

## Supporting Information

### Facilely Synthesized pH-Responsive Fluorescent Polymer Dots Entrapping Doped-Coupled Doxorubicin for Nucleus-Targeted Chemotherapy

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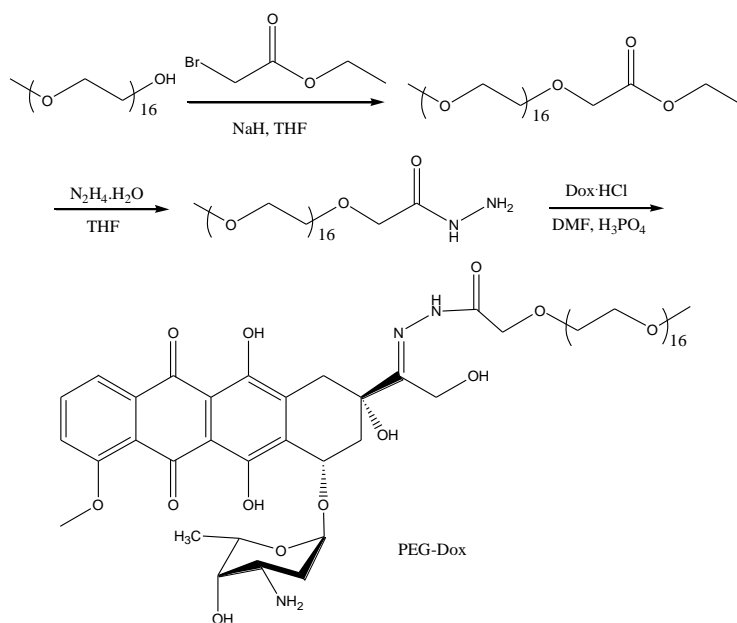
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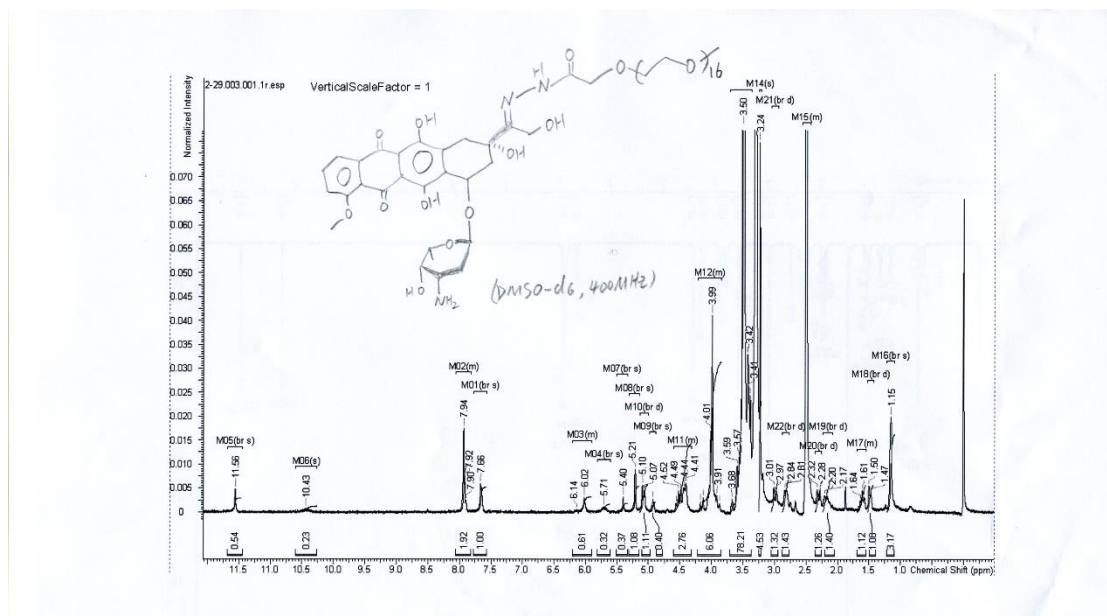
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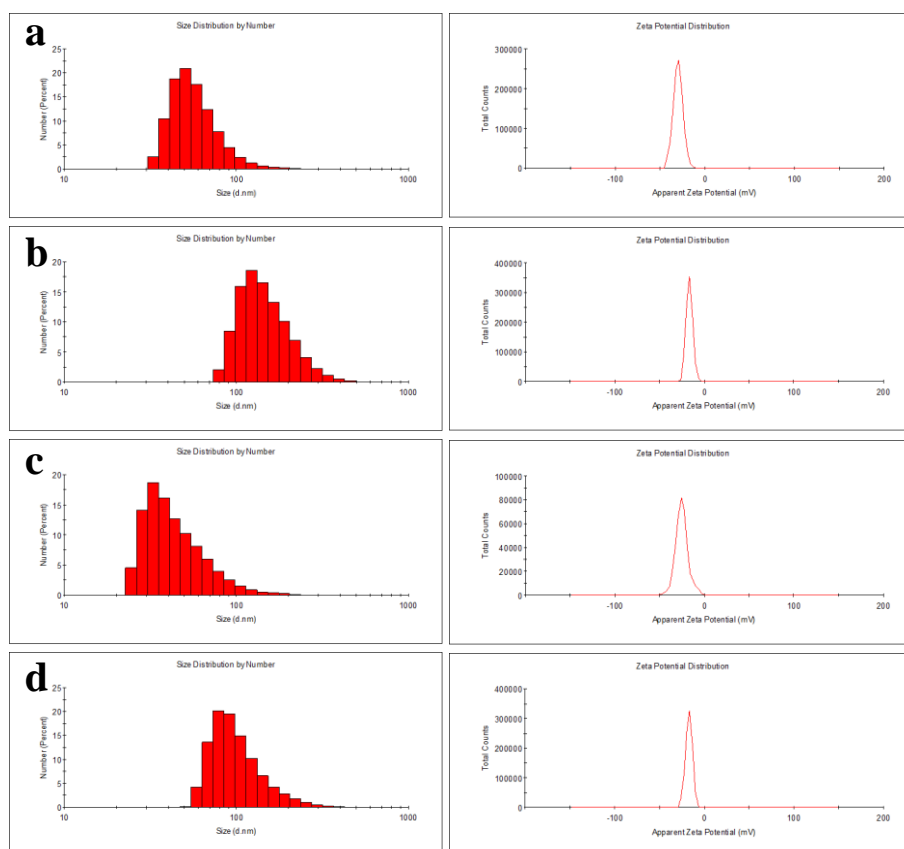
xiongliqin@sjtu.edu.cn



