Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Material

Amino-functionalized metal-organic framework for adsorption and separation of dichloromethane and trichloromethane

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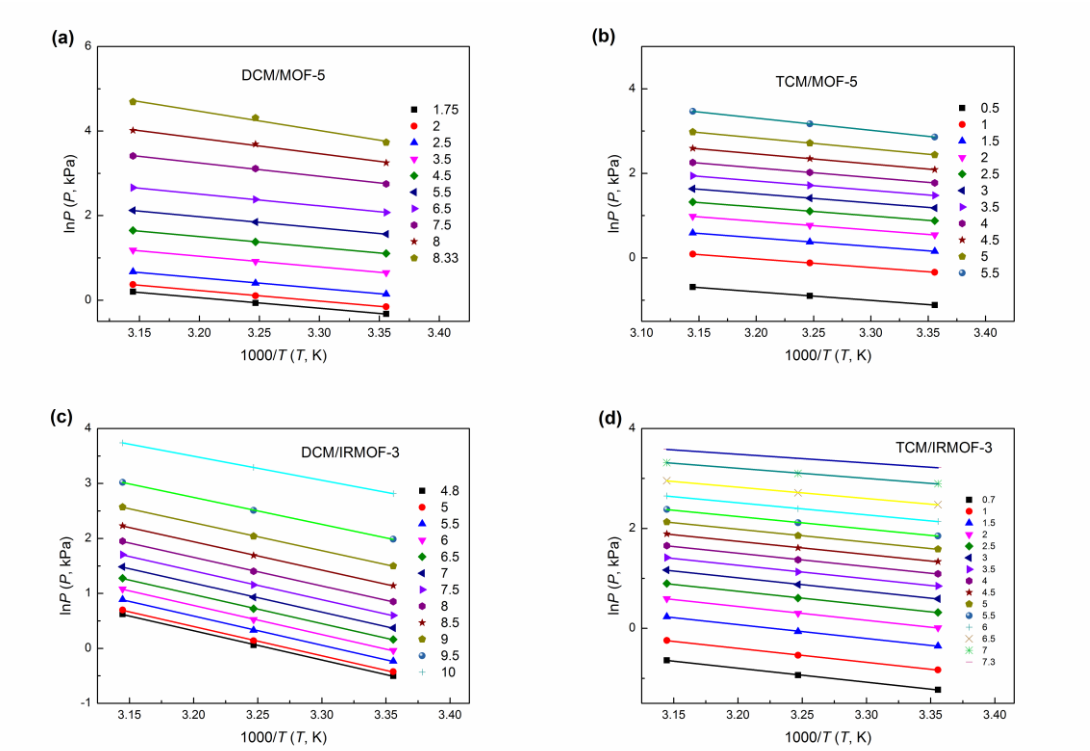

Fig. S1. ln P versus 1/T for estimation of isosteric adsorption heats of DCM (a) and TCM (b) on the MOF-5 and DCM (c) and TCM (d) on IRMOF-3.

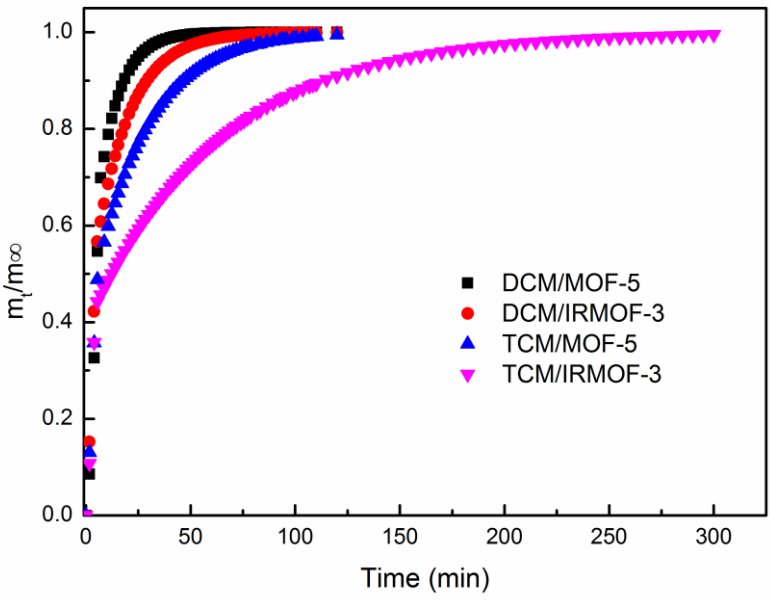

Fig. S2. Fractional adsorption uptakes of DCM and TCM on the MOF-5 and IRMOF-3 at 2.8 kPa and 298 K

