

Supporting Information

Label-Free Detection of Creatinine by Nitrogen Passivated Fluorescent Carbon-dots

Shagun Kainth¹, Banibrata Maity^{1,2*} and Soumen Basu^{1,2*}

¹*School of Chemistry and Biochemistry, Thapar Institute of Engineering and Technology
Patiala 147004, India*

²*School of Chemistry and Biochemistry, Affiliate Faculty—TIET-Virginia Tech Center of
Excellence in Emerging Materials, Thapar Institute of Engineering and Technology,
Patiala-147004, India*

*Corresponding Author E-mail: banibrata.maity@thapar.edu (B. Maity);

soumen.basu@thapar.edu (S. Basu)

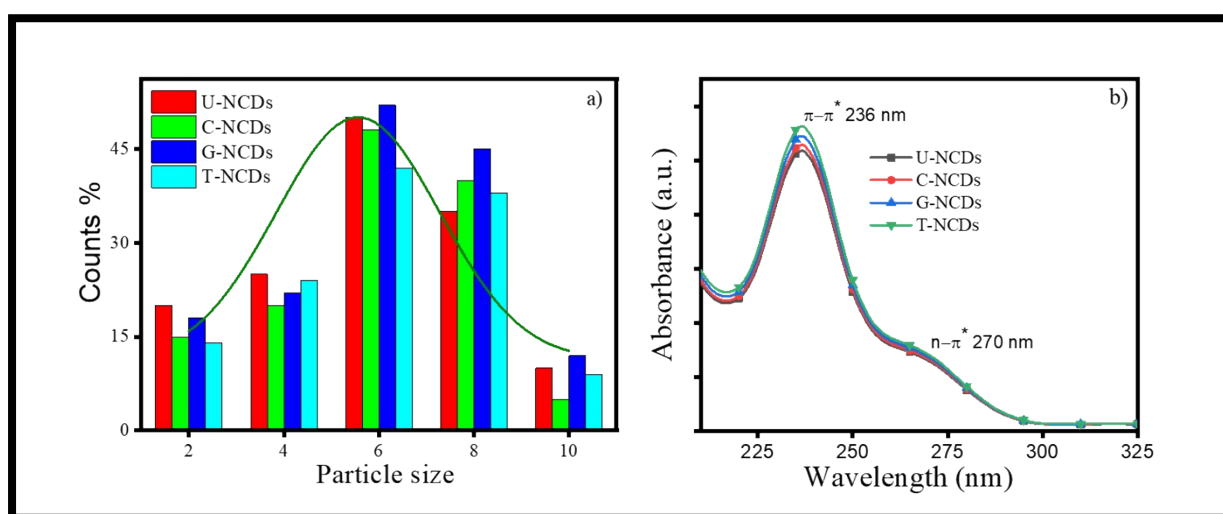


Fig. S1 Particle size distribution and UV-visible spectra of different NCDs

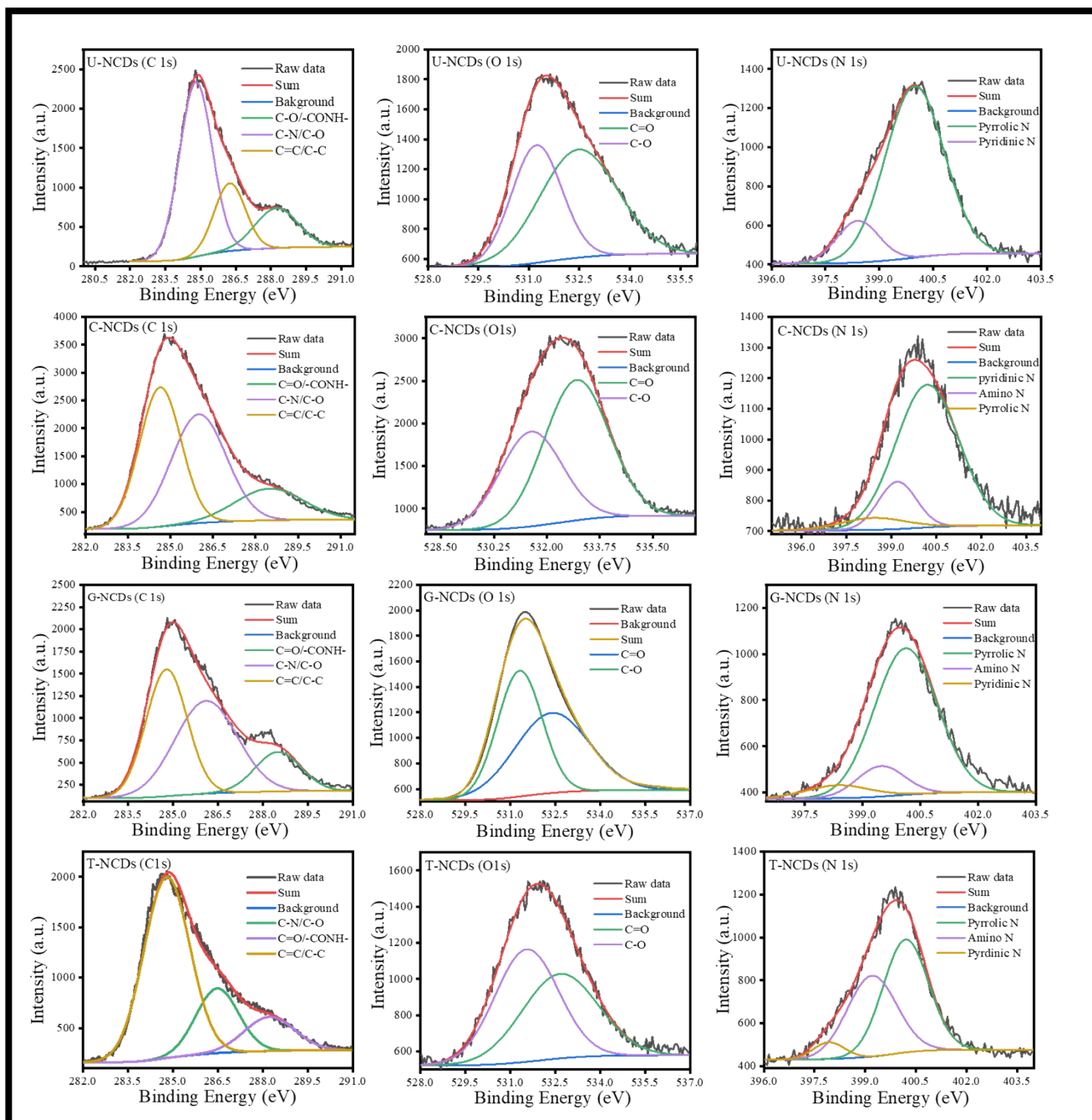


Fig. S2 Deconvoluted XPS spectra of C 1s O 1s and N 1s for: a) U-NCDs, b) C-NCDs, c) G-NCDs, and d) T-NCDs.

