

Electronic Supplementary Information

A sensitive fluorescence assay of organophosphorus pesticides using acetylcholinesterase and copper-catalyzed click chemistry

*Nian Huang, Yingfeng Qin, Ming Li, Tianxing Chen, Meijie Lu and Jingjin Zhao**

Key Laboratory of Ecology of Rare and Endangered Species and Environmental Protection (Guangxi Normal University) , Ministry of Education, Guilin 541004, PR China

Supplementary Figure and Table

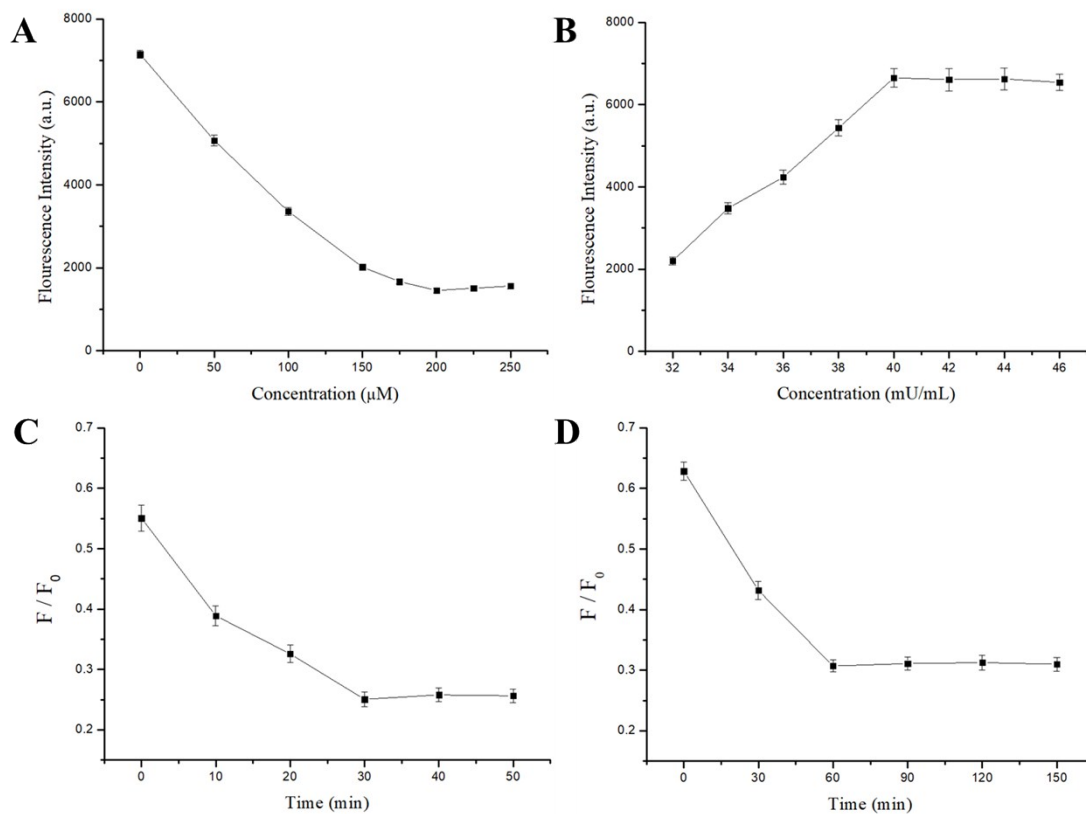


Figure S1. (A) Effect of Cu^{2+} concentration in click reaction, concentrations: 0, 50, 100, 150, 175, 200, 225, 250 (μM); (B) Effect of AChE concentration without omethoate, concentrations: 32, 34, 36, 38, 40, 42, 46 (mU/mL); (C) Effect of the incubation time between TCh and Cu^{2+} ; (D) Effect of the incubation time of the click reaction. Error bars were estimated from three replicate measurements.

Table S1. Comparisons of various detection methods for organophosphate pesticide

Organophosphate pesticide	Methods	Detection limit (ng/mL)	Reference
Chlorpyrifos	Fluorescence/Modification-free carbon dots	3	[1]
Dimethoate	Fluorescence/Rhodamine B (RB)-functionalized gold nanoparticles	4	[2]
Omethoate	Colorimetric/Acetylcholinesterase inhibition	277	[3]
Omethoate	Surface enhanced Raman scattering/Single aptamer and silver	5100	[4]
Omethoate	Visual screening card/Acetylcholinesterase inhibition	1000	[5]
Omethoate	Colorimetric/Au-aptamer	21	[6]
Omethoate	Colorimetric/Recombinant drosophila	100	[7]
Omethoate	Fluorescence/Copper click chemistry and AChE inhibition	1. 4	This work

1. B. X. Lin, Y. Yan, M. L. Guo, Y. J. Cao, Y. Yu, T. Y. Zhang, Y. Huang and D. Wu, *Food. Chem.*, 2018, 245, 1176-1182.
2. S. H. Hung, J. Y. Lee, C. C. Hu and T. C. Chiu, *Food. Chem.*, 2018, 260, 61-65.
3. N. B. Oujji, I. Bakas, G. Istamboulie, I. Ait-Ichou, E. Ait-Addi, R. Rouillon and T. Noguier, *Food. Control.*, 2014, 46, 75-80.
4. S. Pang, T. P. Labuza and L. He, *Analyst.*, 2014, 139, 1895-1901.
5. X. S. Guo, X. Y. Zhang, Q. Cai, T. Shen and S. M. Zhu, *Food. Control.*, 2013, 30, 15-23.
6. P. J. Wang, Y. Wan, A. Ali, S. Y. Deng, Y. Su, C. H. Fan and S. L. Yang, *Sci. China. Chem.*, 2016, 59, 237-242.
7. Z. Han, C. S. Chi, B. Bai, G. Liu, Q. X. Rao, S. J. Peng, H. Liu, Z. H. Zhao, D. B. Zhang, A. B. Wu, *Anal. Chim. Acta.*, 2012, 720, 126-133.