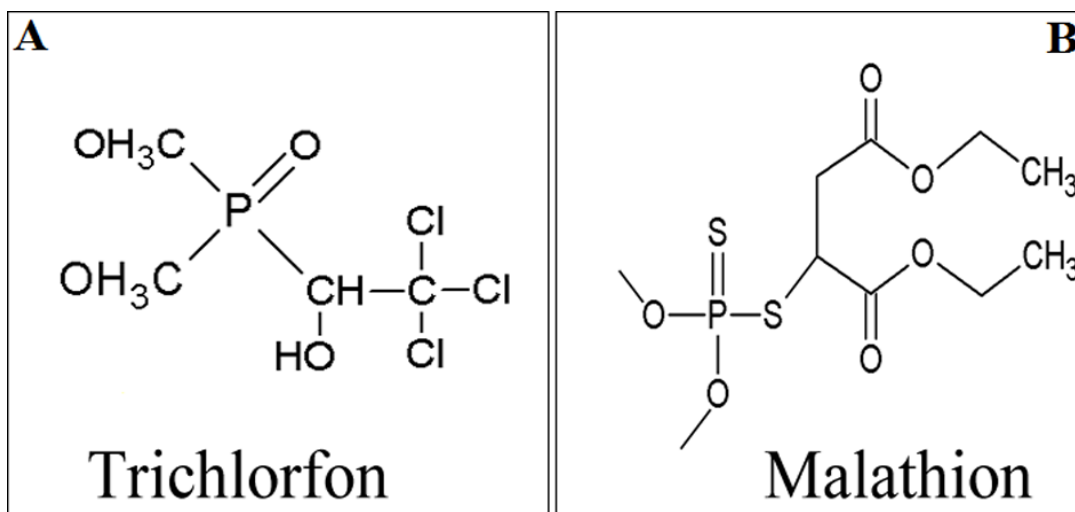


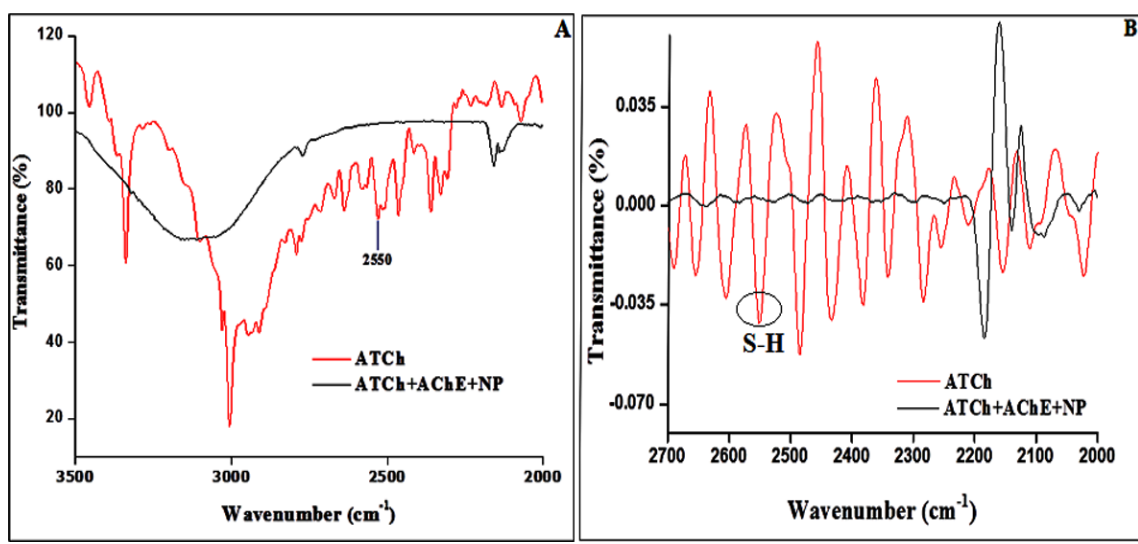


20 **Fig. S1.** Chemical structures of **A)** Trichlorfon and **B)** Malathion



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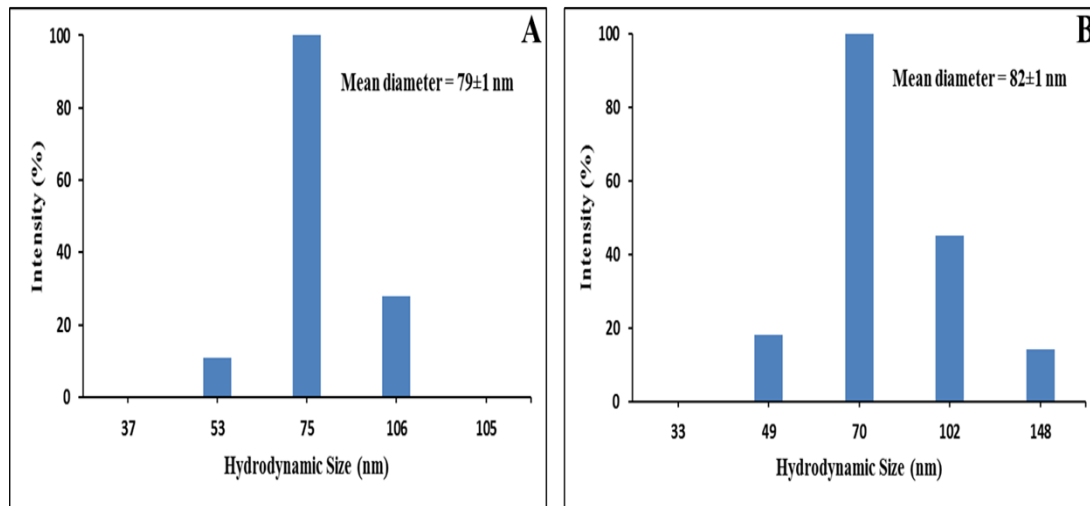
22 **Fig. S2. A)** FT-IR spectra of acetylthiocholine before and after interaction with citrate capped  
23 AgNPs and **B)** its secondary derivative spectra.



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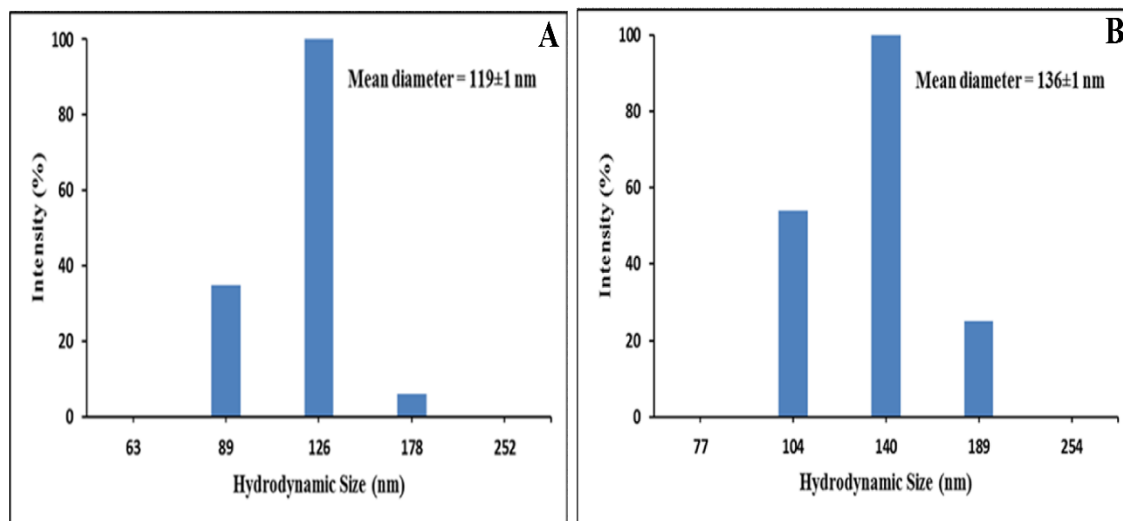
26 **Fig. S3.** Particle size distribution of AgNPs formed in the system containing AgNO<sub>3</sub> (1 mM),  
27 Na<sub>3</sub>C<sub>6</sub>H<sub>5</sub>O<sub>7</sub> (1 %), NaBH<sub>4</sub> (10 mM) **A)** AChE (100 mU mL<sup>-1</sup>) alone and **B)** ATCh (0.1 mM)  
28 alone.



29

30 **Fig. S4.** Particle size distribution of AgNPs formed in the system containing AgNO<sub>3</sub> (1 mM),  
31 Na<sub>3</sub>C<sub>6</sub>H<sub>5</sub>O<sub>7</sub> (1 %), NaBH<sub>4</sub> (10 mM), AChE (100 mU mL<sup>-1</sup>), ATCh (0.1 mM) with **A**) trichlorfon  
32 (1 nM) and **B**) malathion (1 nM).

