

Rapid detection of *Candida albicans* in urine by Electrochemical Impedance Spectroscopy (EIS)-based biosensor

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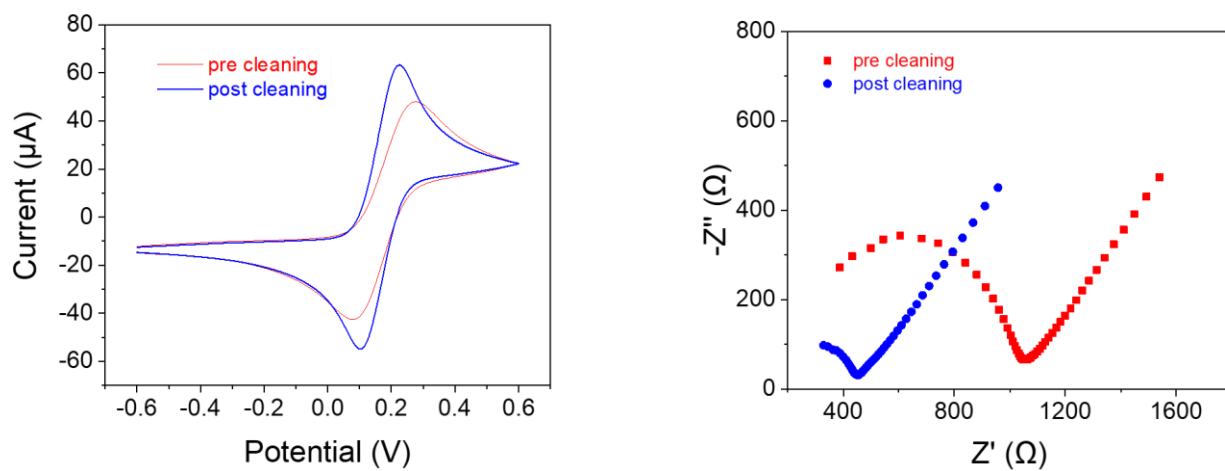


Figure S1. (a) CV and (b) EIS measurements conducted before and after the electrochemical cleaning of the gold electrode with H_2SO_4 . The cleaning process leads to an increase in the current of CV (a), and a decrease of R_{ct} (b).

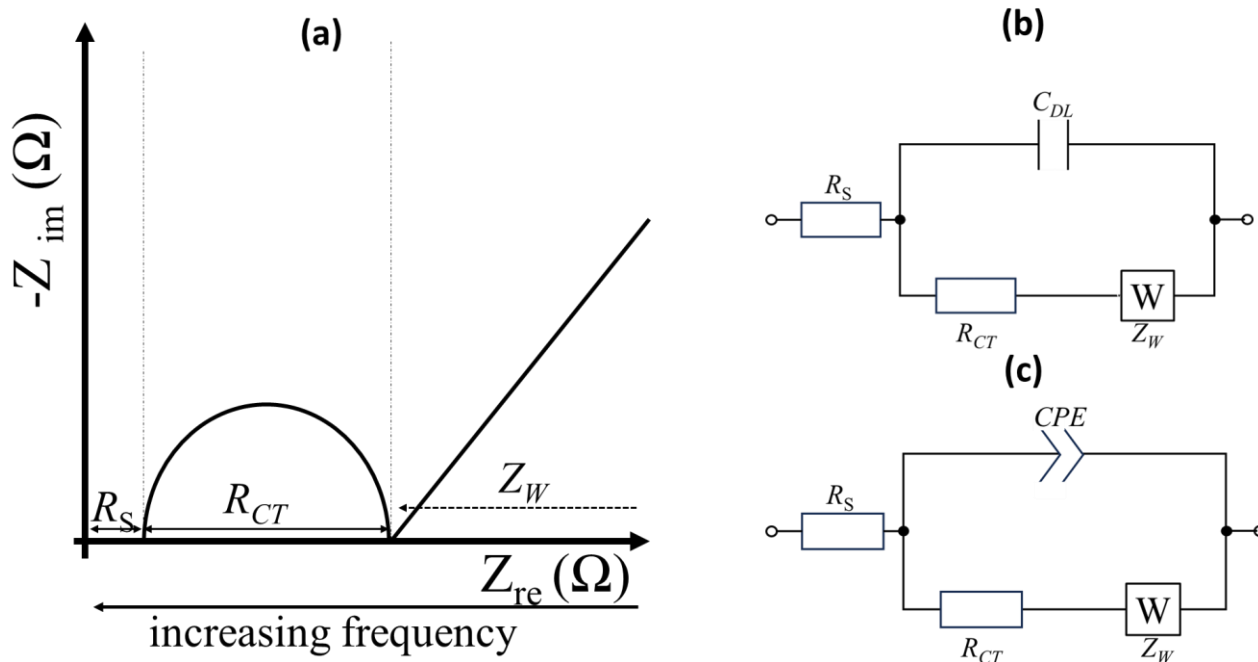


Figure S2. (a) Typical EIS spectrum resulting from the Randles circuit shown in the panel (b). R_s is the electrolyte resistance, and it is in series with the parallel combination of the double layer capacitance (C_{DL}) and the Warburg impedance (Z_W), which takes into account the diffusion of the reactants to the electrode surface. (c) The non-ideal behaviour of the double layer capacitance is frequently taken into account by replacing it with the constant phase element (CPE).

