Electronic Supplementary Material (ESI) for Biomaterials Science.
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Biodegradable Covalent Organic Frameworks Achieving Tumor Micro-Environment Responsive Drug Release and Antitumor Treatment

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Table S1. Different conditions for the exploration of synthetic COF-TpAzo NPs.

Entry	Solvent	Volume of TFA (μL)	Temperature (℃)	Time (h)	Precipitate solvent	Wash solvent	SEM	XRD
1	DCM	20	70	15	ether	DMF	S1a	-
2	DCM	20	70	15	ether	DCM	S1b	S2a
3	DMF	20	120	15	ether and n-hexane	-	S1c	-
4	DCM	20	70	15	n-hexane	-	S1d	S2b
5	DCM	20	35	24	n-hexane	DMAc	S1e	S2c
6	DCM	20	70	24	n-hexane	DMAc	S1f	S2d
7	DCM	20	70	72	n-hexane	DMAc	S1g	S2e
8	Dry DCM	20	70	72	n-hexane	DMAc	S1h	S2f
9	DCM	10	70	72	n-hexane	DMAc	-	S2g

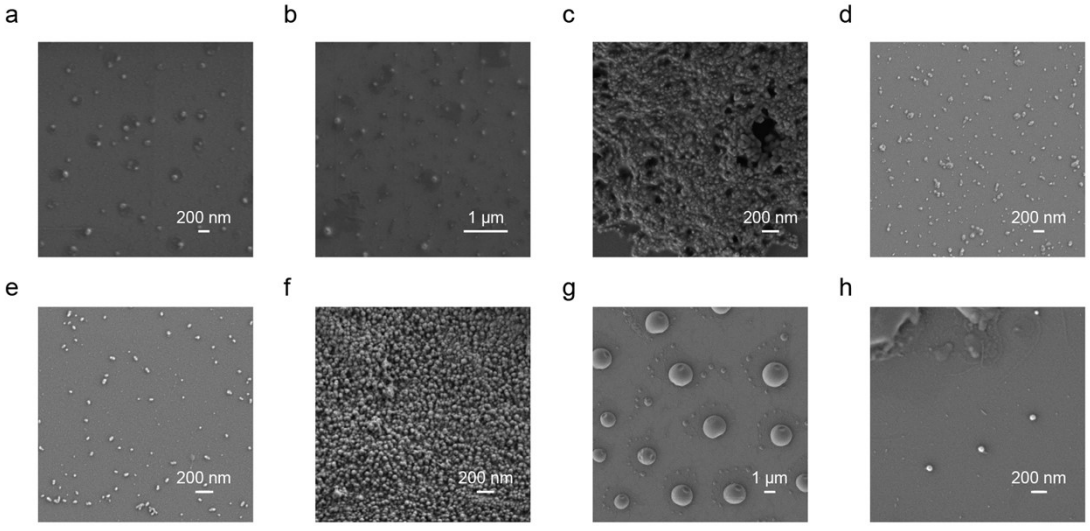

Figure S1. SEM images of the nanoparticles obtained by the corresponding synthesis method in **Table S1**.

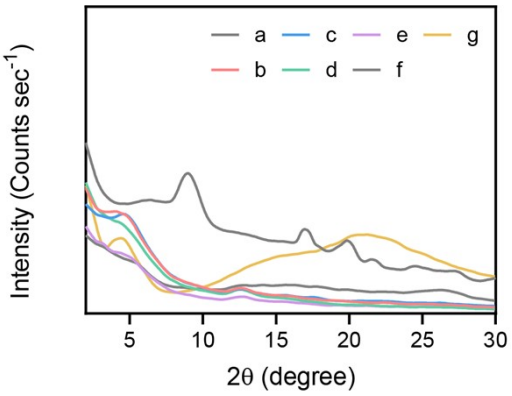

Figure S2. XRD spectrums of the nanoparticles obtained by the corresponding synthesis method in **Table S1**.

