

Sample Information

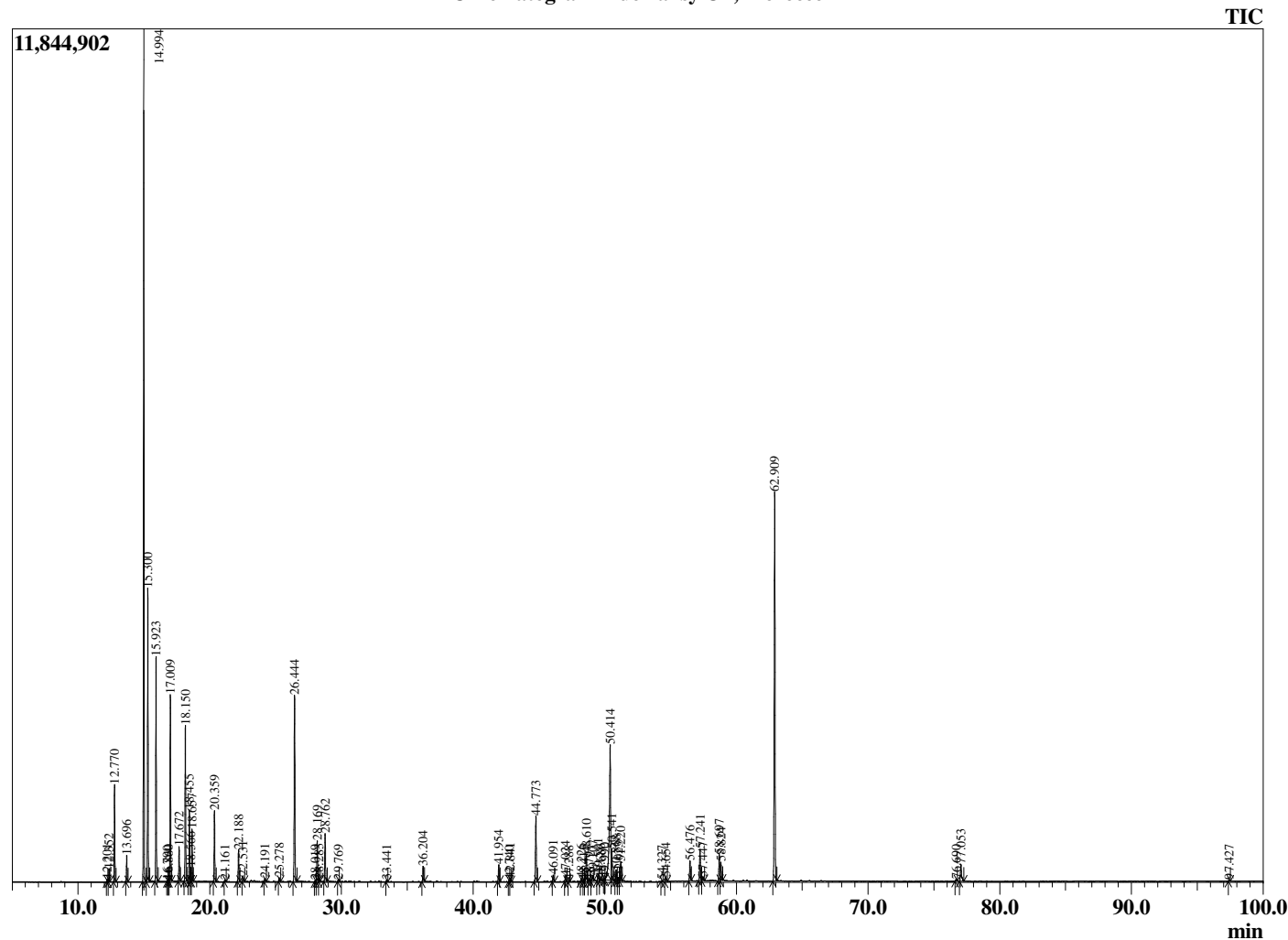
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 11/21/2018 10:45:27 PM
 Sample Type : Essential Oil
 Sample Name : Blue Tansy Oil, Morocco
 Sample ID : A1121H
 Injection Volume : 0.10
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
12.201	Tricyclene	0.07
12.352	alpha-Thujene	0.31
12.770	alpha-Pinene	2.39
13.696	Camphene	0.66
14.994	Sabinene	21.63
15.300	beta-Pinene	7.48
15.923	Myrcene	5.77
16.790	Octanal	0.02
16.860	Pseudolimonene	0.05
17.009	alpha-Phellandrene	5.07
17.672	alpha-Terpinene	0.95
18.150	para-Cymene	4.30
18.455	Limonene	1.96
18.566	beta-Phellandrene	0.38
18.657	1,8-Cineole	1.51
20.359	gamma-Terpinene	2.04
21.161	trans-Sabinene hydrate	0.04
22.188	Terpinolene	0.94
22.531	6,7-Epoxymyrcene	0.17
24.191	Unidentified	0.09
25.278	4-Acetyl-1-methylcyclohexene	0.12
26.444	Camphor	5.96
28.019	Unidentified	0.05
28.169	Borneol	1.33
28.283	Unidentified	0.07
28.762	Terpinen-4-ol	1.57
29.769	alpha-Terpineol	0.06
33.441	Carvotanacetone	0.06
36.204	Thymol	0.48
41.954	alpha-Copaene	0.58
42.740	Unidentified	0.04
42.841	beta-Elemene	0.12
44.773	trans-beta-Caryophyllene	2.29
46.091	Unidentified	0.23
47.024	alpha-Humulene	0.18
47.288	Alloaromadendrene	0.03
48.226	trans-Cadina-1(6),4-diene	0.10
48.413	Unidentified	0.04
48.610	Germacrene D	0.99
48.791	Unidentified	0.05
49.107	beta-Selinene	0.24
49.501	Bicyclogermacrene	0.27
49.686	alpha-Murolene	0.07
49.990	Unidentified	0.07
50.414	3,6-Dihydrochamazulene	7.94
50.541	Dihydrochamazulene isomer	1.11
50.868	delta-Cadinene	0.43
51.023	Dihydrochamazulene isomer	0.15
51.220	beta-Sesquiphellandrene	0.68
54.327	Spathulenol	0.03
54.654	Caryophyllene oxide	0.15
56.476	5,6-Dihydrochamazulene	0.68
57.241	Dihydrochamazulene isomer	1.10
57.447	Eremoligenol isomer	0.14
58.697	7,12-Dehydro-5,6,7,8-tetrahydrochamazulene	0.95
58.824	Cubanol	0.74
62.909	Chamazulene	14.21
76.690	Blue Tansy Unidentified	0.06
77.053	Blue Tansy Unidentified	0.79
97.427	Blue Tansy Unidentified	0.05
		100.00

Chromatogram Blue Tansy Oil, Morocco



Comments:

The analysis of this Blue Tansy, Morocco batch sample meets the expected chemical profile for authentic essential oil of *Tanacetum annuum*. 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.