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

Miriam Martína, Pedro Salazarab,*, Susana Campuzanoc, Reynaldo Villalongac, José Manuel Pingarrónc, and José Luis González-Moraa

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

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

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<th>Fe₃O₄</th>
<th>Fe₃O₄@pDA</th>
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<tr>
<td>Diameters/ nm</td>
<td>15.29 ± 2.31</td>
<td>17.39 ± 2.58</td>
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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).
Amperometric magnetobiosensors using poly(dopamine)-modified Fe$_3$O$_4$ 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 S4. Time response of the GCE/ Fe$_3$O$_4$@pDA/HRP biosensor in PBS (pH 7.4) containing 2 mM H$_2$O$_2$ 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).