Electronic Supplementary Material (ESI) for Analytical Methods.

Electronic Supporting Information

Investigation of the adsorption behaviour of different types of dyes on MIL-100(Fe) and their removal from natural water

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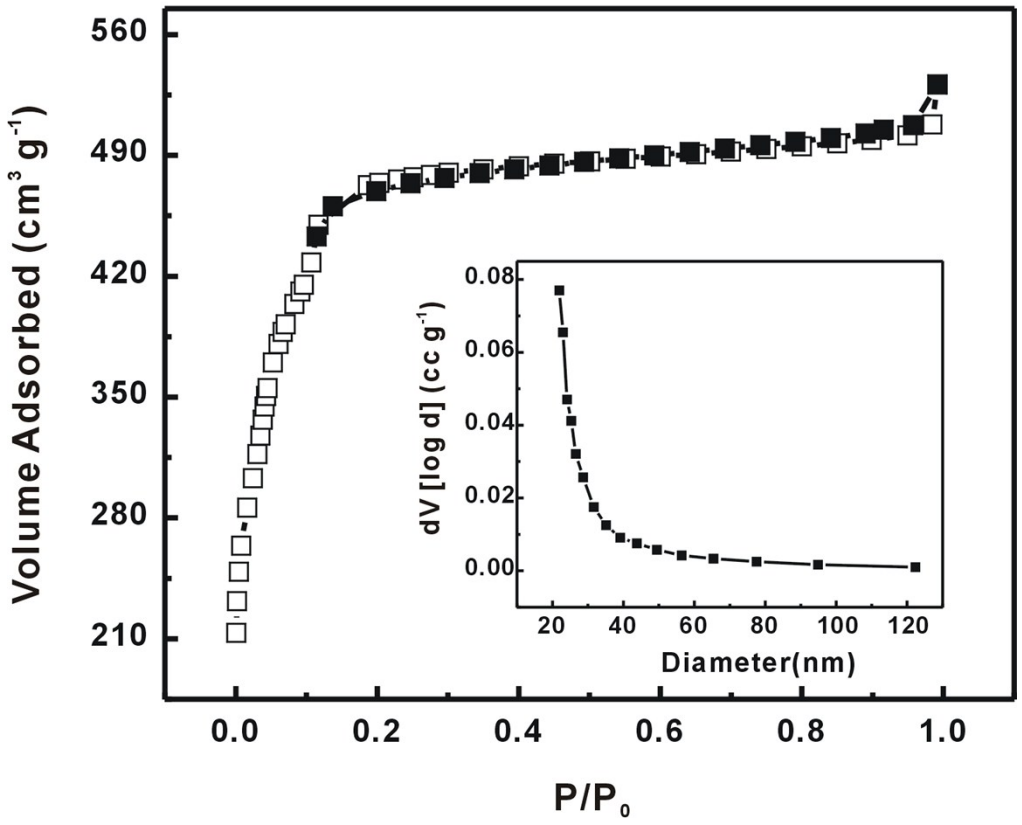

Figure S1. N_2 adsorption-desorption isotherms (left) and the pore size distribution (right) of the as-synthesized MIL-100.

