Electronic Supplementary Material (ESI) for Biomaterials Science.

Bismuth telluride functionalized bismuth oxychloride used for enhanced antibacterial and would healing efficacy with sunlight irradiation

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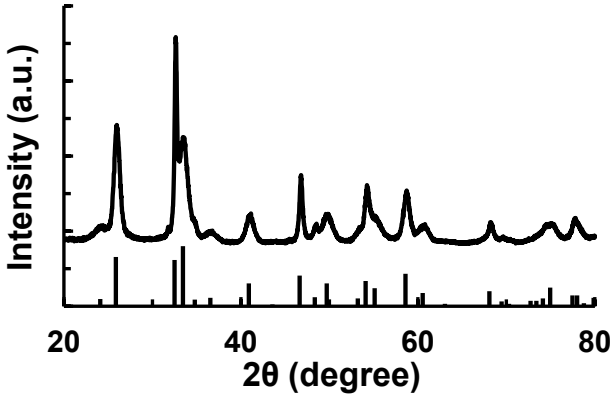

Figure S1. XRD pattern of BiOCl NSs.

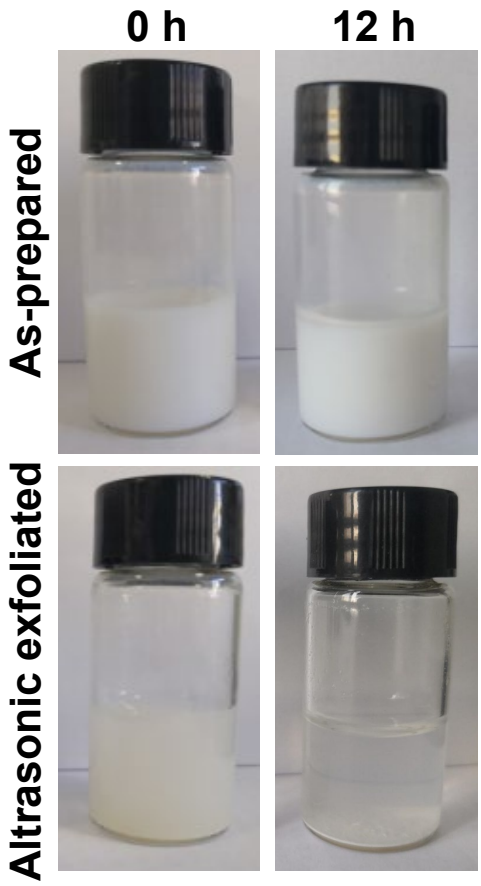

Figure S2. Photos of as-prepared and ultrasonic exfoliated BiOCl NS-aqueous solutions before and after storing for 12 h.

