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Citation for final published version:

Jack, Alison A., Nordli, Henriette R., Powell, Lydia C. , Farnell, Damian J. J. , Pukstad, Brita, Rye, Philip D., Thomas, David W., Chinga-Carrasco, Gary and Hill, Katja E. 2019. Cellulose nanofibril formulations incorporating a low molecular weight alginate oligosaccharide modify bacterial biofilm development. *Biomacromolecules* 20 (8) , pp. 2953-2961. 10.1021/acs.biomac.9b00522

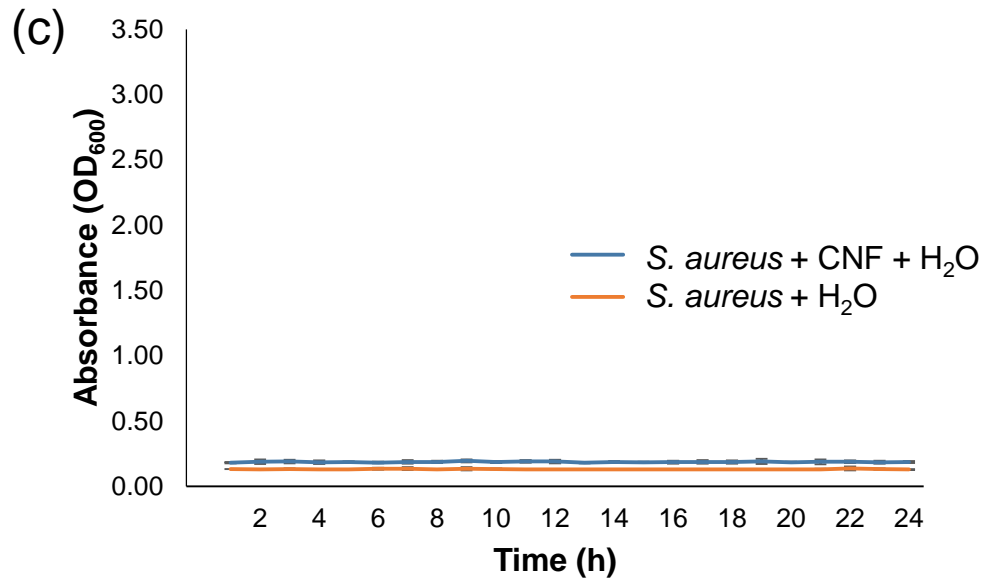
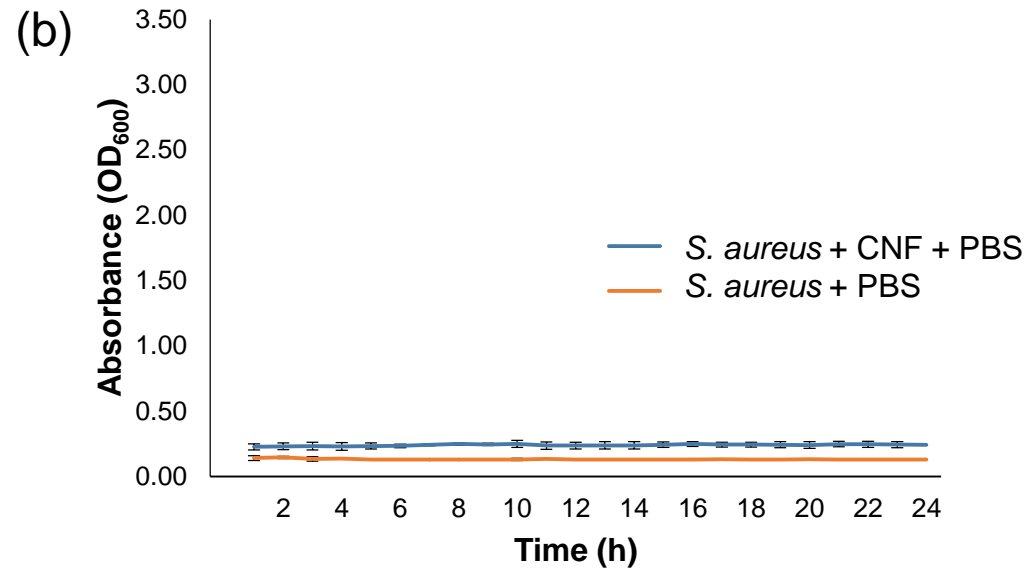
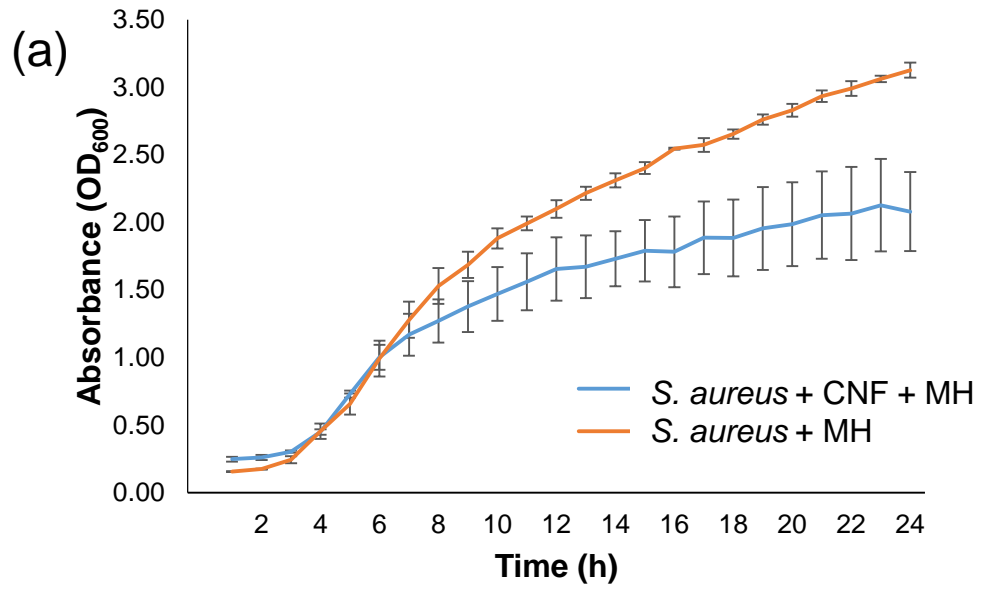
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(d)

