

Supporting Information for

**A confined crosslinking strategy towards intelligent organosilica-  
micellar hybrid drug delivery system**

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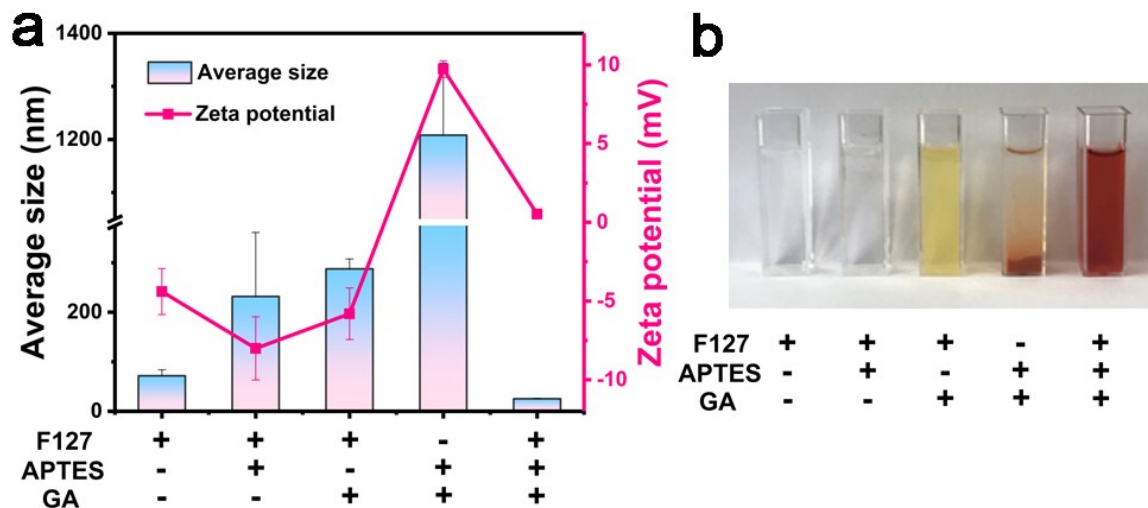
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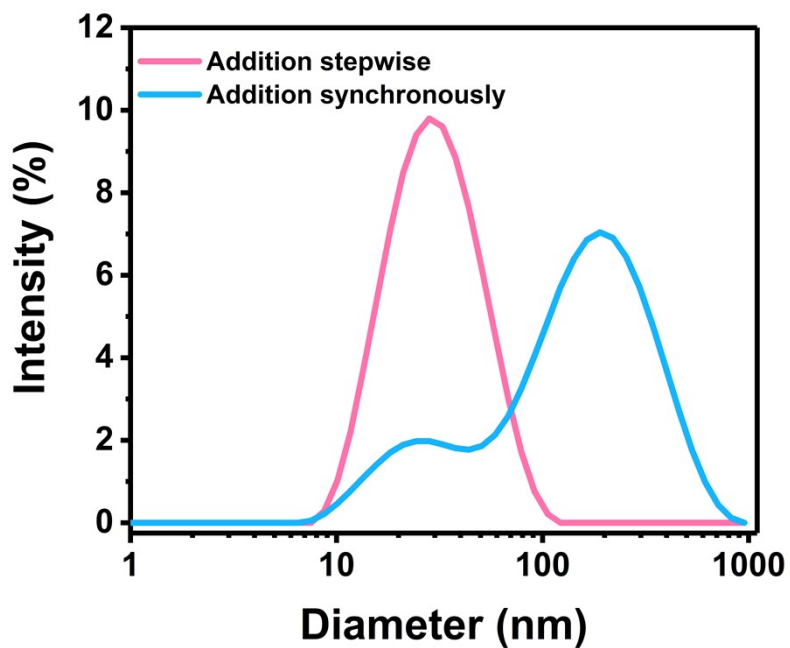
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**Figure S1.** Average sizes and Zeta potentials (a), and digital photographs (b) of the samples with different addition of F127 (600 mg), APTES (100  $\mu$ L), or GA (100  $\mu$ L).



**Figure S2.** Size distributions of FPN synthesized by stepwise or synchronously addition of APTES and GA.

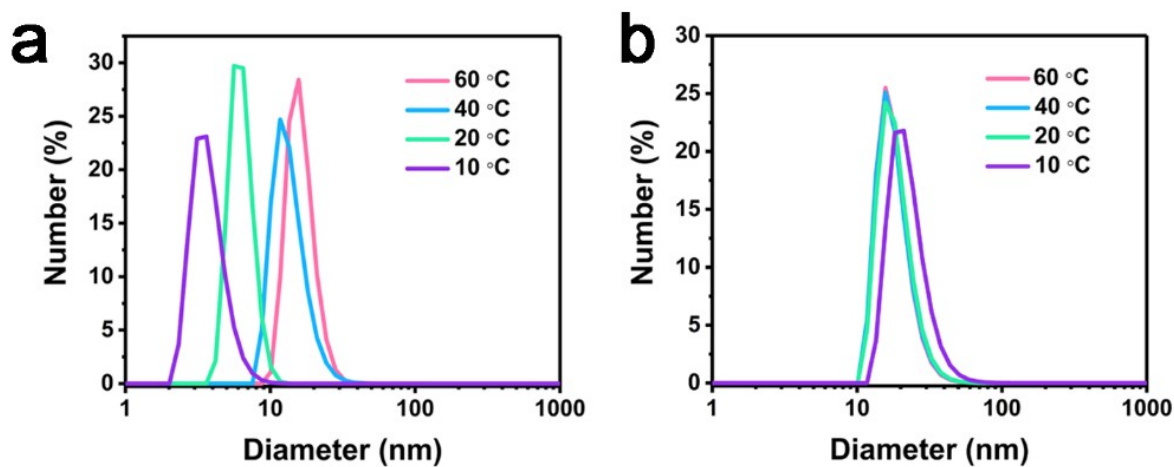


Figure S3. Size distributions of F127 micelle (a) and FPN (b) under different temperatures.

