Support Information

Linear and High-Molecular-Weight Poly-porphyrins for Efficient Photodynamic Therapy

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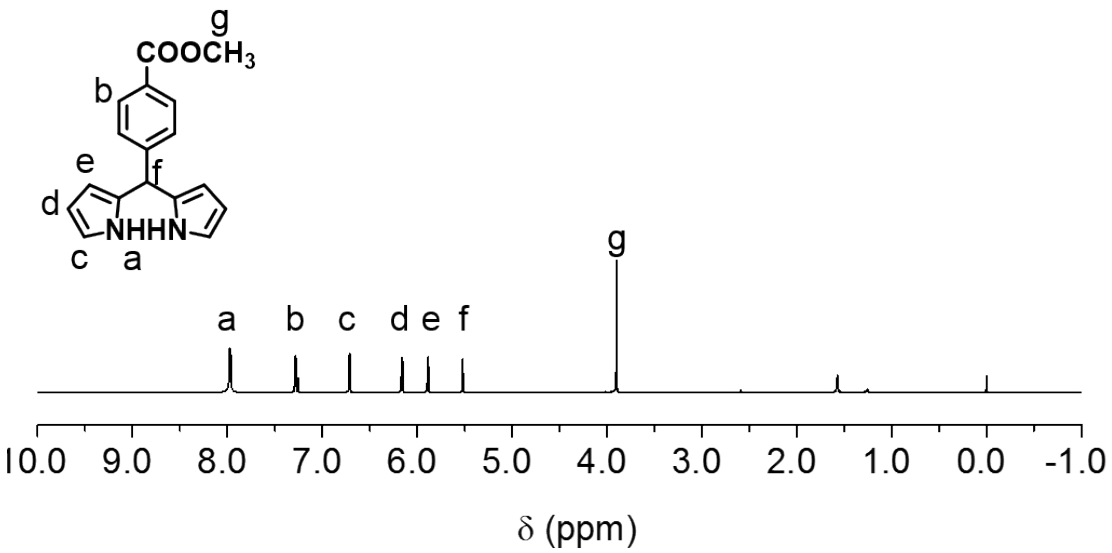
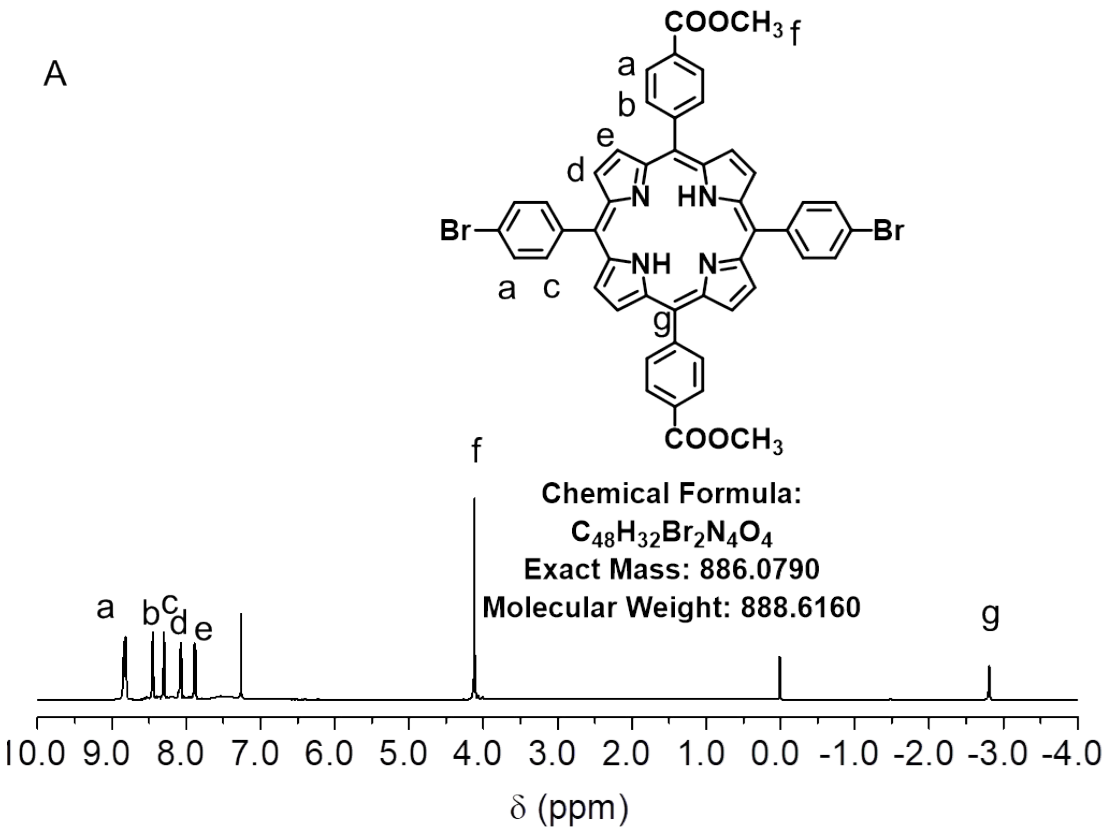


Figure S1. ^{1}H NMR spectrum of **compound 1** in $CDCl_3$.



