

Electronic supporting information for

Hollow structural metal-organic frameworks exhibit high drug loading capacity, targeted delivery and magnetic resonance/optical multimodal imaging

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Supplementary Information:

Table 1 Comparison table of drug loading capabilities of MOFs-based drug delivery systems.

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Figure S2 The calibration curve of FA

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Figure S4 N₂ adsorption-desorption isotherms and pore size distribution (the insert) of hollow Fe-MOF-5-NH₂. The adsorption branch is shown in black color (A) and the desorption branch in red color (B)

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Figure S7 The excitation spectra and emission spectra of 5-FAM (A, B); The excitation spectra and emission spectra of Fe-MOF-5-NH₂-FA-5-FAM/5-FU (C, D)

Figure S8 (a) Viabilities of HL-7702 cells cultured with Fe-MOF-5-NH₂-FA-5-FAM (A), Fe-MOF-5-NH₂-FA-5-FAM/5-FU (B) and 5-FU (C), evaluated by MTT; (b) Viabilities of HePG-2 cells cultured with Fe-MOF-5-NH₂-FA-5-FAM (A), Fe-MOF-5-NH₂-FA-5-FAM/5-FU (B) and 5-FU (C), evaluated by MTT.

Figure S9 XRD patterns of Fe-MOF-5-NH₂-FA-5-FAM/5-FU after drug release in pH 4 (A), pH 5 (B), pH 6 (C), pH 7.4 (D) and in pH 8 (E)

Table 1 Comparison table of drug loading capabilities of MOFs-based drug delivery

systems.

MOFs-based drug carrier	Drug	Loading efficiency [wt%]	Ref
UiO-AZB	5-FU	15	S1
MOF-5	CUR	7.7	S2
	SUL	22.4	
	TAT	34.0	
PEG-RGD- β -CD-SS-MIL-101	DOX	13.4	S3
UiO-66	Caffeine	21.2 ± 0.7	S4
MIL-53	Caffeine	29.2 ± 1.5	S4
$\text{Zn}_2(1,4\text{-bdc})_2(\text{dabco})$	IBU	15	S5
MIL-100 (Fe)	DOX	9	S6
Zn-TATAT	5-FU	33.3	S7
bMOF-4/102	Etilefrine hydrochloride	10.9 ± 0.9	S8
$\text{Fe}_3\text{O}_4@\text{UIO-66-NH}_2/\text{graphdiyn}$	DOX	43.8	S9
Hollow Fe-MOF-5	5-FU	35	This work

