

## Supporting Information

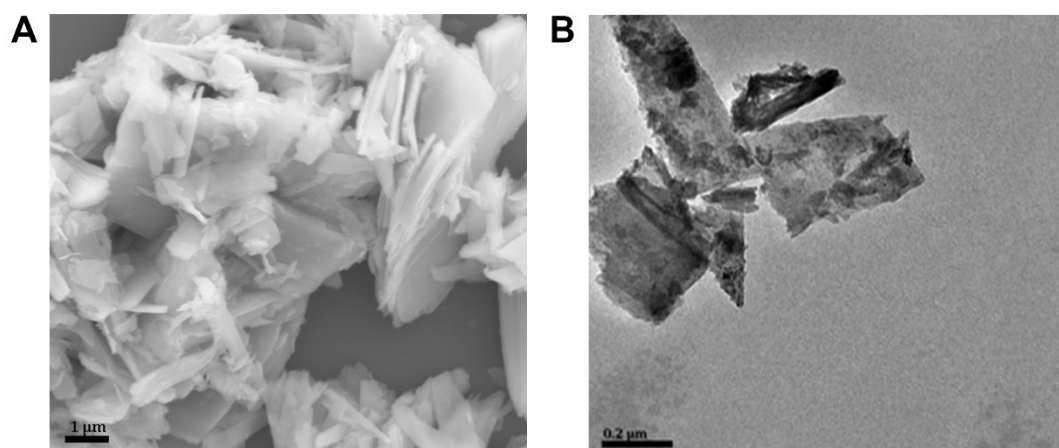
# Unsaturated phospholipid modified FeOCl nanosheets for enhancing tumor ferroptosis

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**Fig. S1** (A) SEM images of FeOCl plate. (B) TEM images of FeOCl plate.

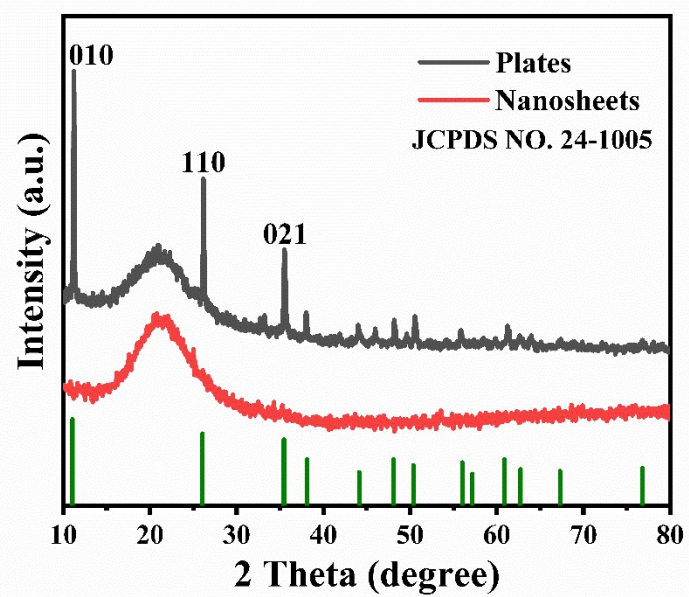
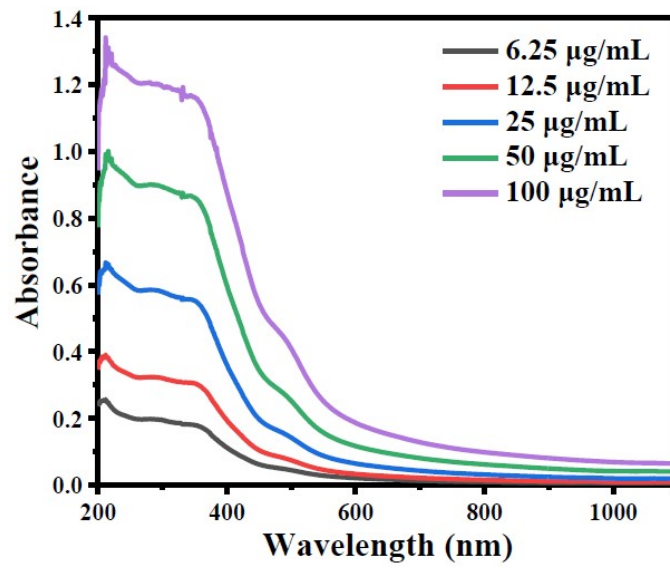


Fig. S2 XRD pattern of FeOCl before and after exfoliation.