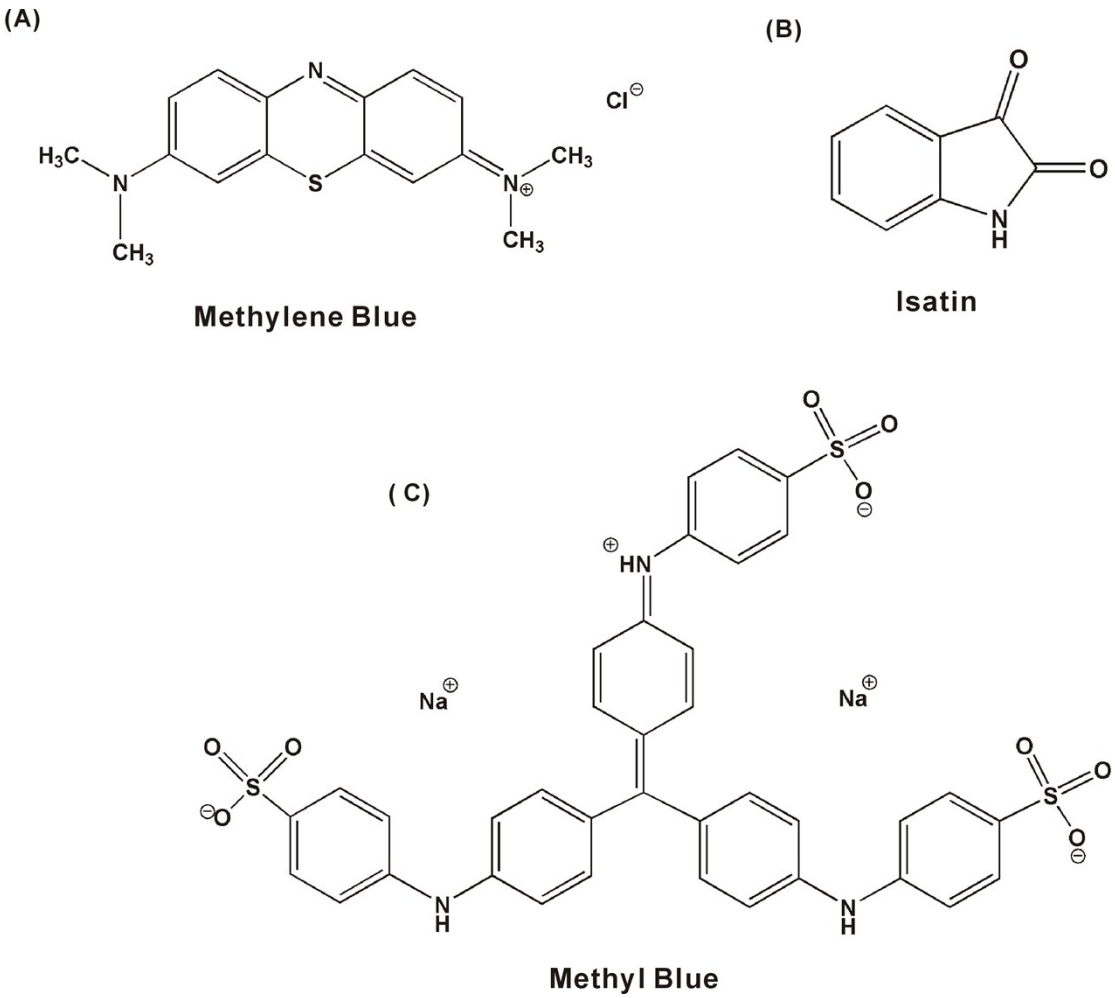

Figure S2. The structures of Methylene Blue (A), Isatin (B) and Methyl Blue (C).

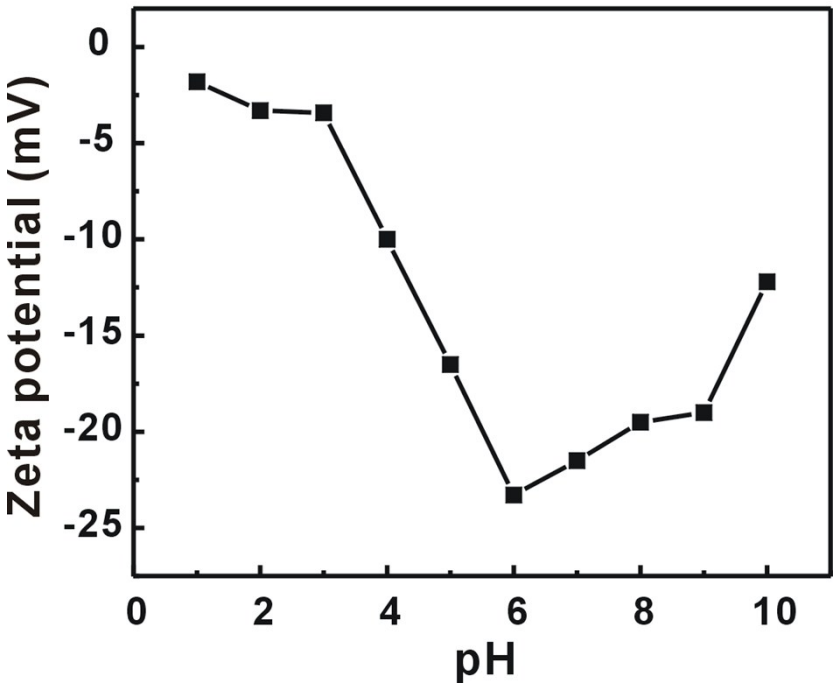

Figure S3. Zeta potentials of MIL-100(Fe) in ultrapure water under various pH at room temperature.

