Supporting Information

for

Reduction-Responsive Diblock Copolymer-Modified Gold Nanorods for Enhanced Cellular Uptake

Yixia Li,[1]Jianhao Si,[1]Haiyan Fan,[1] Jinxian Yang,[1]Xiaodong Ye[1,2,*]

1) Hefei National Laboratory for Physical Sciences at the Microscale, Department of Chemical Physics, University of Science and Technology of China, Hefei, Anhui 230026, China

2) CAS Key Laboratory of Soft Matter Chemistry, University of Science and Technology of China, Hefei, Anhui 230026, P. R. China

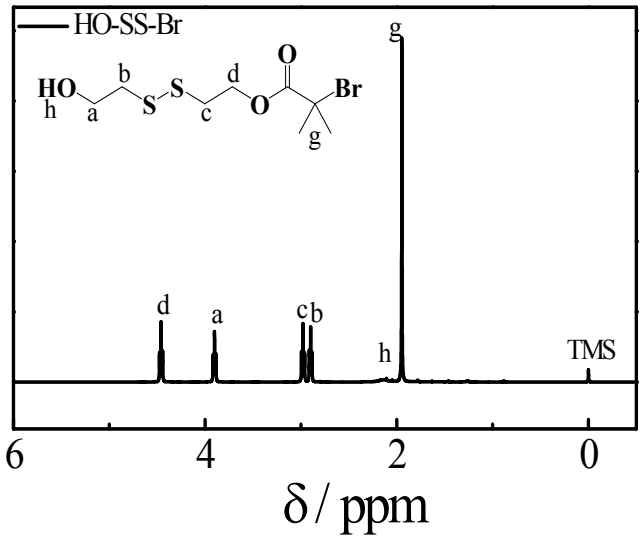

Figure S1. ^{1}H NMR spectrum of theinitiator HO−SS−Brcontaining a disulfide groupin $CDCl_3$with TMS as an internal reference.

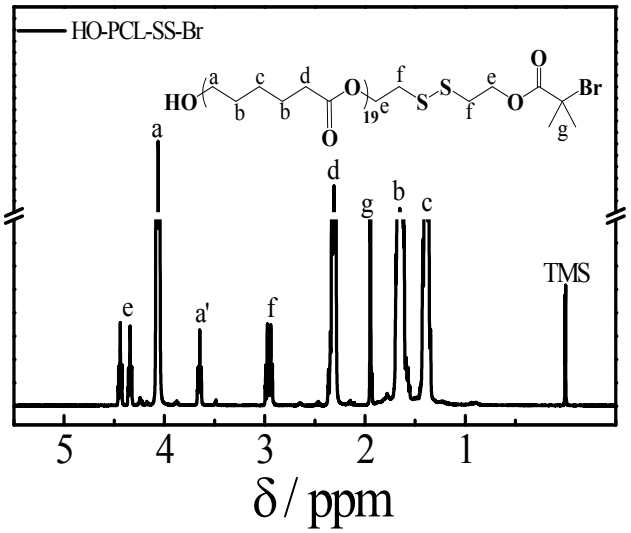

Figure S2. ^{1}H NMR spectrum of the polymer HO−PCL−SS−Brcontaining a disulfide group in $CDCl_3$with TMS as an internal reference, the characteristic peaks located at ~ 3.65 ppm (a') are attributed to the protons of -CH_2-OH at the end of PCL block.

