

Electronic Supplementary Information (ESI):

Flexible and monolithic zinc oxide bionanocomposite foams by a bacterial cellulose mediated approach for antibacterial applications

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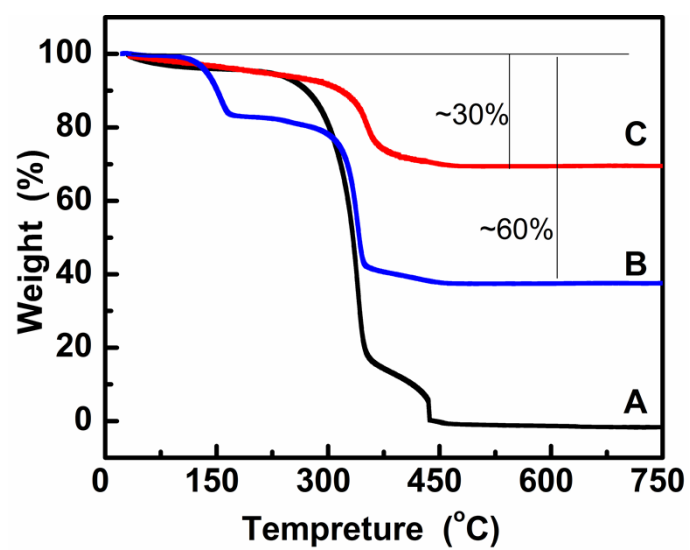


Figure S1. Thermal gravimetric analysis: (A) BC aerogel.
(B) ZnO/BC foam with 40 wt% ZnO obtained after 3 h of autoclaving at 85 °C.
(C) The ZnO/BC foam with 70 wt% ZnO after 6 h of autoclaving at 85 °C.

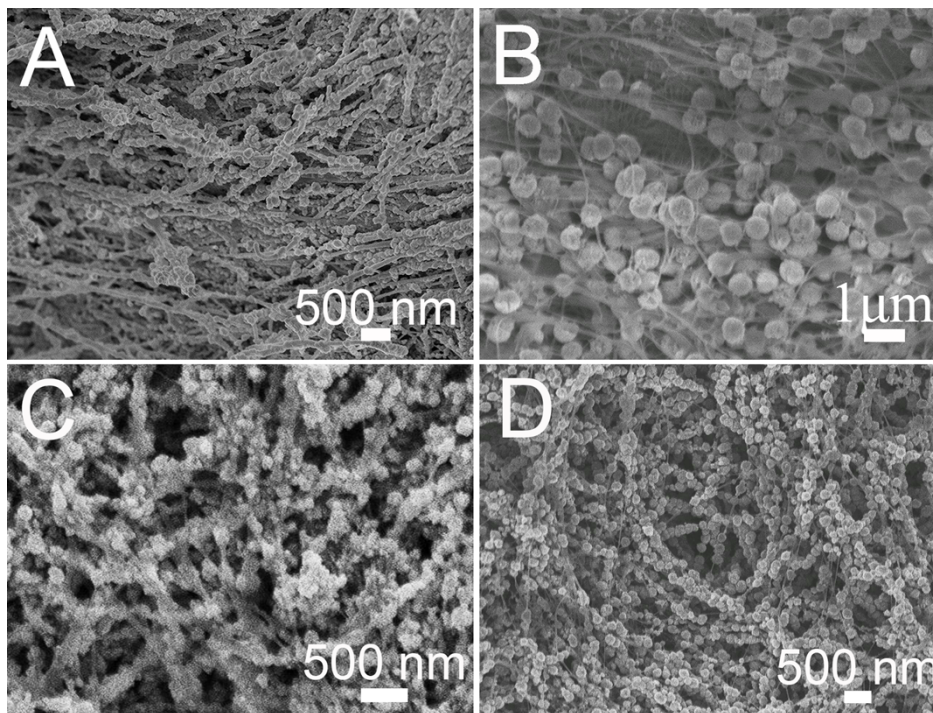


Figure S2. (A) A ZnO/BC foam obtained from solvothermal crystallization using the residual ethanol/hexamine of Step 2. (B) A ZnO/BC foam obtained by one-pot solvothermal crystallization according to the specified stoichiometry. (C) A ZnO/BC foam obtained using *iso*-propanol in place of ethanol. (D) A ZnO/BC foam obtained by refluxing in ethanol and crystallization in water/hexamine under autogenous pressure conditions.

