

Supplementary Materials

Utilizing COVID-19 as a Model for Diagnostics Using an Electrochemical Sensor

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Figure S1. Results concerning the function of the positive/negative ratio in the frequency study. $t = 300$ s; $E_{AC} = 0.01$ V; $E_{DC} = 0$ V; electrolyte: 0.01M 7.4-PB.

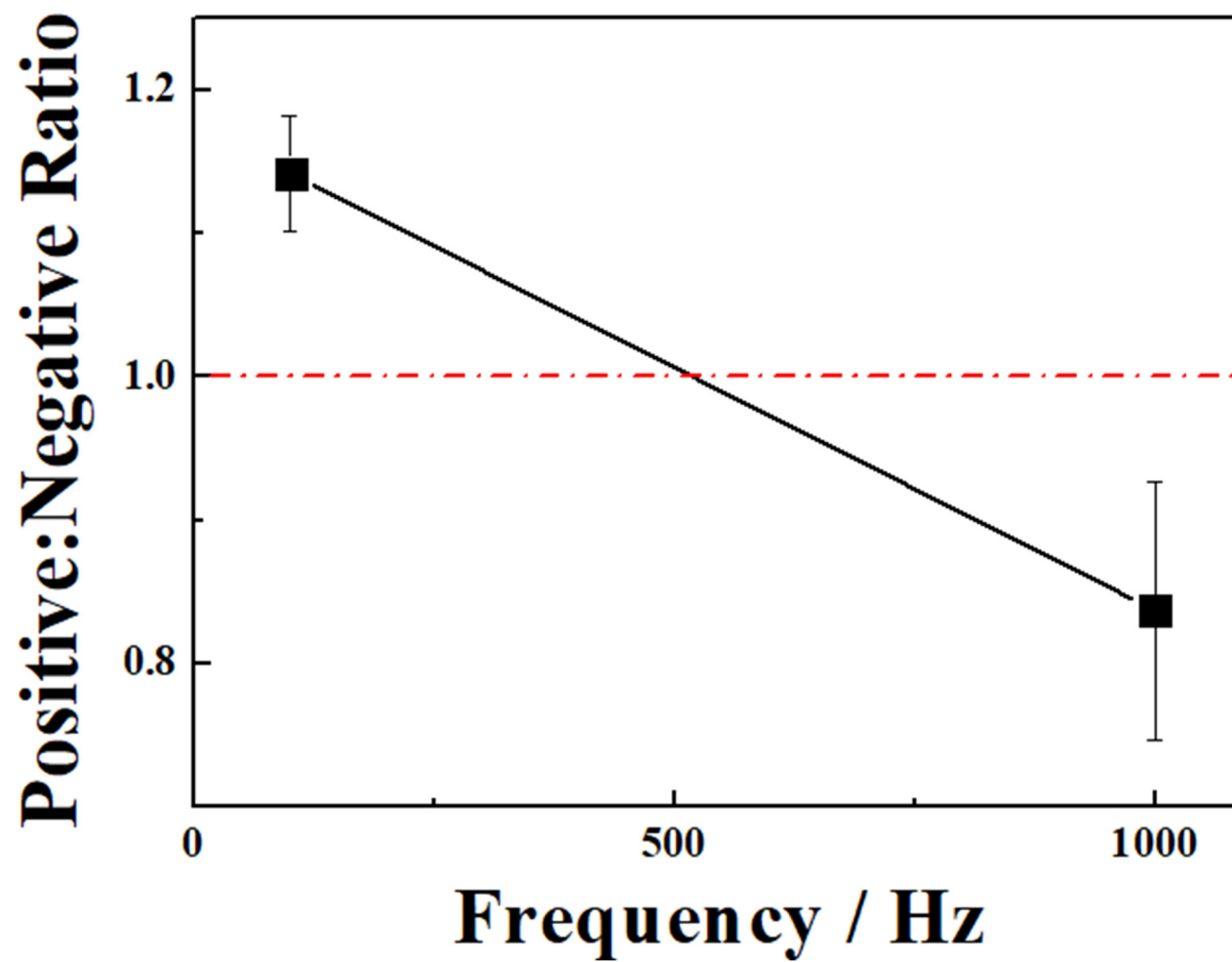


Figure S2. Results concerning the function of the positive/negative ratio obtained for A) the CGC dilution study and B) the ionic strength of the buffer solution study. $t = 300$ s; $f = 100$ Hz; $E_{AC} = 0.01$ V; $E_{DC} = 0$ V; electrolyte 7.4-PB.

