

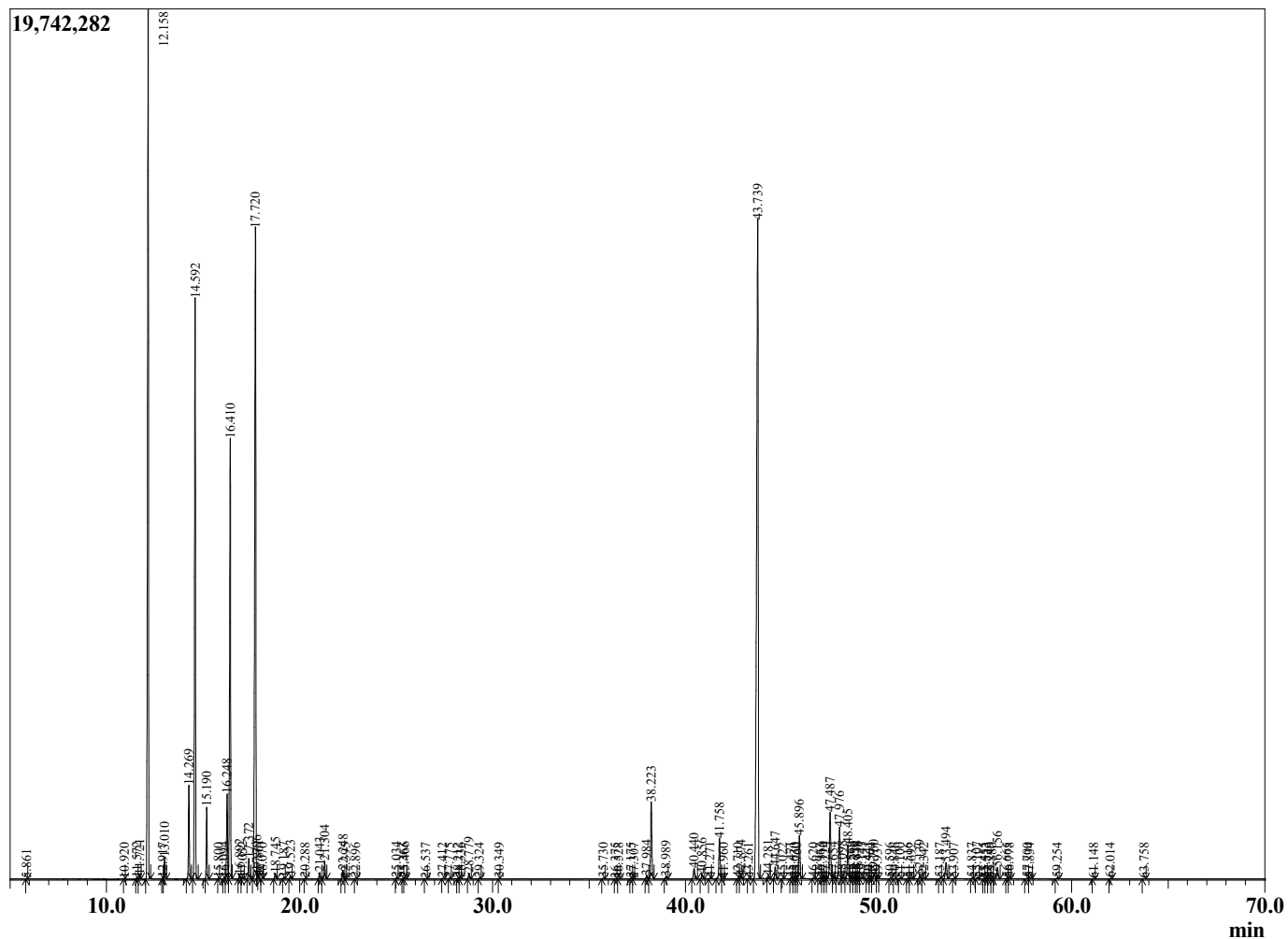
Sample Information

Sample Type : Essential Oil  
 Sample Name : Piper nigrum  
 Injection : 0.10  
 Volume :

