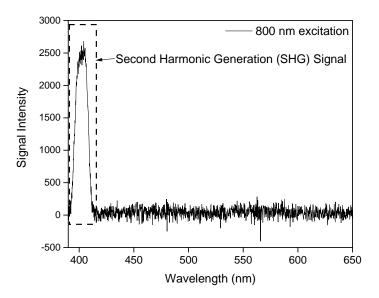
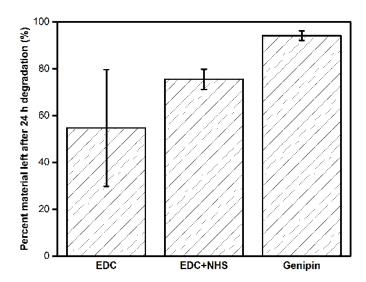
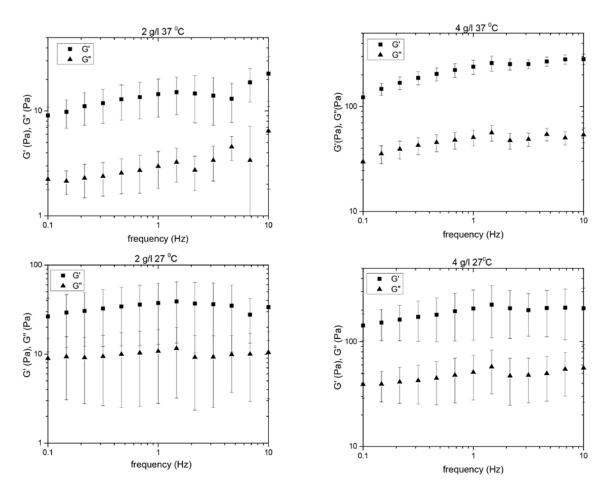
Electronic Supplementary Material (ESI) for Analytical Methods. This journal is © The Royal Society of Chemistry 2015



**Figure S1.** Typical two-photon spectrum of a non-cross-linked collagen hydrogel. Only second harmonic generation (SHG) signal at 400 nm is readily observed.



**Figure S2.** The percent of the cross-linked materials that remained present after 24-hr-collagenase degradation. The non-cross-linked materials were all fully degraded after 24 hrs of exposure to collagenase. The collagen hydrogels were prepared at 0.3 M sodium chloride, pH 7.4, 30 mM phosphate, 37 °C polymerization temperature, 2 g/l collagen solid content. They were separately cross-linked with carbodiimide (EDC), carbodiimide (EDC)/N-Hydroxysuccinimide (NHS) or genipin.



**Figure S3.** The dynamic mechanical properties of 2 g/l and 4 g/l collagen gels prepared at 27  $^{\circ}$ C and 37  $^{\circ}$ C.