

Sample Information

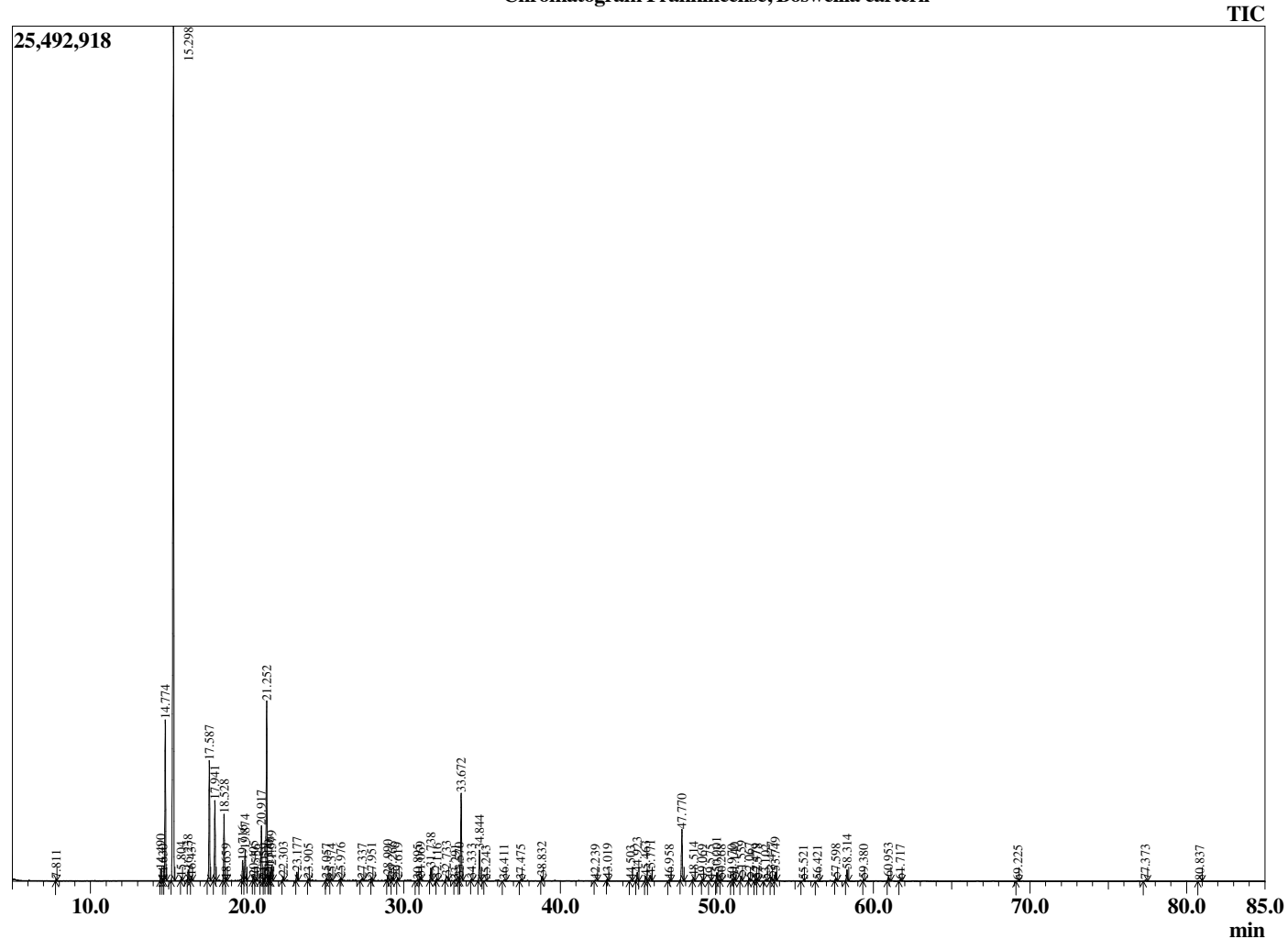
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 9/9/2018 11:37:09 AM
 Sample Type : Essential Oil
 Sample Name : Frankincense, *Boswellia carterii*
 Sample ID : B0208E
 Injection Volume : 0.10
 Instrument ID : GC-2



