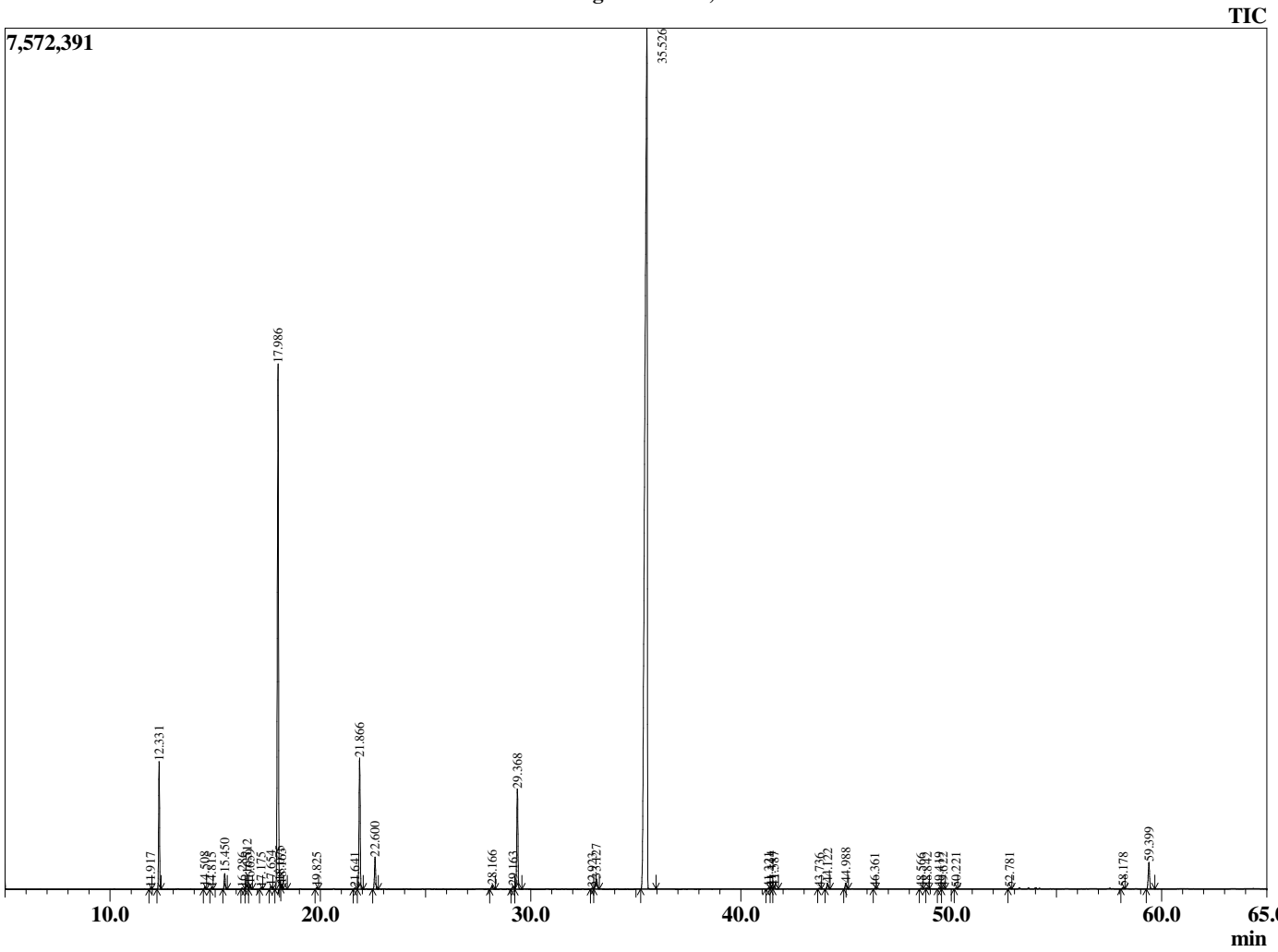
Sample Information

Analyzed by : Dr. Robert S. Pappas
Analyzed : 11/14/2018 7:58:55 PM
Sample Type : Essential Oil
Sample Name : Fennel, Sweet
Sample ID : D0B0907A
Injection Volume : 0.10
Instrument ID: : GC-3

Chromatogram Fennel, Sweet



Peak Report TIC

R.Time	Name	Area%
11.917	alpha-Thujene	0.03
12.331	alpha-Pinene	3.54
14.508	Sabinene	0.07
14.815	beta-Pinene	0.04
15.450	Myrcene	0.47
16.286	Octanal	0.05
16.512	alpha-Phellandrene	0.46
16.659	3-Carene	0.14
17.175	alpha-Terpinene	0.05
17.654	para-Cymene	0.11
17.986	Limonene	18.66
18.075	beta-Phellandrene	0.05
18.163	1,8-Cineole	0.10
19.825	gamma-Terpinene	0.05
21.641	Terpinolene	0.05
21.866	Fenchone	4.65
22.600	Linalool	1.12
28.166	Terpinen-4-ol	0.14
29.163	alpha-Terpineol	0.12
29.368	Z-Anethole	3.71
32.923	Geraniol	0.03
33.127	para-Anisaldehyde	0.55
35.526	E-Anethole	63.65
41.321	alpha-Copaene	0.05
41.444	Unidentified	0.08
41.587	Anisyl methyl ketone	0.12
43.736	cis-alpha-Bergamotene	0.03
44.122	beta-Caryophyllene	0.23
44.988	trans-alpha-Bergamotene	0.24
46.361	alpha-Humulene	0.03
48.566	Viridiflorene	0.03
48.842	Bicyclogermacrene	0.04
49.419	E,E-alpha-Farnesene	0.03
49.622	beta-Bisabolene	0.04
50.221	delta-Cadinene	0.03
52.781	trans-Nerolidol	0.05
58.178	alpha-Cadinol	0.08
59.399	Foeniculin	1.08
		100.00

Comments:

The analysis of this Fennel, Sweet batch sample meets the expected chemical profile for authentic essential oil of *Foeniculum vulgare* 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.

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