

Sample Information

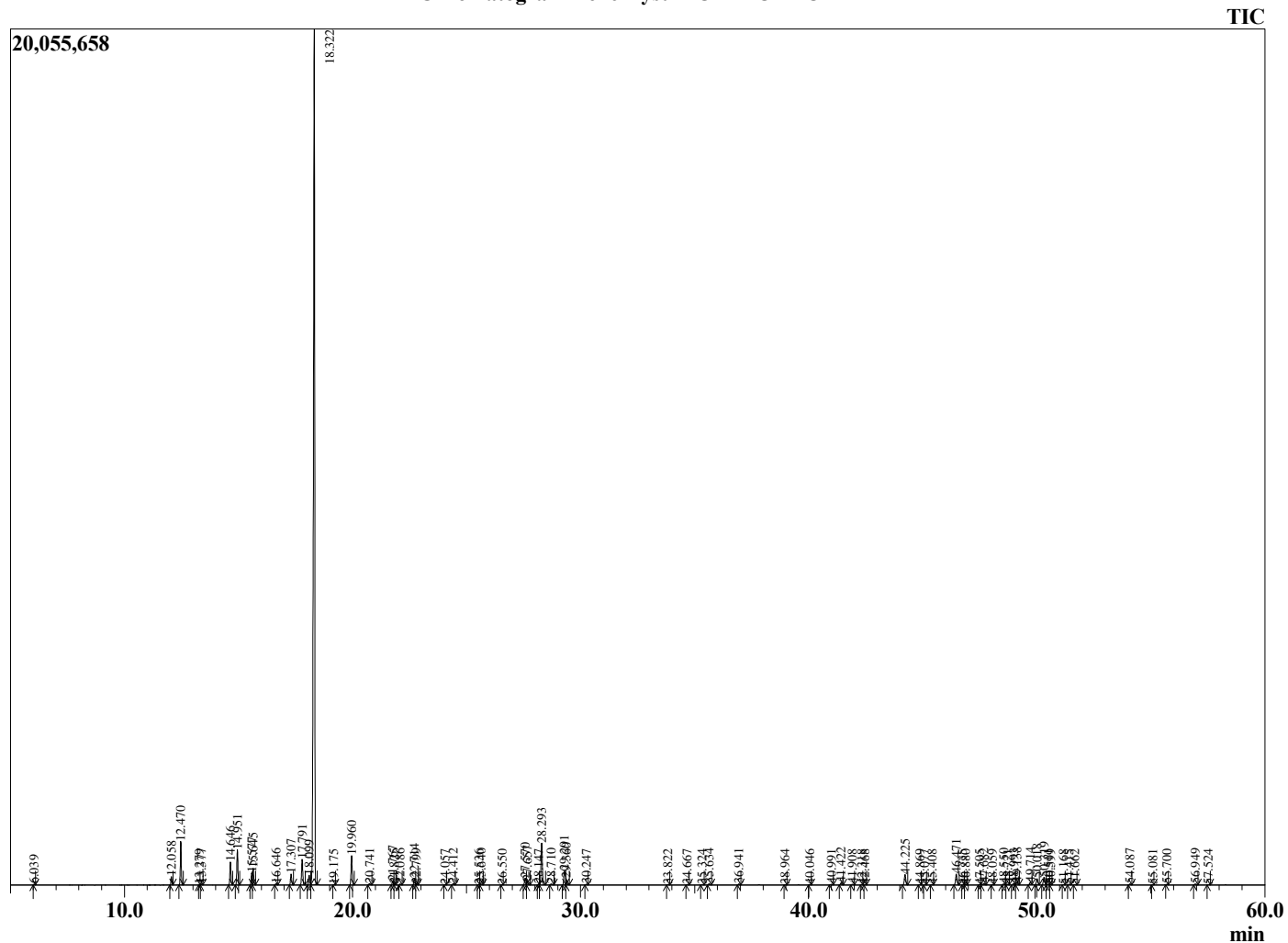
Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 11/20/2020 8:35:37 PM  
 Sample Type : Essential Oil  
 Sample Name : Helichrysum Oil-IOAROMA  
 Sample ID : BA29IX  
 Injection Volume : 0.10  
 Instrument ID : GC-4



Peak Report TIC

R.Time	Name	Area%
6.039	Unidentified	0.04
12.058	alpha-Thujene	0.51
12.470	alpha-Pinene	2.76
13.279	alpha-Fenchene	0.01
13.377	Camphene	0.05
14.646	Sabinene	1.55
14.951	beta-Pinene	2.43
15.577	Myrcene	0.77
15.645	2,3-Dehydro-1,8-Cineole	1.17
16.646	alpha-Phellandrene	0.10
17.307	alpha-Terpinene	0.81
17.791	para-Cymene	1.98
18.099	Limonene	0.83
18.322	1,8-cineole	71.55
19.175	(E)-beta-Ocimene	0.02
19.960	gamma-Terpinene	2.20
20.741	trans-Sabinene hydrate	0.11
21.767	Terpinolene	0.33
21.825	trans-Linalool oxide (furanoid)	0.05
22.086	Dehydro-para-cymene	0.07
22.714	Linalool	0.50
22.799	cis-Sabinene hydrate	0.10
24.057	alpha-Fenchol	0.02
24.412	cis-p-menth-2-en-1-ol	0.11
25.536	trans-Pinocarveol	0.03
25.640	trans-p-menth-2-en-1-ol	0.08
26.550	Unidentified	0.01
27.570	delta-Terpineol	0.57
27.657	para-Mentha-1,5-dien-8-ol	0.34
28.147	Unidentified	0.03
28.293	Terpinen-4-ol	3.52
28.710	para-Cymen-8-ol	0.08
29.291	alpha-Terpineol	1.41
29.360	Unidentified	0.30
30.247	Unidentified	0.05
33.822	Unidentified	0.03
34.667	Unidentified	0.02
35.324	Lavandulyl acetate	0.05
35.634	Unidentified	0.10
36.941	Unidentified	0.08
38.964	Unidentified	0.03
40.046	Unidentified	0.03
40.991	Cyclosativene	0.07
41.422	alpha-Copaene	0.19
41.908	Unidentified	0.06
42.318	beta-Elemene	0.02
42.468	Sativene	0.01
44.225	trans-beta-Caryophyllene	0.98
44.869	beta-Copaene	0.02
45.077	trans-alpha-Bergamotene	0.01
45.408	Aromadendrene	0.03
46.471	alpha-Humulene	1.03
46.735	Unidentified	0.00
46.880	cis-Cadina-1(6),4-diene	0.02
47.505	10-beta-H-Cadina-1(6),4-diene	0.04
47.682	trans-Cadina-1(6),4-diene	0.15
48.059	alpha-Curcumene	0.03
48.550	beta-Selinene	0.08
48.721	Unidentified	0.05
48.993	alpha-Selinene	0.14
49.138	alpha-Murolene	0.23
49.714	beta-Bisabolene	0.20

