

Electronic Supplementary Information

**Antibacterial activity of hierarchical nanofibrous titania-carbon composite material
deposited with silver nanoparticles**

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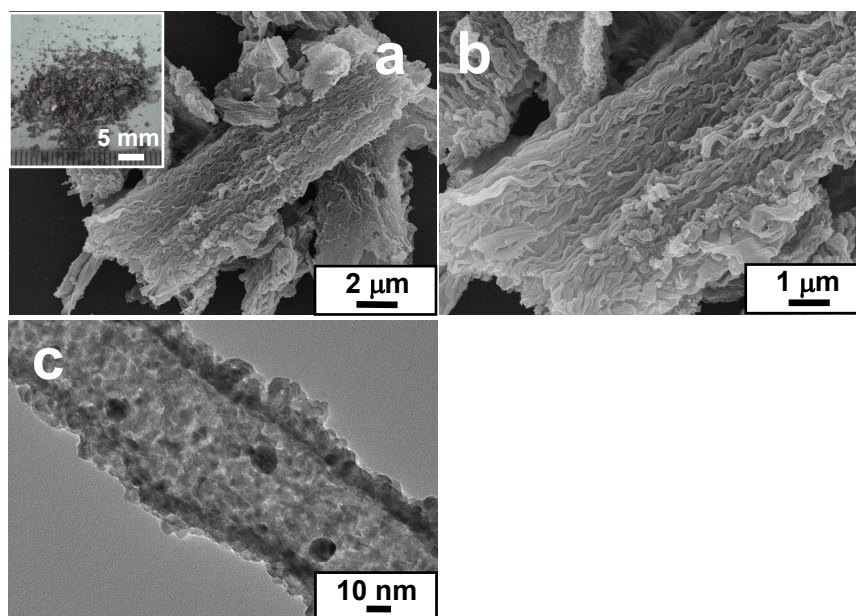


Fig. S1 Electron micrographs of the Ag-NP/titania material. (a) and (b) SEM images of the Ag-NP/titania material, inset of (a) is a photograph of the material; (c) TEM image of one titania nanotube deposited with silver nanoparticles isolated from the nanotube assemblies.

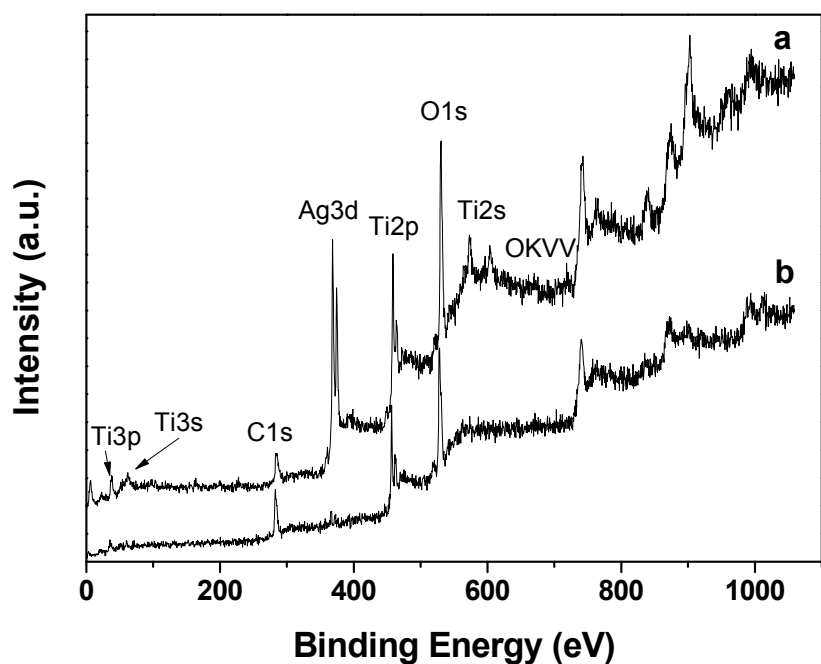


Fig. S2 XPS spectra of the Ag-NP/titania/carbon composite material (a) and the Ag-NP/titania material (b). Carbon was detected in (b) because carbon glue was used to adhere the sample to the specimen holder.

