Investigating the effect of reaction time on carbon dots formation, structure and optical properties

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Electron Difraction pattern of CDs with synthesis time of 12 hours.

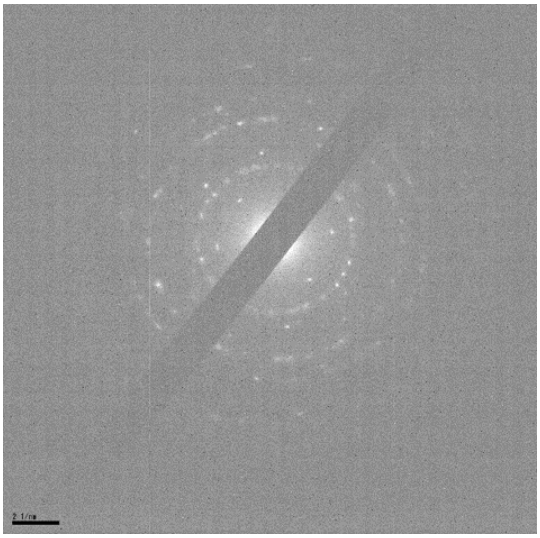


Figure S1: ED pattern of CDs.

Summary of the analysis after peak fitting of Raman spectra.

Table S1: Raman analysis results.

	***D* band (cm^{-1}) Position / FWHM**	***G* band (cm^{-1}) Position / FWHM**	I_D/I_G
● **12h**	1330 / 252	1572 / 91	1.06
● **6h**	1331 / 165	1581 / 99	1.09
● **4h**	1353 / 210	1572 / 146	0.91
● **2h**	-	-	-

Raman spectra of glucose precursor.

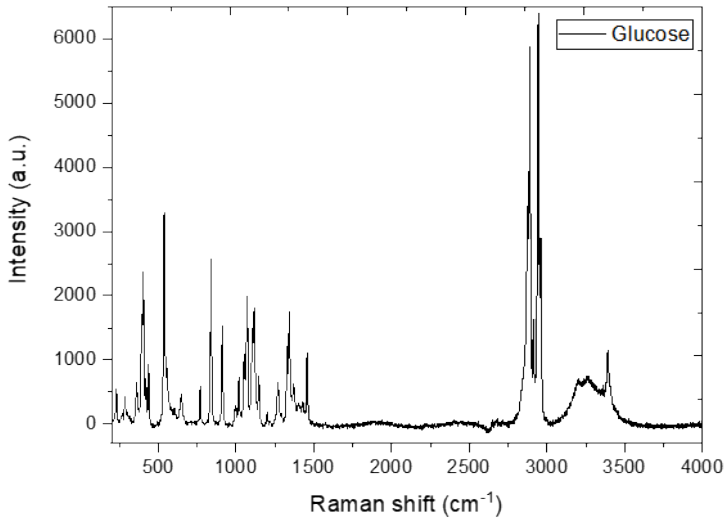
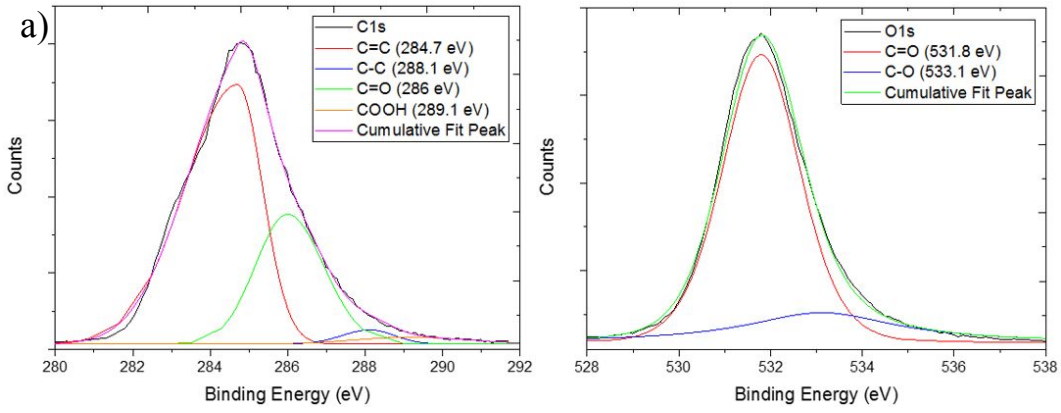


Figure S2: Raman spectra of glucose precursor.

