

Supporting Information for

Functionalized Metal Organic Framework for Effective Capture of Radioactive Organic Iodides

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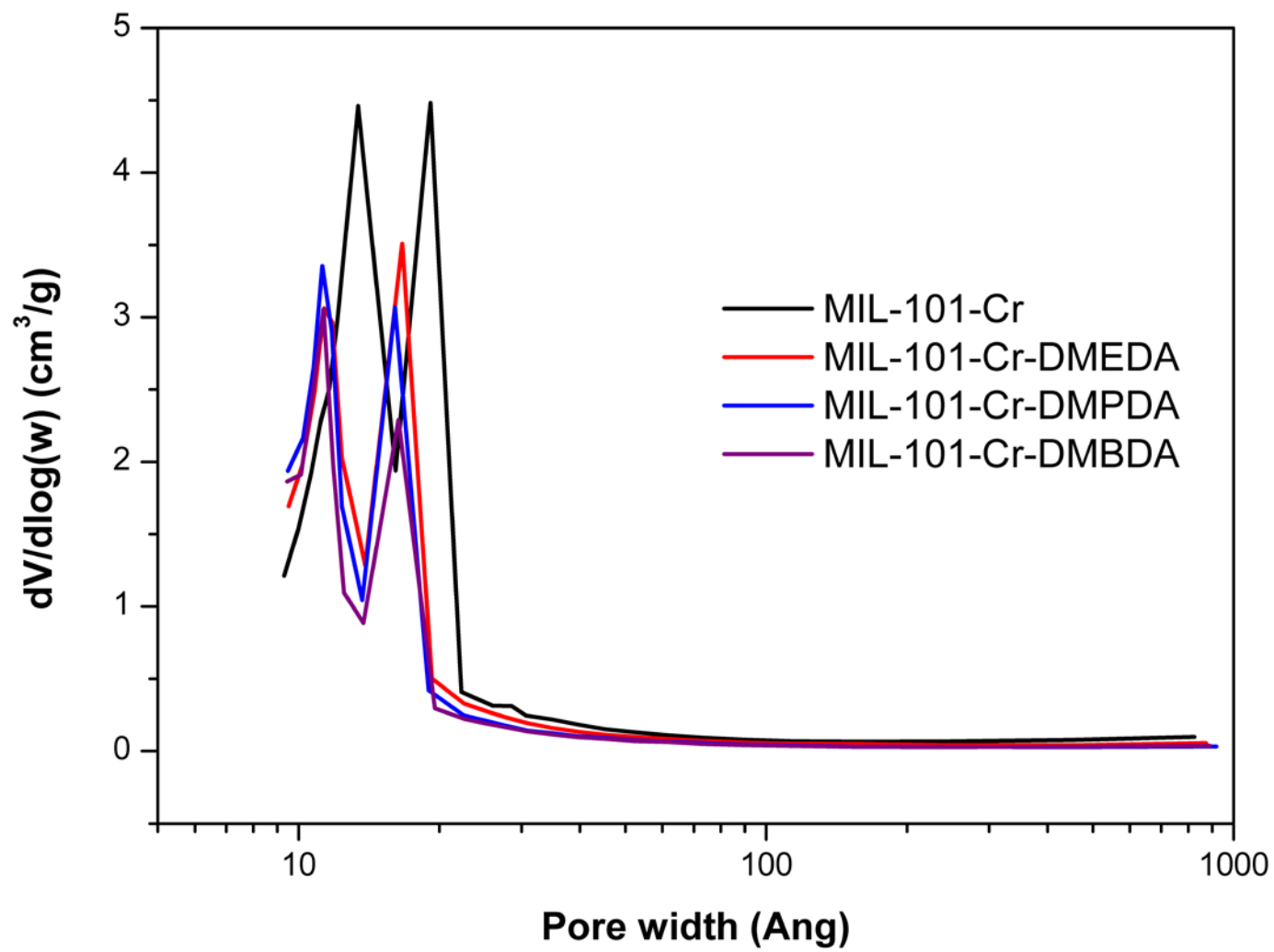


Fig. S1. Pore size distribution of MIL-101-Cr, MIL-101-Cr-DMEDA, and MIL-101-Cr-DMPDA.

