

Sample Information

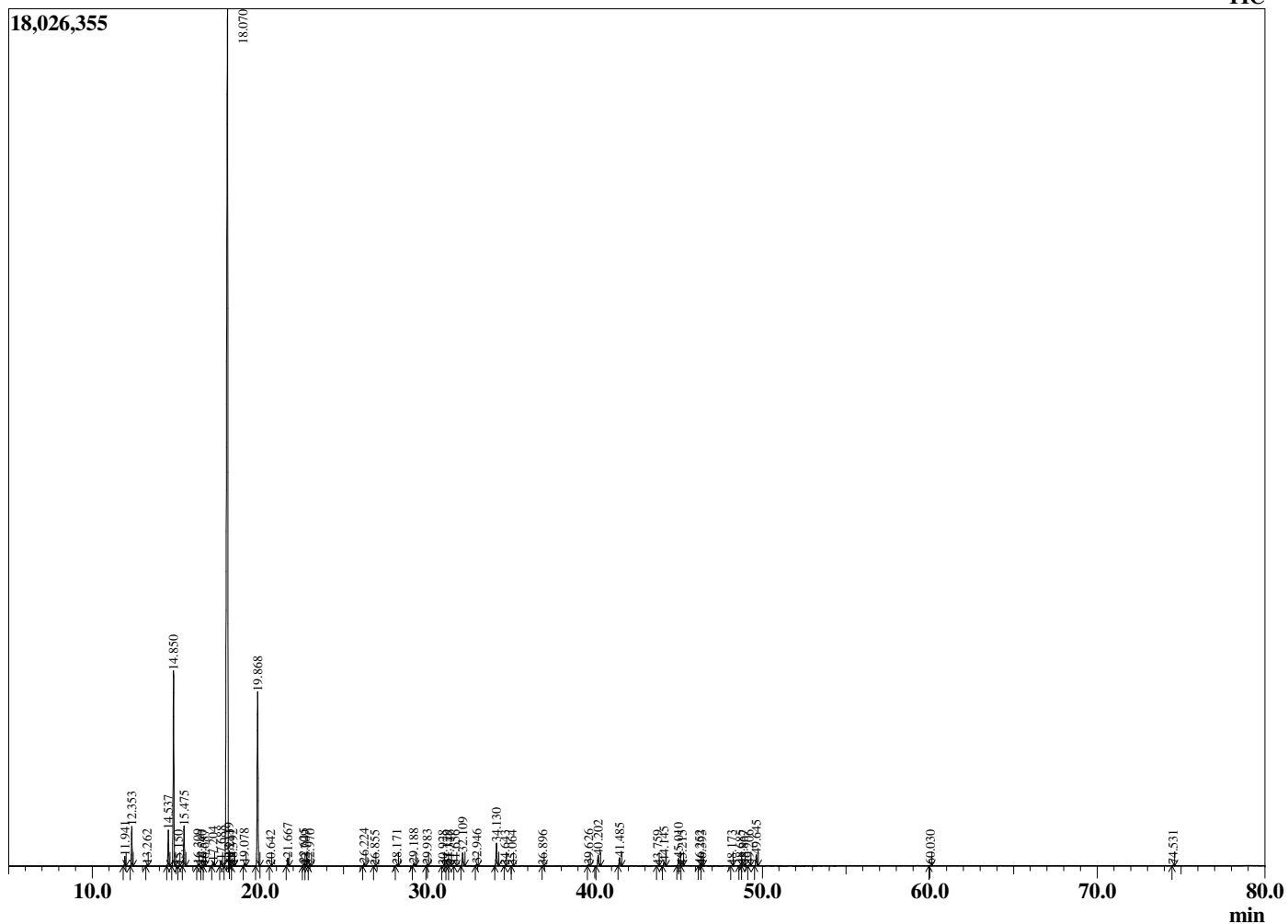
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 11/6/2018 1:28:35 AM
 Sample Type : Essential Oil
 Sample Name : Lemon oil, Italy
 Sample ID : COB1101A
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
11.941	alpha-Thujene	0.42
12.353	alpha-Pinene	1.76
13.262	Camphene	0.05
14.537	Sabinene	1.72
14.850	beta-Pinene	9.41
15.150	6-Methyl hept-5-en-2-one	0.02
15.475	Myrcene	1.93
16.309	Octanal	0.06
16.540	alpha-Phellandrene	0.05
16.687	delta-3-Carene	0.03
17.204	alpha-Terpinene	0.22
17.688	para-Cymene	0.31
18.070	Limonene	67.65
18.139	beta-Phellandrene	0.03
18.211	1,8-Cineole	0.02
18.392	cis-beta-Ocimene	0.06
19.078	trans-beta-Ocimene	0.13
19.868	gamma-Terpinene	9.44
20.642	trans-Sabinene hydrate	0.03
21.667	Terpinolene	0.43
22.625	Linalool	0.12
22.709	cis-Sabinene hydrate	0.02
22.970	Nonanal	0.09
26.224	Citronellal	0.14
26.855	cis-Chrysanthenol	0.02
28.171	trans-Isocitral	0.07
29.188	alpha-Terpineol	0.13
29.983	Decanal	0.06
30.928	2,3-Epoxyneral	0.02
31.179	Nerol	0.05
31.346	Citronellol	0.03
31.656	2,3-Epoxygeranial	0.03
32.109	Neral	0.78
32.946	Geraniol	0.10
34.130	Geranial	1.37
34.643	Perillaldehyde	0.02
35.064	trans-Carvone oxide	0.03
36.896	Undecanal	0.02
39.626	Citronellyl acetate	0.06
40.202	Neryl acetate	0.68
41.485	Geranyl acetate	0.51
43.759	cis-alpha-Bergamotene	0.03
44.145	beta-Caryophyllene	0.27
45.010	trans-alpha-Bergamotene	0.48
45.215	Unidentified	0.02
46.252	trans-beta-Farnesene	0.05
46.393	alpha-Humulene	0.02
48.173	Farnesene isomer	0.02
48.685	Valencene	0.05
48.867	Bicyclogermacrene	0.06
49.206	cis-alpha-Bisabolene	0.06
49.645	beta-Bisabolene	0.73
60.030	alpha-Bisabolol	0.04
74.531	Citropten	0.03
		100.00

Chromatogram Lemon oil, 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.