

Supporting Information

EpCAM-Antibody-Labeled Noncytotoxic Polymer Vesicles for Cancer Stem Cells-Targeted Delivery of Anticancer Drug and siRNA

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Scheme S1. Synthetic route to PEO-*b*-PDPA-*b*-PAA triblock copolymer by sequential ATRP.

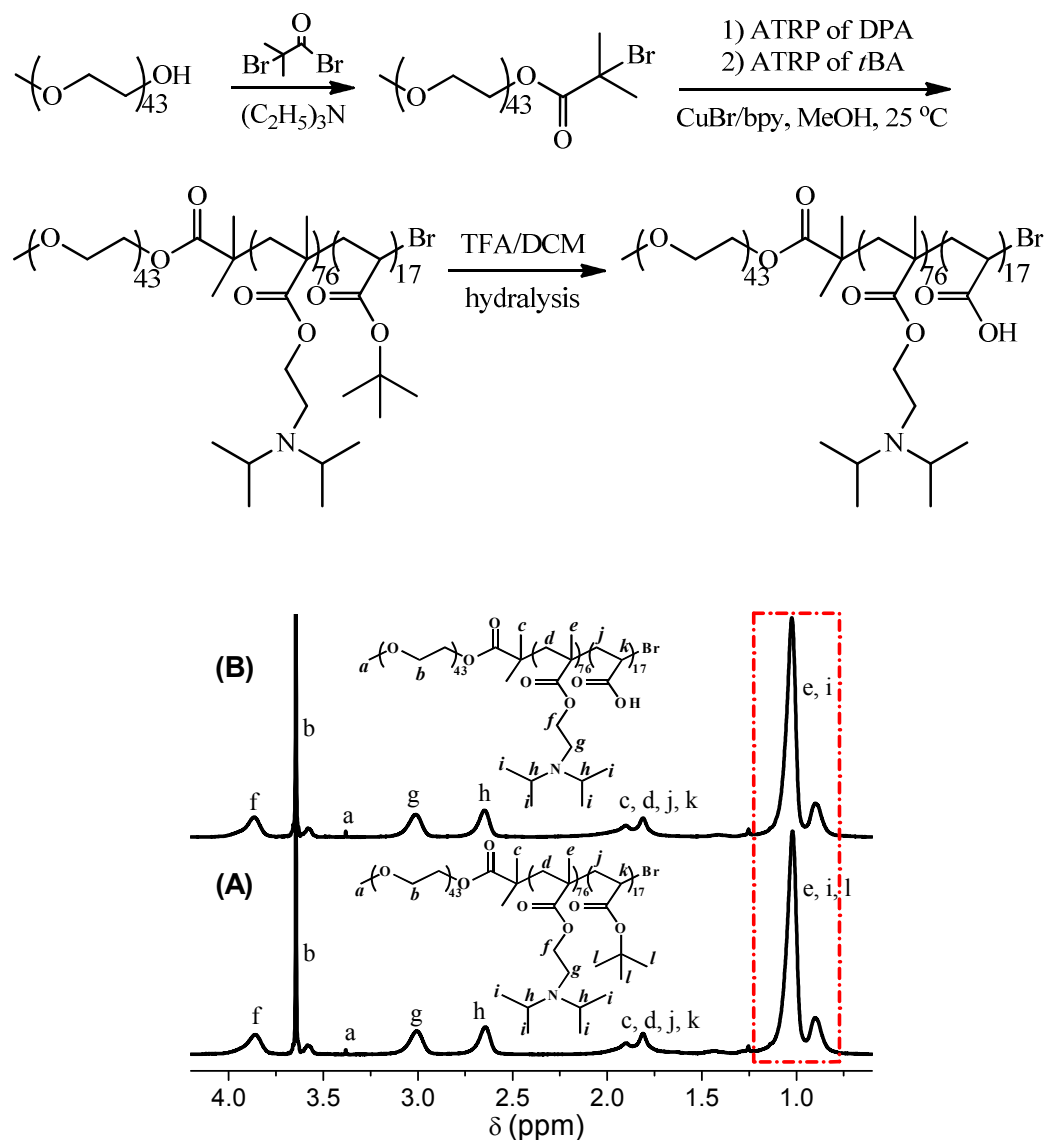


Figure S1. ^1H NMR spectra of (A) $\text{PEO}_{43}\text{-}b\text{-PDPA}_{76}\text{-}b\text{-PtBA}_{17}$ and (B) $\text{PEO}_{43}\text{-}b\text{-PDPA}_{76}\text{-}b\text{-PAA}_{17}$ triblock copolymer in CDCl_3 .

Calculation of ^1H NMR spectra

The procedure of determination of the compositions of the triblock copolymers and the conversion of DPA are listed below.

1. According to the ^1H NMR spectrum in Figure S1A, the degrees of polymerization of PDPA and

PtBA were calculated by the following procedure.

Table S1. The areas of different peaks and the degree of polymerization of PDPA and PtBA blocks

Polymer	A_g	A_h	A_{e+i+l}	x	y
PEO ₄₃ - <i>b</i> -PDPA _{x} - <i>b</i> -PtBA _{y}	152.4	152.6	1293.5	76	17

In Table S1, A_g , A_h and A_{e+i+l} are the areas of peaks g, h and e+i+l in Figure S1A. x and y are the degrees of polymerization of PDPA and PtBA. We set that the area of peak b is 170, which corresponds to the amount of H in PEO₄₃ ($43 \times 4 - 2 = 170$). The areas of peaks g and h in Figure S1A are listed in

