

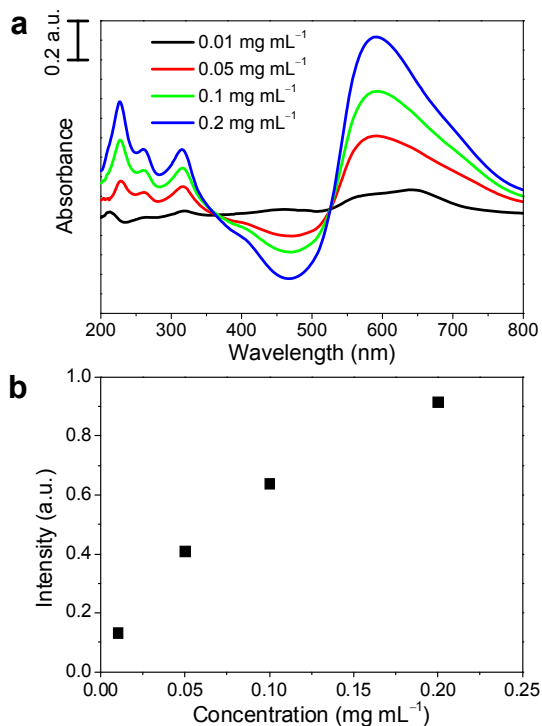
Electronic Supplementary Information

**Ultrathin cellulose film coating of porous alumina membrane for adsorption of  
superoxide dismutase**

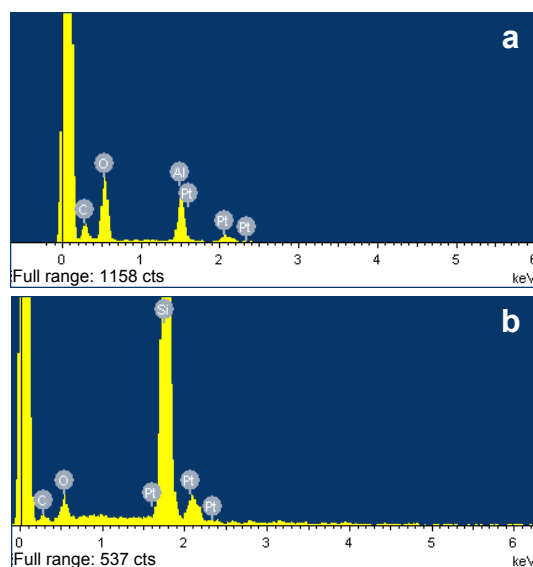
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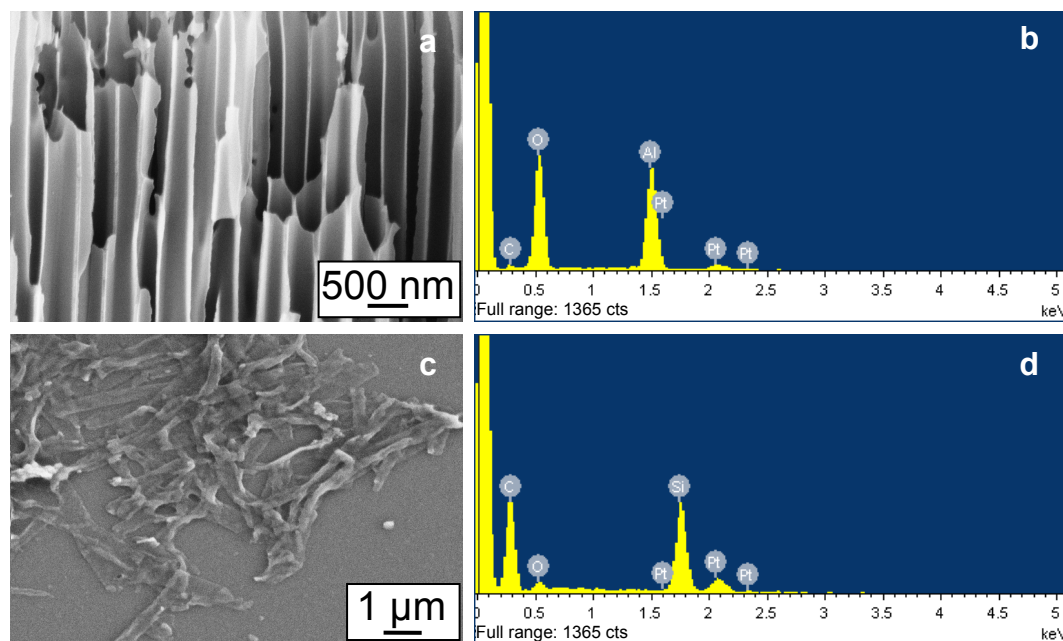
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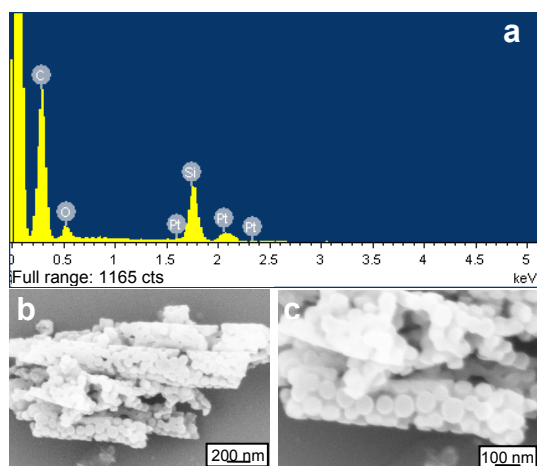
**Fig. S1** (a) UV-vis spectra of brilliant blue G solution treated aqueous solutions with various superoxide dismutase (SOD) concentrations. (b) Variations in the intensity of UV-vis absorbance peak at 575 nm as a function of the SOD concentration.



**Fig. S2** Energy dispersive X-ray (EDX) spectra of the polyelectrolyte/cellulose composite film coated anodic aluminum oxide (AAO) membrane (a) and the nanotubular polyelectrolyte/cellulose hybrid obtained after further removal of aluminum oxide component from the polyelectrolyte/cellulose composite film coated AAO membrane by the treatment of 60 °C 50% aqueous phosphoric acid for 2 h (b).



**Fig. S3** Characterization of polyelectrolyte layer coated AAO membrane before and after dissolution of the aluminum oxide component by phosphoric acid treatment. (a,b) The polyelectrolyte layer coated AAO membrane: (a) cross-sectional FE-SEM image of the membrane; (b) EDX spectrum of the sample. (c,d) The nanotubular polyelectrolyte materials obtained after removal of the aluminum oxide component from the above composite membrane: (c) FE-SEM image of the nanotubes; (d) EDX spectrum of the nanotubes.



**Fig. S4** (a) EDX spectrum and (b and c) FE-SEM images of the samples obtained after the phosphoric acid treatment of the polyelectrolyte/cellulose composite film coated AAO membrane which prepared identically by using  $2 \text{ mg mL}^{-1}$  cellulose solution.