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Supplementary information

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Stimuli-Responsive Micelles with Detachable Poly (2-ethyl-2-oxazoline) Shell Based on Amphiphilic Polyurethane for Improved Intracellular Delivery of Doxorubicin

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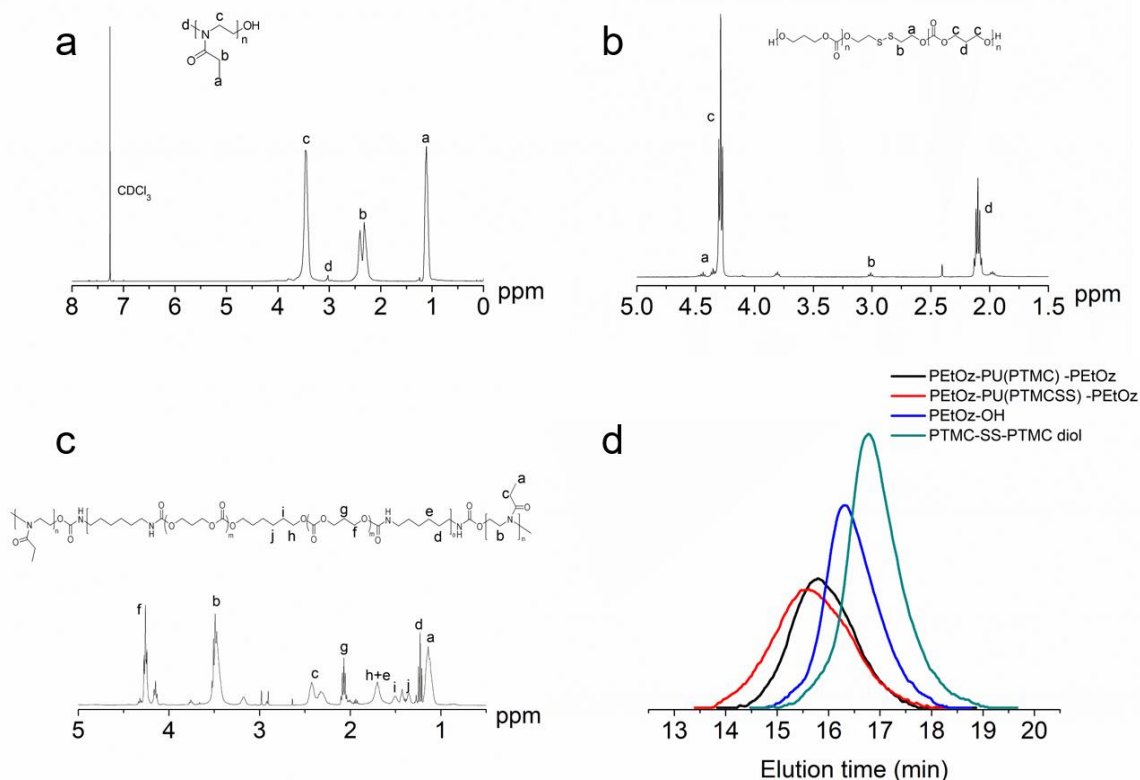
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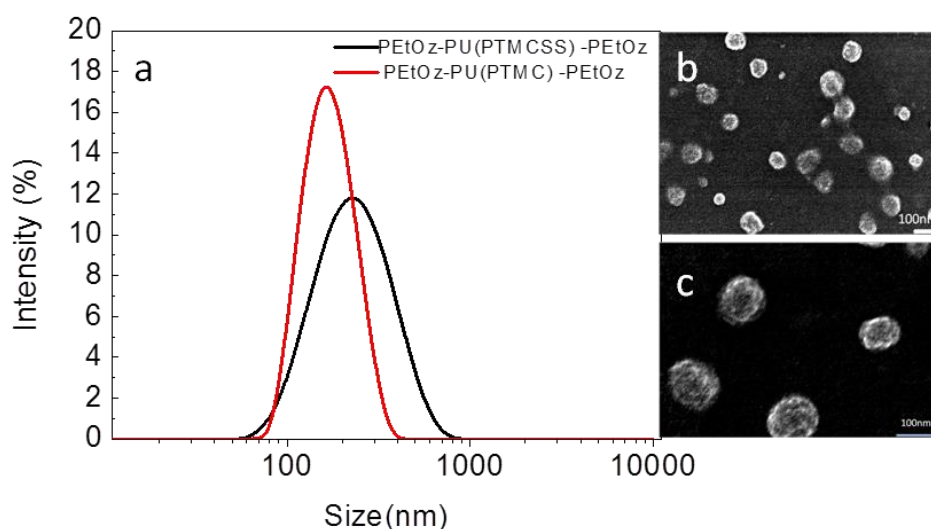
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Figure S1. (a) ¹H NMR spectra (400 MHz, CDCl₃) of PEtOz-OH. (b) ¹H NMR spectra (400 MHz, CDCl₃) of PTMC-SS-PTMC. (c) ¹H NMR spectra (400 MHz, CDCl₃) of PEtOz-PU(PTMC)-PEtOz. (d) GPC of PEtOz-PU(PTMCSS)-PEtOz, PEtOz-PU(PTMC)-PEtOz, PEtOz-OH and PTMC-SS-PTMC diol (Polystyrenestandard, eluant: DMF, temperature: 50 °C, RI detection).

