Electronic Supplementary Information

Incorporation of antimicrobial peptides on electrospun nanofibres for biomedical applications

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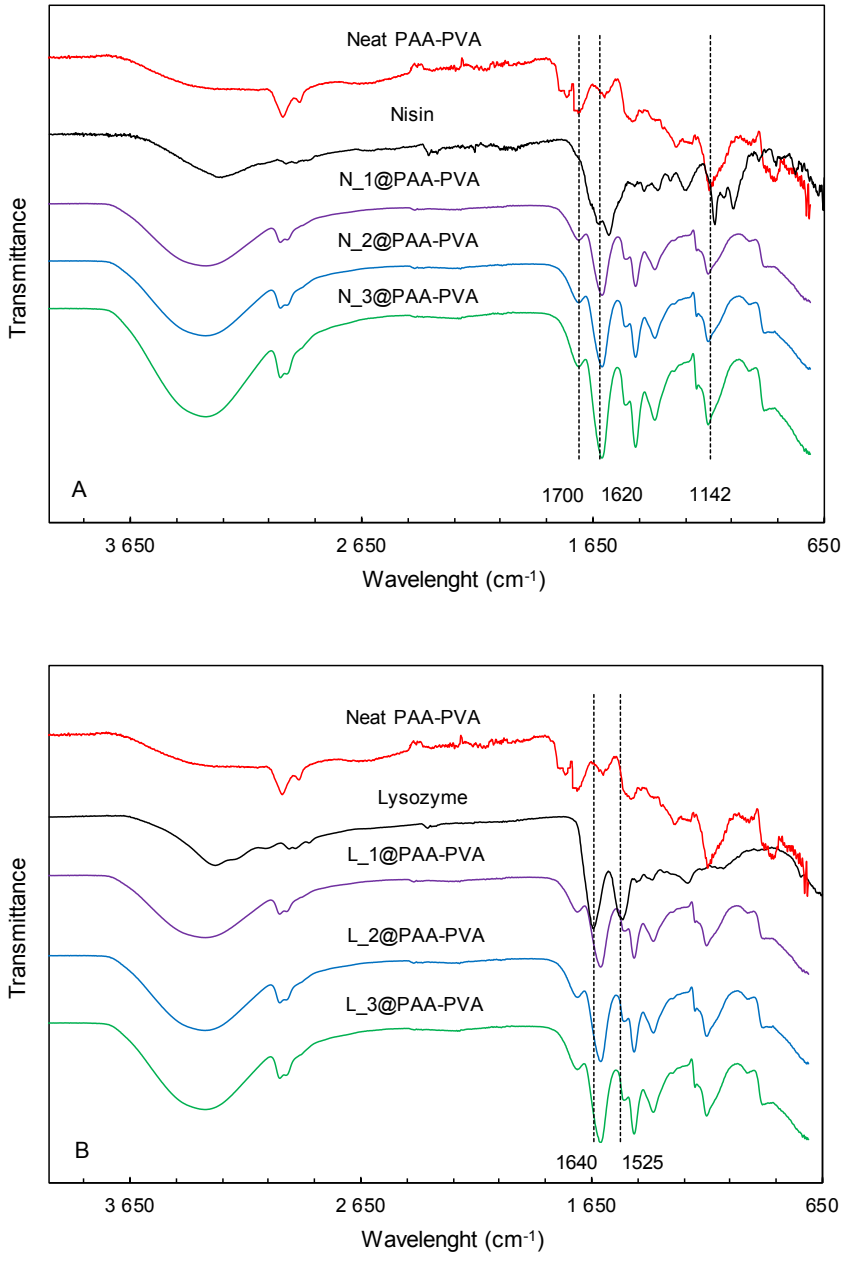
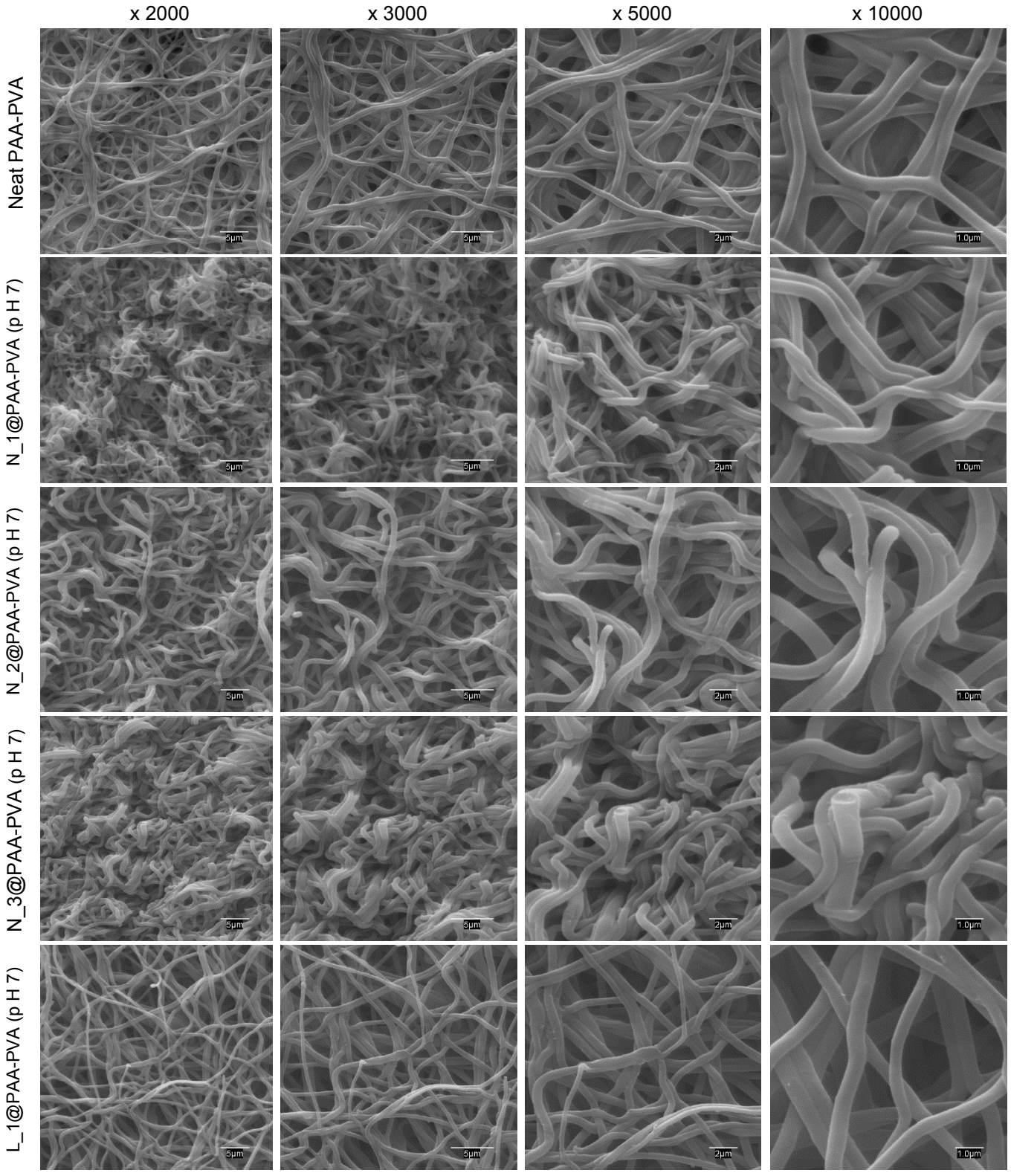
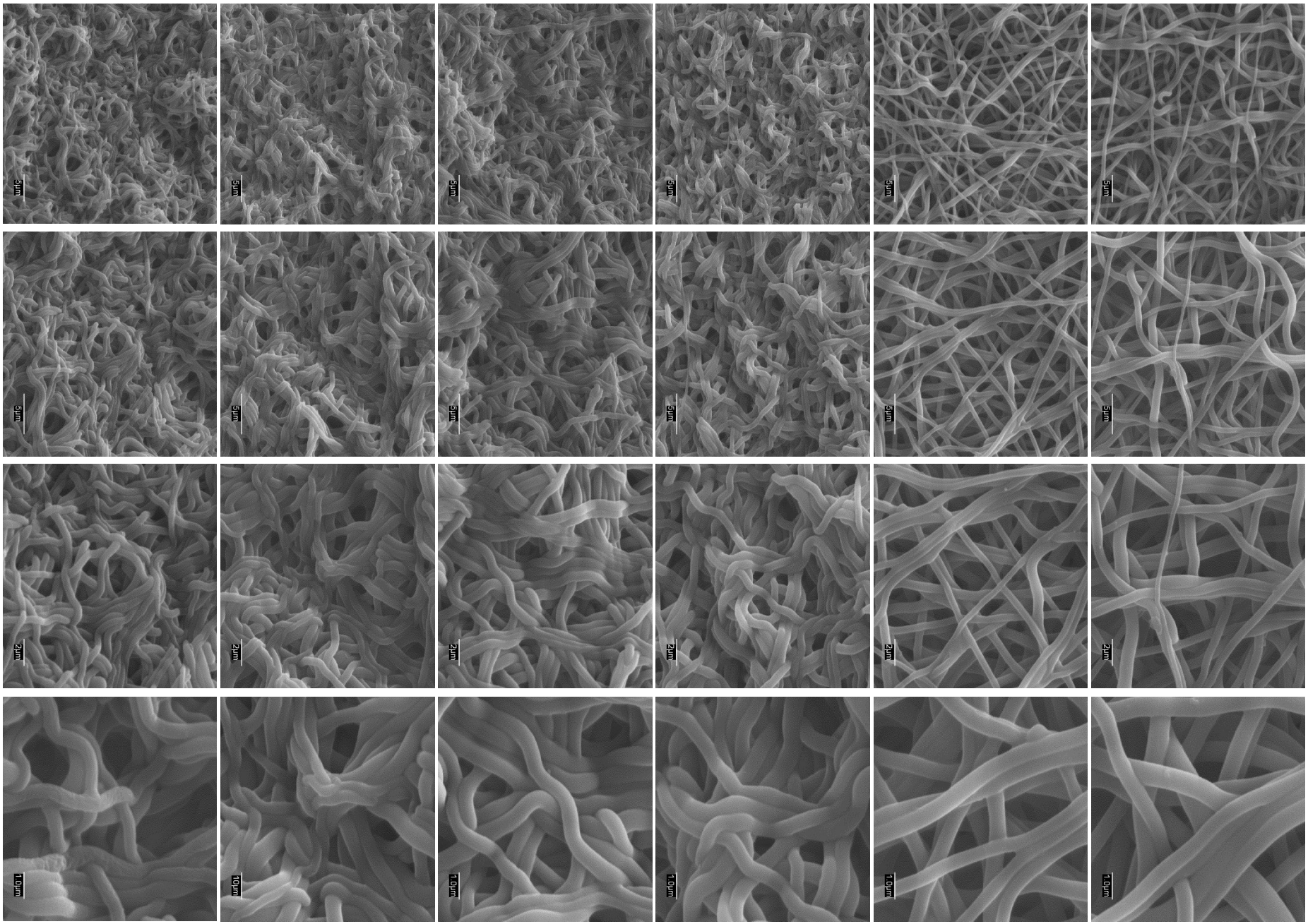


