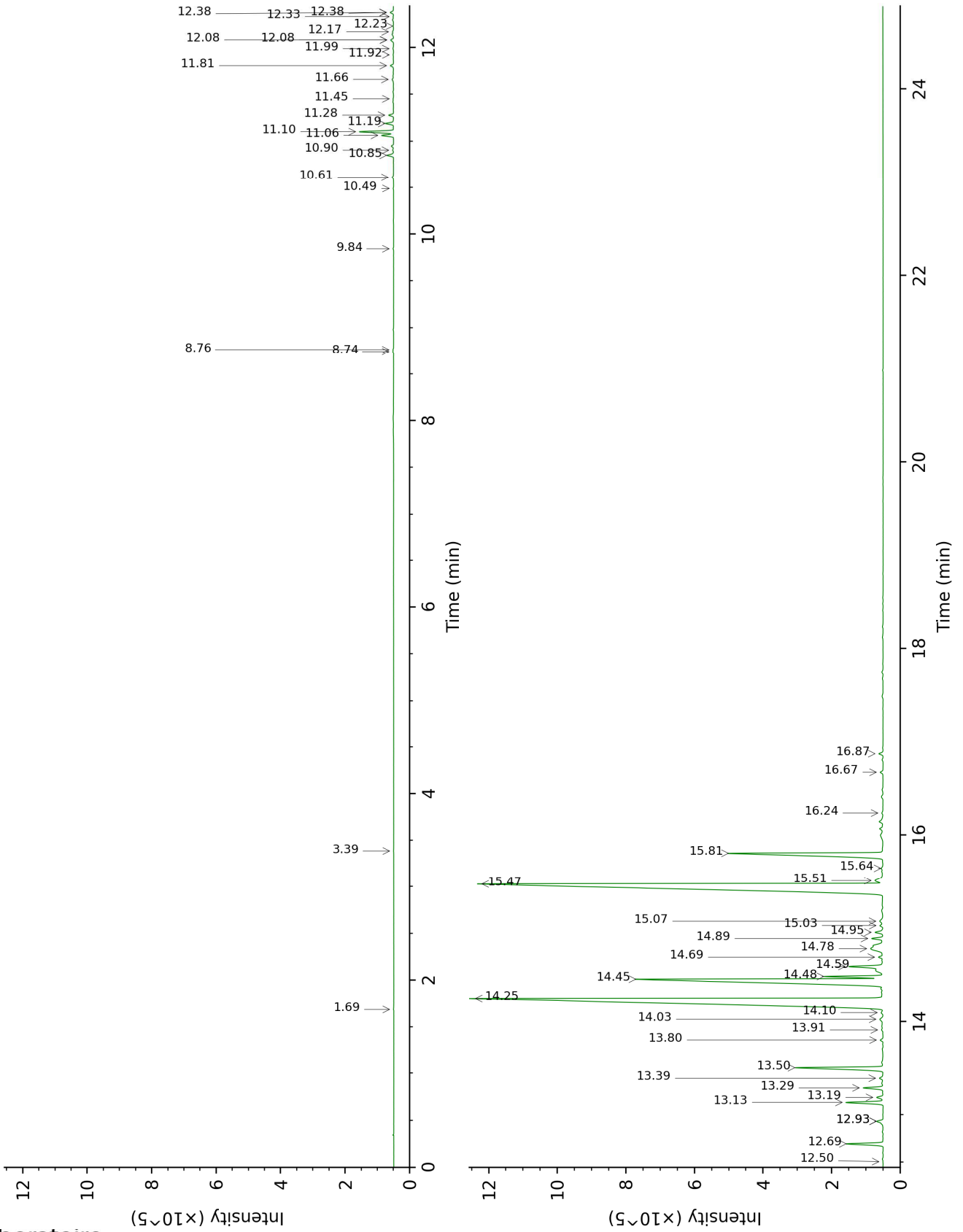
Note: no correction factor was applied

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

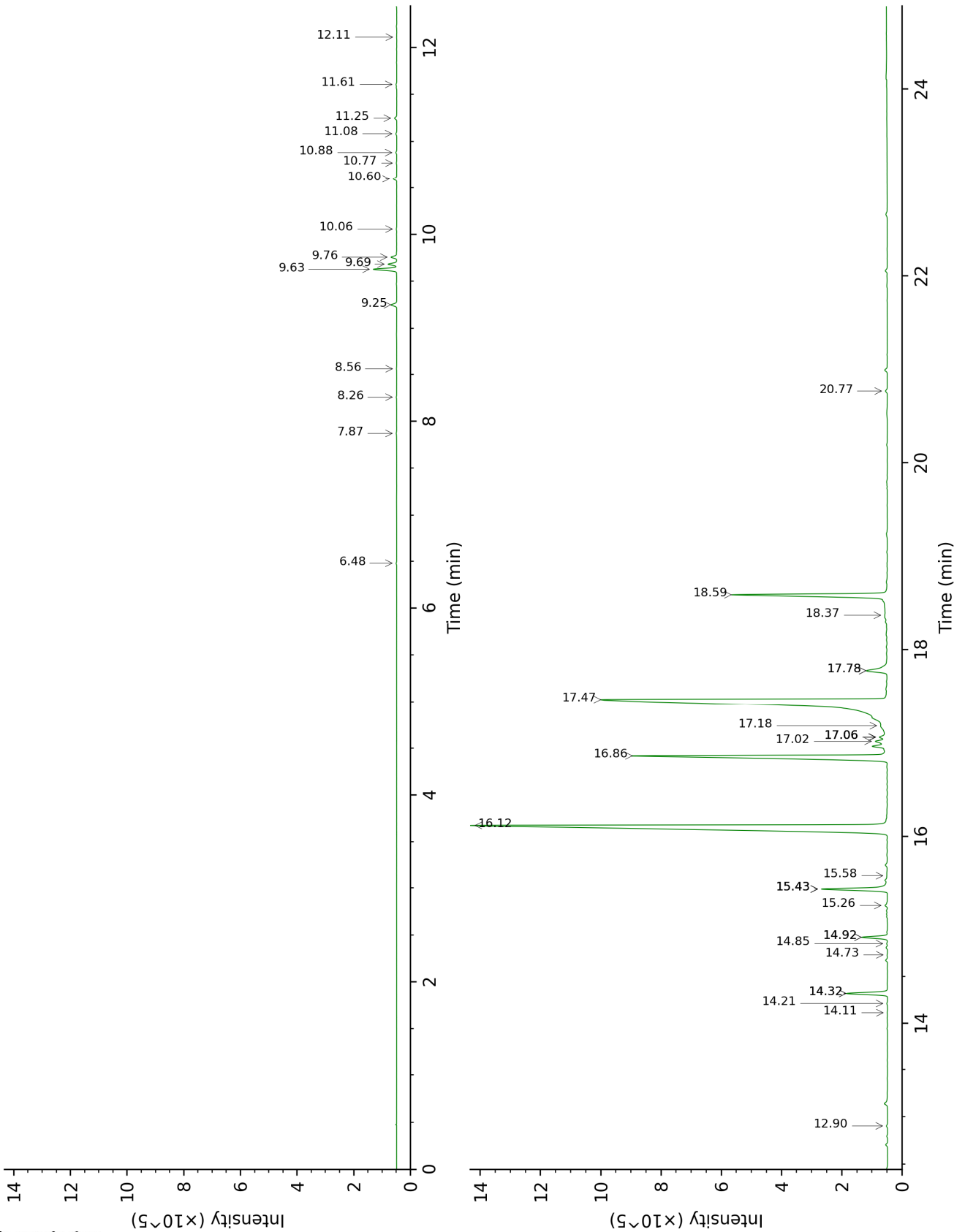
Unknowns: Unknown compounds' mass spectral data is presented in the "Full analysis data" table. The occurrence of unknown compounds is to be expected in many samples, and does not denote particular problems unless noted otherwise in the conclusion.

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DB-5



DB-WAX



FULL ANALYSIS DATA

Identification	Column DB-5			Column DB-WAX		
	R.T	R.I	%	R.T	R.I	%
Furfural	1.69	830	0.01	6.48	1409	0.02
5-Methylfurfural	3.39	961	0.01	7.87	1513	0.02
4-Vinylguaiacol	8.74	1311	0.02	14.92*	2129	1.02
Unknown [m/z 97, 109 (29), 81 (18), 95 (17), 166 (16), 67 (14)...]	8.76	1312	0.02	10.06	1687	0.02
β -Elemene	9.84	1389	0.01	8.26	1543	0.01
Selina-5,11-diene	10.49	1436	0.01	8.56	1567	0.01
Unknown [m/z 111, 126 (68), 69 (51), 41 (40), 55 (29), 179 (21)...]	10.61	1445	0.05	11.08	1774	0.04
4,5-diepi-Aristolochene	10.85	1463	0.21	9.25	1622	0.25
Unknown [m/z 111, 189 (70), 126 (52), 133 (50), 105 (40), 91 (34)...204 (28)]	10.90	1467	0.03			
β -Selinene	11.06	1479	0.35	9.68	1657	0.35
