



# Supplementary Information

## Chemical Analysis of Essential Oils from *Ocotea gomezii* W.C. Burger and *Ocotea morae* Gómez-Laur. (Lauraceae) Collected at “Reserva Biológica Alberto M. Brenes” in Costa Rica and their Cytotoxic Activity on Tumor Cell Lines

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**Table S1.** Percentage composition of the essential oils from *O. gomezii* and *O. morae* from Costa Rica

Compound <sup>a</sup>	RI <sup>b</sup>	OgL	OgB	OgW	OmL	OmB	OmW
pentan-2-ol	689	12.5	-	-	-	-	-
pentanal	706	0.1	-	-	-	-	-
hexanal	803	0.1	-	-	-	-	-
heptan-2-one	888	-	-	-	0.2	t <sup>c</sup>	-
heptan-2-ol	894	-	-	-	0.1	-	-
heptanal	900	-	-	-	-	t	0.6
santolina triene	901	0.1	-	-	-	-	-
tricyclene	927	0.1	-	-	t	t	t
α-thujene	930	t	-	-	0.2	0.1	0.1
α-pinene	937	1.1	0.1	0.1	10.4	2.9	3.5
α-fenchene	949	-	-	-	-	-	t
camphene	951	0.1	-	-	0.6	2.1	3.8
thuja-2,4(10)-diene	955	0.1	-	-	-	t	-
benzaldehyde	961	-	-	-	0.1	t	t
sabinene	975	0.1	-	-	0.1	t	0.5
β-pinene	981	0.6	0.1	0.1	17.5	3.1	1.9
myrcene	991	-	-	-	1.2	0.3	0.3
dehydro-1,8-cineole	994	0.1	-	-	-	t	t
mesitylene	995	0.1	-	-	-	t	-
α-phellandrene	1006	t	-	-	0.1	t	-
δ-3-carene	1013	-	-	-	0.1	-	t
α-terpinene	1019	0.1	-	-	0.1	0.1	0.1
p-cymene	1025	1.8	-	0.3	0.2	0.1	0.2
o-cymene	1026	-	-	t	-	-	-
limonene	1030	0.1	-	-	0.8	t	0.4
1,8-cineole	1034	6.3	0.1	0.3	7.3	12.8	7.1
(E)-β-ocimene	1042	-	-	-	0.2	-	-
(Z)-β-ocimene	1049	-	-	-	0.4	-	-
γ-terpinene	1060	t	-	-	0.2	0.2	0.2
cis-sabinene hydrate	1069	-	-	-	0.3	-	t
terpinolene	1089	t	-	-	0.1	0.1	0.1
nonan-2-one	1093	-	-	-	0.7	0.3	0.1
linalool	1097	-	-	-	0.5	-	t

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**Table S1.** Percentage composition of the essential oils from *O. gomezii* and *O. morae* from Costa Rica (cont.)

Compound <sup>a</sup>	RI <sup>b</sup>	OgL	OgB	OgW	OmL	OmB	OmW
nonan-2-ol	1098	-	-	-	-	0.3	0.1
<i>trans</i> -sabinene hydrate	1099	-	-	-	t	-	-
<i>endo</i> -fenchol	1116	-	-	-	-	t	-
dehydro-sabina- ketone	1117	t	-	-	-	-	-
<i>cis-p</i> -menth-2-en-1-ol	1120	-	-	-	-	t	-
<i>trans</i> -pinocarveol	1138	0.2	-	-	0.1	0.1	-
<i>trans-p</i> -menth-2-en-1-ol	1140	-	-	-	-	-	t
sabinol <sup>d</sup>	1144	0.1	-	-	-	-	-
<i>cis</i> -pinene hydrate	1145	-	-	-	t	-	t
camphor	1147	-	0.1	-	0.2	3.1	3.4
camphene hydrate	1150	-	-	-	-	t	t
isoborneol	1157	-	-	-	-	t	-
pinocarvone	1163	t	-	-	-	t	-
$\delta$ -terpineol	1166	0.1	-	-	t	0.7	0.2
borneol	1167	-	-	-	0.2	0.3	0.2
pinocampheol	1173	-	-	-	-	t	-
terpinen-4-ol	1177	0.2	-	-	0.3	1.8	0.8
santalone	1179	-	0.1	-	-	-	-
<i>p</i> -cymen-8-ol	1185	-	-	-	-	t	-
cryptone	1187	0.2	-	-	-	-	-
$\alpha$ -terpineol	1191	0.5	0.2	-	1.1	3.3	1.5
dihydro carveol	1196	0.2	-	-	-	-	-
myrtenol	1197	-	-	-	t	0.2	-
myrtenal	1197	t	-	-	0.2	t	-
<i>cis</i> -piperitol	1199	-	-	-	-	t	-
<i>trans</i> -carveol	1220	0.1	-	-	-	-	-
<i>cis</i> -carveol	1224	t	-	-	-	-	-
cumin aldehyde	1237	0.1	-	-	-	t	-
carvone	1244	0.1	-	-	-	-	-
piperitone	1256	-	-	-	-	t	-
isobornyl acetate	1286	0.1	-	-	-	-	-
bornyl acetate	1287	-	-	t	0.1	0.1	-
undecan-2-one	1289	-	-	-	-	t	-
2-ethyl-isomenthone	1294	0.1	-	-	-	-	-
$\delta$ -elemene	1338	-	-	0.1	0.3	t	-
$\alpha$ -cubebene	1351	0.3	3.9	0.5	0.5	2.4	3.4
$\alpha$ -ylangene	1372	-	1.9	0.1	t	t	-
isolekene	1374	0.1	-	-	-	-	-
$\alpha$ -copaene	1378	1.2	-	0.9	2.9	3.3	4.9
$\beta$ -bourbonene	1381	-	-	-	0.2	-	-
dodecan-3-one	1385	-	-	-	-	-	t
$\beta$ -cubebene	1387	t	t	t	t	1.0	5.2
$\beta$ -elemene	1391	t	1.5	1.1	2.3	0.8	-
7- <i>epi</i> -sesquithujene	1393	-	-	-	-	-	t
$\alpha$ -gurjunene	1406	t	0.1	-	-	-	-
<i>cis</i> - $\alpha$ -bergamotene	1412	-	-	-	t	t	0.1
$\alpha$ -santalene	1418	-	0.8	1.3	-	-	-
$\beta$ -caryophyllene	1418	-	2.0	t	7.1	6.1	5.4
$\beta$ -ylangene	1419	0.1	-	-	-	-	-
$\beta$ -copaene	1427	0.3	t	t	0.2	-	t
$\beta$ -gurjunene	1435	0.2	-	-	-	-	-
$\alpha$ -guaiene	1435	-	-	-	0.1	0.1	t
<i>trans</i> - $\alpha$ -bergamotene	1436	-	1.9	0.6	-	-	-

