Supplementary Information

Multifunctional, fluorescent DNA derived Carbon dots for biomedical applications: bioimaging, luminescent DNA hydrogels and dopamine detection

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Determination of Quantum Yield: QY was determined using DAPI (4',6-Diamidino-2-Phenylindole, Dilactate) as the reference sample (QYr in water = 43%). QY of the samples were calculated using the following formula,

\[ QY = \frac{(F \times A \times QY_r)}{(F_r \times A_r)} \]

where F and A represents the integrated fluorescence intensity and absorbance of the sample and Fr and Ar represents the corresponding reference values, which yields QY = 40%. Yes, Authors tested the fluorescence spectra of the samples over a week and did not find significant change.

Fig S1. Band gap determination from Tauc plot.
**Fig S2.** TEM EDX images from DNA derived carbon dots.

**Fig S3.** DLS correlation function from carbon dot dispersion.
Fig S4. G'' data for carbon dot based DNA hydrogel

Fig S5. Variation of viscoelastic length and power law exponent n’ for DNA-Carbon Dot hydrogel with different DD (C-Dot) concentration.
Fig S6. Variation of change in Gibb’s free energy for DNA-C-Dot hydrogel with different $T_{gel}$.

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\Delta G = \Delta H - T \Delta S
\]
\[
\Delta H = -119.8 \text{ kJ mol}^{-1}
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\[
\Delta S = -5.165 \text{ JK}^{-1}
\]

Fig S7. Relative network density of DNA-C-Dot hydrogel with dot (DD) concentration.

$\nu_r(DD) = m_0[DD]$

$m_0 = 1.03$