

Bacterial-Derived Plant Protection Metabolite 2,4-Diacetylphloroglucinol: Effects on Bacterial Cells at Inhibitory and Subinhibitory Concentrations

William T. Julian ¹, Anastasia V. Vasilchenko ², Daniil D. Shpindyuk ¹, Darya V. Poshvina ¹ and Alexey S. Vasilchenko ^{1,*}

¹ Laboratory of Antimicrobial Resistance, Institute of Environmental and Agricultural Biology (X-BIO), Tyumen State University, Tyumen, Russia

² All-Russian Institute of Plant Protection, St. Petersburg-Pushkin, Russia

*avasilchenko@gmail.com

Key words: 2,4-diacetylphloroglucinol, plant protection, membrane permeabilization, subinhibitory effects, quorum sensing, *Pectobacterium carotovorum*.

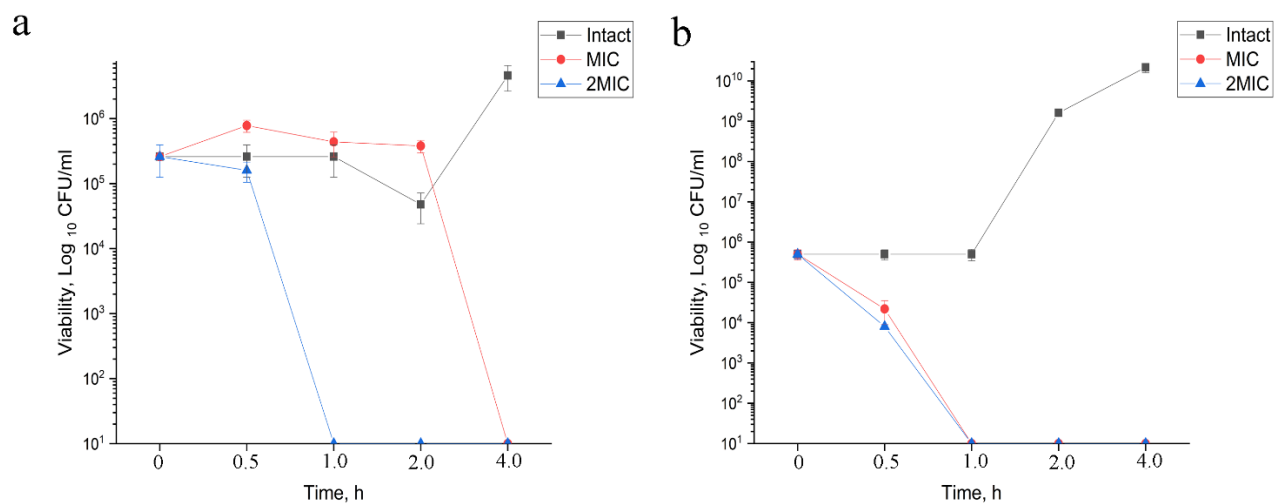


Figure S1. Time kill assay of *E. coli* K12 (a) and *S. aureus* 209P (b) strains. Killing was tested by incubating bacteria with indolicidin at the MIC, two dilutions above (2MIC) in MHB. Viable cell counts were determined after 0.5, 1, 2, 4 h of incubation at 37 °C. The growth control had no antibiotic.

