

## SUPPLEMENTARY INFORMATION

### **Competitive electrochemical biosensing of biotin using cadmium-modified titanium phosphate nanoparticles and 8-channel screen-printed disposable electrodes**

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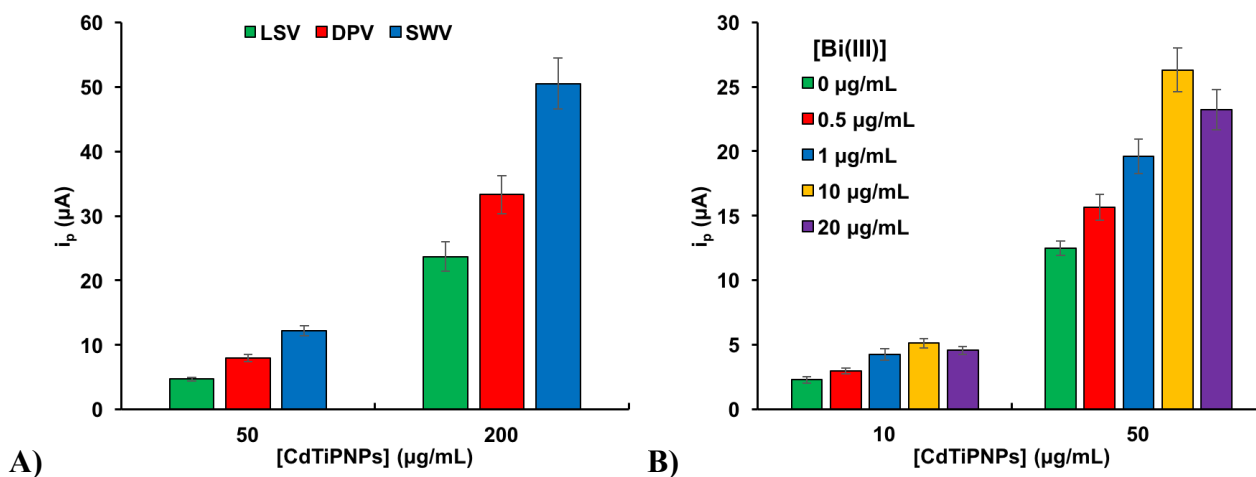
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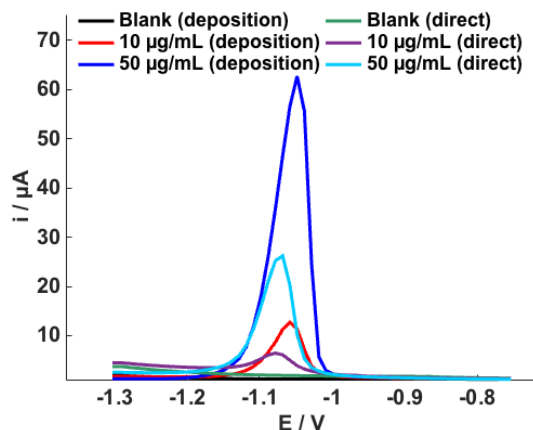
**Table S1.** Relative concentration of O, Na, P, Ti and Cd for TiPNPs and CdTiPNPs obtained from the EDS data in the TEM measurements.

	O (%)	Na(%)	P(%)	Ti(%)	Cd(%)
TiPNPs	66±5	3.7±0.1	22±3	9±1	
CdTiPNPs	66±1	2.36±0.01	21±1	10.5±0.3	1.02±0.03

**Figure S1.** Effect of the electrochemical technique (A) and Bi(III) concentration (B) on the cadmium stripping peak of CdTiPNPs at different concentrations.



**Figure S2.** Voltammetric responses for several concentrations of CdTiPNPs after the electrodeposition step (by applying -1.3 V for 30 s) and the direct measurement without electrodeposition step.



**Figure S3.** Voltammetric response for increasing concentrations of CdTiPNPs (A) and associated calibration plot representing relationship between the stripping peak current and the nanoparticle concentration (B). Inset of A) is the voltammograms at low concentrations.