Eremophilene	11.10	1482	0.98	9.63	1652	0.97
α -Selinene	11.19	1488	0.25	9.76	1663	0.23
Eremophila-1(10),8,11-triene	11.28	1495	0.14	10.60	1733	0.14
Nootkatene	11.45	1508	0.01	10.77	1747	0.02
γ -Vetivenene	11.66	1524	0.06	10.88	1757	0.04
Unknown [m/z 145, 202 (90), 131 (80), 91 (71), 105 (68), 82 (54), 187 (53), 117 (47)... 220 (24)]	11.81	1536	0.10			
β -Vetivenene	11.92	1545	0.01	11.25	1788	0.09
Eremophila ketone	11.99	1550	0.02	12.11	1864	0.01
Eremophila-1(10),11-dien-9 β -ol	12.08*	1558	0.11	11.61	1820	0.03
Unknown [m/z 148, 105 (72), 189 (58), 119 (53), 91 (48), 133 (46)...]	12.08*	1558	[0.11]			
Unknown [m/z 96, 68 (89), 206 (73), 109 (55), 137 (37), 67 (36)...]	12.17	1564	0.04	12.90	1936	0.04
Unknown [m/z 109, 95 (71), 81 (70), 110 (58), 68 (53)...]	12.23	1569	0.01			
Unknown [m/z 93, 107 (55), 91 (37), 41 (34), 55 (34)... 220 (1)]	12.33	1577	0.01	14.21	2060	0.03
Unknown [m/z 151, 194 (63), 152 (62), 113 (55), 109 (53)...]	12.38*	1581	0.11	15.43*	2180	3.04
Unknown [m/z 111, 126 (82), 109 (60), 162 (54), 81 (54), 55 (53), 121 (52)... 220 (12)]	12.38*	1581	[0.11]	14.11	2050	0.02
Unknown [m/z 109, 208 (90), 140 (54), 41 (52), 69 (49), 55 (46)...]	12.50	1591	0.01			