Chromatogram Helichrysum Oil-BIOAROMA



Comments:

The analysis of this Helichrysum batch sample meets the expected chemical profile for authentic essential oil of *Helichrysum gymnocephalum*. 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%
50.018	gamma-Cadinene	0.59
50.319	delta-Cadinene	0.73
50.511	trans-calamenene	0.09
50.599	Zonarene	0.04
51.168	trans-Cadina-1,4-diene	0.02
51.415	alpha-Muurolene	0.06
51.662	trans-alpha-Bisabolene	0.04
54.087	Caryophyllene oxide	0.08
55.081	Unidentified	0.02
55.700	Humulene epoxide II	0.03
56.949	Unidentified	0.10
57.524	tau-Cadinol	0.03
		100.00

Sample Information

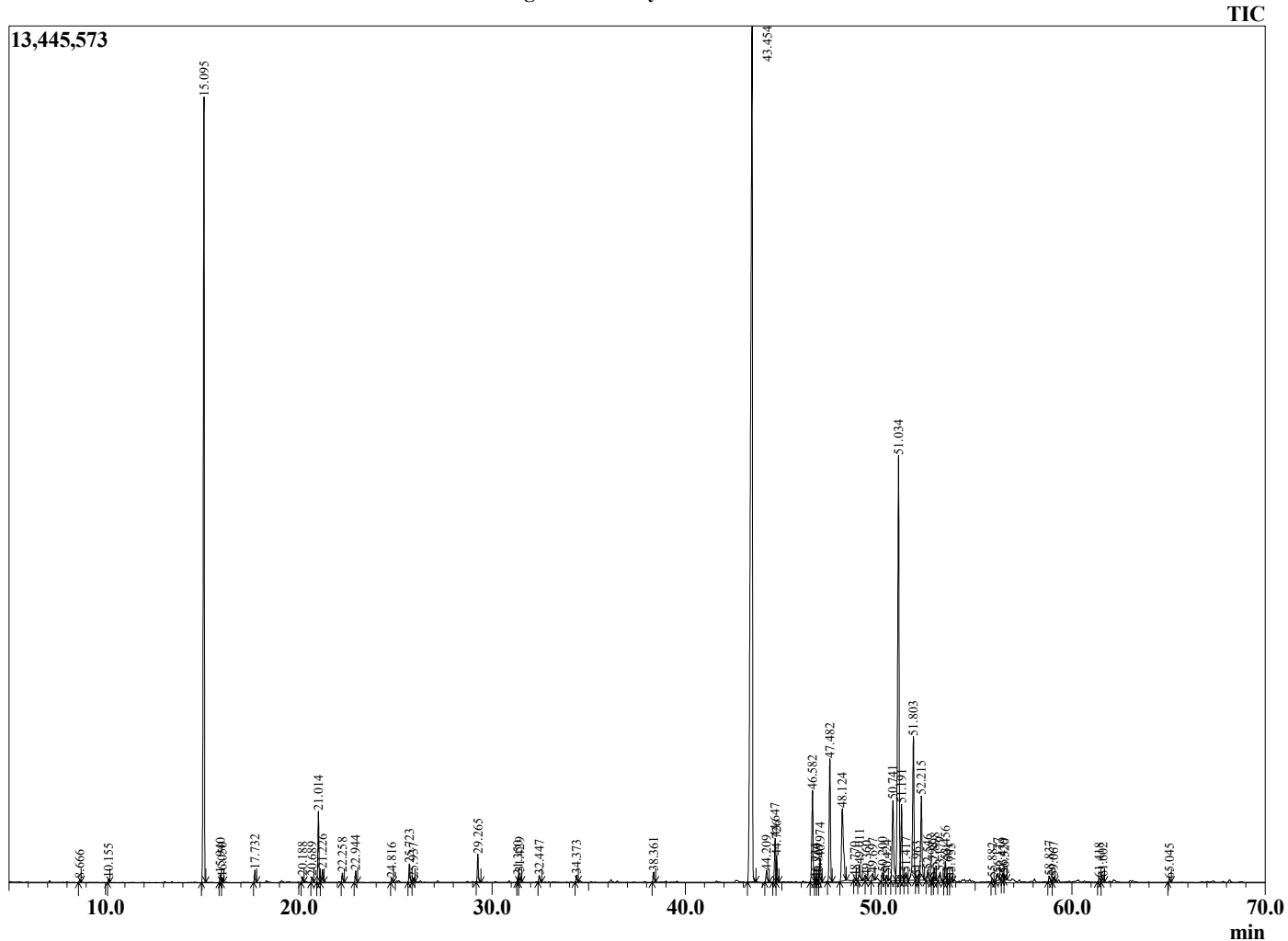
Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 7/10/2020 7:30:53 AM  
 Sample Type : Essential Oil  
 Sample Name : Helichrysum - BIOAROMA  
 Sample ID : BA18FX  
 Injection Volume : 0.10  
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
8.666	2-Methyl-2-heptene	0.06
10.155	4-Methyl 3-hexanone	0.07
15.095	alpha-Pinene	17.69
15.940	alpha-Fenchene	0.17
16.050	Camphene	0.09
17.732	beta-Pinene	0.26
20.188	alpha-Terpinene	0.12
20.689	para-Cymene	0.12
21.014	Limonene	1.55
21.226	1,8-Cineole	0.30
22.258	Isobutyl angelate	0.21
22.944	gamma-Terpinene	0.26
24.816	Terpinolene	0.10
25.723	Linalool	0.45
25.937	2-Methylbutyl-2-methylbutyrate	0.09
29.265	Isoamyl tiglate	0.65
31.350	Italidione	0.15
31.429	Italidione + Terpinen-4-ol	0.31
32.447	alpha-Terpineol	0.17
34.373	Nerol	0.17
38.361	Hexyl angelate	0.24
43.454	Neryl acetate	34.61
44.209	Isoledene	0.34
44.647	alpha-Copaene	1.31
44.726	Isoitalicene	0.57
46.582	Italicene	2.51
46.734	Italicene isomer	0.09
46.869	Unidentified	0.07
46.974	cis-alpha-Bergamotene	0.63
47.482	beta-Caryophyllene	3.37
48.124	Italidione	3.18
48.770	6,9-Guaiadiene	0.07
49.011	Neryl propionate	0.45
49.360	(Z)-beta-Farnesene	0.12
49.697	alpha-Humulene	0.21
50.200	alpha-Acoradiene	0.23
50.424	beta-Acoradiene	0.15
50.741	Unidentified	2.74
51.034	gamma-Curcumene	13.45
51.191	Ar-Curcumene	2.16
51.417	beta-Sesquiphellandrene	0.30
51.803	beta-Selinene	4.41
51.963	trans-Murrola-4(14),5-diene	0.16
52.215	alpha-Selinene	2.56
52.546	Unidentified	0.33
52.798	beta-Bisabolene	0.08
52.898	beta-Curcumene	0.33
53.179	gamma-Cadinene	0.30
53.456	delta-Cadinene	0.54
53.601	(-)-alpha-Panasinsen	0.08
53.755	Zonarene	0.09
55.882	trans-Nerolidol	0.09
56.177	Italidione	0.28
56.439	Italidione	0.18
56.520	Italidione	0.14
58.837	Unidentified	0.16
59.067	Rosifoliol	0.14
61.418	alpha-Eudesmol	0.13
61.602	Unidentified	0.12
65.045	(2E,6Z)-Farnesol	0.09
		100.00