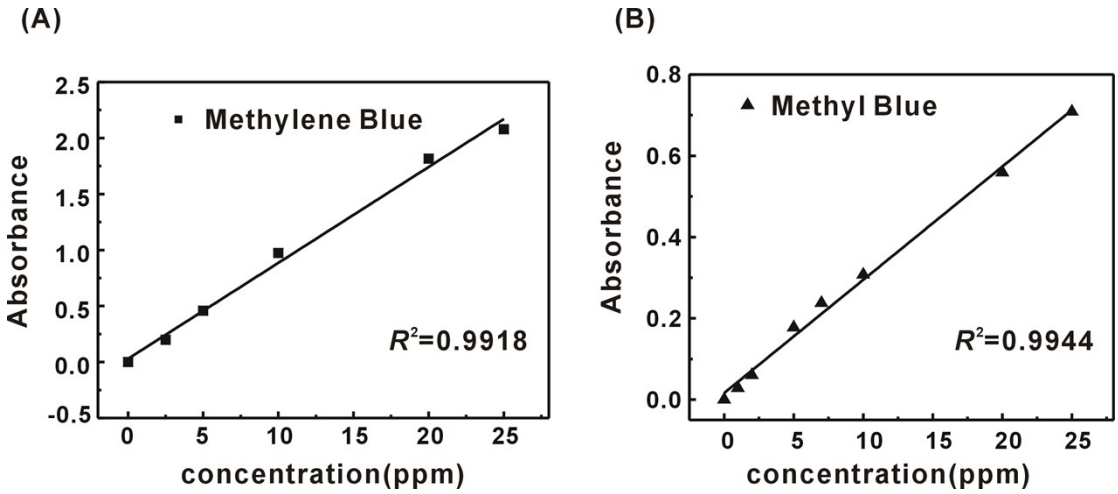

Figure S4. The plots of absorbance *vs* concentration of dyes (A) Methylene Blue and (B) Methyl Blue.

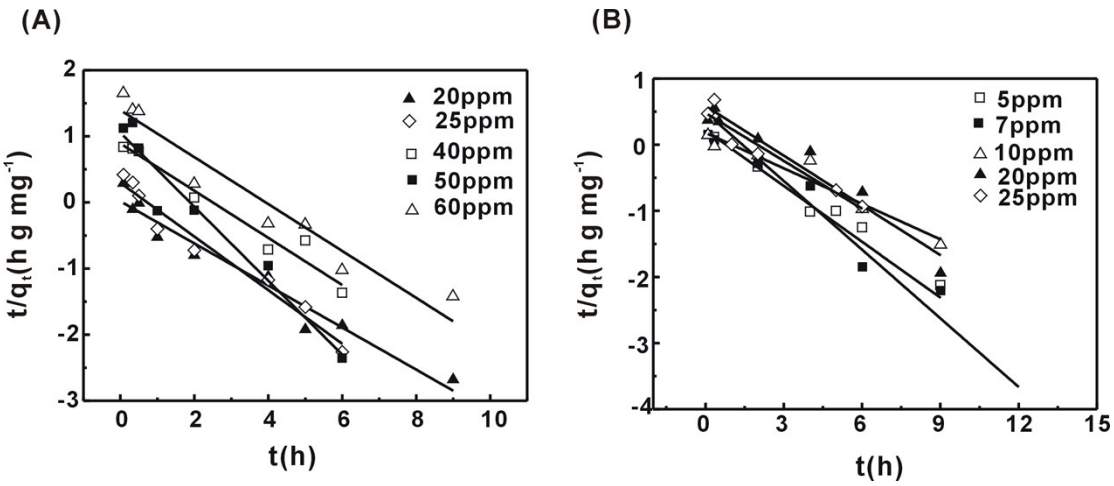

Figure S5. Plots of pseudo-first-order kinetics for the adsorption of Methylene Blue(A) and Methyl Blue(B) at different initial concentrations on MIL-100(Fe) at room temperature and pH 6.0.

