

Electronic Supplementary Information

Optimisation and quantitative analysis of the swelling response of a glucose-sensitive hydrogel

Nicky Mac Kenna,^a Paul Calvert^b and Aoife Morrin^a

^a *National Centre for Sensor Research, Dublin City University, Dublin 9, Ireland. E-mail: nicky.mackenna2@mail.dcu.ie*

^b *Bioengineering, University of Massachusetts Dartmouth, Dartmouth, USA.*

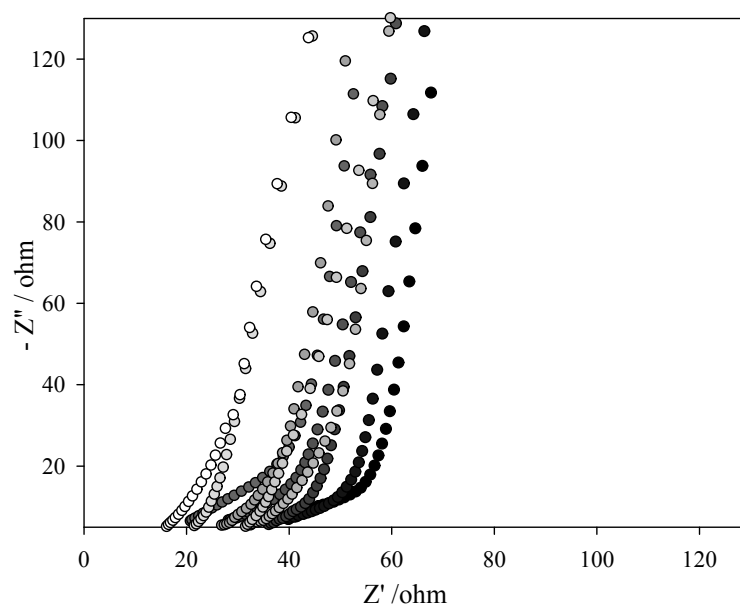


Fig. S1 Magnification of high frequency region of Fig 5, Nyquist plot of GOx-modified hydrogels after swelling in various concentrations of glucose for 24 hr (in 10 mM PBS).

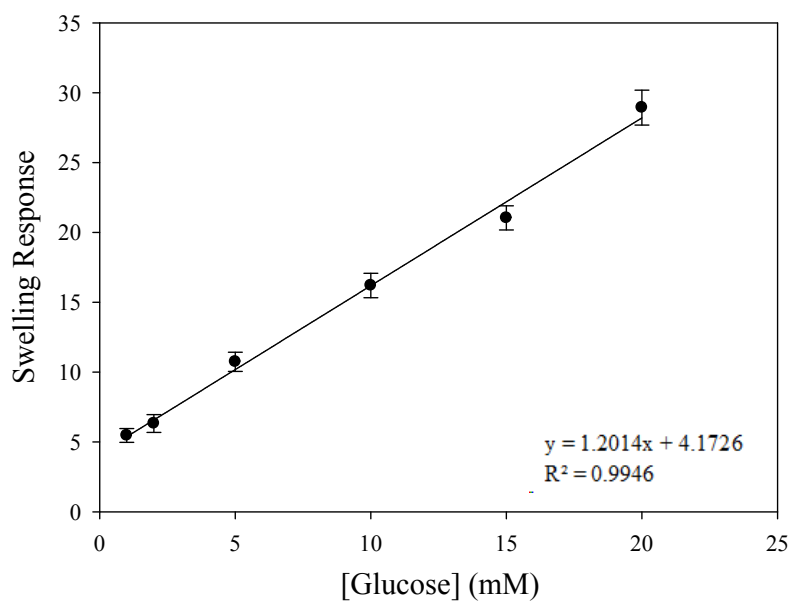


Fig. S2 Gravimetric calibration curve of glucose-sensitive hydrogel discs swelling in glucose.

(Note: The swelling response was calculated by subtracting the water uptake swelling ratio from the swelling ratio of discs swollen in glucose for 100 min according to Equation 3. This enabled calculation of the swelling response corresponding to network ionisation.)

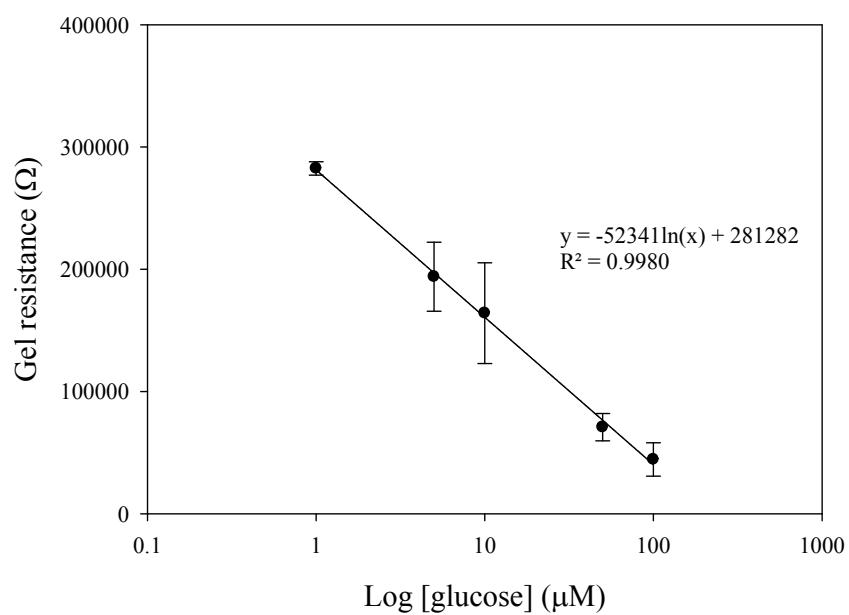


Fig. S3 EIS calibration curve of GOx-modified hydrogels in glucose using the resistance values obtained from the 'Rgel' component of the electrical equivalent circuit (in 10 mM PBS).