

Supplementary Materials

Effects of EOs vs. Antibiotics on *E. coli* Strains Isolated from Drinking Waters of Grazing Animals in the Upper Molise Region, Italy

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Table S1. Chemical composition of the commercial essential oil of *Cinnamomum verum*.

N.	Compound	Exp RI	Ref RI	Area % - SD	Abbr.
1	Benzaldehyde	965	960	0.07 ± 0.01	OT
2	Cymene <p->	1026	1024	0.01 ± 0.00	MM
3	Limonene	1031	1029	1.35 ± 0.02	MM
4	Linalool	1101	1096	0.03 ± 0.01	AMO
5	Phenylethyl Alcohol	1117	1107	0.04 ± 0.01	OT
6	Benzenepropanal	1166	1160	0.03 ± 0.01	MMO
7	Terpinen-4-ol	1179	1177	0.02 ± 0.00	MMO
8	Terpineol <α->	1192	1188	0.01 ± 0.00	MMO
9	Cinnamaldehyde <(Z)->	1222	1219	0.48 ± 0.09	MMO
10	Anisaldehyde <o->	1246	1242	0.05 ± 0.00	MMO
11	Cinnamaldedyde <(E)->	1275	1270	77.14 ± 0.30	MMO
12	Eugenol	1365	1359	18.76 ± 0.23	MMO
13	Thujic acid	1377	1382	0.06 ± 0.01	MMO
14	Coumarin	1440	1434	0.15 ± 0.01	OT
15	Cinnamyl acetate <(E)->	1449	1446	0.18 ± 0.01	MMO
16	Cadinene <δ->	1526	1523	0.03 ± 0.00	AS
17	Methoxy cinnamaldehyde <(E)-o->	1536	1528	1.36 ± 0.04	MMO
18	7-Methyl-1-naphthol	1570	1565	0.03 ± 0.01	OT
19	Spathulenol	1580	1578	0.02 ± 0.01	BSO
20	Caryophyllene oxide	1586	1583	0.02 ± 0.00	BSO
21	Amyl cinnamaldehyde <(Z)->	1650	1649	0.02 ± 0.00	MSO
22	Cadalene	1676	1676	0.01 ± 0.00	BS

Abbreviations: AM-aliphatic monoterpenes; MM-monocyclic monoterpenes; BM-bi-and tricyclic monoterpenes; AMO- aliphatic monoterpenoids; MMO- monocyclic monoterpenoids; BMO- bi-and tricyclic monoterpenoids; AS- aliphatic sesquiterpenes; MS- monocyclic sesquiterpenes; BS- bi- and tricyclic sesquiterpenes; ASO- aliphatic sesquiterpenoids; MSO- monocyclic sesquiterpenoids; BSO- bi- and tricyclic sesquiterpenoids, OT- others. SD- standard deviation; Exp. RI- experimental retention index; Ref. RI- literature data.

Table S2. Chemical composition of commercial essential oil of *Timus vulgaris*.

N.	Compound	Exp RI	Ref RI	Area % - SD	Abbr.
1	Thujene < α ->	931	930	0.04 \pm 0.01	MM
2	Pinene < α ->	937	939	1.33 \pm 0.02	MM
3	Fenchene < α ->	951	952	0.47 \pm 0.03	MM
4	Pinene < β ->	978	979	0.16 \pm 0.02	MM
5	Myrcene	994	990	0.59 \pm 0.02	AM
6	Phellandrene < α ->	1004	1002	0.07 \pm 0.02	MM
7	Terpinene < α ->	1019	1017	0.58 \pm 0.01	MM
8	Cymene <p->	1030	1024	21.83 \pm 1.16	MM
9	Limonene	1034	1029	22.12 \pm 1.53	MM
10	Terpinene < γ ->	1062	1059	0.25 \pm 0.01	MM
11	Terpinolene	1089	1088	0.20 \pm 0.01	MM
12	Linalool	1103	1096	2.47 \pm 0.02	AMO
13	Camphor	1147	1146	0.18 \pm 0.02	BMO
14	Isoborneol	1159	1160	0.18 \pm 0.01	MMO
15	borneol	1168	1169	0.42 \pm 0.03	MMO
16	Terpinen-4-ol	1179	1177	0.07 \pm 0.02	MMO
17	Terpineol < α ->	1191	1188	0.35 \pm 0.19	MMO
18	Terpineol < γ ->	1195	1199	0.71 \pm 0.19	MMO
19	Thymol	1297	1290	38.05 \pm 0.17	MMO
20	Carvacrol	1309	1299	8.70 \pm 0.14	MMO
21	Caryophyllene <(E)->	1420	1419	0.78 \pm 0.02	BS
22	Humulene < α ->	1455	1454	0.09 \pm 0.01	MS
23	Cadinene < α ->	1526	1523	0.02 \pm 0.0	BS
24	Caryophyllene oxide	1585	1583	0.13 \pm 0.02	BSO

