

Supplementary information

Immobilization of lysozyme proteins on a hierarchical zeolitic imidazolate framework (ZIF-8)

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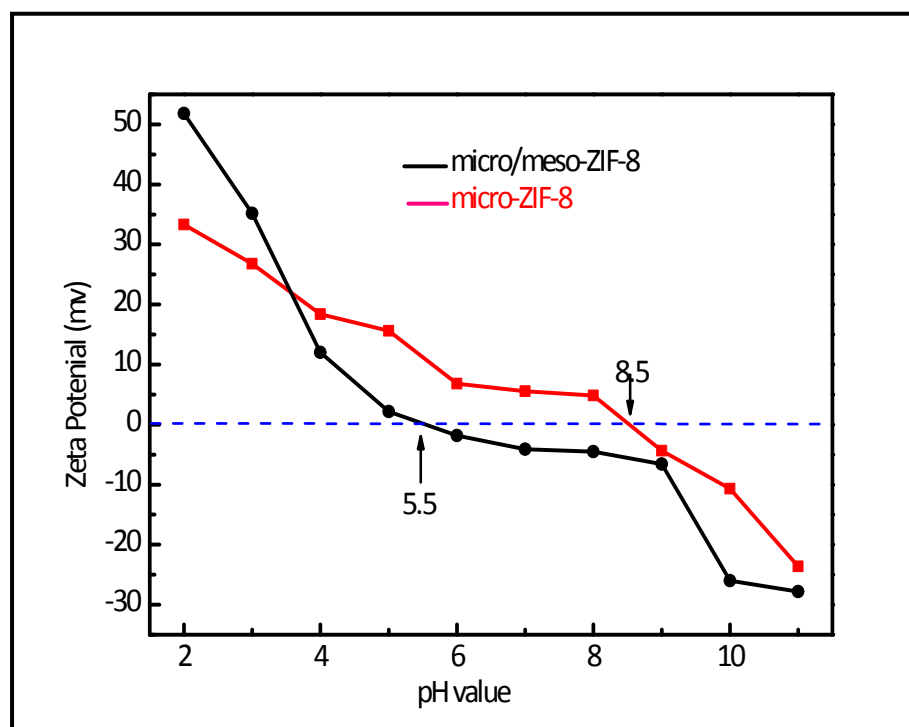


Fig. S1 Surface zeta potential versus different pH values of micro/meso-ZIF-8 and meso-ZIF-8

