

Supplementary Materials

Highly-sensitive organophosphorous pesticide biosensors based on CdTe quantum dots and bi-enzyme immobilized eggshell membranes

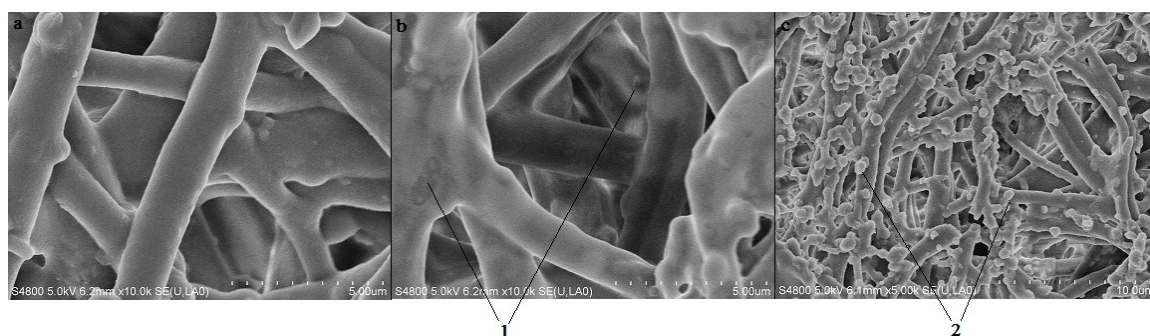


Fig. S1. Scanning electron micrographs of (a) eggshell membrane, (b) eggshell membrane immobilized with CdTe QDs and (c) eggshell membrane immobilized with CdTe QDs and bi-enzyme. (1), protein fiber immobilized with QDs; (2), protein fiber immobilized with enzyme.

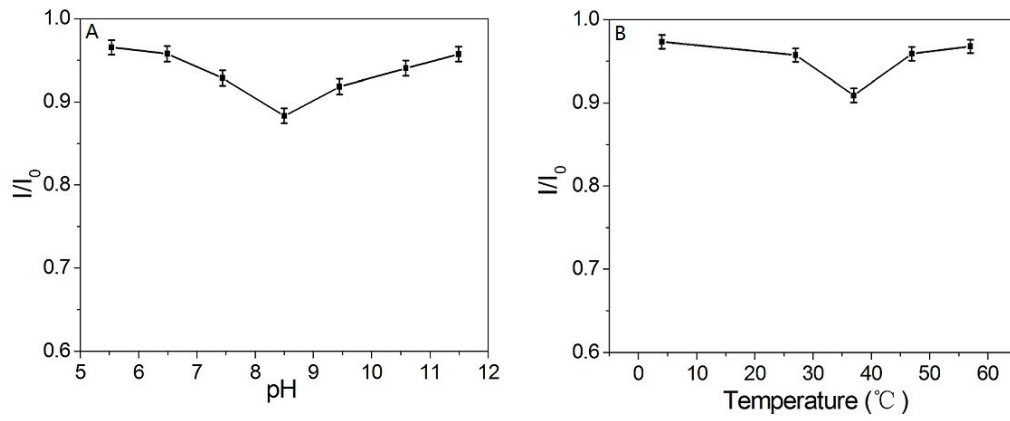


Fig. S2. The effect of pH and temperature on the fluorescence quenching of the ESM/QDs/ChOx/AChE multilayers in the absence and presence of ACh. I_0 and I represent the fluorescence intensity of the ESM/QDs/ChOx/AChE multilayers before and after incubating with ACh for 10 min, respectively.

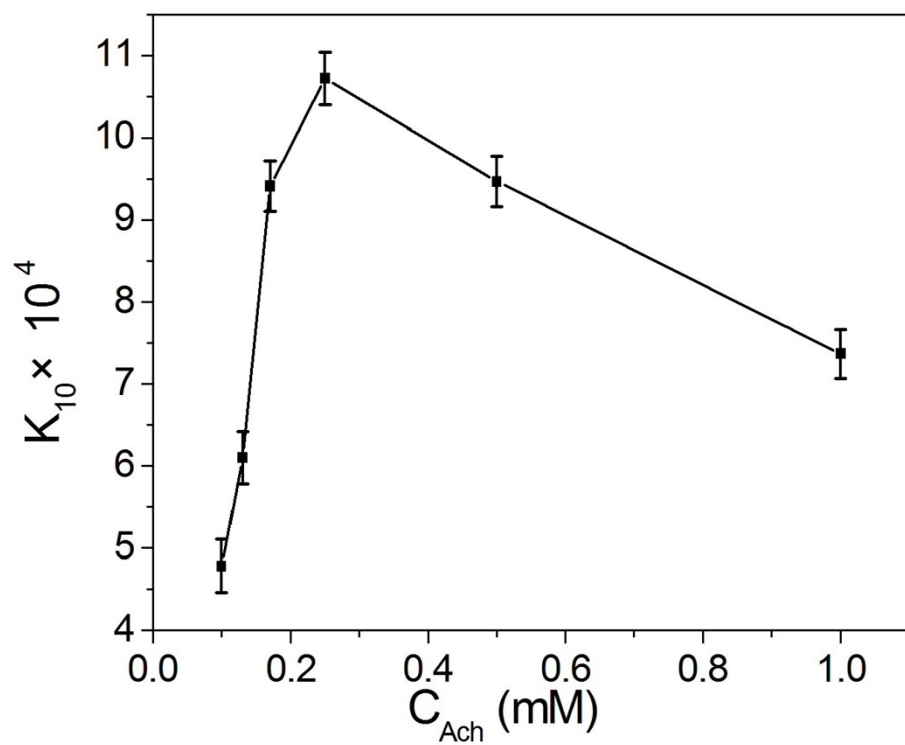


Fig. S3. Absolute quenching rate of the fluorescence intensity of the ESM/QDs/ChOx/AChE multilayers at 610 nm within 10 min as a function of ACh concentration.

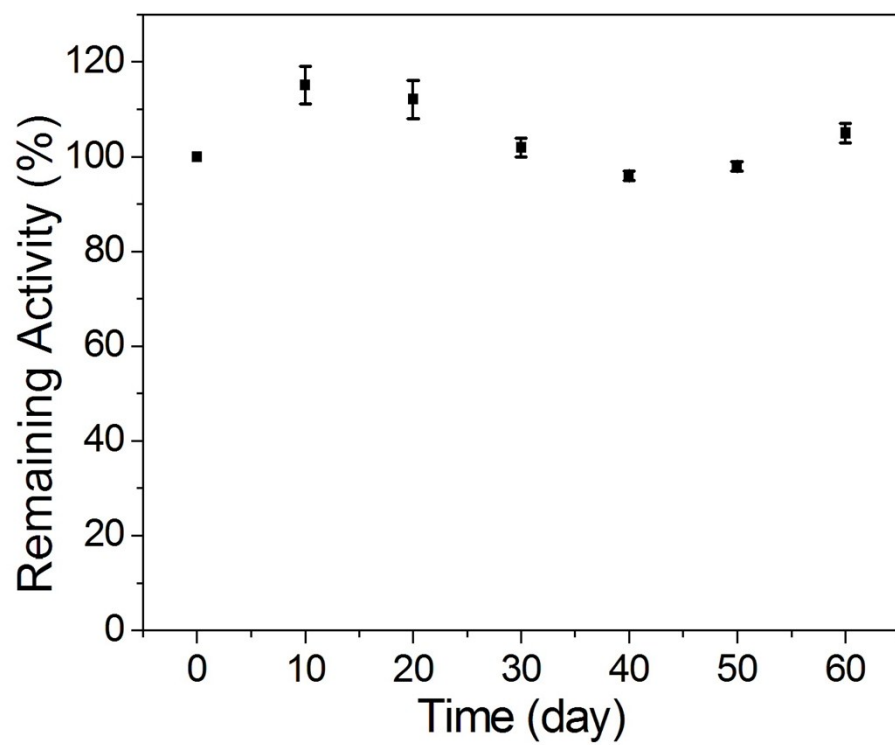


Fig. S4. Stability of the ESM/QDs/ChOx/AChE multilayers.