Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

Imitating the microenvironment of native biofilms by nanofibrous scaffolds for emulating chronic wound infections

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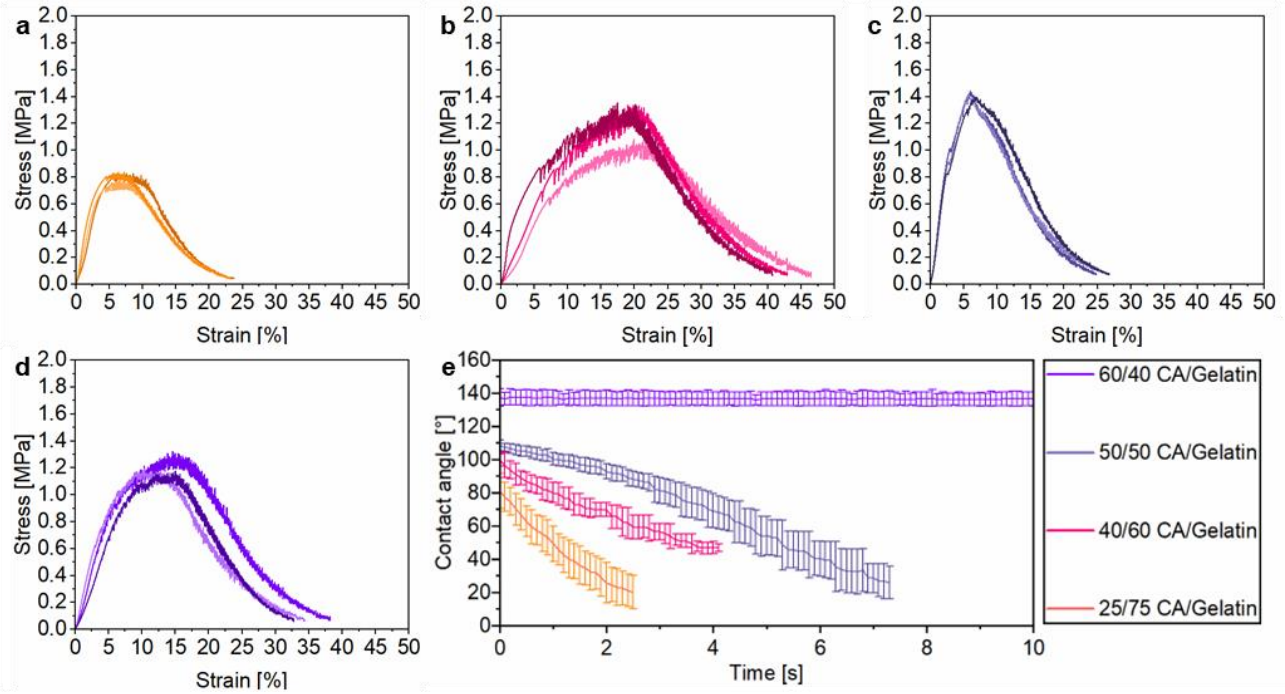

Fig. S1 Systematic evaluation of electrospun fibers composed of cellulose acetate (CA) and gelatin in different ratios regarding their physicochemical properties. Stress-strain-curves of electrospun fiber mats of CA and gelatin in ratios of (a) 25/75, (b) 40/60, (c) 50/50 and (d) 60/40 as well as (e) contact angle measurements of all scaffolds.

