

Sample Information

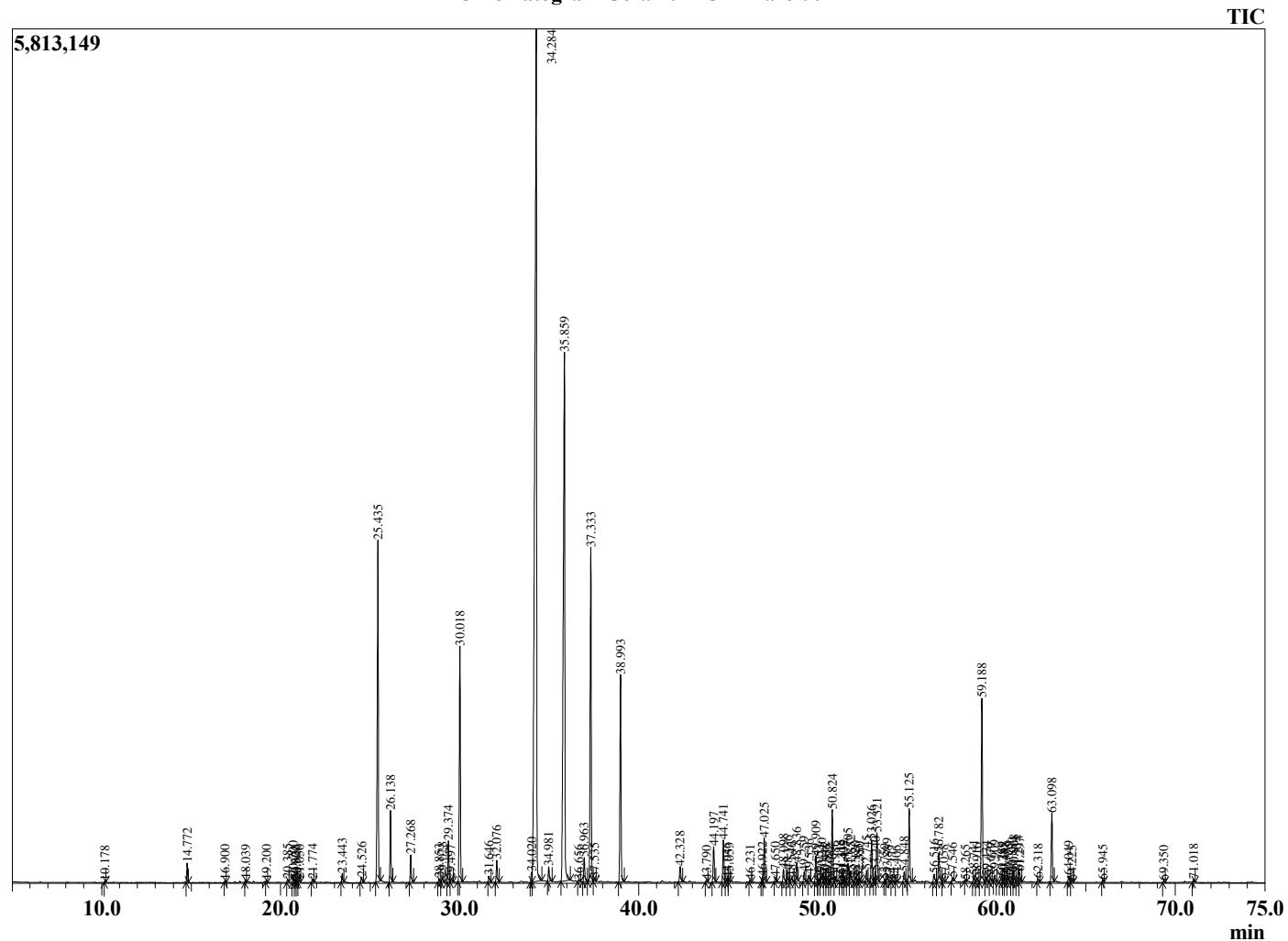
Analyzed by : Dr. Robert S. Pappas
 Analyzed : 4/10/2021 12:14:12 AM
 Sample Type : Essential Oil
 Sample Name : Geranium Oil - Barefut
 Sample ID : 0109
 Injection Volume : 0.10
 Instrument ID : GC-2



