



**PLANT THERAPY**  
100% PURE ESSENTIAL OILS

## GC/MS BATCH NUMBER: M40104

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**ESSENTIAL OIL:** MYRRH

**BOTANICAL NAME:** COMMIPHORA MYRRHA

**ORIGIN:** FRANCE

KEY CONSTITUENTS PRESENT IN THIS BATCH OF OIL MYRRH	%
CURZERENE	29.7
FURANOEDESMA-1,3-DIENE	29.6
LINDESTRENE	9.2
β-ELEMENE	5.4
GERMACRENE B	1.9
γ-ELEMENE	1.8
2-METHOXYFURANODIENE	1.8
δ-ELEMENE	1.1
ELEMYL ACETATE	1.0

Comments from Robert Tisserand: Rich, wet-green odor profile; constituents in expected quantities.

**Date :** January 11, 2017

*SAMPLE IDENTIFICATION*

**Internal code :** 17A03-PTH10-1-DM

**Customer identification :** Myrrh - M4010469R

**Type :** Essential Oil

**Source :** *Commiphora myrrha*

**Customer :** Plant Therapy

*ANALYSIS*

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

**Analyst :** Sylvain Mercier, M. Sc., chimiste

**Analysis date :** 2017-01-09

Checked and approved by :

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

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IDENTIFIED COMPOUNDS

Identification	Column: BP5			Column: WAX			Molecular Class
	R.T.	R.I.	%	%	R.I.	R.T.	
α-Pinene	3.36	928	0.02	0.02	946	1.27	Monoterpene
Sabinene	4.08	973	0.01	0.01	1067	2.16	Monoterpene
β-Pinene	4.14	977	0.01	0.01	1044	1.98	Monoterpene
Myrcene	4.42	995	0.01	0.01	1117	2.75	Monoterpene
Δ3-Carene	4.69	1008	tr	0.01	1084	2.31	Monoterpene
para-Cymene	5.08	1028	tr	tr	1211	4.05	Monoterpene
Limonene	5.10	1030	0.01	0.01	1142	3.09	Monoterpene
trans-β-Ocimene	5.47	1049	tr				Monoterpene
δ-Elemene	15.12	1320	1.08	1.11	1411	7.41	Sesquiterpene
α-Cubebene	15.75	1329	0.03	0.03	1407	7.30	Sesquiterpene
α-Copaene	17.45	1355	0.28	0.28	1425	7.76	Sesquiterpene
β-Bourbonene	17.88	1362	0.46	0.49	1447	8.29	Sesquiterpene
β-Elemene	18.81	1375	5.38	5.57	1520	10.49	Sesquiterpene
α-Gurjunene	19.41	1384	0.02	0.01	1472	8.91	Sesquiterpene
β-Caryophyllene	20.34	1398	0.47	0.31	1514	10.28	Sesquiterpene
β-Copaene	21.24	1408	0.12	0.09	1512	10.21	Sesquiterpene
γ-Elemene	21.67	1414	1.82	1.82	1565	12.21	Sesquiterpene
cis-Muurolo-3,5-diene	22.30	1421	0.11	0.12	1556	11.90	Sesquiterpene
α-Humulene	23.12	1431	0.20	0.12	1593	13.37	Sesquiterpene
γ-Gurjunene	24.81	1451	0.20	0.22	1604	13.96	Sesquiterpene
γ-Muurolole	25.23	1456	0.15	0.99	1614	14.49*	Sesquiterpene
Germacrene D	25.34	1458	0.86	[0.99]	1614	14.49*	Sesquiterpene
β-Selinene	25.95	1465	0.59	0.60	1618	14.74	Sesquiterpene
α-Selinene	26.59	1473	0.56	0.60	1626	15.11	Sesquiterpene
Curzerene	27.74	1487	29.66	30.52	1776	24.32	Sesquiterp. ether
γ-Cadinene	28.49	1496	0.16	0.12	1662	17.06	Sesquiterpene
δ-Cadinene	29.10	1504	0.39	0.33	1669	17.41	Sesquiterpene
trans-γ-Bisabolene	30.12	1518	0.12	0.34	1676	17.79*	Sesquiterpene
Selina-3,7(11)-diene	30.41	1522	0.15	[0.34]	1676	17.79*	Sesquiterpene
Germacrene B	31.81	1541	1.91	1.93	1715	20.27	Sesquiterpene
α-Elemol	32.58	1552	0.24	40.29	1996	37.47*	Sesquiterp. alcohol
Caryophyllene oxide	33.63	1566	0.02	0.03	1852	29.92	Sesquiterp. ether
(E)-Nerolidol	33.84	1569	0.42	[40.29]	1996	37.47*	Sesquiterp. alcohol
cis-β-Elemenone?	35.35	1590	0.20				Sesquiterp. ketone
Curzerenone	35.70	1595	0.69				Sesquiterp. ketone
Furanoeudesma-1,3-diene	36.64	1618	29.60	[40.29]	1996	37.47*	Sesquiterp. ether
Lindestrene	36.91	1624	9.22	[40.29]	1996	37.47*	Sesquiterp. ether
τ-Cadinol	37.28	1633	0.13	0.19	2070	39.81	Sesquiterp. alcohol
τ-Muurolole	37.49	1638	0.12	0.12	2079	40.09	Sesquiterp. alcohol
Furanodiene	37.61	1641	0.21	[40.29]	1996	37.47*	Sesquiterp. ether
Isofuranogermacrene	37.84	1647	0.84	0.83	1983	36.95	Sesquiterp. ether

$\alpha$ -Cadinol	38.01	1651	0.21	1.72	2131	41.53*	Sesquiterp. alcohol
Elemyl acetate	38.42	1661	1.02	1.04	1945	35.22	Sesquiterp. ester
Germacrone	39.08	1677	0.59	0.50	2082	40.17	Sesquiterp. ketone
Unidentified furanoeudesmane	39.16	1679	1.02	1.01	2052	39.27	Sesquiterp. ether
2-Methoxyfuranodiene	40.27	1709	1.76	[1.72]	2131	41.53*	Sesquiterp. ether
2-Acetoxyfuranodiene	45.52	1885	0.82	0.78	2447	48.75	Sesquiterp. ester
<b>Total identified</b>			<b>91.89%</b>	<b>92.18%</b>			

\*: 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 :** Yellow liquid

**Refractive index :**  $1.5155 \pm 0.0003$  (20 °C)

#### CONCLUSION

No adulterant, contaminant or diluent were detected using this method.