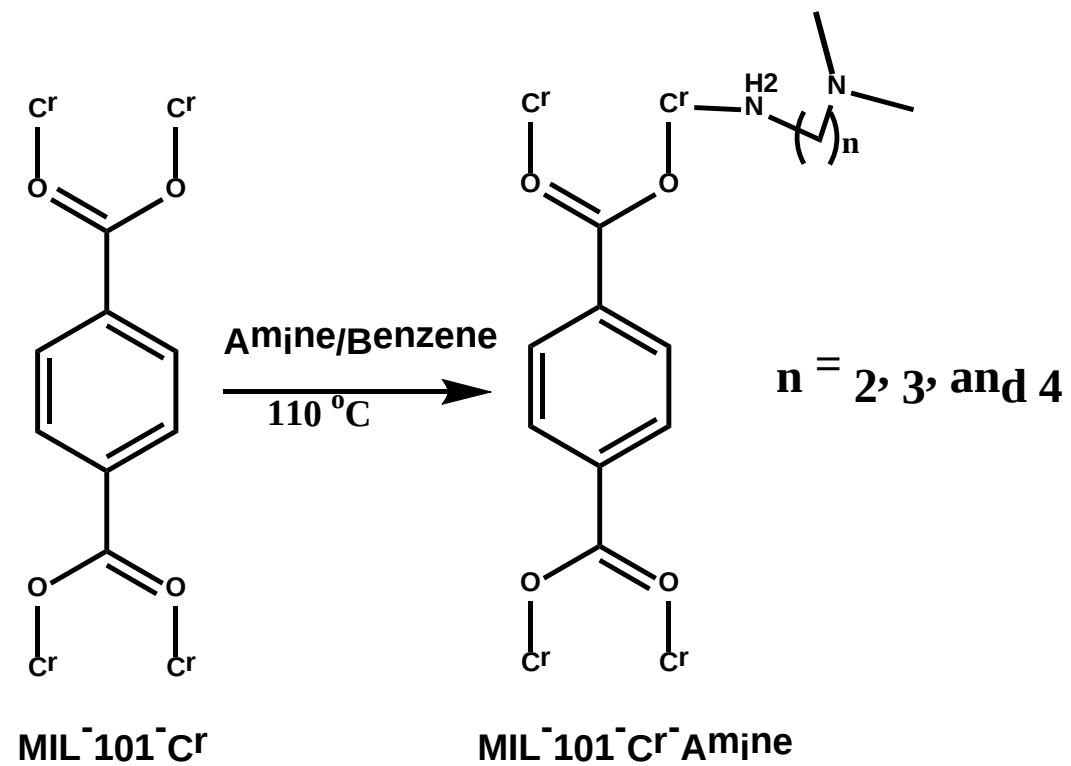
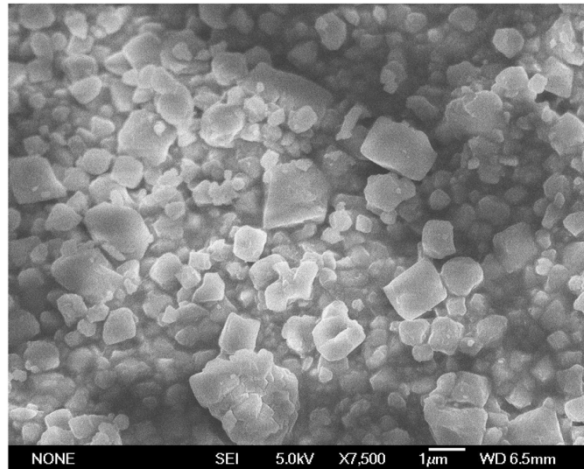
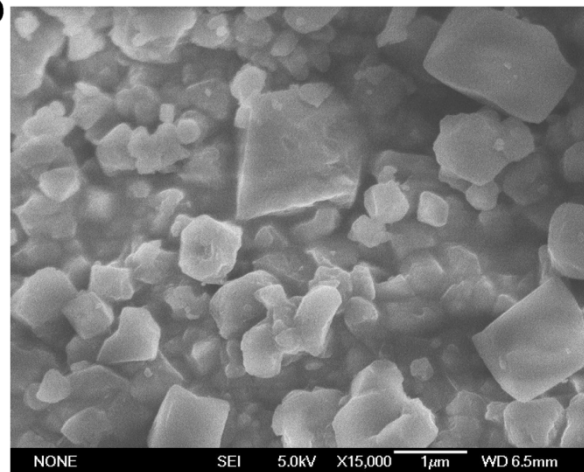