Chromatogram Helichrysum - BIOAROMA



Comments:

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

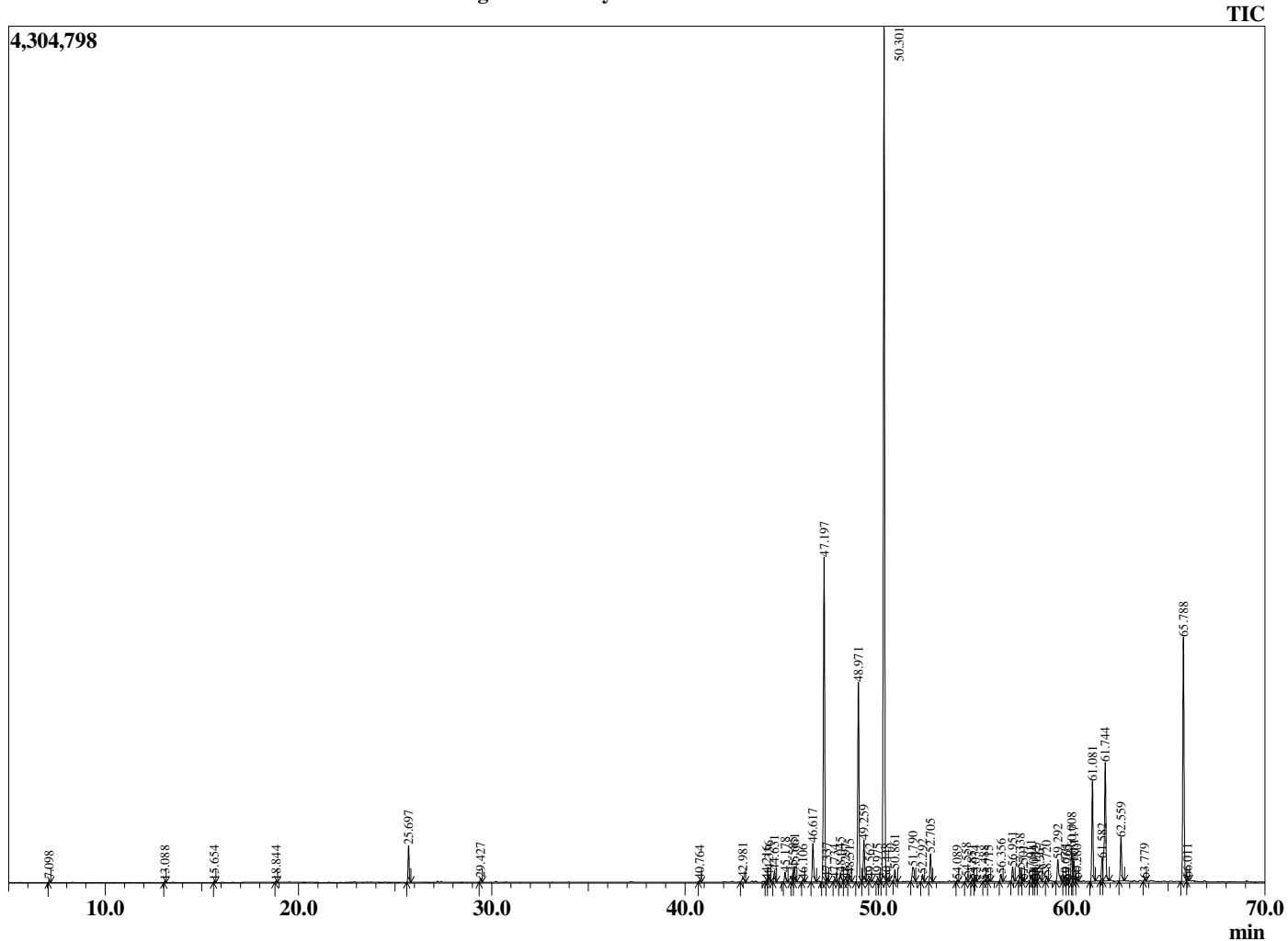
Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 11/19/2019 6:39:42 PM  
 Sample Type : Essential Oil  
 Sample Name : Himalayan Cedarwood - BIOAROMA  
 Sample ID : AI07KF  
 Injection Volume : 0.10  
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
7.098	Mesityl oxide	0.09
13.088	alpha-Pinene	0.04
15.654	beta-Pinene	0.05
18.844	Limonene	0.04
25.697	4-Acetyl-1-methylcyclohexene	1.29
29.427	4'-Methylacetophenone	0.16
40.764	alpha-Longipinene	0.09
42.981	4,5-Dehydroisolongifolene	0.28
44.216	alpha-Gurjunene	0.07
44.336	Unidentified	0.23
44.631	Junipene	0.48
45.178	Unidentified	0.42
45.585	Unidentified	0.34
45.661	Unidentified	0.59
46.106	trans-alpha-Bergamotene	0.11
46.617	E-Vestitenone	1.73
47.197	alpha-Himachalene	13.47
47.337	trans-beta-Farnesene	0.15
47.734	Unidentified	0.12
48.045	Unidentified	0.47
48.297	Unidentified	0.18
48.515	alpha-Neocallitropsene	0.31
48.971	gamma-Himachalene	8.39
49.259	11-alpha-H-Himachala-1,4-diene	1.73
49.562	(Z)-4,10-Epoxy amorphane	0.12
49.975	Unidentified	0.14
50.301	beta-Himachalene	35.67
50.448	Unidentified	0.12
50.861	alpha-Dehydro-ar-Himachalene	0.48
51.790	Unidentified	0.95
52.292	9,10-Cycloisolongifolene	0.32
52.705	trans-alpha-Bisabolene	1.13
54.089	Unidentified	0.06
54.558	Unidentified	0.18
54.851	Unidentified	0.09
55.034	Unidentified	0.04
55.488	Unidentified	0.06
55.715	Unidentified	0.06
56.356	Longiborneol	0.31
56.951	Unidentified	0.65
57.338	beta-Himachalene oxide	0.55
57.501	Unidentified	0.05
57.911	Unidentified	0.32
58.044	Unidentified	0.05
58.172	Unidentified	0.05
58.367	Unidentified	0.29
58.720	alpha-Acorenol	0.23
59.292	beta-Himachalol	1.20
59.670	Unidentified	0.05
59.765	Unidentified	0.07
60.008	Unidentified	1.47
60.117	Unidentified	0.89
60.280	Unidentified	0.11
61.081	allo-Himachalol	4.18
61.582	(4R,8R)-Deodarone	0.89
61.744	(4R,8S)-Deodarone	6.12
62.559	(Z)-alpha-Atlantone	1.82
63.779	Unidentified	0.10
65.788	(E)-alpha-Atlantone	10.25
66.011	Unidentified	0.12
		100.00

