



Article

Antibacterial Activity of Oregano (*Origanum vulgare* L.) Essential Oil Vapors against Microbial Contaminants of Food-Contact Surfaces

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Supplementary Materials

Table S1. Mean concentration (ng mL⁻¹) of volatile compounds in boxes with 377 µg cm⁻³ air or 754 µg cm⁻³ air of OVO, during 24 h at 25 °C.

Concentration of OVO	Time	Concentration (ng mL ⁻¹)													
		γ-Terpinene	p-Cymene	Carvacrol	Thymol	α-Pinene	Camphene	β-Pinene	β-Myrcene	α-Terpinene	Limonene	o-Cymene	Linalol	Thymol methyl ether	1-octen-3-ol
377 µg cm ⁻³ air	0 h	29,22a	379,22a	15,85a	1,26a	1564,98a	93,64a	43,69a	84,25a	5,53a	13,28a	2,65a	5,37a	0,23a	0,11a
		± 1,48	± 40,57	± 2,28	± 0,09	± 467,40	± 30,57	± 15,20	± 16,10	± 0,44	± 0,99	± 0,06	± 1,71	± 0,09	± 0,07
	8 h	46,44b	506,98a	34,58b	2,31b	1401,91a	88,53a	45,34a	106,16a	6,37a	16,56a	2,92b	12,53b	0,52a	0,31a
		± 5,64	± 56,59	± 1,31	± 0,18	± 31,86	± 2,25	± 1,61	± 14,44	± 0,54	± 1,49	± 0,08	± 1,80	± 0,12	± 0,06
	24 h	29,01a	343,23a	46,17c	2,80b	1008,92a	62,06a	28,61a	63,45a	4,72a	11,59a	2,67a	14,30b	0,65a	0,34a
		± 1,99	± 16,72	± 1,23	± 0,12	± 95,81	± 8,27	± 5,32	± 4,28	± 0,14	± 0,65	± 0,02	± 0,96	± 0,09	± 0,04
754 µg cm ⁻³ air	0 h	52,55a	555,84a	18,91a	1,43a	2234,92a	121,75a	67,86a	138,57a	7,64a	19,71a	2,92a	4,49a	0,16a	0,06a
		± 23,15	± 198,02	± 7,99	± 0,51	± 381,50	± 33,23	± 22,63	± 56,79	± 2,15	± 6,87	± 0,31	± 0,32	± 0,03	± 0,01
	8 h	71,98a	700,68a	34,98a	2,29a	2295,94a	137,72a	78,35a	172,65a	9,03a	24,10a	3,27a	14,33b	0,51b	0,36b
		± 14,38	± 113,21	± 8,24	± 0,42	± 351,81	± 24,35	± 15,35	± 35,65	± 1,31	± 4,19	± 0,19	± 0,10	± 0,02	± 0,01
	24 h	55,85a	582,12a	48,34a	2,91a	1763,33a	112,77a	61,50a	132,33a	7,46a	19,32a	3,07a	15,63b	0,48b	0,38b
		± 8,33	± 59,36	± 6,18	± 0,39	± 69,18	± 6,53	± 4,92	± 17,51	± 0,72	± 2,24	± 0,11	± 1,63	± 0,06	± 0,05

One-way ANOVA analysis ($P \leq 0.05$) was applied to differentiate mean values. The least significant difference (LSD) values were calculated to separate mean values for each compound, at each concentration of OVO: 377 µg cm⁻³ air of OVO, γ-Terpinene 13,97 ng mL⁻¹; p-Cymene 164,95 ng mL⁻¹; carvacrol 6,39 ng mL⁻¹; thymol 0,59 ng mL⁻¹; α-Pinene 1102,93 ng mL⁻¹; camphene 73,31 ng mL⁻¹; β-Pinene 36,59 ng mL⁻¹; β-Myrcene 51,03 ng mL⁻¹; α-Terpinene 1,62 ng mL⁻¹; limonene 3,76 ng mL⁻¹; o-Cymene 0,23 ng mL⁻¹; linalol 6,13 ng mL⁻¹; thymol methyl ether 0,44 ng mL⁻¹; 1-octen-3-ol 0,29 ng mL⁻¹; 754 µg cm⁻³ air of OVO, γ-Terpinene 66,25 ng mL⁻¹; p-Cymene 543,28 ng mL⁻¹; carvacrol 31,07 ng mL⁻¹; thymol 1,68 ng mL⁻¹; α-Pinene 1206,82 ng mL⁻¹; camphene 95,95 ng mL⁻¹; β-Pinene 63,16 ng mL⁻¹; β-Myrcene 160,41 ng mL⁻¹; α-Terpinene 6,08 ng mL⁻¹; limonene 18,88 ng mL⁻¹; o-Cymene 0,85 ng mL⁻¹; linalol 3,78 ng mL⁻¹; thymol methyl ether 0,19 ng mL⁻¹; 1-octen-3-ol 0,13 ng mL⁻¹. Different lowercase letters indicate significant differences within columns at each concentration of OVO.

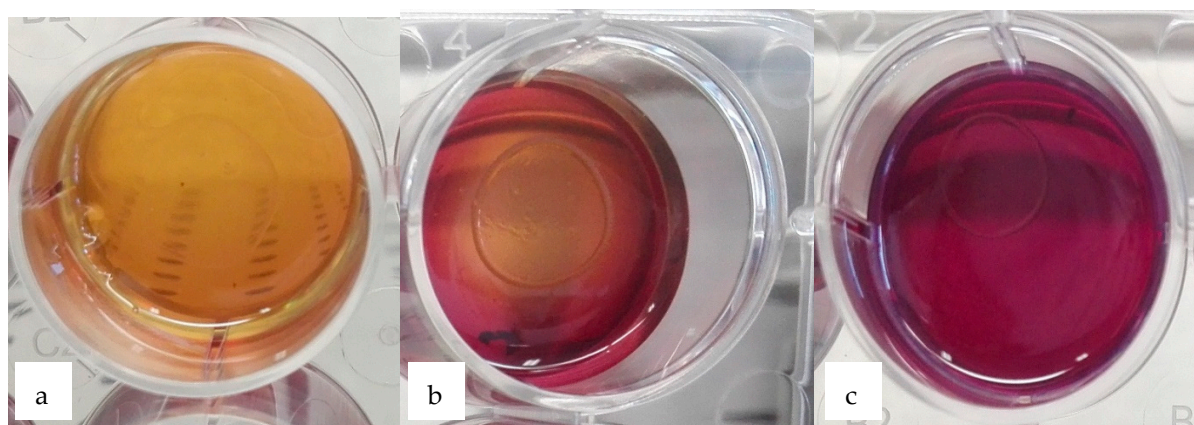


Figure S1. Colour of NGBA medium inoculated with bacterial strains and exposed to essential oil vapours for 24 h at 30°C or 37 °C: (a) bacterial growth, complete acidification; (b) partial bacterial growth, partial acidification; (c) no bacterial growth, no acidification that were scored 5, 3 and 0, respectively.