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.

<table>
<thead>
<tr>
<th>CI-VOCs</th>
<th>ρ (g/mL, 25°C)</th>
<th>MW (g/mol)</th>
<th>BP (°C)</th>
<th>SP (kPa, 298 K)</th>
<th>SP (kPa, 308 K)</th>
<th>SP (kPa, 318 K)</th>
<th>μ (Debye)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCM</td>
<td>1.326</td>
<td>84.93</td>
<td>39.6</td>
<td>59.807</td>
<td>83.552</td>
<td>121.627</td>
<td>1.8</td>
</tr>
<tr>
<td>TCM</td>
<td>1.484</td>
<td>119.38</td>
<td>61.2</td>
<td>28.062</td>
<td>38.605</td>
<td>45.582</td>
<td>1.08</td>
</tr>
</tbody>
</table>

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