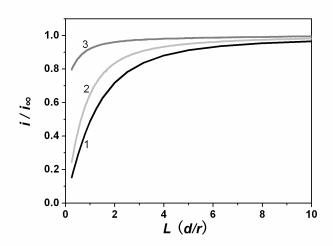


Supplementary Figure 1. Optical laser-scanner readout of the silver-stained sample with 10  $\mu$ L 0.1 mg/mL of  $\beta$ -lactoglobulin A and myoglobin (channel 8, two bands inside the regions marked with red oval) separated by SDS-PAGE and electroblotted on the PVDF membrane.



Supplementary Figure 2. Approach curves acquired at 1  $\mu$ m/s, 20  $\mu$ m platinum disk working electrode, Ag wire as quasi reference electrode, Pt wire as counter electrode. Approach curve is presented in  $L = d/r \, vs$ . normalized current  $i/i_{\infty}$  where d is the travelling distance from the substrate, r the UME radius, i the recorded current and  $i_{\infty}$  the limiting current.  $E_T = 0.8 \, \text{V} \, vs$ . Ag wire. Measuring solution: 1 mM K<sub>3</sub>[IrCl<sub>6</sub>] in 0.1 M KNO<sub>3</sub>. Line 1: the simulated curve for an insulator; line 2: the experimental curve for an insulating area of a PVDF membrane; line 3: the experimental curve for an area covered with silver-stained proteins of a PVDF membrane. Sample: 5  $\mu$ L of a BSA solution (4 mg/mL) was dropped on a PVDF membrane, and then stained by silver according to protocol 2.