**Fig. S3** The absorption spectra of different concentrations of FeOCl after exfoliation.

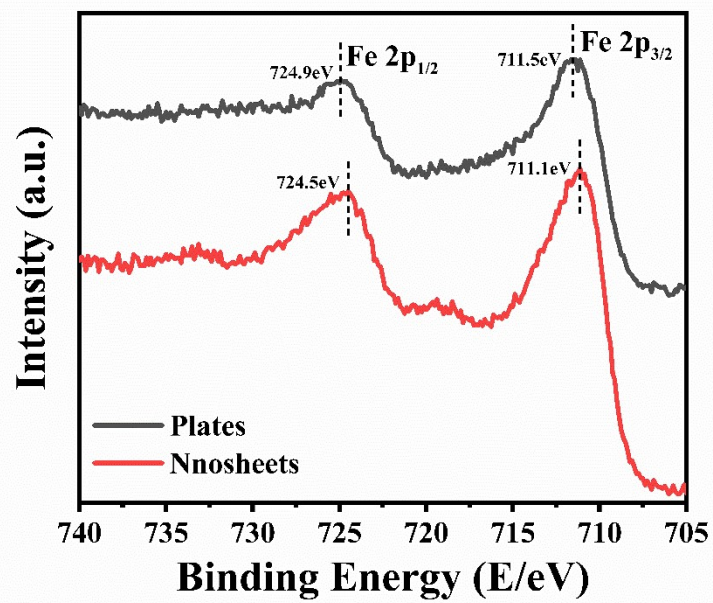
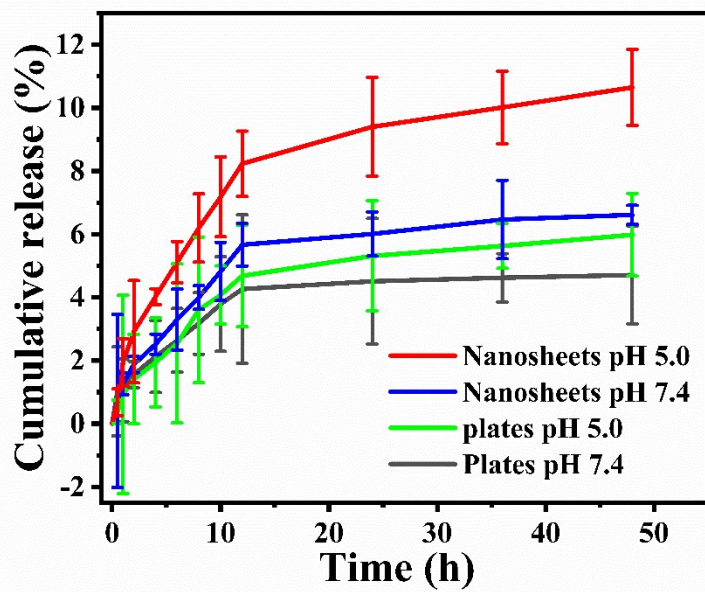
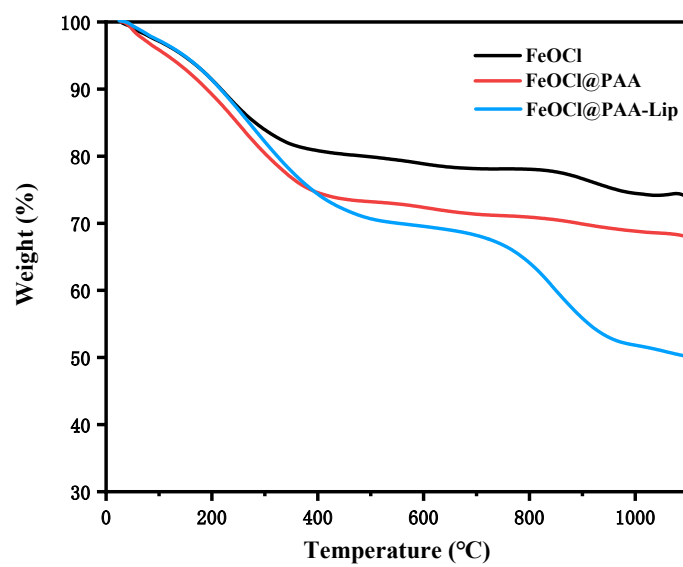


