

Luminescent Carbon Quantum Dots Derived from *Syzygium cumini* Seeds with Endogenous Anti-Oxidant and Cytotoxic Potency including *in vitro* Photoluminescence and Live Cell Imaging

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Supplementary Information

Results and Discussion

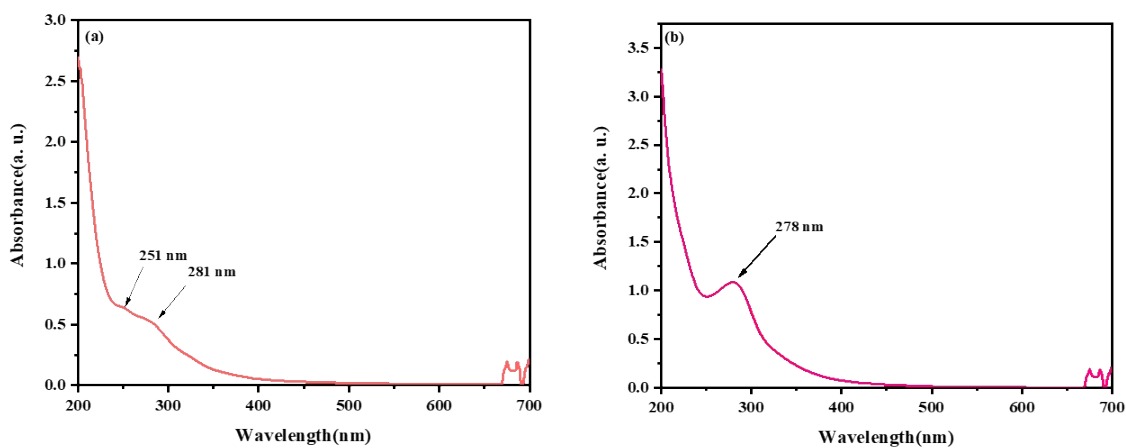


Figure S1. UV- Vis spectra of CQDs prepared from (a) JG (b) Garlic cloves (G)

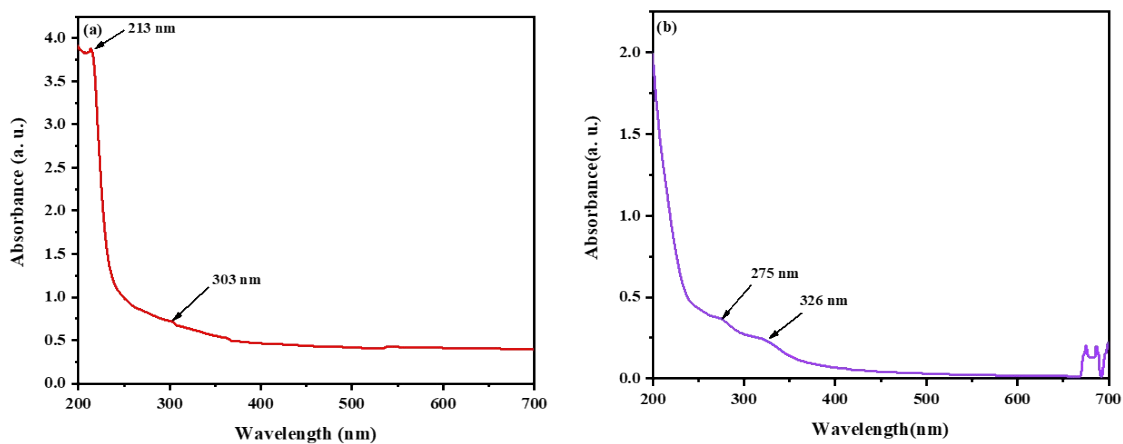


Figure S2. UV- Vis spectra of CQDs prepared from (a) JS (b) Soybean seeds (S)

