

Cinnamon leaf and clove essential oils are potent inhibitors of *Candida albicans* virulence traits

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Supplementary data

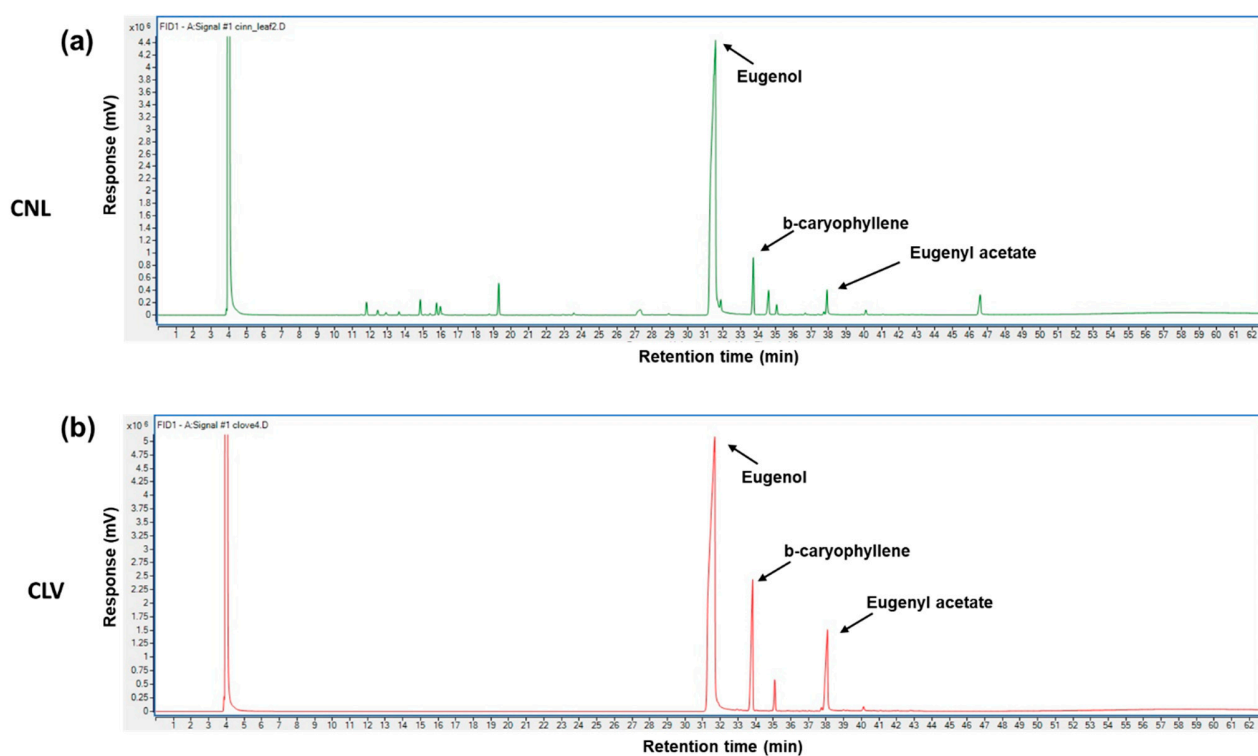


Figure S1.GC-MS chromatogram of CNL and CLV EOs.

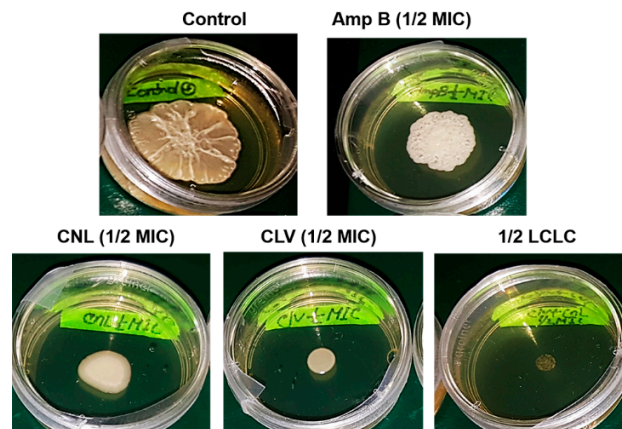


Figure S2. Inhibition of hyphal morphogenesis of *C. albicans* RSY150 in the presence of CNL, CLV (1/2 MIC and 1/4 MIC) and the two at 1/2 LCLC on spider media agar plates. Images were recorded using a digital camera.