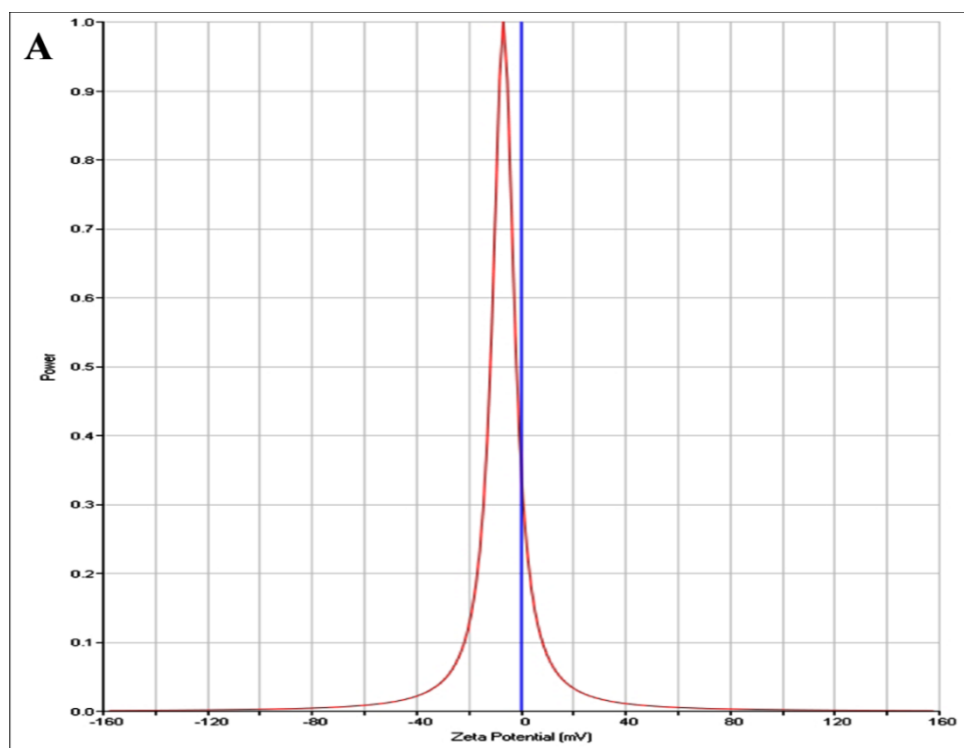
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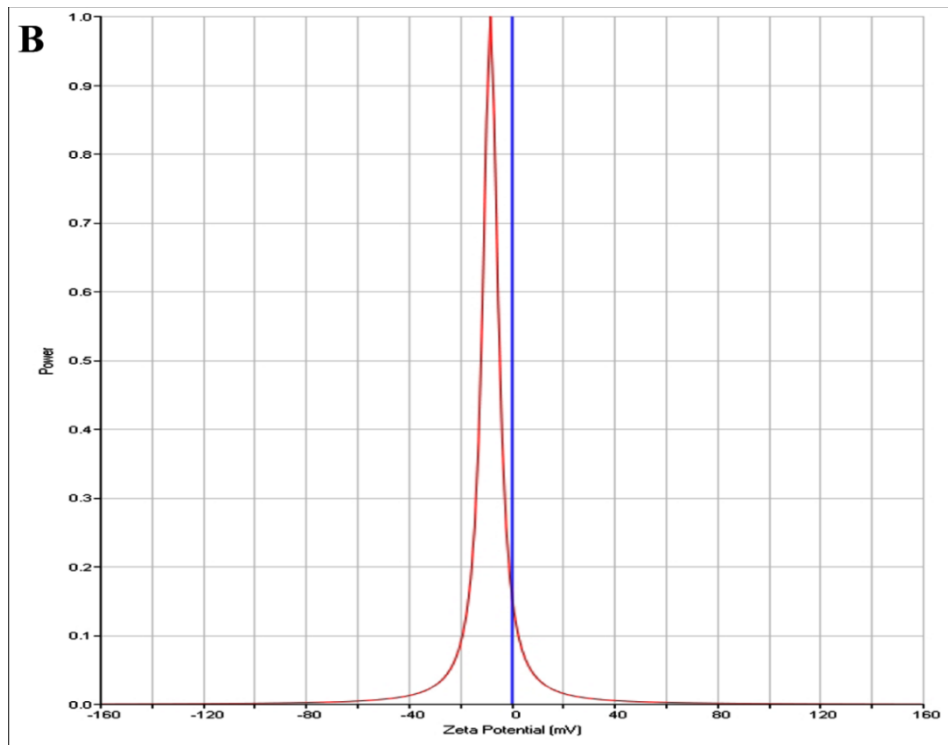
34

35 **Fig. S5.** Zeta potential value of AgNPs formed in the system containing AgNO<sub>3</sub> (1 mM),  
36 Na<sub>3</sub>C<sub>6</sub>H<sub>5</sub>O<sub>7</sub> (1 %), NaBH<sub>4</sub> (10 mM), AChE (100 mU mL<sup>-1</sup>) and ATCh (0.1 mM) with **A)**  
37 trichlorfon (1 nM) and **B)** malathion (1 nM) respectively.

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42 **Table S1.** Effect of interferences in unspiked real samples in comparison with Milli-Q water.

Sample	A0 (unspiked Real samples)	A0 (Milli-Q water)	Standard error
Agricultural runoff water	0.367	0.401	0.017
Apple	0.369	0.401	0.016
Cabbage	0.359	0.401	0.021

43