

Supporting information for:

**Double pH-sensitive Nanotheranostics of Polypeptide Nanoparticle-  
Encapsulated BODIPY with Both NIR Activated Fluorescence and  
Enhanced Photodynamic Therapy**

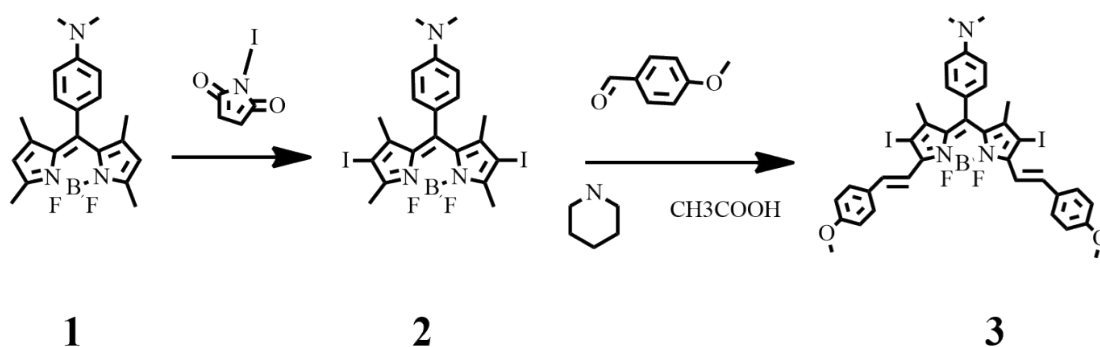
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Hefei National Laboratory for Physical Sciences at the Microscale,

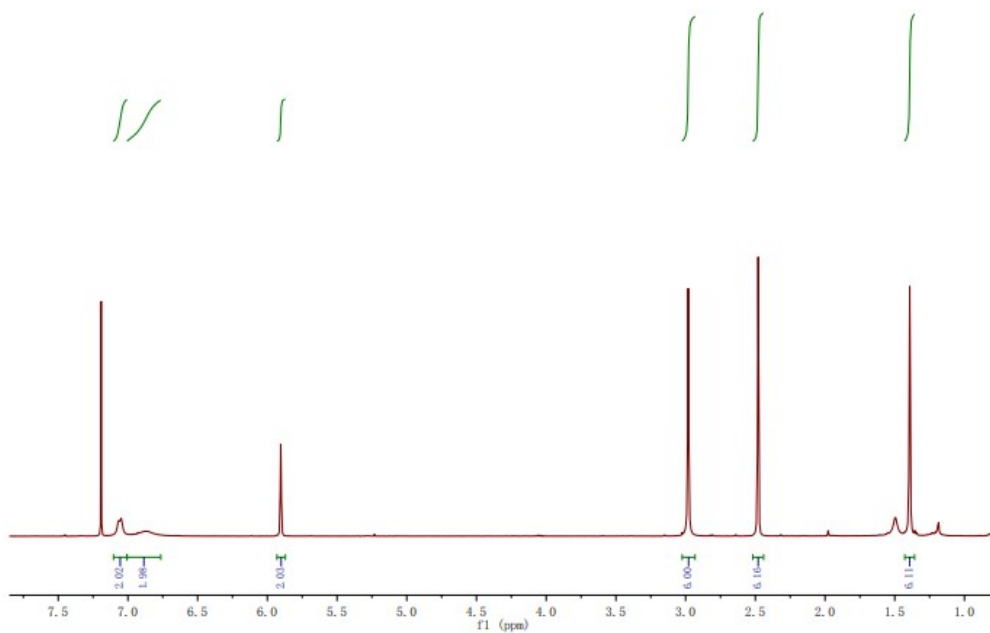
Department of Chemical Physics, University of Science and Technology of China

