

## Supporting Information

### Construction of Photoluminescence-Afterglow Dual-Mode White Emission from Carbon Dots via Förster Resonance Energy Transfer

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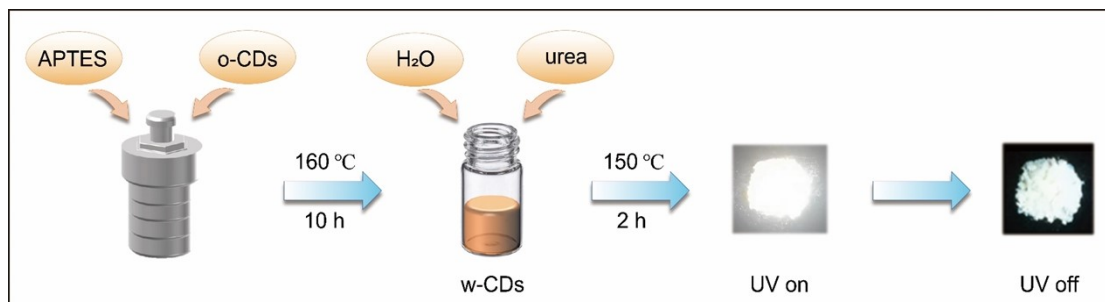
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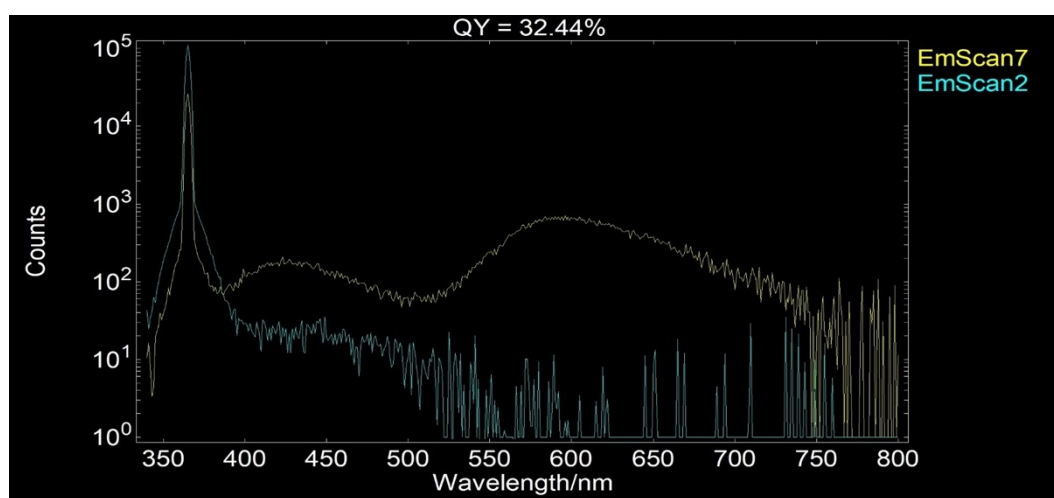
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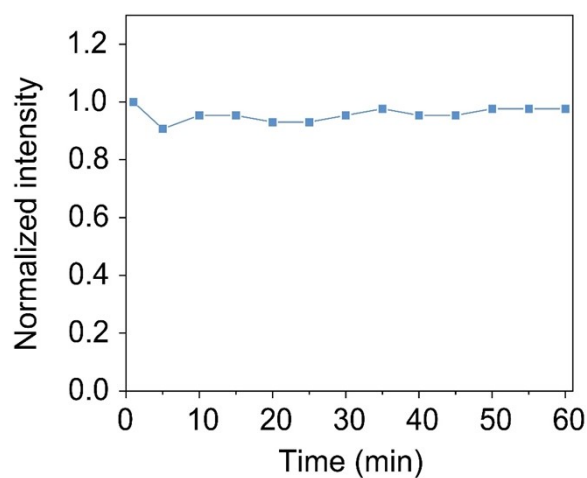
## Supporting Figures



