

Electronic Supplementary Information

Bi₁₉S₂₇I₃ nanorods: a new candidate for photothermal therapy in the first and second biological near-infrared windows

Jinsong Xiong, Qinghuan Bian, Shuijin Lei,* Yatian Deng, Kehan Zhao, Shunqiang Sun, Qi
Fu, Yanhe Xiao and Baochang Cheng

*School of Materials Science and Engineering, Nanchang University, Nanchang, Jiangxi
330031, China*

* To whom correspondence should be addressed. E-mail: shjlei@ncu.edu.cn

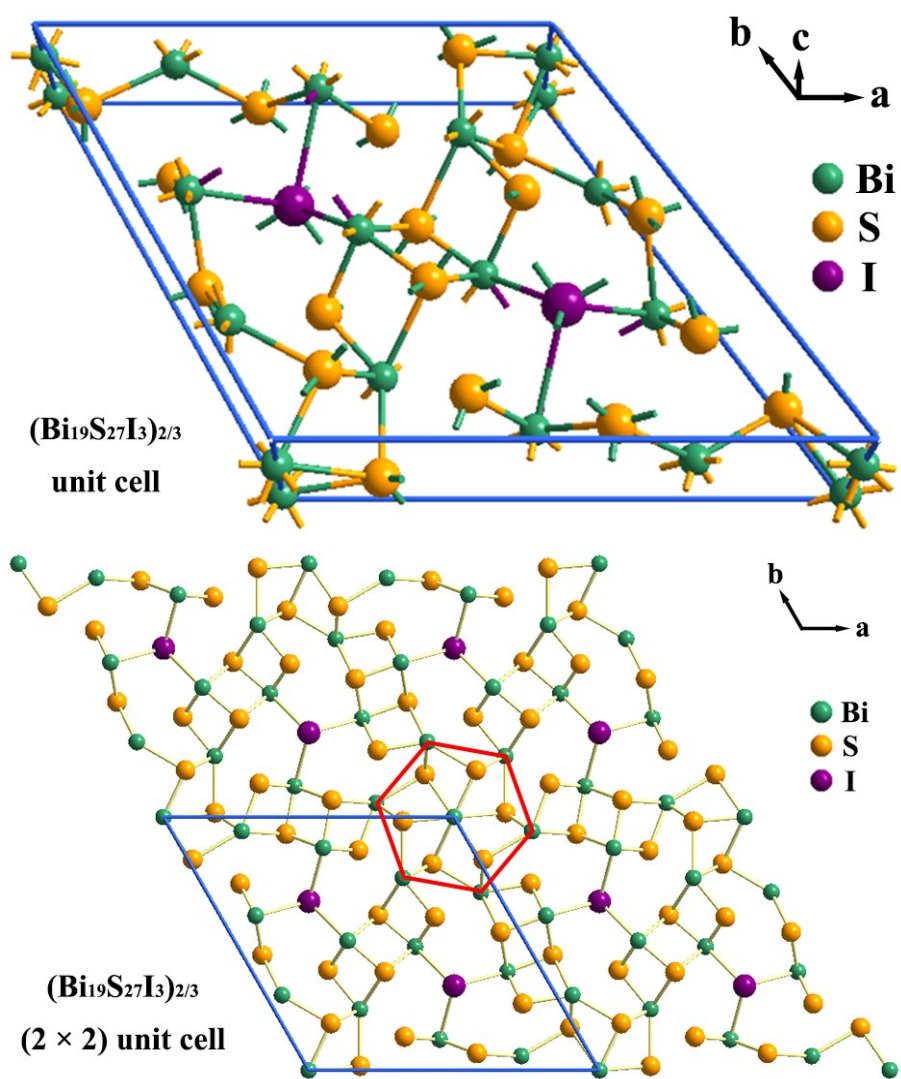


Fig. S1 Crstal structure model of the hexagonal $(\text{Bi}_{19}\text{S}_{27}\text{I}_3)_{2/3}$ phase.