Hefei 230026, China

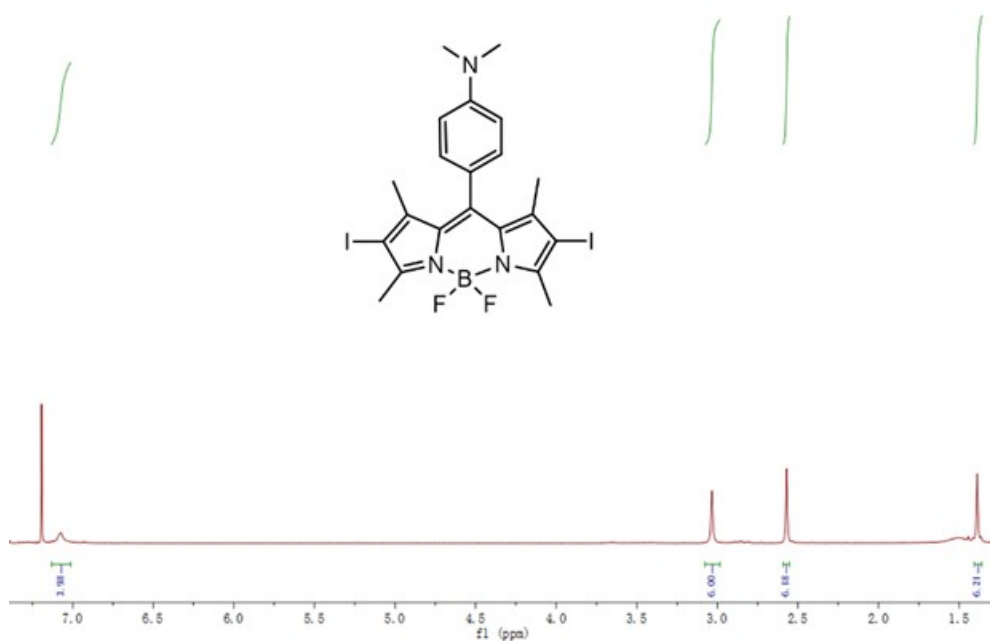
E-mail: [lfyan@ustc.edu.cn](mailto:lfyan@ustc.edu.cn)



