Supplementary information

Facile preparation of solid-state fluorescent carbon dots with high fluorescence quantum yield and application in rapid latent fingerprints detection

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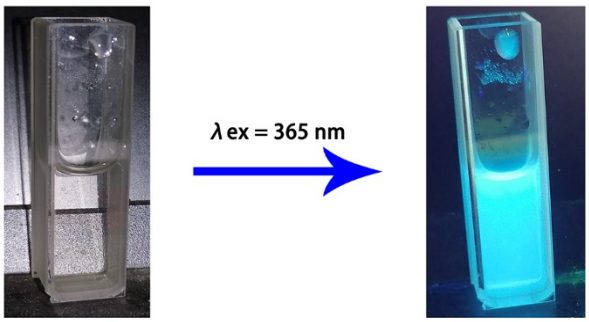

Fig. S1. Photographs of ScCDs aqueous solution under daylight and UV light.

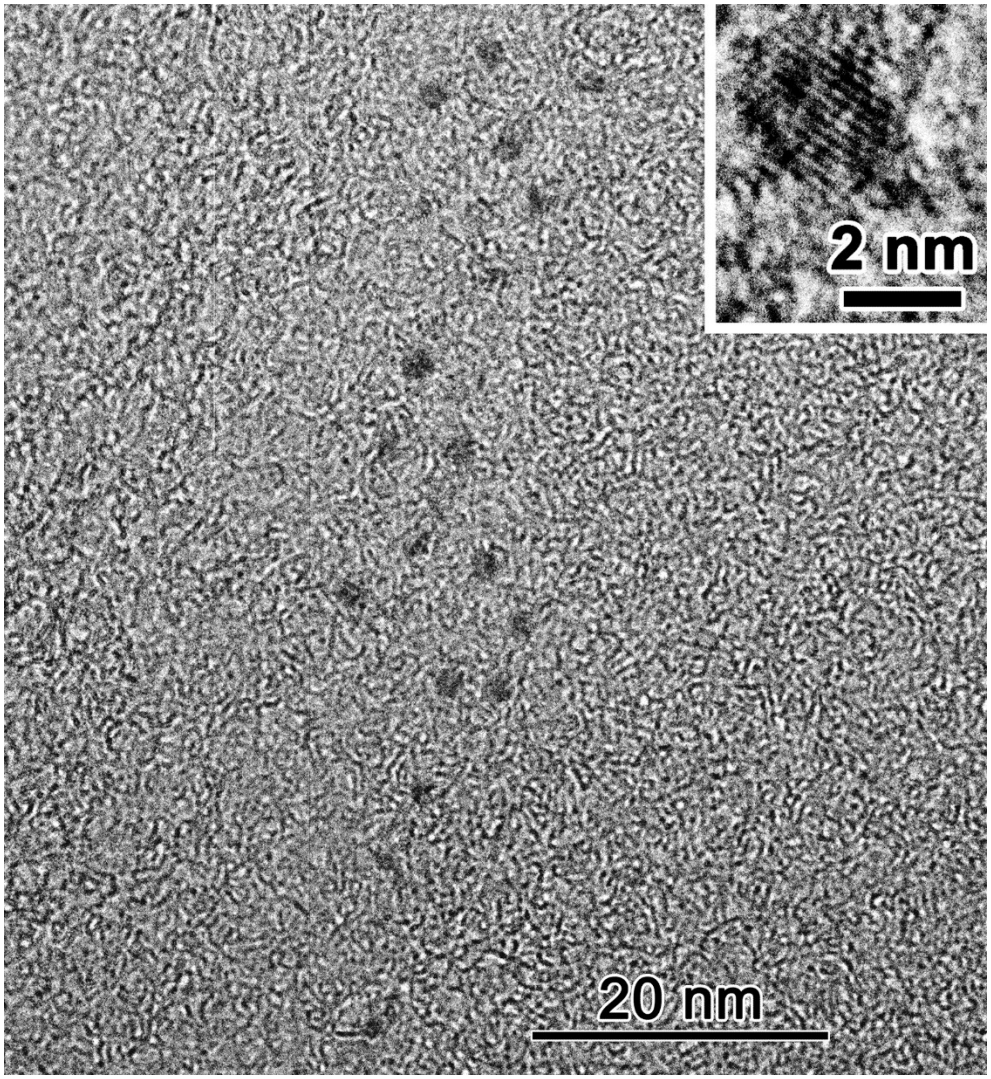

Fig. S2. TEM images of ScCDs.

