

Supplementary Information for

Hydrothermal synthesis of carbon quantum dots with size tunability via heterogeneous nucleation

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Table S1. Summary of average sizes, intensity ratios between D and G bands, (I_D/I_G), and fluorescence quantum yields (QYs) of the CQDs prepared with different filling volumes (20%, 50%, and 80%). The mean sizes (Mean) and standard deviations (SD) are obtained from the size distributions of CQDs in Fig. 1.

Fig. S1 TEM images and their size distributions of the CQDs prepared with the filling volumes of (a) 20%, (b) 50%, and (c) 80% colored with black, blue, and red, respectively. Note that three levels of brightness (dark, medium, and light) are used to describe the size distributions determined from the first (left), second (middle), and third (right) experiments of the hydrothermal syntheses, respectively. For comprehensive comparisons, the cumulative size distributions obtained from these three sets of experiments with the different filling volumes are shown in (d).

Fig. S2 Photographs of the CQDs under ambient light and ultraviolet lamp (a). Excitation-dependent fluorescence (FL) emission spectra of the CQDs synthesized by using filling volumes of 20% (b), 50% (c), and 80% (d), respectively.

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Filling volume (%)	CQD size (Mean± SD nm)	I_D/I_G	QYs of CQDs
20	15 ±1.4	0.75	8.0 %
50	13 ± 1.6	0.67	10.8 %
80	4 ± 1	0.63	11.0 %

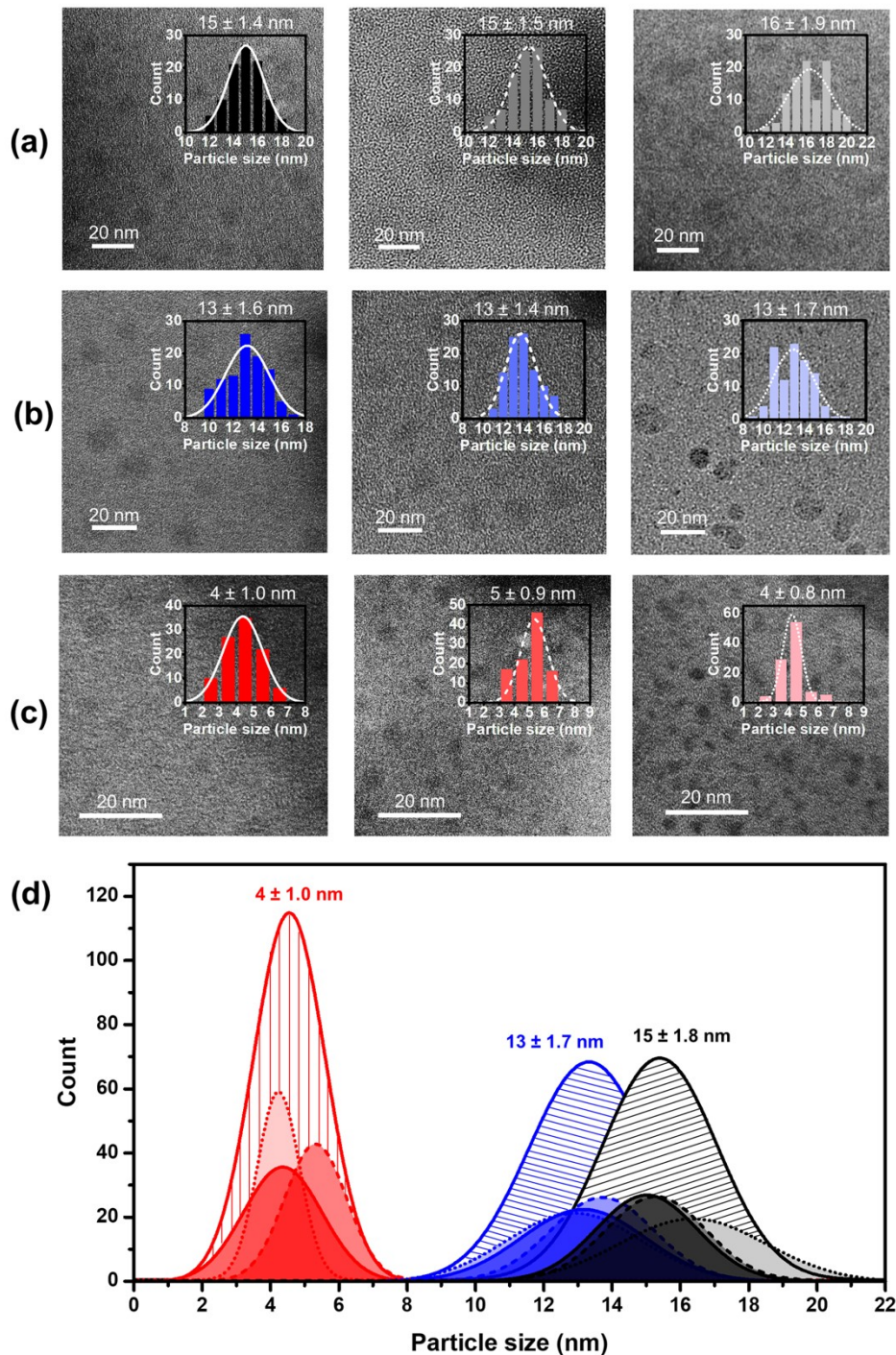


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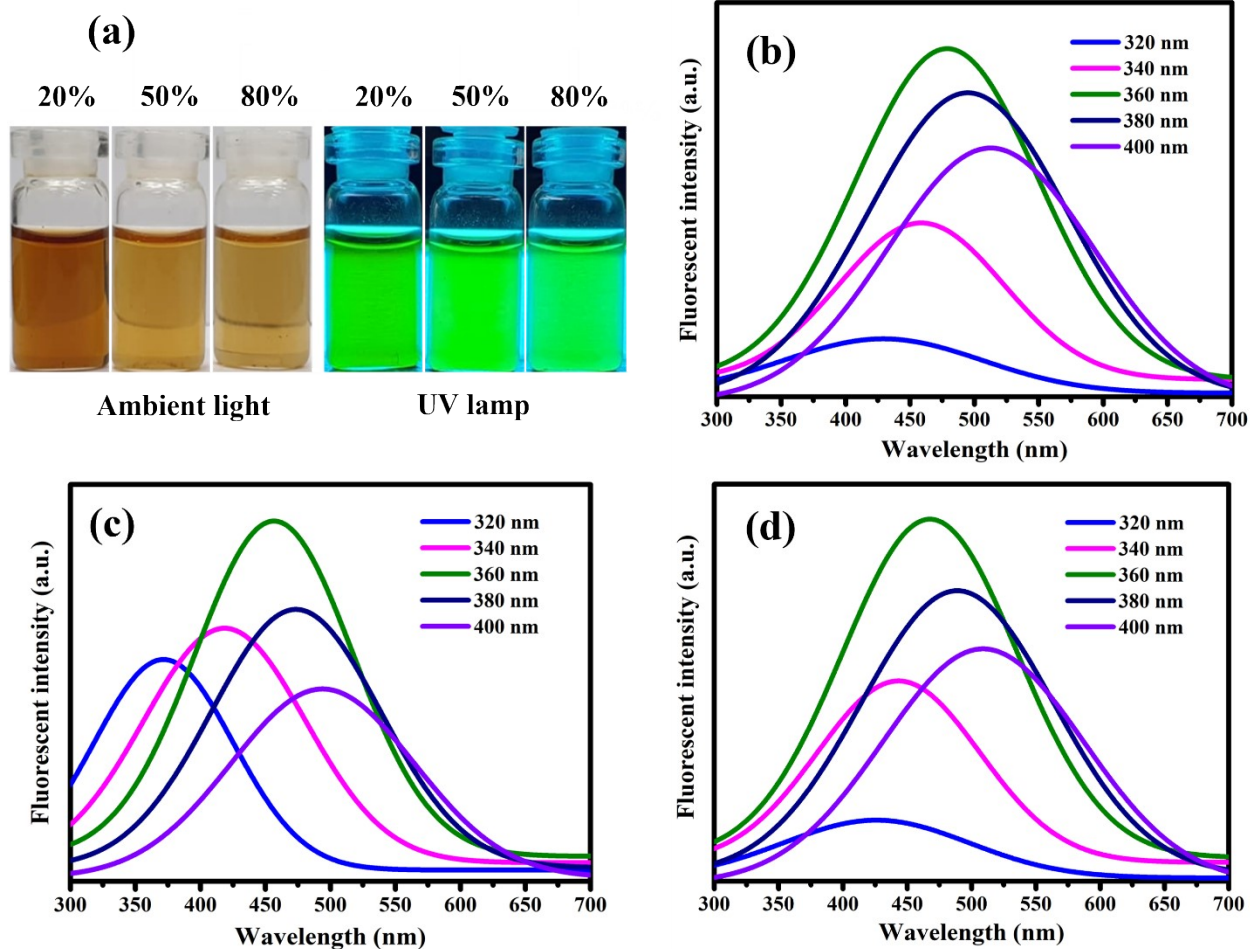


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