

Supplementary Materials: Development and Characterization of Xanthan Gum and Alginate Based Bioadhesive Film for Pycnogenol Topical Use in Wound Treatment

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Table S1. Growth conditions of the strains used for the antimicrobial activity assay.

Gram positive bacteria	Growth conditions
<i>Staphylococcus epidermidis</i> WDCM 00036	37°C for 24 ± 2 hours
<i>Enterococcus faecalis</i> WDCM 00087	37°C for 24 ± 2 hours
<i>Bacillus subtilis</i> WDCM 00003	30°C for 24 ± 2 hours
<i>Staphylococcus aureus</i> WDCM 00034	37°C for 24 ± 2 hours
<i>Streptococcus pyogenes</i> ATCC 19615	37°C for 24-48 hours
Gram negative bacteria	
<i>Pseudomonas aeruginosa</i> WDCM 00025	25°C for 24-48 hours
<i>Klebsiella pneumoniae</i> WDCM 00097	37°C for 24 ± 2 hours
<i>Proteus mirabilis</i> WDCM 00023	37°C for 24 ± 2 hours
<i>Escherichia coli</i> WDCM 00013	37°C for 24 ± 2 hours
Yeast	
<i>Candida albicans</i> WDCM 00054	25°C for 24-72 hours

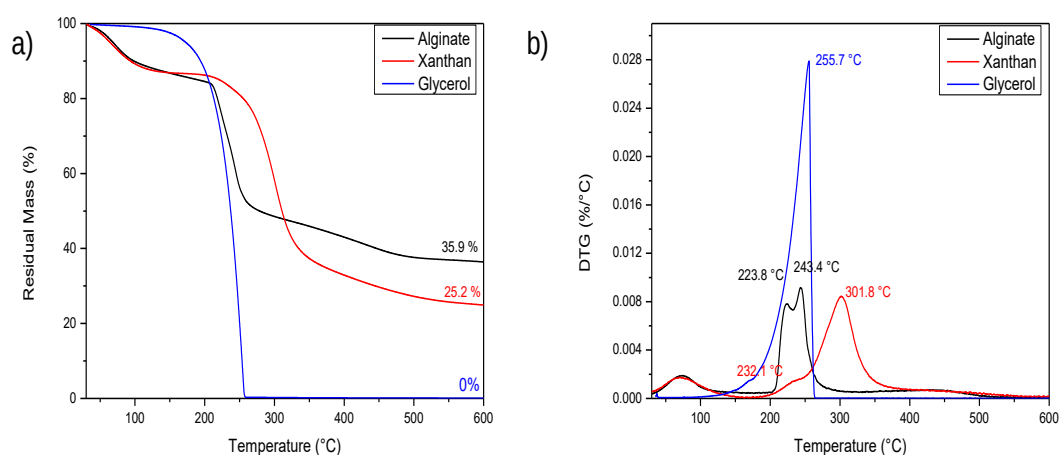
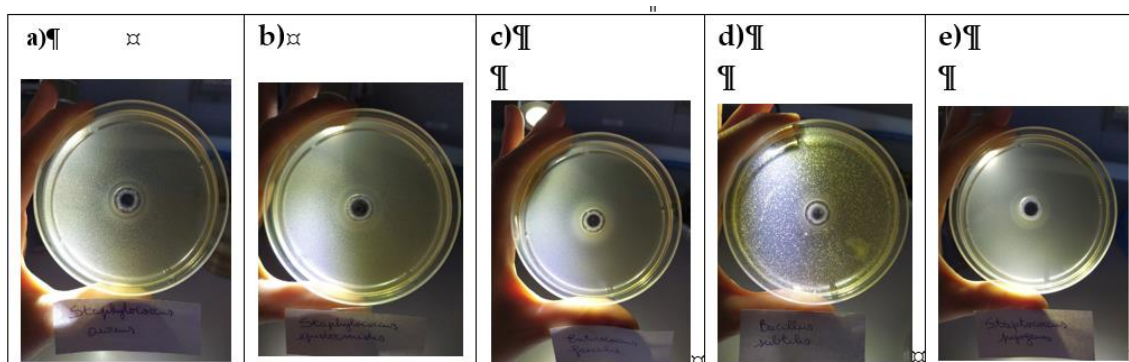
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Table S2. Different conditions assayed for film storage and observations after 7 days.

Film	AL/XG hydrogel ratio (wt./wt.)	storage conditions	observations after 7 days
A	2.5/7.5	CaCl ₂ at R.T.	the initial characteristics are maintained
B	1.5/8.5	CaCl ₂ at R.T.	the initial characteristics are maintained
A	2.5/7.5	saturated MgCl ₂ solution at 4°C	water absorption makes the film gelatinous
B	1.5/8.5	saturated MgCl ₂ solution at 4°C	water absorption makes the film gelatinous (more than A)
A	2.5/7.5	saturated MgCl ₂ solution at R.T.	the initial characteristics are maintained
B	1.5/8.5	saturated MgCl ₂ solution at R.T.	the initial characteristics are maintained

**Figure S1.** TGA profiles of AL, XG and glycerol (a); DTG profiles of AL, XG and glycerol (b).**Figure S2.** a) *S. aureus*; b) *S. epidermidis*; c) *E. faecalis*; d) *B. subtilis*; e) *S. pyogenes*.