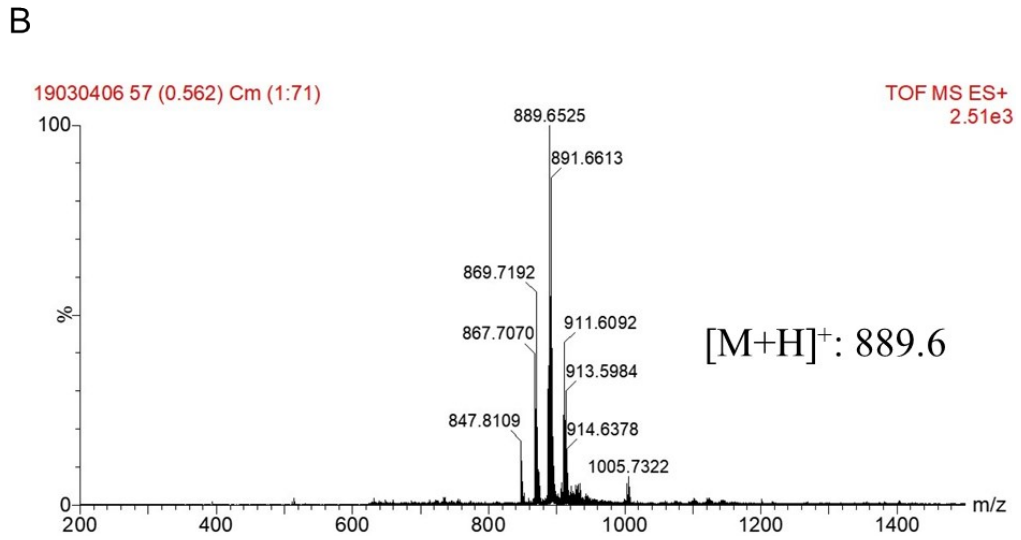


Figure S2. (A) ^{1}H NMR spectrum of **compound 2** in $CDCl_3$. (B) Mass spectrum of **compound 2.** Obsered $[M+H]^+$ = 889.6.

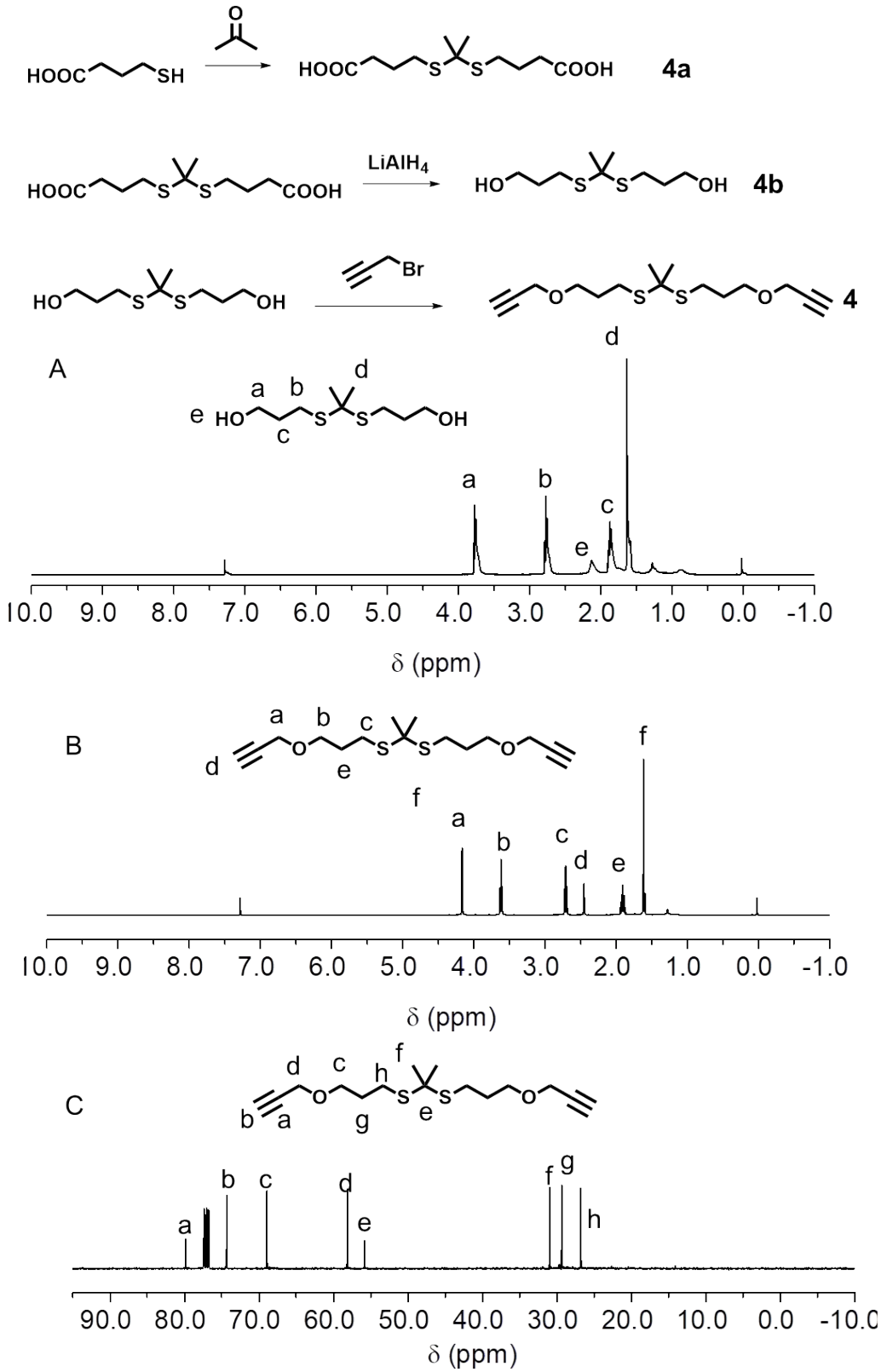


Figure S3. (A) ^{1}H NMR spectrum of **compound 4b** in $CDCl_3$. (B) ^{1}H NMR spectrum of **compound 4** in $CDCl_3$. (C) ^{13}C NMR spectrum of **compound 4.**

