

SUPPORTING INFORMATION

Prismatic Silver Nanoparticles Decorated on Graphene Oxide Sheets for Superior Antibacterial Activity

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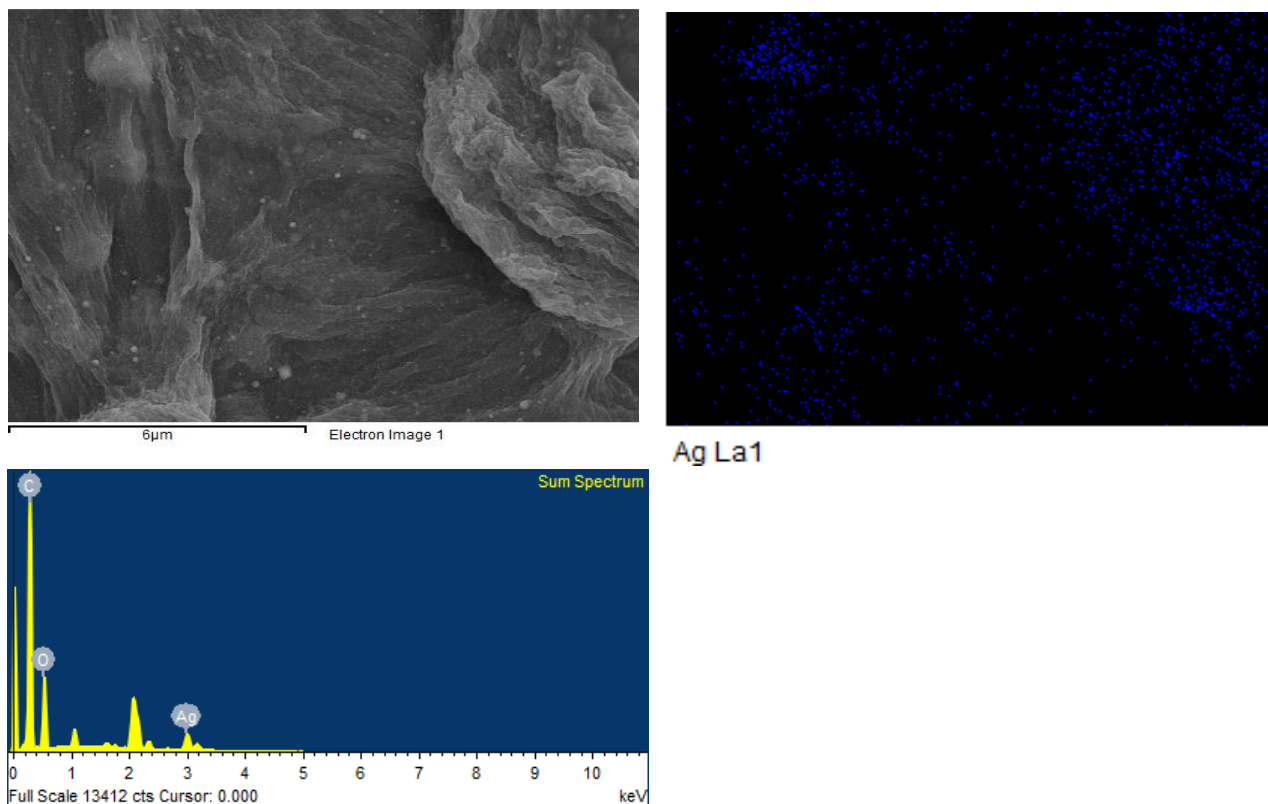


Figure S1. FESEM image and Ag mapping in GO-Ag NPs and elemental composition therein.