Fig. S2. Synthetic route for the preparation of MIL-101-Cr-DMEDA ($n = 2$), MIL-101-Cr-DMPDA ($n = 3$), and MIL-101-Cr-DMBDA ($n = 4$).

a



b



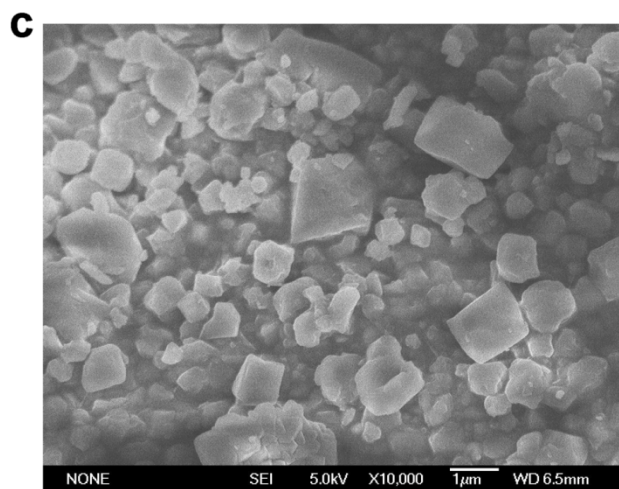
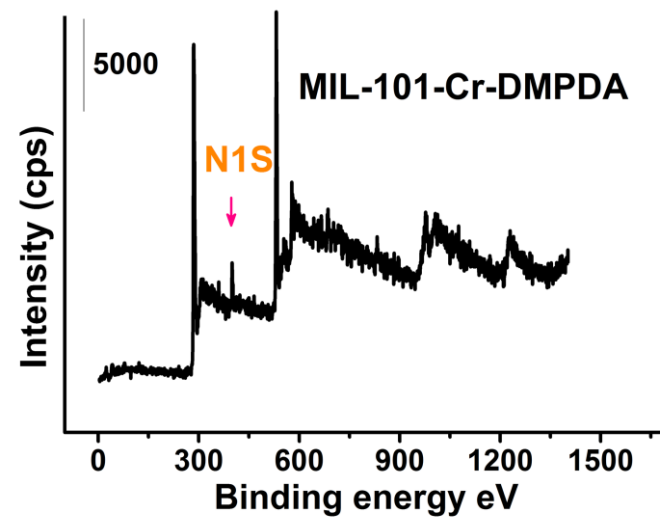
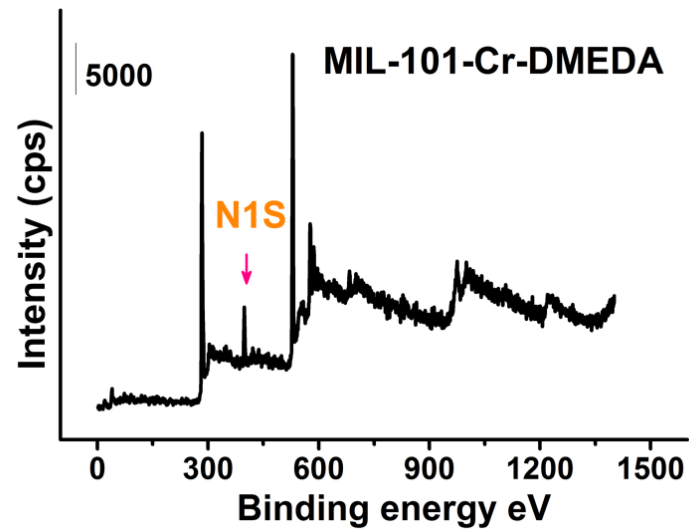


Fig. S3. The TEM images. (a) MIL1-10-Cr-DMEDA, (b) MIL-101-Cr-DMPDA and (c) MIL-101-Cr-DMBDA.