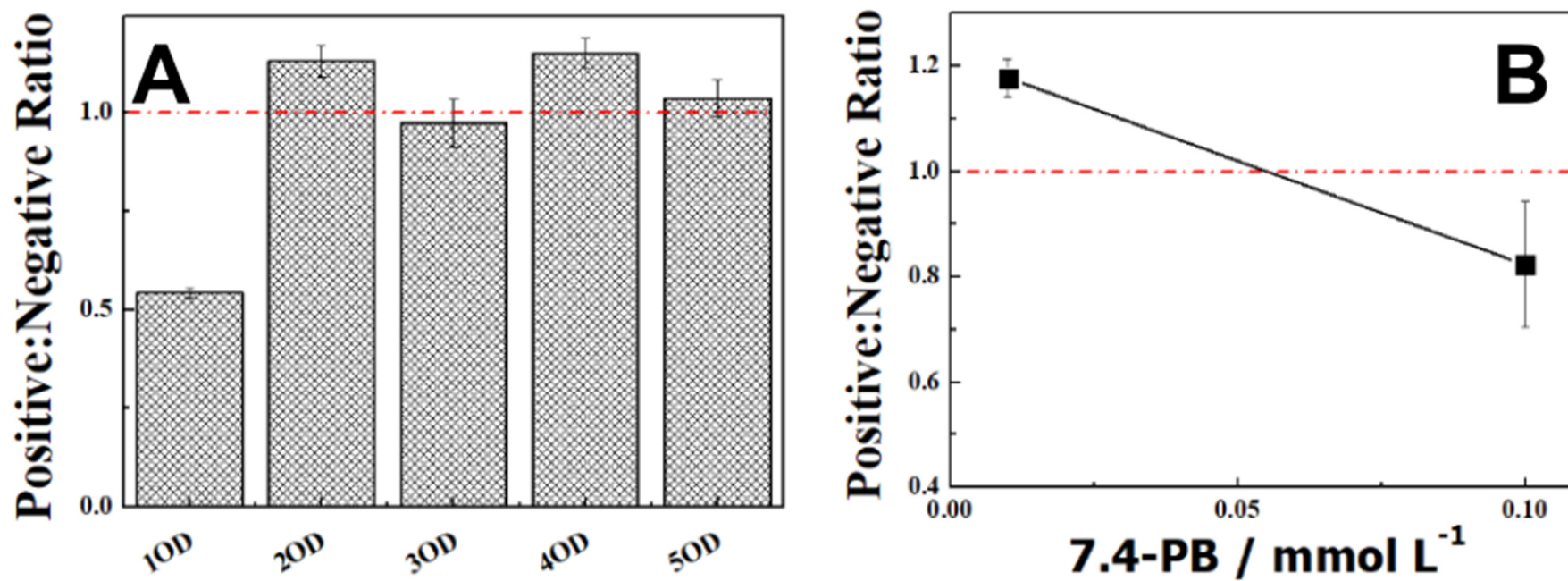


Figure S3. Results obtained for the precision study (repeatability and reproducibility) for the A) non-reagent and B) reagent samples. $t = 300$ s; $f = 100$ Hz; $E_{AC} = 0.01$ V; $E_{DC} = 0$ V; electrolyte: 0.01M 7.4-PB.

