

ZIF-67 modified magnetic nanoparticles for extraction of phenoxy carboxylic acids herbicides

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UPLC conditions.

The TUV detector was operated at a wavelength of 230 nm. Chromatographic separation was performed on a BET C18 analytical column (50 mm × 2.1 mm, 1.7 μm) maintained at a temperature of 35°C. The mobile phase consisted of 0.15% ammonium acetate solvent (A) and acetonitrile (B). The gradient elution was optimized as follows: 0-3 min, 80% A; 3-5.5 min, 80%-45% A; 5.5-6 min, 45% A; 6-8 min, 45%-80% A; 8-10 min, 80% A. The flow rate was maintained at 0.3 mL/min, and the injection volume was 10 μL.

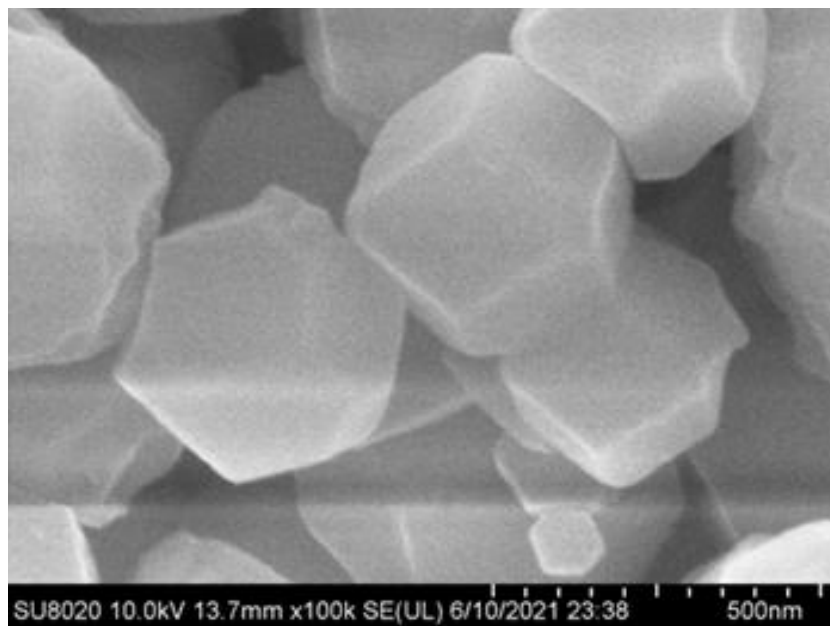


Fig. S1. ZIF-67 prepared without addition of Fe_3O_4 MNPs as seeds.