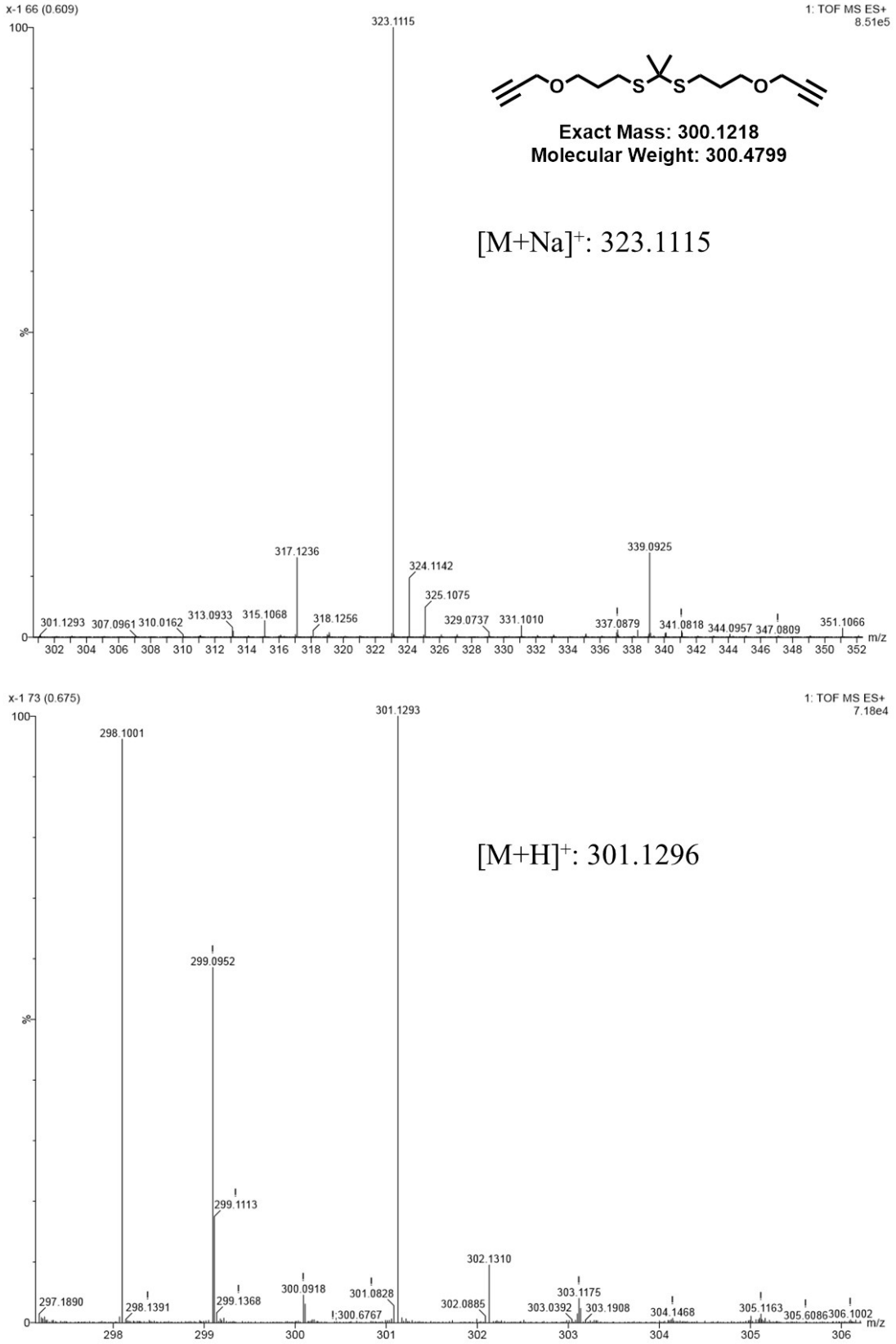


Figure S4. HRMS spectrum of **compound 4.** Obsered $[M+Na]^+$ =.323.1115 and Obsered $[M+H]^+$ =.301.1293.

