



Supplementary Materials

Research Article

Enantioselective gas chromatographic analysis of Cupressaceae foliar essential oils: *Callitropsis nootkatensis*, *Calocedrus decurrens*, *Sequoia sempervirens*, and *Thuja plicata*

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List of Tables

Table S1. Instrument details for the gas chromatographic analyses of Cupressaceae species.

Table S2. Chemical composition of the foliar essential oils of *Callitropsis nootkatensis*.

Table S3. Chemical composition of the foliar essential oils of *Calocedrus decurrens*.

Table S4. Chemical composition of the foliar essential oil of *Sequoia sempervirens*.

Table S5. Chemical composition of the foliar essential oil of *Thuja plicata*.

Table S6. Enantiomeric distributions (averages) of chiral monoterpenoids in members of the Cupressaceae.

List of Figures

Figure S1. Gas chromatograms of *Callitropsis nootkatensis* foliar essential oils.

Figure S2. Gas chromatograms of *Calocedrus decurrens* foliar essential oils.

Figure S3. Gas chromatograms of *Sequoia sempervirens* foliar essential oils.

Figure S4. Gas chromatograms of *Thuja plicata* foliar essential oils.

Table S1. Instrument details for the gas chromatographic analyses of Cupressaceae species.

Gas Chromatography - Mass Spectrometry (GC-MS)	
Instrument	Shimadzu GC-MS-QP2010 Ultra (Shimadzu Scientific Instruments, Columbia, MD, USA)
GC Column	Zebron ZB-5ms fused silica capillary column (60 m × 0.25 mm × 0.25 µm film thickness) (Phenomenex, Torrance, CA, USA)
MS Detector Conditions	Electron impact (EI) mode, electron energy = 70 eV, a scan = 40–400 atomic mass units, scan rate = 3.0 scans/second
Carrier Gas, Conditions	Helium, column head pressure = 208.3 kPa, flow rate = 2.00 mL/min
Injector, Detector Temperatures	Injector temperature = 260 °C, interface temperature = 260 °C, ion source temperature = 260 °C
GC Oven Temperature Program	Initial temperature = 50 °C, ramp 2 °C/min to 260 °C, hold 260 °C for 5 min
Sample Concentration, Volume Injected	5% (in dichloromethane), 0.1 µL volume
Split Mode	24.5 : 1.0
Chiral Gas Chromatography - Mass Spectrometry	
Instrument	Shimadzu GCMS-QP2010S (Shimadzu Scientific Instruments, Columbia, MD, USA)
GC Column	Restek B-Dex 325 chiral GC column (30 m × 0.25 mm × 0.25 µm film thickness) (Restek Corp., Bellefonte, PA, USA)
MS Detector Conditions	Electron impact (EI) mode, electron energy = 70 eV, a scan = 40–400 atomic mass units, scan rate = 3.0 scans/second
Carrier Gas, Conditions	Helium, column head pressure = 53.6 kPa, flow rate = 1.00 mL/min
Injector, Detector Temperatures	Injector temperature = 240 °C, interface temperature = 240 °C, ion source temperature = 240 °C
GC Oven Temperature Program	Initial temperature = 50 °C, hold for 5 min, ramp 1 °C/min to 100 °C, ramp 2 °C/min to 220 °C
Sample Concentration, Volume Injected	5% (in dichloromethane), 0.3 µL volume
Split Mode	24.0 : 1.0

Table S2. Chemical composition of the foliar essential oils of *Callitropsis nootkatensis*.

RI _{calc}	RI _{db}	Compounds	C.n. Oregon	C.n. Washington
801	801	Hexanal	0.1	tr
850	850	(2E)-Hexenal	0.4	0.1
852	853	(3Z)- Hexenol	0.1	0.3
882	882	Cyclofenchene	tr	tr
893	892	Isopropyl isovalerate	-	tr
907	906	Bornylene	0.1	0.1
923	923	Tricyclene	0.1	0.1
926	925	α-Thujene	0.2	0.1
933	933	α-Pinene	33.5	16.4
948	948	α-Fenchene	1.1	1.3
949	950	Camphene	0.4	0.2
971	970	3,7,7-Trimethyl-1,3,5-cycloheptatriene	0.3	0.2
972	971	Sabinene	0.3	0.2
978	978	β-Pinene	3.7	1.5
989	989	Myrcene	4.2	2.7
1008	1007	α-Phellandrene	0.1	tr
1009	1008	δ-3-Carene	28.3	30.2
1017	1017	α-Terpinene	0.7	0.2

Table S2. (Continued).