Peak Report TIC

R.Time	Name	Area%
7.811	Toluene	0.05
14.490	Hashishene	0.44
14.630	Tricyclene	0.04
14.774	alpha-Thujene	6.74
15.298	alpha-Pinene	46.01
15.804	Thuja-2,4(10)diene	0.15
16.238	Camphene	0.46
16.437	Verbenene	0.18
17.587	Sabinene	5.43
17.941	beta-Pinene	3.53
18.528	Myrcene	2.99
18.659	Frankincense unidentified	0.08
19.716	alpha-Phellandrene	0.94
19.874	3-Carene	1.39
20.405	alpha-Terpinene	0.21
20.556	meta-Cymene	0.03
20.917	para-Cymene	2.97
21.059	Frankincense unidentified	0.07
21.252	Limonene	8.62
21.370	beta-Phellandrene	0.23
21.466	1,8-Cineole	0.37
21.579	Z-beta-Ocimene	0.66
22.303	E-beta-Ocimene	0.19
23.177	gamma-Terpinene	0.40
23.905	1-Octanol	0.06
25.057	Terpinolene	0.12
25.374	Dehydro-p-cymene	0.09
25.976	Linalool	0.10
27.337	beta-Thujone	0.13
27.951	alpha-Campholenal	0.15
28.990	trans-Pinocarveol	0.31
29.266	Verbenol	0.19
29.619	p-Mentha-1,5-dien-8-ol isomer	0.14
30.895	Sabinol isomer	0.07
31.069	p-Mentha-1,5-dien-8-ol	0.17
31.738	Terpinen-4-ol	0.64
32.116	p-Cymen-8-ol	0.10
32.733	alpha-Terpineol	0.37
33.291	alpha-Phellandrene epoxide	0.06
33.570	Verbenone	0.12
33.672	Octyl acetate	4.62
34.333	trans-Carveol	0.08
34.844	1-Methoxydecane	1.62
35.243	cis-Carveol	0.03
36.411	Carvotanacetone	0.05
37.475	3,5-Dimethoxytoluene	0.05
38.832	Bornyl acetate	0.23
42.239	delta-Elementene	0.03
43.019	alpha-Cubebene	0.10
44.503	Cyclosativene	0.04
44.923	alpha-Copaene	0.52
45.463	beta-Bourbonene	0.28
45.771	beta-Elementene	0.38
46.958	alpha-Gurjunene	0.08
47.770	beta-Caryophyllene	2.86
48.514	trans-alpha-Bergamotene	0.20
49.069	Guaia-6,9-diene	0.07
49.575	cis-Muurolo-3,5-diene	0.07
50.001	alpha-Humulene	0.48
50.268	Alloaromadendrene	0.08
50.970	cis-Cadina-1(6),4-diene	0.06
51.140	trans-Cadina-1(6),4-diene	0.17

Chromatogram Frankincense, *Boswellia carterii*



Comments:

The analysis of this Frankincense - carterii batch sample meets the expected chemical profile for authentic essential oil of *Boswellia carterii*. No contamination or adulteration was detected. The results provided in this GCMS quality analysis reflect the chemical composition of the oil and lot referenced above on the date of analysis.

R.Time	Name	Area%
51.559	Germacrene D	0.25
52.067	beta-Selinene	0.16
52.479	alpha-Selinene	0.17
52.578	alpha-Murolene	0.10
53.102	beta-Bisabolene	0.07
53.477	gamma-Cadinene	0.22
53.749	delta-Cadinene	0.49
55.521	alpha-Elemol	0.04
56.421	beta-Dihydroagarofuran	0.06
57.598	Caryophyllene oxide	0.15
58.314	Viridiflorol	0.64
59.380	Frankincense unidentified	0.08
60.953	epi-alpha-Cadinol	0.24
61.717	Cubenol	0.09
69.225	alpha-Phellandrene dimer	0.04
77.373	beta-Elemene dimer	0.07
80.837	Verticilla-4(20),7,11-triene	0.03
		100.00