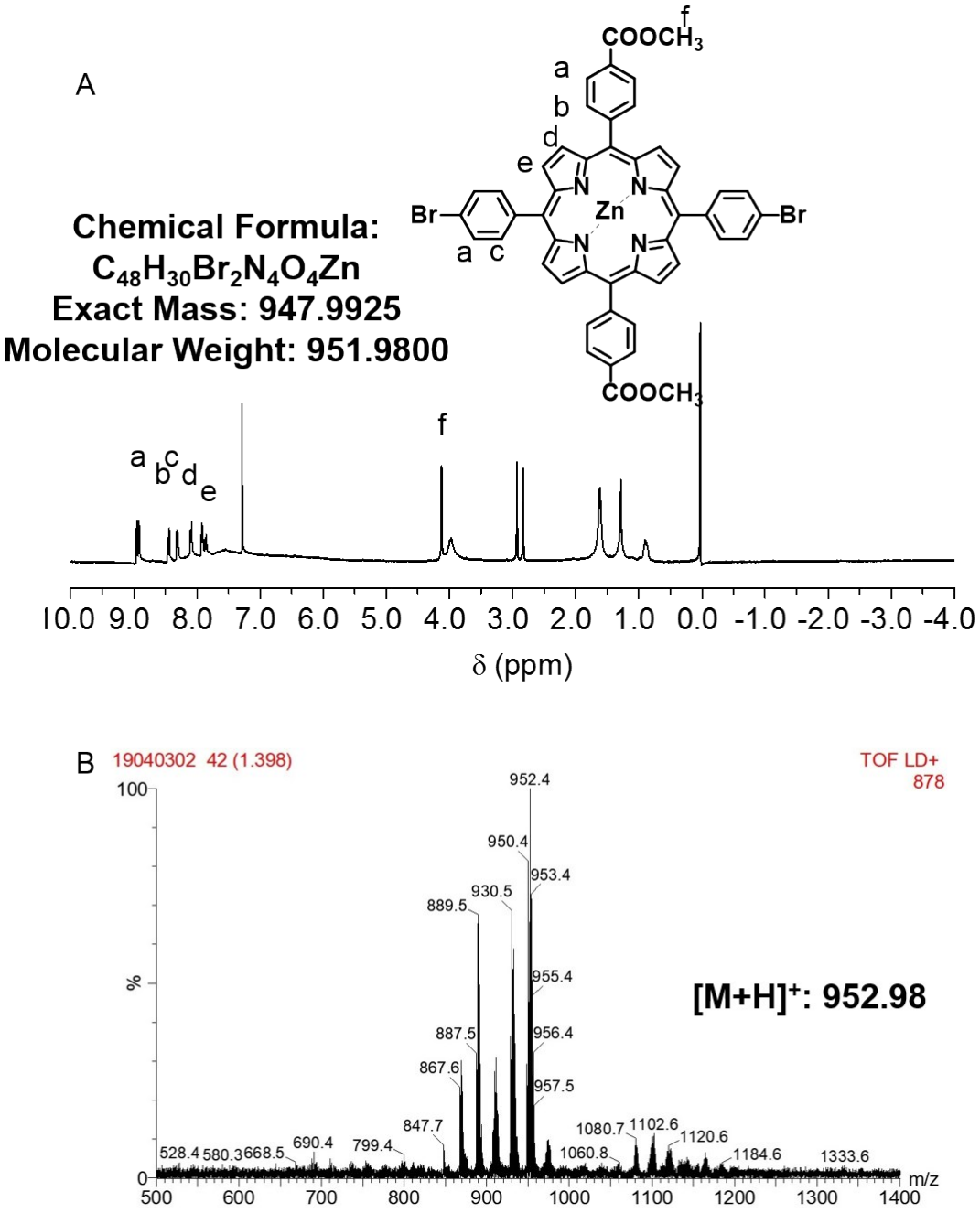


Figure S5. (A) ^{1}H NMR spectrum of **compound 3** in $CDCl_3$. (B) MALDI-TOF-MS of **compound 3.** Obsered $[M+H]^+$ = 952.4.

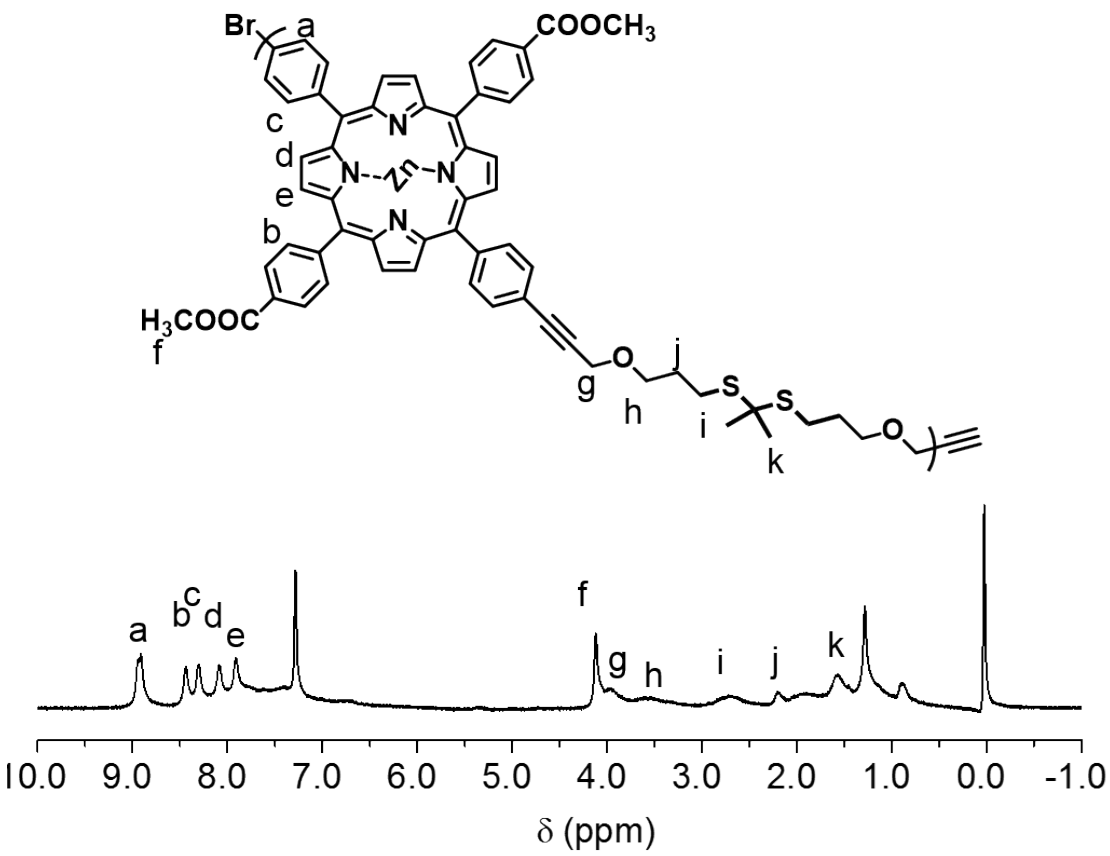


Figure S6. ^{1}H NMR spectrum of **pP** in $CDCl_3$.

