Electronic Supplementary Material (ESI) for Analytical Methods.

A highly sensitive impedimetric sensor based on MIP biomimetic for the detection of Enrofloxacin

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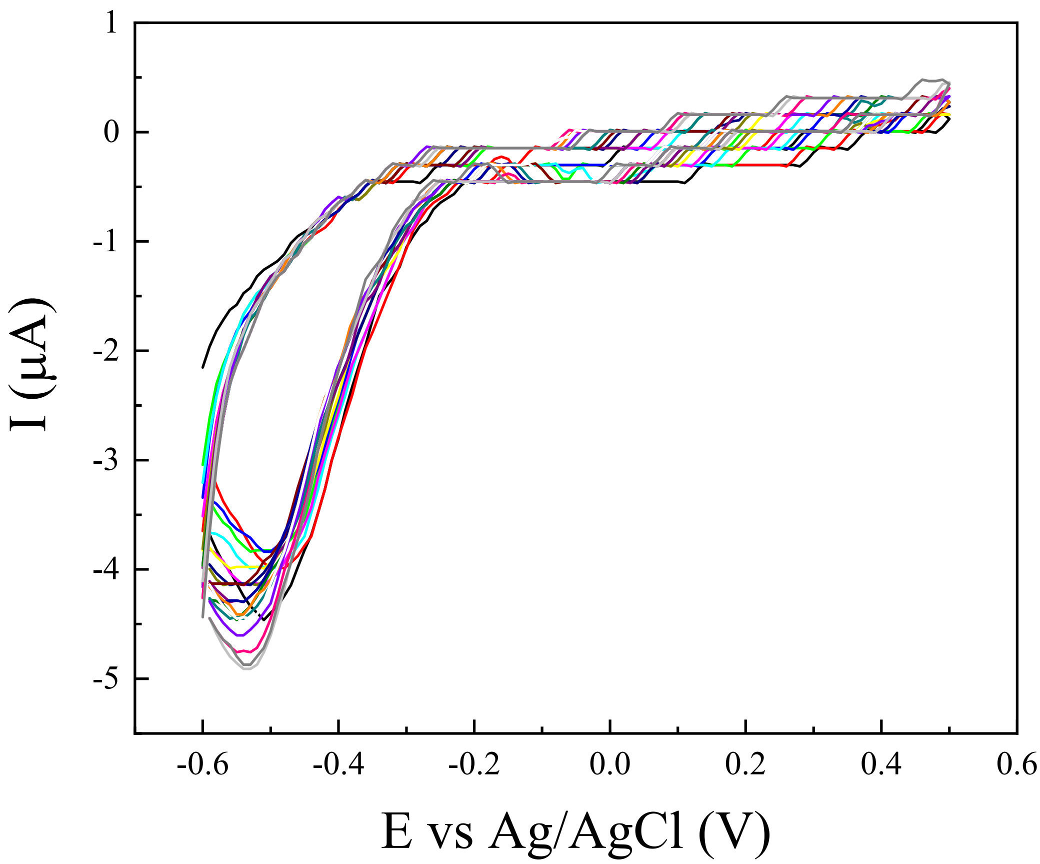

Figure S1. A cyclic voltammograms of AuNPs electrodeposition on SPCE

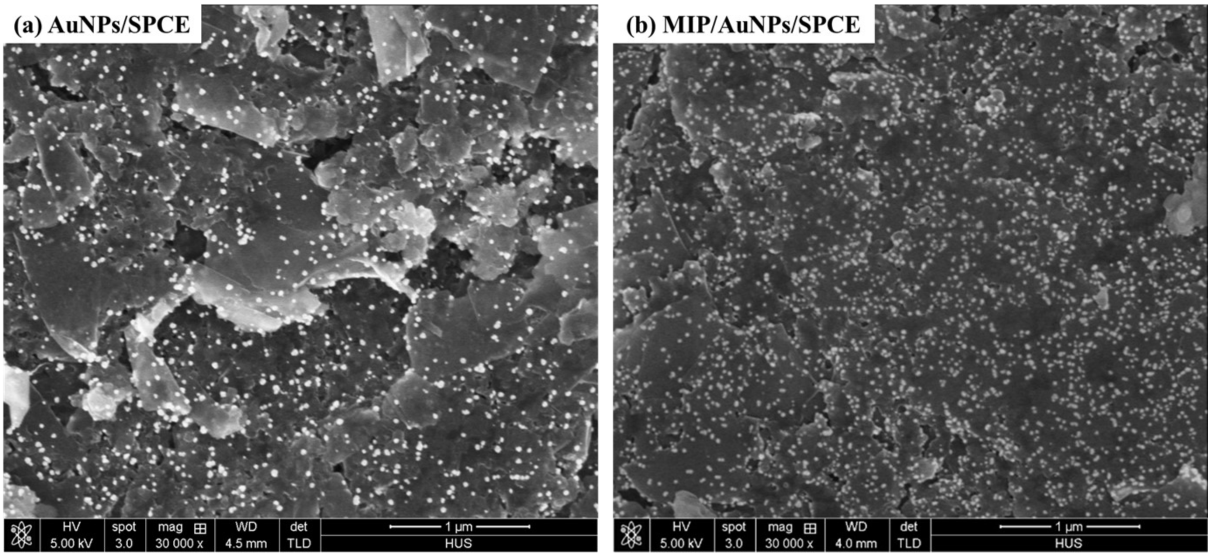

Figure S2. Scanning electron microscopy (SEM) images of (a) in situ AuNPs on SPCE formed using a cyclic voltammetry (CV) method for 20 cycles; (b) MIP membrane on AuNPs/SPCE

