Supplementary Information

Construction of GSH-triggered cationic fluoropolymer as two-in-one nanoplatform for combined chemo/gene therapy

Yu-Rong Zhan,[a] Juan Tan,[b] Meng-Wei Hei,[a] Shi-Yong Zhang [b] Ji Zhang,[*,a] and Xiao-Qi Yu[*a,c]

[a] *Key Laboratory of Green Chemistry and Technology (Ministry of Education), College of Chemistry, Sichuan University, Chengdu 610064, P. R. China*

[b] *College of Chemistry and National Engineering Research Center for Biomaterials, Sichuan University, Chengdu, 610064, China*

[c] *Department of Chemistry, Xihua University, Chengdu 610039, P. R. China*

*Corresponding authors: jzhang@scu.edu.cn, +86-28-85412627 (J. Zhang); xqyu@scu.edu.cn, +86-28-85415886 (X.-Q. Yu).

Table S1. Relative transfection efficiency of **PSSF** (according to PEI 25k) at various mass ratios (with reference to Figure 4C).

	w/w=10	w/w=15	w/w=20	w/w=25
HeLa	1.58	5.35	9.93	14.11
U2OS	5.51	3.91	3.32	2.67

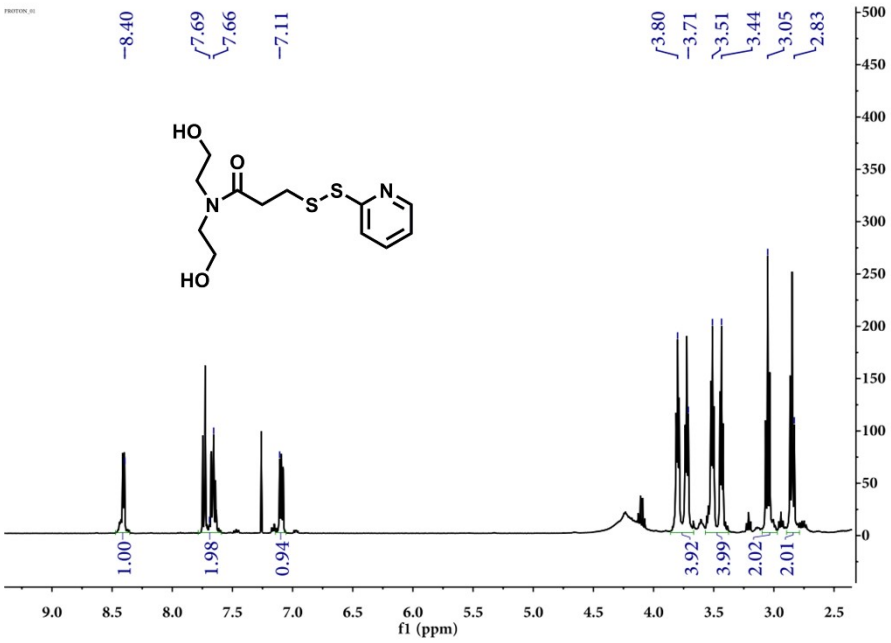

Figure S1. ^{1}H NMR spectrum of compound **2** in $CDCl_3$.

