Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

N, S co-doped carbon dots as stable bio-imaging probe for detections of intracellular temperature and antibiotic

Supporting information

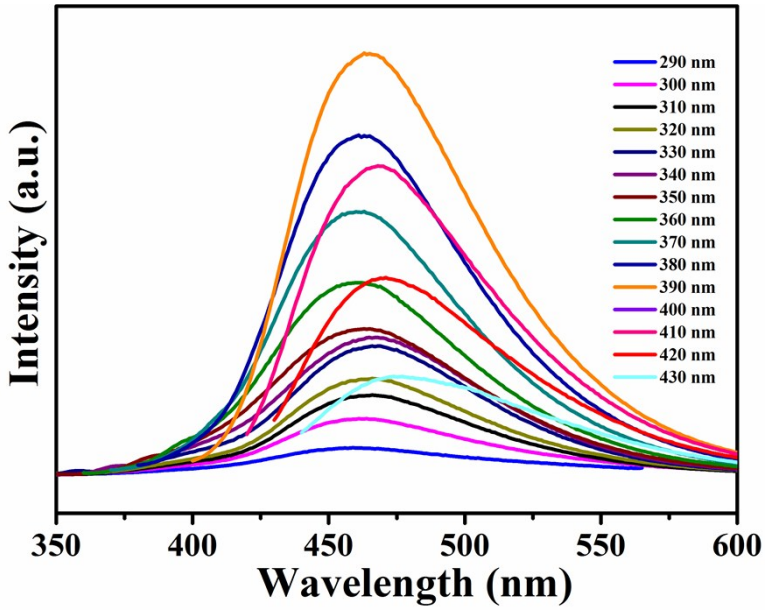


Fig. S1. PL spectra of N, S-CDs with excitation wavelengths from 290 to 430 nm.

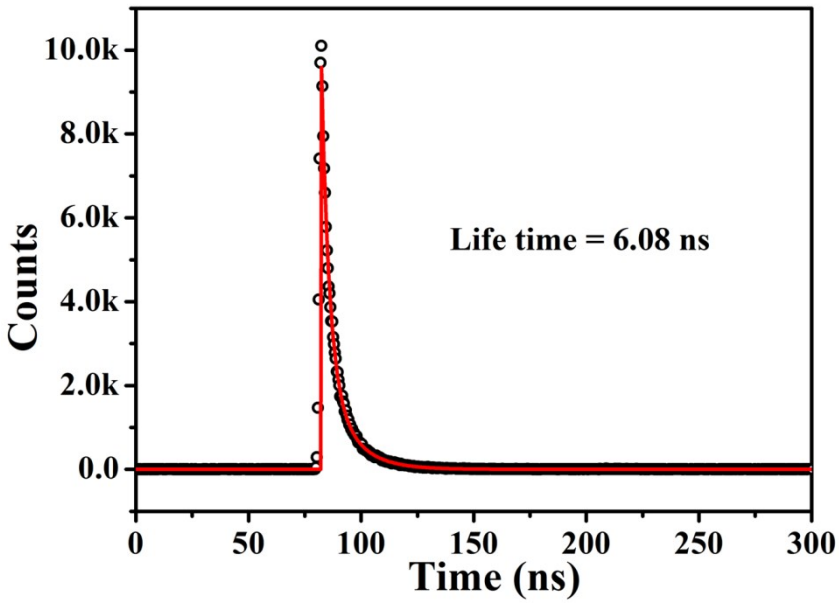
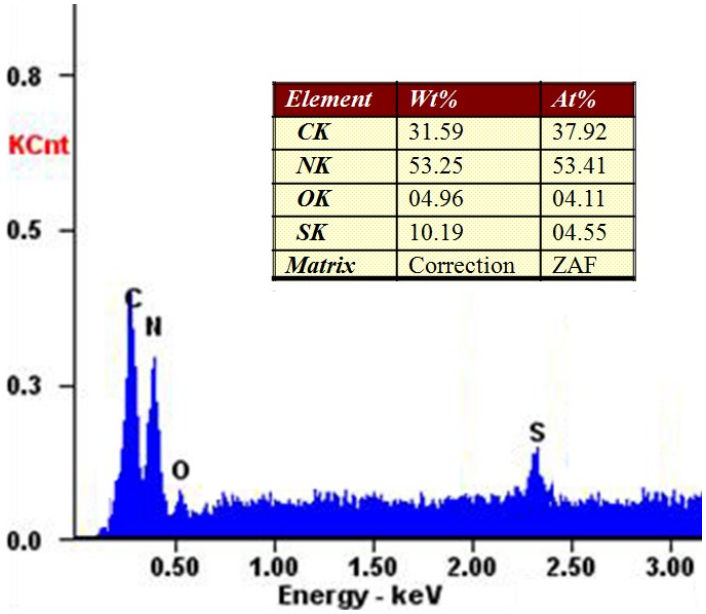


Fig. S2. The luminescence decays of N, S-CDs.



