

## Supporting Information

Bioreducible and acid-labile polydiethylenetriamines with sequential degradability for efficient transgelin-2 siRNA delivery

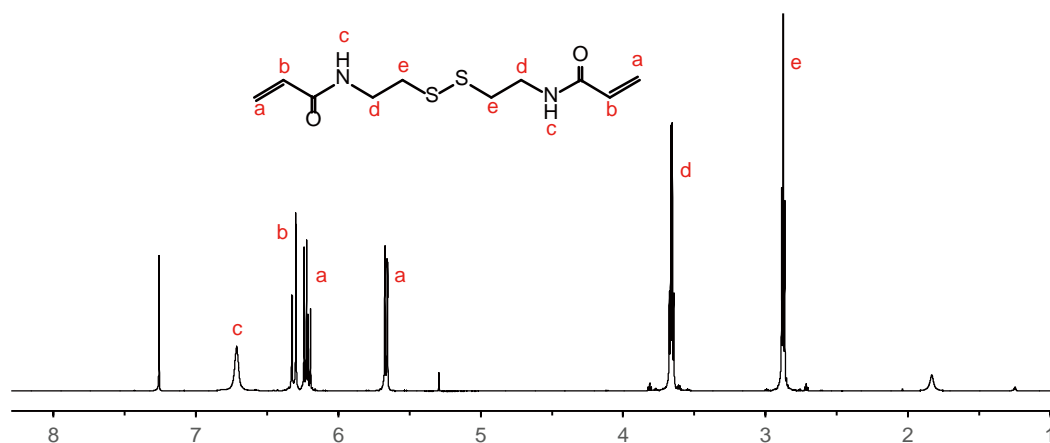


Figure S1. <sup>1</sup>H NMR spectra (600 MHz) of CBA in CDCl<sub>3</sub>.