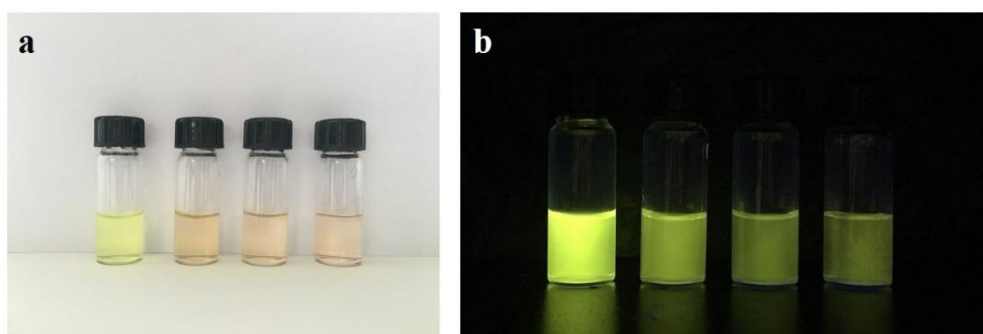
**Scheme S1.** Synthesis of PEG-Dox.



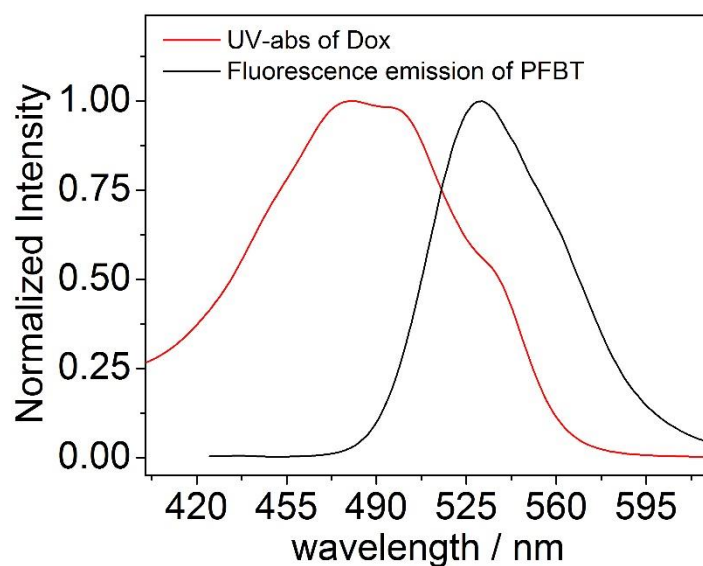
**Fig. S1.**  $^1\text{H}$  NMR spectrum of PEG-Dox.



