

Supporting Information

for

Facile heat reflux synthesis of blue luminescent carbon dots as optical nanoprobe for cellular imaging

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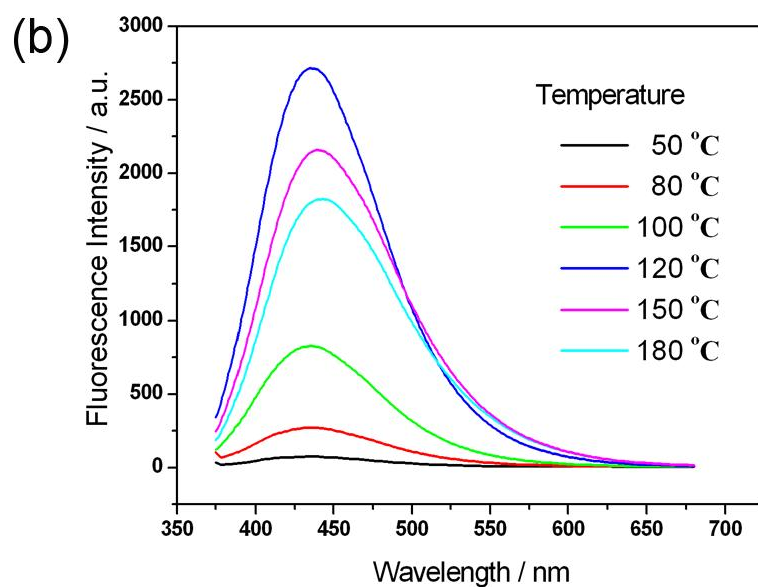
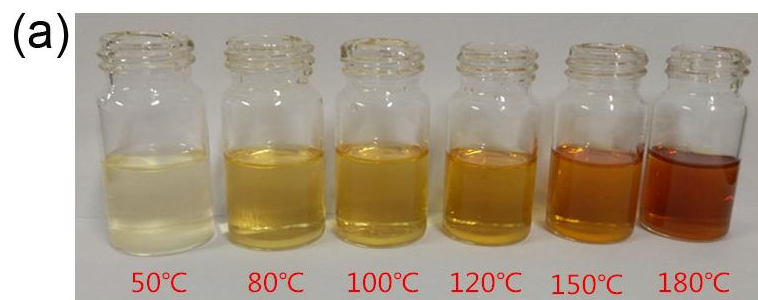


Figure S1. (a) Image of CD solutions after synthesis at different temperatures. (b) Fluorescence spectra of the CDs synthesized at different temperatures.

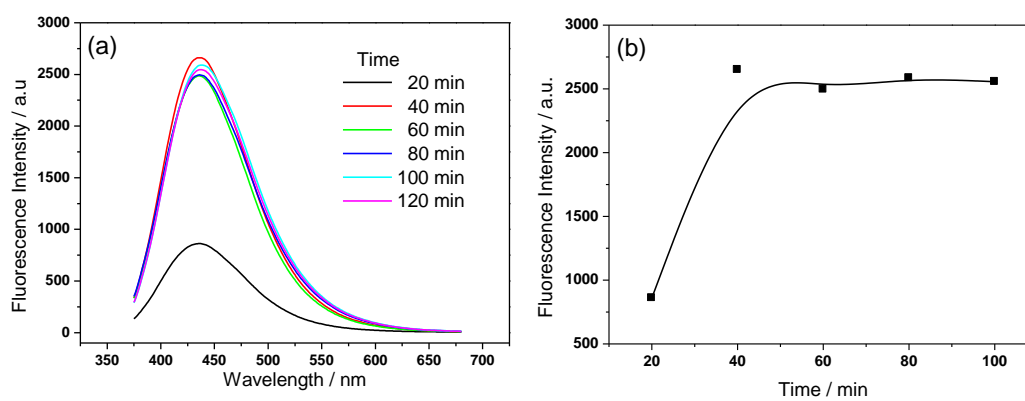


Figure S2. (a) Fluorescence spectra of the CDs synthesized with different reaction times. (b) Fluorescence intensity at 437 nm as a function of reaction time.

