Supplementary Information

Influences of 2-(Diisopropylamino) Ethyl Methacrylate on Acid-Triggered Hydrolysis of Cyclic Benzylidene Acetals and Their Importance to Efficient of Drug Delivery
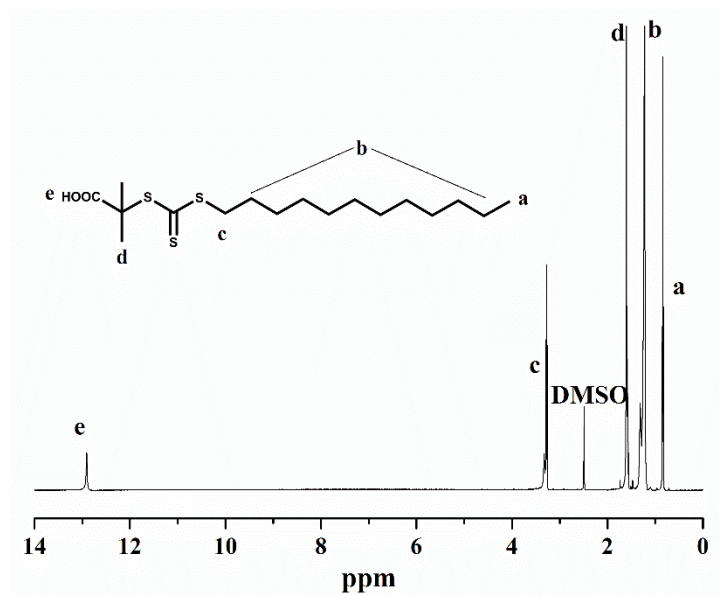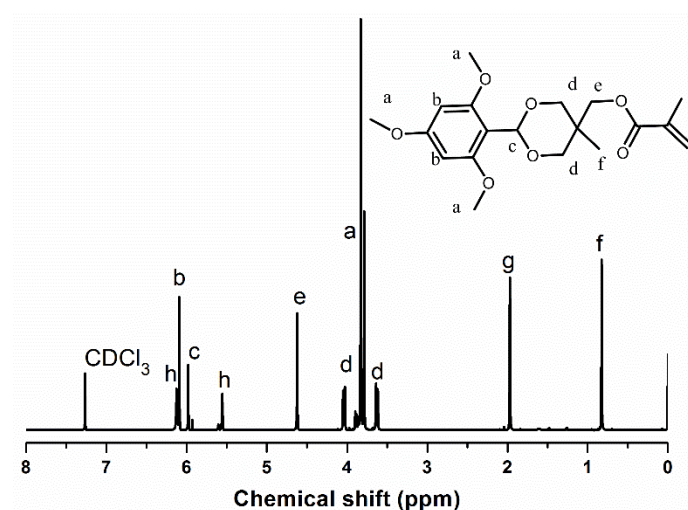

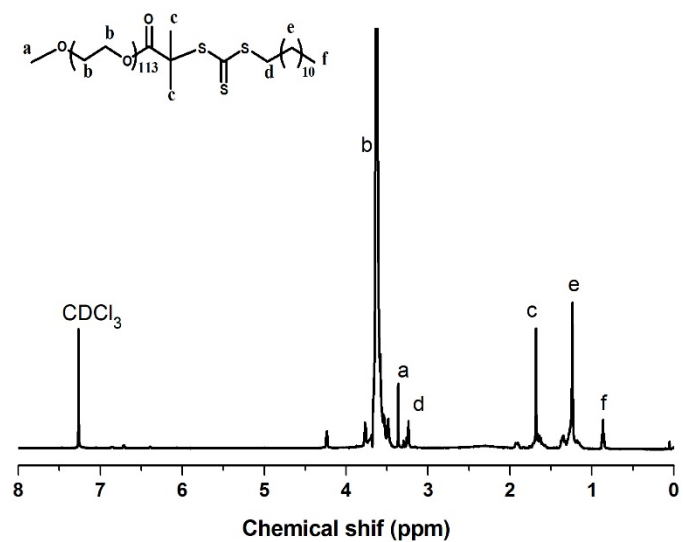Fig.S1 ^{1}H NMR spectrum of DTM.

Fig. S2 ^{1}H NMR spectrum of TTMA.

