Supporting information

A silver nanoparticles incorporated porous renewable film as low-cost bactericidal and antifouling filter for point-of-use water disinfection

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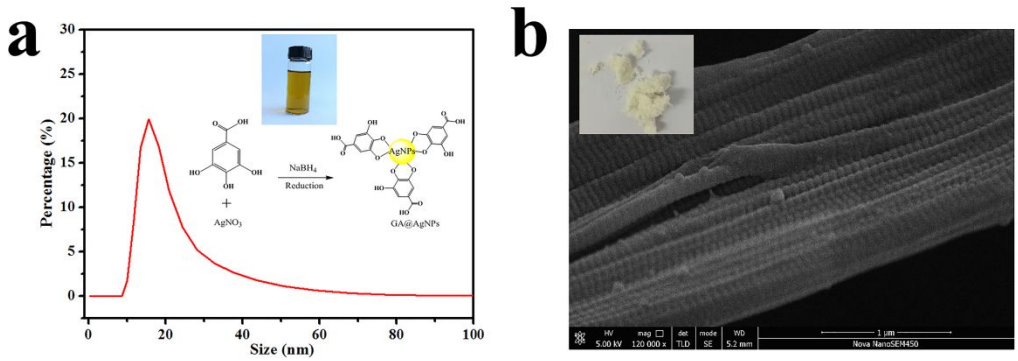

Figure S1. (a) Schematic illustration of the synthetic route of GA-stabilized AgNPs and particle size histograms of GA@AgNPs ; (b) SEM image of collagen fiber.

Table S1. Percentages of C=O, C-O, and O=C-O Bonds from XPS O1s Peak Fitting for CFs, Fe-CFs and GA@AgNPs-Fe-CFs

	Bond percentage (%)		
	C=O	C-O	O=C-O
CFs	28.74	34.78	36.48
Fe-CFs	28.20	37.54	34.26
GA@AgNPs-Fe-CFs	21.02	48.68	30.30

Table S2. The MIC and MBC values of GA@AgNPs solution against *E.coli* and *S. aureus*, respectively.

Antibiotic	Minimum Inhibitory Concentration (MIC, μg/mL)		Minimum Bactericidal Concentration (MBC, μg/mL)	
	E.coli	*S. aureus*	*E.coli*	*S. aureus*
GA@AgNPs	3.125	6.25	6.25	12.5

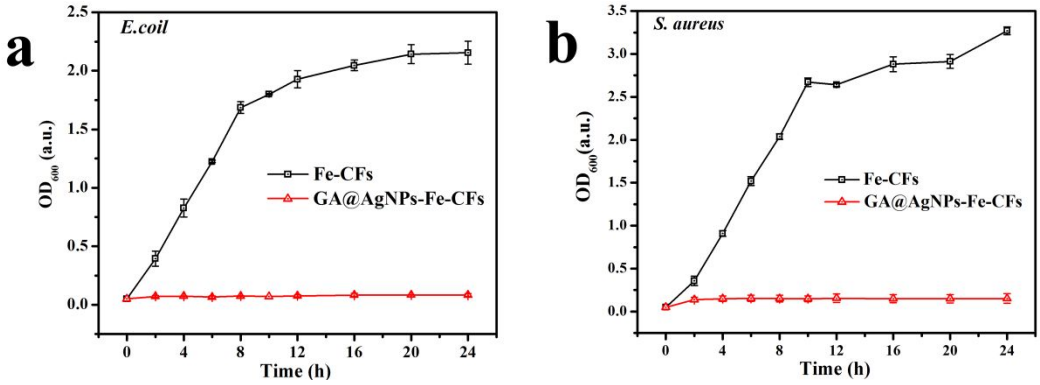

Figure S2. Growth curve of (a) *E. coli*, (b) *S. aureus*.

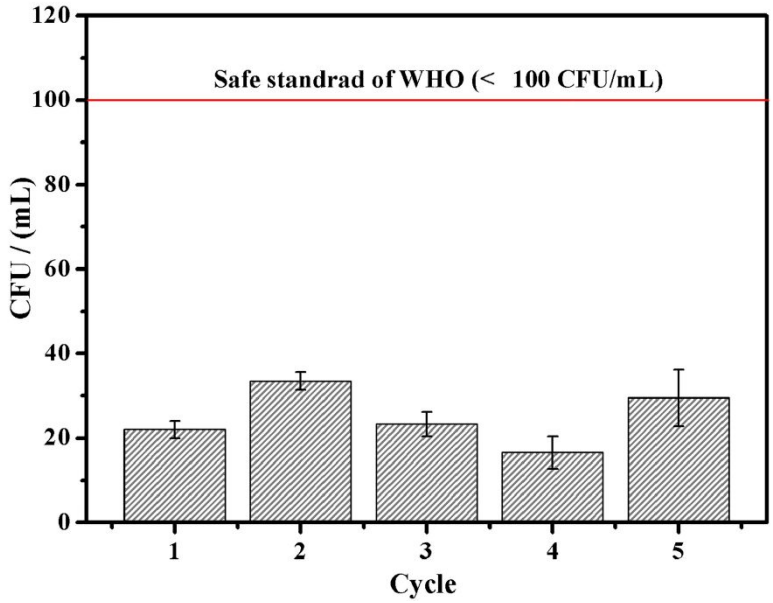

Figure S3. Bactericidal stability test of the GA@AgNPs-Fe-CFs film. Note that the experiment was done by analyzing every 200 mL of water. The total volume of the disinfected water was 1 L.