Chromatogram Himalayan Cedarwood - BIOAROMA



Comments:

The analysis of this Himalayan Cedarwood batch sample meets the expected chemical profile for authentic essential oil of

*Cedrus deodara*. 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

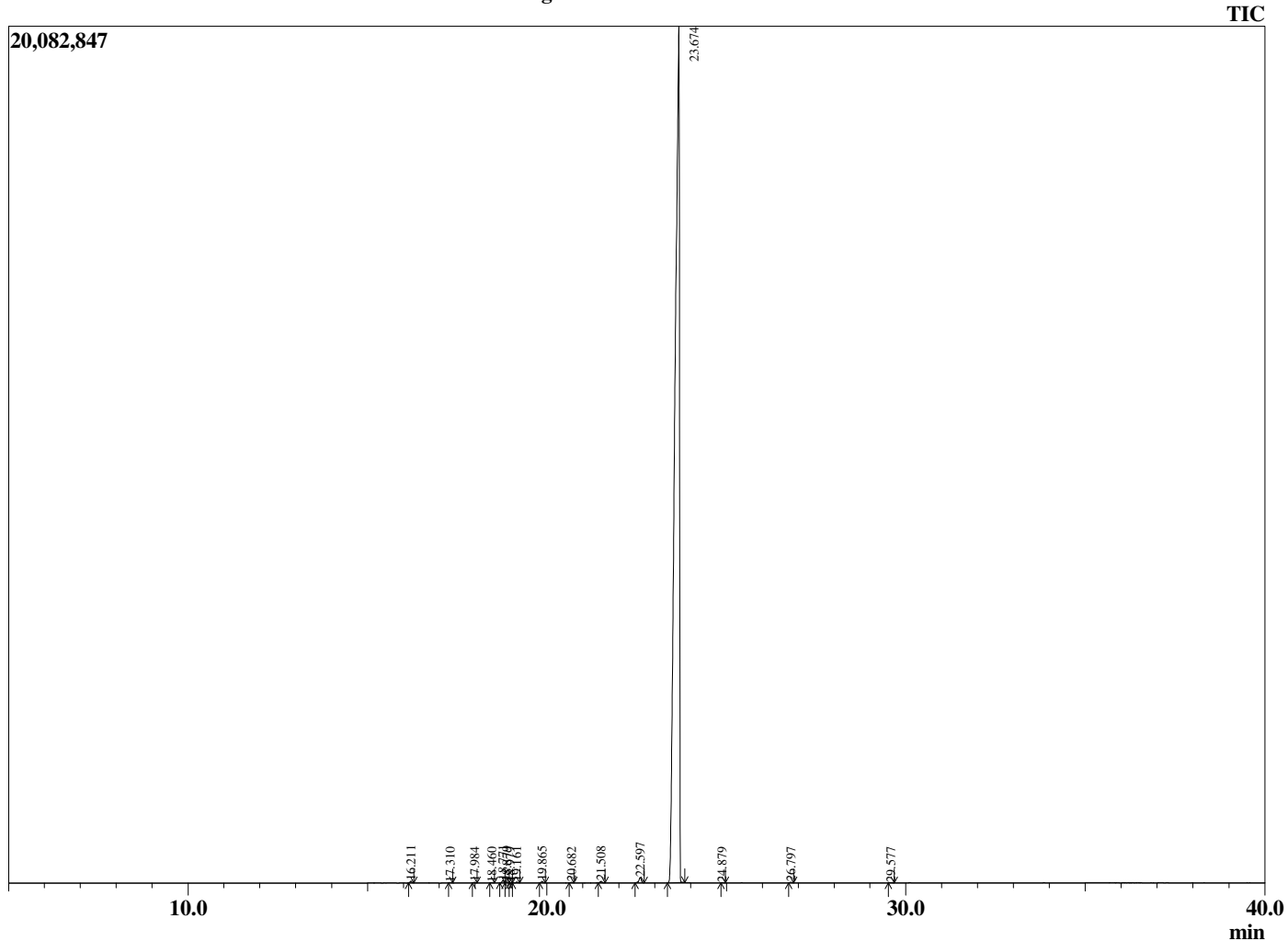
Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 8/29/2020 2:53:06 AM  
 Sample Type : Essential Oil  
 Sample Name : Ho Wood - BIOAROMA  
 Sample ID : BA08GH  
 Injection Volume : 0.10  
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
16.211	Myrcene	0.08
17.310	alpha-Phellandrene	0.02
17.984	alpha-Terpinene	0.03
18.460	para-Cymene	0.02
18.771	Limonene	0.11
18.879	beta-Phellandrene	0.04
18.979	1,8-Cineole	0.01
19.161	cis-beta-Ocimene	0.04
19.865	trans-beta-Ocimene	0.08
20.682	gamma-Terpinene	0.03
21.508	cis-Linalool oxide (furanoid)	0.09
22.597	trans-Linalool oxide (furanoid)	0.34
23.674	Linalool	99.06
24.879	alpha-Fenchol	0.01
26.797	Camphor	0.03
29.577	Hex-(3Z)-enyl butyrate	0.02
		100.00