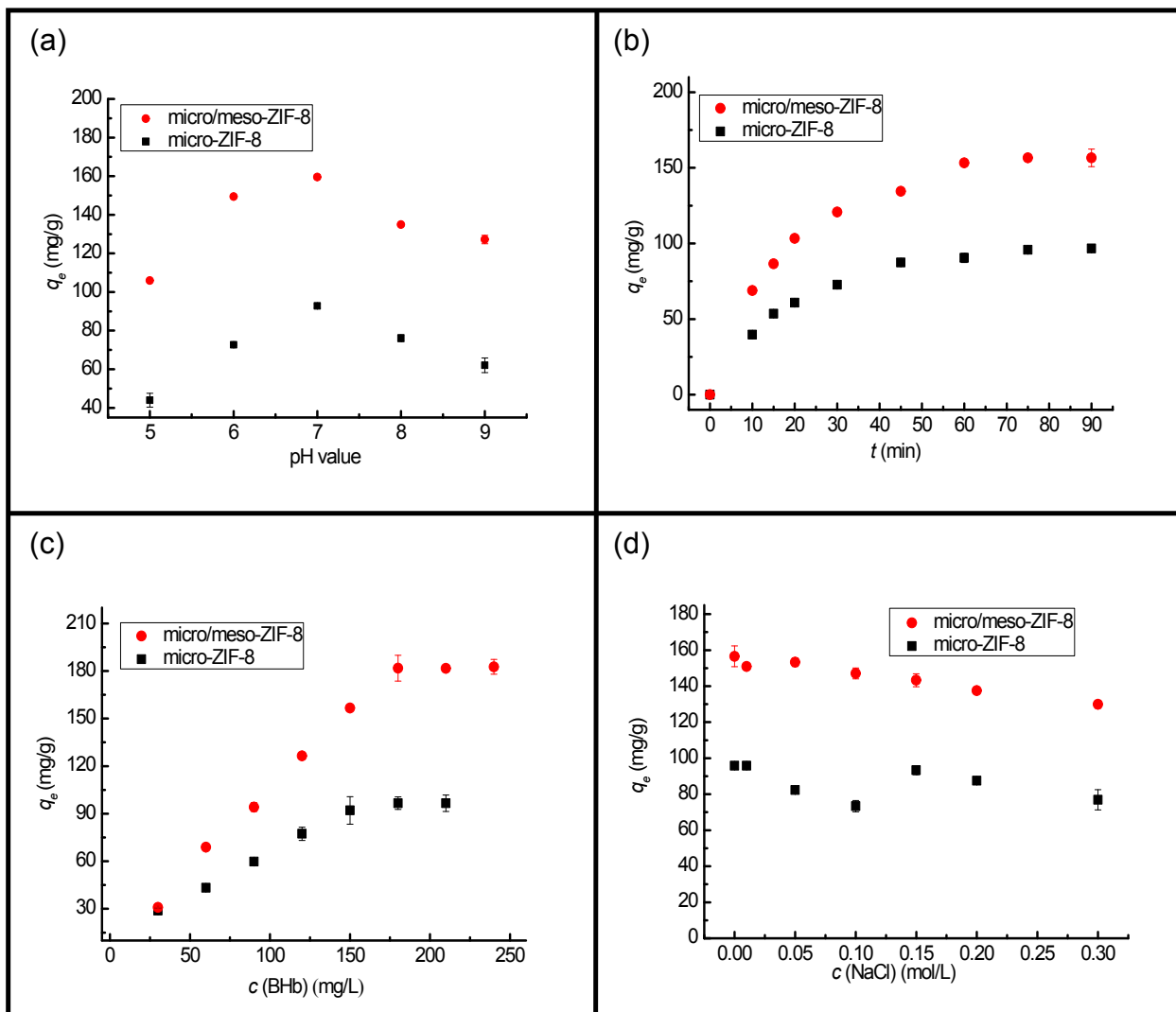


Fig. S2 The batch adsorption tests of BHb on both ZIF-8 adsorbents under different conditions. (a) The adsorption capacity versus different pH values, adsorption conditions: c (BHb)= 150 mg/L, t =90min; (b) Adsorption kinetics, adsorption conditions: c (BHb)= 150 mg/L, pH=7; (c) Adsorption isotherms, adsorption conditions: pH=7, t =90min; (d) The effect of ionic strength, adsorption conditions: c (BHb)= 150 mg/L, t =90min, pH=7.

