Supplementary information

An electrochemical sensor for pesticide assays based on carbon nanotube-enhanced acetylcholinesterase activity

Haode Chen\textsuperscript{a}, Xiaolei Zuo\textsuperscript{b}, Shao Su\textsuperscript{b}, Zhuzhao Tang\textsuperscript{a}, Aibo Wu\textsuperscript{a}, Shiping Song\textsuperscript{b}, Dabing Zhang*\textsuperscript{a}, Chunhai Fan*\textsuperscript{b}

\textsuperscript{a} College of Life Science and Biotechnology, Shanghai Jiao Tong University, Shanghai 200240, China;
\textsuperscript{b} Shanghai Institute of Applied Physics, Chinese Academy of Sciences, Shanghai 201800, China.

*To whom correspondence should be addressed. Fax: (+86)21-5955-6902; (+86)21-3420-4869. E-mail: fchh@sinap.ac.cn; zhangdb@sjtu.edu.cn.
Figure captions

Figure 1-S. Cyclic voltammogram for prussian blue with different MWNT loading, a) 20, b) 10 and c) 0 μg MWNT.

Figure 2-S. Cyclic voltammograms of AChE/PB (up panel) and AChE/MWNT/PB (down panel) sensors in a 25 mM phosphate buffer with pH 7.6, in the a) absence and b) presence of 1 mM ATCh. Scan rate: 50 mV/s.

Figure 3-S. The influence of different amount of MWNT in the electron transfer layer on the signal of MWNT-AChE/PB/MWNT biosensor with 4.8 mU enzyme loading: a) 20 μg, b) 10 μg, c) 0 μg.

Figure 4-S. The signal of MWNT-AChE/PB/MWNT biosensor on different enzyme loading. 5ul immobilization mixture per electrode consisted of 0.1% nafion, 1% BSA, 0.5 μg MWCNT and 4.8 (a), 3.2 (b), 1.6 (c) and 0.8 (d) mU of AChE. ATCh 150 mM, 25 mM PB pH 7.6.

Figure 5-S. Relative changes of eight sequential measurements of MWNT-AChE/PB/MWNT biosensor with 0.8 mU AChE loading. 1 mM ATCh , 25 mM PB pH 7.6.

Figure 6-S. The pH dependence of the MWNT-AChE/PB/MWNT sensor with 0.8 mU enzyme loading.

Figure 7-S. Signals of the MWNT-AChE/PB/MWNT sensor in response to DDV at different exposure time.
Figure 1-S

Figure 2-S