

Supporting Information

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Influence of Polish Climate Conditions on Content and the Chemical Variation of Essential Oils in the Roots of Six *Eleutherococcus* Species and Their Potential Use

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Table of Contents

Page

S1: Chemical differences in the composition of the volatiles in the roots of *Eleutherococcus* 2

S1: Chemical differences in the composition of the volatiles in the roots of *Eleutherococcus* species.

No	Compound	^a LRI	Relative amount (%) ^b					
			1	2	3	4	5	6
1	camphene	954	-	0.1	t	0.7	t	t
2	thuja 2,4(10)-diene	958	-	0.4	t	0.6	0.1	t
3	δ 3-carene	1010	1.5	-	-	-	-	-
4	δ 2 – carene	1019	-	-	t	t	t	-
5	<i>p</i> -cymene	1028	t	0.2	-	0.4	-	0.1
6	limonene	1030	t	0.1	0.1	0.1	-	-
7	<i>p</i> -menthene	1032	-	0.2	-	0.4	-	-
8	γ -terpinene	1059	t	t		0.1	-	-
9	(<i>E</i>)-2-octenal	1069	0.4	0.1	0.1	0.2	-	0.1
10	<i>p</i> -pinene oxide	1111	-	0.1	-	0.2	-	-
11	β -thujone	1119	-	-	-	0.1	-	-
12	dehydro sabina ketone	1124	-	t	-	0.1	-	-
13	<i>cis</i> -verbenol	1149	-	4.8	0.05	8.9	-	0.7
14	<i>trans</i> -verbenol	1155	t	0.2	-	0.2	0.3	t
15	<i>Trans</i> -pinocamphone	1165	-	0.5	t	0.7	t	t
16	pinocarvone	1167	-	1.1	t	2.1	0.6	0.2
17	(<i>E</i>)-2-nonen-1-al	1172	0.2	t	-	-	-	t
18	<i>p</i> -mentha-1,5-dien-8-ol	1179	-	0.9	-	1.2	-	0.1
19	<i>cis</i> -dihydro carvone	1191	-	-	-	0.1	-	-
20	<i>m</i> -cymen 8-ol	1192	0.1	-	-	-	-	-
21	<i>p</i> -cymen 8-ol	1200	0.1	0.1	-	-	-	0.2
22	verbenone	1216	-	1.6	t	2.0	t	0.2
23	<i>trans</i> -carveol	1230	-	0.2	-	0.3	-	-
24	citronellol	1238	0.1	0.5	-	-	-	-
25	<i>cis</i> -carveol	1242	-	-	-	0.1	-	-
26	2-pentadecyn-1-ol	1259	-	-	-	-	-	0.1
27	<i>cis-p</i> -mentha 1(7)-8 dien-2-ol	1260	-	0.3	-	t	-	-
28	carvone	1262	-	-	-	0.3	-	-
29	(<i>E</i>)-2-decenal	1274	0.8	0.2	0.3	-	0.1	0.3
30	<i>cis</i> -myrtanol	1275	-	0.7	-	0.2	-	-
31	(<i>E,Z</i>)-2,4-decadienal	1311	0.2	0.4	0.1	t	0.5	-
32	<i>iso</i> -verbenol acetale	1333	-	-	-	0.1	-	-
33	(<i>E,E</i>)-2,4-decadienal	1338	-	-	-	t	0.4	
34	α -longipinene	1354	-	1.4	-	-	-	-
35	citronellyl acetate	1355	0.6	-	0.2	-	0.2	0.6
36	<i>cis</i> -carvyl acetate	1364	-	0.2	t	-	-	-

