

Sample Information

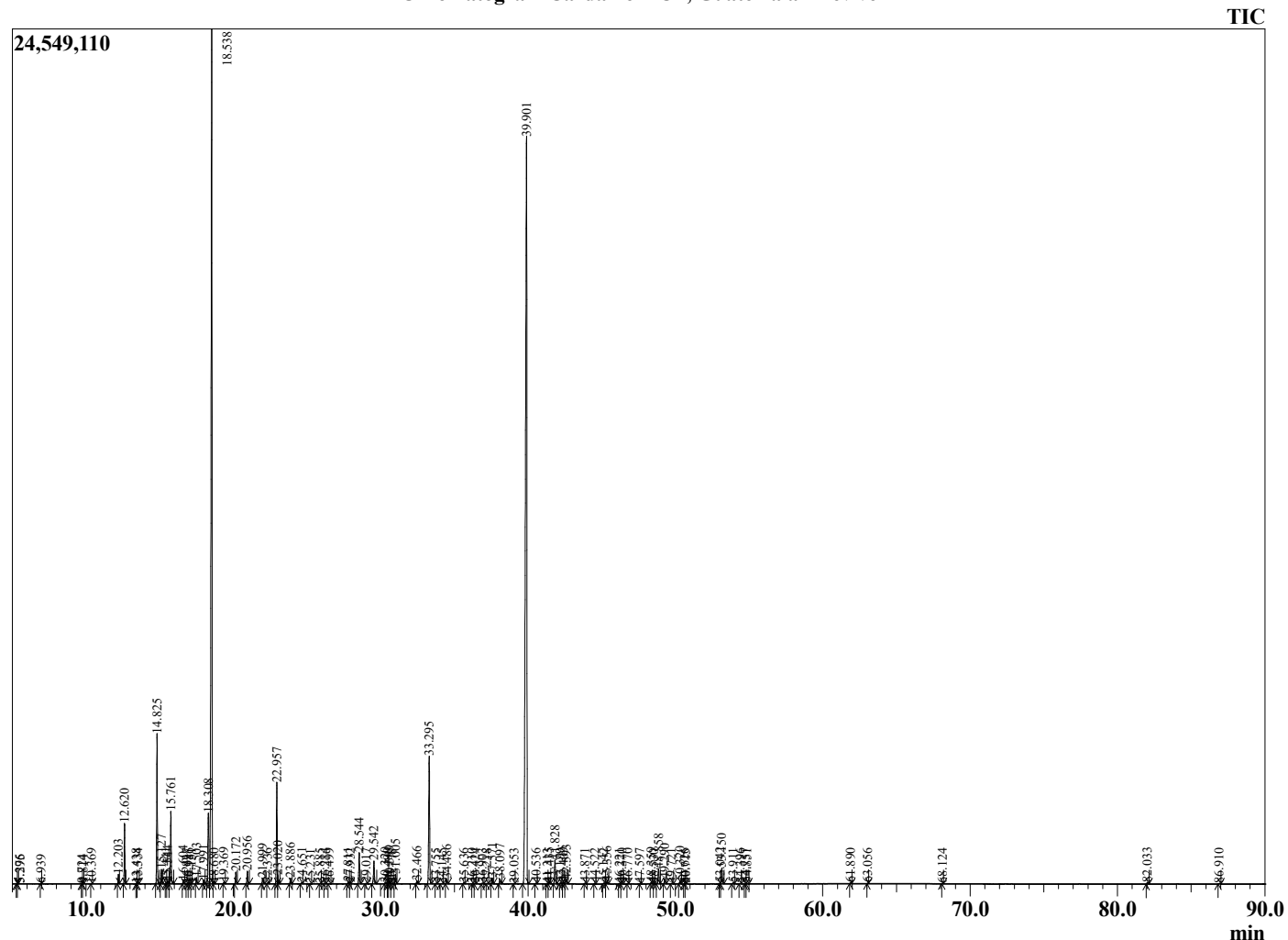
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 11/9/2022 12:32:33 PM
 Sample Type : Essential Oil
 Sample Name : Cardamom Oil, Guatemala - Revive
 Sample ID : 9C
 Injection Volume : 0.10
 Instrument ID: : GC-3



