

Supporting Information

Daptomycin and AgNPs co-loaded rGO nanocomposites for specific treatment of Gram-positive bacterial infection *in vitro* and *in vivo*

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Table S1. The semi-diameters of inhibiting zone were caused by treatment of different nanomaterial.

Pathogenic bacterial	The semi-diameter of transparent circle (cm)					
	rGO@Ag@Dap	rGO@Ag+Dap	rGO@Ag	Daptomycin	rGO	PBS
<i>E.coli</i>	2.35±0.16	2.38±0.18	2.37±0.08	0	0	0
<i>P.aeruginosa</i>	2.40±0.12	2.39±0.08	2.38±0.09	0	0	0
<i>B.subtilis</i>	4.16±0.12	3.66±0.13	2.00±0.06	1.25±0.07	0	0
<i>S.aureus</i>	4.28±0.13	3.54±0.17	2.10±0.22	1.65±0.27	0	0

Table S2. Minimum inhibitory concentrations (MICs) of each sample determined against *B.subtilis* and *S. aureus*.

	<i>B.subtilis</i>	<i>S.aureus</i>
Daptomycin	25.00	20.00

rGO@Ag	16.29	12.52
rGO@Ag+Dap	12.45	11.78
rGO@Ag@Dap	10.8	9.8

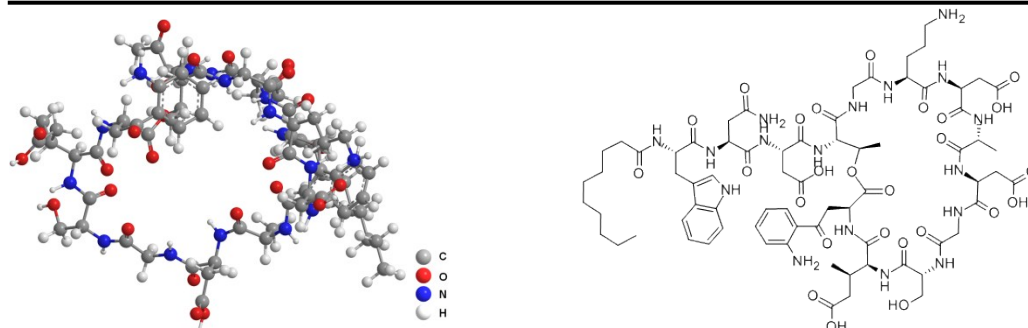


Fig. S1 The 3D (left) and plan view (right) of chemical structure of Daptomycin.