sample name	change in \log_{10} CFU/ml
A0.2	0.07 ± 0.004
A0.4	0.13 ± 0.005
A0.6	0.53 ± 0.008
F0.2	0 ± 0.016
AquaCel Ag [®]	$4.65 \pm 0.012^\dagger$

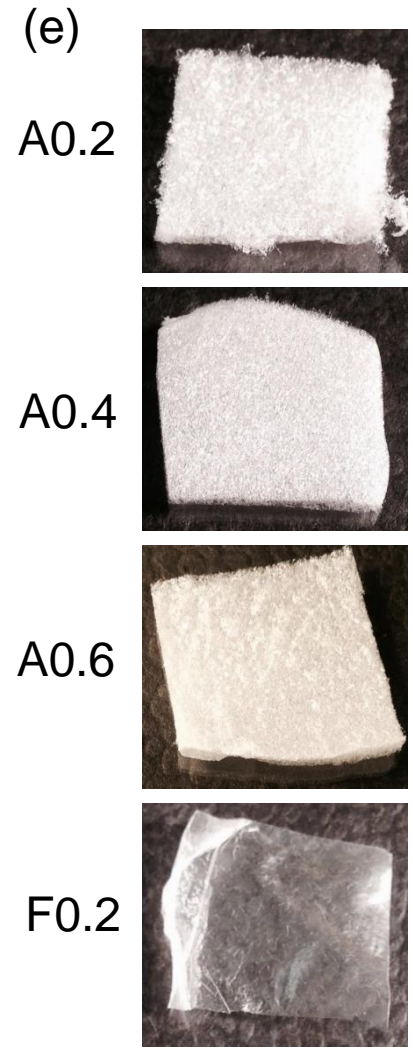


Figure S1. Effect of CNF dispersions and dried materials (aerogels and films) on growth of *S. aureus* 1061A: Growth curves of *S. aureus* in T3 CNF dispersions (0.2 %) in (a) MH broth, (b) Phosphate buffered saline (PBS), (c) sterile distilled water (n=3). (d) \log_{10} reduction values of planktonic *S. aureus* 1061A incubated with CNF formulations (A0.2, A0.4, A0.6 or F0.2) for 24 h (n=3). $^\dagger \geq 3 \log_{10}$ CFU/ml indicates bacteriocidal activity. (e) Images of the dried CNF materials: aerogels (A0.2, A0.4 and A0.6) and film (F0.2).

