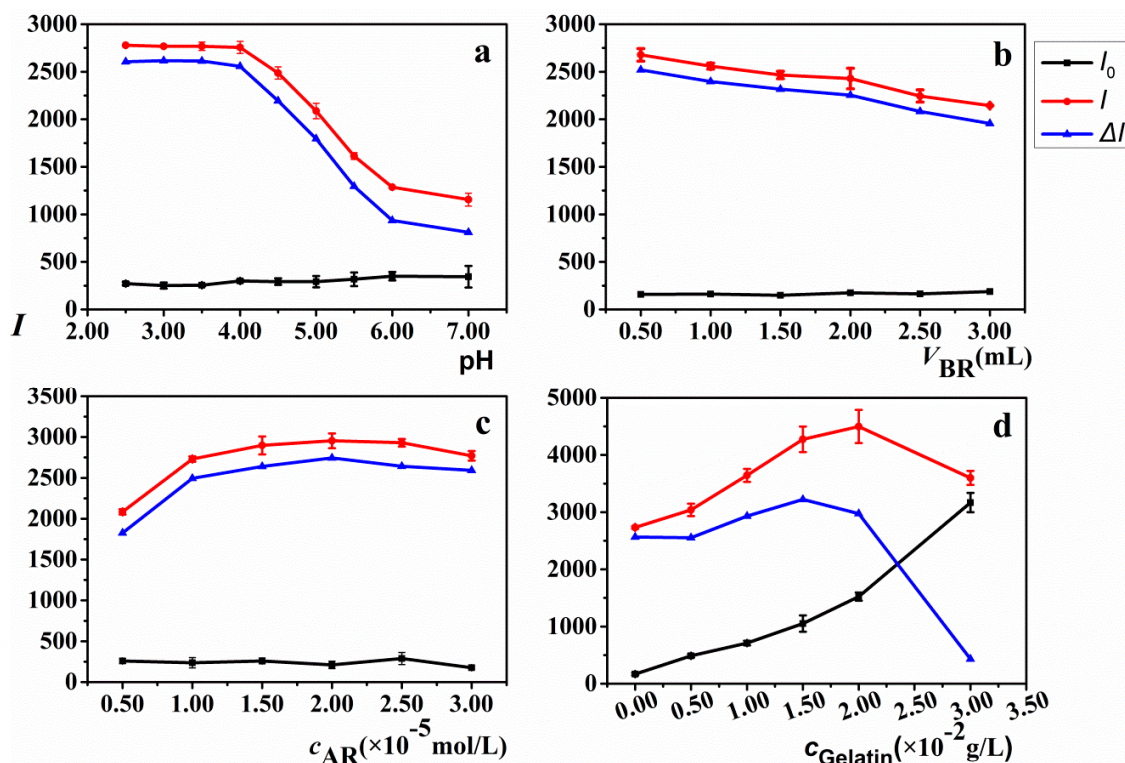


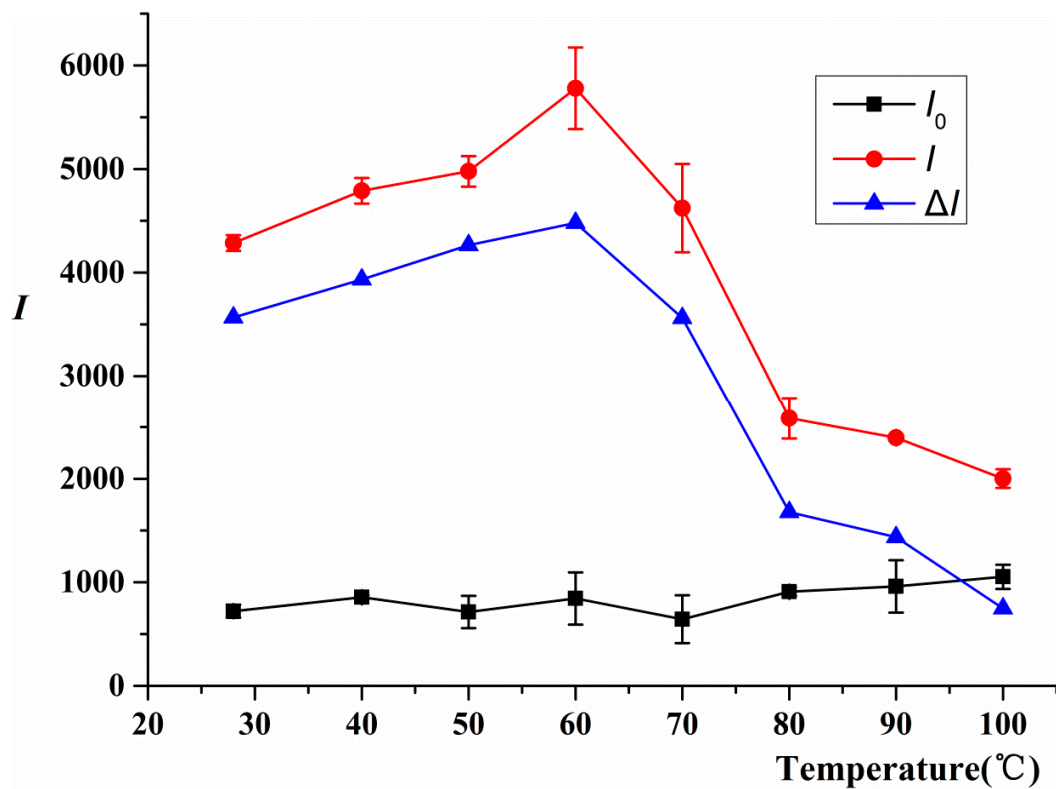
# Application of gelatin decorated with allura red as resonance Rayleigh scattering sensor to determine chito-oligosaccharides