**Fig. S1.** Schematic diagram of the synthesis of w-CDs powder.

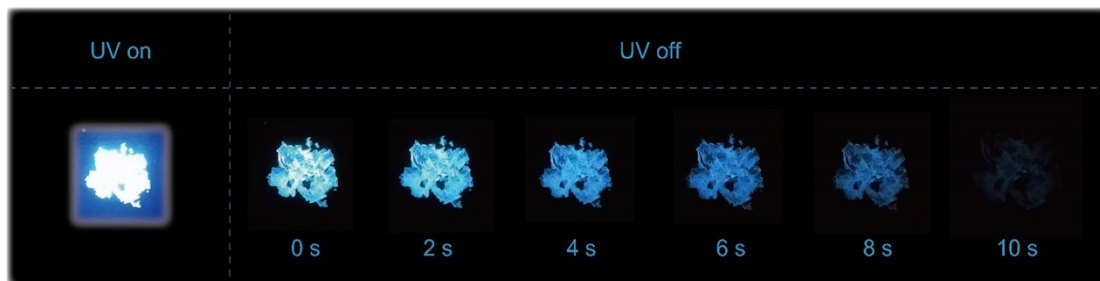


**Fig. S2.** Photoluminescence quantum yield (PLQY) of w-CDs powder, excited with 365 nm UV lamp.

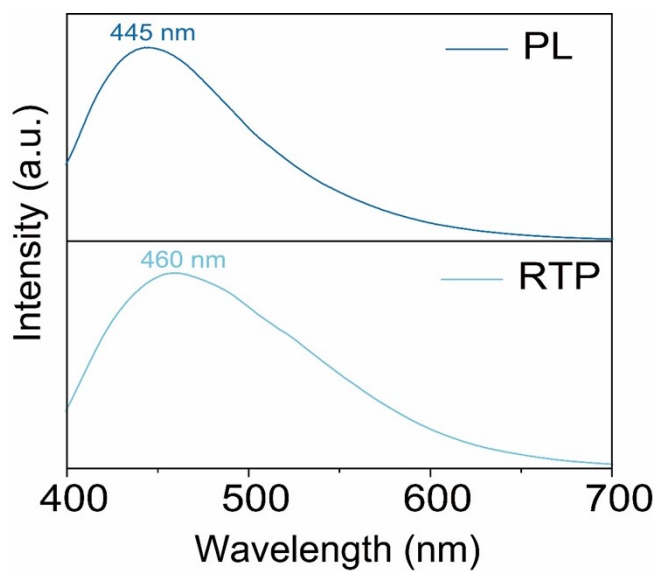


**Fig. S3.** Changes in intensity of w-CDs powder in one hour, excited with 365 nm UV

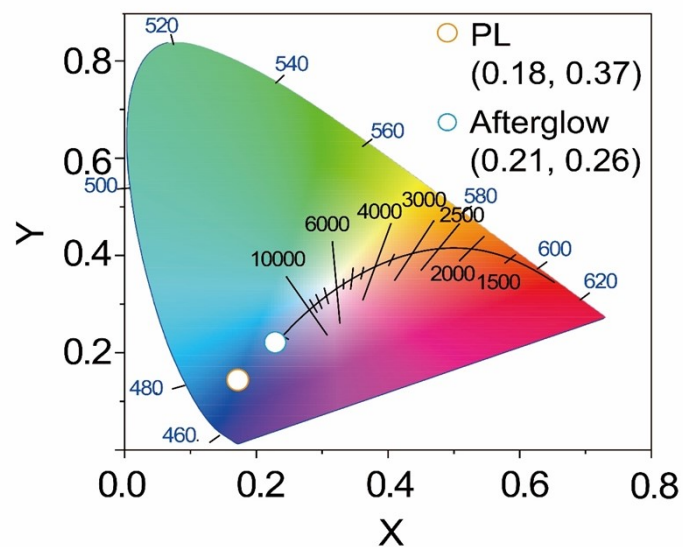
lamp.