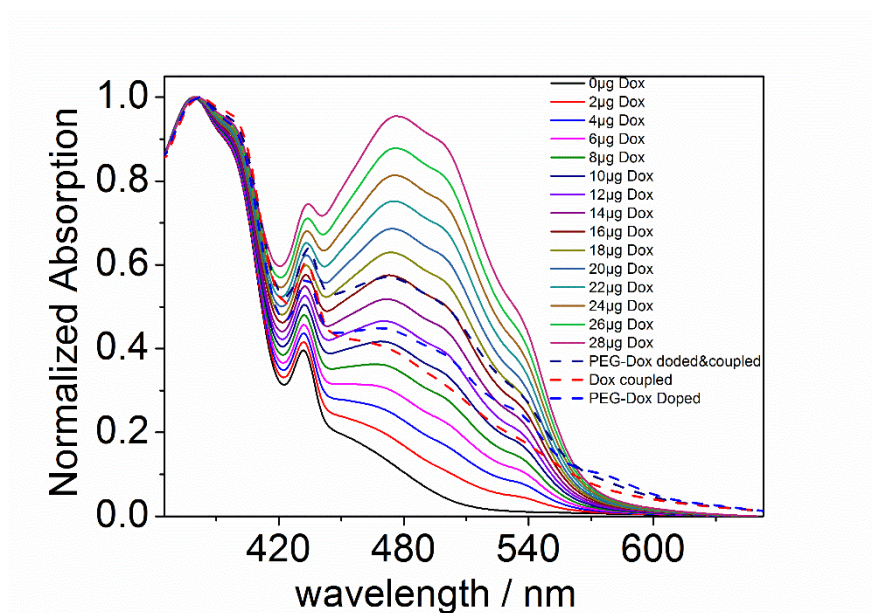
**Fig. S2.** DLS and Zeta potential distribution of different polymer dots measured in low concentration Hepes. (a) PFBT polymer dots. (b) Dox coupled PFBT polymer dots. (c) PEG-Dox doped PFBT polymer dots. (d) PEG-Dox doped&coupled PFBT polymer dots.



**Fig. S3.** Different polymer dots samples in (a) Room lights (b) UV lights (365nm excitation). From left to right: PFBT polymer dots, PEG-Dox doped polymer dots, Dox coupled polymer dots and PEG-Dox doped&coupled polymer dots.



