Supplementary material

In vivo Study of Chalcone Loaded Carbon Dots for Enhancement of Anticancer and Bioimaging Potencies

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Table S1. The inhibition activity (IC_{50}) of chalcone compounds using various tumor cell lines.

Compounds	Cancer cell lines	Cell line inhibition	Ref:
2,4-dimethoxychalcone	ACHN, Pancc 1, Calu 1, H460, HTC 116	90–95%	[1]
2'-hydroxy, 2-mehoxychalcone	CLBL-1	11.88 ± 1.58 µM	[2]
2'-hydroxy, 4-mehoxychalcone	CLBL-1	18.78 ± 2.3 µM	[2]
2'-hydroxy, 2,4-methoxychalcone	EAhy 926, HepG 2	10.73 , 31.26 µmol L^{-1}	[3]
2'-hydroxy, 2,4-methoxychalcone	HeLa cells	0.074 µM	[4]

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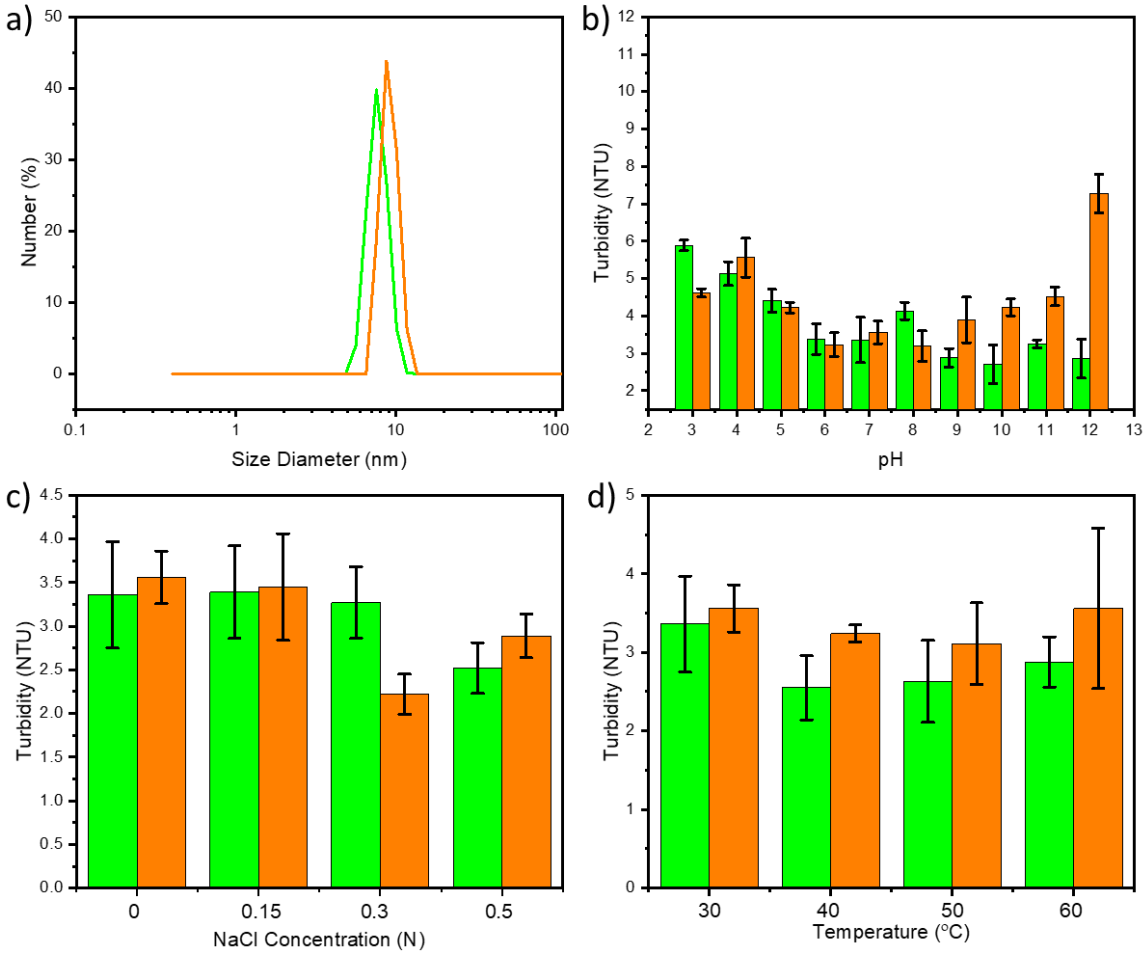

Figure S1. a) Size diameter of APBA-CDs (green) and Chalcone-APBA-CDs (orange) and its turbidity of on varied pH (b), NaCl Concentration (c), along with temperature (d); with n =3.

