Supplementary Information

Glucose and H_2O_2 dual-sensitive nanogels for enhanced glucose-responsive insulin delivery

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Dedicated to 100th anniversary of Nankai University.

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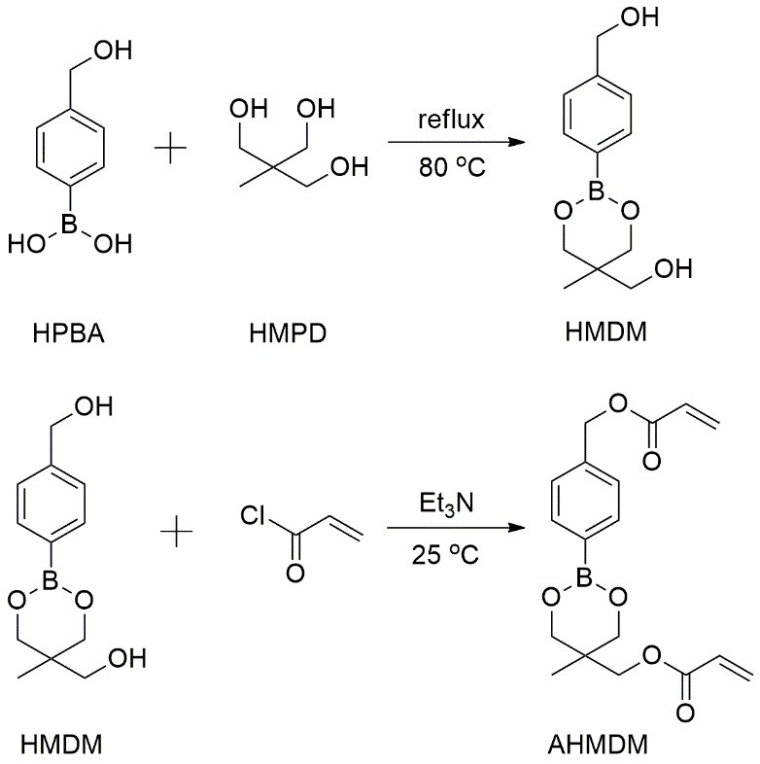

Scheme S1. Synthetic routes of HMDM and AHMDM.

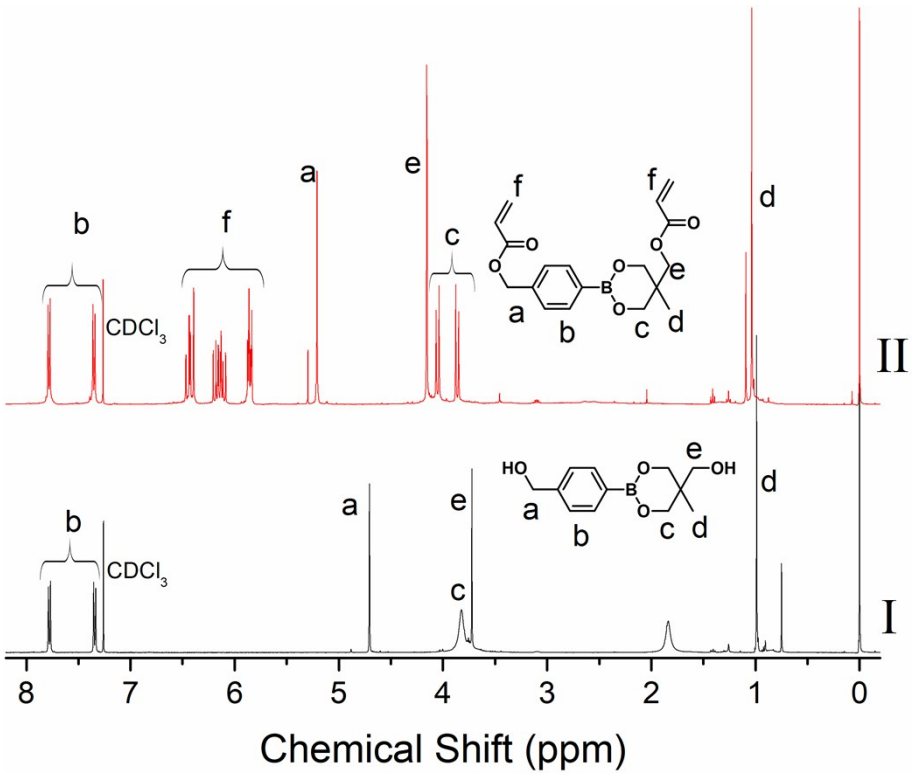

Fig. S1. ^{1}H NMR spectra of HMDM (I) and AHMDM (II) in $CDCl_3$.