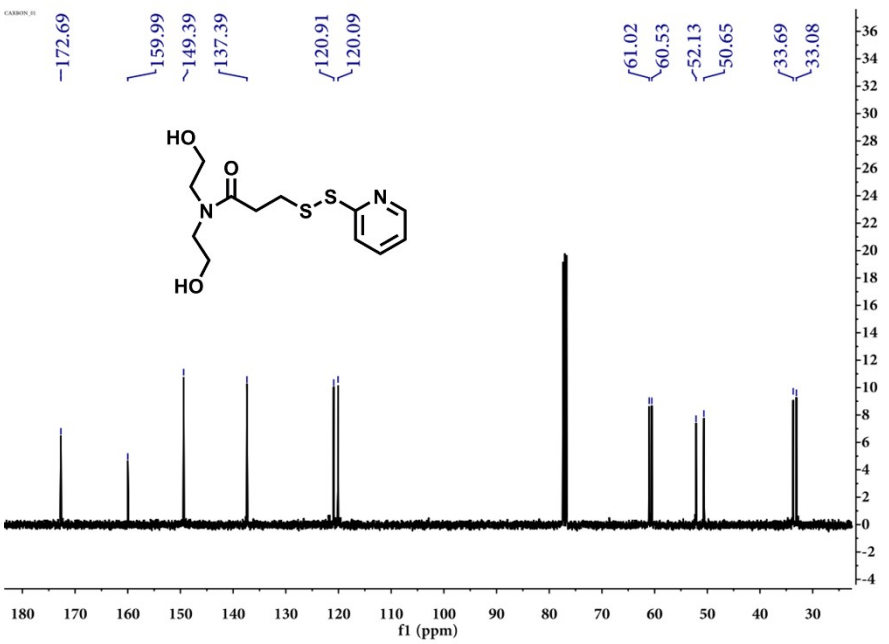

Figure S2. ^{13}C NMR spectrum of compound **2** in $CDCl_3$.

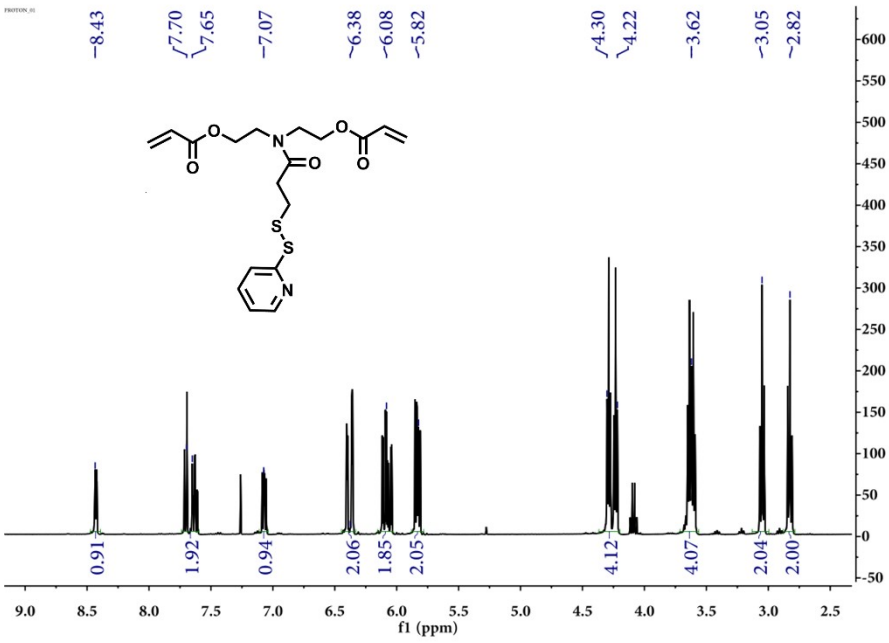

Figure S3. ^{1}H NMR spectrum of compound **SS** in $CDCl_3$.