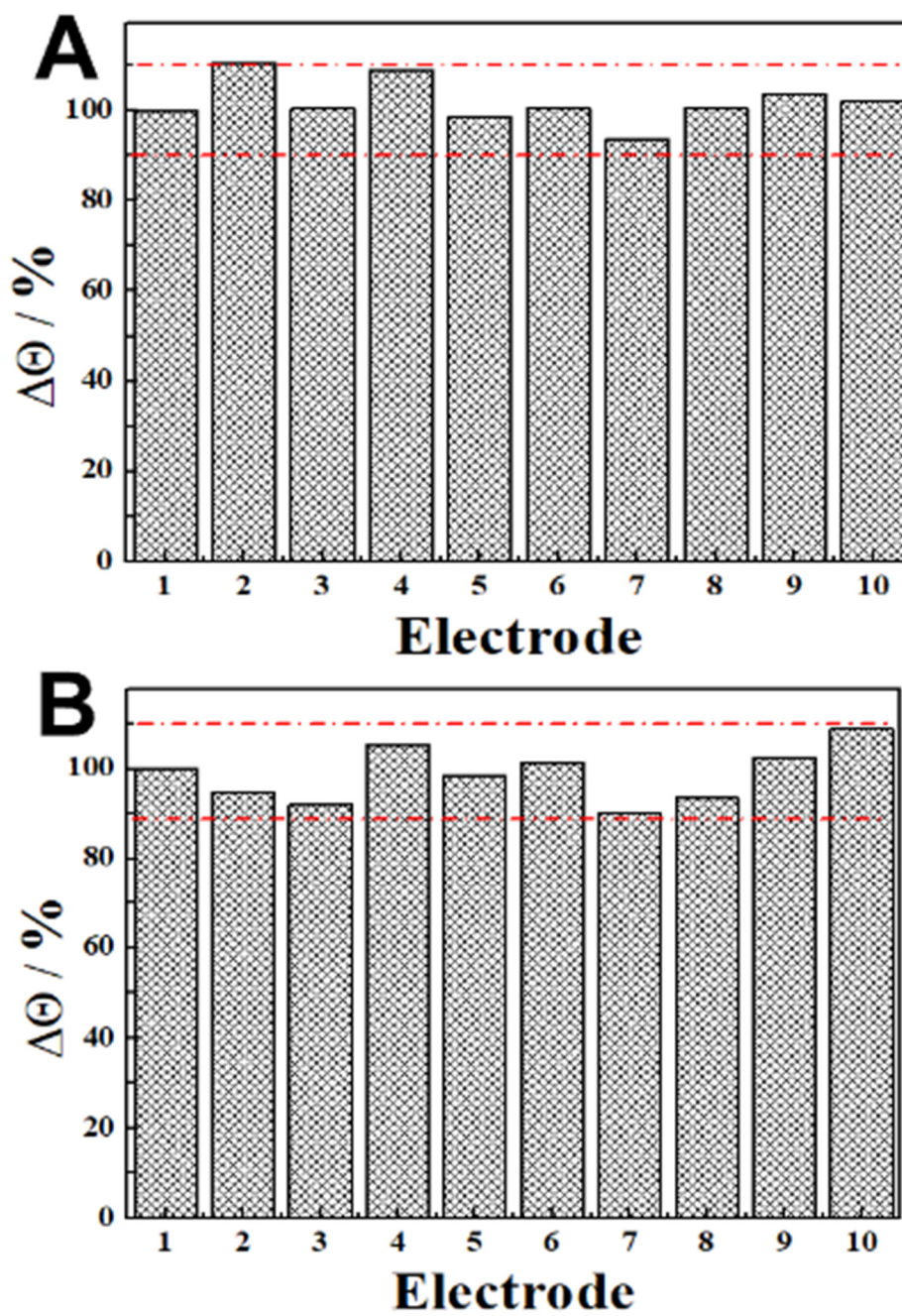


Figure S4. Results concerning the function of the positive/negative ratio in the stability study. $t = 300$ s; $f = 100$ Hz; $E_{AC} = 0.01$ V; $E_{DC} = 0$ V; electrolyte: 0.01M 7.4-PB.