RI _{calc}	RI _{db}	Compounds	C.n. Oregon	C.n. Washington
1020	1022	<i>m</i> -Cymene	0.1	0.1
1024	1024	Sylvestrene	0.1	0.4
1025	1025	<i>p</i> -Cymene	0.7	0.2
1030	1030	Limonene	4.2	34.4
1032	1031	β -Phellandrene	6.1	0.7
1032	1032	1,8-Cineole	0.1	tr
1036	1034	(<i>Z</i>)- β -Ocimene	tr	tr
1046	1045	(<i>E</i>)- β -Ocimene	tr	tr
1058	1057	γ -Terpinene	0.3	0.2
1070	1069	<i>cis</i> -Sabinene hydrate	0.1	tr
1080	1080	Methyl phenethyl ether	tr	tr
1081	1082	<i>p</i> -Mentha-2,4(8)-diene	0.4	0.3
1086	1086	Terpinolene	2.7	2.9
1089	1090	Fenchone	0.1	0.5
1090	1091	<i>p</i> -Cymenene	0.7	0.6
1100	1101	Linalool	tr	-
1101	1101	<i>trans</i> -Sabinene hydrate	0.1	-
1105	1104	Nonanal	tr	tr
1107	1105	α -Thujone	tr	-
1113	1113	<i>p</i> -Mentha-1,3,8-triene	tr	tr
1114	1114	3-Methyl-3-butenyl 3-methylbutanoate	-	0.3
1119	1120	<i>trans</i> -4-Methoxythujane	0.2	0.3
1124	1124	<i>cis-p</i> -Menth-2-en-1-ol	0.2	tr
1130	1131	Terpin-3-en-1-ol	tr	tr
1133	1132	<i>cis</i> -Limonene oxide	tr	tr
1134	1135	2-Vinylanisole	tr	tr
1143	1142	<i>trans-p</i> -Menth-2-en-1-ol	0.1	tr
1146	1150	Pentyl pentanoate	-	0.2
1147	1145	Camphor	0.2	0.1
1150	1150	<i>neo-iso</i> -Thujol	tr	tr
1155	1156	Camphene hydrate	0.1	tr
1156	1157	Myrtenyl methyl ether	0.1	-
1163	1162	<i>p</i> -Mentha-1,5-dien-8-ol	0.1	0.1
1169	1169	Umbellulone	0.6	0.1
1176	1176	<i>cis</i> -Pinocamphone	tr	tr
1181	1180	Terpinen-4-ol	0.7	0.5
1186	1185	Dill ether	tr	tr
1187	1186	<i>p</i> -Cymen-8-ol	0.1	0.1
1188	1188	(<i>E</i>)- β -Ocimenol	0.1	0.1
1194	1194	(4 <i>Z</i>)-Decenal	0.3	0.1
1195	1195	α -Terpineol	0.4	0.2
1207	1205	Verbenone	0.1	tr
1217	1217	<i>endo</i> -Fenchyl acetate	tr	-
1229	1229	Thymyl methyl ether	-	tr
1238	1239	Carvacryl methyl ether	tr	tr
1247	1246	Car-3-en-2-one	tr	tr
1254	1254	Piperitone	0.5	0.3
1264	1265	3,5-Dimethoxytoluene	-	tr

Table S2. (Continued).

RI _{calc}	RI _{db}	Compounds	C.n. Oregon	C.n. Washington
1271	1270	<i>iso</i> -Pulegyl acetate	tr	-
1284	1282	Bornyl acetate	0.6	tr
1285	1285	(<i>E</i>)-Anethole	-	tr
1317	1318	(2 <i>E</i> ,4 <i>E</i>)-Decadienal	tr	0.1
1333	1331	4-Terpinyl acetate	0.5	
1337	1339	Piperitenone	tr	tr
1346	1346	α -Terpinyl acetate	0.7	-
1347	1346	α -Cubebene	0.1	tr
1375	1375	α -Copaene	0.2	0.1
1393	1394	Benzyl isovalerate	-	0.1
1394	1396	Methyl perillate	tr	tr
1429	1430	β -Copaene	tr	tr
1445	1446	<i>cis</i> -Muurolo-3,5-diene	0.1	tr
1452	1452	(<i>E</i>)- β -Farnesene	tr	-
1461	1463	<i>cis</i> -Muurolo-4(14),5-diene	0.1	tr
1471	1472	<i>trans</i> -Cadina-1(6),4-diene	tr	tr
1474	1475	γ -Muurolene	tr	tr
1477	1478	γ -Curcumene	0.1	tr
1480	1480	<i>ar</i> -Curcumene	0.4	0.1
1489	1493	Phenethyl isovalerate	-	tr
1491	1492	<i>trans</i> -Muurolo-4(14),5-diene	tr	tr
1494	1494	β -Alaskene	tr	tr
1495	1497	<i>epi</i> -Cubebol	0.1	-
1498	1497	α -Muurolene	-	tr
1508	1508	β -Bisabolene	tr	-
1509	1509	β -Curcumene	0.3	0.1
1511	1512	α -Alaskene	tr	tr
1513	1512	γ -Cadinene	0.1	tr
1518	1518	δ -Cadinene	0.3	0.2
1520	1519	<i>trans</i> -Calamenene	0.1	tr
1561	1560	(<i>E</i>)-Nerolidol	0.4	0.2
1609	1606	Cedrol	tr	-
1615	1616	1,10-di- <i>epi</i> -Cubenol	tr	tr
1628	1628	1- <i>epi</i> -Cubenol	0.1	tr
1642	1640	τ -Cadinol	0.2	0.1
1644	1641	τ -Muurolol	0.1	0.1
1656	1655	α -Cadinol	0.5	0.3
1687	1688	α -Bisabolol	0.4	-
1932	1933	Beyerene	-	0.2
1963	1960	Pimaradiene	0.2	0.3
1968	1968	Kaur-15-ene	-	0.1
1992	1994	Manoyl oxide	tr	tr
1996	1997	9 β -Isopimara-7,15-diene	0.1	tr
2019	2015	Kaur-16-ene	-	0.1
2049	2049	Abietatriene	0.4	0.3
2053	2053	Manool	-	0.1
2083	2086	Abietadiene	0.1	0.1
2214	2212	Phyllocladanol	-	1.3

Table S2. (Continued).

RI _{calc}	RI _{db}	Compounds	C.n. Oregon	C.n. Washington
2301	2302	<i>trans</i> -Totarol	0.4	0.2
Compound classes				
		Monoterpene hydrocarbons	88.2	92.6
		Oxygenated monoterpenoids	5.5	2.2
		Sesquiterpene hydrocarbons	1.6	0.4
		Oxygenated sesquiterpenoids	1.7	0.7
		Diterpenoids	1.3	2.6
		Benzenoid aromatics	traces	0.1
		Others	0.9	1.2
		Total identified	99.2	99.8

RI_{calc} = Retention index values determined with respect to a homologous series of *n*-alkanes on a ZB-5ms column. RI_{db} = Reference retention index values from the databases. tr = trace (< 0.05%).

Table S3. Chemical composition of the foliar essential oils of *Calocedrus decurrens*.

