

Supporting Informations

For

Reductive Immobilization of Uranium by PAAM-FeS/Fe₃O₄ Magnetic Composites

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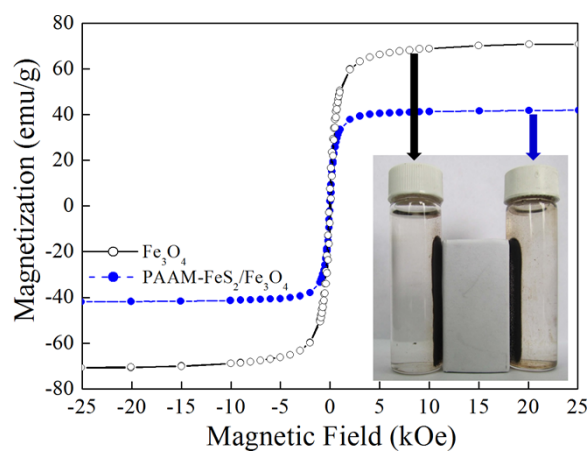


Figure SI-1. Magnetization curve and magnetic separation of PAAM-FeS/Fe₃O₄. PAAM-FeS/Fe₃O₄ particles can be separated from aqueous solution easily with a simple magnet.

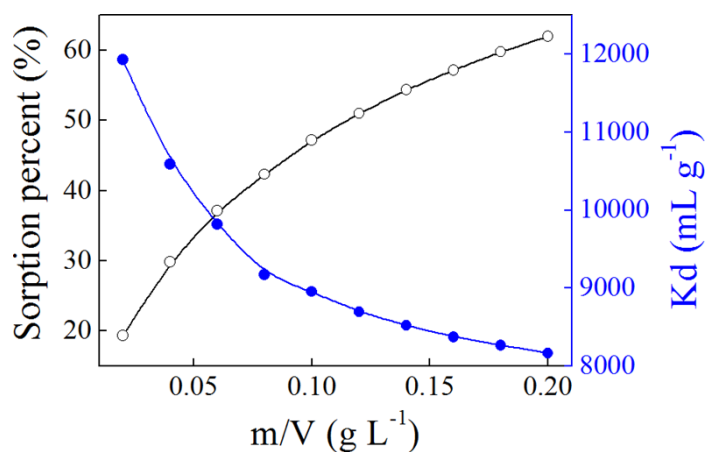


Figure SI-2. Effect of PAAM-FeS/Fe₃O₄ content on U(VI) enrichment. T = 20 ± 1 °C, contact time: 48 h, C[U(VI)]_(initial) = 50.0 mg · L⁻¹, C[NaCl] = 0.10 mol · L⁻¹, pH = 5.0 ± 0.1.

Table SI-1. Comparison of U(VI) sorption capacity of PAAM–FeS/Fe₃O₄ with other adsorbents.

Adsorbent	Experimental conditions	C _{smax} (mg/g)	References
Carbon nanotubes	pH = 5.0, T = 25 °C	26.2	1
K ₂ MnSn ₂ S ₆	pH = 3.5, T = 25 °C	382	2
Hematite	pH = 5.5, T = 25 °C	5.59	3
Akaganeite	pH = 6.0, T = 30 °C	90.4	4
Magnetic Fe ₃ O ₄ @SiO ₂	pH = 6.0, T = 25 °C	52	5
MnO ₂ coated zeolite	pH = 6.0, T = 20 °C	17.6	6
Amidoximated hydrogel	pH = 3.0, T = 25 °C	39.5	7
Modified carbon CMK-3	pH = 4.0, T = 20 °C	75	8
Graphene oxide nanosheets	pH = 5.0, T = 20 °C	97.5	9
Quercetin modified Fe ₃ O ₄	pH = 3.7, T = 25 °C	12.3	10
PAAM–FeS/Fe ₃ O ₄	pH = 5.0, T = 20 °C	311	This work

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