Supporting materials

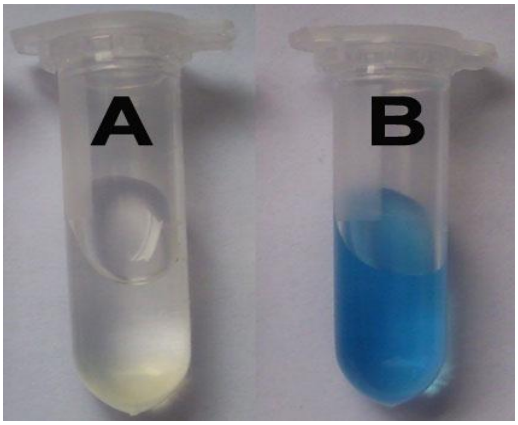

Figure S1 The photographs of ferric solution of pH 2.20 after mixing with 0.01mM ferrocyanide solution prepared with PBS (A) and deionized water (B).

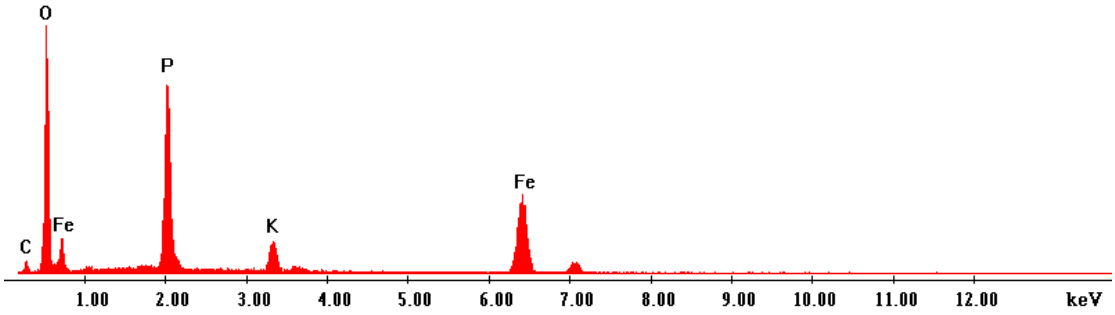

Figure S2 EDS data of the precipitate obtained by mixing ferric solution of pH 2.20 and 0.01mM ferrocyanide solution prepared with PBS.

Obviously, PB can be formed by mixing the ferric solution of pH 2.20 with 0.01 M ferrocyanide solution prepared with deionized water, as shown in Figure S1. In contrast, when the ferrocyanide solution was prepared with PBS, some light yellow precipitate but not PB can be obtained, indicating PBS can prevent the PB formation. Energy dispersive X-ray spectroscopy (EDS) was used to characterize the chemical composition of the resultant precipitate. The atomic Fe/P ratio is determined to be 1:1.06, demonstrating the precipitate is mainly ferric phosphate. Moreover, mixing ferric solution of pH 0.80 with the ferrocyanide solution prepared with PBS resulted

in a blue solution, indicating the formation of ferric phosphate is pH-dependent. However, mixing ferric solution of pH 0.8 with PBS solution can still provide ferric phosphate precipitate, suggesting the formation of ferric phosphate is also ferrocyanide concentration-dependent, which is more obvious according the Figure 2B in paper. When the pH value of ferric solutions decreased to 0.08, no ferric phosphate can be obtained even by mixing with PBS solution.

