Myrrh Essential Oil

ANALYSIS











Date: December 15, 2016

SAMPLE IDENTIFICATION

Internal code: 16L05-FSE24-1-DM

Customer identification: Myrrh - Lot#861314

Type: Essential oil

Source: Commiphora myrrha

Customer: Flowers Shining Everywhere Inc.

livinglibation

ANALYSIS

Method: PC-PA-001-15E06, "Analysis of the composition of a liquid essential oil by GC-FID" (in French).

Identifications double-checked by GC-MS
Analyst: Alexis St-Gelais, M. Sc., chimiste

Analysis date: 2016-12-13

livinglibations

Checked and approved by:

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

Note: This report may not be published, including online, without the written consent from Laboratoire PhytoChemia.

This report is digitally signed, it is only considered valid if the digital signature is intact.

livinglibation

livinglibation/

livinglibation

+ + + + 0

livinglibation



IDENTIFIED COMPOUNDS



Identification	Column: BP5			Column: WAX		AX	Mologulay Class
Identification	R.T.	R.I.	%	%	R.I.	R.T.	Molecular Class
α-Pinene	3,38	926	0.02	0.02	951	0.88	Monoterpene
Limonene	5.13	1029	0.01	0.01	1142	2.30	Monoterpene
δ-Elemene	15.21	1322	0.25	0.27	1431	6.25	Sesquiterpene
α-Copaene	17.57	1358	0.08	0.09	1450	6.60	Sesquiterpene
β-Bourbonene	18.00	1365	0.32	0.31	1468	6.96	Sesquiterpene
β-Elemene	18.87	1378	1.99	2.35	1536	8.37*	Sesquiterpene
β-Caryophyllene	20.48	1401	0.30	[2.35]	1536	8.37*	Sesquiterpene
β-Copaene	21.38	1412	0.08	0.08	1520	7.94	Sesquiterpene
γ-Elemene	21.77	1417	0.12	0.12	1578	9.64	Sesquiterpene
6,9-Guaiadiene	22.43	1425	0.06	0.07	1525	8.07	Sesquiterpene
a-Humulene	23.27	1435	0.12	0.07	1593	10.08	Sesquiterpene
γ-Muurolene	24.97	1455	0.08	0.08	1624	11.03	Sesquiterpene
Germacrene D	25.50	1462	0.74	0.76	1635	11.43	Sesquiterpene
β-Selinene	26.11	1469	9 0.43	0.43	1639	11.64	Sesquiterpene
a-Selinene	26.75	1476	0.38	0.37	1646	11.95	Sesquiterpene
Curzerene	27.61	1486	6.17	5.83	1774	18.20	Sesquiterp. ether
γ-Cadinene	27.75	1488	1.56	1.90	1674	13.19*	Sesquiterpene
δ-Cadinene	29.27	1508	0.29	[1.90]	1674	13.19*	Sesquiterpene
Germacrene B	31.99	1545	2.85	2.98	1734	15.87	Sesquiterpene
a-Elemol	32.74	1555	0.10	32.92	2004	32.59*	Sesquiterp. alcohol
Caryophyllene oxide	33.76	1569	0.05	0.07	1855	23.06	Sesquiterp. ether
(E)-Nerolidol	33.98	1572	0.44	[32.92]	2004	32.59*	Sesquiterp. alcohol
cis-β-Elemenone?	35.79	1600	0.24				Sesquiterp, ketone
Furanoeudesma-1,3-diene	36.70	1622	23.56	[32.92]	2004	32.59*	Sesquiterp. ether
Lindestrene	36.97	1628	7.55	[32.92]	2004	32.59*	Sesquiterp, ether
τ-Cadinol	37.15	1633	0.43	19.54	2059	35.50*	Sesquiterp. alcohol
Isofuranogermacrene	37.89	1650	0.11	[32.92]	2004	32.59*	Sesquiterp, ether
α-Cadinol	37.93	1651	0.22	2.71	2133	38.00*	Sesquiterp. alcohol
Elemyl acetate	38.49	1665	0.56	0.47	1952	29.62	Sesquiterp. ester
Germacrone	38.68	1670	0.12	0.11	2074	36.04	Sesquiterp. ketone
Unidentified	39.41	1686	18.63	[19.54]	2059	35.50*	Sesquiterp, ether
furanoeudesmane	**************************************						ner svestvit Geografic (1994) Geografic
2-Methoxyfuranodiene	40.37	1714	2.75	[2.71]	2133	38.00*	Sesquiterp. ether
Unknown, not seen in MS	44.01	1834	3.89	4.73	2313	42.64	
2-Acetoxyfuranodiene	45.60	1891	0.99	1.03	2451	45.57	Sesquiterp. ester
Unknown (m/z = 197, 108	48.51	2009	8.09	9.03	2640	49.09	Diterpene





(43), 79 (37), 183 (34) 272 (9))	livinglibation
Total identified	71.6% 72.59%

^{*:} Two or more compounds are coeluting on this column

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

Note: no correction factor was applied

OTHER DATA

Physical aspect : Bright yellow liquid Refractive Index : 1.5288 ± 0.0003 (20 °C)

CONCLUSION

livinglibations

No adulterant, contaminant or diluent were detected using this method. Please note that CO2 extracts often contain a larger portion of unidentifiable compounds than essential oils.