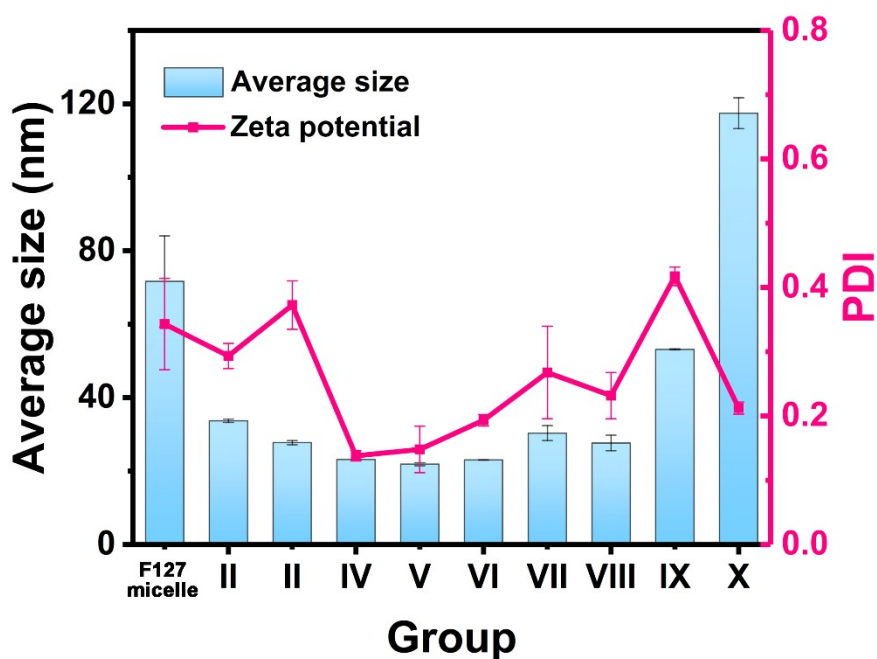
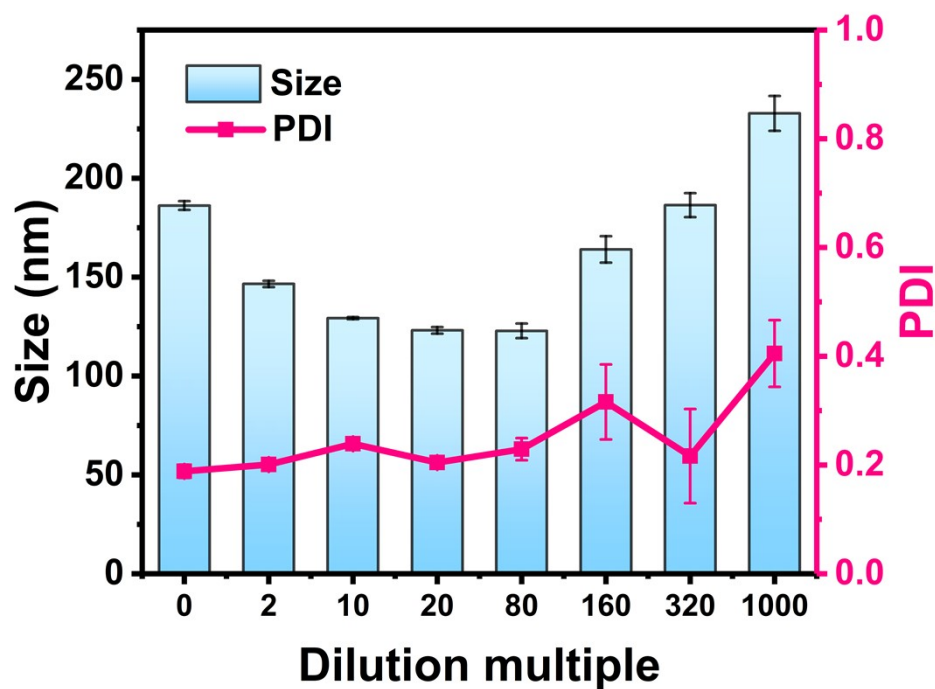
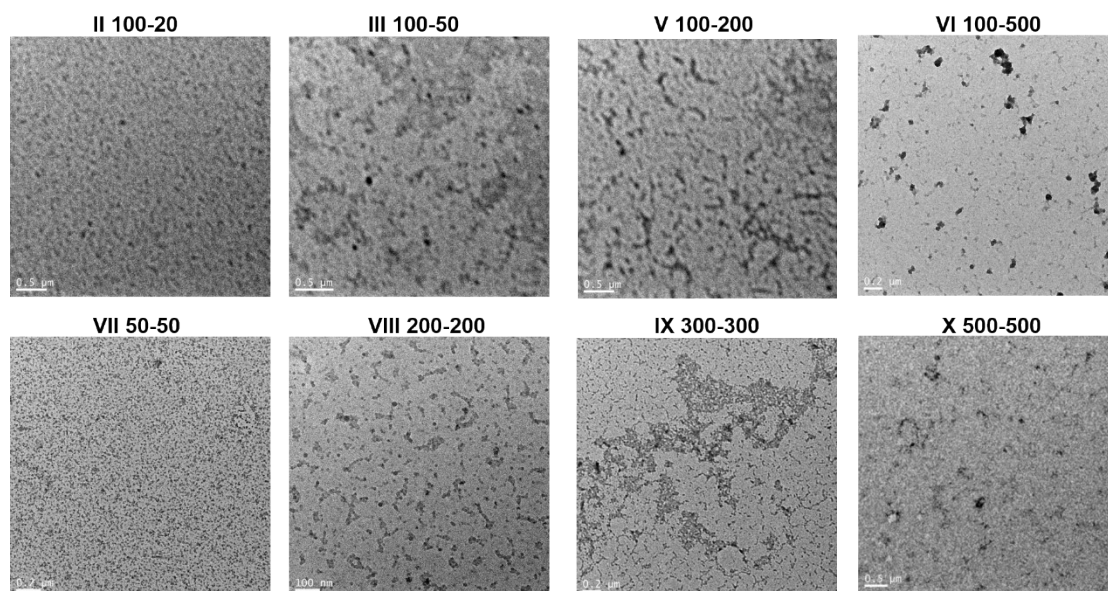