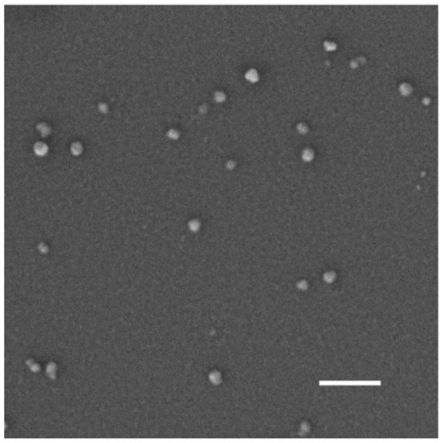

Figure S3. Larger magnification SEM image of the COF-TpAzo NPs. Scale bar: 200 nm.

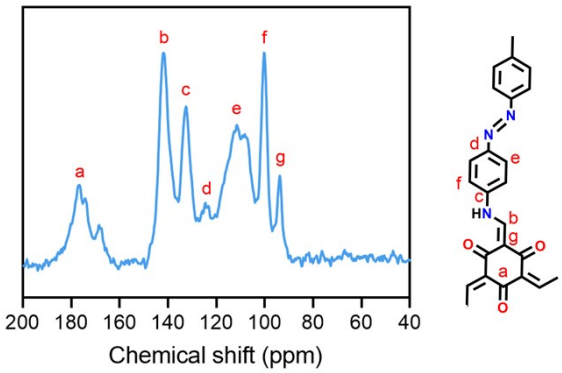

Figure S4. ^{13}C CP-MAS NMR spectra of the COF-TpAzo NPs.

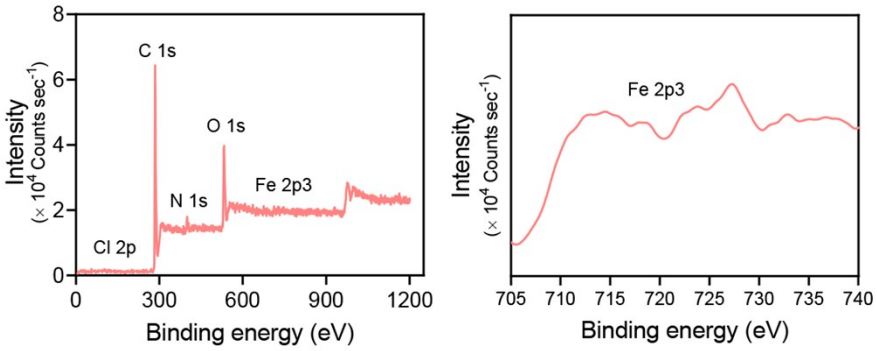

Figure S5. XPS spectra of Fe-COF.

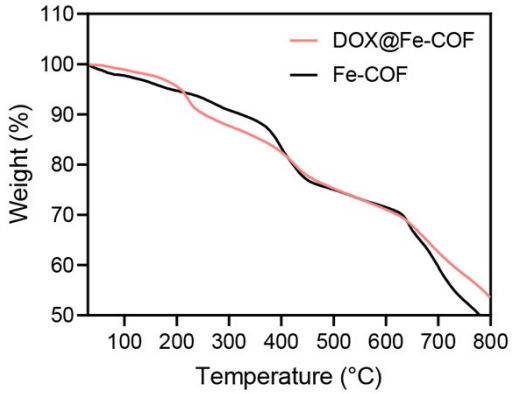

Figure S6. Thermogravimetric analyses of COF-TpAzo and Fe-COF under N_2 atmosphere.

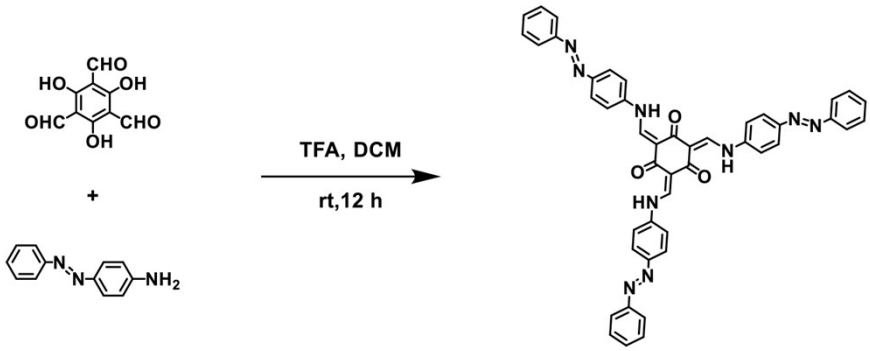

Figure S7. The synthesis route of the model compound.