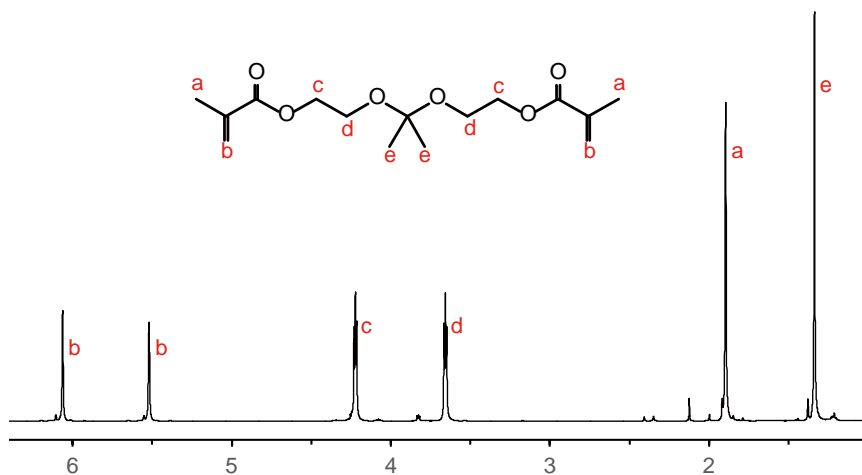
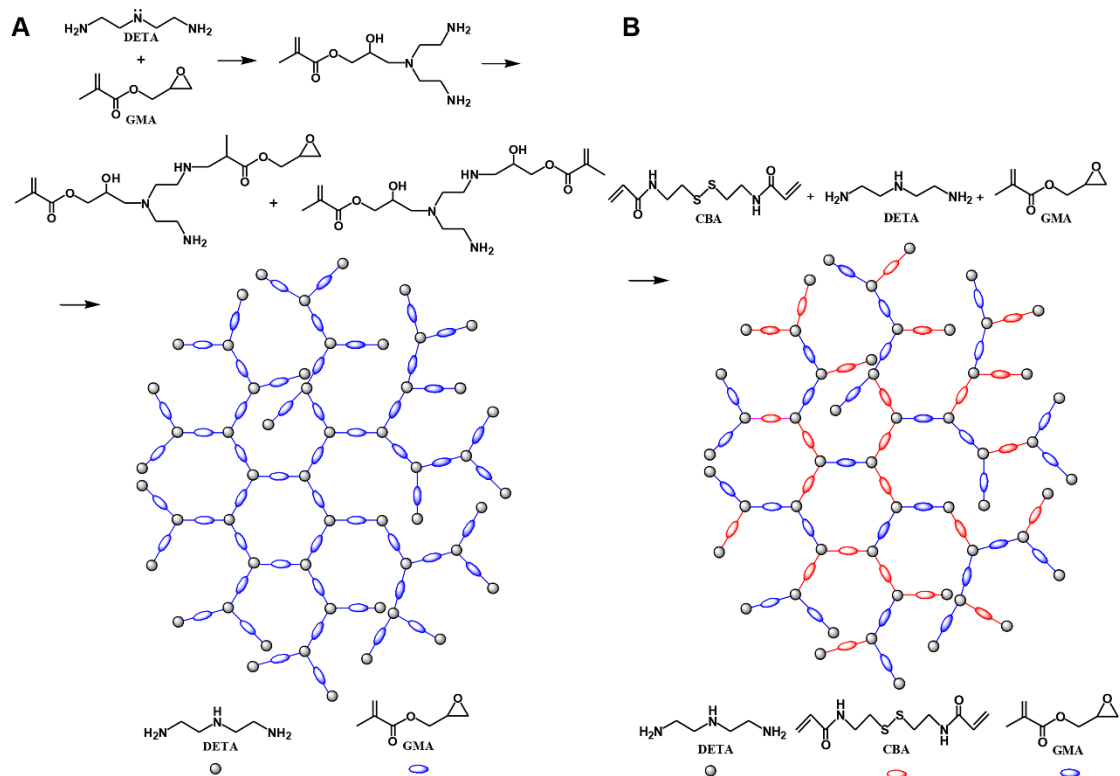
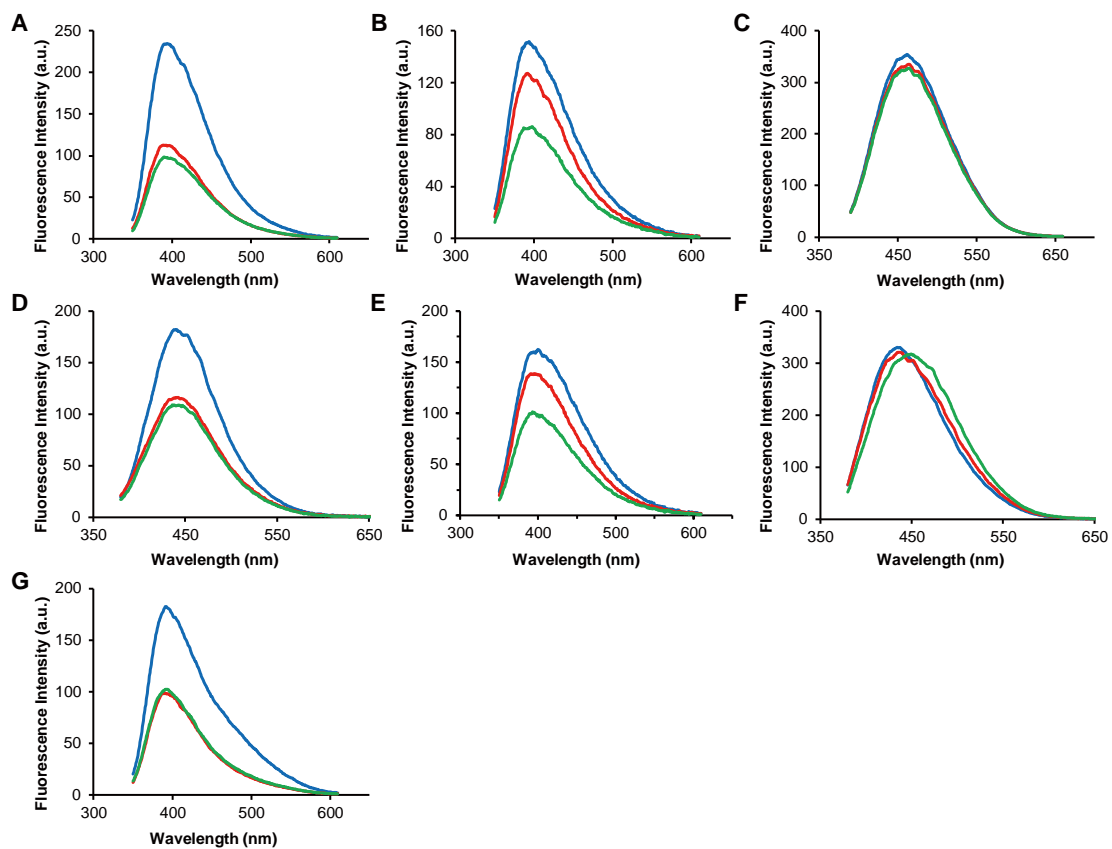


