Supplementary Materials

Graphene Oxide Composite for Selective Recognition, Capturing, Photothermal Killing of Bacteria Over Mammalian Cells

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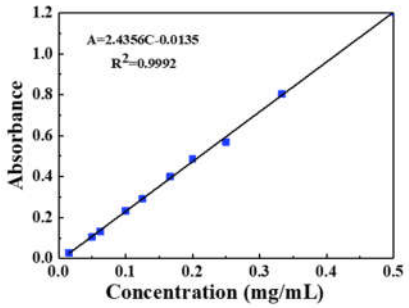

Figure S1. Standard curve of GO-PEG-NH_2 in PBS.

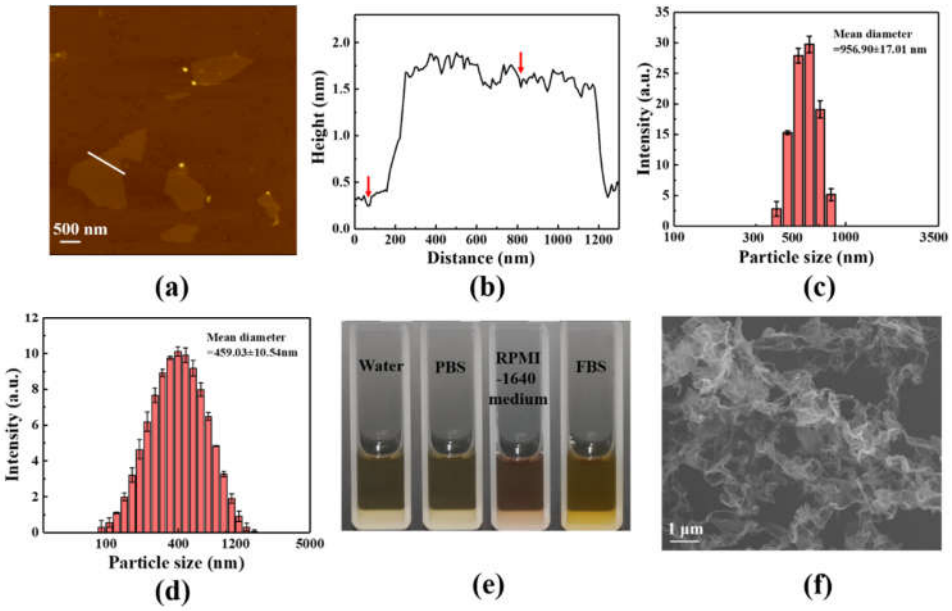

Figure S2. (**a**) AFM image of GO deposited on mica substrate. (**b**) The height profile of the AFM image. (**c**) Hydrodynamic diameter of GO measured by DLS. (**d**) Hydrodynamic diameter of GO-PEG-NH_2 measured by DLS. (**e**) Photograph of GO-PEG-NH_2 dispersed in different culture media for 24 h. (**f**) SEM image of GO-PEG-NH_2.

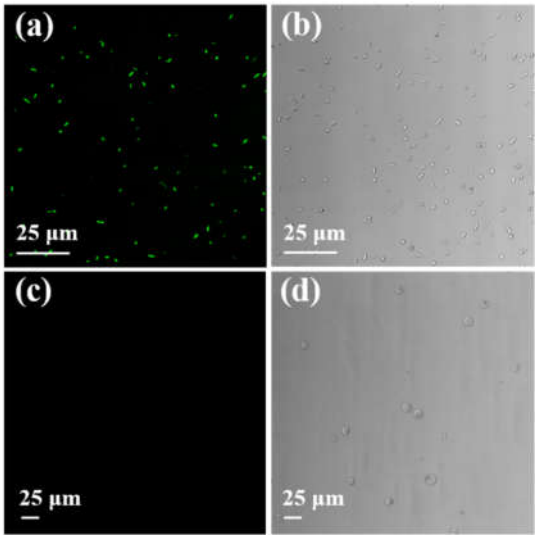

Figure S3. CLSM images of (**a, b**) *E. coli*, (**c, d**) CCRF-CEM.

