

Figure S1. (A) Fluorescence spectra of 0.2 mg/mL PDA-PEI copolymer, PDA and PEI. (B) The stability of PDA-PEI copolymer.

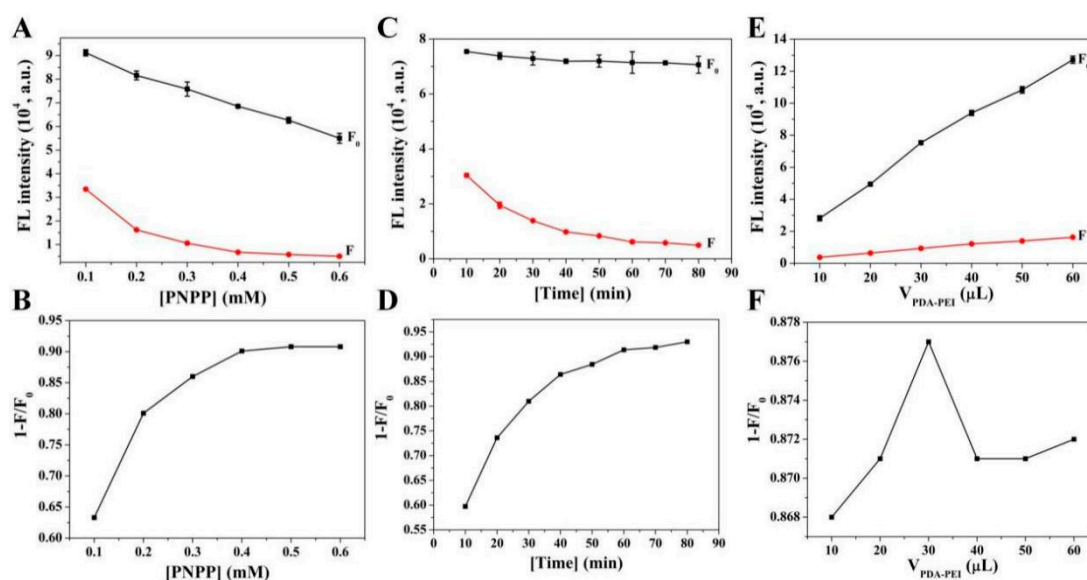


Figure S2. The impacts of PNPP concentration (A), incubation time of PNPP with ALP (C), the volume of PDA-PEI copolymer (E) on the fluorescence intensity of PDA-PEI QDs copolymer in the absence (F_0 value) and presence of ALP (F value). The relationship between PNPP concentration (B), incubation time of PNPP with ALP (D), the volume of PDA-PEI copolymer (F) and $1-F_0/F$.

