Supplementary Information

Development of an Electroanalytical Method for Ronidazole Determination in Environmental and Food Matrices Using Boron-Doped Diamond Electrode

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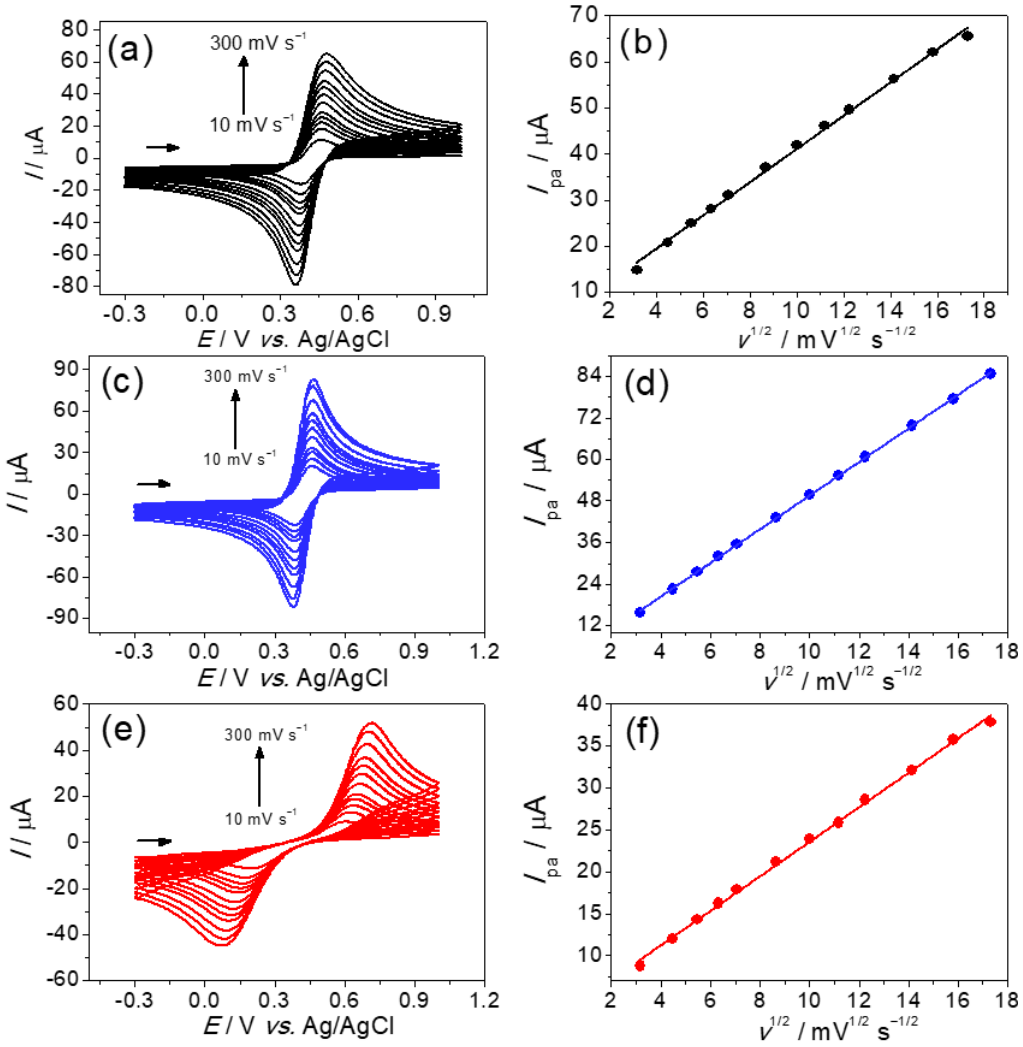

Figure S1. Cyclic voltammograms recorded in 0.5 mol L^{-1} H_2SO_4 containing 1.0 × 10^{-3} mol L^{-1} $K_4Fe(CN)_6$ using (a) as-received BDD, (c) CPT-BDD and (e) APT-BDD electrode at different scan rates: 10; 20; 30; 40; 50; 75; 100; 125; 150; 200; 250 and 300 mV s^{-1}. Plots of I_{pa} *vs.* $v^{1/2}$ obtained for (b) as-received BDD, (d) CPT-BDD and (f) CPT-BDD electrode.