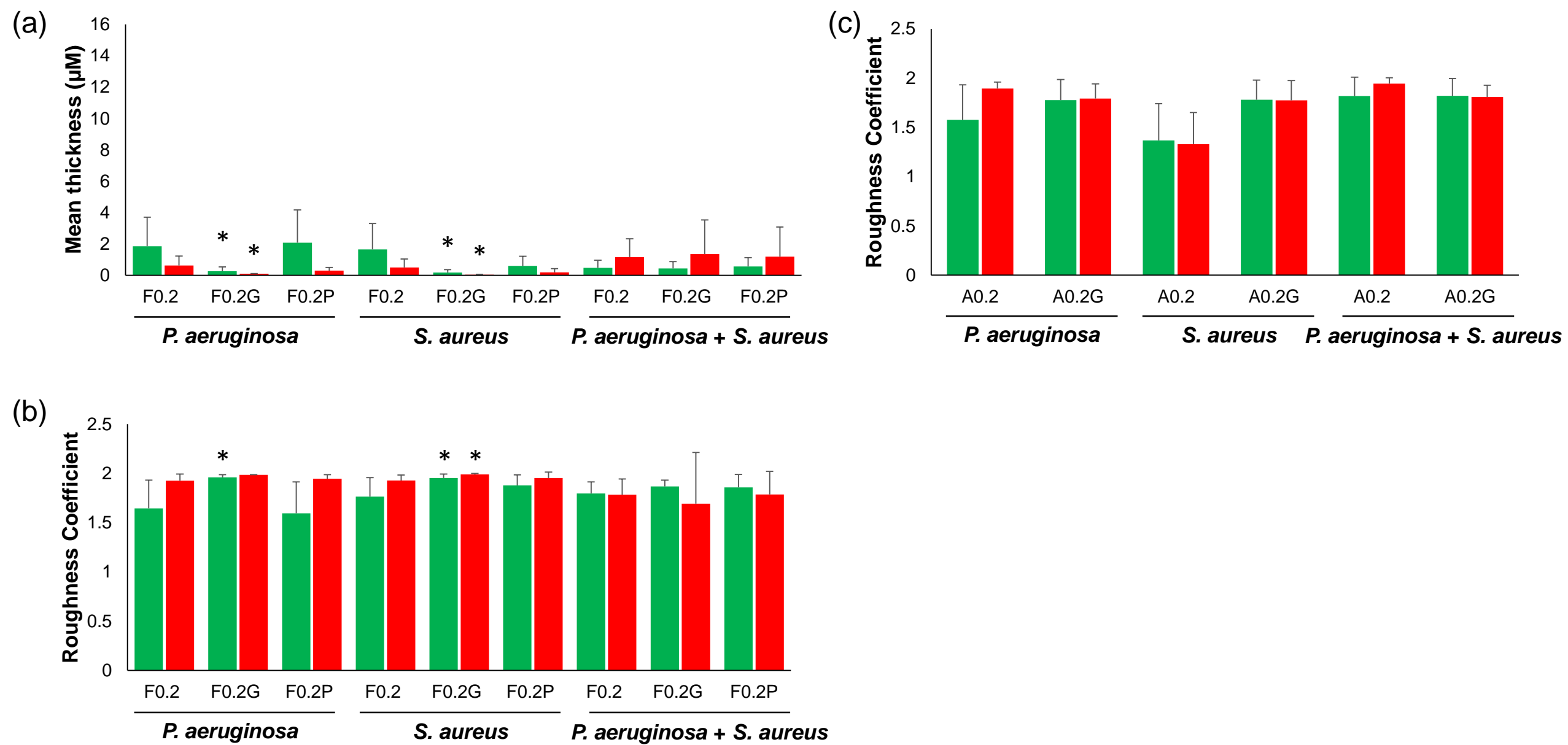


Figure S2. COMSTAT image analysis of LIVE/DEAD[®] staining of 24 h single and dual species biofilms grown on (a, b) 0.2% CNF films (Control F0.2, OligoG-coated F0.2G and PEG400 biocomposite F0.2P. (c) 0.2% CNF aerogels (Control A0.2 and Oligo-bio-nanocomposite A0.2G) showing (a) mean biofilm thickness. (b, c) roughness coefficients of LIVE (green) and DEAD (red) cells (*significantly different compared to the equivalent no OligoG control; n=10 images each from n=3 replicates; P<0.05).