**Supplementary information**

Carbon Dots Functionalized Papers for High-Throughput Sensing of 4-Chloroethcathinone and its analogues in Crime Sites †

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**Keywords:** sensor, carbon dots, abuse drugs, cathinones, cocaine.



**Figure S1**. HRTEM image of C-dots.



**Figure S2**. Deconvoluted (A) C1s, (B) N1s, and (C) O1s XPS spectra of C-dots.



**Figure S3.** FTIR spectra of (A) the C-dots and (B) arginine.



**Figure S4**. Structures for some tested abused drugs.



**Figure S5**. Stern-Volmer plot of C-dots in sodium phosphate buffer (90 mM, pH 11.0) for 4-chloroethcathinone. Stern-Volmer equation: F0 / F = 1 + KSV [Q], where F0 and F are the PL intensities of C-dots in the absence and presence of 4-chloroethcathinone, respectively, [Q] is the concentration of 4-chloroethcathinone, and KSV is the quenching constant for 4-chloroethcathinone.



**Figure S6.** Fluorescence lifetime decay curves of C-dots (A) without and (B) with containing 4-chloroethcathine (15 mM) at emission/excitation wavelength of 430/360 nm.



**Figure S7**. Absorption spectra of cocaine, 4-chloroethcathinone, and ephedrine.