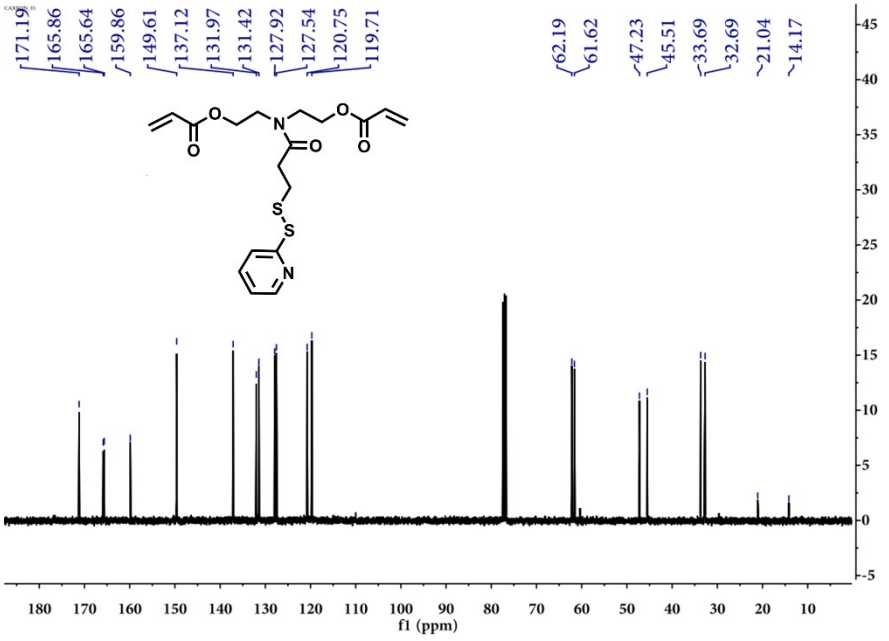

Figure S4. ^{13}C NMR spectrum of compound **SS** in $CDCl_3$.

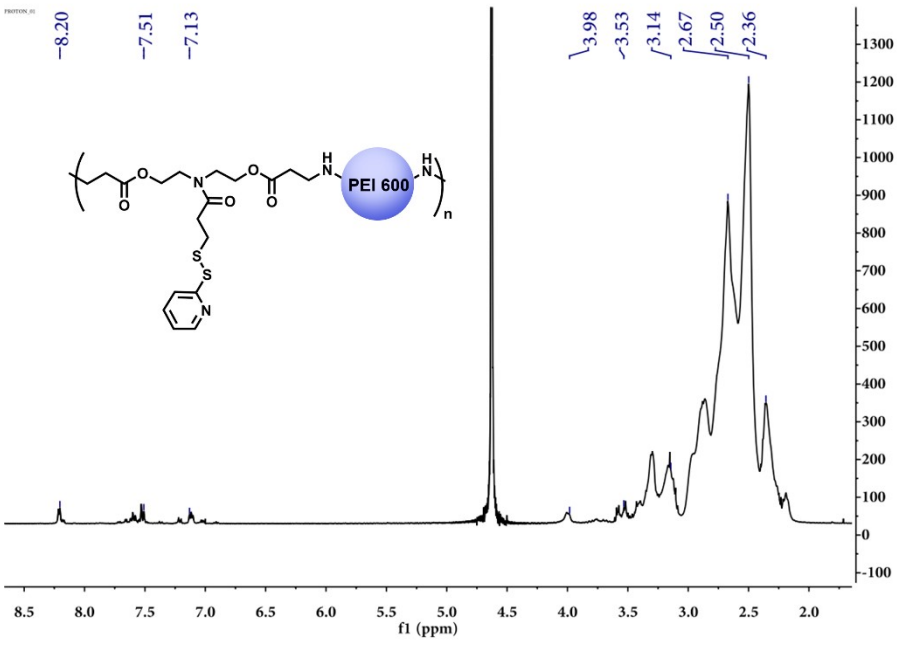

Figure S5. ^{1}H NMR spectrum of **PSS** in D_2O.