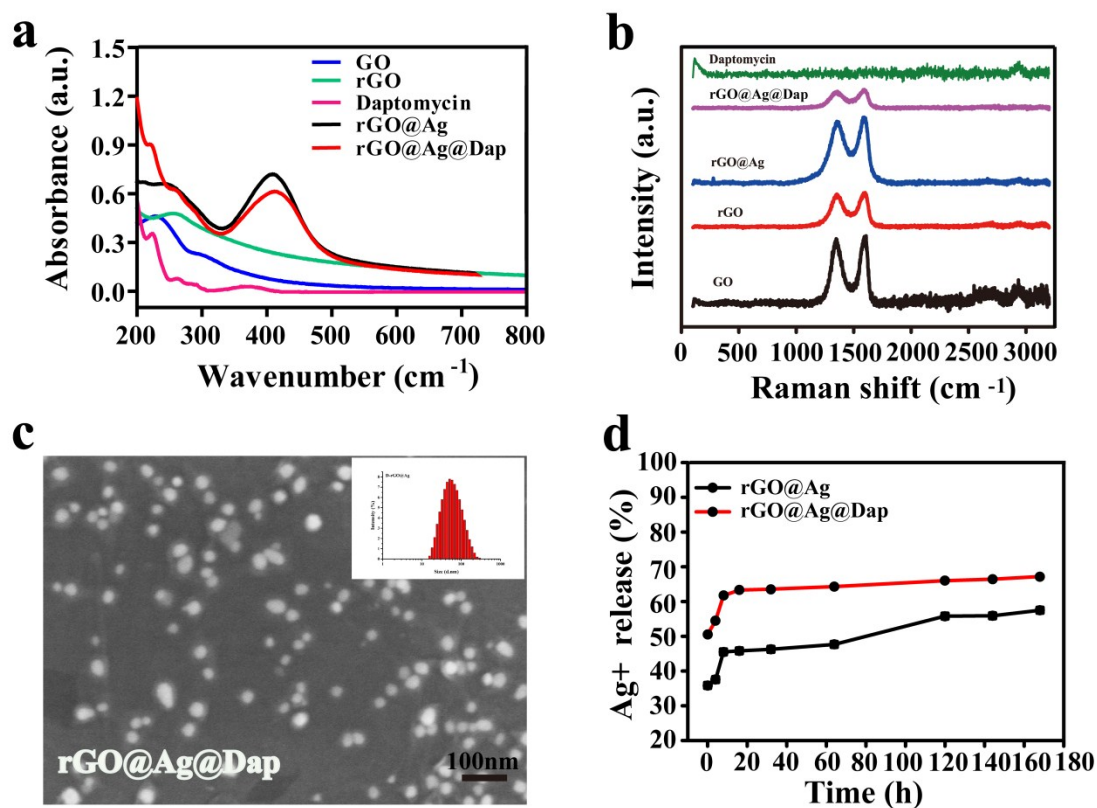


Fig.S2 (a) UV-Vis absorption spectra of GO, rGO, Daptomycin, rGO@Ag and rGO@Ag@Dap in water. (b) Raman spectra of GO, rGO, Daptomycin, rGO@Ag, rGO@Ag@Dap in water solution. (c) SEM image of rGO@Ag@Dap nanocomposites (The insert figure indicated the size of nanoparticles). (d) Cumulative silver ion release profiles for 12h from rGO@Ag and rGO@Ag@Dap nanocomposites.