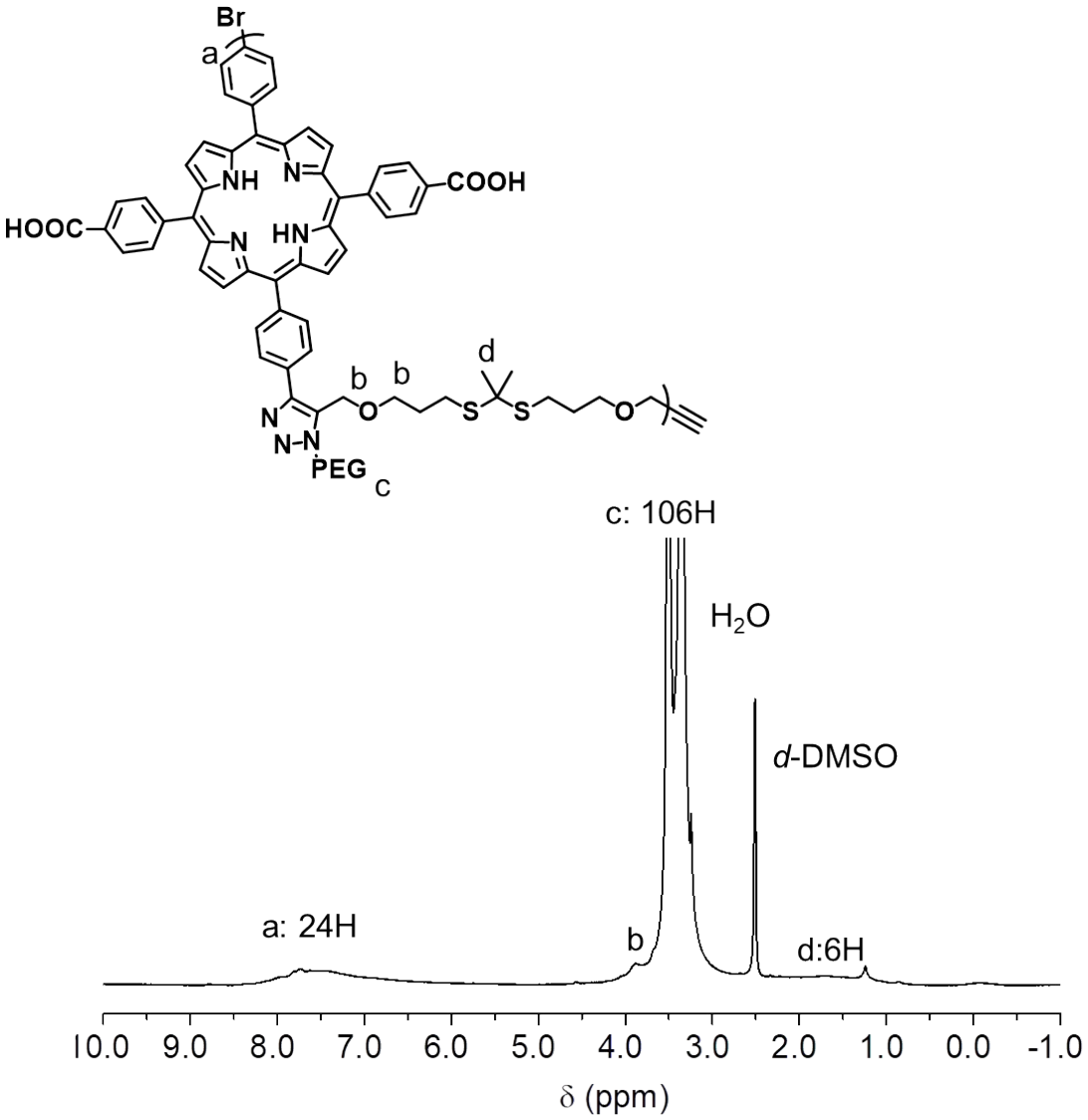


Figure S7. ^{1}H NMR spectrum of **pP-PEG** in *d*-DMSO.

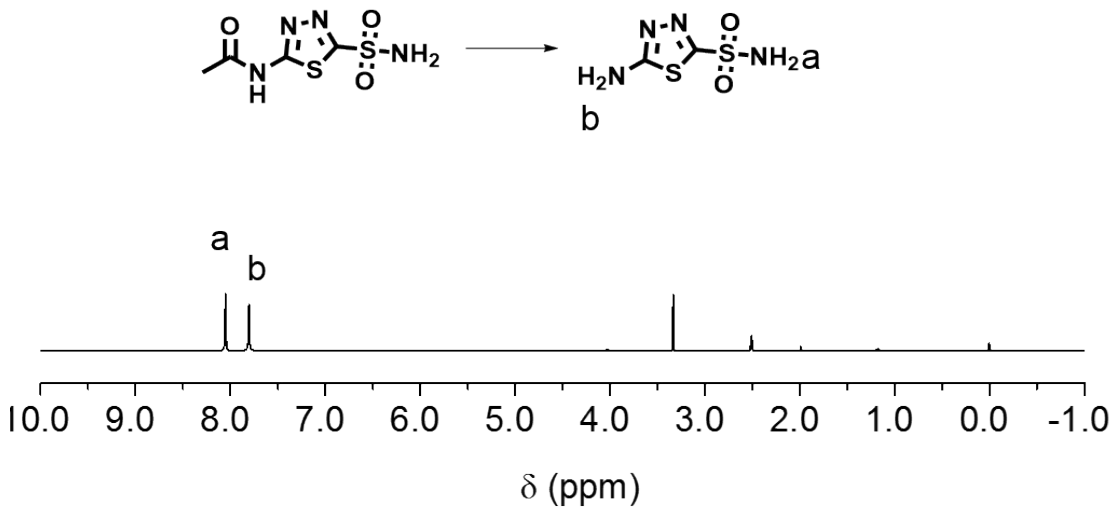


Figure S8. ^{1}H NMR spectrum of **AZ-amine** in *d*-DMSO.