RI _{calc}	RI _{db}	Compounds	C.d. #1	C.d. #2	C.d. #3
802	801	Hexanal	tr	tr	tr
849	850	(2 <i>E</i>)-Hexenal	0.3	0.1	0.1
851	853	(3 <i>Z</i>)-Hexenol	0.1	tr	-
881	882	Cyclofenchene	tr	tr	tr
885	883	3,5-Diethenylcyclopent-1-ene	1.2	0.3	0.4
907	906	Bornylene	tr	tr	tr
923	923	Tricyclene	0.1	0.1	0.1
926	927	α -Thujene	0.1	0.1	0.2
934	933	α -Pinene	7.9	4.1	5.0
948	948	α -Fenchene	0.9	0.5	0.3
949	950	Camphene	0.2	0.1	0.2
961	959	Verbenene	tr	1.5	1.9
970	970	3,7,7-Trimethyl-1,3,5-cycloheptatriene	0.2	0.1	0.1
972	971	Sabinene	0.4	0.9	0.8
978	978	β -Pinene	0.6	0.2	0.3
989	991	Myrcene	6.7	5.9	5.5
1004	1006	3-Ethenyl-1,2-dimethyl-1,4-cyclohexadiene	-	0.1	0.1
1008	1007	α -Phellandrene	0.1	0.1	0.1
1011	1009	δ -3-Carene	28.6	14.3	11.0
1017	1018	α -Terpinene	0.3	0.6	0.6
1020	1022	<i>m</i> -Cymene	0.1	tr	tr
1024	1024	Sylvestrene	0.9	0.4	0.2
1025	1025	<i>p</i> -Cymene	tr	0.1	0.3
1030	1030	Limonene	14.7	38.7	44.4
1031	1031	β -Phellandrene	1.5	0.8	0.6
1057	1057	γ -Terpinene	0.6	1.1	1.1
1070	1069	<i>cis</i> -Sabinene hydrate	0.1	0.1	0.1
1078	1080	2-Methoxyethylbenzene	0.1	tr	tr
1081	1082	<i>p</i> -Mentha-2,4(8)-diene	0.7	0.3	0.2
1086	1086	Terpinolene	10.0	6.4	5.4
1088	1090	Fenchone	0.1	1.2	1.0
1089	1091	<i>p</i> -Cymenene	0.4	0.2	0.2
1098	1097	α -pinene oxide	-	0.1	0.1
1099	1101	Linalool	0.3	0.3	0.2

Table S3. (Continued).

RI _{calc}	RI _{db}	Compounds	C.d. #1	C.d. #2	C.d. #3
1101	1101	<i>trans</i> -Sabinene hydrate	-	0.1	0.1
1104	1107	Nonanal	tr	0.1	0.1
1112	1113	1,3,8- <i>p</i> -Menthatriene	tr	tr	tr
1118	1118	β -Thujone	-	tr	tr
1124	1124	<i>cis-p</i> -Menth-2-en-1-ol	0.1	0.1	0.1
1126	1126	α -Campholenal	0.1	0.1	0.1
1132	1132	<i>cis</i> -Limonene oxide	tr	tr	tr
1140	1139	(3Z)-Ethylidene-1-methyl-1,4-cycloheptadiene	-	tr	tr
1142	1142	<i>trans-p</i> -Menth-2-en-1-ol	0.1	0.1	0.1
1147	1145	Camphor	0.1	0.2	0.2
1155	1156	Camphene hydrate	0.1	0.1	0.1
1162	1162	<i>p</i> -Mentha-1,5-dien-8-ol	0.1	-	-
1162	1164	Pinocarvone	-	tr	tr
1175	1175	(3E,5E)-Undeca-1,3,5-triene	-	tr	tr
1179	---	3,4-Undecadiene-2,10-dione ^a	0.8	0.4	0.4
1180	1180	Terpinen-4-ol	1.9	3.5	2.8
1186	1186	<i>p</i> -Cymen-8-ol	0.6	1.0	0.4
1188	1188	(E)- β -Ocimenol	-	0.1	0.1
1193	1196	(4Z)-Decenal	0.4	0.1	0.3
1195	1195	α -Terpineol	0.4	0.7	0.6
1209	1211	4-Methyleneisophorone	0.1	-	-
1217	1217	<i>endo</i> -Fenchyl acetate	0.2	0.1	0.1
1219	---	Methyl pin-2-en-8-oate ^a	2.1	1.9	3.6
1228	1229	Thymyl methyl ether	0.1	tr	tr
1231	1231	<i>trans</i> -Chrysanthenyl acetate	-	0.8	1.0
1243	1242	Carvone	-	0.1	0.1
1244	1246	<i>cis</i> -Linalool oxide acetate (Furanoid)	0.1	0.1	-
1253	1252	Piperitone	0.2	0.3	0.2
1283	1282	Bornyl acetate	0.5	0.2	0.2
1294	1294	Methyl myrtenate	1.7	0.1	0.1
1321	1326	Myrtenyl acetate	0.1	1.0	0.9
1326	---	Pin-2-en-8-yl acetate ^a	3.2	-	-
1332	1331	4-Terpinyol acetate	0.6	0.2	0.2
1345	1346	α -Terpinyol acetate	5.0	6.8	4.9
1388	1390	<i>trans</i> - β -Elemene	0.1	0.1	0.1
1394	1395	Methyl perillate	tr	0.1	-
1418	1417	(E)- β -Caryophyllene	0.1	0.1	0.1
1434	1433	<i>cis</i> -Thujopsene	0.1	0.1	0.1
1487	1487	β -Selinene	0.1	tr	tr
1494	1497	α -Selinene	0.1	tr	tr
1505	1508	β -Bisabolene	tr	tr	tr
1611	1610	Cedrol	0.6	0.3	0.4
Compound classes					
		Monoterpene hydrocarbons	75.0	76.7	78.5
		Oxygenated monoterpenoids	18.3	19.7	17.3
		Sesquiterpene hydrocarbons	0.4	0.3	0.2
		Oxygenated sesquiterpenoids	0.6	0.3	0.4
		Benzenoid aromatics	0.1	tr	tr
		Others	2.4	0.9	1.0
		Total identified	96.8	97.8	97.4

RI_{calc} = Retention index values determined with respect to a homologous series of *n*-alkanes on a ZB-5ms column. RI_{db} = Reference retention index values from the databases. tr = trace (< 0.05%). ^a Identification tentative; reference RI value not available.

Table S4. Chemical composition of the foliar essential oil of *Sequoia sempervirens*.