Figure S1. FTIR-ATR spectra of PAA-PVA functionalized dressings. Nisin (A) and lysozyme (B) functionalized at pH 10. (The spectra for materials functionalized at pH 7, are shown in Fig. 1.)


x 2000
x 3000
x 5000
x 10000
Neat PAA-PVA
N_1@PAA-PVA (p H 7)
N_2@PAA-PVA (p H 7)
N_3@PAA-PVA (p H 7)
L_1@PAA-PVA (p H 7)
5µm
5µm
2µm
1.0µm


L_1@PAA-PVA (p H 10)
N_3@PAA-PVA (p H 10)
N_2@PAA-PVA (p H 10)
N_1@PAA-PVA (p H 10)
L_3@PAA-PVA (p H 7)
L_2@PAA-PVA (p H 7)
5µm
2µm
1.0µm

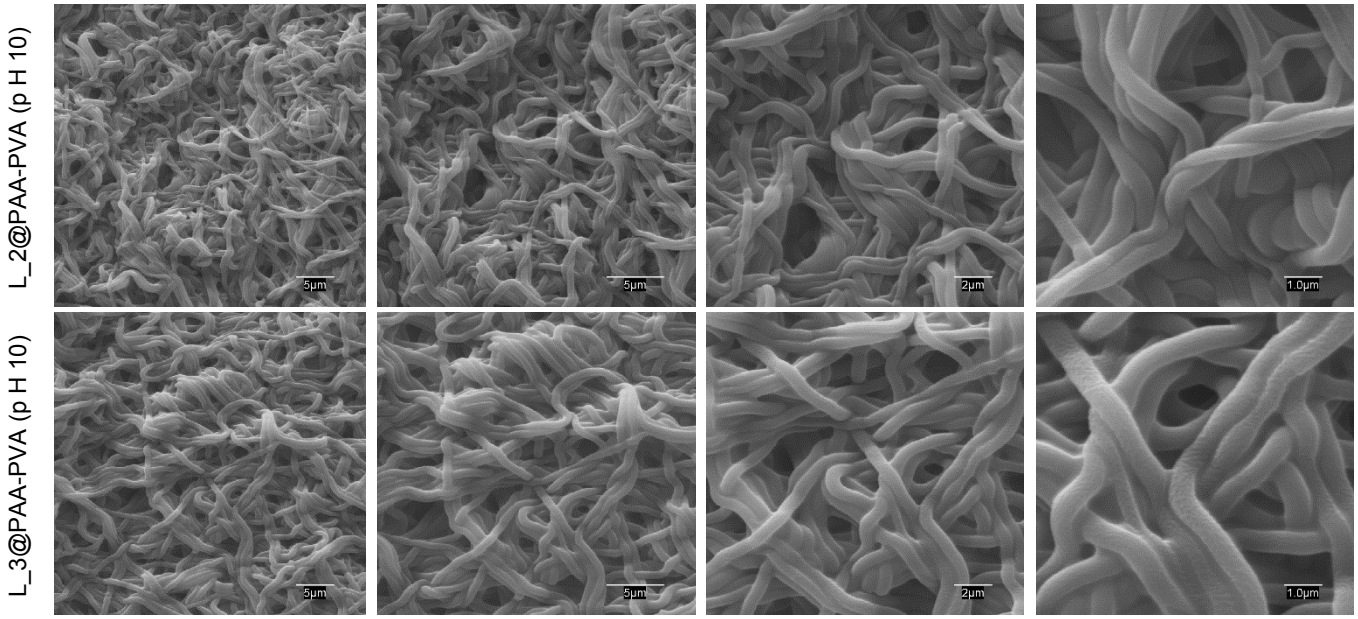


Figure S2. SEM images of PAA-PVA nanofibres before impregnation (Neat PAA-PVA), and dressings after impregnation with nisin (N) and lysozyme (L) at pH 7 and 10.