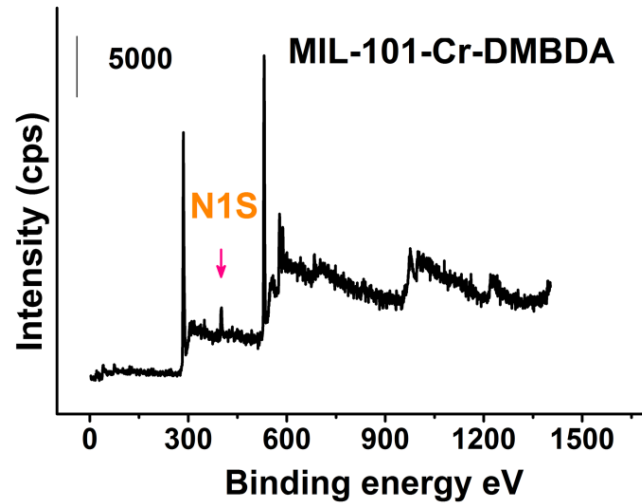


Fig. S4. The XPS spectra of MIL-101-Cr-DMEDA, MIL-101-Cr-DMPDA and MIL-101-Cr-DMBDA (from top to bottom).

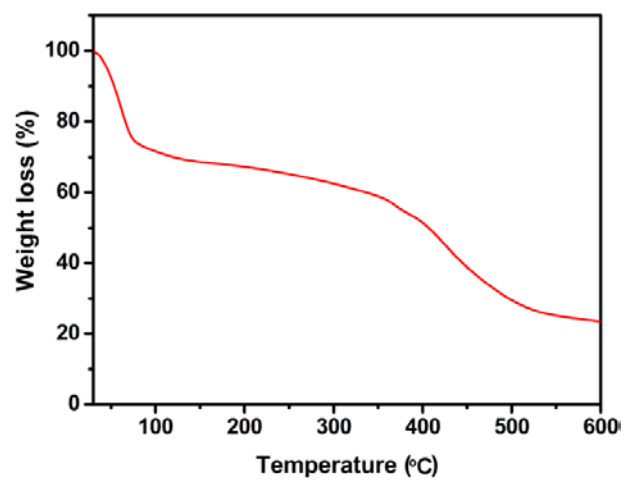


Fig. S5. The TGA curves of MIL-101-Cr-DMEDA.

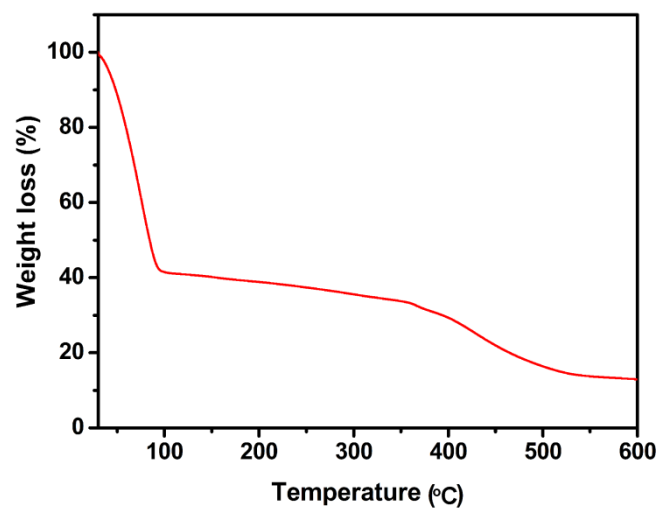


Fig. S6. The TGA curves of MIL-101-Cr-DMPDA.

