

Supporting Information

Facile synthesis of a carbon dots and silver nanoparticles(CDs/AgNPs) composite for antibacterial application

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The morphological of bacteria

The bacterial suspensions were incubated with CDs/AgNPs composite for 12 h at 37°C. Afterwards, the bacterial solution was centrifuged at 8000 rpm for 5 min and washed by PBS solution for three times. And then fixed by 2.5% glutaraldehyde for 4 h at 4°C in the refrigerator. After that, the bacterial solution was centrifuged and washed with PBS for three times. Followed by gradient dehydrating in a series of ethanol solutions (60%, 70%, 80%, 90% and 100%) for 10min in each step. Finally, the bacterial suspension was dropped onto the silicon wafer and coated with ultrathin gold by sputtering. Then the morphological of bacteria was observed by scanning electron microscope.

Figure

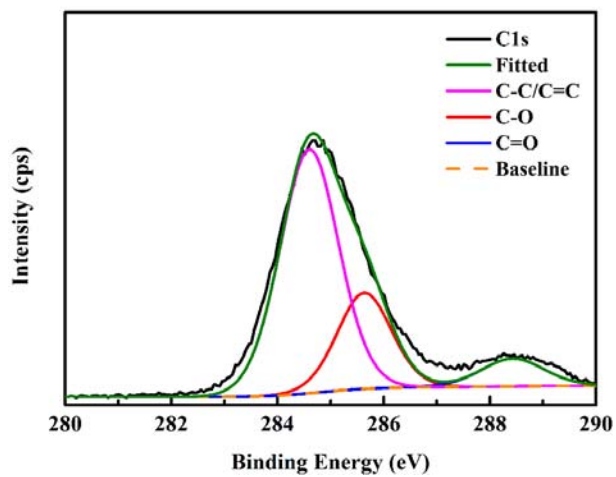


Figure S1 The C 1s spectrum of CDs.

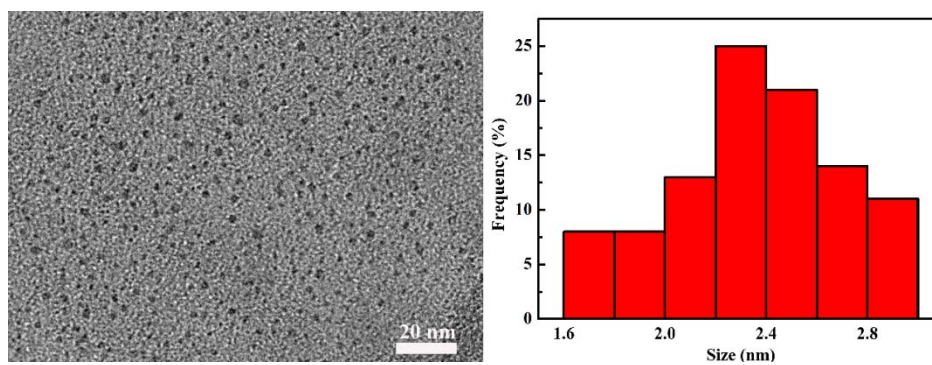


Figure S2. TEM image and particle size distribution histogram of CDs.

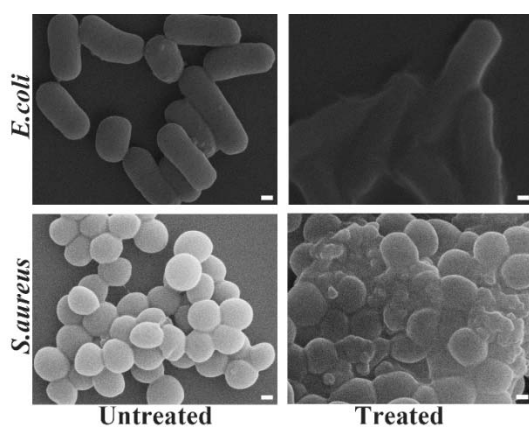


Figure S3. SEM image of *E. coli* and *S. aureus* bacteria. Untreated (left) and Treated with CDs/AgNPs composite (right). (Scale bar: 200 nm)

Table S1 The inhibition zone diameters of some reported antibacterial nanomaterials.

Sample	Inhibition zone (mm)		Ref.
	<i>E. coli</i>	<i>S. aureus</i>	
AgNPs	10.5	9.5	1
AgNPs	12	-	2
GO/AgNPs	-	9-21	3
AgNPs	13	18	4
AgNPs	12.5	11.5	5

References

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