## **Supporting Information**

## Double pH-Responsive Supramolecular Copolymer Micelles Based

## on the Complementary Multiple Hydrogen Bonds of Nucleobases and

## **Acetalated Dextran for Drug Delivery**

Huihui Kuang,<sup>*a,b*</sup> Yanjuan Wu,<sup>*a,b*</sup> Zhiyun Zhang,<sup>*a,b*</sup> Jizhen Li,<sup>*c*</sup> Xuesi Chen,<sup>*d*</sup> Zhigang Xie,<sup>*a*</sup> Xiabin Jing,<sup>*a*</sup> and Yubin Huang<sup>\**a*</sup>

<sup>a</sup> State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, P. R. China

<sup>b</sup> University of Chinese Academy of Sciences, Beijing 100039, P. R. China

<sup>c</sup> Department of Organic Chemistry, College of Chemistry, Jilin University, Changchun 130023, P. R. China

<sup>d</sup>Key Laboratory of Polymer Ecomaterials, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, 130022, China

\*Correspondence to: Yubin Huang, State Key Laboratory of Polymer Physics and

Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences,

Changchun 130022, People's Republic of China. Tel & Fax: +86-431-85262769; E-

mail: <u>ybhuang@ciac.ac.cn</u>



**Figure S1.** The <sup>1</sup>H NMR spectra of 9-(2-bromoethyl)adenine (a) and A-N<sub>3</sub> (b) in DMSO- $d_6$ .



Figure S2. FT-IR spectra of A-N<sub>3</sub>, dextran, α-alkyne dextran and Ac-DEX-A.



**Figure S3.** Cellular survival rates of L929 cells cultured with the (A) AcDEX1-A:T-PEG-T:A-AcDEX1 micelles and AcDEX2-A:T-PEG-T:A-AcDEX2 micelles (B) determined by MTT method.



**Figure S4.** CLSM-images of Hela cells incubated with DOX-loaded AcDEX2-A:T-PEG-T:A-AcDEX2 micelle for 0.5 (A) and 4 h (B). For each row, images from left to right were: cells with nucleus stained with DAPI (blue), with DOX (red) fluorescence and overlaid images. Bar =  $50 \mu m$ .