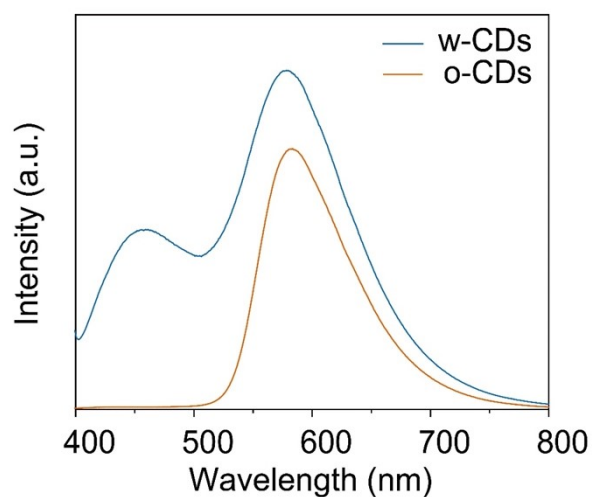
**Fig. S4.** Images of b-CDs powder, taken before and after the excitation of 365 nm UV lamp.



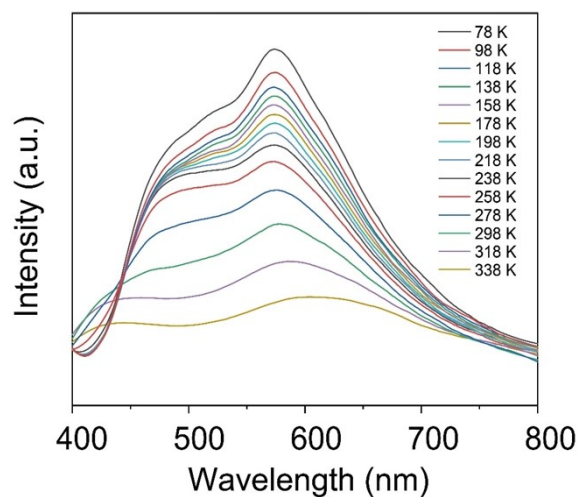
**Fig. S5.** Photoluminescence (PL) and room temperature phosphorescence (RTP) emission spectra of b-CDs powder, excited with 365 nm UV lamp.



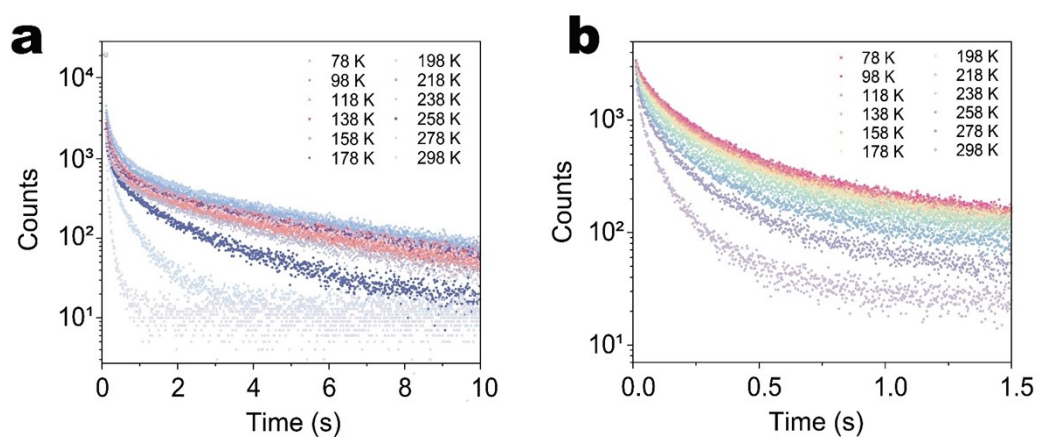
**Fig. S6.** The Commission Internationale de l'Eclairage (CIE) chromaticity diagram shows the PL and RTP coordinates of the b-CDs powder in Fig. S5.