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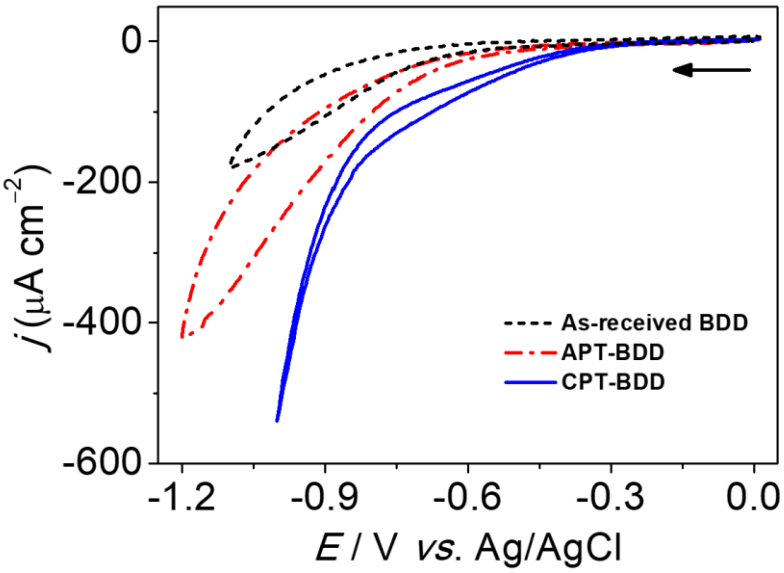

Figure S2. Cyclic voltammograms recorded in 0.1 mol L^{-1} phosphate buffer solution (pH = 6.5) using as-received BDD, APT-BDD and CPT-BDD electrode. v = 50 mV s^{-1}.