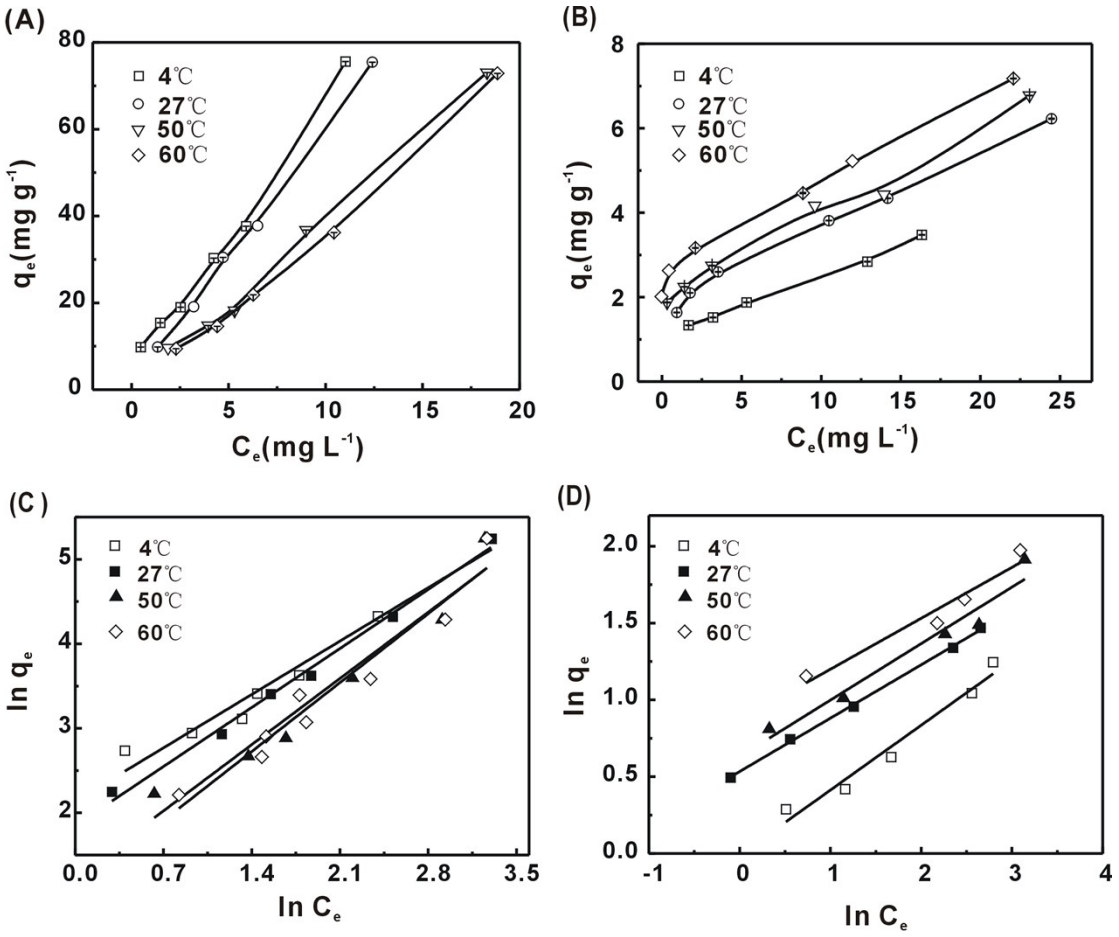

Figure S6. Adsorption isotherms for the adsorption of (A) Methylene Blue and (B) Methyl Blue on MIL-100(Fe) in the temperature range of 4−60°C. And the corresponding Freundlich plots for (C) Methylene Blue and (D) Methyl Blue.

