

Supporting information

Cellular Uptake of pH/Reduction Responsive Phosphorylcholine micelles

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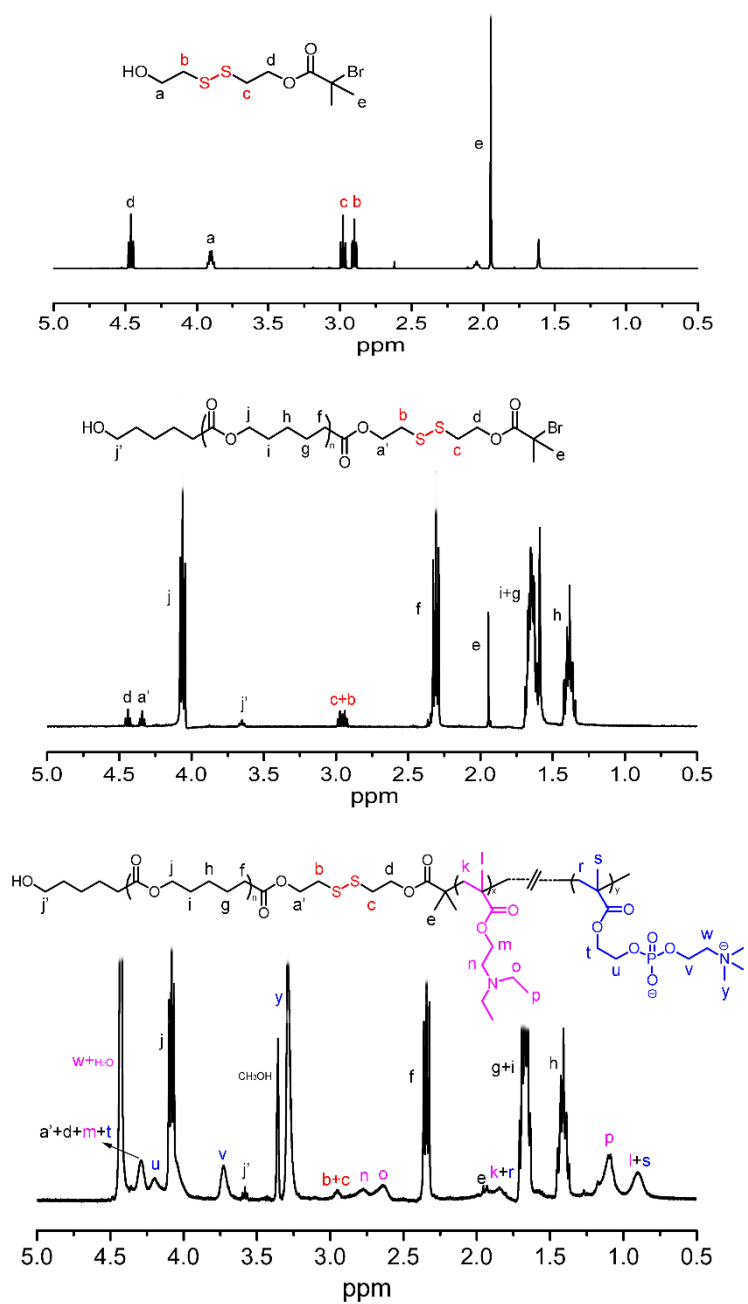


Figure S1 ^1H NMR of PCL-ss-PDEAPMPC in CDCl_3 and CD_3OD (v/v: 2/1).

