

GC/MS BATCH NUMBER: F80102

ESSENTIAL OIL: FRANKINCENSE FREREANA
BOTANICAL NAME: BOSWELLIA FREREANA
ORIGIN: SOMALILAND

KEY CONSTITUENTS PRESENT IN THIS BATCH OF FRANKINCENSE FREREANA OIL	%
α -PINENE	33.6
LIMONENE	17.1
α -THUJENE	9.8
SABINENE	5.3
p-CYMENE	5.2
MYRCENE	4.5
trans-CARYOPHYLLENE	3.9
β -PINENE	3.4
α -PHELLANDRENE	1.8
3-CARENE	1.2
INCENSOLE	1.1

Comments from Robert Tisserand: This is a typical Boswellia frereana oil with a small but significant showing of the heavier molecules incensole and serratol.

Sample Information

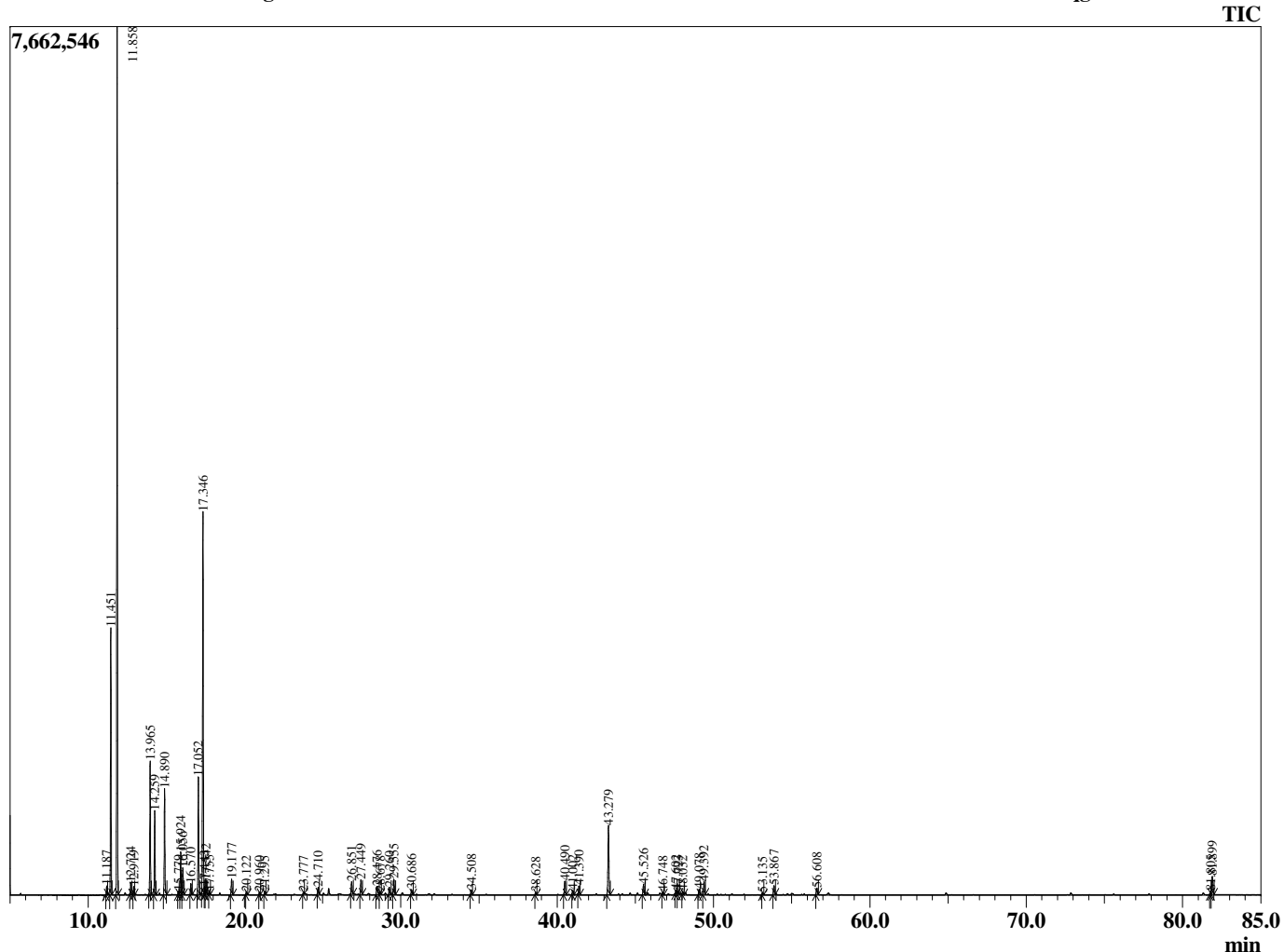
Analyzed by : Tanner Wortham
 Analyzed : 9/30/2015 7:10:38 PM
 Sample Type : Essential Oil
 Sample Name : Frankincense (Boswellia frereana)
 Sample ID : F80102412
 Injection Volume : 0.10
 Data File : C:\GCMSsolution\Data\EOU\Academic\Frankincense F80102412.qgd



Peak Report TIC

R.Time	Name	Area%
11.187	Pinene <isomer>	0.32
11.451	Thujene <alpha>	9.83
11.858	Pinene <alpha>	33.63
12.724	Camphene	0.45
12.919	Thuja-2,4(10)diene	0.31
13.965	Sabinene	5.26
14.259	Pinene <beta>	3.42
14.890	Myrcene	4.46
15.779	Pseudolimonene	0.15
15.924	Phellandrene <alpha>	1.83
16.056	3-Carene	1.17
16.570	Terpinene <alpha>	0.48
17.052	Cymene <para>	5.20
17.346	Limonene	17.08
17.443	Phellandrene <beta>	0.26
17.542	1,8-cineole	0.63
17.755	Ocimene <Z-beta>	0.14
19.177	Terpinene <gamma>	0.72
20.122	Pinol	0.14
20.960	Terpinolene	0.12
21.295	Dehydro-p-cymene	0.15
23.777	Campholenal <alpha>	0.11
24.710	Pinocarveol <trans>	0.33
26.851	p-Mentha-1,5-dien-8-ol	0.61
27.449	Terpinen-4-ol	0.77
28.476	Terpineol <alpha>	0.57
28.678	Methyl chavicol	0.13
29.260	Verbenone	0.39
29.555	Octyl acetate	0.78
30.686	1-Methoxy Decane	0.27
34.508	Bornyl acetate	0.26
38.628	Cubebene <alpha>	0.13
40.490	Copaene <alpha>	0.78
41.002	Bourbonene <alpha>	0.22
41.390	Elemene <beta>	0.43
43.279	Caryophyllene <trans>	3.94
45.526	Humulene <alpha>	0.57
46.748	Cadina-1(6),4-diene <trans>	0.13
47.602	Selinene <beta>	0.18
47.723	Viridiflorene	0.21
48.032	Selinene <alpha>	0.16
49.078	Cadinene <gamma>	0.29
49.392	Cadinene <delta>	0.69
53.135	Caryophyllene oxide	0.11
53.867	Viridiflorol	0.51
56.608	Cadinol <epi-alpha>	0.37
81.805	Incensole	0.17
81.899	Serratol	1.14
		100.00

Chromatogram Frankincense C:\GCMSsolution\Data\EOU\Academic\Frankincense F80102412.qgd



Comments:

Typical Ranges of Main Components: