Electronic Supplementary Information (ESI)

Acetylcholinesterase (AChE)-mediated immobilization of silver nanoparticles for the detection of organophosphorus pesticides

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Fig. S1 UV–visible spectra for as-synthesized AgNPs in colloidal solution.

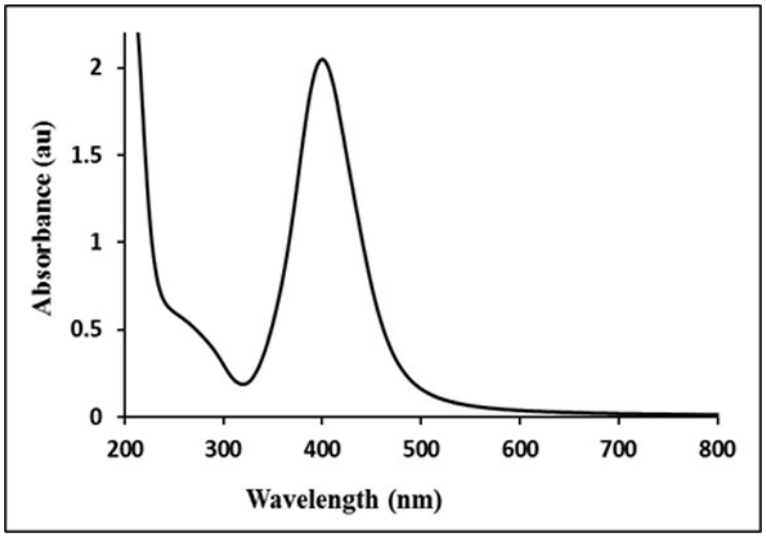

Fig. S2 Absorbance spectra of glass supports in absence of AgNPs with (A) 10 % of APTES alone, (B) APTES 10 %, ATCh 1 mM, AChE 0.1 mU mL^{-1}, and (C) in the presence of malathion 1 µM.

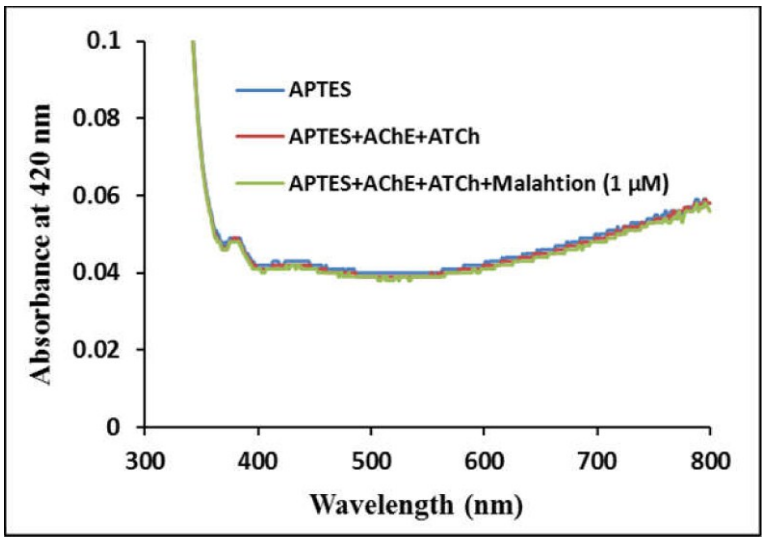

Fig. S3 Absorbance spectra of AgNPs immobilized on glass surface with different time intervals.

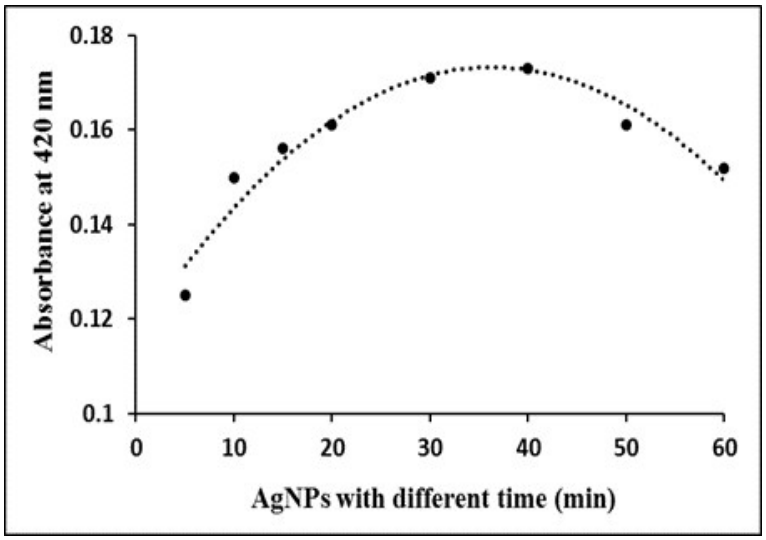

Fig. S4 Absorbance spectra of AgNPs immobilized on glass surface in presence of preincubated ATCh (1 mM), AChE (0.1 mU mL^{-1}), and malathion 1 μM with different time intervals.

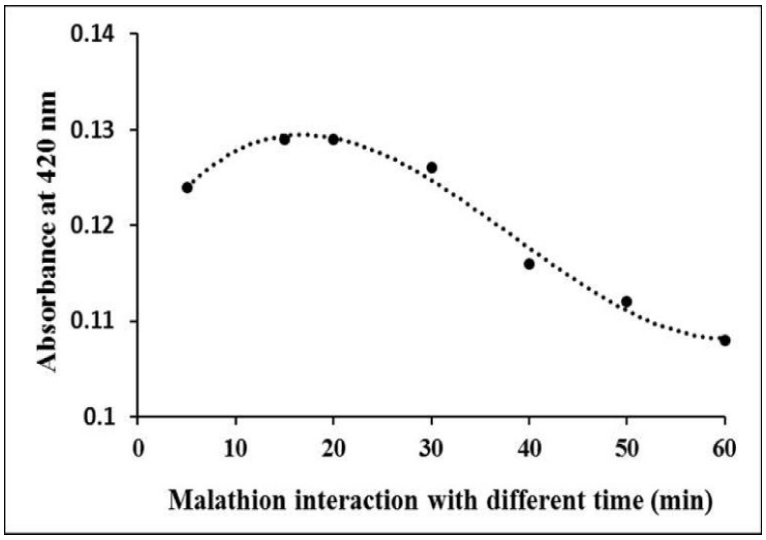

Fig. S5 Photograph of (A) immobilization of enzyme (AChE and ATCh) on AgNPs (B) immobilization of enzyme on AgNPs in presence of malathion (10 nM).

Table S1. Estimation of thiocholine production by acetylcholinesterase using Ellman's method.

Preincubation time for reaction mixture of both AChE (0.1 mU) and ATCh (1 mM)	Substrate hydrolyzed in suspension condition (mM)	Substrate hydrolyzed in Immobilized condition (mM)
0 min (before preincubation)	0.094×10^{-4}	0.105×10^{-4}
20 min (preincubation time)	0.116×10^{-4}	0.296×10^{-4}
30 min (after preincubation)	0.162×10^{-4}	0.335×10^{-4}