

**COA and GC/MS**  
**Roman Chamomile Oil**

**Date:** November 10<sup>th</sup> 2020

**CERTIFICATE OF ANALYSIS - GC PROFILING**

**Sample identification:** Chamomile Roman - 180953131

**Type:** Essential oil

**Source:** Anthemis nobilis

**Country of origin:** France

**ANALYSIS**

Method: 10152018\_10:1split.m - Analysis of the composition of an essential oil, or other volatile liquid, by GC FID, identifications validated by GC-MS.

**Analysis date:** October 04<sup>th</sup>, 2018

**Physical aspect:** Light yellow liquid

**CONCLUSION**

No adulterant, contaminant or diluent has been detected using this method. The oil nearly complies with ISO specifications.

Peak	Compound	RT	Area Sum %
1	Methyl hexyl ether	5.479	0.08
2	Ethyl 2-methylbutyrate	6.303	0.11
3	Propyl isobutyrate	6.53	0.18
4	Isobutyl propionate	6.989	0.06
5	Isoamyl acetate	7.346	0.12
6	2-Methylbutyl acetate	7.449	0.13

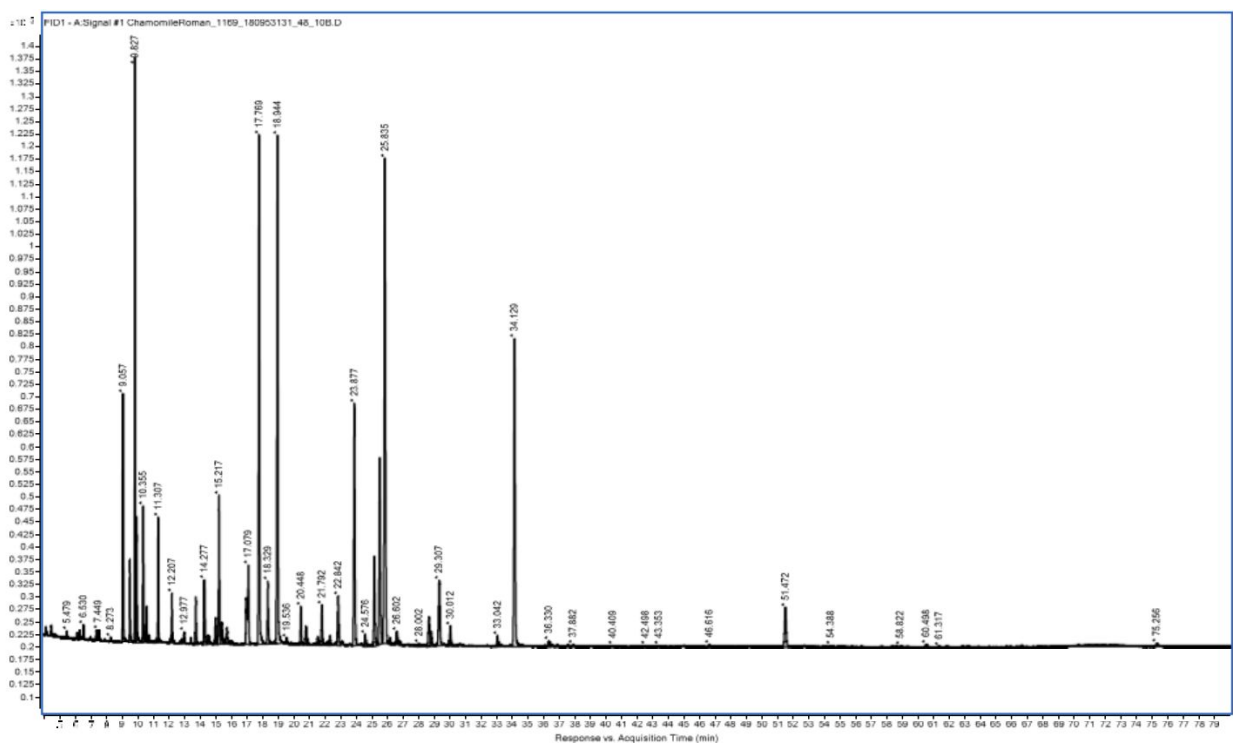
7	Propyl methacrylate	7.553	0.13
8	Ethyl angelate	8.273	0.07
9	Tricyclene	9.057*	3.42
10	Isobutyl isobutyrate	9.057*	[3.42]
11	$\alpha$ -Thujene	9.51	1.22
12	$\alpha$ -Pinene	9.827	8.52
13	Methallyl isobutyrate	9.939	1.91
14	Isobutyl methacrylate	10.355	2.02
15	Camphene	10.577	0.58
16	Propyl 2-methylbutyrate	10.755	0.12
17	Thuja-2,4(10)-diene	10.94	0.07
18	Butyl isobutyrate	11.194	0.05
19	Methallyl methacrylate	11.307	1.98
20	Sabinene	12.131	0.04
21	$\beta$ -Pinene	12.207	0.72
22	2-Pentyl propionate	12.321	0.05
23	Butyl methacrylate	12.832	0.11
24	3-Methylpentyl acetate	12.977	0.18
25	$\beta$ -Myrcene	13.429	0.14
26	Propyl angelate	13.721	0.9
27	Isobutyl 2-methylbutyrate	14.277	1.24
28	Isobutyl isovalerate	14.541	0.24
29	Isoamyl isobutyrate	14.992	0.54
30	2-Methylbutyl isobutyrate	15.217	2.83
31	p-Cymene	15.41	0.57
32	Limonene	15.716	0.41
33	1,8-Cineole	15.853	0.09

