



Essential Oil University

GC/MS Report

Item	Lot
Spruce EO Black <i>Picea mariana</i>	8B
Date	Analyst
8/29/2025	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: 8B
Production Method: Steam distilled

Sample Type: EO - Single
Country of Origin: Canada
Analysis Date: 8/29/2025
Manufacture Date: June 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

-25.44
1.47007
0.89751



Ret. Time	Component	Ret. Idx.	Conc. %	
5.816	Toluene	762	0.01%	IFRA
9.562	Santene	879	1.03%	
10.556	Unidentified	904	0.05%	
10.824	Unidentified	908	0.01%	
11.474	Tricyclene	920	1.49%	
11.622	alpha-Thujene	923	0.17%	
12.050	alpha-Pinene	931	20.58%	
12.339	beta-Fenchene	936	0.03%	
12.814	alpha-Fenchene	945	0.14%	
12.921	Camphene	947	10.22%	
13.104	Thuja-2,4(10)-diene	950	0.02%	
14.073	Unidentified	968	0.03%	
14.154	Sabinene	970	0.09%	
14.468	beta-Pinene	976	11.75%	
14.943	3-para-Menthene	984	0.01%	
15.078	Myrcene	987	1.62%	
15.965	Unidentified	1003	0.01%	
16.125	alpha-Phellandrene	1005	0.16%	
16.282	delta-3-Carene	1007	10.37%	
16.631	1,4-Cineole	1013	0.02%	
16.771	alpha-Terpinene	1015	0.3%	
17.250	para-Cymene	1022	0.3%	
17.557	Limonene	1027	6.37%	IFRA
17.651	beta-Phellandrene	1029	0.79%	
17.722	1,8-Cineole	1030	0.18%	
17.947	cis-beta-Ocimene	1033	0.01%	
18.636	trans-beta-Ocimene	1044	0.02%	
19.394	gamma-Terpinene	1055	0.19%	
20.296	Pinol	1069	0.02%	
20.916	Isoterpinolene	1079	0.03%	
21.182	Terpinolene	1083	1.13%	
21.395	Fenchone	1086	0.02%	
21.504	para-Cymenene	1088	0.09%	
21.894	Campholenal analogue	1094	0.03%	
22.129	Linalool	1098	0.25%	IFRA
23.445	endo-Fenchol	1117	0.06%	
23.972	alpha-Campholenal	1125	0.03%	
24.911	trans-Pinocarveol	1138	0.04%	
25.346	Camphor	1145	0.05%	
25.717	Unidentified	1150	0.01%	



Ret. Time	Component	Ret. Idx.	Conc. %	
25.895	Camphene hydrate	1153	0.1%	
26.278	trans-Pinocamphone	1158	0.01%	
26.468	Isoborneol	1161	0.05%	
27.056	Borneol	1169	0.86%	
27.322	Unidentified	1173	0.02%	
27.657	Terpinen-4-ol	1178	0.2%	
28.096	para-Cymen-8-ol	1185	0.02%	
28.209	cis-alpha-Terpineol	1186	0.02%	
28.665	alpha-Terpineol	1193	0.88%	
29.195	Unidentified	1201	0.02%	
30.183	endo-Fenchyl acetate	1215	0.14%	
30.814	Citronellol	1224	0.03%	IFRA
31.007	Thymol methyl ether	1227	0.03%	
34.217	Unidentified	1274	0.06%	
34.486	Unidentified	1278	0.08%	
34.775	Bornyl acetate	1283	27.03%	
34.895	Isobornyl acetate	1284	0.47%	
35.365	Unidentified	1291	0.06%	
35.455	trans-Pinocarvyl acetate	1293	0.04%	
35.606	Unidentified	1295	0.02%	
36.415	Unidentified	1307	0.01%	
37.050	Unidentified	1317	0.02%	
37.263	Myrtenyl acetate	1320	0.01%	
37.917	Unidentified	1330	0.04%	
38.297	Unidentified	1336	0.01%	
38.553	Unidentified	1340	0.01%	
38.830	alpha-Terpinyl acetate	1344	0.03%	
39.045	Unidentified	1347	0.05%	
39.832	Unidentified	1359	0.01%	
40.600	Unidentified	1371	0.01%	
40.716	alpha-Copaene	1373	0.01%	
40.900	Geranyl acetate	1376	0.19%	
41.618	beta-Elemene	1386	0.03%	
42.862	Longifolene	1406	0.11%	IFRA
43.509	beta-Caryophyllene	1416	0.15%	
45.357	Isogermacrene D	1446	0.01%	
45.754	alpha-Humulene	1452	0.04%	
46.797	cis-Cadina-1(6),4-diene	1469	0.03%	
46.974	trans-Cadina-1(6),4-diene	1472	0.06%	
47.343	Germacrene D	1478	0.03%	



Ret. Time	Component	Ret. Idx.	Conc. %	
47.830	beta-Selinene	1485	0.01%	
48.008	gamma-Amorphene	1488	0.01%	
48.294	Unidentified	1493	0.02%	
48.436	alpha-Muurolene	1495	0.1%	
49.003	Unidentified	1504	0.01%	
49.306	gamma-Cadinene	1510	0.13%	
49.618	delta-Cadinene	1515	0.44%	
49.810	cis-Calamenene	1518	0.03%	
49.900	Unidentified	1520	0.02%	
50.459	trans-Cadina-1,4-diene	1529	0.01%	
50.585	Unidentified	1531	0.01%	
50.711	alpha-Cadinene	1533	0.03%	
50.957	trans-alpha-Bisabolene	1537	0.09%	
51.391	alpha-Elemol	1545	0.08%	
56.822	tau-Cadinol	1639	0.04%	
56.946	epi-alpha-Muurolol	1641	0.05%	
57.087	Unidentified	1643	0.04%	
57.569	Cadin-4-en-10-ol	1652	0.11%	

Total Identified Compounds **99.33 %**



TIC
9,187,891