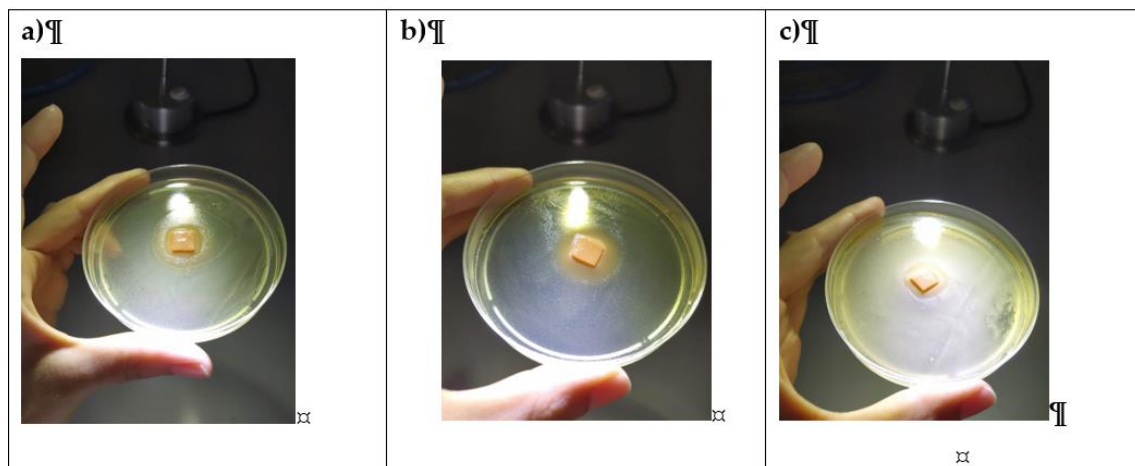


Figure S3 Film A-loaded: a) *E. faecalis*, b) *S. pyogenes*, c) *S. aureus*.

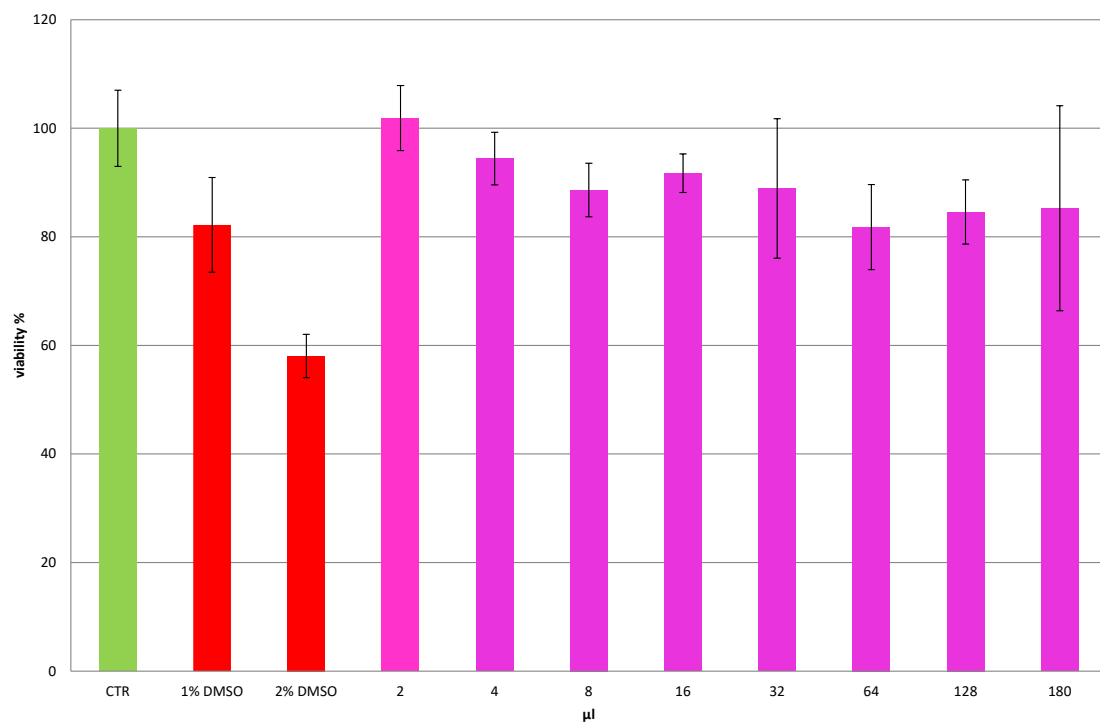


Figure S4. Viability measured in vitro on HaCaT cells incubated with different volumes of DMEM previously incubated for 24 h with the patch (2 × 2 cm in 10 ml of DMEM) free from PYC. CTR, untreated cells in DMEM were set at 100%. DMSO in three different percentages (1%, 2% and 4%) as positive controls ($n = 3$).