

Supplementary Information

Electrospun Hydrolyzed Collagen from Tanned leather Shavings For Bio-Triboelectric Nanogenerator

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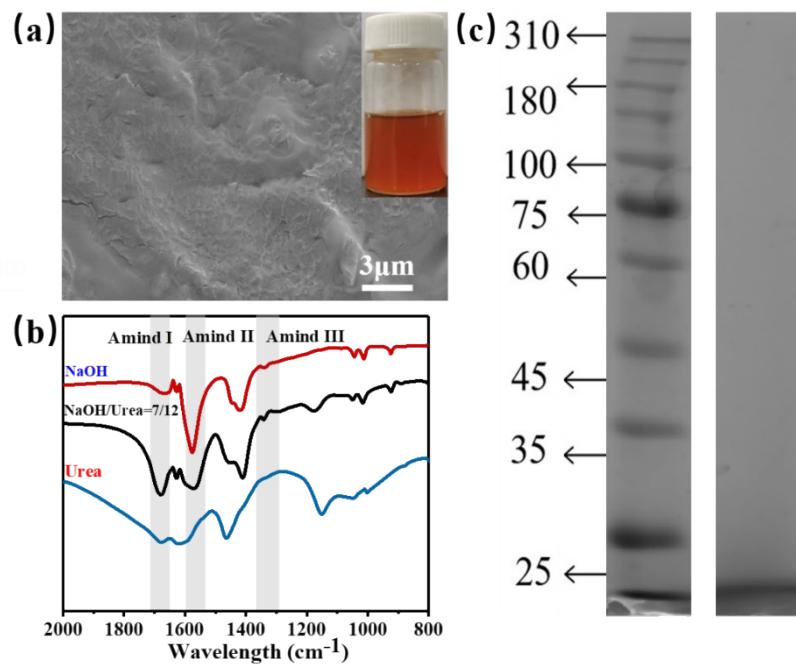


Fig. S1 (a) SEM images of hydrolysate with digital photos shown in the upper right.
(b) FTIR spectra of alkali-soluble collagen, alkali/urea-soluble collagen and pure urea
(c) electrophoretic separation patterns of collagen hydrolysate.

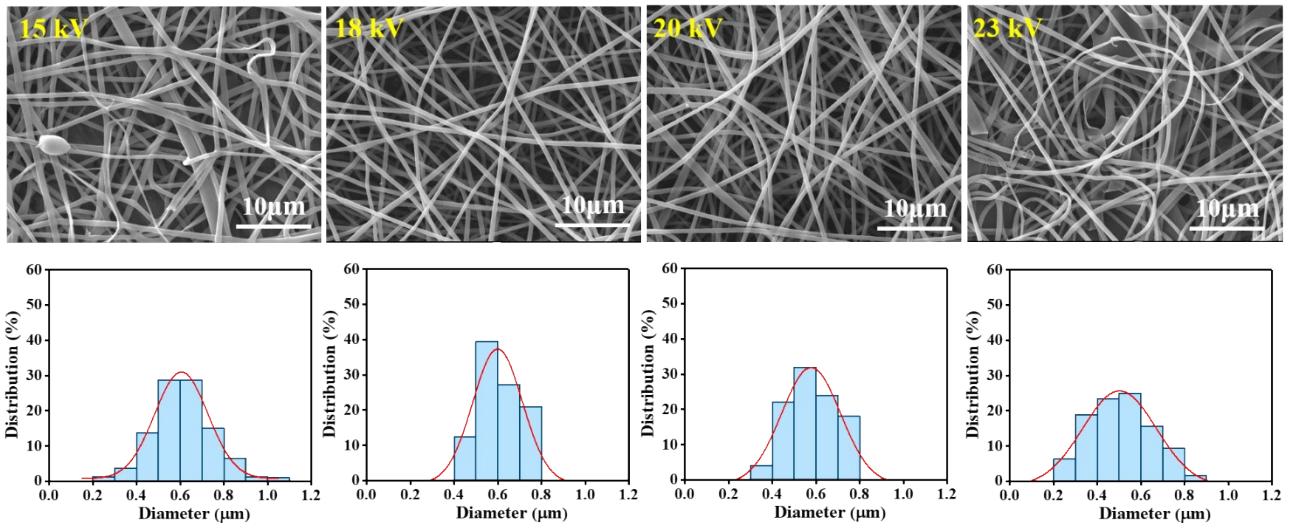


Fig. S2 SEM images of the Collagen/PVA electrospun nanofibers under different voltages (a) 15 kV (b) 18 kV (c) 20 kV (d) 23 kV. Fiber diameter distribution of different voltages (d) 15 kV (e) 18 kV (f) 20 kV (g) 23 kV.

