

Natural biocide cocktails: Combinatorial antibiotic effects of prodigiosin and biosurfactants

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S1 Table. Physicochemical properties and inhibitory effects of surfactants applied in this study.

surfactant ¹	type	molecular weight [Da] ²	CMC ³	compound applied in assay ⁴	observed effects ⁵
synthetic surfactants					
Triton X-100 (octyl phenol ethoxylate)	non-ionic	625	0.2-0.9 mM ^a 0.012-0.056% (in water)	commercial	no inhibition alone, synergistic inhibition with prodigiosin (concentration-dependent)
SDS (sodium dodecyl sulfate)	anionic	288	7-10 mM ^a 0.2-0.29% (in water)	commercial	inhibition alone, synergistic inhibition with prodigiosin (concentration-dependent)
Tween 20 (polysorbate 20)	non-ionic	1228	0.06 mM ^a 0.0072% (in water)	commercial	no inhibition alone, synergistic inhibition with prodigiosin (concentration-independent)
biosurfactants					
serrawettin W1 (<i>Serratia marcescens</i>)	non-ionic	515 (C10, C10)	unknown	raw extract from <i>P. putida</i>	no inhibition alone, synergistic inhibition with prodigiosin (concentration-dependent)
rhamnolipids (<i>Pseudomonas aeruginosa</i>)	anionic	679 (dirhamnolipid, C10, C10)	0.0005-0.02% ^b (dependent on conditions and congener composition)	commercial (from <i>P. aeruginosa</i>)	inhibition alone, synergistic inhibition with prodigiosin (concentration-dependent)
<i>N</i> -myristoyl-tyrosine (unknown)	anionic	392	2.9 mM ^c 0.114% (in 0.1 M NaOH)	chemical synthesis	inhibition alone, synergistic inhibition with prodigiosin (concentration-dependent)

¹ compound with chemical designation (synthetic surfactants) or natural producer organism (biosurfactants).

² Triton X-100 contains 9-10 ethylene oxide units per molecule (see also S3 Fig.); MW is given as an average. Biosurfactants consist of several congeners differing in the hydroxyl fatty acids and in case of rhamnolipids in the number of sugar moieties; MW is given for one prominent congener and chain lengths are indicated.

³ CMCs (critical micellar concentrations) are listed as determined in other studies; validity for experiments of the present study is limited as they are much dependent on the exact assay conditions. ^a Sigma Aldrich "detergent_selection_table", ^b [57], ^c [44].

⁴ source of the compounds for their application in assays of the present study.

⁵ summarized results from disk diffusion assays in a checkerboard matrix together with prodigiosin using *C. glutamicum* as model bacterium.