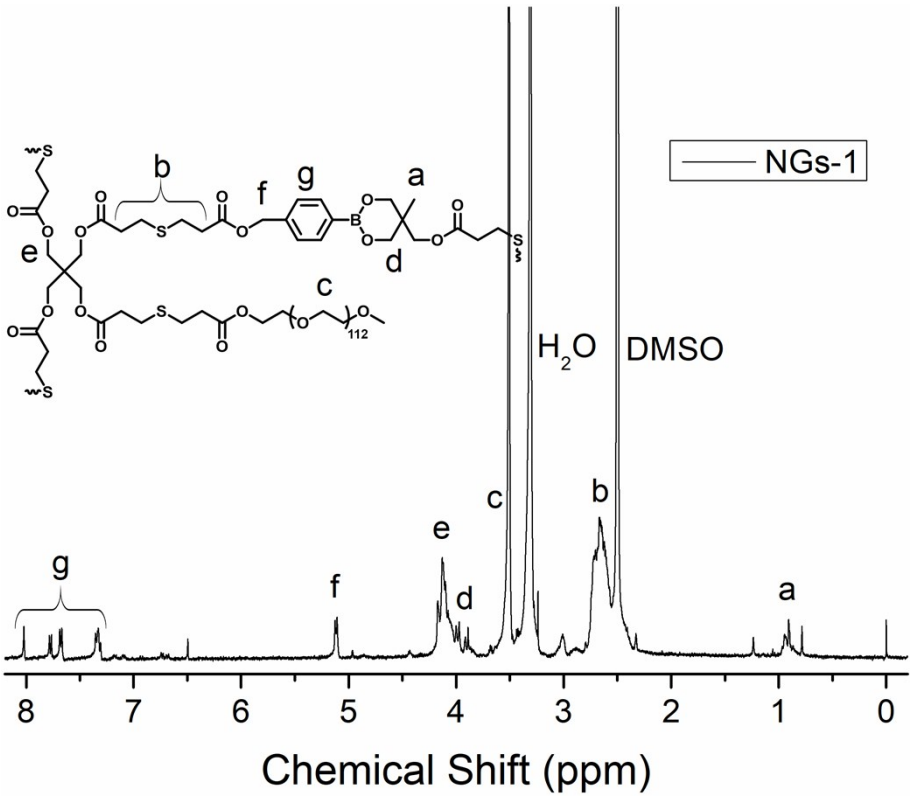

Fig. S2. ^{1}H NMR spectra of the nanogels (NGs-1) in DMSO-d_6.

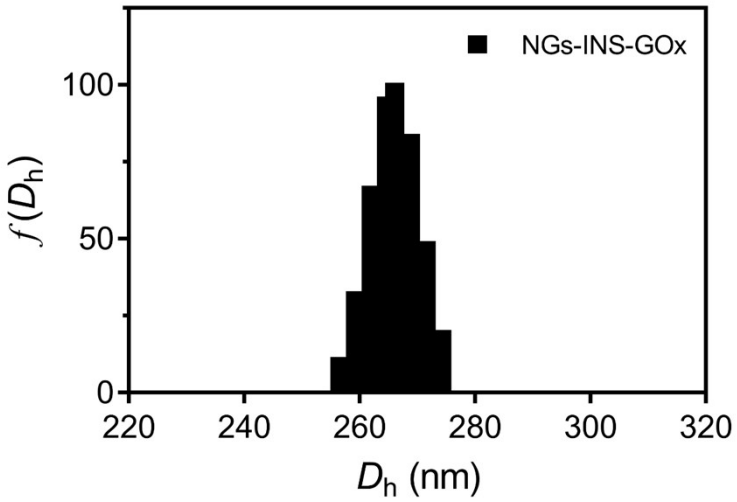

Fig. S3. DLS results of GOx and insulin loaded nanogels (NGs-GOx-INS).

Table S1. Zeta potentials of the nanogels and GOx-loaded nanogels.