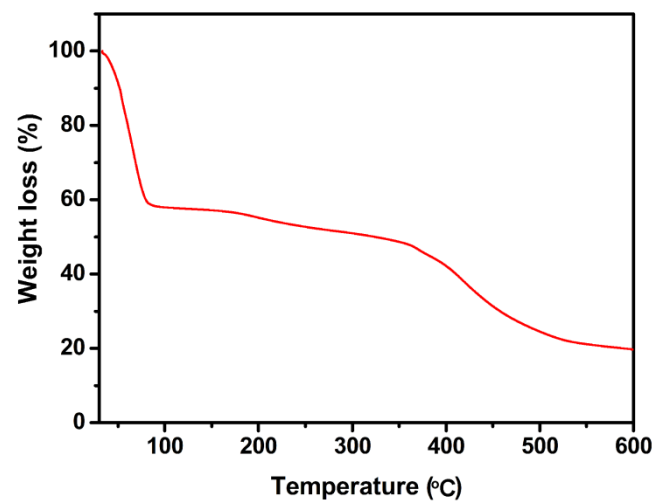


Fig. S7. The TGA curves of MIL-101-Cr-DMBDA.

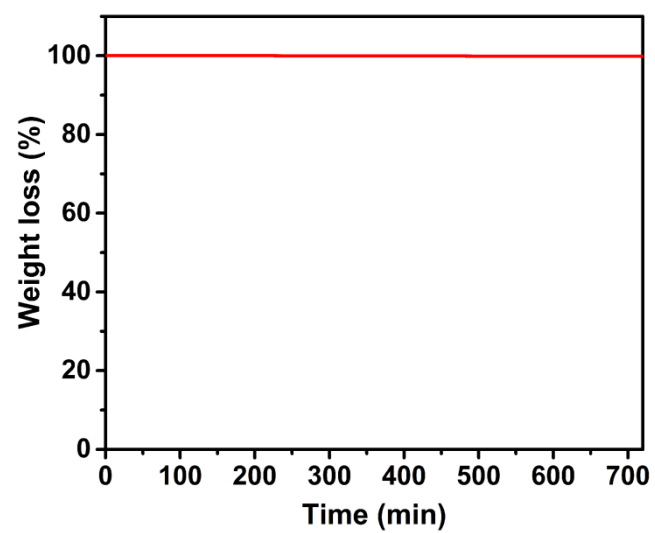


Fig. S8. The isothermal TGA curve of MIL-101-Cr-DMEDA at 150 °C for 12 h.

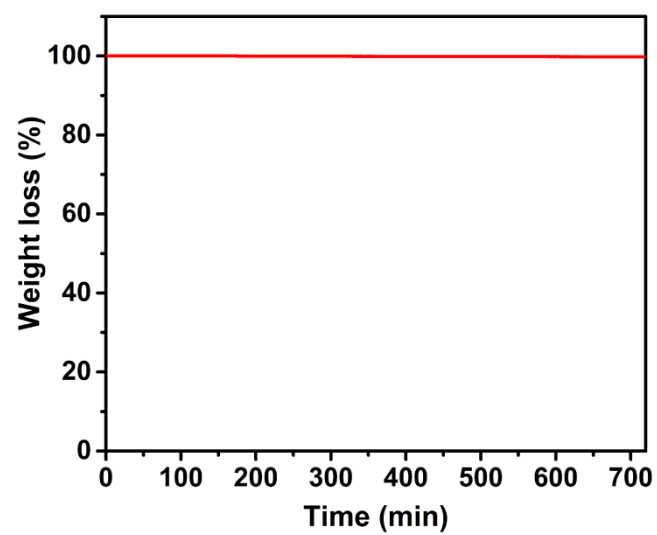


Fig. S9. The isothermal TGA curve of MIL-101-Cr-DMPDA at 150 °C for 12 h.

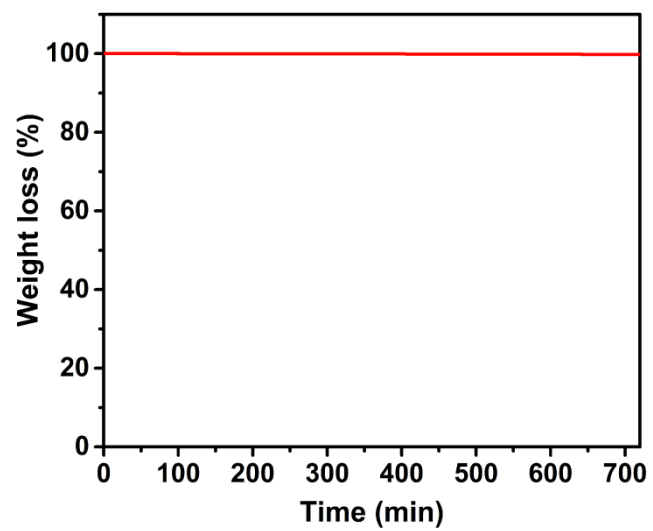


Fig. S10. The isothermal TGA curve of MIL-101-Cr-DMBDA at 150 °C for 12 h.

