

Supplementary material

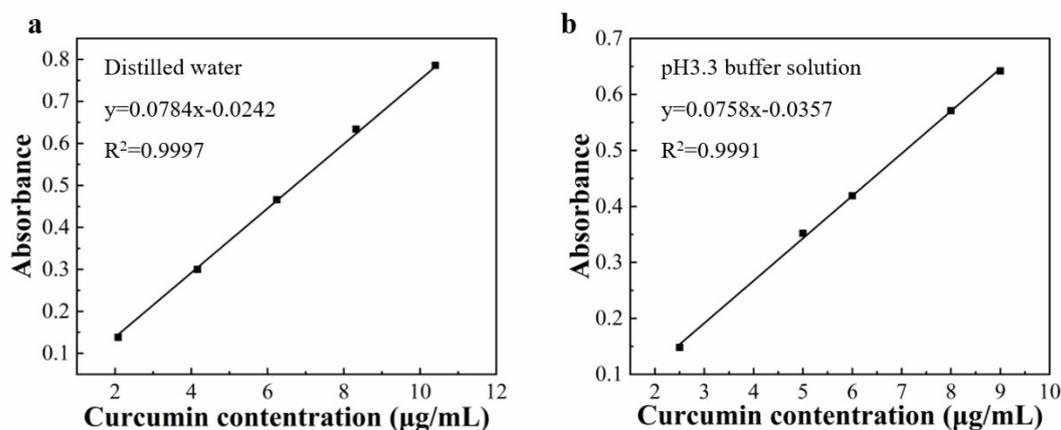


Fig. S1. Standard curve of curcumin in distilled water (a) and pH 3.3 buffer solution (b).

Curcumin is unstable at basic pH, which mainly refers to alkaline aqueous solution. As a control, we investigated the stability of curcumin in ethanol solution containing KOH or CH_3COOK as a control. Curcumin was dissolved in ethanol solution containing KOH or CH_3COOK and stirred for 1 h in the dark condition at room temperature. The alkalinity was the same with the ethanol solution containing the highest mass concentration of CD-MOFs. Then the solution was diluted with ethanol to measure the absorbance through UV-vis spectrophotometer. It can be seen from **Fig. S2a-b** that the absorbance of curcumin was almost unchanged after 1 h, indicating that there will be no degradation of curcumin in ethanol under our experimental conditions. Besides, curcumin in ethanol solution containing KOH was red (**Fig. S2c**), whereas that in ethanol solution containing CH_3COOK was brownish-orangey (**Fig. S2d**), which depends on the protonation state of the three hydroxyl groups changing with pH. When the red and brownish-orangey solution was diluted with ethanol, the color was returned to golden yellow, suggesting that the proton change of hydroxyl groups of curcumin is reversible and will not affect its biological effects.

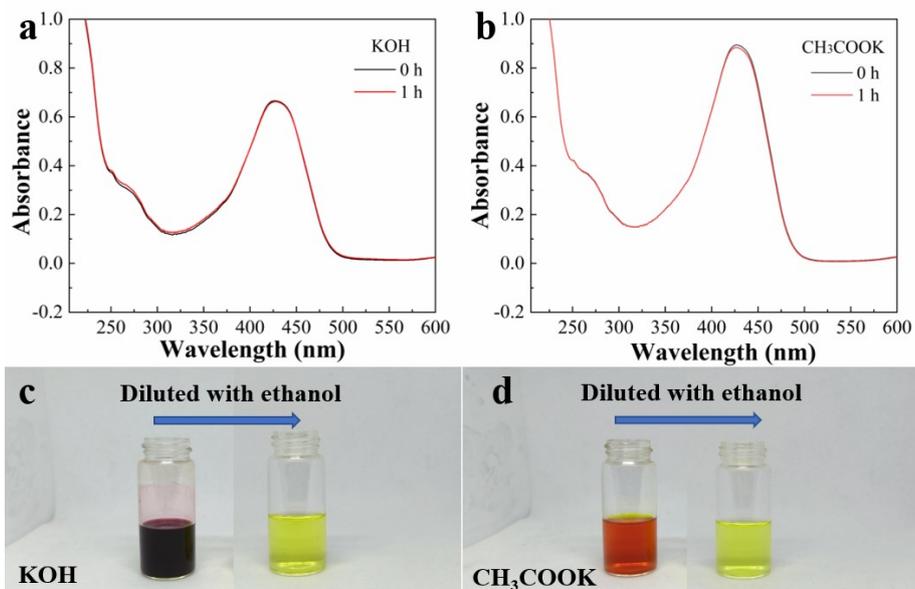


Fig. S2. UV-visible absorption spectra of curcumin in ethanol solution containing KOH with time (a). UV-visible absorption spectra of curcumin in ethanol solution containing CH₃COOK with time (b). Photograph of curcumin in ethanol solution containing KOH and the solution diluted with ethanol (c). Photograph of curcumin in ethanol solution containing CH₃COOK and the solution diluted with ethanol (d).

