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Surface states modulation of red emitting carbon dots for white light-emitting diode

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Supporting information

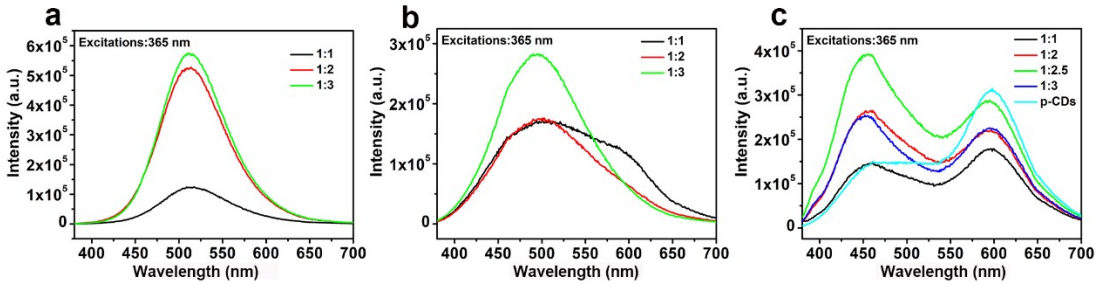

Figure S1. Fluorescence emission spectra of CDs with different molar ratios of raw materials excited by 365 nm. (a) Fluorescence emission spectra of EDA-CDs with different molar ratios of PDDA to EDA. (b) Emission spectra of PEI-CDs with different molar ratios of PDDA to PEI. (c) Fluorescence emission spectra of pro-CDs with different molar ratios of PDDA to L-proline.

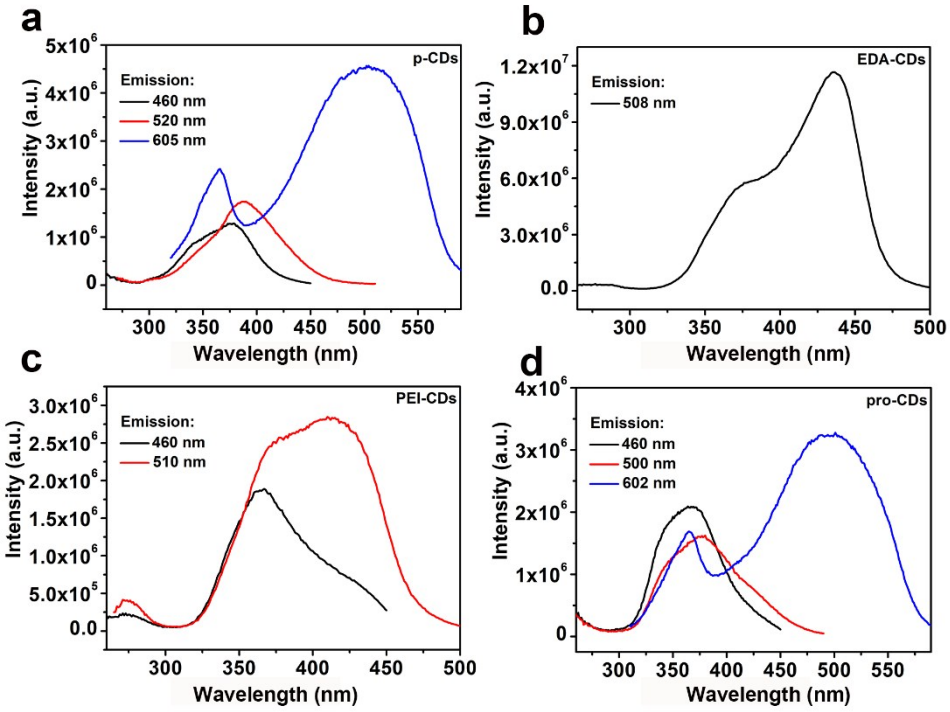

Figure S2. Fluorescence excitation spectra of (a) p-CDs, (b) EDA-CDs, (c) PEI-CDs, (d) pro-CDs.