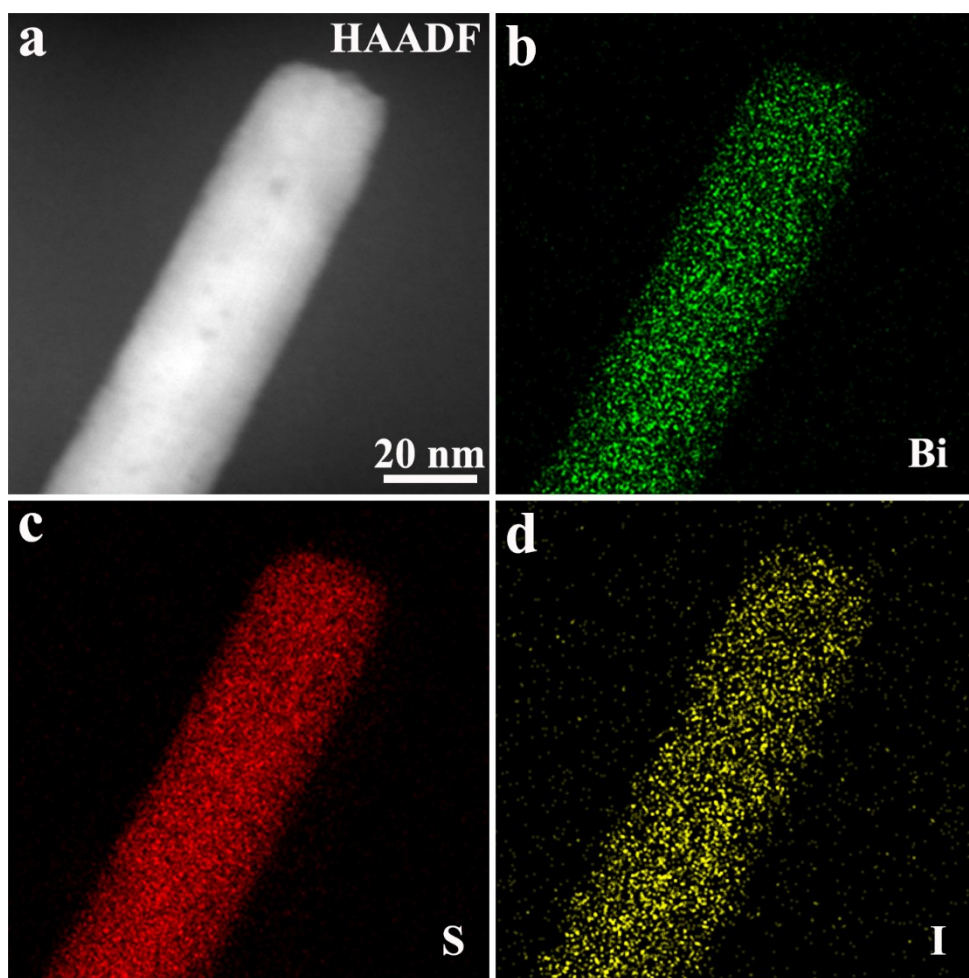


Fig. S2 (a) HAADF image and the corresponding EDS elemental mapping images of (b) Bi, (c) S and (d) I of an individual $\text{Bi}_{19}\text{S}_{27}\text{I}_3$ nanorod.

