Electronic Supplementary Material (ESI) for Analytical Methods.

Zirconium-based metal-organic framework loaded agarose hydrogels for fluorescence turn-on detection of nerve agent simulant vapor

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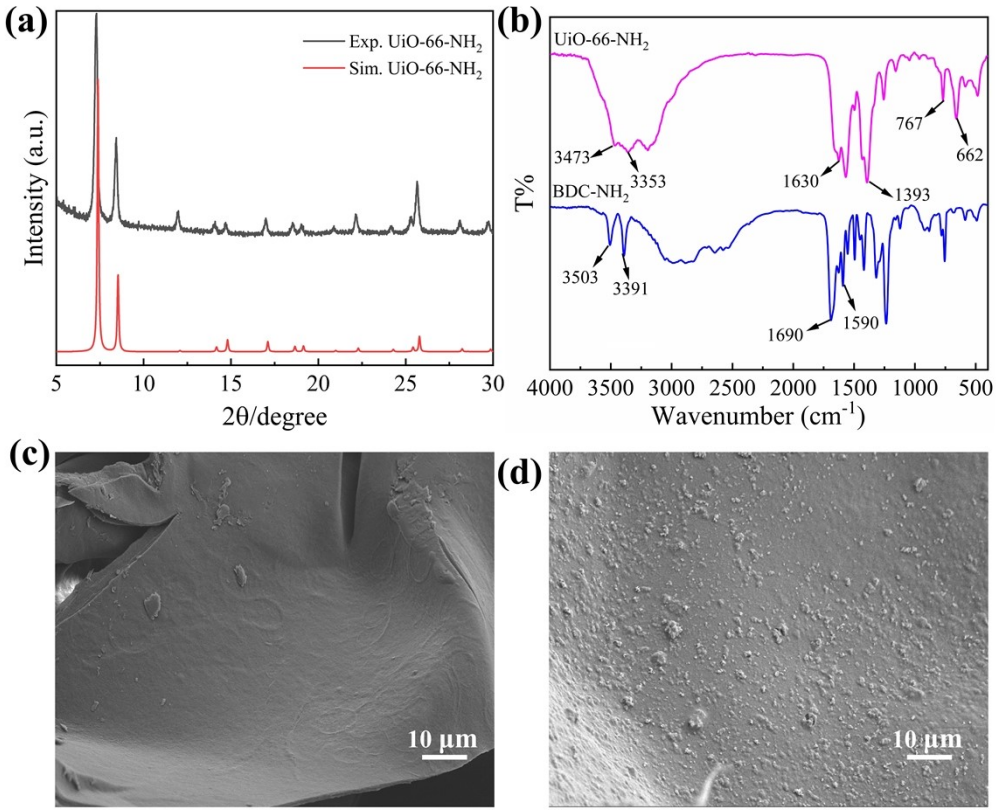

Fig. S1. (a) PXRD patterns of UiO-66-NH_2 and simulated UiO-66-NH_2, (b) FT-IR plots of UiO-66-NH_2 and BDC-NH_2, (c) SEM image of Aga hydrogel, (d) SEM image of UiO-66-NH_2@Aga.

