Supplementary Information

Zn-MOF@rGO Nanocomposite: A Versatile Tool for Highly Selective and Sensitive Detection of Pb^{2+} and Cu^{2+} Ions in Water

Ajay Kumar,[a,b] Kuldeep Kumar,[c] Kirtanjot Kaur,[d] Kushal Arya,[a] Surinder Kumar Mehta,[a] Surinder Singh[c]* and Ramesh Kataria[a]*

[a]Department of Chemistry and Centre of Advanced Studies in Chemistry, Panjab University, Chandigarh-160014, India.
[b]Department of Chemistry, University Institute of Sciences, Chandigarh University, Mohali, Punjab, India-140301
[c]Dr. S. S. Bhatnagar University, Institute of Chemical Engineering, Panjab University, Chandigarh-160014, India.
[d]University Centre for Research and Development, Chandigarh University, Mohali, Punjab, India-140301
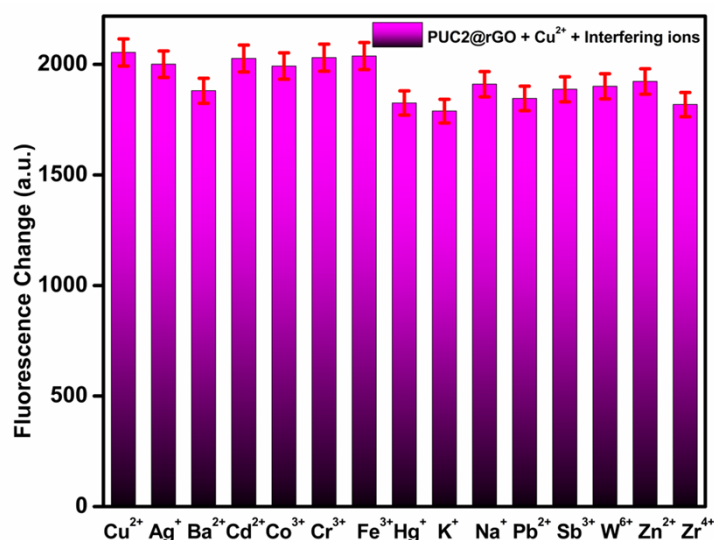Email: rkataria@pu.ac.in

Figure S1: A bar graph illustrates the changes in fluorescence intensity of PUC2@rGO at 371 nm after adding Cu^{2+} in presence interfering ions.
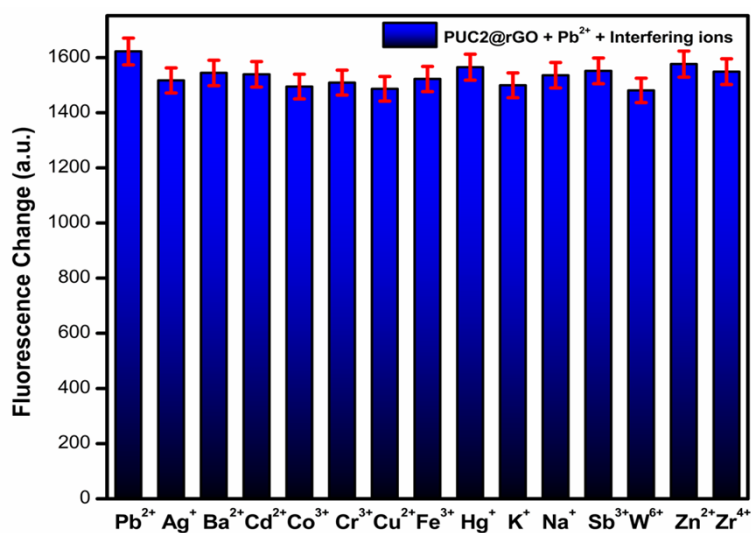
Figure S2: A bar graph illustrates the changes in fluorescence intensity of PUC2@rGO at 371 nm after adding Pb^{2+} in presence interfering ions.
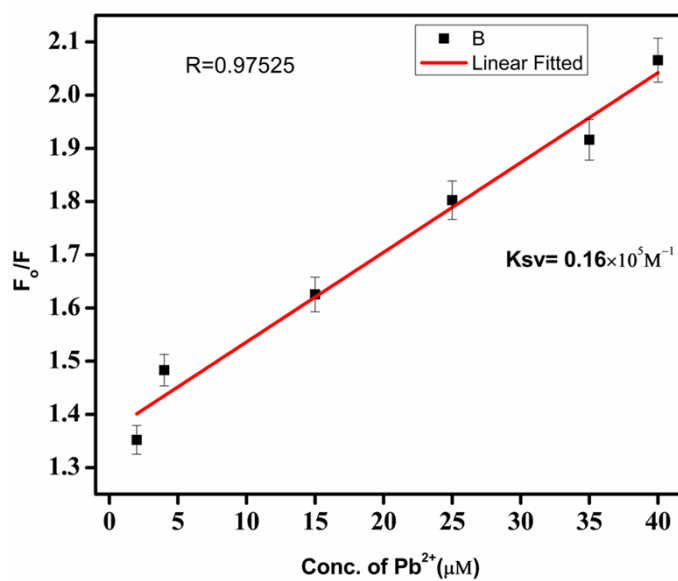

