Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

Characterization of thiolated chitosan

The ^{1}H NMR and FTIR of chitosan derivatives (CS-NAC) were investigated. Fig. S1A displays the FTIR spectra of chitosan and CS-NAC. The absorption peaks at 1654 cm^{-1} (amide I band), 1546 cm^{-1} (amide II band) and 1310 cm^{-1} (amide III band) in the spectrum of CS-NAC are stronger than those of chitosan, indicating the introduction of the additional amide groups from NAC. The thiolation of chitosan is further confirmed by the appearance of a new resonance peak at 3.00 ppm from the ^{1}H NMR spectrum of CS-NAC, which is assigned to the side-chain methylene proton (CH_2SH) (Fig. 1B).

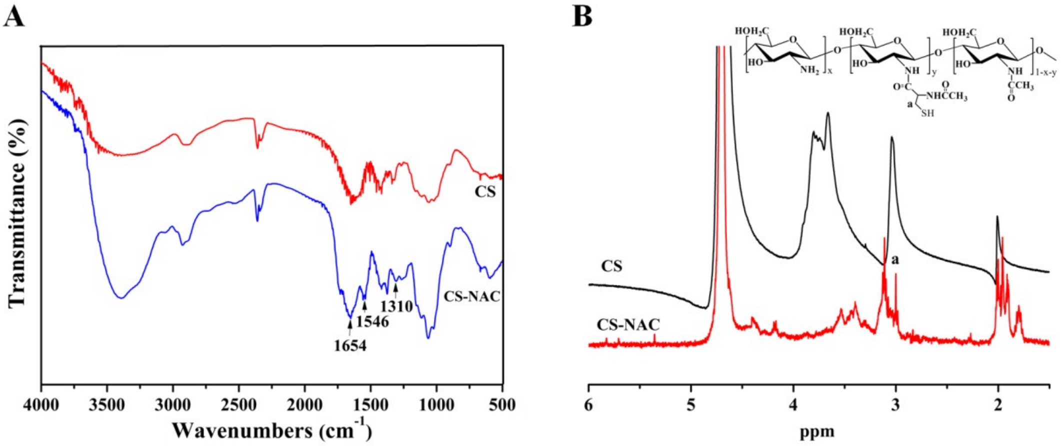

Fig. S1 FTIR (A) and ^{1}H NMR (B) spectra of chitosan (CS) and thiolated chitosan (CS-NAC).

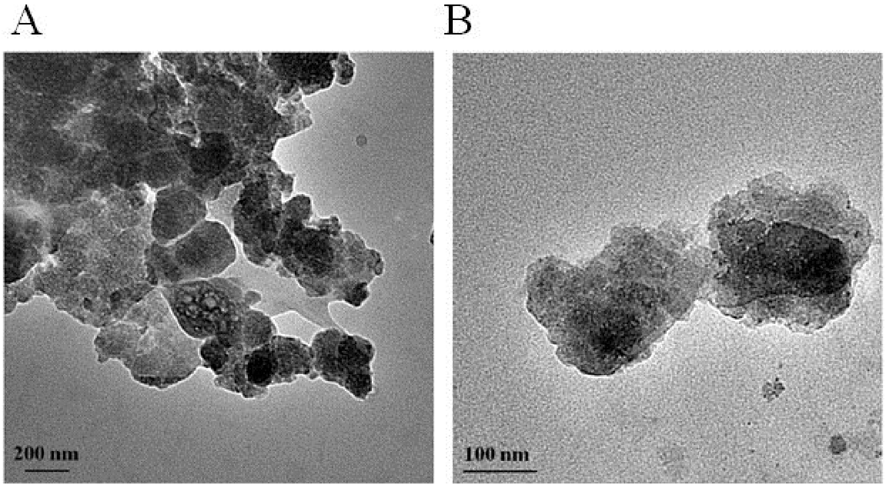

Fig. S2 TEM images of air-dried dual cross-linked chitosan based hydrogel where the molar ratio of thiol groups to double bonds from PEGDA and PECL micelles is 1:2:1.

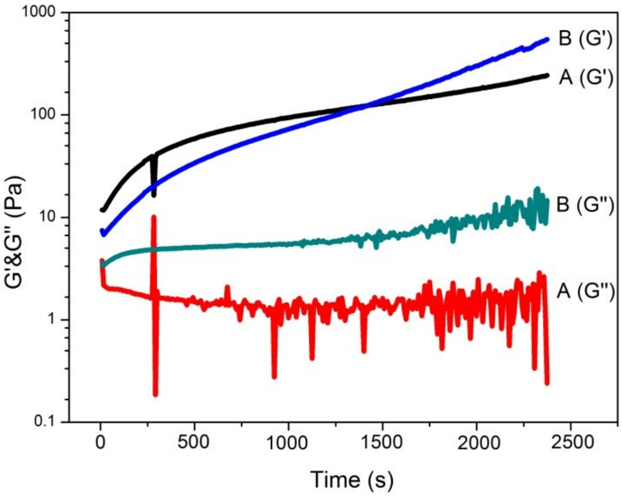

Fig. S3 Storage modulus (G′) and loss modulus (G″) of dual cross-linked chitosan based hydrogels via Michael-type addition reaction with or without incorporating PECL micelles. A and B represent hydrogels where the molar ratio of thiol groups to double bonds from PEGDA and PECL micelles is 1:2:0 and 1:2:1, respectively.