Electronic Supplementary Material (ESI) for RSC Advances.
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Supplementary Information

Surface passivated carbon nanodots prepared by microwave assisted pyrolysis: effect of carboxyl group in precursors on fluorescenceproperty

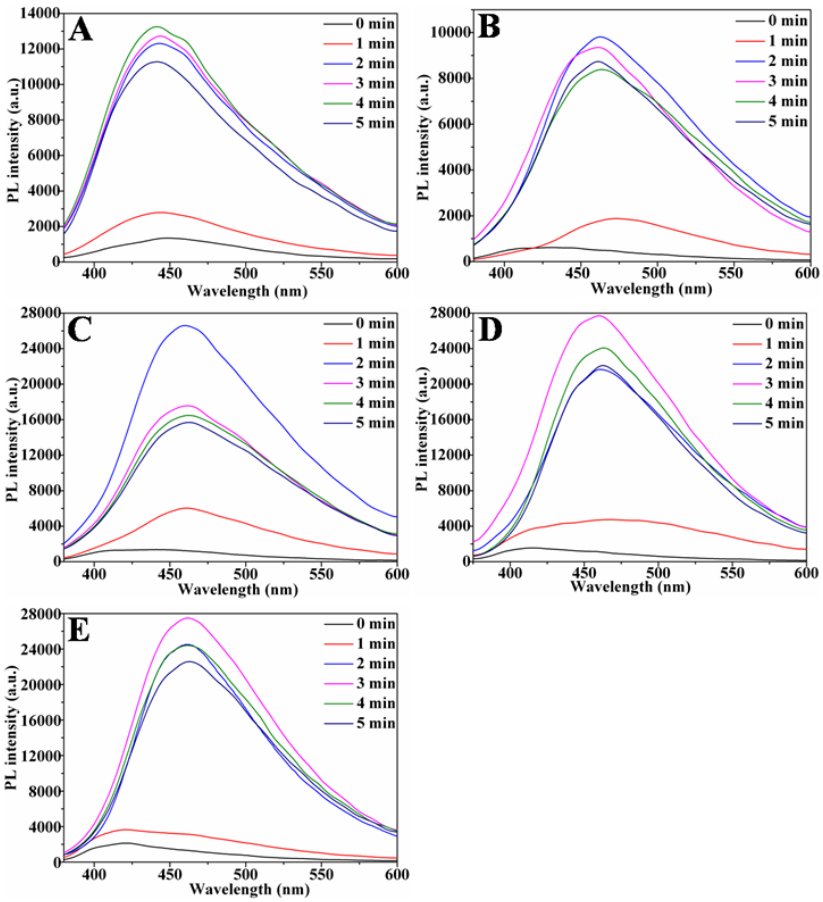

Fig. S1. PL spectra (excited at 380 nm) of MA-CDs prepared with different molar ratios of carboxyl groups to amino groups:(A) 1:0.5, (B) 1:1, (C) 1:2, (D) 1:4, (E) 1:8 at different microwave pyrolysis time periods. Each sample has the same absorbance value.

