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# Adsorptive removal of boron by zeolitic imidazolate framework: kinetics, isotherms, thermodynamics, mechanism and recycling

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## **Abstract**

Seven water-stable metal-organic frameworks (MOFs) were prepared and tested for boron removal for the first time. XRD, SEM, nitrogen adsorption/desorption isotherms and thermogravimetric analysis were employed to confirm the structures. All the seven MOFs exhibit good boron adsorption capacities, especially ZIF-8 with an extraordinarily high capacity of 247.44 mg·g<sup>-1</sup> at 45 °C. The adsorption kinetics, isotherms, thermodynamics, mechanism and

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