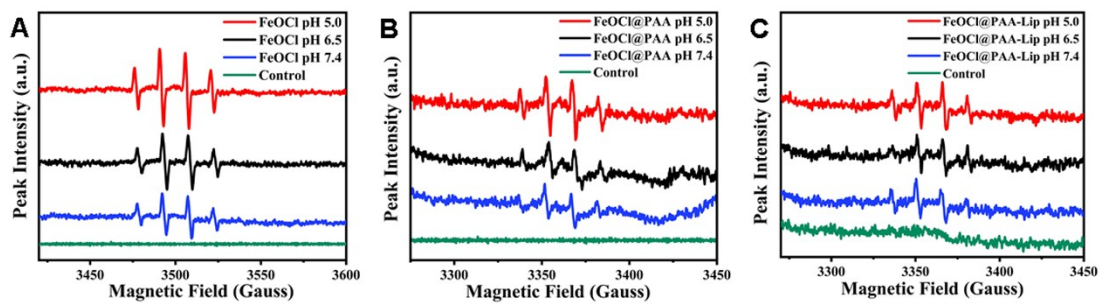
Fig. S4 XPS spectrum of FeOC1 before and after exfoliation.



**Fig. S5** The release curves of iron in different pH from FeOCl before and after exfoliation.

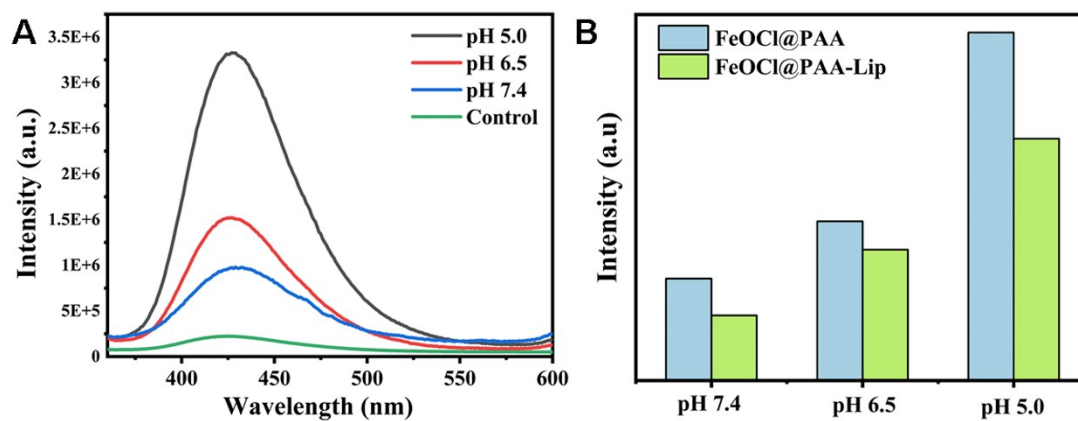


**Fig. S6** TGA curves of functionalized nanosheets.

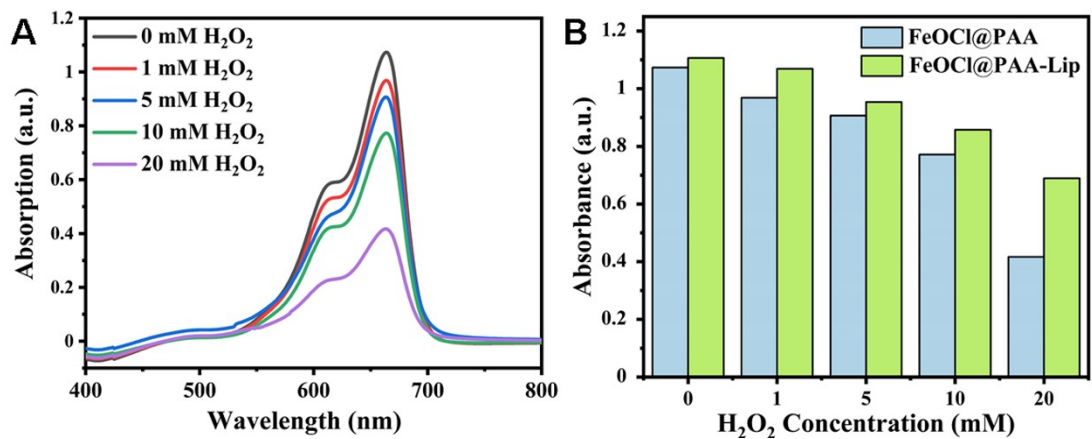