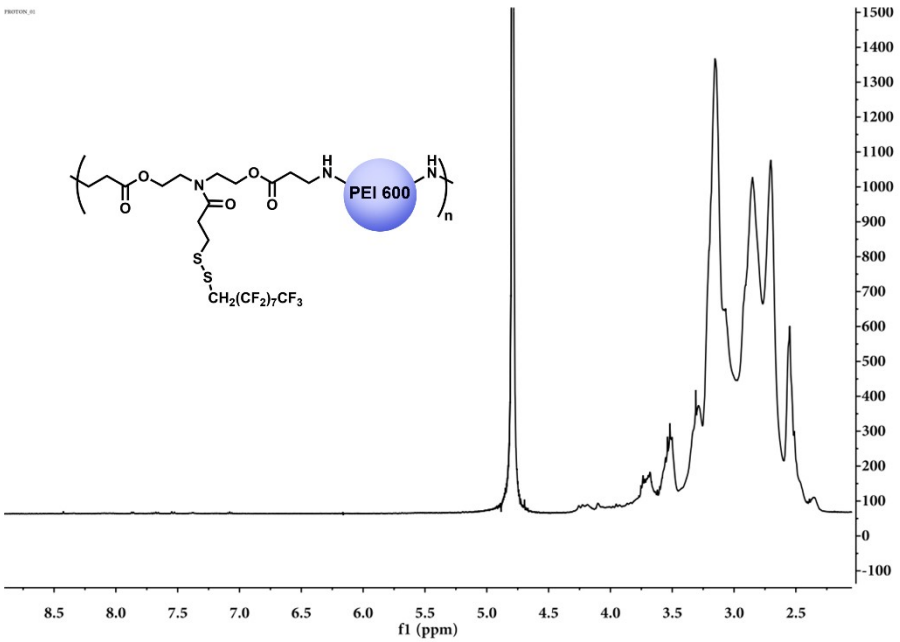

Figure S6. ^{1}H NMR spectrum of **PSSF** in D_2O.

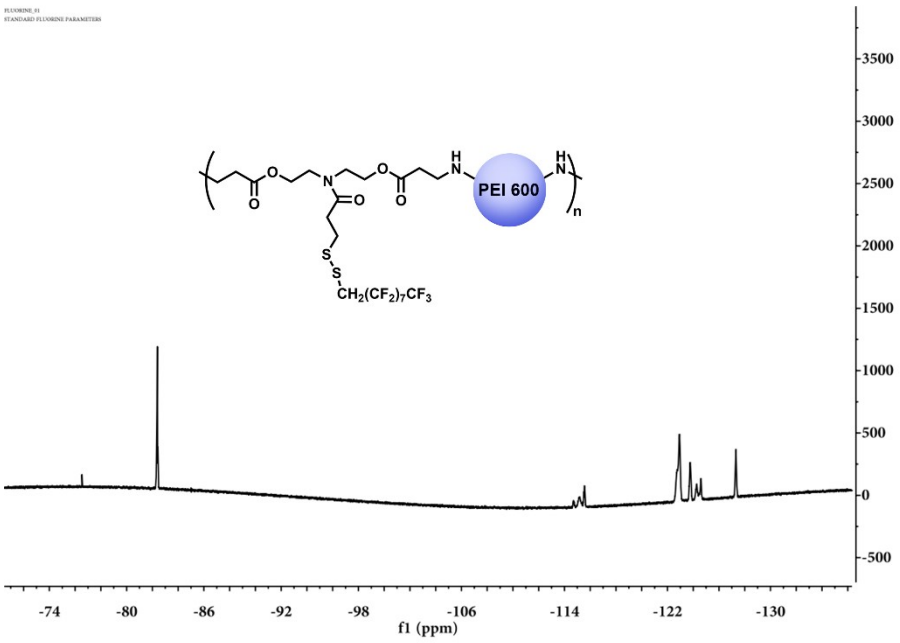

Figure S7. ^{19}F NMR spectrum of **PSSF** in MeOD.

