Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplementary Information

Size-dependent penetration of carbon dots inside the ferritin nanocages: evidence for quantum confinement effect in carbon dots

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Figure S1. PL decay curves (λ_{ex}= 376 nm) of CDs in the absence and presence of 2.02 μM ferritin recorded at 455 nm.

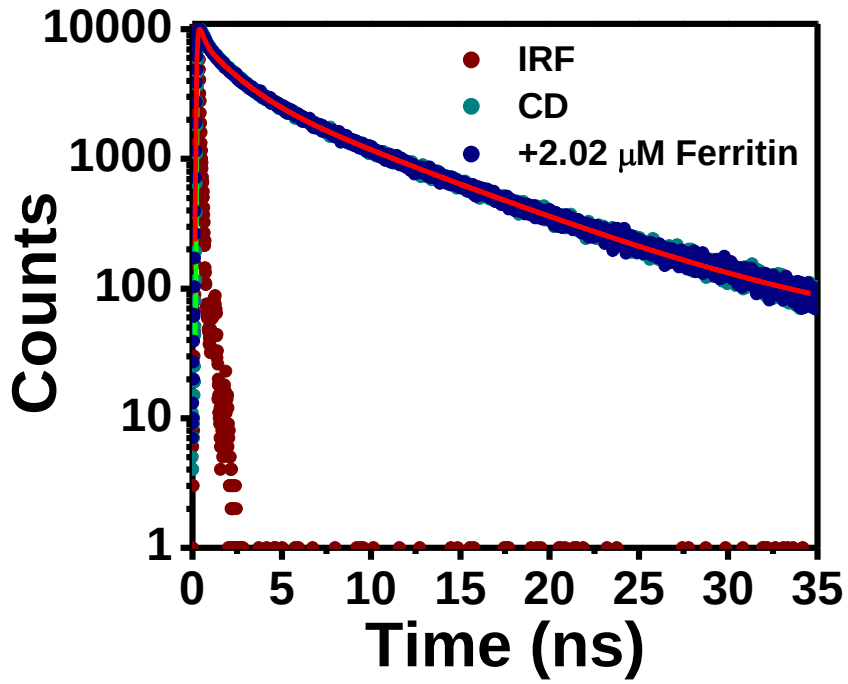

Figure S2. The far-UV CD spectra of ferritin (0.8 μM) in absence and presence of CDs (0.01 mg/mL).

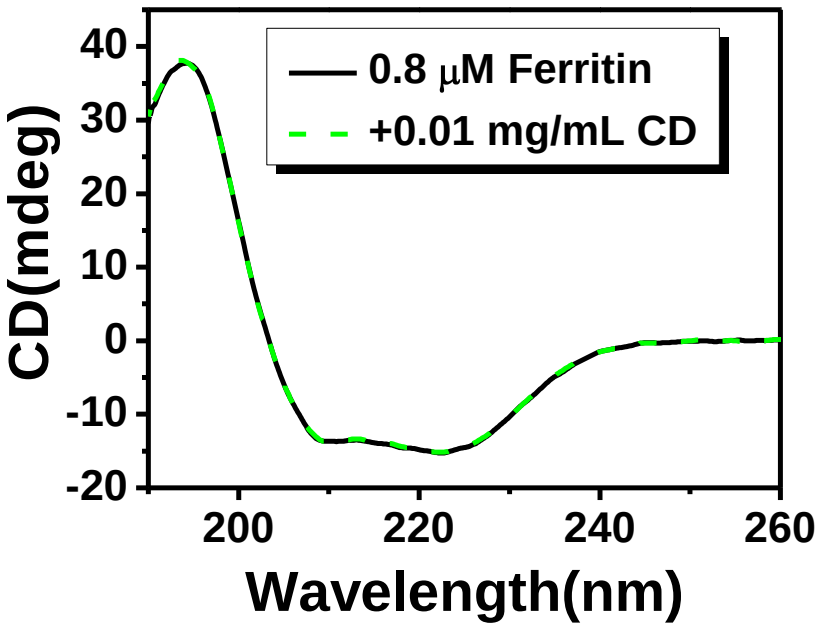

Table S1. PL lifetime decay (λ_{ex}= 376 nm) analysis of CDs in the absence and presence of different concentrations of ferritin at an emission wavelength of 455 nm.

Sample	**τ_1(ns)**	**a_1**	**τ_2(ns)**	**a_2**	**τ_3(ns)**	**a_3**	**<τ> (ns)**	**χ^2**
CD (0.01 mg/mL)	3.90	0.31	10.62	0.29	0.934	0.40	4.66	1.03
+ 0.2 µM Ferritin	3.89	0.30	10.59	0.29	0.931	0.41	4.62	1.05
+ 2.02 µM Ferritin	3.86	0.29	10.56	0.29	0.928	0.42	4.57	1.06

Table S2. PL lifetime decay (λ_{ex}= 376 nm) analysis of CDs in the absence and presence of different concentrations of aqueous Fe^{3+} ions at an emission wavelength of 455 nm.

Sample	**τ_1(ns)**	**a_1**	**τ_2(ns)**	**a_2**	**τ_3(ns)**	**a_3**	**<τ> (ns)**	**χ^2**
CD	3.90	0.31	10.62	0.30	0.934	0.40	4.66	1.00
+ 100 µM Fe^{3+}	2.88	0.34	10.16	0.31	0.621	0.35	4.33	1.06
+ 200 µM Fe^{3+}	2.42	0.31	9.63	0.31	0.402	0.38	3.89	1.07
+300 µM Fe^{3+}	2.40	0.32	9.54	0.28	0.383	0.40	3.59	1.06
+400 µM Fe^{3+}	2.17	0.31	9.42	0.26	0.291	0.43	3.25	1.07
+500 µM Fe^{3+}	2.15	0.26	9.38	0.24	0.252	0.50	2.94	1.09