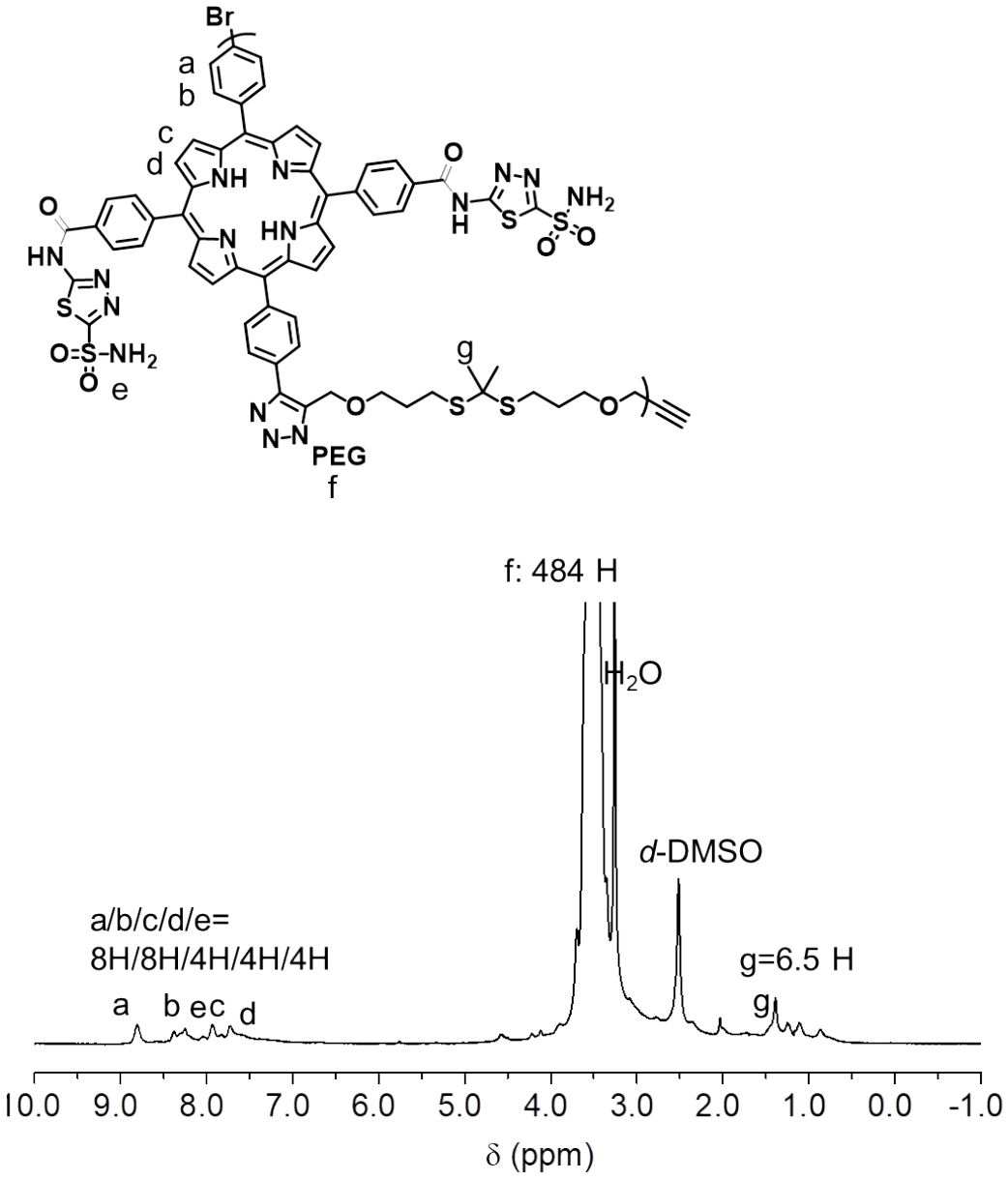


Figure S9. ^{1}H NMR spectrum of **pP-PEG-AZ** in *d*-DMSO.

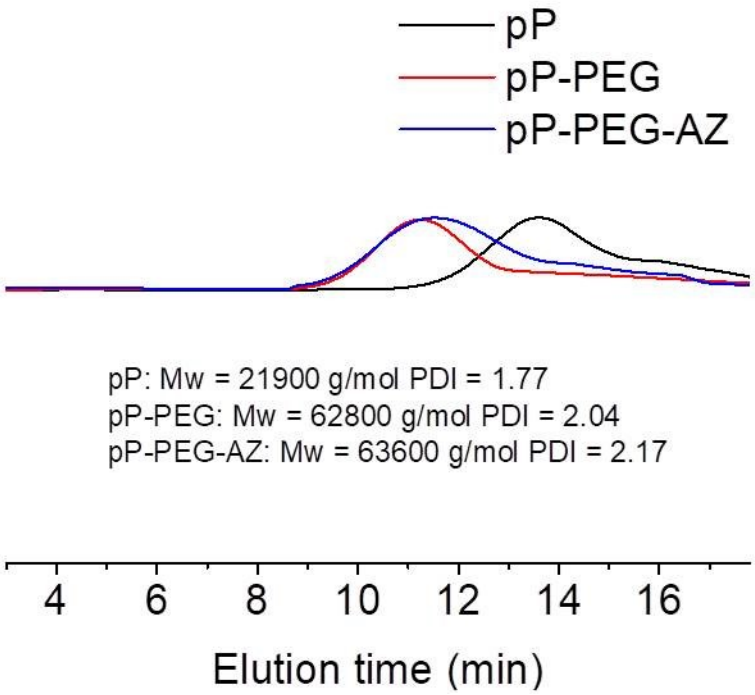


Figure S10. GPC curves of pP, pP-PEG and pP-PEG-AZ.

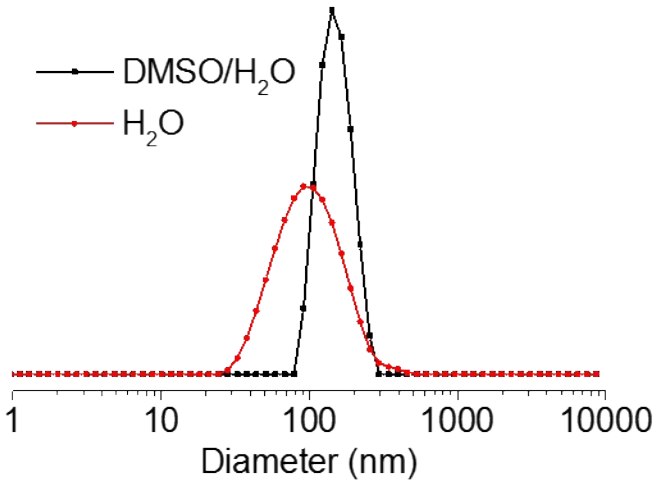


Figure S11. Size distribution of pP-PEG-AZ NPs formed by two methods.