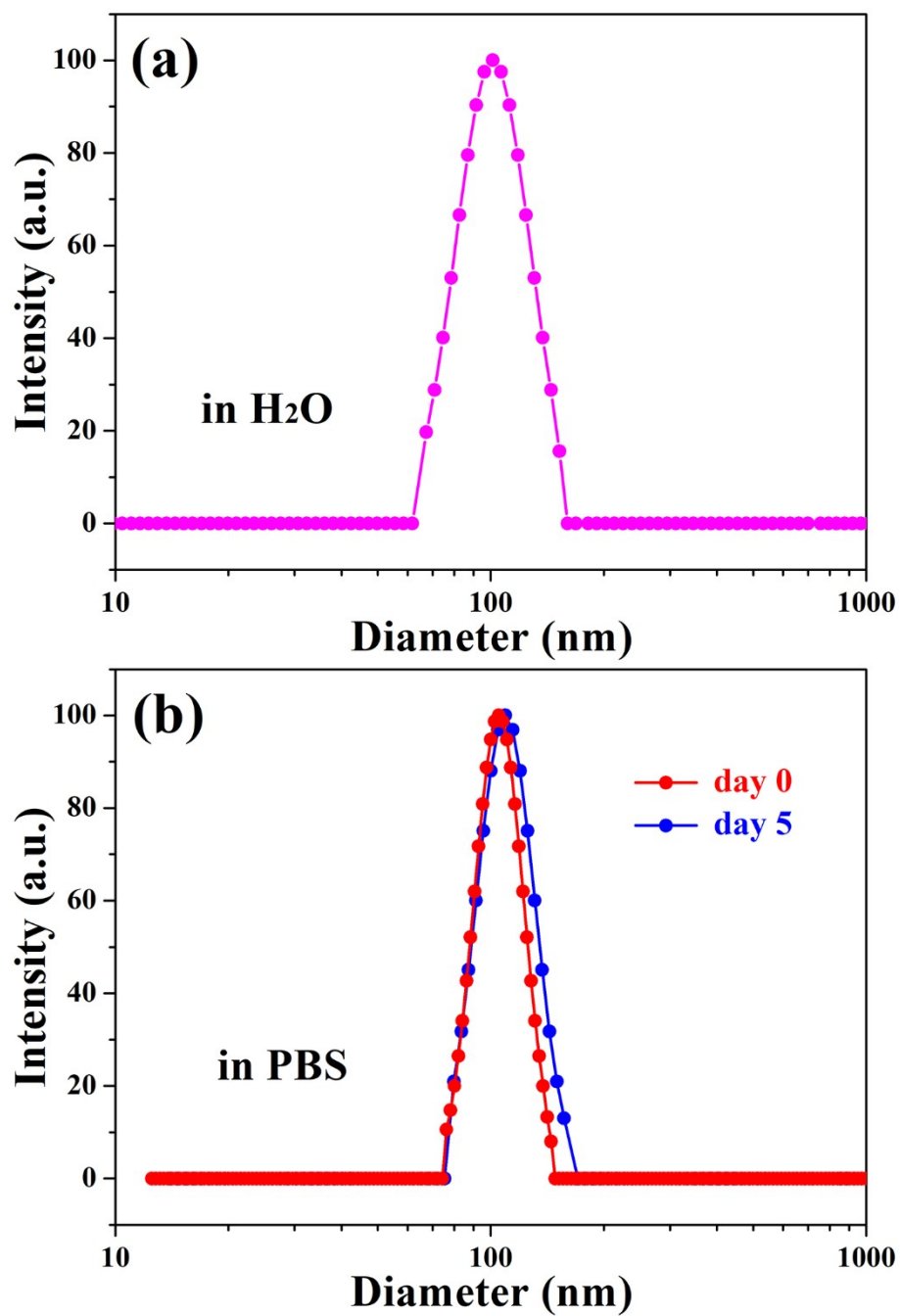


Fig. S3 Size distribution of the prepared water-phase $\text{Bi}_{19}\text{S}_{27}\text{I}_3$ nanorods in (a) water and (b) PBS solution.