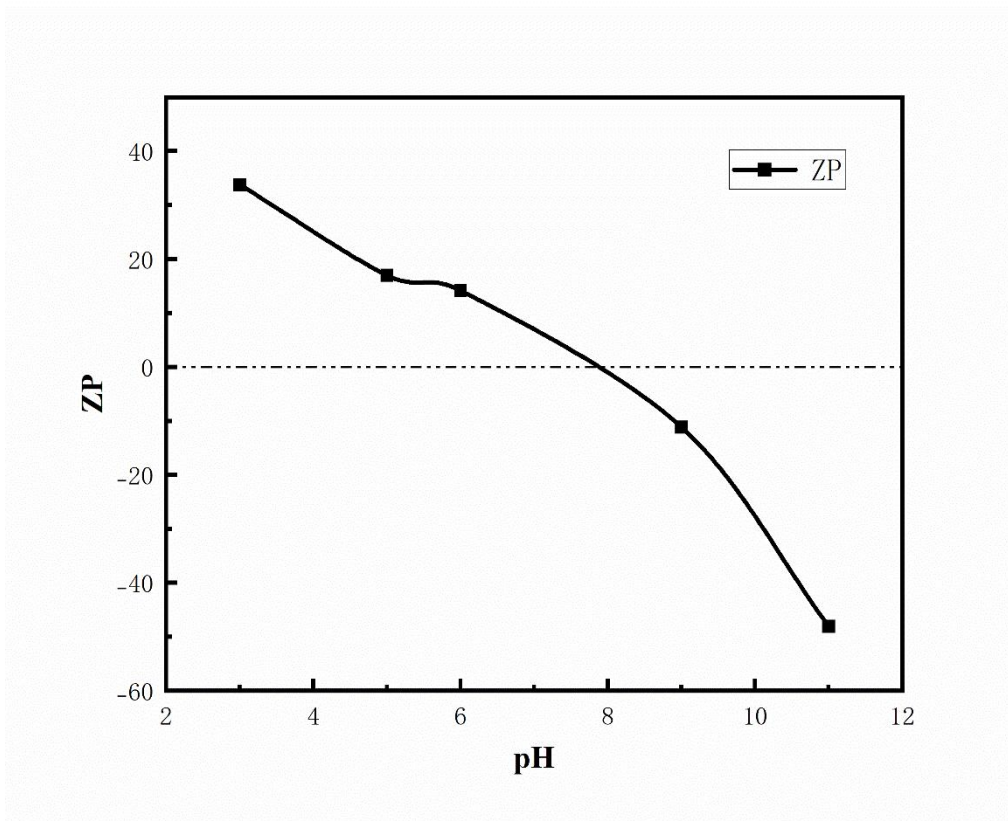


Fig. S2. ZIF-67@Fe₃O₄ Zeta potential at different pH values.

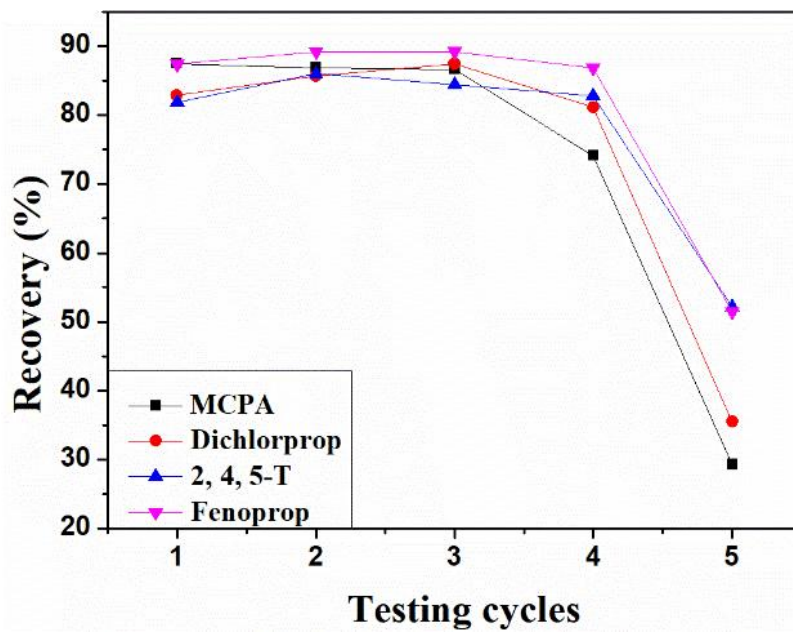


Fig. S3. Investigation on the recycling performance of ZIF-67@Fe₃O₄.

Table S1

Intra-day and inter-day RSDs of the proposed method.

PCA	Spiked($\mu\text{g/L}$)	Intra-day (n=3)	Inter-day (n=3)
	1	4.17	2.41
MCPA	0.25	3.67	6.37
	0.1	0.16	3.24
	1	2.68	1.96
Dichlorprop	0.25	2.80	7.75
	0.1	2.21	3.87
	1	1.57	2.38
2, 4, 5-T	0.25	1.78	4.38
	0.1	2.64	3.52
	1	3.32	2.40
Fenoprop	0.25	3.74	5.29
	0.1	0.84	1.24