

Supporting Information Content

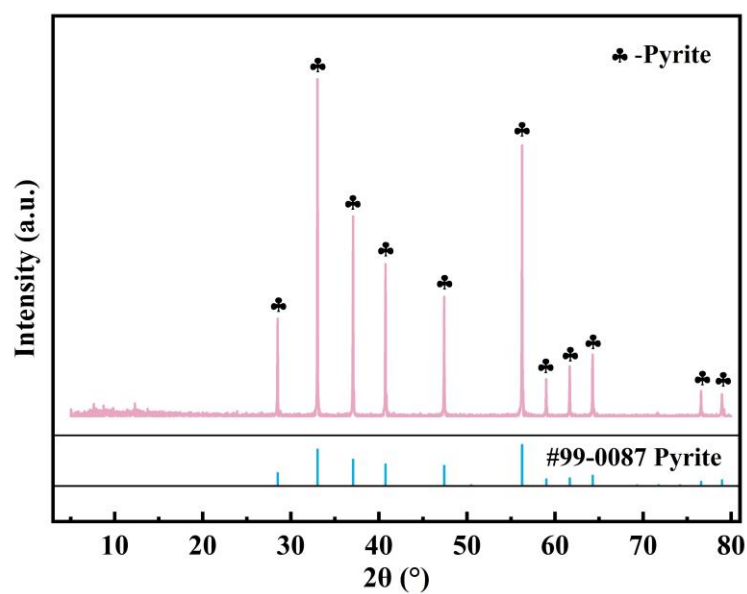


Figure S1. XRD pattern of pyrite.

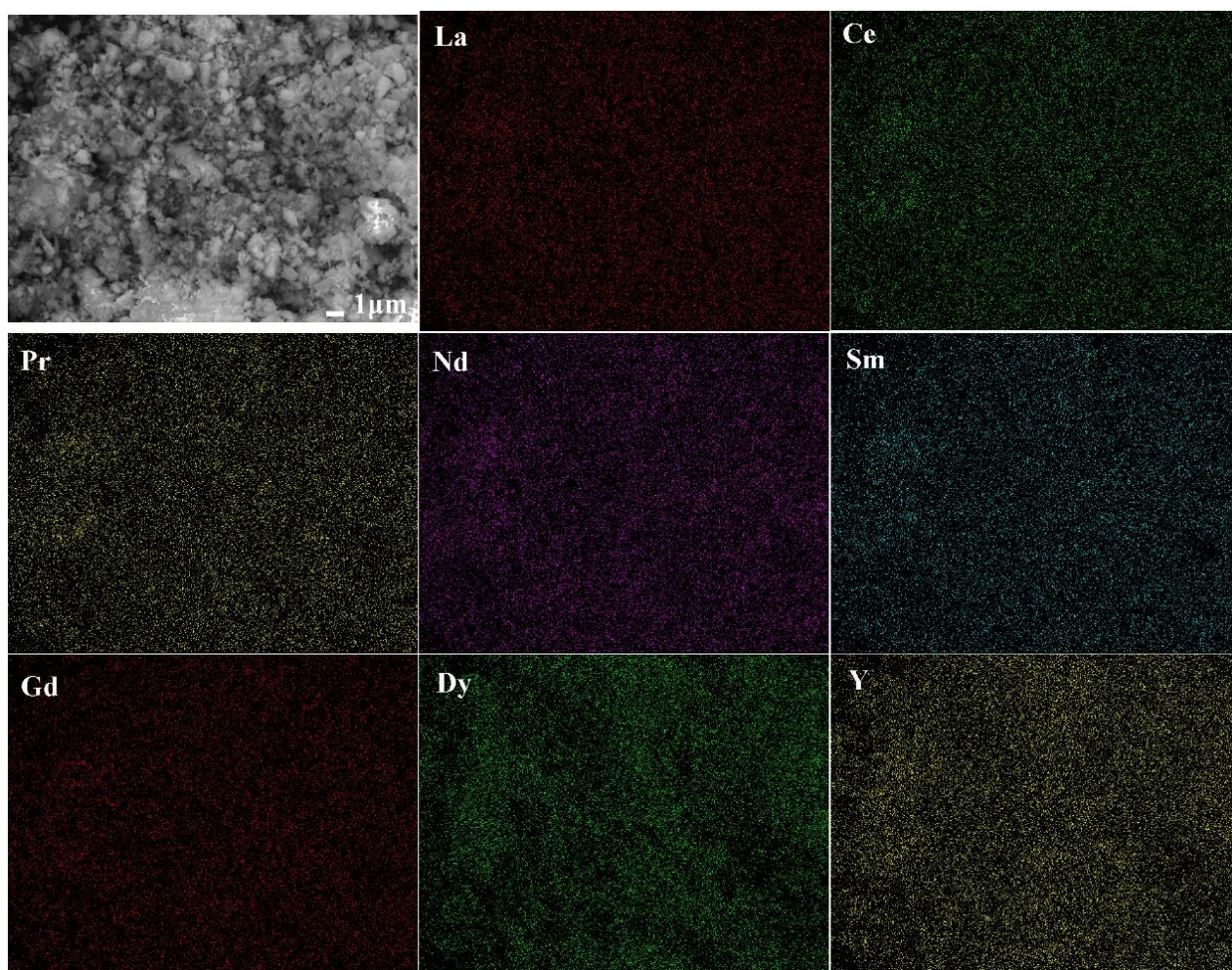


Figure S2. SEM-Mapping images of Fe₂O₃ NPs after adsorption of RE³⁺.

Table S1. Different levels and factors of the orthogonal experiments on the grinding process of pyrite.

Levels	Factors		
	Ball-to-Material Ratio (A)	Rotation Speed, rpm (B)	Grinding Time, h (C)
1	10:1	400	1
2	15:1	500	2
3	20:1	600	3

Table S2. Parameters of the orthogonal experiments on the grinding process of pyrite.

Test	Parameters		
	Ball-to-Material Ratio (A)	Rotation Speed, rpm (B)	Grinding Time, h (C)
1	A1	B1	C1
2	A1	B2	C2
3	A1	B3	C3
4	A2	B1	C2
5	A2	B2	C3
6	A2	B3	C1
7	A3	B1	C3
8	A3	B2	C1
9	A3	B3	C2