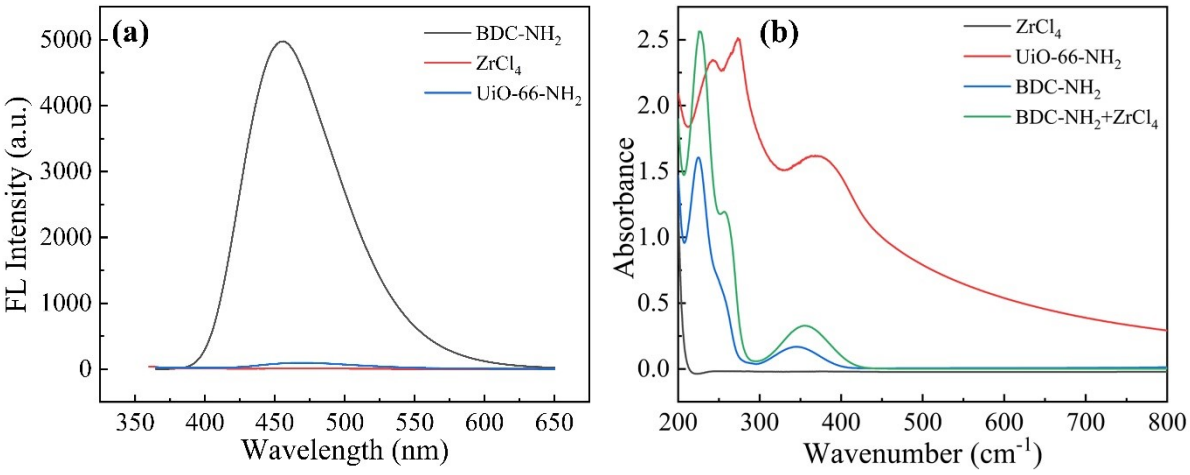

Fig. S2. Fluorescence spectra of (a) $BDC\text{-}NH_2$, $ZrCl_4$ and $UiO\text{-}66\text{-}NH_2$, (b) UV-vis absorption spectra of $ZrCl_4$, $UiO\text{-}66\text{-}NH_2$, $BDC\text{-}NH_2$ and $BDC\text{-}NH_2$+$ZrCl_4$.

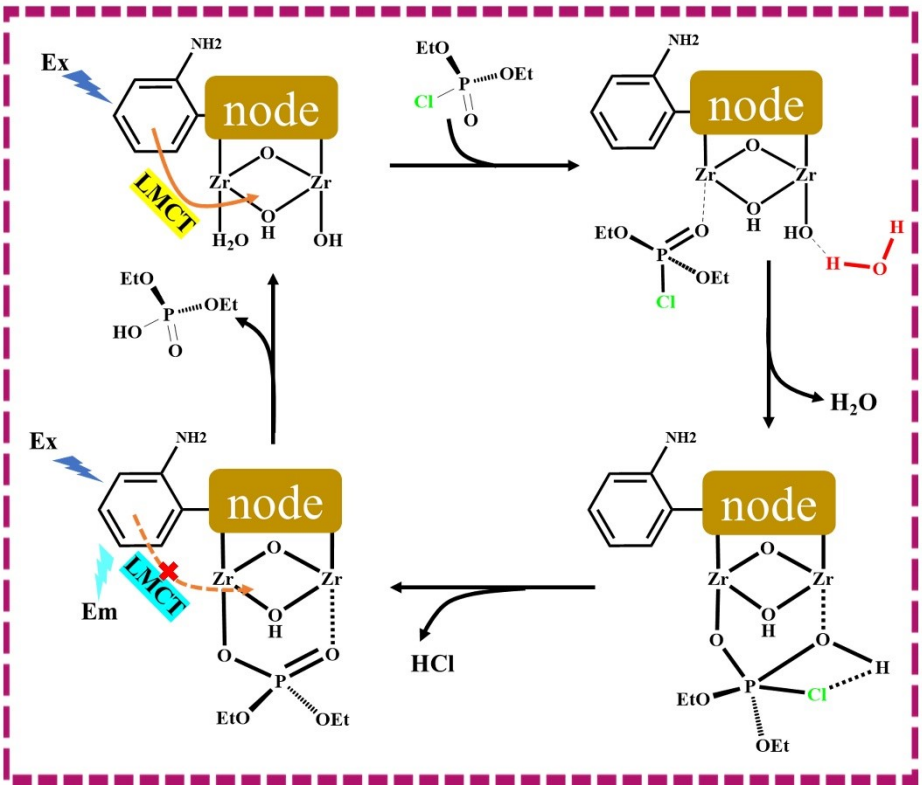

Fig. S3. The reaction process of $UiO\text{-}66\text{-}NH_2$ with DCP and the mechanism of LMCT process change.