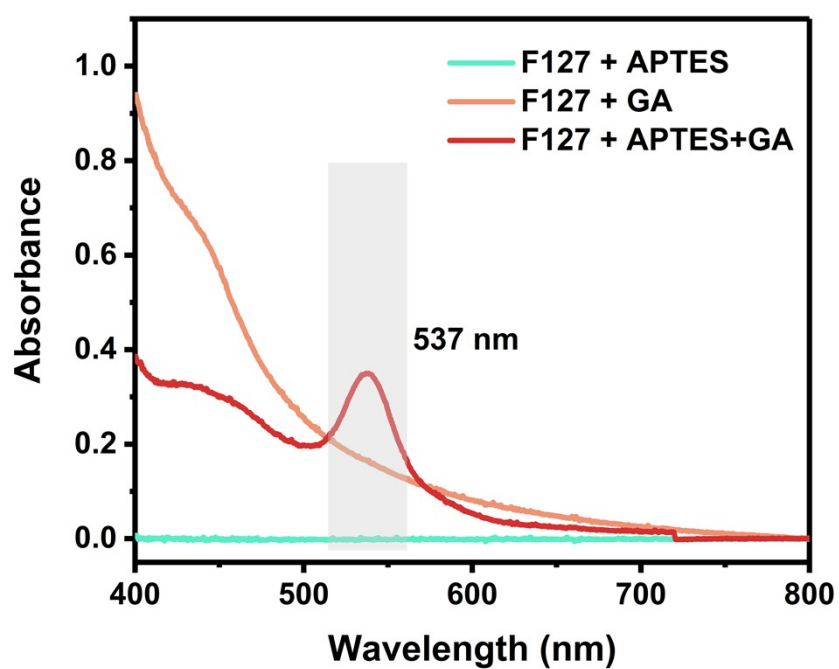
Figure S4. Average size and PDI of F127 micelle and FPN with different feeding ratios of APTES and GA.



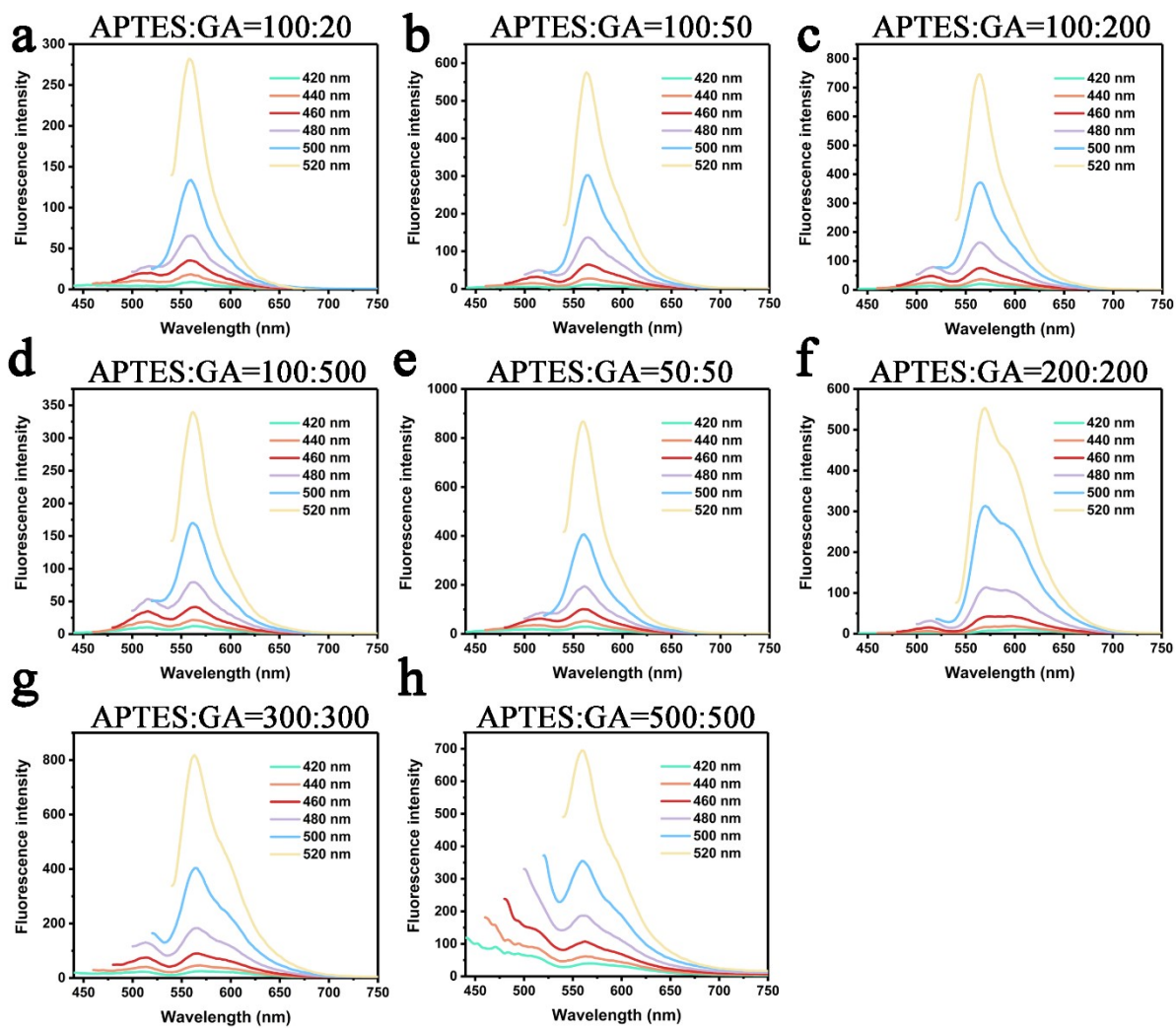
**Figure S5.** Size change of FPN (group X, APTES=500  $\mu$ L, GA=500  $\mu$ L) with increase of dilution times.



