

Electronic Supplementary Information (ESI)

Versatile multi-functionalization of protein nanofibrils for biosensor applications

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S1. Cyclic voltammetry characterization of biosensor platform

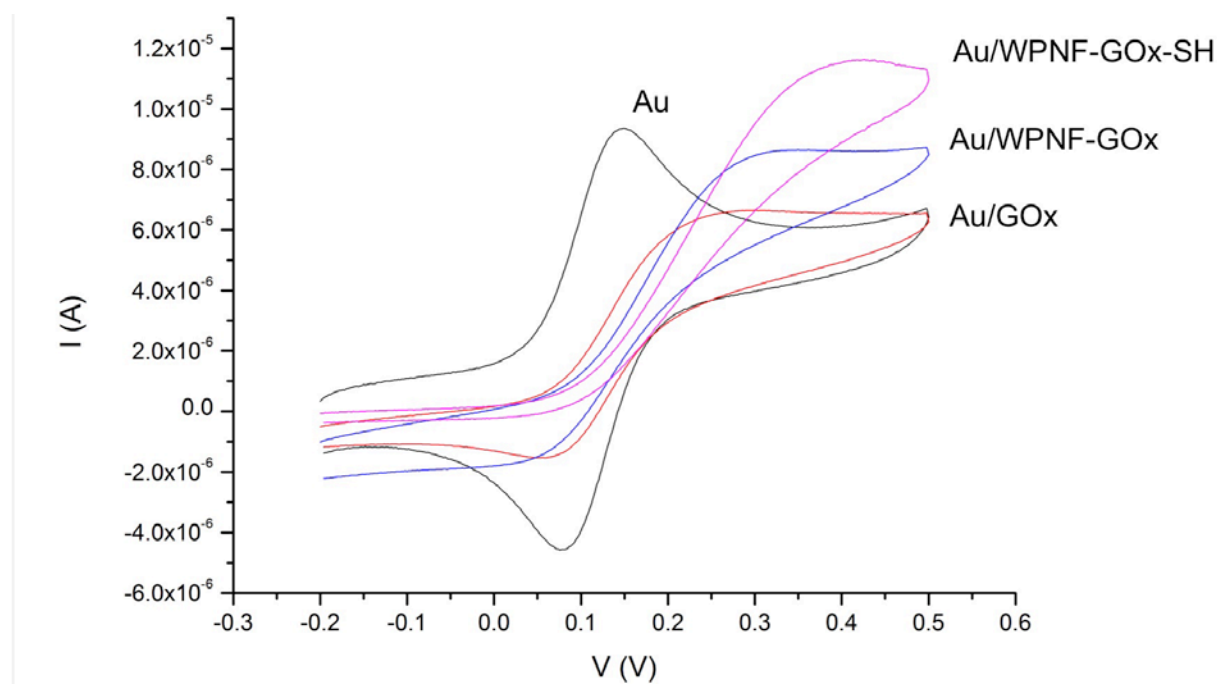


Figure S1. Comparison of glucose responses with same concentration (500 mM) for different enzyme immobilization methods: adsorption onto a bare gold electrode (Au/GOx), GOx-functionalized WPNFs deposition (Au/WPNF-GOx), dual GOx- and SH-functionalized WPNFs deposition (Au/WPNF-GOx-SH), and a bare electrode with no enzyme immobilization (Au), where the signal is solely caused by the ferrocene mediator. Potential sweep rates are 100 mV/s for all curves, using an Au counter and Ag reference electrode.