34	unknown	16.034	0.11
35	Isoamyl methacrylate	17.079*	2.54
36	2-methylbutyl methacrylate	17.079*	[2.54]
37	Isobutyl angelate	17.769	10.57
38	Prenyl isobutyrate	18.329	1.43
39	Methallyl angelate	18.944	10.57
40	unknown	19.536	0.14
41	Isobutyl senecioate	19.865	0.06
42	3-methylpentyl propionate	20.448	0.84
43	Butyl angelate	20.777	0.42
44	Isobutyl tiglate	20.857	0.13
45	Isoamyl 2-methyl butyrate	21.525	0.19

46	2-Methylbutyl 2-methylbutyrate	21.792	1
47	Amyl isovalerate	22.187	0.1
48	unknown	22.307	0.24
49	3-Methylpentyl isobutyrate	22.842	1.2
50	$\alpha$ -Campholenal	23.106	0.06
51	trans-Pinocarveol	23.877	5.68
52	Camphene hydrate	24.576	0.37
53	3-Methylpentyl methacrylate	25.16	2.23
54	2-Methylbutyl angelate	25.493	4.62
55	Isoamyl angelate	25.835*	13.12
56	Pinocarpone	25.835*	[13.12]
57	Borneol	26.159	0.21
58	unknown	26.159	0.21
59	Isopinocampone	26.602	0.34

60	Isobutyl 3-hydroxy-2-methylenebutyrate	26.781	0.13
61	Myrtenal	28.002	0.1
62	Myrtenol	28.646	0.78
63	2-methylbutyl tiglate	28.797	0.39
64	Verbenone	29.307	1.76
65	2-Hydroxy-2-methylbut-3-enyl angelate	30.012	0.55
66	3-Methylpentyl angelate	33.042	0.36
67	Hexyl angelate	34.129	8.33
68	Isoamyl 3-hydroxy-2-methylenebutyrate	36.33	0.22
69	Hexyl angelate	36.501	0.06
70	trans-Pinocarvyl acetate	36.885	0.11
71	unknown	37.649	0.08
72	unknown	37.882	0.09
73	unknown	40.409	0.05
74	unknown	40.538	0.03
75	unknown	40.857	0.03
76	unknown	41.231	0.04
77	unknown	42.498	0.1
78	$\beta$ -Caryophyllene	43.353	0.09
79	Germacrene D	46.616	0.13
80	$\beta$ -Selinene	51.472	1.19
81	(3E,6E)- $\alpha$ -Farnesene	51.768	0.05
82	unknown	54.388	0.1
83	Caryophyllene oxide	58.34	0.05
84	unknown	58.822	0.09
85	unknown	60.498	0.1
86	unknown	61.317	0.05

87	unknown	75.256	0.08
	<b>Total identified</b>		<b>98.46</b>



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