

Sample Information

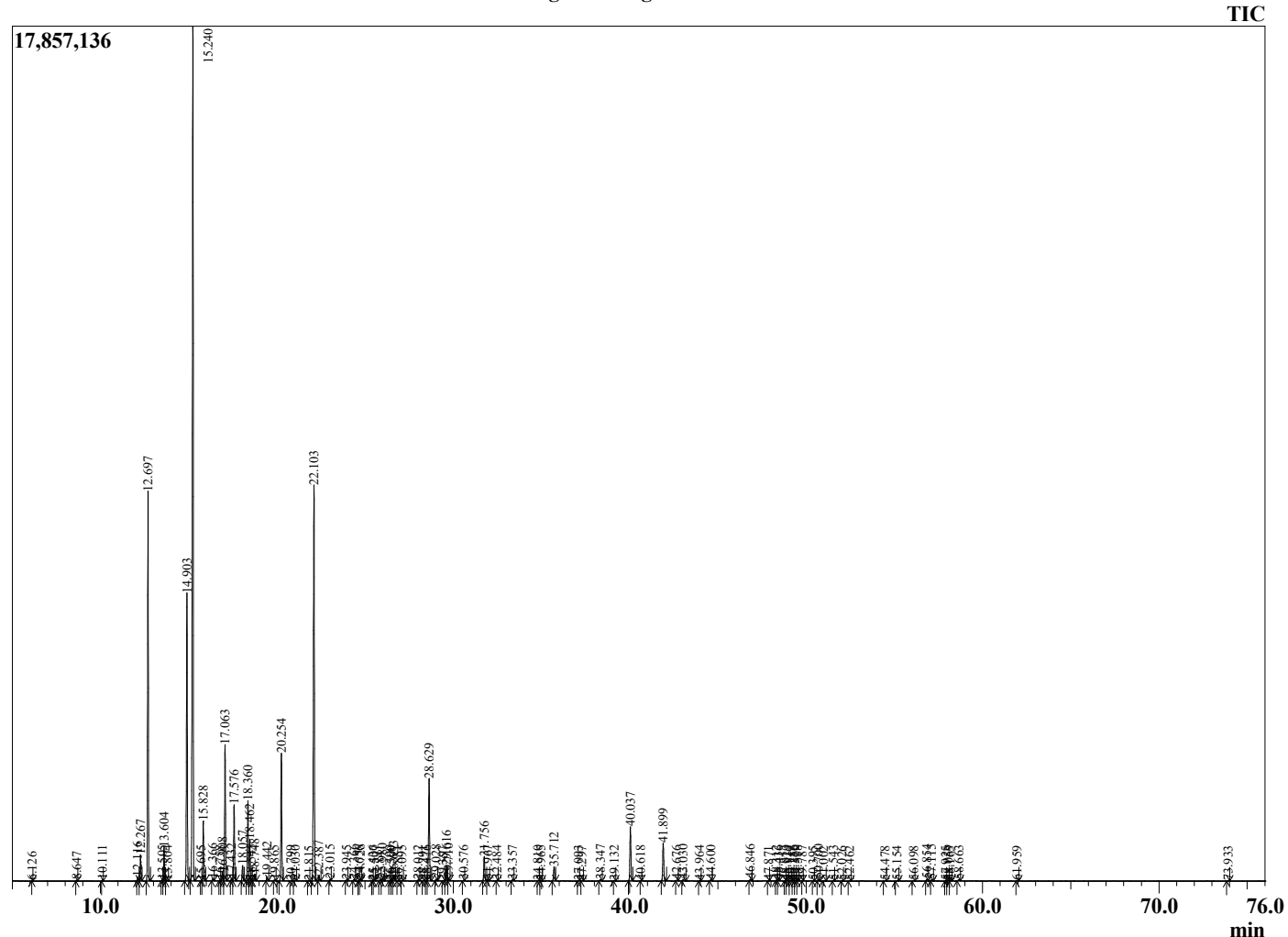
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 10/15/2022 3:39:22 AM
 Sample Type : Essential Oil
 Sample Name : Douglas Fir Oil - Revive
 Sample ID : 2F
 Injection Volume : 0.10
 Instrument ID: : GC-3