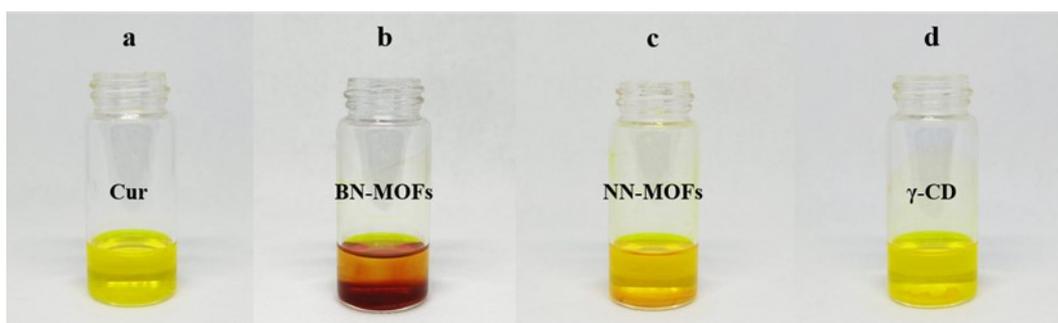


Fig. S3. Curcumin in ethanol solution (a), BN-MOFs in curcumin solution (b), NN-MOFs in curcumin solution (c), γ -CD in curcumin solution (d).

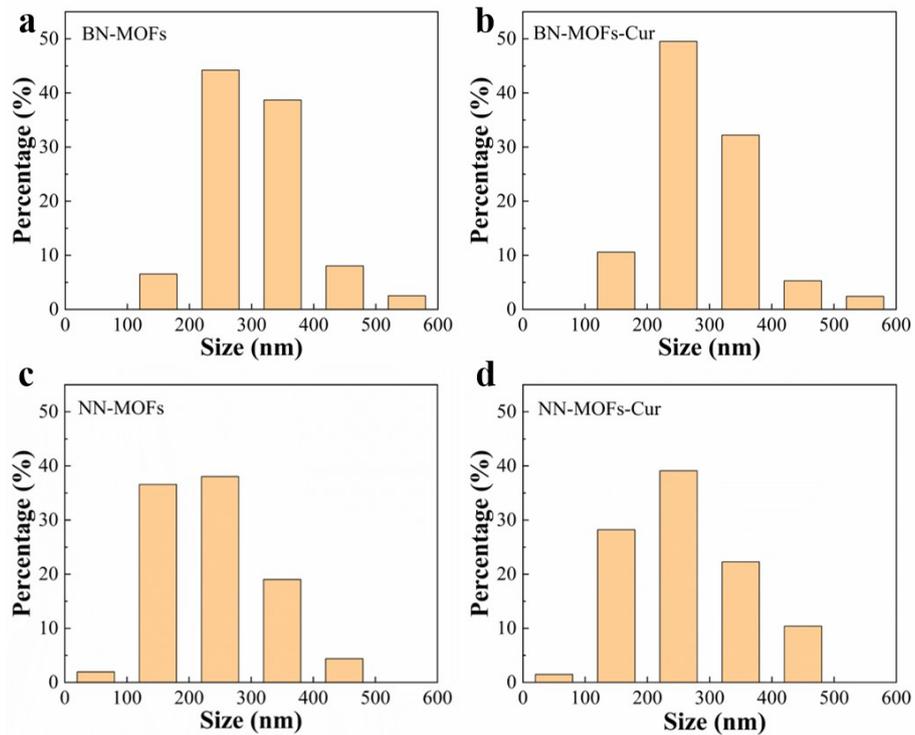


Fig. S4. Size distribution of BN-MOFs (a), BN-MOFs-Cur (b), NN-MOFs (c), NN-MOFs-Cur (d).

Table S1 Light degradation kinetics parameters of encapsulated curcumin.

Sample	K (min ⁻¹)	t _{1/2}	R ²
BN-MOFs-Cur	0.0027	256.7±3.4	0.9966
NN-MOFs-Cur	0.0045	154.0±1.5	0.9829
CD-Cur	0.0047	147.5±2.3	0.9916
Curcumin	0.0124	54.6±1.3	0.9805