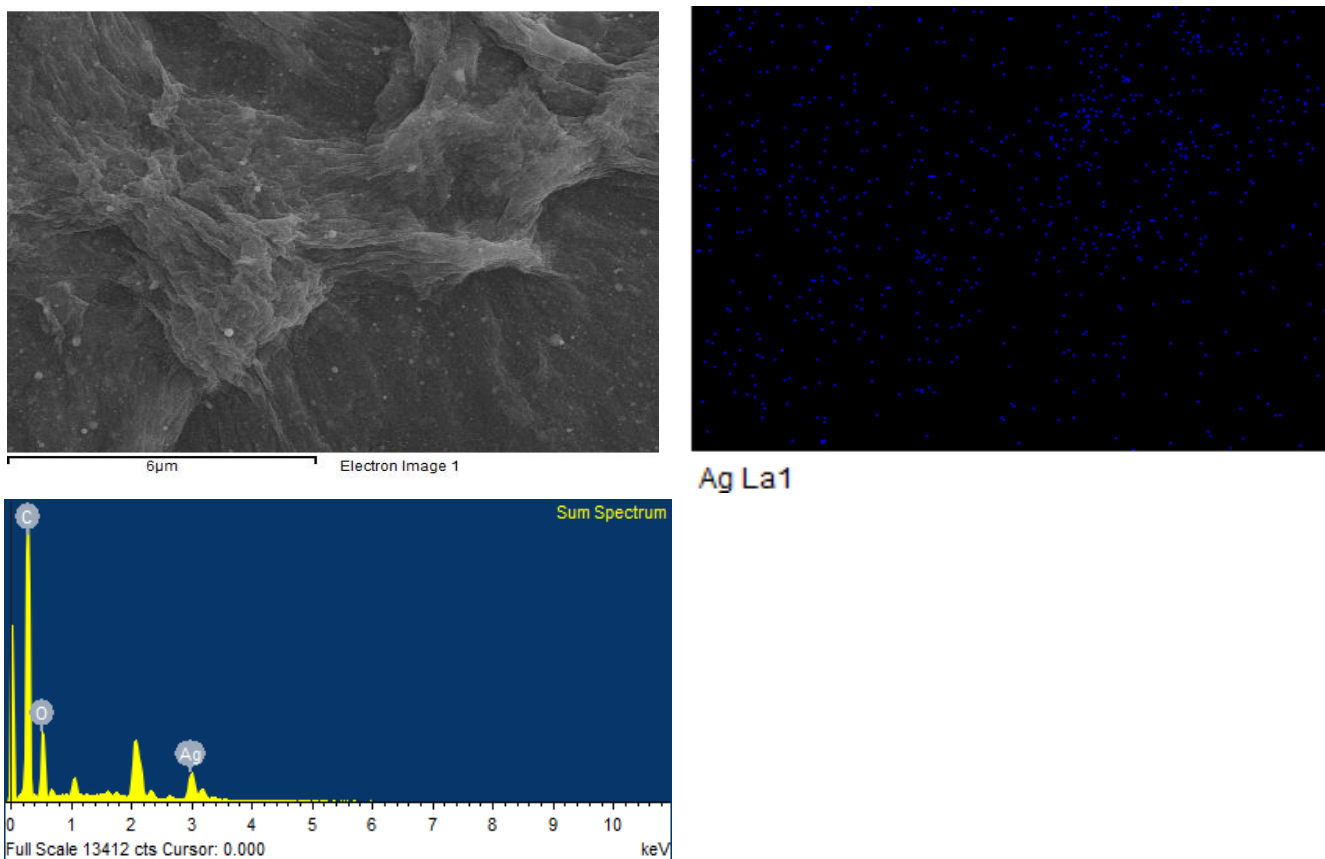


Figure S2. FESEM image and Ag mapping in GO-Ag NPrsms and elemental composition therein.

Table S1. Ag contents (% w/w) in GO-Ag NPs and GO-Ag NPrsms by TGA, EDS and XPS analyses.

