

Sample Information

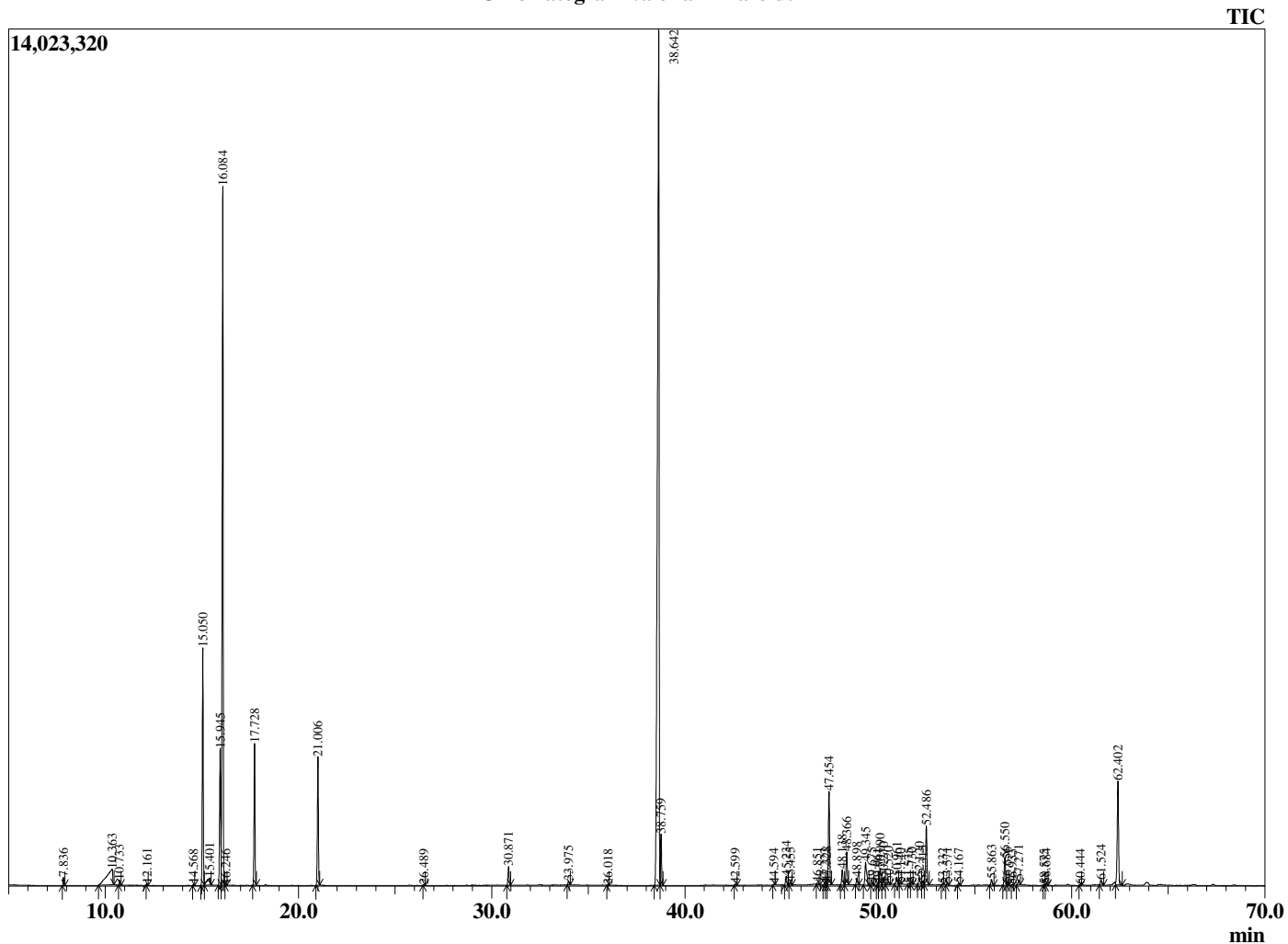
Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 7/23/2020 5:52:50 PM  
 Sample Type : Essential Oil  
 Sample Name : Valerian - Barefut  
 Sample ID : 0101  
 Injection Volume : 0.10  
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
7.836	Methyl isovalerate	0.15
10.363	Isovaleric acid	2.60
10.733	Ethyl isovalerate	0.11
12.161	Methyl hexanoate	0.03
14.568	alpha-Thujene	0.03
15.050	alpha-Pinene	5.99
15.401	3-Methyl valeric acid	0.58
15.945	alpha-Fenchene	4.19
16.084	Camphene	20.02
16.246	Thuja-2,4(10)diene	0.01
17.728	beta-Pinene	3.76
21.006	Limonene	3.60
26.489	Unidentified	0.02
30.871	Borneol	0.58
33.975	alpha-Fenchyl acetate	0.12
36.018	Unidentified	0.02
38.642	Bornyl acetate	40.17
38.759	Isobornyl acetate	1.42
42.599	alpha-Terpinyl acetate	0.03
44.594	alpha-Copaene	0.02
45.234	beta-Patchoulene	0.31
45.455	beta-Elemene	0.09
46.851	Junipene	0.09
47.222	Cycloseychellene	0.04
47.328	alpha-Santalene	0.09
47.454	beta-Caryophyllene	3.28
48.138	beta-Gurjunene	0.56
48.366	alpha-Guaiene	1.09
48.898	Unidentified	0.23
49.345	Seychellene	1.07
49.675	alpha-Humulene	0.08
49.961	Unidentified	0.04
50.090	alpha-Patchoulene	0.59
50.270	Patchoulene isomer	0.27
50.520	9-epi-Caryophyllene isomer	0.12
50.961	trans-beta-Ionone	0.27
51.140	Unidentified	0.02
51.575	Unidentified	0.03
51.730	beta-Selinene	0.05
52.120	Aciphyllene	0.28
52.315	Unidentified	0.13
52.486	alpha-Bulnesene	2.08
53.332	Bornyl isovalerate	0.04
53.571	(-)-alpha-Panasinsen	0.08
54.167	Unidentified	0.07
55.863	trans-Nerolidol	0.19
56.550	Maaliol	0.96
56.656	D Norpatchoulenol	0.07
56.933	Spathulenol	0.02
57.271	Caryophyllene oxide	0.19
58.575	Ledol	0.02
58.684	Rosifoliol	0.06
60.444	Unidentified	0.02
61.524	Pogostol	0.19
62.402	Patchouli alcohol	3.80
		100.00

Chromatogram Valerian - Barefut



Comments:

The analysis of this Valerian Root batch sample meets the expected chemical profile for authentic essential oil of *Valeriana officinalis*. 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.