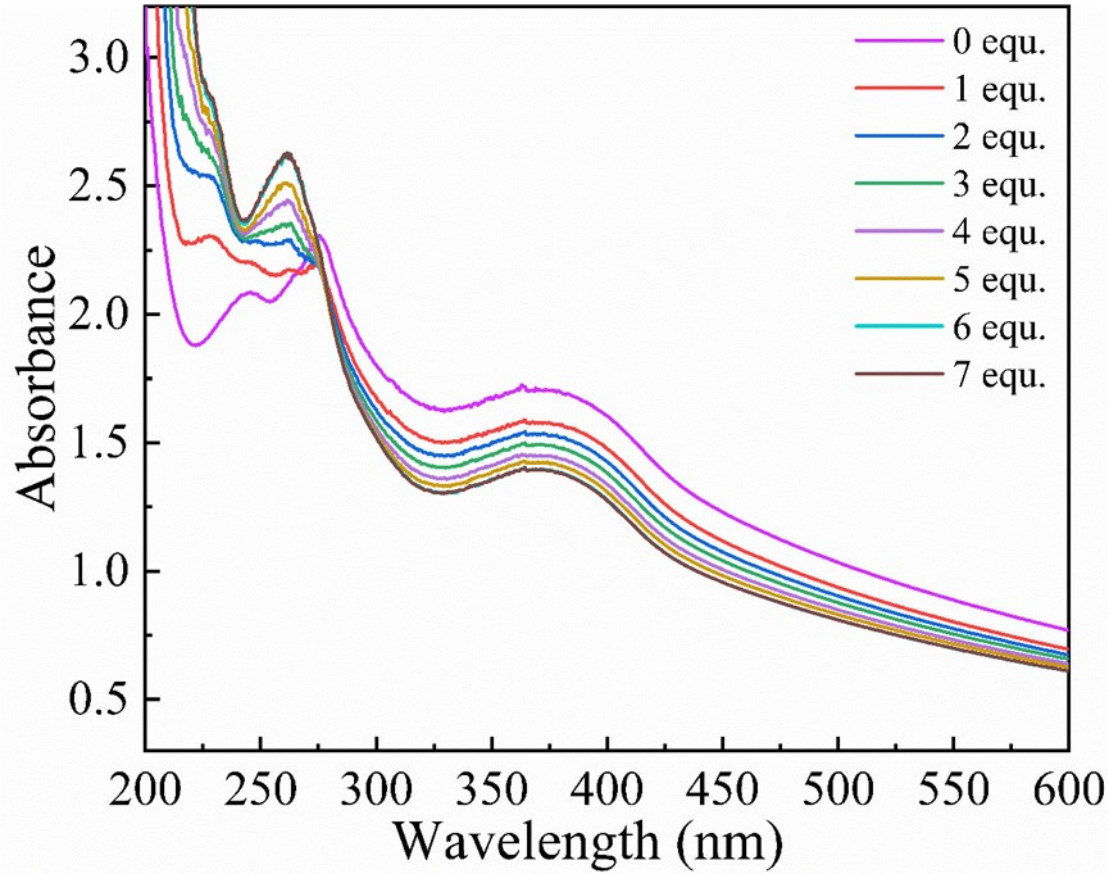

Fig. S4. UV-vis titration experiment with DCP.

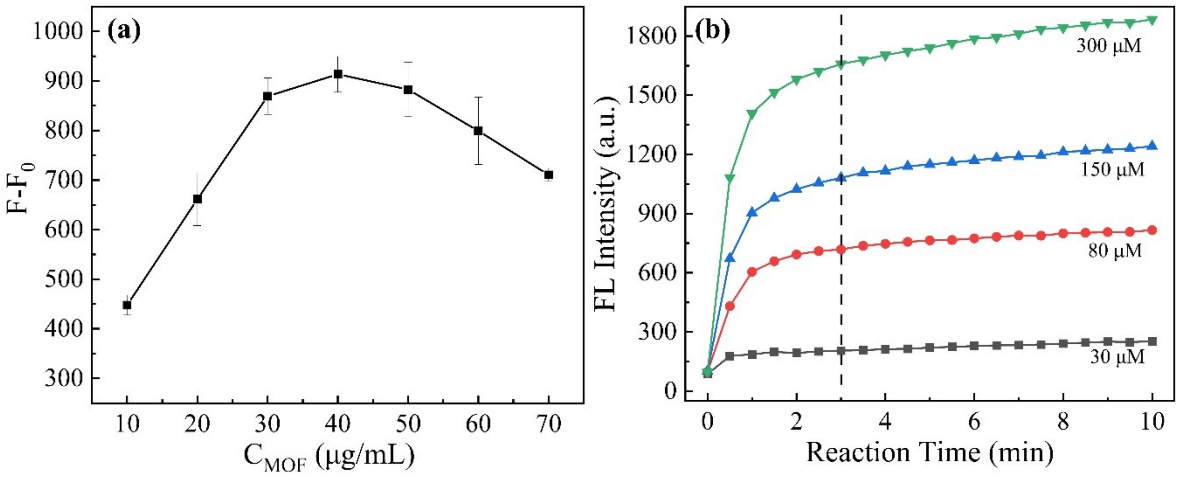

Fig. S5. Optimization of the conditions for UiO-66-NH_2 detection of DCP concentration in aqueous solution (a) UiO-66-NH_2 concentration, (b) Reaction time.

