Supporting Information

Tin-doped near-infrared persistent luminescence nanoparticles with considerable improvement of biological window activation for deep tumor photodynamic therapy

Junpeng Shi,^{†,δ,‡} Xia Sun,^{§,‡} Shenghui Zheng,[#] Liang Song,^{†,δ} Fangrong Zhang,[&] Tobias Madl,[&] Yun Zhang,^{*,†,δ} Hongwu Zhang,^{*,#} and Maochun Hong[†]

[†]Key Laboratory of Design and Assembly of Functional Nanostructures, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou 350002, China

⁸Department of Translational Medicine, Xiamen Institute of Rare Earth Materials, Chinese Academy of Sciences, Xiamen 361021, China

[§]Xiamen Cardiovascular Hospital, Xiamen University, Xiamen 361005, China

[#]Key Lab of Urban Pollutant Conversion, Institute of Urban Environment, Chinese Academy of Sciences, Xiamen 361021, China

[&]Gottfried Schatz Research Center, Molecular Biology and Biochemistry, Medical University of Graz, Neue Stift-ingtalstraße 6/6, 8010 Graz, Austria

Corresponding Author

- * E-mail: zhangy@fjirsm.ac.cn
- * E-mail: hwzhang@iue.ac.cn

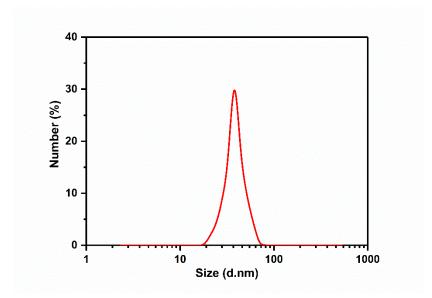


Figure S1. The hydrodynamic diameter of the ZGS.

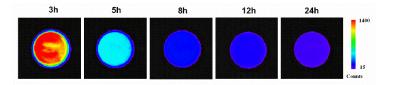


Figure S2. NIR PersL images of ZGS acquired at different PersL decay times (3–24 h) after being excited by 659 nm LED for 5 min. The exposure time is 60 s.

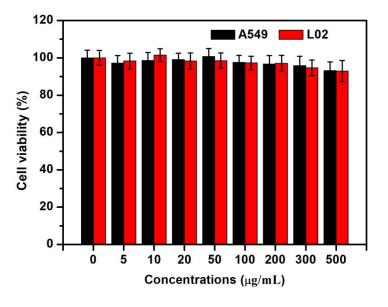


Figure S3. Cell viabilities of the A549 and L02 cells incubated with ZGS for 24 h. The data are presented as mean \pm SD (n = 3).

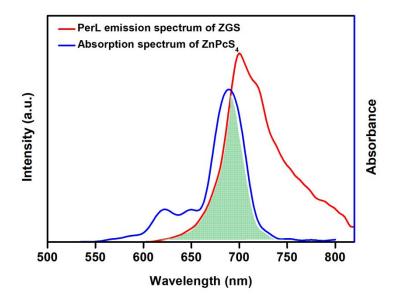


Figure S4. NIR PerL spectrum of ZGS and absorbance spectrum of ZnPcS₄.

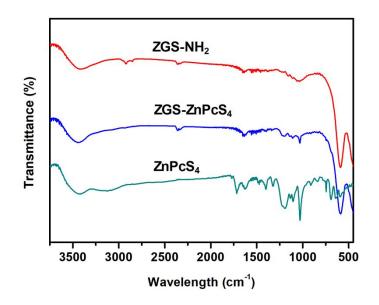


Figure S5. FT-IR spectra of ZGS-NH₂, ZGS-ZnPcS₄ and ZnPcS₄.

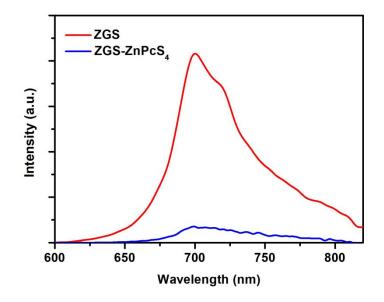


Figure S6. NIR PerL emission spectra of ZGS and ZGS-ZnPcS₄ after excitation with the 659 nm LED for 3 min.

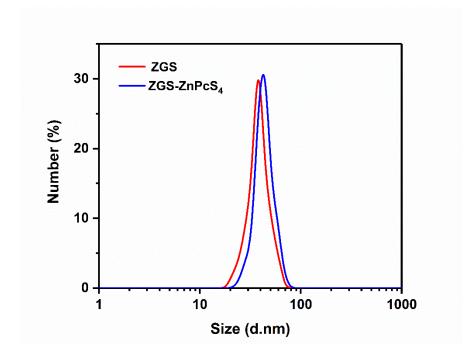


Figure S7. The hydrodynamic diameter of the ZGS and ZGS-ZnPcS₄.

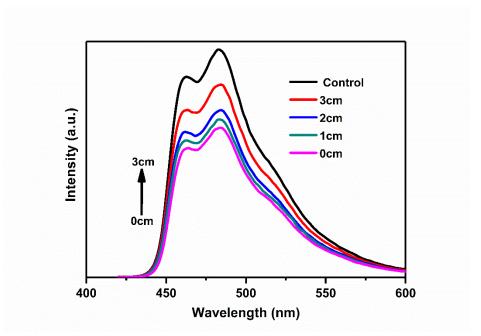


Figure S8. The quenching of DPBF fluorescence caused by ZGS-ZnPcS₄ within 30 min. The ZGS-ZnPcS₄ was pre-excited using the 659 nm LED for 5 min through tissues of different thicknesses.

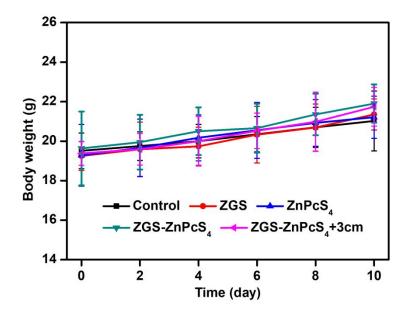


Figure S9. The body weight growth curves of different groups of mice after different treatments.