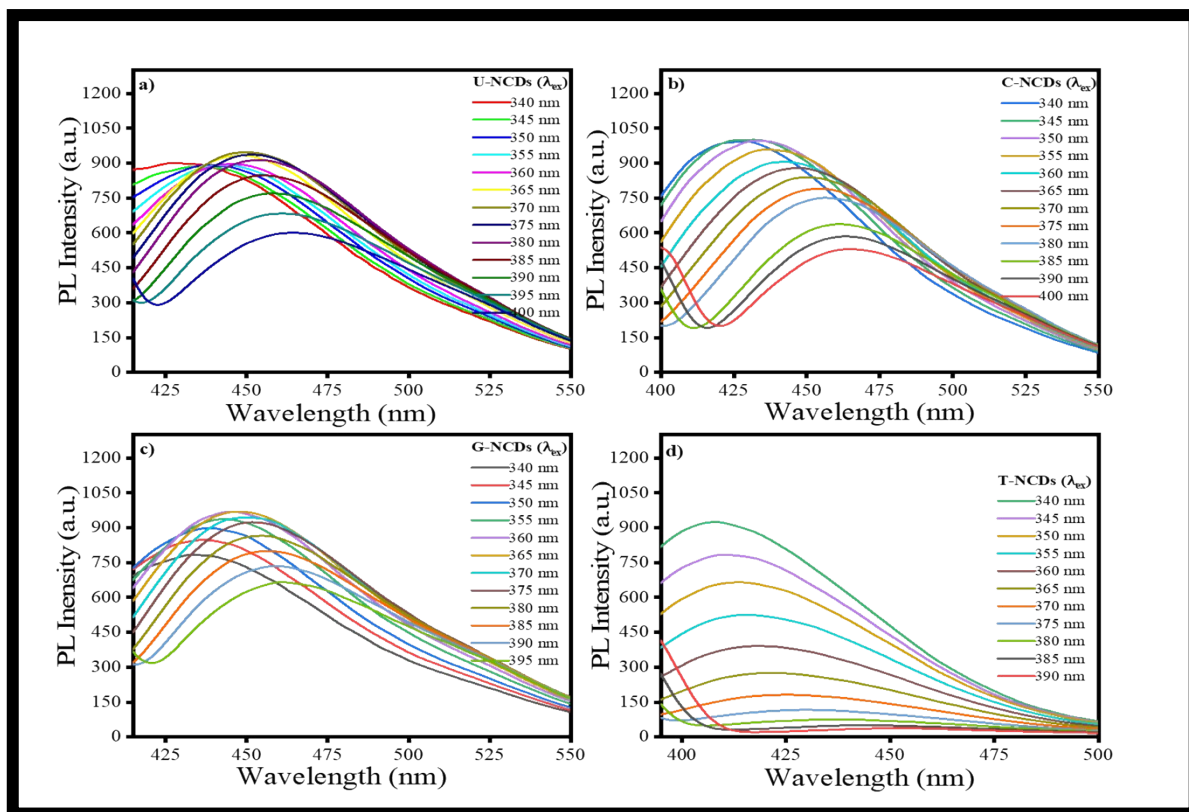


Fig. S3 Effect of excitation wavelength on emission spectra of: a) U-NCDs, b) C-NCDs, c) G-NCDs, and d) T-NCDs.

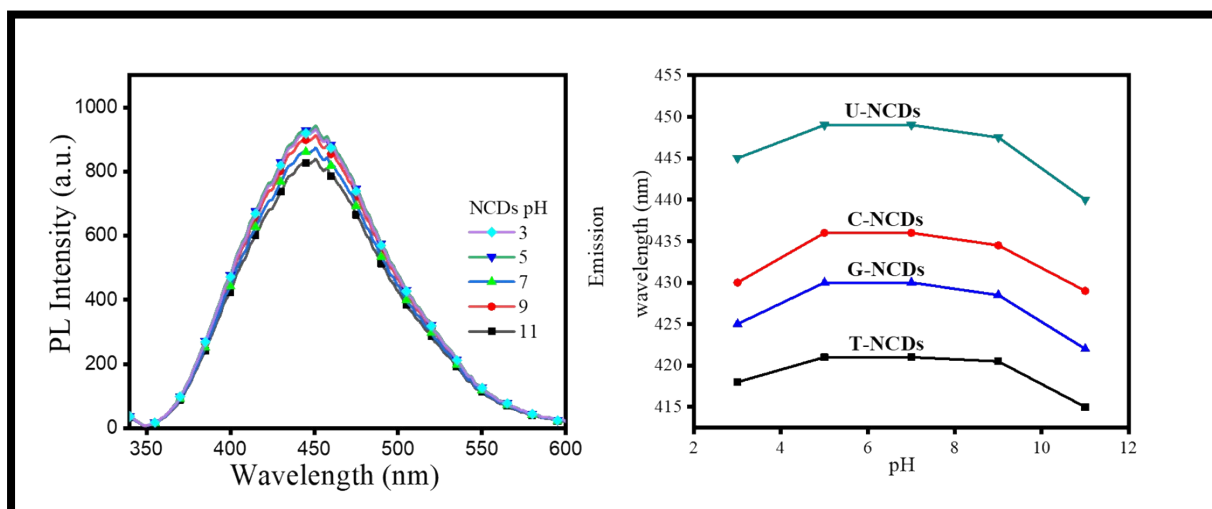


Fig. S4 Effect of pH a) PL intensity and b) emission wavelength of NCDs.

