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Supplementary Information

Hierarchically aligned nano silver/chitosan-PVA hydrogel for point-of-use water disinfection: Contact-active mechanism revealed

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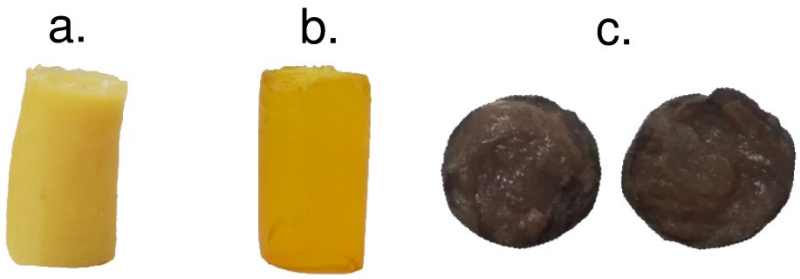

Figure S1. The photographic image of pristine chitosan-PVA hydrogel (a) before (b) after freeze-thaw treatments for generating porous morphology and (c) AgNPs loaded chitosan-PVA hydrogel

Table S1. The compartive values of zone of inhibition (ZoI) appeared in disc diffusion tests of pristine and Ag-loaded chitosan-PVA hydrogel against four reprentative bacterial strains

Sample	**Zone of Inhibition (ZoI, mm)**			
	E. coli	*E. aerogenes*	*S. aureus*	*S. epidermidis*
CS-PVA	Nil	Nil	Nil	Nil
Ag/CS-PVA	13	17	16	21

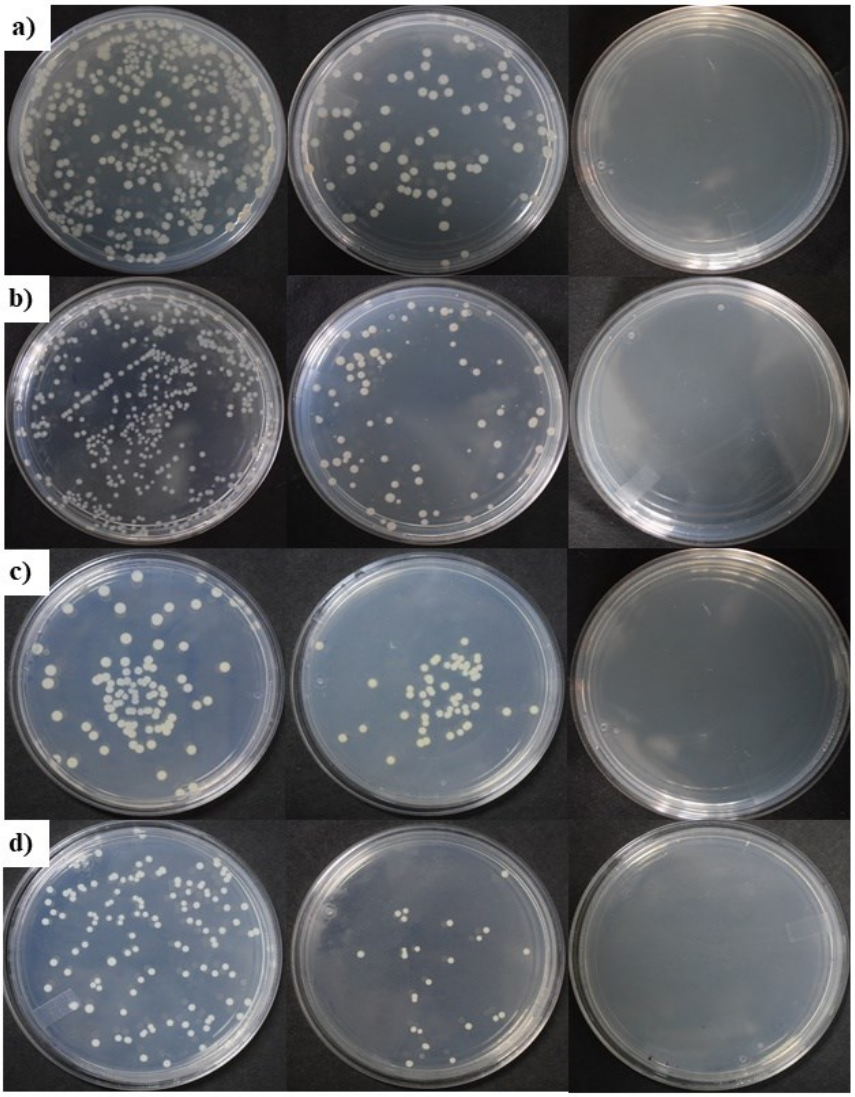

Figure S2. A comparative rate of reduction in bacterial viability after treating with Ag/CS-PVA hydrogel disc (10 cm diameter) in a simulated potable water suspension (100 mL) having an initial bacterial concentration of 10^3 CFU·mL^{-1}. The disinfection studies were performed against (a) *E. coli* (b) *E. aerogenes* (c) *S. aureus* (d) *S. epidermidis* plated on nutrient agar at time intervals of 0 , 1, and 3 hours (left to right) under similar conditions.