Unknown [m/z 43, 81 (97), 135 (71), 95 (62), 204 (61), 71 (59), 207 (56)... 222 (3)]	12.69	1606	1.03	14.32*	2070	1.70
Unknown [m/z 133, 105 (87), 91 (84), 218 (68), 93 (60), 119 (60)...]	12.93*	1626	0.27			
γ -Eudesmol	12.93*	1626	[0.27]	14.73	2110	0.02
Unknown [m/z 109, 55 (95), 111 (93), 108 (92), 107 (73), 81 (72)...]	13.13	1642	1.08	14.92*	2129	[1.02]
Neointermedeol	13.19	1646	0.21	15.43*	2180	[3.04]
Unknown [m/z 151, 109 (30), 137 (18), 67 (17), 95 (17), 41 (12)...]	13.29	1655	0.56	14.32*	2070	[1.70]
Unknown [m/z 204, 147 (56), 189 (39), 91 (35), 119 (32), 107 (30)...]	13.39	1663	0.13	15.26	2163	0.12
Eremophila-1,11-dien-9-one	13.50	1673	2.91	15.43*	2180	[3.04]
Unknown [m/z 105, 133 (39), 201 (35), 119 (35), 91 (26), 120 (19)...]	13.80	1698	0.09			
Unknown [m/z 93, 81 (90), 95 (86), 91 (83), 41 (83), 107 (81)... 220 (29), 238? (4)]	13.91	1707	0.06	17.06*	2351	0.47
Unknown [m/z 109, 119 (39), 154 (32), 67 (22), 95 (21), 96 (21)...]	14.03	1716	0.16			
Unknown [m/z 123, 236 (86), 109 (72), 193 (67), 207 (55), 41 (52)...]	14.10	1723	0.07	15.58	2195	0.02
Eremophilone	14.25	1736	30.64	16.12	2251	30.75
8-Hydroxydihydroeremophilone	14.45	1754	13.82	16.86	2330	14.60
8 α -Hydroxyeremophila-1,11-dien-9-one	14.48	1756	1.47	17.78*	2430	1.55
Unknown [m/z 137, 234 (78), 109 (67), 41 (66), 69 (59), 43 (52), 191 (49)...]	14.59	1766	1.12	17.02	2346	0.66
Unknown [m/z 137, 191 (58), 109 (41), 41 (52), 234 (49), 152 (44)...]	14.69	1774	0.14	17.06*	2351	[0.47]
Unknown [m/z 234, 217 (50), 81 (30), 41 (28), 67 (27), 109 (26)...]	14.78	1782	0.82	17.18	2364	0.65
Dehydrofukinone	14.89	1792	0.33	17.06*	2351	[0.47]
Unknown [m/z 234, 191 (71), 149 (31), 163 (30), 41 (30), 219 (29)...]	14.95	1797	0.27	17.06*	2351	[0.47]
Unknown [m/z 133, 175 (81), 161 (58), 91 (51), 105 (50), 41 (47)...]	15.03	1804	0.10			

Unknown [m/z 109, 108 (52), 93 (41), 95 (36), 151 (33), 67 (33)...]	15.07	1808	0.16	17.78*	2430	[1.55]
Hydroxyeremophilone	15.47	1844	31.70	17.47	2395	30.23
Unknown [m/z 232, 217 (22), 91 (21), 215 (20), 231 (19)...]	15.51	1847	0.43	18.37	2496	0.13
Unknown [m/z 137, 179 (64), 123 (57), 194 (42), 43 (41)...]	15.64	1860	0.06			
9-Hydroxy-1,7(11),9-eremophilatrien-8-one	15.81	1874	6.70	18.59	2521	7.75
Cembrene?	16.24	1914	0.04	14.85	2122	0.03
Unknown [m/z 109, 163 (80), 232 (45), 175 (27), 161 (26)...]	16.67	1955	0.09	20.77	2781	0.08
Unknown [m/z 217, 122 (83), 232 (66), 161 (61), 109 (50)...]	16.87	1974	0.13			
Total identified		90.39%			93.36%	
Total reported		97.15%			95.17%	

*: 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

Note: no correction factor was applied

R.T.: Retention time (minutes)

R.I.: Retention index