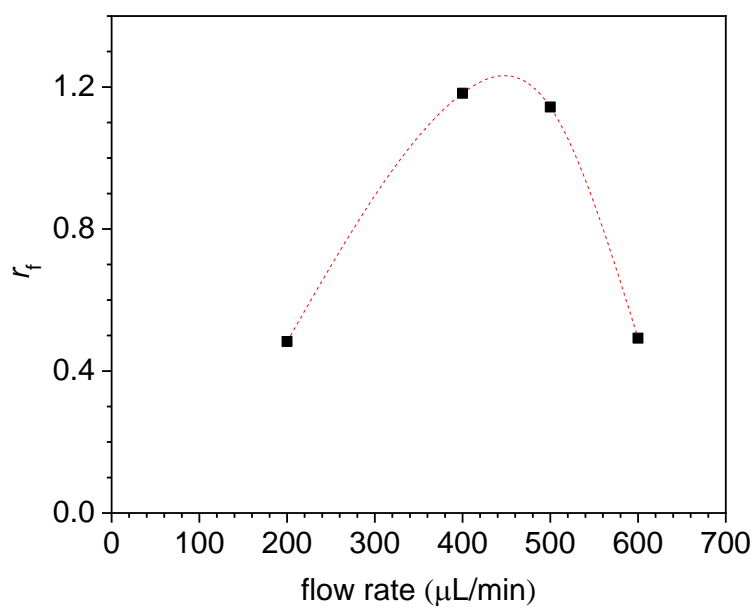


Figure S3. The ratio r_f as a function of the different flow rates investigated (200, 400, 500 and 600 $\mu\text{L}/\text{min}$). The dash-dotted line in the figure is a guide for the eye.

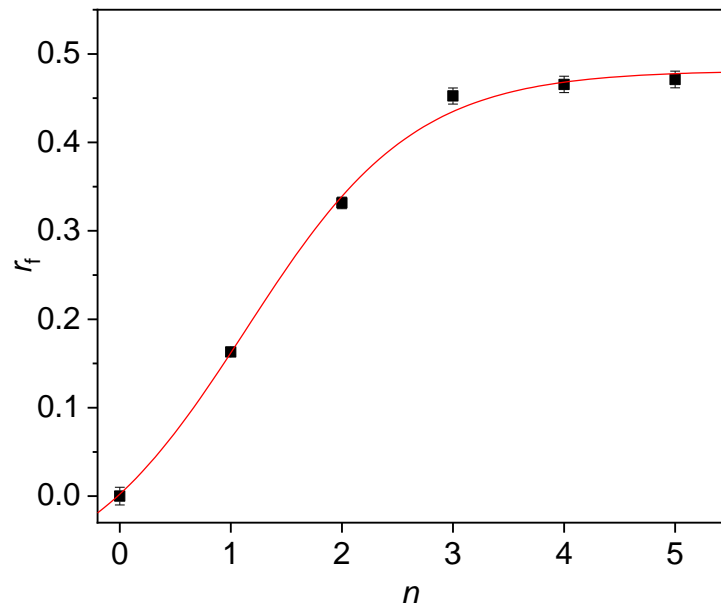


Figure S4. The ratio r_f as a function of the numbers of stage n , where n represents the flow of UV-activated antibodies for 15 minutes in the cell and 10 minutes of washing with PBS 1X.

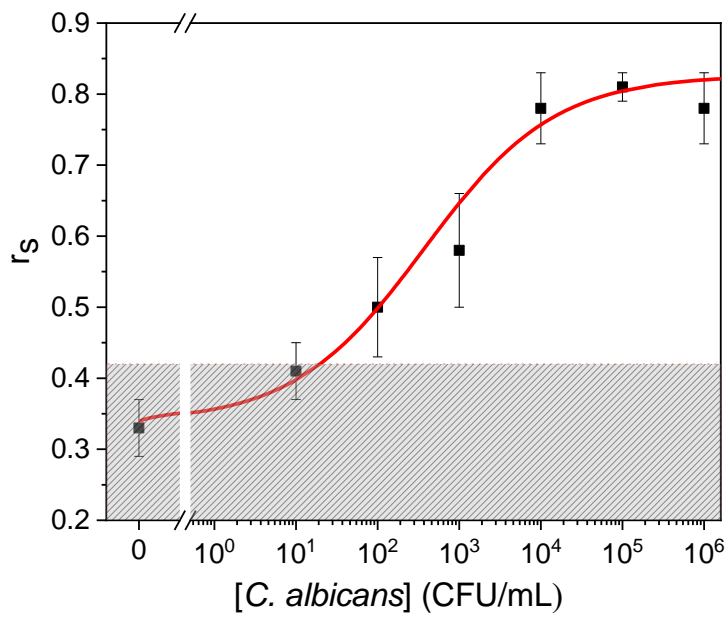


Figure S5. Dose-response curve for the detection of *C. albicans* in GYP. The error bar is the result of duplicate or triplicate measurements.