XPS spectra of a) 2, b) 4, c) 6 and d) 12 hours CDs.



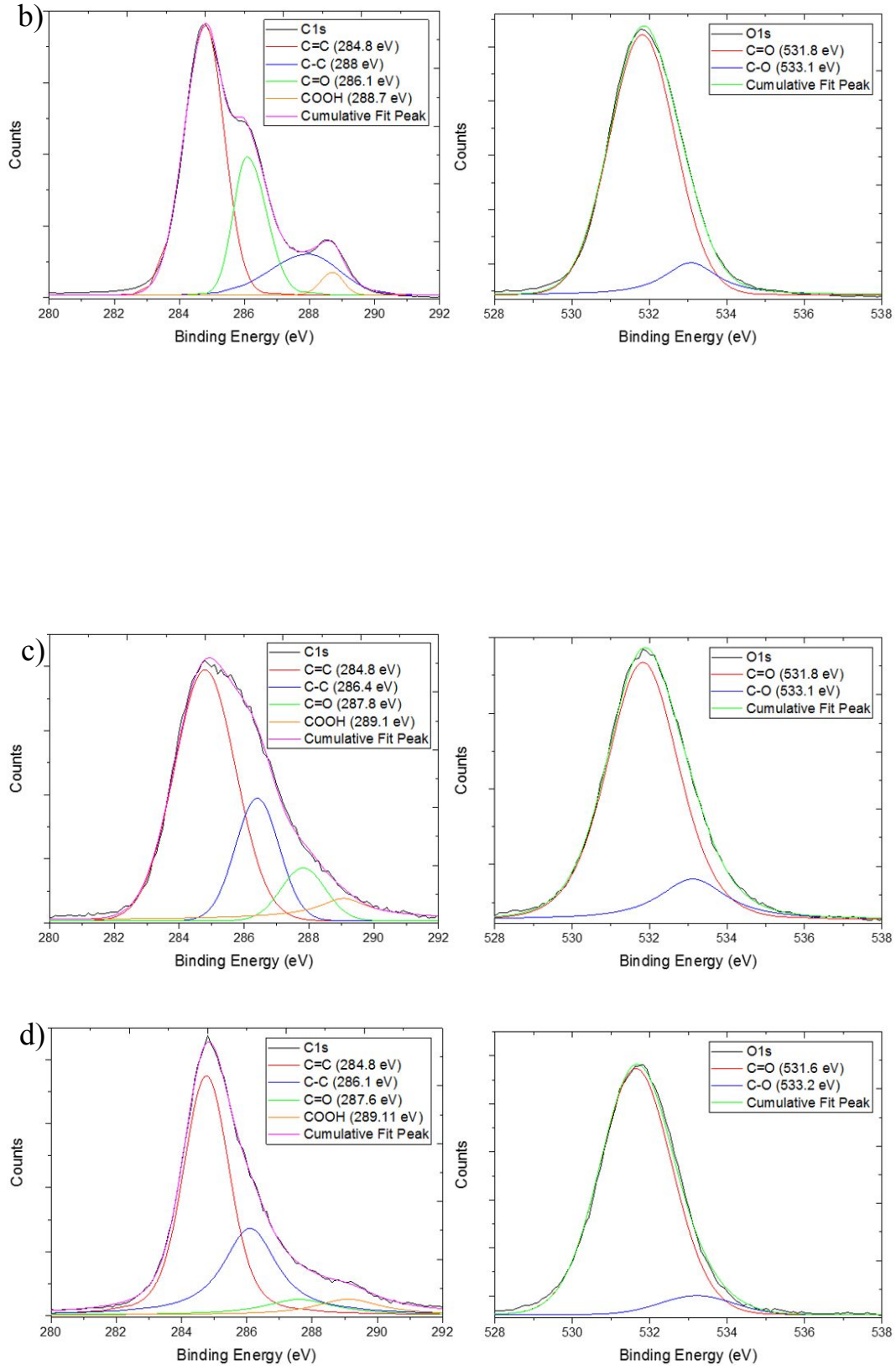


Figure S3: XPS C 1s and O 1s spectra of CDs synthesized after: a) 2, b) 4, c) 6 and d) 12 hours. Each band was deconvoluted following the literature.

