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Supporting Information

NaCl as a solid solvent to assist the mechanochemical synthesis and post-synthesis of hierarchical porous MOFs with high I_2 vapor uptake

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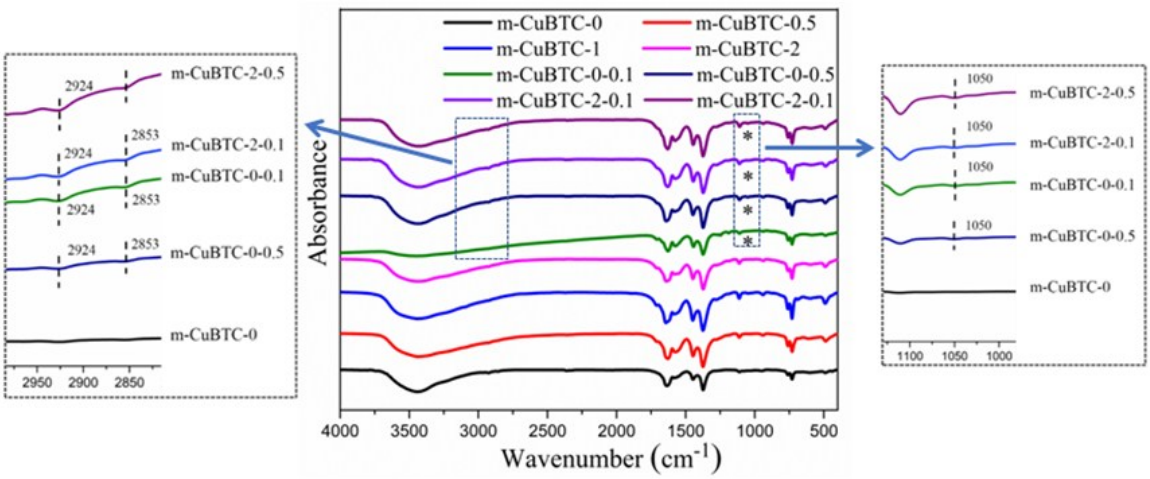

Figure S1 FT-IR spectra of m-CuBTC-0, m-CuBTC-0.5, m-CuBTC-1, m-CuBTC-2 and post-synthesis sample.

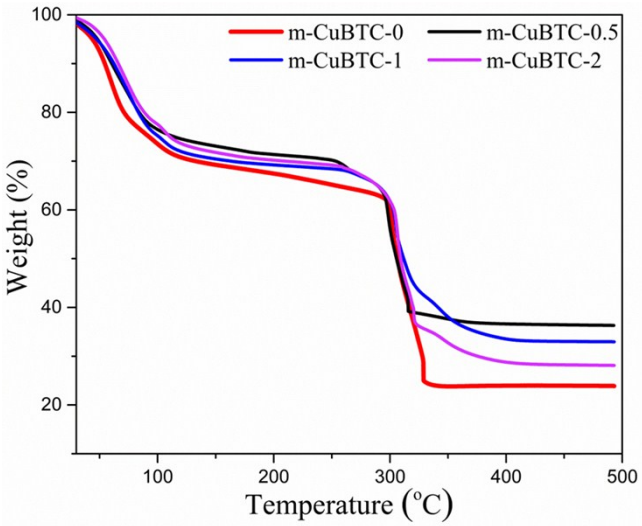

Figure S2 Thermogravimetric analysis for m-CuBTC-0, m-CuBTC-0.5, m-CuBTC-1 and m-CuBTC-2.

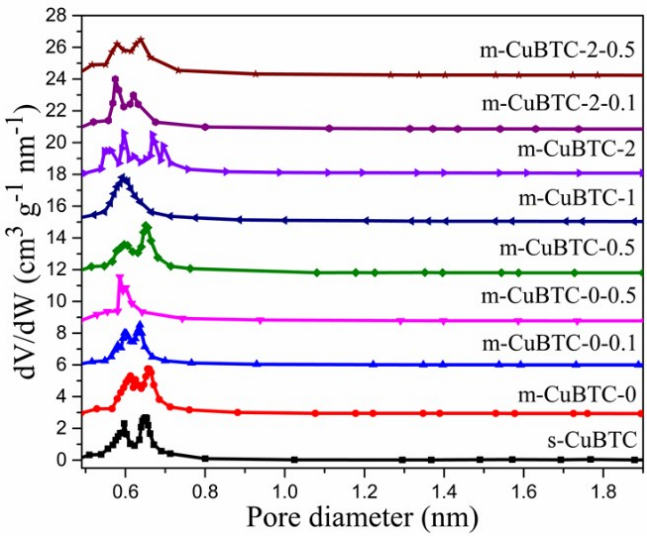

Figure S3 Distributions of micropore diameters obtained from the HK method.