Element	Wt%	At%
CK	31.59	37.92
NK	53.25	53.41
OK	04.96	04.11
SK	10.19	04.55
Matrix	Correction	ZAF

Fig. S3. The EDX spectrum of N, S-CDs.

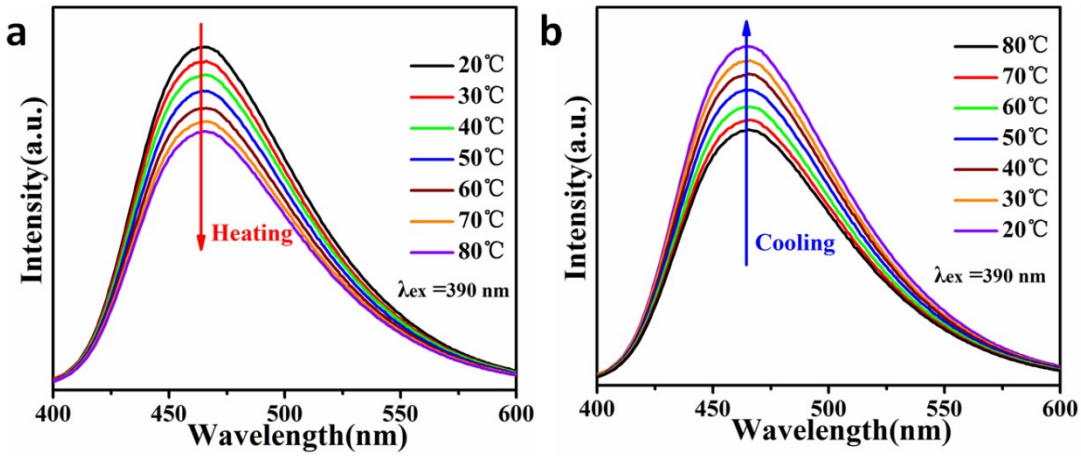


Fig. S4. PL spectra (excitation wavelength 390 nm) of N, S-CDs at various temperatures during two processes: (a) heating and (b) cooling.

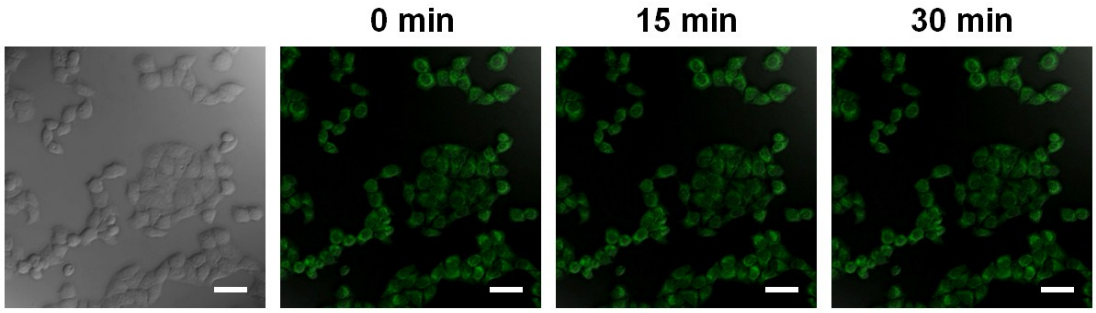


Fig. S5. Confocal fluorescence images of HeLa cells with N, S-CDs under different laser irradiation time (N, S-CDs concentration: 100 μg·mL^{-1}, incubation time: 24 h). All scale bars represent 25 μm. (Emission was collected at 415-550 nm; excited at 405 nm)