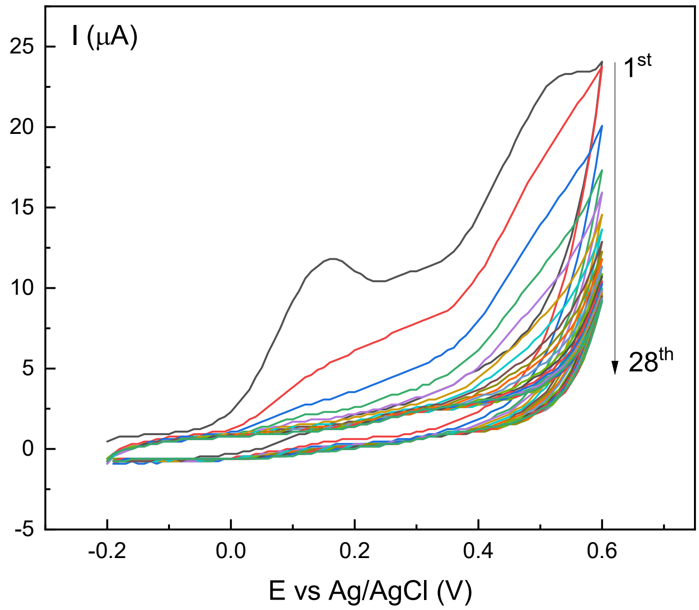

Figure S3. Cyclic voltammograms during the ENRO-MIP electro-polymerization on the AuNPs/SPCE at a scan rate of 50 mV/s.

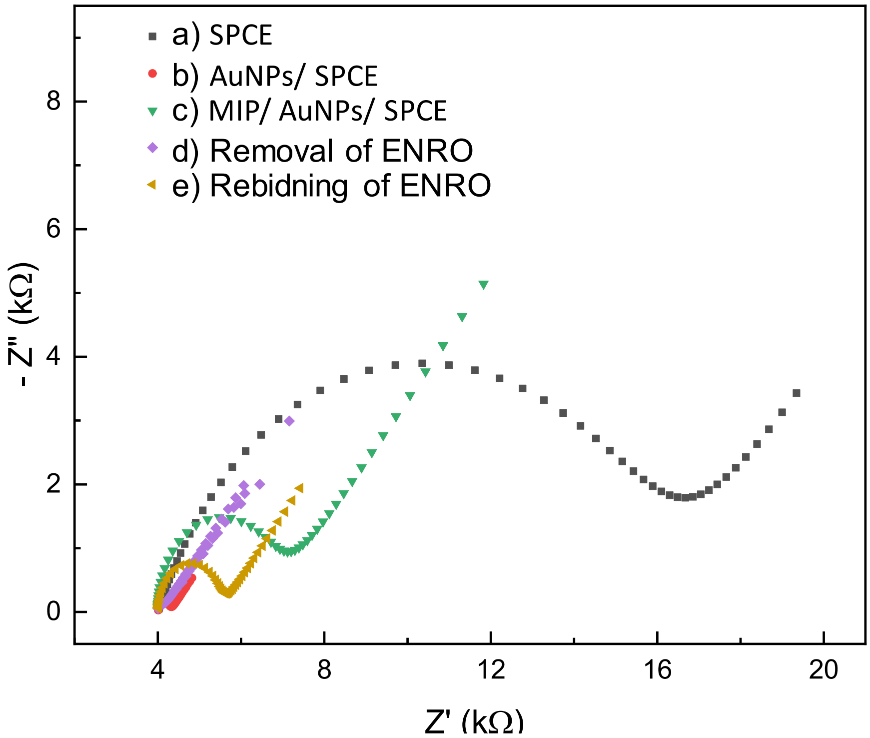

Figure S4. The Nyquist plots of impedance spectra corresponding to modification steps of SPCE for the development of the MIP sensor: a) bare SPCE; b) AuNPs/SPCE; c) ENRO-imprinted MIP/AuNPs/SPCE; d) ENRO-removal MIP/AuNPs/SPCE and rebinding of ENRO (at concentration of 5 ng/mL).