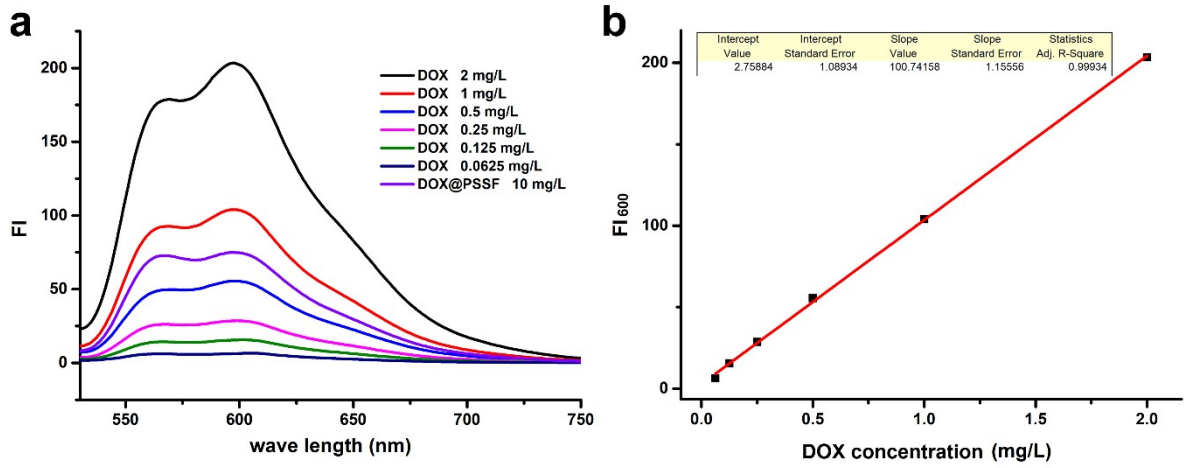

Figure S8. (a)The fluorescence spectrum of DOX and DOX@**PSSF** at different concentrations. (b) Standard curve of FI_{600}-DOX concentration.

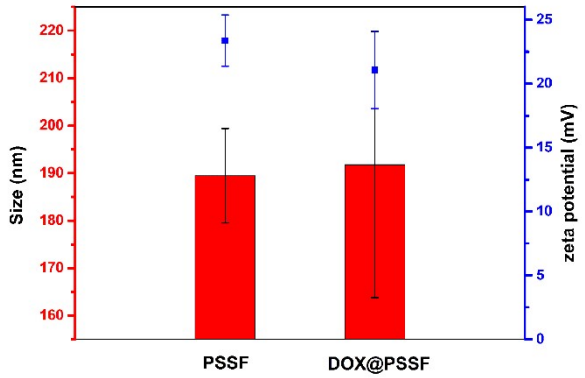

Figure S9. Particle size (columns) and zeta potential (dots) of **PSSF** and DOX@**PSSF**.

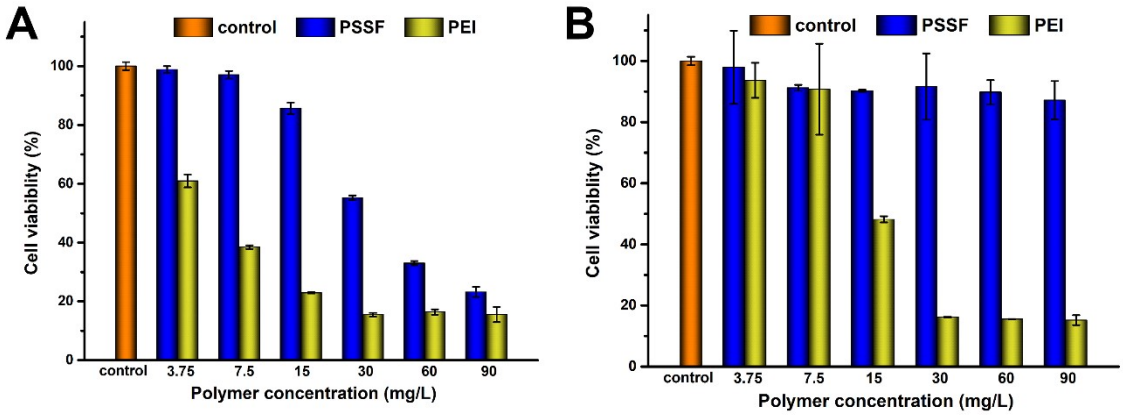

Figure S10. Cell viability after treatment with different **PSSF** concentrations for 48 h in 7702(A) and DC(B) cells

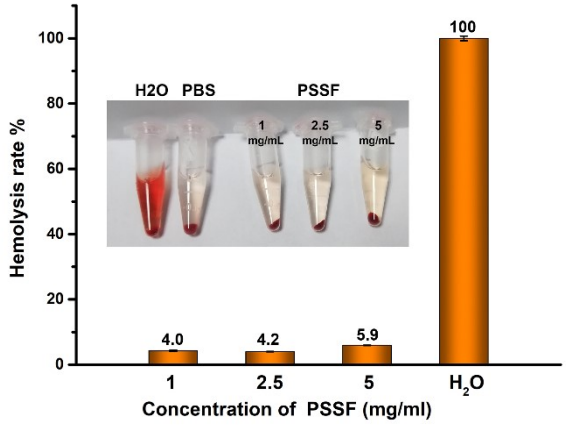

Figure S11. Hemolysis rate of **PSSF** at different concentrations after incubation with red blood for 2 h. Data represent mean ± SD (n=3).

