

Sample Information

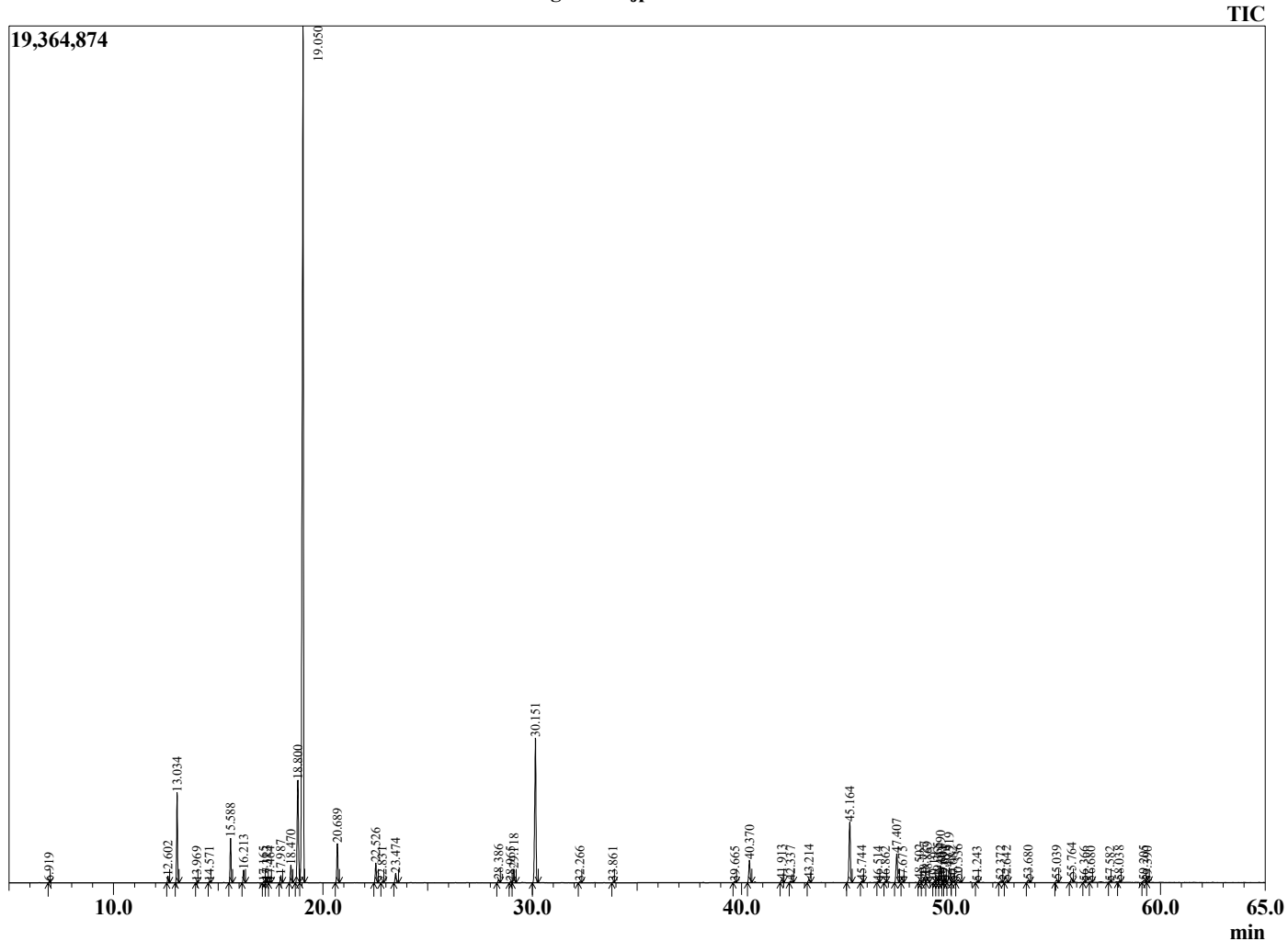
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 7/12/2020 6:06:16 AM
 Sample Type : Essential Oil
 Sample Name : Cajput - BIOAROMA
 Sample ID : BA18FH
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
4.354	2-Methylbutanal	0.03
6.919	2,4-Dimethyl-3-pentanone	0.04
12.602	alpha-Thujene	0.31
13.034	alpha-Pinene	4.13
13.969	Camphene	0.04
14.571	Benzaldehyde	0.06
15.588	beta-Pinene	2.24
16.213	Myrcene	0.65
17.165	Pseudolimonene	0.06
17.313	alpha-Phellandrene	0.09
17.464	delta-3-Carene	0.07
17.987	alpha-Terpinene	0.38
18.470	para-Cymene	0.96
18.800	Limonene	6.81
19.050	1,8-cineole	55.86
20.689	gamma-Terpinene	2.15
22.526	Terpinolene	1.12
22.831	Dehydro-p-cymene	0.05
23.474	Linalool	0.56
28.386	delta-Terpineol	0.18
28.965	1,8-menthadien-4-ol	0.07
29.118	Terpinen-4-ol	0.82
30.151	alpha-Terpineol	9.36
32.266	exo-2-Hydroxycineole	0.07
33.861	Geraniol	0.04
39.665	delta-Elementene	0.07
40.370	alpha-Terpinyl acetate	1.44
41.913	alpha-Ylangene	0.19
42.337	alpha-Copaene	0.13
43.214	beta-Elementene	0.21
45.164	beta-Caryophyllene	4.19
45.744	gamma-Elementene	0.08
46.514	6,9-Guaiadiene	0.04
46.862	Unidentified	0.04
47.407	alpha-Humulene	1.99
47.675	Alloaromadendrene	0.05
48.502	Unidentified	0.18
48.727	9-epi-Caryophyllene	0.36
48.869	alpha-Amorphene	0.39
49.193	Unidentified	0.04
49.365	delta-Selinene	0.31
49.490	beta-Selinene	1.17
49.601	Unidentified	0.12
49.694	Unidentified	0.08
49.919	alpha-Selinene	1.04
50.082	gamma-Cadinene	0.05
50.336	delta-Amorphene	0.25
51.243	delta-Cadinene	0.10
52.372	Unidentified	0.12
52.642	Selina-3,7(11)-diene	0.15
53.680	Germacrene B	0.15
55.039	Caryophyllene oxide	0.16
55.764	Viridiflorol	0.32
56.366	Ledol	0.04
56.680	Humulene epoxide II	0.07
57.582	Longiborneol	0.05
58.038	Gleenol	0.10
59.205	alpha-Eudesmol	0.14
59.390	Unidentified	0.04
		100.00

Chromatogram Cajput - BIOAROMA



Comments:

The analysis of this Cajeput batch sample meets the expected chemical profile for authentic essential oil of *Melaleuca cajuputi*. 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.

Sample Information

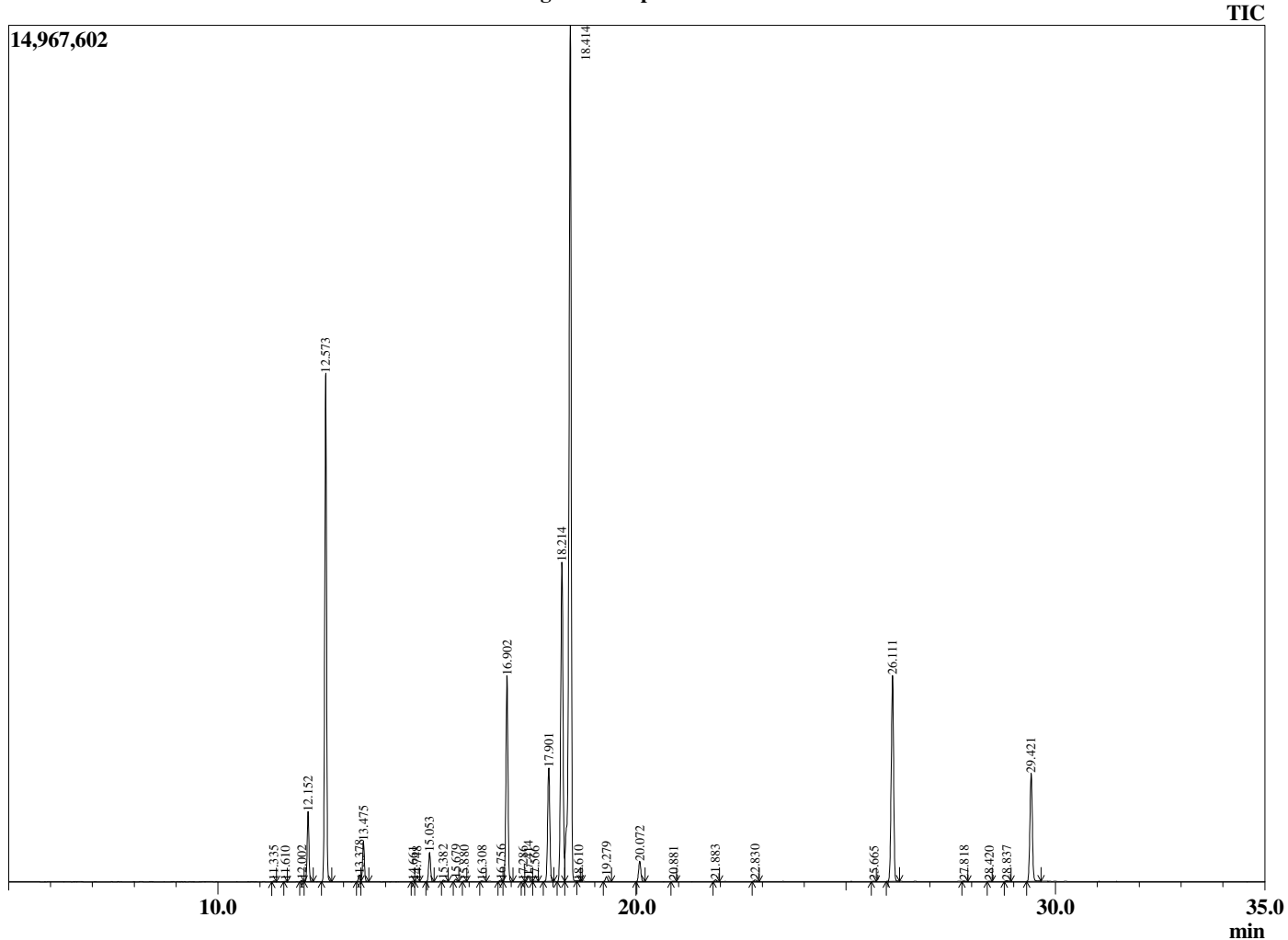
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 7/10/2020 11:12:59 PM
 Sample Type : Essential Oil
 Sample Name : Camphor - BIOAROMA
 Sample ID : BA18FI
 Injection Volume : 0.10
 Instrument ID : GC-4



Peak Report TIC

R.Time	Name	Area%
11.335	2,6-Dimethyl-3-octene	0.02
11.610	Unidentified	0.01
12.002	Tricyclene	0.04
12.152	alpha-Thujene	2.28
12.573	alpha-Pinene	17.07
13.378	alpha-Fenchene	0.23
13.475	Camphene	1.39
14.661	Unidentified	0.01
14.748	Sabinene	0.02
15.053	beta-Pinene	1.04
15.382	6-Methyl hept-5-en-2-one	0.05
15.679	Myrcene	0.08
15.880	Sulcatol	0.03
16.308	2-Carene	0.03
16.756	alpha-Phellandrene	0.05
16.902	delta-3-Carene	7.63
17.286	1,4-Cineole	0.01
17.414	alpha-Terpinene	0.21
17.566	ortho-Cymene	0.02
17.901	para-Cymene	4.58
18.214	Limonene	13.65
18.414	1,8-cineole	36.34
18.610	Unidentified	0.00
19.279	trans-beta-Farnesene	0.20
20.072	gamma-Terpinene	0.84
20.881	cis-Linalool oxide (furanoid)	0.02
21.883	Terpinolene	0.07
22.830	Linalool	0.07
25.665	trans-Pinocarveol	0.01
26.111	Camphor	9.07
27.818	Borneol	0.02
28.420	Terpinen-4-ol	0.02
28.837	Cryptone	0.04
29.421	alpha-Terpineol	4.87
		100.00

Chromatogram Camphor -BIOAROMA



Comments:

The analysis of this Camphor batch sample meets the expected chemical profile for authentic essential oil of *Cinnamomum camphora*. 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.

Sample Information

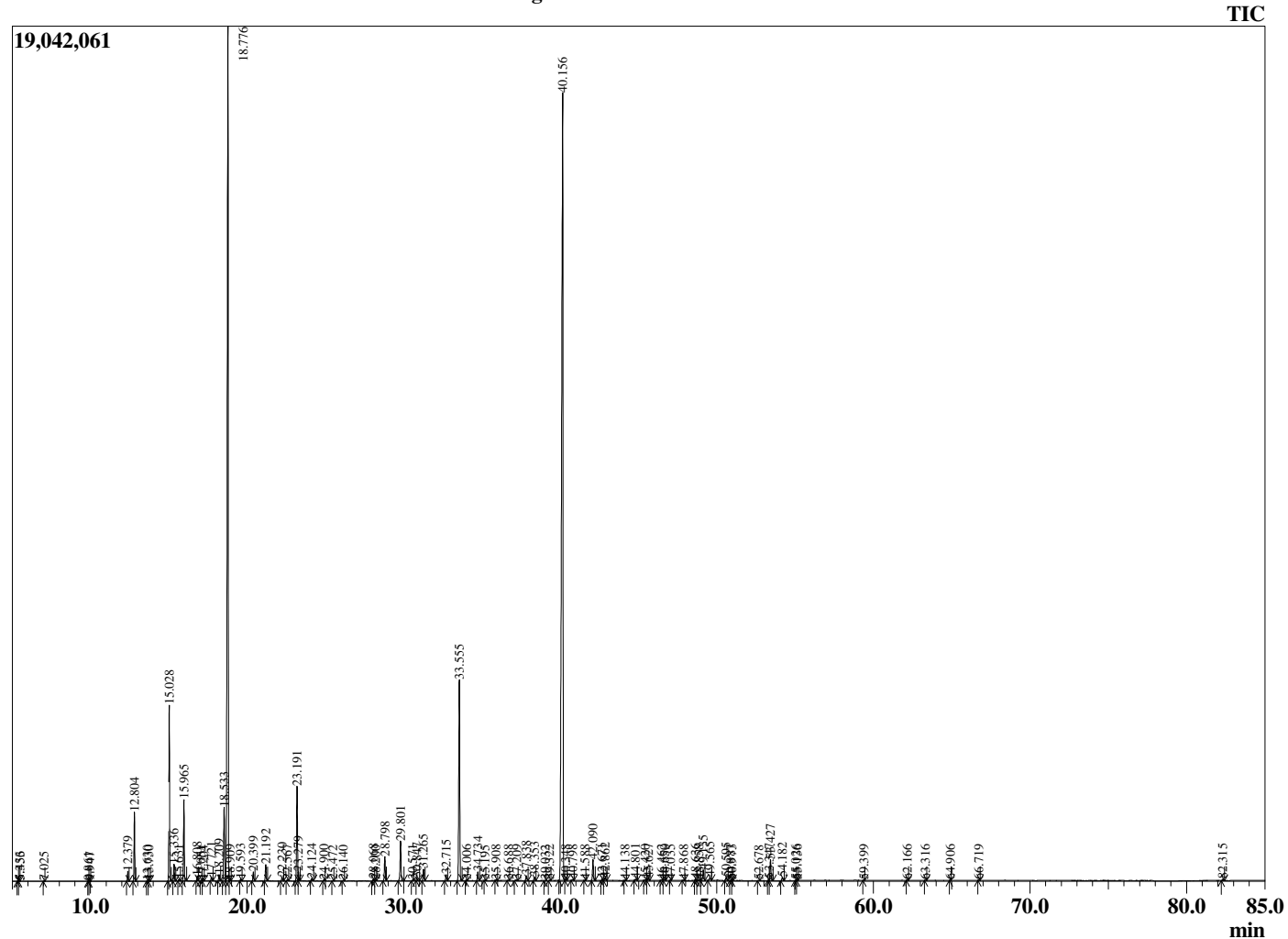
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 3/7/2021 2:12:55 AM
 Sample Type : Essential Oil
 Sample Name : Cardamom - BIOAROMA
 Sample ID : BB22AC
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
4.159	3-Methylbutanal	0.02
4.271	2-Methylbutanal	0.01
5.353	1-Pentanol	0.01
5.436	2-Methyl butanol	0.01
7.025	Hexanal	0.01
9.861	Isopentyl acetate	0.01
9.947	2-Methylbutyl acetate	0.01
12.379	alpha-Thujene	0.24
12.804	alpha-Pinene	1.67
13.630	alpha-Fenchene	0.01
13.730	Camphene	0.03
15.028	Sabinene	4.51
15.336	beta-Pinene	0.42
15.631	6-Methyl hept-5-en-2-one	0.03
15.965	Myrcene	2.11
16.808	Octanal	0.11
17.051	alpha-Phellandrene	0.01
17.204	delta-3-Carene	0.01
17.721	alpha-Terpinene	0.11
18.209	para-Cymene	0.17
18.533	Limonene	2.54
18.776	1,8-Cineole	31.05
18.909	(Z)-beta-Ocimene	0.03
19.593	(E)-beta-Ocimene	0.05
20.399	gamma-Terpinene	0.26
21.192	trans-Sabinene hydrate	0.50
22.230	Terpinolene	0.11
22.567	6,7-Epoxymyrcene	0.03
23.191	Linalool	2.83
23.279	cis-Sabinene hydrate	0.22
24.124	Unidentified	0.07
24.900	cis-para-Menth-2-en-1-ol	0.03
25.472	cis-Limonene oxide	0.01
26.140	trans-para-Menth-2-en-1-ol	0.02
28.068	delta-Terpineol	0.07
28.200	Borneol	0.01
28.798	Terpinen-4-ol	0.75
29.801	alpha-Terpineol	1.33
30.571	Decanal	0.03
30.847	Octyl acetate	0.10
31.265	Unidentified	0.38
32.715	Neral	0.18
33.555	Linalyl acetate	7.02
34.006	Unidentified	0.02
34.734	Geranial	0.27
35.195	cis-Ascidol glycol	0.01
35.908	Bornyl acetate	0.03
36.688	4-Terpinyl acetate	0.02
37.209	alpha-Terpinyl formate	0.04
37.838	Unidentified	0.17
38.353	Methyl geranate	0.11
39.032	Unidentified	0.01
39.322	delta-Elementene	0.01
40.156	alpha-Terpinyl acetate	39.18
40.348	Eugenol	0.04
40.798	Neryl acetate	0.03
41.588	Unidentified	0.01
42.090	Geranyl acetate	0.69
42.671	Unidentified	0.05
42.862	beta-Elementene	0.10
44.138	Unidentified	0.01
44.801	trans-beta-Caryophyllene	0.05

Chromatogram Cardamom -BIOAROMA



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 GCMS quality analysis reflect the chemical composition of the oil and lot referenced above on the date of analysis.

