Essential Oil University

GC/MS Report

Item	Lot
Bay Leaf (Laurel Leaf) EO *Laurus nobilis*	**2E**
Date	Analyst
12/17/2024	**Dr. Robert S. Pappas**

The analysis of this batch sample, Bay Leaf (Laurel Leaf) EO, meets the expected chemical profile for authentic essential oil of *Laurus 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.

Sample Information

Company: Revive
Sample Name: Bay Leaf (Laurel Leaf) EO
Botanical Name: Laurus nobilis
Lot Number: 2E
Production Method: Steam distilled
Sample Type: EO - Single
Country of Origin: Greece
Analysis Date: 12/17/2024
Manufacture Date: November 2024

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

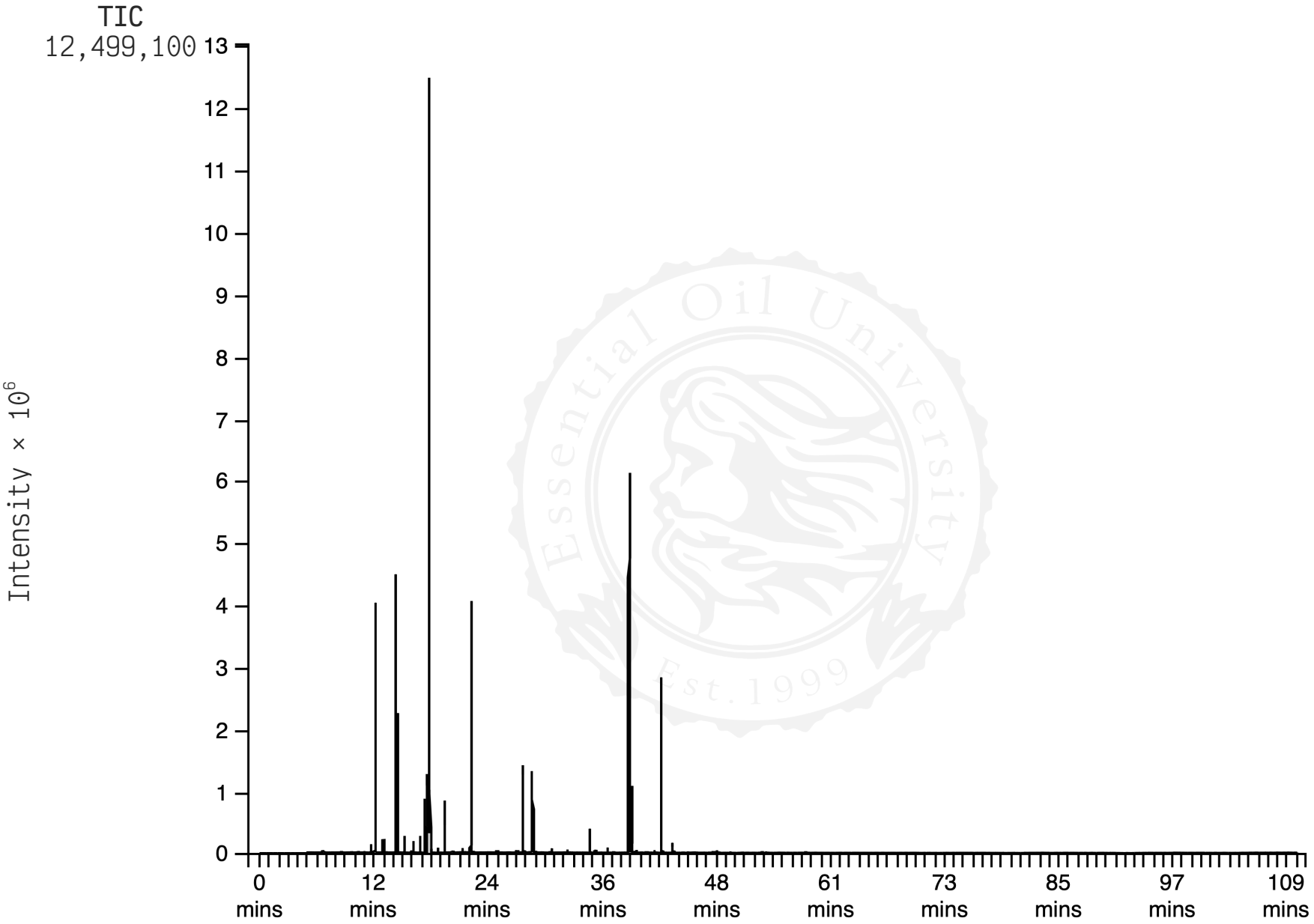
Physical Data

ANALYSIS	METHOD	RESULTS
Optical Rotation @20°C	USP[781]	-12.64
Refractive Index @20°C	USP[831]	1.47058
Specific Gravity @20°C	USP[841]	0.92124