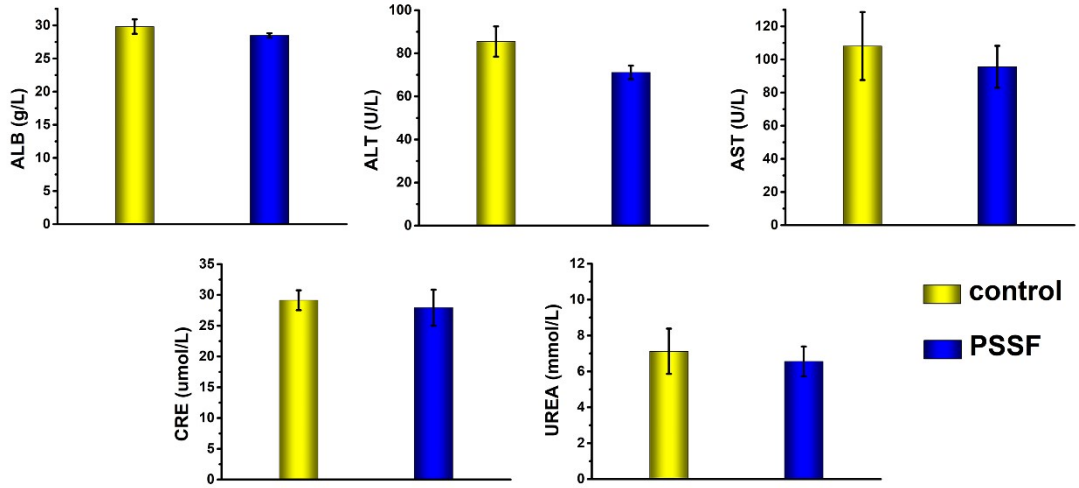

Figure S12. The blood biochemical indexes (ALB, ALT, AST, CRE, UREA) of mice injected with **PSSF** (50 mg/kg, once every other day, 3 times in total).