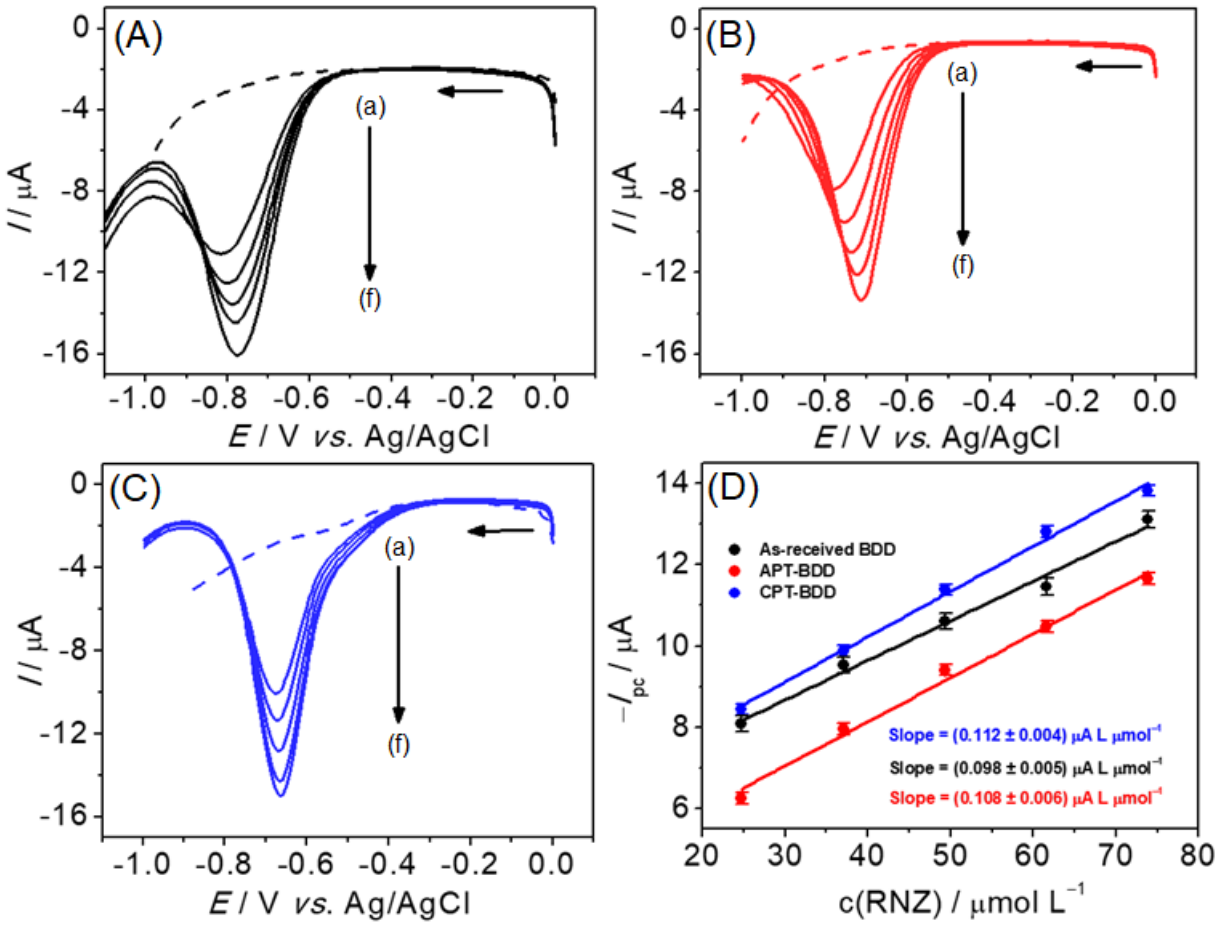

Figure S3. Square-wave voltammograms recorded in 0.1 mol L^{-1} phosphate buffer solution (pH = 6.5) in the absence (dotted line) and presence of RNZ at different concentrations: (a) 0.00; (b) 24.7; (c) 37.1; (d) 49.4; (e) 61.6 and (f) 73.9 µmol L^{-1} using (A) as-received BDD, (B) APT-BDD and (C) CPT-BDD electrode. SWV parameters: *f* = 10 Hz; a = 50 mV. (D) Analytical curves (I_{pc} *vs*. *c*(RNZ)) obtained using as-received BDD, APT-BDD and CPT-BDD electrode.

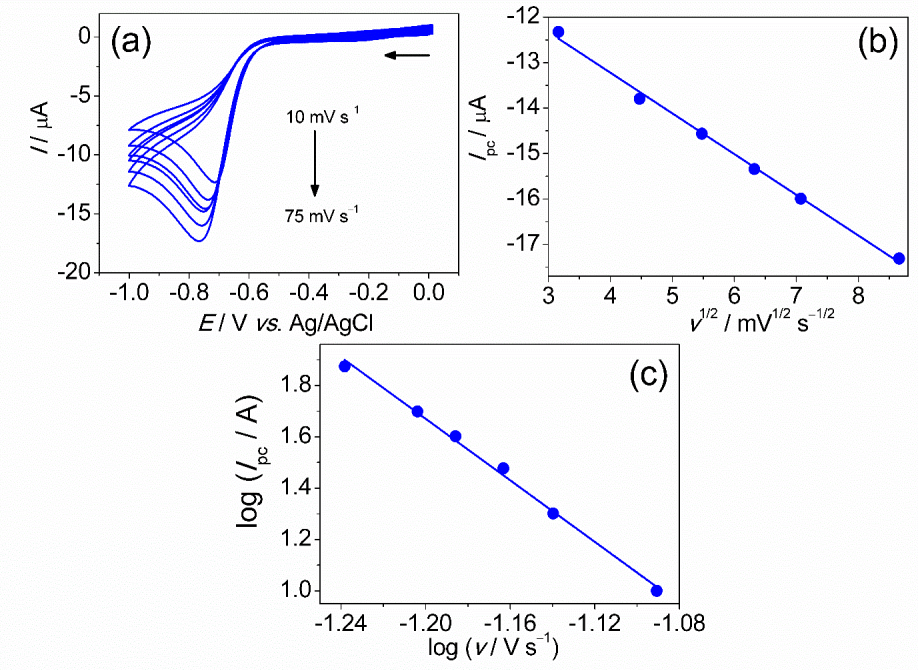

Figure S4. (a) Cyclic voltammograms recorded in 0.1 mol L^{-1} phosphate buffer solution (pH = 6.5) containing of 5.0×10^{-5} mol L^{-1} RNZ at different scan rates using the CPT-BDD electrode. Plots of (b) I_{pc} *vs.* $v^{1/2}$ and (c) log I_{pc} *vs.* log *v*.