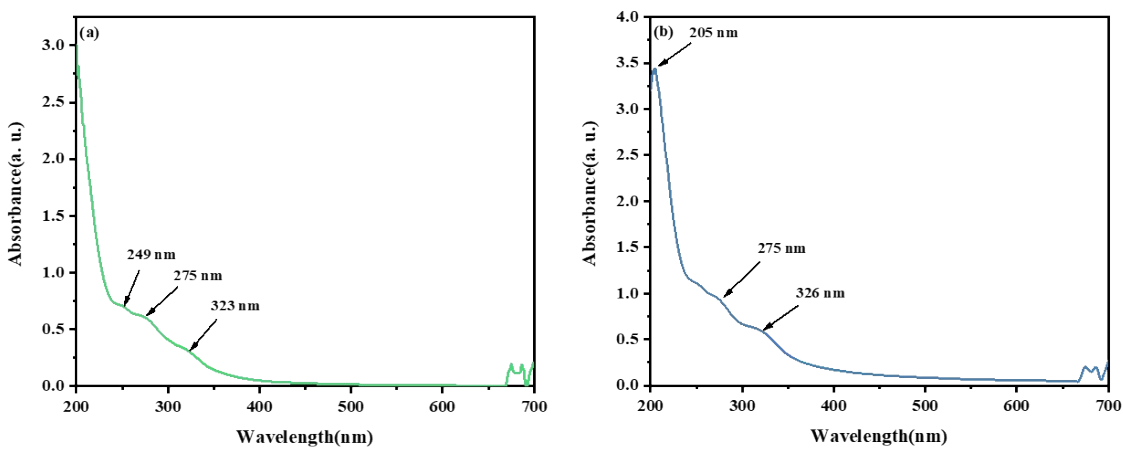


Figure S3. UV- Vis spectra of CQDs prepared from (a) JK (b) Kalonji seeds (K)