R.Time	Name	Area%
45.420	Unidentified	0.03
45.627	alpha-Terpinyol propionate	0.07
46.462	Unidentified	0.04
46.650	Unidentified	0.03
47.035	Unidentified	0.02
47.868	Unidentified	0.01
48.636	Germacrene D	0.06
48.858	Unidentified	0.04
49.135	beta-Selinene	0.37
49.565	alpha-Selinene	0.14
50.595	gamma-Cadinene	0.11
50.887	Unidentified	0.02
50.973	Unidentified	0.01
52.678	Unidentified	0.01
53.347	Germacrene B	0.05
53.427	(E)-Nerolidol	0.73
54.182	Dendralasin	0.11
55.026	Unidentified	0.02
55.136	Unidentified	0.02
59.399	Unidentified	0.01
62.166	(2E,6E)-Farnesol	0.02
63.316	Unidentified	0.02
64.906	Unidentified	0.01
66.719	Unidentified	0.02
82.315	Unidentified	0.05
		100.00

Sample Information

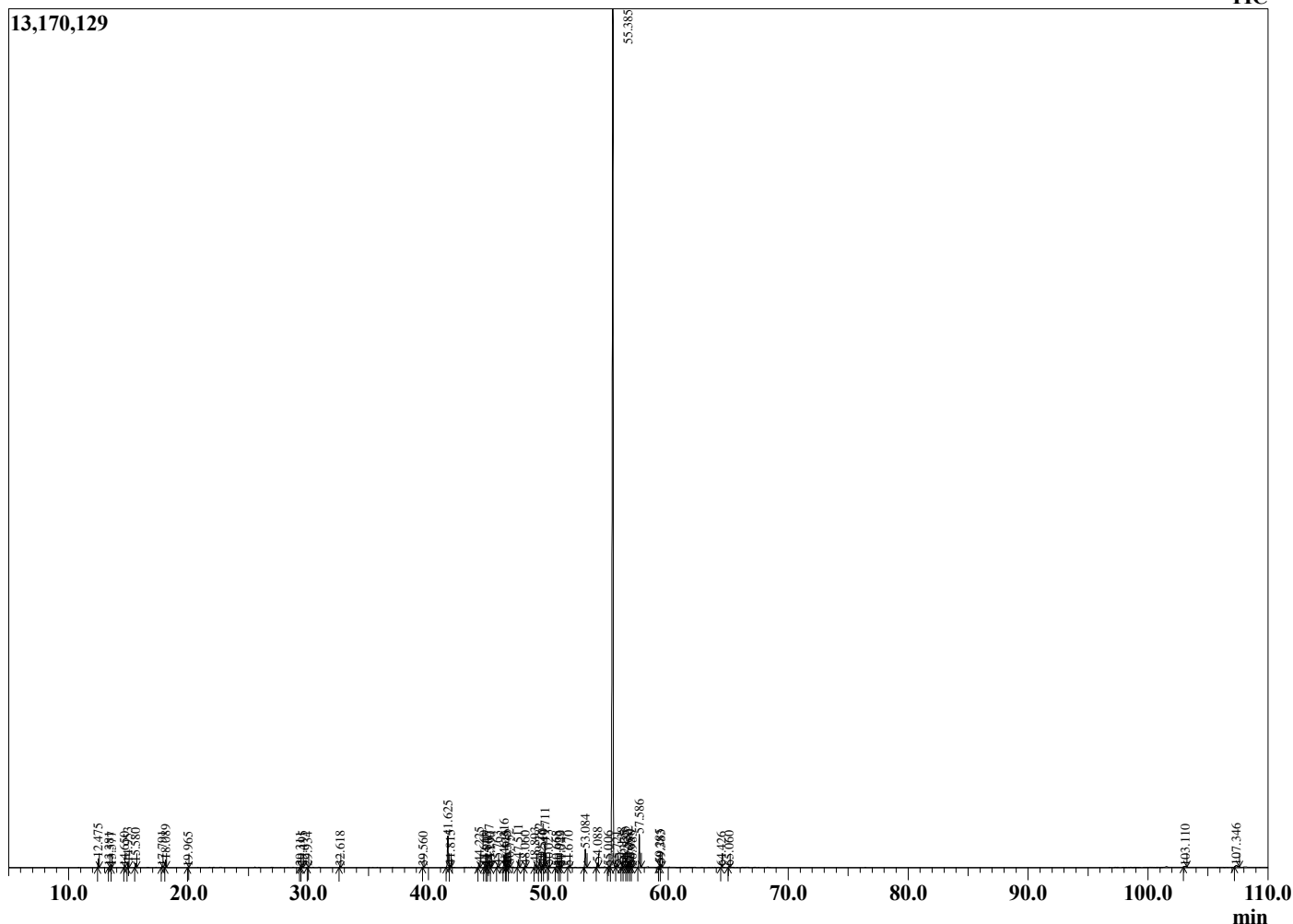
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 11/21/2020 4:18:22 AM
 Sample Type : Essential Oil
 Sample Name : Carrot Seed Oil-BIOAROMA
 Sample ID : BA29IE
 Injection Volume : 0.10
 Instrument ID : GC-4



Peak Report TIC

R.Time	Name	Area%
12.475	alpha-Pinene	0.46
13.381	Camphene	0.03
13.577	Thuja-2,4(10)diene	0.02
14.650	Sabinene	0.02
14.953	beta-Pinene	0.27
15.580	Myrcene	0.26
17.791	para-Cymene	0.07
18.089	Limonene	0.46
19.965	gamma-Terpinene	0.02
29.311	Myrtenal	0.05
29.495	cis-Dihydrocarvone	0.06
29.934	trans-Dihydrocarvone	0.03
32.618	Carvone	0.07
39.560	Unidentified	0.02
41.625	Daucene	2.78
41.815	Unidentified	0.14
44.225	trans-beta-Caryophyllene	0.35
44.660	Unidentified	0.05
44.843	Unidentified	0.02
45.077	trans-alpha-Bergamotene	0.62
45.190	Unidentified	0.03
45.763	epi-beta-Santalene	0.09
46.316	trans-beta-Farnesene	0.91
46.475	Unidentified	0.05
46.549	Unidentified	0.09
46.752	beta-Copaene	0.22
47.511	Dauca-5,8-diene	0.66
48.060	Ar-Curcumene	0.10
48.893	trans-Methyl isoeugenol	0.39
49.282	Isodaucene	0.69
49.510	Unidentified	0.23
49.711	beta-Bisabolene	1.89
50.023	Unidentified	0.12
50.668	beta-Sesquiphellandrene	0.10
50.922	Dauca-4(11),8-diene	0.07
51.049	trans-calamenene	0.06
51.670	Unidentified	0.06
53.084	Unidentified	1.63
54.088	Caryophyllene oxide	0.38
55.006	Unidentified	0.04
55.385	Carotol	81.31
55.721	Unidentified	0.12
56.138	Apiol	0.39
56.335	Unidentified	0.06
56.533	Unidentified	0.22
56.682	Unidentified	0.44
56.850	Unidentified	0.12
56.985	Unidentified	0.06
57.586	Daucol	2.60
59.285	Unidentified	0.28
59.383	Unidentified	0.19
64.426	Unidentified	0.03
65.060	Unidentified	0.08
103.110	Unidentified	0.14
107.346	Unidentified	0.33
		100.00

Chromatogram Carrot Seed Oil-BIOAROMA



Comments:

The analysis of this Carrot Seed batch sample meets the expected chemical profile for authentic essential oil of *Daucus carota*. 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.

Sample Information

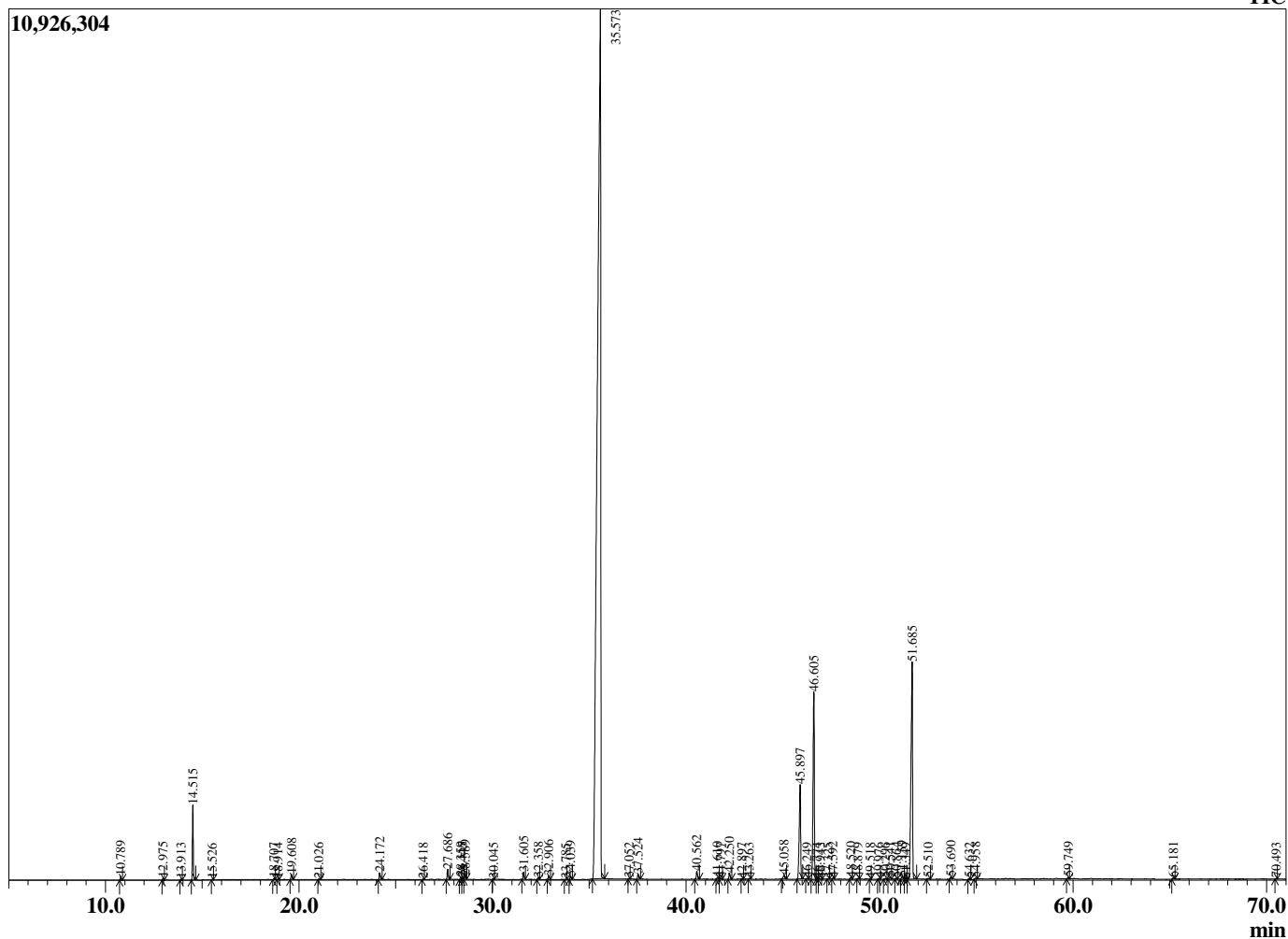
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 10/16/2020 9:29:45 PM :
 Sample Type : Essential Oil
 Sample Name : Cassia Oil-BIOAROMA
 Sample ID : BA29IF
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
10.789	Styrene	0.08
12.975	alpha-Pinene	0.05
13.913	Camphene	0.02
14.515	Benzaldehyde	1.68
15.526	beta-Pinene	0.01
18.707	Limonene	0.03
18.914	1,8-cineole	0.01
19.608	Salicylaldehyde	0.15
21.026	Acetophenone	0.02
24.172	Phenethyl alcohol	0.20
26.418	Unidentified	0.02
27.686	Hydrocinnamaldehyde	0.30
28.359	1-Nonanol	0.07
28.445	Borneol	0.04
28.589	2-Methylbenzofuran	0.10
30.045	alpha-Terpineol	0.02
31.605	(Z)-Cinnamaldehyde	0.21
32.358	Hydrocinnamic alcohol	0.05
32.906	ortho-Anisaldehyde	0.11
33.785	Unidentified	0.01
34.039	2-Phenethyl acetate	0.07
35.573	(E)-Cinnamaldehyde	76.33
37.052	Unidentified	0.01
37.524	(E)-Cinnamyl alcohol	0.16
40.562	Eugenol	0.25
41.610	Unidentified	0.04
41.797	Unidentified	0.03
42.250	alpha-Copaene	0.20
42.897	Unidentified	0.02
43.263	Vanillin	0.02
45.058	beta-Caryophyllene	0.15
45.897	Coumarin	3.37
46.249	Unidentified	0.03
46.605	trans-Cinnamyl acetate	6.33
46.774	Unidentified	0.02
46.943	Unidentified	0.03
47.325	Unidentified	0.01
47.592	Alloaromadendrene	0.04
48.520	trans-Cadina-1(6),4-diene	0.06
48.879	alpha-Curcumene	0.02
49.518	Unidentified	0.01
49.976	alpha-Murolene	0.03
50.296	Unidentified	0.03
50.541	beta-Bisabolene	0.08
50.864	gamma-Cadinene	0.03
51.159	delta-Cadinene	0.08
51.349	Unidentified	0.02
51.685	ortho-Methoxycinnamaldehyde	9.04
52.510	Unidentified	0.04
53.690	(E)-Nerolidol	0.07
54.632	Spathulenol	0.04
54.958	Caryophyllene oxide	0.04
59.749	Unidentified	0.05
65.181	Benzyl benzoate	0.05
70.493	Benzyl salicylate	0.01
		100.00

Chromatogram Cassia Oil-BIOAROMA



Comments:

The analysis of this Cassia batch sample meets the expected chemical profile for authentic essential oil of *Cinnamomum cassia*. 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.