Table S1. The values of x and y are obtained according to the following equations:

$$\text{According to peak g: } x = \frac{152.4}{2} = 76.2 \approx 76$$

$$\text{According to peak h: } x = \frac{152.6}{2} = 76.3 \approx 76$$

$$\text{According to peaks e+i+l: } y = \frac{1293.5 - 76 \times (3 + 3 \times 4)}{9} = 17.1 \approx 17$$

The conversion of DPA is $\frac{76}{80} \times 100\% = 95\%$ (the molar ratio of DPA and PEO₄₃ is 80: 1).

2. According to the ¹H NMR spectrum in Figure S1B, the hydrolysis degree of PtBA (the degree of PAA) was calculated by the following procedure.

Table S2. The area of different peaks and the degree of polymerization of PAA block

Polymer	A_{e+i}	z
PEO ₄₃ - <i>b</i> -PDPA ₇₆ - <i>b</i> -PAA _{z}	1142.5	17

In Table S2, A_{e+i} is the area of peaks e+i in Figure S1B. z is the degree of PAA. We set that the area of peak b is 170, which corresponds to the amount of H in PEO₄₃ ($43 \times 4 - 2 = 170$). The area of peaks e+i in Figure S1B is listed in Table S2. The value of z is obtained according to the following equation:

$$\text{According to peaks e+i: } z = 17 - \frac{1142.5 - 76 \times (3 + 3 \times 4)}{9} = 16.7 \approx 17$$

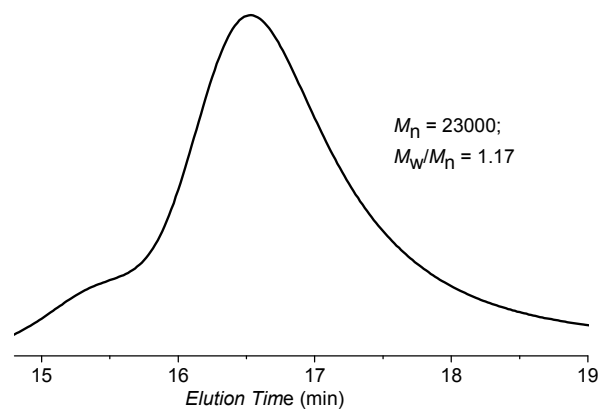


Figure S2. GPC trace of PEO₄₃-*b*-PDPA₇₆-*b*-PtBA₁₇ triblock copolymer in DMF.