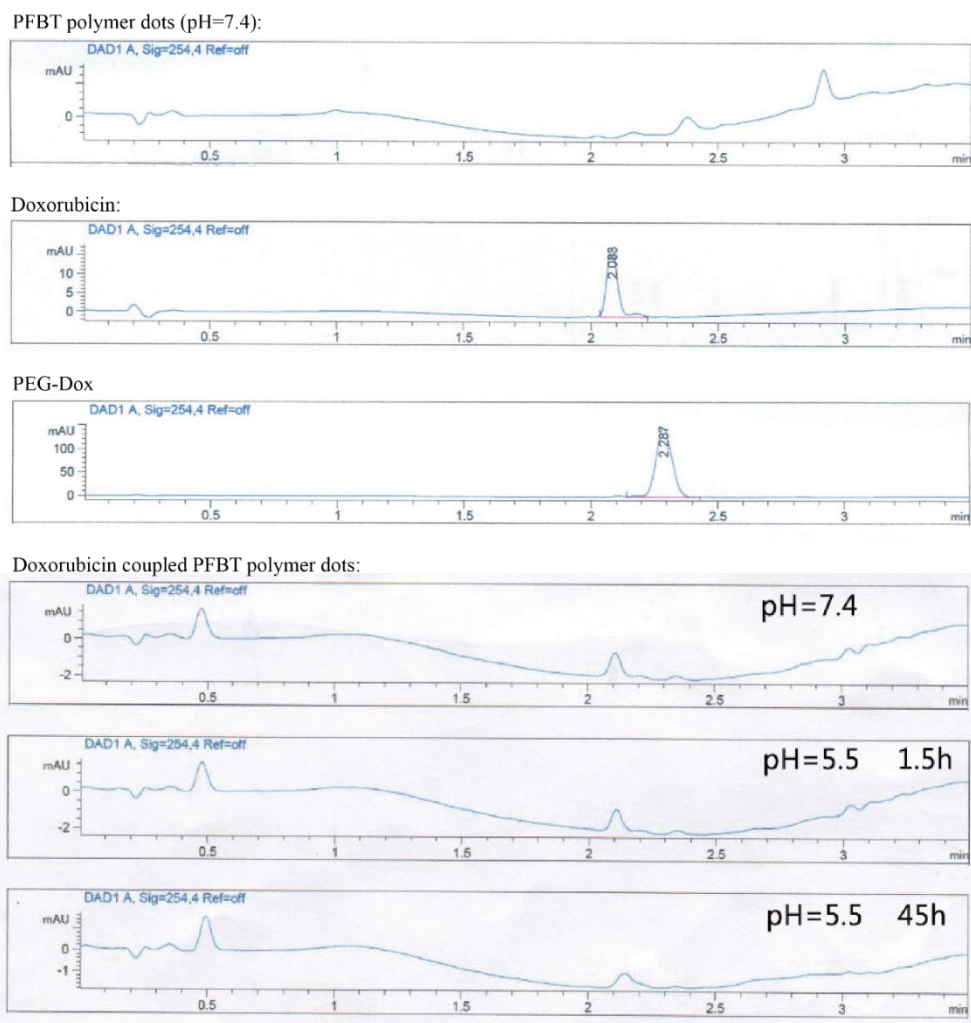
**Fig. S4.** Fluorescence emission spectrum of PFBT and UV-Vis absorption spectrum of Dox.



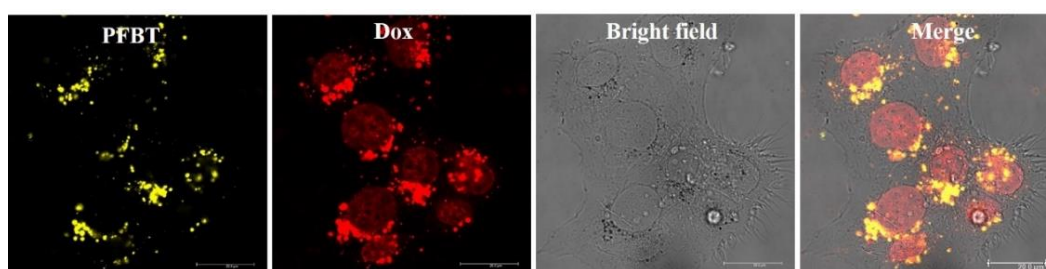
**Fig. S5.** Drug loading evaluation of three different Dox functionalized PFBT polymer dots.

	UV 488	FL 488EX	QY
Free Dox	0.04191	285.058	0.048
PFBT (47000) polymer dots	0.01497	1295.530	0.605
Dox coupled PFBT polymer dots	0.05457	875.156	0.112
PEG-Dox doped PFBT polymer dots	0.04405	651.006	0.103
PEG-Dox doped&coupled PFBT polymer dots	0.03609	468.684	0.091
Rhodamine-6G	0.024	3090.614	0.94