Sample Information

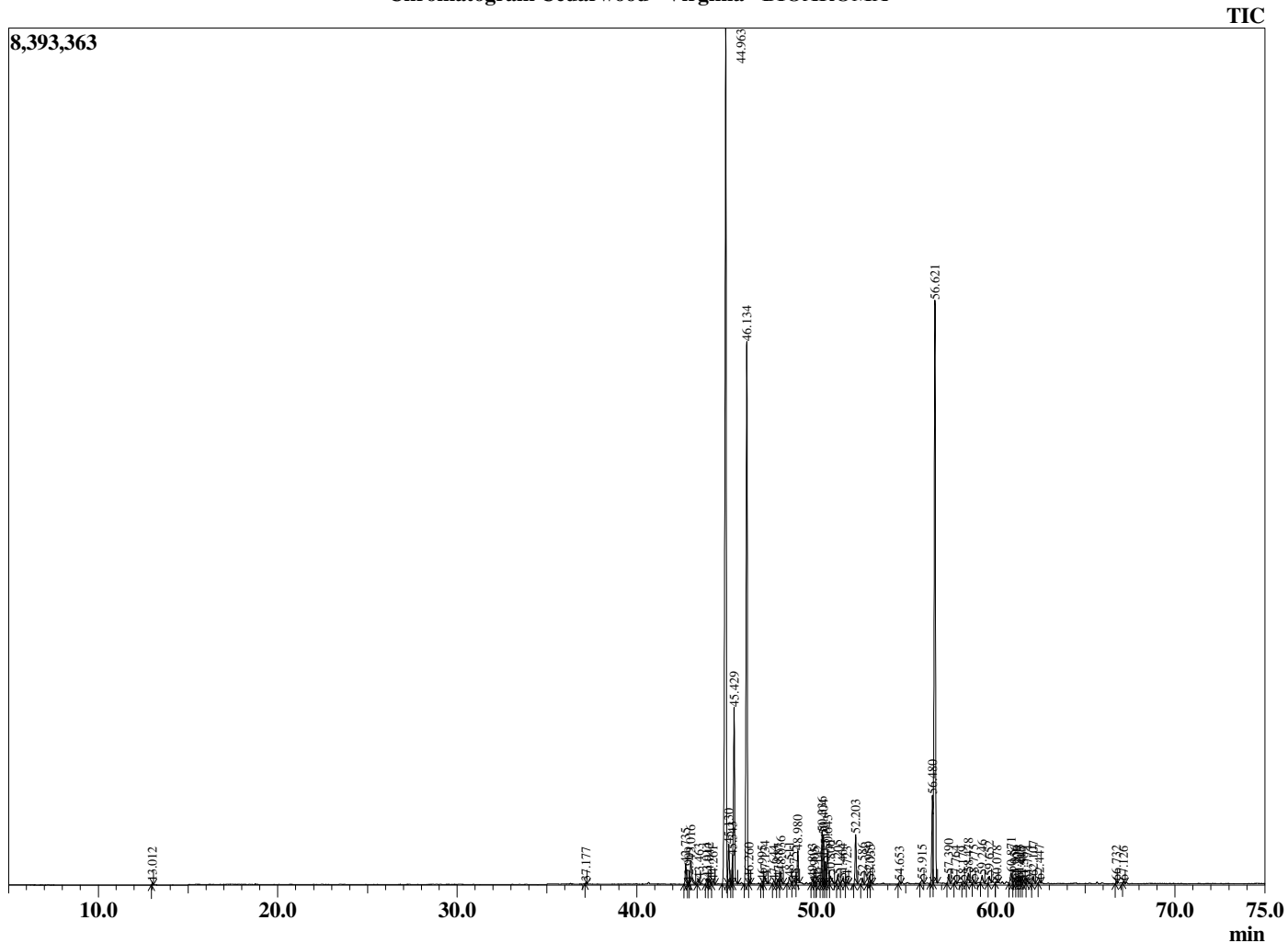
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 8/31/2020 10:44:54 PM
 Sample Type : Essential Oil
 Sample Name : Cedarwood - Virginia -BIOAROMA
 Sample ID : BA08GE
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
13.012	alpha-Pinene	0.06
37.177	Unidentified	0.04
42.735	Isoitalicene	0.65
42.909	Unidentified	0.04
43.016	Di-epi-alpha-cedrene	1.02
43.463	Isolongifolene	0.17
43.914	beta-Longipinene	0.18
44.042	alpha-Funebrene	0.20
44.261	Unidentified	0.11
44.963	alpha-Cedrene	32.47
45.130	beta-Caryophyllene	1.38
45.343	Unidentified	0.55
45.429	beta-Cedrene	5.98
46.134	cis-Thujopsene	18.60
46.260	Isobazzanene	0.16
46.995	beta-Barbatene	0.11
47.134	Prezizaene	0.33
47.644	Unidentified	0.11
47.887	alpha-Acoradiene	0.17
48.036	beta-Acoradiene	0.42
48.511	10-epi-beta-Acoradiene	0.27
48.755	gamma-Curcumene	0.11
48.980	beta-Chamigrene	1.06
49.803	beta-Alaskene	0.17
49.905	Unidentified	0.05
50.142	beta-Himachalene	0.15
50.336	alpha-Cuprenene	1.60
50.404	Pseudowiddrene	1.51
50.519	alpha-Chamigrene	0.67
50.643	Cuparene	1.18
50.800	alpha-Alaskene	0.40
51.205	Dihydrothujopsene	0.34
51.464	Cuprenene isomer	0.24
51.723	trans-gamma-Bisabolene	0.08
52.203	gamma-Cuprenene	1.62
52.586	Viridiflorol	0.21
52.959	delta-Cuprenene	0.25
53.035	Unidentified	0.10
54.653	Unidentified	0.10
55.915	Funebrol	0.16
56.480	Widdrol	2.87
56.621	Cedrol	21.03
57.390	Epicedrol	0.31
57.764	Unidentified	0.09
58.179	beta-Acorenol	0.07
58.478	1,7-di-epi-alpha-Cedrenal	0.35
58.775	Unidentified	0.10
59.246	Unidentified	0.32
59.652	Cedr-8-en-15-ol	0.31
60.078	Unidentified	0.07
60.871	alpha-Bisabolol	0.43
61.056	Khusian-2-ol	0.11
61.206	cis-Thujopsenal	0.06
61.313	Unidentified	0.14
61.415	Unidentified	0.05
61.569	Unidentified	0.06
61.774	Unidentified	0.09
62.107	Unidentified	0.25
62.447	Unidentified	0.10
66.732	Unidentified	0.09
67.126	Nootkatone	0.06
		100.00

Chromatogram Cedarwood - Virginia - BIOAROMA



Comments:

The analysis of this Cedarwood, Virginia batch sample meets the expected chemical profile for authentic essential oil of *Juniperus virginiana*. 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.

Sample Information

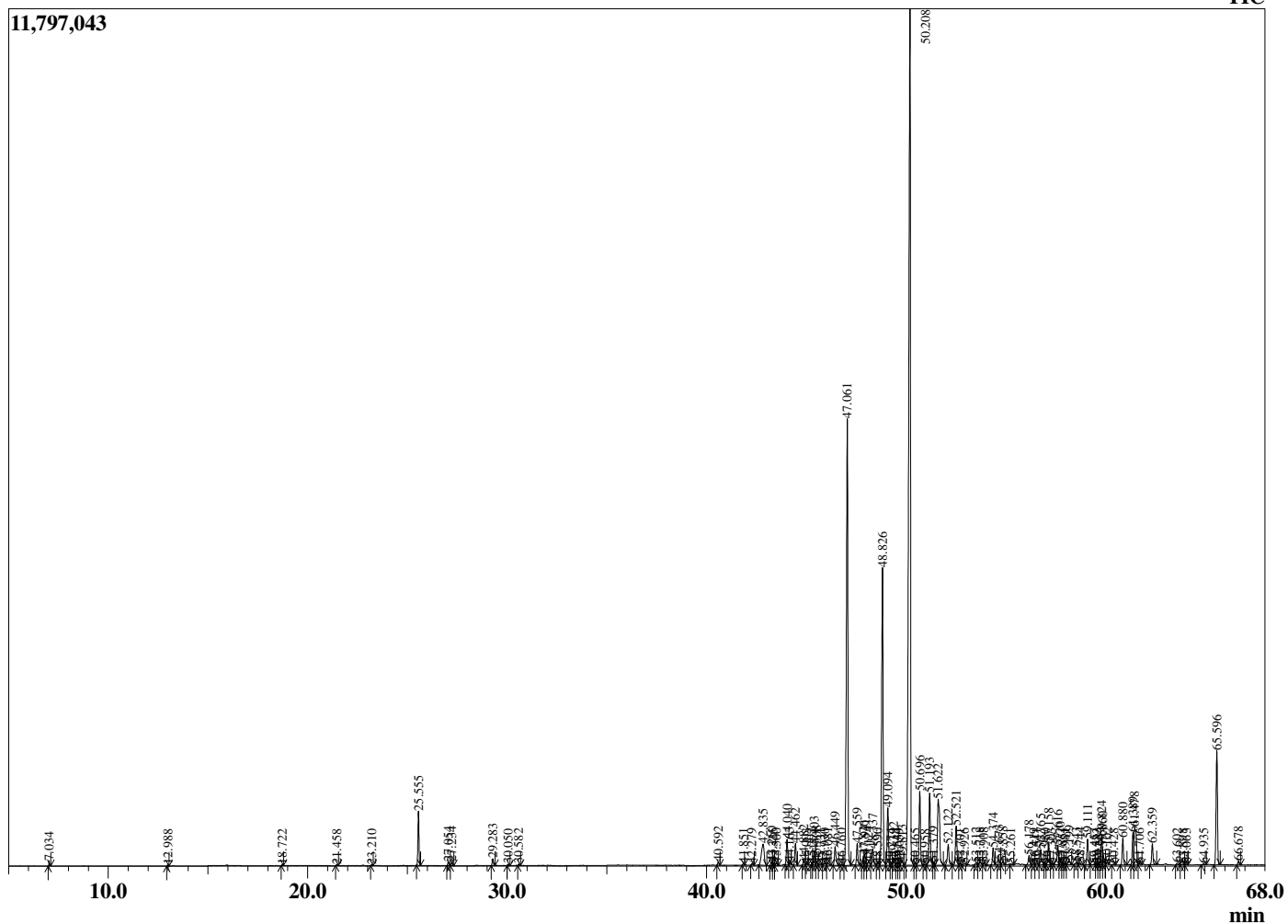
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 10/9/2020 9:09:29 PM
 Sample Type : Essential Oil
 Sample Name : Cedarwood Atlas-BIOAROMA
 Sample ID : BA29IG
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
7.034	Mesityl oxide	0.08
12.988	alpha-Pinene	0.03
18.722	Limonene	0.02
21.458	para-Cresol	0.02
23.210	Unidentified	0.03
25.555	4-Acetyl-1-methylcyclohexene	1.39
27.054	Cedarwood Unidentified	0.10
27.234	Cedarwood Unidentified	0.10
29.283	4-methyl-Acetophenone	0.19
30.050	alpha-Terpineol	0.03
30.582	Unidentified	0.04
40.592	alpha-Longipinene	0.09
41.851	alpha-Ylangene	0.04
42.279	alpha-Copaene	0.05
42.835	Unidentified	1.35
43.260	Unidentified	0.12
43.325	Unidentified	0.05
43.500	Unidentified	0.08
44.040	alpha-Gurjunene	0.77
44.163	Unidentified	0.06
44.462	Junipene	0.66
44.882	alpha-Cedrene	0.16
45.003	beta-Ylangene	0.04
45.292	Unidentified	0.04
45.403	Himachala-2,4-diene Isomer	0.45
45.508	Unidentified	0.12
45.731	Unidentified	0.05
45.930	Unidentified	0.09
46.081	Unidentified	0.09
46.449	E-Vestitenone	0.71
46.760	Unidentified	0.03
47.061	alpha-Himachalene	15.56
47.559	Unidentified	0.64
47.876	Unidentified	0.25
47.941	Unidentified	0.33
48.124	Unidentified	0.15
48.337	alpha-Neocallitropsene	0.60
48.590	Unidentified	0.07
48.826	gamma-Himachalene	9.93
49.094	11-alpha-H-Himachala-1,4-diene	1.82
49.274	Unidentified	0.04
49.392	(Z)-4,10-Epoxy amorphane	0.25
49.544	Unidentified	0.05
49.659	Unidentified	0.07
49.813	Unidentified	0.23
50.208	beta-Himachalene	36.88
50.465	Unidentified	0.05
50.696	a-dehydro-ar-Himachalene	2.42
50.958	Unidentified	0.03
51.193	delta-Cadinene	2.42
51.379	cis-Calamenene	0.10
51.622	Unidentified	3.55
52.122	gamma-Vetivenene	0.78
52.521	trans-alpha-Bisabolene + alpha-Calacorene	1.43
52.701	Unidentified	0.06
52.926	Germacrene B	0.08
53.512	Unidentified	0.08
53.718	trans-Nerolidol	0.12
53.908	Unidentified	0.07
54.374	Himachalene epoxide	0.55
54.673	Unidentified	0.17
54.858	Unidentified	0.12

Chromatogram Cedarwood Atlas-BIOAROMA



Comments:

The analysis of this Cedarwood Atlas batch sample meets the expected chemical profile for authentic essential oil of *Cedrus atlantica*. 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.

R.Time	Name	Area%
55.261	Unidentified	0.05
56.178	Longiborneol	0.34
56.419	Unidentified	0.05
56.541	Unidentified	0.08
56.765	beta-Himachalene oxide	0.58
56.980	Unidentified	0.03
57.158	Unidentified	0.71
57.303	Unidentified	0.05
57.616	1-epi-Cubenol	0.76
57.720	Unidentified	0.21
57.851	Unidentified	0.06
57.981	Unidentified	0.05
58.199	Unidentified	0.17
58.543	Himachalol Isomer	0.06
58.744	Unidentified	0.07
59.111	beta-Himachalol	0.84
59.457	Unidentified	0.03
59.583	Unidentified	0.03
59.684	Unidentified	0.06
59.824	Deodarone Isomer + (Z)-gamma-Atlantone	0.84
59.860	Unidentified	0.36
60.102	Unidentified	0.08
60.428	Unidentified	0.03
60.880	allo-Himachalol	0.83
61.389	Deodarone (4R,8R)	0.97
61.478	Deodarone (4R,8S)	2.06
61.706	Unidentified	0.07
62.359	(Z)-alpha-Atlantone	0.65
63.602	Unidentified	0.06
63.898	Unidentified	0.04
64.063	Unidentified	0.02
64.935	Unidentified	0.04
65.596	(E)-alpha-Atlantone	3.59
66.678	Unidentified	0.12
		100.00

Sample Information

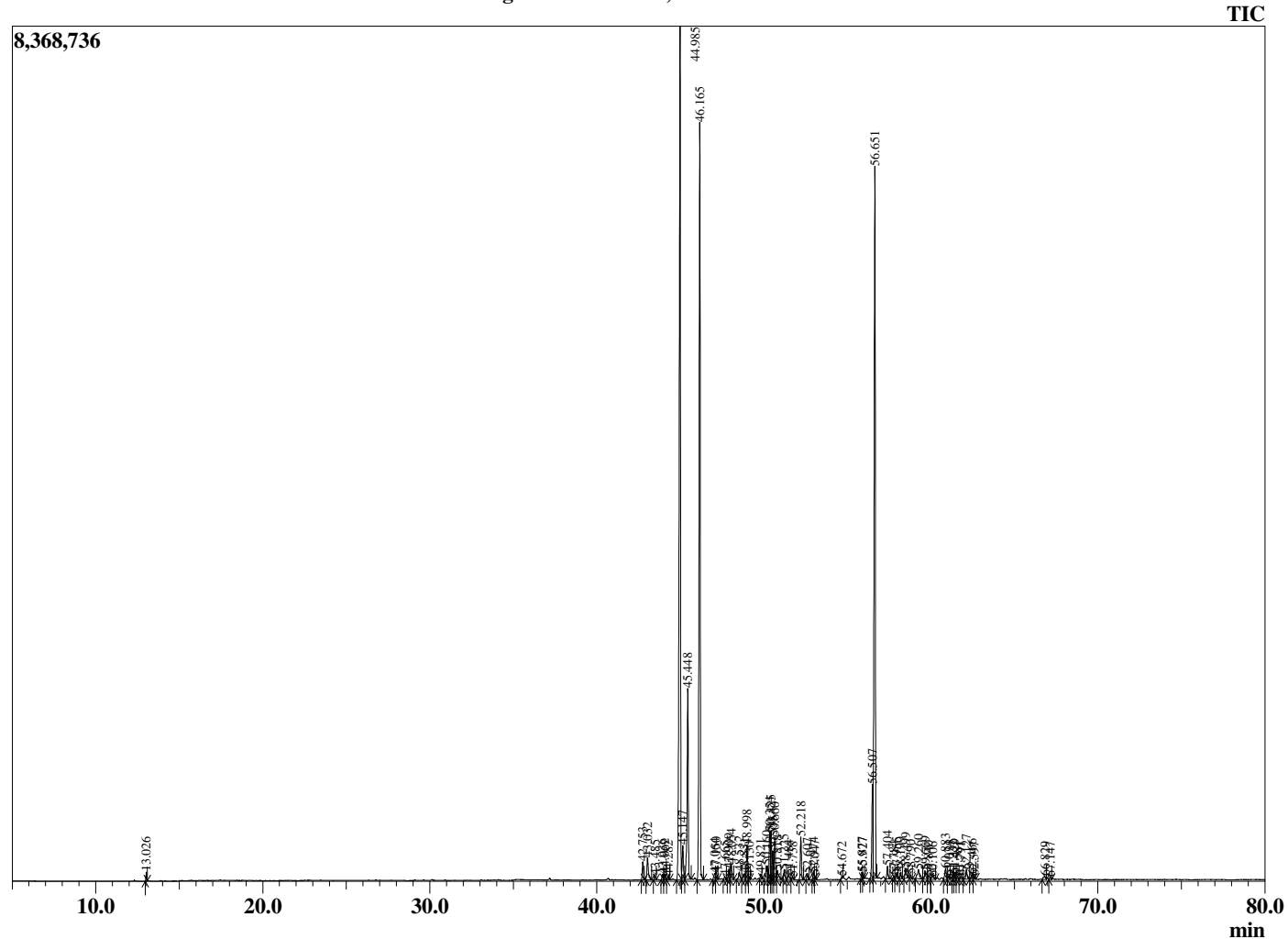
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 8/29/2020 6:49:22 AM
 Sample Type : Essential Oil
 Sample Name : Cedarwood, Texas - BIOAROMA
 Sample ID : BA08GD
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
13.026	alpha-Pinene	0.16
42.753	Isotalicene	0.47
43.032	Di-epi-alpha-cedrene	0.82
43.485	Isolongifolene	0.13
43.936	beta-Longipinene	0.15
44.062	alpha-Funebrene	0.17
44.282	Unidentified	0.09
44.985	alpha-Cedrene	27.71
45.147	beta-Caryophyllene	1.02
45.448	beta-Cedrene	5.84
46.165	cis-Thujopsene	22.48
47.064	Unidentified	0.24
47.150	Prezizaene	0.24
47.665	Unidentified	0.10
47.909	alpha-Acoradiene	0.29
48.054	beta-Acoradiene	0.45
48.532	10-epi-beta-Acoradiene	0.32
48.831	gamma-Himachalene	0.28
48.998	beta-Chamigrene	1.01
49.130	Unidentified	0.09
49.821	alpha-Alaskene	0.16
50.160	beta-Himachalene	0.46
50.354	alpha-Cuprenene	1.32
50.425	Pseudowiddrene	1.30
50.535	alpha-Chamigrene	0.74
50.660	Cuparene	1.31
50.818	alpha-Alaskene	0.38
51.225	Dihydrothujopsene	0.32
51.484	Cuprenene isomer	0.19
51.738	trans-gamma-Bisabolene	0.08
52.218	gamma-Cuprenene	1.21
52.607	Unidentified	0.18
52.974	delta-Cuprenene	0.20
53.047	Unidentified	0.09
54.672	Unidentified	0.06
55.877	Unidentified	0.17
55.927	Funebrol	0.14
56.507	Widdrol	2.58
56.651	Cedrol	22.81
57.404	Epicedrol	0.37
57.784	Unidentified	0.07
57.955	alpha-Acorenol	0.19
58.199	beta-Acorenol	0.16
58.499	1,7-di-epi-alpha-Cedrenal	0.34
58.790	Unidentified	0.09
59.260	Unidentified	0.47
59.669	Cedr-8-en-15-ol	0.37
59.840	Unidentified	0.17
60.106	Unidentified	0.17
60.883	alpha-Bisabolol	0.41
61.074	Khusian-2-ol	0.12
61.332	Unidentified	0.14
61.429	Unidentified	0.16
61.581	Unidentified	0.10
61.791	Unidentified	0.10
62.127	cis-Thujopsenal	0.33
62.466	Unidentified	0.16
62.597	Cedrandione	0.07
66.829	Unidentified	0.16
67.147	Nootkatone	0.09
		100.00

Chromatogram Cedarwood, Texas - BIOAROMA



Comments:

The analysis of this Cedarwood, Texas batch sample meets the expected chemical profile for authentic essential oil of *Juniperus mexicana*. 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.

