

Supplementary Data

Response of three mint and two oregano species to *Glomus etunicatum* inoculation

Table 3. Chemical composition of essential oils of non-mycorrhizal and mycorrhizal *Oreganum vulgare*, *Oreganum onites*, *Mentha piperata*, *Mentha spicata*, and *Mentha viridis* plants inoculated with the indigenous *Glomus etunicatum*

Compounds ^a	RI ^b	<i>Mentha viridis</i>		<i>Mentha piperata</i>		<i>Mentha spicata</i>		<i>Oreganum onites</i>		<i>Oreganum vulgare</i>		Identification
		M	NM	M	NM	M	NM	M	NM	M	NM	
α -Thujene	925	N/A	N/A	N/A	N/A	0.02	N/A	0.06	N/A	1.22	N/A	I, MS
α -Pinene	931	0.13	N/A	N/A	0.18	0.3	0.03	N/A	0.28	0.65	1.19	I, MS, Co-GC
Camphene	945	N/A	0.22	N/A	N/A	0.01	0.21	N/A	0.09	0.09	0.01	I, MS
Sabinene	970	0.29	0.17	N/A	0.14	0.54	0.17	0.14	N/A	0.17	trace	I, MS
β -Pinene	972	0.43	N/A	0.89	N/A	0.77	0.55	N/A	0.24	0.21	0.11	I, MS, Co-GC
Octen-3-ol	978	0.08	0.14	N/A	0.21	0.24	0.64	N/A	trace	0.15	0.24	I, MS
Methyl heptenone	986	N/A	trace	N/A	N/A	N/A	N/A	N/A	N/A	0.10	trace	I, MS
β -Myrcene	990	0.64	1.06	0.64	N/A	0.89	0.33	0.07	0.12	1.33	0.07	I, MS
3-Octanol	995	0.36	N/A	0.08	N/A	0.04	trace	0.13	0.06	N/A	N/A	I, MS
α -Phellandrene	1001	N/A	0.09	N/A	0.31	N/A	0.29	N/A	0.07	0.18	0.22	I, MS
<i>iso</i> -Sylvestrene	1006	N/A	N/A	N/A	trace	N/A	N/A	N/A	N/A	0.07	trace	I, MS
α -Terpinene	1014	N/A	trace	N/A	N/A	0.05	0.94	0.06	N/A	1.55	0.05	I, MS
<i>p</i> -Cymene	1022	N/A	N/A	0.17	0.06	0.11	0.73	N/A	1.04	12.60	10.29	I, MS, Co-GC
Limonene	1026	10.89	8.55	2.26	3.08	21.33	19.87	0.08	N/A	0.56	trace	I, MS
1,8-Cineole	1028	4.80	3.64	0.52	2.37	6.8	5.59	N/A	0.51	0.22	0.78	I, MS
<i>cis</i> -Ocimene	1037	N/A	N/A	0.72	N/A	N/A	trace	N/A	N/A	N/A	N/A	I, MS
<i>trans</i> -Ocimene	1047	N/A	N/A	0.83	0.47	0.05	0.14	N/A	N/A	0.06	trace	I, MS
γ -Terpinene	1056	0.17	N/A	N/A	N/A	0.18	0.09	0.11	0.63	6.46	4.28	I, MS, Co-GC