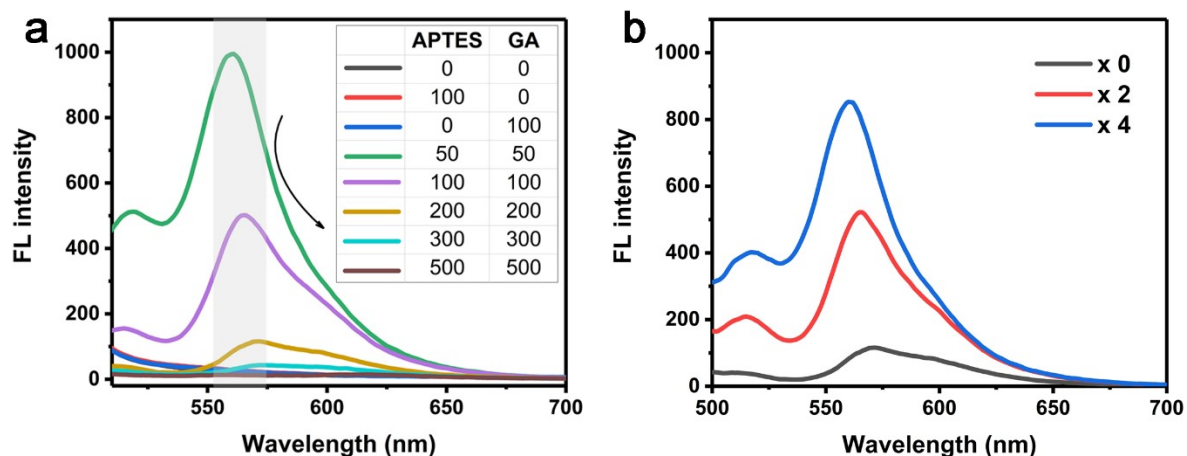
**Figure S6.** TEM images of FPN with different feeding ratios of APTES and GA (F127: 600 mg, different volume ratio of APTES and GA,  $\mu$ L: $\mu$ L).



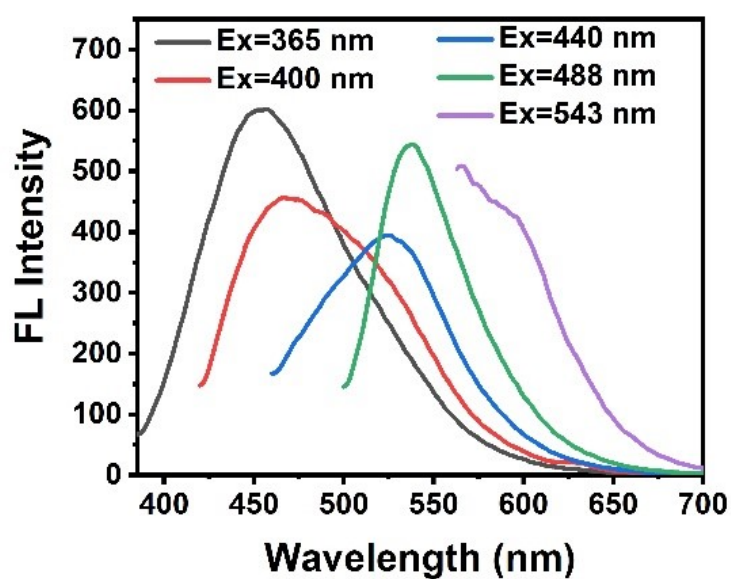
**Figure S7.** UV-Vis absorbance spectra of F127+APTES, F127+GA, and F127+APTES+GA (FPN).



