



Essential Oil University

GC/MS Report

Item	Lot
Fir Needle EO Siberian <i>Abies sibirica</i>	4T
Date	Analyst
1/16/2025	Dr. Robert S. Pappas

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The analysis of this batch sample, Fir Needle EO Siberian, meets the expected chemical profile for authentic essential oil of *Abies sibirica*. 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:** Fir Needle EO Siberian**Botanical Name:** Abies sibirica**Lot Number:** 4T**Production Method:** Steam distilled**Sample Type:** EO - Single**Country of Origin:** Russia**Analysis Date:** 1/16/2025**Manufacture Date:** December 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

Optical Rotation @20°C

Refractive Index @20°C

Specific Gravity @20°C

METHOD

USP[781]

USP[831]

USP[841]

RESULTS

-36.56

1.46973

0.90594



Ret. Time	Component	Ret. Idx.	Conc. %	
5.820	Toluene	763	0.01%	IFRA
9.575	Santene	879	2.39%	
10.570	Unidentified	904	0.03%	
11.491	Tricyclene	921	2.29%	
11.638	alpha-Thujene	923	0.08%	
12.055	alpha-Pinene	931	12.27%	
12.959	Camphene	948	21.62%	
13.120	Thuja-2,4(10)diene	951	0.01%	
14.093	Cymene isomer	969	0.03%	
14.174	Sabinene	970	0.01%	
14.471	beta-Pinene	976	1.69%	
15.099	Myrcene	987	0.53%	
16.150	alpha-Phellandrene	1005	0.11%	
16.311	delta-3-Carene	1008	10.77%	
16.798	alpha-Terpinene	1015	0.08%	
17.040	Unidentified	1019	0.01%	
17.276	para-Cymene	1023	0.11%	
17.584	Limonene	1028	4.88%	IFRA
17.682	beta-Phellandrene	1029	2.56%	
17.975	Unidentified	1034	0%	
18.490	Unidentified	1042	0.01%	
19.424	gamma-Terpinene	1056	0.13%	
20.949	Isoterpinolene	1079	0.04%	
21.212	Terpinolene	1083	1.01%	
21.541	para-Cymenene	1089	0.03%	
21.877	Unidentified	1094	0.04%	
22.161	Unidentified	1098	0.05%	
23.466	endo-Fenchol	1117	0.01%	
23.836	cis-para-Menth-2-en-1-ol	1123	0.01%	
23.999	alpha-Campholenal	1125	0.01%	
24.937	Unidentified	1139	0.01%	
25.068	Epoxyterpinolene	1141	0.01%	
25.370	Camphor	1145	0.15%	
25.918	trans-beta-Terpineol	1153	0.08%	
26.473	Isoborneol	1161	0.03%	
27.080	Borneol	1170	1.59%	
27.541	Unidentified	1177	0.01%	
27.679	Terpinen-4-ol	1179	0.08%	
28.108	para-Cymen-8-ol	1185	0.05%	
28.683	alpha-Terpineol	1193	0.14%	



Ret. Time	Component	Ret. Idx.	Conc. %	
28.906	Unidentified	1196	0.01%	
29.482	Decanal	1205	0.02%	
30.209	endo-Fenchyl acetate	1216	0.02%	
30.705	Unidentified	1223	0.02%	
30.950	Unidentified	1226	0.01%	
31.025	Thymol methyl ether	1228	0.04%	
31.548	Unidentified	1235	0.02%	
33.532	Unidentified	1264	0.01%	
34.285	Unidentified	1275	0.01%	
34.508	Unidentified	1279	0.01%	
34.807	Bornyl acetate	1283	33.56%	
34.921	Isobornyl acetate	1285	0.14%	
35.323	Nonyl methyl ketone	1291	0.04%	
36.253	Unidentified	1305	0.02%	
36.665	Unidentified	1311	0.02%	
37.931	Unidentified	1330	0.01%	
38.569	Unidentified	1340	0.02%	
38.863	Unidentified	1344	0.01%	
39.063	alpha-Longipinene	1347	0.02%	
39.637	Neryl acetate	1356	0.02%	
40.313	Unidentified	1367	0.03%	
40.731	alpha-Ylangene	1373	0.01%	
40.916	Geranyl acetate	1376	0.17%	
41.770	Unidentified	1389	0.01%	
41.980	Unidentified	1392	0.01%	
42.490	Sibirene	1400	0.05%	
42.884	Longifolene	1406	0.08%	IFRA
42.970	Dodecanal	1407	0.17%	
43.529	beta-Caryophyllene	1416	1.08%	
45.434	alpha-Himachalene	1447	0.04%	
45.772	alpha-Humulene	1452	0.6%	
47.011	Unidentified	1472	0.01%	
47.213	gamma-Himachalene	1476	0.03%	
47.389	Unidentified	1478	0.02%	
47.467	Unidentified	1480	0.04%	
47.732	Unidentified	1484	0.01%	
47.855	Unidentified	1486	0.01%	
48.206	beta-Alaskene	1491	0.03%	
48.295	Unidentified	1493	0.01%	
48.465	alpha-Muurolene	1496	0.01%	



Ret. Time	Component	Ret. Idx.	Conc. %	
48.527	beta-Himachalene	1497	0.03%	
48.832	alpha-Farnesene	1502	0.01%	
49.031	beta-Bisabolene	1505	0.16%	
49.203	cis-gamma-Bisabolene	1508	0.04%	
49.631	delta-Cadinene	1515	0.02%	
50.149	trans-gamma-Bisabolene	1524	0.07%	
50.974	trans-alpha-Bisabolene	1538	0.01%	
52.182	trans-Nerolidol	1558	0.01%	
53.372	Caryophyllene oxide	1578	0.03%	
54.988	Humulene epoxide II	1606	0.02%	
55.762	Unidentified	1620	0.02%	
58.747	Unidentified	1673	0.01%	
59.277	epi-alpha-Bisabolol	1682	0.05%	IFRA
59.401	alpha-Bisabolol	1684	0.14%	IFRA

Total Identified Compounds **99.53 %**

