## **Supporting Information**

## Intracellular infection-responsive macrophage-targeted nanoparticles for synergistic antibiotic-immunotherapy of bacterial infection

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Fig. S1 <sup>1</sup>H NMR spectra of dextran and ox-Dex (D<sub>2</sub>O, 400 MHz).



Fig. S2 <sup>1</sup>H NMR spectrum of compound 2 (DMSO-*d6*, 400 MHz).



Fig. S3 <sup>1</sup>H NMR spectrum of NA-NH<sub>2</sub> (DMSO-*d6*, 400 MHz).



Fig. S4 FTIR spectra of ox-Dex and dextran.



Fig. S5 Van release profiles detected from ox-Dex-Se/Van at pH 7.4 or pH 5.5.



Fig. S6 SEM and TEM images of bacteria after being treated with 1 mM  $H_2O_2$  and ox-Dex-Se/Van+1 mM  $H_2O_2$ .



**Fig. S7** Fluorescence spectra of NA-NH<sub>2</sub> loaded ox-Dex-Se/Van nanoparticles (a). Fluorescence stability of NA-NH<sub>2</sub> loaded ox-Dex-Se/Van nanoparticles (b). Fluorescence spectra of NA-NH<sub>2</sub> loaded ox-Dex-Se/Van nanoparticles in PBS with various pH values (c).



Fig. S8 The viability of RAW 264.7 and NIH 3T3 cells after incubation of ox-Dex-Se or ox-Dex-Se/Van for 24 h.



Fig. S9 Intracellular ROS detection by DCFH-DA staining.



Fig. S10 IL-10 levels detected by ELISA.



Fig. S11 CLSM images of bacteria-infected macrophages after being treated with Van.



Fig. S12 Bacterial colonies obtained from the wound tissues of different groups of rats at day 8.



Fig. S13 The quantitative histogram of CD31, Masson, IL-6, and TNF-α.



Fig. S14 IL-10 immunohistochemical staining of skin wound on day 8.