

## Sample:

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Client: | Nature's Gift  
Sample: | Blue Tansy (Tanacetum annuum)  
Batch # | MO-21801  
CAS Number | 8002-66-2  
Type: | Essential Oil

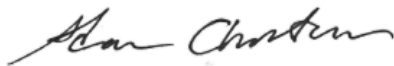
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## Conclusion:

- No adulterants, diluents, or contaminants were detected via this method.
- This oil meets the expected profile for genuine essential oil of Blue Tansy (Tanacetum annuum).



X



Validated By:

Essential Validation Services

747 SW 2nd Ave, Gainesville, FL 32601

Phone: 317-361-5044 E-mail: Adam@essentialvalidationservices.com

## Summary of Analyses

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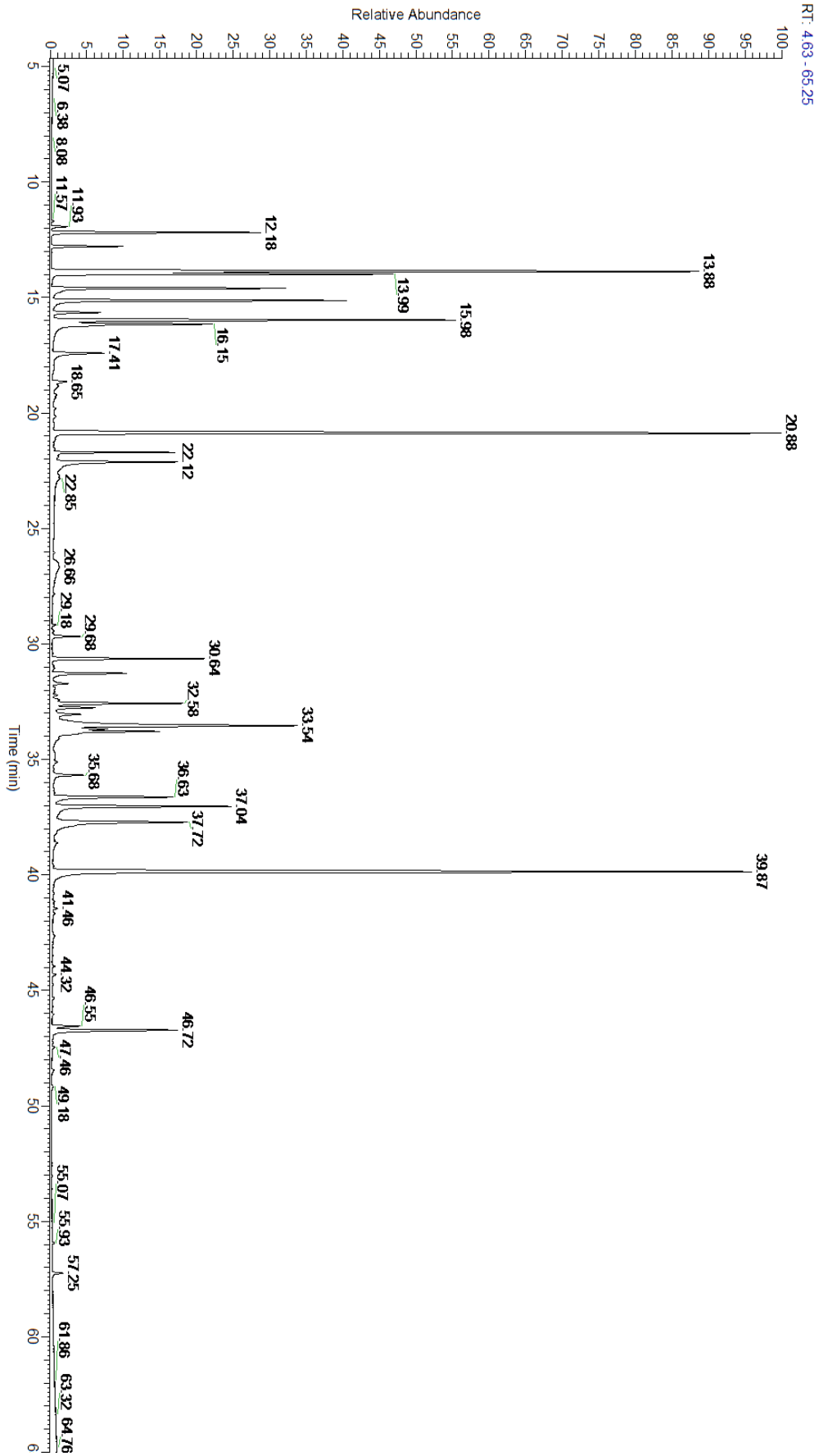
A fresh sample of Blue Tansy (Tanacetum annuum) Essential Oil (10 uL in .5to.5 mL Hexane + ETOH) was prepared and analyzed via split injection GC/EI-MS.