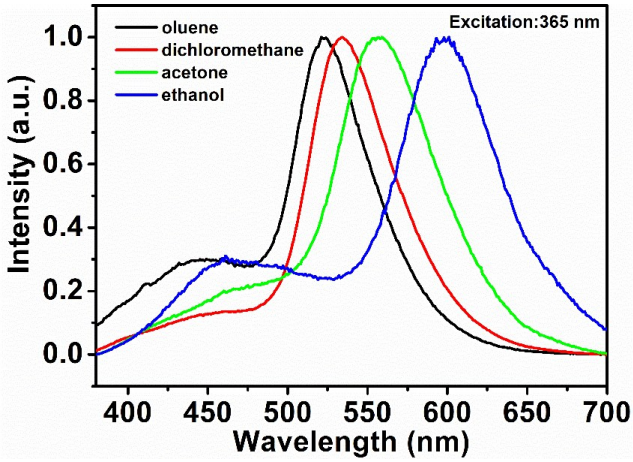

Figure S3. Photoluminescence spectra of the p-CDs in different solvents excited by 365 nm.

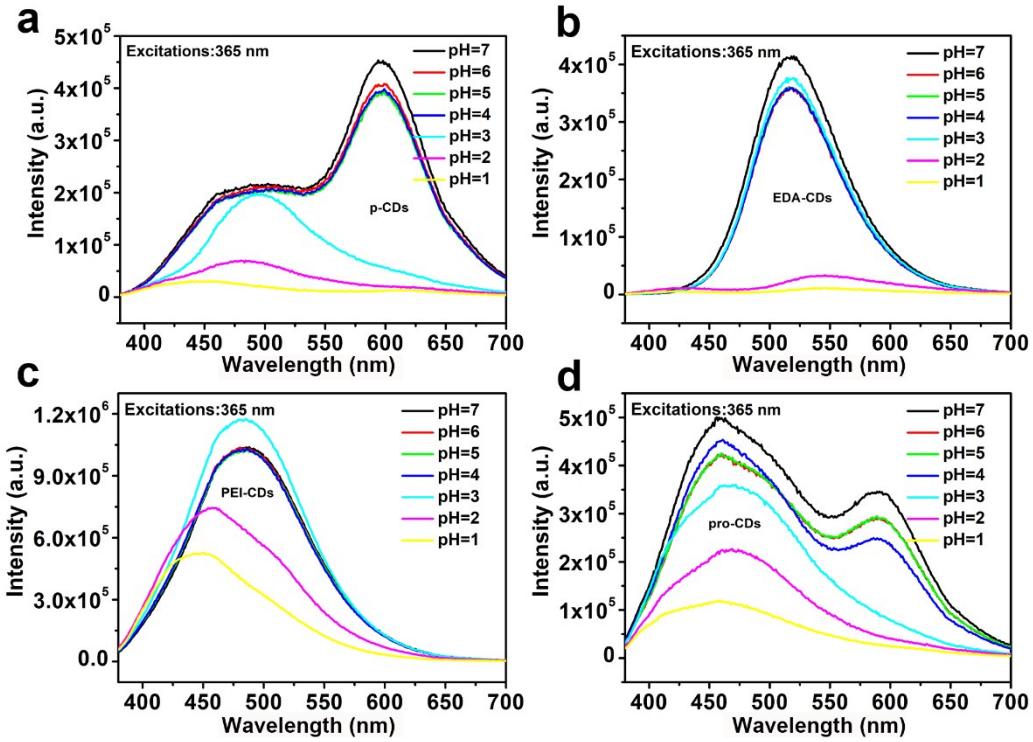

Figure S4. Emission spectra of the four CDs by changing pH values (1–7) with addition of HCl.