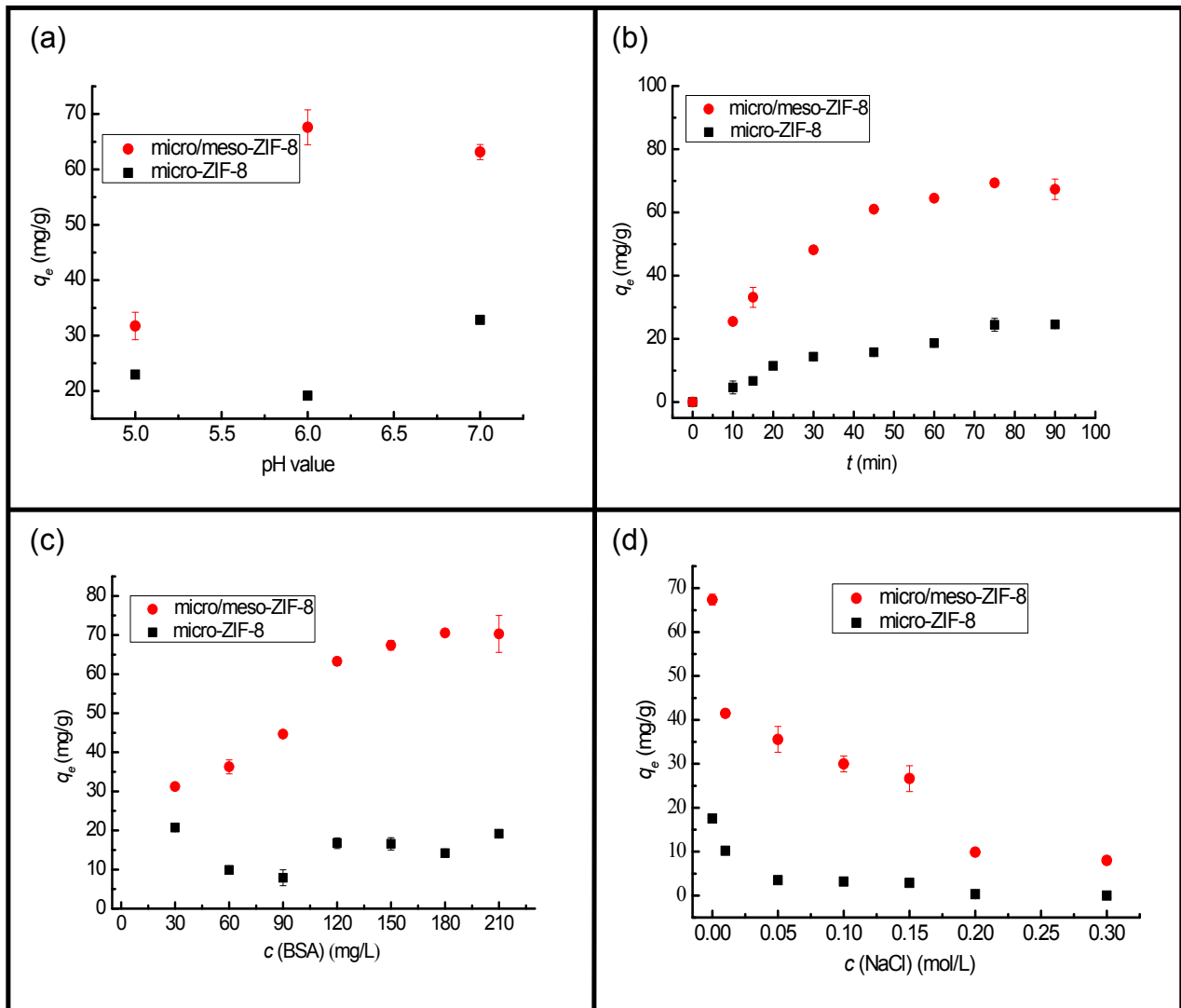


Fig. S3 The batch adsorption tests of BSA on both ZIF-8 adsorbents under different conditions. (a) The adsorption capacity versus different pH values, adsorption conditions: $c(\text{BSA})= 150 \text{ mg/L}$, $t=90\text{min}$; (b) Adsorption kinetics, adsorption conditions: $c(\text{BSA})= 150 \text{ mg/L}$, $\text{pH}=6$; (c) Adsorption isotherms, adsorption conditions: $\text{pH}=6$, $t=90\text{min}$; (d) The effect of ionic strength, adsorption conditions: $c(\text{BSA})= 150 \text{ mg/L}$, $\text{pH}=6$, $t=90\text{min}$.