Peak Report TIC

R.Time	Name	Area%
10.178	3-Methyl pentanol	0.02
14.772	alpha-Pinene	0.30
16.900	Bois de Rose oxide	0.03
18.039	Myrcene	0.05
19.200	alpha-Phellandrene	0.04
20.385	para-Cymene	0.05
20.700	Limonene	0.11
20.821	beta-Phellandrene	0.03
20.900	Unidentified	0.03
21.050	(Z)-beta-Ocimene	0.06
21.774	(E)-beta-Ocimene	0.06
23.443	cis-Linalool oxide (furanoid)	0.17
24.526	trans-Linalool oxide (furanoid)	0.13
25.435	Linalool	7.21
26.138	cis-Rose oxide	1.35
27.268	trans-Rose oxide	0.56
28.853	Isopulegol	0.08
29.028	Citronellal	0.12
29.374	Menthone	0.81
29.497	Unidentified	0.09
30.018	Isomenthone	4.81
31.646	Menthol	0.13
32.076	alpha-Terpineol	0.45
34.020	Nerol	0.19
34.284	Citronellol	31.16
34.981	Neral	0.32
35.859	Geraniol	16.29
36.656	Isogeraniol	0.04
36.963	Geranial	0.53
37.333	Citronellyl formate	7.20
37.535	Neryl formate	0.07
38.993	Geranyl formate	4.40
42.328	Citronellyl acetate	0.40
43.790	alpha-Ylangene	0.04
44.197	alpha-Copaene	0.81
44.741	beta-Bourbonene	0.93
44.946	alpha-Bourbonene	0.08
45.053	beta-Elemene	0.08
46.231	alpha-Gurjunene	0.05
46.922	beta-Ylangene	0.10
47.025	trans-beta-Caryophyllene	1.00
47.650	beta-Copaene	0.10
48.098	Citronellyl propionate	0.32
48.336	6,9-Guaiadiene	0.27
48.546	Unidentified	0.12
48.836	Unidentified	0.41
49.259	alpha-Humulene	0.22
49.536	Alloaromadendrene	0.14
49.909	Geranyl propanoate	0.56
50.053	Unidentified	0.06
50.240	10-beta-H-Cadina-1(6),4-diene	0.20
50.412	trans-Cadina-1(6),4-diene	0.11
50.536	Unidentified	0.08
50.682	alpha-Murolene	0.04
50.824	Germacrene D	1.56
50.986	Unidentified	0.12
51.316	beta-Selinene	0.18
51.432	Viridiflorene	0.15
51.495	trans-Muurolo-4(14),5-diene	0.09
51.705	Bicyclogermacrene	0.44
51.852	alpha-Murolene	0.27
52.120	(E,E)-alpha-Farnesene	0.13

Chromatogram Geranium Oil - Barefut



Comments:

The analysis of this Geranium, Egypt batch sample meets the expected chemical profile for authentic essential oil of *Pelargonium graveolens*. 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.

R.Time	Name	Area%
52.285	Geranyl Isobutyrate	0.09
52.350	Dihydroagarofuran	0.09
52.745	gamma-Cadinene	0.23
53.026	delta-Cadinene	0.90
53.240	trans-Calamenene	0.19
53.321	Citronellyl butyrate	1.08
53.759	Neryl butyrate	0.04
53.889	trans-Cadina-1,4-diene	0.19
54.177	Selina-4(15),7(11)-diene	0.05
54.406	alpha-Calacorene	0.03
54.848	Unidentified	0.23
55.125	Geranyl butyrate	1.57
56.516	Spathulenol	0.20
56.782	2-Phenethyl tiglate	0.80
57.058	Globulol	0.07
57.546	Unidentified	0.08
58.265	Eudesm-5-en-11-ol	0.03
58.741	1,10-di-epi-Cubenol	0.15
58.916	Citronellyl valerate	0.09
59.188	10-epi-gamma-Eudesmol	4.23
59.434	1-epi-Cubenol	0.13
59.679	gamma-Eudesmol	0.08
59.909	Hinesol	0.13
60.289	Unidentified	0.15
60.385	Unidentified	0.09
60.488	Unidentified	0.13
60.659	Unidentified	0.14
60.889	Valerianol	0.19
60.968	alpha--Eudesmol	0.31
61.214	(E)-Citronellyl tiglate	0.27
61.297	Unidentified	0.22
62.318	Unidentified	0.08
63.098	Geranyl tiglate	1.49
64.049	Neryl hexanoate	0.14
64.223	Unidentified	0.04
65.945	Geranyl hexanoate	0.05
69.350	Unidentified	0.04
71.018	Unidentified	0.06
		100.00