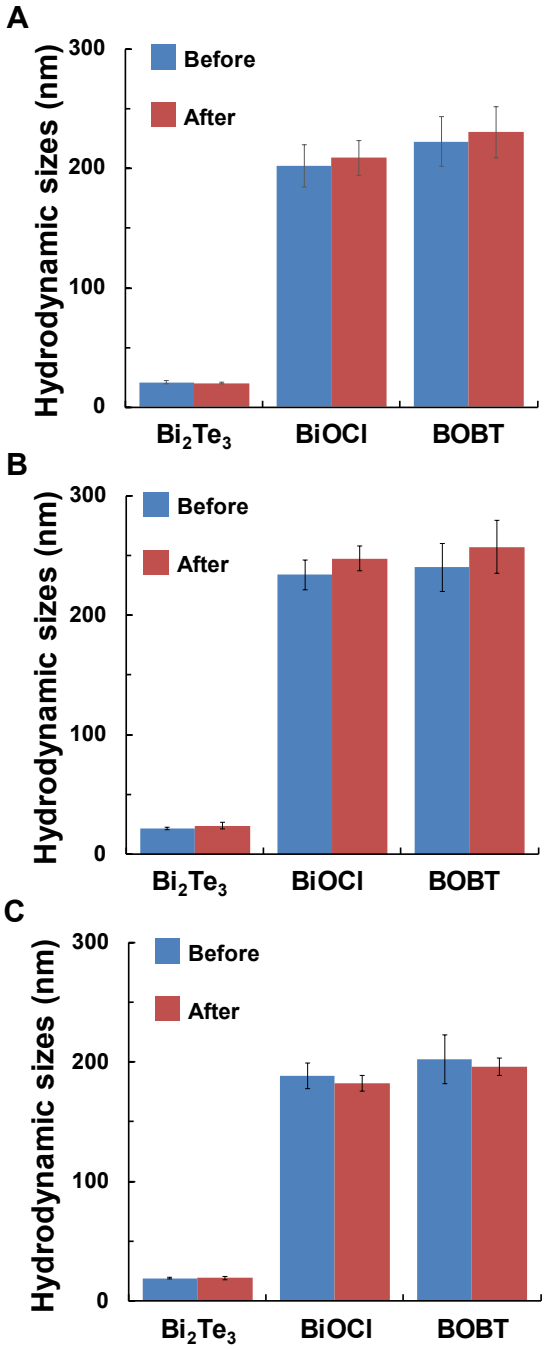

Figure S3. Hydrodynamic sizes of Bi_2Te_3, BiOCl and BOBT NSs dispersed in PBS (A), NaCl (B), and PBS (C) solutions before and after storing for one week.

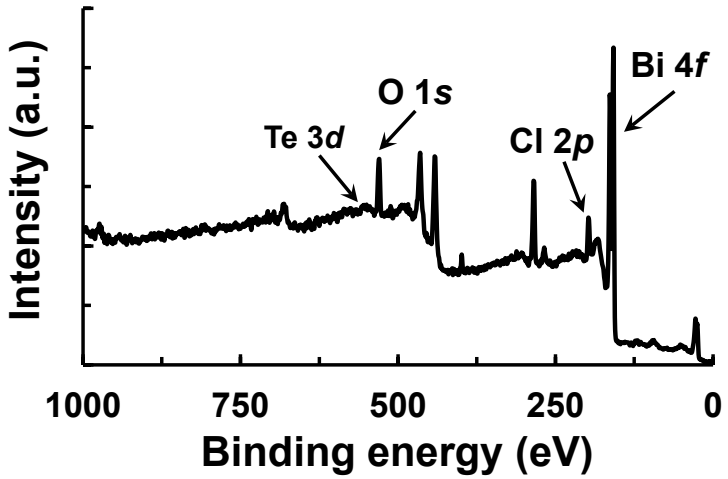

Figure S4. XPS survey spectrum of BOBT NSs.

