

# Stepwisely Dual pH and Redox-Responsive Cross-linked Polypeptide Nanoparticles for Enhanced Cellular Uptake and Effective Cancer Therapy

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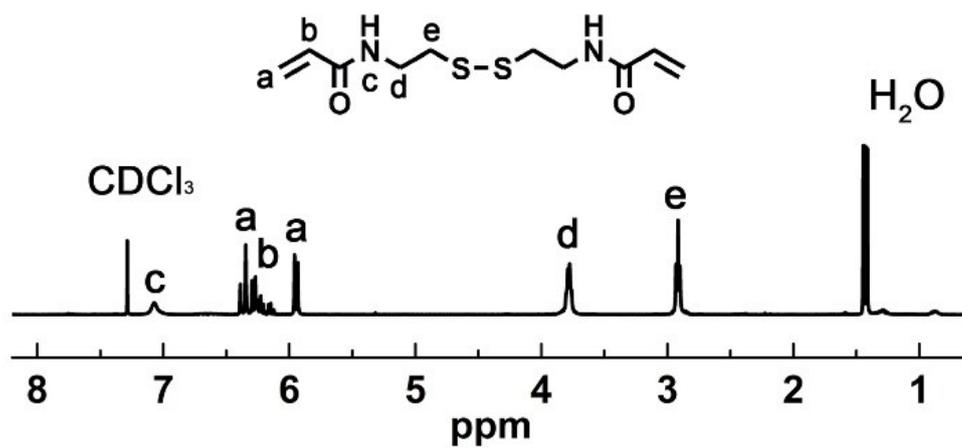


Figure S1 <sup>1</sup>H NMR spectra of BACy in CDCl<sub>3</sub>.

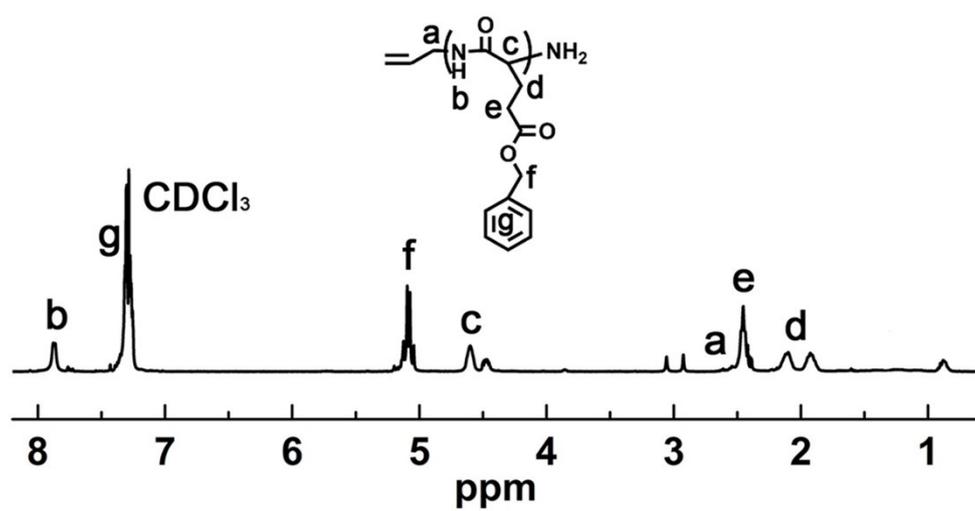


Figure S2 <sup>1</sup>H NMR spectra of PBLG in CDCl<sub>3</sub>/TFA.

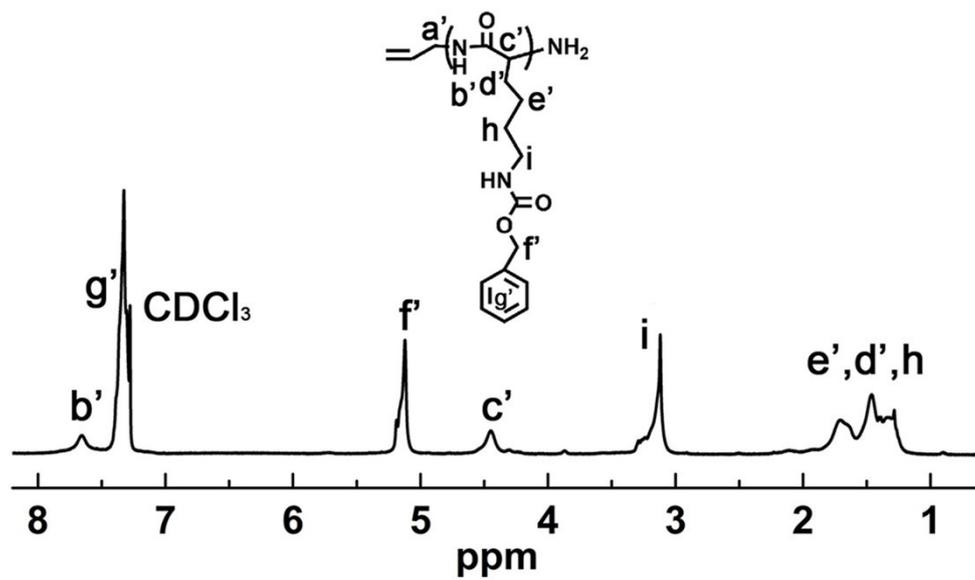


Figure S3 <sup>1</sup>H NMR spectra of PZLL in CDCl<sub>3</sub>/TFA.