**Figure S8.** Fluorescence emission spectra of different FPN with different excitation wavelengths (F127: 600 mg, different volume ratio of APTES and GA,  $\mu\text{L}:\mu\text{L}$ ).



**Figure S9.** (a) Fluorescence emission spectra of FPN with different feeding amount of APTES and GA (volume ratio,  $\mu\text{L}:\mu\text{L}$ ). (b) Fluorescence spectra of FPN (group X, APTES:GA = 500:500) with different dilution times.



**Figure S10.** Fluorescence emission spectra of self-condensed products of glutaraldehyde (GA) under the excitation of different wavelengths.



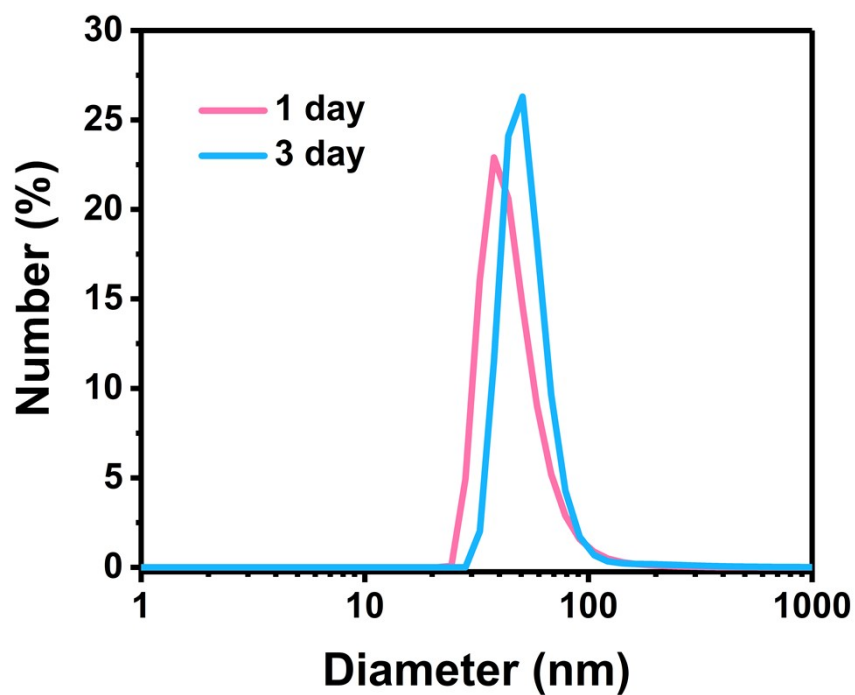


Figure S11. Size distribution of FPN in plasma for 3 days.

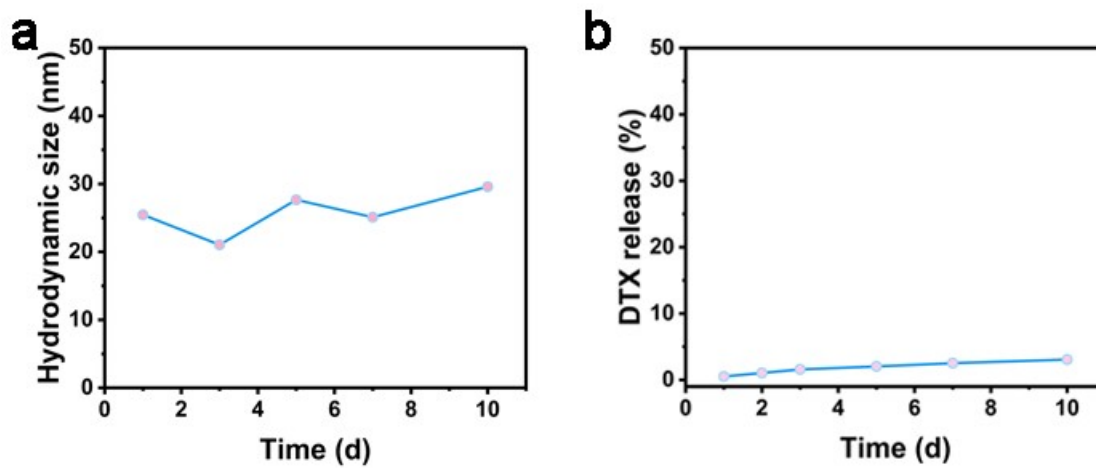
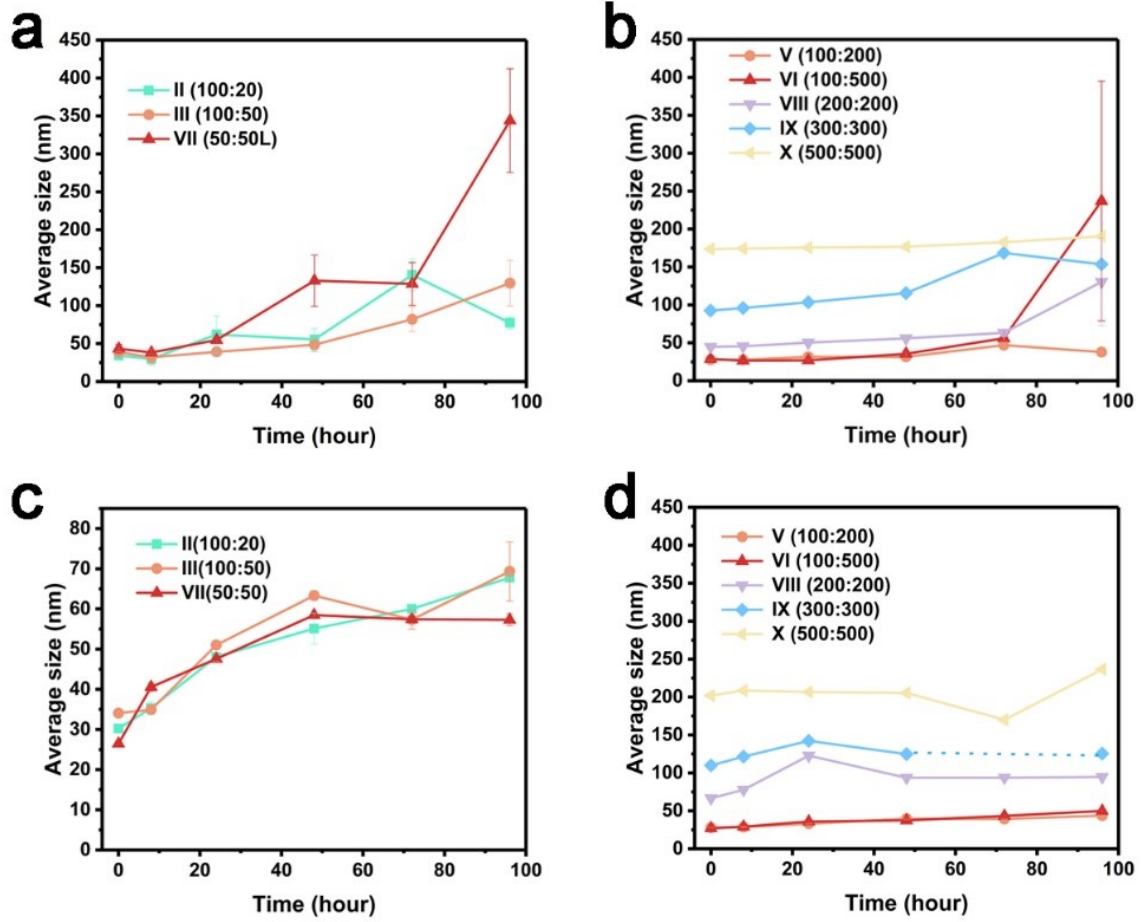