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Note: The resonance Rayleigh scattering spectra were recorded with synchronous scanning at  $\lambda_{\text{ex}}=\lambda_{\text{em}}$  ( $\Delta\lambda=0$  nm) on fluorescence spectrophotometer, measuring the RRS intensity  $I$  for the ion-association complex and  $I_0$  for the reagent blank at the maximum RRS wavelength (344 nm),  $\Delta I=I-I_0$ .



**Fig.1S.** The effect of acidity, the concentration of AR and the reaction temperature. (a)The effect of pH of BR buffer solution.1.00 mL BR buffer solution, COS (2.00  $\mu\text{g/mL}$ ), AR ( $1.00 \times 10^{-5} \text{ mol/L}$ ); (b) The Effect of amount of BR buffer solution. pH=3.50 BR buffer solution, COS (2.00  $\mu\text{g/mL}$ ), AR ( $1.00 \times 10^{-5} \text{ mol/L}$ ). (c) The effect of AR concentration. 0.50 mL pH=3.50 BR buffer solution, COS (2.00  $\mu\text{g/mL}$ ); (d) The effect of gelatin. 0.50mL pH=3.50 BR buffer solution, COS (2.00 $\mu\text{g/mL}$ ), AR ( $2.00 \times 10^{-5} \text{ mol/L}$ )



**Fig.2S** The effect of temperature on RRS intensity of COS-Gelatin-AR system. 0.50 mL pH=3.50 BR buffer solution, COS (2.00  $\mu\text{g/mL}$ ), AR ( $2.00 \times 10^{-5} \text{ mol/L}$ ) and gelatin ( $1.50 \times 10^{-2} \text{ g/L}$ )