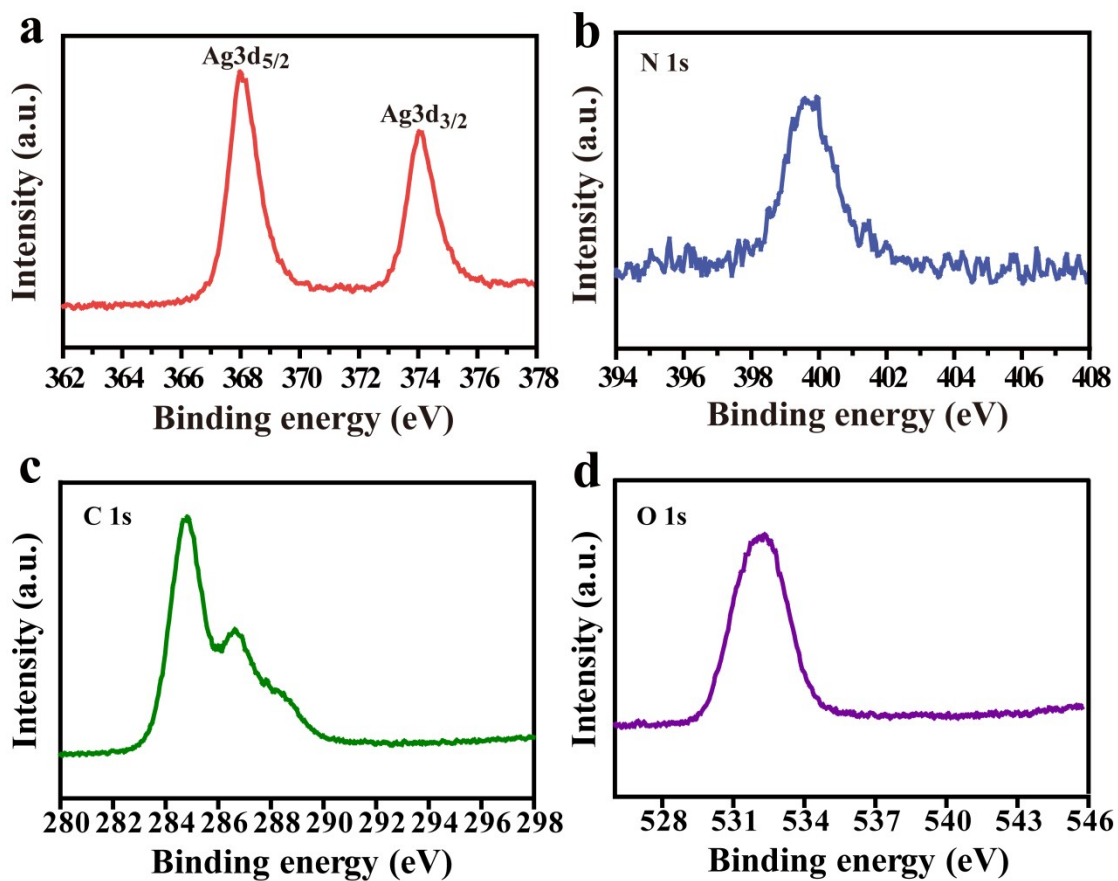


Fig.S3 XPS spectra of high-resolution (a) Ag3d, (b) N1s, (c) C 1s and (d) O1s of rGO@Ag@Dap nanocomposite.

