Supporting Information

for

A novel sensor based on bifunctional monomers molecularly imprinted film at graphene modified glassy carbon electrode for detecting trace of moxifloxacin

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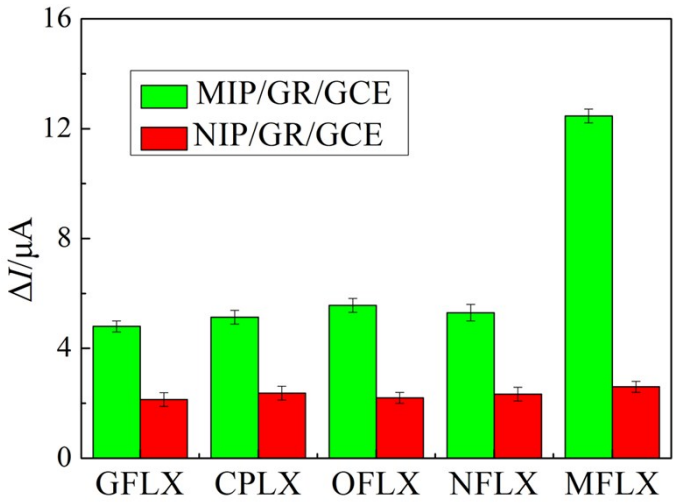

Fig. S1. Selective recognition of the MIP/GR/GCE and NIP/GR/GCE for moxifloxacin and its analogues after incubation for 10 min. The concentration of MFLX, NFLX, OFLX, CPLX, and GFLX was 4.0×10^{-9} M.

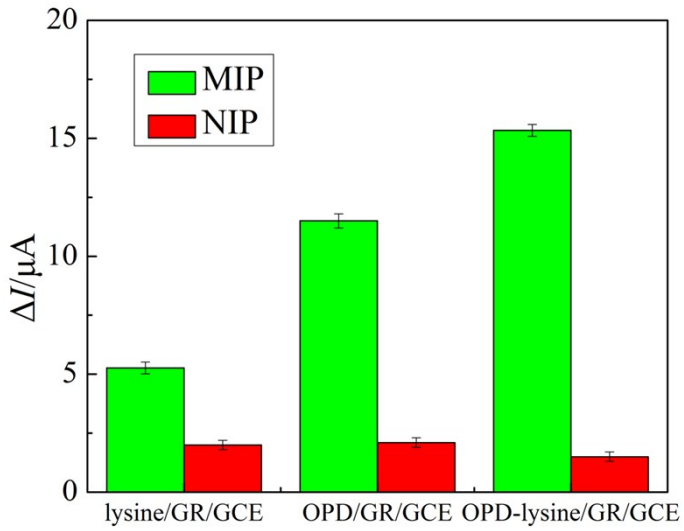

Fig. S2 ΔI of the sensors prepared using OPD, L-lysine, and OPD–lysine as polymerized monomer.

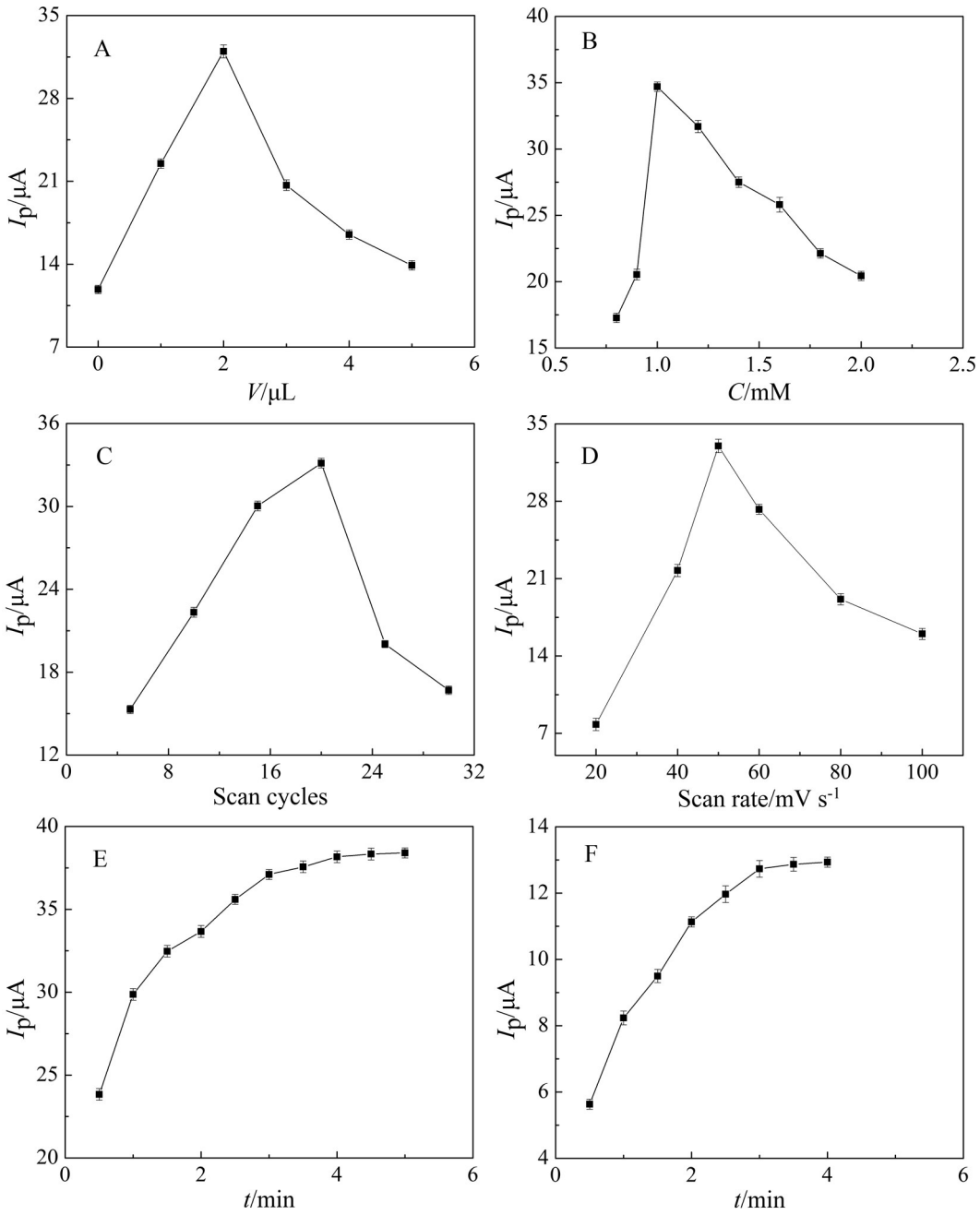

Fig. S3 Optimization of conditions for the preparation of MIP/GR/GCE. (A) the volume of graphene suspension; (B) the concentration of OPD and L-lysine; (C) scan cycles; (D) scan rates; (E) the elution curve of MIP/GR/GCE; (F) the elution curve of MIP/GCE.