Sample	TGA	EDS	XPS
Ag NPs	29.6	29.1	25.9
Ag NPrsms	23.3	23.7	22.8

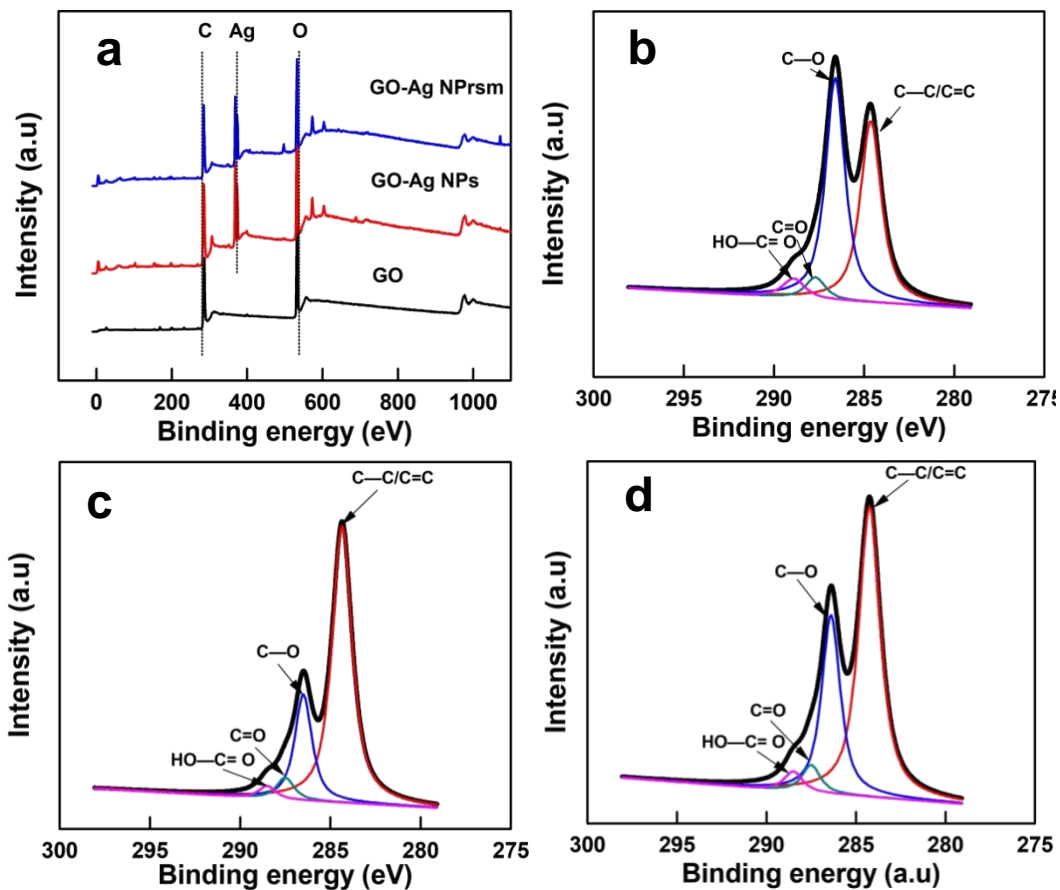


Figure S3. XPS full scans of GO, GO-Ag NPs and GO-Ag NPrsms (a); Detailed C1s scans and **deconvoluted peaks** of GO (b), GO-Ag NPs (c), and GO-Ag NPrsms (d).

Table S2. Carbon functional group contribution in GO, GO-Ag NPs, and GO-Ag NPrsms, determined from XPS C1s peak deconvolution (Figure S3).

C bonding	C=C	C-O	C=O	O-C-O
GO	42.3	48.1	4.8	4.8
GO-Ag NPs	69.6	23.0	4.8	2.6
GO-Ag NPrsms	60.3	31.5	4.7	3.5

Table S3. Inhibition zone diameters on agar plates after *E. coli* and *S. aureus* exposure with nanomaterial samples.

Bacteria	Concentration	GO	Ag NPs	Ag NPrsms	GO-Ag NPs	GO-Ag NPrsms
<i>E. coli</i>	25 µg mL ⁻¹	_a	_a	_a	11.0	14.0
	50 µg mL ⁻¹	_a	_a	11.0	13.0	13.5
	100 µg mL ⁻¹	10.0	10.5	12	20	20.5
<i>S. aureus</i>	25 µg mL ⁻¹	10.0	11.0	11.0	15.0	18.0
	50 µg mL ⁻¹	11.0	12.0	13.0	22.0	23.0
	100 µg mL ⁻¹	12.0	17.5	19.5	31.0	33.0

^a _a No inhibition zone was observed.

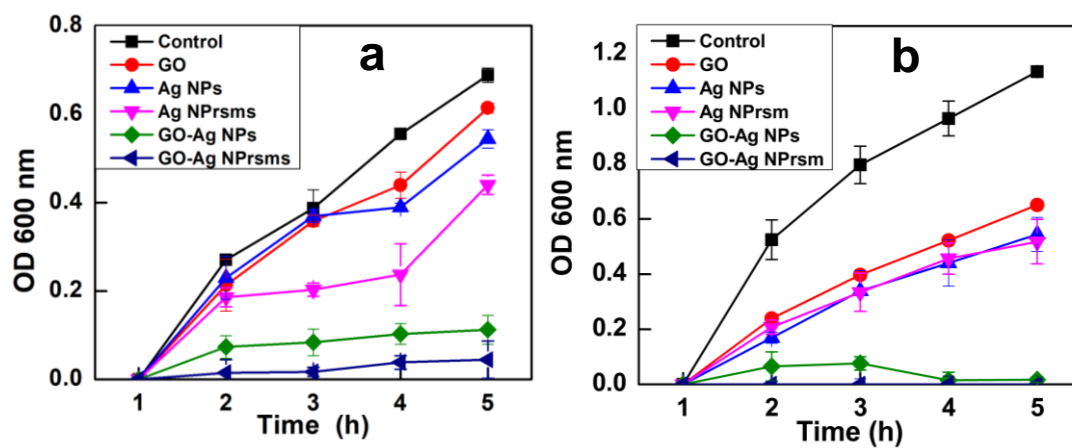


Figure S4. Time-dependent OD values of *E. coli* (a) and *S. aureus* (b) treated with nanomaterials at concentration of 100 $\mu\text{g mL}^{-1}$.