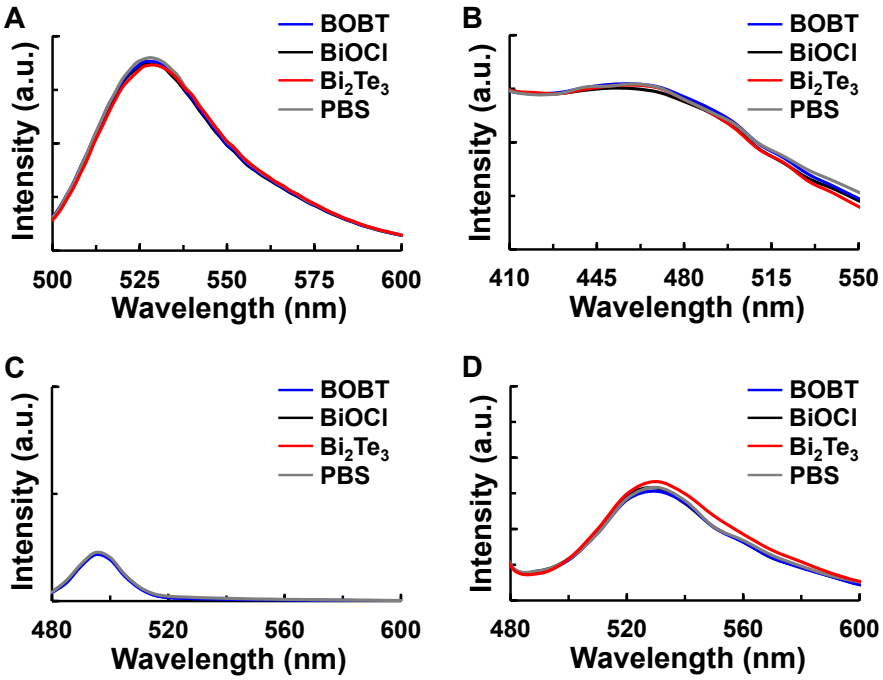

Figure S5. (A) DCF Fluorescence emission spectra (A) for total ROS detection; (B-C) XTT absorption, APF and SOSG fluorescence spectra for $O_2\bullet^-$ (B), OH• (C), $^1O_2$ (D) detection. All detection agents were incubated with PBS, Bi_2Te_3 (10 μg mL^{-1}), BiOCl (90 μg mL^{-1}), and BOBT NSs (100 μg mL^{-1}) without SSR.

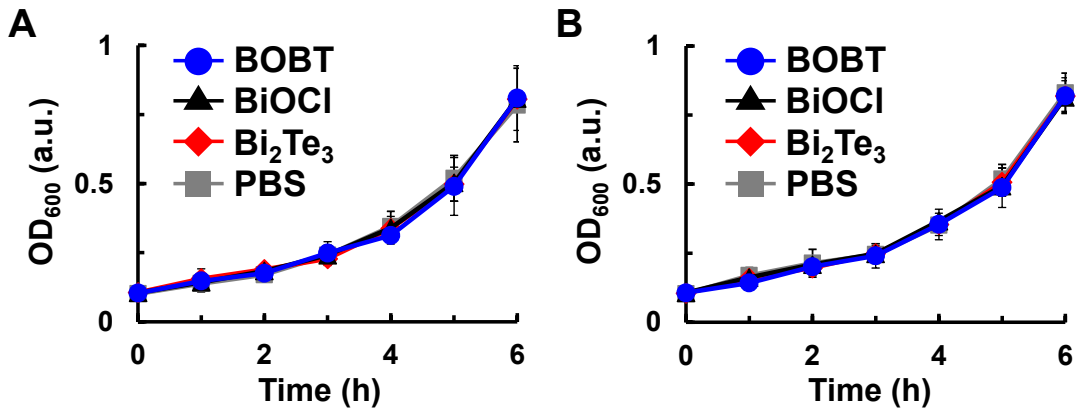

Figure S6. The bacteria growth curves of *E. coli* (A) and *S. aureus* (B) incubated with PBS, Bi_2Te_3 (40 μg mL^{-1}), BiOCl (360 μg mL^{-1}) and BOBT NSs (400 μg mL^{-1}) without SSR (n = 3).

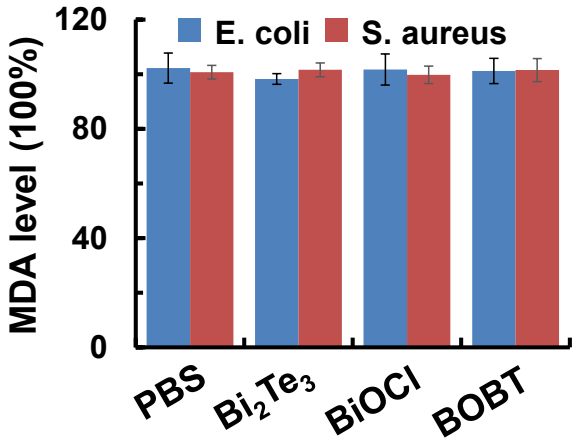

Figure S7. MDA levels of bacteria after treating with PBS, Bi_2Te_3 (40 μg mL^{-1}), BiOCl (360 μg mL^{-1}) and BOBT NSs (400 μg mL^{-1}) without SSR (n = 3).