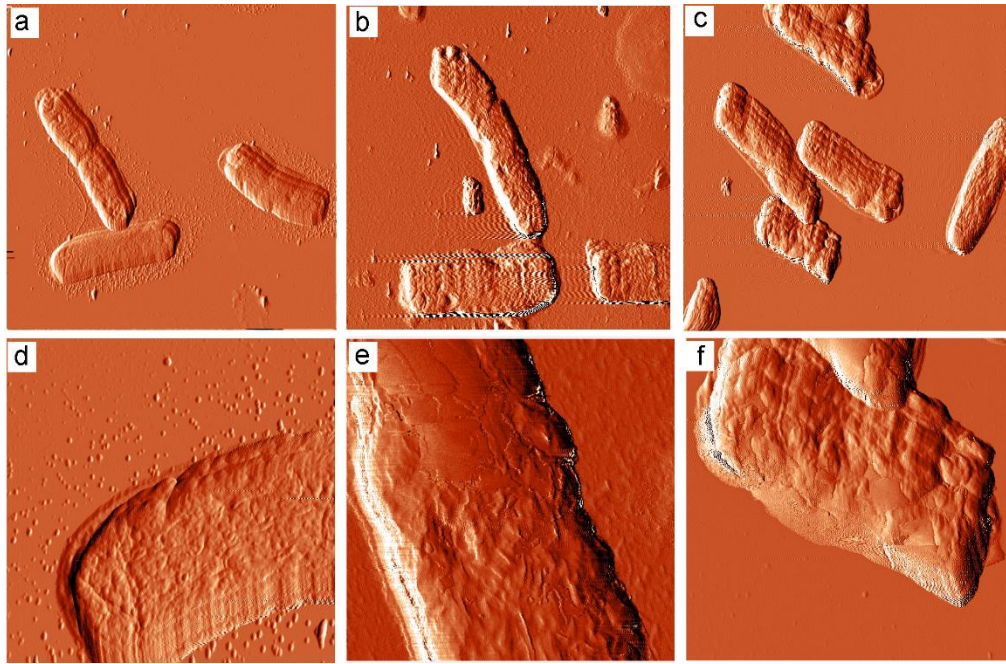


Figure S2. AFM-images (MAG-mode) of intact *E.coli* K12 bacterial cells (**a, d**); treated with 2,4-DAPG and sampled at 15 min (**b, e**); 120 min (**c, f**).

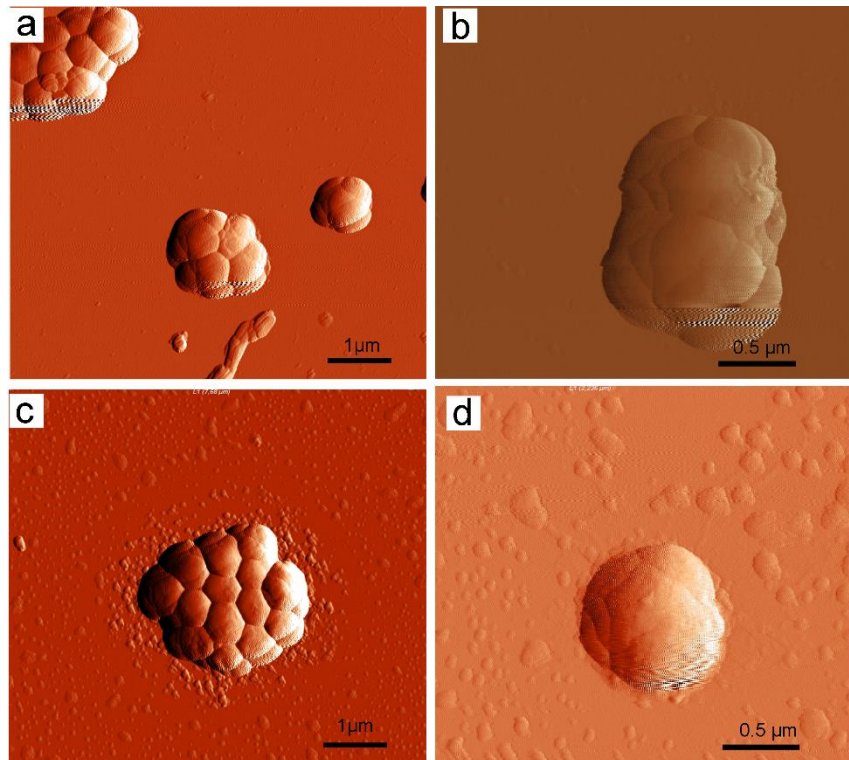


Figure S3. AFM-images (MAG-mode) of intact *S.aureus* 209P bacterial cells (**a, b**); treated with 2,4-DAPG and sampled at 120 min (**c, d**).

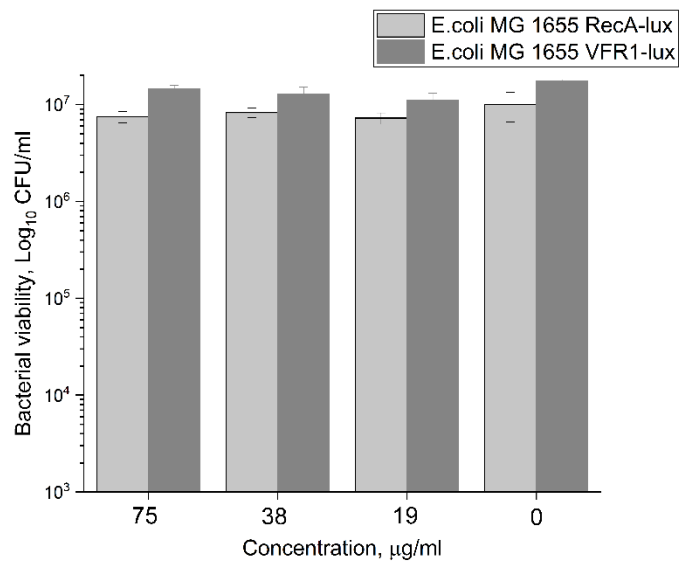


Figure S4. Impact of 2,4-DAPG on the viability of biosensors, that was assessed at the end-point of co-incubation.