

Amperometric magnetobiosensors using poly(dopamine)-modified Fe₃O₄ magnetic nanoparticles for the detection of phenolic compounds†

Miriam Martín^a, Pedro Salazar^{a,b,*}, Susana Campuzano^c, Reynaldo Villalonga^c, José Manuel Pingarrón^c, and José Luis González-Mora^a

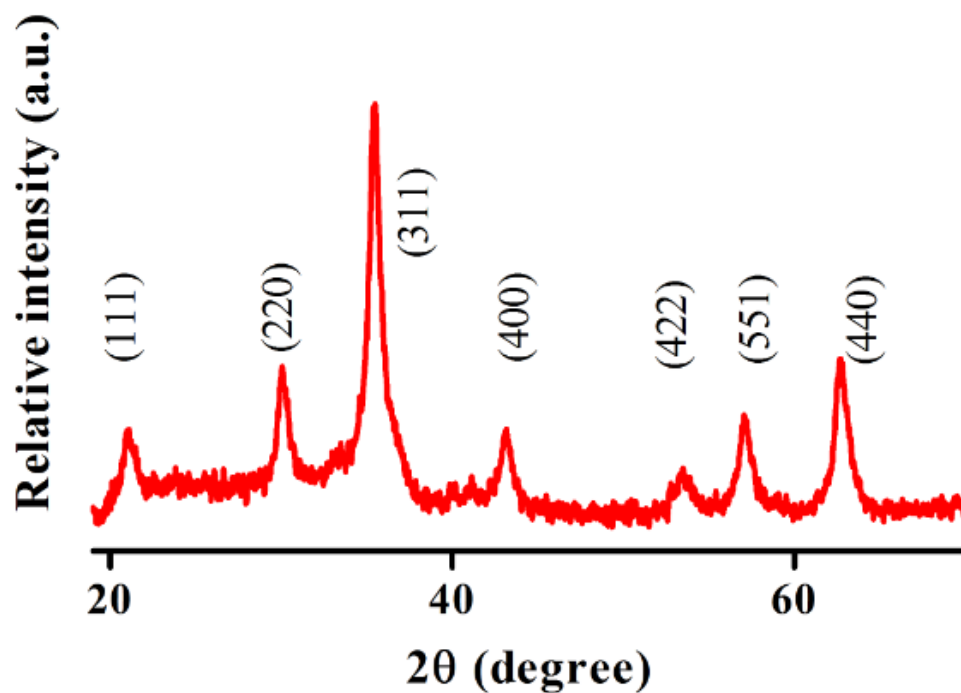


Figure S1. XRD analysis of magnetic nanoparticles obtained by co-precipitation method.

Table S1. Particle size of the Fe₃O₄ and the Fe₃O₄@pDA.

	Fe ₃ O ₄	Fe ₃ O ₄ @pDA
Diameters/ nm	15.29 ± 2.31	17.39 ± 2.58

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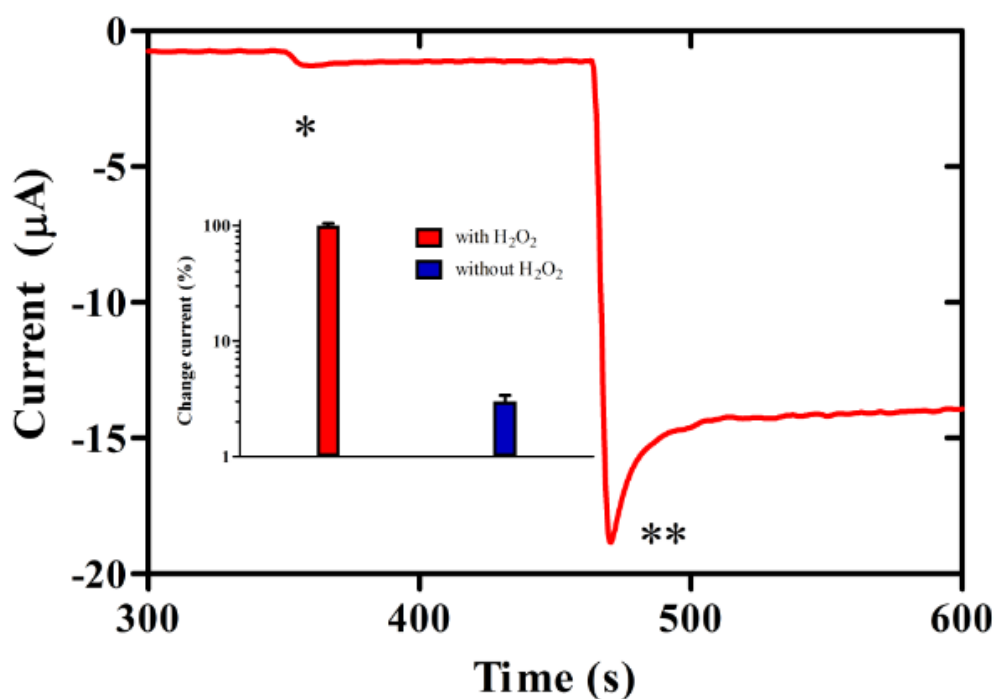