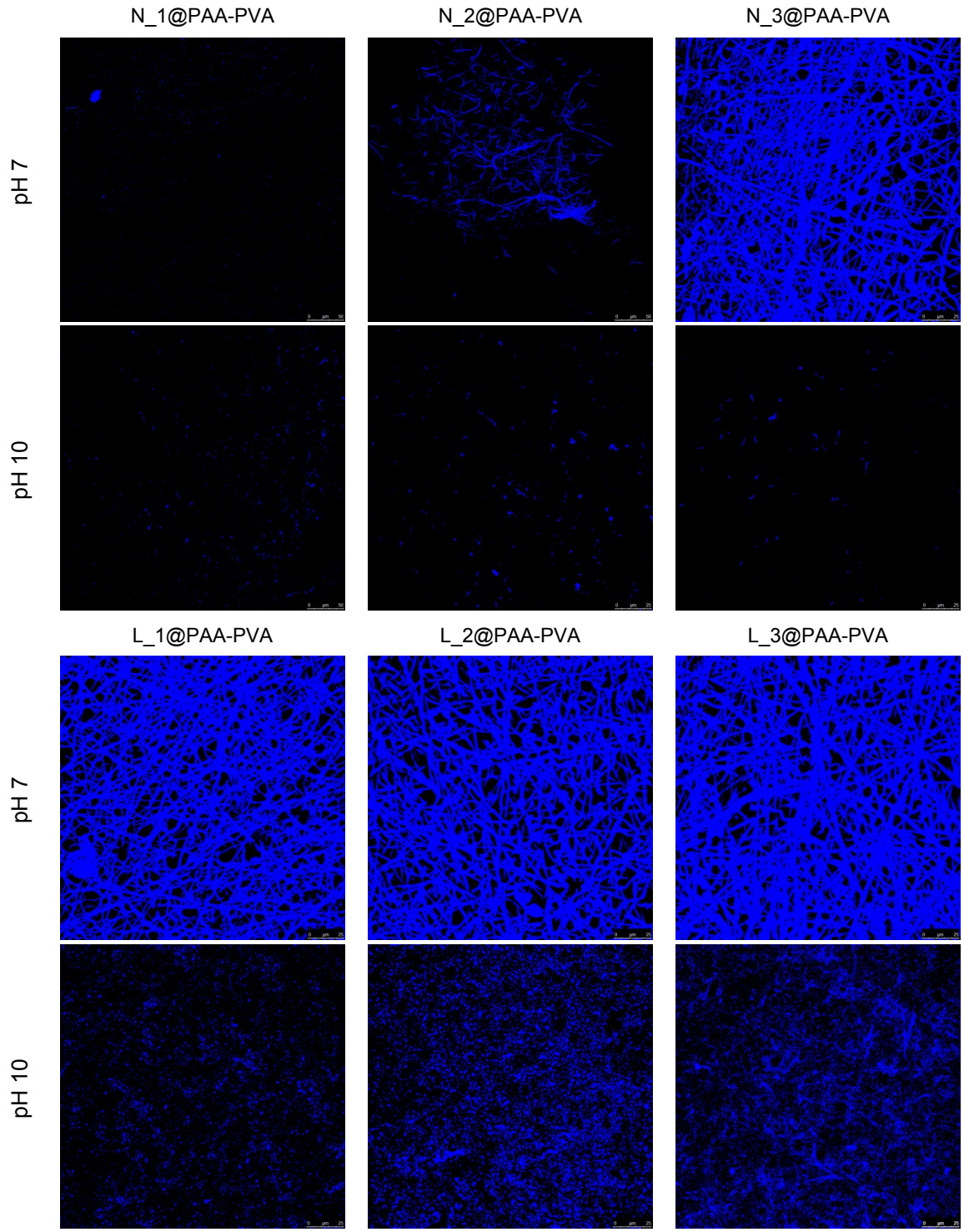
