Supporting Information

Versatile Sensing Platform of Innovative Copper Oxide Assisted Cu-Phenolic Coordination Nanosheet mediated Fluorophore tagged GT-rich SSA based Fluorescence ON-OFF Biosensor for Subsequent Detection of Cd^{2+} and S^{2-} Ions

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Table   **S1.**

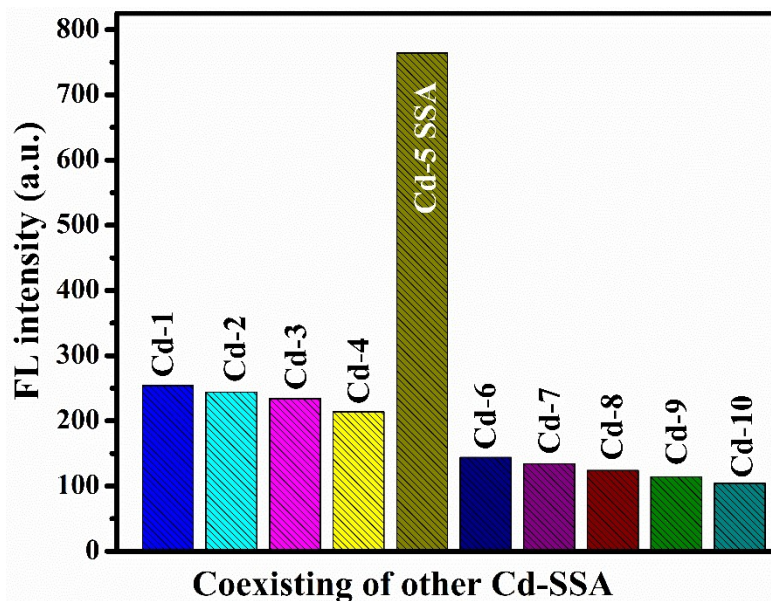| Target	DNA sequences (from 5' to 3'-FAM)
Cd -1	5'-GGACTGTTATGCTATTATTTTTGGTTGTGC-FAM-3'
Cd -2	5'-GGACTGTTATGCTATTATTTTTGCTTGTGC-FAM-3'
Cd -3	5'-GGACTGTAGTGCTATTATTTTTGCTTGAGC-FAM-3'
Cd -4	5'-GGACTGTTGTGCTATTATTTTTGCTAGTGC-FAM-3'
Cd-5	5'-GGACTGTTGTGGTATTATTTTTGGTTGTGC-FAM-3'
Cd -6	5'-GGACTGCCGTGGTATTATTTTTCCTAGTGC-FAM-3'
Cd -7	5'-GGACCGATGTGGTATTATTTTTGGTAGTGC-FAM-3'
Cd -8	5'-GGACAGCCGTCGTATTATTTTTGGATGAGC-FAM-3'
Cd -9	5'-GCACTGAAGTGCTATAATTTTTGCTAGTGC-FAM-3'
Cd -10	5'-GCACTGAAGTCGTCATATTTTCCGTACTGC-FAM-3'

Comparison of various Cd-SSA

Figure S1. Comparison of various Cd-SSA

Table S2. Comparison of other methods used to identification of Cd^{2+} ions

Method	Detection Probe	Target	LOD	Real water samples	Ref.
CM	SAA-DTC-Ag NPs	Cd^{2+}	5.8 μM	drinking, tap, canal and river water	1
EM	BZNA/GCE	Cd^{2+}	1.62 pM	industry, municipal tap and sea	2
SERS	PMTTP	Cd^{2+}	20 μM	-	3
CM	Au NPs/3-MPA-abc	Cd^{2+}	20 nM	drinking, tap and lake	4
Paper-ISEs	SWCNTs/Au/Polymer	Cd^{2+}	1.2 nM	-	5
FM	Cu-PCNS mediated FAM tagged GT-rich SSA Probe	Cd^{2+}	0.3 nM	tap, lake and river	This work

FM-fluorescence method, CM-colorimetric method, EM-electrochemical method, SERS-surface enhanced Raman scattering method and ISEs-ion selective electrodes

Table S3. Comparison of other methods used to identification of S^{2-} ions

Method	Detection Probe	Target	LOD	Real samples	Ref.
CM	GBR	S^{2-}	25.3 μM	Ganga and sewage	6
EM	GCE/GO@PQn	S^{2-}	700 nM	blood	7
RRS	Ag_2Te-NCs	S^{2-}	7.8 ng/mL	river	8
OFL	HRP/ADHP	S^{2-}	10 nM	-	9
CM	2D/2D MoS_2/g-C3N4	S^{2-}	37 nM	tap and drinking	10
FM	Cu-PCNS mediated FAM tagged GT-rich SSA Probe	S^{2-}	3.3 nM	tap, lake and river	This work

FM-fluorescence method, CM-colorimetric method, EM-electrochemical method, RRS-Resonance Rayleigh scattering sensor and OFL-optofluidic catalytic laser

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