Electronic Supplementary Material (ESI) for RSC Advances.

High sensitive sensing of hydroquinone and catechol based on ß-cyclodextrin modified carbon dots

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Keywords: Carbon dot; ß-cyclodextrin; Hydroquinone; Catechol

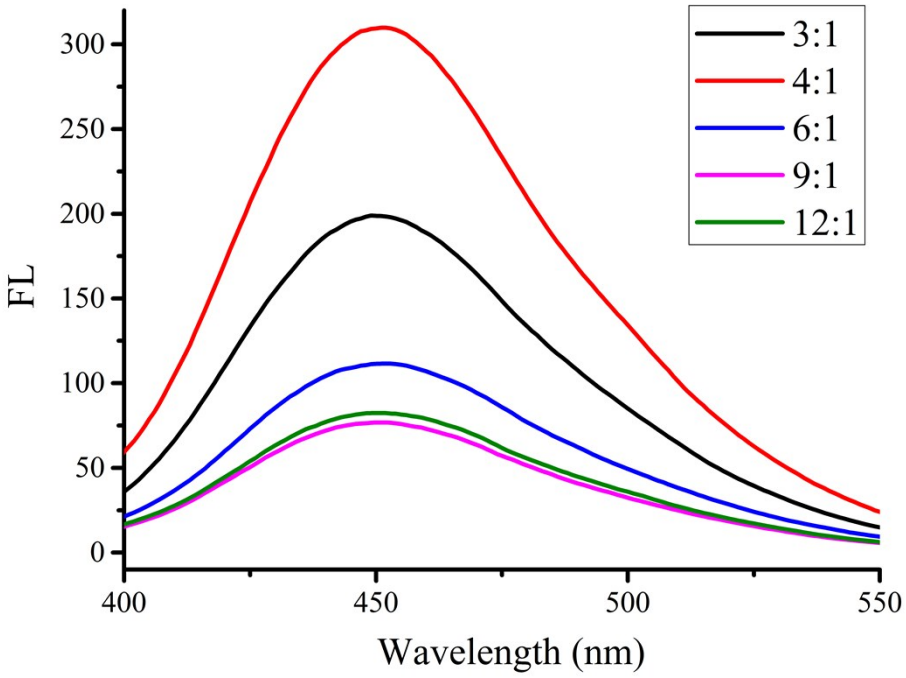

Fig. S1. Fluorescence spectra of C-dot and amono-6-OTs-β-CD mixed with the different ratio ([mono-6-OTs-β-CD]/[C-dot]v/v: (black) 3 : 1, (red) 4 : 1, (blue) 6 : 1, (pink) 9 : 1, (green) 12 : 1.