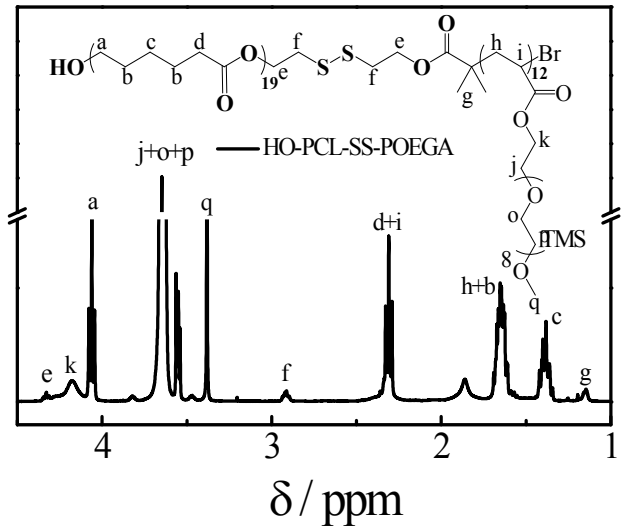

Figure S3. ^{1}H NMR spectrum of the disulfide-linked polymer HO−PCL−SS−POEGA in $CDCl_3$with TMS as an internal reference.

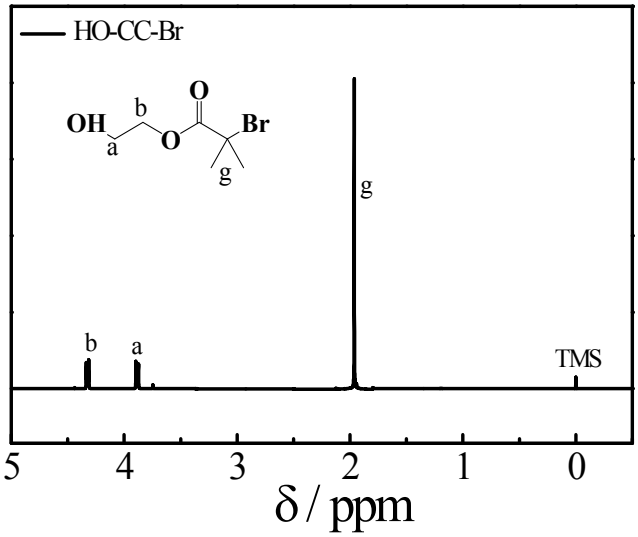

Figure S4. ^{1}H NMR spectrum of reduction-nonsensitive initiator HO−CC−Br in $CDCl_3$with TMS as an internal reference.

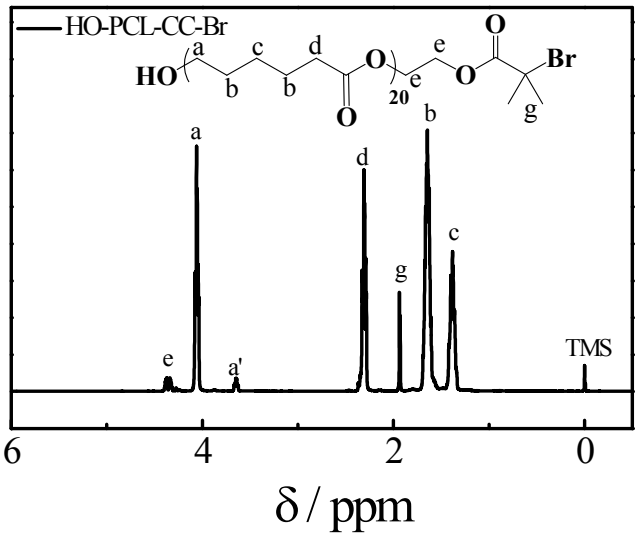

Figure S5. ^{1}H NMR spectrum of reduction-nonsensitive polymer HO−PCL−CC−Br in $CDCl_3$with TMS as an internal reference.