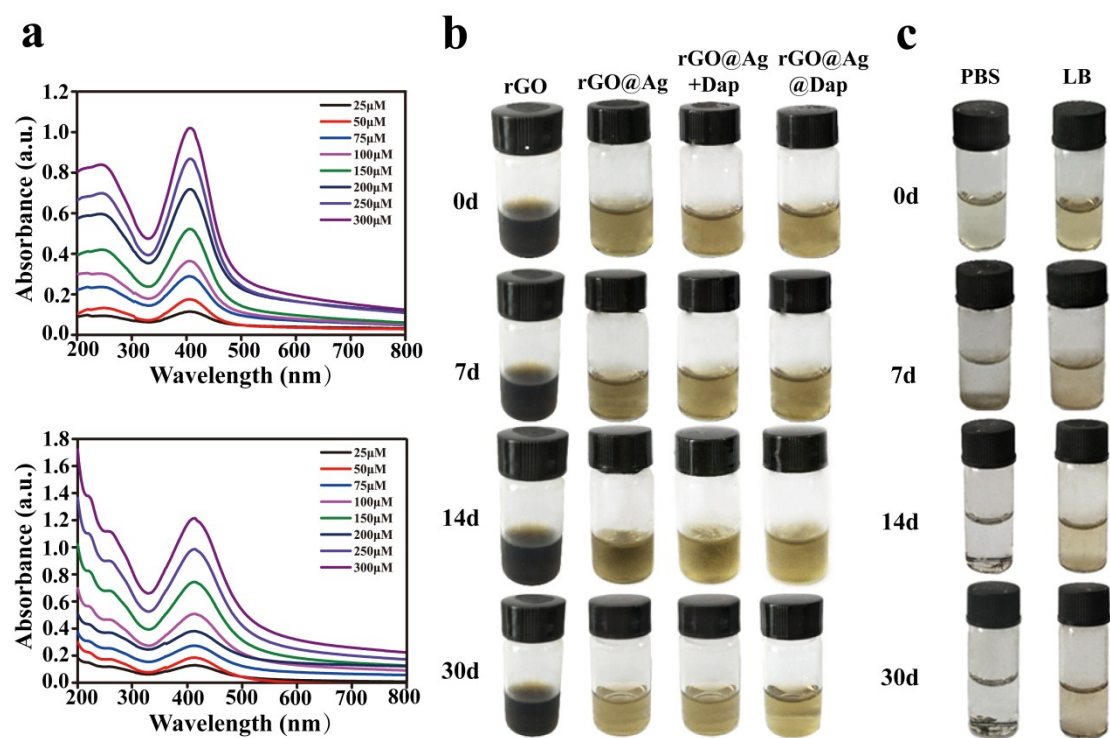


Fig.S4 (a) The UV-Vis absorption spectra of different concentration rGO@Ag (upper) and rGO@Ag@Dap (down). (b) The stability of disperse of rGO, rGO@Ag, rGO@Ag+Dap, rGO@Ag@Dap in the water. (c) The disperse stability of rGO@Ag@Dap in different solvents.

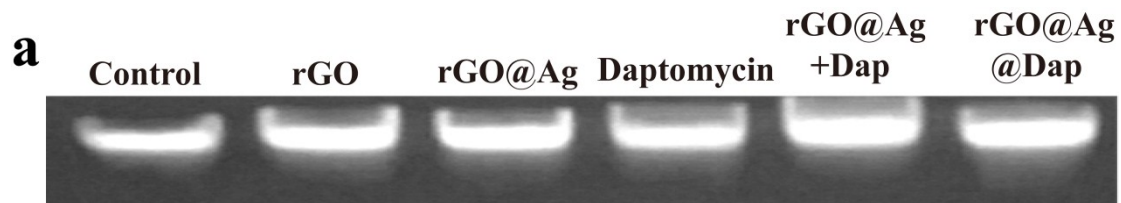


Fig.S5 PAGE results of the extracted genomic DNA of *S.aureus* bacterial treated with PBS, rGO, rGO@Ag, Daptomycin, rGO@Ag+Dap and rGO@Ag@Dap.