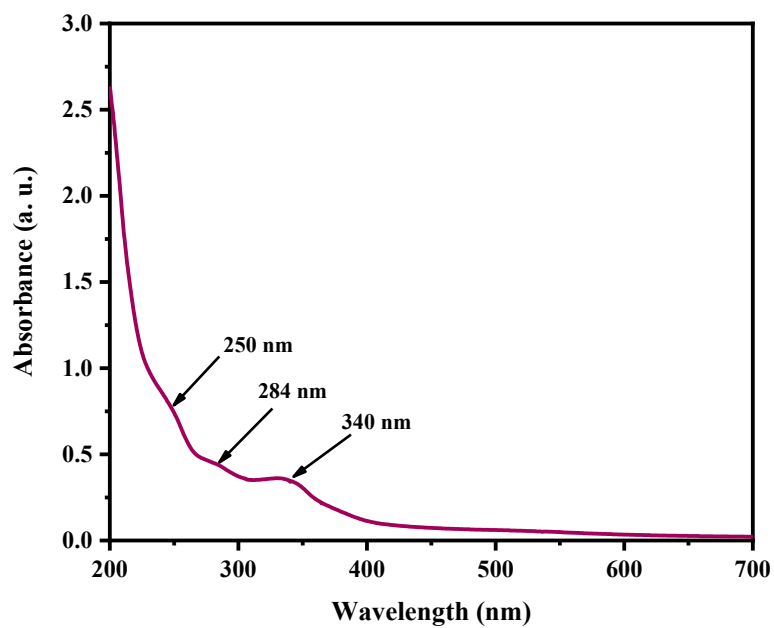


Figure S4. UV-Vis spectrum of JF CQDs

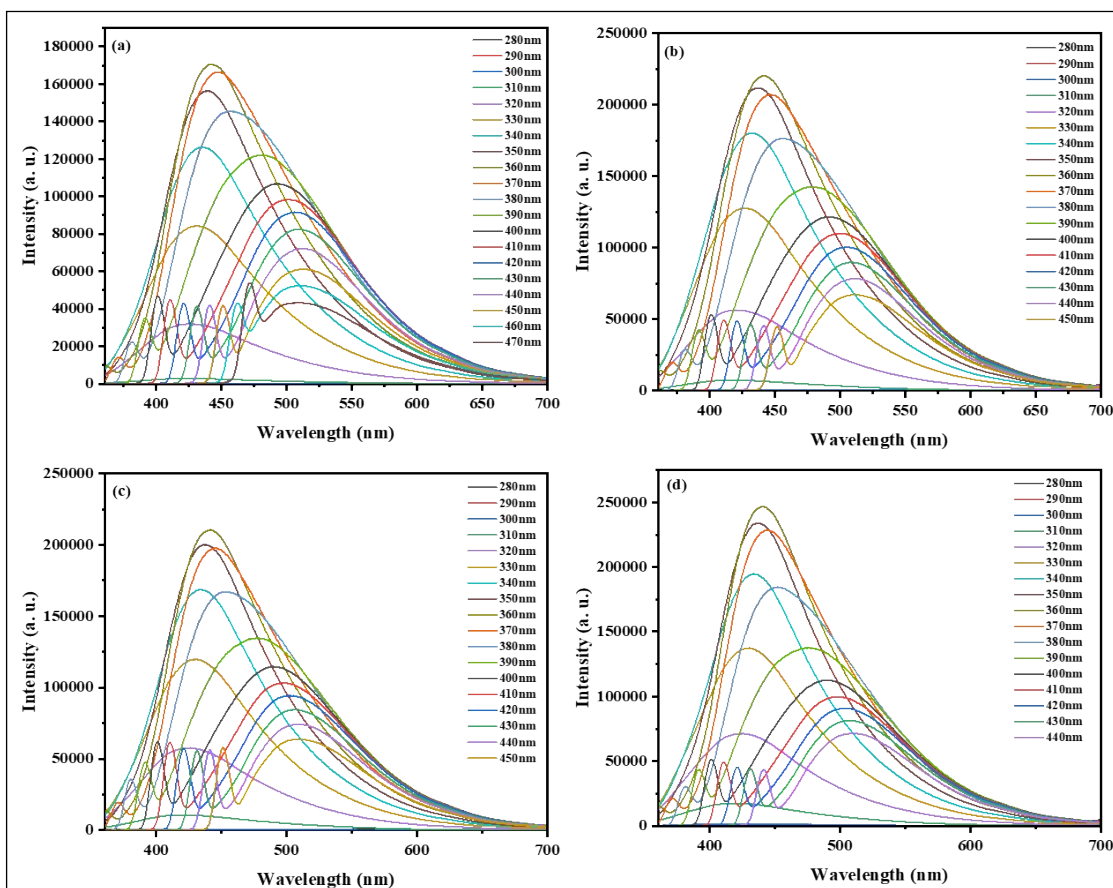


Figure S4. Photoluminescence (PL) spectra of CQDs prepared from jamun seeds at various time frames (a) 4 h (b) 6 h (c) 8 h (d) 10 h

