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Supplementary information:

Visible-light-activated photoelectrochemical biosensor for the detection of pesticide acetochlor in vegetable and fruit based on its inhibition towards glucose oxidase

Dangqin Jin*, Aiqin Gong, Zhou Hui

Department of Chemical Engineering, Yangzhou Polytechnic Institute, Yangzhou 225127, P.R. China

*Authors to whom any correspondence should be addressed.

Tel: +86 514 87433053; Fax: +86 514 87433017; E-mail: jindangqin@163.com

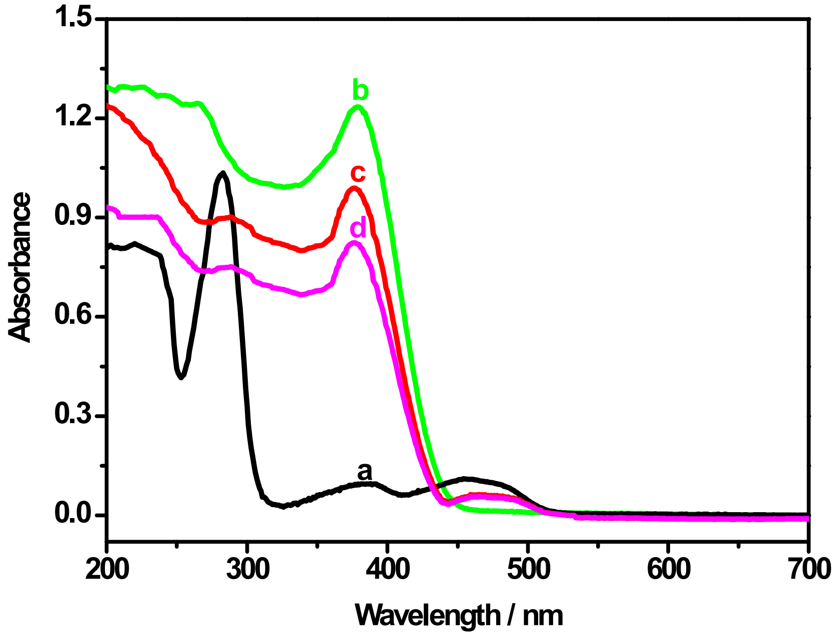

Fig. S1 UV–vis diffuse reflection spectra of (a) GOx, (b) NH_2-MIL-125(Ti)/TiO_2, (c) NH_2-MIL-125(Ti)/TiO_2/Gox, and (d) GOx/CS/NH_2-MIL-125(Ti)/TiO_2.

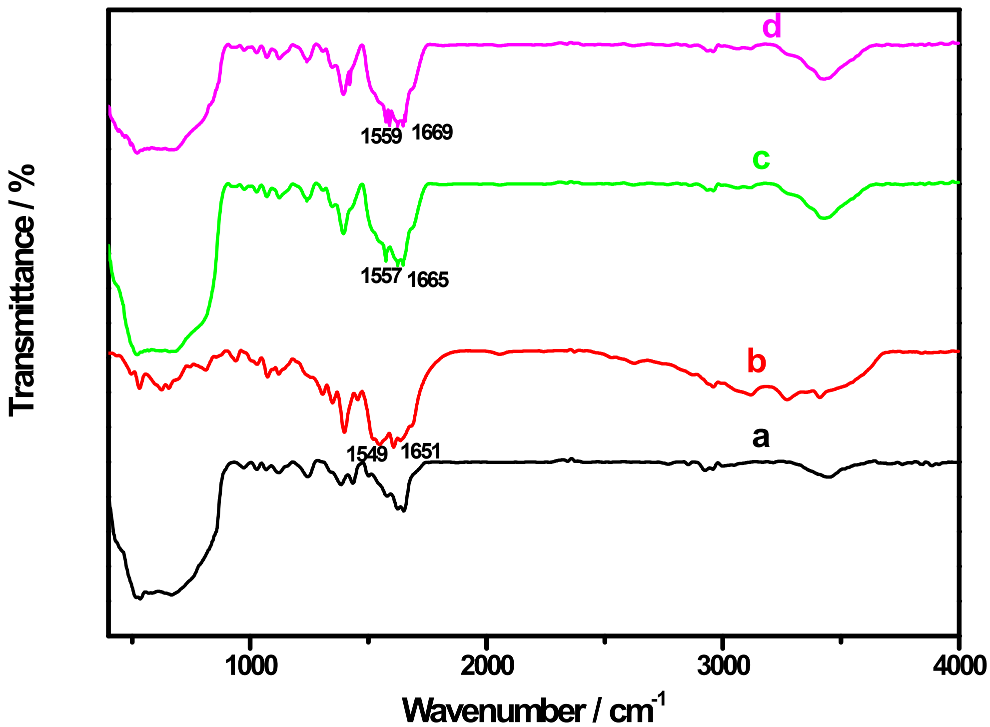

Fig. S2 FTIR spectra of (a) NH_2-MIL-125(Ti)/TiO_2, (b) GOx, (c) GOx/NH_2-MIL-125(Ti)/TiO_2, and (d) GOx/CS/NH_2-MIL-125(Ti)/TiO_2.

