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

Figure S2. Standard curve of CTAC and eosin Y.

2 $^1$H NMR spectra of CTAC, HPAN and PESCs
Figure S3. $^1$H NMR spectra of CTAC, HPAN, and PESCs.

3 Inhibition zone method

Figure S4. Inhibition zone of PESCs nanofibrous membranes.