Continuous Hydrothermal Flow Synthesis of Blue-Luminescent, Excitation-Independent Nitrogen-Doped Carbon Quantum Dots as Nanosensors

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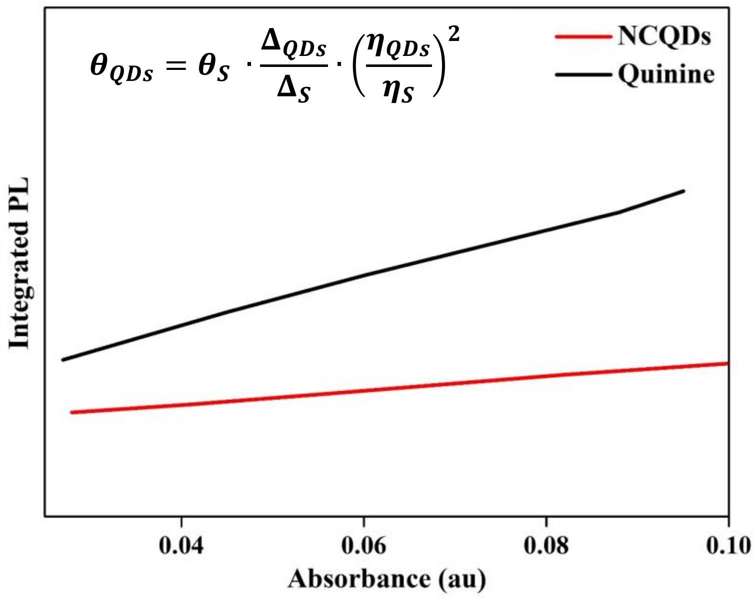

Figure S1: Quantum yield determination *via* integrated fluorescence intensity vs absorbance plot method.

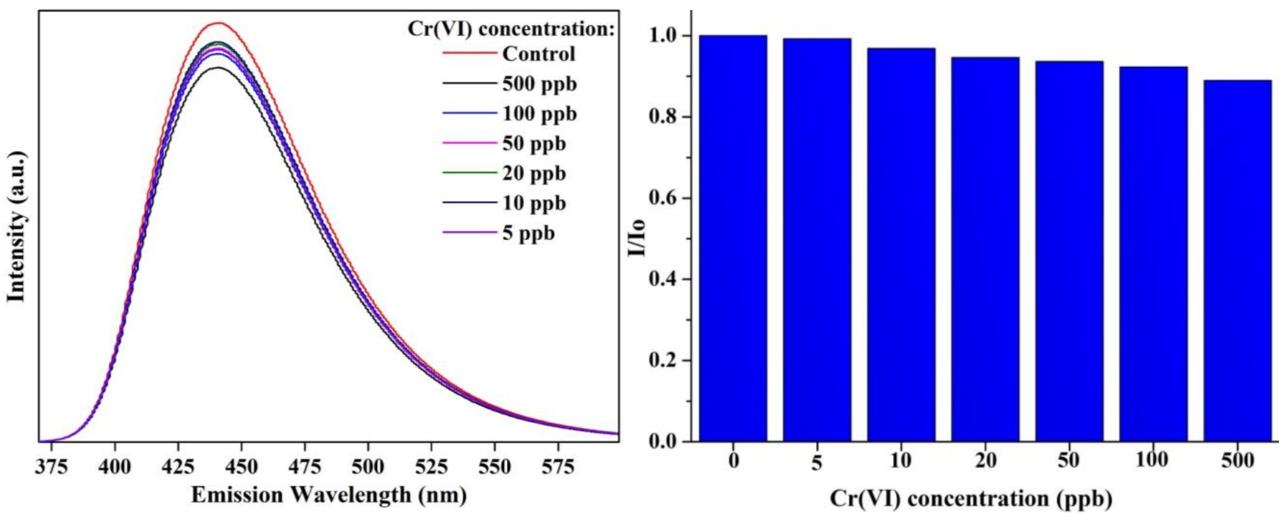

Figure S2: Cr (VI) ion influence on PL spectrum of NCQDs reflecting the intensity changes in ppb concentration range.