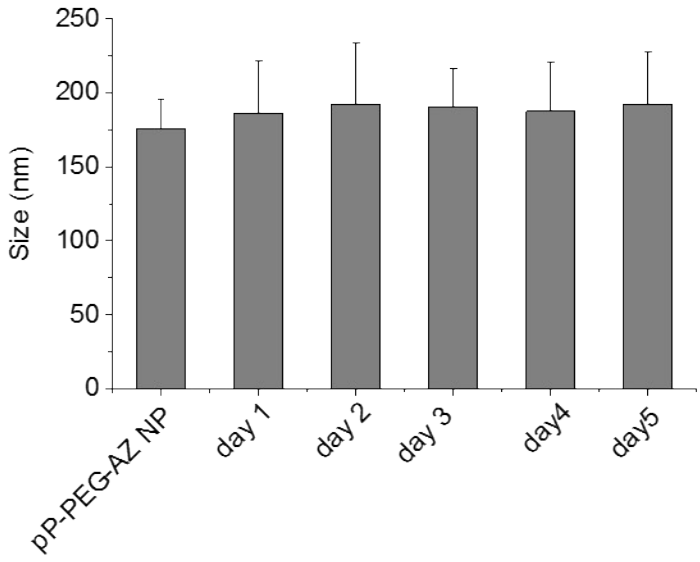


Figure S12 Particle sizes of pP-PEG-AZ NPs for diffient time incubation.

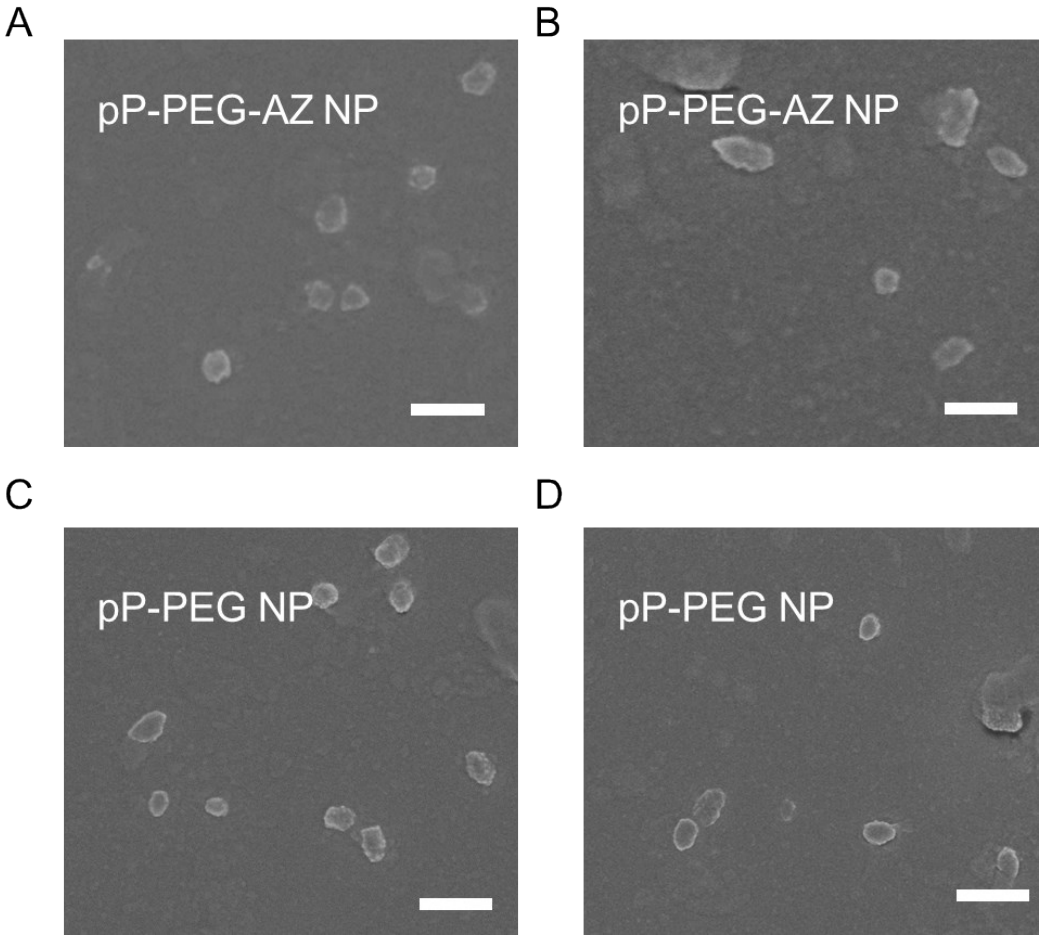


Figure S13. SEM image of pP-PEG-AZ NPs (A and B) and pP-PEG NPs (C and D).Bar = 500 nm.

