

Sample Information

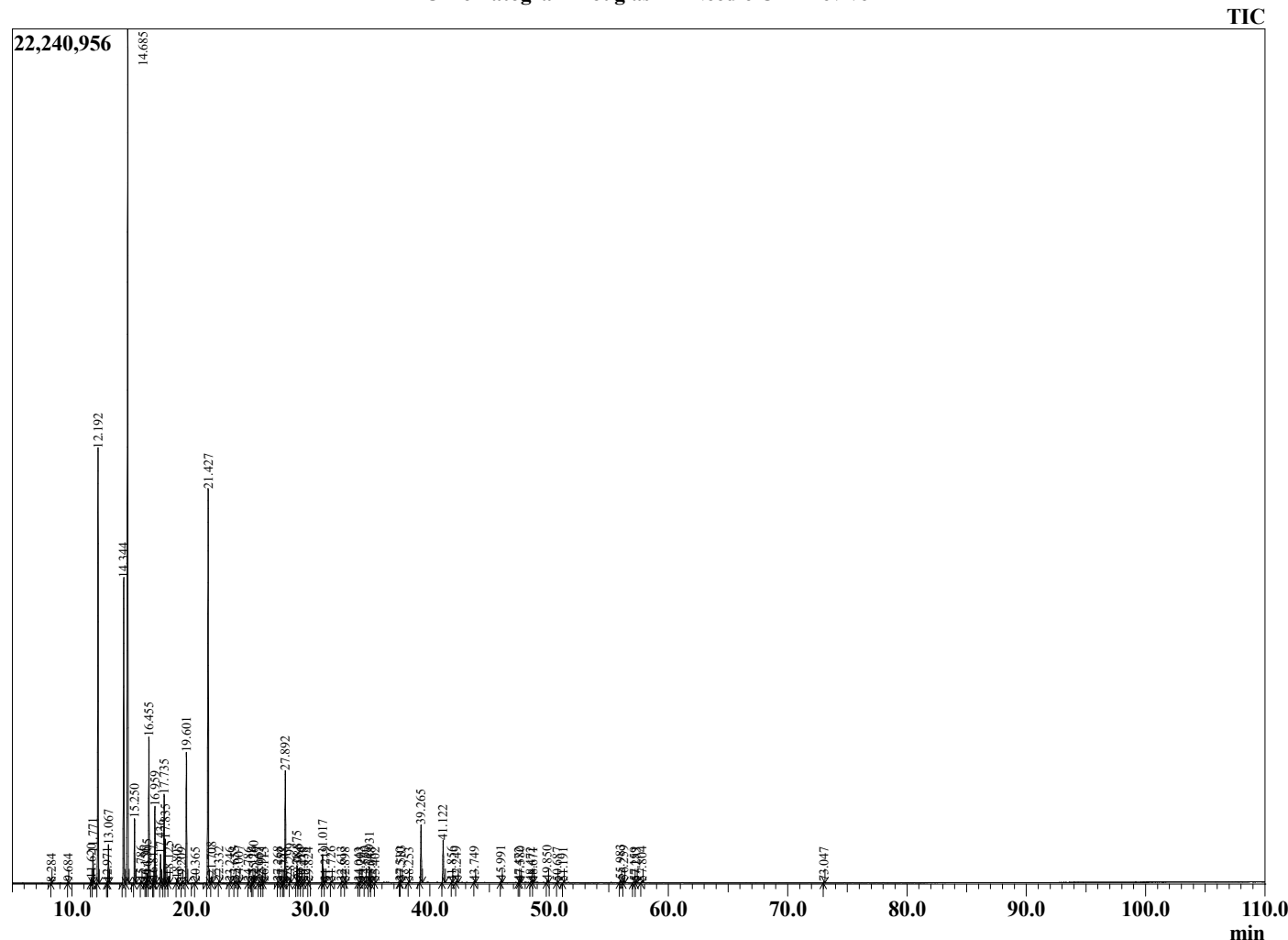
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 7/28/2023 11:55:42 PM
 Sample Type : Essential Oil
 Sample Name : Douglas Fir Needle Oil - Revive
 Sample ID : 2F
 Injection Volume : 0.10
 Instrument ID: : GC-4



