

Sample Information

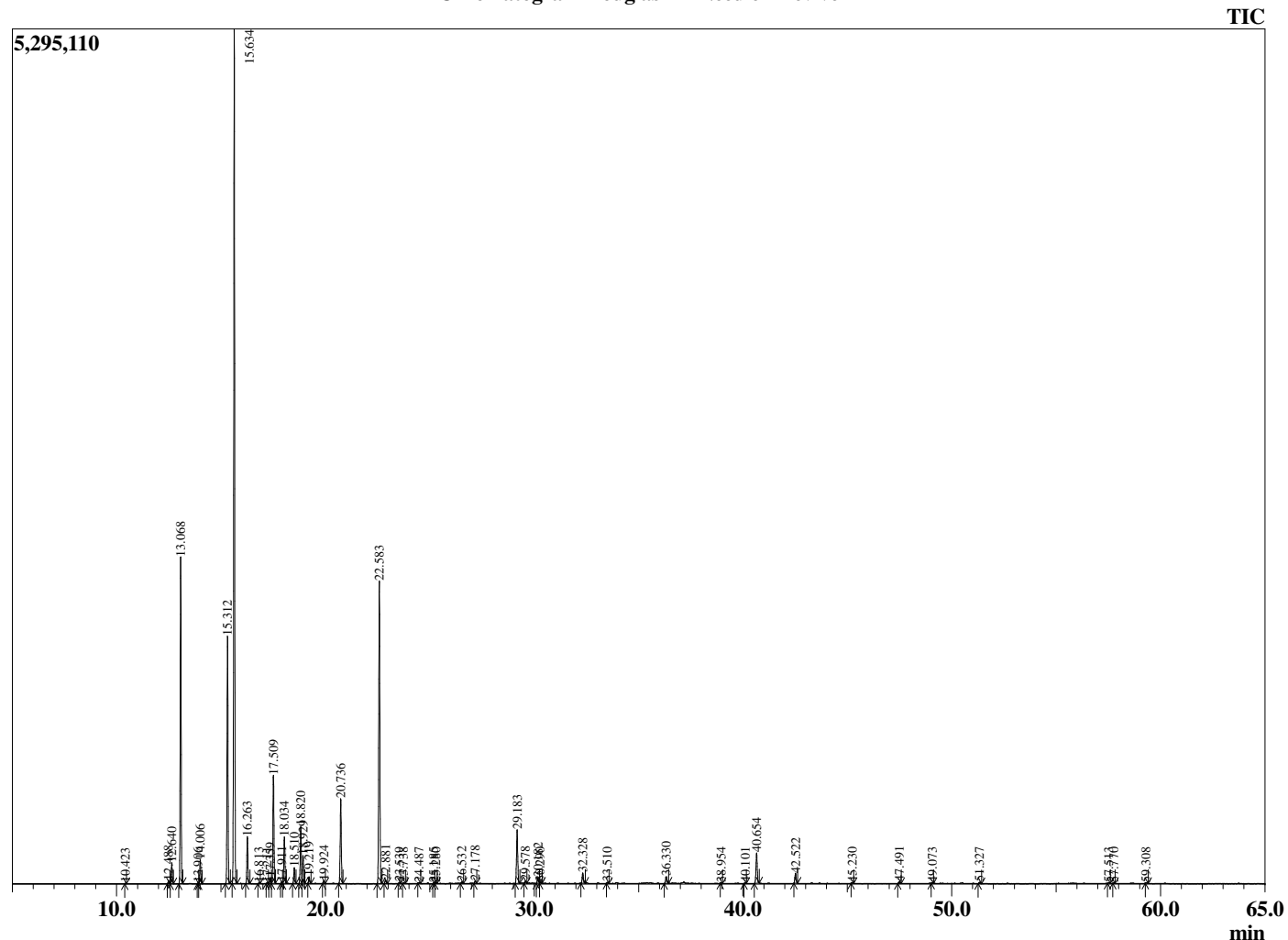
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 11/22/2019 3:04:43 PM
 Sample Type : Essential Oil
 Sample Name : Douglas Fir Needle - Revive
 Sample ID : F0C1106J
 Injection Volume : 0.10
 Instrument ID: : GC-3



Peak Report TIC

R.Time	Name	Area%
10.423	Santene	0.02
12.488	Tricyclene	0.12
12.640	alpha-Thujene	0.80
13.068	alpha-Pinene	12.63
13.906	alpha-Fenchene	0.03
14.006	Camphene	0.99
15.312	Sabinene	10.27
15.634	beta-Pinene	35.70
16.263	Myrcene	2.00
16.813	Ethyl hexanoate	0.03
17.211	Pseudolimonene	0.03
17.359	alpha-Phellandrene	0.24
17.509	delta-3-Carene	4.63
17.911	1,4-Cineole	0.07
18.034	alpha-Terpinene	2.06
18.510	para-Cymenne	0.70
18.820	Limonene	2.58
18.929	beta-Phellandrene	1.23
19.219	cis-beta-Ocimene	0.29
19.924	trans-beta-Ocimene	0.13
20.736	gamma-Terpinene	3.85
22.583	Terpinolene	14.36
22.881	para-Cymenene	0.16
23.539	Linalool	0.05
23.738	Unidentified	0.03
24.487	Unidentified	0.05
25.185	Methyl octanoate	0.03
25.280	cis-para-Menth-2-en-1-ol	0.04
26.532	Unidentified	0.08
27.178	Citronellal	0.12
29.183	Terpinen-4-ol	2.73
29.578	para-Cymen-8-ol	0.11
30.182	alpha-Terpineol	0.30
30.290	Ethyl octanoate	0.05
32.328	Citronellol	0.53
33.510	Carvone	0.04
36.330	Bornyl acetate	0.37
38.954	Methyl decanoate	0.02
40.101	Unidentified	0.03
40.654	Citronellyl acetate	1.61
42.522	Geranyl acetate	0.54
45.230	beta-Caryophyllene	0.03
47.491	alpha-Humulene	0.09
49.073	Germacrene D	0.04
51.327	delta-Cadinene	0.07
57.513	Unidentified	0.05
57.770	Unidentified	0.03
59.308	alpha-Cadinol	0.03
		100.00

Chromatogram Douglas Fir Needle - Revive



Comments:

The analysis of this Douglas Fir Needle 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.