Code	Zeta potentials (mv)
Nanogels	-6.8±0.6
GOx-loaded nanogels	-7.4±0.8

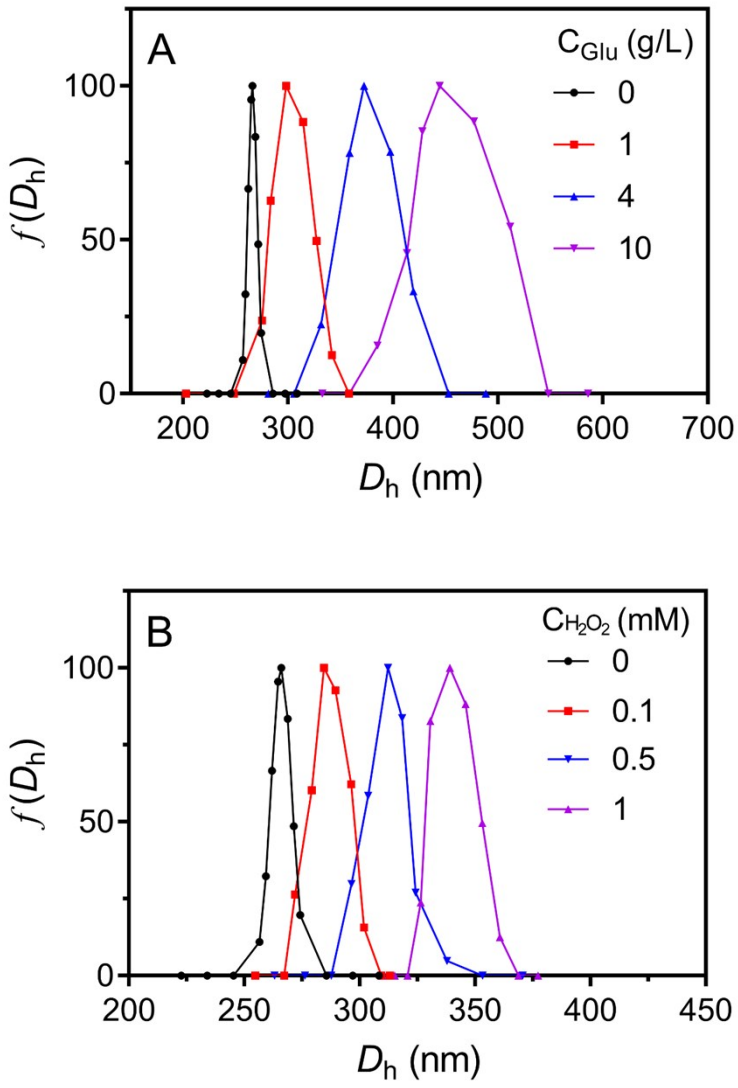

Fig. S4. Size distributions of nanogels in the presence of varying concentrations of (A) glucose or (B) H_2O_2 for 1 h in PBS 7.4.

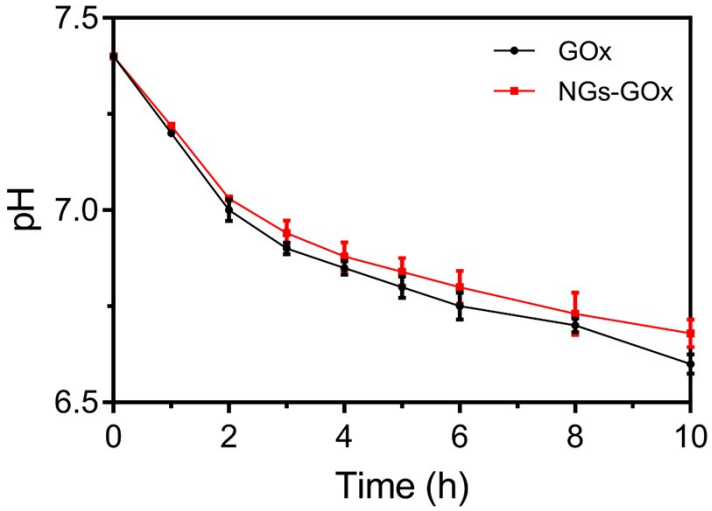

Fig. S5. The pH change of glucose solution (4 g L^{-1}) at 25 ^{o}C, in the presence of free GOx or GOx-loaded nanogels (NGs-GOx).

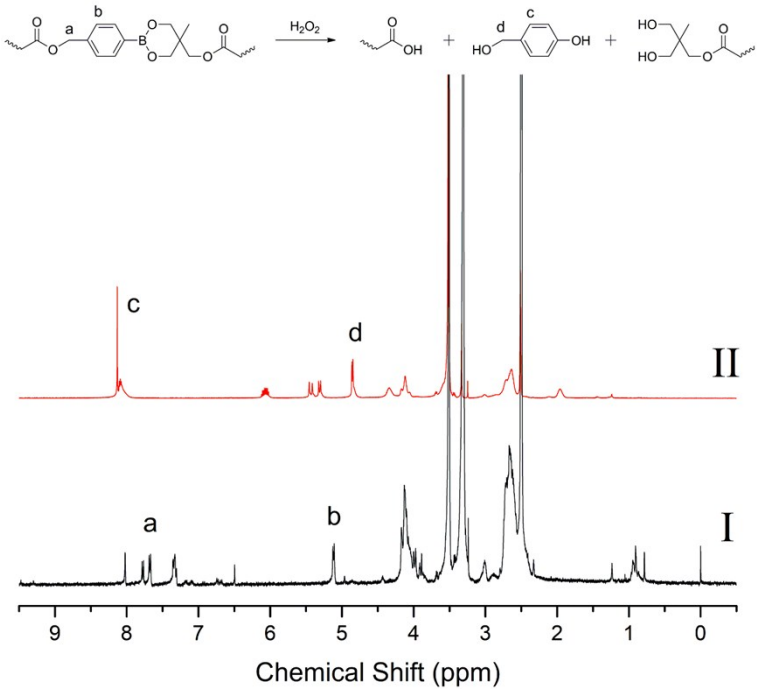

Fig. S6. The mechanism of the nanogels react with H_2O_2, and the ^{1}H NMR spectra of nanogels before (I) and after (II) the treatment of H_2O_2 (1 mM) for 4 h. DMSO-d_6 was used as solvents.