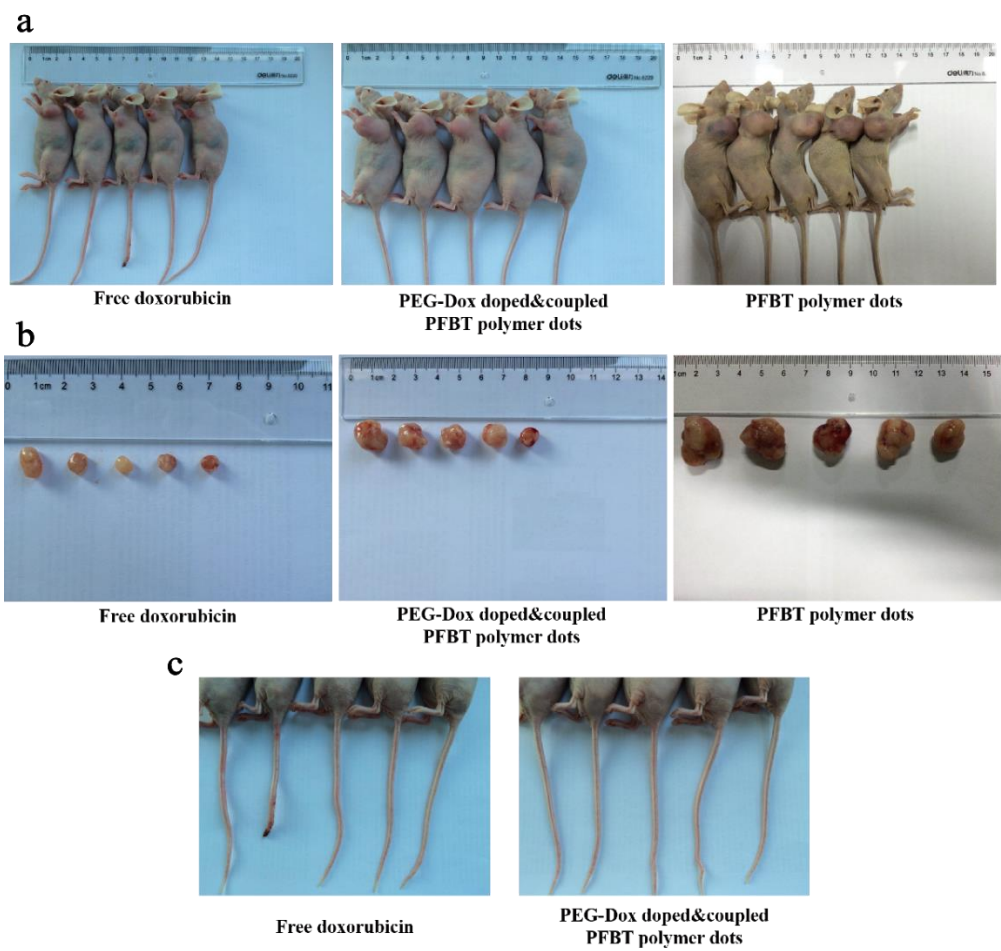
**Table S1.** Fluorescence Quantum Yield value. Rhodamine6G was used as a standard with a fluorescence quantum yield of 0.94.



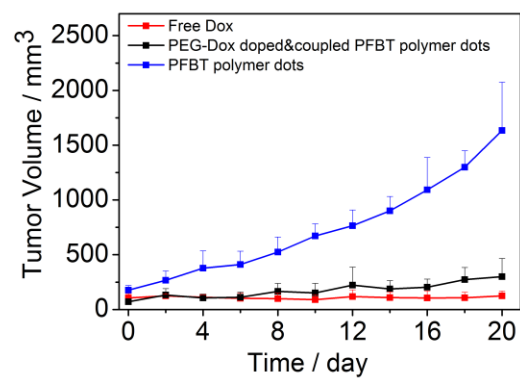
**Fig. S6.** High performance liquid chromatography (HPLC) spectra of PFBT polymer dots, Dox, PEG-Dox and Dox coupled PFBT polymer dots.