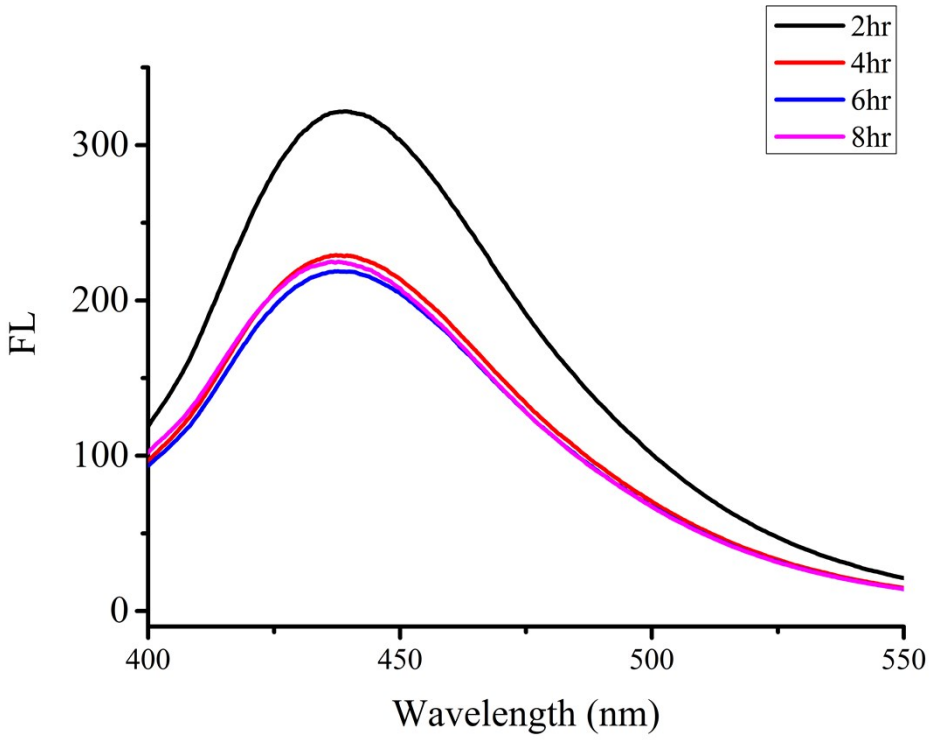

Fig. S2. Fluorescence spectra of the synthesized C-dot@β-CD at variety incubate time.

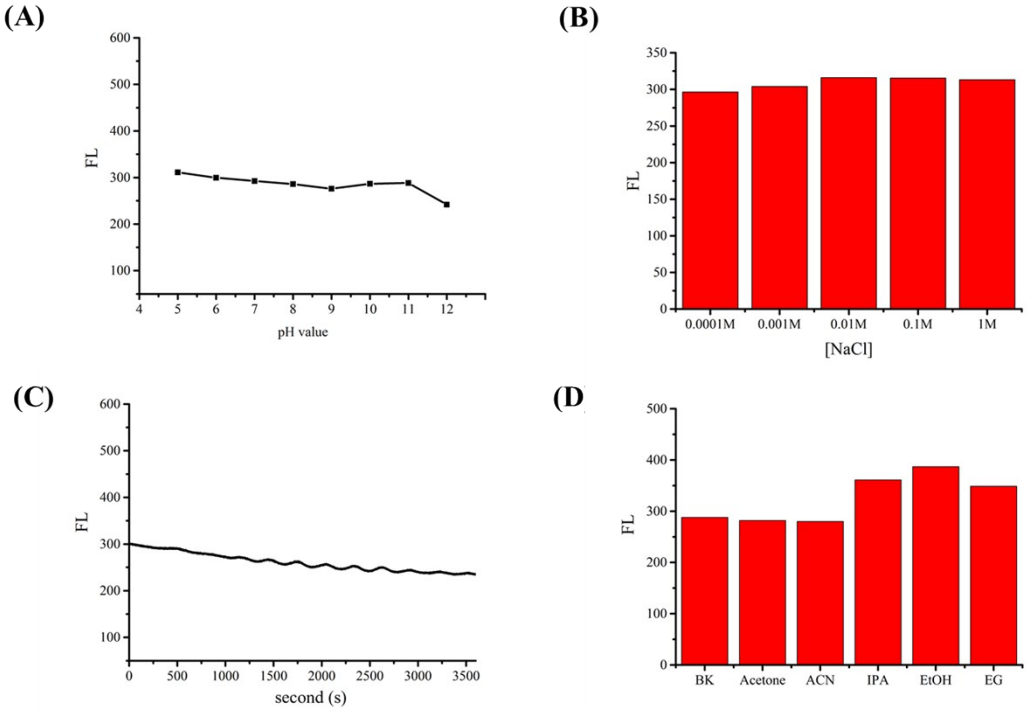

Fig. S3. (A) The stability of C-dot@β-CD at pH ranges from 5 to 12, (B) Stability of C-dot@β-CD in different concentrations of NaCl ranging from 0.1 mM to 1M, (C) Photostability of C-dot@β-CD, (D)Influence of different solvents (80% of total volume) on the fluorescence properties.