Ret. Time	Component	Ret. Idx.	Conc. %	
5.248	Methyl pyrrole	731	0.01%	
5.619	Ethyl isobutyrate	748	0.01%	
6.552	Isopropyl isobutyrate	791	0.01%	
6.725	Hexanal	799	0.03%	
8.032	Unidentified	834	0.01%	
8.322	Ethyl 2-methylbutyrate	841	0.02%	
8.490	Ethyl isovalerate	846	0.02%	
8.579	Hex-(3Z)-enol	848	0.03%	
9.825	Isopropyl 2-methylbutyrate	881	0.01%	
10.524	Heptan-2-ol	899	0.02%	
11.142	Isobutyl isobutyrate	911	0.03%	
11.667	Tricyclene	920	0.01%	
11.822	alpha-Thujene	923	0.19%	
12.234	alpha-Pinene	930	5.99%	
12.761	Unidentified	940	0.01%	
13.019	alpha-Fenchene	945	0.02%	
13.114	Camphene	946	0.29%	
13.323	Unidentified	950	0.01%	
14.394	Sabinene	970	7.44%	
14.683	beta-Pinene	975	3.47%	
15.309	Myrcene	986	0.45%	
16.068	Isobutyl 2-methylbutyrate	1000	0.06%	
16.216	Pseudolimonene	1002	0.02%	
16.359	alpha-Phellandrene	1005	0.31%	
16.510	delta-3-Carene	1007	0.02%	
17.020	alpha-Terpinene	1015	0.43%	
17.191	ortho-Cymene	1017	0.01%	
17.507	para-Cymene	1022	1.61%	
17.826	Limonene	1027	3.09%	IFRA
18.046	1,8-Cineole	1030	33.73%	
18.194	cis-beta-Ocimene	1033	0.12%	
18.871	trans-beta-Ocimene	1043	0.13%	
19.658	gamma-Terpinene	1055	1.47%	
20.430	trans-Sabinene hydrate	1067	0.03%	
21.462	Terpinolene	1083	0.14%	
21.793	2-Nonanone	1088	0.04%	
22.453	Linalool	1098	8.79%	IFRA
22.645	Unidentified	1101	0.02%	
25.197	trans-Pinocarveol	1138	0.04%	
27.226	delta-Terpineol	1167	0.07%	

Ret. Time	Component	Ret. Idx.	Conc. %	
27.325	Borneol	1169	0.03%	
27.953	Terpinen-4-ol	1178	2.73%	
28.956	alpha-Terpineol	1192	2.63%	
29.157	Estragole	1195	0.14%	IFRA
30.933	Nerol	1221	0.13%	
32.672	Linalyl acetate	1247	0.09%	
33.148	Unidentified	1254	0.01%	
34.014	Unidentified	1267	0.02%	
34.999	Bornyl acetate	1281	0.79%	
35.593	2-Undecanone	1290	0.07%	
35.961	Unidentified	1295	0.01%	
36.939	delta-Terpinyl acetate	1310	0.16%	
37.481	Unidentified	1318	0.02%	
38.598	Unidentified	1335	0.01%	
38.816	Unidentified	1339	0.01%	
39.200	alpha-Terpinyl acetate	1344	15.48%	
39.466	Eugenol	1348	2.18%	IFRA
39.922	Neryl acetate	1355	0.09%	
40.639	alpha-Ylangene	1366	0.01%	
41.058	alpha-Copaene	1373	0.01%	
41.950	beta-Elemene	1386	0.09%	
42.647	Methyleugenol	1397	6.38%	IFRA
43.844	beta-Caryophyllene	1416	0.33%	
45.422	trans-Cinnamyl acetate	1441	0.04%	
46.089	alpha-Humulene	1452	0.05%	
48.165	beta-Selinene	1485	0.02%	
48.307	Unidentified	1487	0.01%	
48.545	cis-Methyl isoeugenol	1491	0.1%	
49.643	gamma-Cadinene	1509	0.02%	
49.955	delta-Cadinene	1515	0.04%	
51.293	trans-alpha-Bisabolene	1537	0.03%	
52.473	Unidentified	1557	0.01%	
53.389	Unidentified	1572	0.02%	
53.697	Caryophyllene oxide	1578	0.04%	
57.868	Unidentified	1651	0.02%	

Total Identified Compounds **99.84 %**


TIC
12,499,100
Intensity × 10^6
13
12
11
10
9
8
7
6
5
4
3
2
1
0
0 mins
12 mins
24 mins
36 mins
48 mins
61 mins
73 mins
85 mins
97 mins
109 mins