Peak Report TIC

R.Time	Name	Area%
3.728	4-Methylcyclopentene	0.01
6.126	Toluene	0.00
8.647	Ethyl-2-methylbutyrate	0.02
10.111	Santene	0.03
12.116	Tricyclene	0.11
12.267	alpha-Thujene	0.73
12.697	alpha-Pinene	11.68
13.505	alpha-Fenchene	0.03
13.604	Camphene	1.00
13.804	Thuja-2,4(10)-diene	0.01
14.903	Sabinene	9.48
15.240	beta-Pinene	31.34
15.695	para-Menth-3-ene	0.01
15.828	Myrcene	1.87
16.366	Ethyl hexanoate	0.06
16.758	Pseudolimonene	0.02
16.908	alpha-Phellandrene	0.28
17.063	delta-3-Carene	4.44
17.432	1,4-Cineole	0.08
17.576	alpha-Terpinene	2.50
18.057	para-Cymene	0.52
18.360	Limonene	2.72
18.462	beta-Phellandrene	1.36
18.545	1,8-Cineole	0.02
18.748	cis-beta-Ocimene	0.23
19.442	trans-beta-Ocimene	0.13
19.865	cis-2,2,9-trimethyl-1,6-Dioxaspiro[4,4]nonan	0.04
20.254	gamma-Terpinene	4.52
20.799	trans-2,2,9-trimethyl-1,6-Dioxaspiro[4,4]nonan	0.01
21.030	trans-Sabinene hydrate	0.02
21.815	Isoterpinolene	0.01
22.103	Terpinolene	14.93
22.387	para-Cymenene	0.18
23.015	Linalool	0.04
23.945	1,3,8-Menthatriene	0.03
24.366	endo-Fenchol	0.05
24.656	Methyl octanoate	0.03
24.728	cis-para-Menth-2-en-1-ol	0.06
25.436	Menthatriene analogue	0.02
25.507	Terpin-3-en-1-ol	0.02
25.841	Unidentified	0.03
25.980	trans-para-Menth-2-en-1-ol	0.10
26.390	Isopulegol	0.02
26.500	Unidentified	0.01
26.633	Citronellal	0.18
26.851	Camphene hydrate	0.02
27.095	Isopulegol	0.01
28.012	Borneol	0.04
28.291	Unidentified	0.02
28.476	Unidentified	0.02
28.629	Terpinen-4-ol	4.02
29.028	para-Cymen-8-ol	0.05
29.397	Unidentified	0.00
29.616	alpha-Terpineol	0.60
29.710	Ethyl octanoate	0.10
30.576	trans-Piperitol	0.02
31.756	Citronellol	0.92
31.967	Thymol methyl ether	0.04
32.484	Unidentified	0.02
33.357	Unidentified	0.04
34.810	Isopulegyl acetate	0.01
34.965	Citronellyl formate	0.02

Chromatogram Douglas Fir 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 GC/MS quality analysis reflect the chemical composition of the oil and lot referenced above on the date of analysis.

R.Time	Name	Area%
35.712	Bornyl acetate	0.57
37.093	Citronellic acid	0.01
37.297	Methyl dec-(4E)-enoate	0.01
38.347	Methyl decanoate	0.06
39.132	delta-Elemene	0.01
40.037	Citronellyl acetate	2.15
40.618	Neryl acetate	0.01
41.899	Geranyl acetate	1.49
42.676	beta-Elemene	0.03
43.030	Ethyl decanoate	0.07
43.964	Longifolene	0.01
44.600	trans-beta-Caryophyllene	0.04
46.846	alpha-Humulene	0.07
47.871	Cadina-1(6),4-diene	0.01
48.312	alpha-Amorphene	0.02
48.436	Germacrene D	0.03
48.813	delta-Selinene	0.01
48.929	beta-Selinene	0.01
49.119	gamma-Murolene	0.01
49.256	cis-Methyl isoeugenol	0.01
49.366	alpha-Selinene	0.01
49.518	alpha-Murolene	0.01
49.787	delta-Amorphene	0.00
50.395	gamma-Cadinene	0.01
50.700	delta-Cadinene	0.07
51.002	Unidentified	0.01
51.543	Unidentified	0.01
52.026	trans-alpha-Bisabolene	0.01
52.462	alpha-Elemol	0.01
54.478	Caryophyllene oxide	0.01
55.154	Unidentified	0.01
56.098	Humulene epoxide II	0.01
56.854	Selina-6-en-4-ol	0.08
57.115	Unidentified	0.05
57.925	epi-alpha-Cadinol	0.01
58.059	Unidentified	0.03
58.165	delta-Cadinol	0.01
58.663	Cadin-4-en-10-ol	0.05
61.959	Farnesol isomer	0.01
73.933	meta-Camphorene	0.01
		100.00