RI _{calc}	RI _{db}	Compounds	S.s. #1	S.s. #2	S.s. #3
801	801	Hexanal	0.2	0.4	0.1
848	849	(2E)-Hexenal	0.4	0.6	0.2
850	853	(3Z)-Hexenol	-	0.1	0.1
923	923	Tricyclene	0.1	0.1	tr
925	925	α -Thujene	0.7	0.6	0.3
934	933	α -Pinene	18.8	16.4	10.1
947	948	α -Fenchene	tr	tr	tr
949	950	Camphene	0.2	0.2	0.1
972	972	Sabinene	4.4	3.5	2.2
977	978	β -Pinene	1.5	1.3	0.9
989	989	Myrcene	6.7	6.0	3.4
1007	1007	α -Phellandrene	0.6	0.7	0.2
1009	1009	δ -3-Carene	0.1	0.1	0.1
1015	1015	1,4-Cineole	0.1	tr	tr
1017	1018	α -Terpinene	1.2	1.2	0.3
1024	1025	<i>p</i> -Cymene	0.9	0.7	3.1
1030	1030	Limonene	8.5	8.7	6.2
1032	1031	β -Phellandrene	7.0	6.8	3.5
1034	1034	(Z)- β -Ocimene	tr	tr	tr
1045	1045	(E)- β -Ocimene	0.4	0.4	0.2
1058	1057	γ -Terpinene	7.2	6.3	2.5
1065	1064	3-Methylbut-2-enyl butanoate	0.1	0.1	0.1
1087	1087	Terpinolene	2.3	2.2	1.1
1092	1091	<i>p</i> -Cymenene	tr	tr	0.1
1101	1101	Linalool	tr	tr	0.1
1126	1124	<i>cis-p</i> -Menth-2-en-1-ol	0.5	0.4	0.6
1144	1142	<i>trans-p</i> -Menth-2-en-1-ol	0.4	0.3	0.5
1183	1180	Terpinen-4-ol	4.1	3.9	5.3
1188	1186	<i>p</i> -Cymen-8-ol	0.1	tr	0.5
1197	1195	α -Terpineol	0.9	1.0	1.4
1207	1208	Decanal	0.1	0.1	0.1
1255	1254	Piperitone	0.2	0.2	0.3
1260	1272	4-Pentenyl hexanoate	0.3	0.3	0.4
1271	1271	1-Decanol	-	-	0.2
1285	1285	Bornyl acetate	0.3	0.4	0.6
1288	1287	<i>iso</i> -Bornyl acetate	tr	tr	tr
1293	1293	2-Undecanone	0.1	tr	0.1
1333	1330	Bicycloelemene	0.1	0.1	tr
1336	1335	δ -Elemene	0.9	1.1	0.6
1347	1346	α -Terpinyl acetate	2.4	2.5	3.8
1358	1361	Neryl acetate	0.4	0.4	0.7
1377	1375	α -Copaene	0.3	0.2	0.4
1378	1378	Geranyl acetate	0.1	0.1	0.2
1383	1383	<i>cis</i> - β -Elemene	0.1	0.1	0.1
1387	1384	(5Z)-Decenyl acetate	tr	0.1	0.1
1390	1390	<i>trans</i> - β -Elemene	1.4	1.6	2.1
1409	1409	Dodecanal	0.1	0.1	0.1
1420	1418	(E)- β -Caryophyllene	1.1	1.3	1.7
1430	1430	γ -Elemene	2.2	2.7	3.2

Table S4. (Continued).

RI _{calc}	RI _{db}	Compounds	S.s. #1	S.s. #2	S.s. #3
1453	1452	(E)- β -Farnesene	0.1	0.1	0.2
1456	1454	α -Humulene	0.3	0.4	0.5
1473	1473	<i>trans</i> -Cadina-1(6),4-diene	tr	tr	tr
1474	1475	Selina-4,11-diene	0.1	0.1	0.1
1475	1478	γ -Muurolene	0.2	0.2	0.3
1478	1482	γ -Curcumene	0.3	0.3	0.3
1480	1482	α -Amorphene	tr	0.1	0.1
1482	1483	Germacrene D	2.6	3.6	3.3
1485	1490	γ -Amorphene	tr	tr	-
1487	1489	δ -Selinene	0.1	0.1	0.1
1490	1492	β -Selinene	0.3	0.4	0.6
1492	1496	<i>trans</i> -Muurolo-4(14),5-diene	0.1	0.1	0.1
1495	1497	Bicyclogermacrene	0.1	0.1	tr
1496	1497	α -Selinene	0.3	0.3	0.5
1499	1500	α -Muurolene	0.4	0.4	0.6
1503	1506	δ -Amorphene	0.1	0.1	-
1513	1512	γ -Cadinene	0.1	0.2	0.2
1518	1518	δ -Cadinene	0.7	0.9	1.2
1537	1540	Selina-4(15),7(11)-diene	0.1	0.2	0.3
1542	1542	Selina-3,7(11)-diene	0.1	0.2	0.3
1549	1549	α -Elemol	1.6	1.7	2.9
1560	1557	Germacrene B	5.4	6.2	8.2
1562	1560	(E)-Nerolidol	0.1	0.1	-
1584	1484	Gleenol	tr	tr	1.5
1607	1607	5- <i>epi</i> -7- <i>epi</i> - α -Eudesmol	0.1	0.2	0.2
1622	1620	10- <i>epi</i> - γ -Eudesmol	0.2	0.3	0.5
1628	1629	<i>iso</i> -Spathulenol	tr	tr	0.9
1632	1632	γ -Eudesmol	3.6	4.2	6.5
1638	1644	<i>allo</i> -Aromadendrene epoxide	-	-	0.4
1642	1643	τ -Cadinol	0.2	0.2	0.4
1644	1645	τ -Muurolol	0.3	0.4	0.7
1647	1651	α -Muurolol (= δ -Cadinol)	0.1	0.1	0.2
1655	1656	β -Eudesmol	1.6	1.8	5.5
1656	1655	α -Eudesmol	2.6	2.6	3.1
1658	1660	Selin-11-en-4 α -ol	tr	tr	0.4
1659	1655	α -Cadinol	0.5	0.8	-
1699	1698	Juniper camphor	0.2	0.3	0.4
1990	1994	Manoyl oxide	0.1	0.1	0.2
Compound classes					
		Monoterpene hydrocarbons	60.5	55.0	34.2
		Oxygenated monoterpenoids	9.4	9.2	13.9
		Sesquiterpene hydrocarbons	17.5	21.1	24.9
		Oxygenated sesquiterpenoids	11.1	12.8	23.7
		Diterpenoids	0.1	0.1	0.2
		Others	1.3	1.7	1.7
		Total identified	99.9	99.8	98.5

RI_{calc} = Retention index values determined with respect to a homologous series of *n*-alkanes on a ZB-5ms column. RI_{db} = Reference retention index values from the databases. tr = trace (< 0.05%).

