High-Capacity Strong Cation Exchanger Prepared From An Inactivated Immobilized Enzyme And Its Application To The Removal Of Methylene Blue From Water

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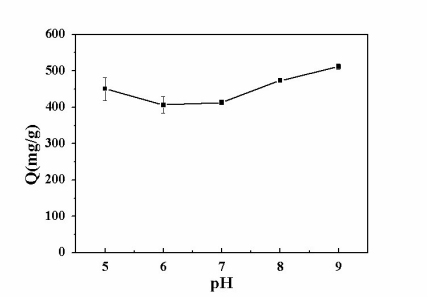

Fig. S1. Effect of pH on the adsorption of MB

(Initial MB concentration: 2 g/L; adsorbent dosage: 2 g/L; temperature: 298±2 K; equilibrium time : 30 min)

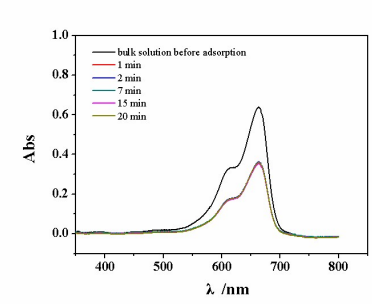

Fig. S2. Spectral changes before and after adsorption

(Initial MB concentration: 2 g/L; adsorbent dosage: 2 g/L; pH 7.0; temperature: 298±2 K; Spectra were traced after diluted the solutions 625-fold.)

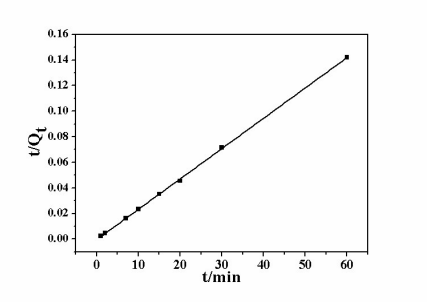

Fig. S3. Pseudo- second order kinetics for adsorption of MB

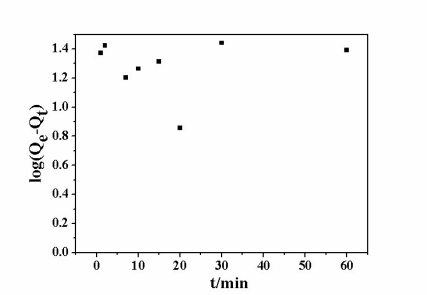

Fig. S4. Pseudo-first order kinetics for adsorption of MB

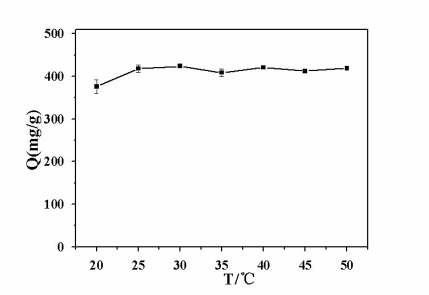

Fig. S5. Effect of temperature on the adsorption of MB

(Initial MB concentration, 2 g/L; adsorbent dose, 2 g/L; pH 7.0; adsorption time, 1 min.)

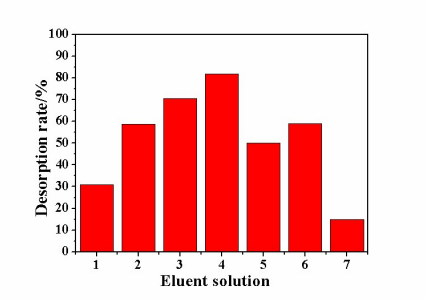

Fig. S6. Desorption of Adsorbed dyes from cation exchanger in varying composition of eluent solution

(Initial MB concentration, 2 g/L; adsorbent dose, 2 g/L; pH 7.0; temperature, 298 K±2)

1, 1 mol/L HCl + 30% ethanol ; 2, 2 mol/L HCl + 30% ethanol;

3, 3 mol/L HCl + 30% ethanol; 4, 5 mol/L HCl + 30% ethanol;

5, 1 mol/L HCl + 50% ethanol; 6, 1 mol/L HCl +70% ethanol;

7, 1 mol/L HCl + 1 mol/L NaCl