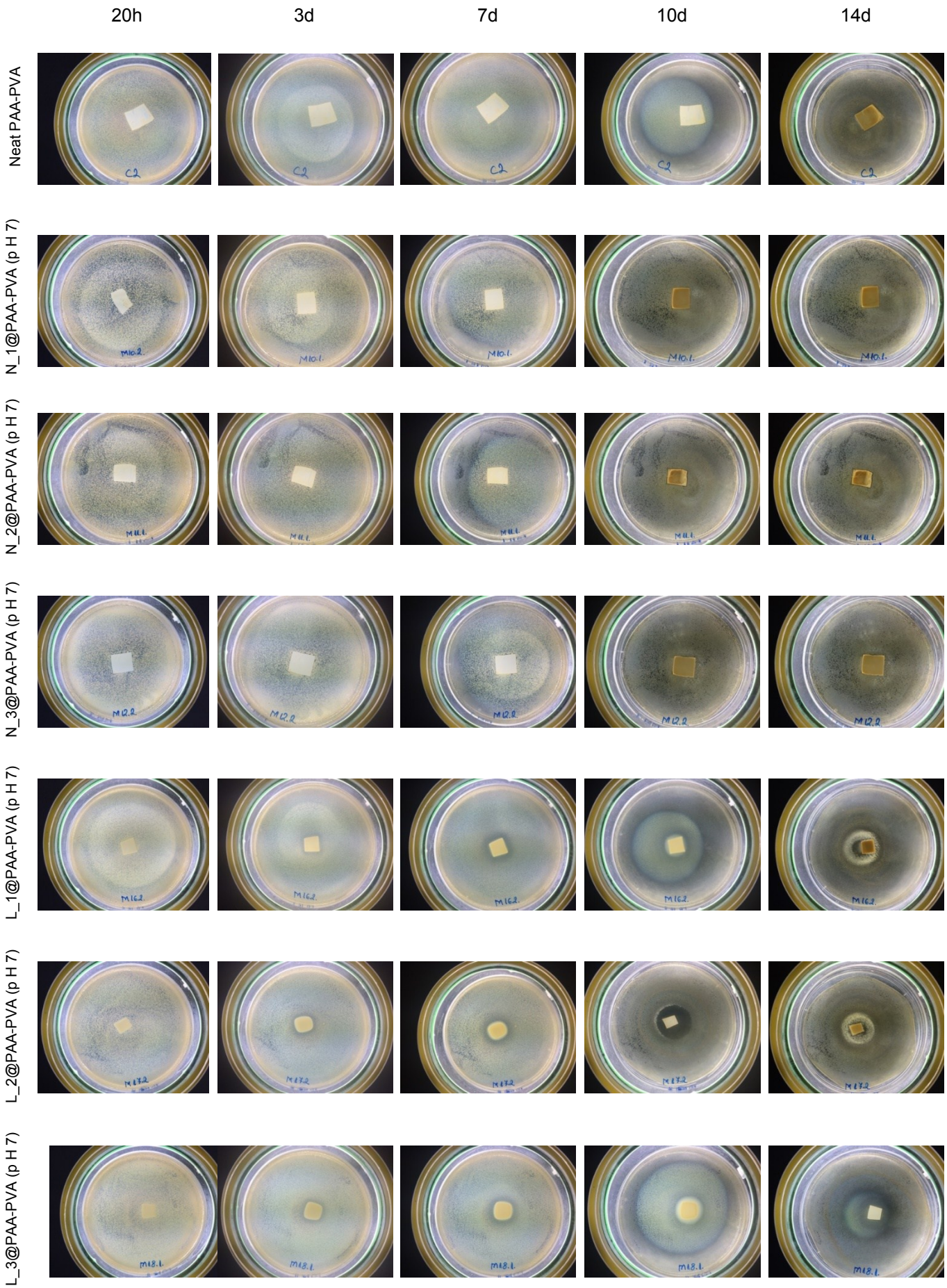