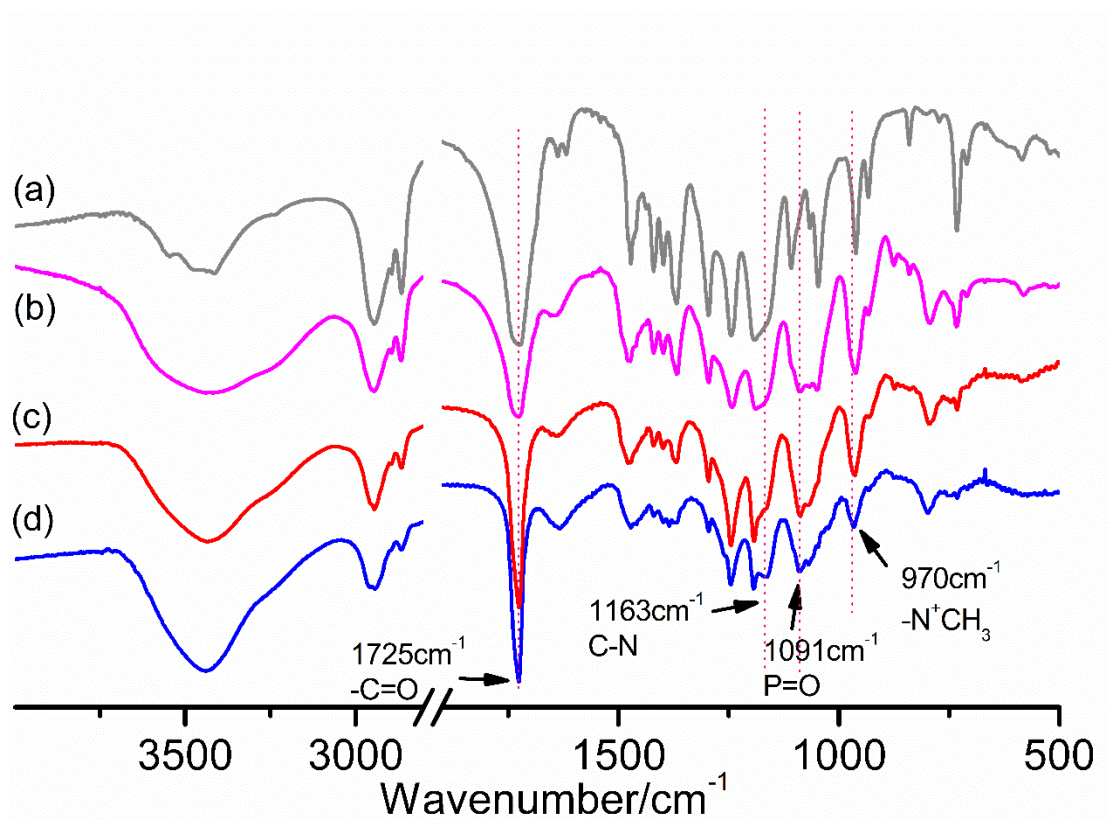


Figure S2 FT-IR of (a) PCL₂₀-ss-iBuBr; (b) PCL₄₀-ss-PDEA₅PMPC₁₀; (c) PCL₂₀-ss-PDEA₅PMPC₁₀ and (d) PCL₂₀-ss-PDEA₁₅PMPC₁₀.

Table S1 Data summary for synthesis and characterization of the polymers

Sample	Structure ^a	Mn ^b (g/mol)	Mw ^b (g/mol)	PDI	T _c (°C)	T _m (°C)	ΔH _f (J/g)
PCL ₂₀ -ss-iBuBr	PCL ₂₂ -ss-iBuBr	5600	8300	1.45	30.08	51.76	67.51
PCL ₄₀ -ss-iBuBr	PCL ₄₅ -ss-iBuBr	8900	15100	1.69	32.25	54.49	64.60
PCL ₂₀ -ss-PDEA ₁₅ PMPC ₁₀	PCL ₂₂ -ss-P(DEA ₁₅ -r-PMPC ₁₁)	- ^c	- ^c	- ^c	14.73	50.51	23.97
PCL ₂₀ -ss-PDEA ₅ PMPC ₁₀	PCL ₂₂ -ss-P(DEA ₅ -r-PMPC ₁₁)	- ^c	- ^c	- ^c	N/A	N/A	N/A
PCL ₄₀ -ss-PDEA ₅ PMPC ₁₀	PCL ₄₅ -ss-P(DEA ₄ -r-PMPC ₁₁)	- ^c	- ^c	- ^c	29.93	54.69	33.06

^aCalculating from ¹H NMR;

^bCalculating from GPC;

^c"-" means that the item does not exist or could not be measured for the sample.

