Supplementary data

Food safety control of α-zearalanol through voltammetric immunosensing on Au-Pt bimetallic nanoparticles surface

Matías Regiart [a], Sirley V. Pereira [a], Viviana G. Spotorno [b],

Franco A. Bertolino [*, a], Julio Raba [*, a]

[a] *Instituto de Química San Luis (INQUISAL) – Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) – Universidad Nacional de San Luis (UNSL)*, *Chacabuco 917, D5700BWS, San Luis, Argentina.*

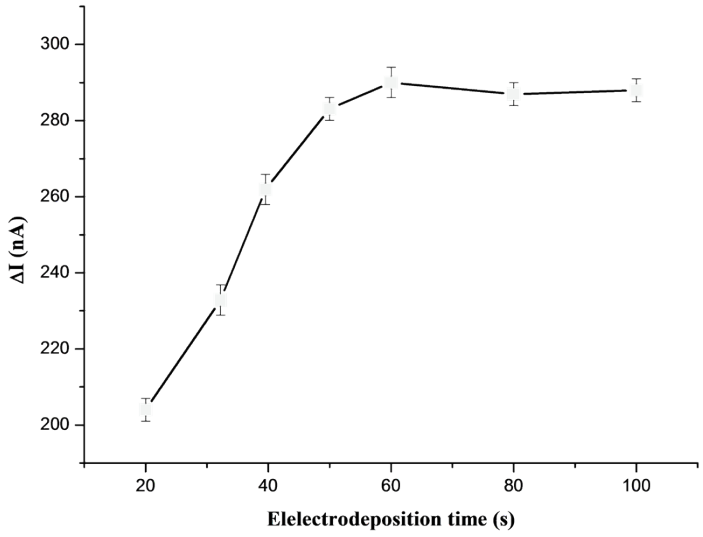
[b] *Instituto de Recursos Biológicos, IRB, CIRN. Instituto Nacional de Tecnología Agropecuaria (INTA), C.C. 77 Morón B1708WAB, Buenos Aires, Argentina.*

* Authors to whom correspondence should be addressed: *Instituto de Química San Luis (INQUISAL) – Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) – Universidad Nacional de San Luis (UNSL)*, *Chacabuco 917, D5700BWS, San Luis, Argentina. (Tel.) +54 (0266) 452 0300-Int. 6815/16/17; (Fax) +54 (0266) 443 0224. E-mail address*: bertolin@unsl.edu.ar (F.A. Bertolino), jraba@unsl.edu.ar (J. Raba).

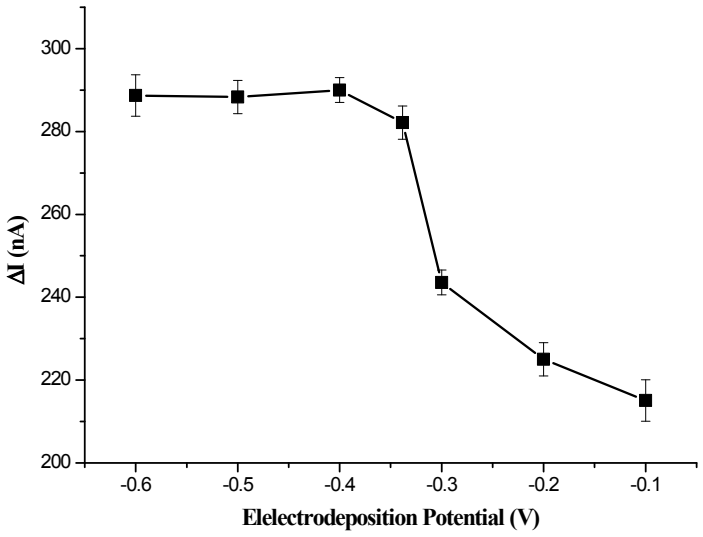
S1.

The electrodeposition time, electrodeposition potential and K_2PtCl_6 solution concentration employed for the PtNPs electrodeposition procedure are relevant parameters which affect the sensivity of the proposed method.

For these reasons, the electrodeposition time was evaluated in a range of 20–100 s. The current response increased linearly if the time rises from 20 to 60 s, insignificant differences were observed when time was greater than 60 s. So, an electrodeposition time of 60 s was selected as optimum.



Regarding to the electrodepositing potential, the time employed was 60 s and the working electrode potential was varied between –0.1 and –0.6 V. The current response increased rapidly by increasing the potential up to a value of –0.4 V, and then remained constant between –0.4 and –0.6 V. Therefore, a potential of –0.4 V was selected as optimum.



K_2PtCl_6 solution concentration employed for the electrode surface modification was also optimized. This study was carried out in the range of 0.01–0.4 %. An important increase of the signal was observed between 0.01 and 0.2 %. However, at higher concentrations insignificant differences were obtained. Then 0.2 % K_2PtCl_6 solution was used for the electrodeposition process.