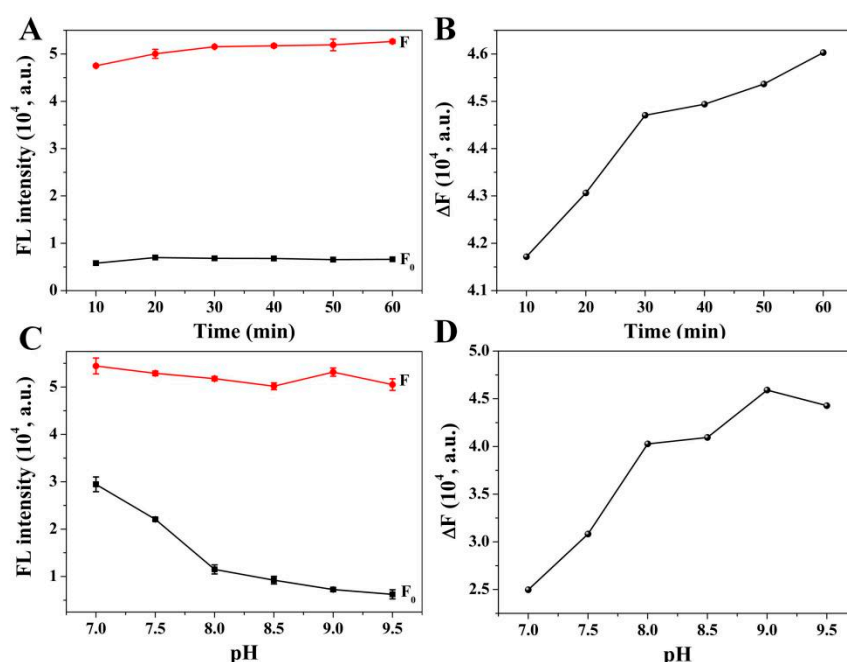


Figure S3. The effects of incubation time of glyphosate with ALP (A) and the pH value of buffer solution (B) on glyphosate detection. The change trend of ΔF at different incubation time (C) and different pH values of buffer solution (D).

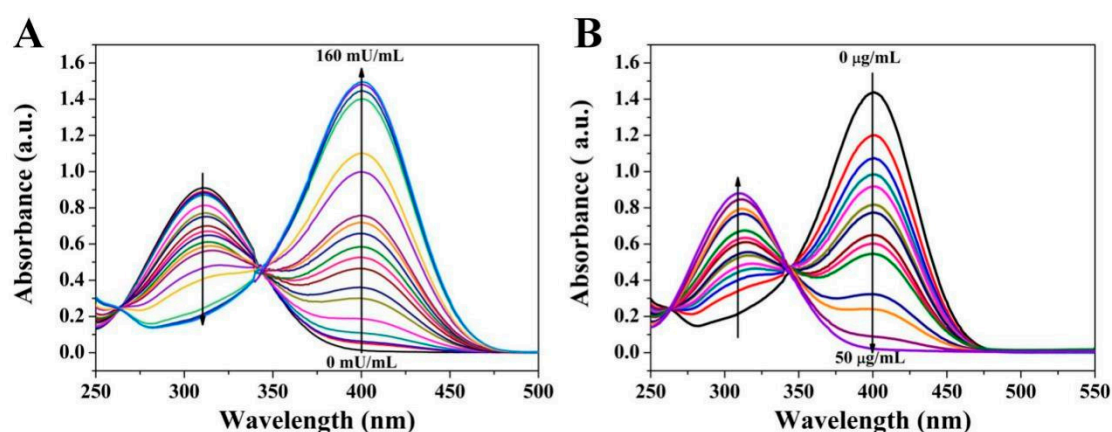


Figure S4. UV-vis absorption spectra of PNPP in the absence and presence of various activities of ALP (A) and PNPP-ALP before and after the introduction of various concentrations of glyphosate (B).

Table S1. Comparison the analytical performances of different methods for ALP detection.

| Methods/Materials | Linear range (mU/mL) | Detection limit (mU/mL) | Reference |
|--|----------------------|-------------------------|-----------|
| Colorimetry/Gold nanorods | 1.0–8.0 | 0.34 | 31 |
| Colorimetry/LMIO ^a /TMB/H ₂ O ₂ | 0.24–8 | 0.24 | 32 |
| Colorimetry/FeCo NPs@PNC ^b | 0.6–10 | 0.49 | 33 |
| Colorimetry/CeVO ₄ | 1–210 | 0.618 | 34 |
| Fluorimetry/Azamonardine | 0.1–6 | 0.07 | 35 |
| Fluorimetry/MnO ₂ nanosheets | 0.25–10 | 0.06 | 36 |
| Fluorimetry/Carbon dots | 0–30 | 0.314 | 37 |
| Fluorimetry/Au/Ag nanoclusters | 0.5–10 | 0.193 | 38 |
| Fluorimetry/PDA-PEI copolymer | 0.2–9 | 0.16 | This work |

^aLa_{0.9}Mn_{0.9}Ir_{0.1}O_{3-δ}; ^bporous nanocages