Table S1. List of strains and clinical isolates used in this study.

Strains	Genotype/ Isolate description	References
RSY150 ^a	<i>TUB2-GFP-SAT1/TUB2⁺ HTB1-RFP-ARG4⁺/HTB1⁺ arg4^{-/-}</i>	[1]
ATCC 10231	Clinical background strain	RQHR ^b , Regina SK, Canada
SC5314	Parent strain for knock out mutant below	[2]
<i>C. albicans</i> (1 – 3)	Clinical isolates; 2 genital and 1 blood strains	RQHR, Regina, SK, Canada
	<i>C. albicans</i> knockout mutants	
Knockout mutant	Function/ Genotype description	
<i>hwp1Δ/HWP1⁺</i>	<i>his3::hisG/his3::hisGleu2::tetRGAL4AD-URA3/LEU2-HWP1</i>	[3]
1467 (<i>als1Δ/Δ</i>)	<i>iro1-ura3Δ : : λimm⁴³⁴/iro1-ura3Δ : : λimm⁴³⁴ als1saΔ/als1laΔ-URA3^c</i>	[4]
1843 (<i>als3Δ/Δ</i>)	<i>iro1-ura3Δ : : λimm⁴³⁴/iro1-ura3Δ : : λimm⁴³⁴ als3laΔ/als3saΔ-URA3^c</i>	[4]
HLC67 (<i>efg1Δ/Δ</i>)	<i>CAI4 efg1::hisG/efg1::hisG MTLα/α^d</i>	[5]

^aThe full genotype at the auxotrophic markers for RSY is as follows: *his1::hisG/his1::hisGleu2::hisG/leu2::hisGarg4::hisG/arg4::hisGura3::imm434 iro1::IRO1/iro1::imm434*, as described by Sherwood and Bennett, 2008.

^bRQHR - Regina Qu'Appelle Health Region

^cAlleles of ALS genes are marked with LA to designate the large allele or SA for the small allele in strain SC5314.

^dMTL - Mating type like

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2. Gillum, A.M.; Tsay, E.Y.H.; Kirsch, D.R. Isolation of the *Candida Albicans* Gene for Orotidine-5'-Phosphate Decarboxylase by Complementation of *S. Cerevisiae* Ura3 and *E. Coli* PyrF Mutations. *MGG Mol. Gen. Genet.* **1984**, *198*, 179–182, doi:10.1007/BF00328721.
3. Roemer, T.; Jiang, B.; Davison, J.; Ketela, T.; Veillette, K.; Breton, A.; Tandia, F.; Linteau, A.; Sillaots, S.; Marta, C.; et al. Large-Scale Essential Gene Identification in *Candida Albicans* and Applications to Antifungal Drug Discovery. *Mol. Microbiol.* **2003**, *50*, 167–181, doi:10.1046/j.1365-2958.2003.03697.x.
4. Zhao, X.; Oh, S.H.; Cheng, G.; Green, C.B.; Nuessen, J.A.; Yeater, K.; Leng, R.P.; Brown, A.J.P.; Hoyer, L.L. ALS3 and ALS8 Represent a Single Locus That Encodes a *Candida Albicans* Adhesin; Functional Comparisons between Als3p and Als1p. *Microbiology* **2004**, *150*, 2415–2428, doi:10.1099/mic.0.26943-0.
5. Lo, H.J.; Köhler, J.R.; Didomenico, B.; Loebenberg, D.; Cacciapuoti, A.; Fink, G.R. Nonfilamentous *C. Albicans* Mutants Are Avirulent. *Cell* **1997**, *90*, 939–949, doi:10.1016/S0092-8674(00)80358-X.

Table S2: Minimum inhibitory concentrations of EOs and Amp B against *C. albicans* background and knock-out strains.

C. <i>albicans</i> Strains	MIC (µg/mL)		
	CNL	CLV	Amp B
SC5314	750 – 900	750 – 900	0.62
<i>als1</i> Δ/Δ (1467)	750 – 900	450 – 750	0.62
<i>als3</i> Δ/Δ (1843)	450 – 750	450 – 750	0.62
<i>HLC67</i> (<i>efg1</i> Δ/Δ)	225 – 375	375 – 450	0.62
<i>hwp1</i> Δ/ <i>HWP1</i> ⁺	375 – 450	375 – 450	0.31