

## Supporting information

### One-pot Synthesis of Photoluminescent Self-assembled Carbon Dots Monolayer Films

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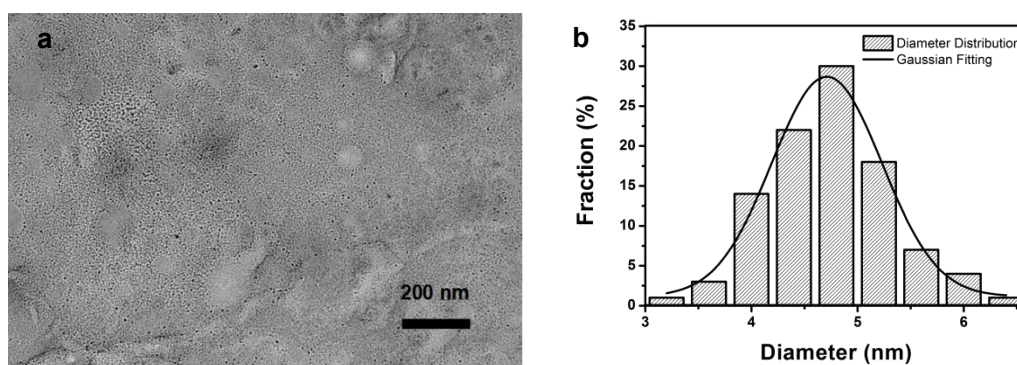
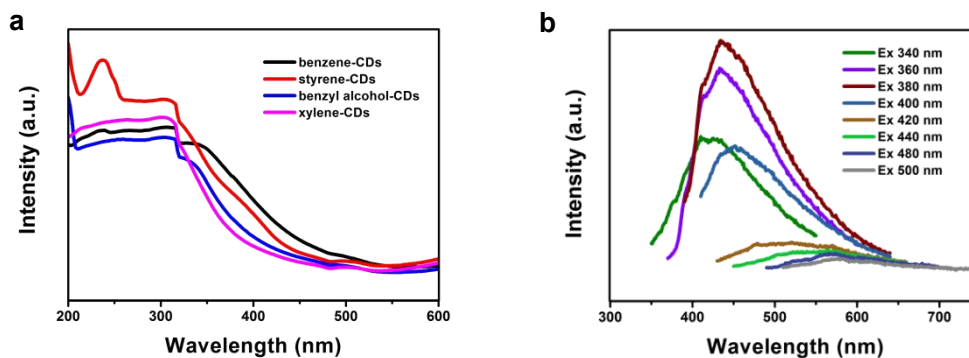


Fig. S1 HRTEM of carbon dots self-assembled monolayer films (CD-SAMFs) (a) and (b) the related size distribution of carbon dots in the CD-SAMFs.



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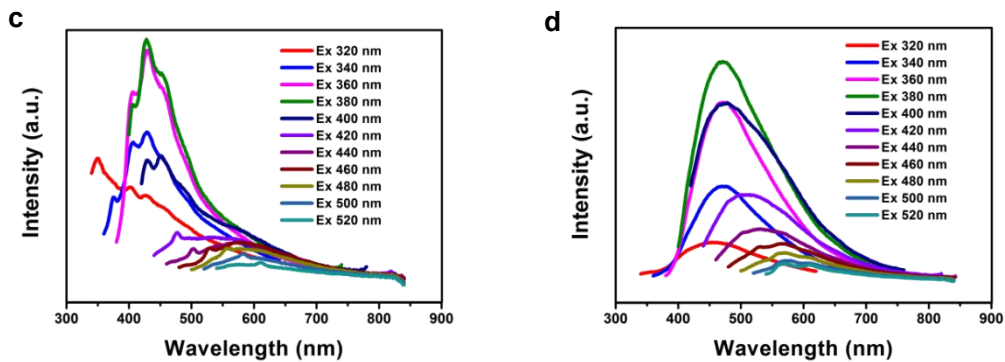


Fig. S2 UV-Vis spectra of the benzene series (a) and PL emission spectra of CDs by other benzene series: (b) benzene, (c) benzyl alcohol, (d) xylene.