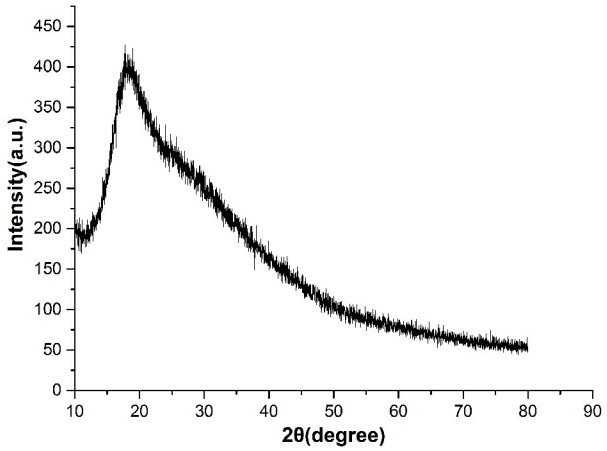

Fig. S3. XRD patterns of the ScCDs powder.

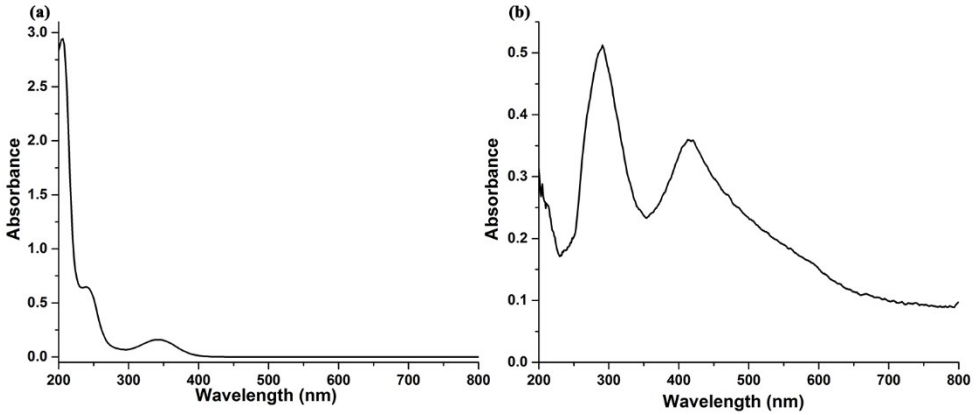

Fig. S4. (a) UV-Vis absorption spectra of ScCDs in aqueous solution. (b) UV-Vis absorption spectra of ScCDs powder.

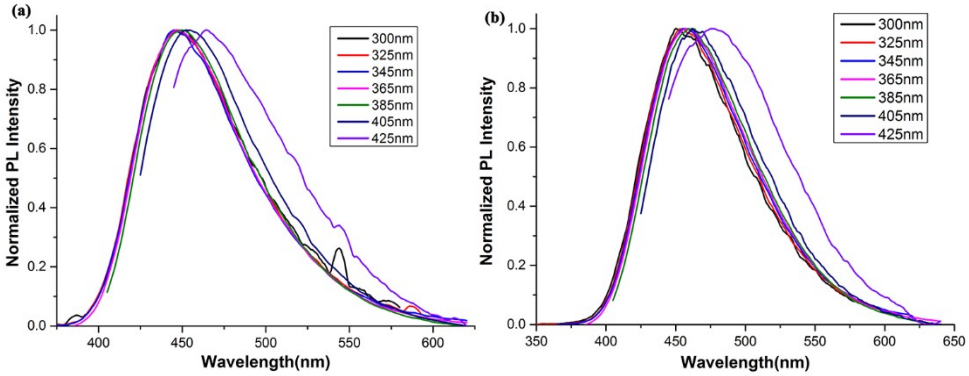

Fig. S5. (a) Normalized PL spectra of ScCDs powder at different excitation wavelengths. (b) Normalized PL spectra of ScCDs in aqueous solution at different excitation wavelengths.