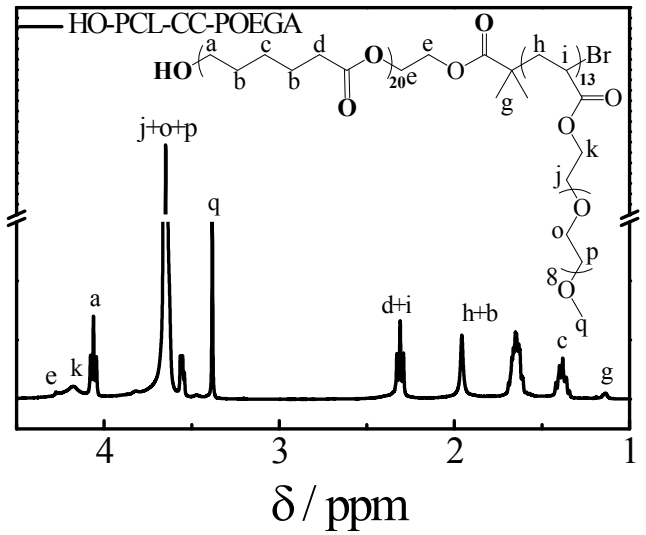

Figure S6. ^{1}H NMR spectrum of reduction-nonsensitive polymer HO−PCL−CC−POEGA in $CDCl_3$with TMS as an internal reference.

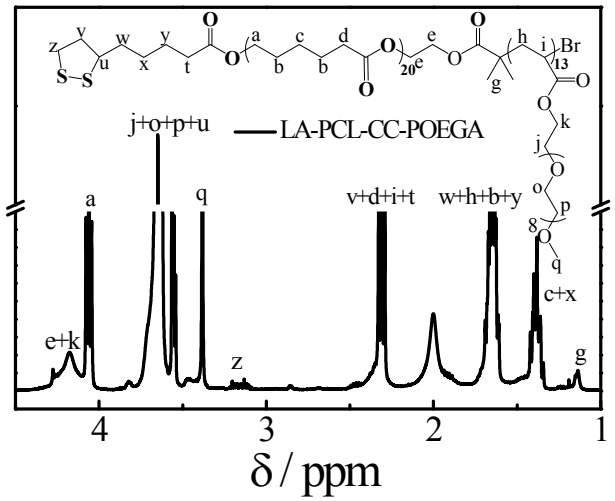

Figure S7.^{1}H NMR spectrum of reduction-nonsensitive polymer LA−PCL−CC−POEGA in $CDCl_3$ with TMS as an internal reference.

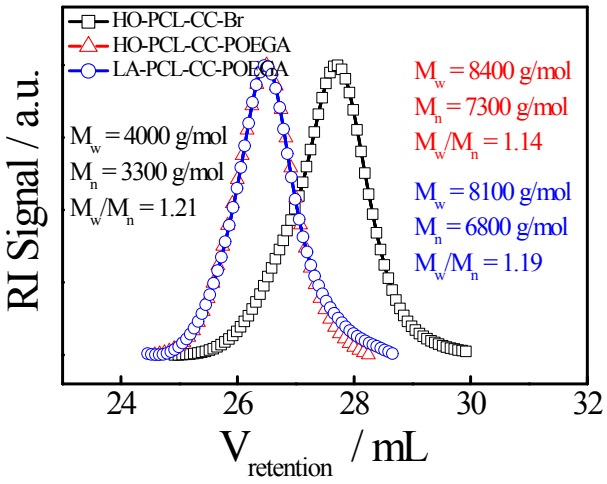

Figure S8. GPC chromatograms (in THF) of the HO−PCL−CC−Br, HO−PCL−CC−POEGA, and LA−PCL−CC−POEGA. Concentrations of these polymers were ~ 5 mg/mL.

