

Sample Information

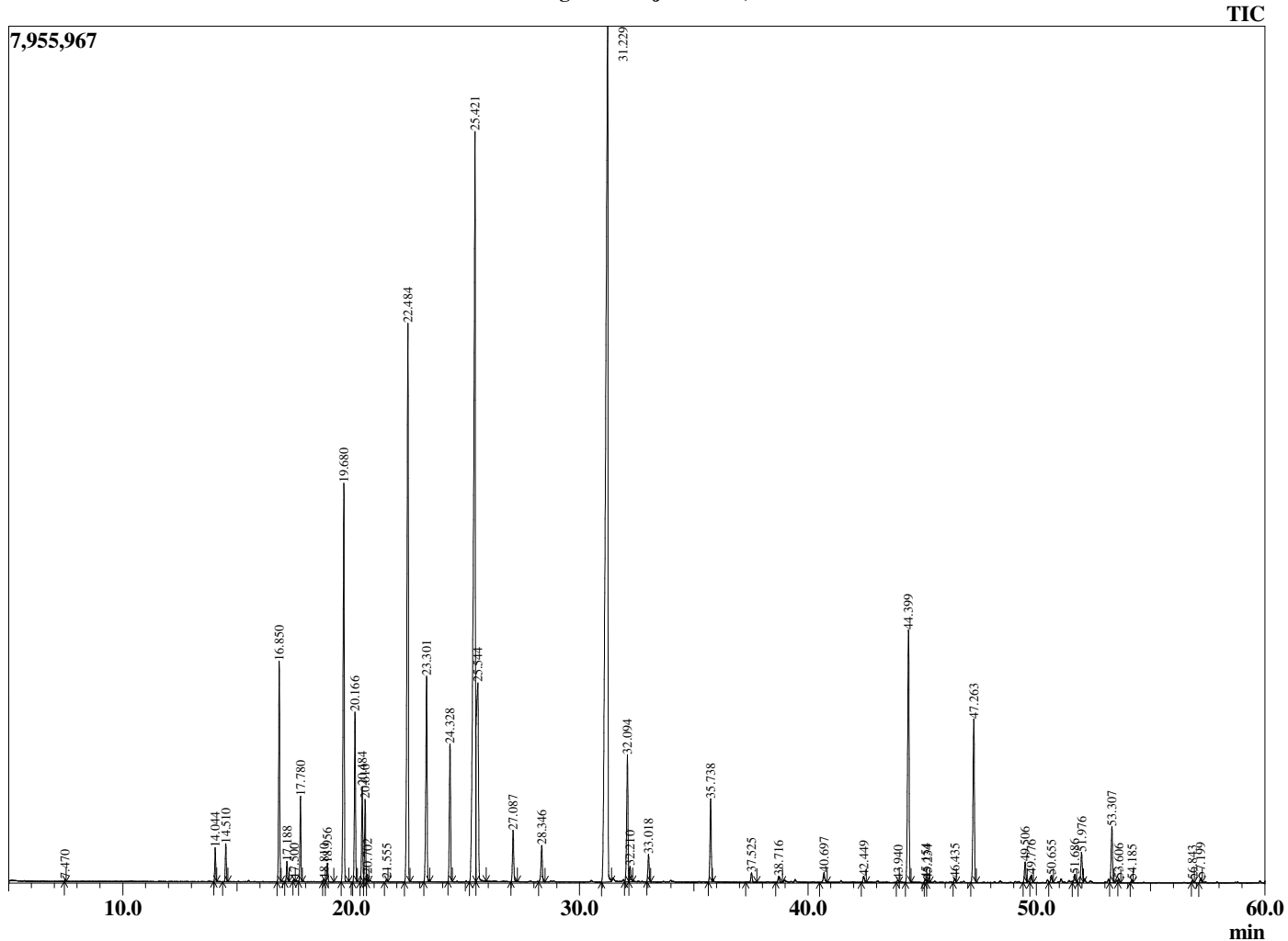
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 9/21/2018 5:02:42 PM
 Sample Type : Essential Oil
 Sample Name : Marjoram Oil, Sweet
 Sample ID : 34384
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
7.470	Methyl 2-methylbutyrate	0.02
14.044	Thujene <alpha>	0.42
14.510	Pinene <alpha>	0.49
16.850	Sabinene	3.03
17.188	Pinene <beta>	0.28
17.500	3-Octanone	0.03
17.780	Myrcene	1.13
18.810	Pseudolimonene	0.04
18.956	Phellandrene <alpha>	0.27
19.680	Terpinene <alpha>	6.06
20.166	Cymene <para>	2.52
20.484	Limonene	1.41
20.610	Phellandrene <beta>	1.18
20.702	1,8-Cineole	0.10
21.555	Ocimene <(E)-, beta>	0.04
22.484	Terpinene <gamma>	9.87
23.301	Sabinene hydrate <cis>	3.48
24.328	Terpinolene	2.17
25.421	Linalool	18.14
25.544	Sabinene hydrate <trans>	5.72
27.087	Sabina ketone <dehydro-cis>	0.85
28.346	Sabine ketone <dehydro-trans>	0.67
31.229	Terpinen-4-ol	26.38
32.094	Terpineol <alpha>	2.21
32.210	Sabinene hydrate acetate <cis>	0.26
33.018	Sabinene hydrate acetate <trans>	0.45
35.738	Linalyl acetate	1.37
37.525	2-Carene oxide	0.18
38.716	2-Carene oxide isomer	0.10
40.697	Chrysanthenyl acetate	0.21
42.449	Cubebene <alpha>	0.12
43.940	Cyclosativene	0.04
44.399	Copaene <alpha>	4.86
45.154	Cubebene <beta>	0.07
45.234	Elemene <beta>	0.05
46.435	Gurjunene <alpha>	0.07
47.263	Caryophyllene <trans>	3.05
49.506	Humulene <alpha>	0.37
49.776	Alloaromadendrene	0.14
50.655	Cadina-1(6),4-diene <trans>	0.14
51.686	Viridiflorene	0.18
51.976	Bicyclogermacrene	0.57
53.307	Cadinene <delta>	1.00
53.606	Zonarene	0.06
54.185	Cadina-1,4-diene <trans>	0.05
56.843	Spathulenol	0.04
57.199	Caryophyllene oxide	0.08
		100.00

Chromatogram Marjoram Oil, Sweet



Comments:

The analysis of this Marjoram Oil, Sweet batch sample meets the expected chemical profile for authentic essential oil of *Origanum majorana*. 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.