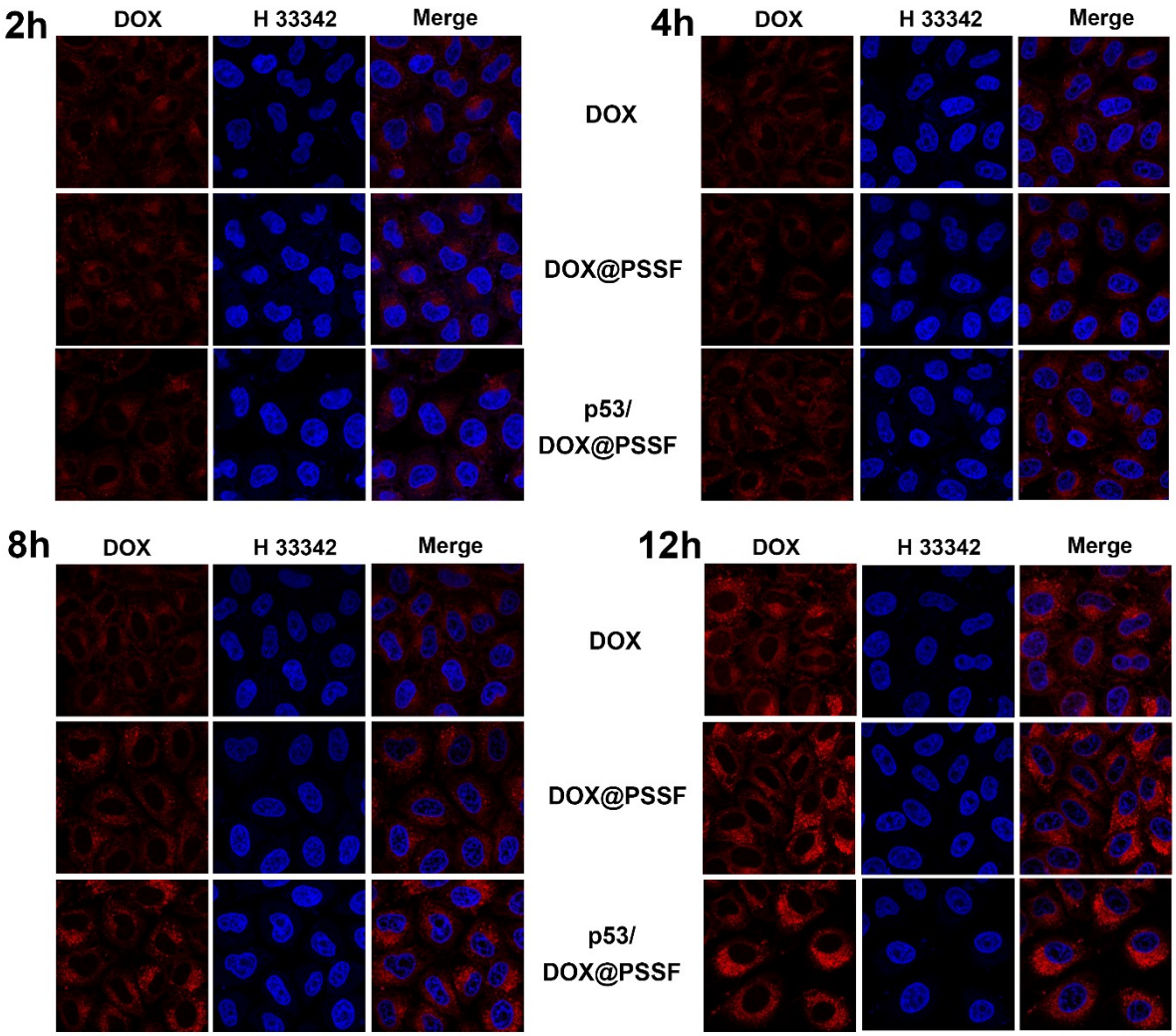

Figure S13. Cellular uptake of DOX at 2, 4, 8 and 12 h under different treatments (DOX: 2 μg/mL, p53: 1.85 μg/mL).

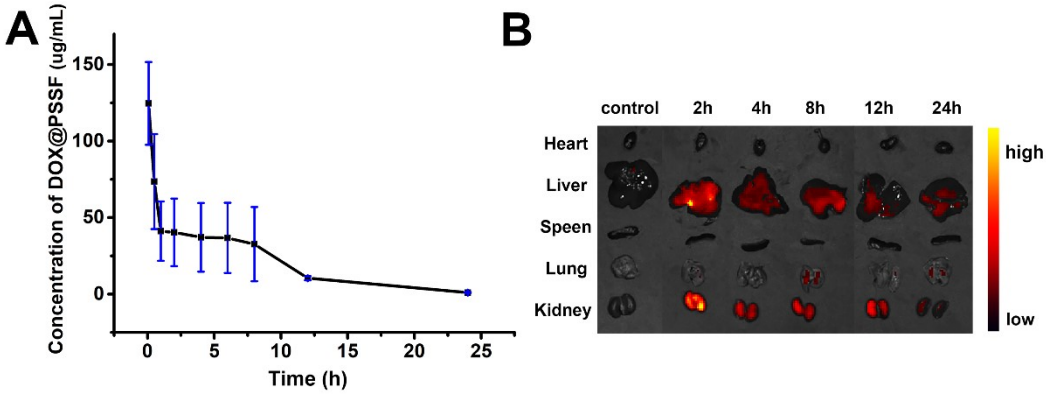

Figure S14. After mice tail vein injection, the blood retention (A) and bio-distribution of DOX@**PSSF** in major organs (B) at various time points.