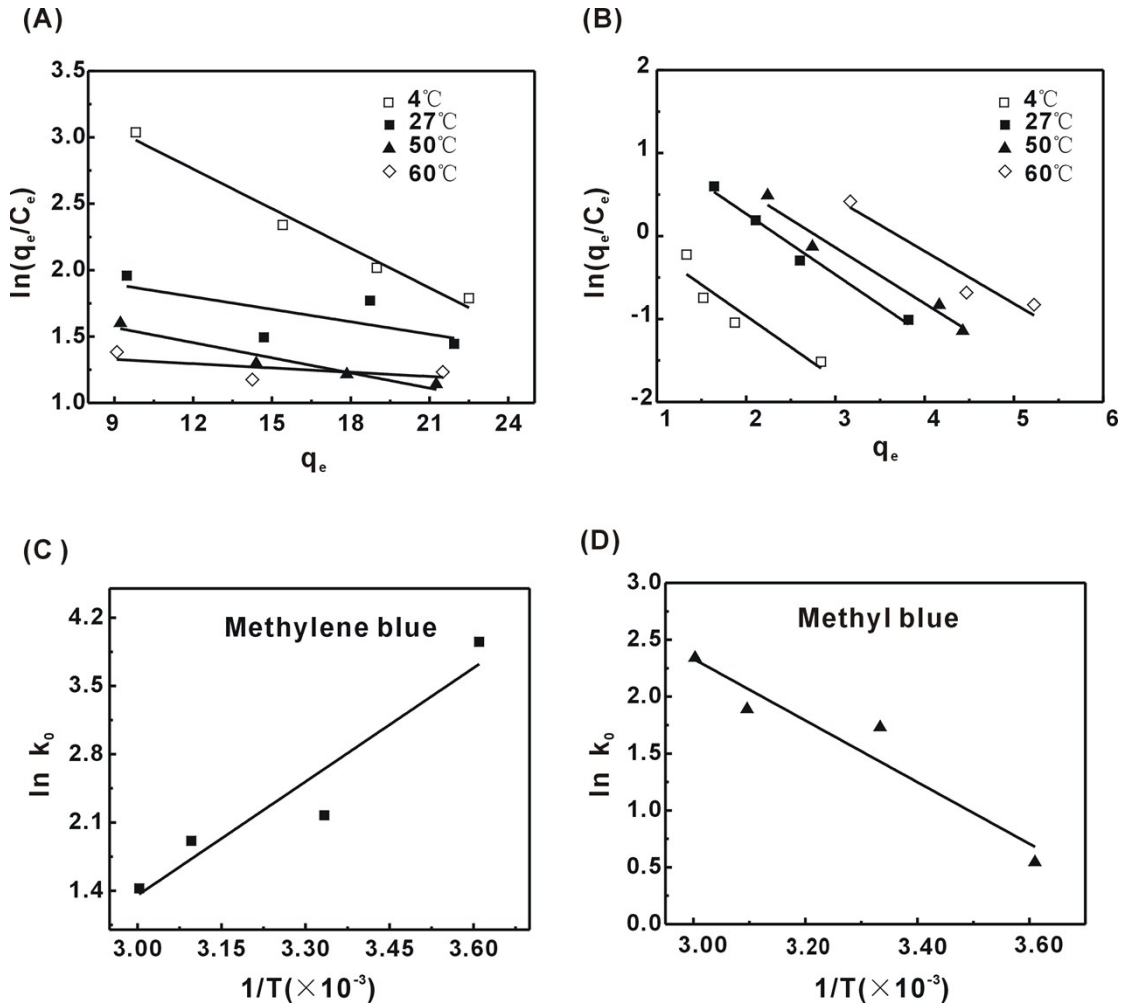

Figure S7. Plots of $\ln(q_e/C_e)$ *vs* q_e at various temperatures and $\ln K_0$ against 1/T for the adsorption of Methylene Blue(A, C) and Methyl Blue(B, D) on MIL-100(Fe).