Figure S3. Confocal laser scanning microscopy images of nisin and lysozyme-loaded PAA-PVA after conjugation with fluorescamine.


20h
3d
7d
10d
14d
Neat PAA-PVA
N_1@PAA-PVA (p H 7)
N_2@PAA-PVA (p H 7)
N_3@PAA-PVA (p H 7)
L_1@PAA-PVA (p H 7)
L_2@PAA-PVA (p H 7)
L_3@PAA-PVA (p H 7)

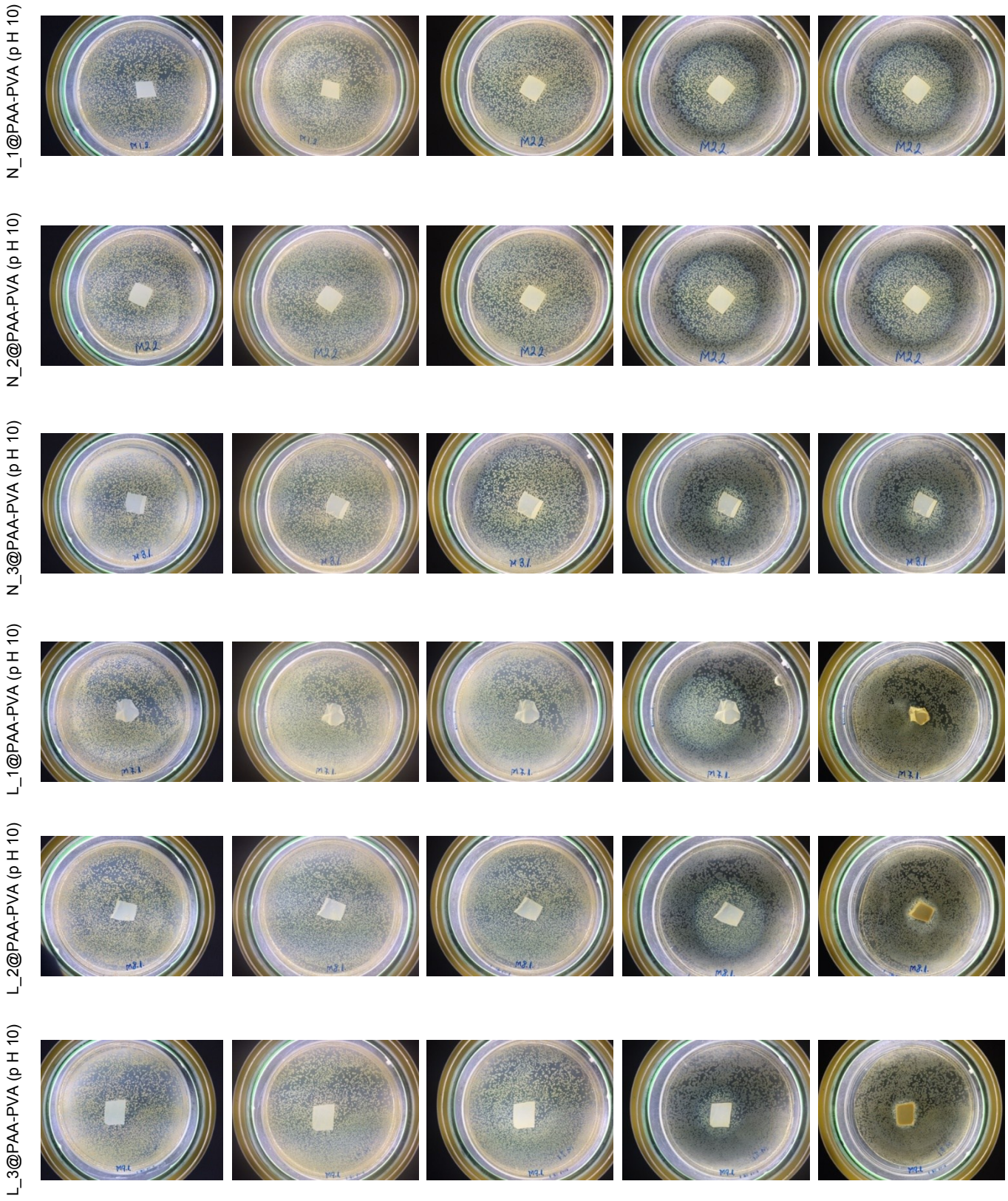