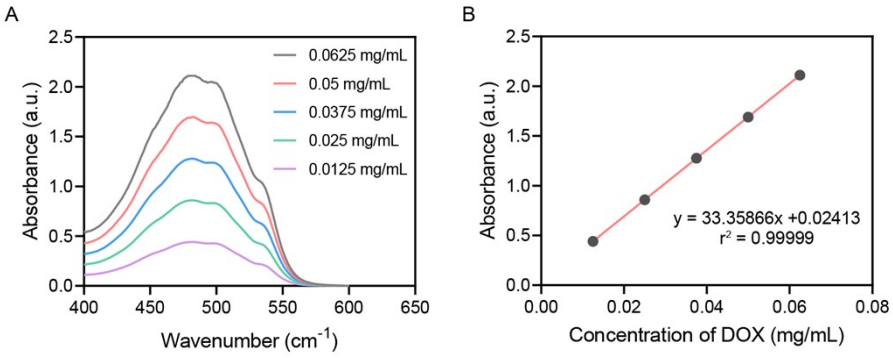

Figure S8. (A) UV-vis spectra of DOX·HCl of different concentrations in DMSO. (B) Standard curve of DOX·HCl in DMSO.

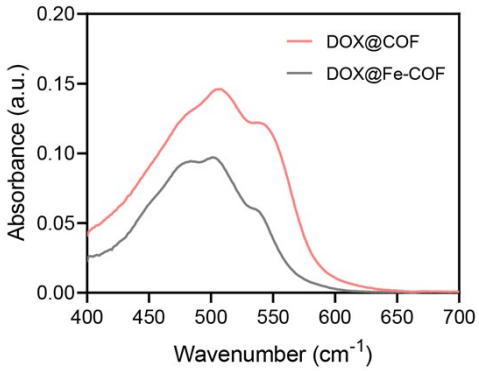

Figure S9. UV-vis spectra of DOX soaked from 1 mg DOX@COF NPs and 1 mg DOX@Fe-COF NPs in DMSO.

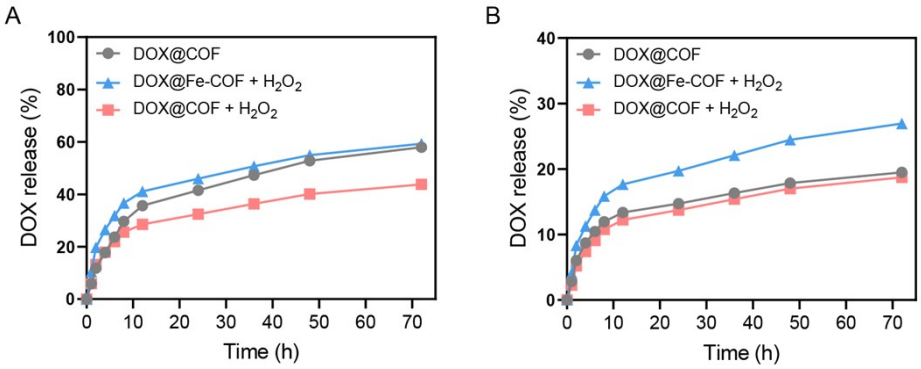

Figure S10. DOX release profiles from NPs in PB solution of different pH (A) pH = 5.5. (B) pH = 7.4.

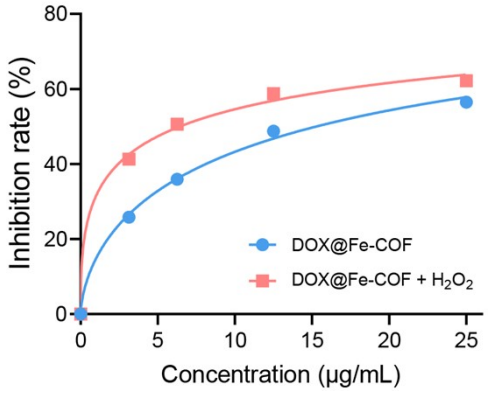

Figure S11. Calculation of IC50 of DOX@Fe-COF with and without H_2O_2. IC50 of DOX@Fe-COF without H_2O_2 was 15.28 μg/mL; IC50 of DOX@Fe-COF with H_2O_2 was 6.43 μg/mL.

