A 3D stable metal-organic framework for highly efficient adsorption and removal of drug contaminants from water

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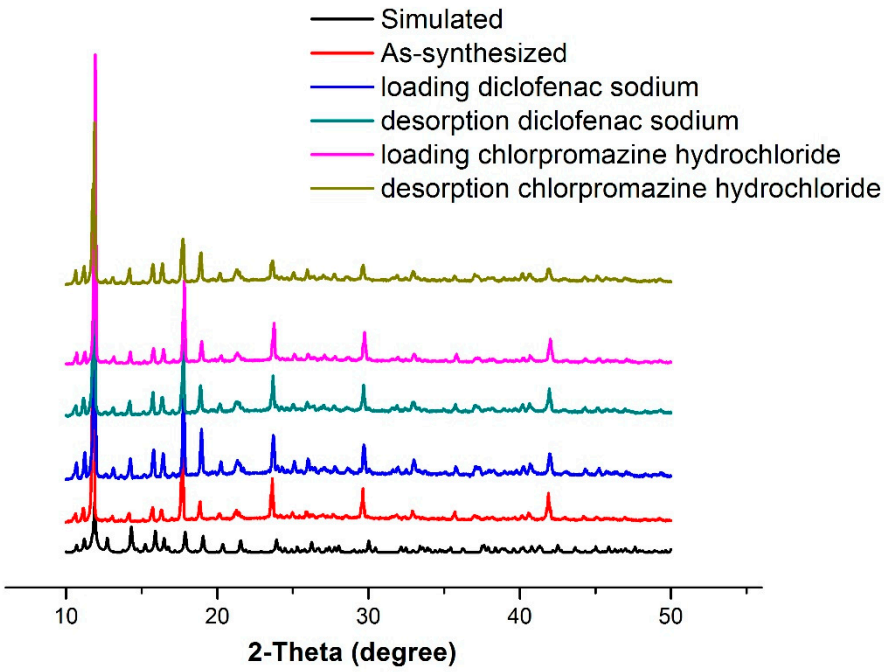


Fig. S1 XRD patterns of **1** simulated from X-ray crystal diffraction data and measured for the as-synthesized samples, after soaking/desorption in diclofenac sodium and chlorpromazine hydrochloride, respectively.

Thermogravimetric Analysis

Thermogravimetric Analysis was performed on a thermogravimetric analyzer HCT-2 (Beijing Hengjiu scientific instrument factory, china). 10 mg sample was weighted on crucible and heated from 25 to 800 °C at the speed of 10 °C /min with nitrogen atmosphere.

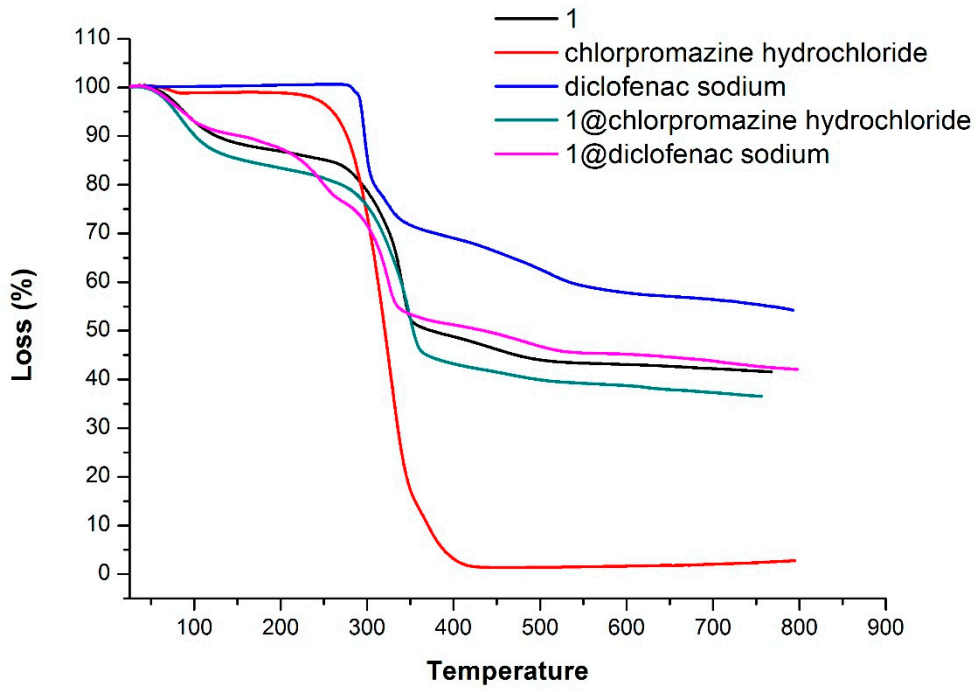


Fig. S2 view of the TGA.