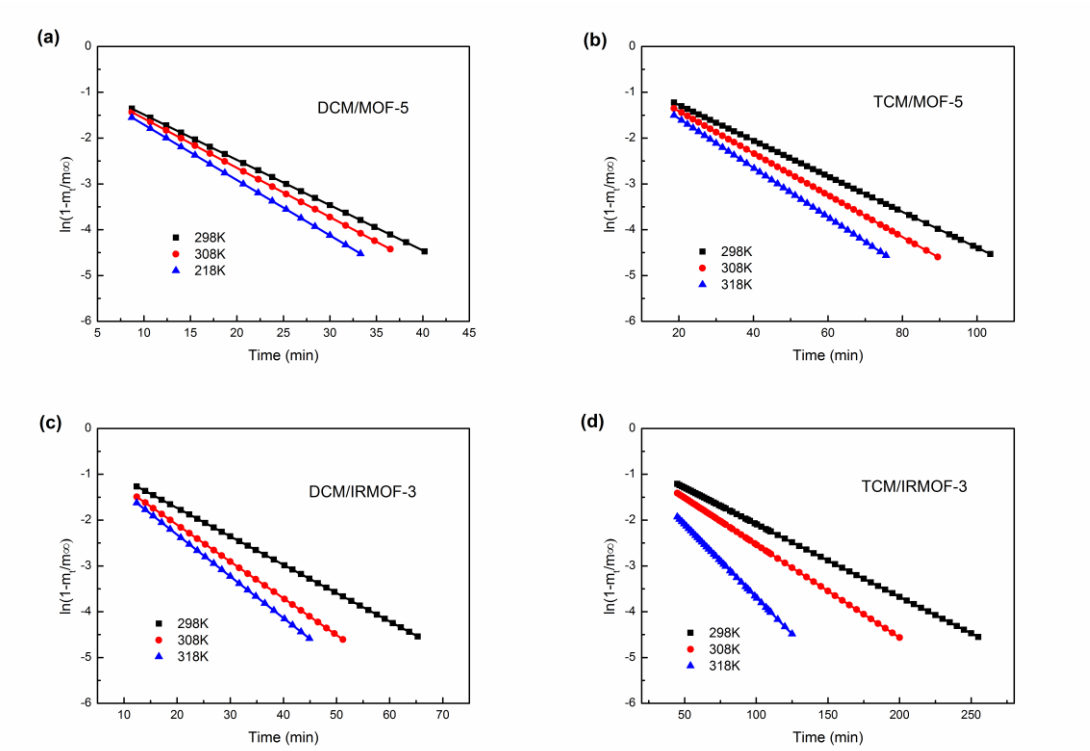

Fig. S3. Plots of the fractional DCM adsorption uptakes on MOF-5 (a) and IRMOF-3 (b) and fractional TCM adsorption uptakes on MOF-5 (c) and IRMOF-3 (d) against the adsorption time at different temperatures (298, 308, and 318 K) and at 2.8 kPa.

Table S1. Physicochemical properties of chlorinated volatile organic compounds DCM and TCM.

Cl-VOCs	ρ (g/mL, 25℃)	MW (g/mol)	BP (℃)	SP (kPa, 298 K)	SP (kPa, 308 K)	SP (kPa, 318 K)	μ (Debye)
DCM	1.326	84.93	39.6	59.807	83.552	121.627	1.8
TCM	1.484	119.38	61.2	28.062	38.605	45.582	1.08

ρ: Density; MW: Molecule weight; BP: Boiling Point; SP: Saturation pressure; μ: dipole moment