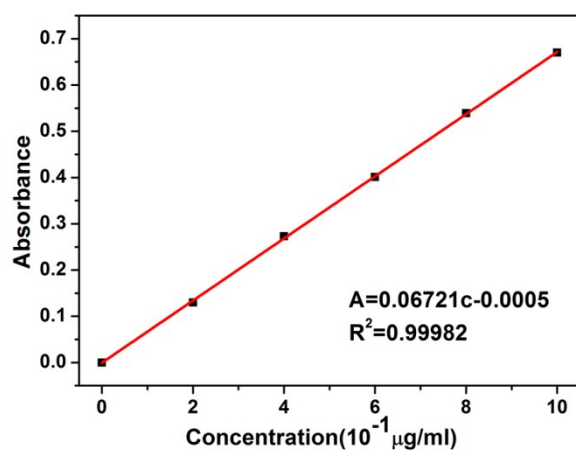


Figure S1 The calibration curve of 5-FU

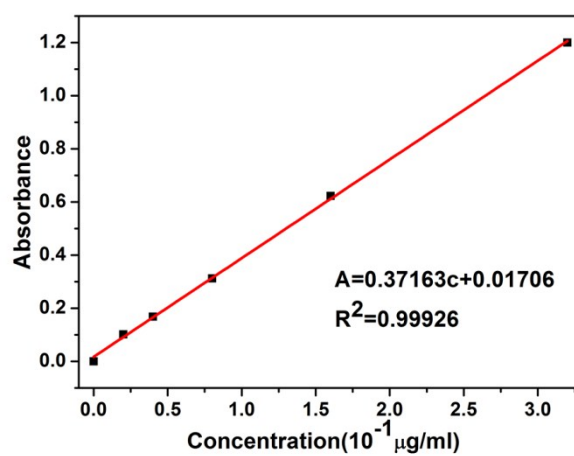


Figure S2 The calibration curve of FA

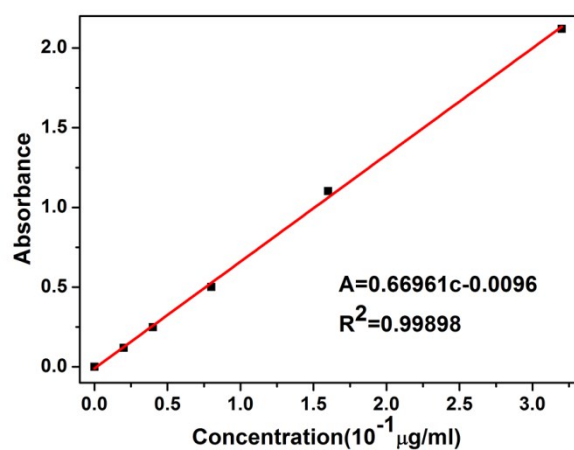


Figure S3 The calibration curve of 5-FAM

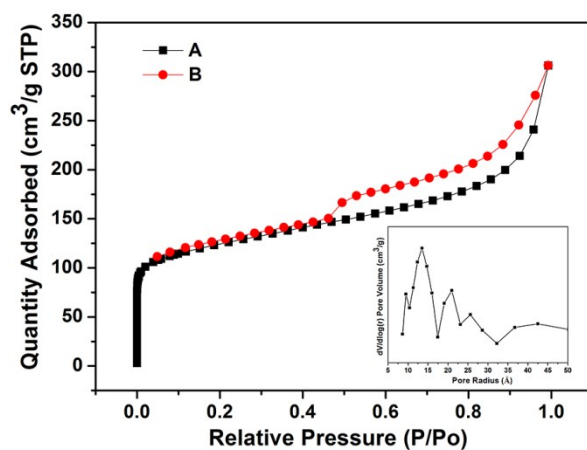


Figure S4. N₂ adsorption-desorption isotherms and pore size distribution (the insert) of hollow Fe-MOF-5-NH₂. The adsorption branch is shown in black color (A) and the desorption branch in red color (B)

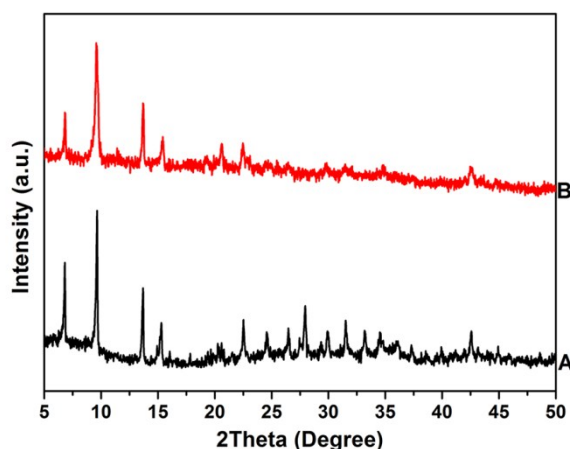


Figure S5 XRD patterns of Fe-MOF-5-NH₂ (A) and Fe-MOF-5-NH₂-FA-5-FAM/5-FU (B)

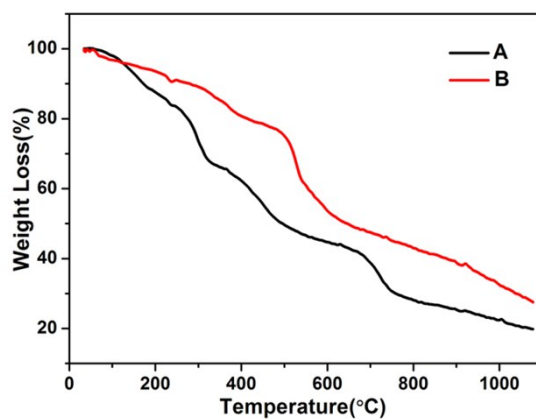


Figure S6 TGA curves of Fe-MOF-5-NH₂ (A) and Fe-MOF-5-NH₂-FA-5-FAM/5-FU (B)

