

Sample Information

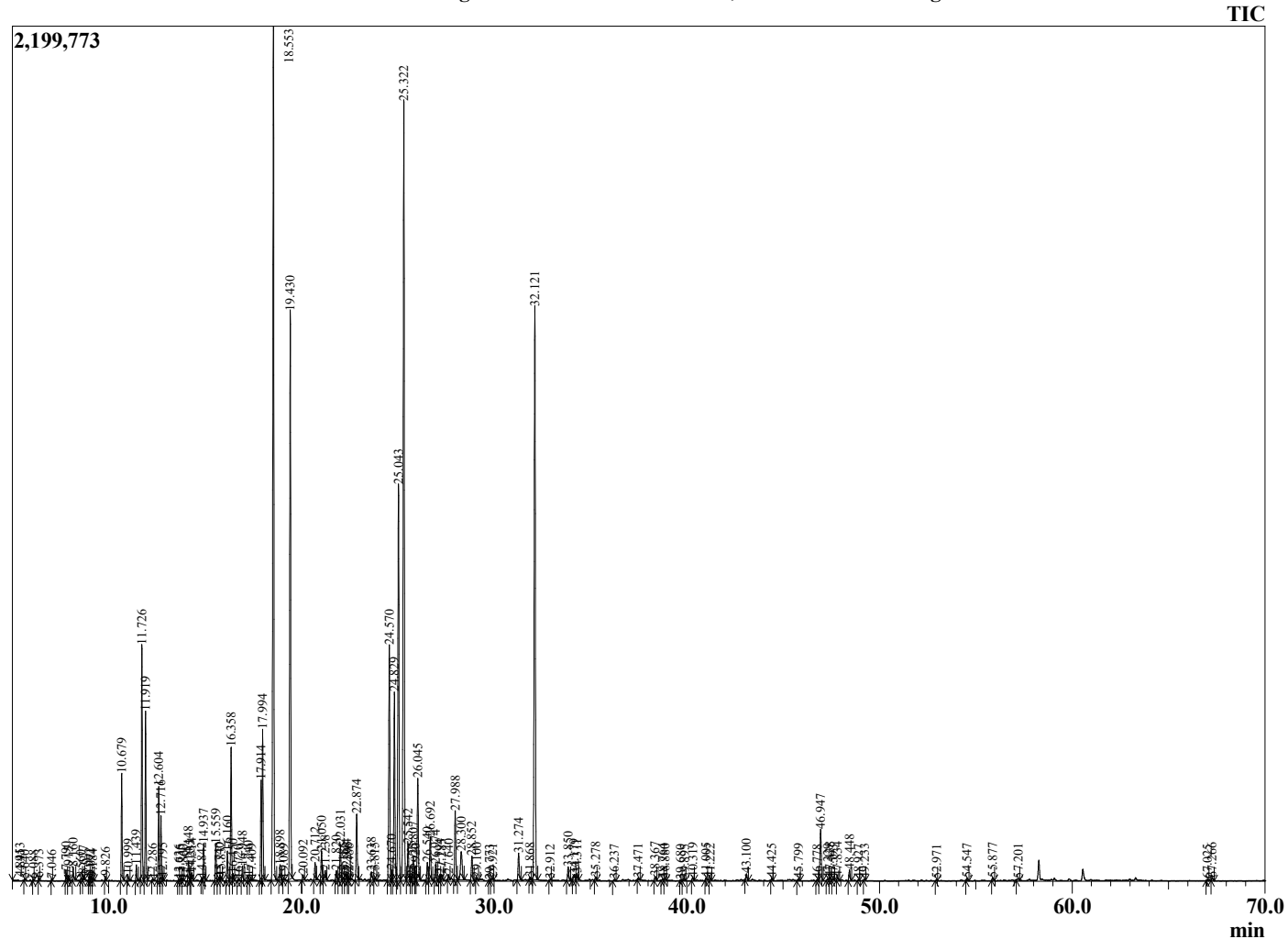
Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 10/1/2022 10:43:43 AM  
 Sample Type : Essential Oil  
 Sample Name : Roman Chamomile Oil, USA - Nature Packaged  
 Sample ID : NP0349  
 Injection Volume : 0.10  
 Instrument ID : GC-3