Sample Information

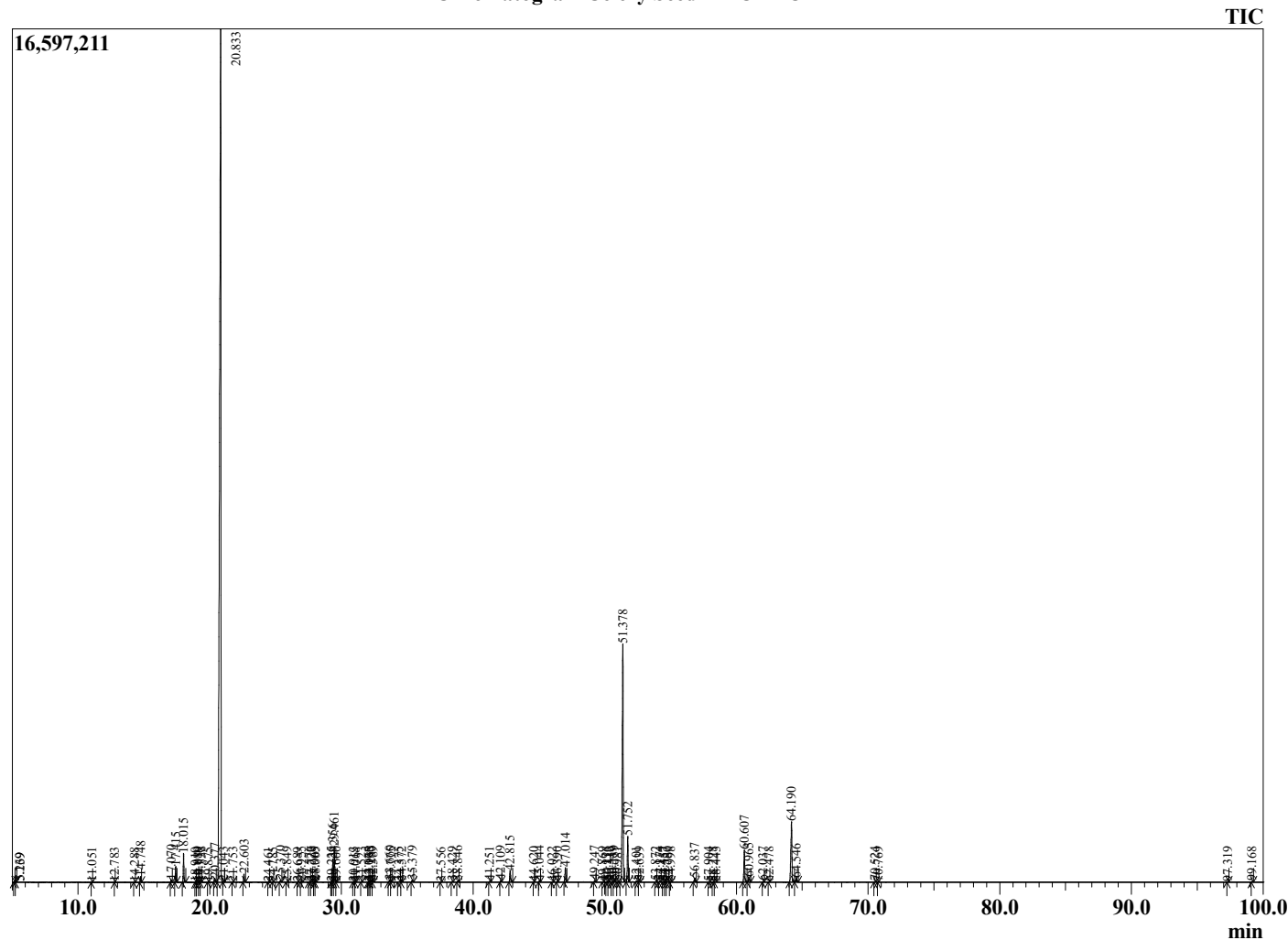
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 3/7/2021 3:48:19 PM
 Sample Type : Essential Oil
 Sample Name : Celery Seed - BIOAROMA
 Sample ID : BB22AE
 Injection Volume : 0.10
 Instrument ID : GC-2



Peak Report TIC

R.Time	Name	Area%
5.139	3-Methylbutanal	0.01
5.269	2-Methylbutanal	0.01
11.051	Unidentified	0.01
12.783	Nonane	0.00
14.288	alpha-Thujene	0.01
14.748	alpha-Pinene	0.20
17.070	Sabinene	0.10
17.415	beta-Pinene	0.60
18.015	Myrcene	1.12
18.910	Octanal	0.01
19.089	Unidentified	0.02
19.176	alpha-Phellandrene	0.01
19.338	delta-3-Carene	0.01
19.875	alpha-Terpinene	0.01
20.377	para-Cymene	0.20
20.833	Limonene	69.55
21.043	(Z)-beta-Ocimene	0.02
21.753	(E)-beta-Ocimene	0.01
22.603	gamma-Terpinene	0.34
24.461	Terpinolene	0.01
24.785	para-Cymenene	0.01
25.370	Linalool	0.07
25.849	1-Octen-3-yl acetate	0.02
26.689	3-Octyl acetate	0.01
26.955	trans-para-Mentha-2,8-dien-1-ol	0.05
27.576	Unidentified	0.02
27.727	cis-Limonene oxide	0.01
27.969	cis-para-Mentha-2,8-dien-1-ol	0.04
28.005	trans-Limonene oxide	0.03
29.235	Unidentified	0.01
29.356	Amylbenzene	1.06
29.461	6-Butyl-1,4-cycloheptadiene	1.60
29.600	Unidentified	0.02
30.913	Unidentified	0.02
31.068	Terpinen-4-ol	0.01
31.523	trans-para-mentha-1(7),8-dien-2-ol	0.03
32.060	alpha-Terpineol	0.02
32.135	Unidentified	0.01
32.255	(Z)-dihydro-Carvone	0.06
32.389	Unidentified	0.05
33.660	cis-Carveol	0.09
33.775	Unidentified	0.02
34.375	cis-para-mentha-1(7),8-dien-2-ol	0.03
34.572	cis-Carveol	0.04
35.379	Carvone	0.09
37.556	Perillaldehyde	0.01
38.429	Carvacrol	0.03
38.846	trans-Pinocarvyl acetate	0.06
41.251	Carvyl acetate	0.03
42.109	Unidentified	0.07
42.815	Valerophenone	0.56
44.620	Unidentified	0.01
45.044	beta-Elementene	0.06
46.022	Unidentified	0.03
46.390	Unidentified	0.02
47.014	trans-beta-Caryophyllene	0.70
49.247	alpha-Humulene	0.08
49.869	Unidentified	0.02
50.136	4,5-di-epi-Aristolochene	0.02
50.313	Unidentified	0.02
50.549	gamma-Curcumene	0.03
50.739	Ar-Curcumene	0.09

Chromatogram Celery Seed - BIOAROMA



Comments:

The analysis of this Celery Seed batch sample meets the expected chemical profile for authentic essential oil of *Apium graveolens*. 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.

R.Time	Name	Area%
50.981	Unidentified	0.02
51.378	beta-Selinene	13.57
51.752	alpha-Selinene	2.23
52.401	Unidentified	0.05
52.639	Unidentified	0.03
53.872	Unidentified	0.03
54.174	Selina-4(15),7(11)-diene	0.05
54.457	Selina-3,7(11)-diene	0.03
54.557	Unidentified	0.01
54.780	alpha-Elemol	0.02
54.998	Unidentified	0.04
56.837	Caryophyllene oxide	0.23
57.904	Unidentified	0.02
58.228	Unidentified	0.01
58.443	Humulene epoxide II	0.02
60.607	Butylphthalide	1.75
60.965	alpha-Eudesmol	0.28
62.037	Unidentified	0.02
62.478	Unidentified	0.01
64.190	Sedanolide	3.78
64.546	3-Isobutylidene-phtalide	0.20
70.524	Neophytadiene	0.04
70.769	Phytone	0.01
97.319	Unidentified	0.01
99.168	Unidentified	0.04
		100.00

Sample Information

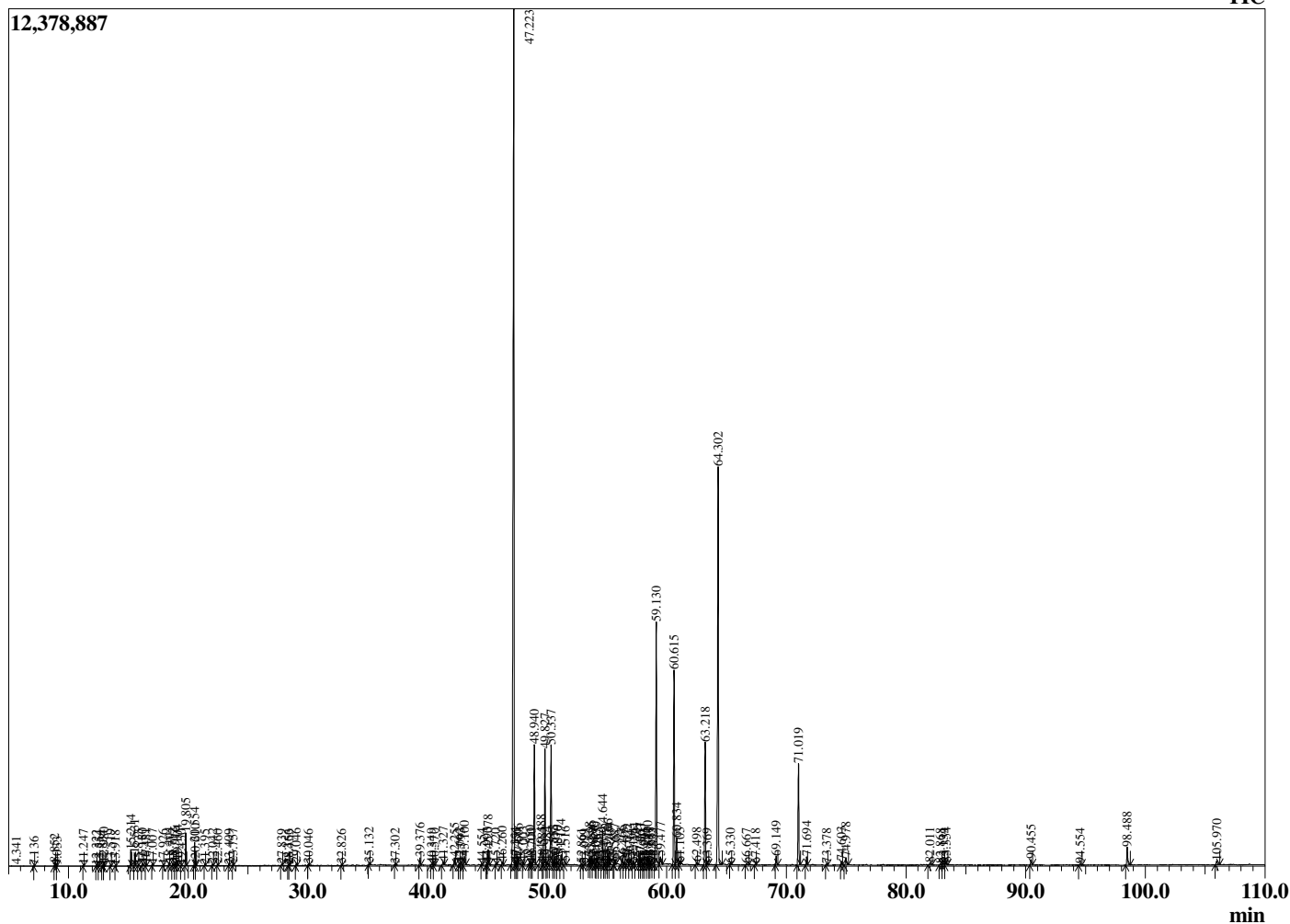
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 10/22/2020 4:05:56 AM
 Sample Type : Essential Oil
 Sample Name : Chamomile Oil Blue-BIOAROMA
 Sample ID : BA29IH
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
4.229	3-Methylbutanal	0.01
4.341	2-Methylbutanal	0.01
7.136	Capronaldehyde	0.01
8.852	Ethyl 2-methylbutyrate	0.06
9.033	Ethyl isovalerate	0.00
11.247	Santolinatriene	0.02
12.322	Unidentified	0.01
12.554	alpha-Thujene	0.01
12.834	Unidentified	0.01
12.980	alpha-Pinene	0.07
13.519	Propyl 2-Methylbutyrate	0.03
13.918	Camphene	0.01
15.214	Sabinene	0.36
15.531	beta-Pinene	0.27
15.823	6-Methyl hept-5-en-2-one	0.02
16.180	2-Pentyl furan	0.09
16.481	Yomogi alcohol	0.05
17.007	Octanal	0.03
17.926	alpha-Terpinene	0.02
18.404	para-Cymene	0.08
18.712	Limonene	0.06
18.916	1,8-cineole	0.09
19.104	(Z)-beta-Ocimene	0.13
19.430	Unidentified	0.01
19.805	(E)-beta-Ocimene	0.83
20.554	Artemisia Ketone	0.63
20.610	gamma-Terpinene	0.09
21.395	Octanol	0.01
22.042	Artemisia alcohol	0.04
22.460	Terpinolene	0.03
23.409	Linalool	0.02
23.757	Nonanal	0.06
27.839	beta-Artemisia acetate	0.04
28.366	Pelargol	0.02
28.453	Unidentified	0.01
29.046	Terpinen-4-ol	0.06
30.046	alpha-Terpineol	0.03
32.826	3-Hexenyl isovalerate	0.03
35.132	Unidentified	0.07
37.302	Tridecane	0.03
39.376	delta-Elementene	0.22
40.349	Unidentified	0.05
40.570	Eugenol	0.03
41.327	Decanoic acid	0.13
42.255	alpha-Copaene	0.22
42.662	Modheph-2-ene	0.07
42.793	Unidentified	0.07
43.100	alpha-Isocomene	0.39
44.554	Unidentified	0.05
44.993	beta-Ylangene	0.04
45.078	beta-Caryophyllene	0.51
45.720	beta-Copaene	0.04
46.260	Aromadendrene	0.11
47.223	(E)-beta-Farnesene	34.54
47.331	alpha-Humulene	0.08
47.456	Unidentified	0.06
47.606	Alloaromadendrene	0.24
48.003	Eehydrosesquicineole	0.09
48.550	trans-Cadina-1(6),4-diene	0.11
48.700	gamma-Curcumene	0.03
48.940	Germacrene D	3.97
49.488	(Z,Z)-alpha-Farnesene	0.97

Chromatogram Chamomile Oil Blue-BIOAROMA



Comments:

The analysis of this Chamomile, Blue batch sample meets the expected chemical profile for authentic essential oil of *Matricaria chamomilla*. 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.

R.Time	Name	Area%
49.585	Unidentified	0.05
49.827	Bicyclogermacrene	3.66
49.984	alpha-Murolene	0.09
50.337	(E,E)-alpha-Farnesene	3.89
50.553	beta-Bisabolene	0.15
50.707	3,6-Dihydroxychamazulene	0.12
50.870	gamma-Cadinene	0.13
51.174	delta-Cadinene	0.33
51.516	Unidentified	0.10
52.861	Unidentified	0.05
53.099	Unidentified	0.04
53.538	Unidentified	0.19
53.696	trans-Nerolidol	0.28
53.854	Unidentified	0.11
54.063	Unidentified	0.01
54.179	Dendaralasin	0.24
54.255	Unidentified	0.05
54.644	Spathulenol	1.15
54.779	Unidentified	0.07
54.974	Caryophyllene oxide	0.12
55.106	Unidentified	0.39
55.174	Globulol	0.16
55.582	Unidentified	0.02
55.687	Viridiflorol	0.21
56.266	Ledol	0.14
56.415	Eudesm-5-en-11-ol	0.08
56.722	Unidentified	0.24
56.943	Unidentified	0.27
57.191	Unidentified	0.06
57.491	Unidentified	0.32
57.757	Unidentified	0.22
57.863	Unidentified	0.21
58.041	Unidentified	0.05
58.205	Unidentified	0.07
58.400	tau-Cadinol	0.31
58.511	epi-alpha-Cadinol	0.06
58.665	Unidentified	0.06
58.833	Unidentified	0.03
59.130	alpha-Bisabolol oxide B	8.26
59.477	Unidentified	0.38
60.615	alpha-Bisabolone oxide A	6.48
60.834	alpha-Bisabolol	0.96
61.103	Unidentified	0.06
62.498	Pentadecanal	0.08
63.218	Chamazulene	4.05
63.369	Unidentified	0.06
64.302	alpha-Bisabolol oxide A	14.36
65.330	Unidentified	0.04
66.667	Unidentified	0.06
67.418	Unidentified	0.04
69.149	Phytone	0.28
71.019	Spiroether isomer	3.47
71.694	Spiroether isomer	0.25
73.378	Methyl palmitate	0.06
74.603	Unidentified	0.12
74.978	Unidentified	0.29
82.011	Unidentified	0.10
82.868	Unidentified	0.06
83.134	Unidentified	0.09
83.354	Unidentified	0.11
90.455	Tricosane	0.19
94.554	Tetracosane	0.06
98.488	Pentacosane	0.69

