

SUPPLEMENTARY INFORMATION

Self-sterilizing ormosils surfaces based on photo-synthesized silver nanoparticles

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Table T1. Sol formulation compositions used for preparation of POs hybrid films

Sample	TEOS (mmol)	BUTS (mmol)	HPW (mmol)	H ₂ O (mmol)	GLYMO (mmol)	Volume added of 0.1 % SiO ₂ @TiO ₂ suspension (μL)
POs	9.0	1.5	0.75	45	6.8	-
POs-CS20	9.0	1.5	0.75	45	6.8	20
POs-CS100	9.0	1.5	0.75	45	6.8	100
POs-CS1000	9.0	1.5	0.75	45	6.8	1000

Table T2. Maximum absorbance wavelength (λ_{\max}) and peak area values of surface plasmon resonance absorption in the UV-vis electronic absorption spectra of Ag⁺-loaded POs films after 10 minutes of UV irradiation

Sample	λ_{\max}	Peak area (between 350-600 nm/ a.u.)
POs-Ag	400 nm	113
POs-CS20-Ag	406 nm	149
POs-CS100	410 nm	183
POs-CS1000	411 nm	165

Table T3. R_q values measured on 10μm×10μm images of the samples with and without silver

Sample	R _q (nm)	
	Without Ag	Ag loaded and irradiated
POrs	3.5	1.8
POrs-CS20	11	5.5
POrs-Cs100	12	8.3
POrs-Cs1000	11	2.5

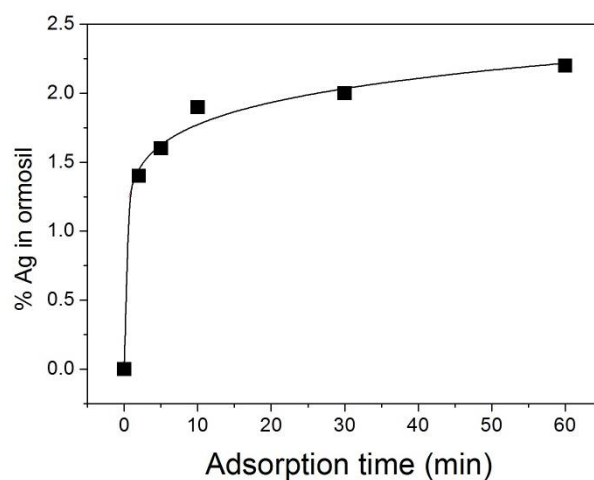


Figure S1. Representative ion exchange sorption curves of Ag⁺ loading in POrs-CS100. All CS samples display a similar curve. The concentration of Ag⁺ in the films was measured by X-ray Fluorescence analysis.

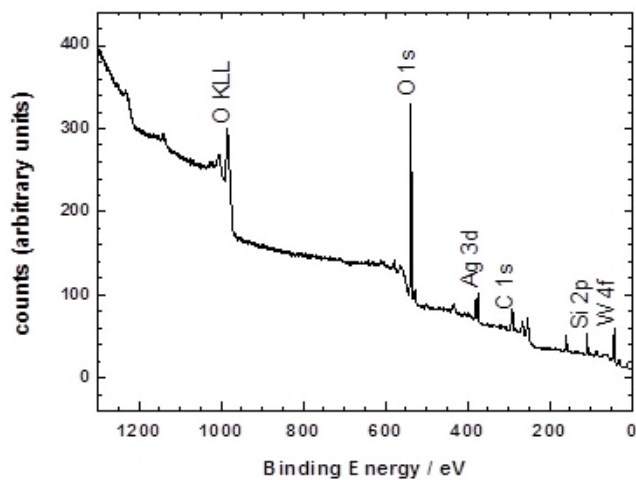


Figure S2. Survey scan XPS-spectra for silver NPs loaded ormosil.

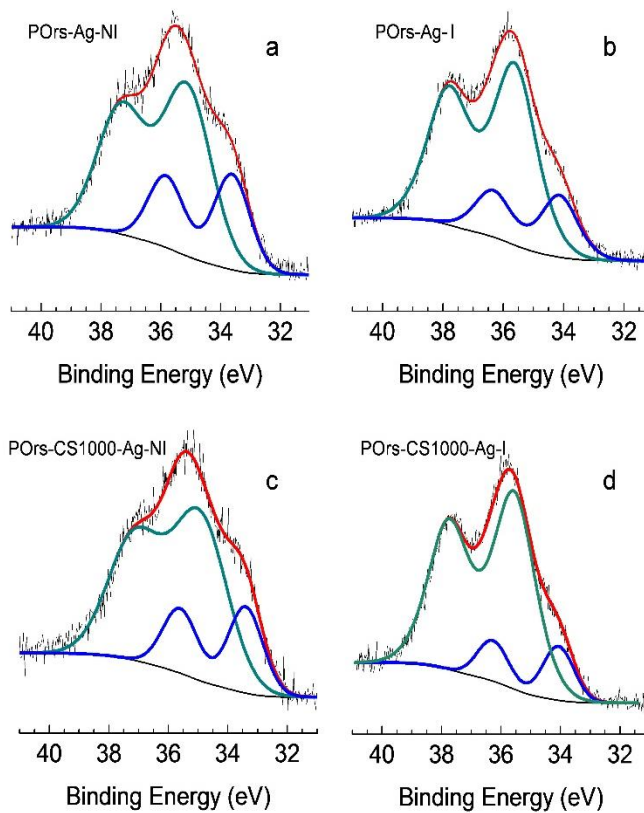


Figure S3. W4f XPS spectra for the unloaded POrs (a, b) and the POrs-CS1000 (c, d) doped with silver, before (NI) and after irradiation (I).

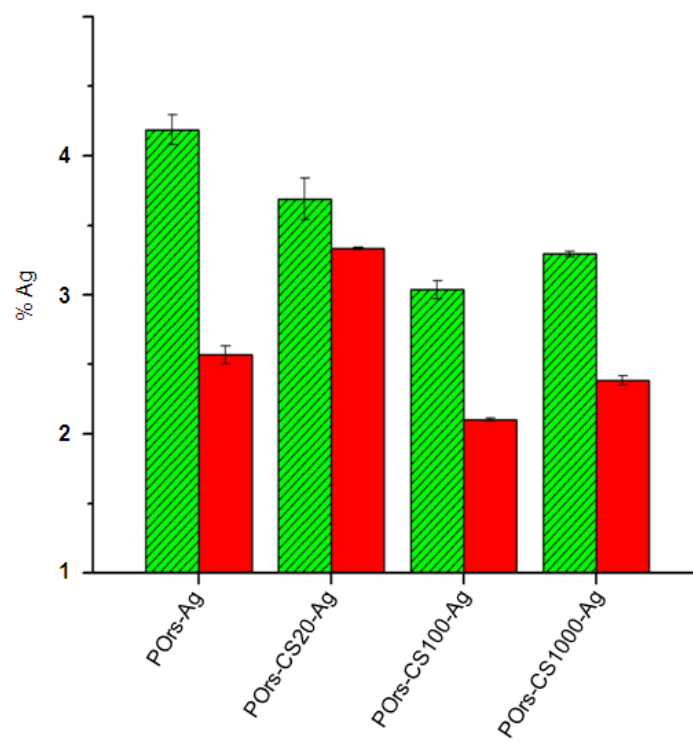


Figure S4. Ag concentration (% w/w) in POs-Ag and POs-CS-Ag films before (green bars) and after (red bars) immersion in sterile bacterial culture medium.