

Electronic Supporting Information

Cu²⁺ modulated DNA-templated silver nanoclusters as a turn-on fluorescence probe for the detection of quinolones

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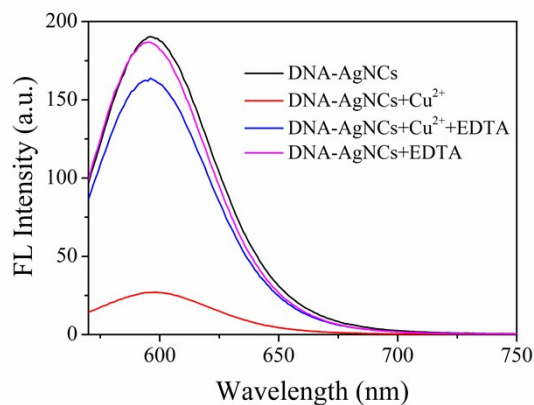


Fig. S1 Fluorescence emission spectra of free DNA-AgNCs, and DNA-AgNCs in the presence of Cu^{2+} , EDTA, and both Cu^{2+} and EDTA. The final concentrations of Cu^{2+} and ciprofloxacin are 80 nM and 400 nM, respectively.

Table S1 The linear equations, linear ranges, and LODs for the analysis of quinolones using DNA-AgNCs- Cu^{2+} system.

Quinolones	Linear equation	Linear range	LOD
nalidixic acid	$y = -1.5678 + 0.0831x$	20-100 nM	2.0 nM
cinoxacin	$y = 0.00922 + 0.00394x$	5-120 nM	1.2 nM
ciprofloxacin	$y = 0.5904 + 0.04684x$	5-100 nM	1.0 nM
moxifloxacin	$y = 0.0162 + 0.10219x$	1-60 nM	96 pM

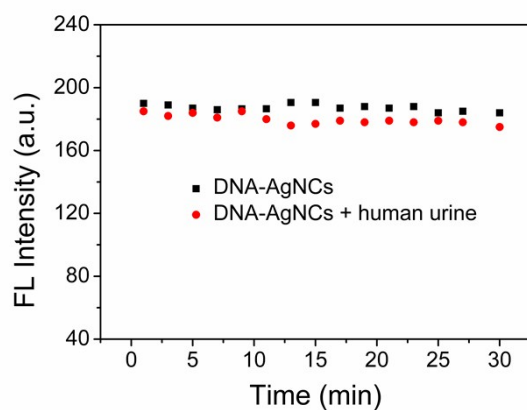


Fig. S2 The stability test of DNA-AgNCs in the absence (black) and presence of human urine sample (1%) (red).

Table S2 Determination of ciprofloxacin and moxifloxacin in tablets.

Quinolones	Amount (nM)	Added (nM)	Detected (nM)	Recovery (%)	RSD (%) (n=3)
ciprofloxacin	10	5	14.6	92.0	3.12
	10	10	19.3	93.0	2.78
	10	50	63.5	107	2.45
moxifloxacin	5	2	6.89	94.5	3.13
	5	5	9.7	94.0	3.02
	5	25	31.5	106.0	2.14

Table S3 Determination of quinolones in human urine.

Quinolones	Added (nM)	Founded (nM)	Recovery (%)	RSD (n=3, %)
nalidixic acid	0	N.D.		
	40	38.3	95.7	2.46
	60	62.6	104.3	2.13
cinoxacin	0	N.D.		
	40	38.5	96.25	3.12
	60	58.4	97.3	2.45
ciprofloxacin	0	N.D.		
	40	42.2	105.5	2.18
	60	64.3	107.1	2.35
moxifloxacin	0	N.D.		
	20	18.9	94.5	1.89
	40	43.1	107.7	2.44