Figure S12. Size change (a) and drug release (b) of DFPN under 4 °C condition for 10 days.





**Figure S13.** The size stability of FPN with different addition of APTES and GA under PBS and culture medium.

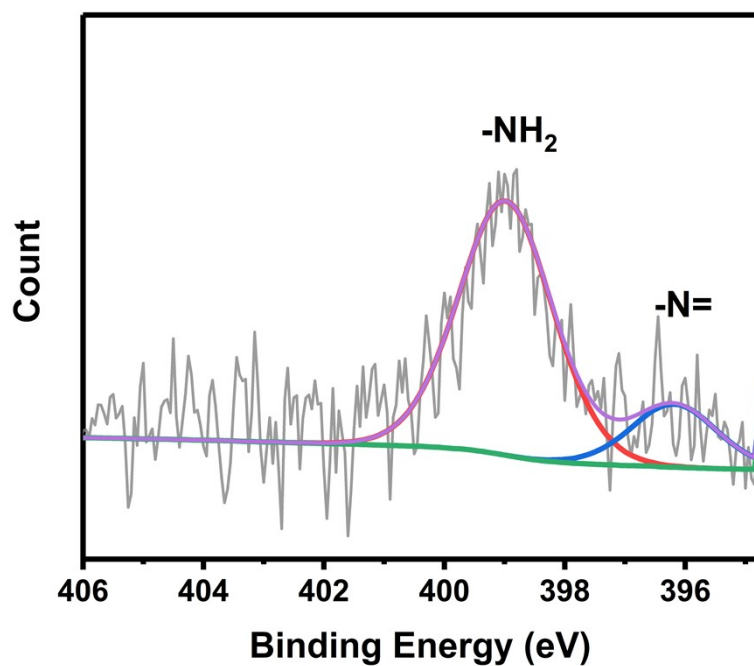


Figure S14. XPS spectra of N1s narrow scan for FPN.