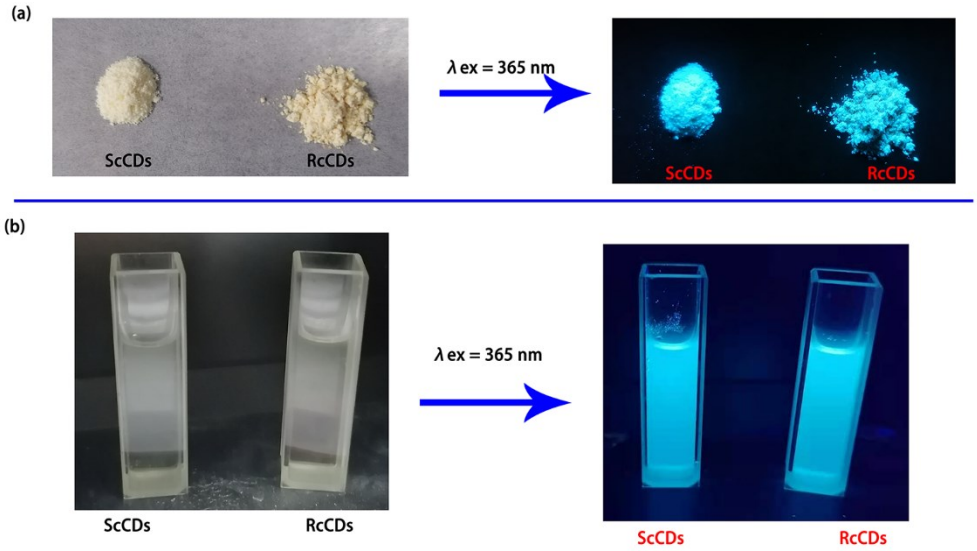

Fig. S6. (a) Photographs of ScCDs powder and RcCDs powder under daylight and UV light. (b) Photographs of ScCDs and RcCDs aqueous solution under daylight and UV light.