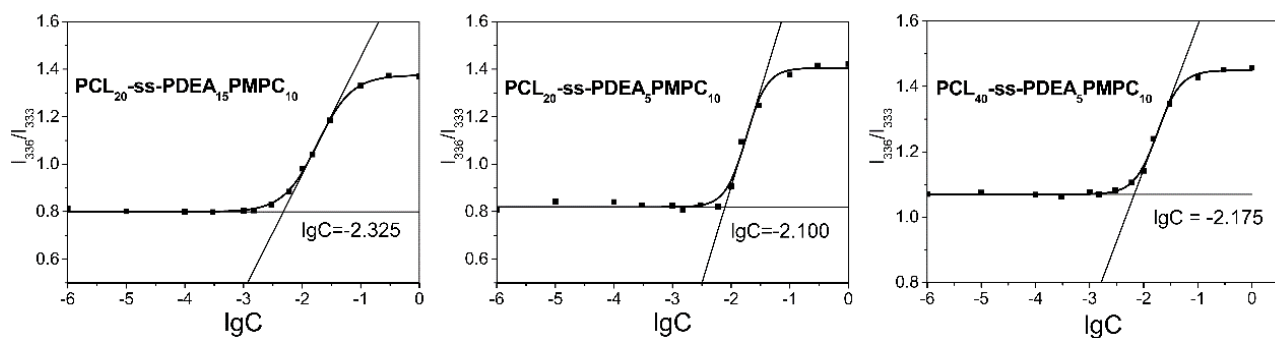


Fig.S3 CMC curve for PCL-ss-PDEAPMPC.

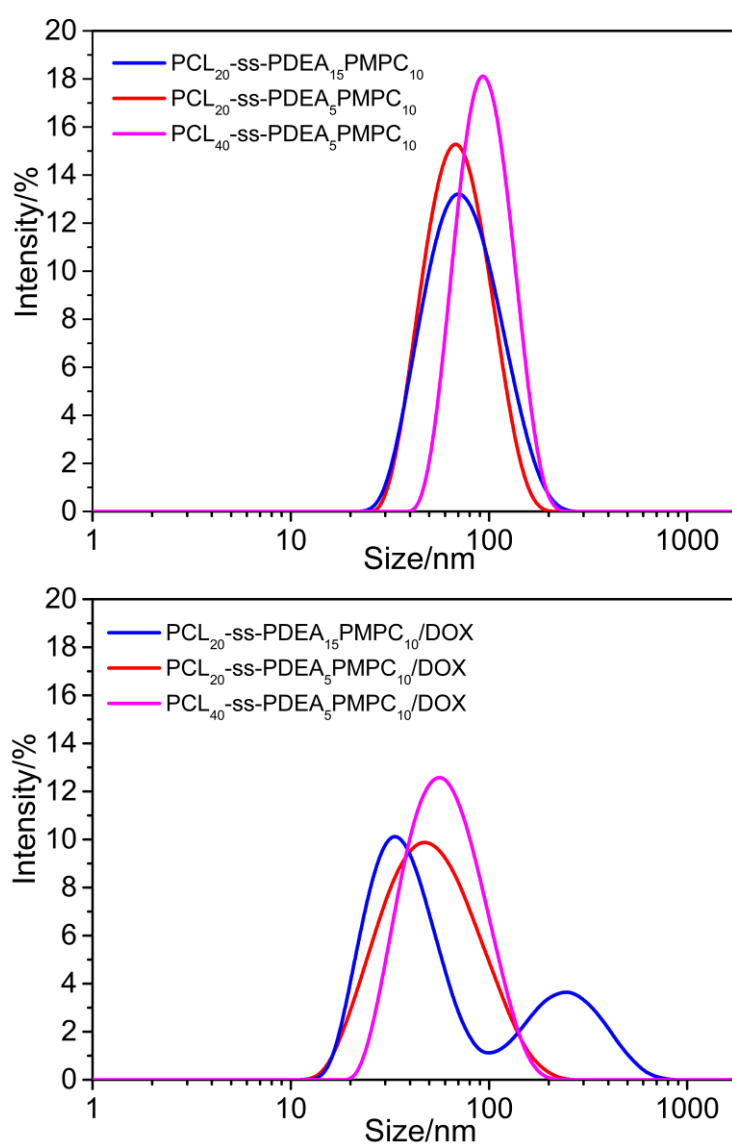


Fig.S4 Size distribution of blank and DOX-loaded micelles.

Table S2 Size change of PCL-ss-PDEAPMPC micelles under reducing condition

Sample	PBS		PBS, 10 mM DTT	
	Size/nm	PDI	Size/nm	PDI
PCL ₂₀ -ss-PDEA ₅ PMPC ₁₀	78.58±0.63	0.18±0.01	- ^a	- ^a
PCL ₂₀ -ss-PDEA ₁₅ PMPC ₁₀	86.1±1.7	0.27±0.03	285.6±25.6	0.17±0.04
PCL ₄₀ -ss-PDEA ₅ PMPC ₁₀	107.4±2.1	0.13 ±0.04	- ^a	- ^a

^ameans the size was too large to be properly determined by DLS and precipitation could be observed.