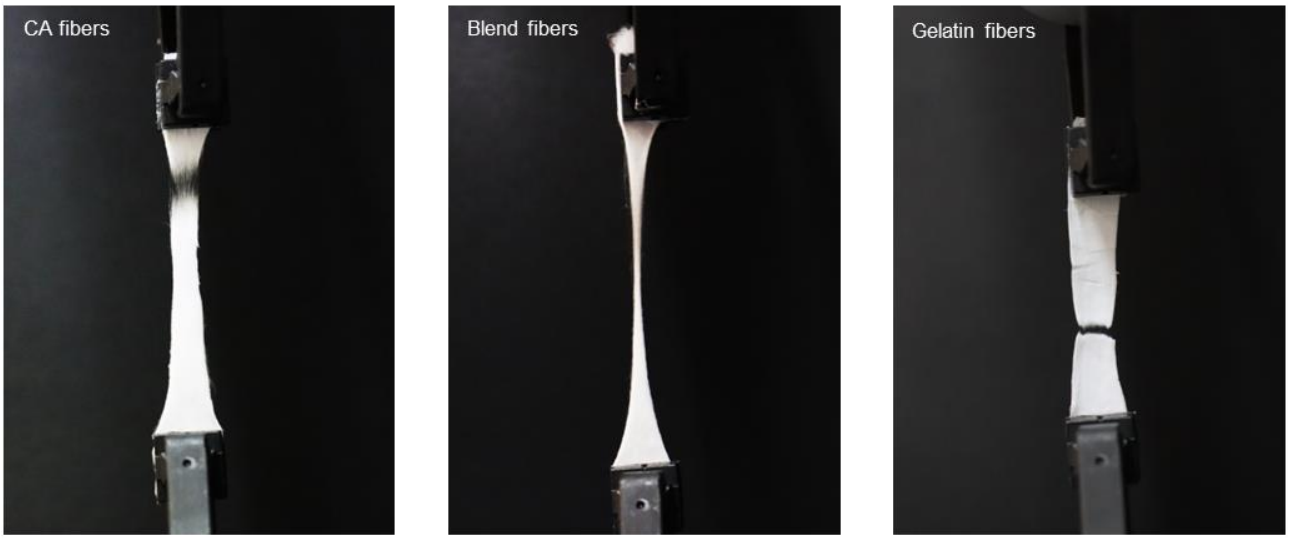

Fig. S2 Photographs of CA, blend, and gelatin fiber scaffolds after failure during tensile testing experiments.

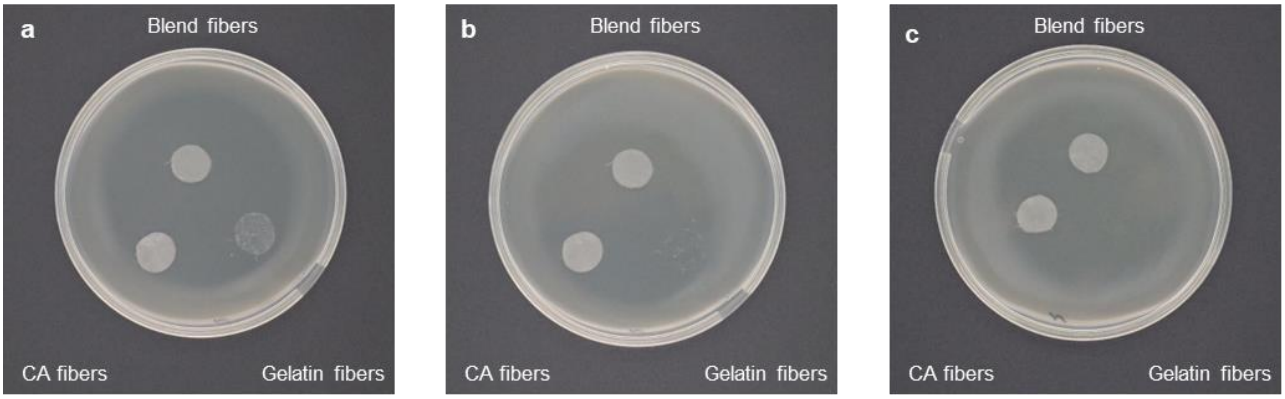

Fig. S3 Photographs of CA, blend and gelatin fiber scaffolds placed on nutrient agar plates (a) right after contact and after (b) 2 and (c) 48 h incubation.