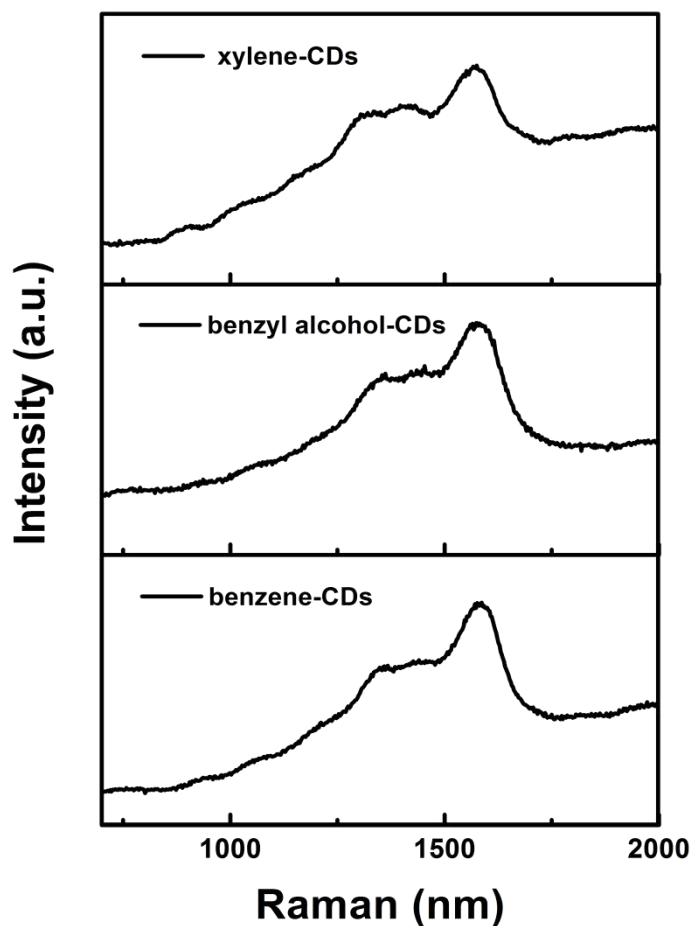


Fig. S3 Raman spectra of CDs synthesized by other benzene series.

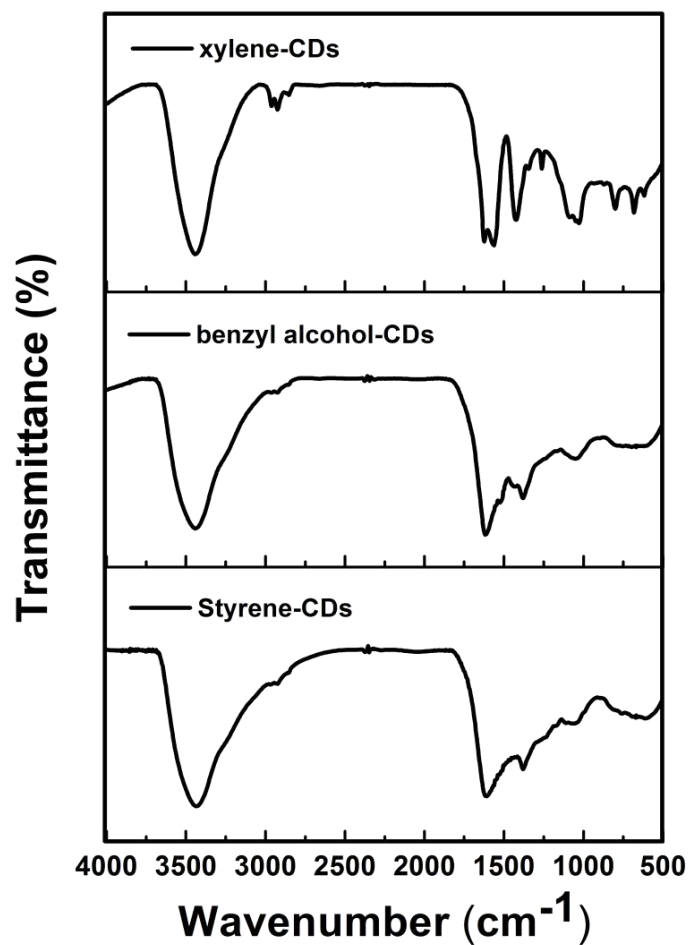


Fig. S4 FTIR spectra of CDs synthesized by other benzene series.

**Table 1S** GC-MS test

Sample	RM <sup>a</sup> (%)	SM <sup>b</sup>	Ratio <sup>c</sup>	Conversion(%)
styrene	23.08	76.92	3.33	45
xylene	18.96	81.04	4.27	45
benzyl alcohol	20.91	79.09	3.78	55
benzene	17.43	82.57	4.74	79.2

<sup>a</sup>: reference material area

<sup>b</sup>: sample material area

<sup>c</sup>: SM/RM.