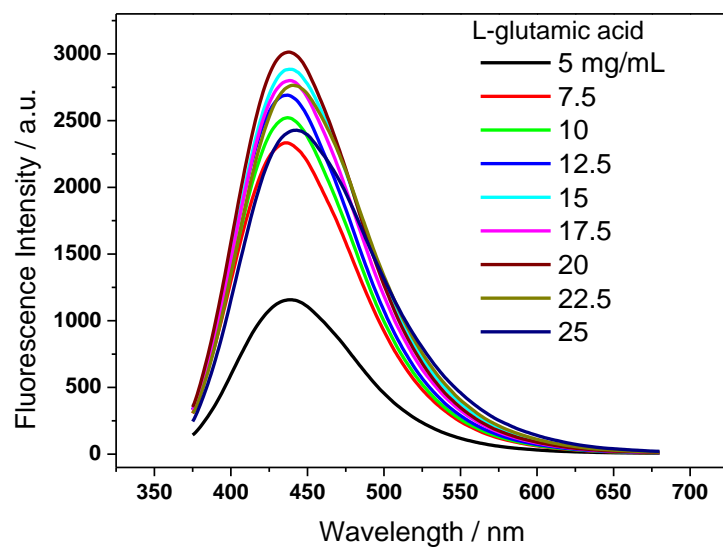


Figure S3. Fluorescence spectra of the CDs synthesized using different concentrations of L-glutamic acid.

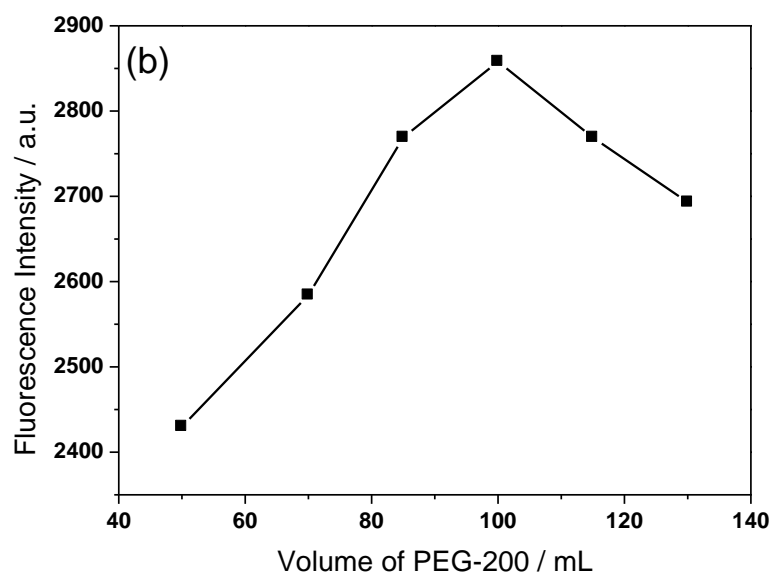
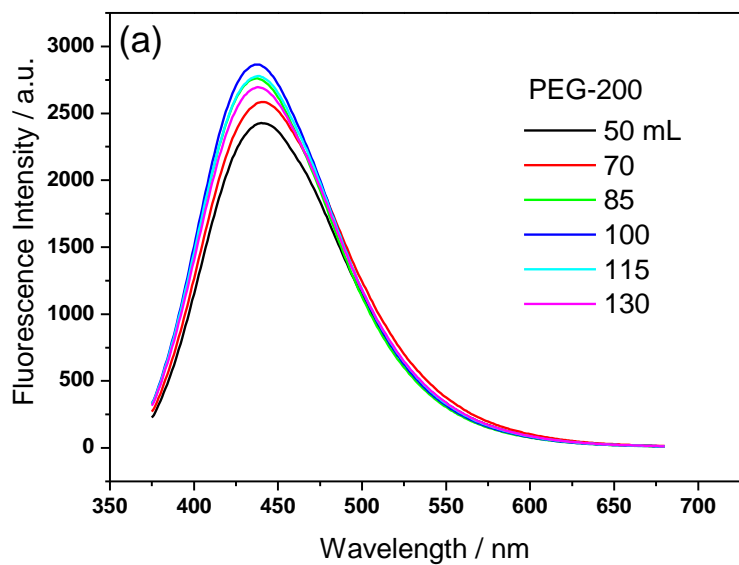