Figure S2. Biosensor response against HQ in PBS (pH 7.4) (applied potential: -0.2 V) before (*) and after(**) adding H₂O₂.

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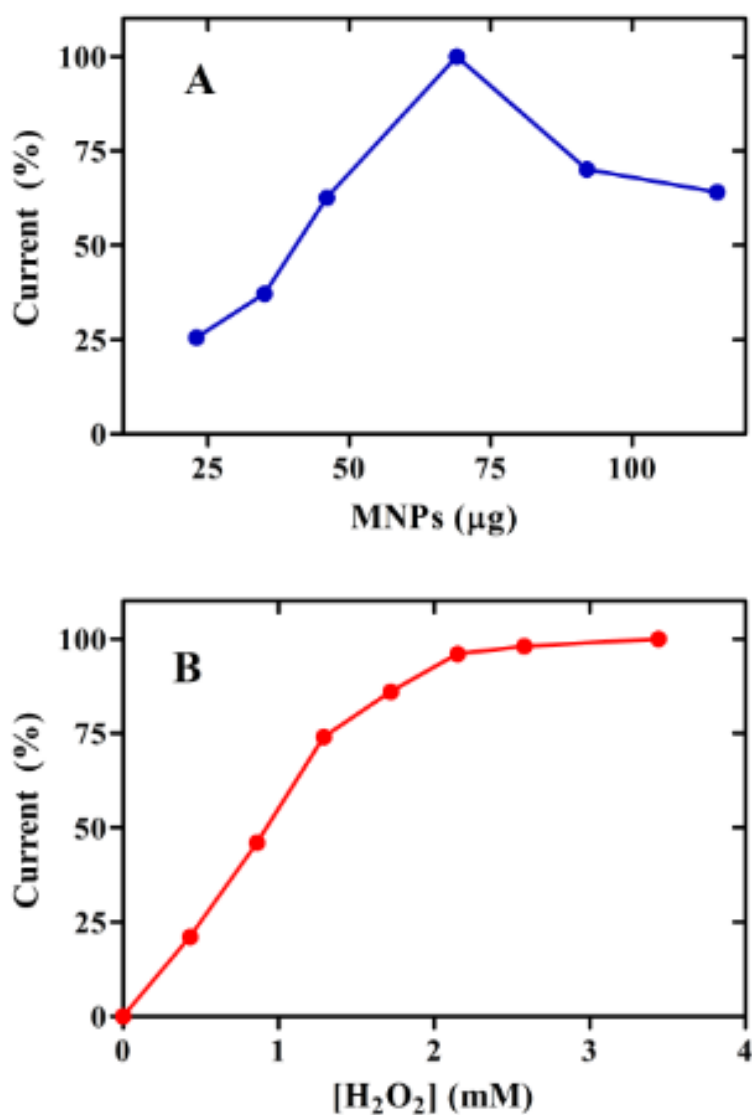


Figure S3. Dependence of the current response (%) of the GCE/Fe₃O₄@pDA/HRP biosensor against Fe₃O₄@pDA/HRP MNPs loading (A) and the H₂O₂ concentration (B).

