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Supporting information

MOF – cation exchange resin composites and their use for water decontamination

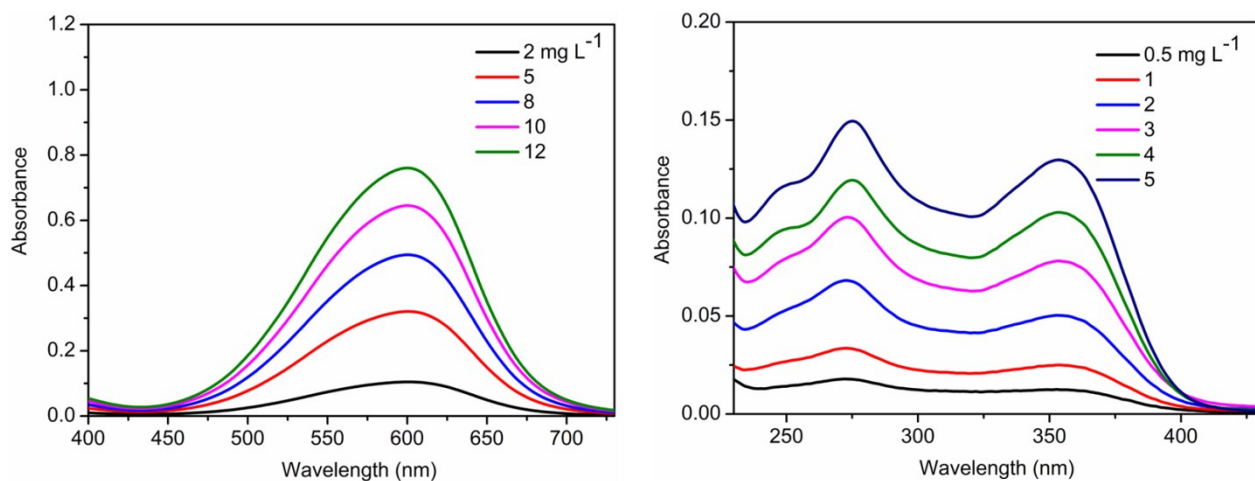
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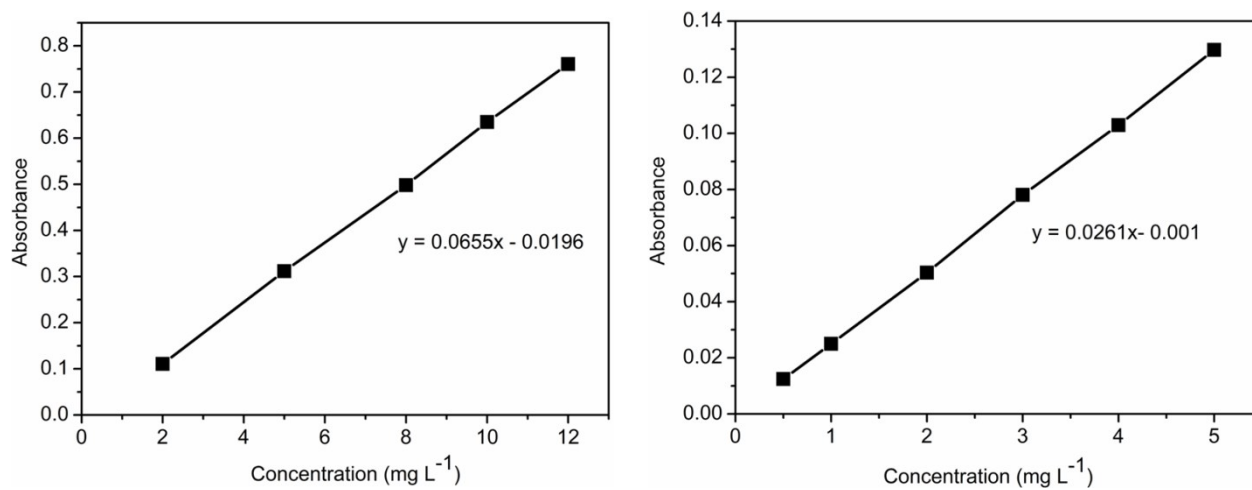
4 **Fig. S1** UV-vis absorption spectra of MB (left) and OTC (right) solutions at various
5 concentrations.