The IR spectra of **1** exhibit the main characteristic absorption bands in the range of 1362 –1680 cm^{-1} mainly attributed to the asymmetric and symmetric stretching vibrations of the carboxylato groups. Δν[νas(COO)–νs(COO)] are 139 cm^{-1}, indicating coordination bidentated bridging modes of carboxylato groups to the central metal atom. The band at 3402 cm^{-1} is assigned to the stretching vibrations ν(OH) of water molecules. The bands at ca. 1545 cm^{-1} are assigned to the ν(C-N) absorption in the $(CH_3)_2NH_2$.

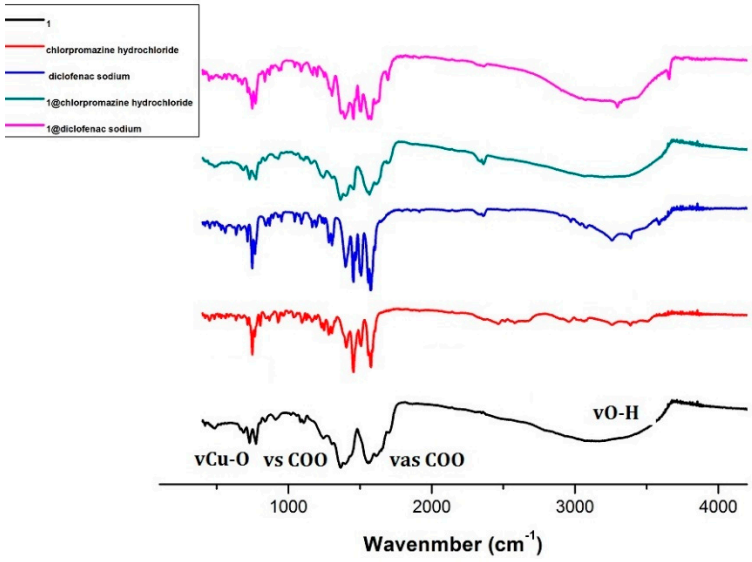


Fig. S3 view of the IR.

