

Supporting Information for:

Harnessing gradient gelatin nanocomposite hydrogels: a progressive approach to tackling antibacterial biofilms

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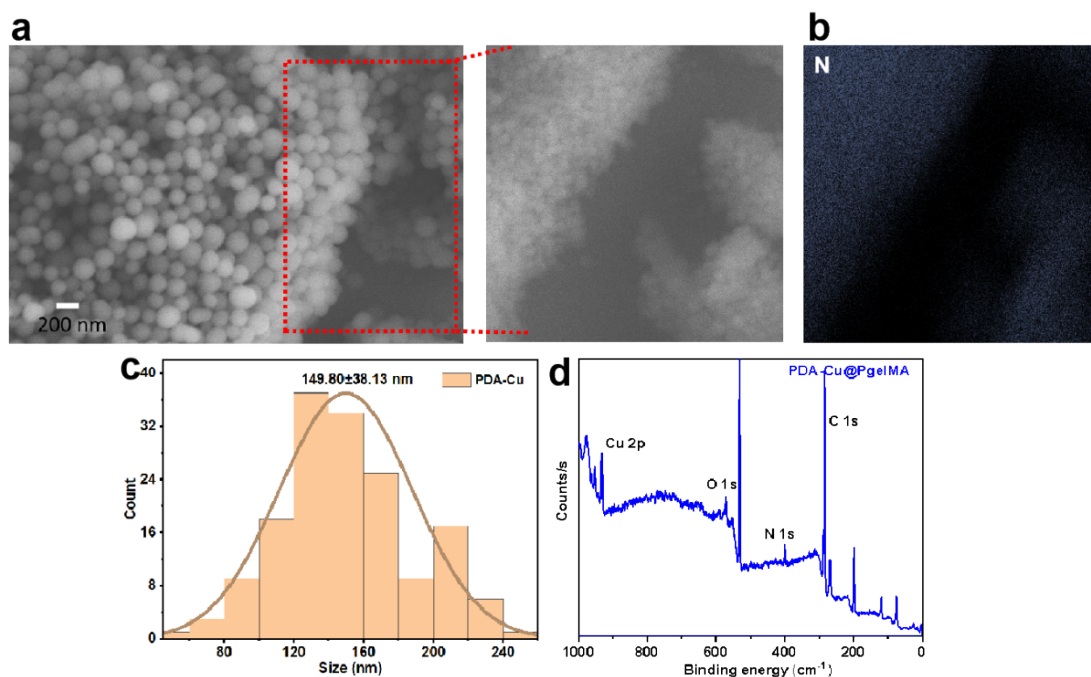


Fig.S1 SEM and element mapping images of PDA-Cu nanoparticles (a and b). Image J analysis of the size of PDA-Cu (c). Full scan XPS survey spectrum and the high-resolution spectra of PDA-Cu@PgelMA (d).

Hydrogel groups	GelMA (5%)	GelMA (10%)	PDA-Cu (1 mg/mL)	PDA-Cu (10 mg/mL)	LAP (20 mg/mL)
1-PgelMA-5%	√				√

2-PgelMA-10%	✓		✓
3-PDA-Cu@PgelMA-01	✓	✓	✓
3-PDA-Cu@PgelMA-02	✓		✓
4-PGelMA-T(top)/PDA-Cu@PGelMA-D(down)	✓		✓
5-PDA-Cu@PDA-Cu@PGelMA-T/PGelMA-D	✓		✓

Table S1. hydrogel groups.

Sample quality	MO (g)	0.0254
Test solution element coencentration	Cu (mg/L)	Cu
Sample elemental content (%)		0.061867

Table S2. ICP-MS analysis of PDA-Cu.

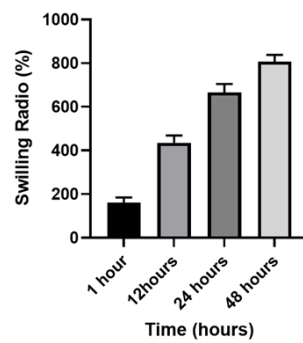


Fig.S2 The hygroscopicity of gradient gelatin nanocomposite hydrogel (n = 3)

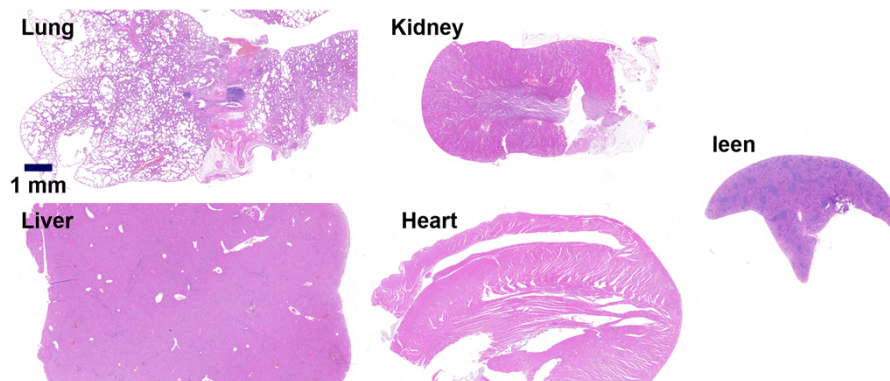


Fig.S3 Microscopy images of hematoxylin and eosin (H&E) stained sections of major organs of rats after 7 days of subcutaneous implantation of gradient gel.