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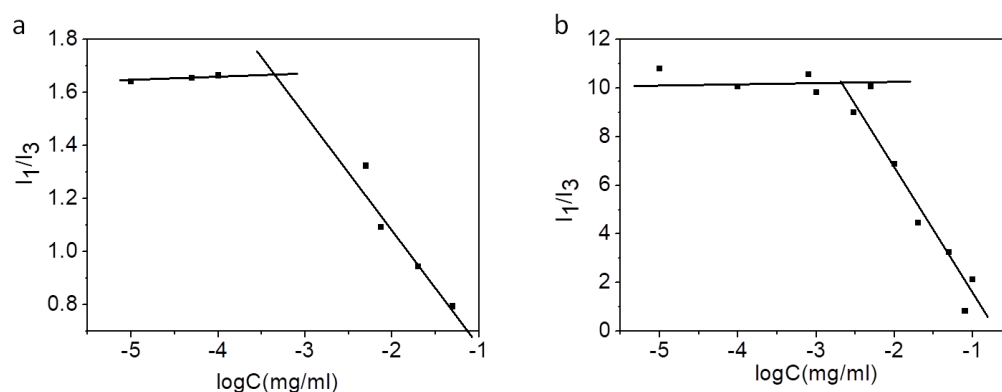
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Figure S2. (a) The size distribution of PEtOz-PU(PMTCSS)-PEtOz micelles and PEtOz-PU(PTMC)-PEtOz micelles. (b) SEM image of PEtOz-PU(PMTCSS)-PEtOz micelles. (c) SEM image of PEtOz-PU(PTMC)-PEtOz micelles.



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Figure S3. The fluorescence intensity ratio I_1/I_3 of pyrene as a function of PEtOz-PU(PMTCSS)-PEtOz micelles and PEtOz-PU(PMTCSS)-PEtOz micelles concentration ((a) PEtOz-PU(PMTCSS)-PEtOz micelles, (b) PEtOz-PU(PTMC)-PEtOz micelles).

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Table S1. Characteristics of PEtOz-PU(PMTCSS)-PEtOz and PEtOz-PU(PTMC)-PEtOz block copolymers.

Block Copolymers	Mn (¹ H NMR) ^a	Mn (GPC) ^b	PDI (GPC) ^b
PEtOz-PU(PMTCSS)-PEtOz	21000	25600	1.17
PEtOz-PU(PTMC)-PEtOz	17800	21300	1.11
PEtOz-OH	5000	7300	1.07
PTMC-SS-PTMC	1000	3200	1.09

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^a determined by ¹H NMR (400 MHz, CDCl₃);

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^b determined by GPC (DMF as the eluent, 1.0 mL/min, 50 °C, polystyrene standards).

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30 **Table S2.** Drug loading content and drug loading efficiency of DOX loaded micelles of PEtOz-
31 PU(PTMCSS)-PEtOz and PEtOz-PU(PTMC)-PEtOz.

Sample	Theoretical drug loading content wt. %	DLE % ^b	DLC Wt. % ^b	Micelle Size ^a (nm)	PDI ^a
PEtOz- PU(PTMCSS)- PEtOz	10%	62.5	6.3	183.7±3.8	0.03
	20%	40.0	8.0	214.3±3.9	0.15
PEtOz- PU(PTMC)- PEtOz	10%	54.5	5.5	161.1±1.7	0.13
	20%	42.5	8.5	238.4±5.4	0.19

32 ^a measured by DLS at 25 °C;

33 ^b DLE and DLC was determined by fluorescence measurements.