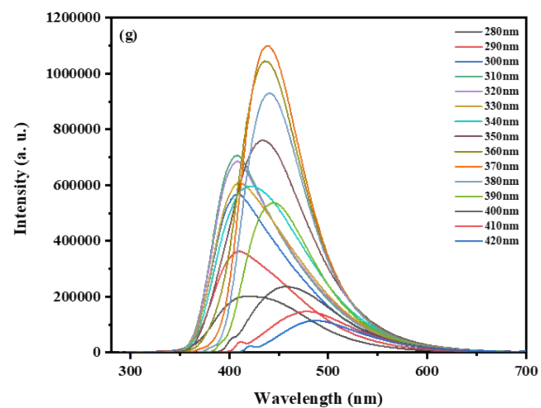
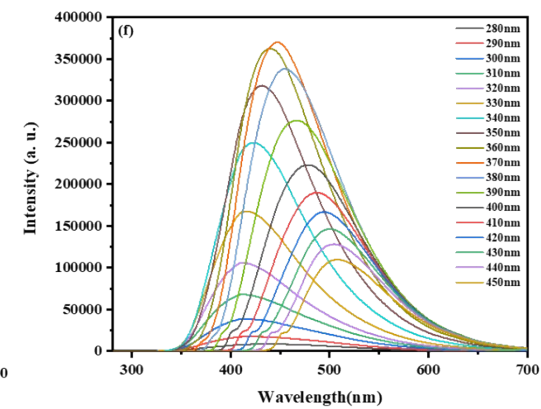
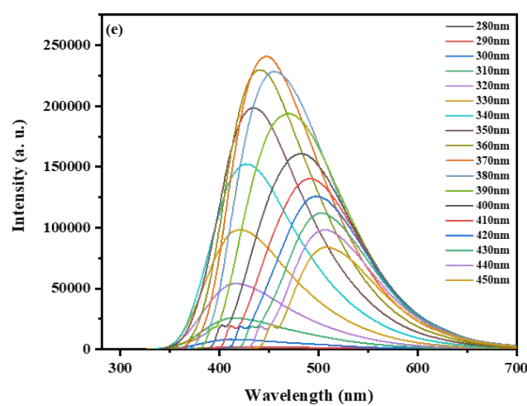
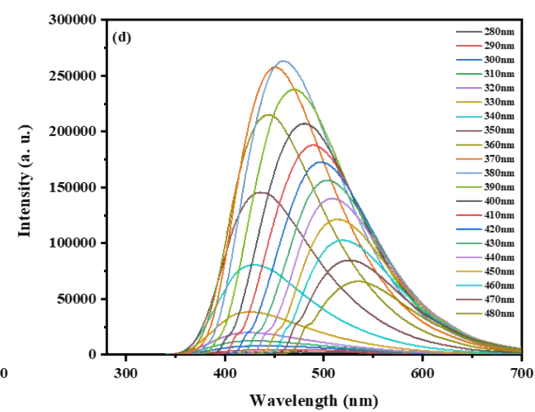
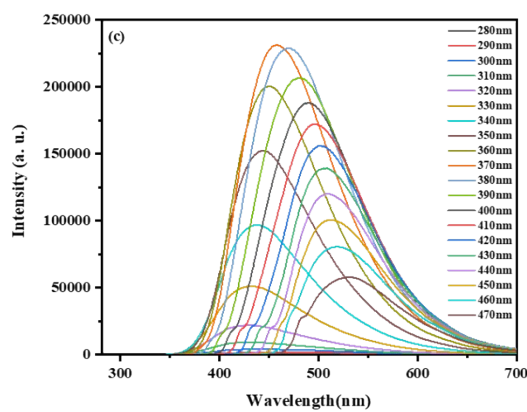
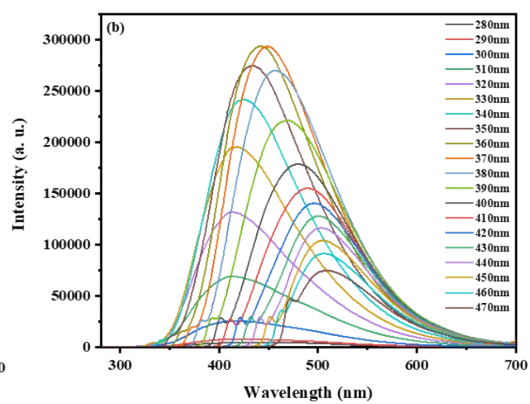
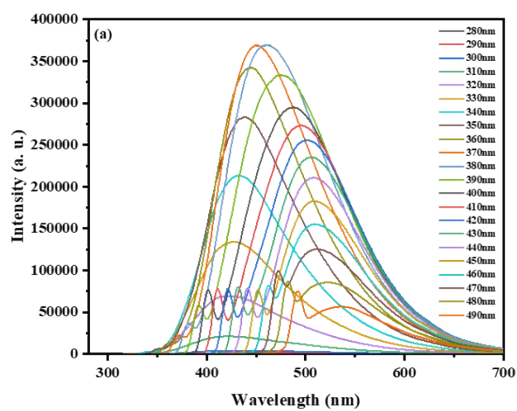


