

Sample & Analysis Information

Sample Information

Sample Name: Fir Needle EO

Botanical Name: Abies alba

Lot Number: ASX20-XK

Production Method: Steam distilled

Sample Type: EO - Single

Country of Origin: Austria

Analysis Date: 10/24/2024

Date of Distillation: October 2024

GC/MS

Inst. ID: Shimadzu GCMS-QP2010Ultra

Injection Type: Split

Split Ratio: 24.4

Column Type: ZB-5

Injection Volume: 0.1 μ L

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

-29.12

1.47278

0.88406

Ret. Time	Component	Ret. Idx.	Conc. %	
5.838	Toluene	763	0%	
9.604	Santene	880	0.95%	
10.604	Unidentified	904	0.01%	
10.879	2,6-Dimethyl-3-octene	909	0.01%	
11.525	Tricyclene	921	0.84%	
11.673	alpha-Thujene	924	0.1%	
12.096	alpha-Pinene	932	19.16%	
12.869	alpha-Fenchene	946	0.03%	
12.970	Camphene	948	7.65%	
13.159	Thuja-2,4(10)diene	951	0.01%	
14.133	Cymene analogue	969	0.01%	
14.215	Sabinene	971	0.04%	
14.546	beta-Pinene	977	26.29%	
14.904	Unidentified	984	0.01%	
15.002	para-Menth-3-ene	985	0.05%	
15.133	Myrcene	988	1.1%	
15.812	Unidentified	1000	0.01%	
16.034	Pseudolimonene	1004	0.04%	
16.182	alpha-Phellandrene	1006	1.06%	
16.331	delta-3-Carene	1008	5.36%	
16.831	alpha-Terpinene	1016	0.34%	
17.311	para-Cymene	1023	0.2%	
17.630	Limonene	1028	11.7%	IFRA
17.721	beta-Phellandrene	1030	1.76%	
17.795	1,8-Cineole	1031	0.02%	
18.714	trans-beta-Ocimene	1045	0.02%	
19.456	gamma-Terpinene	1056	0.16%	
20.979	Isoterpinolene	1080	0.02%	
21.244	Terpinolene	1084	0.6%	
21.459	Fenchone	1087	0.02%	
21.573	para-Cymenene	1089	0.03%	
21.950	alpha-Campholenal	1095	0.02%	
22.193	Unidentified	1099	0.02%	
23.508	endo-Fenchol	1118	0.03%	
24.038	alpha-Campholenal	1126	0.01%	
24.974	trans-Pinocarveol	1139	0.03%	
25.409	Camphor	1146	0.09%	
25.959	trans-beta-Terpineol	1154	0.03%	
26.467	Pinocarvone	1161	0.01%	
27.115	Borneol	1170	0.61%	

Ret. Time	Component	Ret. Idx.	Conc. %	
27.397	Isopinocampnone	1174	0.01%	
27.721	Terpinen-4-ol	1179	0.07%	
28.158	Cryptone	1186	0.02%	
28.724	alpha-Terpineol	1194	0.27%	
29.533	Verbenone	1206	0.01%	
30.249	Fenchyl acetate	1216	0.01%	
31.072	Thymol methyl ether	1228	0.02%	
32.707	Piperitone	1252	0.01%	
34.807	Bornyl acetate	1283	16.11%	
34.941	Isobornyl acetate	1285	0.1%	
38.890	alpha-Terpinyol acetate	1345	0.32%	
39.010	gamma-Terpinyol acetate	1347	0.04%	
39.109	alpha-Longipinene	1348	0.04%	
39.685	Neryl acetate	1357	0.01%	
40.371	Isodene	1367	0.01%	
40.775	alpha-Copaene	1374	0%	
40.967	Geranyl acetate	1377	0.04%	
42.530	Sibirene	1400	0.02%	
42.933	Longifolene	1407	0.12%	IFRA
43.025	Dodecanal	1408	0.04%	
43.583	beta-Caryophyllene	1417	1.92%	
45.481	alpha-Himachalene	1448	0.01%	
45.824	alpha-Humulene	1453	0.19%	
47.255	gamma-Himachalene	1476	0.01%	
47.411	Germacrene D	1479	0.53%	
47.540	alpha-Himachalene	1481	0.01%	
49.079	beta-Bisabolene	1506	0.12%	
49.251	cis-gamma-Bisabolene	1509	0.02%	
49.374	gamma-Cadinene	1511	0.02%	
49.684	delta-Cadinene	1516	0.6%	
50.203	trans-gamma-Bisabolene	1525	0.02%	
51.029	trans-alpha-Bisabolene	1539	0.01%	
53.655	Globulol	1583	0.79%	
59.320	epi-alpha-Bisabolol	1683	0.01%	IFRA
59.449	alpha-Bisabolol	1685	0.03%	IFRA

Total Identified Compounds **99.96 %**

