

Support information

Novel fluorescent probe based on nitrogen-sulfur co-doped carbon dots for chromium ion detection

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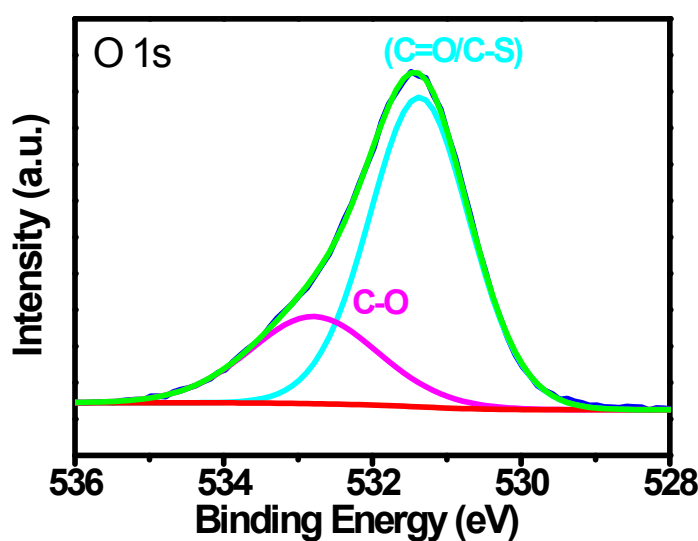


Figure S1 Corresponding high-resolution O_{1s} spectra of NSCDs

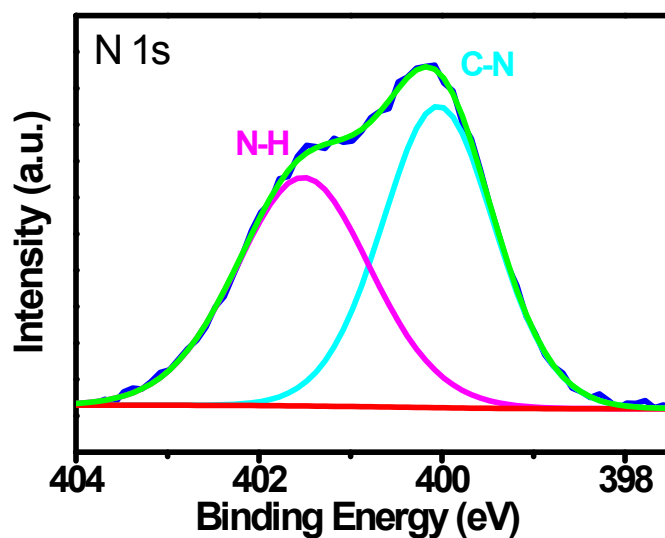


Figure S2 Corresponding high-resolution N_{1s} spectra of NSCDs

Table S1 Comparison of LOD for the Cr³⁺ detection by different probes

Probe	LOD (μM)	Linear range (μM)	Reference
AuNPs	0.013	0.3–3.0	[1]
Citrate-Ag NPs	0.52	1.0–50	[2]
MNA-MA-AgNPs	0.064	10–370	[3]
CdSe QDs	0.03	0.1–20	[4]
MoS ₂ QDs	0.08	0.1–10	[5]
CTP-Ag NPs	6.25	18.75–62.5	[6]
Ag NCs	0.71	2–40	[7]
NSCDs	0.0078	0–40	This paper

Table S2 Detection of Cr³⁺ in real water samples

Sample	day	Found (μM)	Added (μM))	Total found (μM)	Recovery (%)	RSD(n=3) (%)
NSCDs1-tap water	0	Not detected	0.10	0.105	105.0	3.24
			0.50	0.502	100.4	2.89
			1.00	1.001	100.1	3.66
	3		0.10	0.103	103.0	3.87
			0.50	0.498	99.6	2.74
			1.00	1.002	100.2	5.82
	7		0.10	0.108	108.0	3.65
			0.50	0.506	101.2	3.89
			1.00	0.999	99.9	2.89
NSCDs2-tap water	0	Not detected	0.10	0.104	104.0	0.82
			0.50	0.527	105.4	3.68
			1.00	1.041	104.1	2.92
	3		0.10	0.105	105.0	3.17
			0.50	0.531	106.2	3.24
			1.00	1.028	102.8	2.67
	7		0.10	0.107	106.5	2.75
			0.50	0.512	102.4	3.89
			1.00	1.023	102.3	3.96
NSCDs3-tap water	0	Not detected	0.10	0.103	103.0	2.47
			0.50	0.503	100.6	2.78
			1.00	1.017	101.7	1.92
	3		0.10	0.109	109.0	1.99
			0.50	0.503	100.6	3.23
			1.00	1.023	102.3	4.13
	7		0.10	0.108	108.0	2.23
			0.50	0.506	101.2	3.18
			1.00	1.014	101.4	4.67

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