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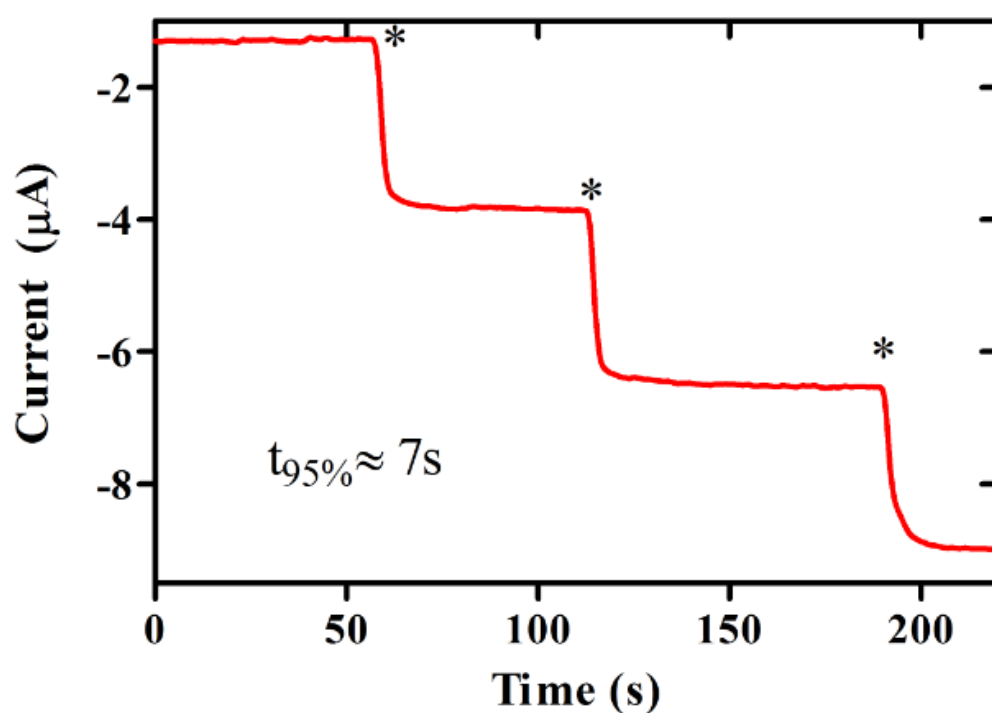


Figure S4. Time response of the GCE/ Fe₃O₄@pDA/HRP biosensor in PBS (pH 7.4) containing 2 mM H₂O₂ under continuous stirring at 700 rpm (applied potential: -0.2 V).

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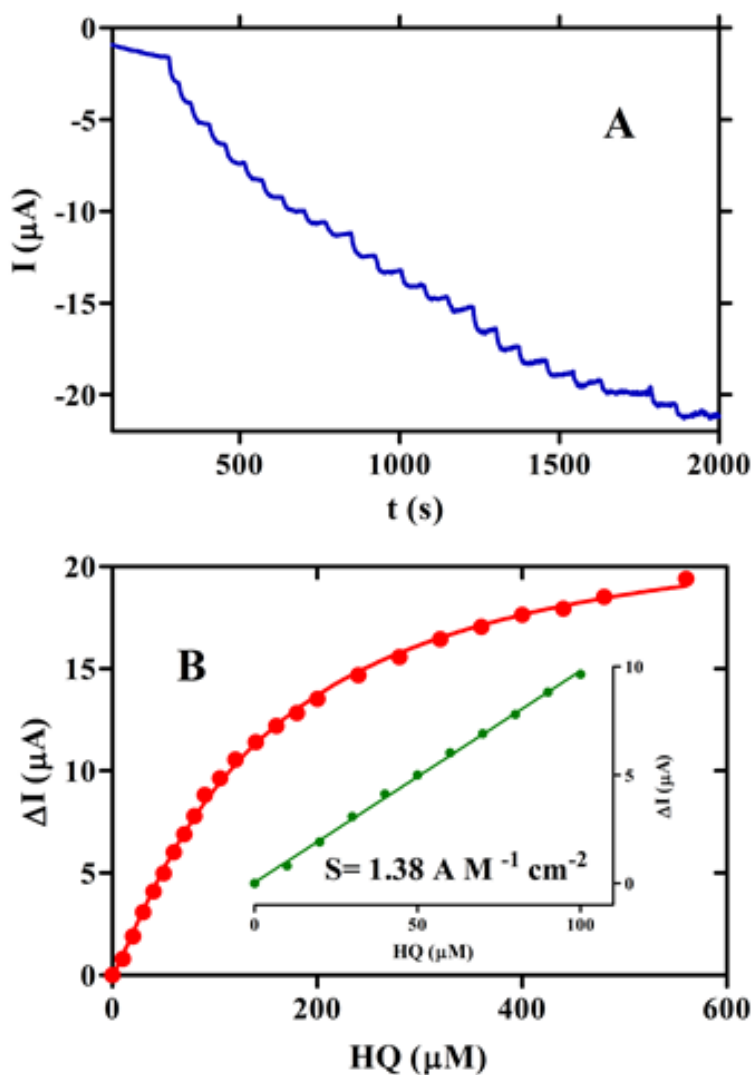


Figure S5. Successive amperometric response (A) and calibration curves (B) for GCE/Fe₃O₄@pDA/HRP biosensor in PBS (pH 7.4) containing 2 mM H₂O₂ under continuous stirring at 700 rpm (applied potential: -0.2 V).