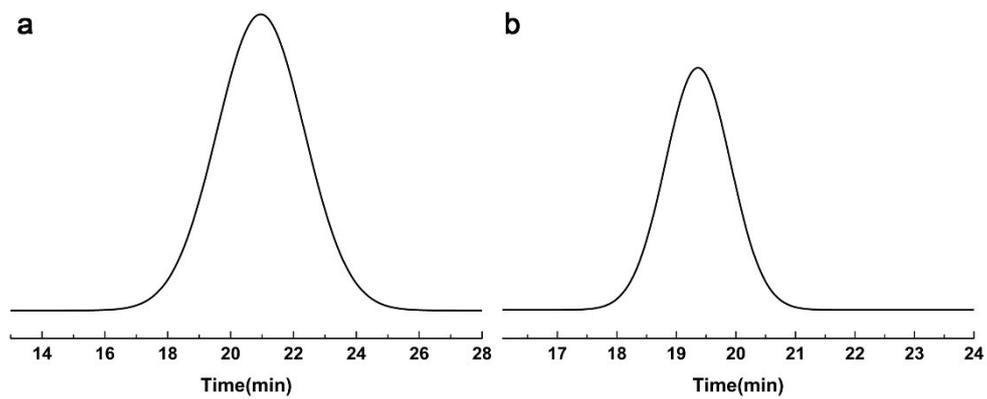


Figure S4 GPC curves of PBLG (a) and PZLLs (b), where the  $M_{n,PBLG}$  was of 7800 (PDI=1.07), and  $M_{n,PZLL}$  was of 10000 (PDI=1.19).

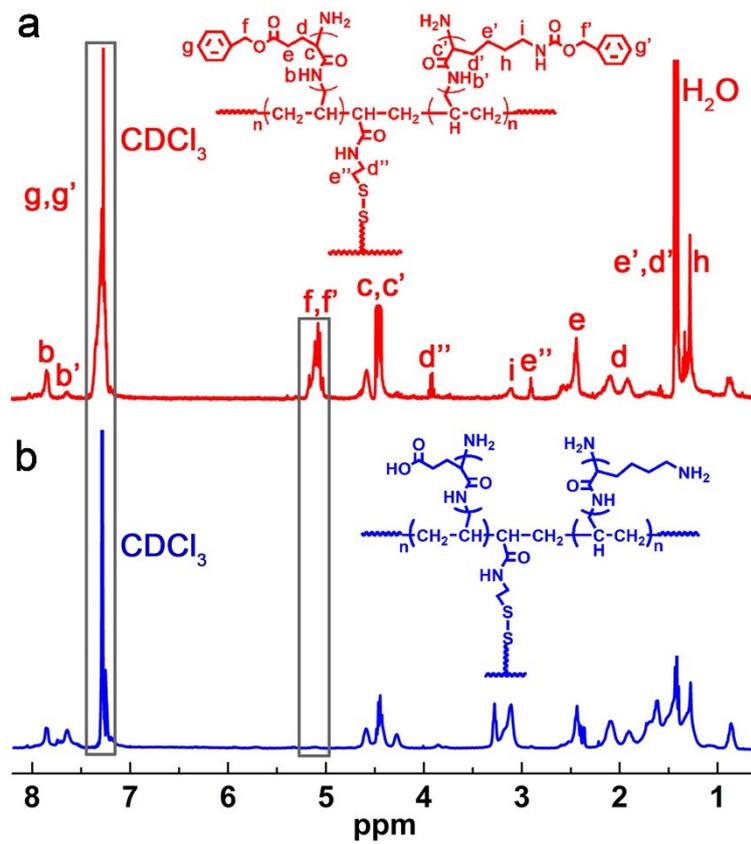


Figure S5  $^1\text{H}$  NMR spectra of cross-linked copolymer and BLPG-NPs in  $\text{CDCl}_3$ .

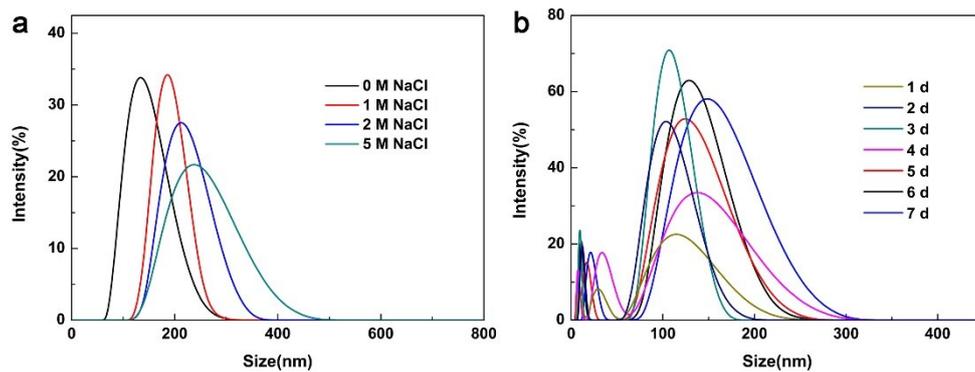


Figure S6 The aqueous-stability of PLBG<sub>1</sub>-NPs. (a) The size change of the PLBG<sub>1</sub>-NPs against different concentrated salt conditions by DLS measurement. (b) The size change of the PLBG-NPs in 10% FBS culture media.