Peak Report TIC

R.Time	Name	Area%
4.122	3-Methylbutanal	0.02
4.234	2-Methylbutanal	0.01
5.295	Isopentyl alcohol	0.01
5.376	2-Methylbutanol	0.01
6.939	Hexanal	0.01
9.724	Isopentyl acetate	0.01
9.814	2-Methylbutyl acetate	0.01
10.369	Methyl 2-Hydroxy-3-methylbutanoate	0.01
12.203	alpha-Thujene	0.22
12.620	alpha-Pinene	1.48
13.438	alpha-Fenchene	0.01
13.534	Camphene	0.03
14.825	Sabinene	3.92
15.127	beta-Pinene	0.38
15.441	6-Methyl hept-5-en-2-one	0.03
15.544	Methyl 2-hydroxy-4-methylpentanoate	0.08
15.761	Myrcene	2.07
16.604	Octanal	0.09
16.837	alpha-Phellandrene	0.01
16.986	delta-3-Carene	0.01
17.151	Hexyl acetate	0.00
17.503	alpha-Terpinene	0.18
17.991	para-Cymene	0.12
18.308	Limonene	2.72
18.538	1,8-cineole	32.24
18.680	cis-beta-Ocimene	0.03
19.369	trans-beta-Ocimene	0.05
20.172	gamma-Terpinene	0.35
20.956	trans-Sabinene hydrate	0.39
21.999	Terpinolene	0.19
22.336	6,7-Epoxymyrcene	0.03
22.957	Linalool	3.13
23.020	cis-Sabinene hydrate	0.18
23.886	4,8-Dimethylnona-1,3,7-triene	0.17
24.651	cis-para-Menth-2-en-1-ol	0.04
25.231	cis-Limonene oxide	0.01
25.885	trans-para-Menth-2-en-1-ol	0.02
26.214	Camphor	0.03
26.499	Unidentified	0.02
27.811	delta-Terpineol	0.07
27.932	Borneol	0.03
28.544	Terpinen-4-ol	1.01
29.017	Terpendiol I	0.02
29.542	alpha-Terpineol	0.81
30.320	Decanal	0.04
30.490	trans-Piperitol	0.01
30.599	Octyl acetate	0.10
30.778	Unidentified	0.01
31.005	Terpin-1-en-4-yl acetate isomer	0.32
32.466	Neral	0.10
33.295	Linalyl acetate	4.56
33.755	Dec-(4Z)-en-1-ol	0.02
34.145	Dec-(2E)-enal	0.01
34.486	Geranial	0.15
35.636	Bornyl acetate	0.03
36.210	2-Undecanone	0.00
36.424	Terpin-1-en-4-yl acetate	0.02
36.903	Unidentified	0.04
37.218	Methyl dec-(4E)-enoate	0.02
37.571	delta-Terpinyl acetate	0.20
38.097	Methyl geranate	0.17
39.053	delta-Elementene	0.02

Chromatogram Cardamom Oil, Guatemala - Revive



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. The results provided in this GC/MS quality analysis reflect the chemical composition of the oil and lot referenced above on the date of analysis.

R.Time	Name	Area%
39.901	alpha-Terpinyl acetate	40.82
40.536	Neryl acetate	0.02
41.313	alpha-Ylangene	0.01
41.435	Methyl dec-(2E)-enoate	0.05
41.828	Geranyl acetate	0.78
42.199	(E)-Methyl cinnamate	0.03
42.409	Dodec-(5Z)-enyl acetate	0.05
42.593	beta-Elemene	0.18
43.871	Decyl acetate	0.02
44.522	beta-Caryophyllene	0.02
45.142	Unidentified	0.03
45.356	Terpinyl propionate	0.09
46.221	Geranyl acetone	0.02
46.370	6,9-Guanidiene	0.03
46.770	trans-alpha-Bisabolene	0.01
47.597	Geranyl propanoate	0.01
48.359	Germacrene D	0.05
48.530	Unidentified	0.00
48.858	beta-Selinene	0.56
49.290	alpha-Selinene	0.19
49.721	Cadinene isomer	0.02
50.320	gamma-Cadinene	0.10
50.626	Unidentified	0.01
50.715	Unidentified	0.01
53.042	Germacrene B	0.03
53.150	(E)-Nerolidol	0.57
53.911	Dendaralasin	0.04
54.396	Caryophyllene oxide	0.01
54.757	(Z)-5-Dodecen-1-ol, acetate	0.02
54.851	Unidentified	0.03
61.890	Farnesyl alcohol	0.02
63.056	(E,E)-Farnesal	0.01
68.124	Farnesyl acetate	0.01
82.033	Unidentified	0.05
86.910	Unidentified	0.02
		100.00