

Sample Information

Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 9/26/2018 5:49:12 PM  
 Sample Type : Essential Oil  
 Sample Name : Black Pepper - Edens Garden  
 Sample ID : AH17IG  
 Injection Volume : 0.10  
 Instrument ID : GC-3

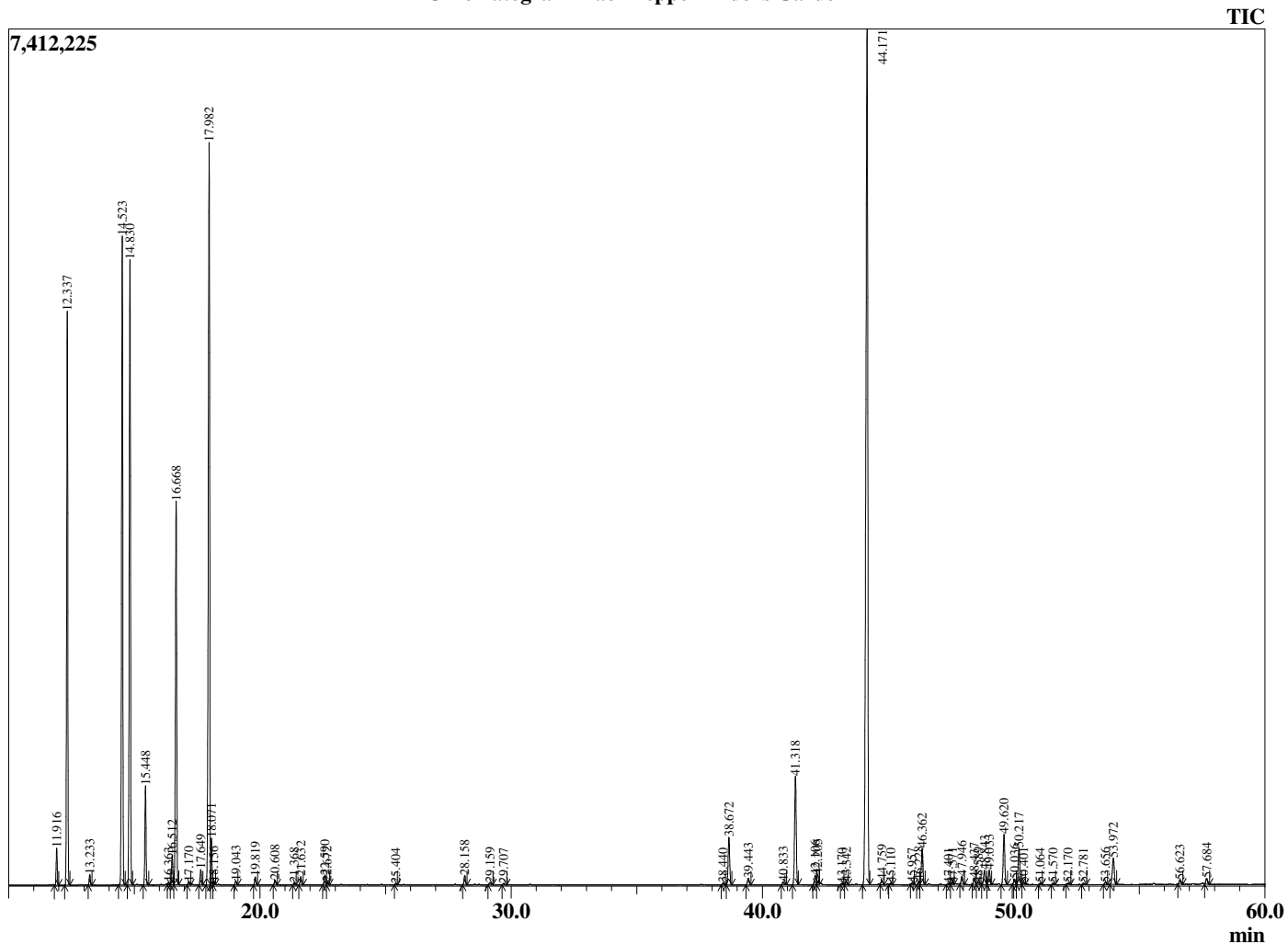


Peak Report TIC

R.Time	Name	Area%
11.916	alpha-Thujene	0.62
12.337	alpha-Pinene	9.97
13.233	Camphene	0.18
14.523	Sabinene	12.57
14.830	beta-Pinene	12.08
15.448	Myrcene	1.81
16.363	Pseudolimonene	0.04
16.512	alpha-Phellandrene	0.57
16.668	delta-3-Carene	7.56
17.170	alpha-Terpinene	0.06
17.649	para-Cymene	0.31
17.982	Limonene	16.08
18.071	beta-Phellandrene	0.80
18.156	1,8-Cineole	0.04
19.043	trans-beta-Ocimene	0.08
19.819	gamma-Terpinene	0.16
20.608	trans-Sabinene hydrate	0.10
21.368	Terpinolene isomer	0.04
21.632	Terpinolene	0.18
22.590	Linalool	0.22
22.672	cis-Sabinene hydrate	0.06
25.404	trans-Pinocarveol	0.02
28.158	Terpinen-4-ol	0.22
29.159	alpha-Terpineol	0.07
29.707	Unidentified	0.04
38.440	Elemene isomer	0.04
38.672	delta-Elemene	1.18
39.443	alpha-Cubebene	0.17
40.833	Isoledene	0.08
41.318	alpha-Copaene	2.78
42.106	beta-Cubebene	0.24
42.205	beta-Elemene	0.26
43.170	cis-beta-Caryophyllene	0.03
43.342	alpha-Gurjunene	0.06
44.171	beta-Caryophyllene	25.14
44.759	beta-Copaene	0.12
45.110	alpha-Guaiene	0.04
45.957	trans-Murrola-3,5-diene	0.03
46.228	trans-beta-Farnesene	0.08
46.362	alpha-Humulene	0.95
47.401	Unidentified	0.03
47.571	trans-Cadina-1(6),4-diene	0.04
47.946	Germacrene D	0.20
48.437	beta-Selinene	0.16
48.589	trans-Muurolo-4(14),5-diene	0.07
48.843	Bicyclogermacrene	0.40
49.033	alpha-Muurolole	0.36
49.620	beta-Bisabolene	1.25
50.036	Unidentified	0.14
50.217	delta-Cadinene	0.92
50.401	cis-Calamenene	0.04
51.064	trans-Cadine-1,4-diene	0.04
51.570	alpha-Bisabolene	0.04
52.170	Unidentified	0.04
52.781	trans-Nerolidol	0.04
53.656	Spathulenol	0.05
53.972	Caryophyllene oxide	0.80
56.623	Unidentified	0.10
57.684	delta-Cadinol	0.15
		100.00

This report is not valid after 1 year of the report date.

Chromatogram Black Pepper - Edens Garden



Comments:

The analysis of this Black Pepper batch sample meets the expected chemical profile for authentic essential oil of *Piper nigrum*. No contamination or adulteration was detected.