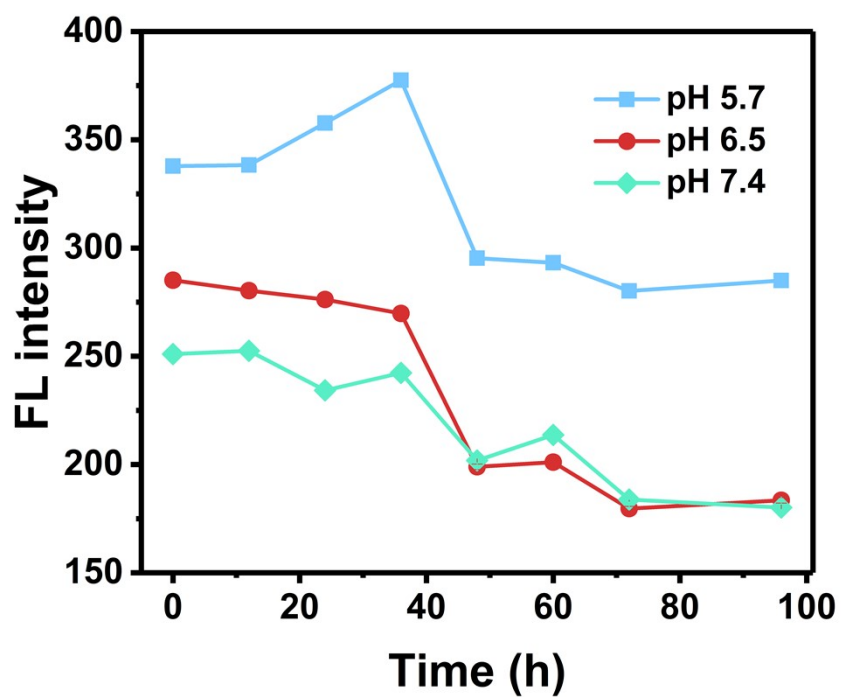
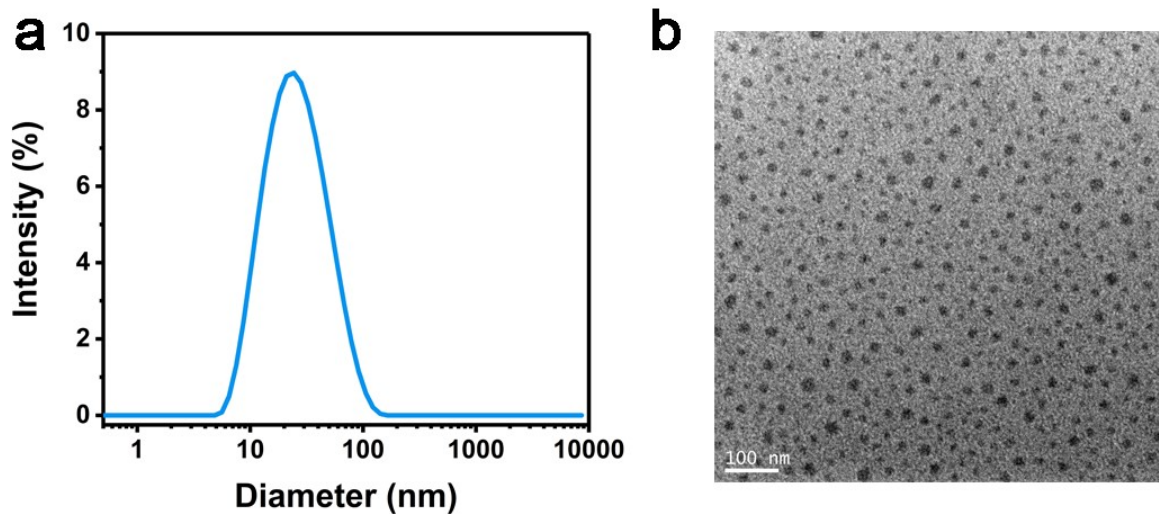
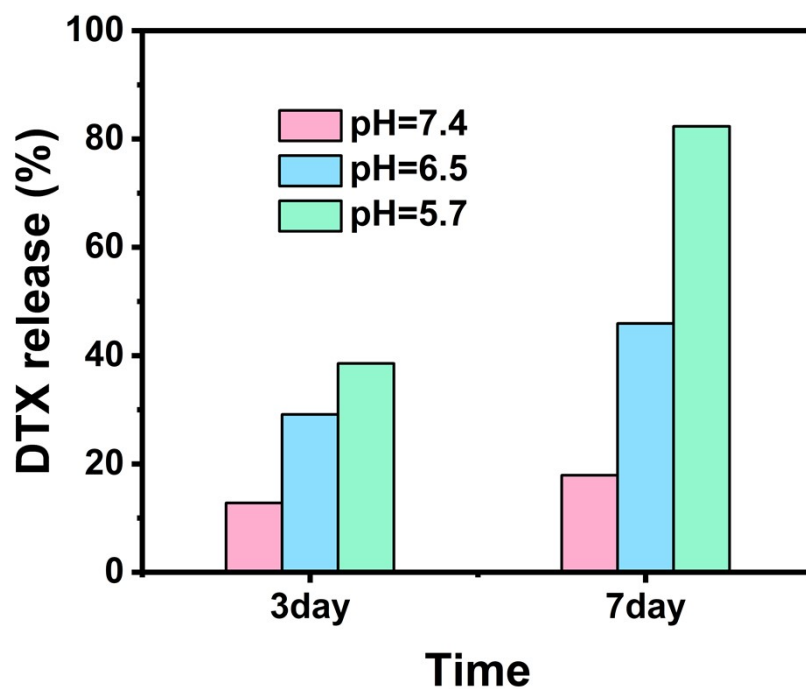


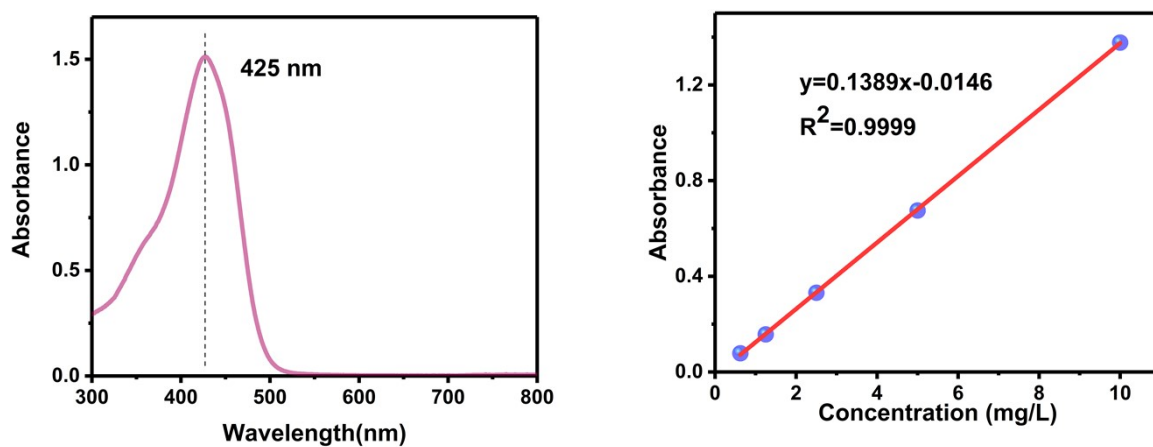
Figure S15. Fluorescence intensity of FPN in the PBS with different pH values for different time.