Figure S4. (a) Fluorescence spectra of the CDs synthesized with different amount of PEG-200 in the presence of 2.0 g L-glutamic acid. (b) The change of luminescence intensity of the CDs prepared with different amount PEG-200.

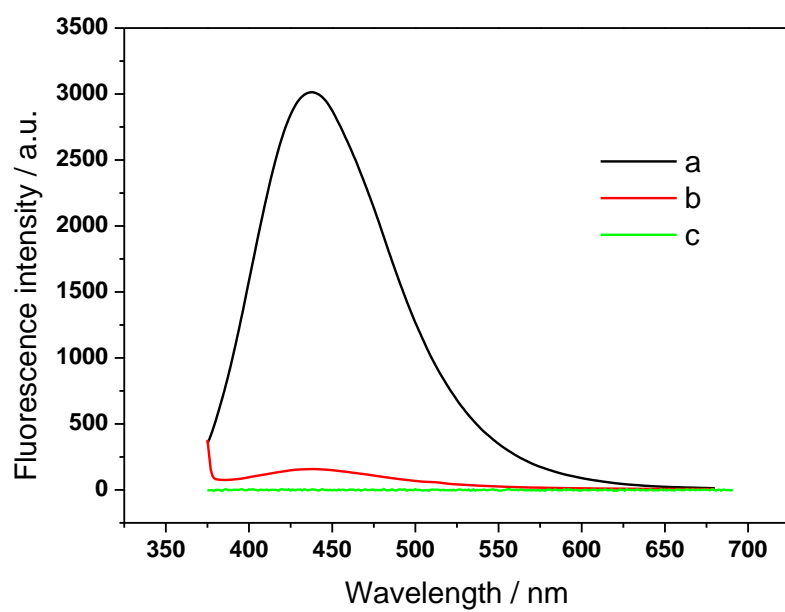


Figure S5. Fluorescence spectra of the CDs synthesized using (a) PEG-200 in the presence of L-glutamic acid, (b) PEG-200 in the absence of L-glutamic acid, and (c) L-glutamic acid aqueous solution, respectively.

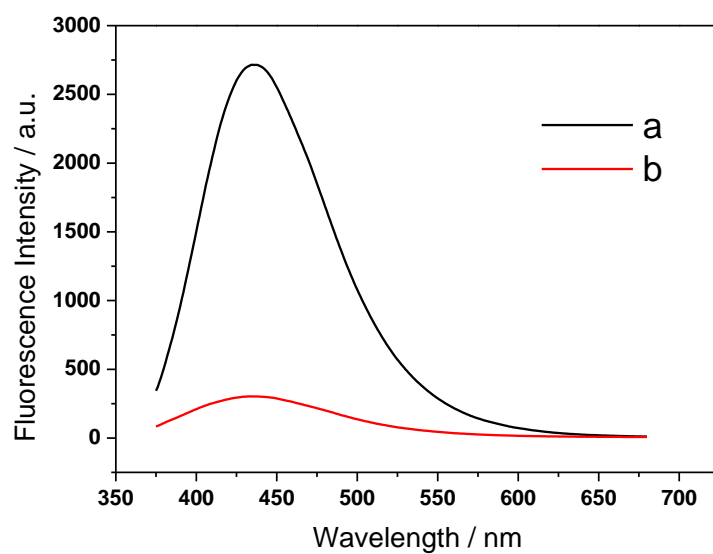


Figure S6. Fluorescence spectra of the CDs synthesized by different methods: (a) the direct heat reflux synthesis, and (b) the solvent-thermal method at 120 °C for 40 min.