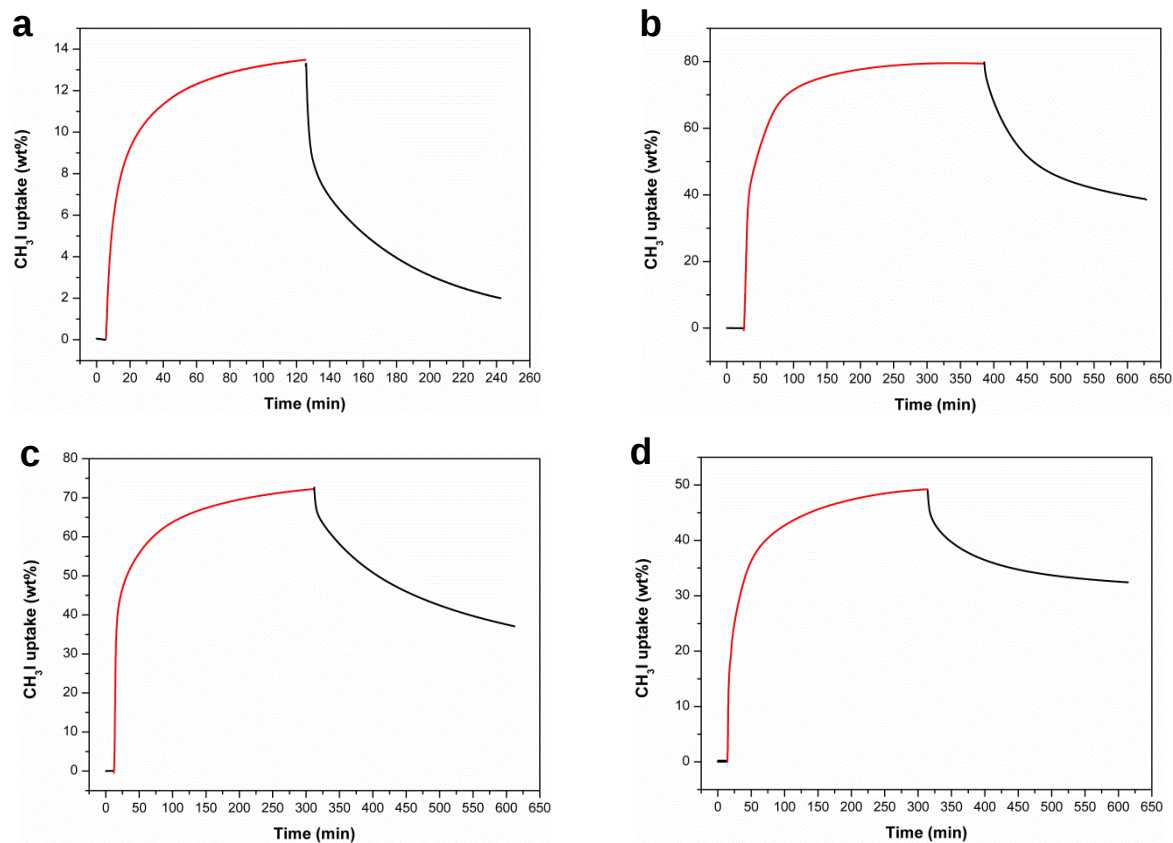


Fig. S11. CH_3I adsorption-desorption curves at 150 °C for (a) MIL-101-Cr, (b) MIL-101-Cr-DMEDA, (c) MIL-101-Cr- DMPDA and (d) MIL-101-Cr-DMBDA. Red and black curves represent adsorption (0.2 bar CH_3I in N_2) and desorption (pure N_2), respectively.

