Thermal Gelation of Chitosan in an Aqueous Alkali-urea Solution

Chong Li, Qiuyan Han, Ying Guan and Yongjun Zhang*

Fig. S1 XRD patterns of chitosan powder and a chitosan hydrogel in situ gelled from a 5 wt% solution. The peaks at $2\theta \approx 10^\circ$ and $20^\circ$ in the spectra of chitosan powder indicates the sample contains both form I and form II crystals. A small peak appears at $2\theta \approx 20^\circ$ in the spectra of the chitosan hydrogel, demonstrating the formation of a low amount of small crystalline. The XRD spectra were recorded on X-ray diffractometer (D/Max2500VB2+/Pc, Rigaku, Japan) with Cu Kα characteristic radiation (wavelength= 0.154 nm). The scanning rate was 5°/min and the scanning scope of $2\theta$ was from 5° to 60° at room temperature.
Fig. S2 $T_{gel}$ and $T_{liq}$ of a 2.5 wt% chitosan solution measured by dynamic temperature ramp tests at different heating and cooling rates.

Fig. S3 Photographs of a 3.0 wt% chitosan solution after being stored at 4°C for 16 days.

References: