Electronic Supplementary Information

Ratiometric strategy based electrochemical sensing interface for imidacloprid sensitive and reliable detection

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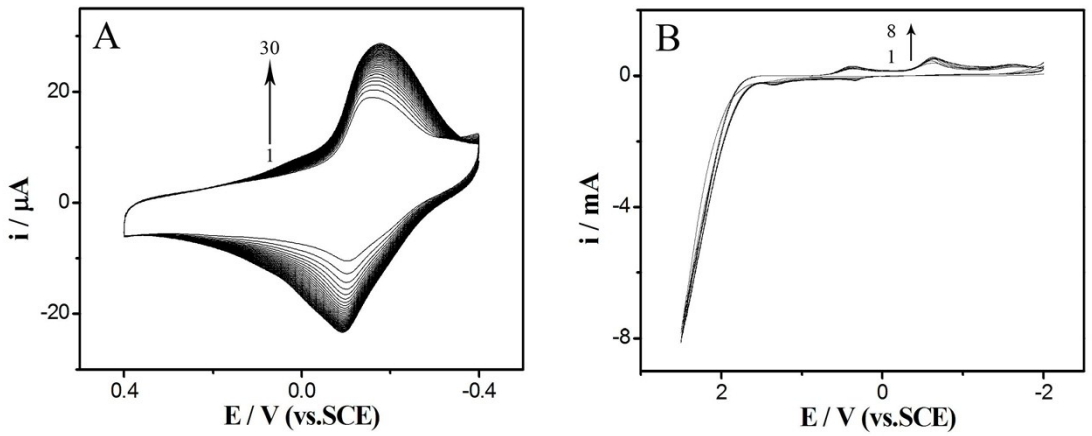

Fig. S1 Electropolymerization CV curves of THI (A) and CD (B).

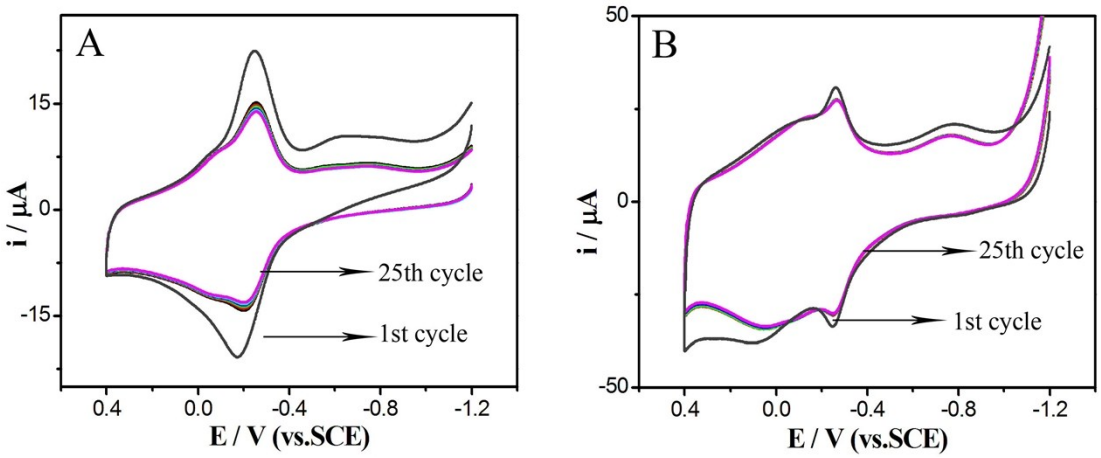

Fig. S2 30-cycle CV curves of pTHI/GCE (A) and pCD/pTHI/GCE (B) in 0.1mol/L PBS (pH=6.0).

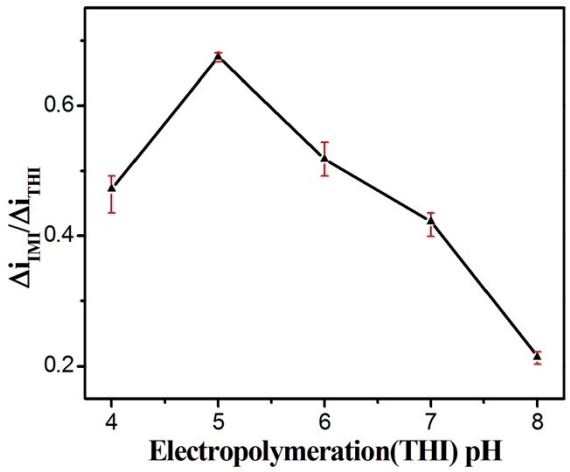

Fig. S3 The effect of pH value of electropolymerization solution.