Table S5. Chemical composition of the foliar essential oil of *Thuja plicata*.

RI _{calc}	RI _{db}	Compounds	T.p. #1	T.p. #2
842	842	Ethyl 2-methyl butyrate	0.3	0.3
845	846	(Z)-Salvene	tr	tr
848	849	(2E)-Hexenal	0.1	0.1
923	923	Tricyclene	tr	tr
925	925	α -Thujene	0.3	0.3
933	933	α -Pinene	1.1	1.4
947	948	α -Fenchene	tr	tr
949	950	Camphene	tr	tr
972	971	Sabinene	3.2	2.6
977	978	β -Pinene	0.1	0.1
989	989	Myrcene	1.5	1.8
998	997	Ethyl hexanoate	tr	tr
1007	1007	α -Phellandrene	tr	tr
1017	1017	α -Terpinene	0.7	0.6
1019	1017	(2E)-Hexenyl acetate	tr	tr
1020	1022	Ethyl 3-methyl-3-butenyl carbonate	tr	tr
1024	1025	<i>p</i> -Cymene	0.8	0.6
1026	1026	2-Acetyl-3-methylfuran	tr	tr
1028	1030	Limonene	0.8	0.9
1030	1031	β -Phellandrene	0.1	tr
1034	1037	5-Methyl-(5E)-octen-2-one	0.1	0.1
1056	1057	γ -Terpinene	1.1	1.1
1070	1069	<i>cis</i> -Sabinene hydrate	0.2	0.3
1085	1086	Terpinolene	0.4	0.3
1091	1091	<i>p</i> -Cymenene	tr	tr
1091	1090	6,7-Epoxymyrcene	tr	tr
1095	1093	Ethyl sorbate	0.1	tr
1099	1098	Perillene	0.1	tr
1105	1101	Linalool	tr	0.1
1107	1105	α -Thujone	65.9	62.5
1120	1118	β -Thujone	10.2	12.1
1123	1122	<i>trans-p</i> -Mentha-2,8-dien-1-ol	tr	tr
1125	1124	<i>cis-p</i> -Menth-2-en-1-ol	0.2	0.1
1127	1127	α -Campholenal	tr	tr
1142	1142	<i>trans-p</i> -Menth-2-en-1-ol	0.1	0.1
1147	1145	Camphor	tr	tr
1157	1157	Sabina ketone	0.2	0.1
1170	1169	Ethyl benzoate	tr	tr
1172	1171	<i>p</i> -Mentha-1,5-dien-8-ol	tr	tr
1175	1176	<i>trans</i> -Isopulegone	tr	tr
1181	1180	Terpinen-4-ol	3.4	3.1
1187	1186	<i>p</i> -Cymen-8-ol	0.2	0.2
1195	1195	α -Terpineol	0.1	0.1
1196	1196	Ethyl octanoate	0.1	0.1
1198	1197	Methyl chavicol (= Estragole)	0.7	0.7
1201	---	4-Hydroxy- α -thujone ^a	0.7	0.6
1207	1205	Verbenone	0.1	0.1
1242	1242	Cuminal	0.1	tr

Table S5. (Continued).

RI _{calc}	RI _{db}	Compounds	T.p. #1	T.p. #2
1244	1242	Carvone	tr	tr
1247	1250	Ethyl (2E)-octenoate	tr	tr
1249	1248	Carvotanacetone	tr	tr
1261	1260	<i>trans</i> -Sabinene hydrate acetate	0.2	0.2
1269	1267	<i>neo</i> -3-Thujyl acetate	0.3	0.2
1277	1280	Phellandral	tr	tr
1283	1282	Bornyl acetate	tr	tr
1288	1286	<i>trans</i> -Sabinyl acetate	0.1	0.1
1290	1293	3-Thujanyl acetate	0.1	0.1
1291	1290	Menthyl acetate	0.4	0.6
1298	1300	Carvacrol	0.1	0.1
1316	1322	Myrtenyl acetate	0.1	0.1
1336	1335	4-Terpinyl acetate	0.1	0.1
1346	1346	α -Terpinyl acetate	0.3	0.3
1349	1349	Citronellyl acetate	tr	tr
1357	1361	Neryl acetate	tr	tr
1377	1378	Geranyl acetate	0.5	0.4
1388	1390	β -Elemene	tr	tr
1394	1395	Ethyl decanoate	tr	tr
1399	1403	Methyl eugenol	tr	tr
1424	1426	Cuminyl acetate	tr	tr
1444	1445	(E)-Cinnamyl acetate	tr	tr
1448	---	<i>p</i> -Methoxypropiofenone ^a	0.1	tr
1463	1258	Sabinyl isovalerate	0.2	0.2
1494	1495	Tridecan-2-one	tr	tr
1497	1497	α -Muurolene	tr	tr
1520	1520	δ -Cadinene	0.1	0.1
1563	1560	Longicamphenylone	0.1	0.1
1577	1578	Furopolargone B	0.1	tr
1602	1600	α -Oplophenone	tr	tr
1641	1643	τ -Cadinol	tr	0.1
1643	1644	τ -Muurolol	0.1	0.1
1654	1655	α -Cadinol	0.3	0.3
1732	1735	Oplopanone	0.1	0.2
1896	1896	Rimueene	0.9	0.7
1932	1931	Beyerene	0.6	0.9
1990	1989	Manoyl oxide	tr	tr
1994	1997	Kaur-15-ene	tr	tr
2036	---	Atis-16-ene ^a	tr	tr
2050	2049	Abietatriene	tr	tr
2158	---	Monogynol, methyl ether ^a	tr	0.1
2225	---	Sandaracopimarinol ^a	tr	tr
2301	2315	<i>trans</i> -Totarol	0.1	0.4
2319	---	15-Beyerene-19-ol acetate ^a	1.8	3.7
Compound classes				
Monoterpene hydrocarbons			10.1	9.8
Oxygenated monoterpenoids			83.8	81.9
Sesquiterpene hydrocarbons			0.1	0.1
Oxygenated sesquiterpenoids			0.6	0.7

Table S5. (Continued).

RI _{calc}	RI _{db}	Compound classes	T.p. #1	T.p. #2
		Diterpenoids	3.4	5.7
		Benzenoid aromatics	0.8	0.7
		Others	0.8	0.6
		Total identified	99.5	99.5

RI_{calc} = Retention index values determined with respect to a homologous series of *n*-alkanes on a ZB-5ms column. RI_{db} = Reference retention index values from the databases. tr = trace (< 0.05%). ^a Identification tentative; reference RI value not available.

Table S6. Enantiomeric distributions (averages) of chiral monoterpenoids in members of the Cupressaceae.

Enantiomers	<i>Callitropsis nootkatensis</i> (this study)	<i>Calocedrus decurrens</i> (this study)	<i>Chamaecyparis lawsoniana</i> [32]	<i>Juniperus horizontalis</i> [45]	<i>Juniperus occidentalis</i> [46]	<i>Juniperus osteosperma</i> [47]	<i>Juniperus scopulorum</i> [45]	<i>Sequoia sempervirens</i> (this study)	<i>Thuja plicata</i> (this study)	<i>Thuja plicata</i> [34]	<i>Thuja plicata</i> [32]
(+)- α -Thujene	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(-)- α -Thujene	-	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(-)- α -Pinene	81.8	61.3	11.4	18.6	14.7	0.3	8.3	91.6	2.3	17.4	2.2
(+)- α -Pinene	18.2	38.7	88.6	81.4	85.3	99.7	91.7	8.4	97.7	82.6	97.8
(-)-Camphene	76.7	-	-	37.3	11.2	6.7	48.0	76.2	-	-	-
(+)-Camphene	23.3	-	-	62.7	88.8	93.2	52.0	23.8	-	-	-
(+)-Sabinene	33.6	76.2	99.5	100.0	100.0	100.0	100.0	96.1	100.0	100.0	100.0
(-)-Sabinene	66.4	23.8	0.5	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0
(+)- β -Pinene	4.9	0.0	100.0	100.0	100.0	100.0	100.0	11.1	-	84.6	-
(-)- β -Pinene	95.1	100.0	0.0	0.0	0.0	0.0	0.0	88.9	-	15.4	-
(+)- δ -3-Carene	100.0	100.0	-	100.0	100.0	-	100.0	-	-	-	-
(-)- δ -3-Carene	0.0	0.0	-	0.0	0.0	-	0.0	-	-	-	-
(-)- α -Phellandrene	-	-	-	-	-	-	-	55.1	-	-	-
(+)- α -Phellandrene	-	-	-	-	-	-	-	44.9	-	-	-
(-)-Limonene	10.3	7.6	0.2	17.2	6.3	1.9	9.9	12.1	3.5	3.7	3.0
(+)-Limonene	89.7	92.4	99.8	82.8	93.7	98.1	90.1	87.9	96.5	96.3	97.0
(-)- β -Phellandrene	55.4	91.3	-	69.1	100.0	100.0	53.1	68.7	-	-	-
(+)- β -Phellandrene	44.6	8.7	-	30.9	0.0	0.0	46.9	31.3	-	-	-
(+)-cis-Sabinene hydrate	-	-	100.0	97.7	100.0	95.0	95.9	-	100.0	95.2	97.2
(-)-cis-Sabinene hydrate	-	-	0.0	2.3	0.0	5.0	4.1	-	0.0	4.8	2.8
(+)- α -Thujone	-	-	-	-	-	-	-	-	0.0	0.0	0.0
(-)- α -Thujone	-	-	-	-	-	-	-	-	100.0	100.0	100.0
(+)- β -Thujone	-	-	-	-	-	-	-	-	100.0	100.0	100.0
(-)- β -Thujone	-	-	-	-	-	-	-	-	0.0	0.0	0.0
(-)-Linalool	-	82.4	-	38.79	-	-	12.4	-	-	-	-
(+)-Linalool	-	17.6	-	61.21	-	-	87.6	-	-	-	-
(+)-trans-Sabinene hydrate	-	-	95.6	97.8	-	97.5	-	-	-	-	-
(-)-trans-Sabinene hydrate	-	-	4.4	2.2	-	2.5	-	-	-	-	-
(-)-Camphor	-	-	-	-	0.0	0.2	-	-	-	-	-

Table S6. (Continued).

Enantiomers	<i>Callitropsis nootkatensis</i> (this study)	<i>Calocedrus decurrens</i> (this study)	<i>Chamaecyparis lawsoniana</i> [32]	<i>Juniperus horizontalis</i> [45]	<i>Juniperus occidentalis</i> [46]	<i>Juniperus osteosperma</i> [47]	<i>Juniperus scopulorum</i> [45]	<i>Sequoia sempervirens</i> (this study)	<i>Thuja plicata</i> (this study)	<i>Thuja plicata</i> [34]	<i>Thuja plicata</i> [32]
(+)-Camphor	-	-	-	-	100.0	99.8	-	-	-	-	-
(+)-Terpinen-4-ol	36.6	54.2	69.8	66.6	67.7	67.4	53.0	70.4	73.7	73.5	73.3
(-)-Terpinen-4-ol	63.4	45.8	30.2	33.4	32.3	32.6	47.0	29.6	26.4	26.5	26.7
(-)-Borneol	-	-	-	100.0	100.0	100.0	-	-	-	-	-
(+)-Borneol	-	-	-	0.0	0.0	0.0	-	-	-	-	-
(-)- α -Terpineol	77.3	24.5	32.6	49.4	0.0	0.0	46.0	67.5	32.9	31.6	37.6
(+)- α -Terpineol	22.7	75.5	67.4	50.6	100.0	100.0	54.0	32.5	67.1	68.4	62.4
(-)-Verbenone	-	-	-	-	-	0.0	-	-	-	-	-
(+)-Verbenone	-	-	-	-	-	100.0	-	-	-	-	-
(-)-Piperitone	82.2	78.5	-	-	-	-	-	-	-	-	-
(+)-Piperitone	17.8	21.5	-	-	-	-	-	-	-	-	-