Chromatogram Ho Wood - BIOAROMA



Comments:

The analysis of this Ho Wood 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

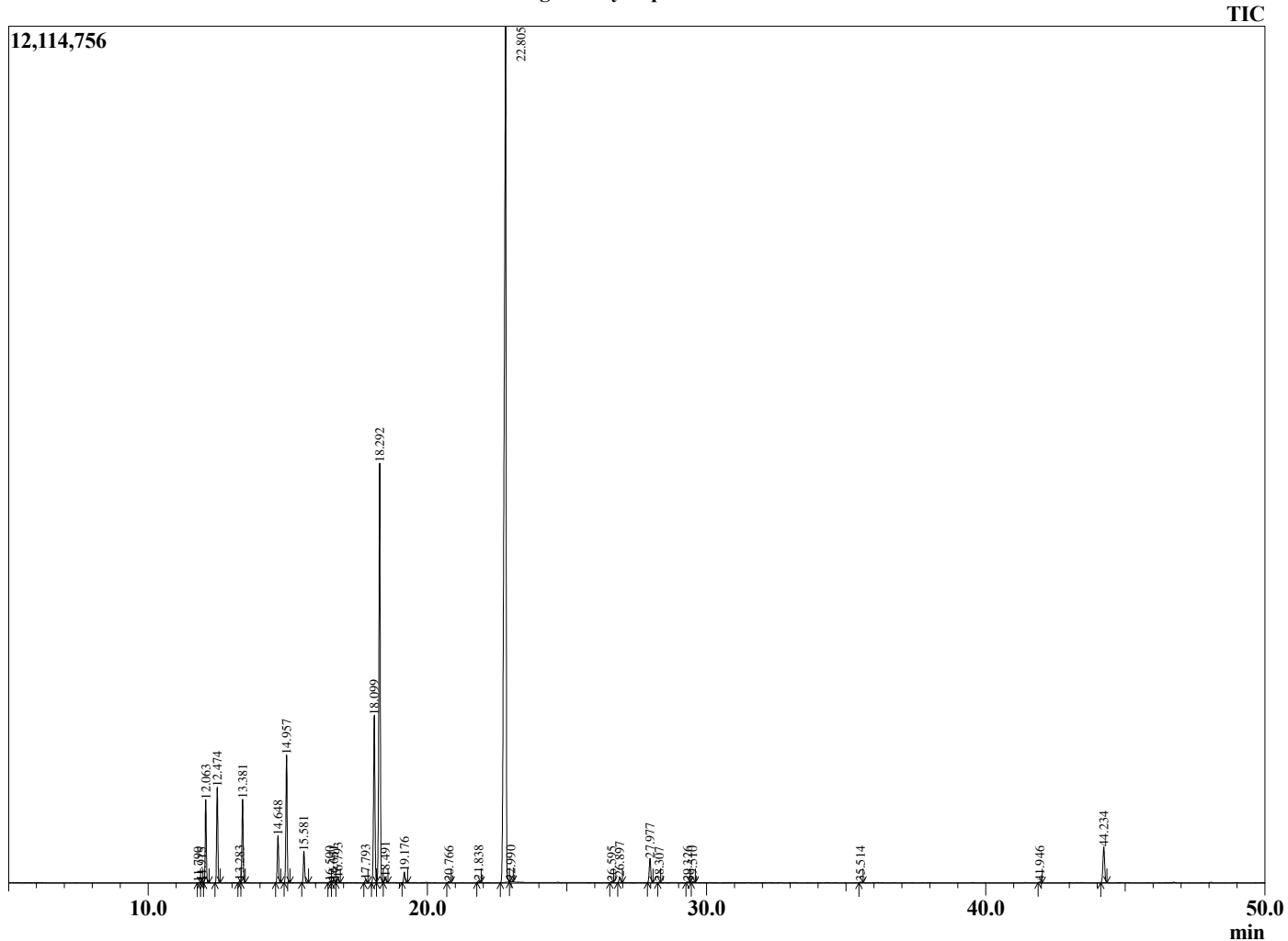
Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 11/20/2020 2:48:22 PM  
 Sample Type : Essential Oil  
 Sample Name : Hyssop Oil-IOAROMA  
 Sample ID : BA29IY  
 Injection Volume : 0.10  
 Instrument ID: : GC-4



