Supporting Information

for

Optimized design of a nanostructured SPCE-based multipurpose biosensing platform formed by ferrocene-tethered electrochemically-deposited cauliflower-shaped gold nanoparticles

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Additional experimental data

Table S1: Statistical distribution of formed gold nanoparticles per SEM frame counted for 5 SEM frames and the density of nanoparticles per square micrometer as function of the number of cycles used for the electrodeposition.

Number of cycles	**5**	**10**	**15**	**20**
Mean number of particles ± dev. /SEM frame	45 ± 8	43 ± 11	64 ± 21	26 ± 15
Density of gold nanoparticles (nanoparticles/μm^2)	5.4 ± 0.9	5.2 ± 1.4	7.7 ± 2.5	3.2 ± 1.8

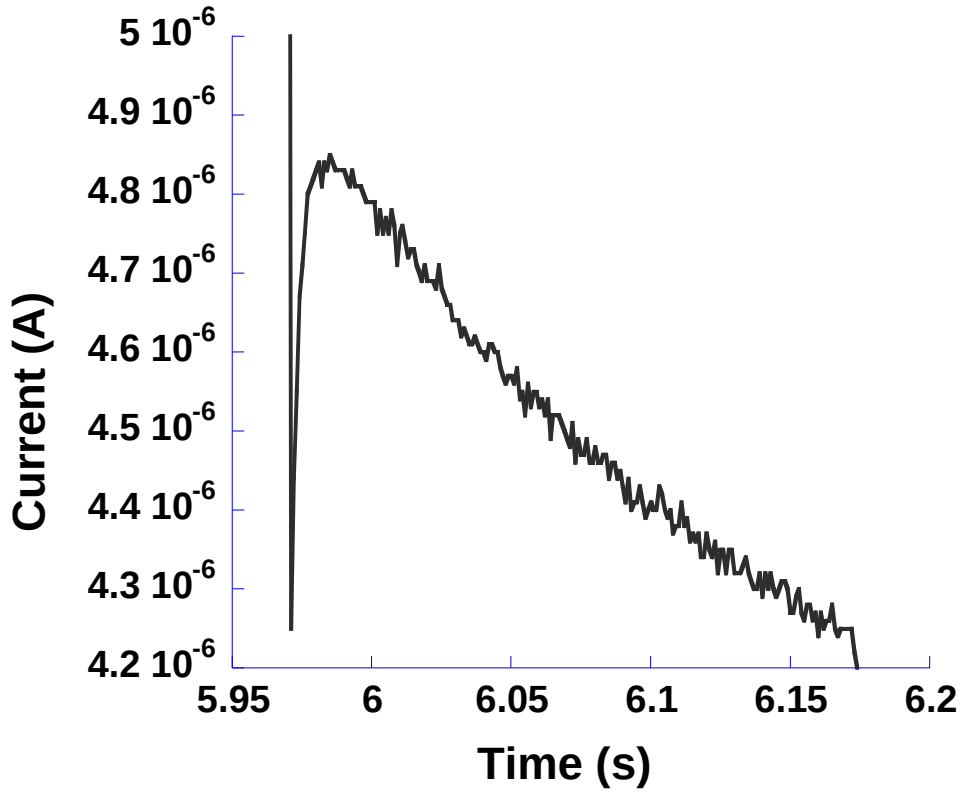

Figure S1: Current-time transients recorded for Au electrodeposition on a screen-printed carbon graphite electrode at potential of +350 mV.