Figure S5. Photoluminescence (PL) spectra of (a) JG (b) G (c) JS (d) S (e) JK (f) K (g) JF

Table S1. Fluorescence wavelength maxima and its excitation wavelength for different CQDs

Sample Code	λ_{max} (nm)	Excitation wavelength (nm)
JG	460	380
G	441.5	360
JS	457.5	370
S	458.5	380
JK	447.5	370
K	448	370
JF	438	370

Table S2. Quantum yield of CQDs

Sample	Quantum yield (%)
JG	27
G	17
JS	24.7
S	19.8
JK	30
K	23
JF	50.74

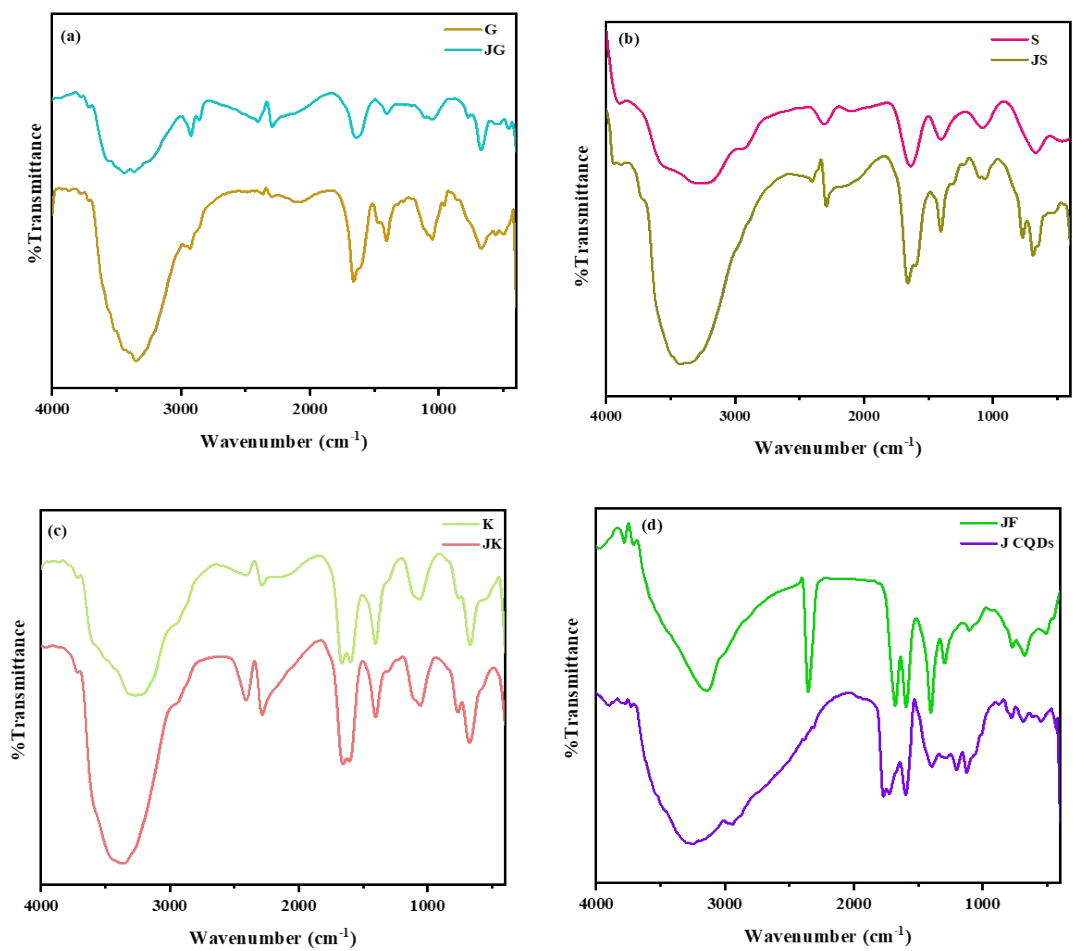


Figure S6. FT-IR spectrums of CQDs of (a) G & JG, (b) S & JS, (c) K & JK, (d) JF & J CQDs

