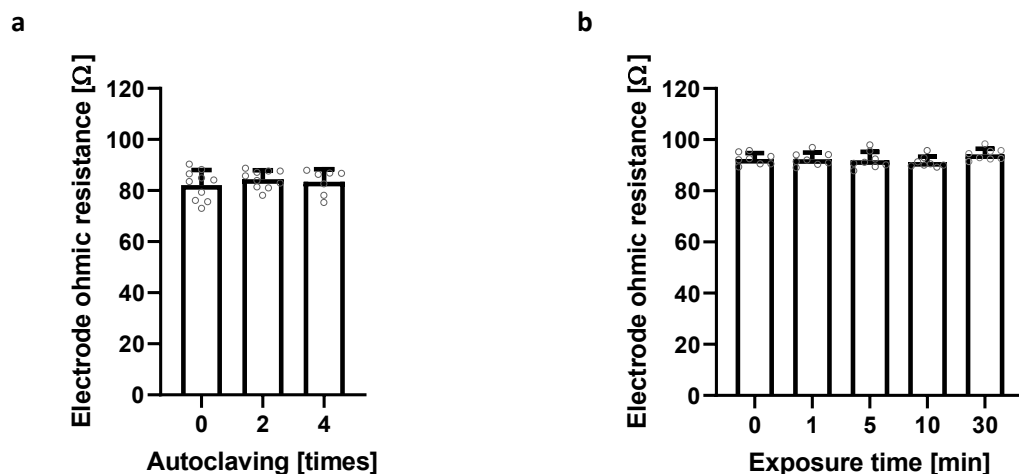
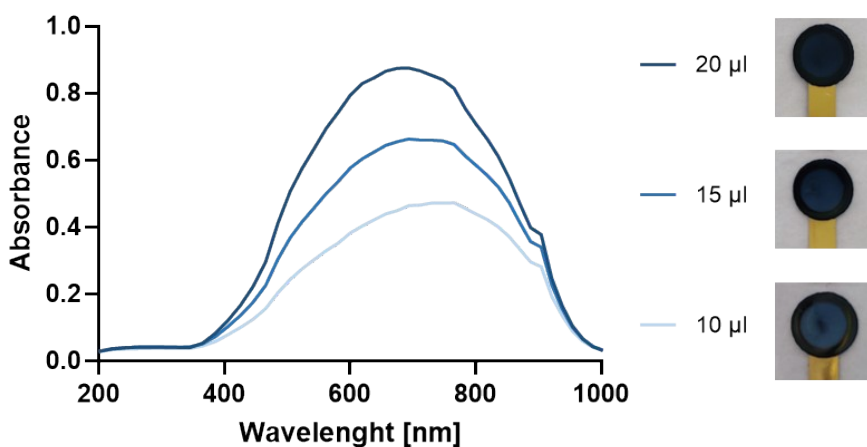


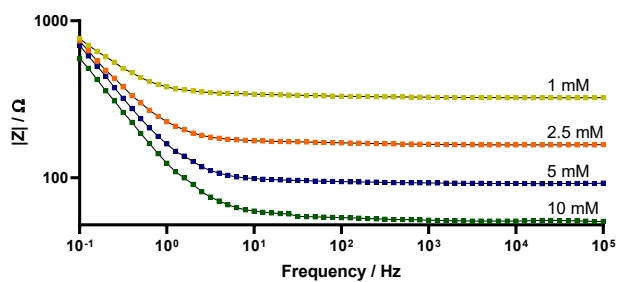
Supplementary



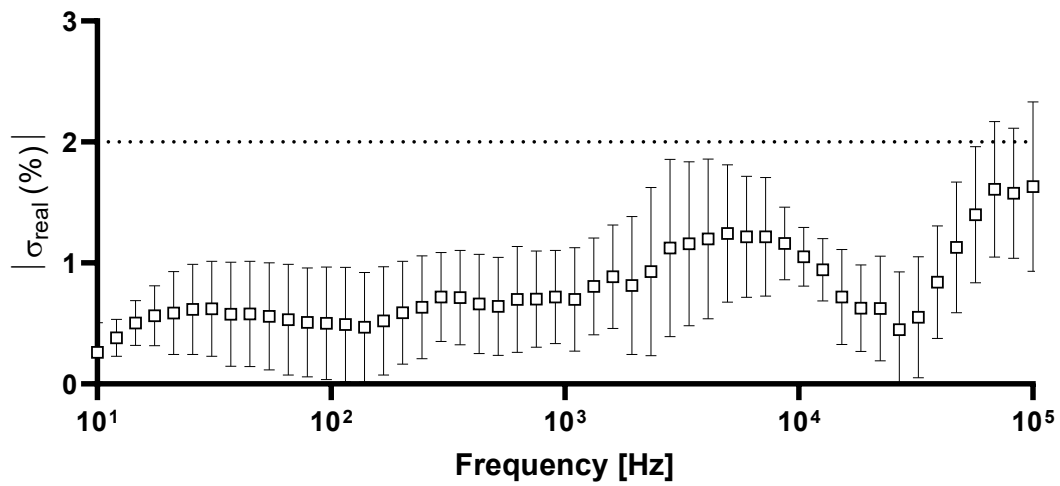
SFig. 1. **a)** Ohmic resistance of electrodes after autoclaving cycles ($n=10$). **b)** Ohmic resistance of electrodes after being exposed to ethanol ($n=8$).



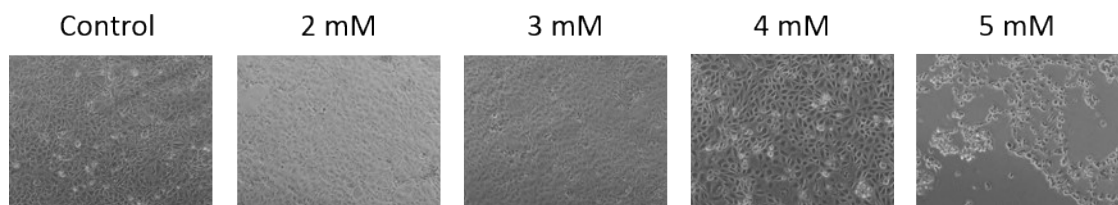
SFig. 2. Absorbance spectra of PEDOT:PSS electrodes at different drop casting volumes: 20, 15, and 10 μl .



SFig. 3. Impedance spectra of PEDOT:PSS electrodes under different PBS molarities.



SFig. 4. Residual error plots for the real impedance data as a function of frequency ($n=12$). Measurement error is less than 2%.



SFig. 5. Effect of EDTA concentration on Caco-2 cells grown on a 24-well plate for 7 days. Microscopic images of cells exposed to 4 different EDTA concentrations (2 mM, 3 mM, 4 mM, and 5 mM) for 30 min.