

Supporting information for

## Thermal Gelation of Chitosan in an Aqueous Alkali-urea Solution

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

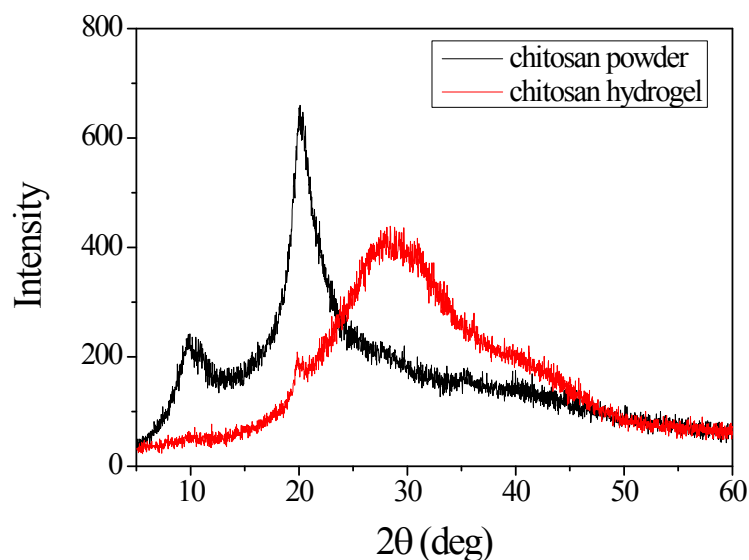


Fig. S1 XRD patterns of chitosan powder and a chitosan hydrogel in situ gelled from a 5 wt% solution. The peaks at  $2\theta \approx 10^\circ$  and  $20^\circ$  in the spectra of chitosan powder indicates the sample contains both form I and form II crystals.<sup>1</sup> A small peak appears at  $2\theta \approx 20^\circ$  in the spectra of the chitosan hydrogel, demonstrating the formation of a low amount of small crystalline.<sup>2</sup> The XRD spectra were recorded on X-ray diffractometer (D/Max2500VB2+/Pc, Rigaku, Japan) with Cu K $\alpha$  characteristic radiation (wavelength= 0.154 nm). The scanning rate was  $5^\circ/\text{min}$  and the scanning scope of  $2\theta$  was from  $5^\circ$  to  $60^\circ$  at room temperature.

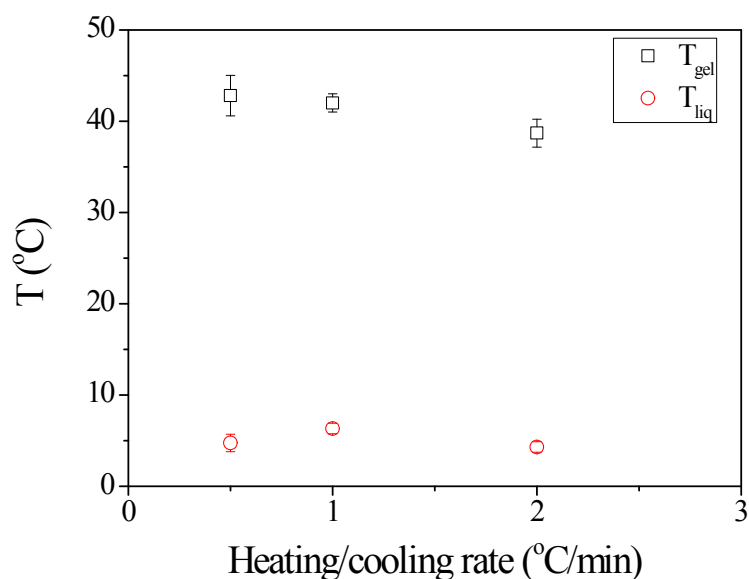


Fig.S2  $T_{gel}$  and  $T_{liq}$  of a 2.5 wt% chitosan solution measured by dynamic temperature ramp tests at different heating and cooling rates.



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

## References:

1. R. J. Samuels, *Journal of Polymer Science: Polymer Physics Edition*, 1981, **19**, 1081-1105.
2. R. Ricciardi, F. Auriemma, C. De Rosa and F. Lauprêtre, *Macromolecules*, 2004, **37**, 1921-1927.