Example decay traces of CDs along with their fitting curves are shown below.

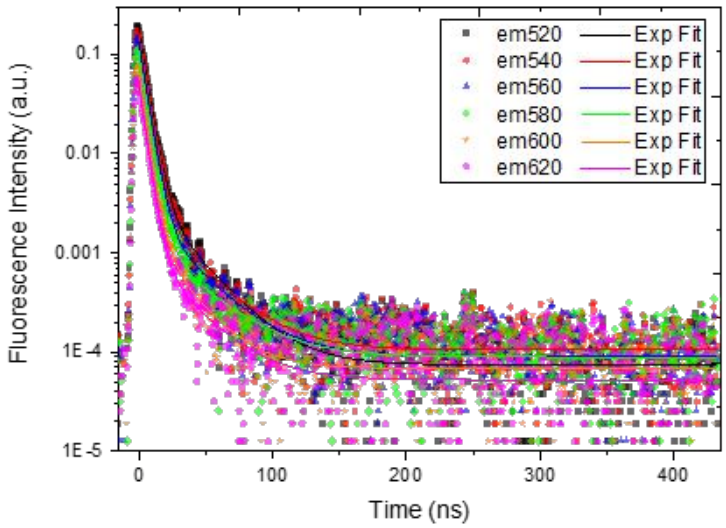
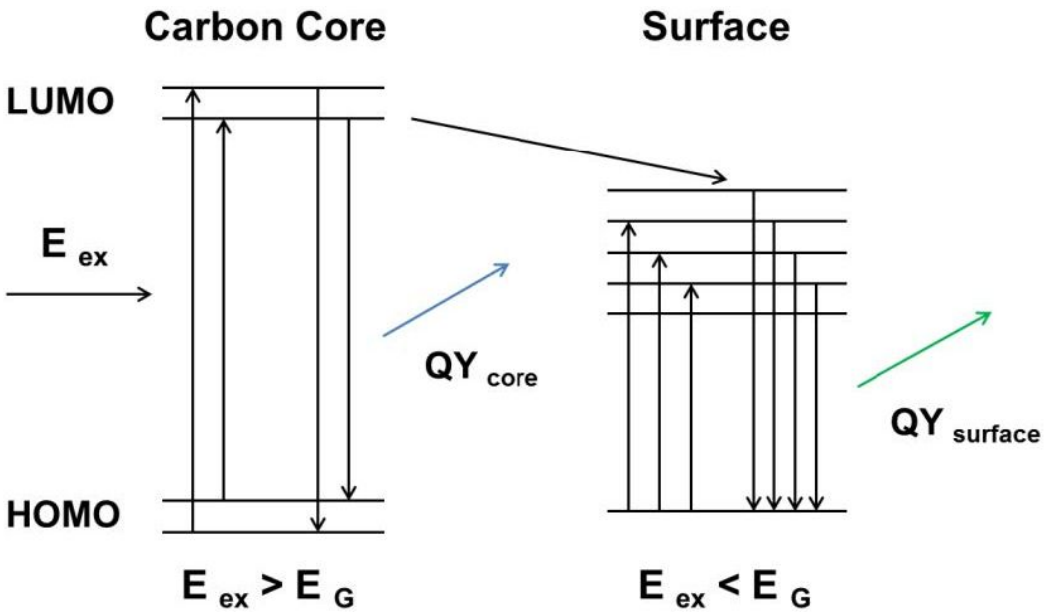


Figure S4: Example decay traces of CDs, accompanied by their fitting curves.



Scheme S1: Schematic approach of PL mechanism of CDs.