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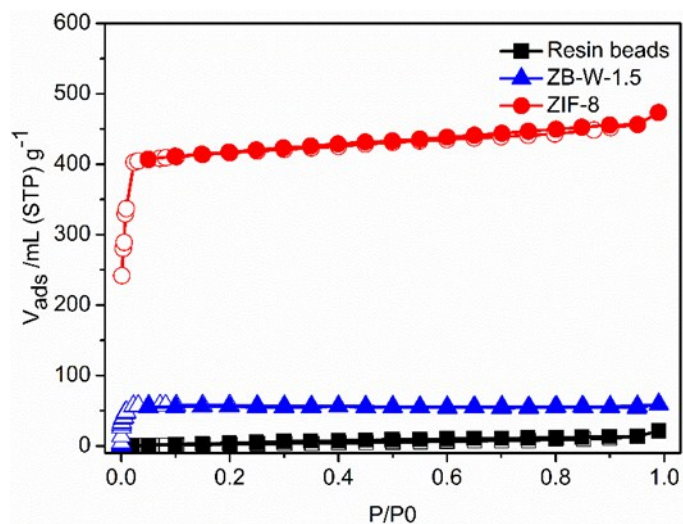
11 **Fig. S2** Plots of absorbance of the MB (left) and OTC (right) solutions with respect to the
12 concentrations at λ_{max} of 600 and 368 nm, respectively.

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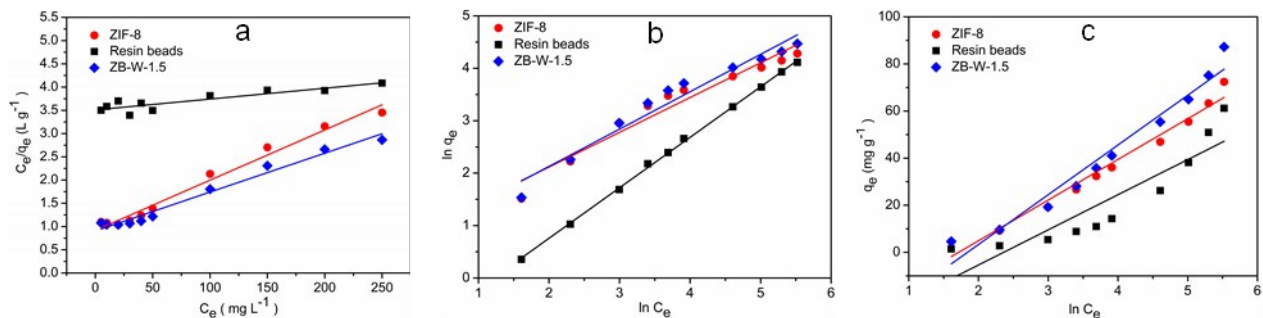
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4 **Fig.S3** Nitrogen sorption isotherms of resin beads, ZB-W-1.5 and ZIF-8. (Adsorption - full symbols;
5 Desorption - empty symbols).

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10 **Fig. S4** Analyses of adsorption isotherm of MB by (a) Langmuir, (b) Freundlich and (c) Temkin
11 isotherms (25 °C, $C_0 = 5-250 \text{ mg L}^{-1}$, ZIF-8=0.2 g L⁻¹, resin beads=1 g L⁻¹, ZB-W-1.5=1 g L⁻¹).

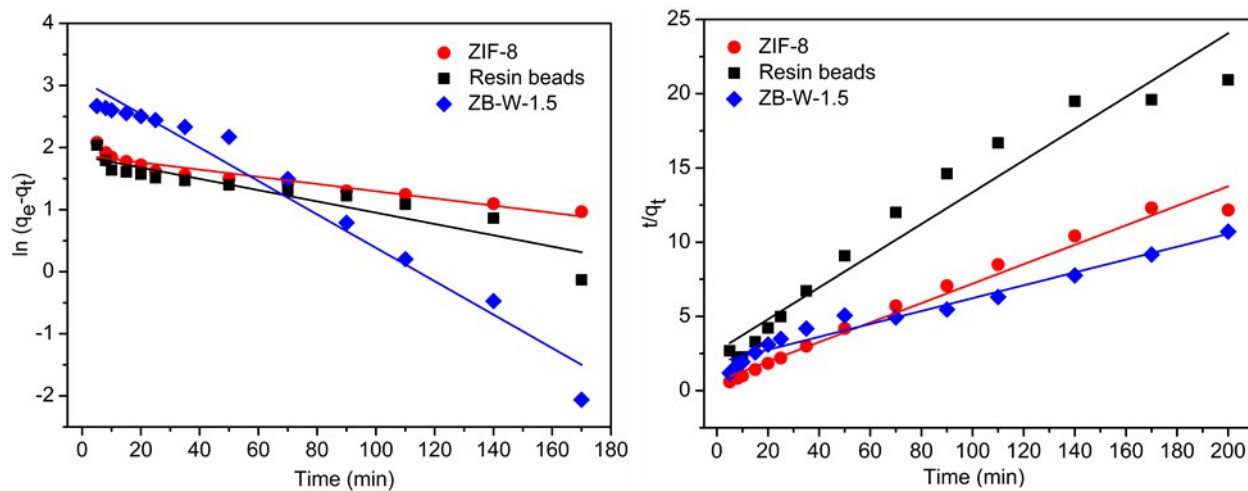
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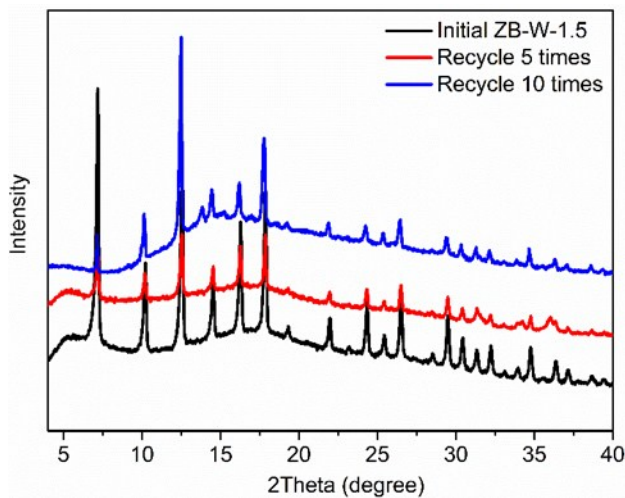
3 **Fig. S5** Pseudo-first-order kinetics (left) and pseudo-second-order kinetics (right) for the
4 adsorption of MB molecule.