R.Time	Name
105.970	Heptacosane

Area%
0.19
100.00

Sample Information

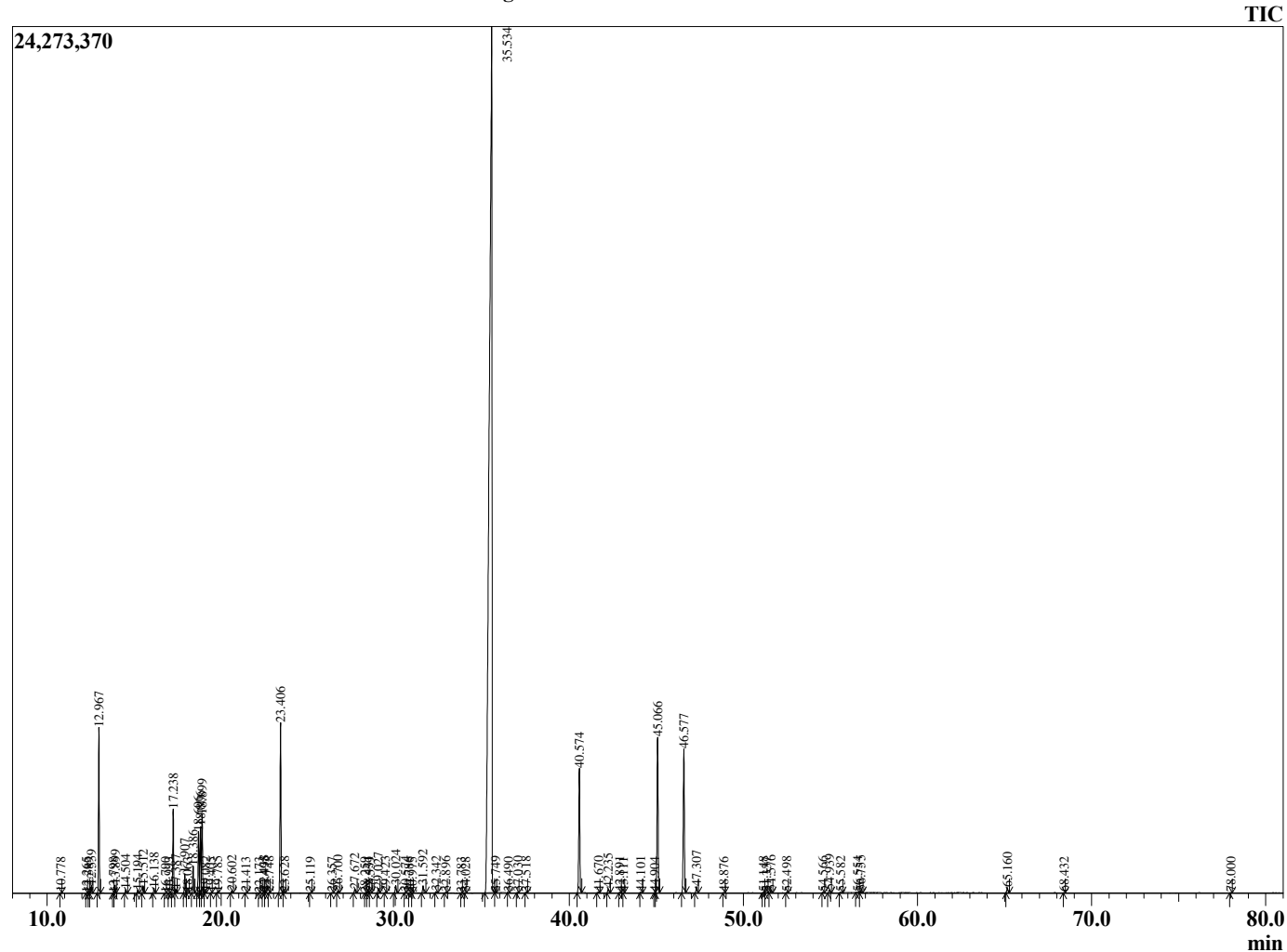
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 11/5/2020 5:54:27 AM
 Sample Type : Essential Oil
 Sample Name : Cinnamon Bark Oil - BIOAROMA
 Sample ID : BA29IJ
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
10.778	Styrene	0.01
12.265	Hashishene	0.01
12.389	Tricyclene	0.00
12.539	alpha-Thujene	0.17
12.967	alpha-Pinene	3.67
13.798	alpha-Fenchene	0.01
13.899	Camphene	0.18
14.504	Benzaldehyde	0.09
15.194	Sabinene	0.07
15.512	beta-Pinene	0.17
16.138	Myrcene	0.12
16.790	Unidentified	0.01
16.993	Octanal	0.01
17.238	alpha-Phellandrene	2.09
17.387	delta-3-Carene	0.08
17.907	alpha-Terpinene	0.47
18.063	meta-Cymene	0.01
18.386	para-Cymene	0.66
18.696	Limonene	1.59
18.806	beta-Phellandrene	1.67
18.899	1,8-Cineole	1.95
19.082	(Z)-beta-Ocimene	0.03
19.405	Butyl 2-methylbutyrate	0.00
19.785	(E)-beta-Ocimene	0.02
20.602	gamma-Terpinene	0.05
21.413	cis-Linalool oxide (furanoid)	0.01
22.173	Isoterpinolene	0.00
22.438	Terpinolene	0.06
22.495	trans-Linalool oxide (furanoid)	0.01
22.748	Dehydro-para-cymene	0.01
23.406	Linalool	4.69
23.628	cis-para-Menth-2-en-1-ol	0.02
25.119	trans-para-Menth-2-en-1-ol	0.01
26.357	2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethy-	0.01
26.700	Camphor	0.06
27.672	Hydrocinnamaldehyde	0.11
28.259	Unidentified	0.00
28.431	Borneol	0.03
28.559	Unidentified	0.01
29.027	Terpinen-4-ol	0.14
29.423	Unidentified	0.01
30.024	alpha-Terpineol	0.23
30.574	alpha-Phellandrene epoxide	0.02
30.786	Decanal	0.01
30.975	Unidentified	0.00
31.592	(Z)-Cinnamaldehyde	0.21
32.342	Hydrocinnamic alcohol	0.05
32.896	2-Methoxybenzaldehyde	0.02
33.783	Geraniol	0.00
34.028	Unidentified	0.01
35.534	(E)-Cinnamaldehyde	66.69
35.749	Unidentified	0.01
36.490	Unidentified	0.01
37.030	Unidentified	0.02
37.518	(E)-Cinnamyl alcohol	0.02
40.574	Eugenol	3.83
41.670	Benzenepropanol acetate	0.03
42.235	alpha-Copaene	0.13
42.891	Unidentified	0.01
43.111	beta-Elementene	0.01
44.101	cis-beta-Caryophyllene	0.02
44.904	Unidentified	0.01

Chromatogram Cinnamon Bark Oil -BIOAROMA



Comments:

The analysis of this Cinnamon Bark batch sample meets the expected chemical profile for authentic essential oil of *Cinnamomum zeylanicum*. 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.

R.Time	Name	Area%
45.066	trans-beta-Caryophyllene	5.06
46.577	trans-Cinnamyl acetate	4.53
47.307	alpha-Humulene	0.21
48.876	alpha-Curcumene	0.01
51.148	delta-Cadinene	0.02
51.337	cis-Calamenene	0.01
51.576	ortho-Methoxycinnamaldehyde	0.06
52.498	alpha-Calacorene	0.02
54.566	Unidentified	0.02
54.939	Caryophyllene oxide	0.10
55.582	Unidentified	0.02
56.554	Humulene epoxide II	0.02
56.755	Tetradecanal	0.05
65.160	Benzyl benzoate	0.16
68.432	Unidentified	0.01
78.000	Octadecanal	0.01
		100.00

Sample Information

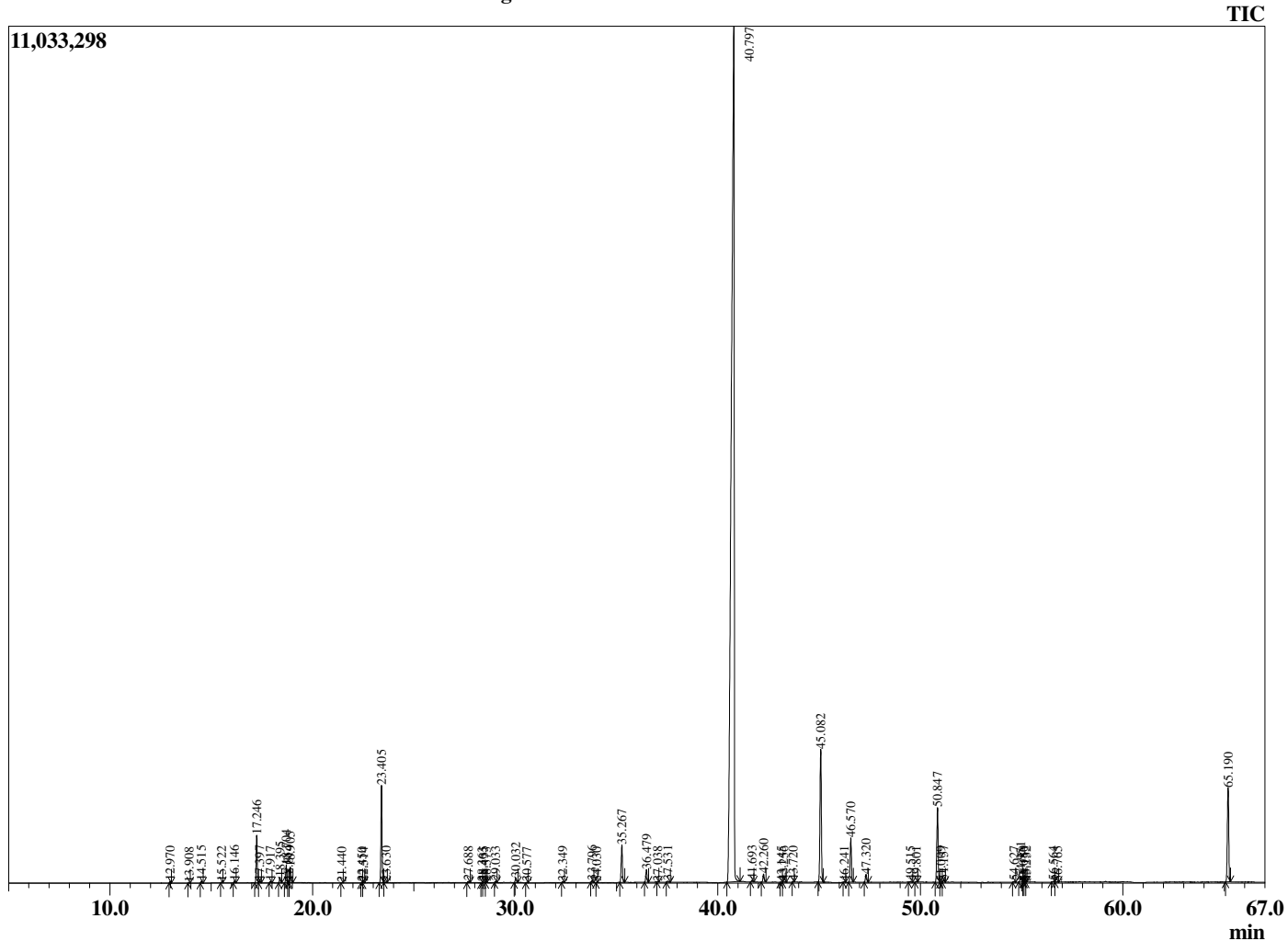
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 10/17/2020 1:25:39 AM
 Sample Type : Essential Oil
 Sample Name : Cinnamon Leaf Oil-BIOAROMA
 Sample ID : BA29IK
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
12.970	alpha-Pinene	0.05
13.908	Camphene	0.02
14.515	Benzaldehyde	0.06
15.522	beta-Pinene	0.03
16.146	Myrcene	0.06
17.246	alpha-Phellandrene	1.47
17.397	delta-3-Carene	0.05
17.917	alpha-Terpinene	0.04
18.395	para-Cymene	0.17
18.704	Limonene	0.57
18.814	beta-Phellandrene	0.06
18.905	1,8-cineole	0.51
21.440	cis-Linalool oxide (furanoid)	0.01
22.450	Terpinolene	0.02
22.514	trans-Linalool oxide (furanoid)	0.02
23.405	Linalool	3.28
23.630	Unidentified	0.02
27.688	Benzyl acetate	0.05
28.363	Unidentified	0.01
28.435	Borneol	0.03
28.573	Unidentified	0.01
29.033	Terpinen-4-ol	0.05
30.032	alpha-Terpineol	0.17
30.577	alpha-Phellandrene epoxide	0.02
32.349	Hydrocinnamic alcohol	0.03
33.796	Chavicol	0.07
34.030	2-Phenethyl acetate	0.01
35.267	(E)-Cinnamaldehyde	1.42
36.479	Safrole	0.48
37.038	Carvacrol	0.01
37.531	(E)-Cinnamyl alcohol	0.05
40.797	Eugenol	75.71
41.693	Hydrocinnamyl acetate	0.07
42.260	alpha-Copaene	0.33
43.145	Unidentified	0.02
43.256	Unidentified	0.05
43.720	Unidentified	0.02
45.082	beta-Caryophyllene	5.50
46.241	Aromadendrene	0.02
46.570	trans-Cinnamyl acetate	1.68
47.320	alpha-Humulene	0.33
49.515	Viridiflorene	0.04
49.801	Bicyclogermacrene	0.03
50.847	Eugenyl acetate	2.96
51.009	Unidentified	0.02
51.157	delta-Cadinene	0.07
54.627	Spathulenol	0.03
54.951	Caryophyllene oxide	0.21
55.080	Unidentified	0.01
55.153	Unidentified	0.02
55.232	Unidentified	0.00
56.564	Humulene epoxide II	0.04
56.765	Unidentified	0.02
65.190	Benzyl benzoate	4.02
		100.00

Chromatogram Cinnamon Leaf Oil-BIOAROMA



Comments:

The analysis of this Cinnamon Leaf batch sample meets the expected chemical profile for authentic essential oil of *Cinnamomum zeylanicum*. 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.

Sample Information

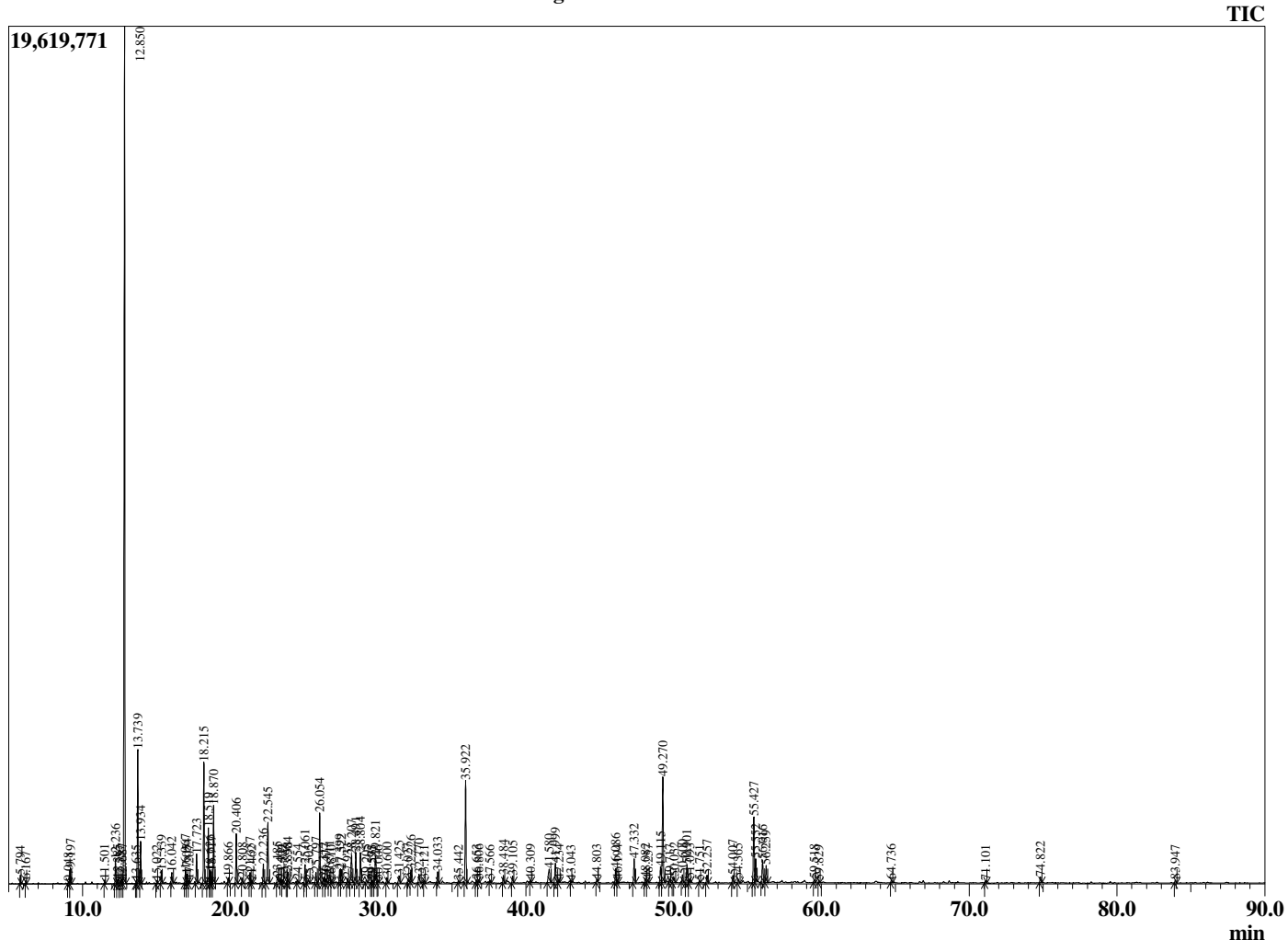
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 3/6/2021 6:21:08 PM
 Sample Type : Essential Oil
 Sample Name : Cistus - BIOAROMA
 Sample ID : BB22AF
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
5.794	1,2,3-Trimethyl-1-cyclopentene	0.25
6.167	Toluene	0.11
9.048	Unidentified	0.07
9.197	6,6-Dimethylhepta-2,4-diene	0.45
11.501	Unidentified	0.12
12.236	Tricyclene	0.76
12.385	alpha-Thujene	0.15
12.557	Unidentified	0.10
12.687	2,7-Dimethyl oxepine	0.17
12.850	alpha-Pinene	33.33
13.635	alpha-Fenchene	0.10
13.739	Camphene	4.29
13.934	Thuja-2,4(10)diene	1.33
15.022	Sabinene	0.09
15.339	beta-Pinene	0.41
16.042	Unidentified	0.42
16.967	Unidentified	0.46
17.054	alpha-Phellandrene	0.29
17.207	Unidentified	0.10
17.723	alpha-Terpinene	1.03
18.215	para-Cymene	4.47
18.519	Limonene	2.08
18.626	beta-Phellandrene	0.44
18.717	1,8-Cineole	0.41
18.870	2,2,6-Trimethylcyclohexanone	2.78
19.866	Unidentified	0.20
20.406	gamma-Terpinene	1.81
20.808	Acetophenone	0.17
21.337	Pinol	0.36
21.462	Unidentified	0.09
22.236	Terpinolene	0.74
22.545	para-Cymenene	2.49
23.185	Linalool	0.25
23.404	Hotrienol	0.08
23.532	Nonanal	0.11
23.858	Unidentified	0.12
23.904	cis-Rose oxide	0.43
24.554	alpha-Fenchol	0.13
25.061	alpha-Campholenal	0.76
25.305	Unidentified	0.14
25.797	Unidentified	0.45
26.054	trans-Pinocarveol	2.88
26.312	(Z)-Tagetone	0.23
26.477	Camphor	0.17
26.711	alpha-Phellandrene-8-ol	0.41
26.810	(E)-Tagetone	0.06
27.399	trans-Pinocamphone	0.52
27.522	Pinocarvone	0.50
27.933	Unidentified	0.18
28.207	Borneol	1.42
28.491	Isopinocamphone	1.21
28.804	Terpinen-4-ol	1.21
29.205	para-Cymen-8-ol	0.16
29.573	Unidentified	0.10
29.595	Unidentified	0.07
29.821	Myrtenol	1.53
30.006	Unidentified	0.09
30.600	Verbenone	0.24
31.425	trans-Carveol	0.38
32.027	Unidentified	0.11
32.226	(Z)-Ocimenone	0.42
32.770	Unidentified	0.42

Chromatogram Cistus - BIOAROMA



Comments:

The analysis of this Cistus batch sample meets the expected chemical profile for authentic essential oil of *Cistus ladanifer*. 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.