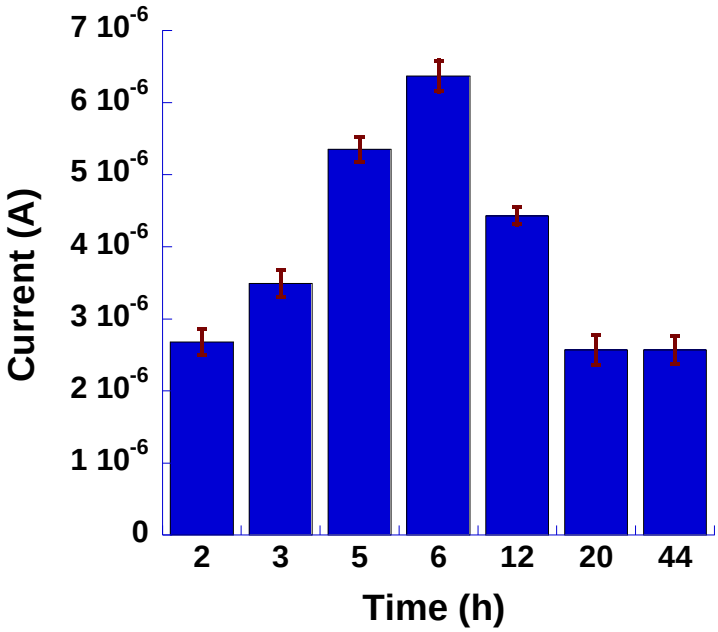

Figure S2: Optimization of the incubation time of the electrode modified in 5 mM of ferrocene derivative solution.

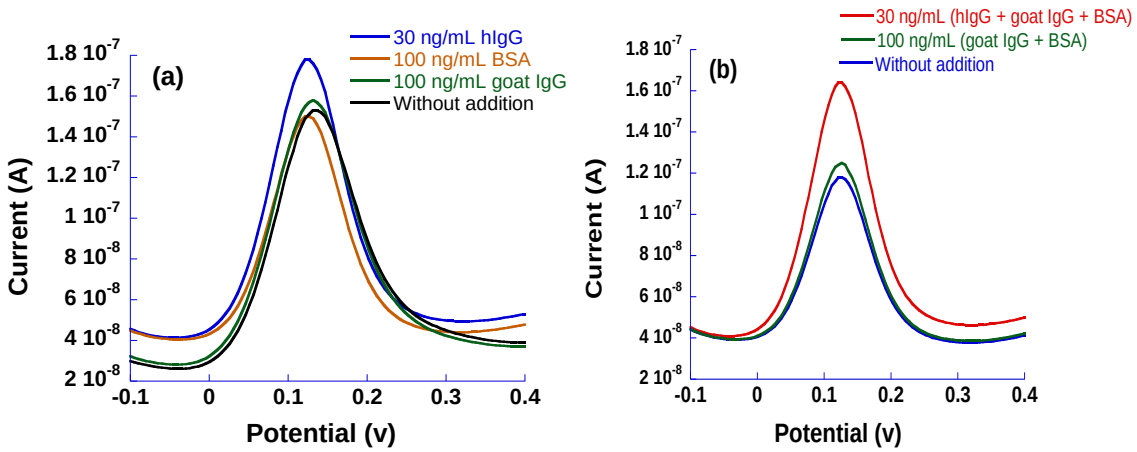

Figure S3: (a) Selectivity and (b) specificity DPV studies of the immunosensor response, immunoresponse of the hIgG sensor to BSA and gIgG interfering proteins.

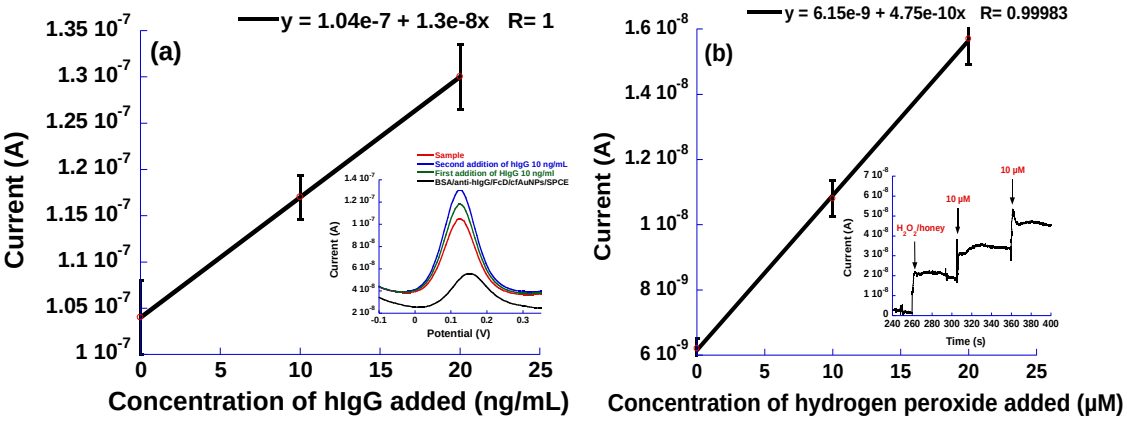

Figure S4: Determination of the concentrations of (a) hIgG and (b) H_2O_2 in real samples of serum and honey using standard addition method.