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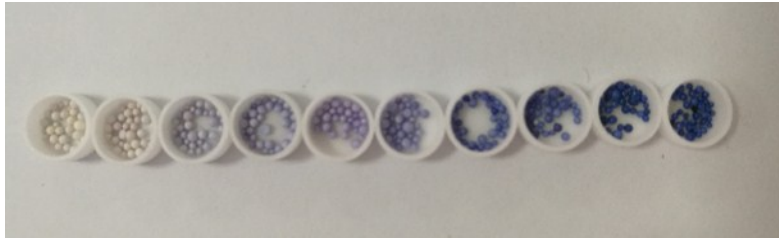
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10 **Fig. S6** Powder XRD patterns of the initial ZB-W-1.5 and ZB-W-1.5 after 5 and 10 adsorption-
11 desorption cycles.

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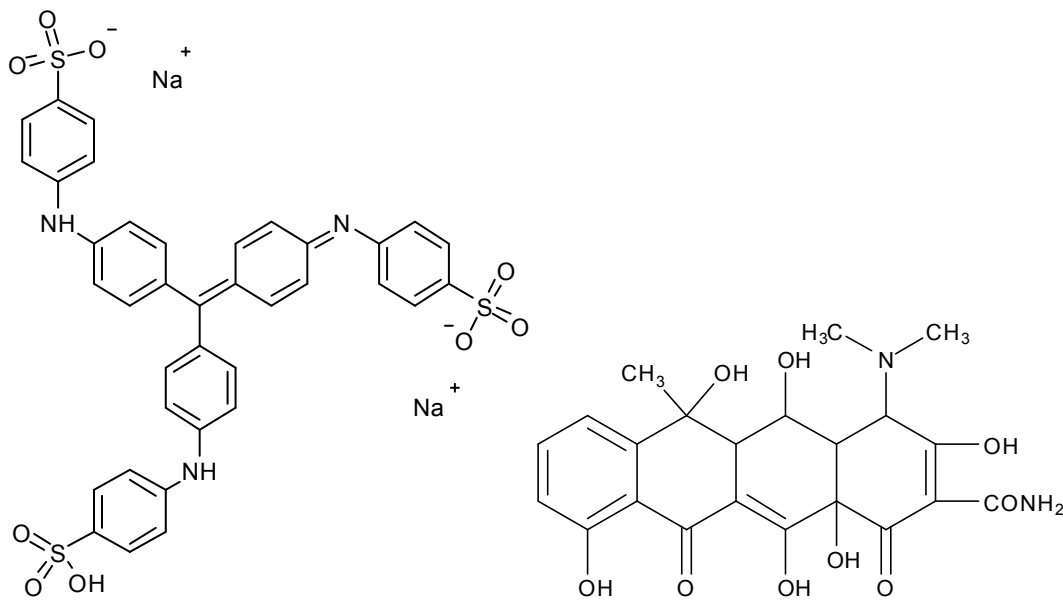
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7 **Fig. S7** Optical photograph of the composite adsorbent collected after adsorption at the initial
8 concentrations ranging from 5 to 250 mg L⁻¹ (from left to right).

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13 **Fig. S8** Molecule structures of methyl blue (left) and oxytetracycline (right).

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