Two solvent-stable MOFs as a recyclable luminescent probe for detecting dichromate or chromate anions

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Figure S1. (a) The coordinated environments of H₂btz ligand in 1 and (b) H₃ttz ligand in 2.

Figure S2. Thermogravimetric analyses curves of 1 (red) and 2 (black).
Figure S3. The PXRD patterns of 1 (a) and 2 (b), simulated from the single-crystal data (black), synthesized compounds (red).

Figure S4. The PXRD patterns of compound 1 (a) and 2 (b) after immersing in various organic solvents.

Figure S5. The PXRD patterns of 1 (a) and 2 (b) after being exposed to aqueous solutions with various pH values from 1.0 to 14.0.
**Fig. S6.** Solid-state photoluminescence spectra of $\text{H}_2\text{btz}$ ($\lambda_{\text{excited}} = 260 \text{ nm}$).

**Fig. S7.** The emission spectra of 1 (a) and 2 (b) ($\lambda_{\text{excited}} = 260 \text{ nm}$).

**Fig. S8.** The fluorescence intensity of 1 (a) and 2 (b) before and after dropping others anions except for $\text{Cr}_2\text{O}_7^{2-}$ or $\text{CrO}_4^{2-}$.
Fig. S9. The fluorescence intensity of 1 (a) and 2 (b) before and after dropping some amount of pure water.

Fig. S10. The intensity plots of 1 vs log [Cr$_2$O$_7^{2-}$] (a) and 1 vs log [CrO$_4^{2-}$] (b).

Fig. S11. The intensity plots of 2 vs log [Cr$_2$O$_7^{2-}$] (a) and 2 vs log [CrO$_4^{2-}$] (b).
Fig. S12. The PXRD patterns of 1 (a) and 2 (b) after five recyclings.

Fig. S13. The PXRD patterns of 1 (a) and 2 (b). simulated from the single-crystal data (black), as-synthesized compound (red), 1 immersing in H$_2$O (blue), Cr$_2$O$_7^{2-}$ (green) and CrO$_4^{2-}$ (pink).

Fig. S14. UV-vis spectra of the K$_2$Cr$_2$O$_7$ (a) and K$_2$CrO$_4$ (b) solutions
Table S1. the relationship between the concentration of Cr$_2$O$_7^{2-}$/CrO$_4^{2-}$ and the quenching effect.

<table>
<thead>
<tr>
<th>Compounds</th>
<th>Cr (VI) of CrO$_4^{2-}$ (ppm)</th>
<th>Cr (VI) of Cr$_2$O$_7^{2-}$ (ppm)</th>
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<tr>
<td>1</td>
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<td>0.1140</td>
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<td>2</td>
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<td>0.0141</td>
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<td>detectable limit</td>
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Table S2. The ICP results of recycled 1 and 2