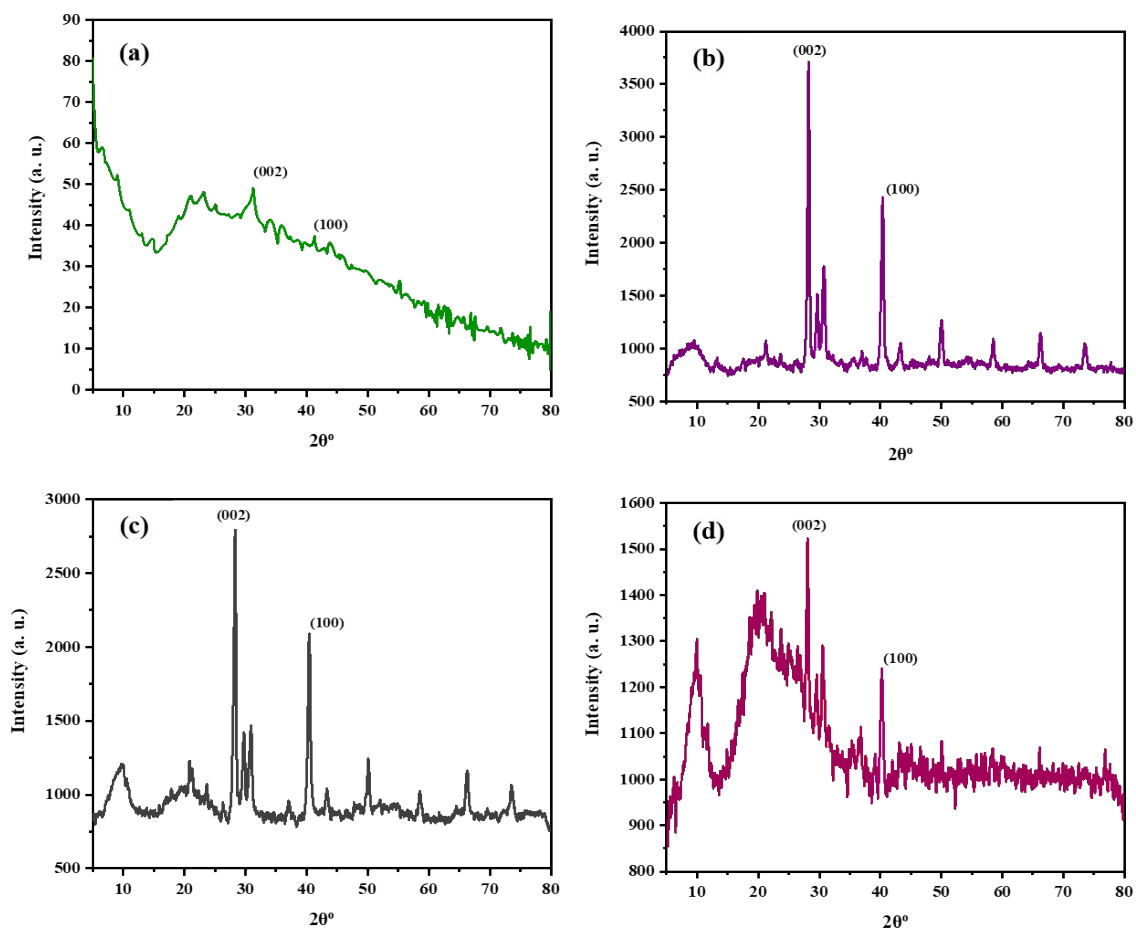


Figure S7. X-ray diffraction pattern of CQDs (a) JG (b) JS (c) JK (d) JK

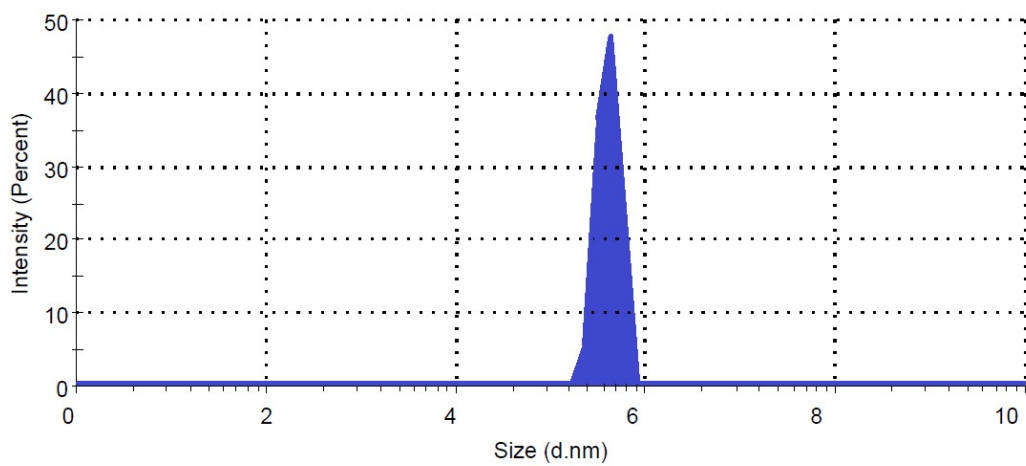


Figure S8. Dynamic light scattering (DLS) size distribution of carbon quantum dots

