

Sample Information

Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 8/27/2019 2:16:05 AM  
 Sample Type : Essential Oil  
 Sample Name : Cardamom - Barefut  
 Sample ID : 0108  
 Injection Volume : 0.10  
 Instrument ID : GC-4

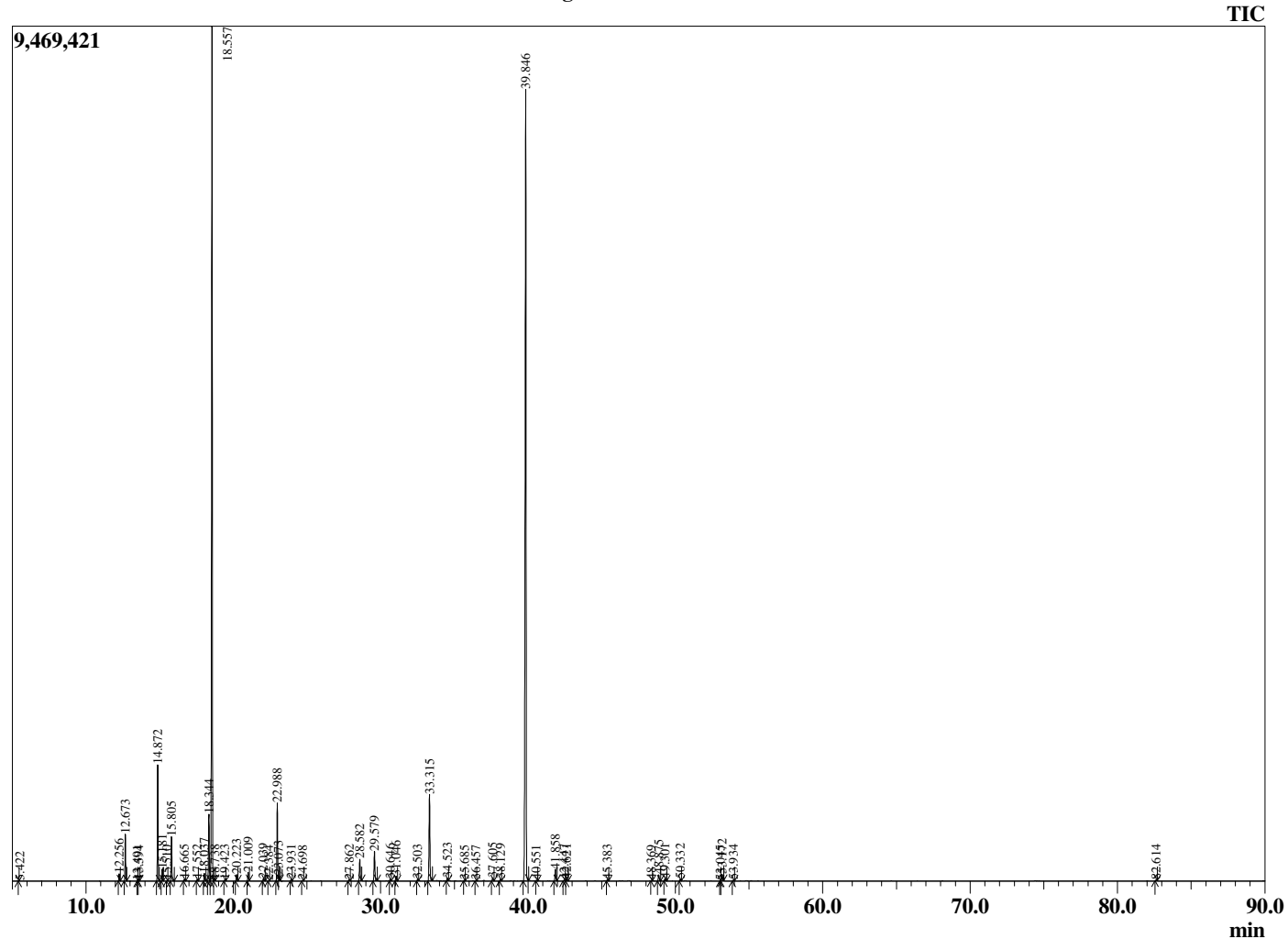


Peak Report TIC

R.Time	Name	Area%
4.158	3-Methylbutanal	0.01
5.422	2-Methyl butanol	0.01
12.256	alpha-Thujene	0.23
12.673	alpha-Pinene	1.56
13.491	alpha-Fenchene	0.00
13.594	Camphene	0.02
14.872	Sabinene	3.94
15.181	beta-Pinene	0.42
15.510	6-Methyl hept-5-en-2-one	0.01
15.805	Myrcene	1.63
16.665	Octanal	0.06
17.552	alpha-Terpinene	0.06
18.037	para-Cymene	0.29
18.344	Limonene	2.70
18.557	1,8-cineole	35.02
18.738	cis-beta-Ocimene	0.03
19.423	trans-beta-Ocimene	0.05
20.223	gamma-Terpinene	0.27
21.009	trans-Sabinene hydrate	0.36
22.039	Terpinolene	0.10
22.384	6,7-Epoxygermyrcene	0.01
22.988	Linalool	3.28
23.073	cis-Sabinene hydrate	0.03
23.931	Unidentified	0.06
24.698	cis-para-Menth-2-en-1-ol	0.03
27.862	delta-Terpineol	0.06
28.582	Terpinen-4-ol	0.99
29.579	alpha-Terpineol	1.35
30.646	Octyl acetate	0.08
31.046	cis-Sabinene hydrate acetate	0.22
32.503	Neral	0.06
33.315	Linalyl acetate + Geraniol	4.04
34.523	Geraniol	0.12
35.685	Bornyl acetate	0.02
36.457	beta-Terpinyl acetate	0.02
37.605	delta-Terpinyl acetate	0.15
38.129	Methyl geranate	0.08
39.846	alpha-Terpinyl acetate	41.00
40.551	Unidentified	0.02
41.858	Geranyl acetate	0.51
42.447	Unidentified	0.04
42.621	beta-Elementene	0.08
45.383	Unidentified	0.05
48.369	Germacrene D	0.01
48.875	beta-Selinene	0.32
49.301	alpha-Selinene	0.11
50.332	gamma-Cadinene	0.08
53.045	Germacrene B	0.01
53.172	trans-Nerolidol	0.33
53.934	Unidentified	0.04
82.614	Cardamom unidentified	0.03
		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.