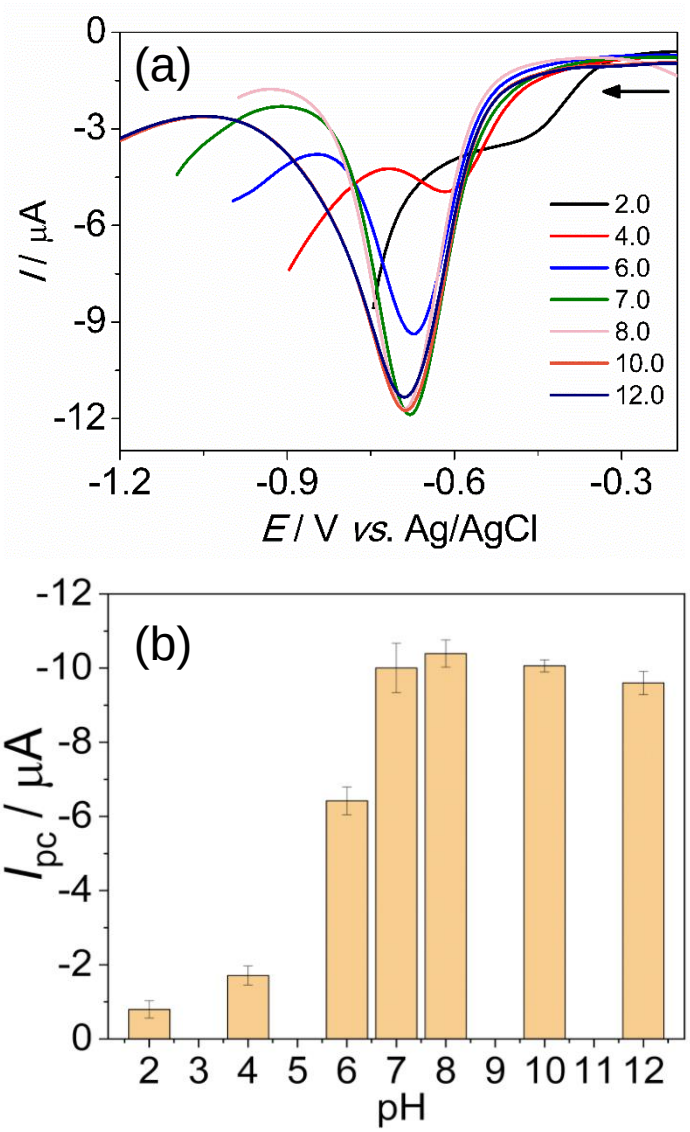

Figure S5. (a) Square-wave voltammograms recorded using the CPT-BDD in 0.1 mol L^{-1} phosphate buffer solutions at different pHs (2.0-12.0) containing 50.8 µmol L^{-1} RNZ. SWV parameters: *f* = 10 Hz; a = 50 mV. (b) Plot of $-I_{pc}$ *vs*. pH.