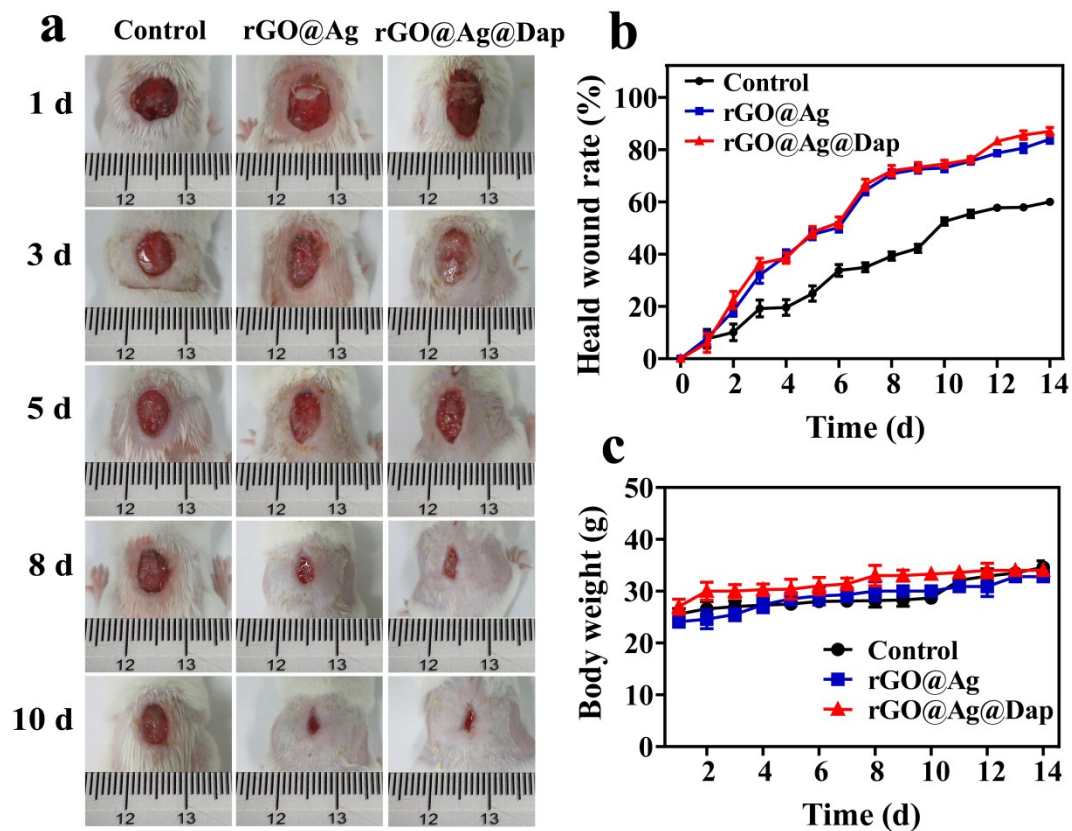


Fig.S6 (a) The photographs of Gram-negative bacteria infected wounds in mice at different times during the therapeutic process. The mice samples were treated with PBS, rGO@Ag, rGO@Ag@Dap, respectively. (b) Corresponding the change of relative wound areas of the mice. (c) Corresponding the change of body weight of the mice.

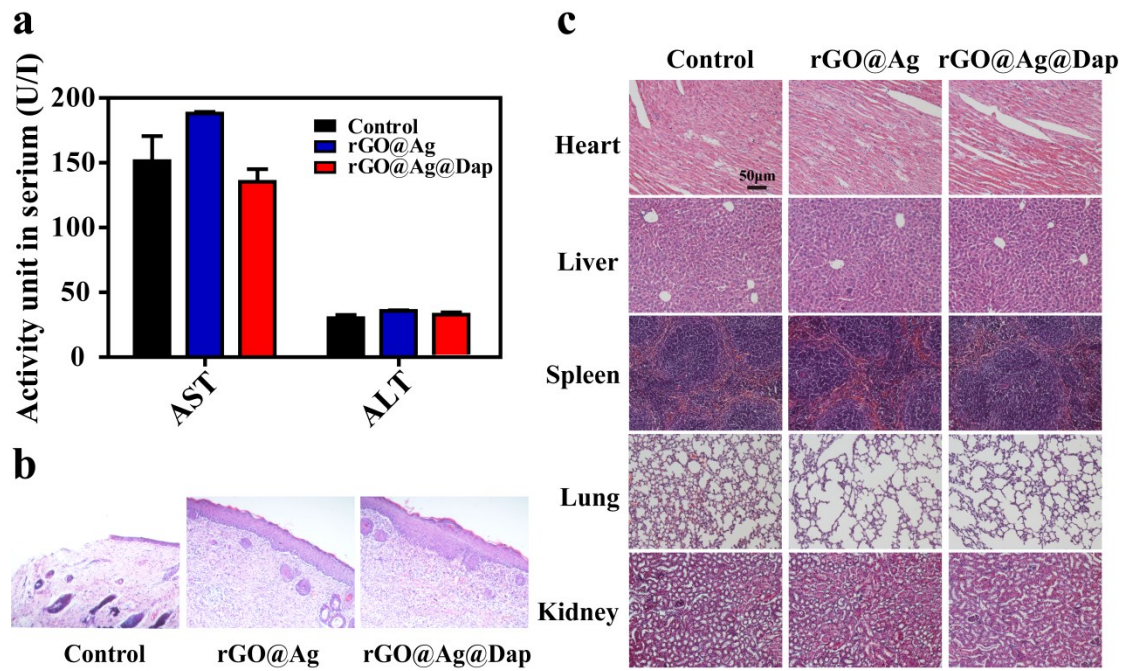


Fig.S7 (a) AST and ALT level assay of blood of each group of mice at the 14th day. Error bars represent the standard error of 3 parallel experiments. (b) Histologic analysis of the wound tissue at day 14 by H&E staining. The scale bar is 100 μm . (c) Photomicrographs of H&E staining of the heart, liver, spleen, lung, and kidney tissues slices after intravenous injection with: PBS, rGO@Ag, and rGO@Ag@Dap.