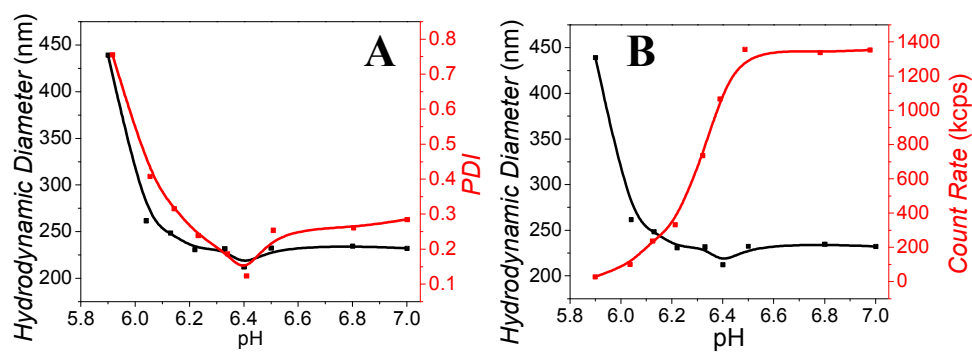


Figure S3. (A) Hydrodynamic diameter and PDI and (B) count rate of polymer vesicles as a function of solution pH. The final polymer concentration in water is 0.4 mg/mL at pH 7.0.

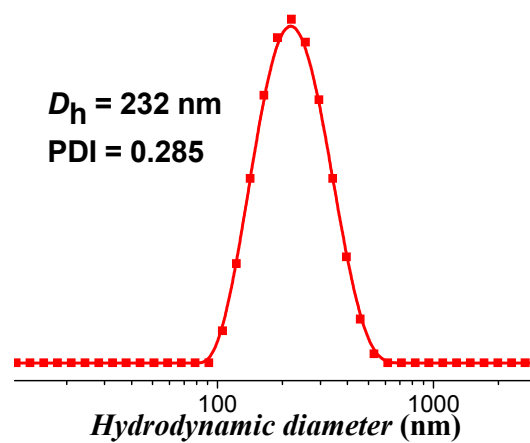


Figure S4. Intensity-averaged size distribution of polymer vesicles determined by DLS at 0.4 mg/mL and pH 7.0

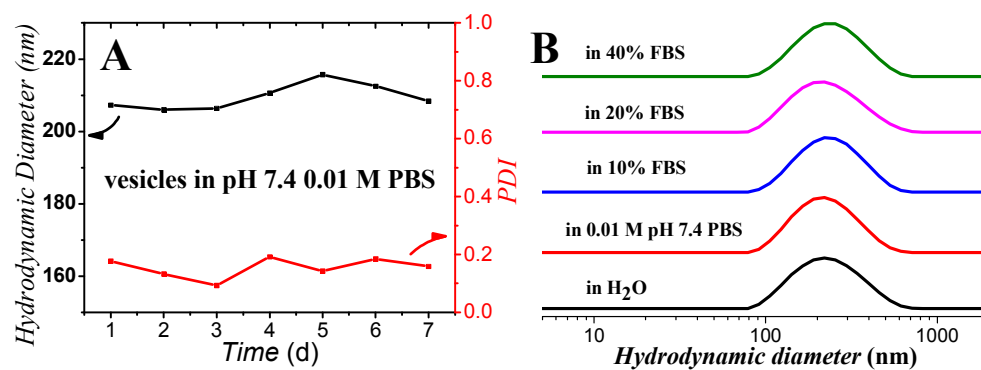


Figure S5. (A) Effect of time on the size of polymer vesicles in 0.01 M PBS at pH 7.4. (B) Size distribution of polymer vesicles in FBS, PBS and H₂O.