



Essential Oil University

GC/MS Report

Item	Lot
Fennel (Sweet) EO <i>Foeniculum vulgare</i>	6J
Date	Analyst
10/28/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Fennel (Sweet) EO, meets the expected chemical profile for authentic essential oil of *Foeniculum vulgare*. 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:** Fennel (Sweet) EO**Botanical Name:** *Foeniculum vulgare***Lot Number:** 6J**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** Egypt**Analysis Date:** 10/28/2025**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

+20.60

1.53548

0.95601



Ret. Time	Component	Ret. Idx.	Conc. %	
11.406	Hashishene	919	0.01%	
11.669	alpha-Thujene	924	0.07%	
12.080	alpha-Pinene	932	7.31%	ALLERGEN
12.957	Camphene	948	0.02%	
14.207	Sabinene	971	0.04%	
14.503	beta-Pinene	976	0.1%	ALLERGEN
15.130	Myrcene	988	0.14%	PROP. 65
16.034	Pseudolimonene	1004	0.01%	
16.178	alpha-Phellandrene	1006	0.84%	
16.321	delta-3-Carene	1008	0.02%	
16.829	alpha-Terpinene	1016	0.01%	ALLERGEN
17.313	para-Cymene	1023	0.19%	
17.643	Limonene	1028	14.77%	ALLERGEN IFRA
17.723	beta-Phellandrene	1030	0.04%	
17.794	1,8-Cineole	1031	0.05%	
19.455	gamma-Terpinene	1056	0.08%	
20.265	Unidentified	1069	0.01%	
21.248	Terpinolene	1084	0.01%	ALLERGEN
21.466	Fenchone	1087	2.11%	
22.175	Unidentified	1098	0.01%	
22.843	Unidentified	1108	0.01%	
23.688	trans-para-Mentha-2,8-dienol	1120	0.01%	
24.445	cis-Limonene oxide	1131	0.01%	
24.679	cis-para-Mentha-2,8-dien-1-ol	1135	0.02%	
25.415	Camphor	1146	0.06%	ALLERGEN
27.581	Unidentified	1177	0.01%	
27.730	Terpinen-4-ol	1179	0.01%	
28.945	Estragole	1197	1.81%	PROP. 65 IFRA
29.268	alpha-Phellandrene epoxide	1202	0.01%	
30.356	trans-Carveol	1218	0.01%	
31.257	cis-Carveol	1231	0.01%	
32.060	Carvone	1243	0.01%	ALLERGEN IFRA
32.329	Unidentified	1247	0.01%	
32.655	cis-Anethole	1252	0.06%	
32.765	para-Anisaldehyde	1253	1.05%	IFRA
35.158	trans-Anethole	1288	70.62%	ALLERGEN
41.130	Anisyl methyl ketone	1379	0.4%	
43.505	Unidentified	1416	0.01%	
43.589	beta-Caryophyllene	1417	0.04%	ALLERGEN
44.449	trans-alpha-Bergamotene	1431	0.02%	



Ret. Time	Component	Ret. Idx.	Conc. %
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Total Identified Compounds **99.97 %**



TIC
24,472,199