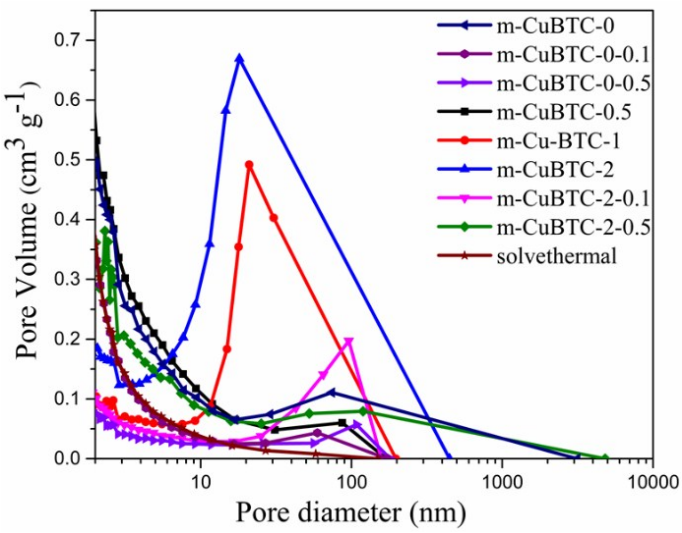

Figure S4 Distributions of mesopore diameters obtained from the absorption branch using the Barrett–Joyner–Halenda (BJH) method.

Table S1 Elemental analysis of TED-functionalized m-CuBTC samples.

Samples	N[%]	C[%]	H[%]	N/Cu atomic ratio (calculated)	N/Cu atomic ratio (theory)
m-CuBTC-0-0.1	0.44	26.63	3.307	0.044	0.178
m-CuBTC-0-0.5	0.58	24.37	4.272	0.065	0.89
m-CuBTC-2-0.1	0.66	27.03	3.313	0.067	0.178
m-CuBTC-2-0.5	1.36	26.42	3.797	0.152	0.89

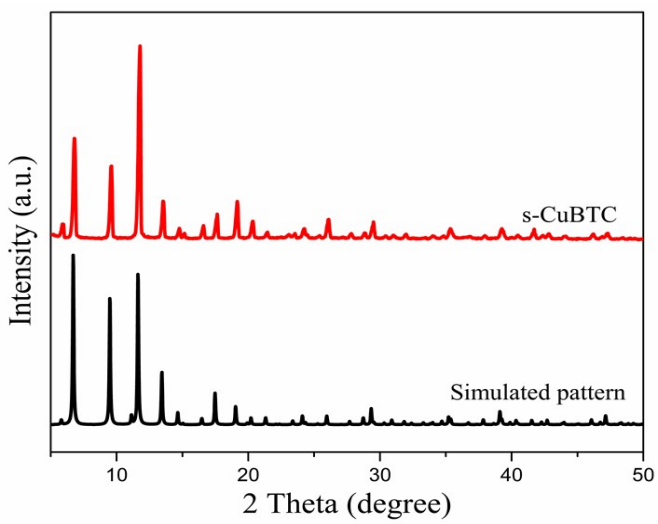

Figure S5 PXRD patterns of simulated pattern and s-CuBTC.