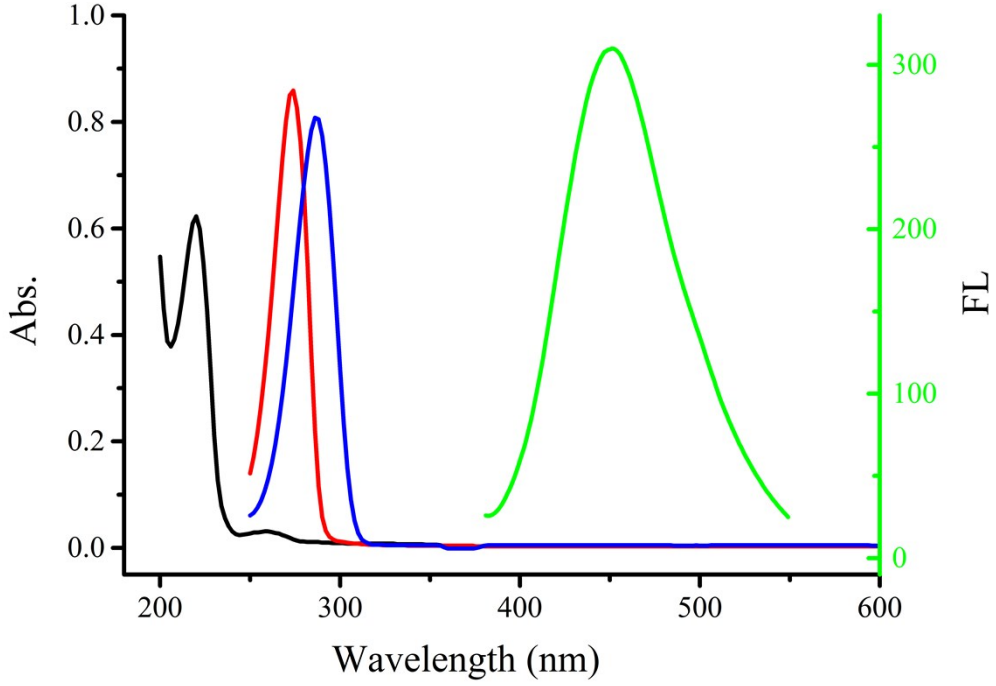

Fig. S4. UV−vis absorption of C-dot@β-CD(black), CC (red), HQ(blue) and C-dot@β-CD fluorescent emission(green).

