

Supplementary

Direct Bioelectrocatalytic Oxidation of Glucose by *Gluconobacter oxydans* Membrane Fractions in PEDOT:PSS/TEG-Modified Biosensors

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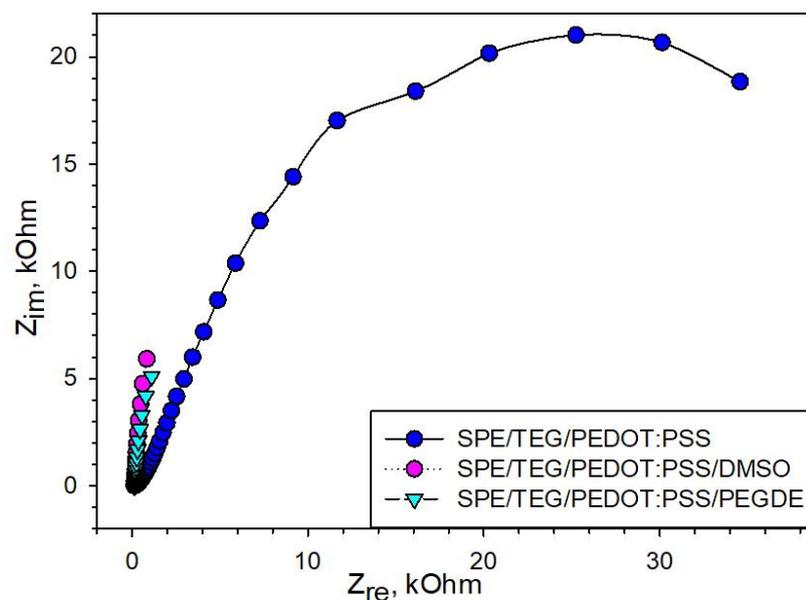


Figure S1. Change in EIS Nyquist plots, recorded in the presence of a 5 mM $[\text{Fe}(\text{CN})_6]^{3-/4-}$ redox couple prepared in a 25 mM phosphate buffer with 0.01 M NaCl at an open-circuit potential (+ 200 mV vs. Ag/AgCl) due to the presence of TEG/PEDOT:PSS, TEG/PEDOT:PSS/DMSO and TEG/PEDOT:PSS/PEGDE on SPE.

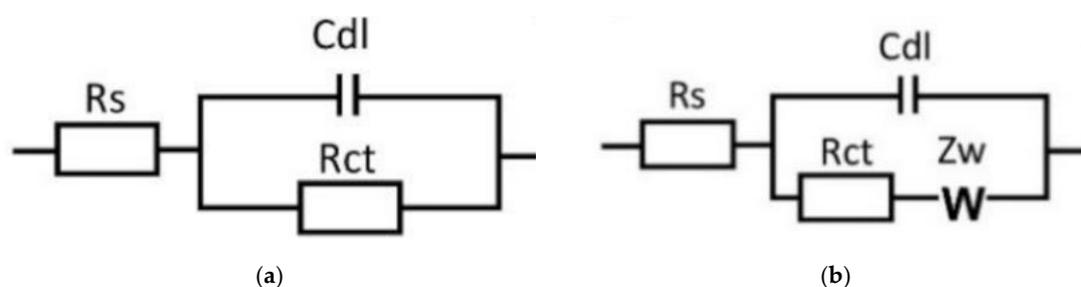


Figure S2. Randles equivalent circuit (a) and modified Randles equivalent circuit (b) used to fit Nyquist plots for electrodes. Rs, solution resistance; Rct, charge-transfer resistance; Cdl, double-layer capacitance; Zw, Warburg impedance.

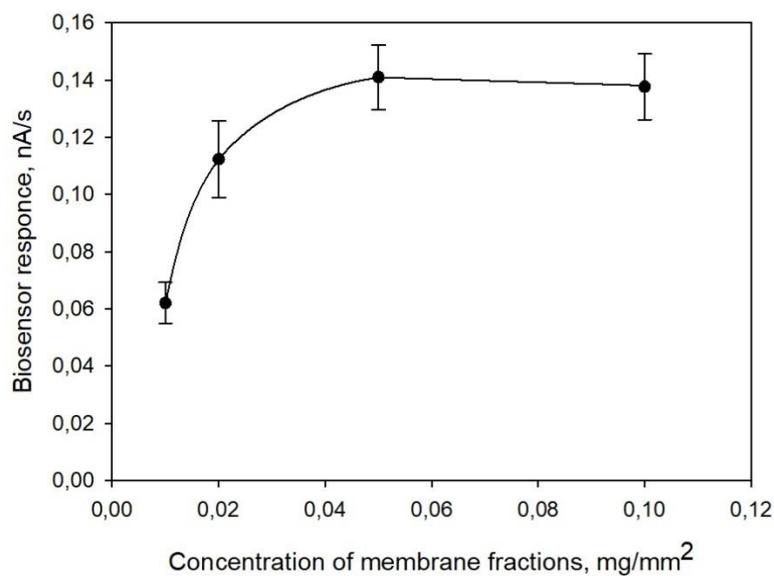


Figure S3. Respiratory activity of membrane fractions in the presence of glucose (0.5 mM) as a function of their concentration in a bioreceptor.

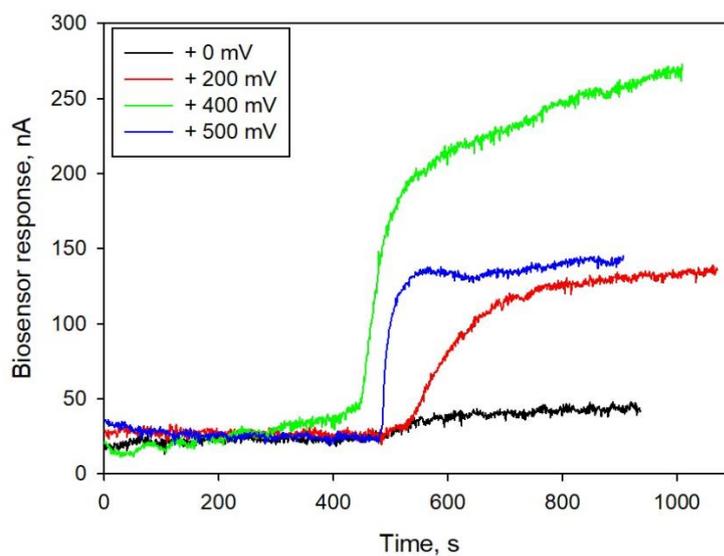


Figure S4. TEG/PEDOT:PSS/PEGDE biosensor signals in response to the addition of 0.5 mM glucose at various applied potentials (vs Ag/AgCl) without the presence of redox mediators.