R.Time	Name	Area%
33.121	Carvone	0.11
34.033	Unidentified	0.44
35.442	Phellandral	0.09
35.922	Bornyl acetate	4.38
36.653	(-)-trans-Pinocarvyl acetate	0.12
36.806	Carvacrol	0.12
37.566	Unidentified	0.08
38.484	Myrtenyl acetate	0.32
39.105	Unidentified	0.28
40.309	Eugenol	0.08
41.580	Cyclosativene	0.91
41.999	alpha-Copaene	0.95
42.234	Unidentified	0.11
43.043	Sativene	0.08
44.803	trans-beta-Caryophyllene	0.09
46.086	Aromodendrene	0.59
46.194	Unidentified	0.12
47.332	Alloaromodendrene	1.06
48.082	10-beta-H-Cadina-1(6),4-diene	0.20
48.257	trans-Cadina-1(6),4-diene	0.14
49.115	Unidentified	0.74
49.270	Viridiflorene	4.88
49.717	alpha-Murolene	0.12
50.032	Unidentified	0.30
50.600	Unidentified	0.31
50.901	delta-Cadinene	0.83
51.093	trans-Calamenene	0.18
51.751	trans-Cadina-1,4-diene	0.08
52.257	alpha-Calacorene	0.34
54.007	Palustrol	0.34
54.365	Spathulenol	0.19
55.427	Viridiflorol	2.98
55.552	Guaiol	0.99
56.016	Ledol	1.01
56.259	Unidentified	0.77
59.518	Unidentified	0.14
59.829	Unidentified	0.09
64.736	Ambroxide	0.11
71.101	Sclareoloxide	0.09
74.822	Unidentified	0.26
83.947	Unidentified	0.12
		100.00

Sample Information

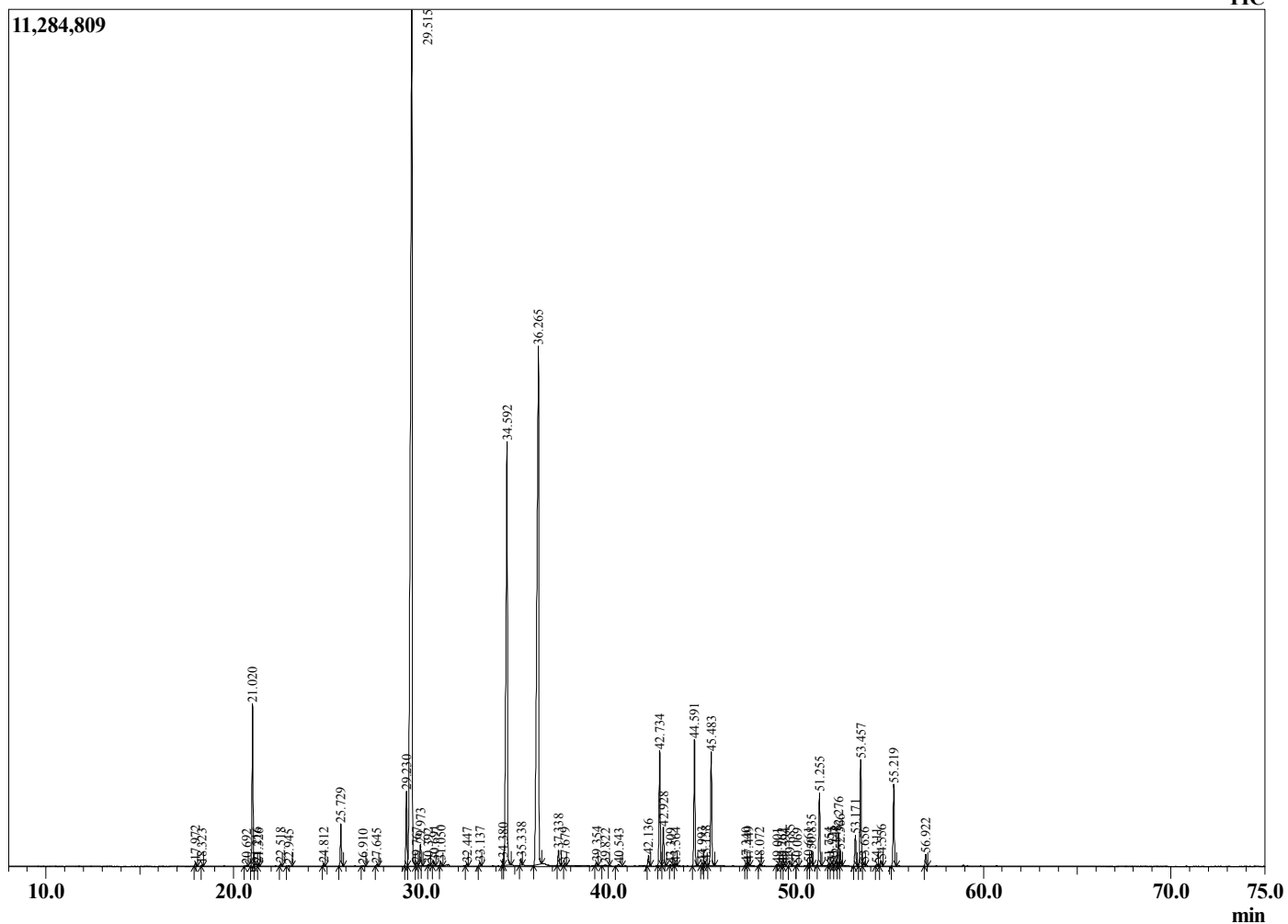
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 7/13/2020 7:17:50 PM
 Sample Type : Essential Oil
 Sample Name : Citronella - BIOAROMA
 Sample ID : BA18FM
 Injection Volume : 0.10
 Instrument ID : GC-2



Peak Report TIC

R.Time	Name	Area%
17.972	6-Methyl-5-hepten-2-one	0.09
18.323	Myrcene	0.03
20.692	para-Cymene	0.01
21.020	Limonene	3.47
21.216	Unidentified	0.10
21.326	Unidentified	0.04
22.518	Bergamal	0.05
22.945	gamma-Terpinene	0.02
24.812	Terpinolene	0.05
25.729	Linalool	0.97
26.910	Unidentified	0.02
27.645	Unidentified	0.05
29.230	Isopulegol	1.81
29.515	Citronellal	33.80
29.767	Menthone	0.11
29.973	neo-Isopulegol	0.63
30.392	Isomenthone	0.03
30.691	iso-Isopulegol	0.10
31.050	beta-Citronellal	0.11
32.447	alpha-Terpineol	0.06
33.137	Decanal	0.09
34.380	Nerol	0.14
34.592	Citronellol	14.12
35.338	Neral	0.15
36.265	Geraniol	21.36
37.338	Geranial	0.37
37.679	Citronellyl formate	0.05
39.354	Geranyl formate	0.07
39.822	Citronellic acid	0.03
40.543	Unidentified	0.04
42.136	Citriodiol I	0.25
42.734	Citronellyl acetate	2.89
42.928	Eugenol	0.98
43.309	Unidentified	0.03
43.564	Citriodiol II	0.05
44.591	Geranyl acetate	3.15
44.993	cis-beta-Elementene	0.08
45.158	beta-Bourbonene	0.12
45.483	trans-beta-Elementene	3.00
47.340	beta-Ylangene	0.07
47.449	trans-beta-Caryophyllene	0.09
48.072	beta-Copaene	0.04
49.001	Unidentified	0.06
49.262	cis-Muurolo-3,5-diene	0.04
49.394	trans-Muurolo-3,5-diene	0.04
49.685	alpha-Humulene	0.13
50.069	epi-Bicyclosesquiphellandrene	0.03
50.661	cis-Muurolo-4(14),5-diene	0.07
50.835	trans-Cadina-1(6),4-diene	0.40
51.255	Germacrene D	1.85
51.754	beta-Selinene	0.06
51.925	trans-Muurolo-4(14),5-diene	0.09
52.148	Unidentified	0.14
52.276	alpha-Muuroloene	0.92
52.366	Unidentified	0.34
53.171	gamma-Cadinene	0.79
53.457	delta-Cadinene	2.79
53.656	trans-Calamenene	0.08
54.311	trans-Cadina-1,4-diene	0.03
54.556	alpha-Cadinene	0.14
55.219	Elemol	2.14
56.922	endo-1-Bourbanol	0.31

Chromatogram Citronella - BIOAROMA



Comments:

The analysis of this Citronella batch sample meets the expected chemical profile for authentic essential oil of *Cymbopogon winterianus*. 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.

R.Time Name
78.886 Unidentified

Area%
0.81
100.00

Sample Information

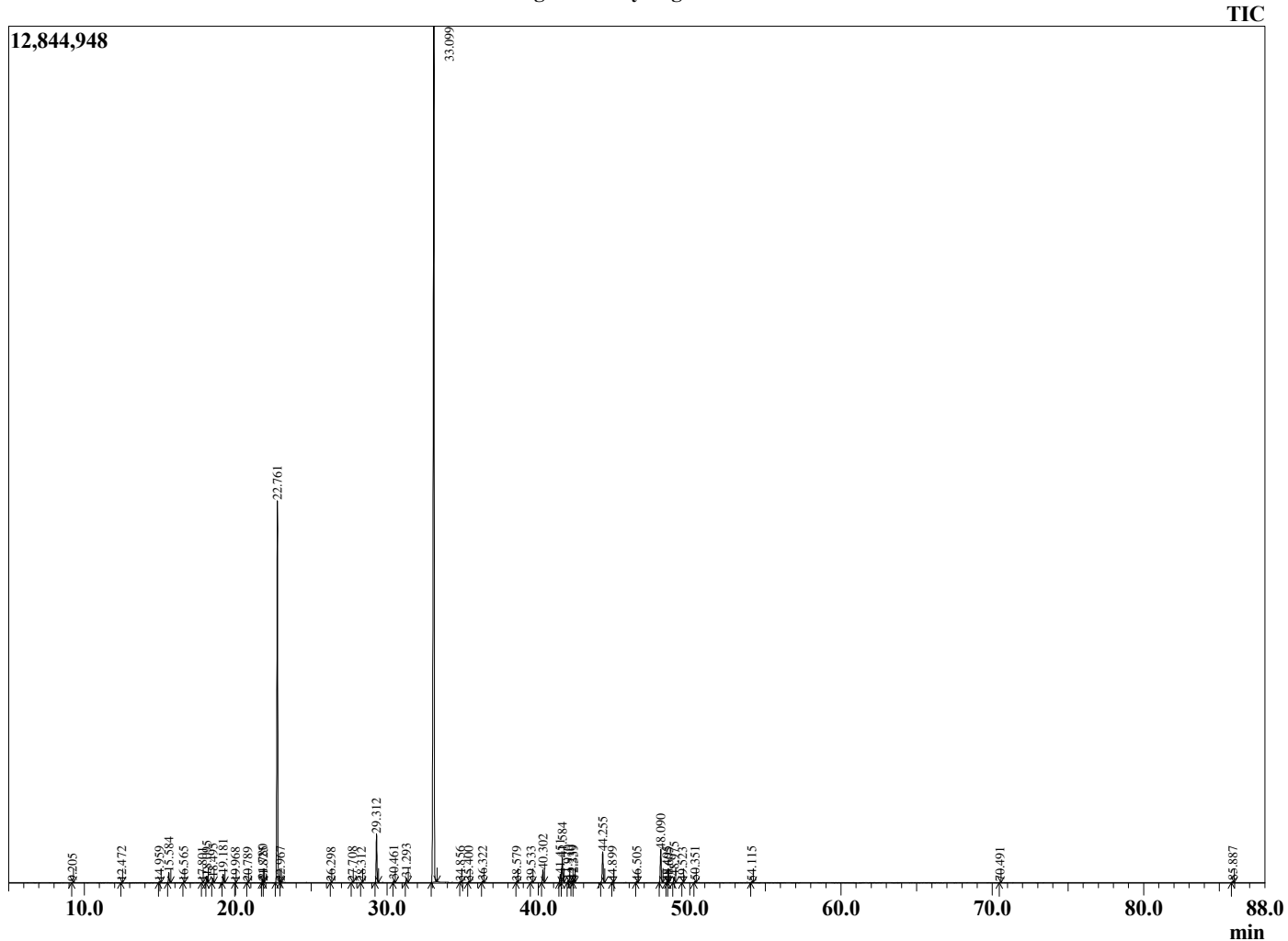
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 10/27/2020 5:13:13 PM
 Sample Type : Essential Oil
 Sample Name : Clary Sage - BIOAROMA
 Sample ID : BA29IL
 Injection Volume : 0.10
 Instrument ID : GC-4



Peak Report TIC

R.Time	Name	Area%
9.205	Hex-2(E)-enol	0.01
12.472	alpha-Pinene	0.04
14.959	beta-Pinene	0.07
15.584	Myrcene	0.55
16.565	Herboxide I	0.03
17.801	para-Cymene	0.03
18.095	Limonene	0.34
18.495	(Z)-beta-Ocimene	0.21
19.181	(E)-beta-Ocimene	0.47
19.968	Unidentified	0.01
20.789	cis-Linalool oxide (furanoid)	0.02
21.780	Terpinolene	0.14
21.825	trans-Linalool oxide (furanoid)	0.02
22.761	Linalool	23.14
22.967	Hotrienol	0.04
26.298	Unidentified	0.02
27.708	Borneol	0.03
28.312	Terpinen-4-ol	0.03
29.312	alpha-Terpineol	2.96
30.461	Linalyl formate	0.14
31.293	Nerol	0.27
33.099	Linalyl acetate	62.79
34.856	Geranyl formate	0.04
35.400	Bornyl acetate	0.04
36.322	Geranyl formate	0.08
38.579	delta-Elemene	0.04
39.533	Unidentified	0.06
40.302	Neryl acetate	0.79
41.451	alpha-Copaene	0.55
41.584	Geranyl acetate	1.55
41.970	beta-Bourbonene	0.14
42.239	beta-Cubebene	0.13
42.339	beta-Elemene	0.14
44.255	trans-beta-Caryophyllene	2.05
44.899	beta-Copaene	0.03
46.505	alpha-Humulene	0.06
48.090	Germacrene D	2.22
48.495	Valencene	0.05
48.605	beta-Selinene	0.01
48.975	Bicyclogermacrene	0.41
49.523	(E,E)-alpha-Farnesene	0.02
50.351	delta-Cadinene	0.08
54.115	Caryophyllene oxide	0.07
70.491	Sclareoloxide	0.02
85.887	Sclareol	0.08
		100.00

Chromatogram Clary Sage -BIOAROMA



Comments:

The analysis of this Clary Sage batch sample meets the expected chemical profile for authentic essential oil of *Salvia sclarea*. 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.