<i>cis</i> -Sabinene hydrate	1064	3.11	1.61	N/A	trace	0.06	trace	1.61	0.05	0.71	0.39	I, MS
<i>trans</i> -4-Thujanol	1065	N/A	N/A	1.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	I, MS
Terpinolene	1085	N/A	2.09	N/A	1.55	0.04	0.21	N/A	0.41	0.12	0.05	I, MS
<i>trans</i> -Sabinene hydrate	1094	N/A	N/A	N/A	N/A	0.03	N/A	18.24	16.35	1.38	1.65	I, MS
Linalool	1097	1.66	0.33	59.80	62.49	0.1	trace	11.68	12.44	0.24	0.14	I, MS
Nomanal	1103	N/A	N/A	N/A	N/A	0.07	N/A	N/A	N/A	N/A	N/A	I, MS
1-Octen-3-ol.acetate	1112	N/A	N/A	N/A	N/A	0.21	N/A	N/A	N/A	N/A	N/A	I, MS
<i>cis</i> - <i>p</i> -Menth-2-en-1-ol	1117	N/A	trace	N/A	0.22	N/A	1.28	N/A	trace	0.09	trace	I, MS
3-Octanol acetate	1124	N/A	N/A	0.75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	I, MS
<i>trans</i> -Pinocarveol	1134	N/A	N/A	0.54	0.39	N/A	trace	N/A	N/A	N/A	N/A	I, MS
Camphor	1140	N/A	1.04	N/A	N/A	N/A	N/A	N/A	N/A	0.12	0.13	I, MS
Citronellal	1151	N/A	N/A	N/A	N/A	N/A	0.54	N/A	N/A	0.06	0.09	I, MS
Borneol	1163	N/A	N/A	N/A	N/A	N/A	0.33	0.47	1.02	0.15	1.15	I, MS
Borneol+ δ -Terpineol	1165	N/A	N/A	N/A	N/A	0.48	N/A	N/A	N/A	N/A	N/A	I, MS
<i>cis</i> -Pinocamphenone	1171	N/A	N/A	1.70	N/A	N/A	1.02	N/A	N/A	N/A	N/A	I, MS
Terpinen-4-ol	1174	N/A	0.22	N/A	N/A	0.1	N/A	4.44	N/A	1.88	2.69	I, MS
α -Terpineol	1187	0.40	N/A	2.79	1.45	0.68	0.37	N/A	3.64	0.34	1.07	I, MS
Dehydrocarvone	1192	3.42	1.96	N/A	3.21	0.11	0.02	N/A	N/A	N/A	N/A	I, MS
<i>cis</i> -Dehydrocarvone	1194	1.97	N/A	N/A	N/A	0.35	0.18	N/A	N/A	0.11	0.54	I, MS
<i>trans</i> -Dehydrocarvone	1202	N/A	N/A	N/A	N/A	0.03	N/A	N/A	N/A	0.04	N/A	I, MS
<i>trans</i> -Carveol	1218	N/A	N/A	N/A	N/A	0.11	1.20	N/A	N/A	N/A	0.12	I, MS
<i>cis</i> -Carveol	1228	0.52	3.27	N/A	N/A	0.36	N/A	N/A	N/A	N/A	N/A	I, MS
Pulegone	1236	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.99	N/A	I, MS
Neral	1238	N/A	N/A	N/A	N/A	N/A	1.06	N/A	N/A	2.15	0.07	I, MS
Carvone	1241	65.25	67.15	0.38	2.22	56.51	54.63	0.29	N/A	0.09	0.30	I, MS
<i>trans</i> -Sabinene hydrate acetate	1254	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.13	0.88	I, MS
Linalyl acetate	1255	N/A	0.23	15.27	14.56	N/A	N/A	2.35	3.81		1.65	I, MS
Geranial	1268	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.93	0.12	I, MS
<i>p</i> -Mentha-1.8-dien-3-one	1270	N/A	N/A	N/A	N/A	0.41	0.55	N/A	N/A	N/A	N/A	I, MS
Thymol	1289	N/A	N/A	N/A	N/A	N/A	N/A	0.07	1.02	27.22	31.94	I, MS
Carvacrol	1298	N/A	N/A	1.46	N/A	0.3	N/A	52.43	55.14	29.25	30.37	I, MS
Carvacrol + Geranyl formate	1298	N/A	N/A	N/A	0.31	N/A	N/A	N/A	N/A	N/A	N/A	I, MS
<i>iso</i> -Dehydrocaveol acetate	1327	1.38	N/A	N/A	N/A	0.08	N/A	N/A	N/A	N/A	0.28	I, MS
Piperitenone	1339	N/A	N/A	N/A	N/A	0.35	1.27	N/A	N/A	N/A	N/A	I, MS

Eugenol	1134	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.05	N/A	I, MS
Piperitenone oxide	1365	N/A	N/A	N/A	0.19	0.13	0,02	N/A	N/A	N/A	N/A	I, MS
Carvacrol acetate	1369	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.55	0.06	0.04	I, MS
Geranyl acetate	1380	N/A	1.08	1.45	0.43	N/A	N/A	N/A	N/A	0.19	0.42	I, MS
β -Bourbonene	1383	1.13	N/A	N/A	N/A	0.25	N/A	N/A	N/A	N/A	N/A	I, MS
β -Elemene	1390	N/A	N/A	N/A	N/A	0.81	N/A	N/A	N/A	N/A	N/A	I, MS
β -Caryophyllene	1417	0.26	N/A	1.78	N/A	1.23	1.73	0.91	N/A	2.17	1.39	I, MS, Co-GC
<i>cis</i> -Muurolo 3.5-diene	1445	N/A	N/A	N/A	N/A	0.21	0.08	N/A	N/A	N/A	N/A	I, MS
α -Caryophyllene	1451	N/A	1.33	N/A	N/A	0.11	1.64	N/A	0.24	0.27	N/A	I, MS, Co-GC
<i>allo</i> -Aromadendrene	1459	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.24	I, MS
<i>cis</i> -Muurolo-4(14)-diene	1461	N/A	N/A	N/A	N/A	0.35	N/A	N/A	N/A	N/A	N/A	I, MS
Geranyl propanoate	1475	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	I, MS
Germacrene D	1479	0.60	N/A	2.12	N/A	1.19	0.11	N/A	N/A	0.43	N/A	I, MS
Bicyclogermacrene	1494	N/A	N/A	N/A	N/A	0.59	N/A	0.94	N/A	N/A	0.55	I, MS
Germacrene A	1503	N/A	1.,63	N/A	2.69	0.52	N/A	N/A	N/A	N/A	0.18	I, MS
β -Bisabolene	1506	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.15	N/A	I, MS
γ -Cadinene	1512	N/A	N/A	N/A	N/A	N/A	1.33	N/A	N/A	0.08	1.32	I, MS
δ -Cadinene	1522	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.13	0.11	I, MS
<i>trans</i> -Calamenene	1521	N/A	N/A	N/A	N/A	0.11	N/A	N/A	N/A	N/A	0.05	I, MS
Germacrene-D-4-ol	1574	N/A	0.99	N/A	N/A	N/A	N/A	N/A	N/A	0.14	0.09	I, MS
Caryophyllene oxide	1583	N/A	N/A	N/A	0.27	N/A	0.87	N/A	N/A	1.37	1.01	I, MS
Total		97.69	96.8	96.1	97.8	97.21	98.05	99.14	98.71	98.66	97.27	

^aCompounds listed in order of elution from an HP-5 MS capillary column

^bRI: Retention indices as determined on a HP-5 MS capillary column using a homologous series of n-alkanes (C9-C23) ^cIdentification method: I=retention index, MS=mass spectrum, Co-GC=coinjection with authentic compound.

^cM = mycorrhizal, NM = non-mycorrhizal