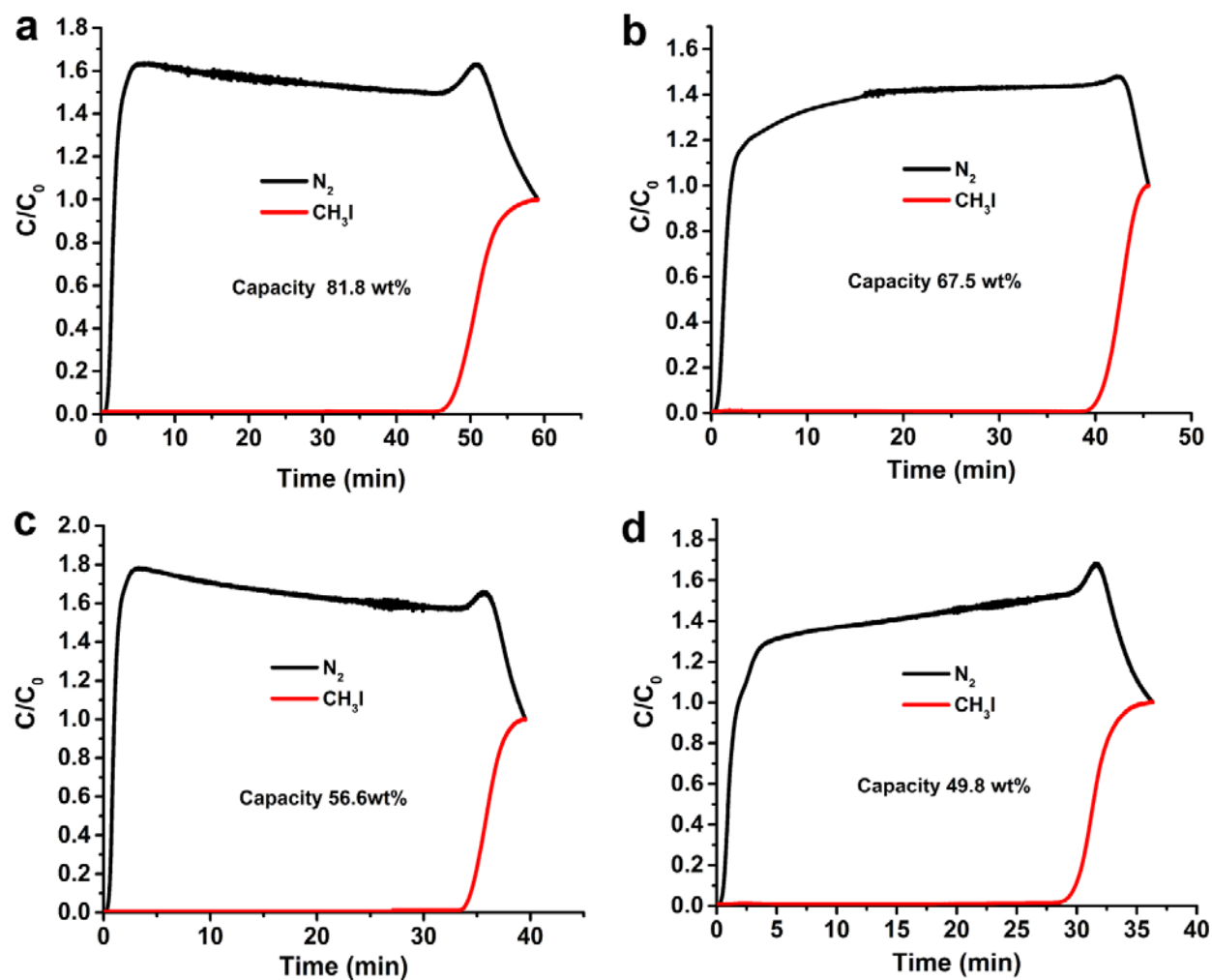


Fig. S12. The breakthrough curves of CH_3I for MIL-101-Cr-DMEDA under (a) dry and (b) humidity, and for MIL-101-Cr-DMPDA under (c) dry and (d) humidity conditions (150 °C, RH = 81%, 23 °C).