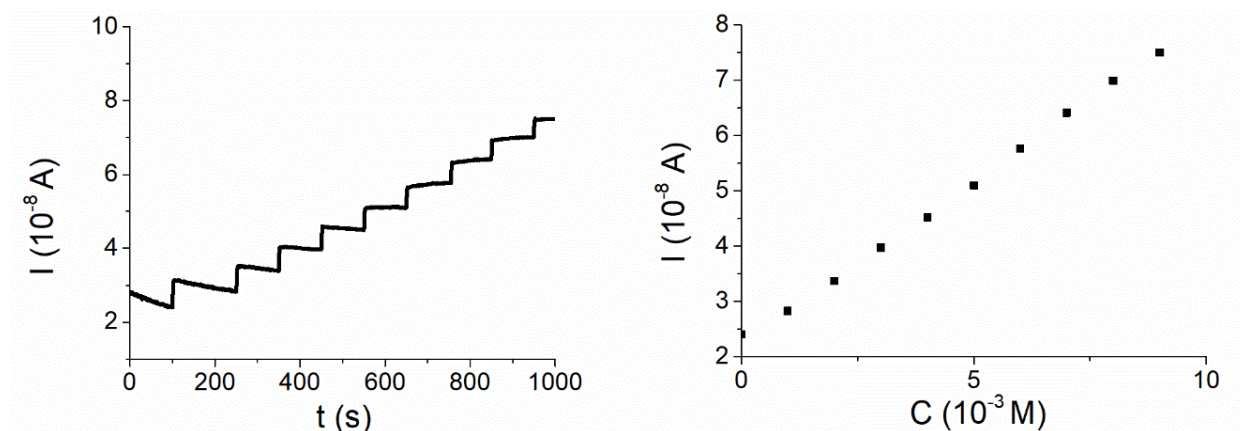
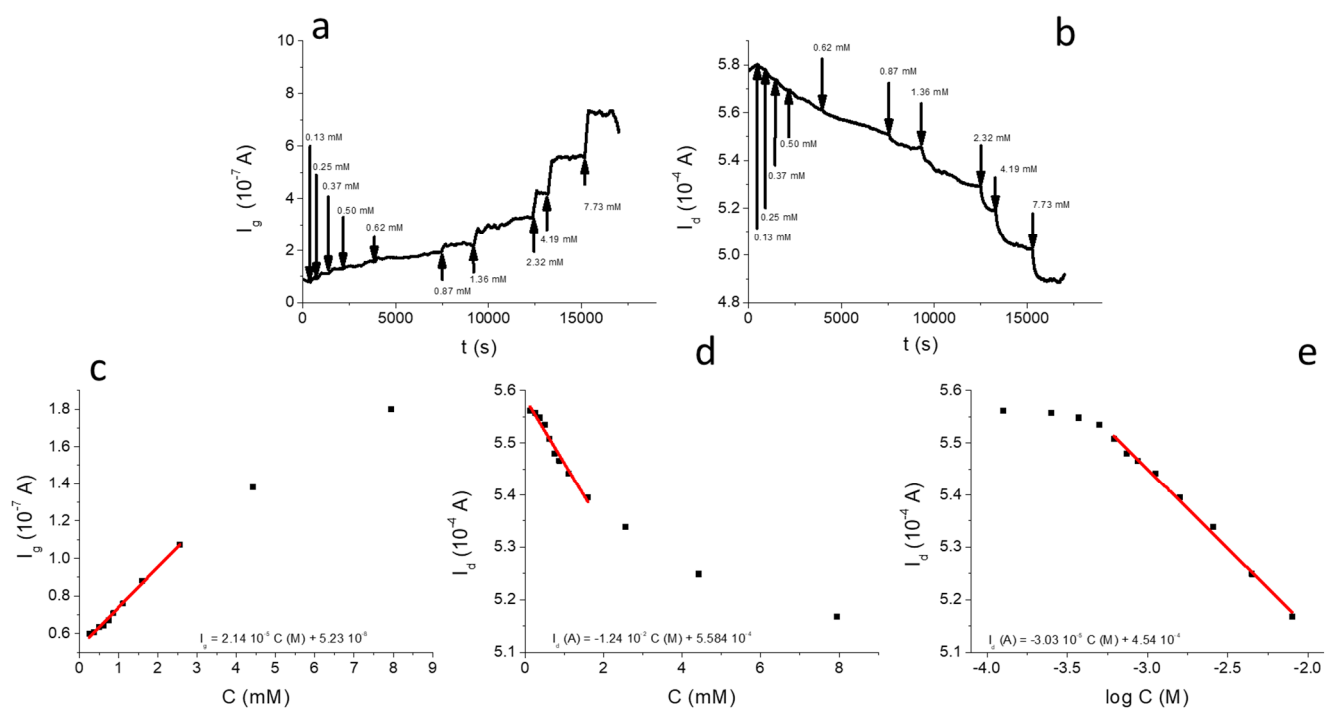


