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Supporting information

Ultrasensitive electrochemical detection of UO₂²⁺ based on DNAzyme and isothermal enzyme-free amplification

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note	Sequence (5' to 3')					
S-DNA	HS-(CH ₂) ₆ TCC TCT AAT ACA CTC ACT AT rA GGA AGA GAT GGA CGT G					
E-DNA	CAC GTC CAT CTC TGC AGT CGG GTA GTT AAA CCG ACC TTC AGA CAT AGT GAG T					
	2*	3	2	1		
H_1	AATACACTCACTAT	GAATGA	ATAGTGAGTGTATT	AGAGGA		
	3*	2	1*	2*		
H_2	TCATTC	ATAGTGAGTGTATT	TCCTCT	AATACACTCACTAT		

 Table S1. Sequences of E-DNA, S-DNA and Hairpins.

Sample	Add/nM	Found/nM	Recovery/%	RSD/%
1	0.05	0.054	108.0	4.37
2	1	0.946	94.6	2.75
3	4	4.241	106.0	3.58

Table S2. Determination of UO_2^{2+} in river water with the proposed biosensor.



Fig. S1 Effect of the concentration of hairpins (A), reaction time (B)for HCR, and pH of MES buffer (C) on SWV peak current of DNAzyme-based sensors.



Fig. S2 The specificity of the UO_2^{2+} sensor toward different metal ions, the concentration of UO_2^{2+} was 5 nM, and other metal ions was 100 times higher than that of UO_2^{2+} .