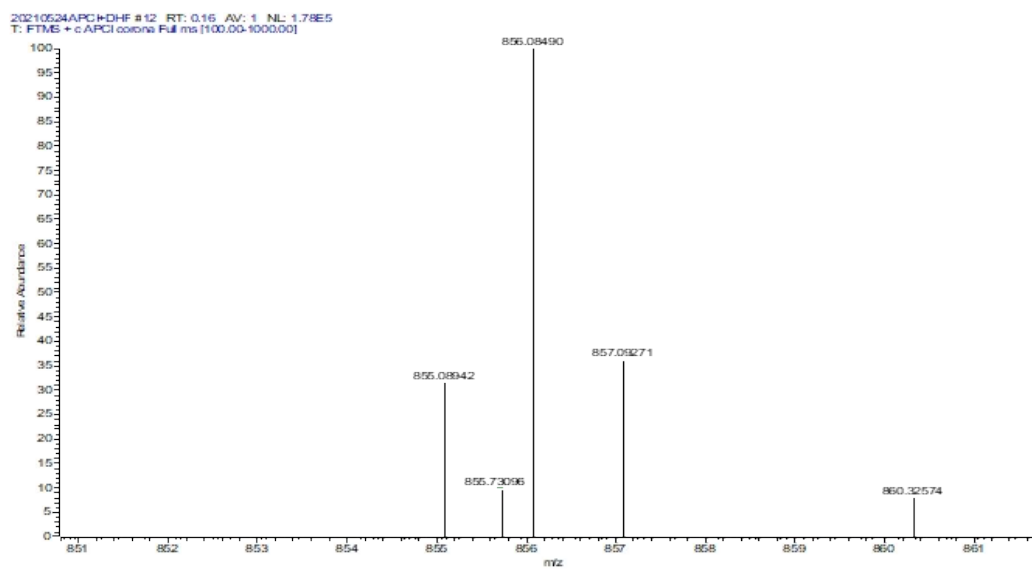
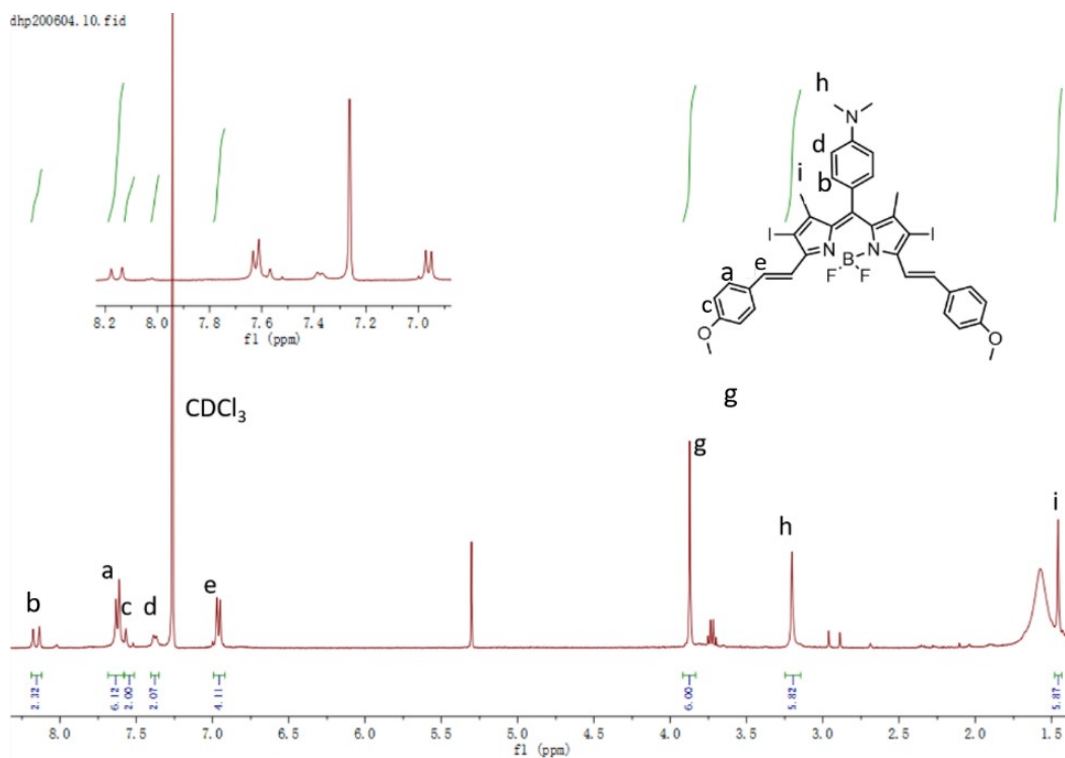
**Figure S1.** Synthetic route of BODI