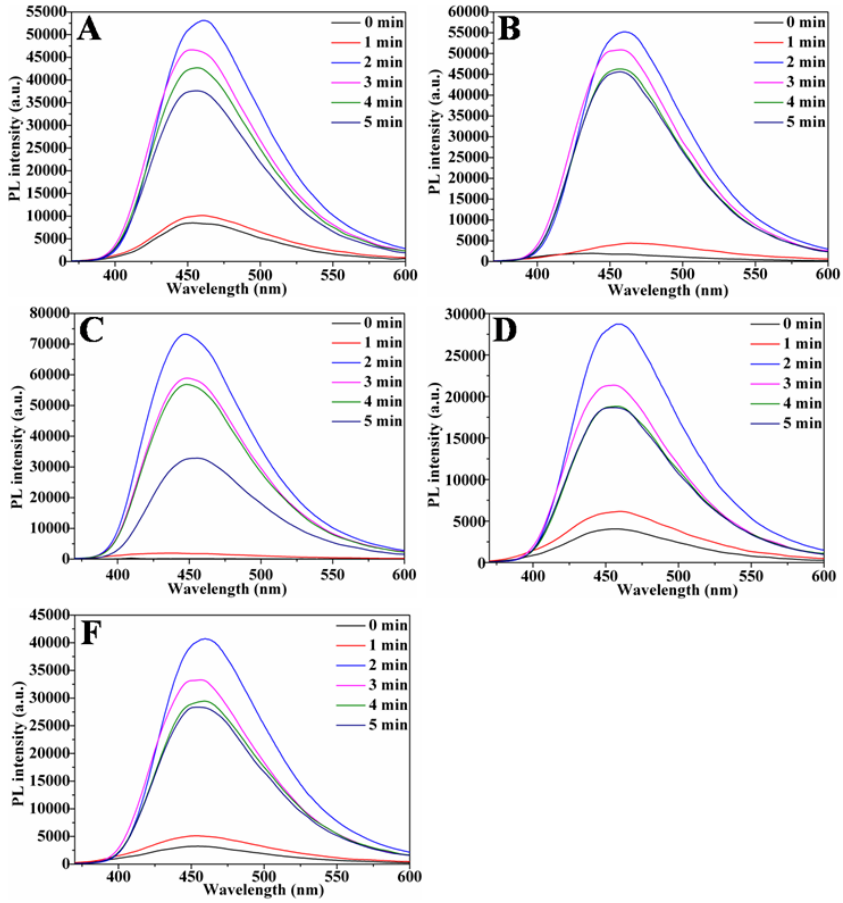

Fig. S2. PL spectra (excited at 360 nm) of CA-CDs prepared with different molar ratios of carboxyl groups to amino groups:(A)1:0.5, (B) 1:1, (C) 1:2, (D) 1:4, (E) 1:8 at different microwave pyrolysis time periods. Each sample has the same absorbance value.

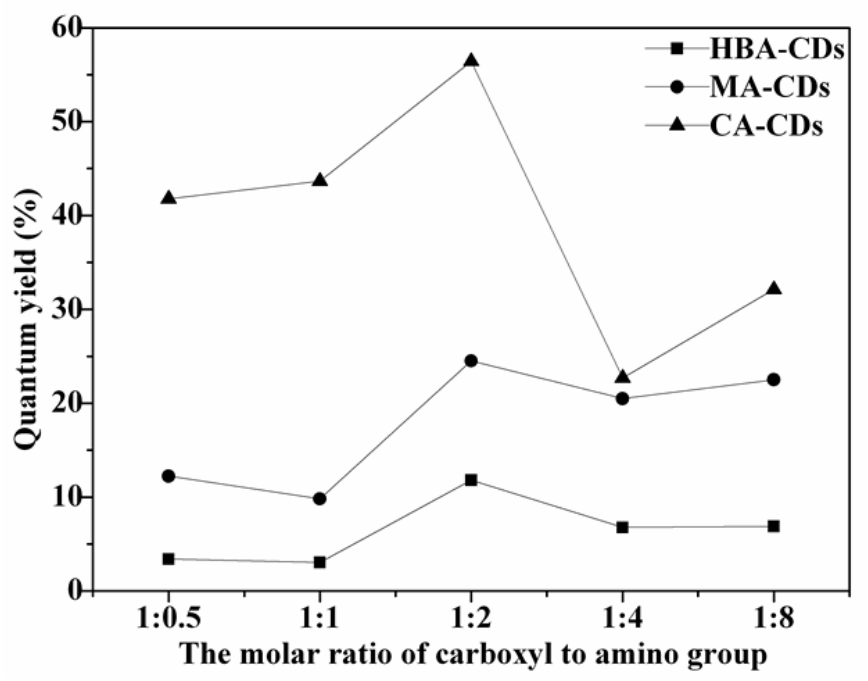

Fig. S3. The QY of HBA-CDs, MA-CDs and CA-CDs with different molar ratios of carboxylto amino group. The maximum QY of the as-prepared CDs fabricated from HBA, MA and CA were 11.81%, 24.52% and 56.42%, respectively.