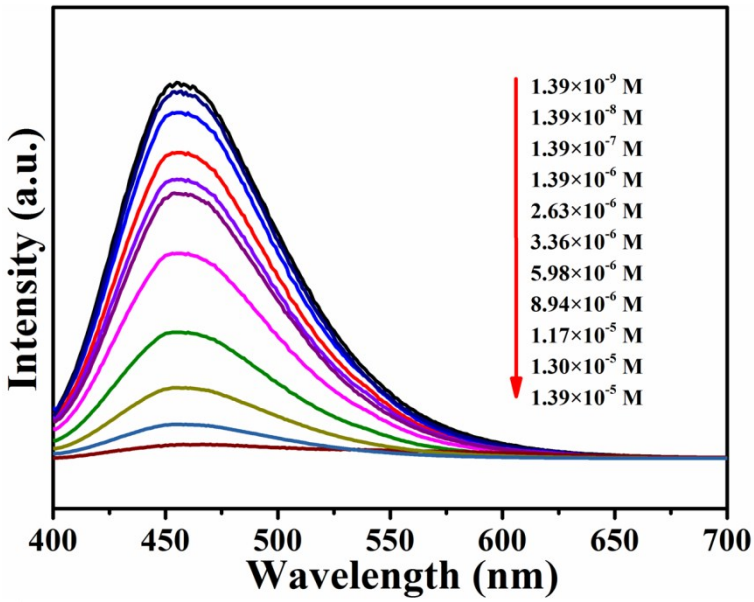


Fig. S6. PL spectra of N, S-CDs with TC detection concentrations from 1.39×10^{-9} to 1.39×10^{-5} μM.

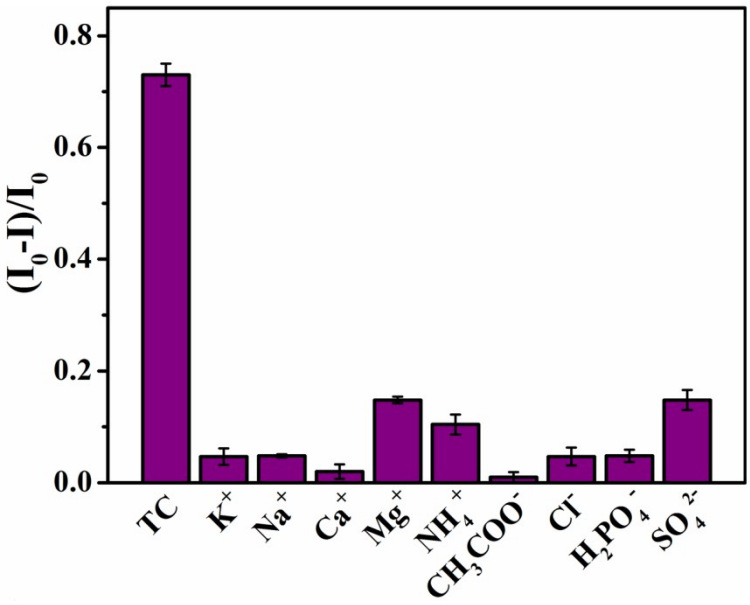


Fig. S7. The fluorescence quenching efficiency in the presence of TC, amino acids and common ions. (The concentration for TC is 10 μM, and for each other guests is 0.05 M).

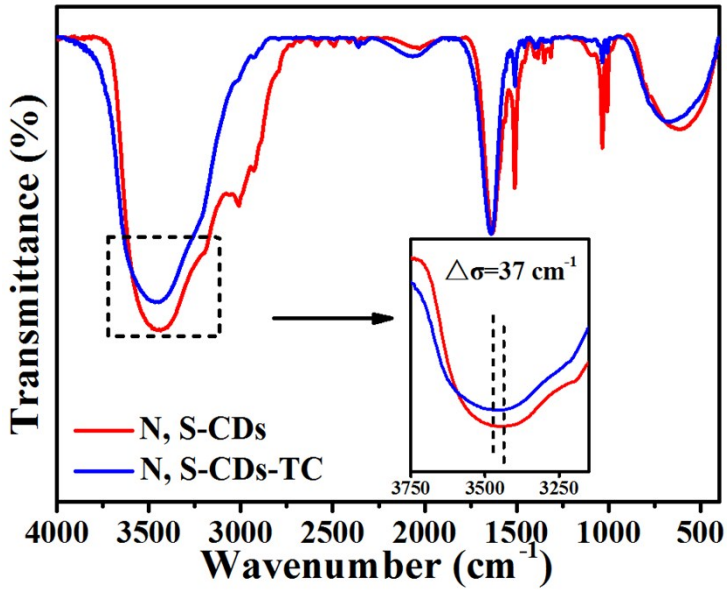


Fig. S8. FT-IR spectra of N, S-CDs (red trace) and N, S-CDs-TC system (blue trace). The inset is the enlarged spectral region from 3750 cm^{-1} to 3150 cm^{-1}.

Table S1. Determination of TC using HPLC and the fluorescence detection method (RE：fluorescence detection vs. HPLC detection.).

Sample	HPLC (μM)	Fluorescence detection(μM)	Relative error (%)
		N, S-CDs	RE
1	247	240 ± 7	-2.83
2	195	187 ± 3	-4.10
3	142	134 ± 4	-5.63
4	103	92 ± 3	-10.6
5	57	48 ± 4	-15.7