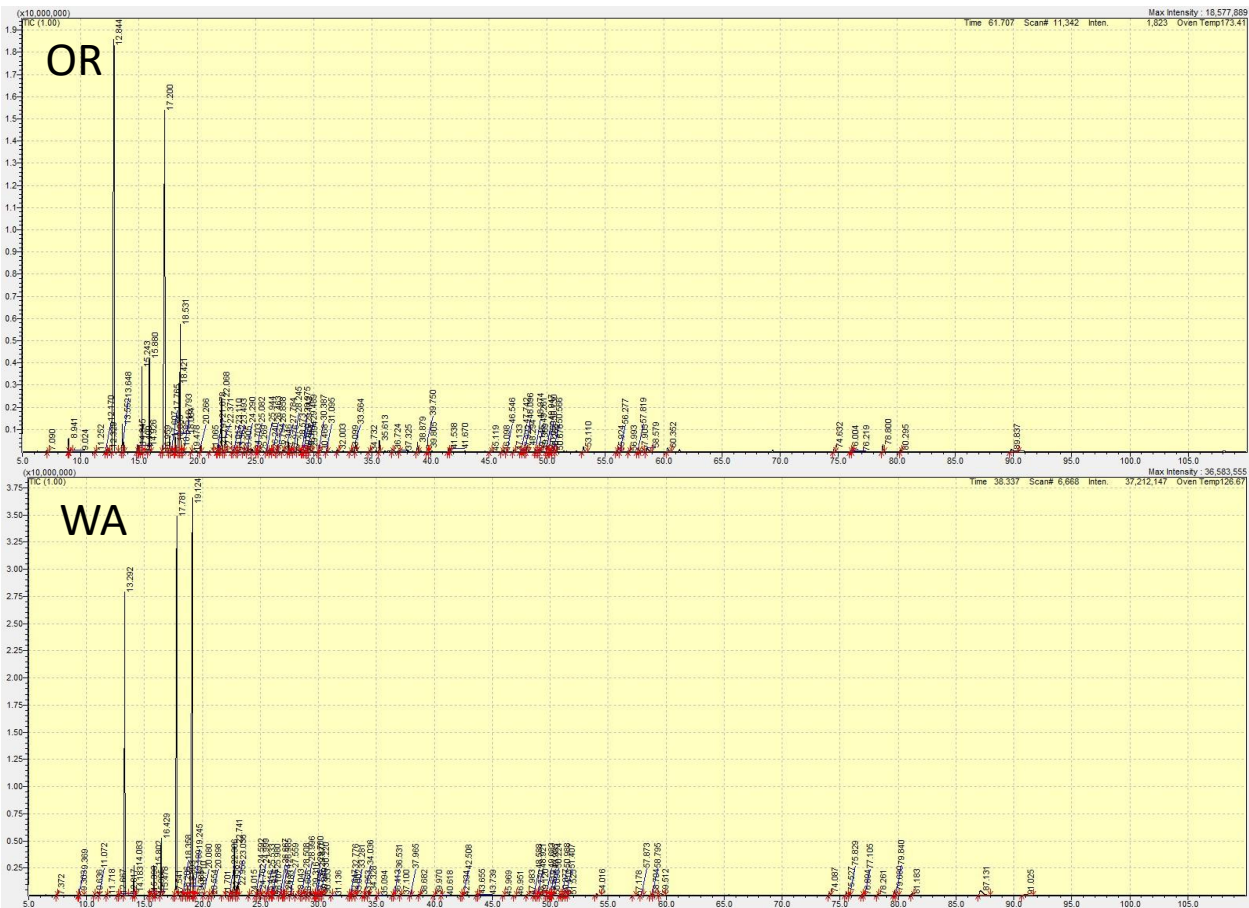
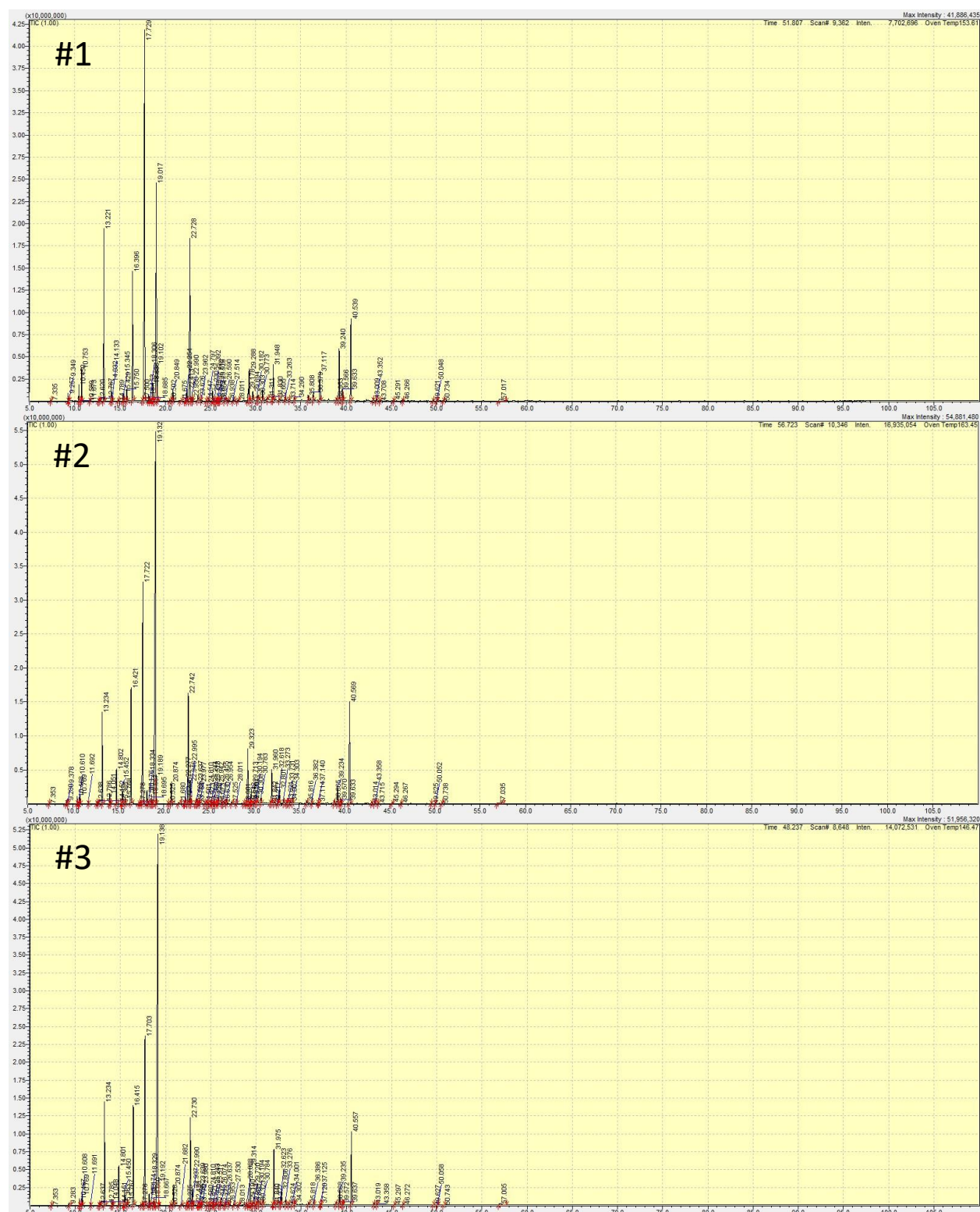