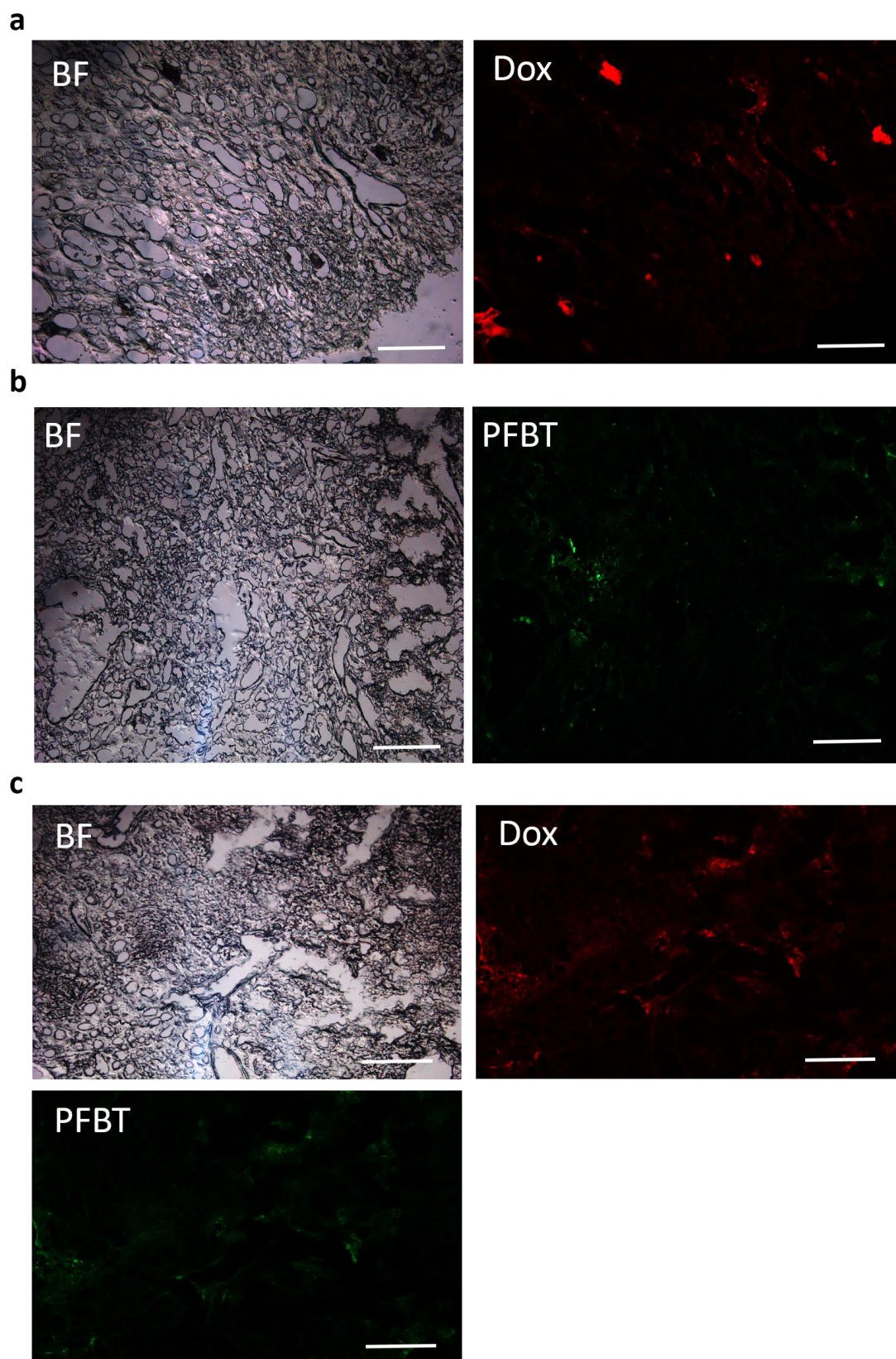
**Fig. S7.** CLSM of PFBT polymer dots and Dox solution mixture during 24h. PFBT polymer dots were applied with  $10\mu\text{g/mL}$ , and Dox were applied with  $3\text{m}\mu\text{g/mL}$ . PFBT polymer dots were collected from 450~530nm (EX: 405nm), and Dox was collected from 550~600nm (EX: 488nm). (Scale bar = $20\mu\text{m}$ ) Merge channel includes the channel of the Dox, PFBT and the bright field.



**Fig. S8** (a) Picture of NCI-H292 tumor bearing mice (5 each group) after treatment. (b) Picture of tumor tissue collected after treatment. (c) Picture of mice tails after treatment.



**Fig. S9.** Tumor volume record during 20 days. The tumor volume is the average volume of the total 5 mice tumor volume of each group.



**Fig. S10.** Fluorescence imaging of tumor tissue in (a) free Dox group. (b) PFBT polymer dots group. (c) PEG-Dox doped&coupled polymer dots group. (Scale bar: 100 $\mu$ m)