Peak Report TIC

R.Time	Name	Area%
11.790	Hashishene	0.01
11.915	Tricyclene	0.02
12.063	alpha-Thujene	2.92
12.474	alpha-Pinene	3.43
13.283	alpha-Fenchene	0.08
13.381	Camphene	3.09
14.648	Sabinene	1.82
14.957	beta-Pinene	4.89
15.581	Myrcene	1.26
16.500	Pseudolimonene	0.04
16.651	alpha-Phellandrene	0.10
16.793	delta-3-Carene	0.19
17.793	para-Cymene	0.14
18.099	Limonene	7.28
18.292	1,8-cineole	17.97
18.491	(Z)-beta-Ocimene	0.24
19.176	(E)-beta-Ocimene	0.46
20.766	cis-Linalool oxide (furanoid)	0.05
21.838	trans-Linalool oxide (furanoid)	0.09
22.805	Linalool	52.34
22.990	Unidentified	0.05
26.595	Myrtenyl methyl ether	0.04
26.897	Pinocamphone	0.28
27.977	Isopinocamphone	1.16
28.307	Terpinen-4-ol	0.01
29.326	Myrtenol	0.04
29.510	Methyl chavicol	0.05
35.514	(E)-Anethole	0.04
41.946	beta-Bourbonene	0.03
44.234	trans-beta-Caryophyllene	1.92
		100.00

Chromatogram Hyssop Oil-BIOAROMA



Comments:

The analysis of this Hyssop var. decumbens batch sample meets the expected chemical profile for authentic essential oil of *Hyssopus officinalis* var. *decumbens*. 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

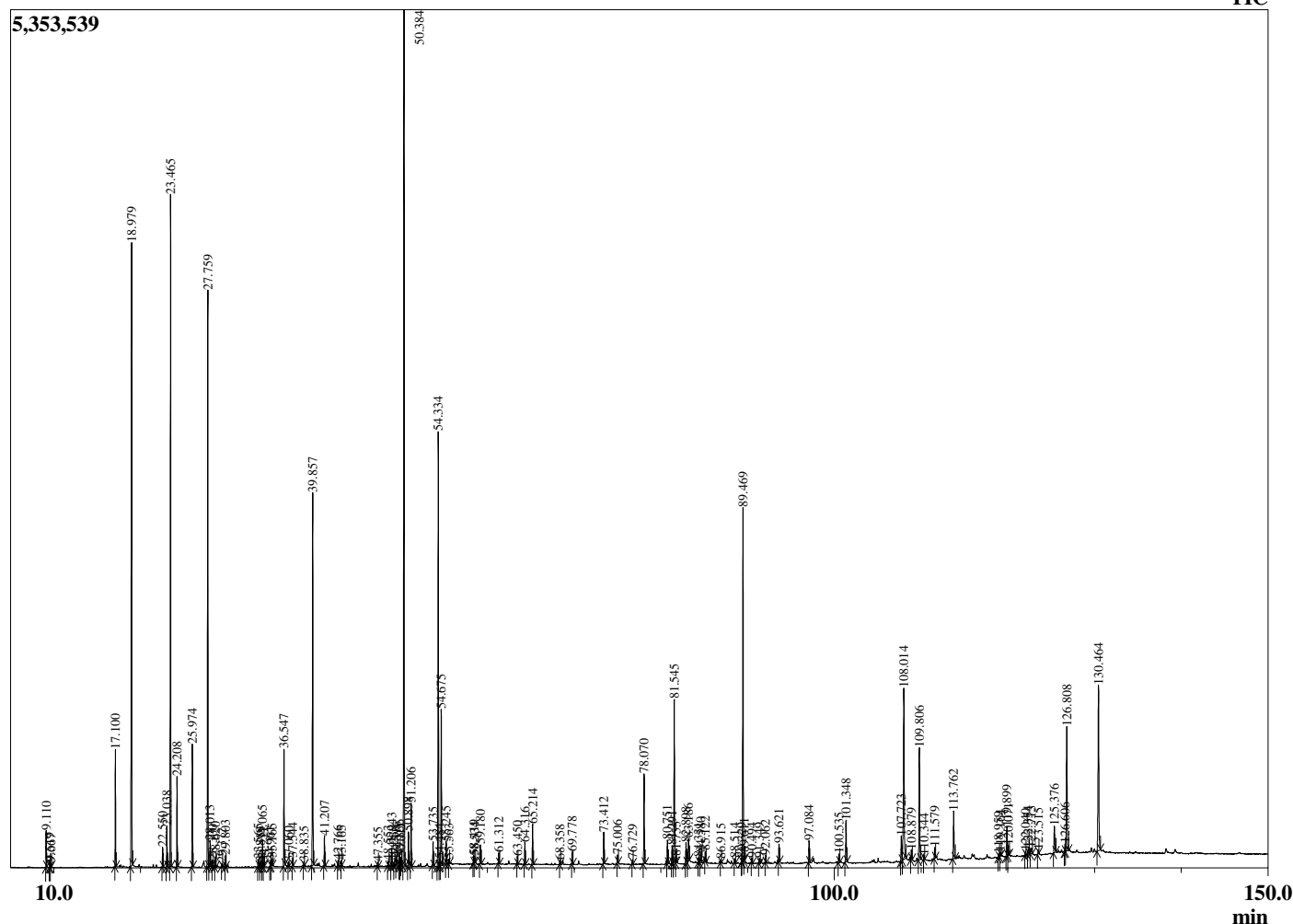
Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 8/27/2020 11:42:17 AM  
 Sample Type : Essential Oil  
 Sample Name : Jasmine sambac -BIOAROMA  
 Sample ID : BA08GI  
 Injection Volume : 0.10  
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
3.051	Ethanol	0.09
3.777	Ethyl Acetate	0.04
9.110	Hex-3(Z)-enol	0.32
9.519	Hex-2(E)-enol	0.05
9.667	n-Hexanol	0.04
17.100	Hex-3(Z)-enyl acetate	1.30
18.979	Benzyl Alcohol	10.04
22.550	trans-Linalool oxide (furanoid)	0.25
23.038	Methyl benzoate	0.52
23.465	Linalool	9.15
24.208	Phenethyl alcohol	1.14
25.974	Benzyl nitrile	1.58
27.759	Benzyl acetate	7.91
28.013	Unidentified	0.33
28.300	Ethyl benzoate	0.08
28.620	Unidentified	0.13
29.372	Hex-3(Z)-enyl butyrate	0.04
29.803	Methyl salicylate	0.15
33.565	Hydrocinnamyl alcohol	0.10
33.819	Geraniol	0.05
34.065	2-Phenethyl acetate	0.35
34.222	Unidentified	0.07
34.961	Unidentified	0.08
35.165	Unidentified	0.11
36.547	Indole	1.64
37.060	Unidentified	0.05
37.544	(E)-Cinnamyl alcohol	0.11
38.835	Unidentified	0.05
39.857	Methyl anthranilate	5.62
41.207	8-Hydroxylinalool	0.42
42.766	Unidentified	0.08
43.165	beta-Elemene	0.06
47.355	alpha-Humulene	0.06
48.553	trans-Cadina-1(6),4-diene	0.07
48.943	Germacrene D	0.27
49.238	Unidentified	0.07
49.516	(Z,E)-alpha-Farnesene	0.09
49.836	Bicyclogermacrene	0.16
50.011	alpha-Murolene	0.13
50.384	(E,E)-alpha-Farnesene	13.34
50.898	gamma-Cadinene	0.50
51.206	delta-Cadinene	0.92
53.735	trans-Nerolidol	0.34
54.334	Hex-(3Z)-enyl benzoate	6.58
54.484	Dendralasin	0.12
54.675	Germacren D-4-ol	2.52
55.245	Unidentified	0.32
55.563	Methyl N-acetylthranilate	0.06
58.419	tau-Cadinol	0.12
58.534	epi-alpha-Cadinol	0.09
59.180	alpha-Cadinol	0.32
61.312	Unidentified	0.17
63.450	Unidentified	0.11
64.316	Unidentified	0.31
65.214	Benzyl benzoate	0.60
68.358	Unidentified	0.05
69.778	Phenethyl benzoate	0.18
73.412	Methyl palmitate	0.48
75.006	Palmitic acid	0.12
76.729	Ethyl palmitate	0.05
78.070	Geranyl linalool isomer	1.41
80.751	Unidentified	0.36