Sample Information

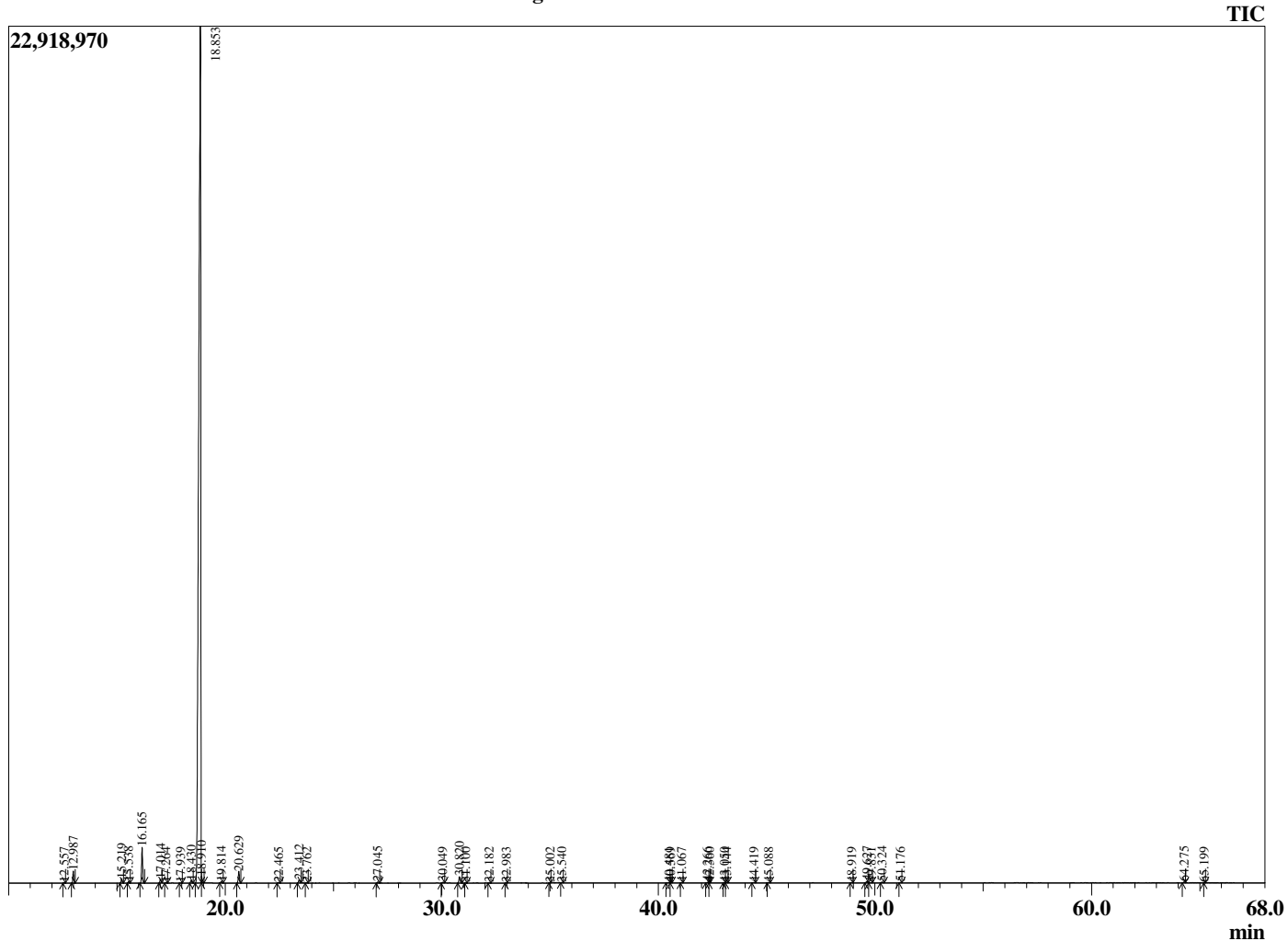
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 10/20/2020 1:05:29 AM
 Sample Type : Essential Oil
 Sample Name : Clementine -BIOAROMA
 Sample ID : BA29IM
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
12.557	alpha-Thujene	0.03
12.987	alpha-Pinene	0.64
15.219	Sabinene	0.25
15.538	beta-Pinene	0.08
16.165	Myrcene	2.07
17.014	Octanal	0.24
17.264	alpha-Phellandrene	0.03
17.939	alpha-Terpinene	0.02
18.430	para-Cymene	0.17
18.853	Limonene	94.07
18.910	beta-Phellandrene	0.17
19.814	(E)-beta-Ocimene	0.08
20.629	gamma-Terpinene	0.72
22.465	Terpinolene	0.04
23.412	Linalool	0.21
23.762	Nonanal	0.03
27.045	Citronellal	0.06
30.049	alpha-Terpineol	0.06
30.820	Decanal	0.43
31.100	Octyl acetate	0.01
32.182	Citronellol	0.02
32.983	Neral	0.01
35.002	Geranial	0.02
35.540	Perillaldehyde	0.02
40.481	Unidentified	0.03
40.569	Eugenol	0.01
41.067	Neryl acetate	0.02
42.266	alpha-Copaene	0.04
42.360	Unidentified	0.01
43.050	beta-Cubebene	0.02
43.144	beta-Elemene	0.02
44.419	Dodecanal	0.04
45.088	beta-Caryophyllene	0.03
48.919	Germacrene D	0.02
49.627	Valencene	0.11
49.831	Viridiflorene	0.01
50.324	(E,E)-alpha-Farnesene	0.05
51.176	delta-Cadinene	0.03
64.275	alpha-Sinensal	0.06
65.199	Unidentified	0.02
		100.00

Chromatogram Clementine -BIOAROMA



Comments:

The analysis of this Clementine batch sample meets the expected chemical profile for authentic essential oil of *Citrus clementina*. 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.

Sample Information

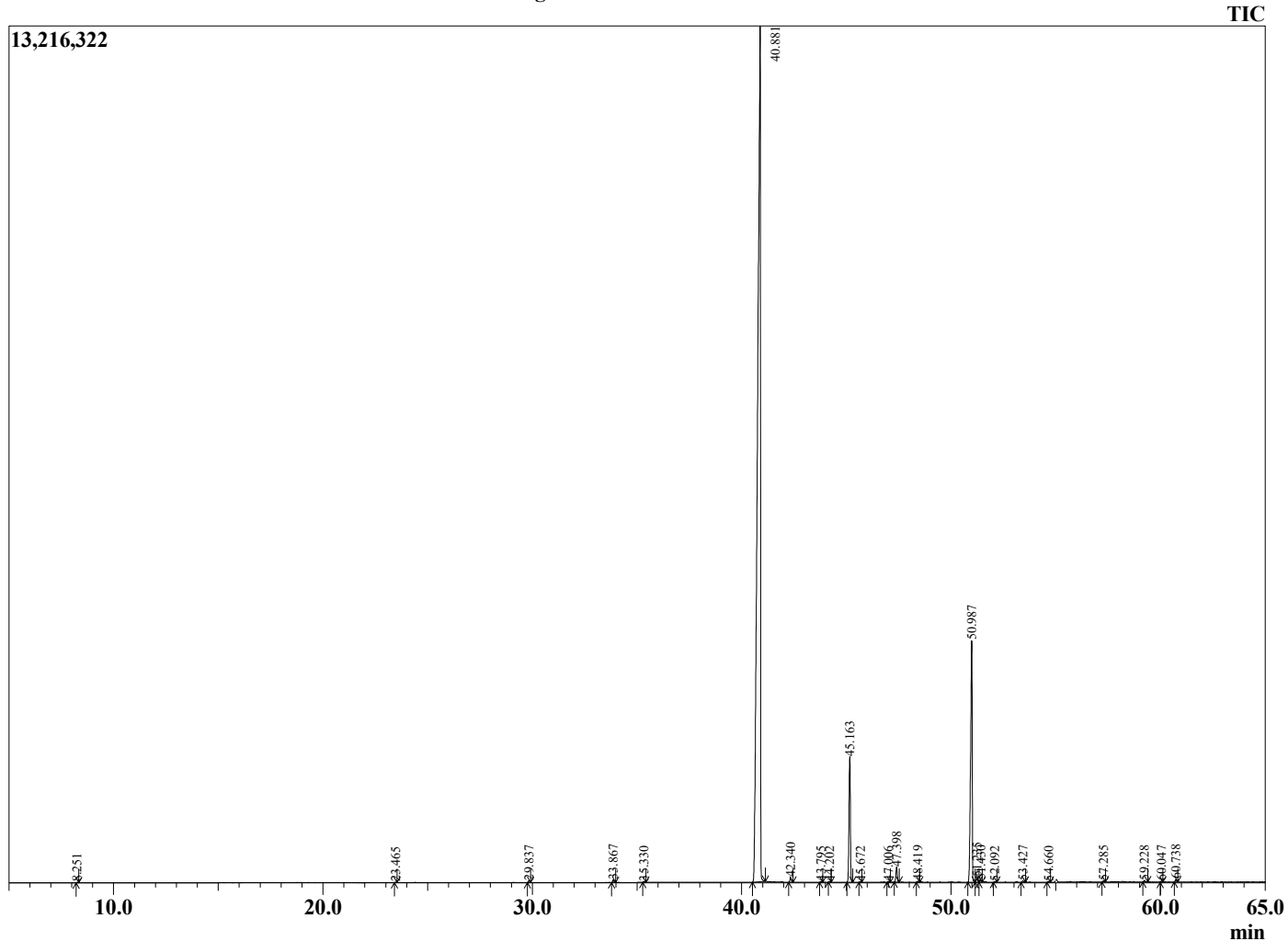
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 7/11/2020 8:15:19 PM
 Sample Type : Essential Oil
 Sample Name : Clove Bud - BIOAROMA
 Sample ID : BA18FN
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
4.238	3-methylbutanal	0.01
4.351	2-methylbutanal	0.00
8.251	Furfural	0.02
23.465	Linalool	0.02
29.837	Methyl salicylate	0.07
33.867	Chavicol	0.10
35.330	Cinnamaldehyde	0.03
40.881	Eugenol	79.97
42.340	alpha-Copaene	0.20
43.795	Methyleugenol	0.04
44.202	cis-beta-Caryophyllene	0.02
45.163	beta-Caryophyllene	5.56
45.672	Unidentified	0.02
47.006	Humulen-(v1)	0.03
47.398	alpha-Humulene	0.66
48.419	10-beta-H-Cadina-1(6),4-diene	0.05
50.987	Eugenol acetate	12.45
51.235	delta-Cadinene	0.21
51.430	trans-Calamenene	0.10
52.092	trans-Cadine-1,4-diene	0.03
53.427	Caryophyllene oxide	0.06
54.660	Caryophyllene alcohol	0.05
57.285	Unidentified	0.05
59.228	Unidentified	0.08
60.047	Unidentified	0.05
60.738	Unidentified	0.11
		100.00

Chromatogram Clove Bud -BIOAROMA



Comments:

The analysis of this Clove Bud batch sample meets the expected chemical profile for authentic essential oil of *Eugenia caryophyllata*. 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.

Sample Information

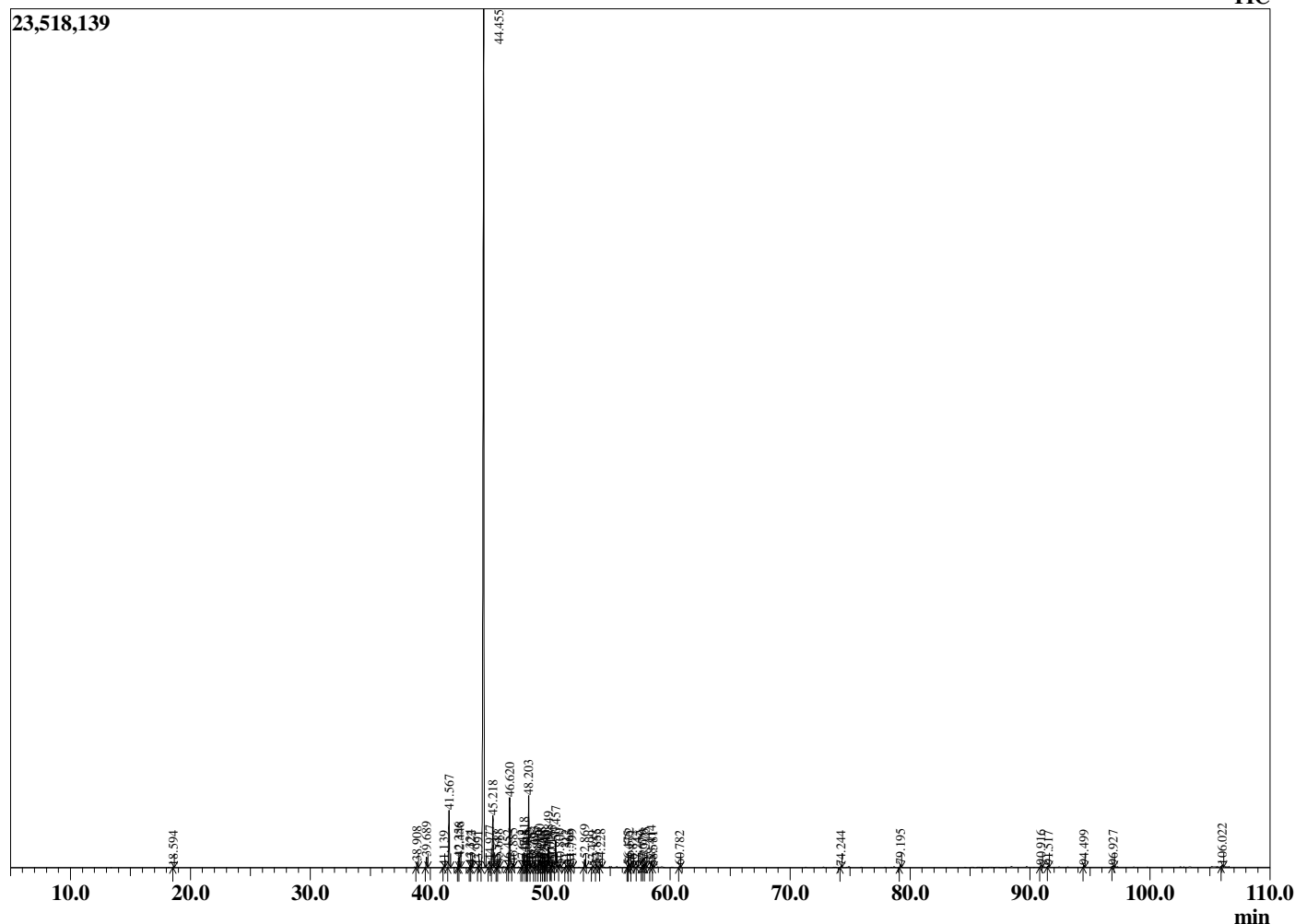
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 7/10/2020 7:20:21 PM
 Sample Type : Essential Oil
 Sample Name : Copaiba Balsam -BIOAROMA
 Sample ID : BA18FP
 Injection Volume : 0.10
 Instrument ID: : GC-4



Peak Report TIC

R.Time	Name	Area%
18.594	cis-beta-Ocimene	0.05
38.908	delta-Elemene	0.34
39.689	alpha-Cubebene	0.66
41.139	alpha-Ylangene	0.06
41.567	alpha-Copaene	3.56
42.356	beta-Cubebene	0.61
42.448	beta-Elemene	0.64
43.324	Cyperene	0.16
43.422	cis-beta-Caryophyllene	0.10
43.991	cis-alpha-Bergamotene	0.05
44.455	beta-Caryophyllene	69.39
44.977	gamma-Elemene	0.48
45.218	trans-alpha-Bergamotene	3.25
45.547	Aromadendrene	0.06
45.688	cis-beta-Farnesene	0.20
46.452	trans-beta-Farnesene	0.11
46.620	alpha-Humulene	4.37
46.885	Alloaromadendrene	0.22
47.642	10-beta-H-Cadina-1(6),4-diene	0.11
47.818	trans-Cadina-1(6),4-diene	1.01
47.995	gamma-Curcumene	0.08
48.085	alpha-Amorphene	0.09
48.203	Germacrene D	4.46
48.382	Unidentified	0.34
48.693	beta-Selinene	0.37
48.895	trans-Murrola-4(14),5-diene	0.23
49.100	Bicyclogermacrene	0.65
49.278	alpha-Murolene	0.35
49.408	cis-alpha-Bisabolene	0.12
49.543	delta-Amorphene	0.07
49.640	Unidentified	0.05
49.849	beta-Bisabolene	1.38
50.028	Unidentified	0.11
50.155	gamma-Cadinene	0.35
50.457	delta-Cadinene	1.60
50.800	beta-Sesquiphellandrene	0.25
51.312	trans-Cadina-1,4-diene	0.13
51.565	alpha-Cadinene	0.12
51.799	trans-alpha-Bisabolene	0.22
52.869	Germacrene B	0.48
53.499	Unidentified	0.05
53.855	Caryophyllene alcohol	0.20
54.228	Caryophyllene oxide	0.20
56.475	Unidentified	0.08
56.572	Humulane-1,6-dien-3-ol	0.31
56.872	1-epi-Cubenol	0.08
57.243	Unidentified	0.06
57.679	tau-Cadinol	0.09
57.776	epi-alpha-Cadinol	0.25
57.923	delta-Cadinol	0.30
58.414	alpha-Cadinol	0.46
58.581	Unidentified	0.06
60.782	Unidentified	0.09
74.244	Kolavetool	0.07
79.195	Unidentified	0.20
90.916	Copalol	0.17
91.517	Kolavenol	0.07
94.499	Unidentified	0.11
96.927	Unidentified	0.10
106.022	Unidentified	0.16
		100.00

Chromatogram Copaiba Balsam - BIOAROMA



Comments:

The analysis of this Copaiba Balsam batch sample meets the expected chemical profile for authentic essential oil of *Copaifera langsdorffii*. 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.

