

Sample Information

Analyzed by : Dr. Robert S. Pappas
 Analyzed : 1/23/2019 7:29:55 PM
 Sample Type : Essential Oil
 Sample Name : Cardamom - Barefut
 Sample ID : cardamom-0107
 Injection Volume : 0.10
 Instrument ID : GC-4

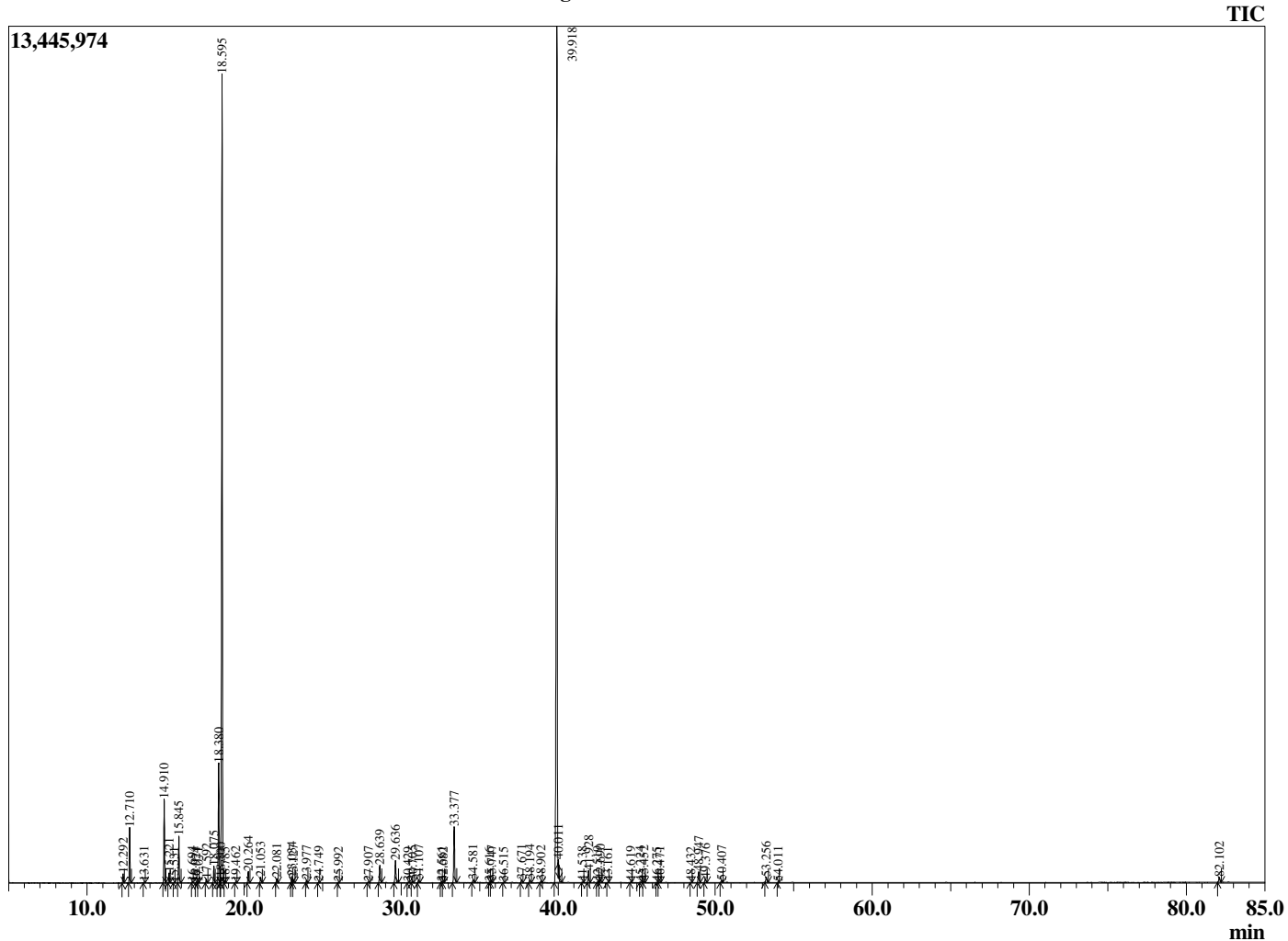


Peak Report TIC

R.Time	Name	Area%
12.292	alpha-Thujene	0.30
12.710	alpha-Pinene	1.85
13.631	Camphene	0.03
14.910	Sabinene	3.03
15.221	beta-Pinene	0.37
15.531	6-Methyl hept-5-en-2-one	0.01
15.845	Myrcene	1.72
16.694	Octanal	0.05
16.924	alpha-Phellandrene	0.02
17.071	delta-3-Carene	0.01
17.592	alpha-Terpinene	0.15
18.075	para-Cymene	0.64
18.380	Limonene	4.94
18.500	beta-Phellandrene	0.10
18.595	1,8-cineole	32.98
18.785	cis-beta-Ocimene	0.02
19.462	trans-beta-Ocimene	0.03
20.264	gamma-Terpinene	0.47
21.053	trans-Sabinene hydrate	0.24
22.081	Terpinolene	0.18
23.034	Linalool	0.26
23.127	cis-Sabinene hydrate	0.15
23.977	Unidentified	0.11
24.749	cis-para-Menth-2-en-1-ol	0.03
25.992	trans-para-Menth-2-en-1-ol	0.02
27.907	delta-Terpineol	0.04
28.639	Terpinen-4-ol	0.80
29.636	alpha-Terpineol	1.03
30.429	Decanal	0.02
30.705	Octyl acetate	0.07
31.107	Unidentified	0.13
32.561	Neral	0.05
32.682	Unidentified	0.02
33.377	Linalyl acetate	2.59
34.581	Geranial	0.15
35.616	Unidentified	0.02
35.747	Bornyl acetate	0.09
36.515	Unidentified	0.02
37.671	delta-Terpinyol acetate	0.15
38.194	Methyl geranate	0.15
38.902	Unidentified	0.07
39.918	alpha-Terpinyl acetate	44.23
40.011	gamma-Terpinyl acetate	0.22
41.538	Unidentified	0.03
41.928	Geranyl acetate	0.55
42.519	Unidentified	0.04
42.690	beta-Elementene	0.14
43.161	Unidentified	0.02
44.619	beta-Caryophyllene	0.03
45.224	gamma-Elementene	0.04
45.452	Unidentified	0.07
46.275	Unidentified	0.02
46.471	Unidentified	0.02
48.432	Germacrene D	0.02
48.947	beta-Selinene	0.55
49.376	alpha-Selinene	0.21
50.407	gamma-Cadinene	0.11
53.256	trans-Nerolidol	0.30
54.011	Unidentified	0.02
82.102	Cardamom Unidentified	0.28
		100.00

This report is valid for 1 year from the analyzed date.

Chromatogram Cardamom - Barefut



Comments:

The analysis of this Cardamom batch sample meets the expected chemical profile for authentic essential oil of *Elettaria cardamomum*. No contamination or adulteration was detected.