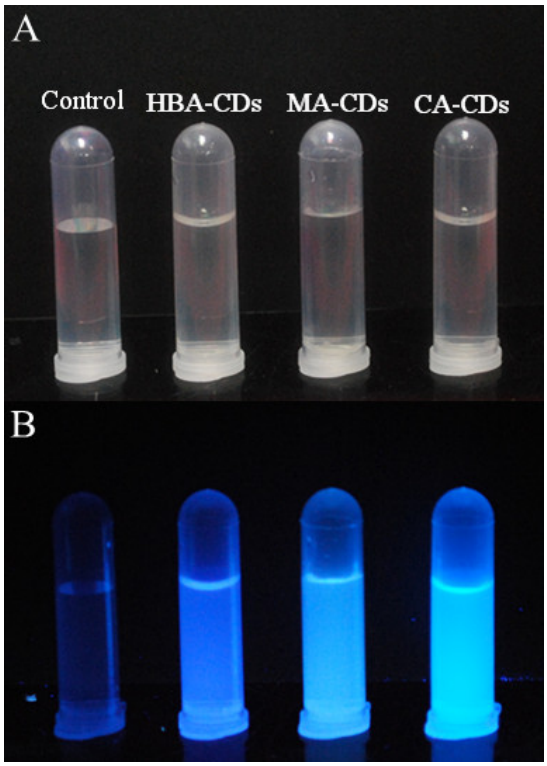

Fig. S4. The photographs of HBA-CDs, MA-CDs and CA-CDs aqueous solutions (0.01 mg/mL) under visiblelight (A) and UV (B). Deionized water was used as a control.