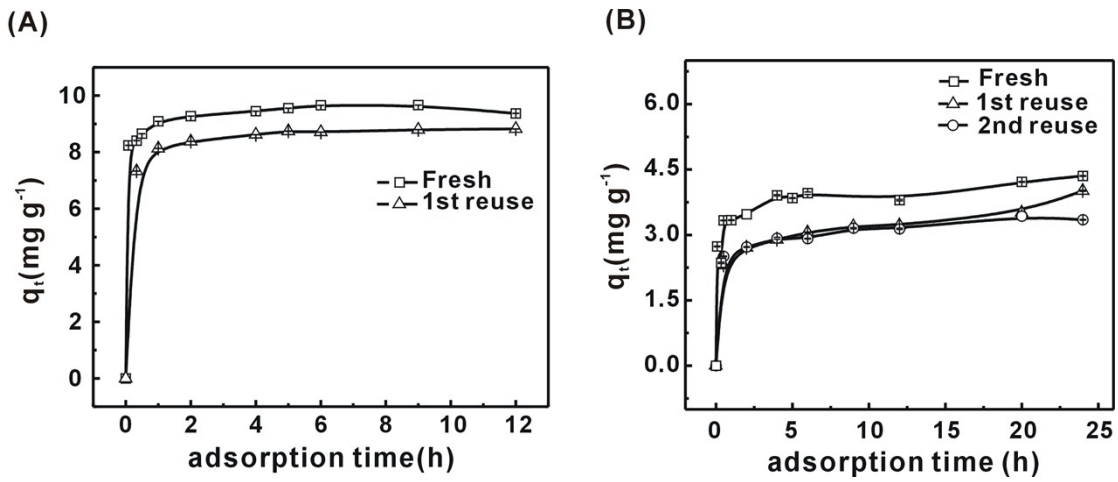

Figure S8. Time-dependent adsorption capacity of Methylene Blue and Methyl Blue on fresh and regenerated MIL-100(Fe).

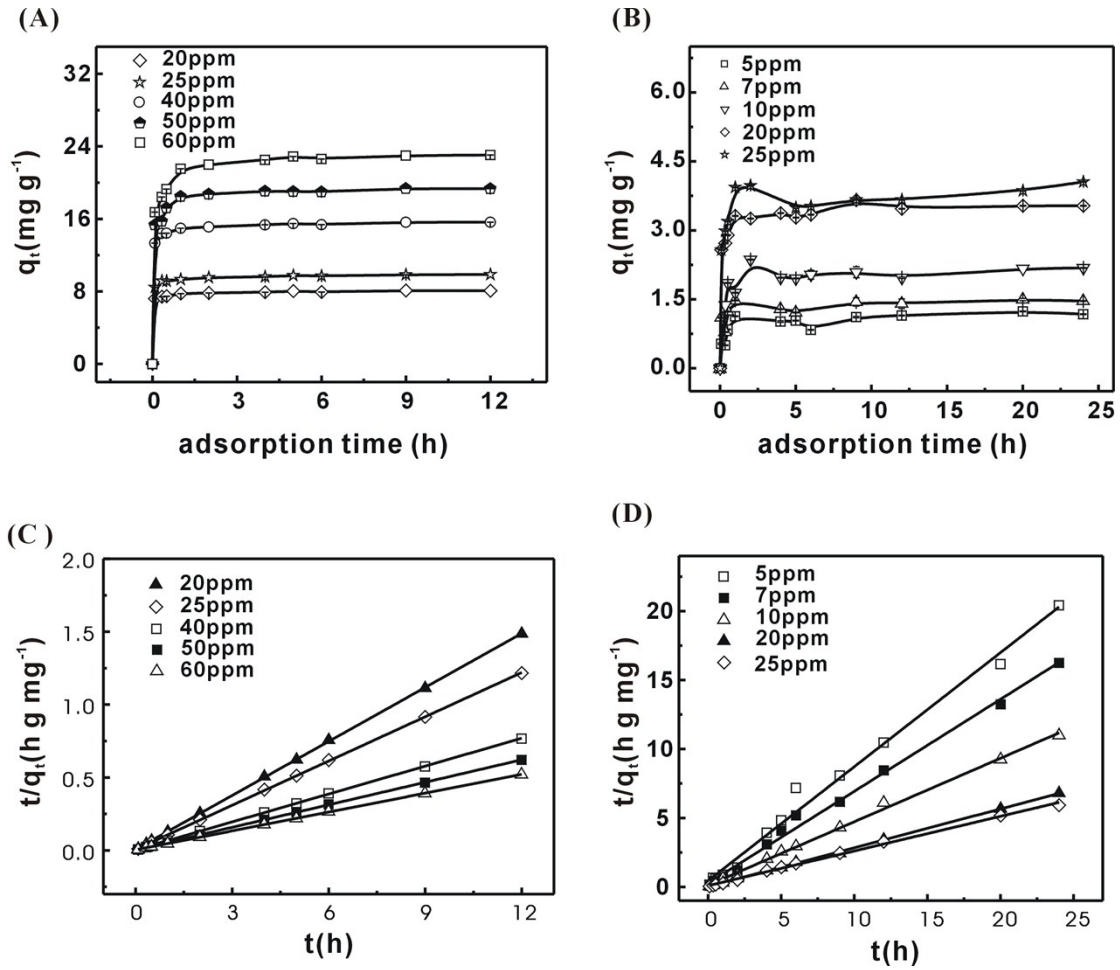

Figure S9. Time-dependent adsorption of Methylene Blue(A) and Methyl Blue(B) on MIL-100(Fe) in rainwater. And the plots of pseudo-second-order kinetics for the adsorption of Methylene Blue (C) and Methyl Blue (D) at different initial concentrations at room temperature.