37	2-butyl-2,7-octadien-1-ol	1375	-	0.5	0.3	0.5	0.5	0.4
38	α - copaene	1377	0.5	-	-	-	-	-
39	<i>trans</i> -myrtanol acetate	1390	0.4	-	t	-	-	-
40	α - santalene	1422	t	0.1	-	-	1.9	0.2
41	β -caryophyllene	1425	t	t	t	-	-	-
42	<i>trans</i> - α -bergamotene	1437	t	t	t	-	1.2	0.1
43	<i>epi</i> - β -santalene < >	1453	-	-	-	-	0.2	t
44	β -santalene	1453	-	-	-	-	0.6	-
45	sesquicineole	1476	-	-	t	-	-	-
46	β -chamigrene	1484	-	-	-	-	0.2	-
47	α -amorphene	1491	t	t	-	-	-	-
48	α -selinene	1501	-	-	-	-	0.1	0.1
49	germacrene D	1494	-	0.1	-	-	1.0	0.3
50	1,11 – epoxide calamenene	1502	0.1	t	-	-	-	-
51	viridiflorene	1508	-	-	-	-	0.2	0.2
52	<i>epi</i> - cubebol	1508	-	0.1	0.1	0.2	-	-
53	α - muurolene	1508	0.2	-	-	-	-	-
54	α -cuprenene	1512	-	0.1	-	-	-	-
55	α -bulnesene	1512	-	-	-	-	0.5	-
56	β -bisabolene	1517	-	-	-	-	0.5	-
57	2,4-bis(1,1-dimethylethyl)- phenol	1518	0.1	0.1	t	t	-	0.1
58	tridecanal	1523	-	-	0.1	0.1	0.3	t
59	cadinene	1524	t	0.1	-	-	-	-
60	cubebol	1527	-	-	0.1	0.6	-	-
61	δ -amorphene	1527	0.6	0.4	-	-	0.7	0.5
62	(<i>Z</i>)- γ - bisabolene	1535	-	-	-	-	0.5	-
63	<i>trans</i> -cadina-1,4-diene	1541	t	t	-	-	-	0.1
64	(<i>E</i>)- γ - bisabolene	1548	-	-	-	-	t	-
65	α -calacorene	1553	0.1	0.1	-	-	-	-
66	α –dehydro himachalene	1553	-	0.1	-	-	-	-
67	<i>epi</i> -longipinanol	1569	-	0.2	-	-	0.1	0.1
68	longipinanol	1580	0.1	0.4	-	-	0.4	0.2
69	khusimone	1613	1.2	0.5	0.4	0.3	-	-
70	tetradecanal	1619	-	-	0.8	0.6	1.6	0.6
71	humulene epoxide II	1620	0.7	0.7	-	-	-	-
72	1,10-di- <i>epi</i> - cubenol	1623	0.5	-	-	-	-	-
73	β -himachalene oxide	1623	-	0.4	0.2	-	-	-
74	10- <i>epi</i> - γ eudesmol	1634	-	0.1	-	-	-	-
75	β -atlantol	1639	-	-	0.6	0.7	1.8	1.9

76	6-methyl-6-(3methylphenyl)-heptan-2-one	1643	-	0.2	-	-	-	-
77	eremoligenol	1647	0.2	1.3	0.1	0.1	-	-
78	α -muurolol	1655	0.2	t	-	-	-	-
79	vulgarone B	1661	-	0.5	-	-	-	-
80	α -bisabolol oxide B	1666	-	-	-	0.5	0.9	1.4
81	valerianol	1666	-	0.7	-	-	-	-
82	himachalol	1668	1.6	1.4	2.3	0.7	-	-
83	neointermedeol	1673	1.5	0.6	-	-	8.6	3.3
84	valeranone	1686	-	-	-	-	1.8	0.6
85	pentadecanal	1719	2.6	-	-	1.5	6.5	1.9
86	(Z,Z)-farnesol	1720	-	0.9	0.9	-	-	-
87	β -bisabolen-12-ol	1766	2.8	-	1.9	0.6	0.9	1.3
88	drimenol	1785	1.4	0.3	0.2	-	0.5	0.6
89	<i>cis, cis, cis</i> -7,10,13-hexadecatrienal	1797	-	-	0.3	0.1	-	-
90	4,8,12-tetradecatrien-1-ol,5,9,13-trimethyl	1803	-	-	t	-	-	-
91	bicycle-vetivenol < >	1820	-	0.3	0.2	0.2	0.5	1.0
92	14-hydroxy- δ -cadinene	1820	0.9	-	-	-	-	-
93	6,10,14-trimethyl-2-pentadecanone	1841	-	-	-	-	0.1	t
94	9,12,15-octadecatrienal	1896	-	-	-	-	1.5	0.7
95	hexadecanoic acid	1897	1.0	1.1	1.7	0.6	-	-
^c Total (%)			99.3	99.3	99.0	99.6	99.6	99.5

1. *E. senticosus*, 2. *E. setchuensis*, 3. *E. divaricatus*, 4. *E. gracilistylus*, 5. *E. henryi*, 6. *E. sessiliflorus*. ^aLRI: linear retention indices (HP-5 column). ^b Average values (peak area relative to total peak area) from three replicate sample analyses. t - trace, for less than 0.05%. ^c - total of volatiles included in the Table 1 and S1.