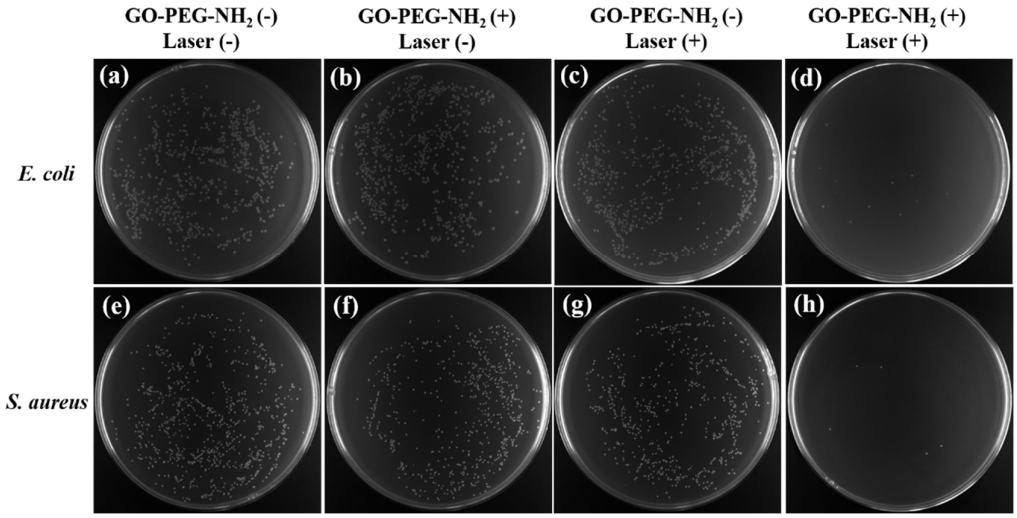

Figure S4. Gel imaging of *E. coli* and *S. aureus* colonies. (**a, e**) Plate photographs of the *E. coli* and *S. aureus* LB agar plate without GO-PEG-NH_2 under dark. (**b, f**) Plate photographs for *E. coli* and *S. aureus* LB agar plate supplemented with GO-PEG-NH_2 (50 μg/mL) under dark. (**c, g**) Plate photographs for *E. coli* and *S. aureus* LB agar plate upon 808 nm laser irradiation (1.5 W/cm^2 for 5 min). (**d, h**) Plate photographs for *E. coli* and *S. aureus* LB agar plate supplemented with GO-PEG-NH_2 upon 808 nm laser irradiation.

Table S1. Evaluation of *E. coli* colonies by plate counting method (The power density of the 808 nm laser is 1.5 W/cm^2, the irradiation time is 5 min, and the concentration of GO-PEG-NH_2 is 50 μg/mL).

Experimental Condition	Number of Colonies
Control/Non-Laser	734 ± 1
Control/Laser	676 ± 23
GO-PEG-NH_2/Non-Laser	611 ± 15
GO-PEG-NH_2/Laser	9 ± 7

Table S2. Evaluation of *S. aureus* colonies by plate counting method (The power density of the 808 nm laser is 1.5 W/cm^2, the irradiation time is 5 min, and the concentration of GO-PEG-NH_2 is 50 μg/mL).

Experimental Condition	Number of Colonies
Control/Non-Laser	776 ± 31
Control/Laser	767 ± 34
GO-PEG-NH_2/Non-Laser	714 ± 22
GO-PEG-NH_2/Laser	6 ± 5

Table S3. Evaluation of *S. aureus* and *E. coli* colonies by plate counting method (The power density of the 808 nm laser is 1.5 W/cm^2, and the irradiation time is 5 min).

Concentration (μg/mL)	Number of Colonies (*E. coli*)	Number of Colonies (*S. aureus*)
Control	734 ± 1	776 ± 31
10	258 ± 46	279 ± 47
30	69 ± 30	66 ± 35
50	9 ± 7	6 ± 5
70	3 ± 2	1 ± 1