

Sample Information

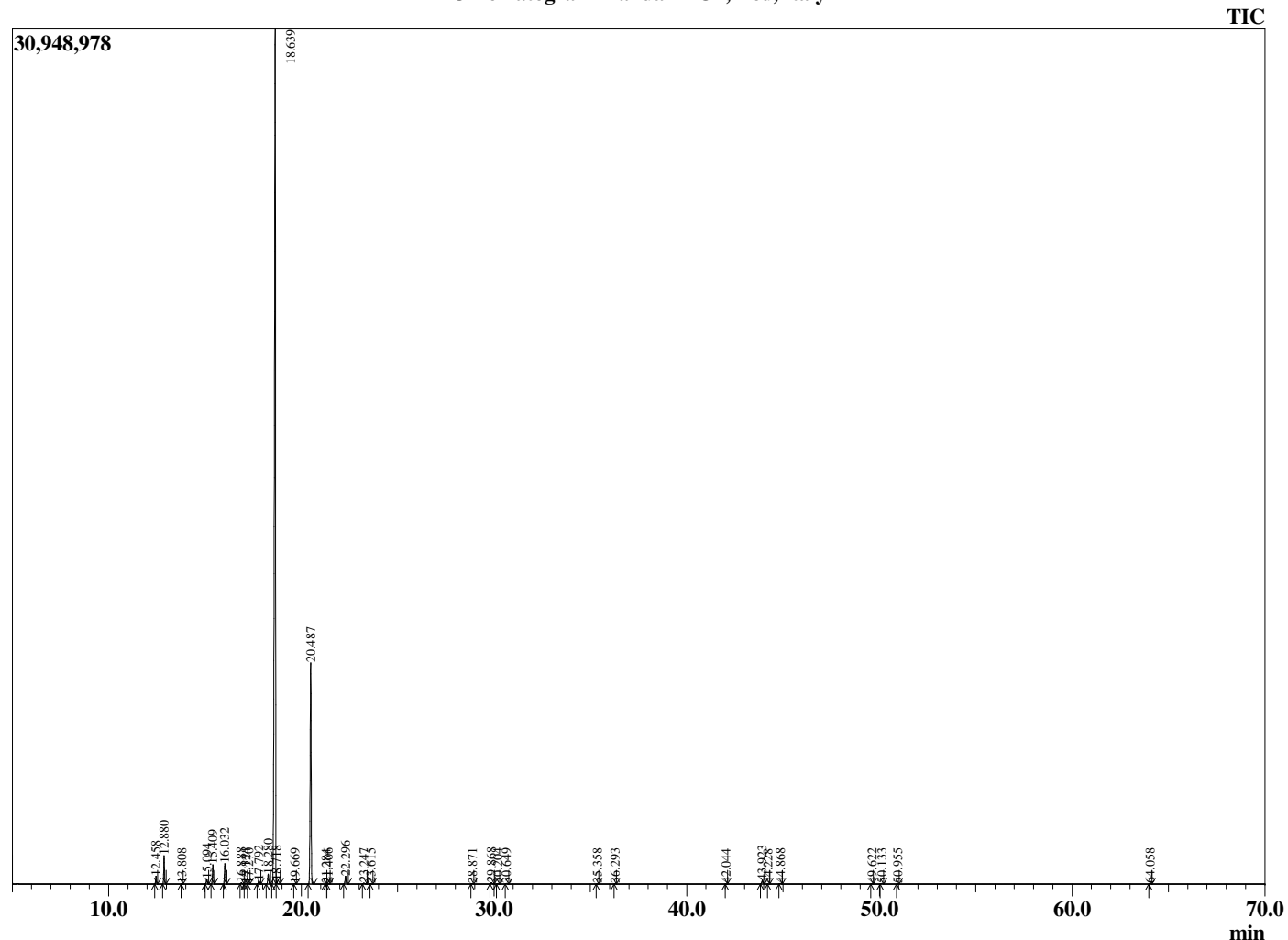
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 10/2/2018 12:26:05 PM
 Sample Type : Essential Oil
 Sample Name : Mandarin Oil, Red, Italy
 Sample ID : D0B0928A
 Injection Volume : 0.10
 Instrument ID: : GC-3



Peak Report TIC

R.Time	Name	Area%
12.458	alpha-Thujene	0.49
12.880	alpha-Pinene	1.81
13.808	Camphene	0.01
15.094	Sabinene	0.36
15.409	beta-Pinene	1.31
16.032	Myrcene	1.43
16.888	Octanal	0.10
17.124	alpha-Phellandrene	0.05
17.270	delta-3-Carene	0.03
17.792	alpha-Terpinene	0.25
18.280	para-Cymene	0.74
18.639	Limonene	74.58
18.718	beta-Phellandrene	0.22
19.669	trans-beta-Ocimene	0.04
20.487	gamma-Terpinene	17.09
21.284	trans-Sabinene hydrate + cis-Linalool oxide (I	0.01
21.406	Pinol	0.02
22.296	Terpinolene	0.61
23.247	Linalool	0.09
23.615	Nonanal	0.02
28.871	Terpinen-4-ol	0.02
29.868	alpha-Terpineol	0.13
30.204	Unidentified	0.02
30.649	Decanal	0.06
35.358	Perillaldehyde	0.01
36.293	Thymol	0.02
42.044	alpha-Copaene	0.01
43.923	Methyl N-methyl anthranilate	0.30
44.228	Dodecanal	0.01
44.868	beta-Caryophyllene	0.06
49.622	alpha-Selinene	0.01
50.133	(E,E)-alpha-Farnesene	0.07
50.955	delta-Cadinene	0.01
64.058	alpha-Sinensal	0.03
		100.00

Chromatogram Mandarin Oil, Red, Italy



Comments:

The analysis of this Mandarin, Red, Italy batch sample meets the expected chemical profile for authentic essential oil of *Citrus reticulata blanco*. 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.