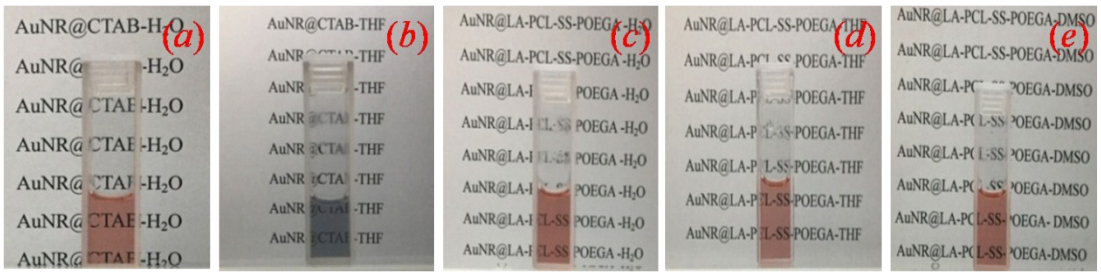

Figure S9. The images of AuNRs@CTABdispersed in (*a*)H_2O and (*b*) THF, and AuNRs@LA HO−PCL−SS−POEGA dispersed in (*c*) water, (*d*) THF, and(*e*) DMSO.

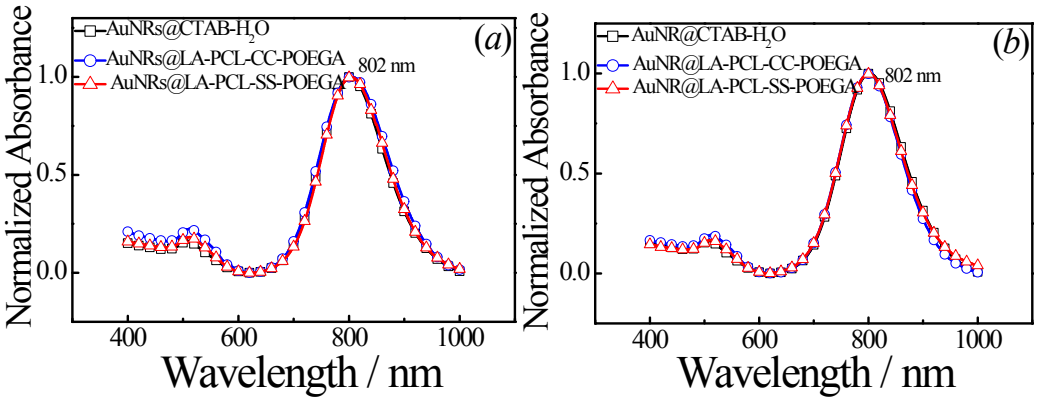

Figure S10.the normalized UV/vis absorption spectra of AuNRs@CTAB dispersed in water,and AuNRs@LA−PCL−R−POEGA dispersed in (*a*) PBS and (*b*) 2M NaCl aqueous solutions.

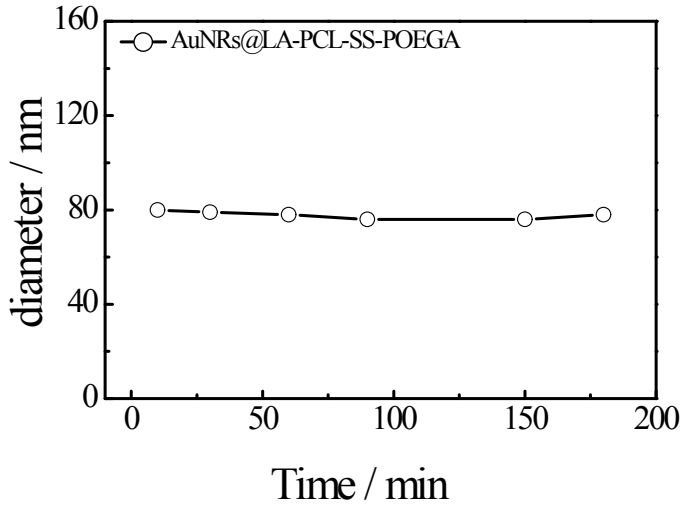

Figure S11. Time-dependent average hydrodynamic diametersof AuNRs@LA−PCL−SS−POEGA dispersed in cell culture medium DMEM containing 10% FBS, 1% sodium pyruvate and 1% penicillin-streptomycin.