

## **Electrospun nanofibers of polyelectrolyte-surfactant complexes for antibacterial wound dressing application**

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### **1 The released content of CTAC from PESCs nanofibrous membranes**

The released content of cetyltrimethylammonium chloride (CTAC) from PESCs nanofibrous membranes was determined by ultraviolet spectrophotometer. In weak acidic medium, quaternary ammonium salt as a kind of cationic surfactants can react with water-soluble eosin Y to form an ion-association complex, and the absorbance of color reaction can be measured by UV-visible spectrophotometer at 547 nm (Figure S1).

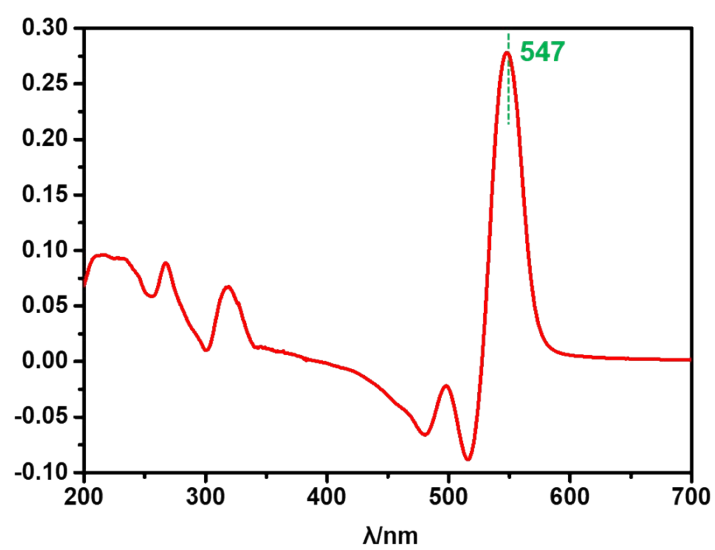
The CTAC (50 mg/L) and eosin Y solution (30 mg/L) were respectively prepared and the quaternary ammonium salt solution was gradually diluted with eosin Y solution to series of standard solution at concentration of 0.5, 1, 2, 3, 4, 5 mg/L, respectively. The standard curve was prepared by ultraviolet spectrophotometer at 547 nm (UV, PerkinElmer- Lambda 35).

The released content of CTAC at predetermined time intervals was measured according to the standard curve (Figure S2).

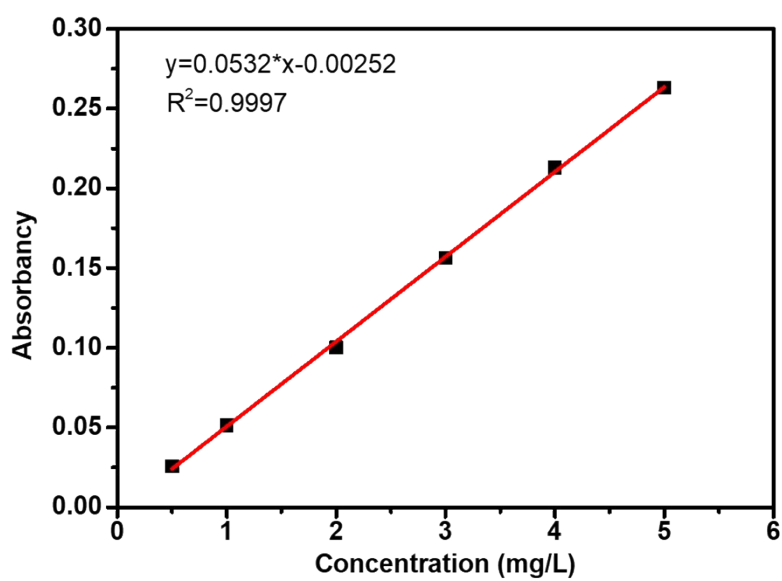
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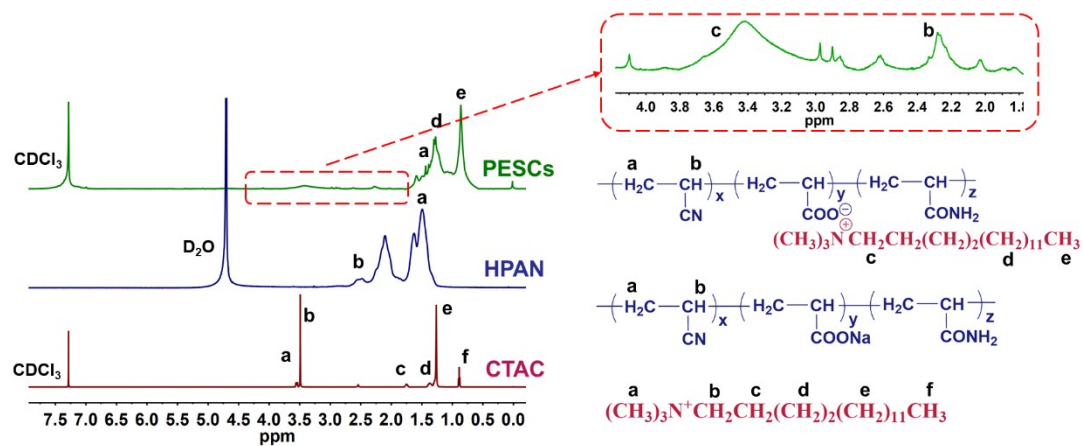


**Figure S1.** Absorption spectrogram of CTAC and eosin Y.



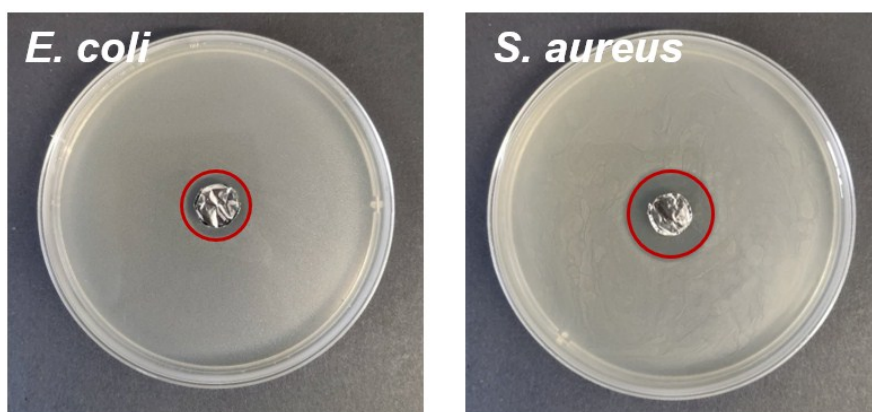
**Figure S2.** Standard curve of CTAC and eosin Y.

**2  $^1\text{H}$  NMR spectra of CTAC, HPAN and PESCs**



**Figure S3.**  $^1\text{H}$  NMR spectra of CTAC, HPAN, and PESCs.

### 3 Inhibition zone method



**Figure S4.** Inhibition zone of PESCs nanofibrous membranes.