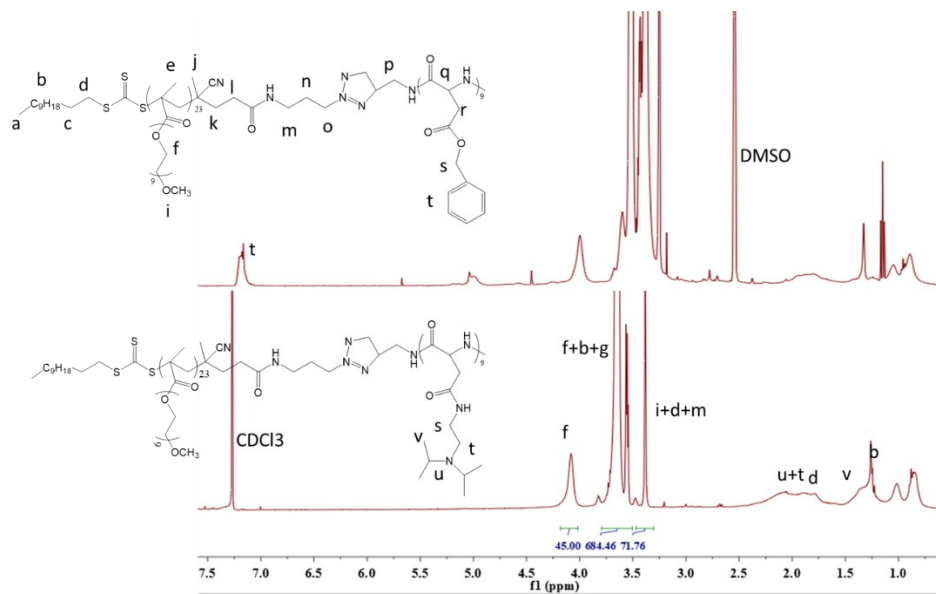


**Figure S2.**  $^1\text{H}$ NMR spectrum of compound 1 in  $\text{CDCl}_3$

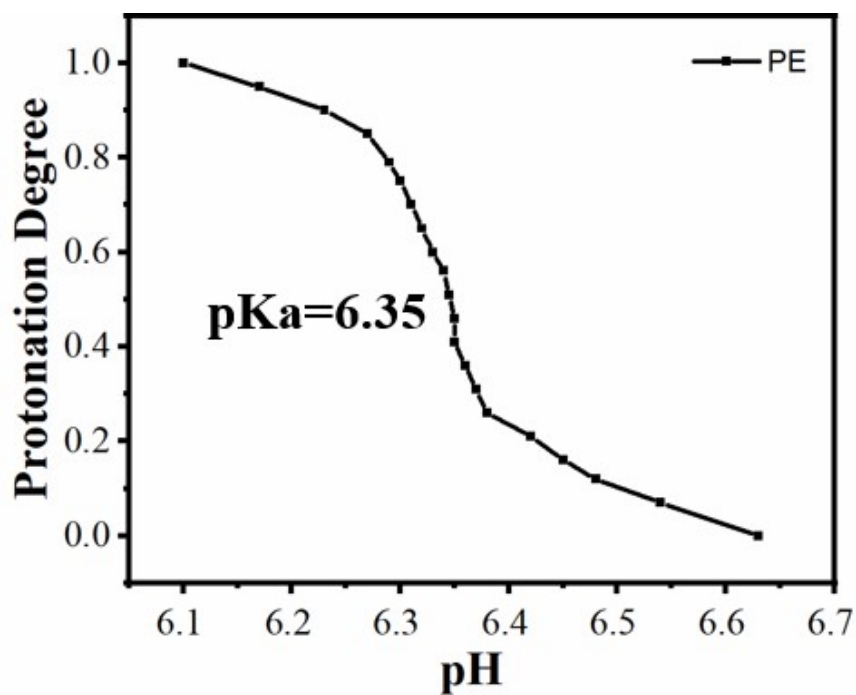


**Figure S3.**  $^1\text{H}$ NMR spectrum of compound 2 in  $\text{CDCl}_3$





**Figure S6.** <sup>1</sup>H NMR spectrum of POEGMA<sub>23</sub>-PAsp<sub>9</sub> in DMSO and POEGMA<sub>23</sub>-PE<sub>9</sub> in CDCl<sub>3</sub>



**Figure S7.** Titration curve of POEGMA<sub>23</sub>-PE<sub>9</sub>

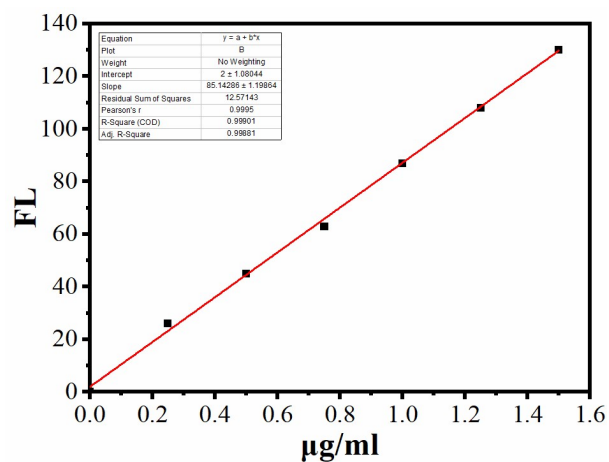


Figure S8. DOX standard curve.

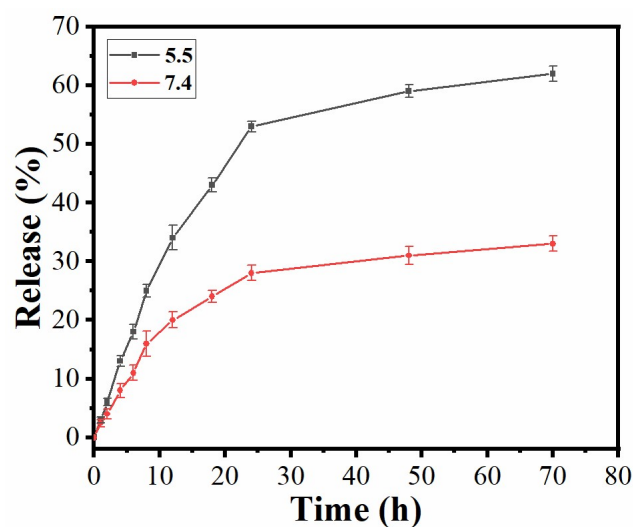


Figure S9. DOX release curves at pH 7.4 and pH 5.5.