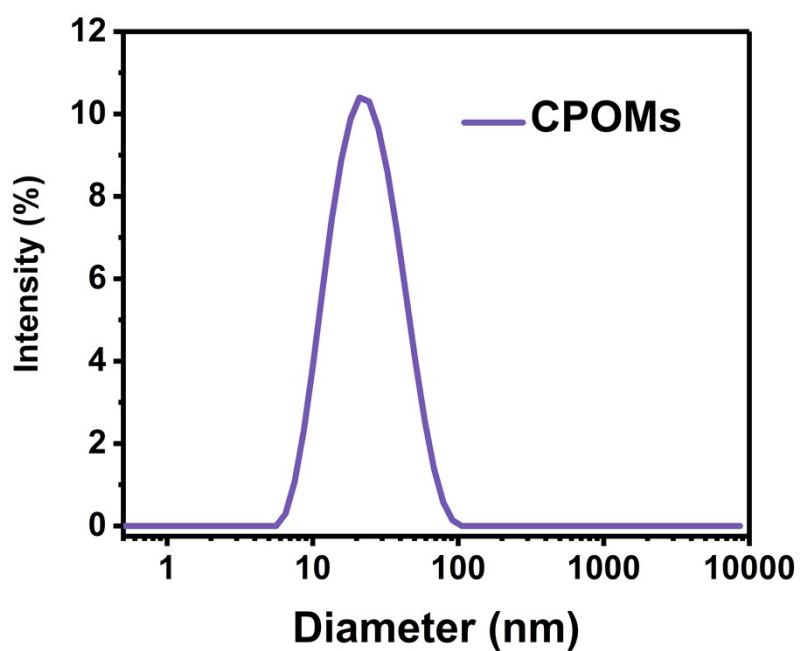
**Figure S16.** Size distribution (a) and TEM image (b) of DFPN by phosphotungstic acid staining.



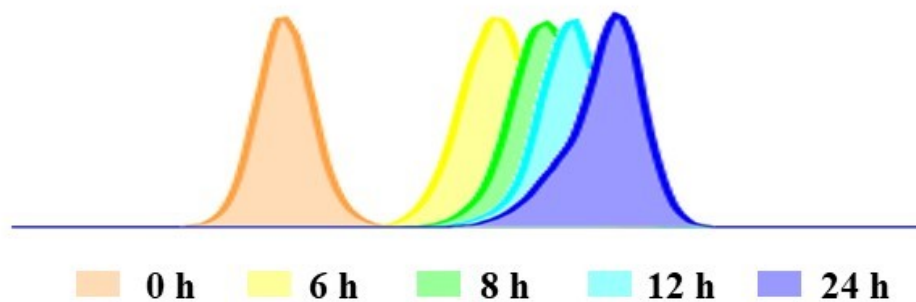
**Figure S17.** Cumulative DTX release of DFPN under different pH conditions.



**Figure S18 (a)** Uv-Vis absorbance spectrum of curcumin in DMSO. **(b)** Standard absorbance-concentration curve of curcumin.



**Figure S19.** Size distribution of Cur-loaded FPN (CFPN).



**Figure S20.** Flowcytometry analysis of SMMC-7721 cells incubated with DFPN for different time.

**Table S1.** FPN with different feeding volume ratios of APTES, and GA.

Group	F127 (mg)	APTES ( $\mu\text{L}$ )	GA ( $\mu\text{L}$ )
I (PMs)	600	0	0
II	600	100	20
III	600	100	50
IV	600	100	100
V	600	100	200
VI	600	100	500
VII	600	50	50
VIII	600	200	200
IX	600	300	300
X	600	500	500

**Table S2.** Hematology analyses of different groups.

	Control	Free DTX	DFPN
LYMPH%(%)	70.47±3.82	73.58±3.49	65.63±0.72
MID%(%)	7.30±1.51	7.40±1.58	10.23±0.75
NEUT%(%)	22.23±2.39	19.02±2.14	24.15±0.46
MID#(10 <sup>9</sup> /L)	0.35±0.08	0.48±0.12	0.60±0.07
HGB(g/L)	116.33±2.56	118.40±6.44	117.50±3.35
HCT(%)	51.72±2.23	50.12±2.15	49.40±1.68
MCV(fL)	69.42±1.80	67.24±1.26	67.33±0.80
MCHC(g/L)	224.83±10.67	235.20±14.55	237.50±13.59
RDW-SD(fL)	29.10±1.75	29.36±1.38	27.43±0.82
RDW-CV(%)	14.07±0.53	14.68±0.57	13.68±0.37
MPV(fL)	8.53±0.35	8.28±0.56	8.25±0.11
PDW(fL)	10.10±0.73	9.84±0.78	9.48±0.39
PCT(%)	0.17±0.02	0.21±0.05	0.17±0.03
P-LCR(%)	20.88±3.77	17.96±5.62	18.43±1.46