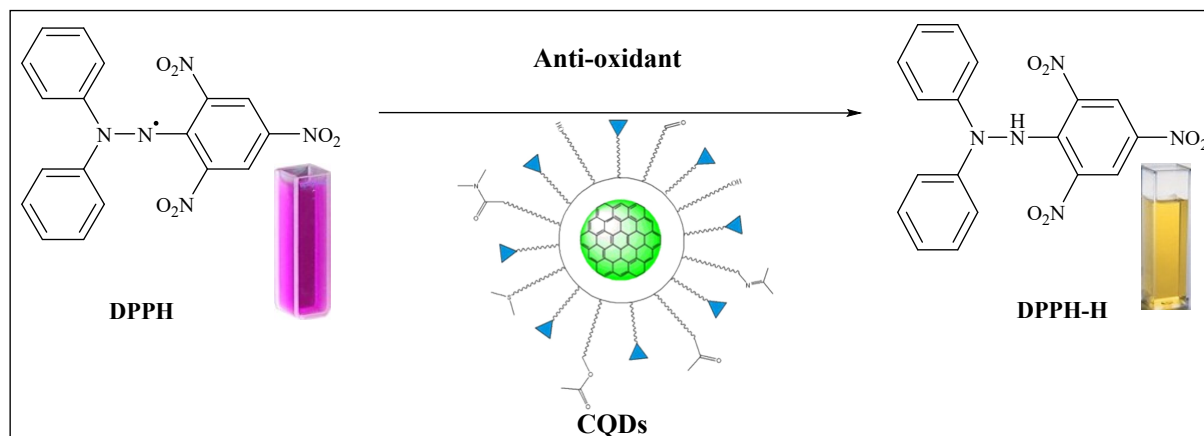


Figure S9. Mechanism of radical scavenging for prepared CQDs

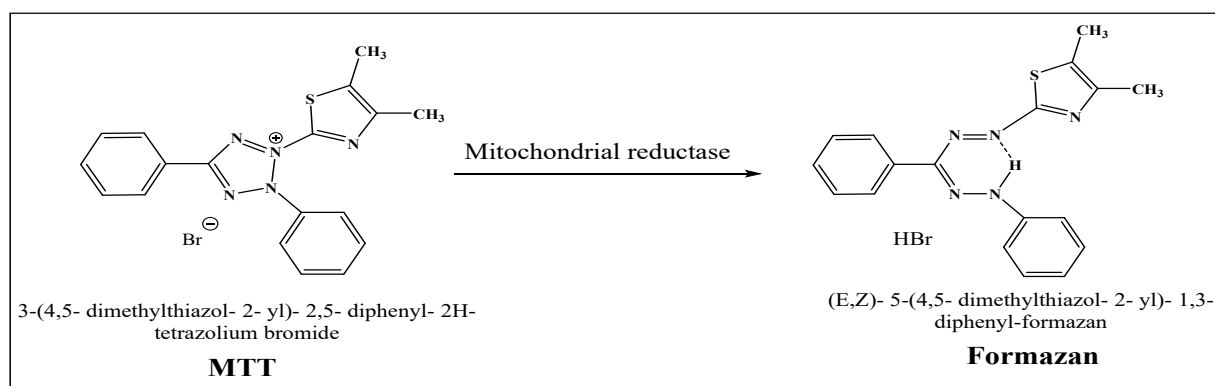


Figure S10. Mechanism of evaluation of Cytotoxicity in JF

Table S3. Cytotoxicity data of DOX in HeLa cell Line measured at 570 nm

Compound Name	HeLa Cell line			
	Conc. $\mu\text{g/mL}$	OD @ 570nm		% Inhibition
