

Supplementary Information

Fig. 1. The inulin was obtained from the roots of *Helianthus tuberosus* as previously described method (*International Journal of Biological Macromolecules* **2003**, 33:135-140). It was isolated by water extraction and ethanol precipitation, followed by ion-exchange chromatography and gel filtration of the crude precipitate. The average molecular weight of inulin was 5 kDa by HPLC using ELSD detection on a TSKgel G4000PWXL (Tosoh corporation) column (7.8 mm× 300 mm), with 1 kDa, 5 kDa and 25 kDa dextran as standards.

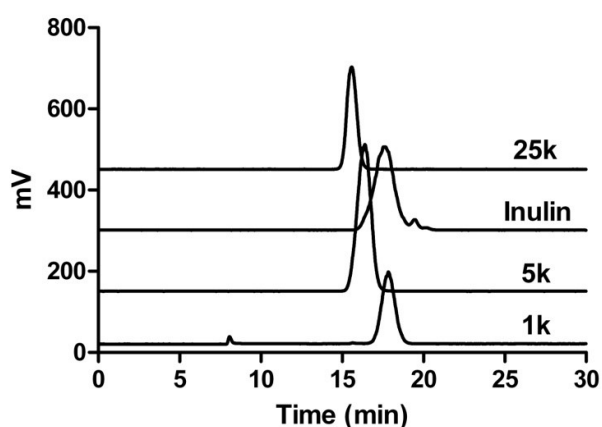


Fig. 2. Activities of different molecular weight chitosan (2000 $\mu\text{g/ml}$) against the *S. aureus* plankton were investigated. Florfenicol (250 $\mu\text{g/ml}$) was used as a positive control.

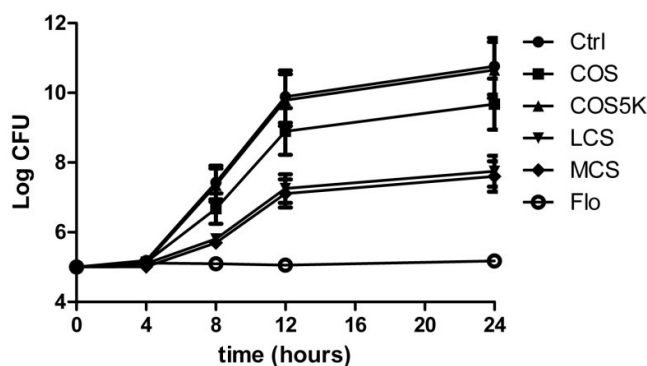


Fig. 3. The concentration-dependent inhibition of florfenicol (Flo) and streptomycin (Strep) against *S. aureus* biofilms was compared with Inulin-LCS (1000 µg/ml). Data are represented as the means ± SD (n=8). * $P < 0.05$ or ** $P < 0.01$, compared to the Inulin-LCS group.

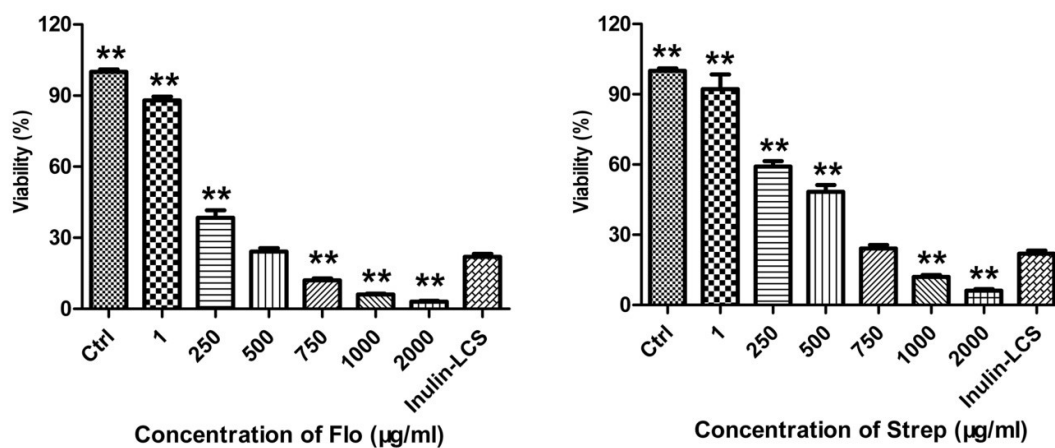
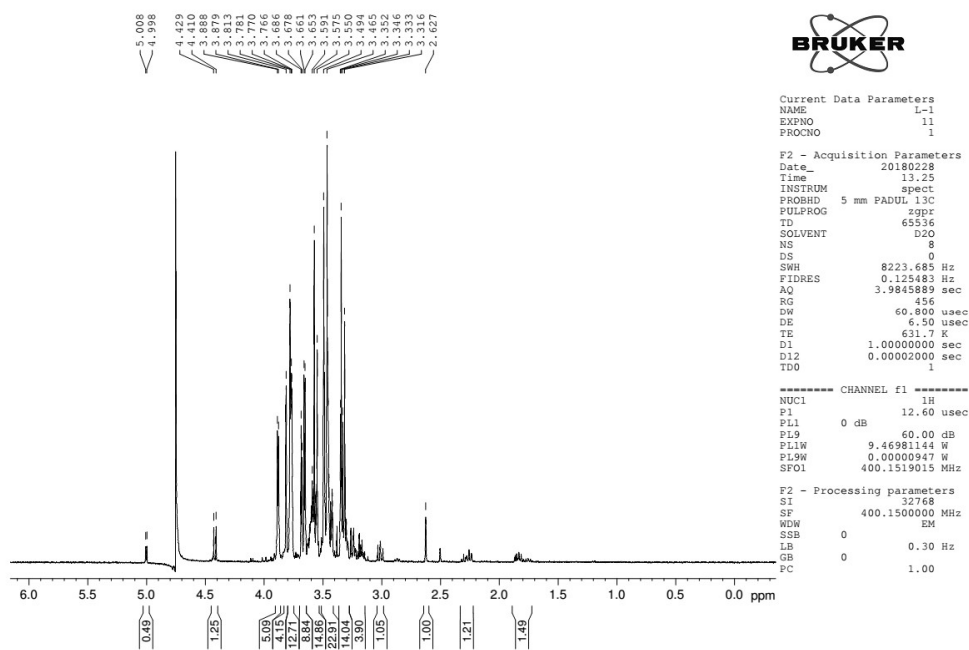