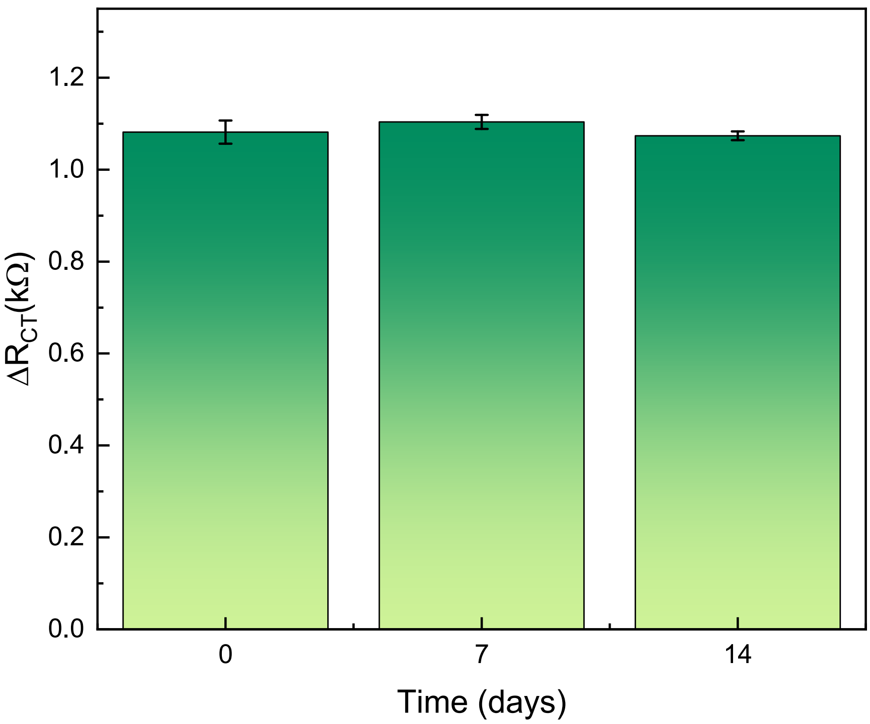

Figure S5. Stability of MIP sensors stored for different time

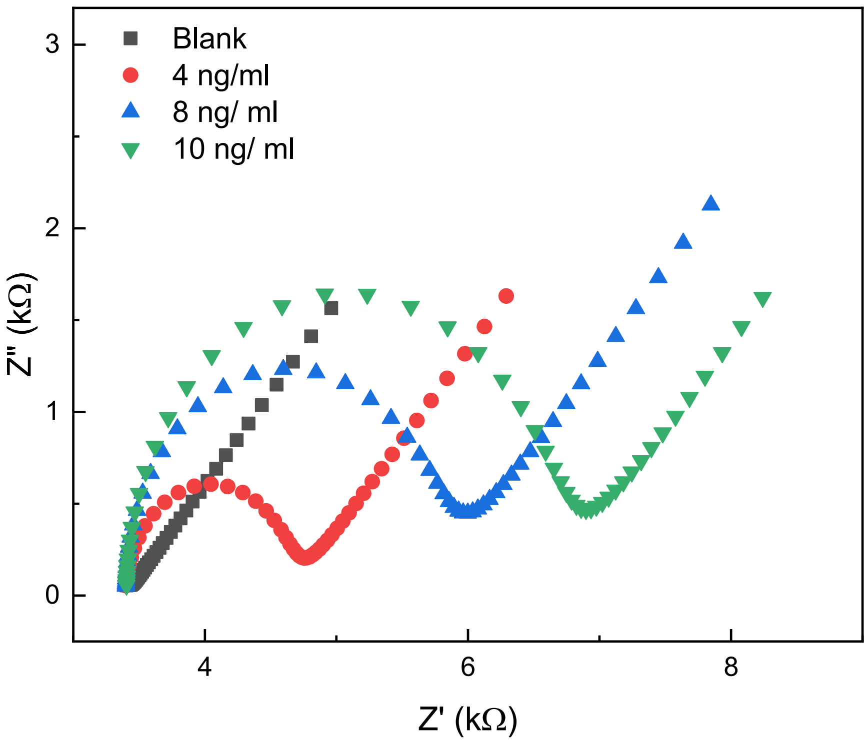

Figure S6. The Nyquist plots of impedance spectra corresponding to the response of ENRO-MIP sensor when exposing to aquaculture water samples containing different concentrations.

Table S1: The specific peaks of Raman corresponding to the chemical bonds of molecules

Carbon		P-ATP		ENRO antibody		ENRO antigen	
1337	D-band	1081	$\nu_{c\text{-}c} + \nu_{c\text{-}s}$	1272	Amide III	1235	$\beta_{C\text{-}H}$
1579	G-band	1143	$\nu_{c\text{-}s} + \beta_{C\text{-}H}$	1349		1388	$\nu_{o\text{-}c\text{-}o}$
		1181		1428	$\beta_{C\text{-}H2}$	1481	α_{ccc}

Table S2: Comparison of different methods for the detection of ENR in terms of the limit of detection.

Method	LOD (ng/ mL)	year	Ref
Electrochemical sensor based on modified electrode containing cadmium sulfide (CdS) nanoparticles (NPs)	34.14	2018	[1]
Nitrogen-doped fluorescent carbon dots.	Approx. 176	2019	[2]
Ag-based surface-enhanced Raman scattering imprinted membranes.	Approx. 39	2019	[3]
Chemiluminescence system coupled with molecularly imprinted polymers	Approx. 0.04	2019	[4]
Molecularly imprinted electrochemiluminescence sensor	Approx. 0.01	2021	[5]
MIP combining with antibody	0.05		This work