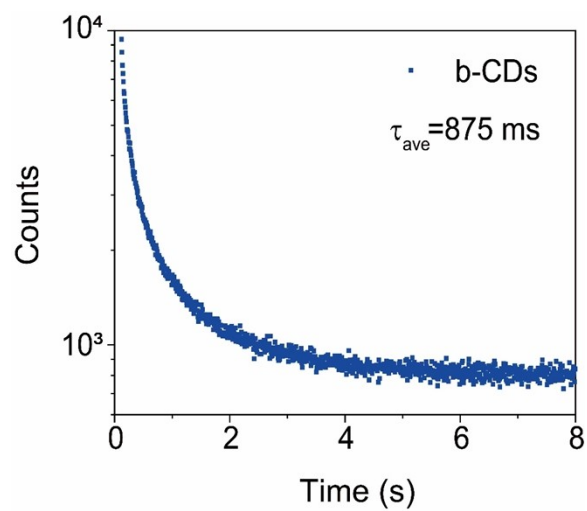
**Fig. S7.** PL emission spectra of o-CDs and w-CDs powder, excited with 365 nm UV lamp.



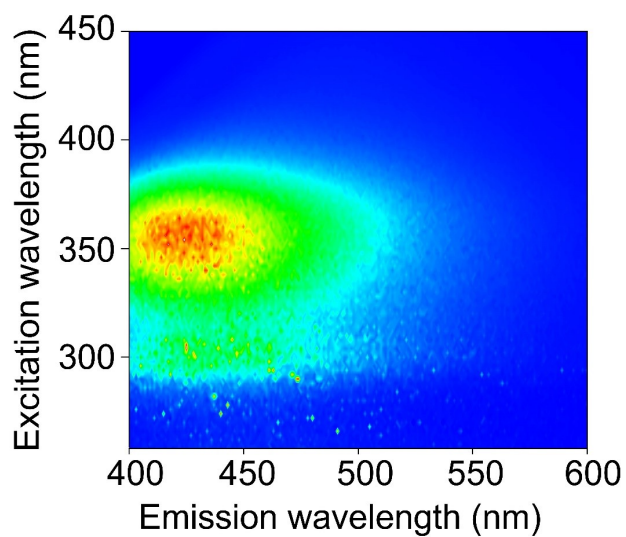
**Fig. S8.** Temperature-dependent afterglow emission spectra of w-CDs powder, excited with 365 nm UV lamp.



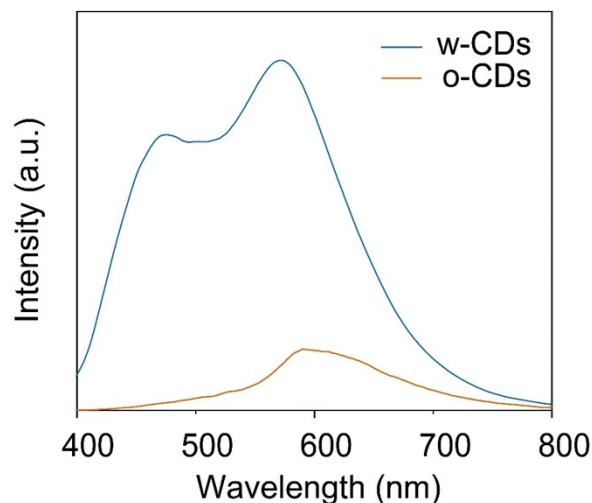
**Fig. S9.** Temperature-dependent decay afterglow spectra of w-CDs powder at donor peak (a) and acceptor peak (b).