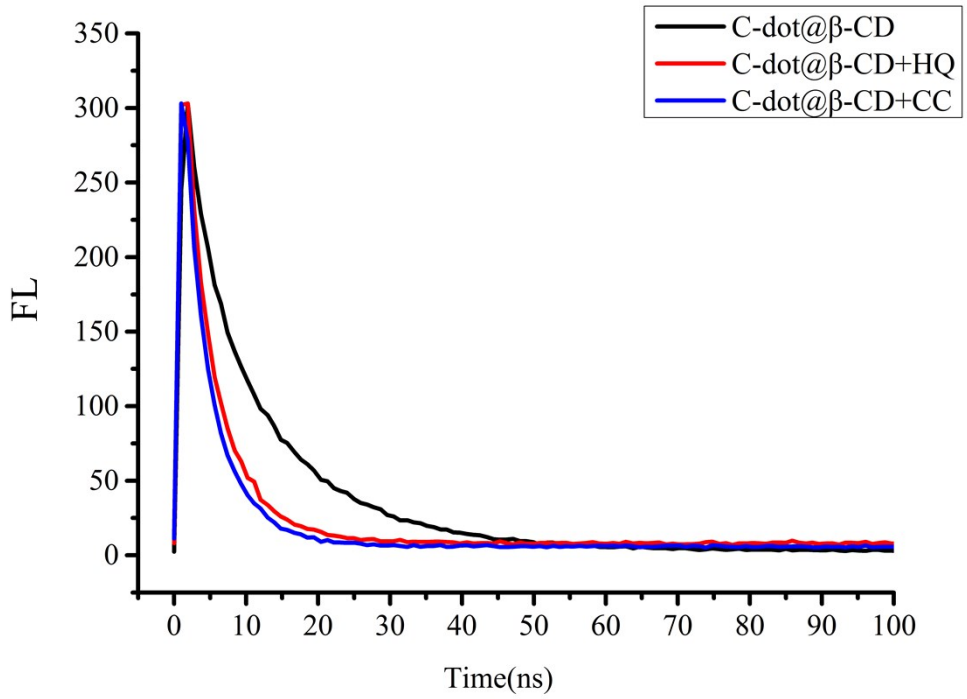

Fig. S5. Time-resolved decay of C-dot@β-CD (black) with HQ (red), with CC(blue).

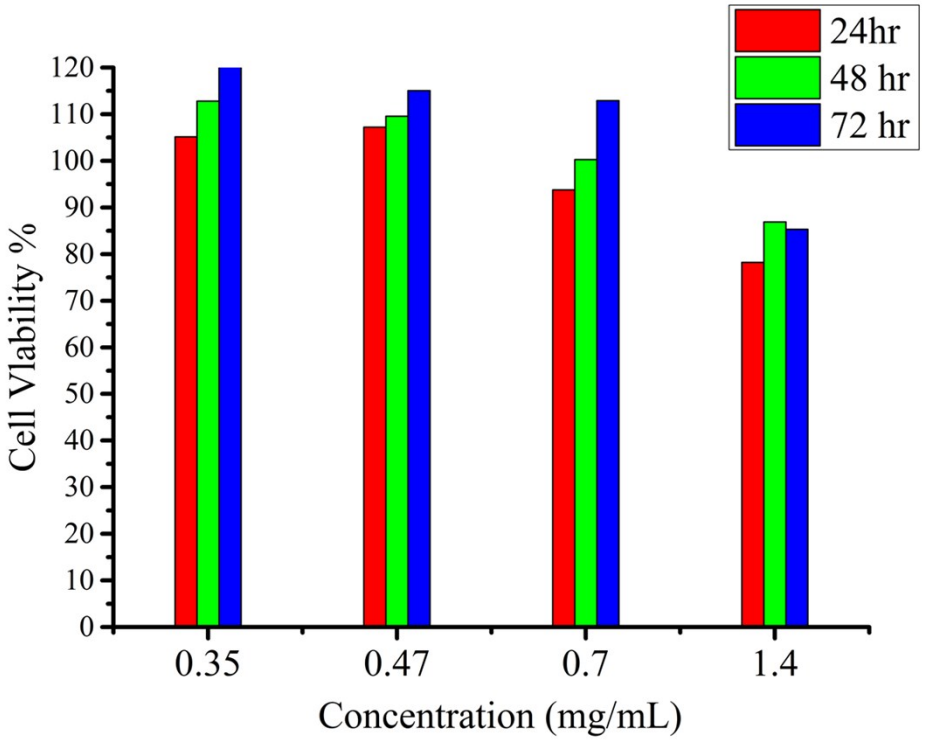

Fig. S6. Cell viability assay of human HeLa cells against C-dot@β-CD at arranged concentrations from 0.35-1.4 mg/mL.

TableS1. Time-resolved decay of C-dots in the absence and presence of catechol and hydroquinone

Sample	**τ_1 (ns)**	**Area (%)**	**τ_2 (ns)**	**Area (%)**	**Average τ (ns)**
C-dot@β-CD	13.65	64.08	3.38	35.92	9.96
C-dot@β-CD + CC	5.11	62.80	1.73	37.20	3.85
C-dot@β-CD + HQ	5.63	63.68	1.96	36.32	4.30