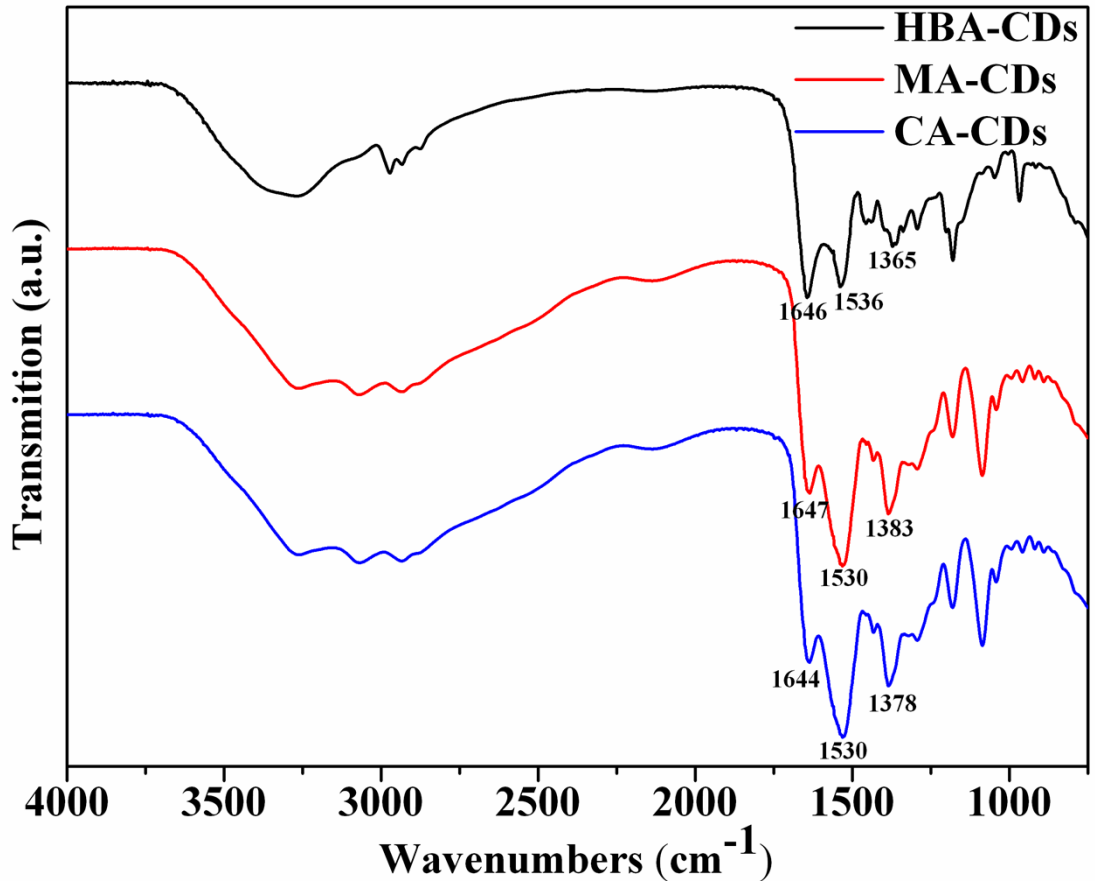

Fig. S5. FT-IR spectra of the HBA- CDs, MA- CDs and CA-CDs samples.

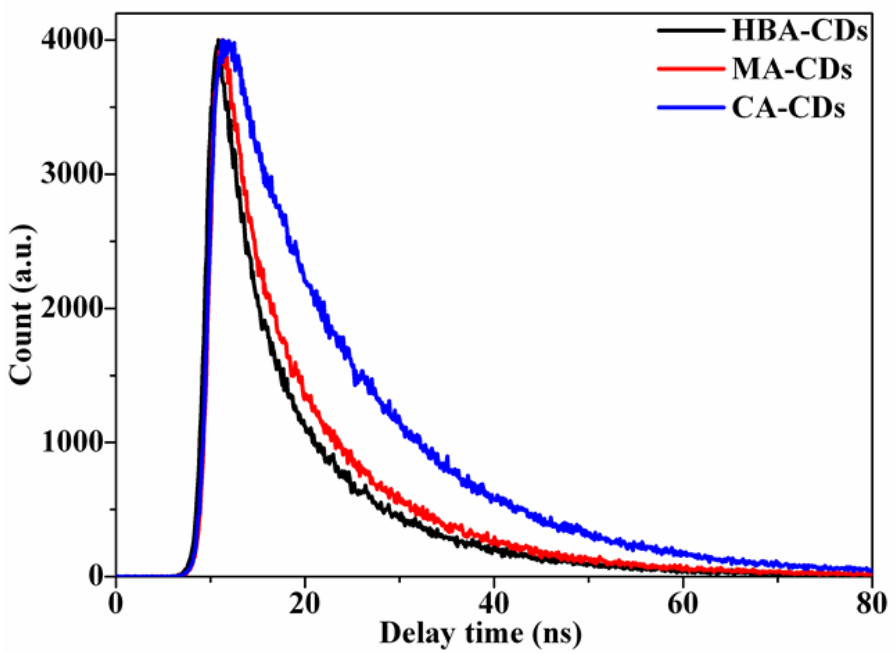

Fig. S6. The time-correlated single-photon counting (TCSPC) of HBA- CDs, MA- CDs and CA-CDs.