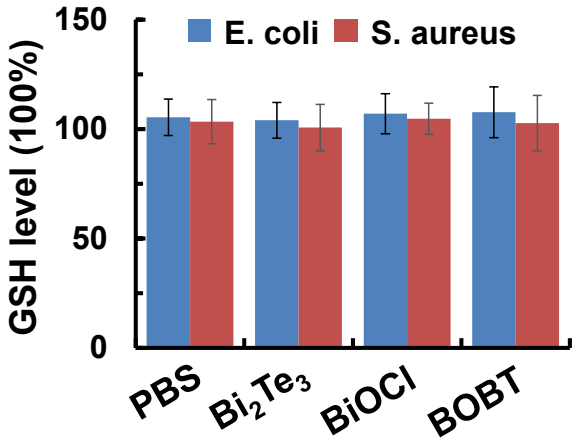

Figure S8. GSH levels of bacteria after treating with PBS, Bi_2Te_3 (40 μg mL^{-1}), BiOCl (360 μg mL^{-1}) and BOBT NSs (400 μg mL^{-1}) without SSR (n = 3).

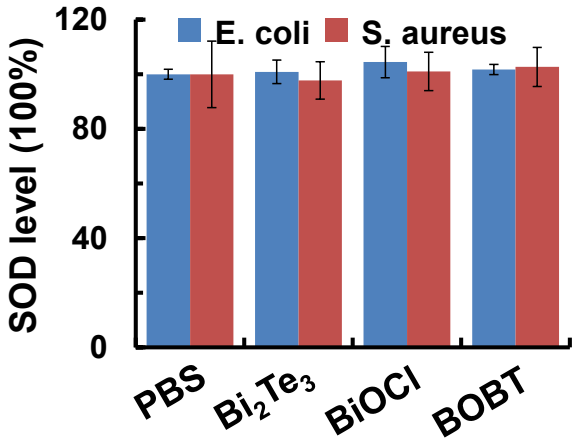

Figure S9. SOD activities of bacteria after treating with PBS, Bi_2Te_3 (40 μg mL^{-1}), BiOCl (360 μg mL^{-1}) and BOBT NSs (400 μg mL^{-1}) without SSR (n=3).

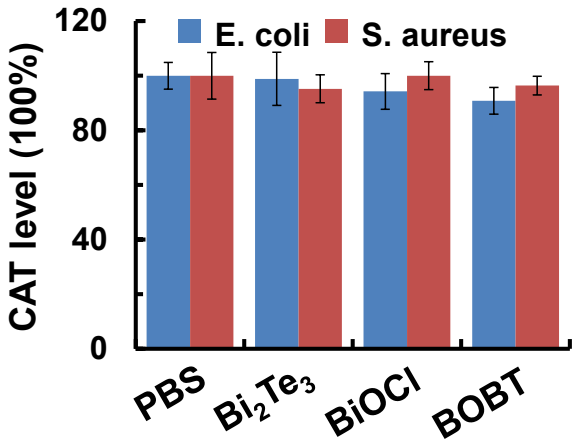

Figure S10. CAT activities of bacteria after treating with PBS, Bi_2Te_3 (40 μg mL^{-1}), BiOCl (360 μg mL^{-1}) and BOBT NSs (400 μg mL^{-1}) without SSR (n=3).