**Table S1.** Percentage composition of the essential oils from *O. gomezii* and *O. morae* from Costa Rica (cont.)

Compound <sup>a</sup>	RI <sup>b</sup>	OgL	OgB	OgW	OmL	OmB	OmW
aromadendrene	1437	-	-	-	0.3	-	-
(Z)- $\beta$ -farnesene	1442	-	-	-	t	t	0.1
<i>cis</i> -muurola-3,5-diene	1449	1.7	0.6	0.7	-	-	2.0
<i>trans</i> -muurola-3,5-diene	1452	t	-	-	-	t	t
$\alpha$ -humulene	1452	t	0.7	t	2.8	2.0	0.7
<i>allo</i> -aromadendrene	1458	2.1	5.7	0.4	0.5	0.4	0.1
<i>cis</i> -muurola-4(14),5-diene	1463	4.1	1.4	0.7	-	-	-
<i>cis</i> -thujopsadiene	1468	1.2	-	-	-	-	-
<i>trans</i> -cadin-1(6),4-diene	1474	-	-	-	-	0.6	0.4
$\gamma$ -gurjunene	1473	-	0.5	0.3	-	-	-
$\gamma$ -muurolene	1476	0.9	1.3	0.7	-	0.4	-
$\alpha$ -amorphene	1478	-	-	-	-	-	1.4
germacrene D	1480	0.2	0.1	0.1	7.5	0.1	2.9
$\beta$ -selinene	1485	0.1	1.5	0.7	5.5	5.4	0.5
$\delta$ -selinene	1489	1.6	-	-	-	-	2.2
<i>cis</i> - $\beta$ -guaiene	1494	-	-	-	-	-	0.6
<i>trans</i> -muurola-4(14),5-diene	1488	-	0.1	-	-	-	-
$\gamma$ -amorphene	1490	0.7	-	0.1	-	-	-
viridiflorene	1497	-	t	0.2	-	-	-
bicyclogermacrene	1497	-	-	-	8.8	-	-
epizonarene	1499	t	0.6	4.1	-	-	-
$\alpha$ -muurolene	1500	4.0	6.9	t	-	1.8	-
$\alpha$ -bulnesene	1500	-	-	-	1.3	0.5	-
$\delta$ -amorphene	1506	-	-	-	-	0.5	-
$\gamma$ -cadinene	1514	5.1	5.9	3.2	1.0	0.5	1.8
cubebol	1516	-	-	t	t	0.5	0.6
$\delta$ -cadinene	1525	7.7	14.5	7.7	2.9	5.5	6.2
<i>trans</i> -calamenene	1527	-	-	3.3	-	-	-
zonarene	1530	-	-	-	-	-	0.2
<i>cis</i> -calamenene	1532	-	-	-	-	t	-
<i>trans</i> -cadin-1,4-diene	1533	1.3	0.1	0.6	0.2	0.3	0.7
10- <i>epi</i> -cubebol	1535	0.1	-	-	-	-	-
$\alpha$ -cadinene	1538	-	0.4	0.1	0.2	t	0.2
$\alpha$ -calacorene	1544	2.5	2.7	3.3	0.1	0.6	t
italicene epoxide	1548	0.8	-	-	-	-	-
elemol	1551	-	1.8	1.9	0.7	0.4	0.2
germacrene B	1556	-	0.3	0.6	-	-	-
( <i>E</i> )-nerolidol	1562	-	-	-	-	t	11.4
$\beta$ -calacorene	1564	0.4	0.5	0.7	0.1	-	t
palustrol	1568	-	-	-	-	0.3	-
germacrene-D-4-ol	1573	-	-	-	0.1	-	-
spathulenol	1577	-	0.2	1.2	2.2	3.7	0.6
caryophyllene oxide	1581	-	-	1.0	1.5	5.5	1.9
globulol	1584	3.8	4.2	3.5	0.2	-	t
gleenol	1588	t	0.3	T	-	-	-
viridiflorol	1593	4.9	3.6	4.0	0.1	0.2	t
salvial-4(14)-en-1-one	1592	-	-	-	-	t	t
guaiol	1598	-	3.3	t	-	-	-
$\beta$ -atlantol	1604	-	-	-	-	0.6	-
humulene epoxide II	1607	1.1	0.7	1.0	0.3	1.4	0.2
1,10-di- <i>epi</i> -cubenol	1616	4.9	7.7	4.6	-	-	-
1- <i>epi</i> -cubenol	1628	0.6	1.8	0.4	0.6	4.0	2.2
<i>cis</i> -cadin-4-en-7-ol	1635	-	-	-	-	0.7	-