**Fig. S7** The ESR spectra of FeOCl, FeOCl@PAA and FeOCl@PAA-Lip at pH 7.4, pH 6.5 and pH 5.0.

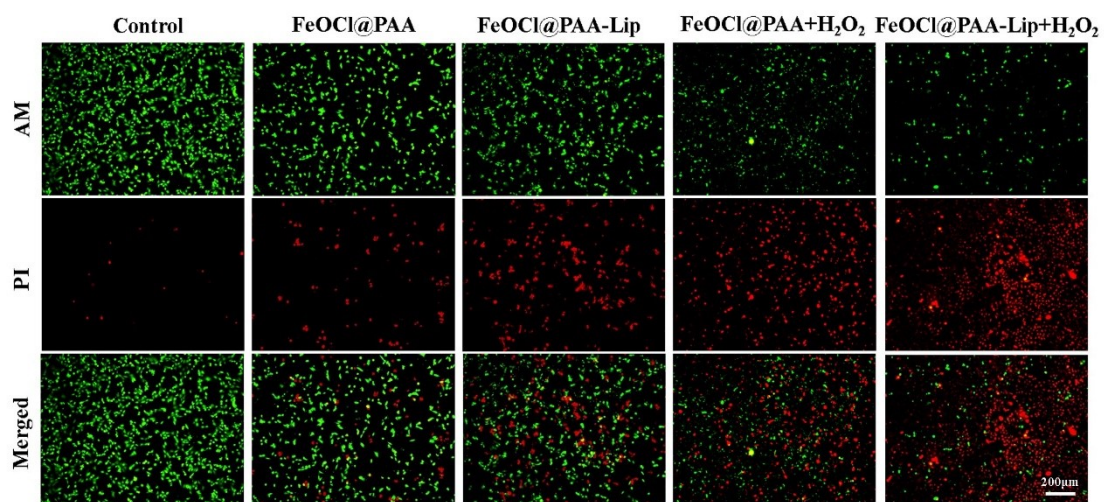




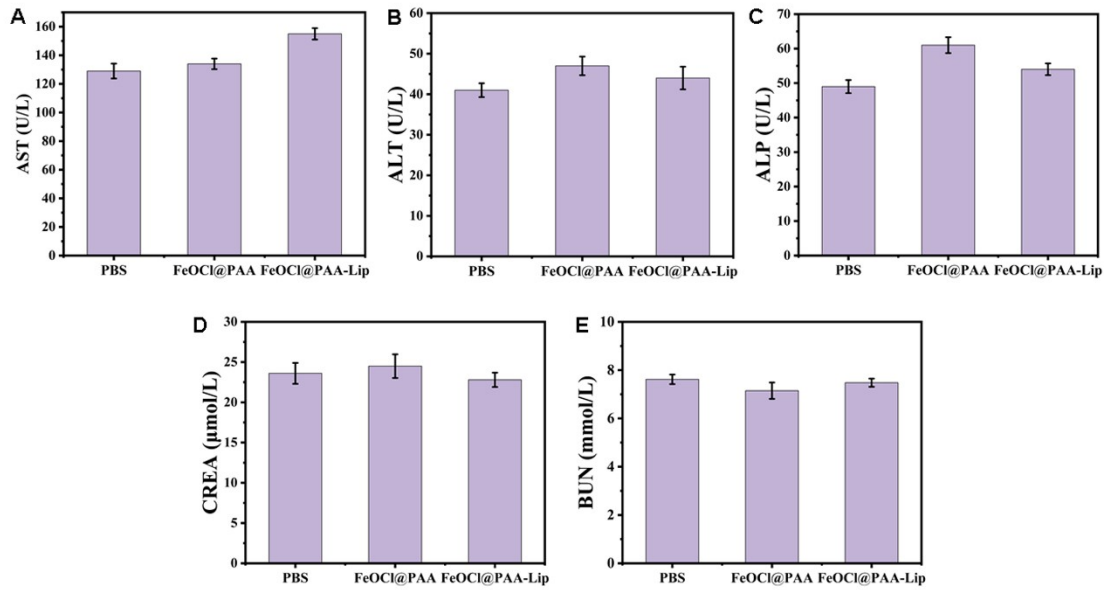
**Fig. S8** (A) The TA fluorogram of FeOCl@PAA in different pH conditions. (B) Comparison of TA fluorescence values at 426 nm between FeOCl@PAA and FeOCl@PAA-Lip under different pH conditions.



