Supporting Information

In Situ Forming Reduction-Sensitive Degradable Nanogels for Facile Loading and Triggered Intracellular Release of Proteins

Wei Chen[1, 2], Meng Zheng[1], Fenghua Meng[1], Ru Cheng[1], Chao Deng[1], Jan Feijen[1, 2], and Zhiyuan Zhong[1,*]

[1] Biomedical Polymers Laboratory, and Jiangsu Key Laboratory of Advanced Functional Polymer Design and Application, Department of Polymer Science and Engineering, College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou, 215123, P. R. China.

[2] Department of Polymer Chemistry and Biomaterials, Faculty of Science and Technology, MIRA Institute for Biomedical Technology and Technical Medicine, University of Twente, P.O. Box 217, 7500 AE Enschede, The Netherlands.

*Corresponding author. Tel/fax: +86-512-65880098; E-mail: zyzhong@suda.edu.cn

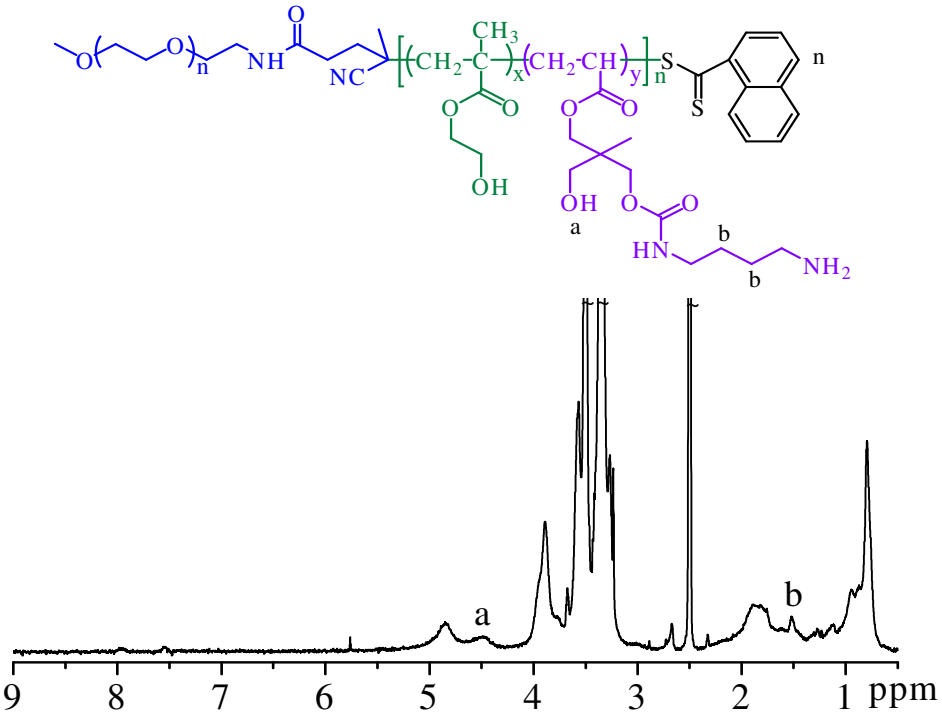

Figure S1. ^{1}H NMR spectrum (400 MHz, DMSO-d_6) of the model reaction product obtained from copolymer **1** and 20-fold BDA.

