

Sample Information

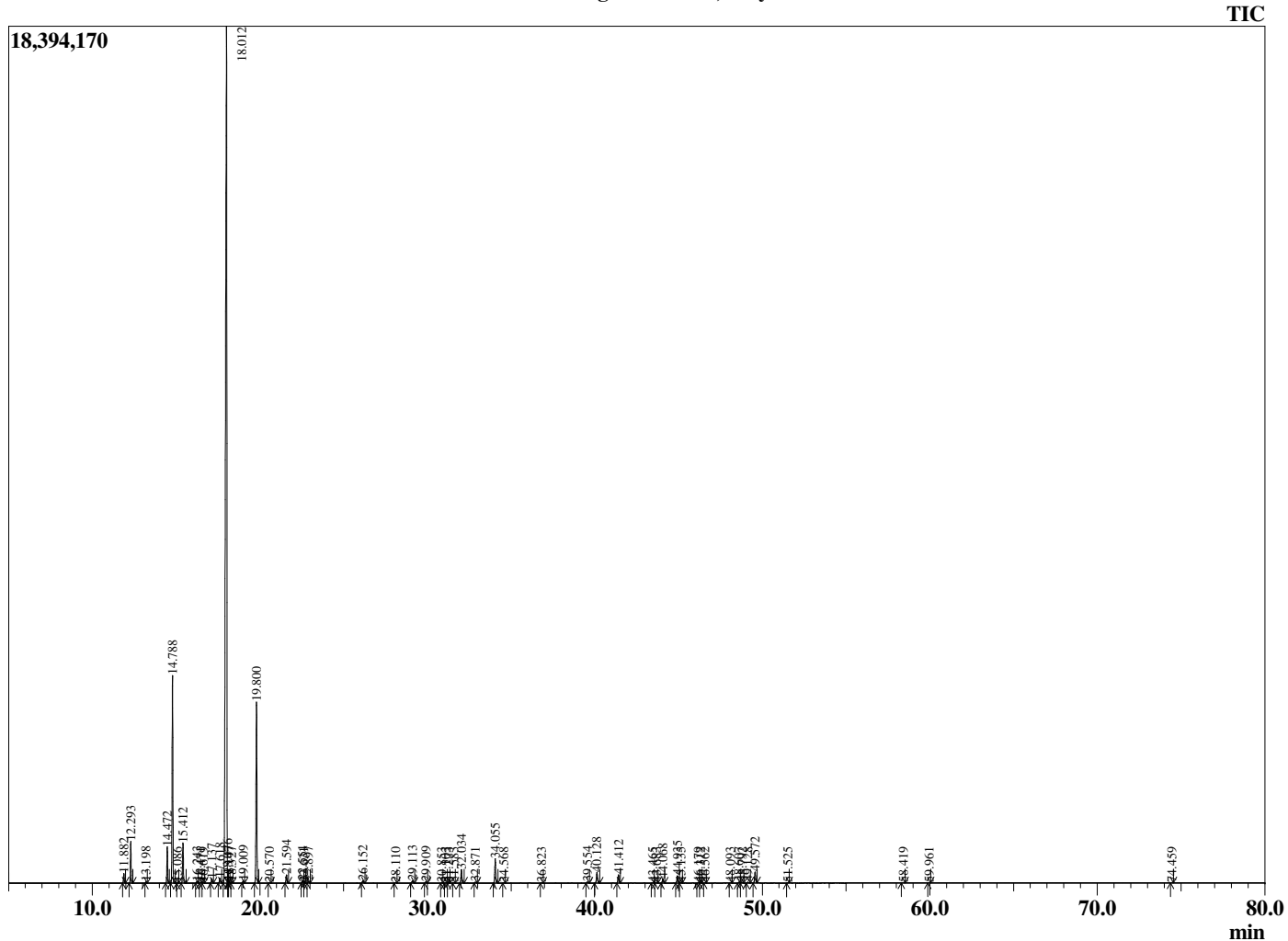
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 10/18/2018 6:08:34 PM
 Sample Type : Essential Oil
 Sample Name : Lemon, Italy
 Sample ID : COB1018B
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
11.882	alpha-Thujene	0.41
12.293	alpha-Pinene	1.75
13.198	Camphene	0.05
14.472	Sabinene	1.69
14.788	beta-Pinene	9.68
15.086	6-Methyl hept-5-en-2-one	0.01
15.412	Myrcene	1.90
16.243	Octanal	0.07
16.471	alpha-Phellandrene	0.05
16.619	delta-3-Carene	0.03
17.137	alpha-Terpinene	0.21
17.618	para-Cymene	0.27
18.012	Limonene	67.67
18.076	beta-Phellandrene	0.22
18.147	1,8-Cineole	0.06
18.327	cis-beta-Ocimene	0.06
19.009	trans-beta-Ocimene	0.12
19.800	gamma-Terpinene	9.43
20.570	trans-Sabinene hydrate	0.03
21.594	Terpinolene	0.42
22.551	Linalool	0.12
22.631	cis-Sabinene hydrate	0.02
22.897	Nonanal	0.09
26.152	Citronellal	0.13
28.110	Terpinen-4-ol	0.04
29.113	alpha-Terpineol	0.14
29.909	Decanal	0.06
30.853	2,3-Epoxyneral	0.01
31.103	Nerol	0.03
31.273	Citronellol	0.02
31.583	2,3-Epoxygeranial	0.03
32.034	Neral	0.77
32.871	Geraniol	0.05
34.055	Geranial	1.36
34.568	Perillaldehyde	0.02
36.823	Undecanal	0.02
39.554	Citronellyl acetate	0.06
40.128	Neryl acetate	0.64
41.412	Geranyl acetate	0.48
43.465	Dodecanal	0.01
43.683	cis-alpha-Bergamotene	0.03
44.068	beta-Caryophyllene	0.26
44.935	trans-alpha-Bergamotene	0.44
45.135	Unidentified	0.02
46.179	trans-beta-Farnesene	0.03
46.312	alpha-Humulene	0.02
46.562	beta-Santalene	0.02
48.093	Farnesene isomer	0.02
48.607	Valencene	0.05
48.792	Bicyclogermacrene	0.05
49.128	cis-alpha-Bisabolene	0.05
49.572	beta-Bisabolene	0.69
51.525	trans-alpha-Bisabolene	0.01
58.419	Unidentified	0.03
59.961	alpha-Bisabolol	0.02
74.459	Citropten	0.02
		100.00

Chromatogram Lemon, Italy



Comments:

The analysis of this Lemon, Italy batch sample meets the expected chemical profile for authentic essential oil of *Citrus limon*. 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.