

# **Graphene-binding peptide in fusion with SARS-CoV-2 antigen for electrochemical immunosensor construction**

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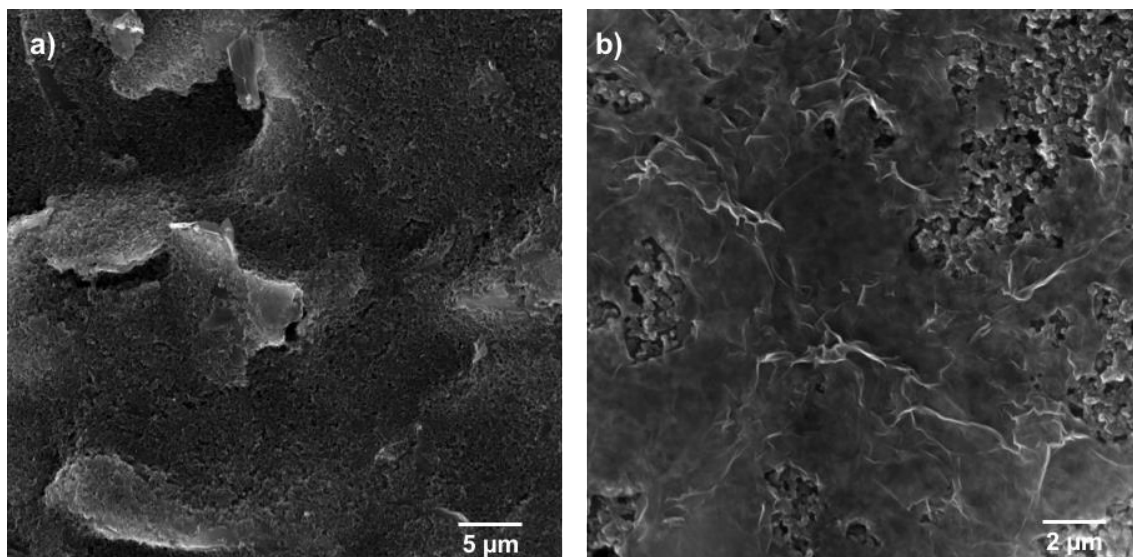
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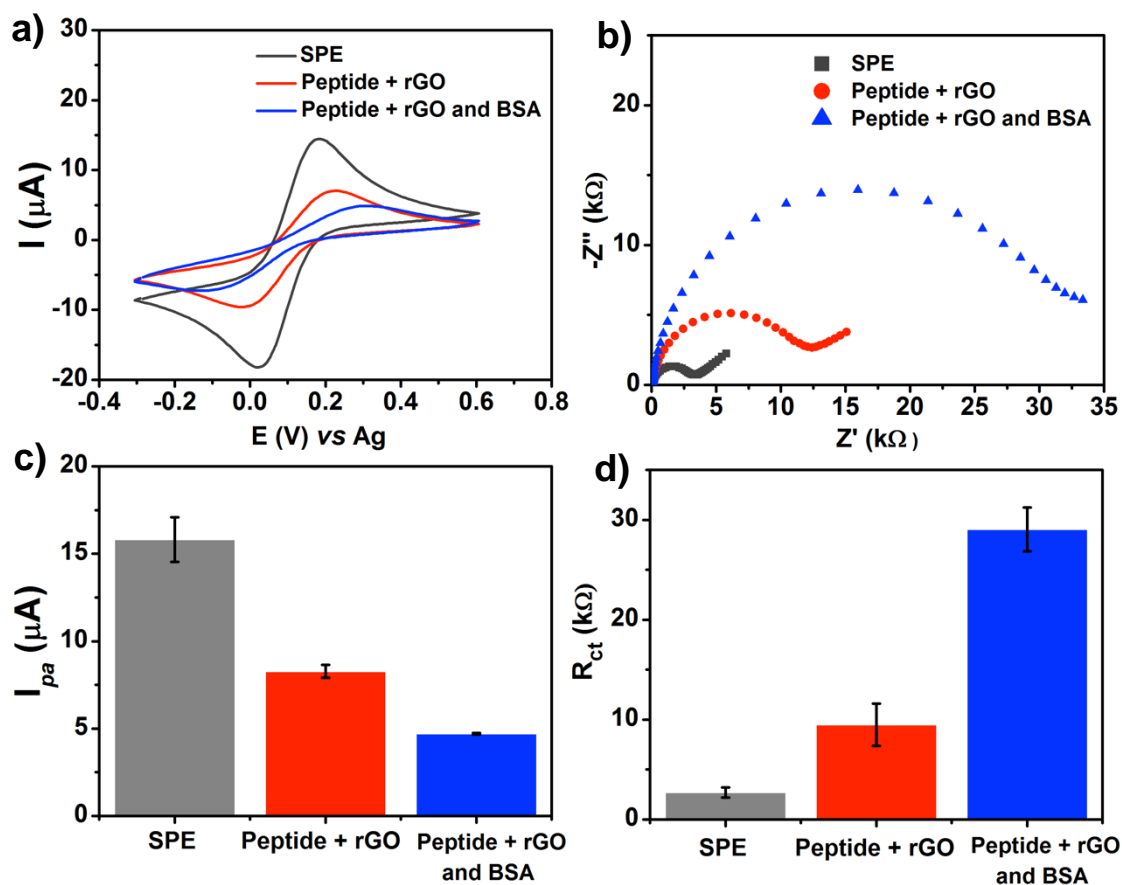
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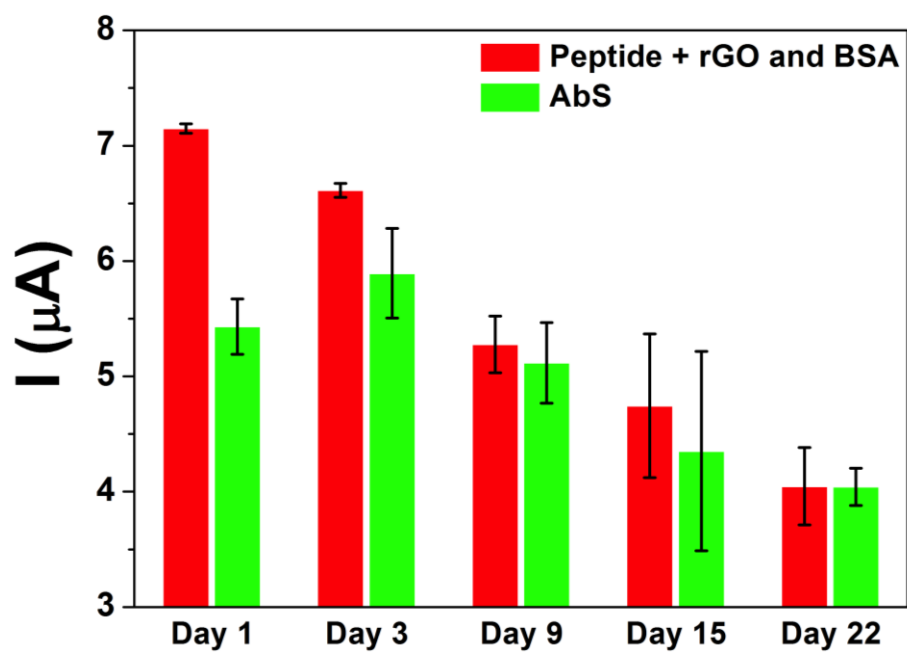
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**Figure S1.** SEM images a) SPE – C surface and b) SPE with rGO.



**Figure S2.** CVs and EIS measurements of each step of the immunosensor construction: a) CVs obtained for each step of the immunosensor construction with peptide, rGO and BSA, with  $1 \text{ mmol L}^{-1} \text{ K}_3[\text{Fe}(\text{CN})_6]$  in PBS  $0.1 \text{ mol L}^{-1}$  at  $50 \text{ mV s}^{-1}$ . b) Nyquist plots obtained from EIS measurements in each step of the immunosensor building up, with  $1 \text{ mmol L}^{-1} \text{ K}_3[\text{Fe}(\text{CN})_6]$  in PBS  $0.1 \text{ mol L}^{-1}$  and AC amplitude of  $10 \text{ mV}$  c) Summarized data obtained from probe anodic current peak ( $I_{pa}$ ) to each step of building up the sensor ( $n=3$ ,  $\pm\text{SD}$ ). d) Summarized data obtained from charge transfer resistance ( $R_{ct}$ ) to each step of sensor construction ( $n=3$ ,  $\pm\text{SD}$ ).



**Figure S3.** DPV data summarized for stability test of immunosensor readout stored over the time ( $n = 3, \pm$  SD).