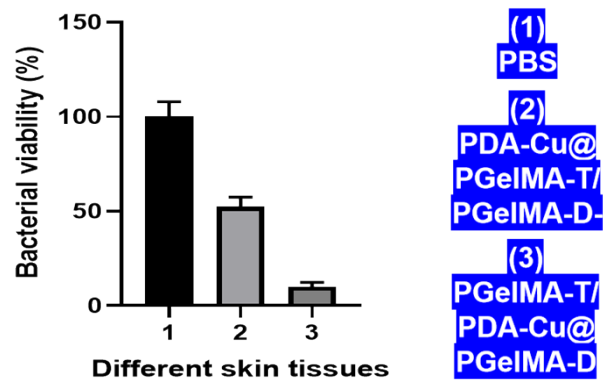


Fig.S4 Evaluation of bacterial colonies inside the infected skin after 6 d treatment (n = 3).

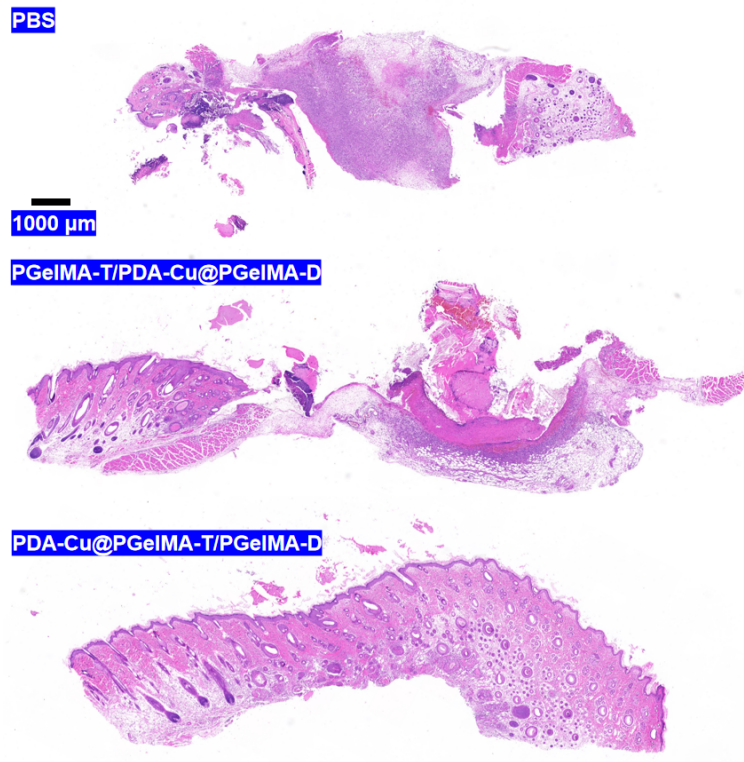


Fig.S5 Microscopy images of hematoxylin and eosin (H&E) stained sections of wound tissues.

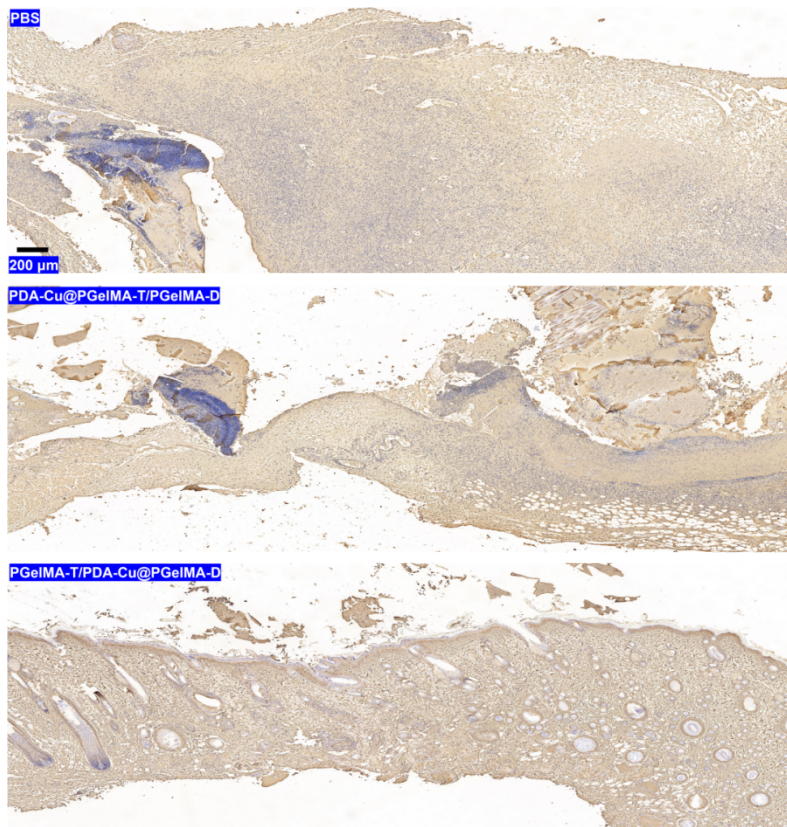


Fig.S6 Infected skin wound tissue evaluated by IHC of IL-6 a after treatment.