Chromatogram Jasmine sambac - BIOAROMA



Comments:

The analysis of this Jasmine sambac batch sample meets the expected chemical profile for authentic absolute of *Jasminum sambac*. 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%
81.291	Methyl linoleate	0.28
81.545	Methyl linolenate	2.93
81.755	Heneicosane	0.10
82.898	Methyl stearate	0.35
83.186	Linolenic acid	0.46
84.331	Unidentified	0.07
84.580	Ethyl linolenate	0.18
85.122	Docosene	0.15
86.915	Unidentified	0.04
88.514	Unidentified	0.07
89.329	Unidentified	0.05
89.469	Tricosene	5.68
89.611	Unidentified	0.10
90.494	Tricosane	0.07
91.349	Unidentified	0.10
92.062	Unidentified	0.10
93.621	Tetracosene	0.30
97.084	Unidentified	0.34
100.535	Unidentified	0.14
101.348	Benzyl myristate	0.72
107.723	Benzyl linoleate	0.45
108.014	Benzyl linolenate	3.66
108.879	Benzyl stearate	0.17
109.806	Squalene	2.13
110.344	Unidentified	0.07
111.579	Unidentified	0.17
113.762	2,3-Epoxy-2,3-dihydrosqualene	0.91
118.959	Unidentified	0.07
119.164	Unidentified	0.08
119.899	Vitamin E	0.58
120.071	Unidentified	0.19
122.040	Unidentified	0.06
122.354	Unidentified	0.13
122.713	Unidentified	0.18
123.515	Unidentified	0.07
125.376	Unidentified	0.56
126.606	beta-Amyrin	0.14
126.808	Unidentified	2.51
130.464	Unidentified	3.78
		100.00