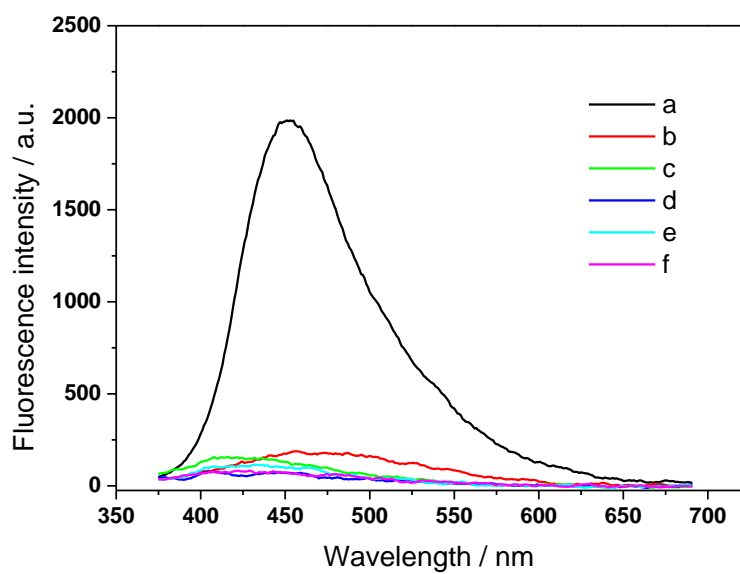


Figure S7. Fluorescence spectra of the CDs synthesized using the direct heat reflux synthesis (a, c, e) and the solvent-thermal method (b, d, f) with ascorbic acid (a, b), citric acid (c, d), and sucrose (e, f) as the carbon source, respectively.

Table S1. Quantum yield of the CD samples

Substance	Area	Abs. at 360 nm	Refractive index	QY (%)
Quinine sulphate	17878.8	0.046	1.33	54
L-glutamic acid	2221.9	0.049	1.33	6.3