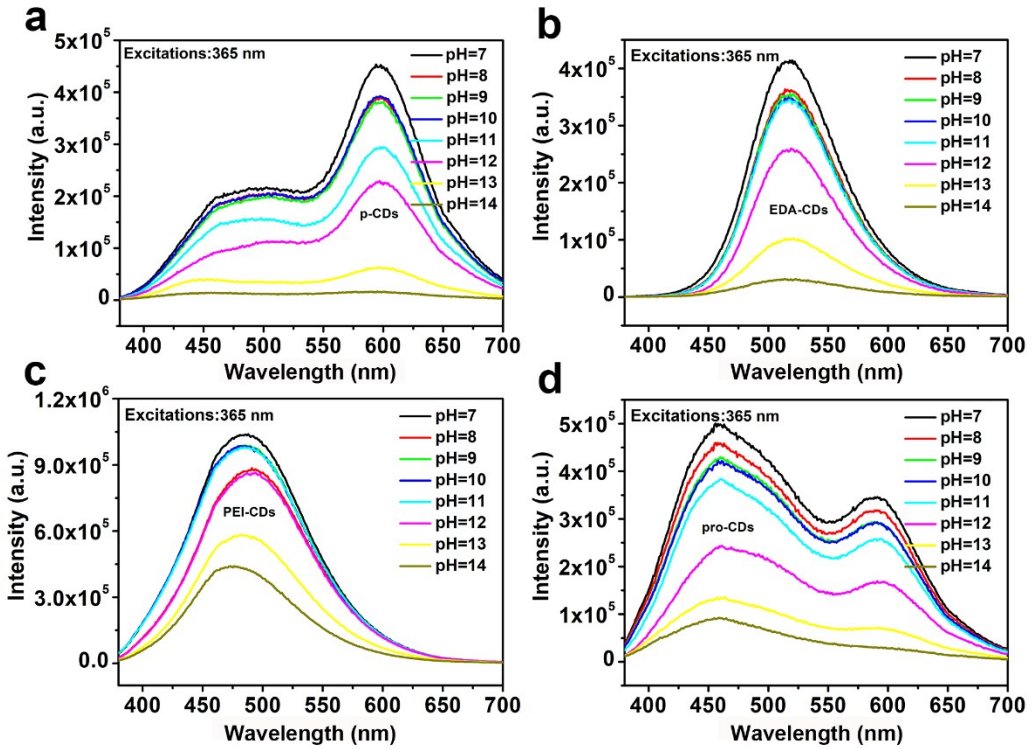

Figure S5. Emission spectra of the four CDs by changing pH values (7–14) with addition of NaOH.

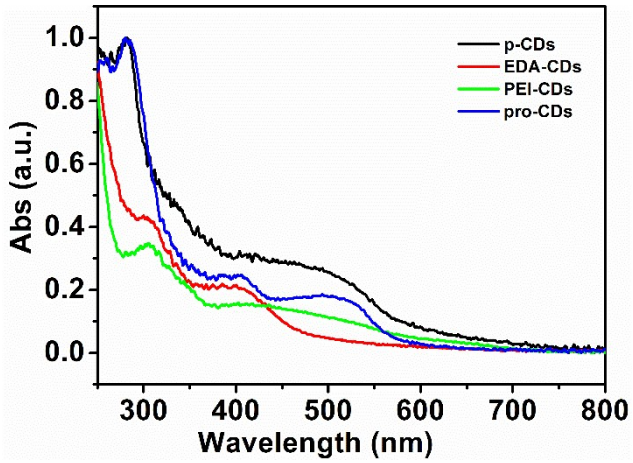

Figure S6. The UV–Vis absorption spectra of p-CDs, EDA-CDs, PEI-CDs and pro-CDs, respectively.