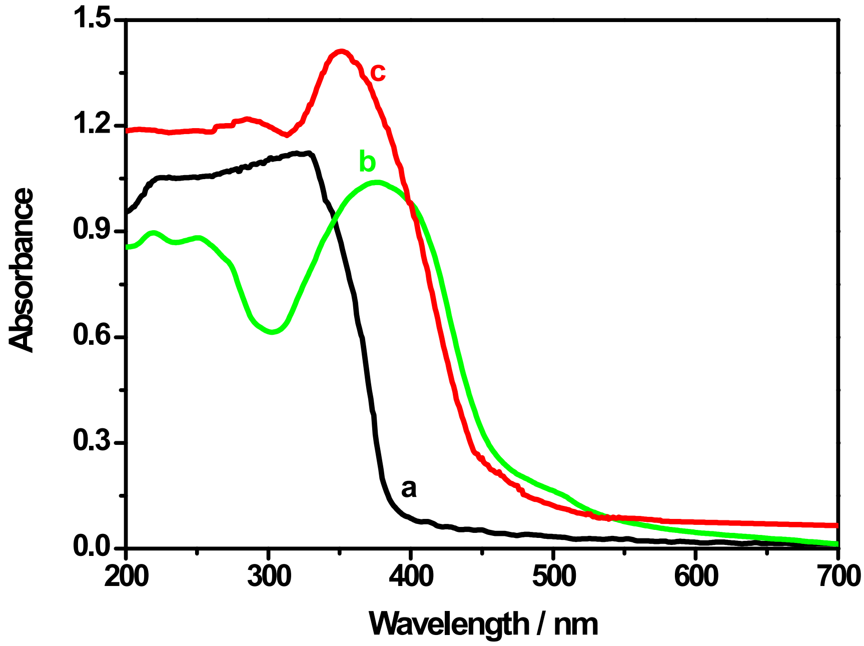

Fig. S3 UV–vis diffuse reflection spectra of (a) TiO_2 (b) NH_2-MIL-125(Ti) and (c) NH_2-MIL-125(Ti)/TiO_2.

Table S1 Comparison of the analytical performance of different methods for acetochlor detection

Method	Linear range (mol L^{-1})	Detection limit (mol L^{-1})	Reference
MSPE-DLLM/GC[a]	3.7×10^{-10}~1.8×10^{-7}	4.0×10^{-11}	Bai et al., 2013
SPME/GC–MS[b]	3.7×10^{-10}~3.7×10^{-8}	4.0×10^{-12}	Xu et al., 2007
UPLC/MS/MS[c]	3.0×10^{-11}~1.9×10^{-10}	7.0×10^{-14}	Gervais et al., 2008
Photocatalytic- electrochemical sensor	5.0×10^{-7}~2.0×10^{-5}	2.0×10^{-10}	Jin et al., 2014
GOx/CS/NH_2-MIL-125(Ti)/TiO_2 biosensor	2.0×10^{-11}~1.0×10^{-9} 1.0×10^{-8}~2.0×10^{-7}	3.0×10^{-12}	This work

[a]MSPE-DLLM/GC: magnetic solid phase extraction-dispersive liquid liquid microextraction combined with gas chromatography

[b]SPME/GC–MS: solid-phase microextraction combined with gas chromatography with mass spectrometry

[c]UPLC/MS/MS: ultra-performance liquid chromatography combined with tandem mass spectrometry

REFERENCES

1 S.S. Bai, Z. Li, X.H. Zang, C. Wang, Z. Wang, Chin. *J. Anal. Chem.*, 2013. 41(8), 1177-1182.

2 G. Gervais, S. Brosillon, A. Laplanche, C. Helen, *J. Chromatogr. A*. 2008.1202(2), 163-172.

3 D.Q. Jin, Q. Xu, Y.J. Wang, X.Y. Hu, *Talanta.* 2014.127, 169-174.

4 X.Q. Xu, H.H. Yang, L. Wang, B. Han, X.R. Wang, F.S.C. Lee, *Anal Chim Acta.* 2007. 591(1), 81-96.