Figure S1. Gas chromatograms of *Callitropsis nootkatensis* foliar essential oils.

Figure S2. Gas chromatograms of *Calocedrus decurrens* foliar essential oils.

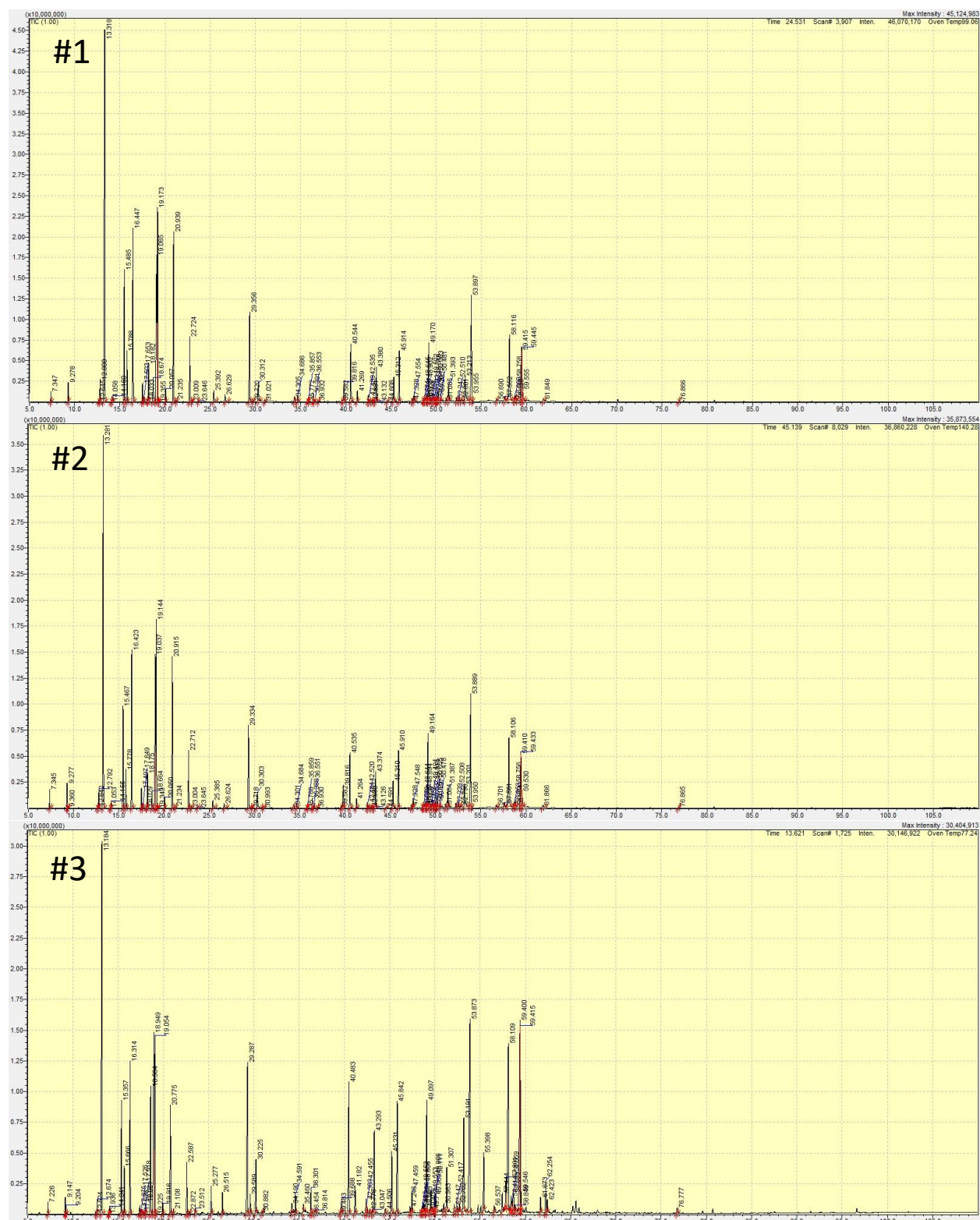


Figure S3. Gas chromatograms of *Sequoia sempervirens* foliar essential oils.



Figure S4. Gas chromatograms of *Thuja plicata* foliar essential oils.