Figure S3: The Stern-Volmer plot, depicting F_0/F against $[Pb^{2+}]$, was employed to calculate the quenching constant (K_{sv}) with a value of 0.16×10^5 M^{-1}.
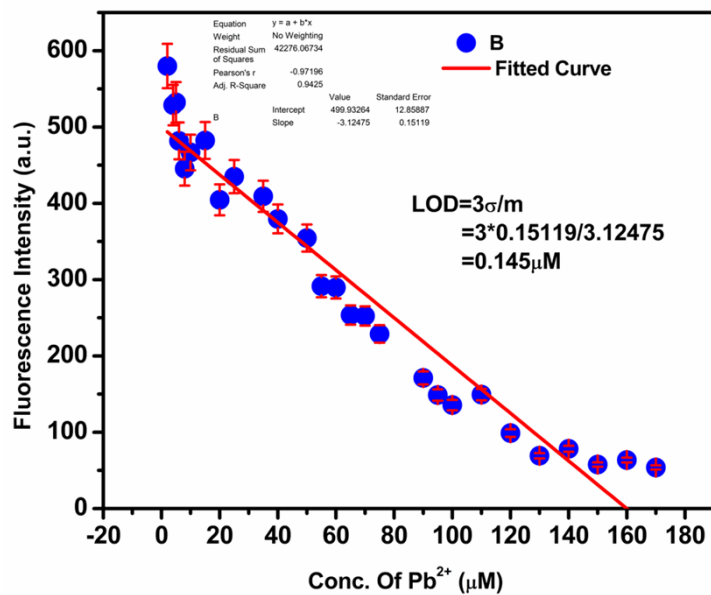
Figure S4: LOD estimation of Puc2@rGO for Pb^{2+} ions.
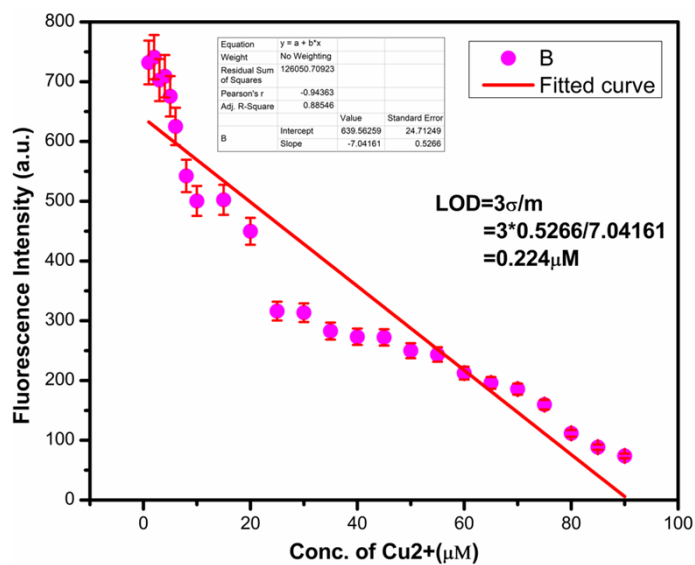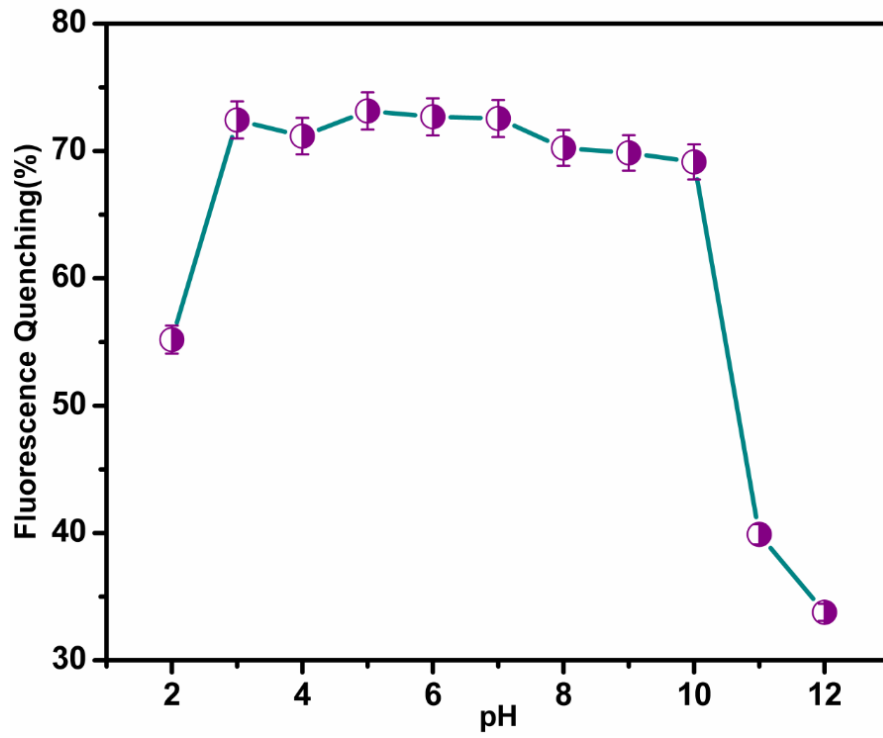