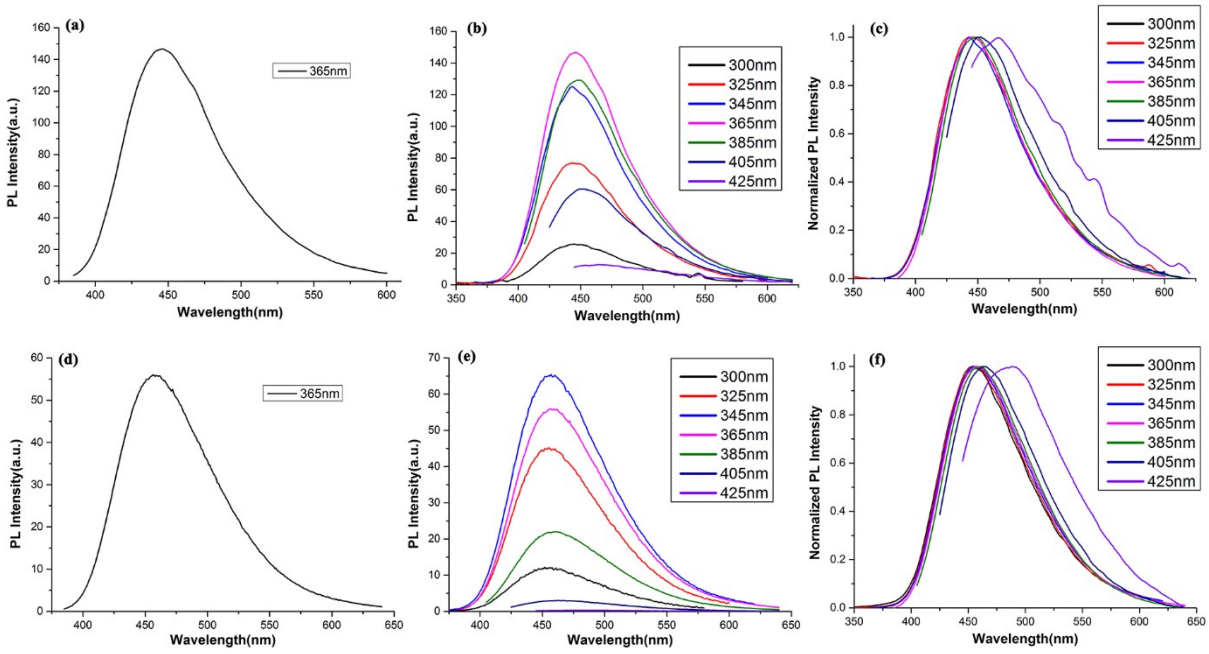

Fig. S7. (a)-(c) PL spectra of the RcCDs powder. (d)-(f) PL spectra of the RcCDs in aqueous solution.

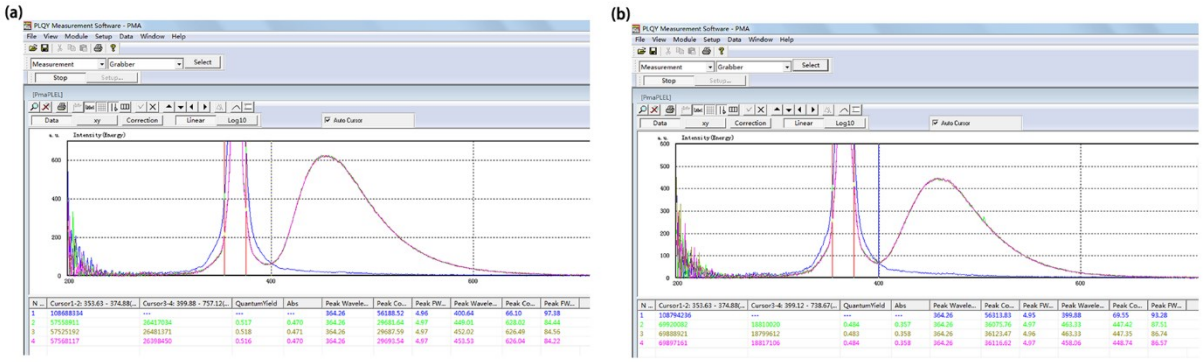

Fig. S8. (a) The absolute QY of CDs powder. (b) The absolute QY of CDs in aqueous solution.

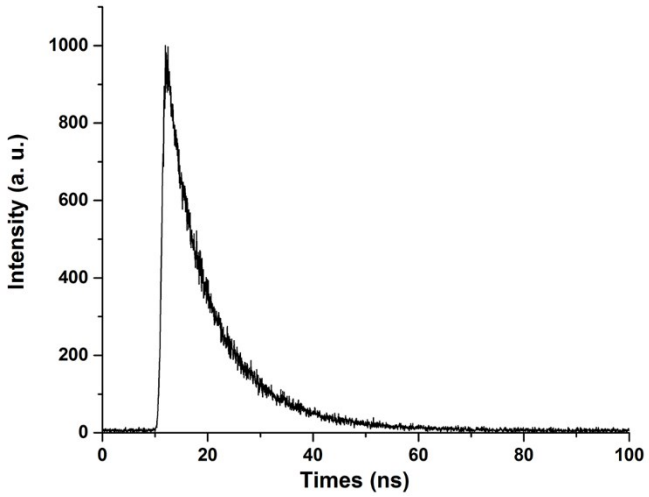

Fig.S9. Fluorescence decay of ScCDs powder (Ex = 365 nm, Em = 447 nm)