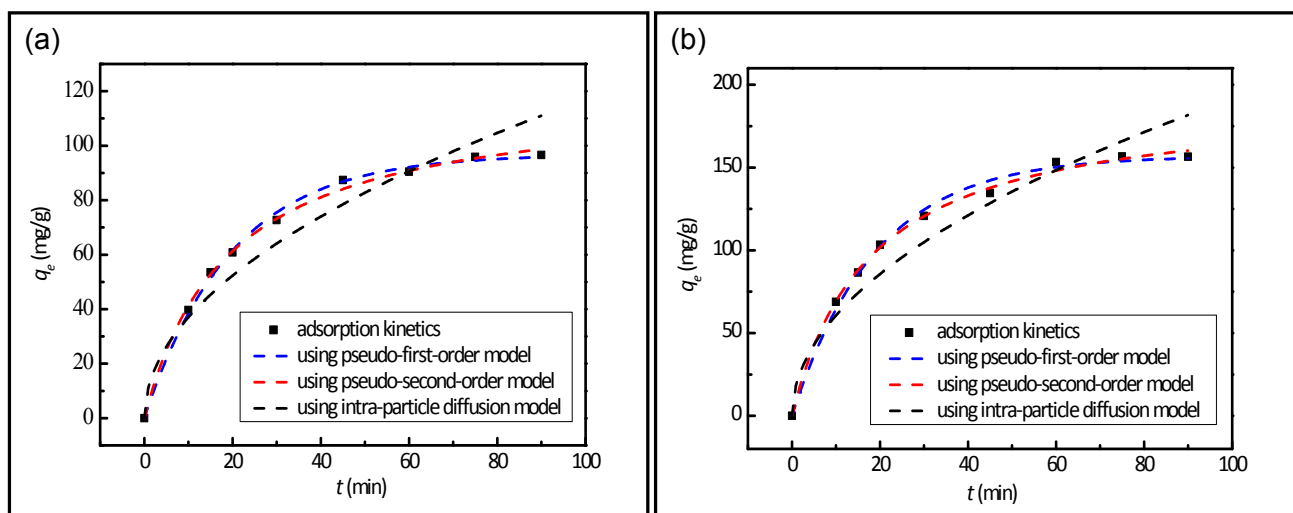


Fig. S4 The fitting curves of the adsorption kinetic data of BHB on micro-ZIF-8 (a) and micro/meso-ZIF-8 (b) using the kinetics models.

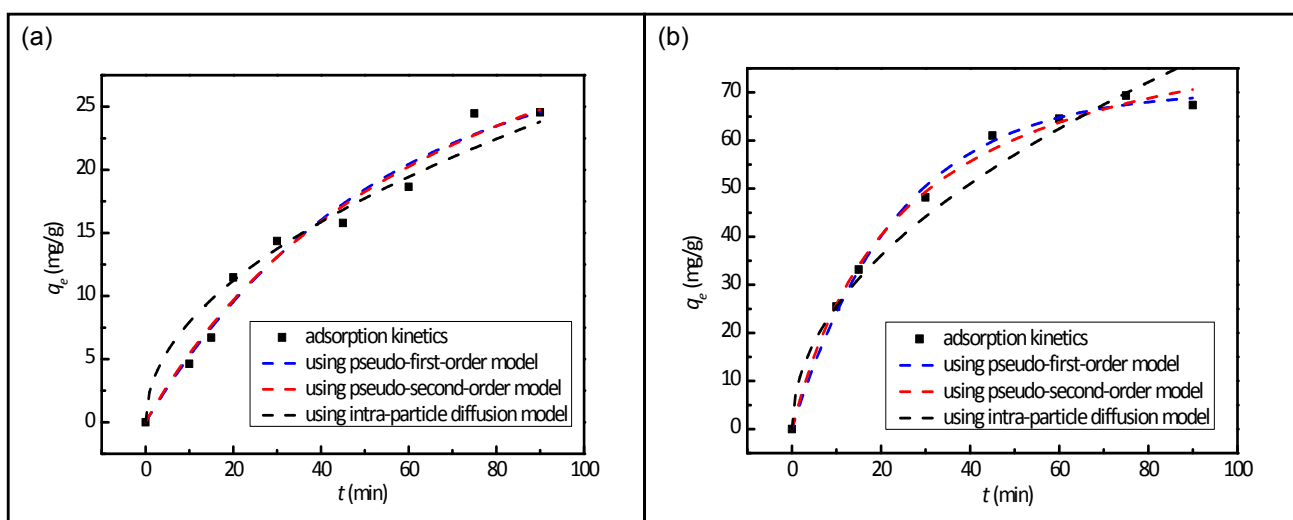


Fig. S5 The fitting curves of the adsorption kinetic data of BSA on micro-ZIF-8 (a) and micro/meso-ZIF-8 (b) using the kinetics models.