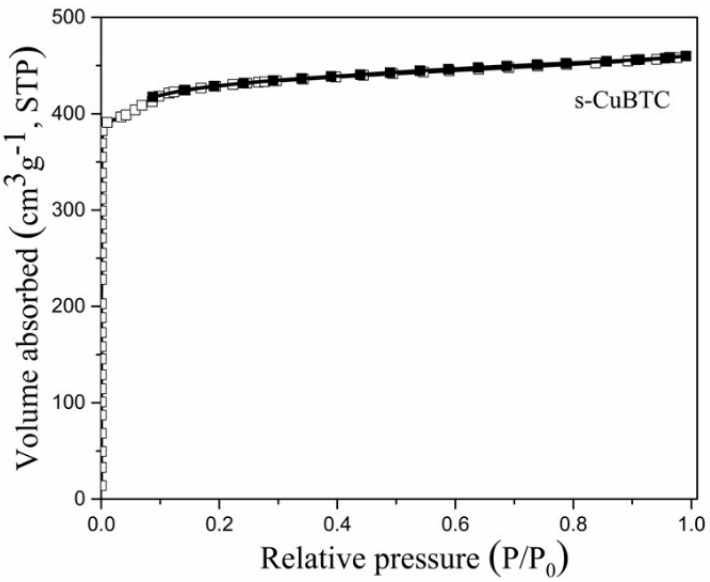

Figure S6 N_2 adsorption and desorption isotherms of s-CuBTC. Its BET surface area is 1325 m^2/g

Table S2: Iodine vapor uptake values of the hierarchically micro- and mesoporous MOFs at different temperature.

	Maximum I_2 loadings (wt%)	
	75°C	100 °C
m-CuBTC-0	25.4	37.6
m-CuBTC-0.5	34.6	47.0
m-CuBTC-1	43.7	56.4
m-CuBTC-2	64.0	66.9
m-CuBTC-0-0.1	64.1	65.8
m-CuBTC-0-0.5	73.8	75.7
m-CuBTC-2-0.1	74.8	82.3
m-CuBTC-2-0.5	106.1	114.1
s-CuBTC	88.8	93.8

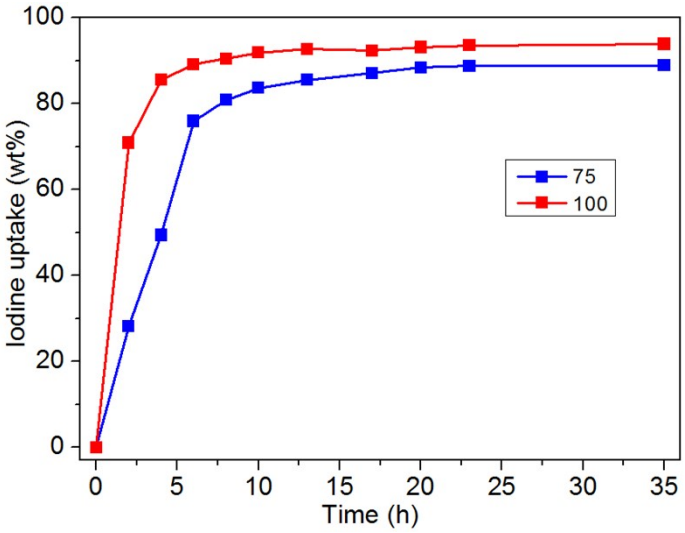

Figure S7. Iodine capture efficiency of s-CuBTC at 75 °C (blue line) and 100 °C (red line).

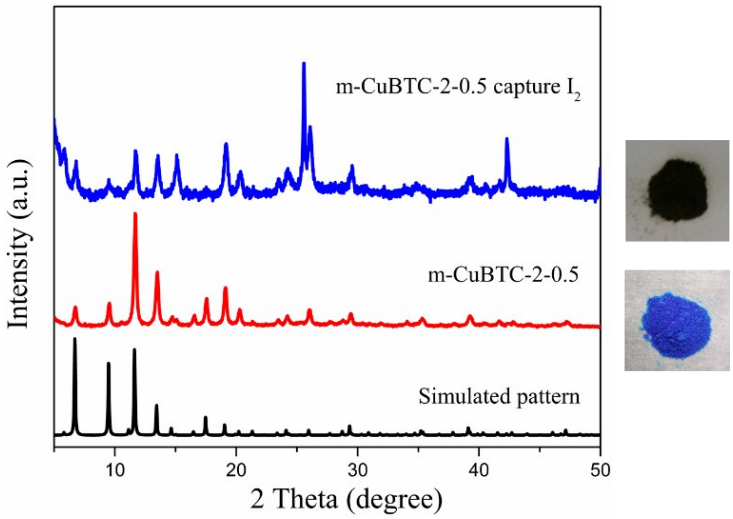

Figure S8 PXRD patterns of m-CuBTC-2-0.5 and m-CuBTC-2-0.5 after I_2 loading.