Figure S4. Halo inhibition zone experiments for the membranes prepared in this work along 14-day experiments in contact with *S. aureus* cultures in agar plates at 37 °C.

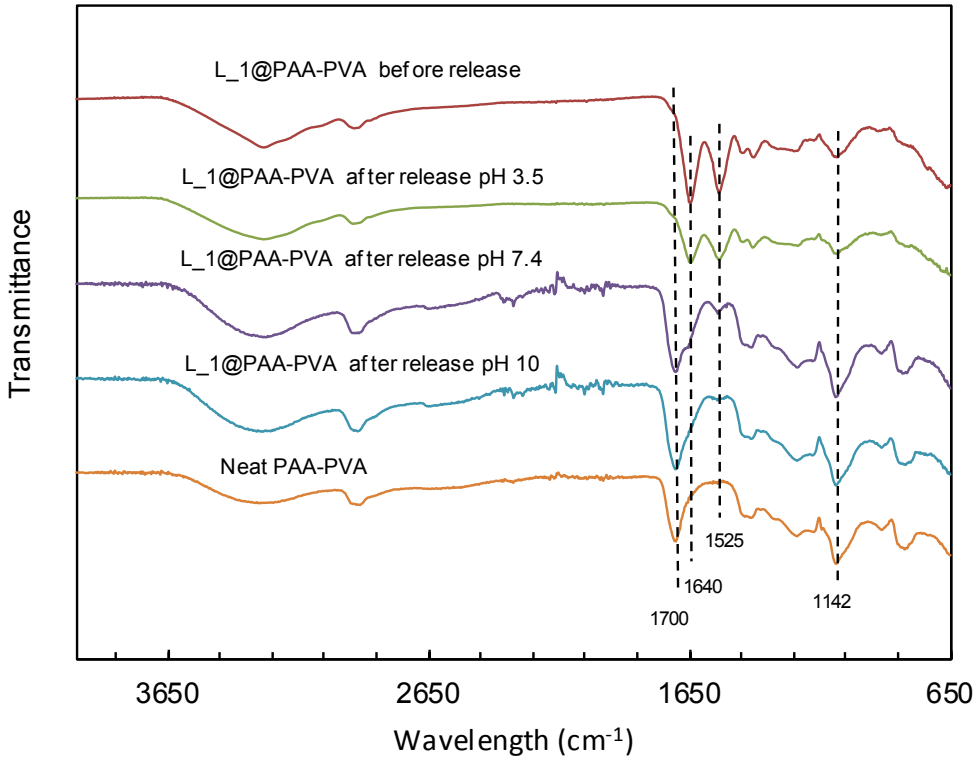


Figure S5. FTIR-ATR spectra of PAA-PVA and L_1@PAA-PVA dressings before and after 14 days in phosphate buffer saline, pH 7.4; carbonate buffer, pH 10.0; and acetate buffer, pH 3.5.