

## Supporting Information

### Fluorescent MoS<sub>2</sub> Quantum Dot-DNA Nanocomposite Hydrogels for Organic Light-Emitting Diodes

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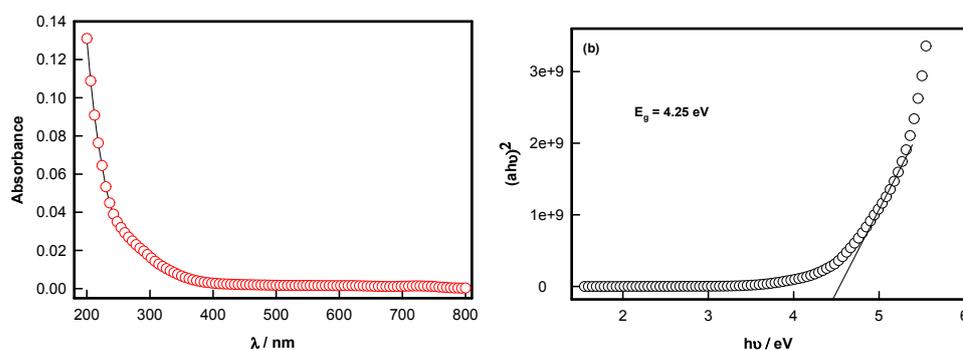
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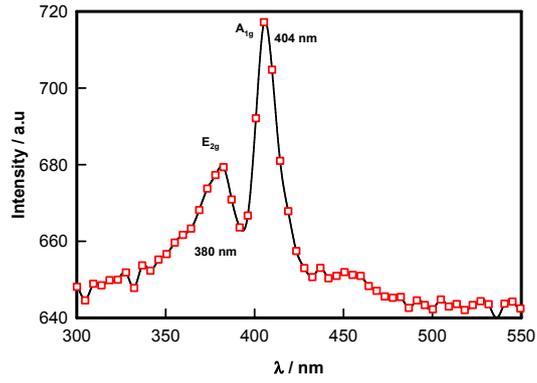
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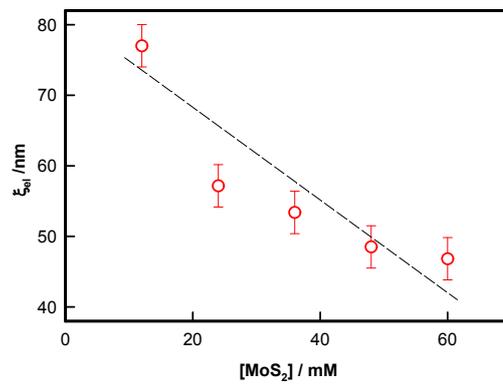
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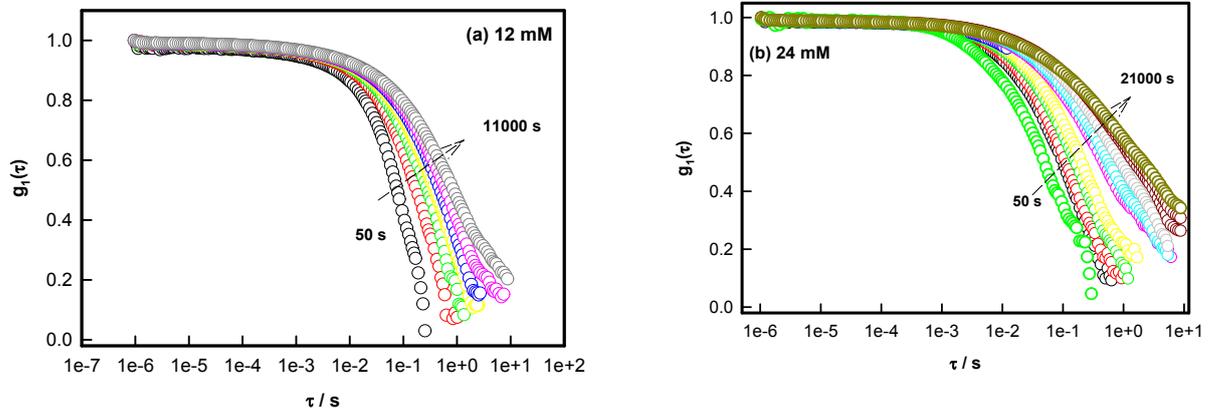
**Figure S1.** (a) UV spectra of synthesized MoS<sub>2</sub>QDs, (b) Tau plot between  $h\nu$  (eV) and  $(\alpha h\nu)^2$  for estimation of band gap.