Sample Information

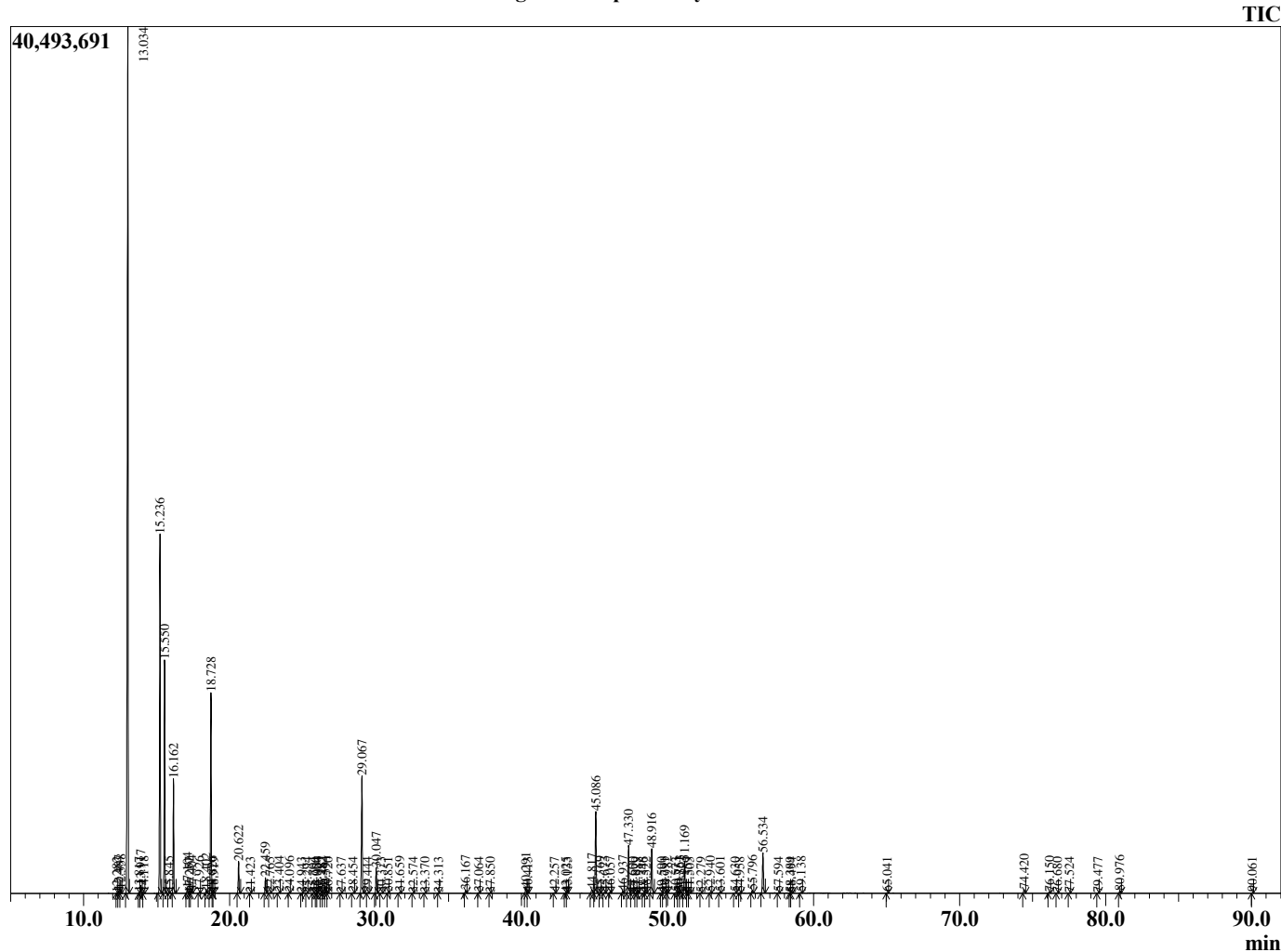
Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 11/12/2020 6:40:18 AM  
 Sample Type : Essential Oil  
 Sample Name : Juniper Berry Oil-BIOAROMA  
 Sample ID : BA29IZ  
 Injection Volume : 0.10  
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
12.282	Hashishene	0.01
12.407	Tricyclene	0.10
12.558	alpha-Thujene	0.14
13.034	alpha-Pinene	39.71
13.817	alpha-Fenchene	0.03
13.917	Camphene	0.29
14.118	Thuja-2,4(10)diene	0.04
15.236	Sabinene	13.90
15.550	beta-Pinene	8.79
15.845	Unidentified	0.03
16.162	Myrcene	4.39
17.104	Pseudolimonene	0.18
17.257	alpha-Phellandrene	0.01
17.404	delta-3-Carene	0.10
17.926	alpha-Terpinene	0.04
18.402	para-Cymene	0.16
18.728	Limonene	8.10
18.826	beta-Phellandrene	0.04
18.919	1,8-Cineole	0.03
20.622	gamma-Terpinene	1.30
21.423	trans-Sabinene hydrate	0.01
22.459	Terpinolene	0.65
22.765	Dehydro-para-cymene	0.03
23.404	alpha-Pinene oxide	0.06
24.096	Unidentified	0.04
24.943	trans-para-Mentha-2,8-dien-1-ol	0.01
25.294	alpha-Campholenal	0.02
25.704	cis-Limonene oxide	0.01
25.950	Unidentified	0.01
26.004	trans-Limonene oxide	0.02
26.282	trans-Pinocarveol	0.07
26.382	Epoxyterpinolene	0.03
26.591	Verbenol	0.08
26.720	Camphor	0.01
27.637	trans-Pinocamphone	0.01
28.454	Borneol	0.03
29.067	Terpinen-4-ol	5.43
29.444	para-Cymen-8-ol	0.03
30.047	alpha-Terpineol	1.17
30.373	Unidentified	0.02
30.851	Verbenone	0.03
31.659	trans-Carveol	0.05
32.574	cis-Carveol	0.01
33.370	Carvone	0.02
34.313	Unidentified	0.01
36.167	Bornyl acetate	0.12
37.064	Unidentified	0.03
37.850	Unidentified	0.01
40.291	alpha-Terpinyl acetate	0.25
40.413	gamma-Terpinyl acetate	0.03
42.257	alpha-Copaene	0.03
43.025	7-epi-Sesquithujene	0.02
43.133	beta-Elemene	0.03
44.817	alpha-Cedrene	0.24
45.086	trans-beta-Caryophyllene	4.16
45.369	beta-Cedrene	0.04
45.673	gamma-Elemene	0.04
46.057	cis-Thujopsene	0.05
46.937	Humulen-(v1)	0.11
47.330	alpha-Humulene	2.40
47.600	Alloaromadendrene	0.02
47.829	Unidentified	0.01

Chromatogram Juniper Berry Oil-BIOAROMA



Comments:

The analysis of this Juniper Berry batch sample meets the expected chemical profile for authentic essential oil of *Juniperus communis*. 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%
47.988	beta-Acoradiene	0.02
48.346	10-beta-H-Cadina-1(6),4-diene	0.02
48.522	trans-Cadina-1(6),4-diene	0.03
48.916	Germacrene D	2.25
49.590	trans-Muurolo-4(14),5-diene	0.01
49.791	Bicyclgermacrene	0.04
49.982	alpha-Muurolole	0.03
50.573	Unidentified	0.04
50.751	alpha-Alaskene	0.06
50.863	gamma-Cadinene	0.07
51.169	delta-Cadinene	1.59
51.359	cis-Calamenene	0.01
51.503	Unidentified	0.01
52.279	Unidentified	0.01
52.940	alpha-Elemol	0.05
53.601	Germacrene B	0.06
54.630	Germacren D-4-ol	0.03
54.958	Caryophyllene oxide	0.04
55.796	Unidentified	0.13
56.534	Cedrol	2.09
57.594	1-epi-Cubenol	0.02
58.389	tau-Cadinol	0.01
58.494	epi-alpha-Cadinol	0.02
59.138	Unidentified	0.05
65.041	Cedryl acetate	0.02
74.420	Myrcene dimer I	0.19
76.150	Myrcene dimer II	0.06
76.680	Unidentified	0.02
77.524	Unidentified	0.01
79.477	Abietatriene	0.02
80.976	Abietadiene	0.11
90.061	4-epi-Abietal	0.02
		100.00