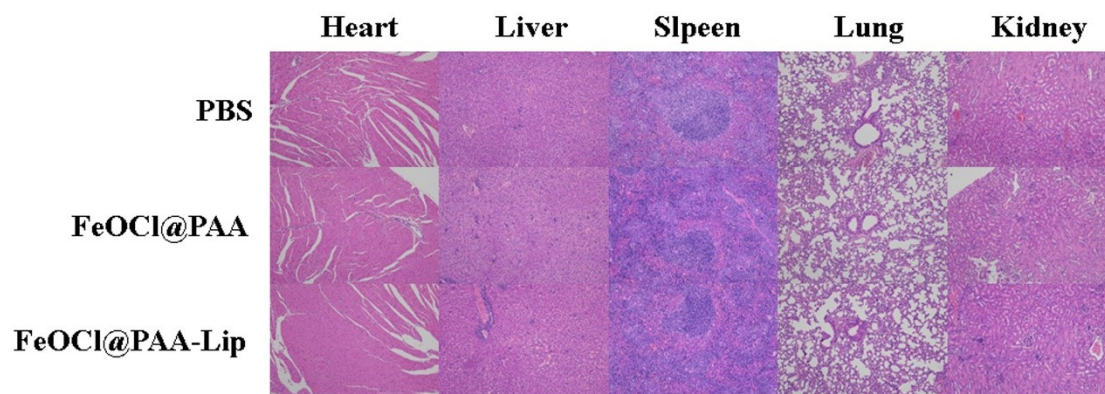
**Fig. S9** (A) The degradation curve of MB after treatment with FeOCl@PAA in different concentration of H<sub>2</sub>O<sub>2</sub>. (B) Comparison of MB absorbance value between FeOCl@PAA and FeOCl@PAA-Lip at 660 nm in different concentration of H<sub>2</sub>O<sub>2</sub>.



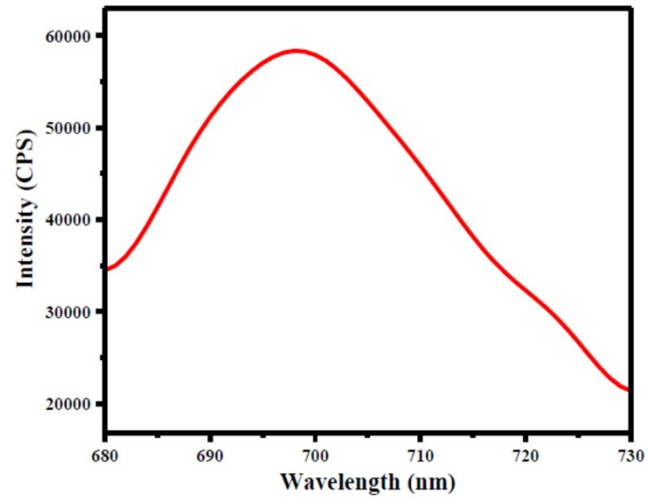
**Fig. S10** Calcein-AM/PI staining of 4T1 cells treated with FeOCl@PAA, FeOCl@PAA-Lip, FeOCl@PAA+H<sub>2</sub>O<sub>2</sub> and FeOCl@PAA-Lip+H<sub>2</sub>O<sub>2</sub>.



**Fig. S11** Blood biochemical indexes aspartate aminotransferase (AST), (alanine aminotransferase (ALT), alkaline phosphatase (ALP), creatinine (CREA) and urea nitrogen (BUN) indicators) of mice treated with PBS, FeOCl@PAA and FeOCl@PAA-Lip after 7 days.



**Fig. S12** H&E-stained images of the major organs of mice treated with PBS, FeOCl@PAA and FeOCl@PAA-Lip after 14 days.



**Fig. S13** Fluorescence spectrum of Cy 5.5/FeOCl@PAA-Lip at excitation of 650 nm.