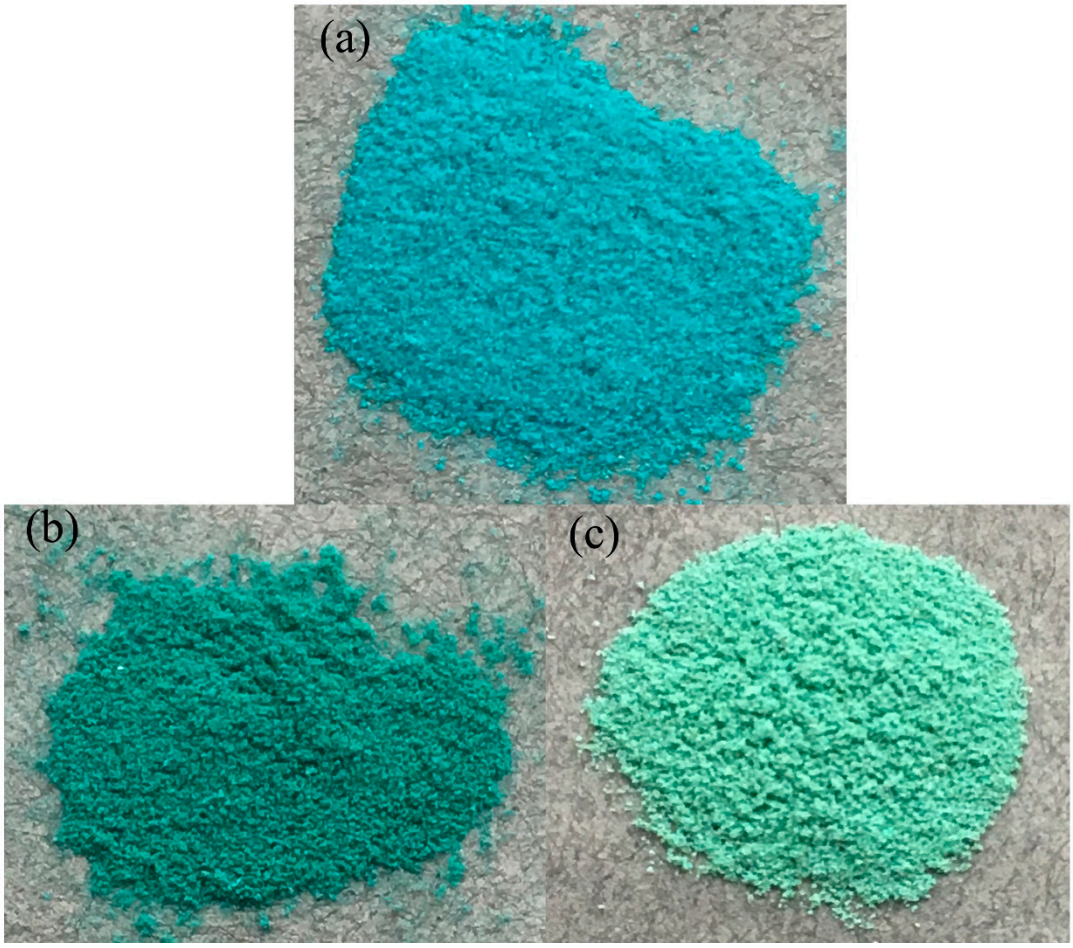


Fig. S4 view of the color change before equilibrium adsorption capacity: (a) the

as-synthesized samples; (b) after adsorb chlorpromazine; (c) after adsorb diclofenac sodium.

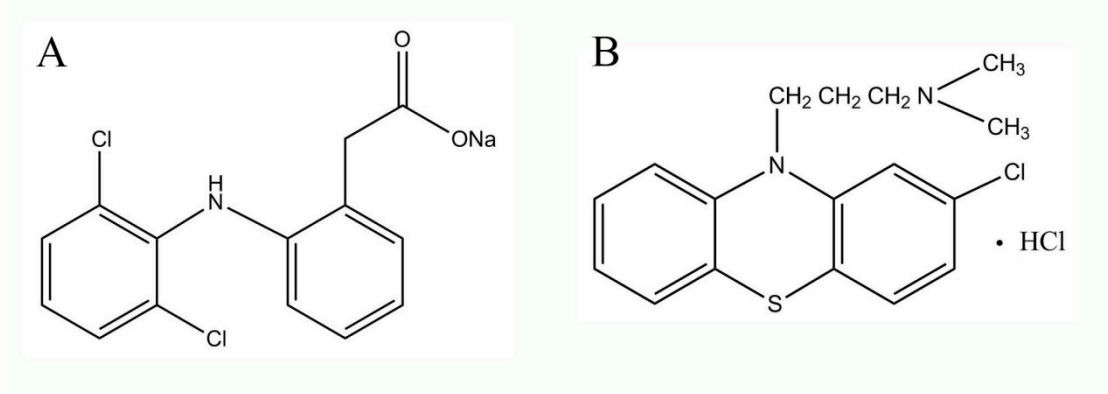
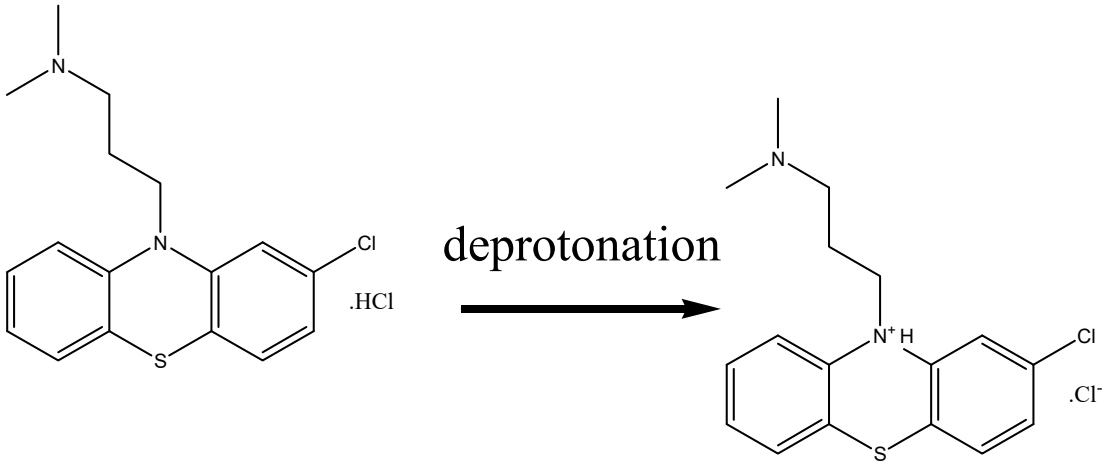


Fig.S5 The structure of diclofenac sodium (A) and chlorpromazine hydrochloride (B).



Scheme S1 view of the dissociated state of chlorpromazine in aqueous solution.