



Essential Oil University

GC/MS Report

Item	Lot
Spruce EO Black <i>Picea mariana</i>	5A
Date	Analyst
11/7/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Spruce EO Black, meets the expected chemical profile for authentic essential oil of *Picea mariana*. 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:** Spruce EO Black**Botanical Name:** Picea mariana**Lot Number:** 5A**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** Canada**Analysis Date:** 11/7/2025**Manufacture Date:** September 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

-27.44

1.47006

0.90266



Ret. Time	Component	Ret. Idx.	Conc. %	
6.226	Toluene	763	0.01%	PROP. 65 IFRA
7.449	Unidentified	809	0%	
9.072	Hex-(3Z)-enol	850	0.01%	
10.254	Santene	879	1.46%	
11.313	Unidentified	904	0.05%	
11.588	Unidentified	909	0.01%	
12.284	Tricyclene	921	1.76%	
12.428	alpha-Thujene	924	0.12%	
12.870	alpha-Pinene	931	18.32%	ALLERGEN
13.194	beta-Fenchene	937	0.03%	
13.691	alpha-Fenchene	946	0.13%	
13.799	Camphene	948	11.83%	
13.982	Thuja-2,4(10)diene	951	0.02%	
14.988	Cymene analogue	969	0.01%	
15.072	Sabinene	970	0.06%	
15.400	beta-Pinene	976	9.6%	ALLERGEN
15.893	3-para-Menthene	985	0.01%	
16.006	Myrcene	987	1.63%	PROP. 65
16.657	alpha-Terpinene	998	0.01%	ALLERGEN
16.970	Unidentified	1003	0.01%	
17.105	alpha-Phellandrene	1005	0.19%	
17.262	delta-3-Carene	1008	9.12%	
17.637	1,4-Cineole	1013	0.01%	
17.761	alpha-Terpinene	1015	0.27%	ALLERGEN
18.249	para-Cymene	1022	0.25%	
18.561	Limonene	1027	6.45%	ALLERGEN IFRA
18.668	beta-Phellandrene	1029	0.53%	
18.764	1,8-Cineole	1030	0.29%	
18.940	cis-beta-Ocimene	1033	0.02%	
20.460	gamma-Terpinene	1056	0.17%	
21.410	Pinol	1070	0.04%	
22.014	Isoterpinolene	1079	0.02%	
22.291	Terpinolene	1083	1.1%	ALLERGEN
22.613	para-Cymenene	1088	0.07%	
23.030	Unidentified	1094	0.01%	
23.072	Campholenal isomer	1095	0.05%	
23.245	Linalool	1098	0.3%	ALLERGEN IFRA
24.625	endo-Fenchol	1118	0.03%	
24.980	cis-para-Menth-2-en-1-ol	1123	0.01%	
25.146	alpha-Campholenal	1125	0.05%	



Ret. Time	Component	Ret. Idx.	Conc. %	
26.121	trans-Pinocarveol	1139	0.04%	
26.576	Camphor	1146	0.05%	ALLERGEN
26.883	Citronellal isomer	1150	0.01%	
27.132	trans-beta-Terpineol	1154	0.18%	ALLERGEN
27.475	trans-Pinocamphone	1159	0.01%	
27.610	Unidentified	1160	0.02%	
27.708	Isoborneol	1162	0.06%	
28.294	Borneol	1170	1.16%	
28.885	Terpinen-4-ol	1179	0.18%	
29.307	para-Cymen-8-ol	1185	0.01%	
29.886	alpha-Terpineol	1193	0.73%	ALLERGEN
30.407	Unidentified	1201	0.02%	
30.842	Unidentified	1207	0.02%	
31.437	endo-Fenchyl acetate	1216	0.2%	
32.018	Citronellol	1224	0.03%	ALLERGEN IFRA
32.217	Thymol methyl ether	1227	0.02%	
33.631	Geraniol	1248	0.01%	ALLERGEN IFRA
35.209	Unidentified	1271	0.02%	
35.482	Unidentified	1275	0.08%	
35.742	Unidentified	1278	0.1%	
36.044	Bornyl acetate	1283	28.68%	
36.179	Isobornyl acetate	1285	0.72%	
36.643	Unidentified	1292	0.07%	
36.737	trans-Pinocarvyl acetate	1293	0.05%	
39.194	Unidentified	1330	0.06%	
39.597	Unidentified	1336	0.02%	
39.867	alpha-Terpinyl acetate	1340	0.01%	
40.122	gamma-Terpinyl acetate	1344	0.04%	
40.305	Citronellyl acetate	1347	0.05%	IFRA
40.415	Eugenol	1349	0.02%	ALLERGEN IFRA
42.050	alpha-Copaene	1373	0.01%	
42.171	Geranyl acetate	1375	0.24%	ALLERGEN
42.940	beta-Elemene	1387	0.07%	
44.256	Junipene	1407	0.07%	
44.883	beta-Caryophyllene	1417	0.13%	ALLERGEN
46.720	Cadina-3,5-diene	1447	0.02%	
47.143	alpha-Humulene	1453	0.05%	
47.392	cis-Murrola-4(14),5-diene	1457	0.01%	
47.538	cis-Cadina-1(6),4-diene	1460	0.02%	
48.155	trans-Cadina-1(6),4-diene	1469	0.07%	



Ret. Time	Component	Ret. Idx.	Conc. %	
48.330	gamma-Murolene	1472	0.11%	
48.717	Germacrene D	1478	0.04%	
49.217	beta-Selinene	1486	0.02%	
49.396	trans-Muurolo-4(14),5-diene	1489	0.04%	
49.657	delta-Selinene	1493	0.05%	
49.790	alpha-Murolene	1496	0.23%	
50.677	gamma-Cadinene	1510	0.3%	
50.974	delta-Cadinene	1515	1.04%	
51.181	cis-Calamenene	1519	0.06%	
51.261	Zonarene	1520	0.06%	
51.832	trans-Cadine-1,4-diene	1530	0.03%	
52.082	alpha-Cadinene	1534	0.07%	
52.301	trans-alpha-Bisabolene	1538	0.13%	
56.718	1,10-di-epi-Cubenol	1612	0.02%	
57.412	1-Epicubenol	1625	0.02%	
58.215	tau-Cadinol	1639	0.1%	
58.320	epi-alpha-Cadinol	1641	0.1%	
58.475	delta-Cadinol	1644	0.03%	
58.968	alpha-Cadinol	1652	0.17%	
63.037	Unidentified	1726	0.01%	

Total Identified Compounds **99.55 %**



TIC
11,970,435

