



Essential Oil University

GC/MS Report

Item	Lot
Blue Tansy EO, Morocco <i>Tanacetum annuum</i>	4K
Date	Analyst
7/25/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Blue Tansy EO, Morocco, 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.



Sample Information

Company: Revive**Sample Name:** Blue Tansy EO, Morocco**Botanical Name:** Tanacetum annuum**Lot Number:** 4K**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** Morocco**Analysis Date:** 7/25/2025**Manufacture Date:** February 2025

GC/MS

Inst. ID: Shimadzu GCMS-QP2010Ultra**Injection Type:** Split**Split Ratio:** 24.4**Column Type:** ZB-5**Injection Volume:** 0.1 µL**Temperature Program:** 2C/min

Physical Data

ANALYSIS

Optical Rotation @20°C

Refractive Index @20°C

Specific Gravity @20°C

METHOD

USP[781]

USP[831]

USP[841]

RESULTS

Not Measurable

1.49976

0.90372



Ret. Time	Component	Ret. Idx.	Conc. %	
8.190	Ethyl 2-methylbutyrate	842	0.03%	
11.490	Tricyclene	921	0.1%	
11.641	alpha-Thujene	923	0.37%	
12.043	alpha-Pinene	931	2.87%	
12.575	Propyl 2-methylbutyrate	941	0.03%	
12.831	Unidentified	945	0.01%	
12.928	Camphene	947	0.98%	
14.209	Sabinene	971	18.56%	
14.490	beta-Pinene	976	7.39%	
14.806	6-Methyl hept-5-en-2-one	982	0.03%	
15.106	Myrcene	987	4.7%	
15.970	Octanal	1003	0.03%	
15.995	para-Mentha-1(7),8-diene	1003	0.06%	
16.156	alpha-Phellandrene	1006	6.39%	
16.289	delta-3-Carene	1008	0.04%	
16.668	2-Methylbutyl isobutyrate	1013	0.02%	
16.797	alpha-Terpinene	1015	0.99%	
17.287	para-Cymene	1023	5.68%	
17.574	Limonene	1027	2.3%	IFRA
17.678	beta-Phellandrene	1029	0.31%	
17.750	1,8-Cineole	1030	1.64%	
18.280	Butyl 2-methylbutyrate	1038	0.01%	
18.647	trans-beta-Ocimene	1044	0.02%	
19.422	gamma-Terpinene	1056	2.07%	
20.201	trans-Sabinene hydrate	1068	0.11%	
21.208	Terpinolene	1083	1.01%	
21.554	6,7-Epoxymyrcene	1089	0.17%	
22.156	Linalool	1098	0.09%	IFRA
22.233	cis-Sabinene hydrate	1099	0.03%	
22.378	2-Methylbutyl-2-methylbutyrate	1101	0.07%	
23.075	trans-4,8-dimethylnona-1,3,7-triene	1112	0.02%	
23.189	Unidentified	1113	0.11%	
23.831	cis-para-Menth-2-en-1-ol	1123	0.06%	
24.261	Limona ketone	1129	0.21%	
24.947	trans-Pinocarveol	1139	0.03%	
25.073	trans-para-Menth-2-en-1-ol	1141	0.08%	
25.418	Camphor	1146	10.28%	
25.737	Unidentified	1150	0.06%	
25.969	Unidentified	1154	0.02%	
26.956	Unidentified isomer I	1168	0.05%	