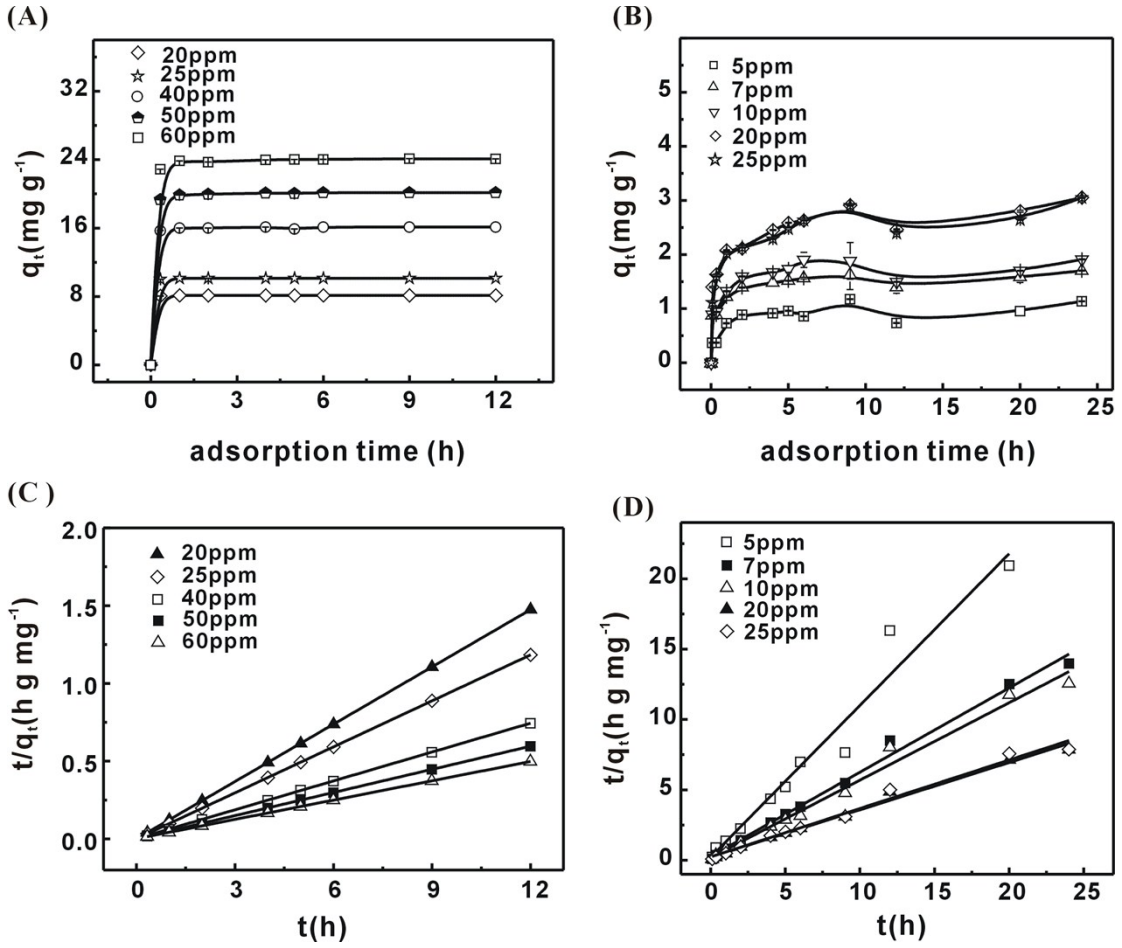

Figure S10. Time-dependent adsorption of Methylene Blue(A) and Methyl Blue(B) on MIL-100(Fe) in river water. And the plots of pseudo-second-order kinetics for the adsorption of Methylene Blue (C) and Methyl Blue (D) at different initial concentrations at room temperature.