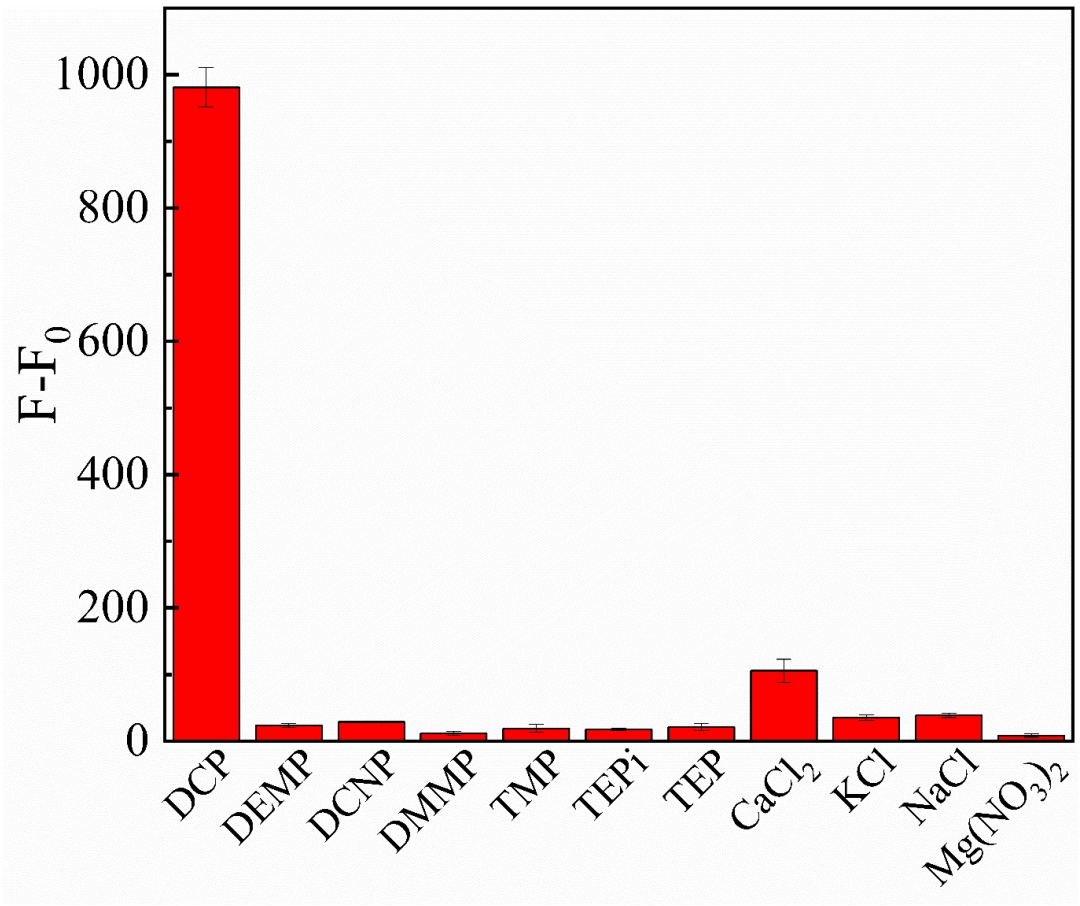

Fig. S6. Selective experiments for possible distractors in the aqueous phase.

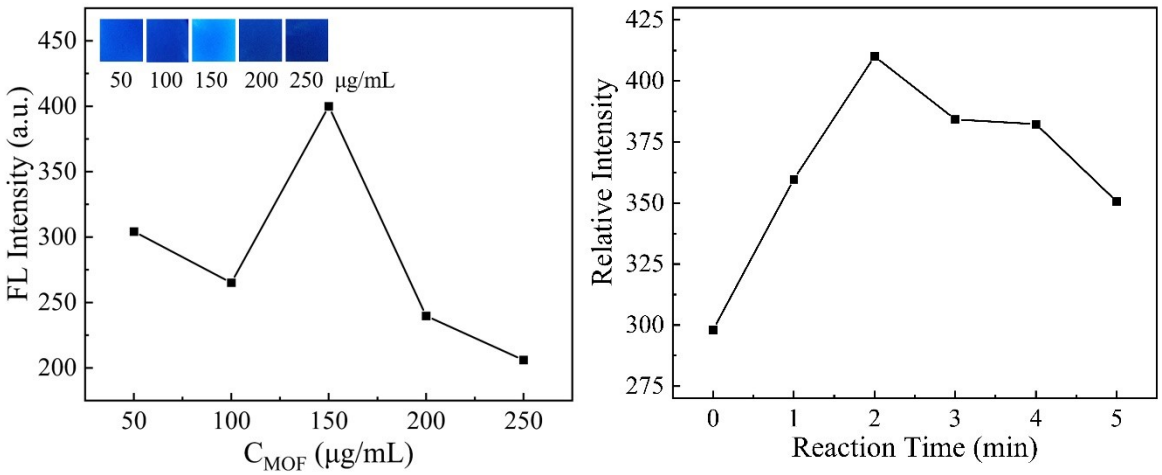

Fig. S7. Optimization of conditions for the reaction of UiO-66-NH_2@Aga with DCP vapor (a) UiO-66-NH_2 concentration, (b) Reaction time.