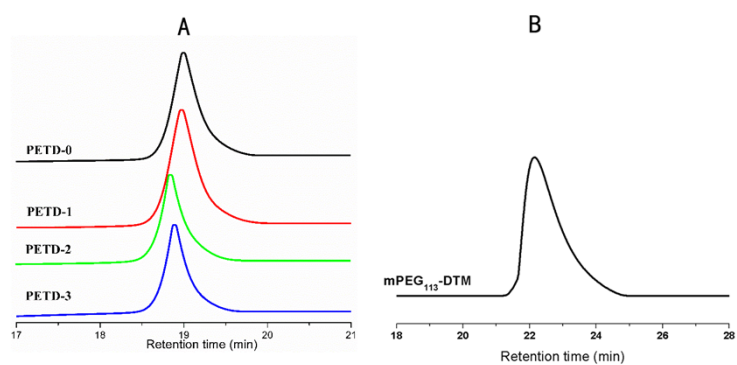Fig. S3 ^{1}H NMR spectrum of mPEG$_{113}$-DTM

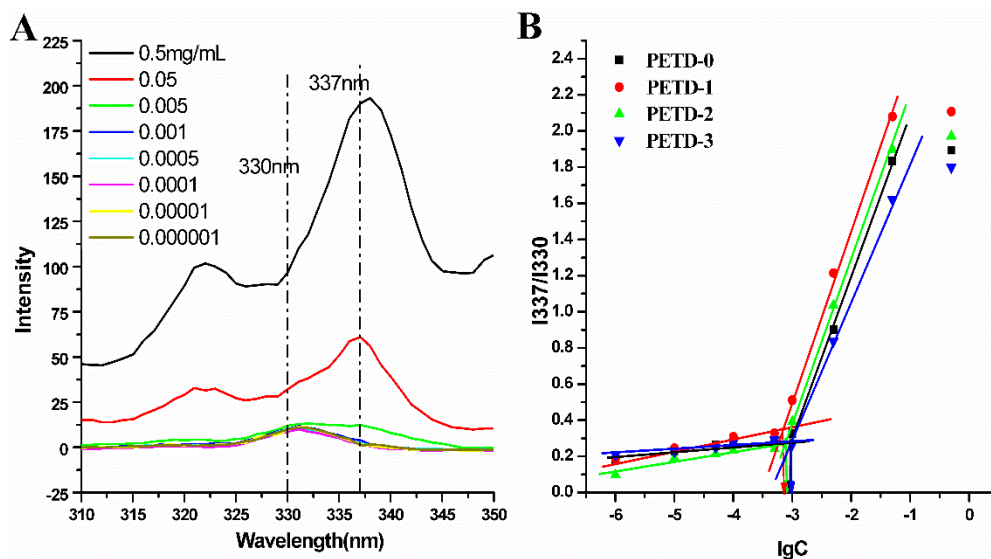Fig. S4   GPC elution chromatograms of block copolymers PETD (A) and macroinitiator (B).

Fig. S5 (A) Emission spectrum for aqueous solutions of PETD-3 containing pyrene. (B) Plot of I337/I330 in the excitation spectrum versus the concentrations of copolymers in aqueous solution.
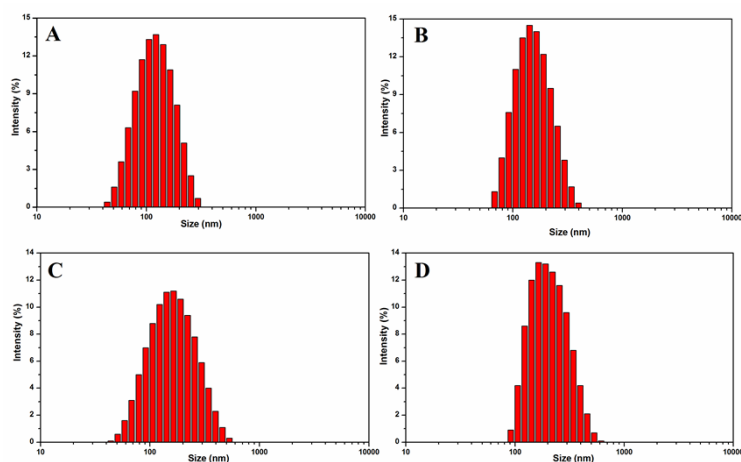