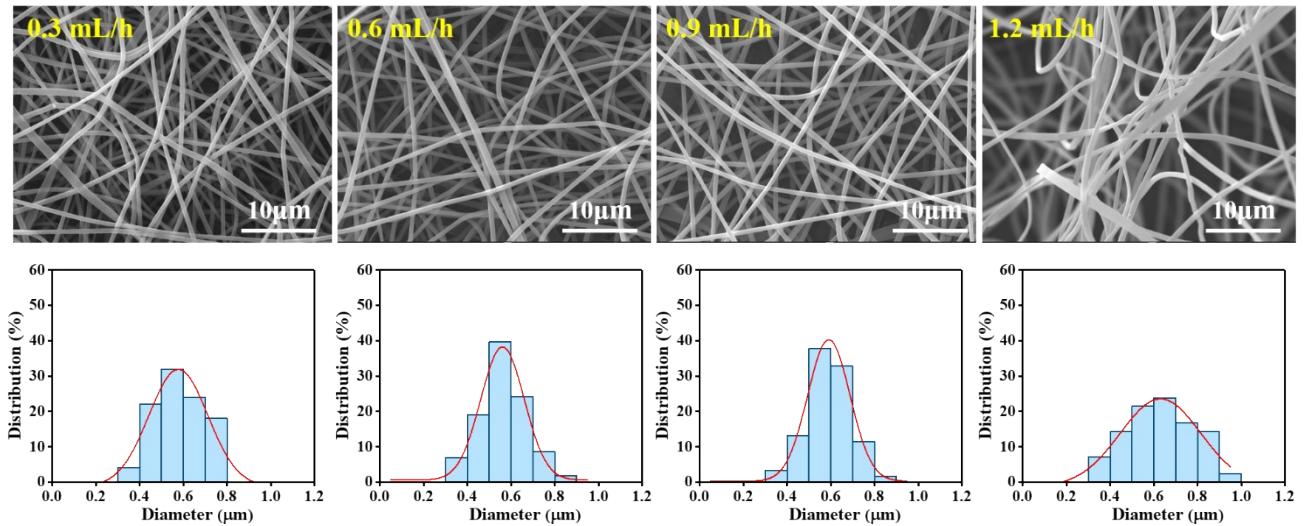


Fig. S3 SEM images of the Collagen/PVA electrospun nanofibers under different solution flow rates (a) 0.3 ml/h (b) 0.6 ml/h (c) 0.9 ml/h (d) 1.2 ml/h. Fiber diameter distribution of different solution flow rates (d) 0.3 ml/h (e) 0.6 ml/h (f) 0.9 ml/h (g) 1.2 ml/h.

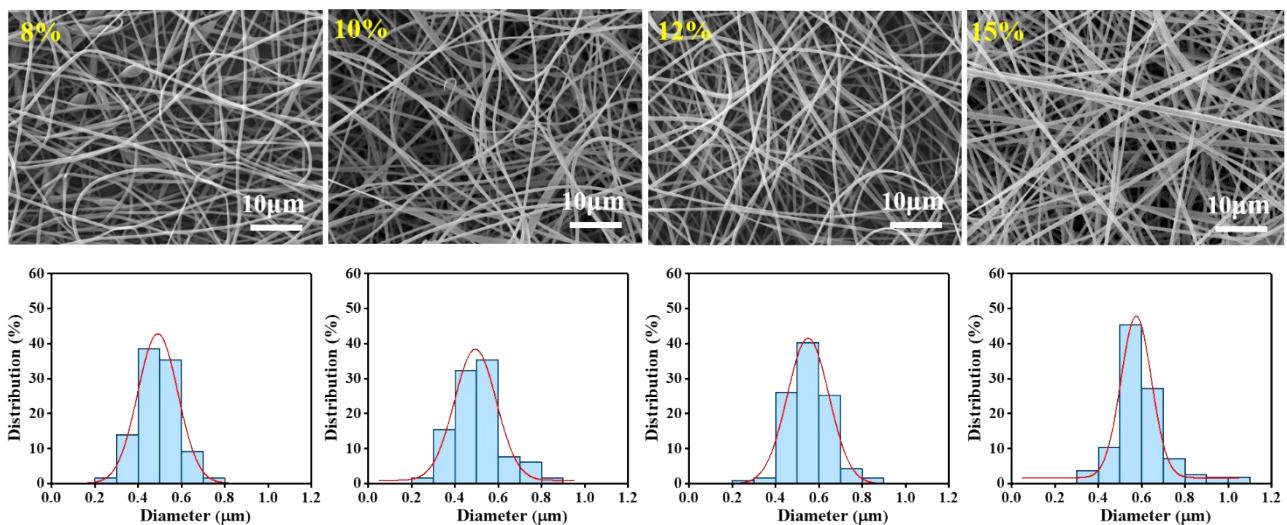


Fig. S4 SEM images of the Collagen/PVA electrospun nanofibers under different PVA solution concentration (a) 8% (b) 10% (c) 12% (d) 15%. Fiber diameter distribution of different PVA solution concentration (e) 8% (f) 10% (g) 12% (h) 15%.