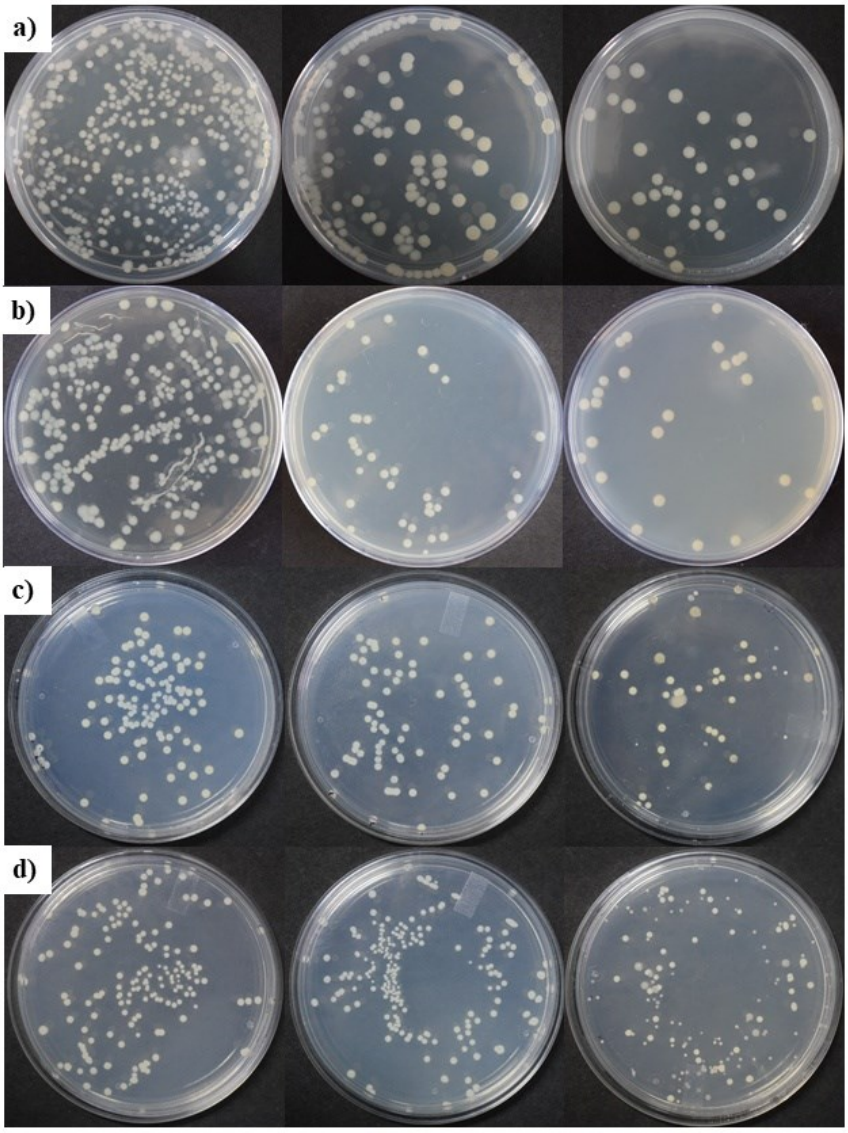

Figure S3. A comparative rate of reduction in bacterial viability was evaluated after treating with pure chitosan-PVA hydrogel disc (10 cm diameter) in a simulated potable water suspension (100 mL) having an initial bacterial concentration of 10^3 CFU mL^{-1}. The disinfection studies were performed against (a) *E. coli* (b) *E. aerogenes* (c) *S. aureus* (d) *S. epidermidis* plated on nutrient agar at time intervals of 0 , 1, and 4 hours (left to right) under similar conditions.

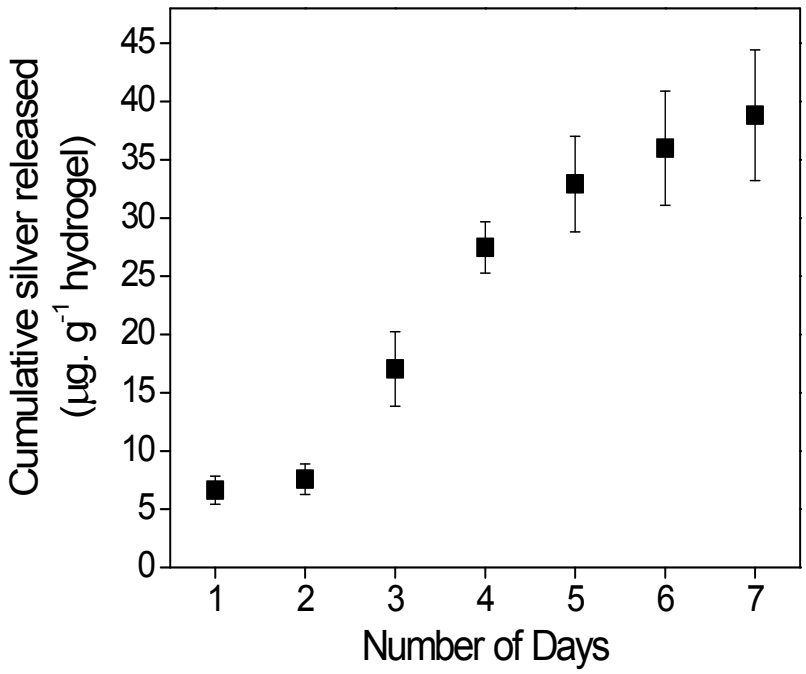

Figure S4. The amount of silver released from Ag/CS-PVA hydrogel after immersing in deionized water over a period of seven days