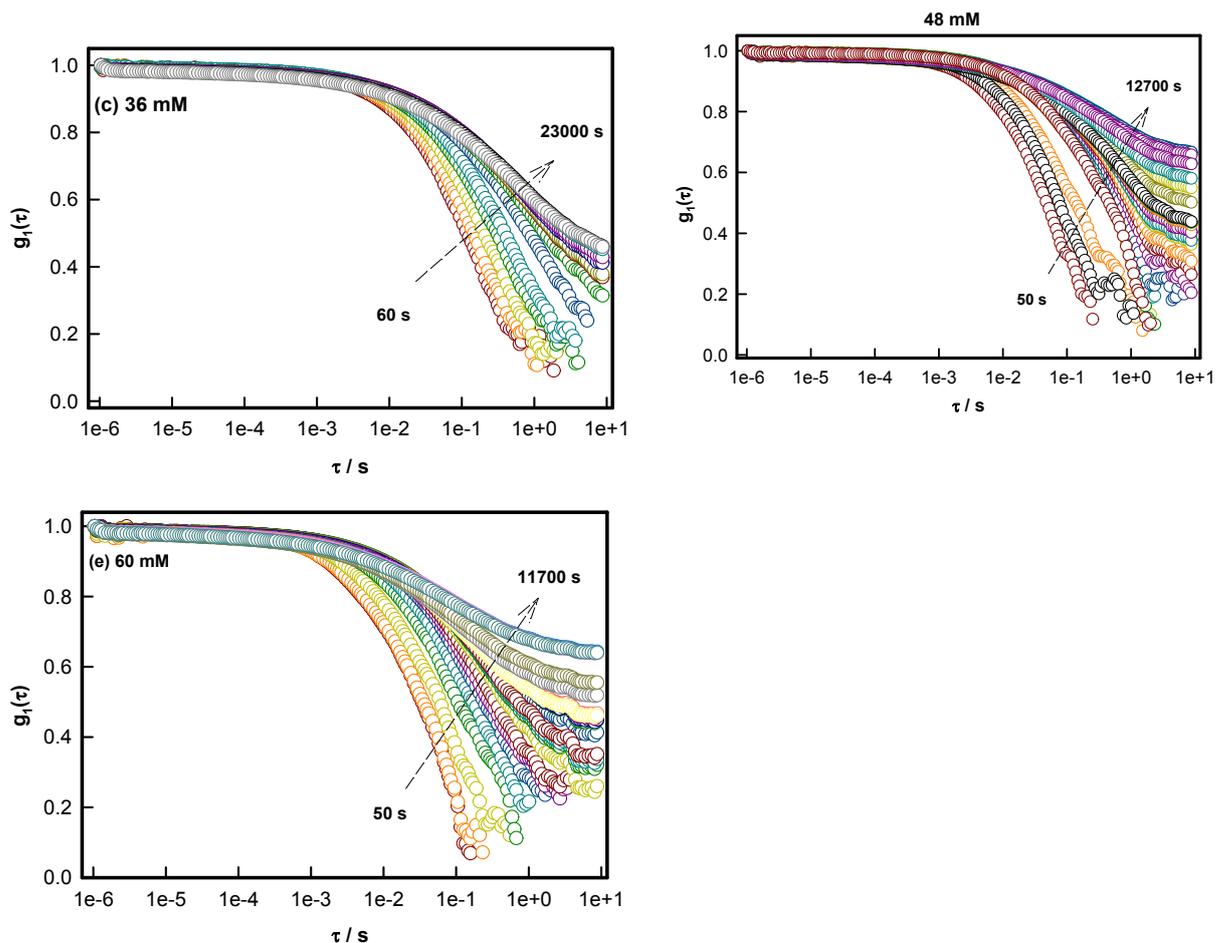


**Figure S2.** Raman Spectra data of MoS<sub>2</sub> quantum dot.

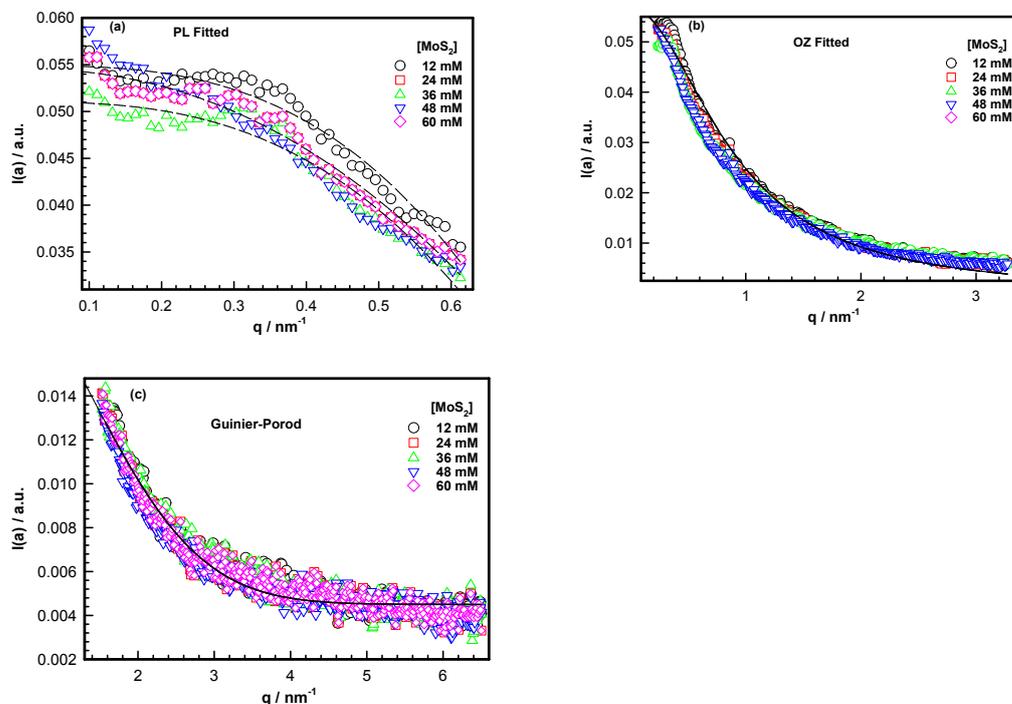


**Figure S3.** Variation of viscoelastic length with MoS<sub>2</sub> QD concentration.





**Figure S4.** The time dependent dynamic structure factor,  $g_1(\tau)$  obtained from different samples.



**Figure S5.** SAXS data fitted to (a) Power law, (b) O-Z and (c) Guinier –Porod functions. Solid lines show fitting lines for different equations (eq. 6).