Facile stabilization of cyclodextrin metal-organic framework under humid environment by hydrogen sulfide treatment

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Fig. S1 The XRD pattern of γ-CD-K-MOF and γ-CD-K-MOF-H₃S

Fig. S2 XPS spectra for (a) K 2p of γ-CD-K-MOF and γ-CD-MOF-H₂S; (b) S 2p of γ-CD-K-MOF-H₂S
Fig. S3 TGA curves for γ-CD-K-MOF and γ-CD-K-MOF-H$_2$S

Fig. S4 SEM image of γ-CD-K-MOF (a) and γ-CD-K-MOF-H$_2$S (b) after exposure to humidity (RH 92%) for 5 days
Fig. S5 Water adsorption curves of the dry γ-CD-K-MOF and γ-CD-K-MOF-H₂S on exposure to an atmosphere of 92% humidity at 293 K and 1 atm

Fig. S6 Equilibrium solubility curve of γ-CD-K-MOF at 293 K
Fig. S7 Calibration curve for γ-CD-K-MOF in aqueous solution

\[ y = 0.016x + 0.111 \]
\[ R^2 = 0.998 \]

Fig. S8 The water contact angle of γ-CD-K-MOF/H₂S

44 ± 2°

Table S1 The saturated adsorption capacity of γ-CD-K-MOF and γ-CD-K-MOF-H₂S.

<table>
<thead>
<tr>
<th>Materials</th>
<th>Saturated adsorption capacity (mg/g)</th>
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<tbody>
<tr>
<td>γ-CD-K-MOF</td>
<td>36.71</td>
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<tr>
<td>γ-CD-K-MOF-H₂S</td>
<td>14.48</td>
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