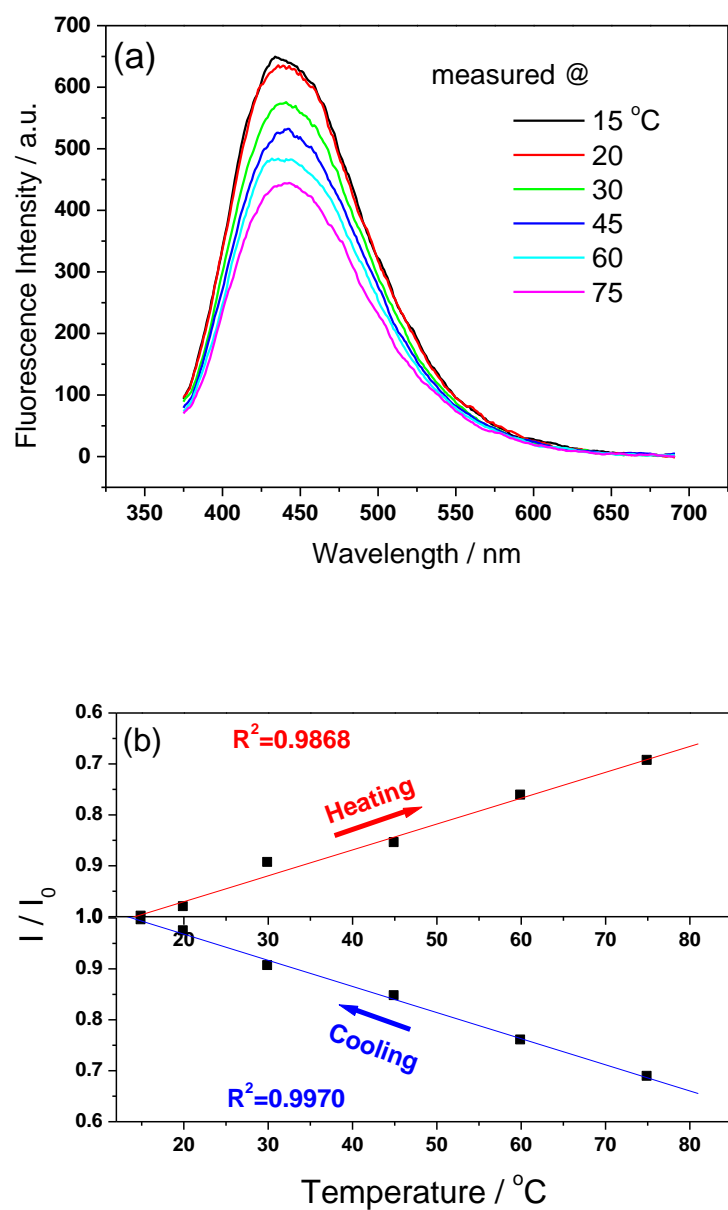


Figure S8. (a) Fluorescence spectra of the as-prepared CDs at various temperatures. (b) The relative fluorescence intensity (I/I_0) of CDs as a function of temperature during heating and cooling processes (the fluorescence intensity at 15 °C as the reference).

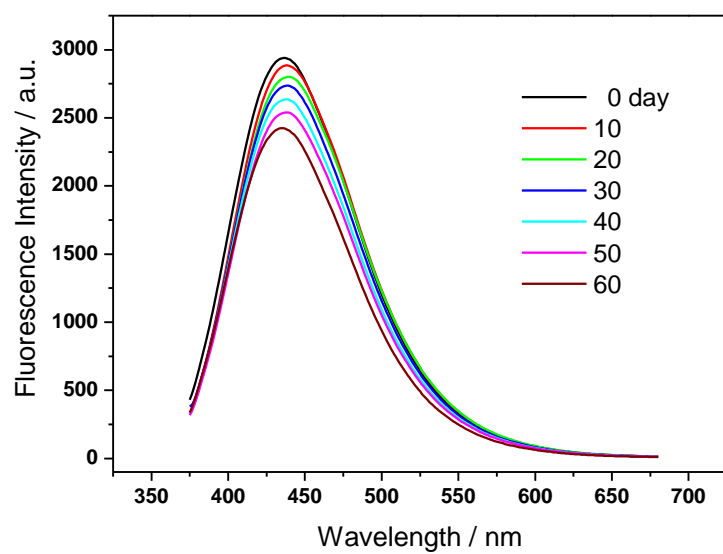


Figure S9. Fluorescence spectra of the synthesized CDs after different periods of storage.

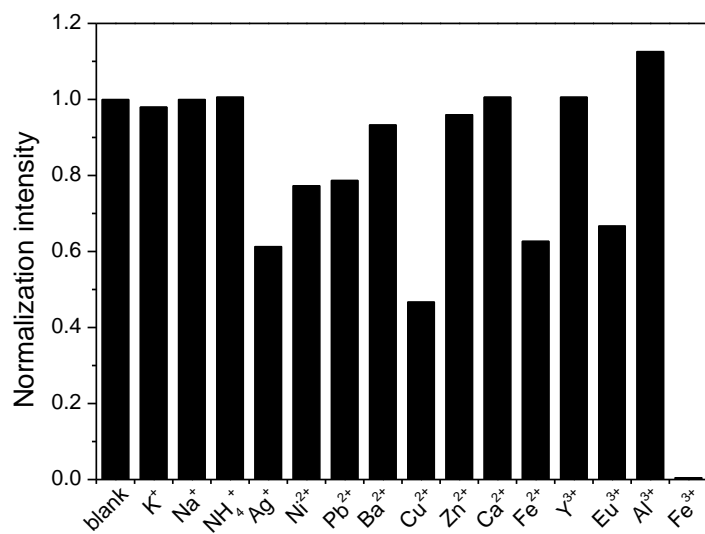


Figure S10. Fluorescence normalization intensities of the CDs upon the addition of different metal ions (10 mM).