Fig. S6　Size distributions of PETD-0 (A), PETD-1 (B), PETD-2 (C) and PETD-3 (D) copolymer micelles determined by DLS at pH 7.4.
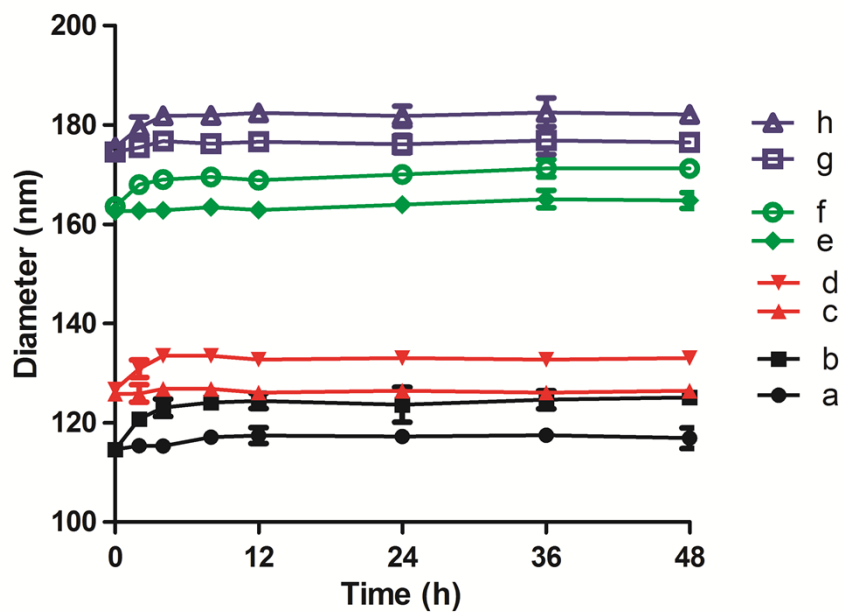
Fig. S7 Time-dependent diameters of the micelles of PETD-0 (a, b), PETD-1 (c, d), PETD-2 (e, f) and PETD-3 (g, h) in PBS 7.4 without (a, c, e, g) or with 10% FBS (b, d, f, h) as measured by DLS.
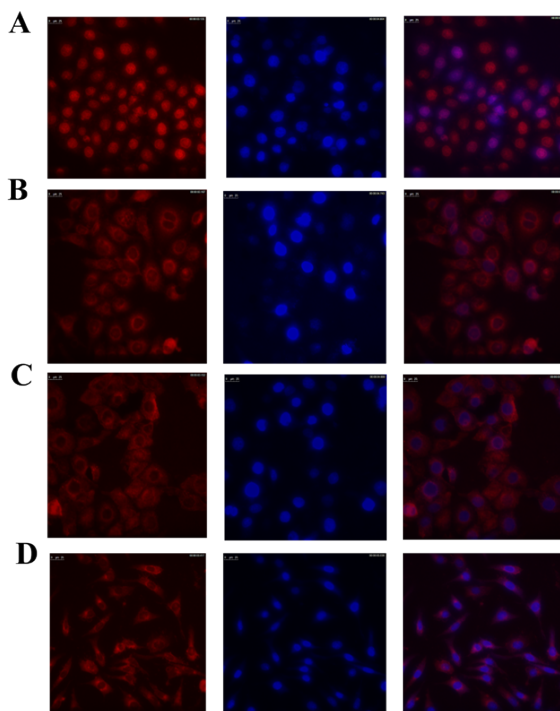

Fig. S8 Fluorescence microscopy images of HepG-2 cells following 2h incubation with DOX-loaded micelles and free DOX (30μg/mL). (A) Free DOX, (B) DOX-loaded PETD-0micelles, (C) DOX-loaded PETD-1micelles and (D) DOX-loaded PETD-3micelles. For each panel, the images from left to right showed DOX fluorescence in cells (red), cell nuclei stained by DAPI (blue), and overlays of both images.

Table. S1 Characterization of mPEG-P (TTMA-co-DPA) Micelles.

Sample	Size (nm)[a]	PDI[a]	CMC(mg/L)[b]
PETD-0	134.6 ± 2.8	0.22 ± 0.01	0.97
PETD-1	156.1 ± 3.4	0.16 ± 0.03	0.71
PETD-2	169.9 ± 5.9	0.11 ± 0.07	0.83
PETD-3	188.4 ± 3.2	0.13 ± 0.08	0.89

[a]Determined by DLS. [b]Measured by pyrene-based fluorescent spectrometry.