

## Supplementary information for

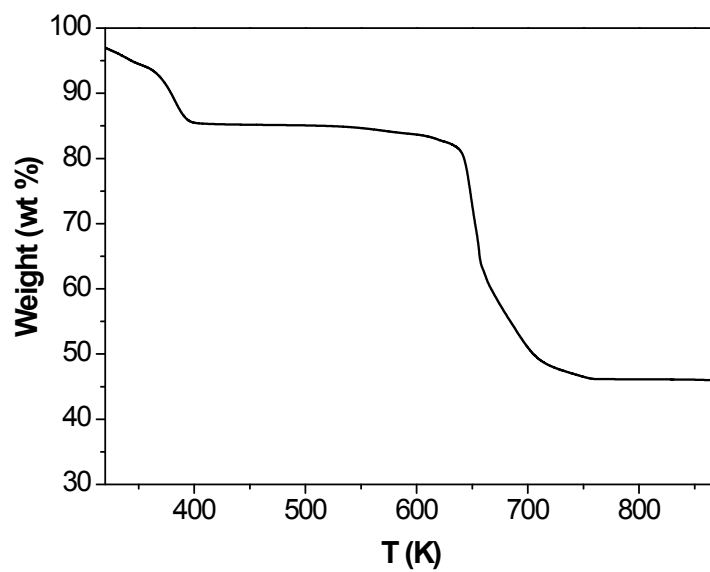
### **Rapid microwave-assisted synthesis of a sodium-cadmium metal-organic framework having improved performance as CO<sub>2</sub> adsorbent for CCS**