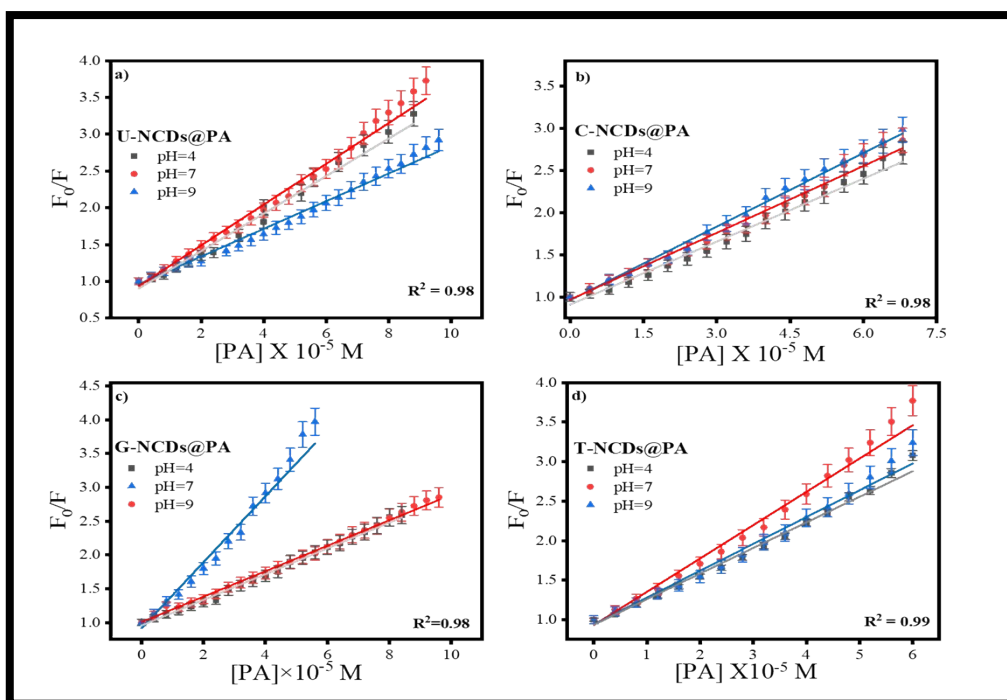


Fig. S5 Stern Volmer plot for a) U-NCDs b) C-NCDs c) G-NCDs and d) T-NCDs at different pH=4, 7 and 9 in the presence of PA.

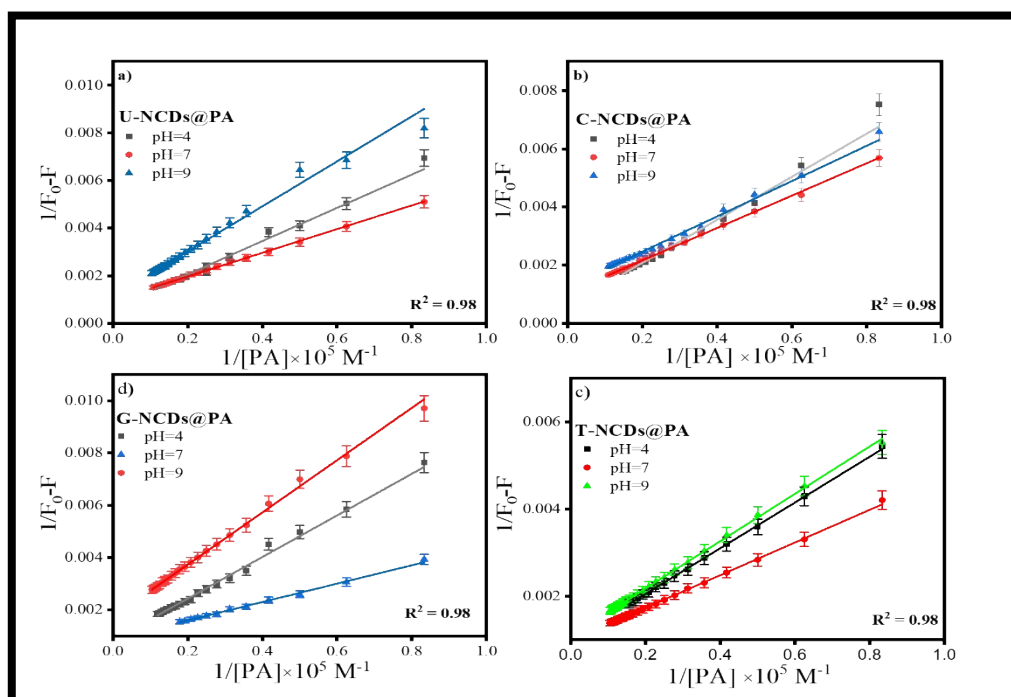


Fig. S6 B-H plot to evaluate the binding constant at pH=4, 7 and 9 for a) U-NCDs b) C-NCDs c) G-NCDs and d) T-NCDs in the presence of PA.