Main Compounds	Percentages
Chamazulene	13.95%
Camphor	13.33%
Sabinene	11.31%
para-Cymene	6.04%
1,9-Dihydrochamazulene	5.44%
beta-Pinene	4.64%
alpha-Phellandrene	4.43%
Myrcene	3.39%
7,8-Dihydrochamazulene	3.27%
5,6-Dihydrochamazulene	3.20%
1,8-Cineole (Co-Eluting)	2.92%
alpha-Pinene	2.75%
Terpinen-4-ol	2.33%

Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
35.83%	9.16%	3.92%	0.07%	13.33%
Esters	Ethers	Aldehydes	Phenols	Other
0.14%	3.49%	0.00%	0.00%	34.06%



- Monoterpenes   ■ Sesquiterpenes   ■ Monoterpenols
- Sesquiterpenols   ■ Ketones   ■ Esters
- Ethers   ■ Phenols   ■ Other



Total Percentage		94.64%			
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	11.69	0.04%	Tricyclene	923.00	Monoterpene
2	11.93	0.23%	alpha-Thujene	927.80	Monoterpene
3	12.18	2.75%	alpha-Pinene	936.10	Monoterpene
4	12.79	0.92%	Camphene	950.30	Monoterpene
5	13.05	0.01%	Thuja-2,4(10)-diene	953.00	Monoterpene
6	13.88	11.31%	Sabinene	973.00	Monoterpene
7	13.99	4.64%	beta-Pinene	974.00	Monoterpene
8	14.60	3.39%	Myrcene	989.20	Monoterpene
9	15.13	4.43%	alpha-Phellandrene	1002.00	Monoterpene
10	15.65	0.69%	alpha-Terpinene	1014.00	Monoterpene
11	15.98	6.04%	para-Cymene	1024.30	Monoterpene
12	16.15	2.92%	1,8-Cineole	1031.80	Monoterpene Ether
13	16.16	Co-Eluting	beta-Phellandrene	1030.00	Monoterpene
14	16.16	Co-Eluting	Limonene	1029.50	Monoterpene
15	17.41	1.06%	gamma-Terpinene	1054.00	Monoterpene
16	18.65	0.32%	Terpinolene	1092.10	Monoterpene
17	18.83	0.20%	UK Blue Tansey		
18	19.21	0.14%	2-Methylbutyl 2-methylbutyrate	1102.10	Aliphatic Ester
19	20.88	13.33%	Camphor	1147.55	Monoterpene Ketone
20	21.71	1.36%	Borneol	1168.71	Monoterpenol
21	21.91	0.07%	UK Blue Tansey		
22	22.12	2.33%	Terpinen-4-ol	1180.57	Monoterpenol
23	22.74	0.04%	alpha-Terpineol	1191.71	Monoterpenol
24	26.56	0.19%	Carvacrol	1304.40	Monoterpenol
25	26.74	0.16%	UK Blue Tansey		
26	27.85	0.02%	delta-Elemene	1335.83	Sesquiterpene
27	29.18	0.06%	alpha-Copaene	1379.00	Sesquiterpene
28	29.68	0.43%	beta-Elemene	1389.20	Sesquiterpene
29	30.64	2.16%	beta-Caryophyllene	1427.14	Sesquiterpene
30	31.28	1.20%	(Z)-beta-Farnesene	1453.40	Sesquiterpene
31	31.73	0.27%	(E)-beta-Farnesene	1456.29	Sesquiterpene
32	31.95	0.06%	alpha-Humulene	1461.43	Sesquiterpene
33	32.21	0.06%	UK Blue Tansey		
34	32.42	0.12%	gamma-Curcumene	1476.00	Sesquiterpene
35	32.58	1.97%	Germacrene D	1484.71	Sesquiterpene
36	32.76	0.60%	beta-Selinene	1487.57	Sesquiterpene
37	33.06	0.35%	Bicyclogermacrene	1490.71	Sesquiterpene
38	33.54	5.44%	1,9-Dihydrochamazulene	1515.00	Azulene
39	33.69	0.67%	3,6-Dihydrochamazulene	1517.00	Azulene
40	33.79	1.92%	beta-Sesquiphellandrene	1524.57	Sesquiterpene
41	35.11	0.09%	UK Blue Tansey		
42	35.68	0.57%	Caryophyllene oxide	1594.86	Sesquiterpene Ether
43	36.63	2.17%	4,10-Dihydrochamazulene	1607.50	Azulene