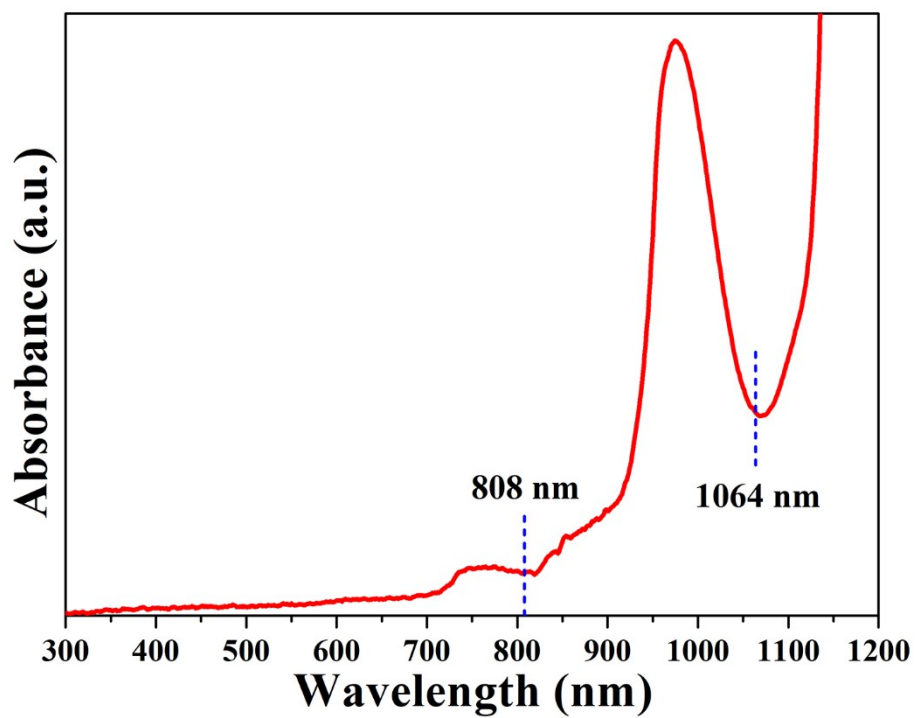


Fig. S4 UV-Vis-NIR absorption spectrum of pure water.