Pepper Black  
 Lot# MAH34-HK  
 Country: Madagascar



Chromatogram Piper nigrum



R.Time	Name	Area%
5.861	Toluene	0.01
10.920	Unidentified	0.01
11.572	Tricyclene	0.03
11.721	alpha-Thujene	0.08
12.158	alpha-Pinene	18.33
12.917	alpha-Fenchene	0.01
13.010	Camphene	0.39
14.269	Sabinene	1.86
14.592	beta-Pinene	12.45
15.190	Myrcene	1.34
15.800	Unidentified	0.01
16.094	Pseudolimonene	0.02
16.248	alpha-Phellandrene	1.87
16.410	delta-3-Carene	9.56
16.892	alpha-Terpinene	0.09
17.052	ortho-Cymene	0.03
17.372	para-Cymene	0.46
17.720	Limonene	17.26
17.796	beta-Phellandrene	0.02
17.861	1,8-Cineole	0.01
18.070	cis-beta-Ocimene	0.01
18.745	trans-beta-Ocimene	0.12
19.187	Unidentified	0.03
19.523	gamma-Terpinene	0.06
20.288	trans-Sabinene hydrate	0.01
21.043	Isoterpinolene	0.14
21.304	Terpinolene	0.39
22.248	Linalool	0.21
22.395	Unidentified	0.01
22.896	Unidentified	0.02
25.034	trans-Pinocarveol	0.03
25.363	trans-Verbenol	0.01
25.466	Camphor	0.03
26.537	alpha-Phellandrene-8-ol	0.01
27.412	Unidentified	0.01
27.775	Terpinen-4-ol	0.02
28.212	para-Cymen-8-ol	0.02
28.336	Unidentified	0.01
28.779	alpha-Terpineol	0.15
29.324	alpha-Phellandrene epoxide	0.02
30.349	Unidentified	0.01
35.730	Unidentified	0.02
36.375	Unidentified	0.01
36.528	Unidentified	0.01
37.175	Unidentified	0.03
37.307	Methyl geranate	0.01
37.984	Elemene isomer	0.08
38.223	delta-Elemene	2.05
38.989	alpha-Cubebene	0.07
40.440	Cyclosativene + Isoledene	0.30
40.856	alpha-Copaene	0.14
41.271	Elemene isomer	0.03
41.758	beta-Elemene	1.11
41.960	Unidentified	0.01
42.710	cis-beta-Caryophyllene	0.02
42.874	alpha-Gurjunene	0.09

R.Time	Name	Area%
43.261	Unidentified	0.01
43.739	beta-Caryophyllene	23.17
44.281	gamma-Elemene	0.08
44.647	alpha-Guaiene	0.31
45.022	6,9-Guanidiene	0.01
45.471	Unidentified	0.03
45.630	Unidentified	0.01
45.760	Unidentified	0.01
45.896	alpha-Humulene	1.17
46.620	Unidentified	0.02
46.963	gamma-Gurjunene	0.03
47.110	gamma-Muurolene	0.04
47.224	Gurjunene isomer	0.02
47.487	Germacrene D	1.81
47.654	Selina-4,11-diene	0.03
47.976	beta-Selinene	1.41
48.098	Viridiflorene	0.06
48.405	alpha-Selinene	0.97
48.569	alpha-Muurolene	0.04
48.750	alpha-Bulnesene	0.03
48.838	delta-Amorphene	0.06
48.938	trans,trans-alpha-Farnesene	0.04
49.143	beta-Bisabolene	0.05
49.441	gamma-Cadinene	0.02
49.564	Cubebol analogue	0.01
49.760	delta-Cadinene	0.13
49.937	cis-Calamenene	0.01
50.596	trans-Cadina-1,4-diene	0.01
50.846	Unidentified	0.01
51.100	alpha-Calacorene	0.02
51.516	Elemol	0.01
51.692	Unidentified	0.04
52.139	Germacrene B	0.10
52.342	Unidentified	0.02
53.187	Spathulenol	0.02
53.494	Caryophyllene oxide	0.50
53.907	Unidentified	0.02
54.837	Unidentified	0.01
55.107	Humulene epoxide II	0.03
55.455	Unidentified	0.01
55.553	Unidentified	0.02
55.749	Unidentified	0.02
55.880	Unidentified	0.01
56.156	Unidentified	0.33
56.665	Caryophylla-4(12),8(13)-dien-5-ol	0.02
56.778	Unidentified	0.03
57.700	Cubebol	0.02
57.834	Unidentified	0.03
59.254	Unidentified	0.02
61.148	Unidentified	0.01
62.014	Unidentified	0.02
63.758	Benzyl benzoate	0.01
		100.00