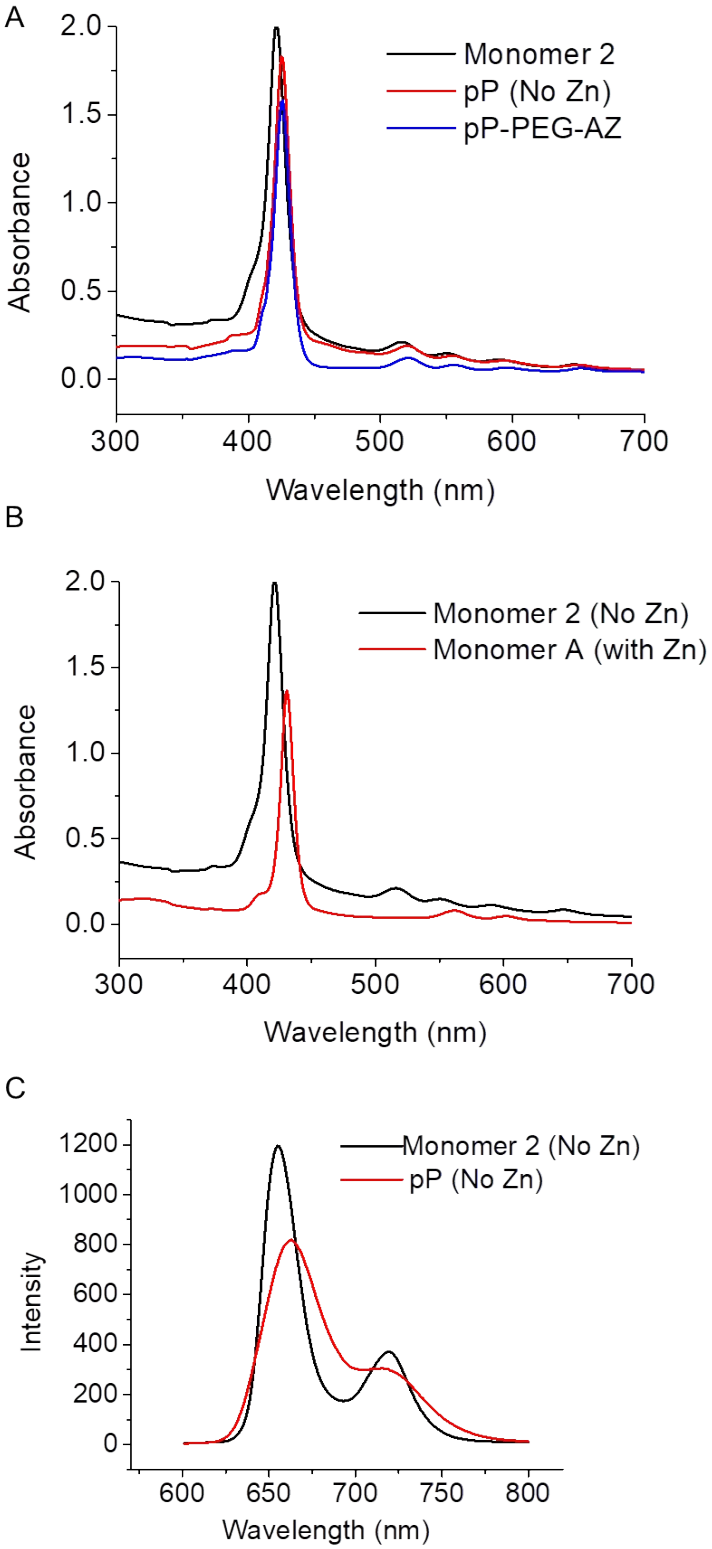


Figure S14. (A) (A) UV-vis spectra of the monomer 2, pP (no Zn), and pP-PEG-AZ NPs. (B) UV-vis absorbance spectra of monomer 2 (No Zn) and monomer A (Zn coordinated). (C) Fluorescence emission spectrum of the monomer 2 and pP (λ_e= 420 nm). Solvent: DMSO. Concentration: porphyrin moiety of $7.5*10^{-6}$M.

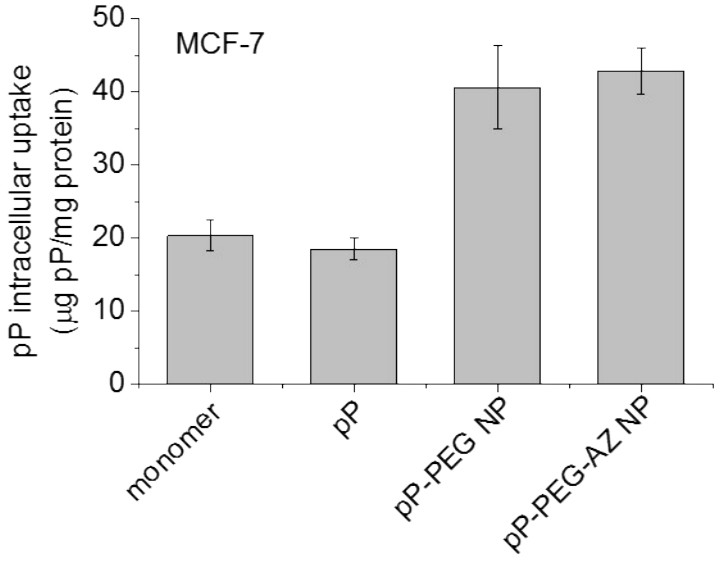


Figure S15 Intracellular internalization level of the monomer, pP, pP-PEG NPs, and pP-PEG-AZ NPs in MCF-7 cells. Incubation time: 12 h. n = 3.

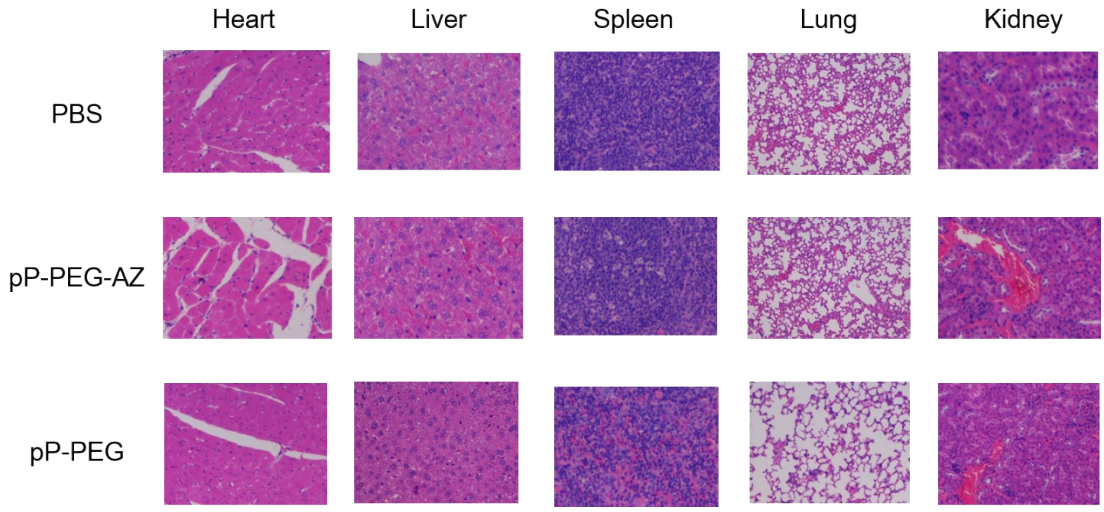


Figure S16. H&E staining images of normal tissues of the mice after different treatments.