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**Figure S1.** <sup>1</sup>H-NMR spectra of (a) PP123, PP123-Br and PP123-*b*-pDMAEMA, (b) PL121, PL121-Br and PL121-*b*-pDMAEMA.





**Figure S2.** FTIR spectra of (a) PP123, PP123-Br and PP123-*b*-pDMAEMA (b) PL121, PL121-Br and PL121-*b*-pDMAEMA.



(a)

(b)



**Figure S3.** TEM images and dynamic light scattering (DLS) diagrams of (a) PP123-*b*-pDMAEMA micelle without EPI (b) PP123-*b*-pDMAEMA micelle with EPI (c) PL121-*b*-pDMAEMA micelle without EPI (d) PL121-*b*-pDMAEMA micelle with EPI.



**Figure S4.** (a) Hydrodynamic diameters and (b) zeta potentials of copolymer/pDNA polyplexes at various N/P ratios (n= 3)

## PF127-b-pDMAEMA PP123-b-pDMAEMA PL121-b-pDMAEMA



**Figure S5.** TEM images of copolymer/pDNA polyplexes at N/P= 9.



**Figure S6.** Confocal images of the free EPI and EPI-loaded PL121-*b*-pDMAEMA micelle.