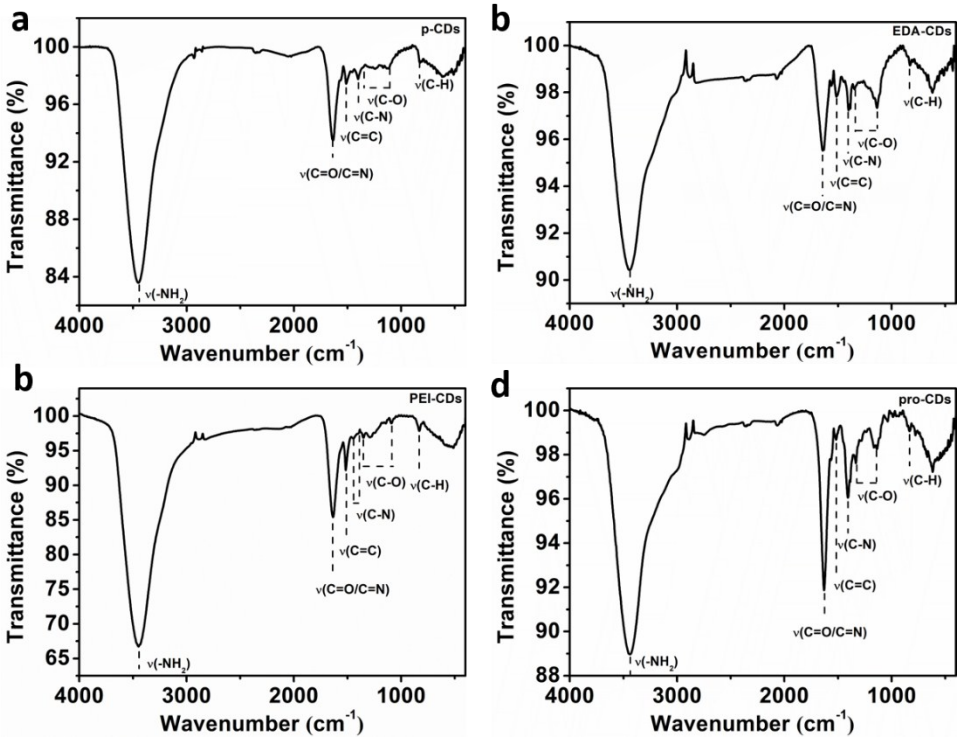

Figure S7. FTIR spectra of (a) p-CDs, (b) EDA-CDs, (c) PEI-CDs and (d) pro-CDs, respectively.

Table S1. The atomic percent of four kinds of CDs.

	C (atm. %)	N (atm. %)	O (atm. %)
p-CDs	84.60	4.76	9.50
EDA-CDs	70.33	17.54	10.34
PEI-CDs	70.64	12.85	12.45
pro-CDs	73.30	11.13	14.58

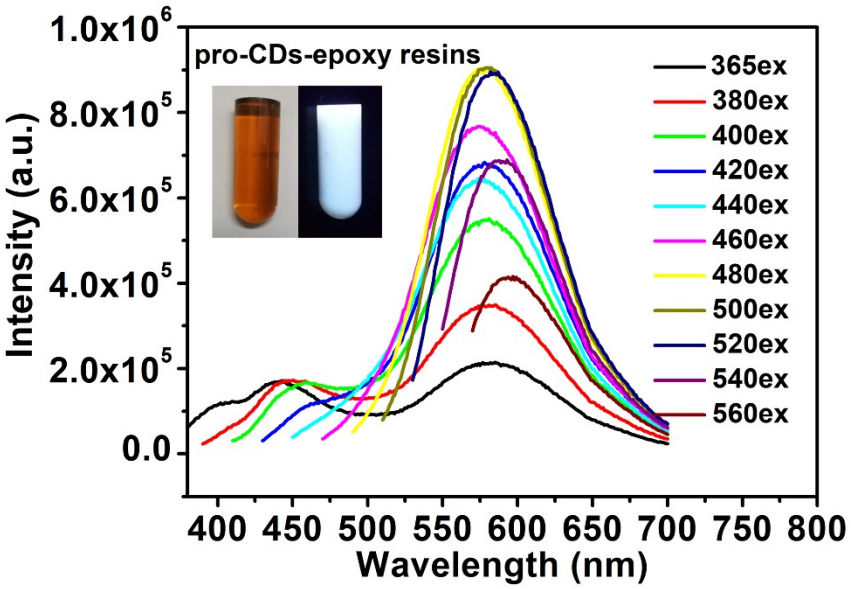

Figure S8. Fluorescence emission spectra of pro-CDs in epoxy resins under various excitation wavelengths, insets show the photograph of the pro-CDs in epoxy resins under natural light (left) and 365 nm excitation (right).