		A1	A2	
Control	0	0.801	0.826	0
DOX	7.81	0.463	0.458	21.76
	15.62	0.471	0.488	24.59
	31.25	0.502	0.512	32.76

62.5	0.54	0.516	35.10
125	0.566	0.528	37.68
250	0.593	0.634	41.06
500	0.61	0.663	43.39

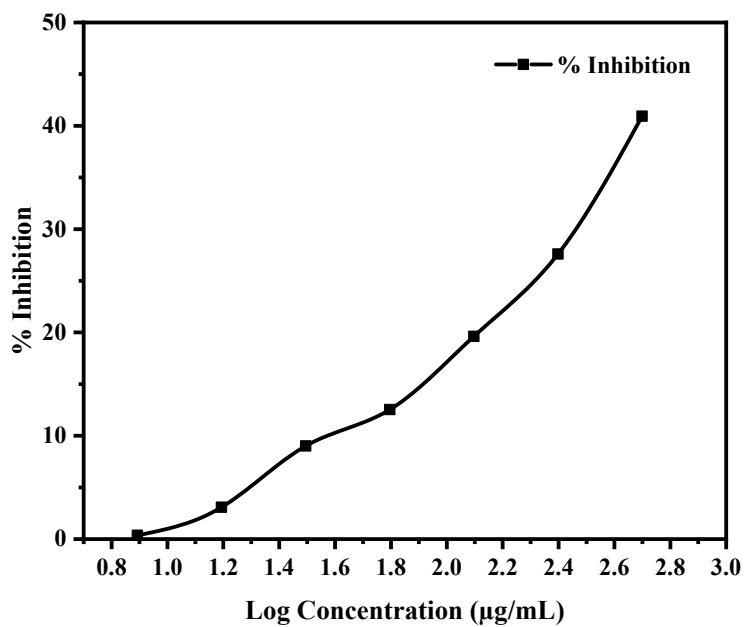


Figure S11. Dose-response curve of HeLa cells against concentration of DOX