livinglibation

livinglibations

livinglibation

livinglibations

livinglibation

livinglibation/

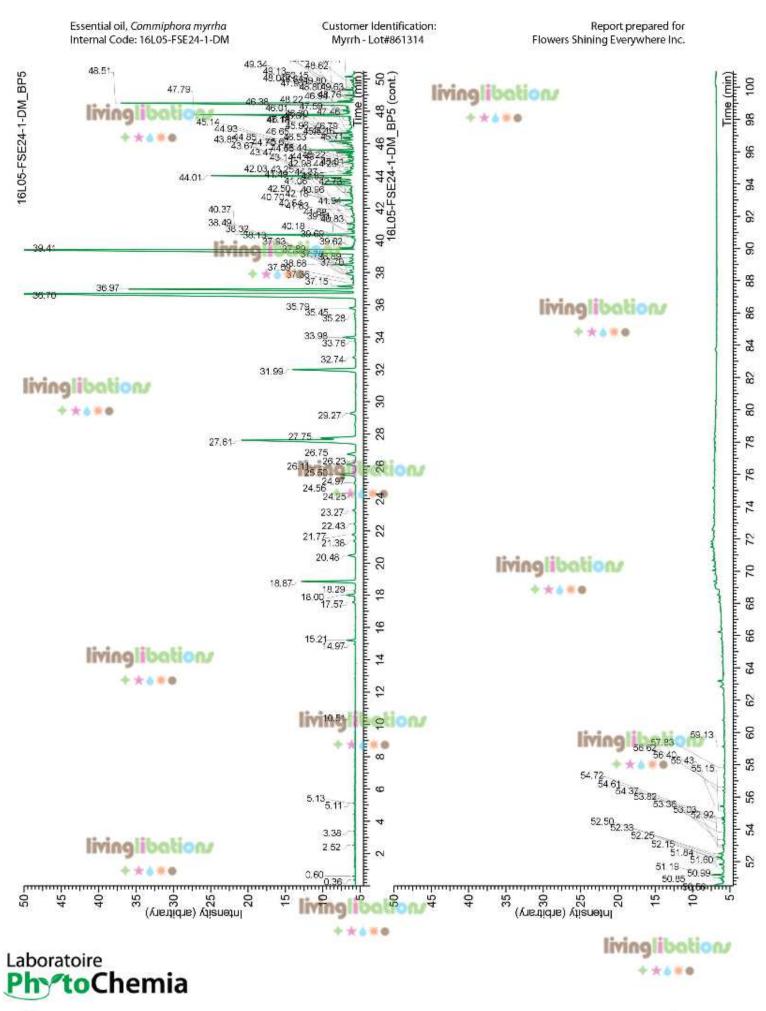
livinglibation

livinglibation

PhrtoChemia

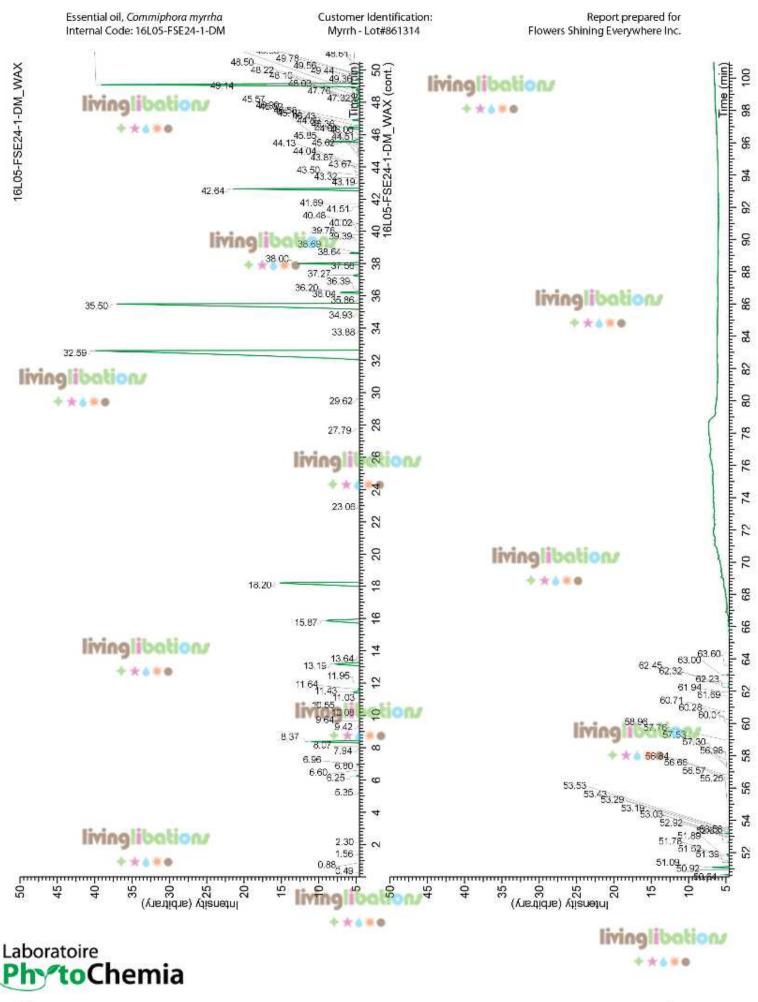
livinglibation/

Plus que des analyses... des conseils



Plus que des analyses... des conseils

Page 4 of 5



Plus que des analyses... des conseils

Page 5 of 5