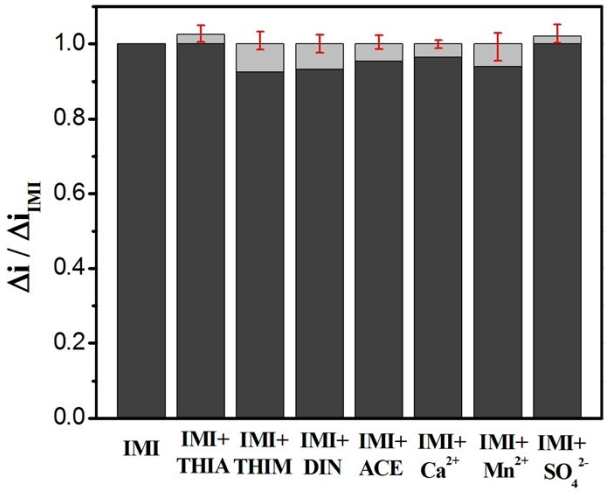

Fig. S4 Selectivity of the sensor. Current responses of 5.0×10^{-6} mo/L THIA, 5.0×10^{-6} mo/L THIM, 5.0×10^{-6} mo/L DIN, 5.0×10^{-6} mo/L ACE, 5.0×10^{-4} mo/L Ca^{2+}, 5.0×10^{-4} mo/L Mn^{2+} or 5.0×10^{-4} mo/L SO_4^{2-} , the ratios of current responses on the sensor calculated by current recorded in 5.0×10^{-6} mo/L IMI.

Table S1 Comparison of other electrochemical methods for IMI detection with our work.

Modified electrode	linear range (mol/L)	LOD (mol/L)	Reference
Graphene modified GCE	8.0×10^{-7}-1.0×10^{-5}	3.6×10^{-7}	1
Electrochemically pretreated boron-doped diamond electrode	3.0×10^{-5}-2.0×10^{-4}	8.6×10^{-6}	2
Graphene/imprinted polymer modified GCE	5.0×10^{-7}-1.5×10^{-5}	1.0×10^{-7}	3
Nanosilver Nafion/nanoTiO_2 Nafion modified GCE	5.0×10^{-7}-3.5×10^{-6}	2.5×10^{-7}	4
β-CD polymer/ reduced graphene oxide modified GCE	5.0×10^{-8}-1.5×10^{-5}	2.0×10^{-8}	5
Poly(carbazole)/reduced graphene oxide modified GCE	4.4×10^{-7}-1.5×10^{-6}	2.2×10^{-7}	6
Nitrogen-doped grapheme modified GCE	4.0×10^{-6}-1.0×10^{-4}	5.5×10^{-7}	7
Ag nanodendrimers/grapheme modified GCE	1.0×10^{-6}-1.0×10^{-4}	8.1×10^{-7}	8
Pt-In catalytic nanoparticles /Bromophenol blue doped imprinted polymer modified GCE	2.0×10^{-10}-5.0×10^{-8}	1.2×10^{-11}	9
Ionic liquid modified carbon-ceramic electrode	5.0×10^{-8}-7.0×10^{-6}	3.1×10^{-8}	10
Graphene oxide modified GCE	1.0×10^{-5}-2.0×10^{-4}	7.9×10^{-6}	11
DMIP/PTH/MWNTs/GCE modified GCE	1.0×10^{-7}-1.0×10^{-4}	6.5×10^{-8}	12
Ionic liquid functionalized gold nanoparticles probe	1.0×10^{-6}-1.0×10^{-5}	5.0×10^{-7}	13
Molecularly imprinted sensor	7.5×10^{-7}-7.0×10^{-5}	4.0×10^{-7}	14
MIP/GN modified GCE	5.0×10^{-6}-1.5×10^{-5}	1.0×10^{-7}	15
pCD/pTHI/GCE	4.0×10^{-8}-1.0×10^{-5}	1.7×10^{-8}	This work

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