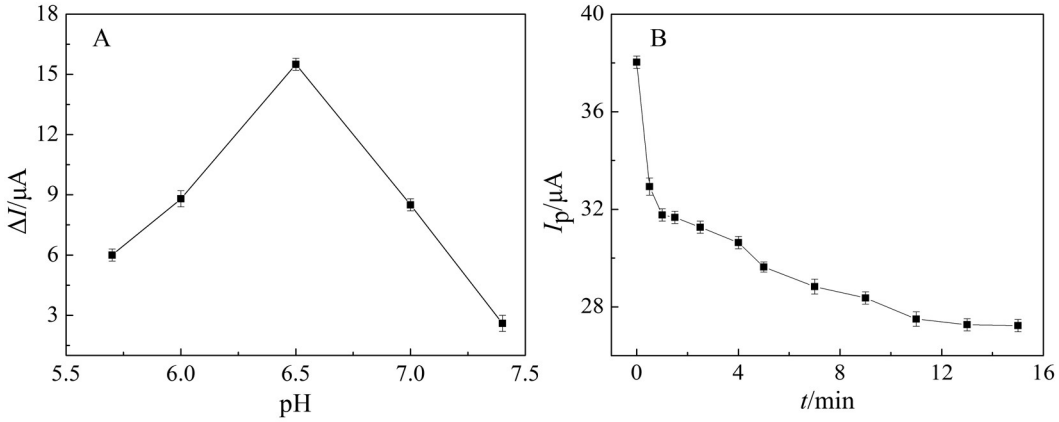

Fig. S4 (A) The pH effect of rebinding solution for MIP/GR/GCE; (B) the influence of incubation time on the response of the sensor.

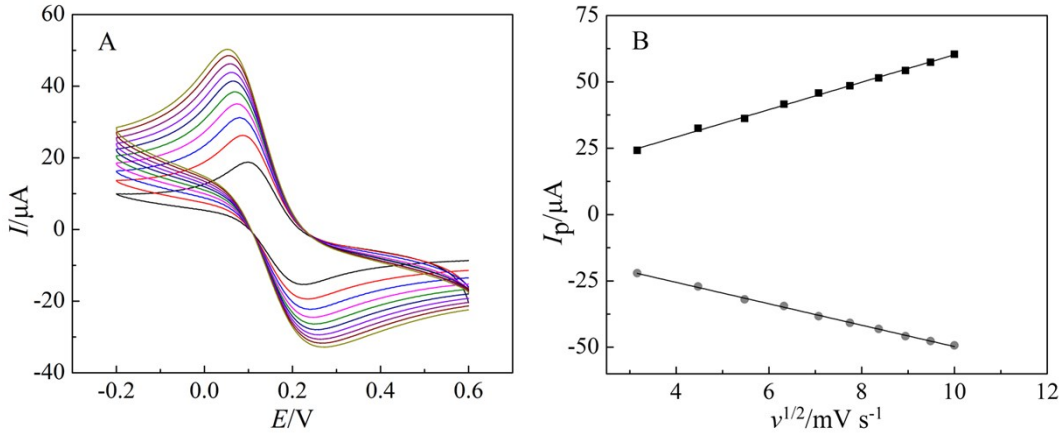

Fig. S5 (A) CV curves of MIP/GR/GCE at different scan rates (from inner to outer): 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 mV s^{-1} in the 2.0 mM $[Fe(CN)_6]^{3-/4-}$ containing 0.10 M KCl. (B) The relationship between the scan rate (v) and anodic (I_{pa}), cathodic (I_{pc}).

Table S1 Comparison of the performance of our proposed MIP/GR/GCE electrode with other published electrochemical methods for the detection of moxifloxacin.

Electrode	Linear range (M)	Detection limit (M)	Reference
GCE	5.0×10^{-6}–1.5×10^{-5}	4.37×10^{-7}	13
DNA/GCE	2.0×10^{-7}–1.4×10^{-6}	8.0×10^{-8}	18
PVC[a] membrane	4.0×10^{-6}–1.0×10^{-2}	3.0×10^{-6}	17
MIP/CPE[b]	3.1×10^{-6}–2.0×10^{-4}	5.9×10^{-8}	16
MIP/GR/GCE	1.0×10^{-9}–5.0×10^{-5}	5.12×10^{-10}	This work

[a] PVC: Polyvinyl chloride.

[b] CPE: carbon paste electrode.

Table S2 Selectivity of MIP/GR/GCE sensor for 4.0×10^{-9} M MFLX and interferents.

Substrate	$(\Delta I/I_0)_{MIP}$ (%)	$(\Delta I/I_0)_{NIP}$ (%)	α	β
MFLX	37.4	18.8	2.0	1.0
NFLX	14.1	20.2	0.70	2.8
OFLX	13.8	18.5	0.74	2.7
CPLX	12.9	19.2	0.67	3.0
GFLX	13.3	18.6	0.71	2.8