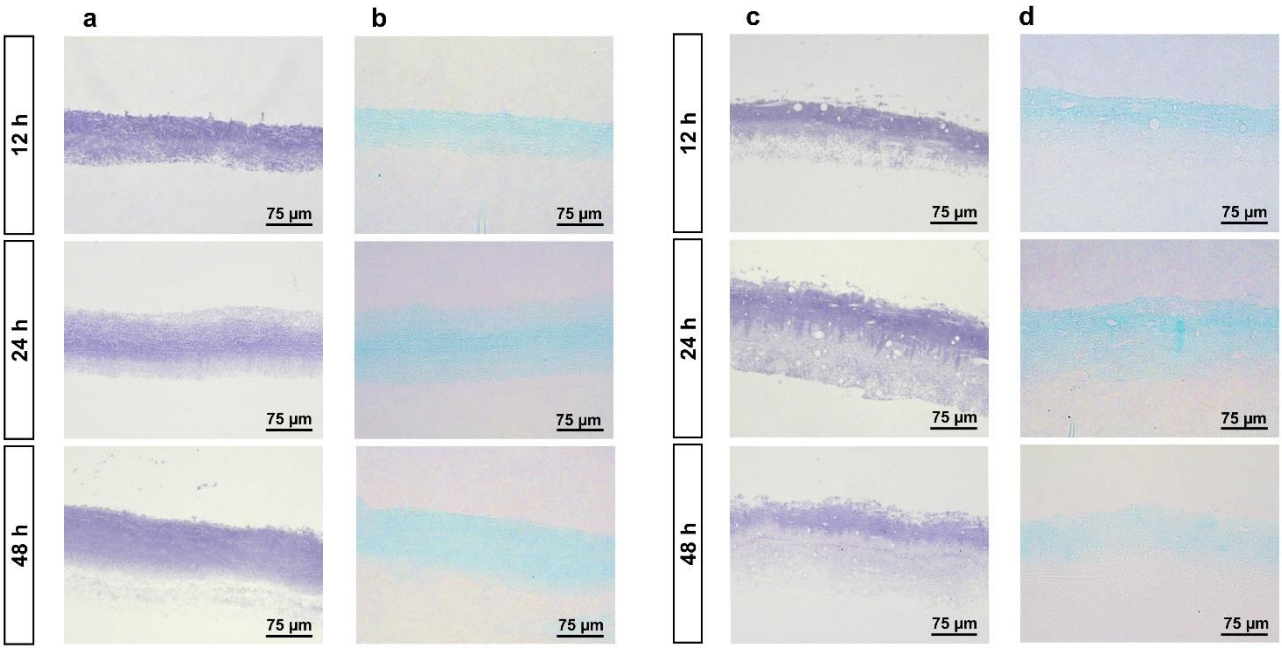

Fig. S4 Hematoxylin (a, c) and alcian blue (b d) staining of cross-sections of CA (a, b) and blend (c, d) fibers after 12, 24 and 48 h incubation with *Pseudomonas aeruginosa*.

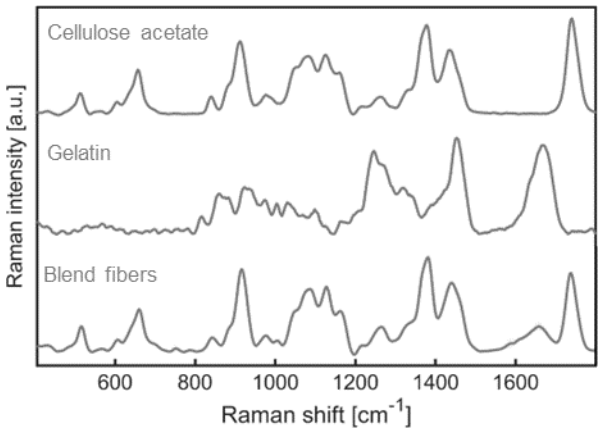

Fig. S5 Raman spectra of reference substances and blend fibers.

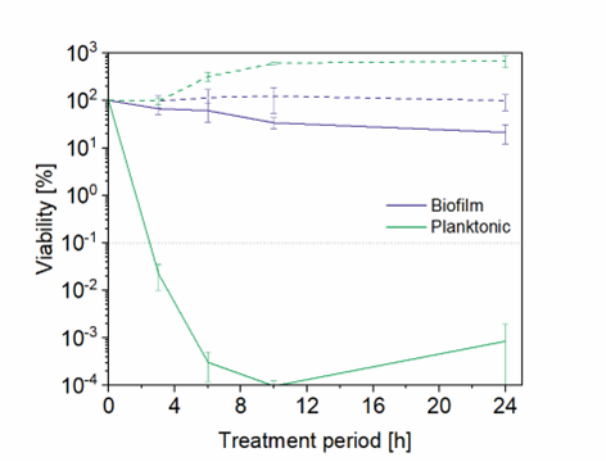

Fig. S6 Viability of bacteria from blend fiber-based biofilm models and planktonic *Pseudomonas aeruginosa* after treatment with PBS (---) or gentamicin (—) over 24 h. Viability under 0.1% indicates a biocidal effect of the treatment.

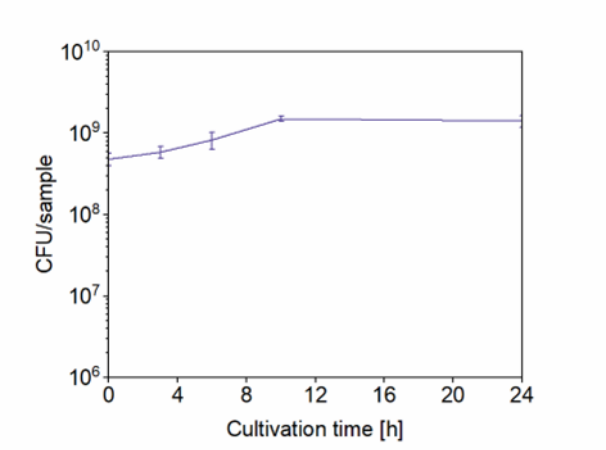

Fig. S7 Growth curve of *P. aeruginosa* from blend-fiber based biofilm models on *ex vivo* human skin wounds.

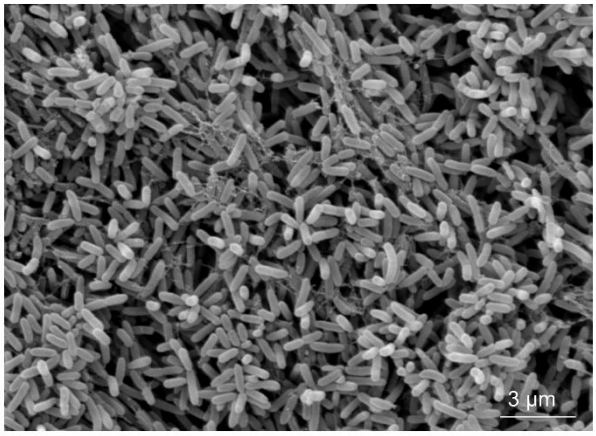

Fig. S8 SEM micrograph of a *P. aeruginosa* biofilm co-cultivated with human skin wounds for 24 h.