Abbreviations: AM-aliphatic monoterpenes; MM-monocyclic monoterpenes; BM-bi-and tricyclic monoterpenes; AMO- aliphatic monoterpenoids; MMO- monocyclic monoterpenoids; BMO- bi-and tricyclic monoterpenoids; AS- aliphatic sesquiterpenes; MS- monocyclic sesquiterpenes; BS- bi- and tricyclic sesquiterpenes; ASO- aliphatic sesquiterpenoids; MSO- monocyclic sesquiterpenoids; BSO- bi- and tricyclic sesquiterpenoids, OT- others. SD- standard deviation; Exp. RI- experimental retention index; Ref. RI- literature data.

Table S3. Chemical composition of commercial essential oil of *Melaleuca alternifolia*.

N.	Compound	Exp RI	Ref RI	Area % - SD	Abbr.
1	Pinene < α ->	937	939	11.52 \pm 0.38	BM
2	Fenchene < α ->	950	952	0.27 \pm 0.03	BM
3	Pinene < β ->	977	979	4.24 \pm 0.16	BM
4	Phellandrene < α ->	1002	1002	0.16 \pm 0.02	MM
5	Terpinene < α ->	1018	1017	8.15 \pm 0.22	MM
6	Cymene <p->	1027	1024	5.01 \pm 0.23	MM
7	Limonene	1031	1029	2.25 \pm 0.35	MM
8	Cineole <1.8->	1034	1031	3.84 \pm 0.31	BMO
9	Terpinene < γ ->	1063	1059	16.52 \pm 0.46	MM
10	Terpinolene	1089	1088	2.50 \pm 0.13	MM
11	Terpinen-4-ol	1180	1177	32.52 \pm 0.64	MMO
12	Terpineol < α ->	1193	1188	4.98 \pm 0.08	MMO
13	Methyl chavicol	1199	1196	0.68 \pm 0.01	MMO
14	Thymol	1295	1290	0.06 \pm 0.05	MMO
15	Carvacrol	1303	1299	0.03 \pm 0.02	MMO
16	Gurjunene < α ->	1410	1409	0.26 \pm 0.01	BS
17	Caryophyllene <(E)->	1420	1419	0.04 \pm 0.01	BSO
18	Guaiene < α ->	1440	1439	3.24 \pm 0.05	BS
19	Aromadendrene <allo->	1462	1460	0.12 \pm 0.01	BS
20	Selinene < β ->	1487	1490	0.24 \pm 0.00	BS
21	Selinene < δ ->	1489	1492	0.29 \pm 0.02	BS
22	Valencene	1496	1496	1.79 \pm 0.01	BS
23	Muurolene < α ->	1501	1500	0.09 \pm 0.02	BS
24	Globulol	1586	1590	0.40 \pm 0.01	BSO

Abbreviations: AM-aliphatic monoterpenes; MM-monocyclic monoterpenes; BM-bi-and tricyclic monoterpenes; AMO- aliphatic monoterpenoids; MMO- monocyclic monoterpenoids; BMO- bi-and tricyclic monoterpenoids; AS- aliphatic sesquiterpenes; MS- monocyclic sesquiterpenes; BS- bi- and tricyclic sesquiterpenes; ASO- aliphatic sesquiterpenoids; MSO- monocyclic sesquiterpenoids; BSO- bi- and tricyclic sesquiterpenoids, OT- others. SD- standard deviation; Exp. RI- experimental retention index; Ref. RI- literature data.