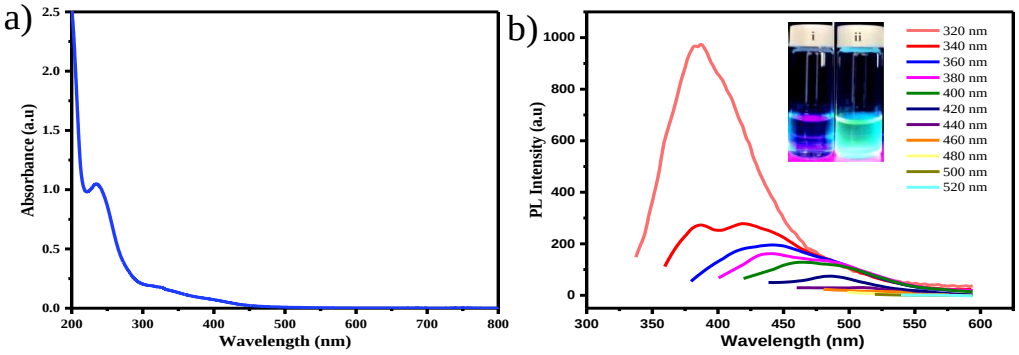

Figure S2. UV–Vis absorption spectra of Chalcone-APBA-CDs (a) and excitation-dependent PL emission spectra of Chalcone-APBA-CDs (b). Inset: Photograph images of water as a control (i), and Chalcone-APBA-CDs under UV light at 365 nm (ii).

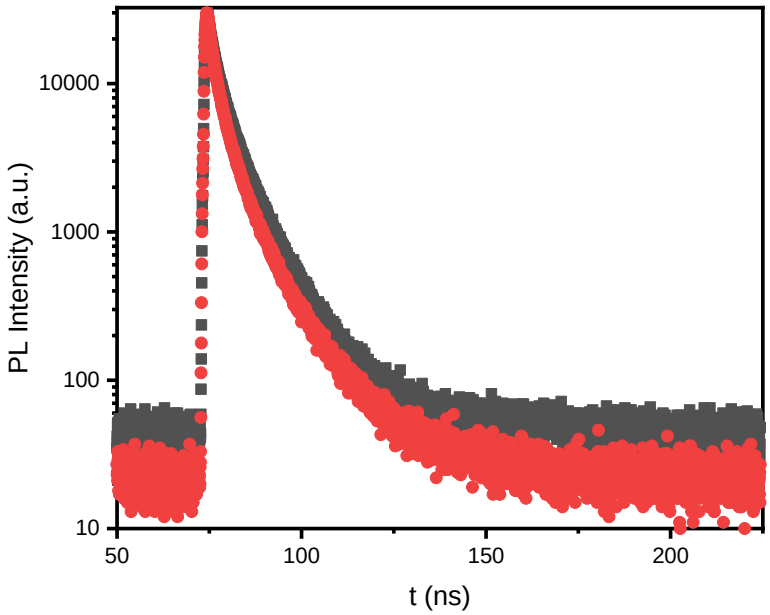

Figure S3. The fluorescence lifetime spectra of APBA-CDs and Chalcone-APBA-CDs observed with the excitation wavelength of 360 nm.