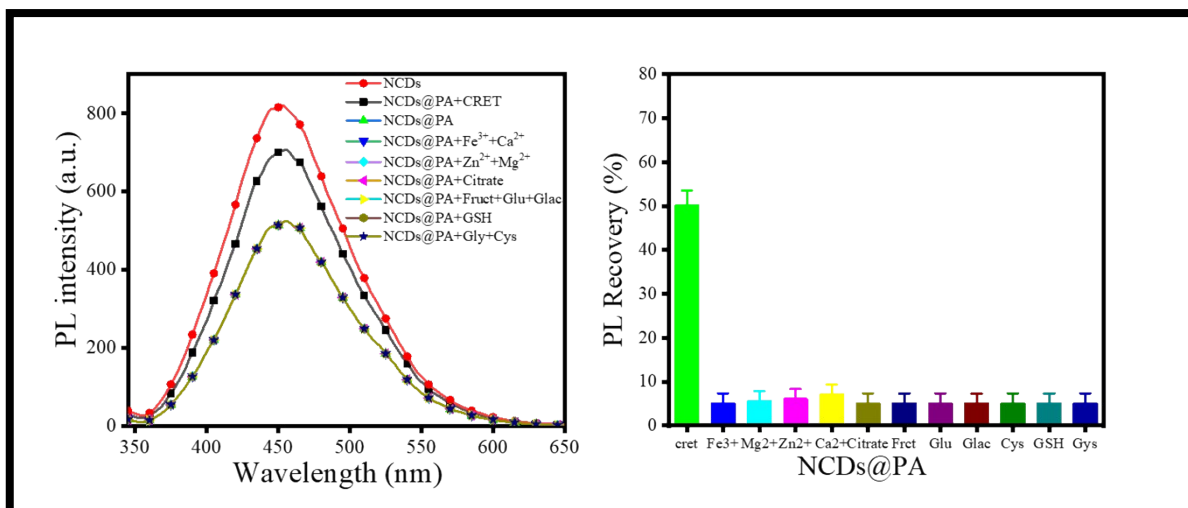


Fig. S7 Interference studies of NCDs@PA to evaluate the sensing efficacy towards creatinine.

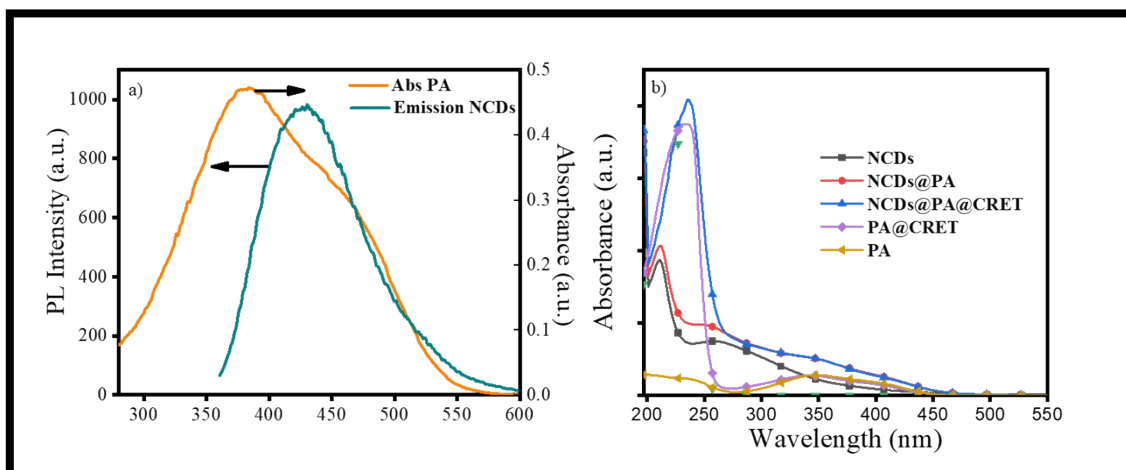


Fig. S8 Optical properties of NCDs a) combine absorption and emission spectra of PA and NCDs b) absorption spectra of NCDs, NCDs@PA and NCDs@PA@CRET.