

Sample Information

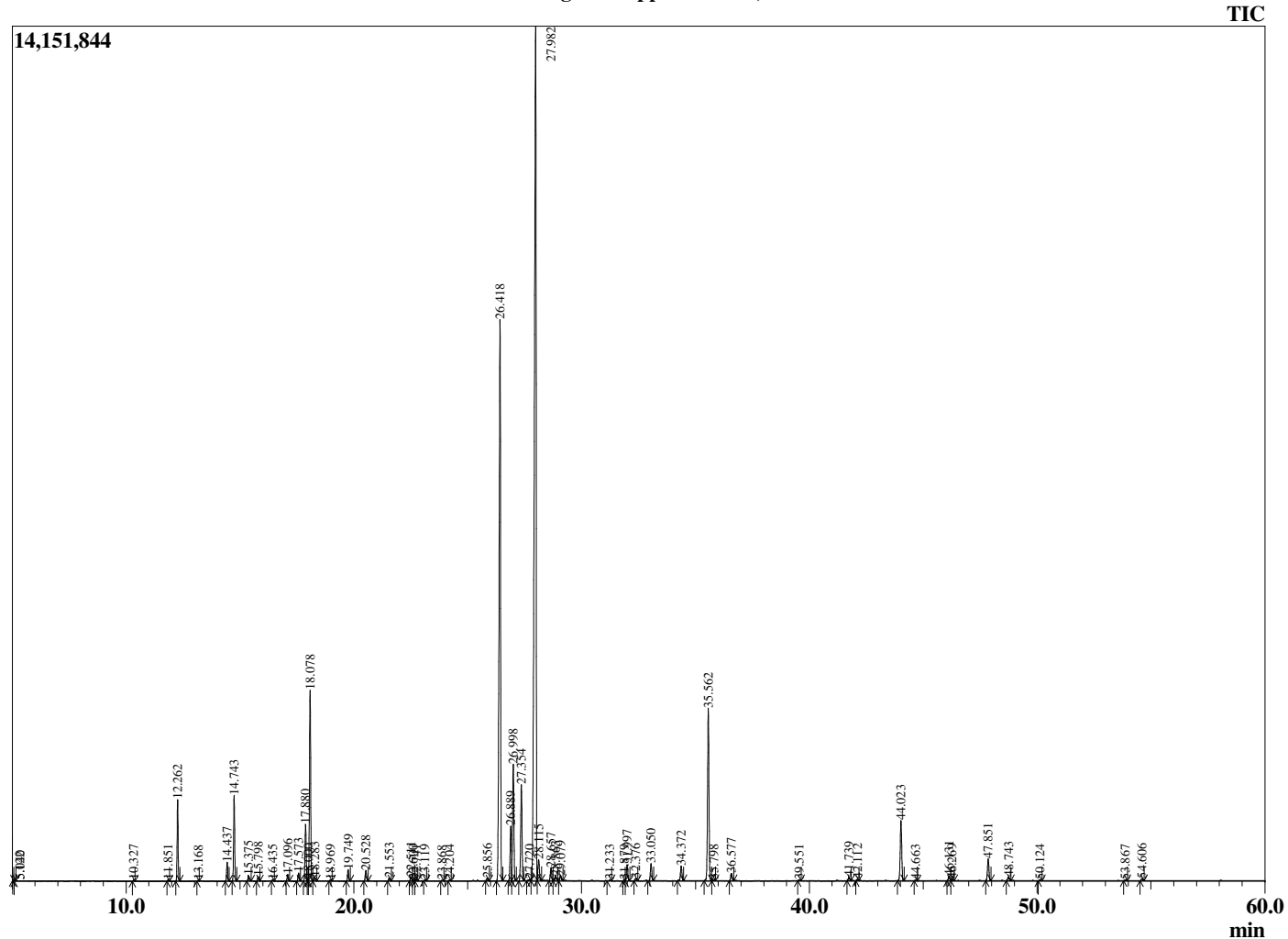
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 12/7/2018 8:40:02 AM
 Sample Type : Essential Oil
 Sample Name : Peppermint Oil, USA
 Sample ID : DOB1205D
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
5.040	1-Pentanol	0.01
5.122	2-Methyl butanol	0.01
10.327	2,5-Diethyltetrahydrofuran	0.03
11.851	alpha-Thujene	0.04
12.262	alpha-Pinene	2.09
13.168	Camphene	0.02
14.437	Sabinene	0.53
14.743	beta-Pinene	2.39
15.375	Myrcene	0.16
15.798	3-Octanol	0.12
16.435	alpha-Phellandrene	0.04
17.096	alpha-Terpinene	0.19
17.573	para-Cymene	0.24
17.880	Limonene	1.70
18.000	beta-Phellandrene	0.05
18.078	1,8-Cineole	5.85
18.283	cis-beta-Ocimene	0.12
18.969	trans-beta-Ocimene	0.03
19.749	gamma-Terpinene	0.35
20.528	trans-Sabinene hydrate	0.35
21.553	Terpinolene	0.09
22.511	Linalool	0.14
22.600	cis-Sabinene hydrate	0.03
22.741	2-Methylbutyl-2-methylbutyrate	0.04
23.119	2-Methylbutyl isovalerate	0.03
23.868	3-Octyl acetate	0.02
24.204	cis-para-Menth-2-en-1-ol	0.03
25.856	Isopulegol	0.08
26.418	Menthone	21.44
26.889	Menthofuran	1.85
26.998	Isomenthone	3.96
27.354	Neomenthol	3.33
27.720	trans-Isopulegone	0.07
27.982	Menthol	40.57
28.115	Terpinen-4-ol	0.77
28.657	Isomenthol	0.44
28.863	Neoisomenthol	0.17
29.079	alpha-Terpineol	0.17
31.233	Citronellol	0.02
31.879	3-cis-Hexenyl isovalerate	0.03
31.997	Pulegone	0.57
32.376	Carvone	0.08
33.050	Piperitone	0.60
34.372	Neomenthyl acetate	0.58
35.562	Menthyl acetate	6.33
35.798	Dihydroedulan I	0.04
36.577	Isomenthyl acetate	0.27
39.551	Eugenol	0.03
41.739	beta-Bourbonene	0.13
42.112	beta-Elementene	0.04
44.023	beta-Caryophyllene	2.36
44.663	beta-Copaene	0.02
46.131	trans-beta-Farnesene	0.17
46.269	alpha-Humulene	0.06
47.851	Germacrene D	0.84
48.743	Bicyclogermacrene	0.14
50.124	delta-Cadinene	0.04
53.867	Caryophyllene oxide	0.03
54.606	Viridiflorol	0.08
		100.00

Chromatogram Peppermint Oil, USA



Comments:

The analysis of this Peppermint batch sample meets the expected chemical profile for authentic essential oil of *Mentha piperita*. 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.