Fig. 4. The ^1H -NMR spectra of inulin, chitosan and the inulin-chitosan conjugate as followed.



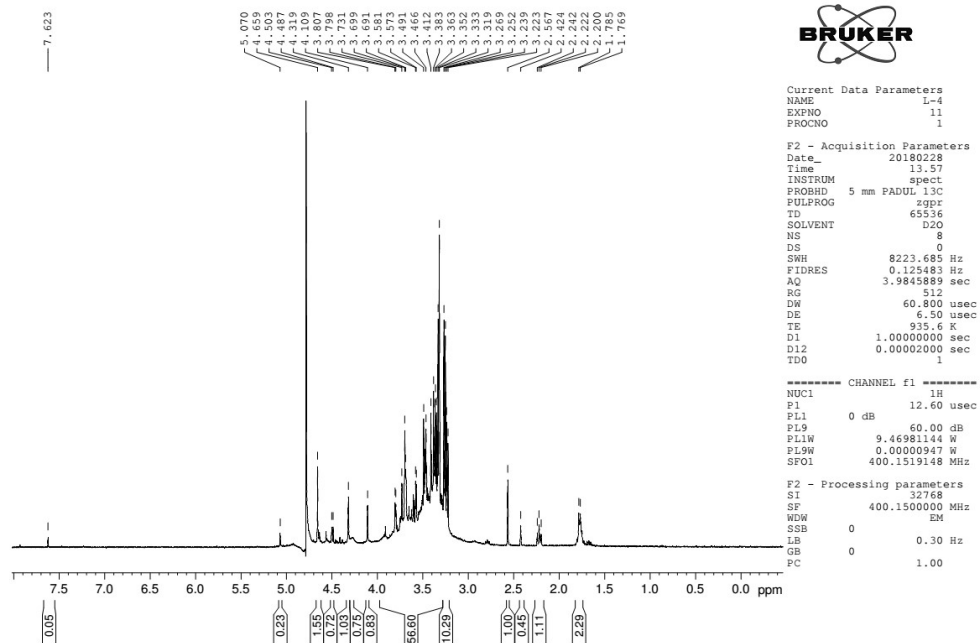
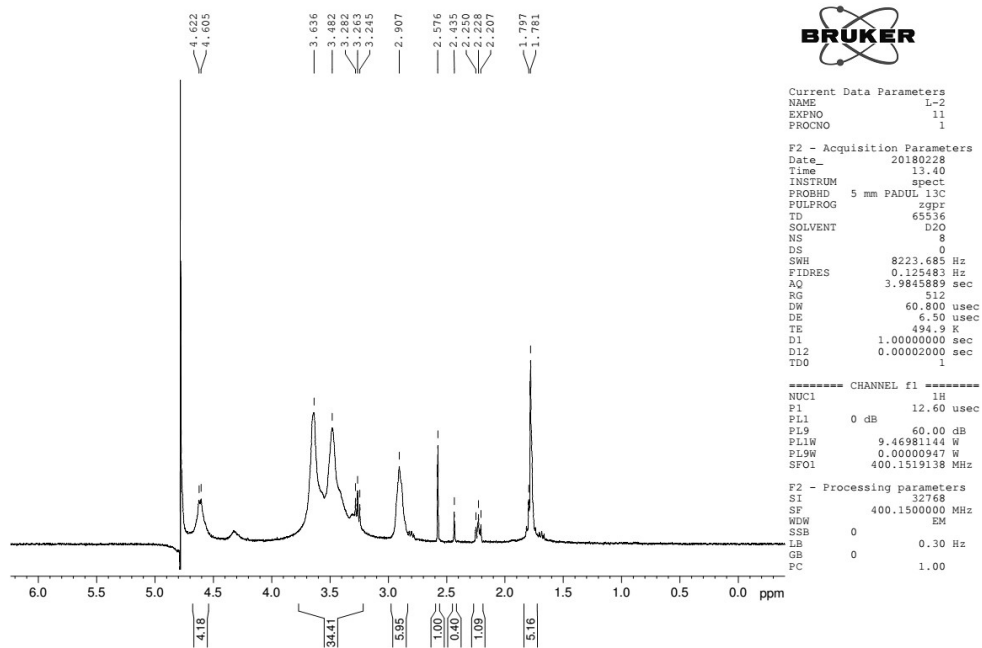


Fig. 5. The fluorescence image of *S. aureus* biofilms treated with 1 mg/ml of each sample. Scale bar, 50 μ m.