by

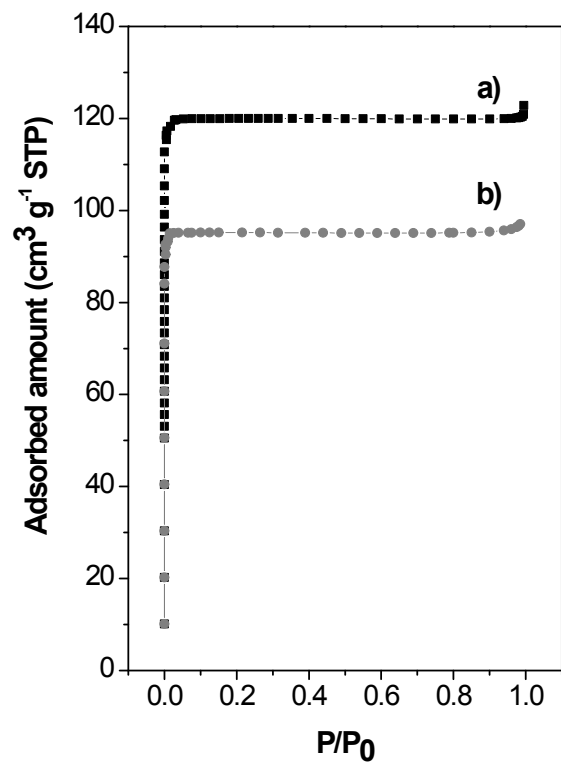
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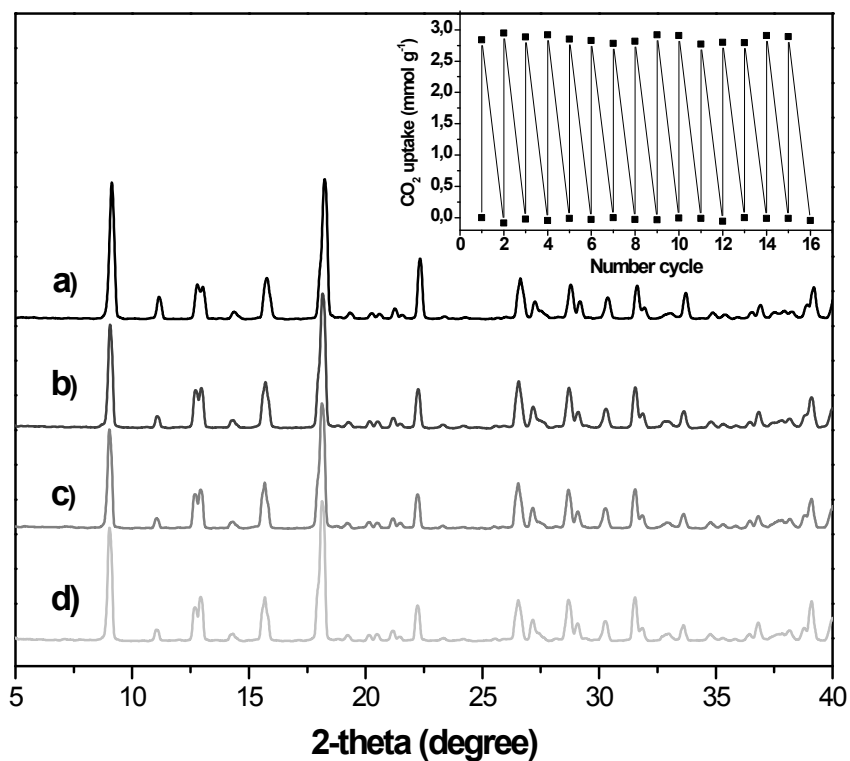
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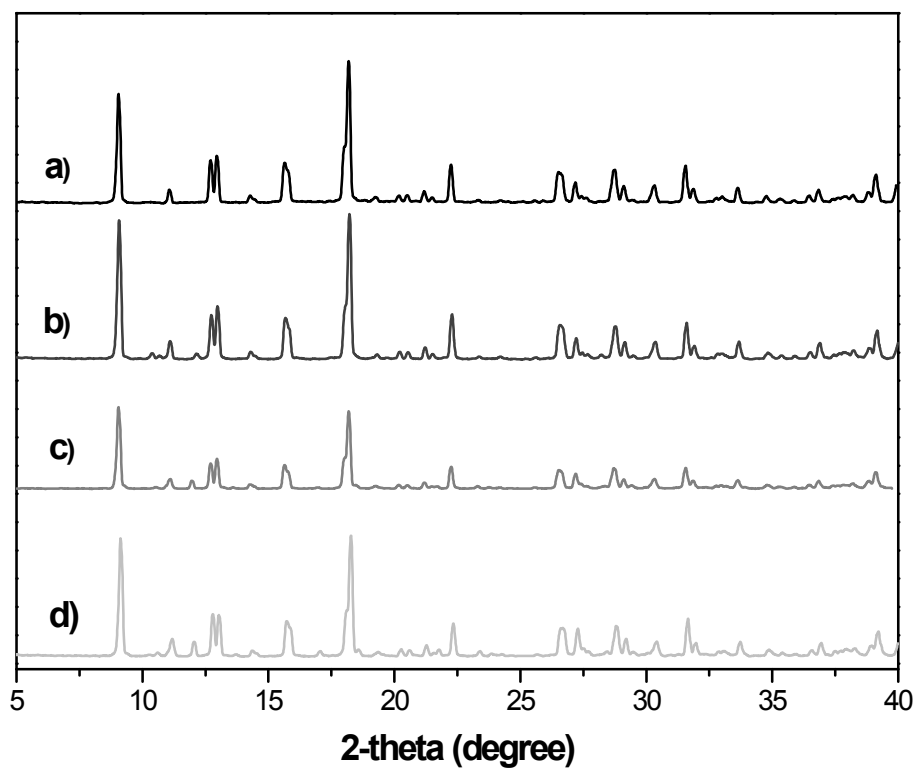
**Fig. S1** TGA curve of the (Na,Cd)-MOF.



**Fig. S2** Nitrogen adsorption–desorption isotherms at 77 K on the a) (Na,Cd)-MOF and b) (Na,Cd)MOF(CEH).



**Fig. S3** X-ray diffraction patterns (Cu-K $\alpha$  radiation) of as-synthesized (Na,Cd)-MOF (a), and after maintaining it under humid air (95% of humidity) during 1 h (b), 1 day (c) and 1 week (d). Inset shows the CO<sub>2</sub> adsorption cycles on the sample kept for one week in humid air (95% of humidity) and reactivated by outgassing at 373 K (repetitive CO<sub>2</sub> adsorption at 308 K followed by desorption at 373 K under a N<sub>2</sub> purge).



**Fig. S4** X-ray diffraction patterns (Cu-K $\alpha$  radiation) of as-synthesized (Na,Cd)-MOF(CEH) (a), and after maintaining it under humid air (95% of humidity) during 1 h (b), 1 day (c) and 1 week (d).