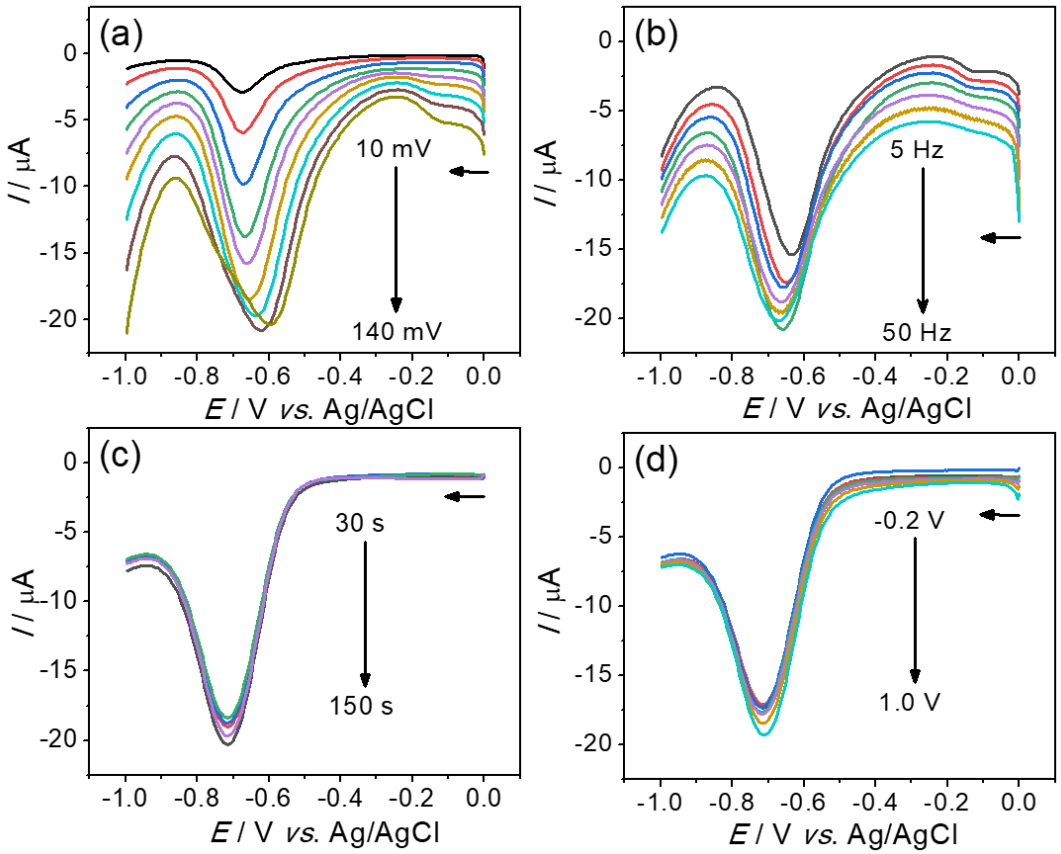

Figure S6. Square-wave voltammograms recorded during the optimization of (a) amplitude, (b) frequency, (c) pre-accumulation time and (d) pre-accumulation potential.

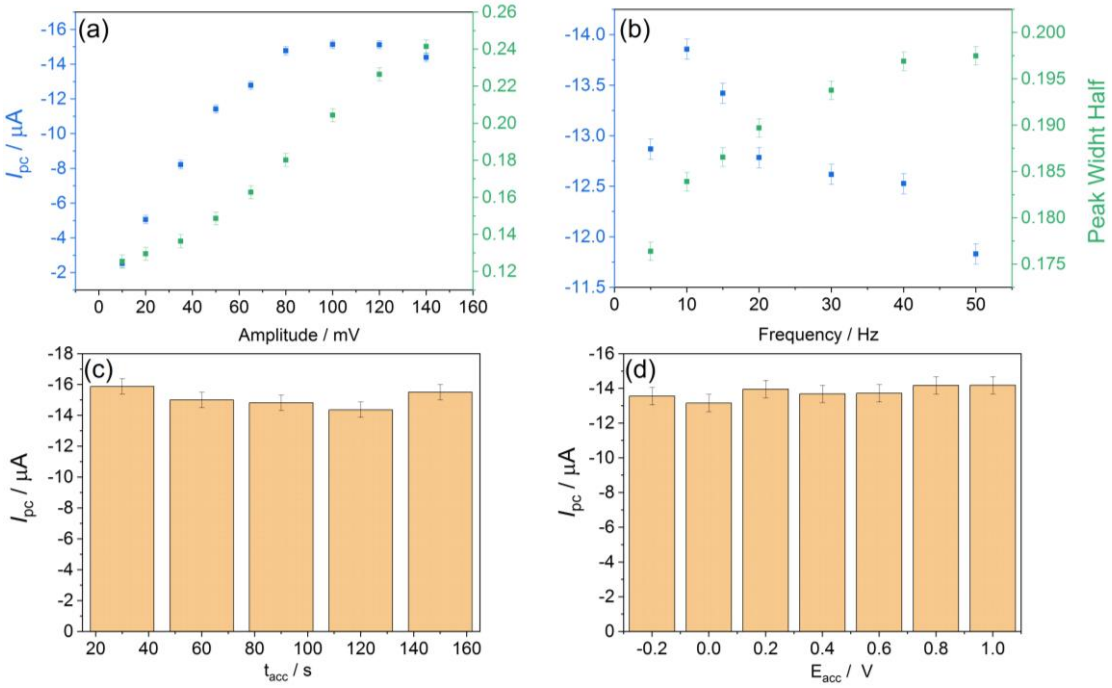

Figure S7. SWAdCSV optimization according to I_{pc} and peak width half (a) amplitude, (b) frequency, (c) pre-accumulation time and (d) pre-accumulation potential.