Peak Report TIC

R.Time	Name	Area%
3.480	Isobutyl alcohol	0.02
3.783	2-Pentanone	0.03
4.845	3-Methyl-1-butanol	0.03
4.913	2-Methyl-1-butanol	0.09
5.640	Isobutyl acetate	0.02
6.088	1-Octene	0.02
6.373	Hexanal	0.02
7.046	Methyl tiglate abalogue	0.02
7.790	3-Methyl pentanol	0.13
7.915	Ethyl-2-methylbutyrate	0.06
8.160	Hex-(3Z)-enol	0.19
8.560	Hex-(2E)-enol	0.04
8.677	Hexanol	0.08
8.992	Isopentyl acetate	0.05
9.071	2-Methylbutyl acetate	0.05
9.184	Propyl methacrylate	0.03
9.826	Ethyl tiglate analogue	0.06
10.679	Isobutyl isobutyrate	1.40
10.999	Prenyl acetate	0.09
11.439	2,5,8-Trimethyl nonane	0.23
11.726	alpha-Pinene	3.26
11.919	Isobutyl methacrylate	2.31
12.286	Propyl-2-methylbutyrate	0.02
12.604	Camphene	1.33
12.716	3-Methylcyclohexanone	0.93
12.795	Unidentified	0.03
13.636	Isopentyl propionate	0.01
13.735	2-Methylbutyl propionate	0.02
13.860	Sabinene	0.01
14.148	beta-Pinene	0.35
14.235	1-Octen-3-ol	0.08
14.314	3-Methylpentyl acetate	0.13
14.842	2-Pentylfuran	0.04
14.937	Propyl angelate	0.56
15.559	Isobutyl 2-methylbutyrate	0.57
15.740	Hex-(3E)-enyl acetate	0.07
15.832	Isobutyl isovalerate	0.06
16.160	Isoamyl isobutyrate	0.46
16.358	2-Methylbutyl isobutyrate	2.09
16.450	Unidentified	0.10
16.720	Unidentified	0.01
16.948	para-Cymene	0.25
17.240	Limonene	0.07
17.409	1,8-Cineole	0.03
17.914	Pentyl methacrylate	1.59
17.994	Isopentyl methacrylate	2.37
18.553	Isobutyl angelate	14.85
18.898	Prenyl isobutyrate	0.24
19.089	Unidentified	0.02
19.430	Methyllyl angelate	9.51
20.092	Hexyl propionate	0.08
20.712	Camphenilone	0.30
21.050	Butyl angelate	0.50
21.238	Isobutyl tiglate	0.20
21.820	Isoamyl isovalerate	0.18
22.031	2-Methylbutyl-2-methylbutyrate	0.66
22.185	Nonanal	0.04
22.344	Unidentified	0.12
22.395	2-Methylbutyl isovalerate	0.04
22.486	Butyl 3-methylpentanoate	0.03
22.874	3-Methylamyl isobutyrate	1.17
23.638	alpha-Campholenal	0.18

Chromatogram Roman Chamomile Oil, USA - Nature Packaged



Comments:

The analysis of this Roman Chamomile batch sample meets the expected chemical profile for authentic essential oil of *Anthemus nobilis*. 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%
23.815	Unidentified	0.05
24.570	trans-Pinocarveol	4.30
24.670	Hex-(3Z)-enyl isobutyate	0.18
24.829	Butanoic acid ester	3.51
25.043	Isoamyl angelate	7.33
25.322	2-Methylbutyl angelate	14.81
25.542	Camphene hydrate	0.70
25.725	Unidentified	0.06
25.807	Amyl angelate isomer	0.45
25.920	trans-Pinocamphone	0.03
26.045	Pinocarvone	1.86
26.540	3-cis-Hexenyl butenoate	0.33
26.692	Borneol	0.80
26.974	cis-Pinocamphone	0.29
27.194	Isobutyl 3-hydroxy-2-methylenebutanoate	0.10
27.285	Terpinen-4-ol	0.12
27.640	Hexyl angelate	0.09
27.988	2-Methyl-2-butene angelate	1.24
28.300	Myrtenal + Myrtenol	0.83
28.852	3-Methyl-3-methylpentyl butanoate	0.46
29.100	Decanal	0.04
29.773	Heptyl isobutyrate	0.01
29.921	trans-Carveol	0.04
31.274	2-Hydroxy-2-methyl-but-3-enyl 2-methyl-2-ci	0.52
31.868	Methylpentyl angelate analogue	0.04
32.121	Methylpentyl angelate	11.26
32.912	Tridec-(2E)-enal	0.01
33.850	(3Z)-Hexenyl angelate	0.26
34.179	Octen-3-ol butyrate	0.15
34.311	Hexyl angelate	0.14
35.278	3-Methylpentyl-2-methyltiglate	0.06
36.237	Unidentified	0.03
37.471	Unidentified	0.04
38.367	7-epi-Silphiperfol-5-ene	0.07
38.764	Eugenol	0.03
38.880	Unidentified	0.04
39.680	Unidentified	0.01
39.895	Cyclosativene	0.04
40.319	alpha-Copaene	0.06
41.005	Unidentified	0.04
41.222	beta-Elemene	0.04
43.100	trans-beta-Caryophyllene	0.13
44.425	Benzyl tiglate	0.04
45.799	Unidentified	0.05
46.778	Unidentified	0.03
46.947	Germacrene D	1.05
47.329	Unidentified	0.04
47.438	beta-Selinene	0.06
47.593	Unidentified	0.02
47.834	Bicyclogermacrene	0.06
48.448	trans,trans-alpha-Farnesene	0.22
48.927	Unidentified	0.02
49.233	delta-Cadinene	0.03
52.971	Unidentified	0.02
54.547	Copaborneol	0.05
55.877	gamma-Eudesmol	0.06
57.201	Unidentified	0.05
67.025	Neophytadiene	0.03
67.266	Phytone	0.06
		100.00