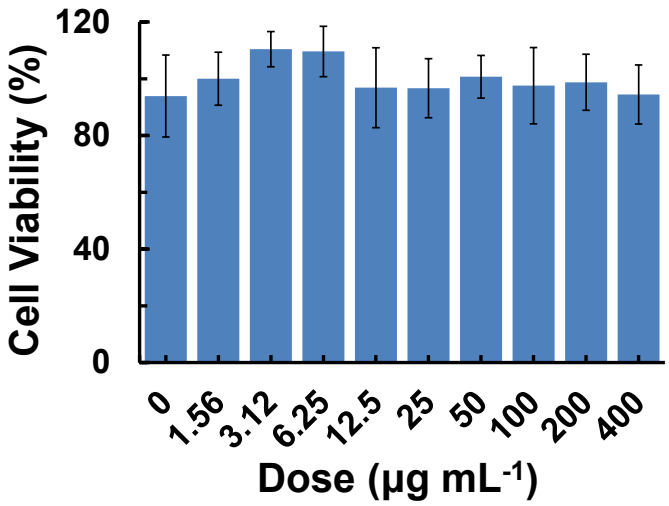

Figure S11. Cell viability of 3T3 cells treated with BOBT NSs (0-400 μg mL^{-1}) (n = 3).

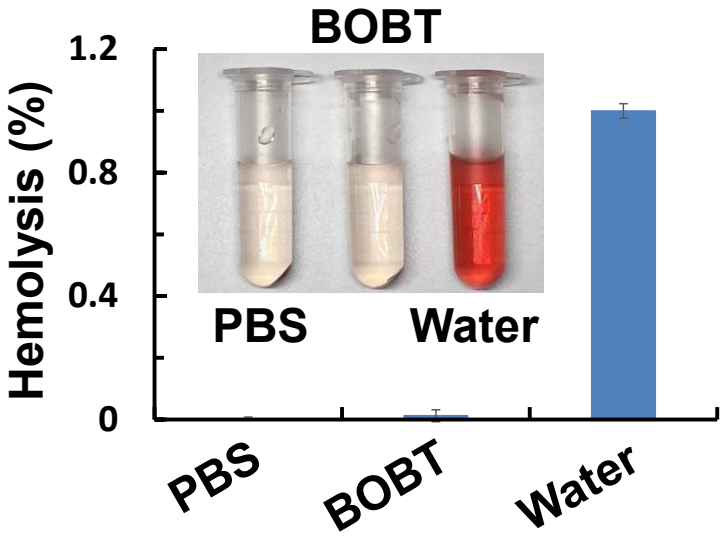

Figure S12. Hemolytic assay of mouse red blood cell by BOBT NSs (400 μg mL^{-1}). PBS and water were used as negative and positive control (n = 3).

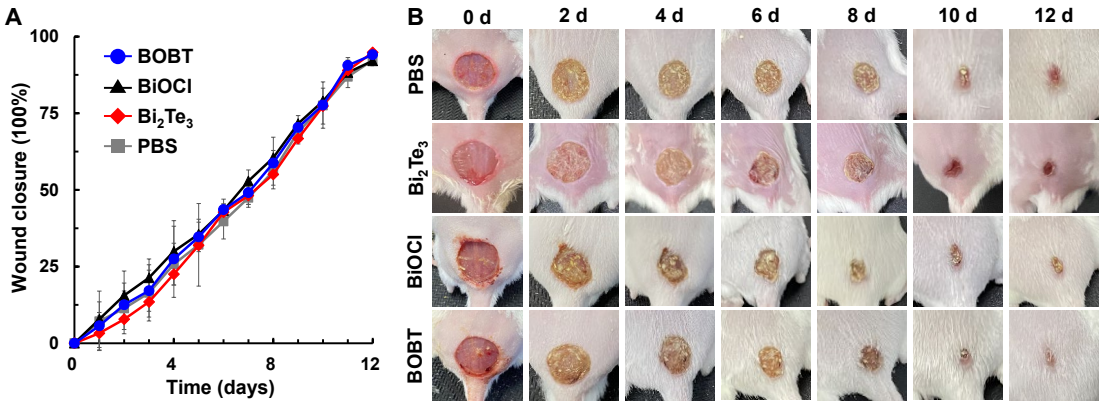

Figure S13. Wound closure rates (A) and the representative photos of wound site (B) after being treated with PBS, BiOCl and BOBT NSs without SSR (n = 3).