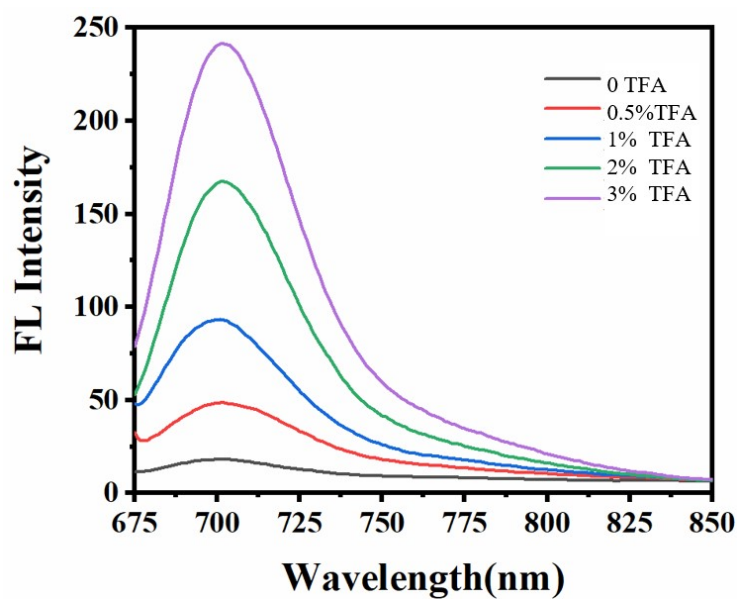
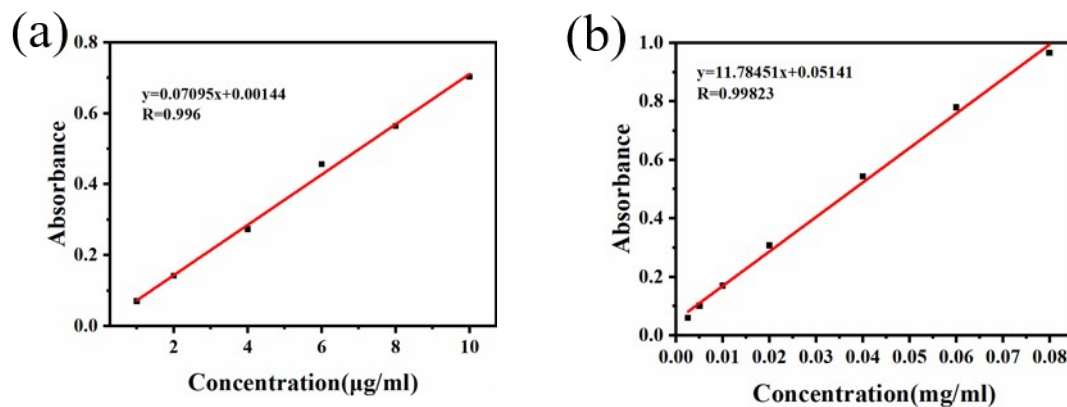
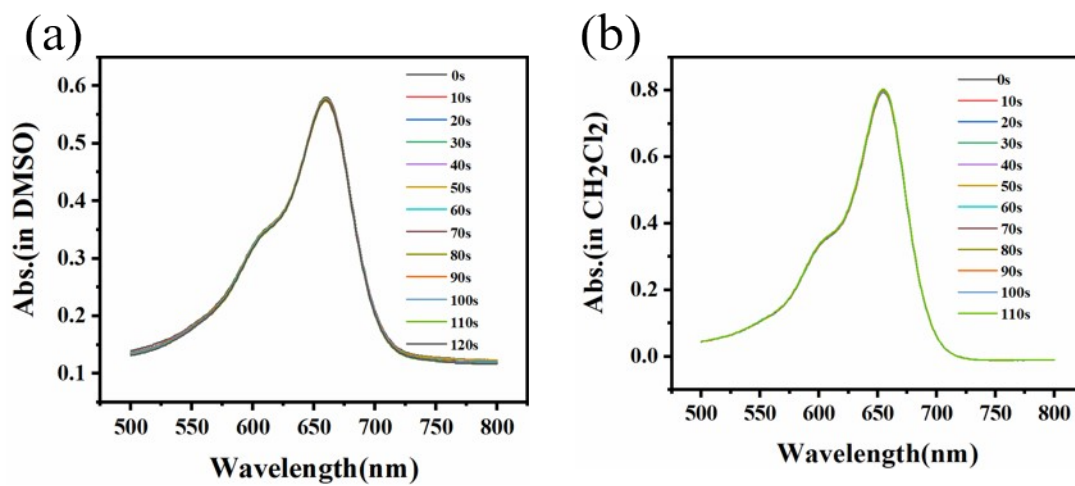


