

## Supporting Information

### ***In situ* assembly of Ag nanoparticles (AgNPs) on porous silkworm cocoon-based wound film: enhanced antimicrobial and wound healing activity**

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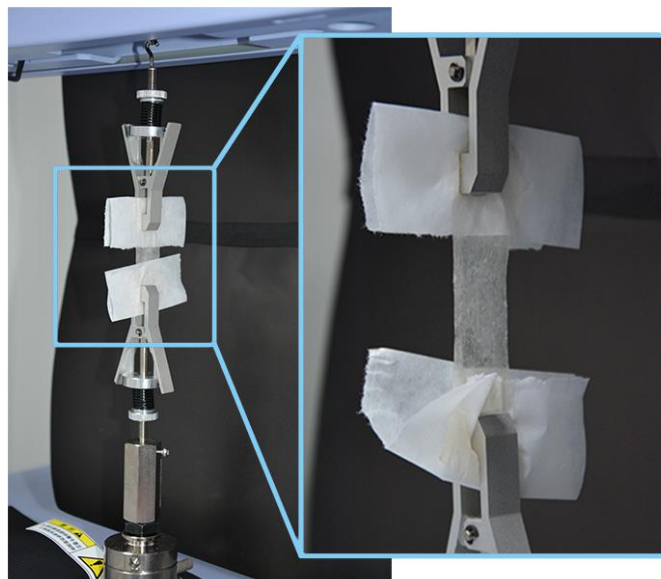
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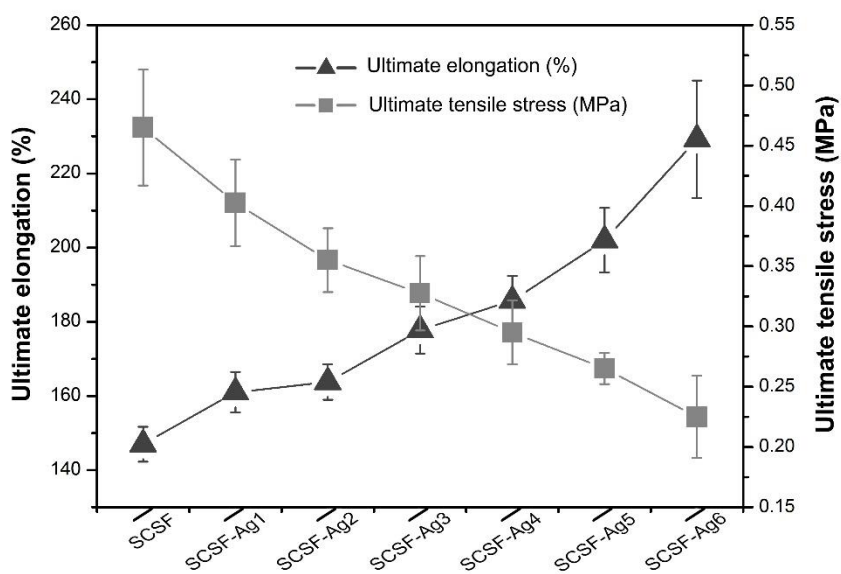
**KEYWORDS:** Silkworm cocoon, Silver nanoparticles, Infected wound healing, Silk fibroin, Antibacterial performance

**Figure S1**



**Figure S1.** Images of the setup used for stretching the sample and measuring its tensile mechanical properties. A layer of paper is provided between the fixture and sample, to prevent the sample fracturing in the fixture.

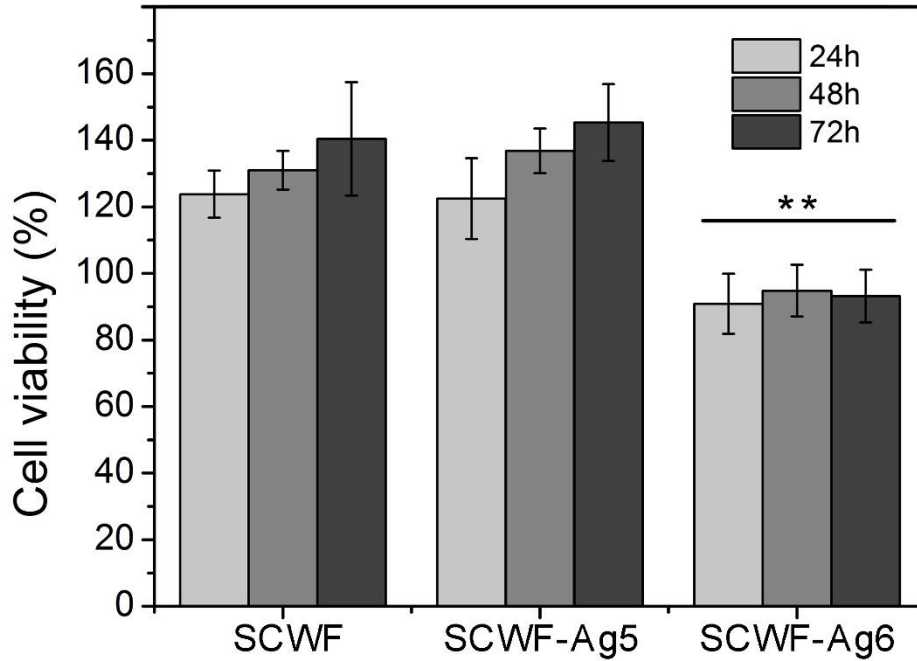
**Figure S2**



**Figure S2.** Ultimate elongation and ultimate tensile stress. The error bars denote the standard error of the mean (n = 10). The ultimate elongation values all exceeded 140%. As the AgNPs content increased, the

ultimate elongation increased from  $147.0 \pm 4.7\%$  in SCWF to  $229.3 \pm 15.8\%$  in SCWF-Ag6 (Figure S2). The Ag<sup>+</sup> that consume a lot of sericin result in a further decrease of the stress, and thus more elasticity.

**Figure S3**



**Figure S3.** Viability of L929 murine fibroblast cells after 24, 48, and 72 h of contact with leaching liquors obtained from SCWF and SCWF-Ag5. The leaching liquor obtained from SCWF-Ag5 revealed increased cell viability compared to the SCWF control. The error bars denote the standard error of the mean ( $n = 3$ ,  $**P < 0.01$ ).