Peak Report TIC

R.Time	Name	Area%
3.610	4-Methylcyclopentene	0.01
8.284	Ethyl 2-Methylbutyrate	0.02
9.684	Santene	0.03
11.620	Tricyclene	0.11
11.771	alpha-Thujene	0.75
12.192	alpha-Pinene	11.78
12.971	alpha-Fenchene	0.03
13.067	Camphene	1.03
14.344	Sabinene	9.62
14.685	beta-Pinene	31.40
15.250	Myrcene	1.80
15.786	Ethyl Hexanoate	0.07
16.156	para-Mentha-1(7),8-diene	0.01
16.305	alpha-Phellandrene	0.26
16.455	delta-3-Carene	4.34
16.817	1,4-Cineole	0.08
16.959	alpha-Terpinene	2.32
17.436	para-Cymene	0.88
17.735	Limonene	2.74
17.835	beta-Phellandrene	1.29
18.125	cis-beta-Ocimene	0.20
18.805	trans-beta-Ocimene	0.14
19.209	Unidentified	0.04
19.601	gamma-Terpinene	4.20
20.365	cis-Sabinene hydrate	0.03
21.427	Terpinolene	14.29
21.708	para-Cymenene	0.20
22.332	Linalool	0.04
23.246	Unidentified	0.03
23.655	Fenchol	0.05
24.007	cis-para-Menth-2-en-1-ol	0.11
24.786	Unidentified	0.02
25.116	Unidentified	0.05
25.260	Epoxyterpinolene	0.26
25.667	Isopulegol	0.01
25.921	Citronellal	0.09
26.115	Camphene hydrate	0.02
27.268	endo-Borneol	0.04
27.557	Unidentified	0.03
27.748	Unidentified	0.02
27.892	Terpinen-4-ol	4.07
28.299	para-Cymen-8-ol	0.15
28.875	alpha-Terpineol	0.61
28.986	Ethyl Octanoate	0.10
29.216	Unidentified	0.02
29.438	Unidentified	0.02
29.824	trans-Piperitol	0.02
31.017	Citronellol	0.99
31.219	Thymol methyl ether	0.04
31.726	Unidentified	0.04
32.613	Unidentified	0.04
32.898	Unidentified	0.02
34.043	Isopulegol acetate	0.02
34.203	Citronellyl formate	0.05
34.560	Unidentified	0.05
34.931	Bornyl acetate	0.58
35.088	Unidentified	0.02
35.402	Unidentified	0.01
37.510	Unidentified	0.01
37.583	Methyl decanoate	0.07
38.253	Unidentified	0.02
39.265	Citronellyl acetate	2.20

Chromatogram Douglas Fir Needle Oil - Revive



Comments:

The analysis of this Douglas Fir batch sample meets the expected chemical profile for authentic essential oil of *Pseudotsuga menziesii*. 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%
41.122	Geranyl acetate	1.60
41.856	beta-Elemene	0.03
42.249	ethyl-Decanoate	0.07
43.749	beta-Caryophyllene	0.03
45.991	alpha-Humulene	0.08
47.472	6-alpha-Cadina-4,9-diene	0.03
47.580	Germacrene D	0.04
48.472	Unidentified	0.04
48.671	Unidentified	0.01
49.850	delta-Cadinene	0.09
50.687	Unidentified	0.02
51.191	trans-alpha-Bisabolene	0.02
55.983	Selina-6-en-4-ol	0.12
56.259	Unidentified	0.08
57.159	Unidentified	0.05
57.283	Unidentified	0.03
57.804	Cadin-4-en-10-ol	0.06
73.047	beta-Springene	0.03
		100.00