S2. Biosensor response to various glucose concentrations

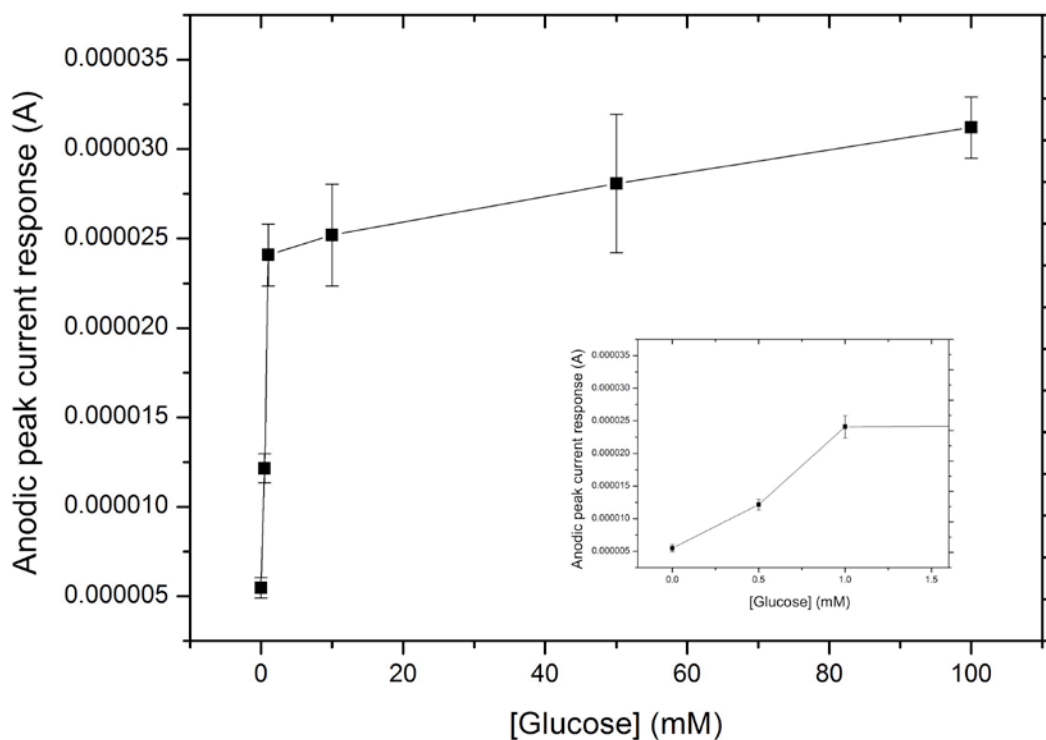


Figure S2. Comparison of biosensor current peak response for different concentrations of glucose. Inset shows the linear response for glucose concentrations smaller than 2 mM. Potential sweep rates are 100 mV/s for all curves, using an Au counter and Ag reference electrode. The limit of detection was calculated to be 0.11 mM (3 sigma method).

S3. Electrode roughness due to protein nanofibril modifications

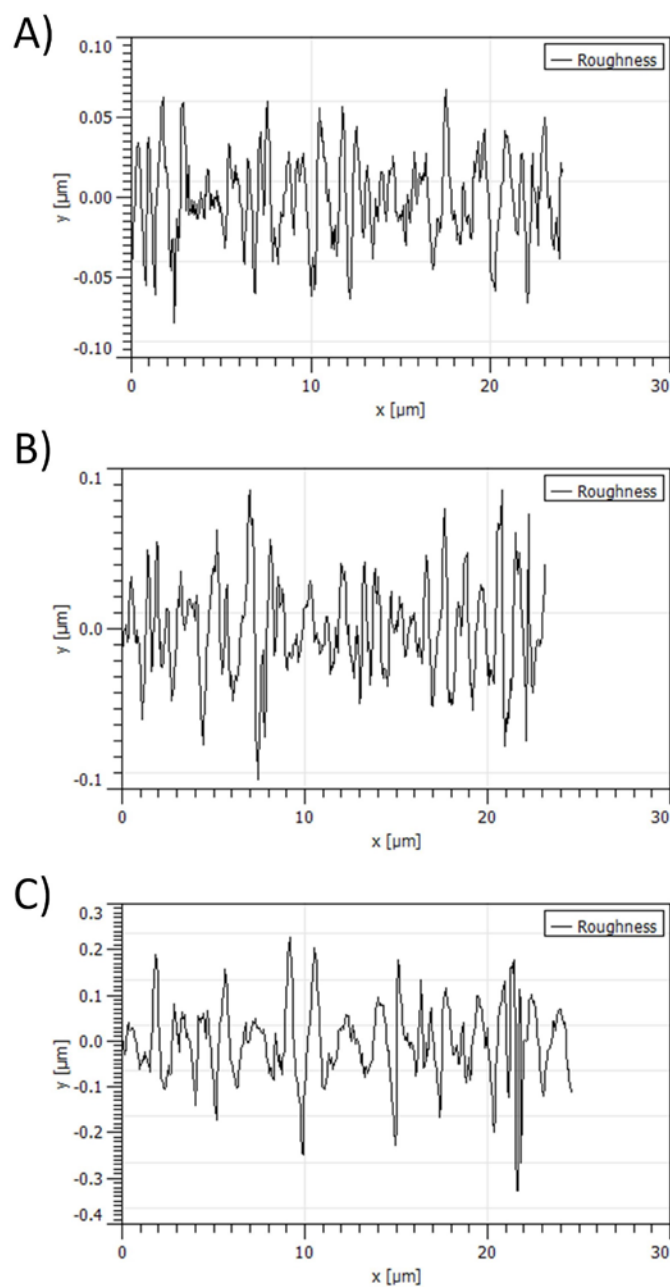


Figure S3. Comparison of electrode roughness due to WPNF modifications, from AFM imaging: A) bare Au electrode, B) electrode after WPNFs deposition, and C) electrode after SH-functionalized WPNFs deposition. All samples were rinsed with milliQ water before AFM measurements.