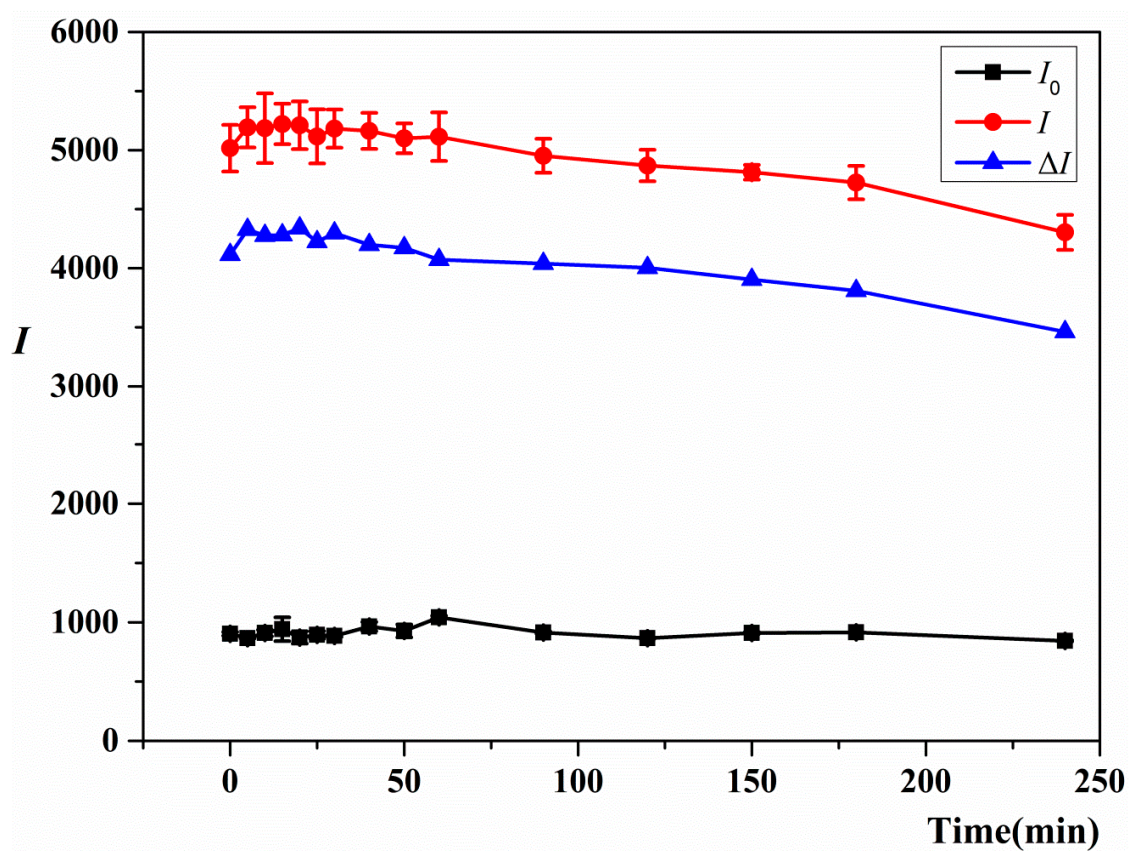
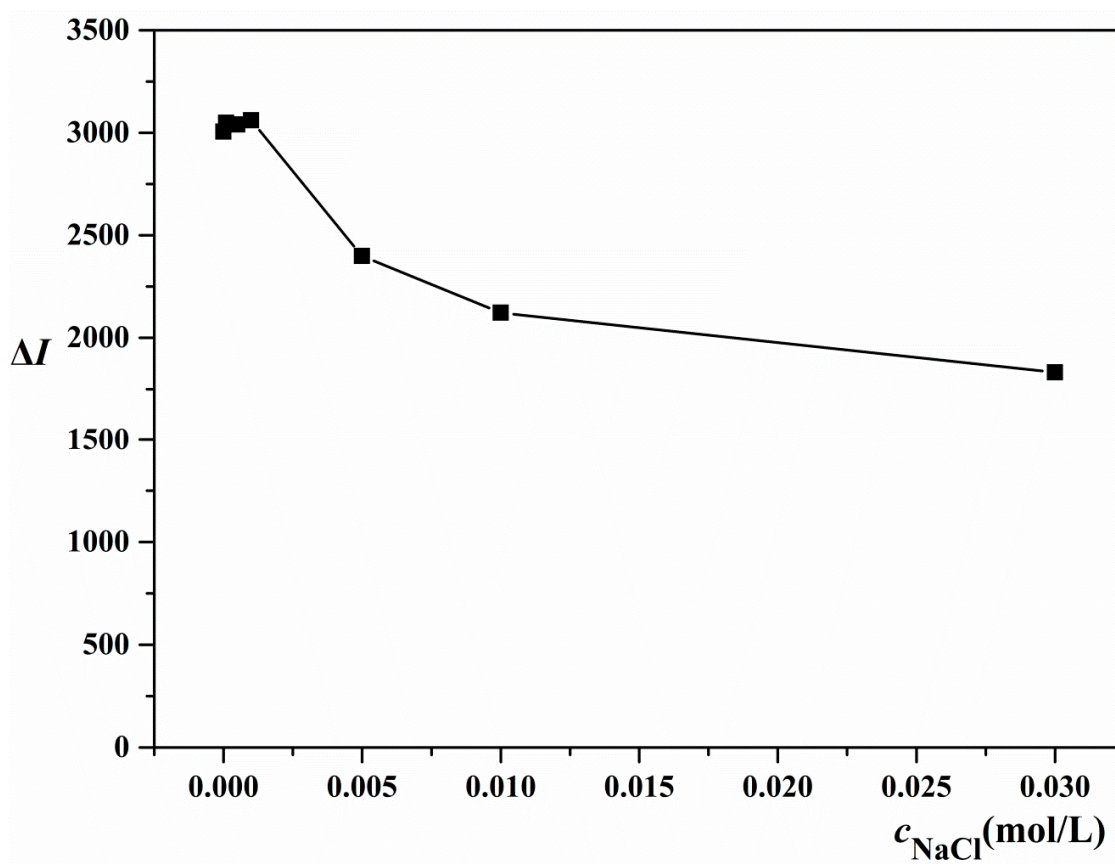


Fig.3S The effect of standing time. 0.50 mL pH=3.50 BR buffer solution, COS (2.00 $\mu$ g/mL), AR (2.00 $\times 10^{-5}$  mol/L) and gelatin(1.50 $\times 10^{-2}$  g/L)



**Fig.4S** The effect of the concentration of NaCl. 0.50 mL pH=3.50 BR buffer solution, COS (2.00  $\mu\text{g/mL}$ ), AR ( $1.50 \times 10^{-5}$  mol/L) and gelatin ( $1.50 \times 10^{-2}$  g/L)