Supporting Information

for

Co-reductive fabrication of carbon nanodots with high quantum yield for bioimaging of bacteria

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Additional experimental data

Content

Table S1: The general co-reduction method with urea and thiourea to obtain C-dots.

Serial[a]	Different carbon sources (mmol)	Urea (mmol)	Thiourea (mmol)	QY (%)
S1	Glucose (0.28)	1.26	0.42	16
S1U	Glucose (0.28)	1.68	0	3
S1T	Glucose (0.28)	0	1.69	2
S2	Xylose (0.28)	1.26	0.42	14
S2U	Xylose (0.28)	1.68	0	1
S2T	Xylose (0.28)	0	1.69	2

[a]All the samples were dissolved in 30 mL of water.

Table S2: The scale-up synthesis of C-dots.

Serial[a]	Sodium citrate (mmol)	Urea (mmol)	Thiourea (mmol)	Quantitative yield (g)	QY (%)
S_{a50}	14.0	84.0	0	3.08	10
S_{b50}	14.0	63.0	21.0	5.95	25
S_{e50}	14.0	0	84.0	4.85	2

[a]All the samples were dissolved in 30 mL of water.

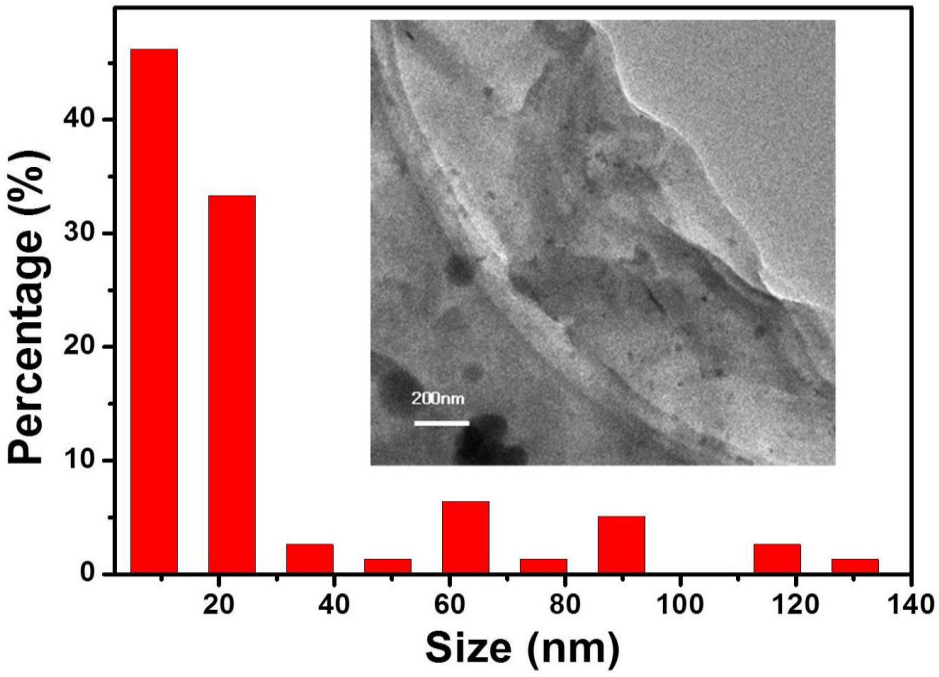

Figure S1: The TEM image (inset) and size distribution of S_{b50}.

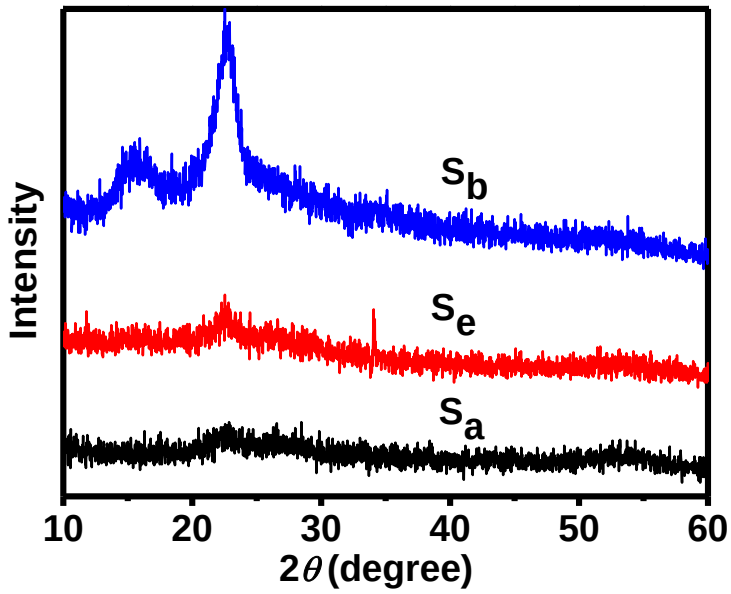

Figure S2: XRD patterns of S_a, S_b and S_e.

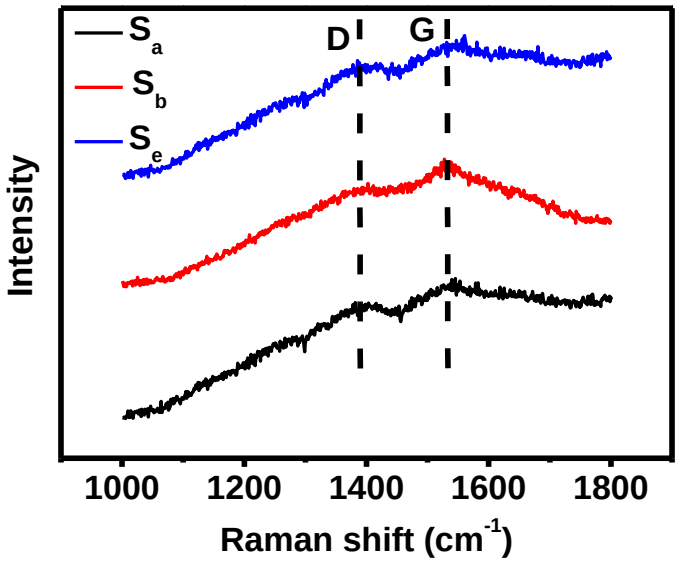

Figure S3: Raman spectra of S_a, S_b and S_e.

Table S3: Detailed information of the deconvoluted C 1s XPS spectra of different C-dots with peak area (*A*) ratios of the sp^3 C or oxidized C to the sp^2 C.

Sample	Band	sp^2 C	sp^3 C	Oxidized C
S_a	Position/eV	284.2	285.4	287.5
	Area	16934.0	5557.4	15158.3
	$A/A_{sp^2 C}$	1	0.328	0.895
S_b	Position/eV	284.7	286.0	288.1
	Area	24323.5	14305.8	12436.8
	$A/A_{sp^2 C}$	1	0.588	0.511
S_e	Position/eV	284.3	285.5	287.8
	Area	15281.0	11066.1	8056.7
	$A/A_{sp^2 C}$	1	0.724	0.527

Table S4: Detailed information of the deconvoluted N 1s XPS spectra of different C-dots with peak area (A) ratios of the pyrrolic N to pyridinic N.

Sample	Band	Pyrrolic N	Pyridinic N
S_a	Position/eV	-	399.0
	Area	-	7441.4
	$A/A_{pyridinic N}$	0	1
S_b	Position/eV	399.8	398.0
	Area	9550.8	15273.3
	$A/A_{pyridinic N}$	0.625	1
S_e	Position/eV	399.4	397.5
	Area	12495.6	9216.9
	$A/A_{pyridinic N}$	1.356	1