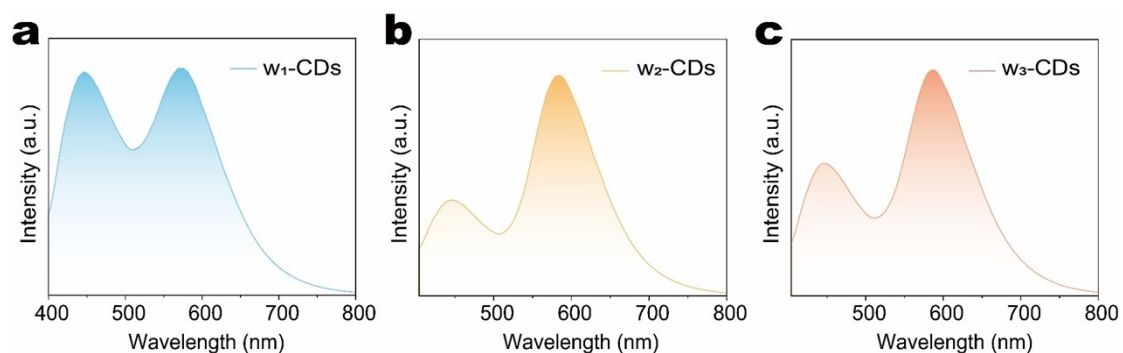
**Fig. S10.** Time-resolved RTP decay spectrum of b-CDs powder.



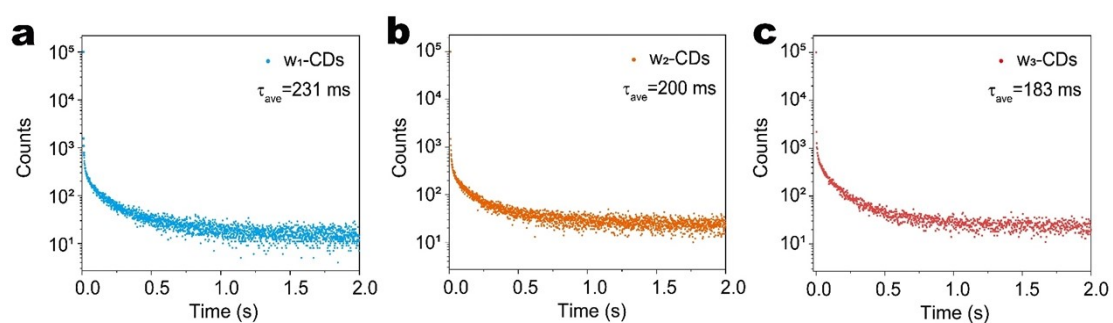
**Fig. S11.** RTP excitation-emission mapping of b-CDs powder.



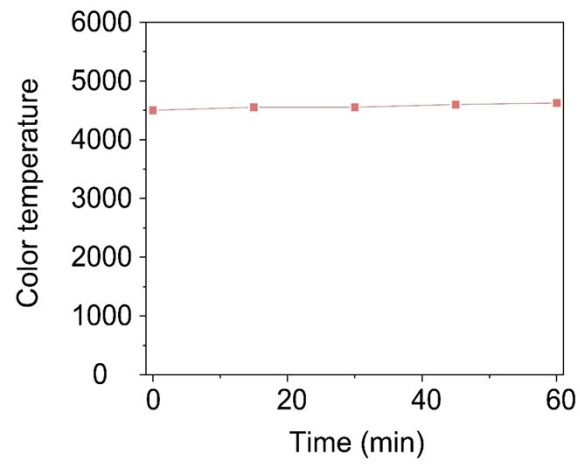
**Fig. S12.** Afterglow emission spectra of o-CDs and w-CDs powders, excited with 365 nm UV lamp.



**Fig. S13.** PL emission spectra of  $w_1$ -CDs,  $w_2$ -CDs, and  $w_3$ -CDs powders, respectively, excited with 365 nm UV lamp.



**Fig. S14.** Decay afterglow spectra of  $w_1$ -CDs,  $w_2$ -CDs and  $w_3$ -CDs powders at donor peak.



**Fig. S15.** Changes in color temperature of the WLEDs in one hour, excited with 365 nm.