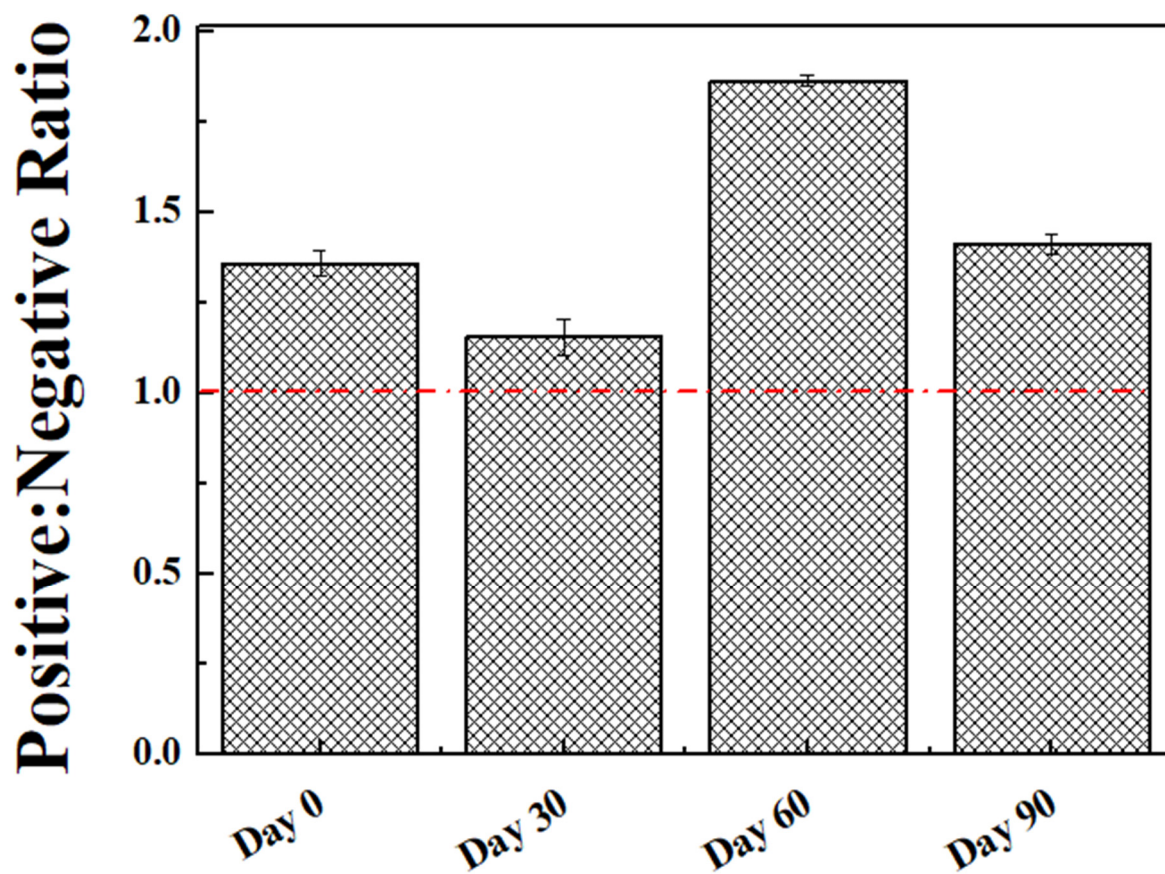


Figure S5. ROC curves for the detection of positive and negative samples based on the **A)** phase and **B)** imaginary impedance variation. $t = 300$ s; $f = 100$ Hz; $E_{AC} = 0.01$ V; $E_{DC} = 0$ V; electrolyte: 0.01M 7.4-PB.

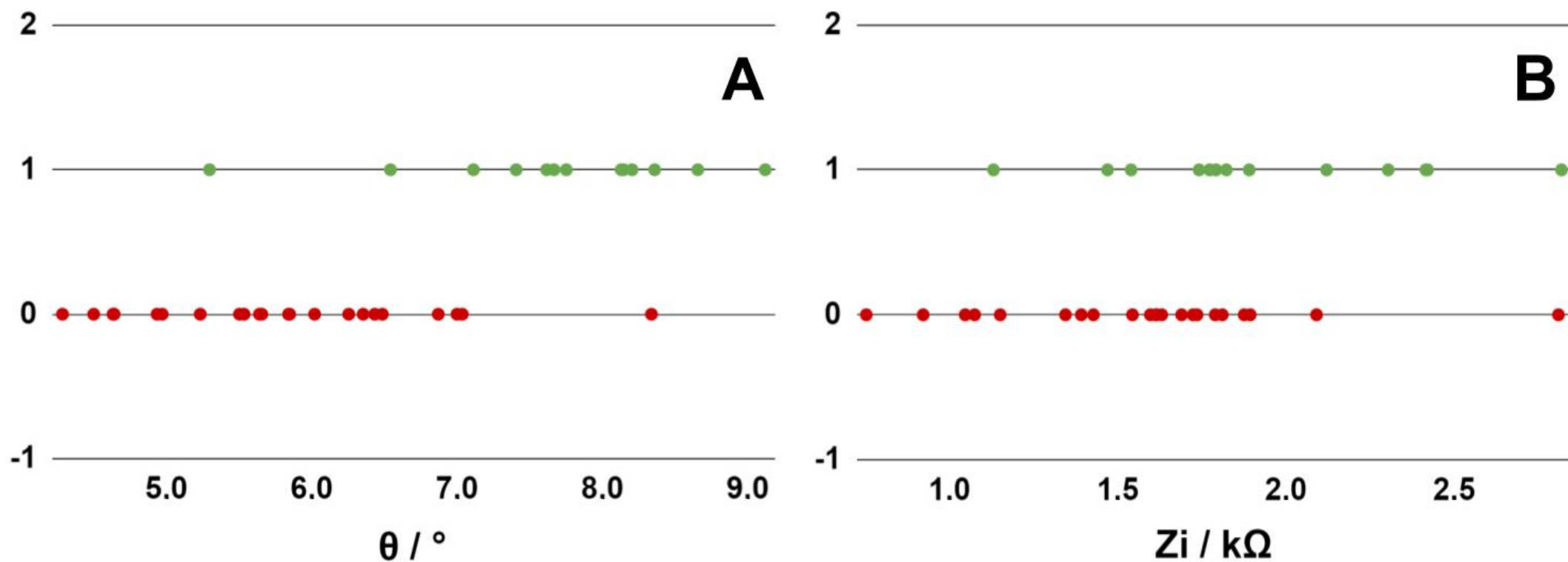


Figure S6. Graphical result obtained from the developed predictive machine-learning algorithm for classifying the sensor response data.

