## A biocompatible polypyrrole membrane for biomedical applications

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Fig. S1. SEM of the original PPy membrane (A, B, C) and the reinforced PPy membrane (D, E, F). A: nanotube side; B: bubble side; C: cross section (C); D: the good attachment of the compliant PU fibers to the PPy; E: the straight PLLA fibers detached from the membrane; and F: the integration of the composite fibers to the PPy surface (F).



Fig. S2. Usability test of the PU/PLLA strengthened PPy membranes in comparison with the non-reinforced membranes, showing the intact reinforced membranes (2<sup>nd</sup> and 4<sup>th</sup> rows) and the broken non-reinforced membranes (1<sup>st</sup> and 3<sup>rd</sup> rows). A: Membranes assembled in the home-made cell culture device; B: Membranes disassembled from the cell culture device; C: Reverse side of the membranes. The white appearance of the 2 membranes in column C is because of the electrospun fibres.



Fig. S3. XPS survey spectrum of PPy membrane before (PPy) and after wash (wPPy).