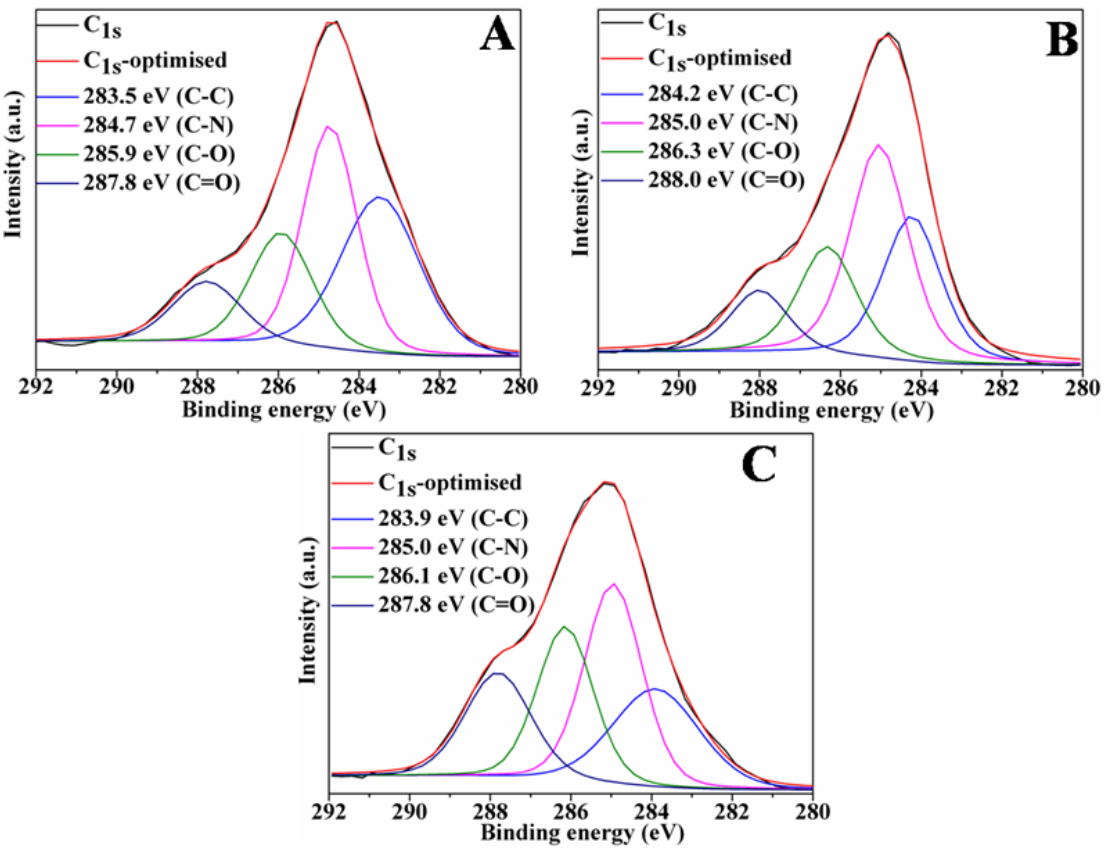

Fig. S7. XPS C 1s spectra of HBA-CDs (A), MA-CDs (B) and CA-CDs (C).