Figure S5: LOD estimation of Puc2@rGO for Cu^{2+} ions.

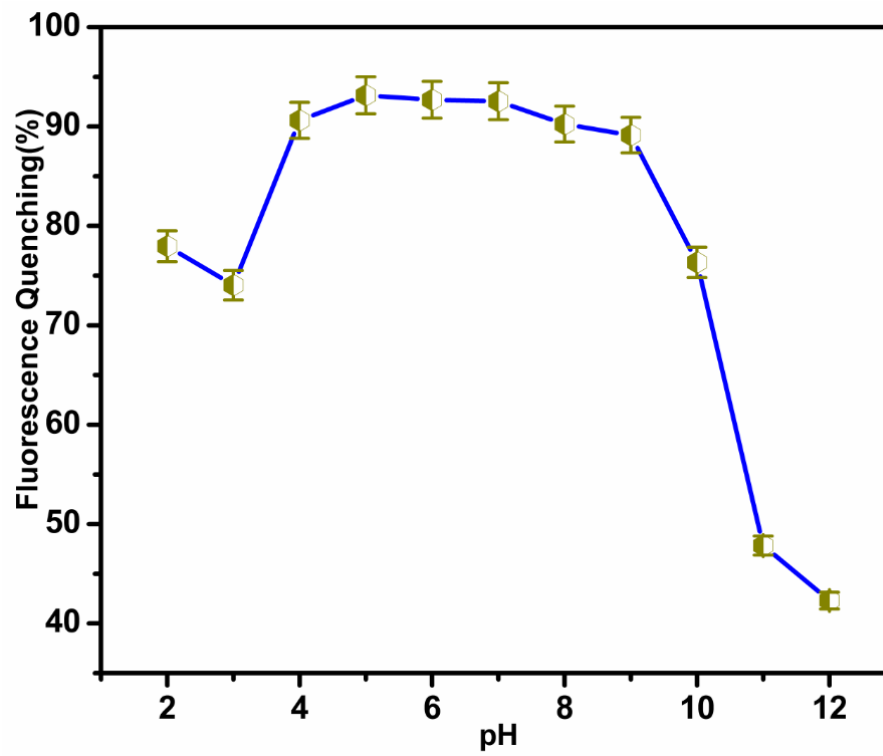Figure S6: pH effect on the detection of Pb^{2+} by PUC2@rGO.

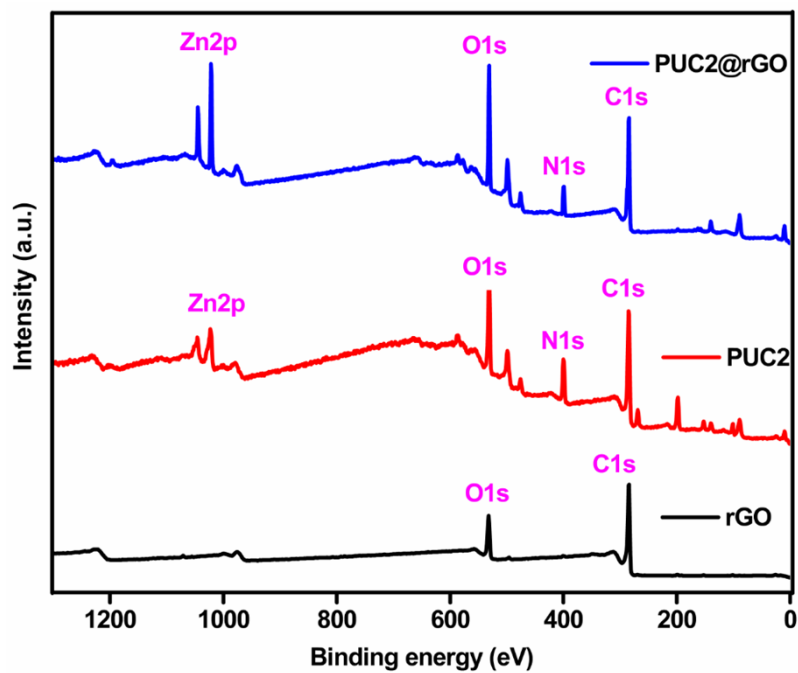Figure S7: pH effect on the detection of Cu^{2+} by PUC2@rGO.