Figure S2. <sup>1</sup>H NMR spectra (600 MHz) of KDA in D<sub>2</sub>O.

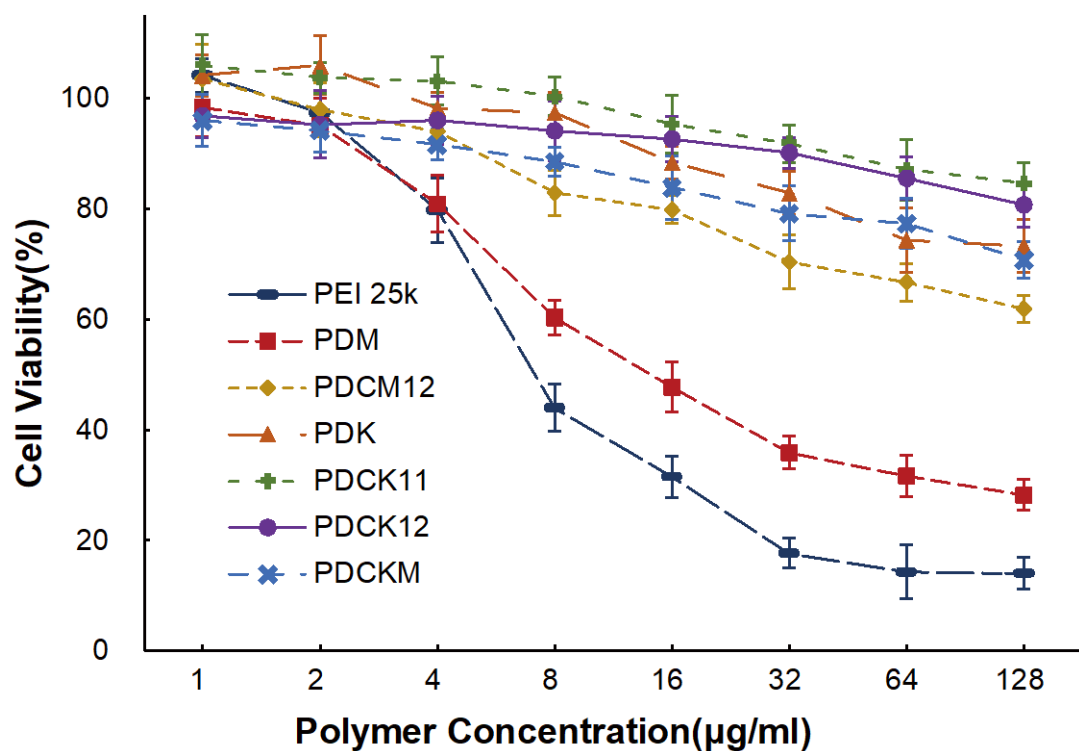


**Figure S3.** Synthetic schemes of (A) PDG and (B) PDCG.



**Figure S4.** Emission spectra of (A) PDCM12 excited at 320 nm, (B) PDCM15 excited at 320 nm,

(C) PDM excited at 360 nm, (D) PDCG12 excited at 350 nm, (E) PDCG15 excited at 320 nm, (F) PDG excited at 350 nm and (G) PDCG11 excited at 320 nm, PDs were incubated under pH 7.4 PBS (blue line), 10 mM DTT 0.5 h (red line) and 10 mM DTT 24 h (green line).



**Figure S5.** Cytotoxicity of PDs and PEI in MCF-7/S cells evaluating by the MTT assay. The values are the mean  $\pm$  SD (n=6). Incubation time was 24 h with cell seeding density of  $1 \times 10^4$  cells/well.