Electronic Supplementary information

for

A novel liquid crystal sensing platform for highly selective UO_2^{2+} detection based on UO_2^{2+}-specific DNAzyme

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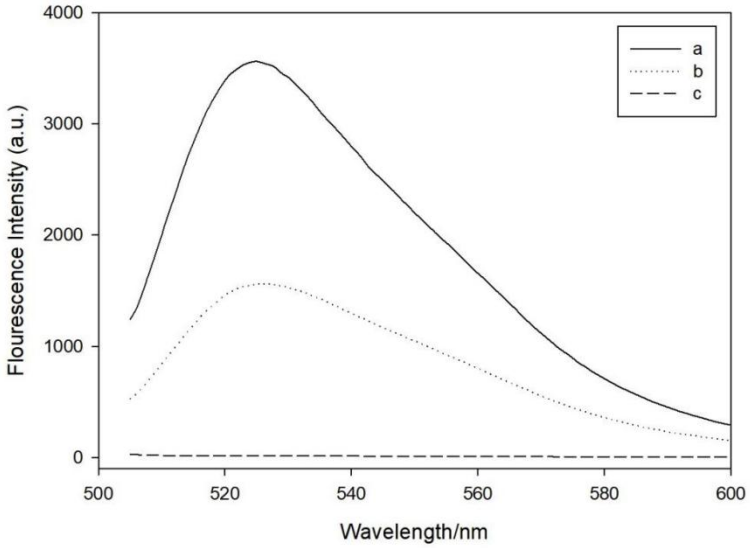

Fig. S1 Fluorescence spectra of 80 nM DNAzyme with different concentrations of UO_2^{2+}: (a) 0 nM; (b) 80 μM; (c) 800 μM.

Table 1 Nucleic acid sequences used in the experiment

Note	Sequence (5'-3')
Capture probe	ATAGTGAGTCCAATTCCATCTCTTCCCCCAAA-$(CH_2)_6$- NH_2
39E	CCATCTCTGCAGTCGGGTAGTTAAACCGACCTTCAGACATAGTGAGT
39DS	AATTGGACTCACTAT rA GGAAGAGATGGAATTGG

Table 2 Comparison of this method with the proposed methods in the literature for UO_2^{2+}

Analytical method	Materials[a]	LOD	Reference
Ratiometric fluorescence	Dual-color CDs	0.73 μM	[1]
Fluorescence	Ln-BTC-AC-FM MOFs	4.12 μM	[2]
Fluorescence	Triphenylamine-based fluorescent sensor (USC-001)	50 nM	[3]
Electrochemical techniques	AgNDs-ERGO/ITO	0.85 μM	[4]
Electrochemical techniques	$FePt/ZnIn_2S_4$ core-shell semiconductor nanostructures	71.7 nM	[5]
Colorimetry	UO_2^{2+} peroxidase mimic	0.5 μM	[6]
DNAzyme-based LC biosensor	LCs, DNAzyme	25nM	This work

[a] CDs, carbon dots; MOFs, metal-organic frameworks; AgNDs, Ag nanodendrites; ERGO, electrochemically reduced graphene oxide; ITO, Indium Tin Oxide

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