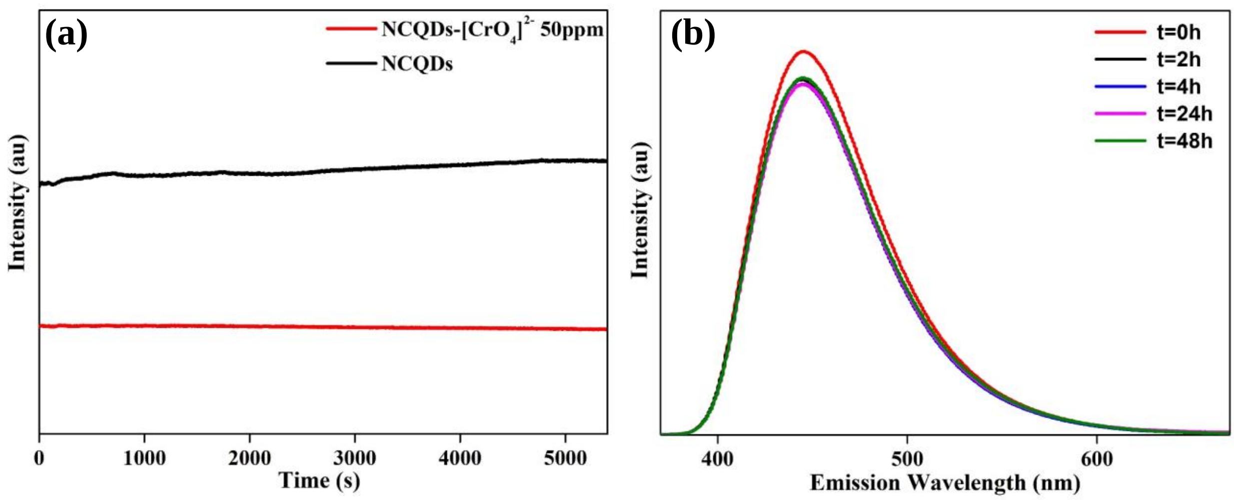

Figure S3: Stability analysis of the NCQDs in presence of Cr (VI) (50 ppm) were made by recording the fluorescence intensity at 441 nm emission wavelength of the mixture - (a) samples were initially exposed continuously for 5400 seconds (90 minutes) at 360 nm excitation, and (b) then at intervals of 2 hr, 4 hr, 24 hr and 48 hr.

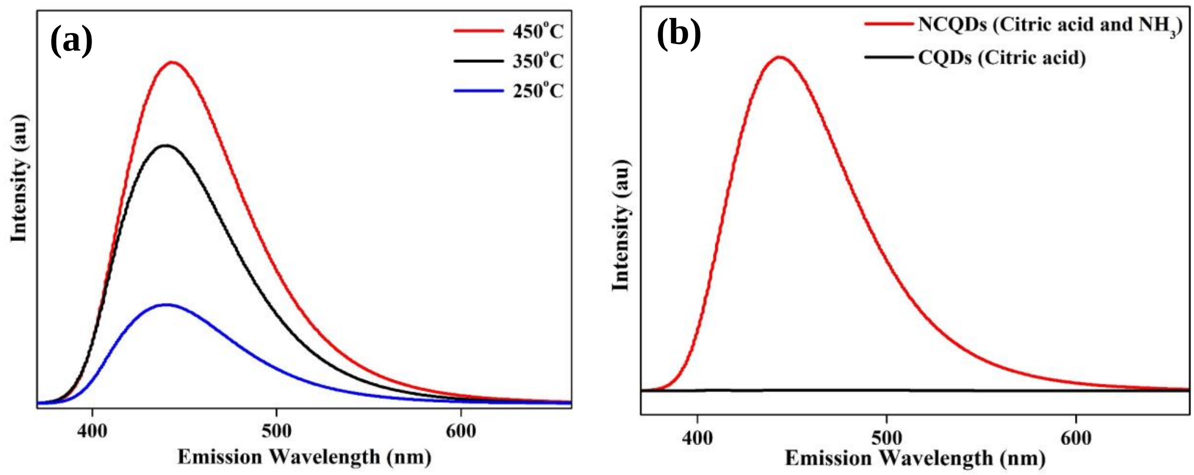

Figure S4: Photoluminescence (PL) spectrum of N-doped carbon quantum dots at 360 nm excitation wavelength (a) showing the effect of CHFS reaction temperature (all other conditions were kept the same) and (b) comparison of the PL spectra of N-doped CQD (synthesised using citric acid and ammonia) and control reaction (CQDs) synthesised from citric acid only showing negligible photoluminescence. The synthesis reaction temperature in both cases was kept at 450 °C.