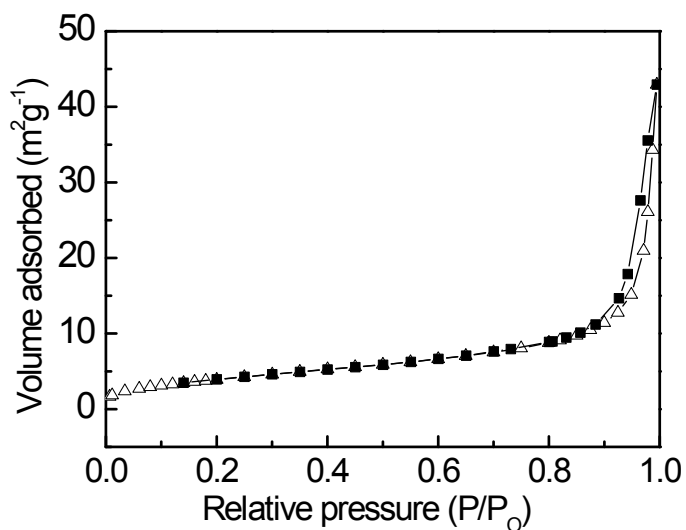


Figure S3. Nitrogen adsorption-desorption isotherm of the ZnO powder.

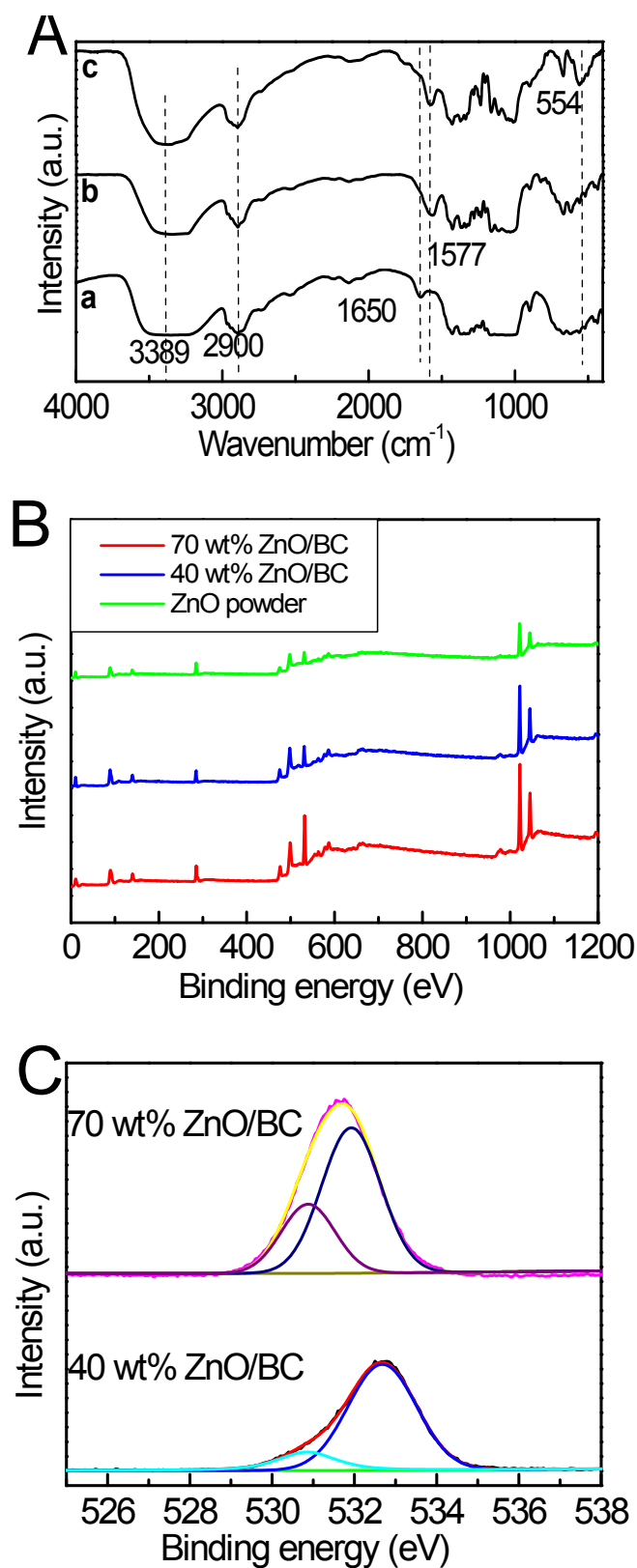


Figure S4. (A) FTIR spectra: (a) the BC aerogel; (b) the intermediate product of Step 1; (c) the ZnO/BC foam showing the increasing intensities of the peaks at 554 cm^{-1} and 1577 cm^{-1} , and weakening absorption at 1650 cm^{-1} . (B) XPS survey spectra of the ZnO powder, 40 wt% ZnO/BC foam and 70 wt% ZnO/BC foam. (C) Deconvoluted XPS peaks of O 1s of the 40 wt% ZnO/BC foam and 70 wt% ZnO/BC foam.