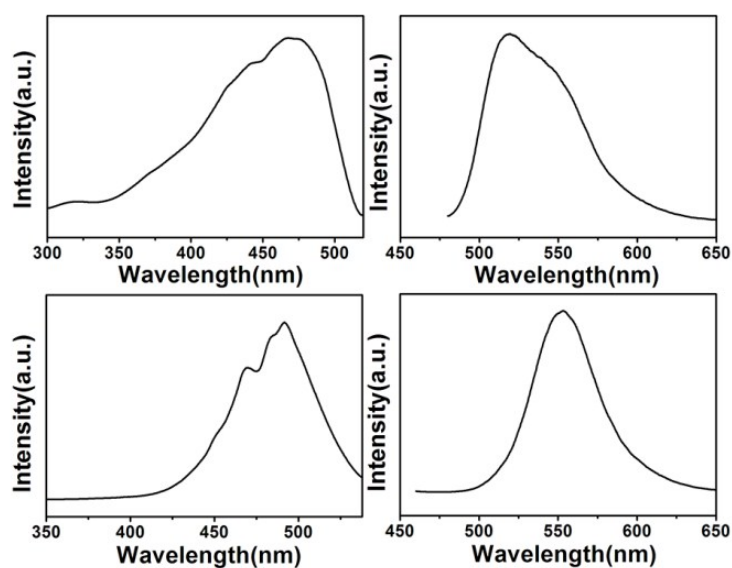


Figure S7 The excitation spectra and emission spectra of 5-FAM (A, B); The excitation spectra and emission spectra of Fe-MOF-5-NH₂-FA-5-FAM/5-FU (C, D)

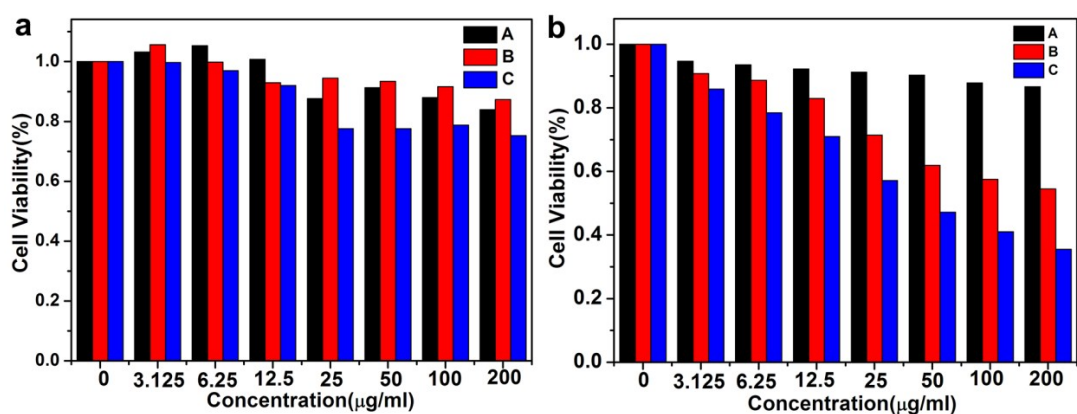


Figure S8 (a) Viabilities of HL-7702 cells cultured with Fe-MOF-5-NH₂-FA-5-FAM (A), Fe-MOF-5-NH₂-FA-5-FAM/5-FU (B) and 5-FU (C), evaluated by MTT; (b) Viabilities of HePG-2 cells cultured with Fe-MOF-5-NH₂-FA-5-FAM (A), Fe-MOF-5-NH₂-FA-5-FAM/5-FU (B) and 5-FU (C), evaluated by MTT.

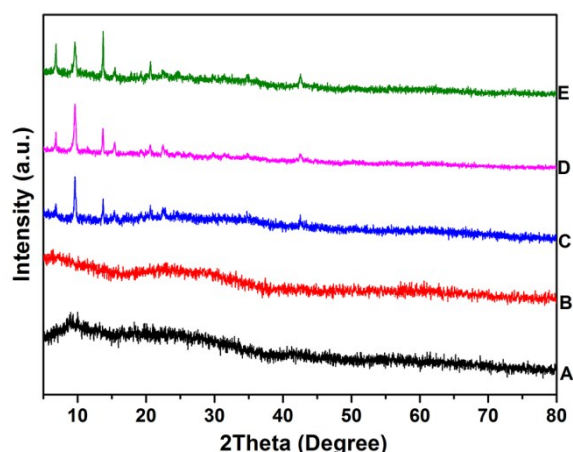


Figure S9 XRD patterns of Fe-MOF-5-NH₂-FA-5-FAM/5-FU after drug release in pH 4 (A), pH 5 (B), pH 6 (C), pH 7.4 (D) and in pH 8 (E)

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