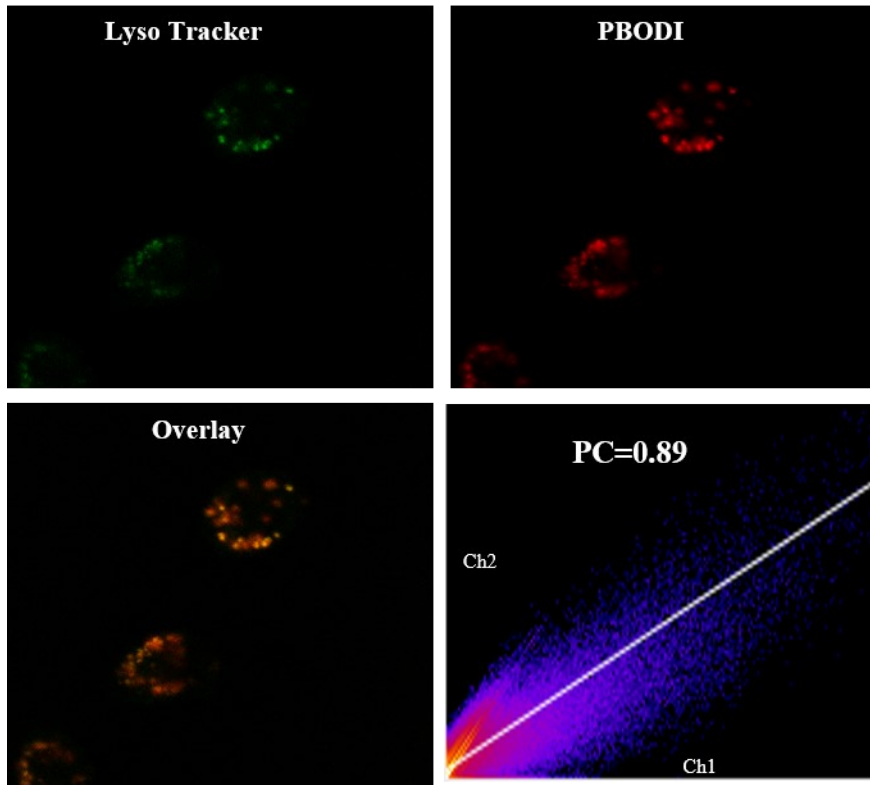
Figure S10. Fluorescence spectra of BDPI in DMSO solution with different proportions of trifluoroacetic acid (TFA)



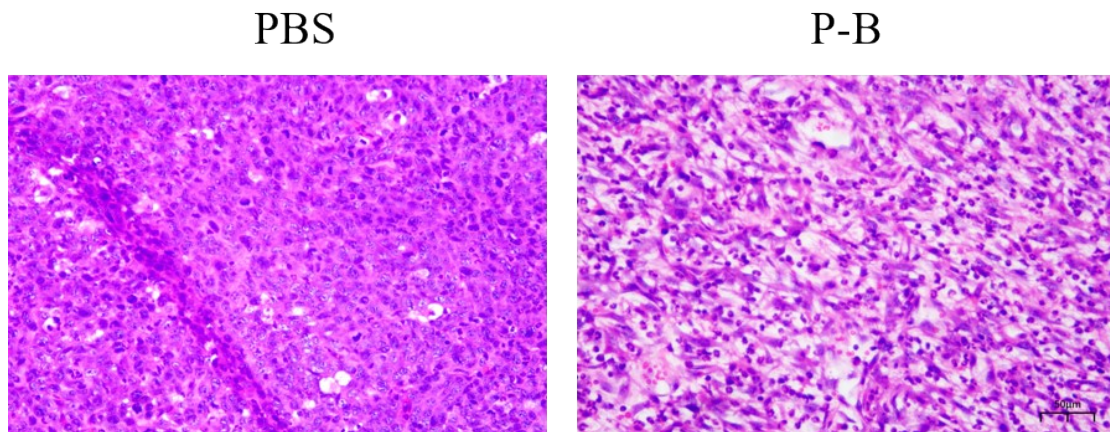
**Figure S11.** Standard curves of BDPI in DCM (a) and DMF (b)



**Figure S12.** Stability curves of BDPI in DCM (a) and DMF (b).



**Figure S13.** Confocal fluorescence images of BDPI NPs co-localized with LysoTracker Green in 4T<sub>1</sub> cells.



**Figure S14.** H&E staining of the right-side tumor after the first treatment, scale: 50 μm.