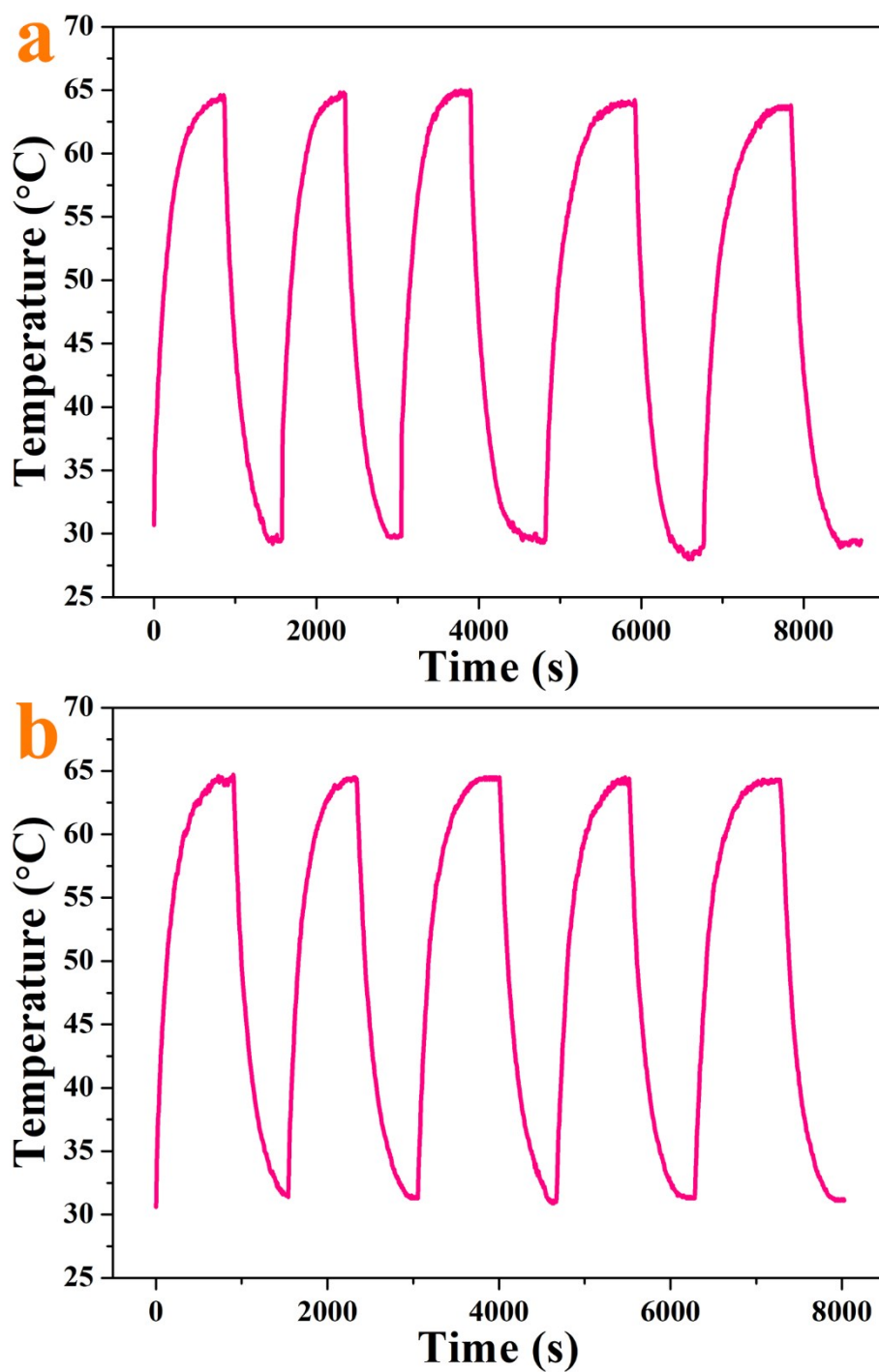


Fig. S5 Photothermal stability of the $\text{Bi}_{19}\text{S}_{27}\text{I}_3$ nanorods aqueous solution at a concentration of $500 \mu\text{g mL}^{-1}$ under the irradiation of the (a) NIR-808 or (b) NIR-1064 laser at 1.0 W cm^{-2} over five ON-OFF cycles.

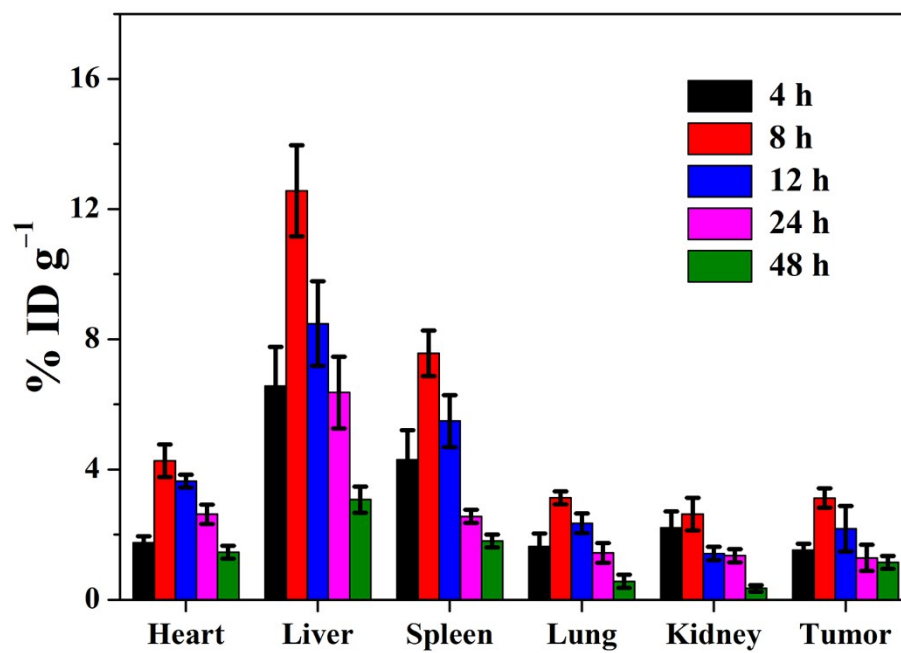


Fig. S6 *In vivo* biodistribution of Bi₁₉S₂₇I₃ nanorods in the major organs of mice and tumors at different times after intravenous injection.