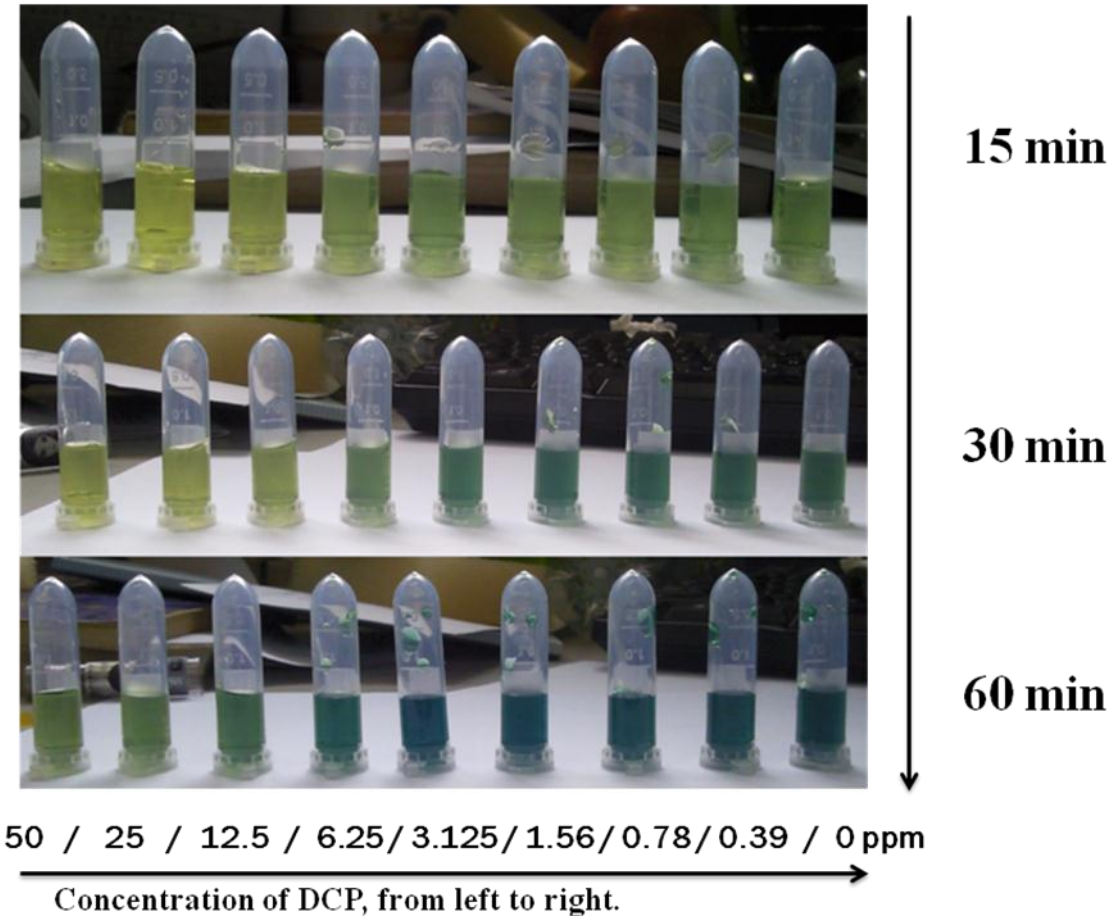

Figure S3. Photographs of DCP-spiked samples at 15, 30 and 60-min incubation

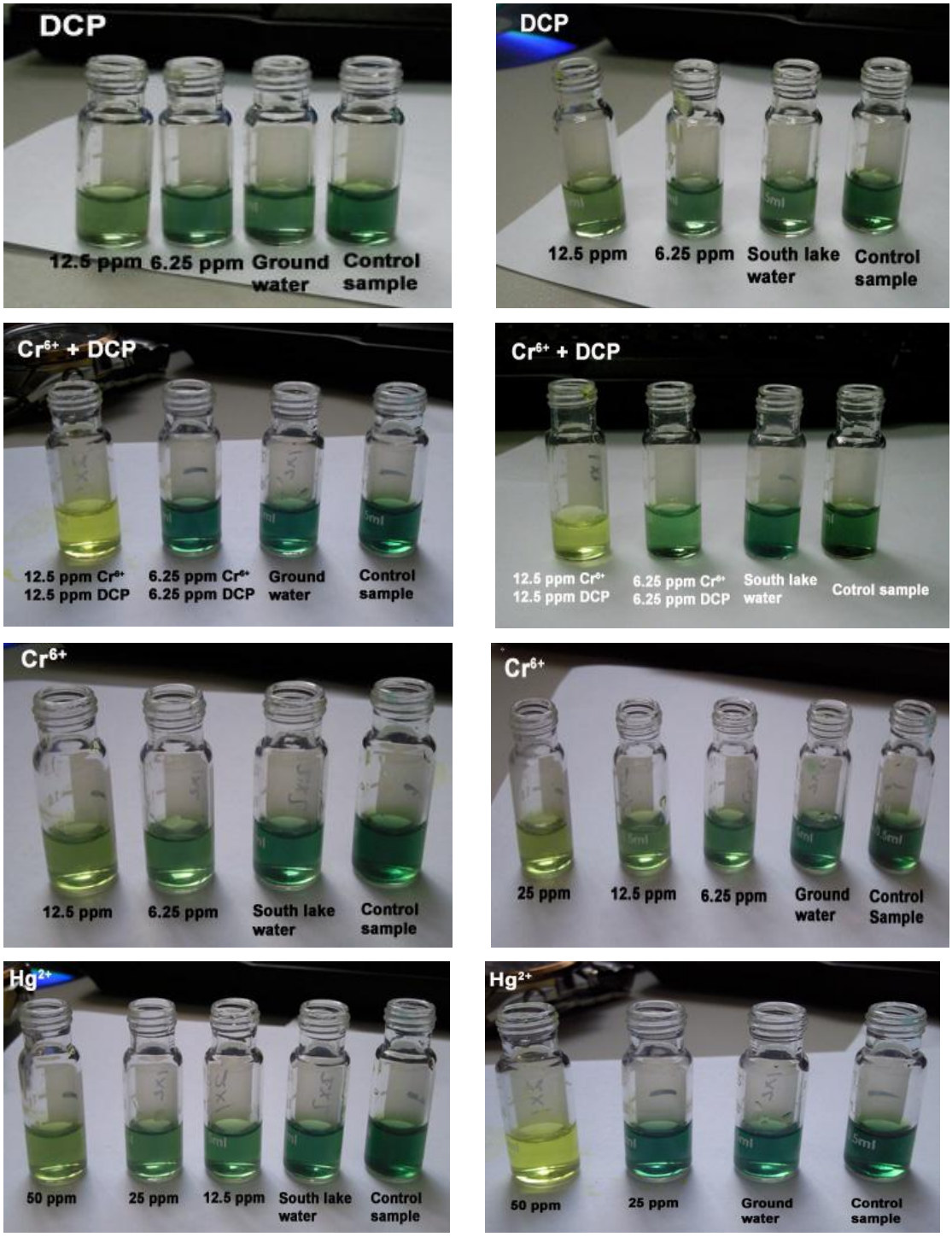

Figure S4 the photographs of the tests of the groundwater and south lake water polluted by various concentrations of toxicants.

