Supplementary Information

Thermo-sensitive Nanoparticles for Triggered release of siRNA

Zheng Yang^{a, c,1}, Qiang Cheng^{b,1}, Qian Jiang^b, Liandong Deng^a, Zicai Liang^{b,**} and Anjie Dong^{a,c,*}

^a *Department of Polymer Science and Technology and Key Laboratory of Systems Bioengineering of the Ministry of Education, School of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China*

^b *Laboratory of Nucleic Acid Technology, Institute of Molecular Medicine, Peking University, Beijing 100871, China.*

^c *Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, China.*

** Corresponding author. E-mail addresses: ajdong@tju.edu.cn (A. Dong)*

Fax: +86 22 27890710.

Tel.: +86-22-27890706

*** Corresponding author. E-mail addresses: liangz@pku.edu.cn (Z. Liang)*

Fax: +86 10 62769862.

[1] These authors contributed equally to this work.

Figure S1 The ^{13}C NMR spectrum of $\text{mPEG}_{45}\text{-b-PNIPAM}_{110}$.

Figure S2 The GPC chromatogram of $\text{mPEG}_{45}\text{-CYCBD}$ and $\text{mPEG}_{45}\text{-b-PNIPAM}_{110}$.

In order to investigate the stability of DENPs in blood, the diameter changes of DENPs in PBS 7.4 with or without 10% FBS were evaluated by DLS and shown in Figure S3 which showed that there was no significant change in the size with desired

time as determined by DLS. It has been confirmed that they are stable in a PBS solution with or without 10% FBS and that the mPEG shell around the hydrophobic core of DENPs can minimize the interactions with proteins, enzymes, and cells in blood, thus provide the stability of DENPs.

Figure S3 The mean diameters of the micelles from DENPs in PBS 7.4 with (a) or without 10% FBS (b) with time as measured by DLS.

Figure S4 The standard curve constructed using the peak areas by linear regression analysis.