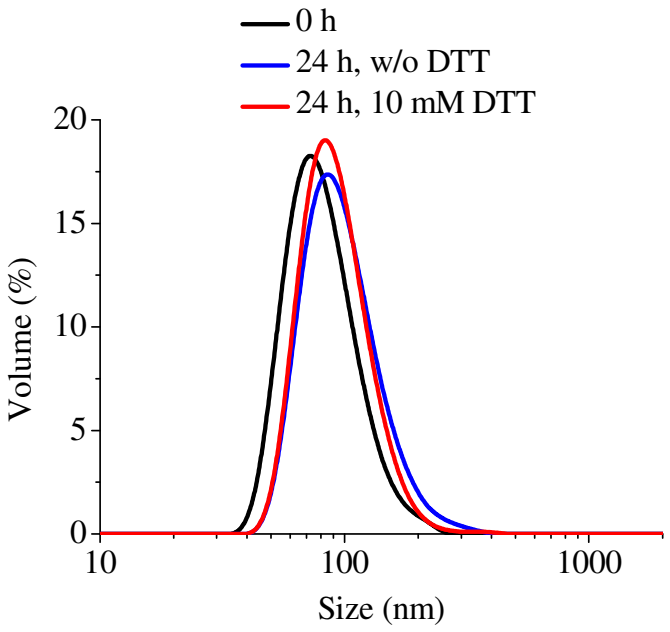

Figure S2. Size distribution of BDA-crosslinked copolymer **1** nanogels (reduction-insensitive control) in the presence of 10 mM DTT determined by DLS.

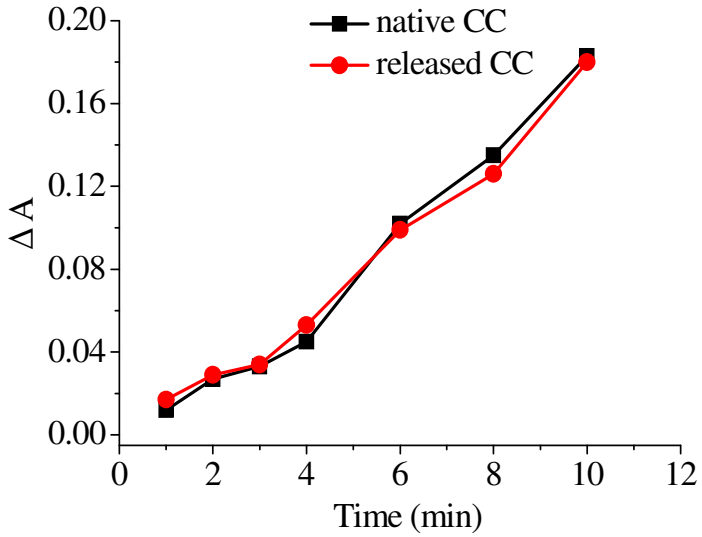

Figure S3. Oxidation of ABTS catalyzed by native CC and CC released from nanogel **1**.

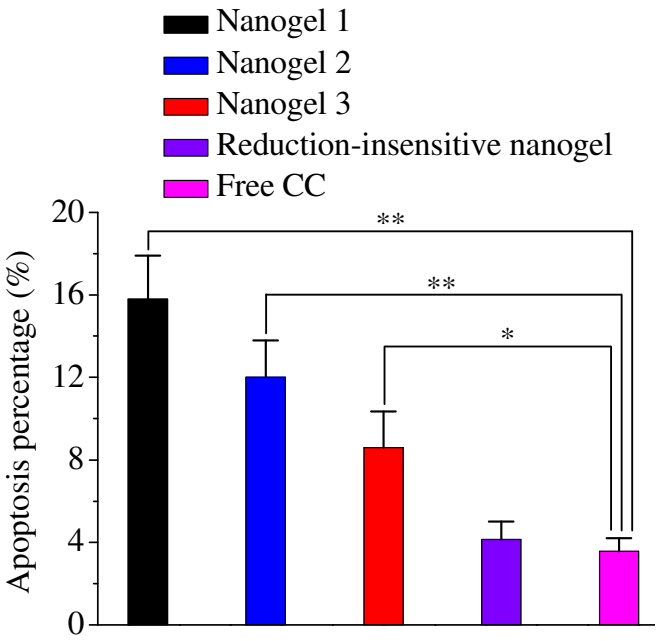

Figure S4. Statistical study of HeLa cell apoptosis following 24 h incubation with CC-loaded reduction-sensitive nanogels, BDA-crosslinked copolymer **1** nanogel (reduction-insensitive control), and free CC. CC dosage was set at 80 μg/mL. Data are presented as the average ± standard deviation (Student's t test, $^{**}p < 0.01$, $^{*}P < 0.05$).