Electronic Supplementary Material (ESI) for Polymer Chemistry.

pH-sensitive triblock copolymers for efficient siRNA encapsulation and delivery

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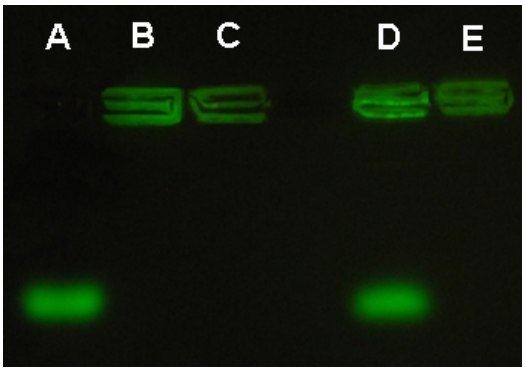

Figure S1. Gel retardation assay of (A) free siRNA, (B) nanocapsules loaded with siRNA in pH 9.5 solution, (C) nanocapsules loaded with siRNA in pH 7.4 solution, (D) empty nanocapsules adsorbing siRNA on the surfaces in pH 9.5 solution, (E) empty nanocapsules adsorbing siRNA on the surfaces in pH7.4 solution. The adsorbed siRNA did not move in the electrophoresis process (Figure S1E). If we added NaOH to increase the pH (about 9.5) of the capsule solution, most of the tertiary amines on PDMA will be deprotonated and lose the capability of binding siRNA. The electrophoresis showed that after pH increase, some of the adsorbed siRNA on the capsules surfaces can move in the agarose gel (Figure S1 D). Interestingly, the siRNA encapsulated inside the capsules could not move even after the pH increased (Figure S1 B). Based on this study, it suggested that the double emulsion can well encapsulate the siRNA inside the capsules, and the siRNAs could not pass through the dense polymeric shell even they are free from PDMA complexation.