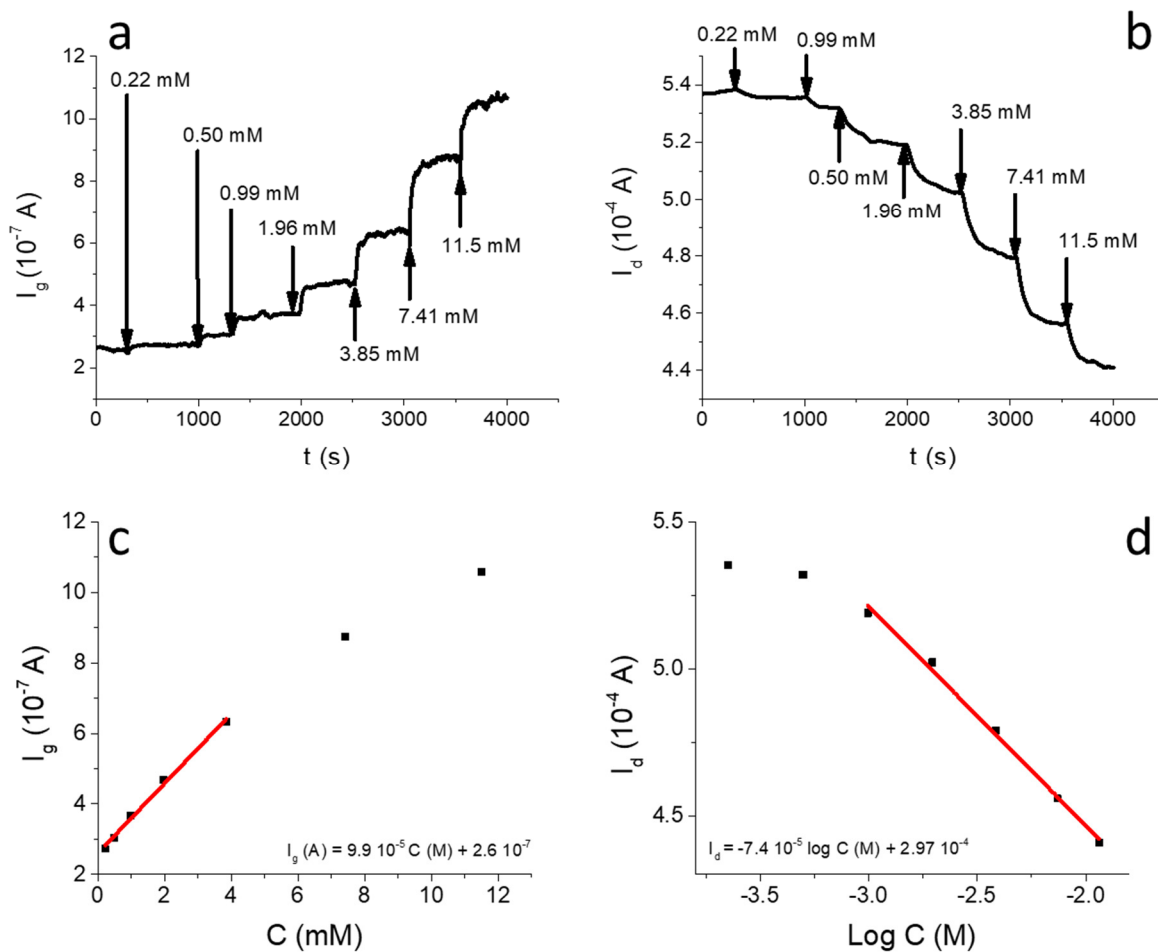
## Supplementary Materials



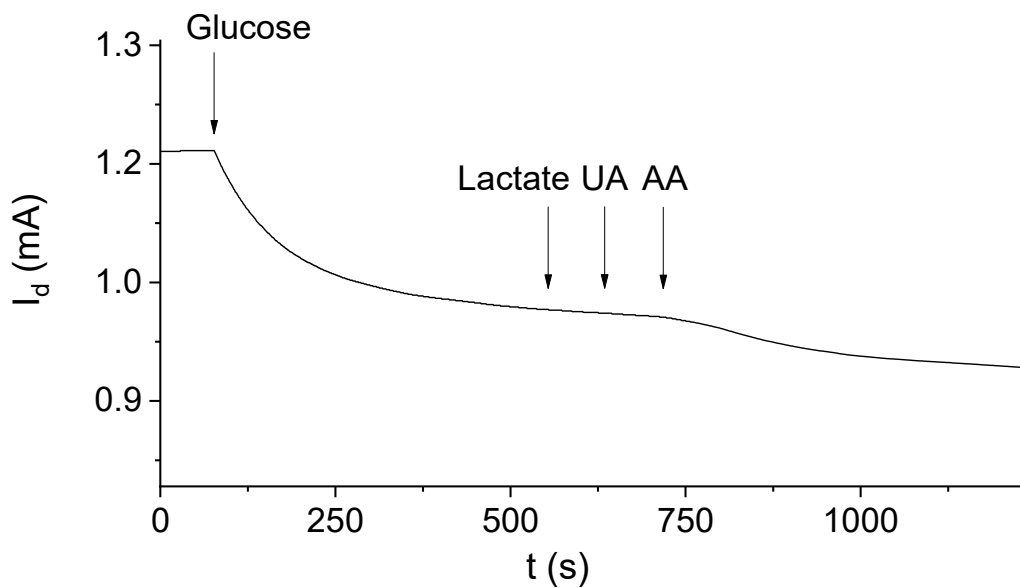
**Figure S1. Response of a glucose amperometric biosensor.** Chronoamperometric curves (left) and calibration plot (right) recorded at a gold disk electrode (diameter = 0.200 cm) coated with a LDH/GOx film in 0.1 M phosphate buffer solution (pH = 7.00) during 1.00 mM glucose additions.



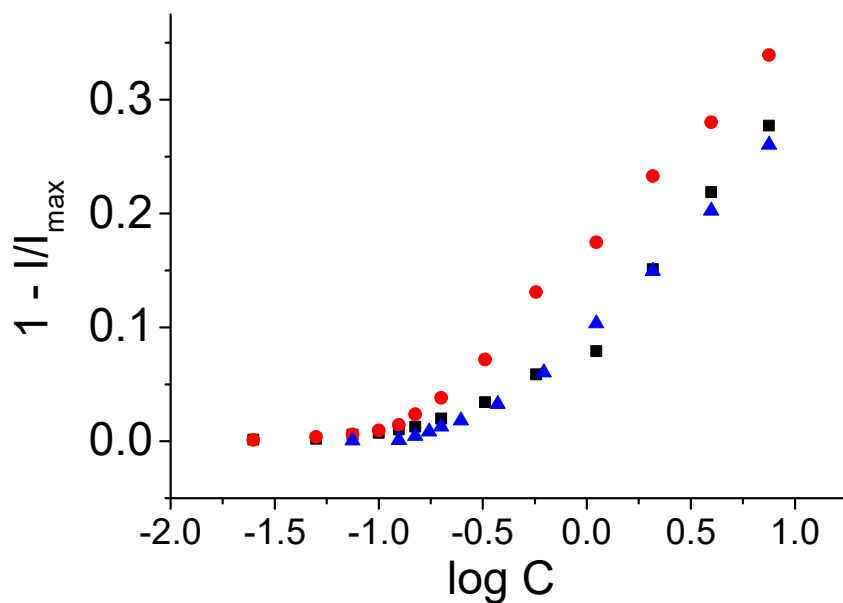
**Figure S2. OECT biosensor for glucose detection with  $A_g/A_{ch}=2$ .**  $I_g$  (a) and  $I_d$  (b) vs time curves obtained for the OECT with  $A_g/A_{ch}=2$ , following the addition of different glucose amounts ( $V_{gs} = +0.8$  V;  $V_{ds} = +0.1$  V) in 0.1 M aqueous PBS (pH = 7.00). The additions are indicated with an arrow. Plots of  $I_g$  (c) and  $I_d$  (d) as a function of glucose concentration and plot of  $I_d$  as a function of the logarithm of glucose concentration (e).



**Figure S3. OECT biosensor for glucose detection with  $A_g/A_{ch}=8$ .**  $I_g$  (a) and  $I_d$  (b) vs time curves obtained for the OECT with  $A_g/A_{ch}=8$ , following the addition of different glucose amounts ( $V_{gs} = +0.8$  V;  $V_{ds} = +0.1$  V) in 0.1 M aqueous PBS (pH = 7.00). The additions are indicated with an arrow. Plots of  $I_g$  as a function of glucose concentration (c) and plot of  $I_d$  as a function of the logarithm of glucose concentration (d).



**Figure S4. Response of the Nafion modified OECT biosensor.**  $I_d$  vs time curve ( $V_g = +0.8$  V;  $V_d = +0.1$  V) obtained for the OECT biosensor with  $A_g/A_{ch} = 4$ , following a control addition of glucose (4.76 mM) and additions of 5.00 mM lactate, 0.05 mM uric acid (UA) and 0.05 mM ascorbic acid (AA) in 0.1 M PBS (pH = 7.00).



**Figure S5. Reproducibility of the OECT biosensor.** Normalized response to glucose for three different OECT sensors having  $A_g/A_{ch} = 4$  in 0.1 M PBS (pH = 7.00).