Sample Information

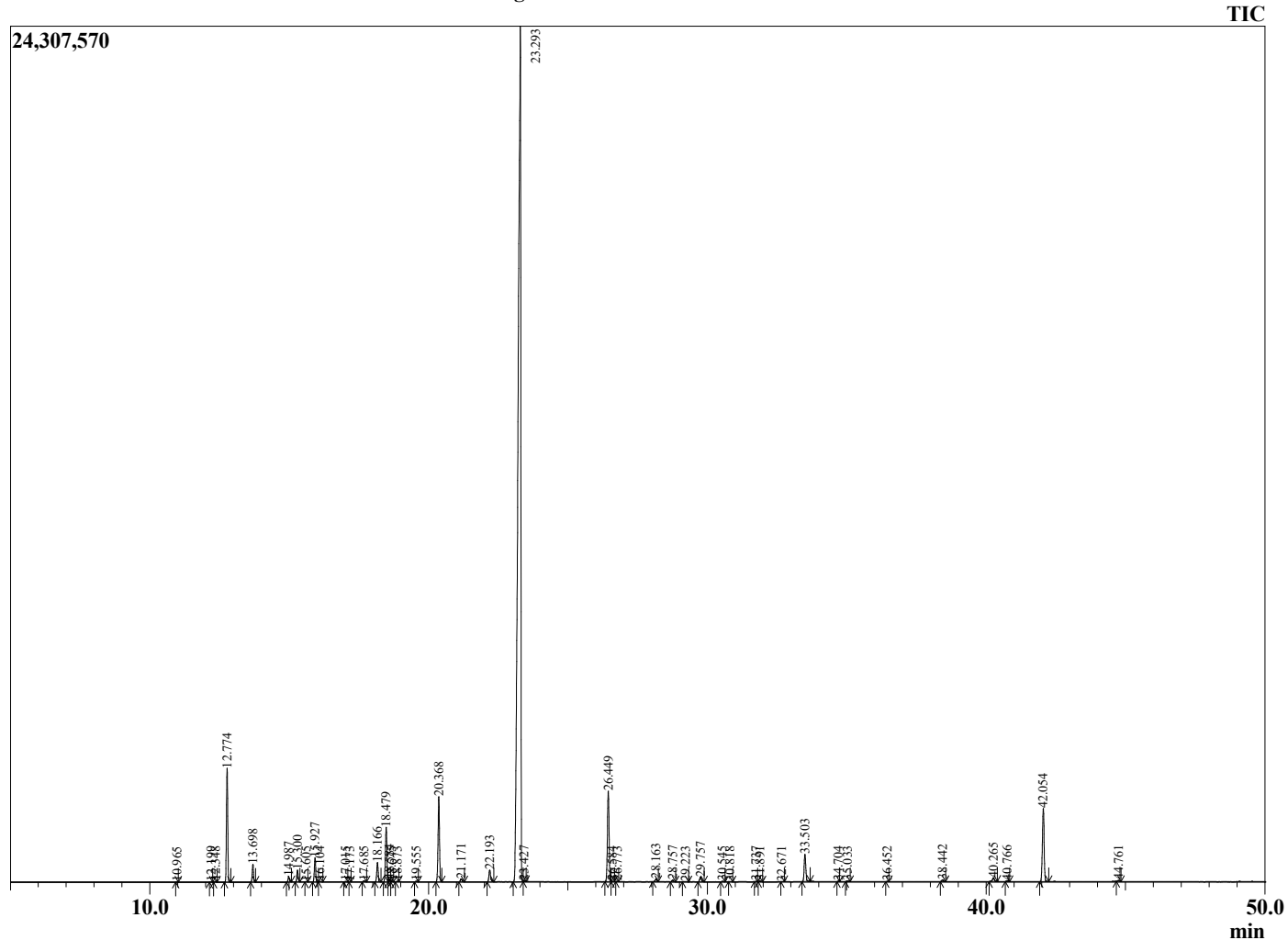
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 4/2/2021 1:19:30 AM
 Sample Type : Essential Oil
 Sample Name : Coriander Seed - BIOAROMA
 Sample ID : BB22AG
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
10.965	Nonane	0.01
12.199	Tricyclene	0.02
12.348	alpha-Thujene	0.03
12.774	alpha-Pinene	4.42
13.698	Camphene	0.71
14.987	Sabinene	0.23
15.300	beta-Pinene	0.49
15.605	6-Methyl hept-5-en-2-one	0.01
15.927	Myrcene	0.99
16.104	Sulcatol	0.02
17.015	alpha-Phellandrene	0.02
17.173	delta-3-Carene	0.00
17.685	alpha-Terpinene	0.04
18.166	para-Cymene	0.82
18.479	Limonene	2.44
18.584	beta-Phellandrene	0.11
18.675	1,8-Cineole	0.04
18.873	cis-beta-Ocimene	0.01
19.555	trans-beta-Ocimene	0.02
20.368	gamma-Terpinene	3.89
21.171	cis-Linalool oxide (furanoid)	0.15
22.193	Terpinolene	0.63
23.293	Linalool	73.81
23.427	Hotrienol	0.05
26.449	Camphor	4.62
26.584	trans-beta-Terpineol	0.02
26.773	Citronellal	0.01
28.163	Borneol	0.15
28.757	Terpinen-4-ol	0.09
29.223	Hex-(3Z)-enyl butyratee	0.02
29.757	alpha-Terpineol	0.27
30.545	Decanal	0.02
30.818	Octyl acetate	0.01
31.737	Nerol	0.01
31.891	Citronellol	0.04
32.671	Neral	0.01
33.503	Geraniol	1.38
34.704	Geranial	0.02
35.033	Decanol	0.03
36.452	Unidentified	0.01
38.442	Myrtenyl acetate	0.10
40.265	Eugenol	0.23
40.766	Neryl acetate	0.04
42.054	Geranyl acetate	3.90
44.761	beta-Caryophyllene	0.06
		100.00

Chromatogram Coriander Seed - BIOAROMA



Comments:

The analysis of this Coriander Seed batch sample meets the expected chemical profile for authentic essential oil of *Coriandrum sativum*. 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.

Sample Information

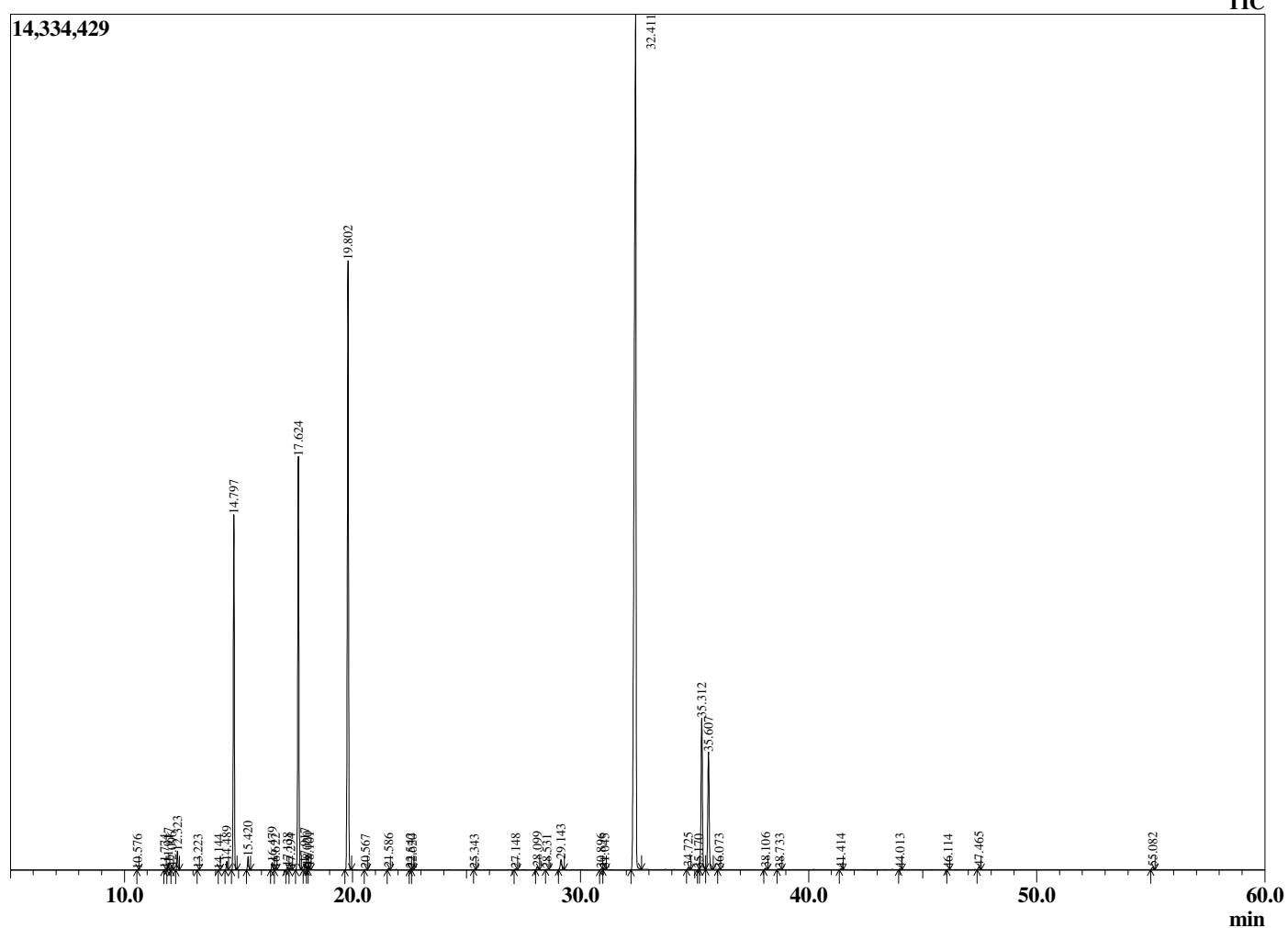
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 3/7/2021 6:28:26 AM
 Sample Type : Essential Oil
 Sample Name : Cumin -BIOAROMA
 Sample ID : BB22AH
 Injection Volume : 0.10
 Instrument ID: : GC-4



Peak Report TIC

R.Time	Name	Area%
10.576	Nonane	0.01
11.774	Cumene	0.01
11.917	alpha-Thujene	0.17
12.096	1-Isopropylcyclohex-1-ene	0.08
12.323	alpha-Pinene	0.50
13.223	Camphene	0.01
14.144	Unidentified	0.01
14.489	Sabinene	0.25
14.797	beta-Pinene	10.21
15.420	Myrcene	0.38
16.479	alpha-Phellandrene	0.22
16.622	delta-3-Carene	0.03
17.138	alpha-Terpinene	0.08
17.294	meta-Cymene	0.03
17.624	para-Cymene	12.61
17.917	Limonene	0.19
18.020	beta-Phellandrene	0.09
18.101	1,8-Cineole	0.08
19.802	gamma-Terpinene	20.10
20.567	trans-Sabinene hydrate	0.02
21.586	Terpinolene	0.05
22.542	Linalool	0.03
22.620	cis-Sabinene hydrate	0.02
25.343	trans-Pinocarveol	0.01
27.148	Unidentified	0.04
28.099	Terpinen-4-ol	0.12
28.531	para-Cymen-8-ol	0.02
29.143	para-Menth-3-en-7-al	0.42
30.896	Unidentified	0.03
31.045	3-Isopropylphenol	0.03
32.411	Cuminal	43.45
34.725	Phellandral	0.10
35.170	Isobornyl acetate	0.01
35.312	para-Mentha-1,3-dien-7-al	5.76
35.607	para-Mentha-1,4-dien-7-al	4.47
36.073	Carvacrol	0.02
38.106	Unidentified	0.06
38.733	Unidentified	0.04
41.414	Daucene	0.03
44.013	trans-beta-Caryophyllene	0.03
46.114	(E)-beta-Farnesene	0.01
47.465	beta-Acoradiene	0.11
55.082	Carotol	0.10
		100.00

Chromatogram Cumin - BIOAROMA



Comments:

The analysis of this Cumin batch sample meets the expected chemical profile for authentic essential oil of *Cuminum cyminum*. 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.

Sample Information

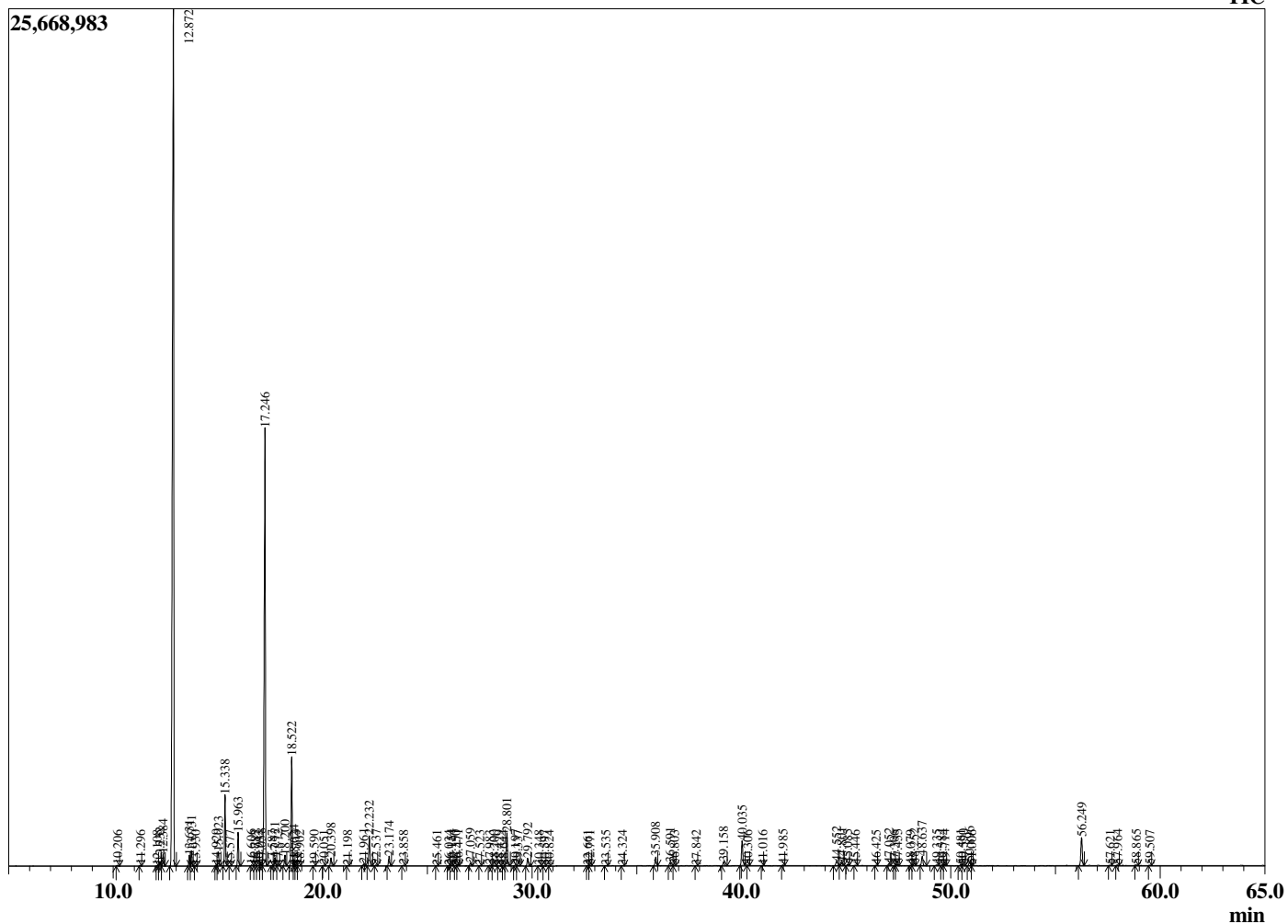
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 3/6/2021 10:17:03 PM
 Sample Type : Essential Oil
 Sample Name : Cypress - BIOAROMA
 Sample ID : BB22AI
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
10.206	Santene	0.04
11.296	Bornylene	0.03
12.108	Hashishene	0.03
12.232	Tricyclene	0.16
12.384	alpha-Thujene	0.51
12.872	alpha-Pinene	52.31
13.631	alpha-Fenchene	0.44
13.731	Camphene	0.61
13.930	Thuja-2,4(10)diene	0.02
14.929	Unidentified	0.06
15.023	Sabinene	0.61
15.338	beta-Pinene	3.02
15.577	Unidentified	0.01
15.963	Myrcene	1.44
16.606	Unidentified	0.04
16.782	Phellandrene isomer	0.02
16.942	Unidentified	0.02
17.058	alpha-Phellandrene	0.09
17.246	delta-3-Carene	22.54
17.587	1,4-Cineole	0.02
17.721	alpha-Terpinene	0.36
17.872	meta-Cymene	0.05
18.200	para-Cymene	0.50
18.522	Limonene	5.05
18.624	beta-Phellandrene	0.25
18.713	1,8-Cineole	0.04
18.902	(Z)-beta-Ocimene	0.01
19.590	(E)-beta-Ocimene	0.02
20.051	Unidentified	0.03
20.398	gamma-Terpinene	0.39
21.198	cis-Linalool oxide (furanoid)	0.01
21.961	Isoterpinolene	0.09
22.232	Terpinolene	1.46
22.537	para-Cymenene	0.04
23.174	Linalool	0.47
23.858	Unidentified	0.03
25.461	cis-Limonene oxide	0.01
26.034	trans-Pinocarveol	0.02
26.154	Epoxyterpinolene	0.05
26.350	trans-Verbenol	0.02
26.471	Camphor	0.06
27.059	Unidentified	0.15
27.523	Unidentified	0.02
27.983	Thujen-2-one	0.04
28.200	Borneol	0.05
28.429	Unidentified	0.02
28.644	Unidentified	0.01
28.801	Terpinen-4-ol	1.80
29.197	para-Cymen-8-ol	0.06
29.337	Unidentified	0.04
29.792	alpha-Terpineol	0.42
30.348	Unidentified	0.02
30.597	Verbenone	0.02
30.824	Unidentified	0.01
32.661	Unidentified	0.02
32.771	Thymol methyl ether	0.02
33.535	Unidentified	0.02
34.324	Unidentified	0.02
35.908	Bornyl acetate	0.48
36.591	Unidentified	0.18
36.803	Unidentified	0.03
37.842	Unidentified	0.01

Chromatogram Cypress - BIOAROMA



Comments:

The analysis of this Cypress batch sample meets the expected chemical profile for authentic essential oil of *Cupressus sempervirens*. 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.

R.Time	Name	Area%
39.158	Unidentified	0.24
40.035	alpha-Terpinyl acetate	1.43
40.306	Eugenol	0.01
41.016	Unidentified	0.01
41.985	alpha-Copaene	0.03
44.552	alpha-Cedrene	0.35
44.801	trans-beta-Caryophyllene	0.18
45.085	beta-Cedrene	0.08
45.446	beta-Copaene	0.02
46.425	Unidentified	0.01
47.052	alpha-Humulene	0.11
47.306	Unidentified	0.01
47.455	cis-Cadina-1(6),4-diene	0.09
48.079	Unidentified	0.02
48.252	trans-Cadina-1(6),4-diene	0.12
48.637	Germacrene D	0.56
49.335	trans-Murrola-4(14),5-diene	0.04
49.584	Unidentified	0.03
49.714	alpha-Murolene	0.05
50.481	alpha-Alaskene	0.06
50.590	gamma-Cadinene	0.06
50.896	delta-Cadinene	0.21
51.006	Unidentified	0.02
56.249	Cedrol	1.71
57.621	Unidentified	0.02
57.964	Unidentified	0.03
58.865	alpha-Cadinol	0.04
59.507	Unidentified	0.02
		100.00