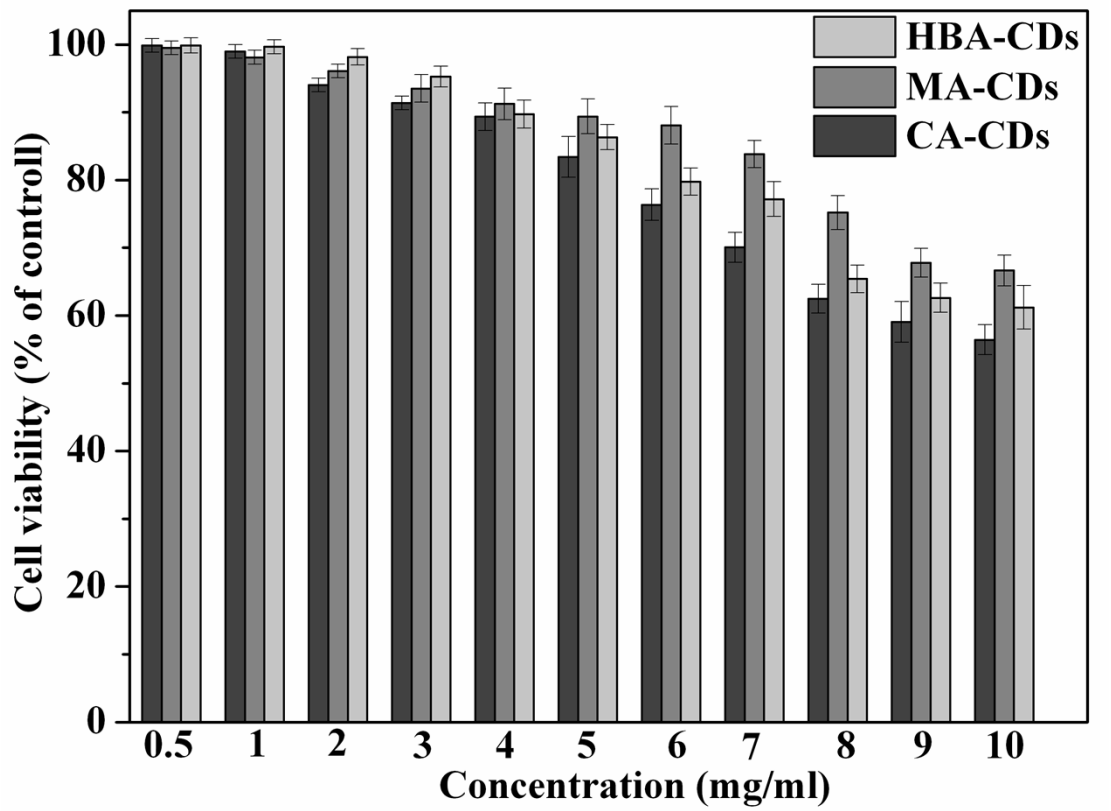

Fig. S8. The cytotoxicity testing results of the HBA-CDs, MA-CDs and CA-CDs via a MTT assay. The values represent percentage cell viability (means% ± SD, n = 3).

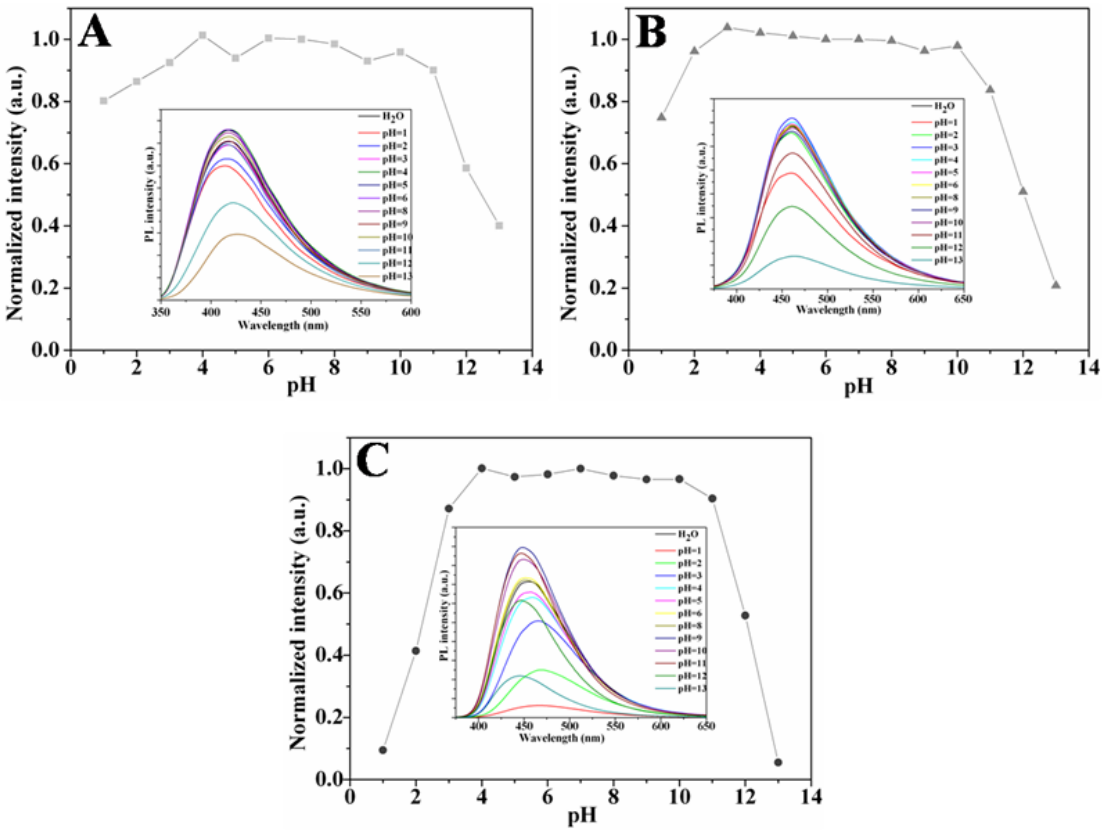

Fig. S9. PL emission spectra of carbon dots at different pH solutions: HBA-CDs (A), MA-CDs (B) and CA-CDs (C).