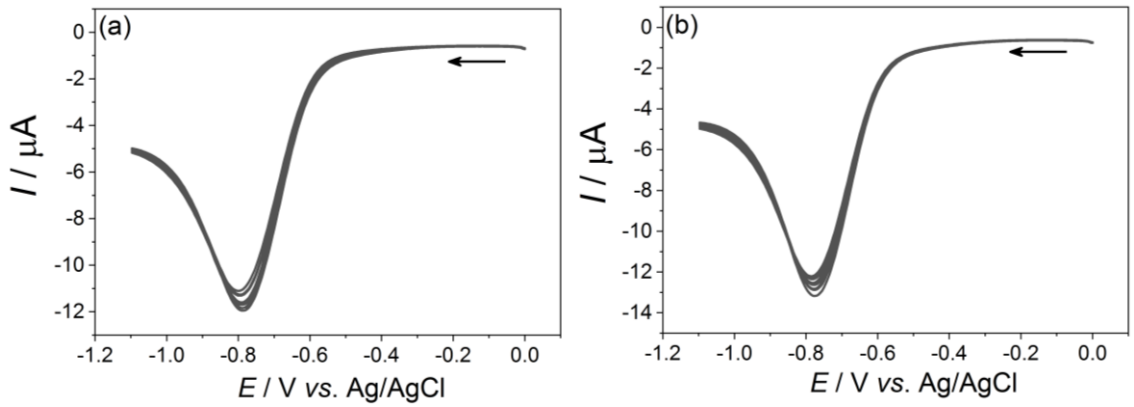

Figure S8. SWAdCS voltammograms recorded in 0.1 mol L^{-1} phosphate buffer solution (pH = 7.0) containing 38 µmol L^{-1} of RNZ during (a) intra-day (n = 10) and (b) inter-day (n = 3) repeatability studies.

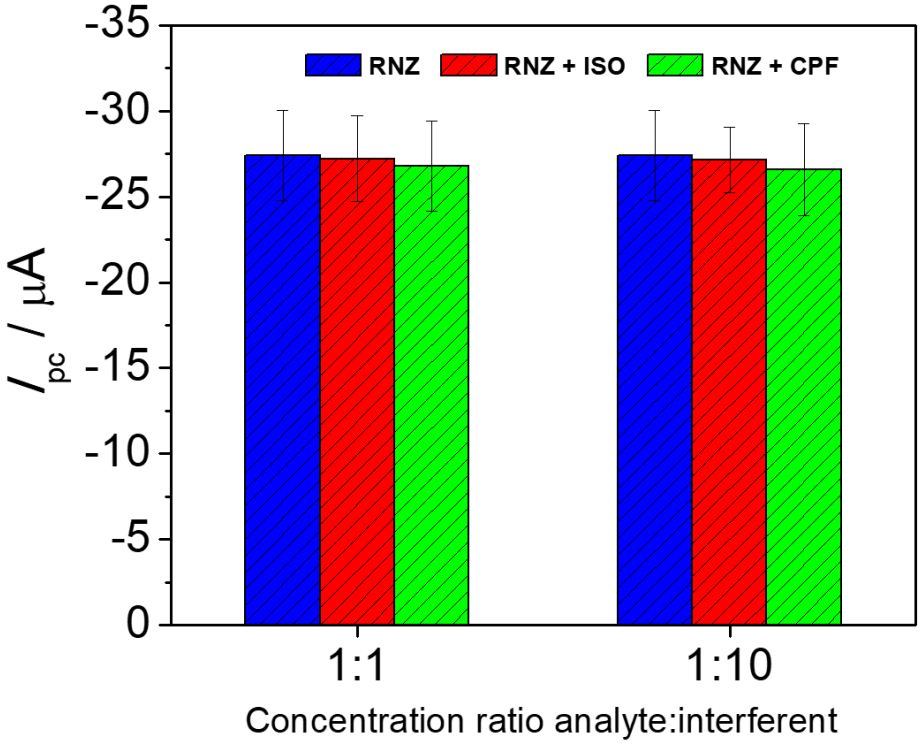

Figure S9. Comparison of RNZ response in absence and presence of isoniazid (ISO) and ciprofloxacin (CPF) antibiotics at different analyte:interferent concentration ratios.