**Table S1.** Percentage composition of the essential oils from *O. gomezii* and *O. morae* from Costa Rica (cont.)

Compound <sup>a</sup>	RI <sup>b</sup>	OgL	OgB	OgW	OmL	OmB	OmW
caryophylla-4(12),8(13)-dien-5 $\beta$ -ol	1641	-	-	-	-	1.6	-
<i>epi</i> - $\alpha$ -cadinol	1641	9.8	4.9	10.0	0.5	3.4	0.5
<i>epi</i> - $\alpha$ -muurolol	1642	t	2.0	15.0	-	1.8	6.3
$\alpha$ -muurolol	1649	0.3	t	0.3	-	1.2	1.3
cubenol	1648	-	-	-	0.2	-	t
$\beta$ -eudesmol	1655	-	-	t	-	-	-
$\alpha$ -cadinol	1655	0.7	5.3	2.3	1.1	5.3	6.0
selin-11-en-4-ol	1661	-	-	-	-	0.4	t
<i>cis</i> -calamene-10-ol	1662	0.5	-	0.6	0.1	-	0.1
<i>trans</i> -calamene-10-ol	1667	0.3	-	0.5	0.4	t	-
14-hydroxy-9- <i>epi</i> -( <i>E</i> )-caryophyllene	1672	-	-	-	0.1	1.2	-
bulnesol	1673	-	1.4	-	-	-	-
( <i>Z</i> )- $\alpha$ -santalol	1677	-	-	-	-	-	0.1
cadalene	1676	0.4	0.6	1.0	0.5	t	-
khusinol	1682	-	1.2	4.6	0.4	0.4	-
eudesma-4(15),7-dien-1 $\beta$ -ol	1686	0.9	-	-	-	0.8	0.3
<i>cis</i> -14- <i>nor</i> -muurol-5-en-4-one	1689	0.8	-	-	-	-	-
heptadecane	1700	-	-	-	-	-	0.2
10- <i>nor</i> -calamene-10-one	1707	0.2	-	0.5	0.1	0.1	0.3
mint sulfide	1738	-	-	-	-	-	0.1
benzyl benzoate	1761	-	-	-	0.4	-	-
cyclocolorenone	1761	0.3	-	-	-	-	-
aristolone	1763	1.0	-	-	-	-	-
14-hydroxy- $\alpha$ -muurolene	1772	0.1	t	-	0.1	-	-
14-hydroxy- $\delta$ -cadinene	1810	-	-	1.1	-	-	-
benzyl salicylate	1861	-	-	-	0.1	-	-
hexadecanoic acid	1964	-	-	3.0	-	-	-
Total oil composition (%)		92.7	95.6	89.4	98.1	97.8	96.4
Monoterpene hydrocarbons		4.2	0.2	0.5	32.2	9.0	11.1
Oxygenated monoterpenes		8.4	0.5	0.3	10.3	22.4	13.2
Sesquiterpene hydrocarbons		36.2	56.5	33.1	45.3	32.3	39.0
Oxygenated sesquiterpenes		31.1	38.4	52.5	8.7	33.5	32.0
Others		12.8	-	3.0	1.6	0.6	1.1

<sup>a</sup>Compounds listed in order of elution from 5% phenyl-95% methylpolysiloxane column; <sup>b</sup>RI = Retention index relative to a homologous series of *n*-alkanes on the 5% phenyl-95% methylpolysiloxane column; <sup>c</sup>t = traces (< 0.05%); <sup>d</sup>Correct isomer not identified. *OgL*: *Ocotea gomezii* (leaves), *OgB*: *O. gomezii* (bark), *OgW*: *O. gomezii* (wood), *OmL*: *O. morae* (leaves), *OmB*: *O. morae* (bark), *OmW*: *O. morae* (wood).