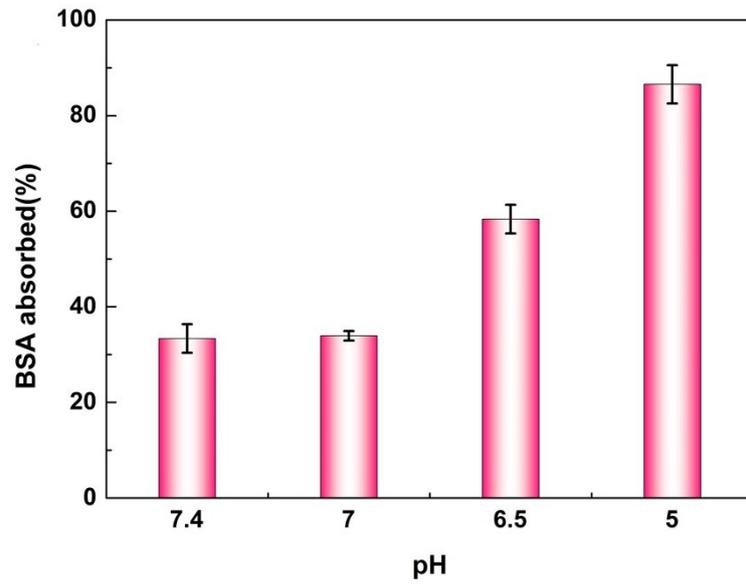


Figure S7 BSA adsorption of PLBG<sub>1</sub>-NPs under different pH conditions.

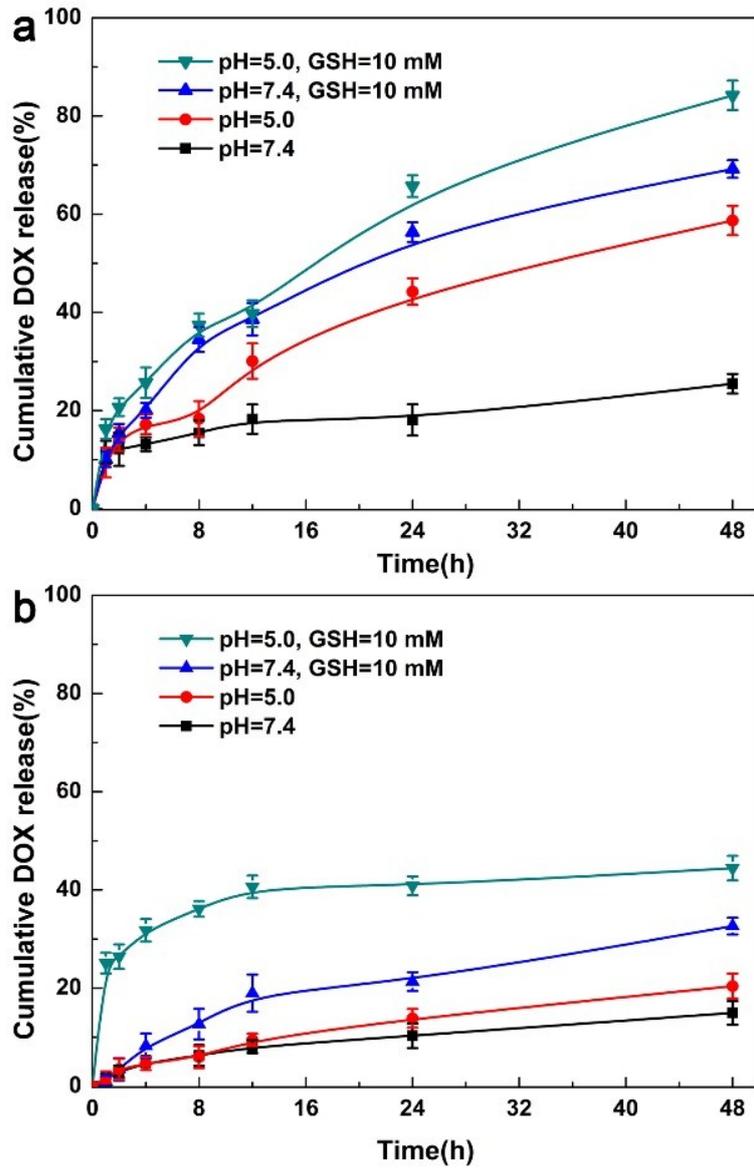


Figure S8 *In vitro* DOX release profiles of DOX-loaded NPs under different simulated physiological conditions. (a) PLBG<sub>1</sub>-NPs-DOX, (b) PLBG<sub>2</sub>-NPs-DOX.