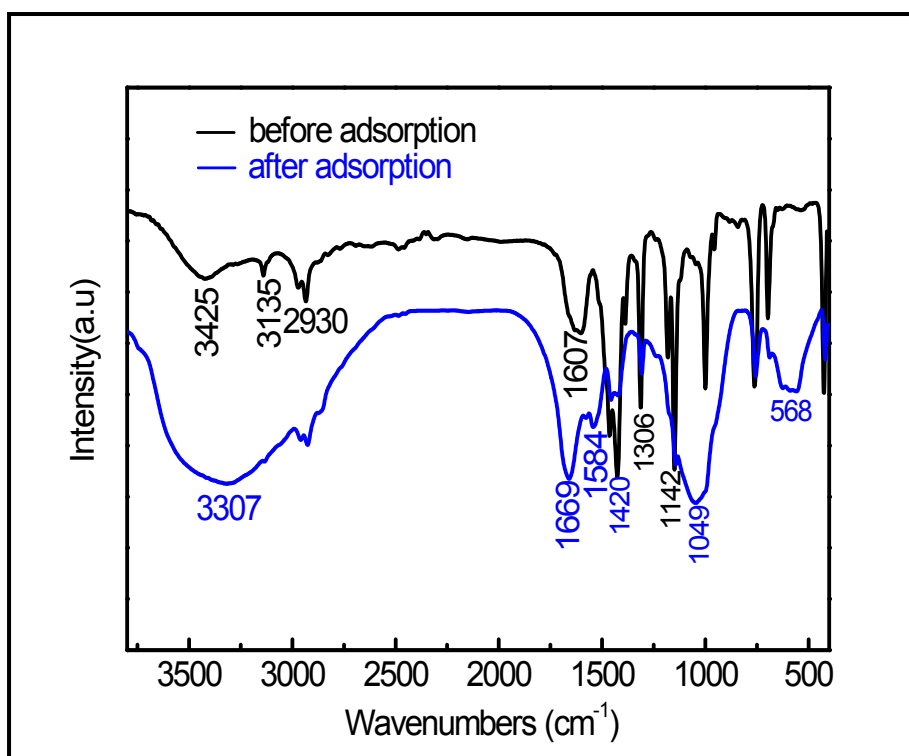


Fig. S6 FT-IR spectra of micro/meso-ZIF-8 before and after LZM adsorption

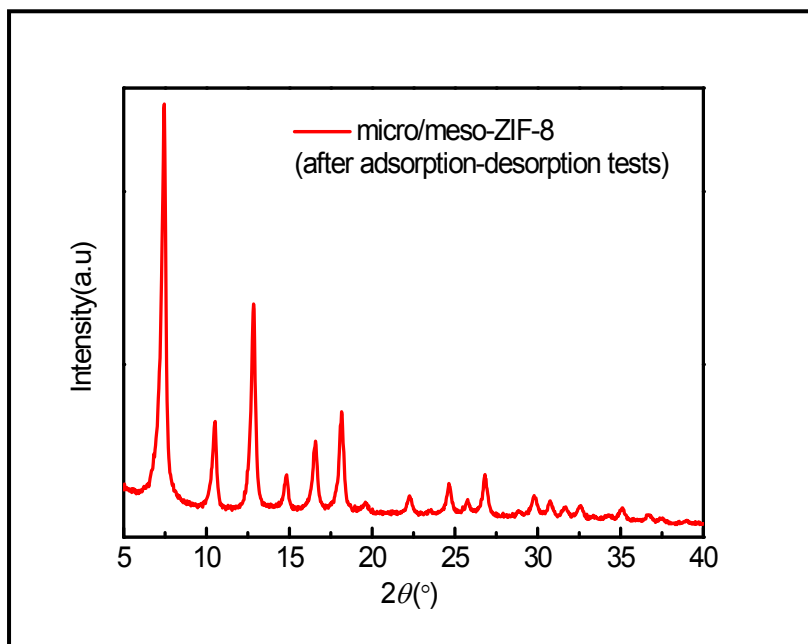


Fig. S7 XRD pattern of micro/meso-ZIF-8 MOFs after adsorption-desorption tests