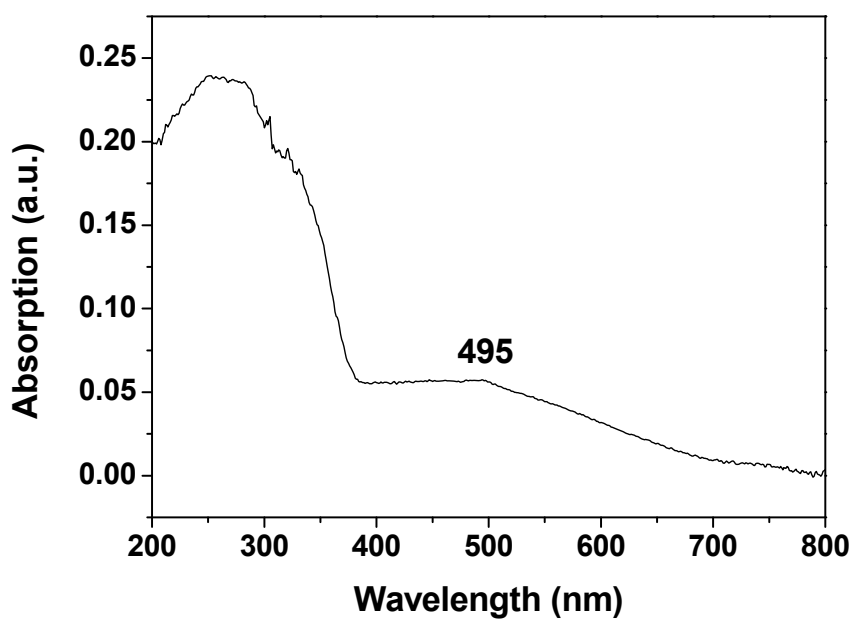


Fig. S3 Diffuse reflection UV-vis absorption spectrum of the Ag-NP/titania material.