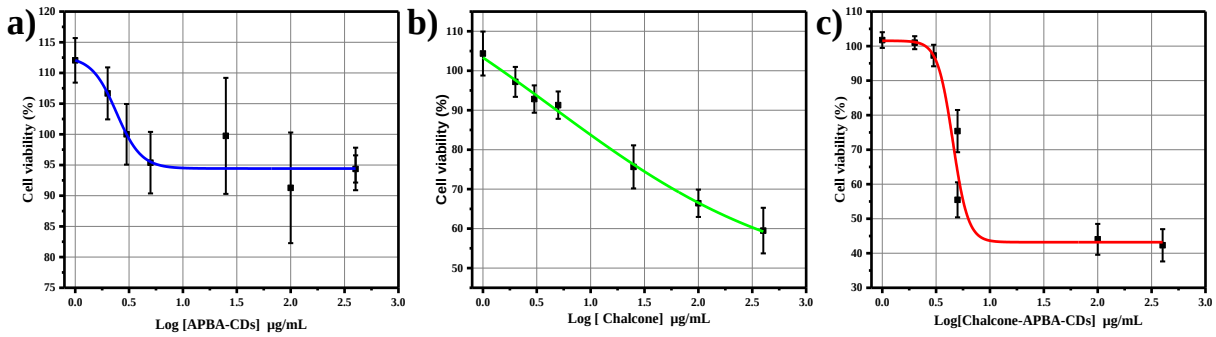

Figure S4. Cell cytotoxicity data of HeLa cancer cells for 24 h incubation (a) APBA-CDs, (b) chalcone, and (c) Chalcone-APBA-CDs. The CC50 values were plotted on the red fitted curves, determined from the dose response on Origin software. The data are shown as means ± SD (n = 3).

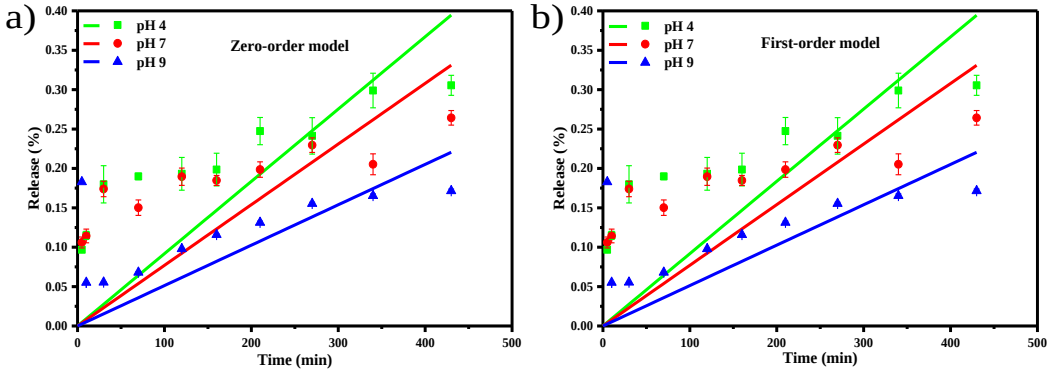

Figure S5. In vitro drug release kinetic models of Chalcone-APBA-CDs under pH 4, pH 7, and pH 9 conditions (a) zero-order and (b) first-order models.

Table S2. Correlation coefficient of Chalcone-APBA-CDs at different pH media (pH-4, pH-7, and pH-9).

APBA-CDs	Parameter	Zero-order	First-order	Higuchi	Korsmeyer-Peppas
pH-4	M_0 (g)	0.0032	0.0032	0.0032	0.0047
	K	9.17784E-06	9.19441E-06	0.0165	0.0652
	R^2	0.8639	0.8641	0.9269	0.9295
	Chi-square	4.7204	4.7101	0.3472	0.0246
	n	-	-	-	0.2471
pH-7	M_0 (g)	0.0032	0.0032	0.0032	0.0047
	K	1.06409E-05	7.71028E-06	0.0141	0.0802
	R^2	0.8178	0.8179	0.8709	0.8664
	Chi-square	3.8174	5.5019	0.4396	0.0153

	n	-	-	-	0.1766
pH-9	M_0 (g)	0.0032	0.0032	0.0032	0.0047
	K	5.12792E-06	2.6903E-06	0.0048	0.0326
	R^2	0.4037	0.4038	0.2968	0.1630
	Chi-square	13.3410	26.436	3.2638	0.9380
	n	-	-	-	0.1422

References

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