Ret. Time	Component	Ret. Idx.	Conc. %	
27.091	Borneol	1170	1.96%	
27.222	Unidentified isomer I	1172	0.06%	
27.693	Terpinen-4-ol	1179	2.22%	
27.934	Unidentified	1182	0.07%	
28.111	para-Cymen-8-ol	1185	0.04%	
28.689	alpha-Terpineol	1193	0.19%	
29.225	alpha-Phellandrene epoxide	1201	0.07%	
29.483	Decanal	1205	0.03%	
29.630	trans-Piperitol	1207	0.04%	
30.280	Unidentified	1217	0.04%	
31.108	Hex-(3Z)-enyl-2-methylbutyrate	1229	0.03%	
31.470	Unidentified	1234	0.02%	
31.611	Pulegone	1236	0.03%	
31.757	alpha-Phellandrene epoxide analogue	1238	0.04%	
31.904	Cuminaldehyde	1240	0.05%	IFRA
32.339	Carvotanacetone	1247	0.07%	
32.672	Unidentified	1252	0.02%	
34.292	Unidentified	1276	0.02%	
35.129	Thymol	1288	0.94%	
35.665	Carvacrol	1296	0.03%	
36.111	2-Methyl-4-methylhexylbutyrate	1302	0.04%	
37.678	para-Mentha-1,4-dien-7-ol	1326	0.03%	
38.884	alpha-Cubebene	1345	0.03%	
40.601	para-Methyl anisate	1371	0.04%	
40.752	alpha-Copaene	1373	0.63%	
40.932	trans-beta-Damascenone	1376	0.02%	IFRA
41.538	7-epi-Sesquithujene	1385	0.08%	
41.649	beta-Elemene	1387	0.21%	
43.550	beta-Caryophyllene	1417	2.2%	
44.196	Unidentified	1427	0.02%	
44.424	Unidentified	1431	0.07%	
44.882	cis-beta-Farnesene	1438	0.78%	
45.659	trans-beta-Farnesene	1451	0.04%	
45.787	alpha-Humulene	1453	0.17%	
46.063	Alloaromodendrene	1457	0.03%	
46.384	Unidentified	1462	0.01%	
46.472	Unidentified	1464	0.03%	
46.693	4,5-di-epi-Aristolochene	1467	0.04%	
47.007	gamma-Muurolene	1472	0.07%	
47.193	gamma-Curcumene	1475	0.1%	



Ret. Time	Component	Ret. Idx.	Conc. %
47.382	Germacrene D	1478	1.07%
47.569	trans-beta-Bergamotene	1481	0.09%
47.800	Unidentified	1485	0.09%
47.865	beta-Selinene	1486	0.26%
48.014	Unidentified	1488	0.07%
48.264	Bicyclogermacrene	1492	0.31%
48.467	alpha-Muurolene	1496	0.1%
49.220	3,6-Dihydrochamazulene	1508	5.83%
49.337	3,6-Dihydrochamazulene isomer	1510	0.77%
49.653	delta-Cadinene	1515	0.23%
49.814	3,6-Dihydrochamazulene isomer	1518	0.14%
49.996	beta-Sesquiphellandrene	1521	0.54%
50.274	3,6-Dihydrochamazulene isomer	1526	0.04%
51.424	alpha-Elemol	1545	0.03%
53.087	Spathulenol	1573	0.03%
53.396	Caryophyllene oxide	1579	0.2%
55.249	5,6-Dihydrochamazulene	1611	0.19%
56.011	Dihydrochamazulene isomer	1624	1%
56.186	Eremoligenol isomer	1627	0.1%
56.721	Unidentified	1637	0.02%
56.863	Unidentified	1639	0.02%
56.951	Unidentified	1641	0.02%
57.465	7,12-Dehydro-5,6,7,8-tetrahydrochamazulene	1650	0.86%
57.557	beta-Eudesmol	1652	0.57%
57.779	Unidentified	1656	0.04%
58.515	beta-Bisabolol	1669	0.02%
59.273	beta-Elemene	1682	0.02%
60.300	Unidentified	1700	0.05%
61.675	Chamazulene	1726	7.75%
65.109	Unidentified	1790	0.03%
67.596	Phytone	1839	0.02%
72.833	meta-Camphorene	1944	0.06%
75.352	Unidentified	1996	0.12%
75.470	Unidentified	1998	0.03%
75.709	9-(15,16-Dihydro-15-methylenegeranyl)-alpha-Terpinene	2003	0.69%
75.813	9-(15,16-Dihydro-15-methylene-geranyl)-para-cymene	2005	0.14%
93.404	Unidentified isomer II	2410	0.14%
96.028	Unidentified isomer II	2477	0.63%

Total Identified Compounds **98.09 %**