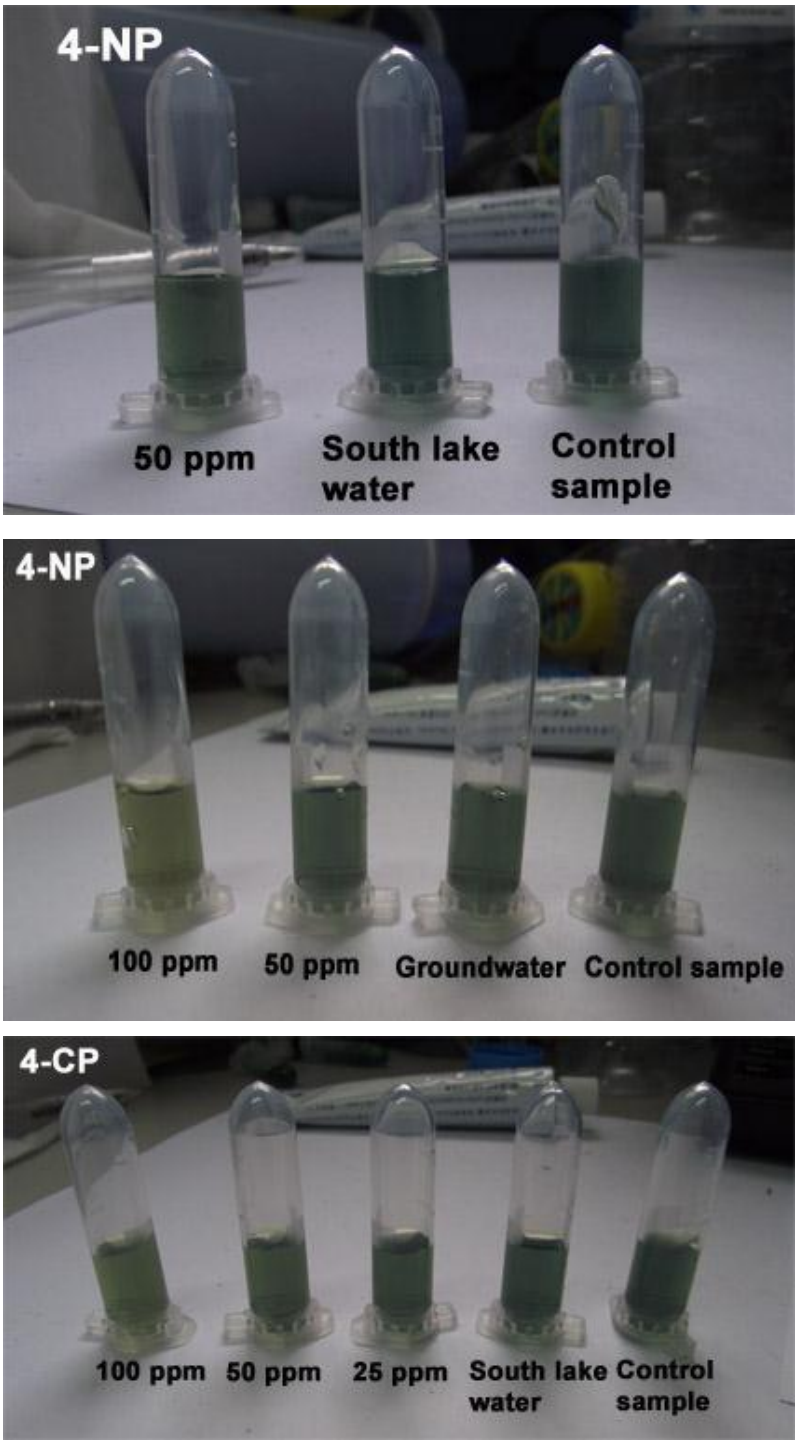

Figure S5 the photographs of the tests of the groundwater and south lake water polluted by various concentrations of toxicants. 4-NP is 4-nitrophenol, and 4-CP 4-chlorophenol.