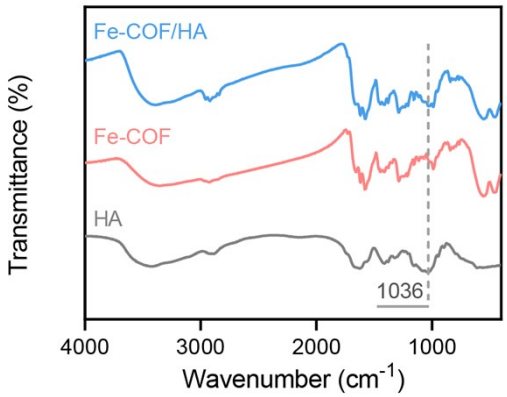

Figure S12. FT-IR spectrum of Fe-COF/HA, Fe-COF, and HA. The peak at 1036 cm^{-1} was attributed to the C-O-C stretching of HA.

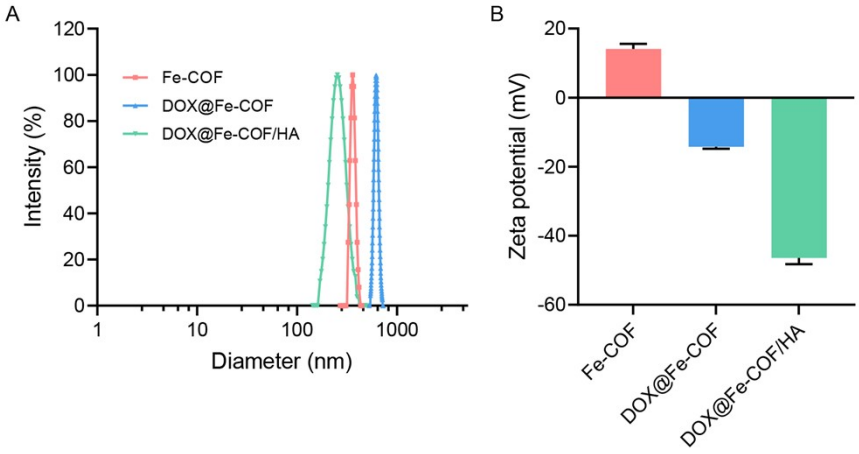

Figure S13. Hydrodynamic size and zeta potential of Fe-COF, DOX@Fe-COF, DOX@Fe-COF/HA. Fe-COF: 333.6 nm ± 6.6 nm; DOX@Fe-COF: 602.5 nm ± 7.6 nm; DOX@Fe-COF/HA: 295.7 nm ± 3.2 nm.

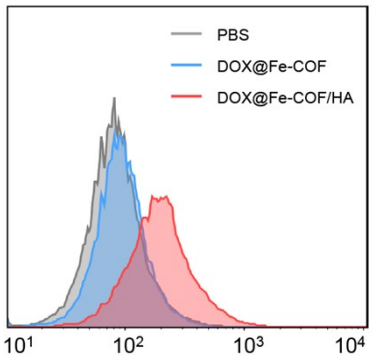

Figure S14. Flow cytometry of cellular uptake of DOX@Fe-COF and DOX@Fe-COF/HA.

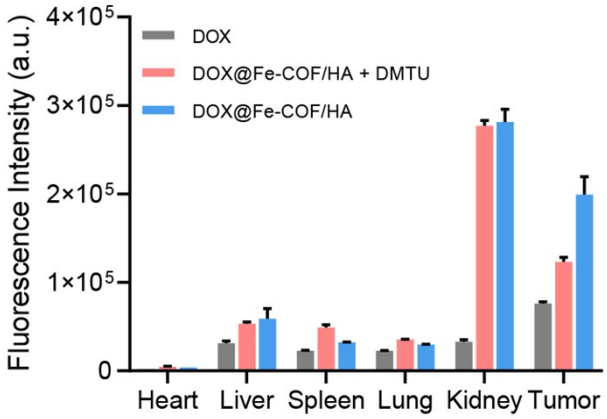

Figure S15. The quantification of the normalized fluorescence signal of the organs and tumors of each group.