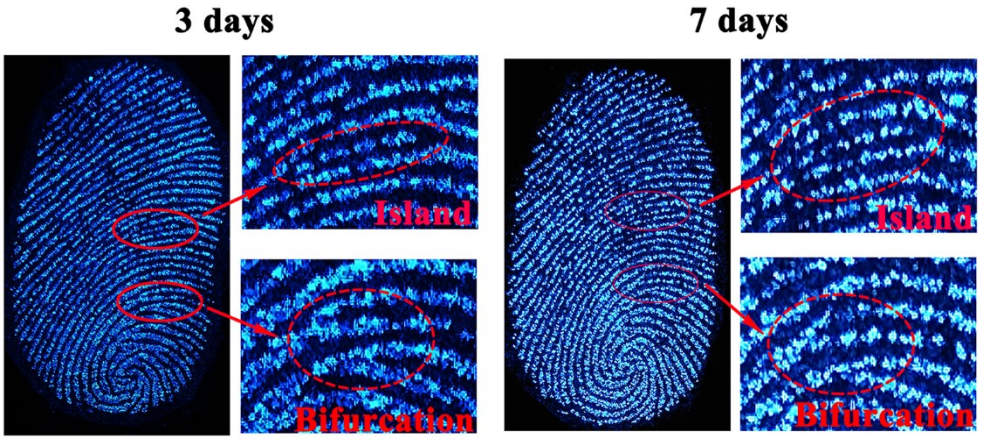

Fig. S10. Photographs of the LFPs which is stored for a period of time before it is developing.

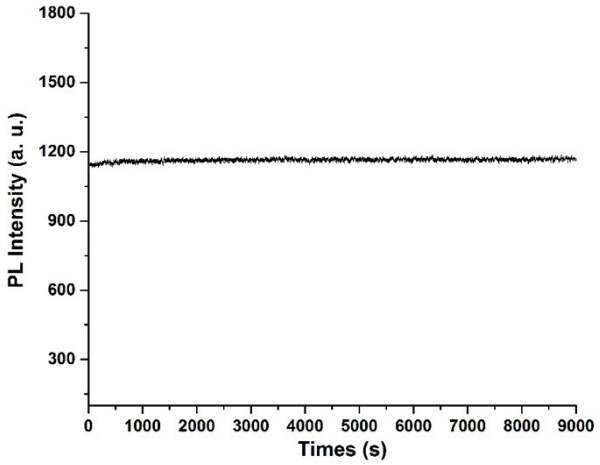

Fig. S11. Photostability of ScCDs powder.

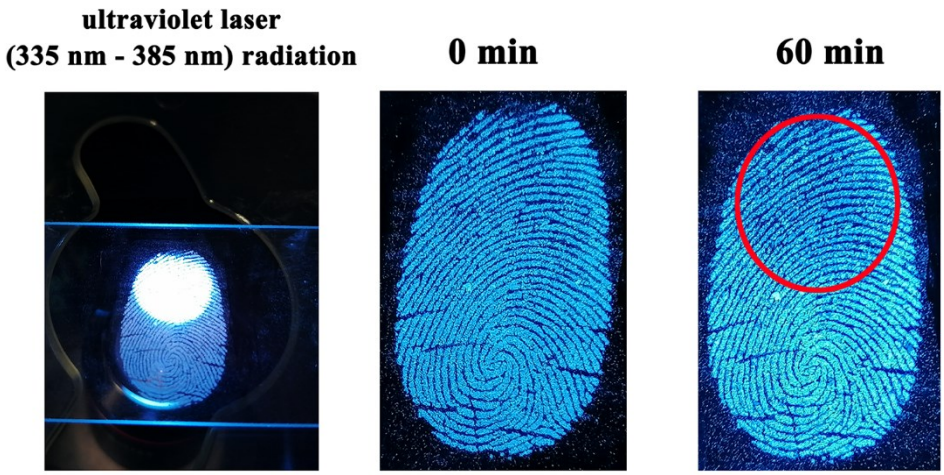

Fig. S12. ScCDs powder stained LFPs on glass slide under under ultraviolet laser (335 nm - 385 nm, with the maximum power) radiation on the Olympus CKX53inverted fluorescence microscope. The red circle represents irradiated parts.

Table S1 The atomic percentages of ScCDs.

	C (%)	N (%)	O (%)
ScCDs	67.3	12.8	19.9