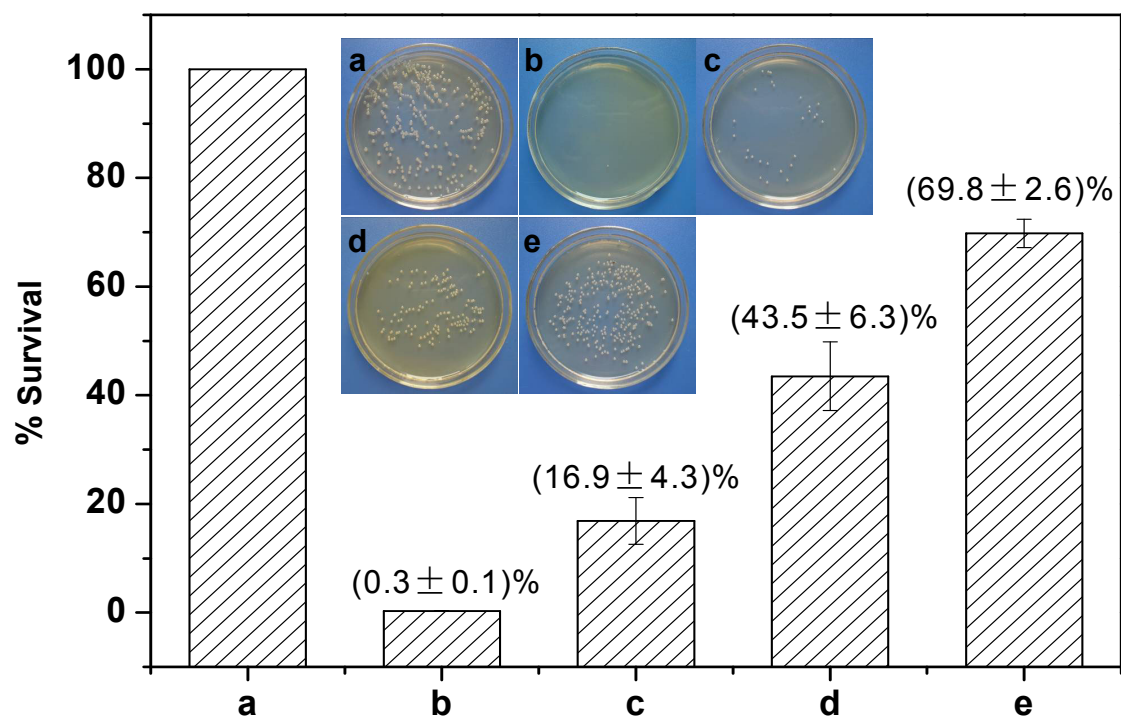


Fig. S4 Graph of % survival of *E. coli* after treatment with control (a); the Ag-NP/titania/carbon composite material (b); the Ag-NP/titania material (c); titania coated carbon nanofibrous material without silver deposition (d); and titania nanotubular material without silver deposition (e). The number of bacterial colonies on the untreated Petri dish was defined as 100%. Insets are of the corresponding photographs of *E. Coli* colonies on an agar plate after incubation at 37 °C.

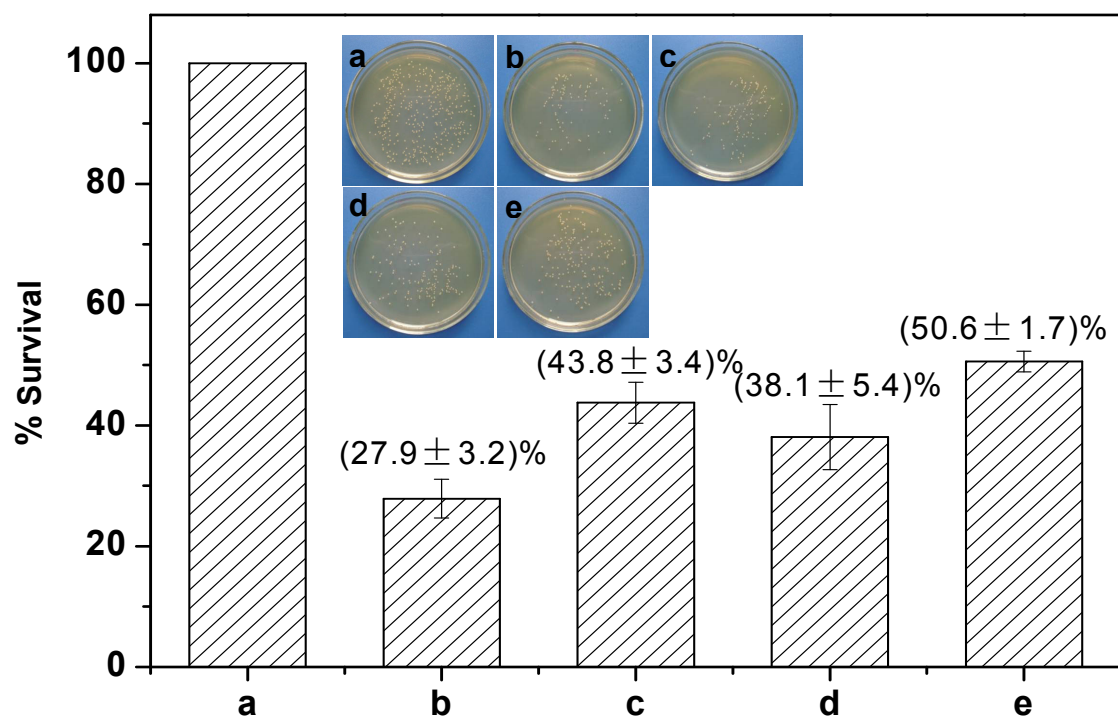


Fig. S5 Graph of % survival of *S. aureus* after treatment with control (a); the Ag-NP/titania/carbon composite material (b); the Ag-NP/titania material (c); titania coated carbon nanofibrous material without silver deposition (d); and titania nanotubular material without silver deposition (e). The number of bacterial colonies on the untreated Petri dish was defined as 100%. Insets are of the corresponding photographs of *S. aureus* colonies on an agar plate after incubation at 37 °C.