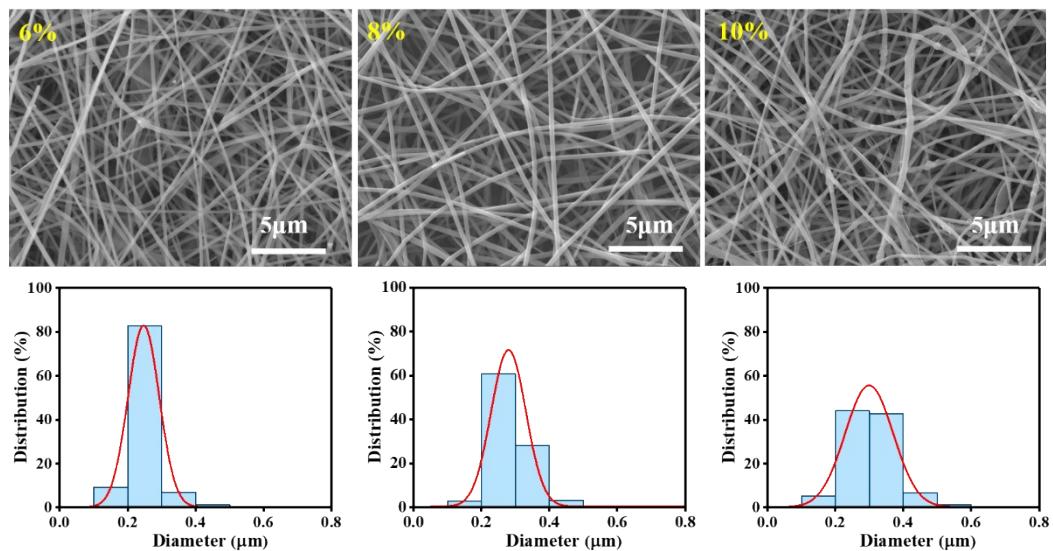


Fig. S5 SEM images of the Collagen/PVA/Ag NWs electrospun nanofibers under different Ag NWs concentration (a) 6% (b) 8% (c) 10%. Fiber diameter distribution of different Ag NWs concentration (d) 6% (e) 8% (f) 10s%.

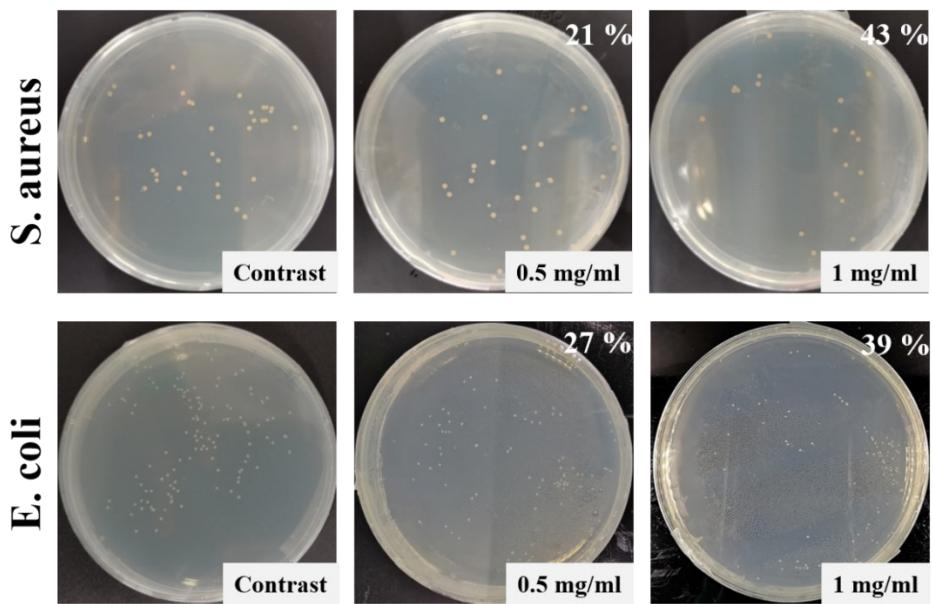


Fig. S6 Photographs of colonies of *S. aureus* and *E. coli* with different concentrations of materials.



Fig. S7 Bio-TENG as a direct power source supplying for electronics.