Figure S8. Comparison of XPS spectra of rGO with PUC2 and PUC2@rGO.

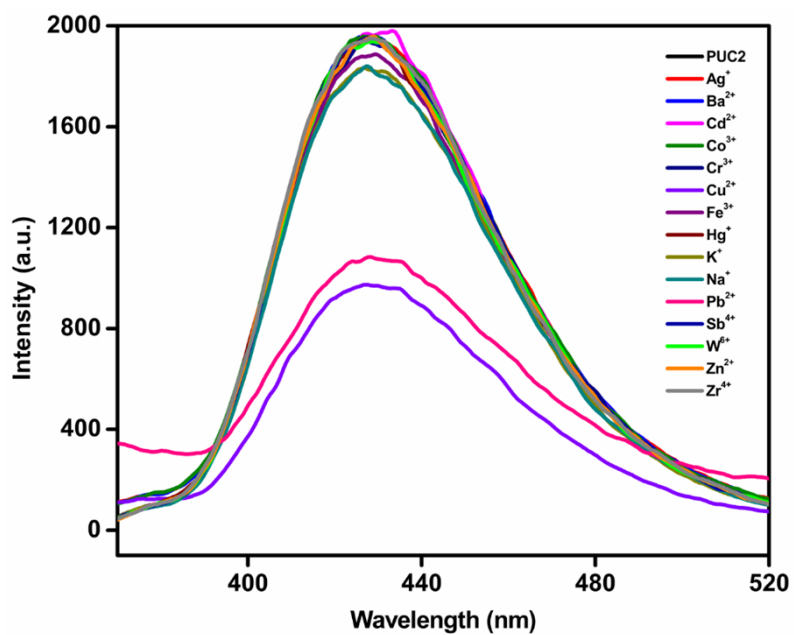

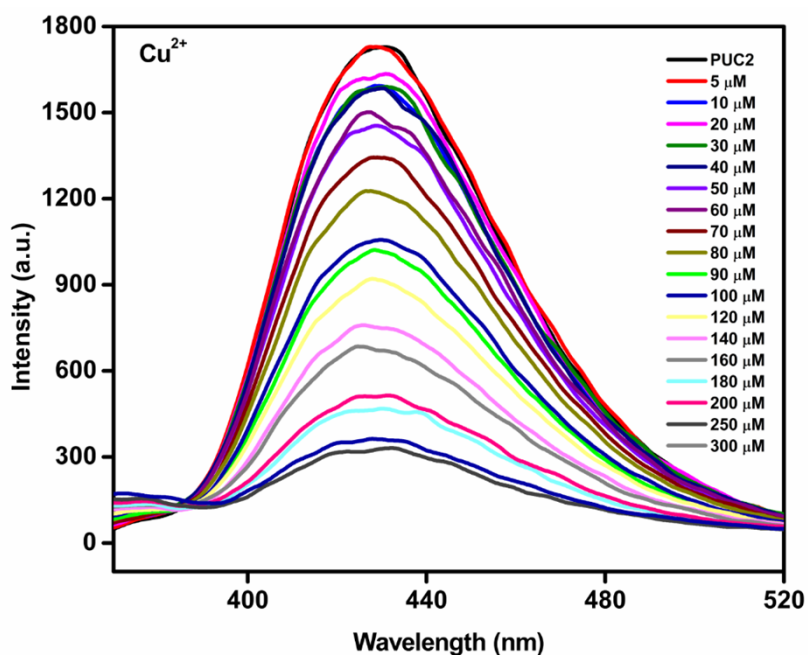Figure 9: The fluorescence spectra of PUC2 were recorded before and after introducing heavy metal ions (100 μM).

Figure 10: Emission spectra of PUC2 after the incremental addition of various concentrations of Cu^{2+} ions (ranging from 0 to 300 μM).
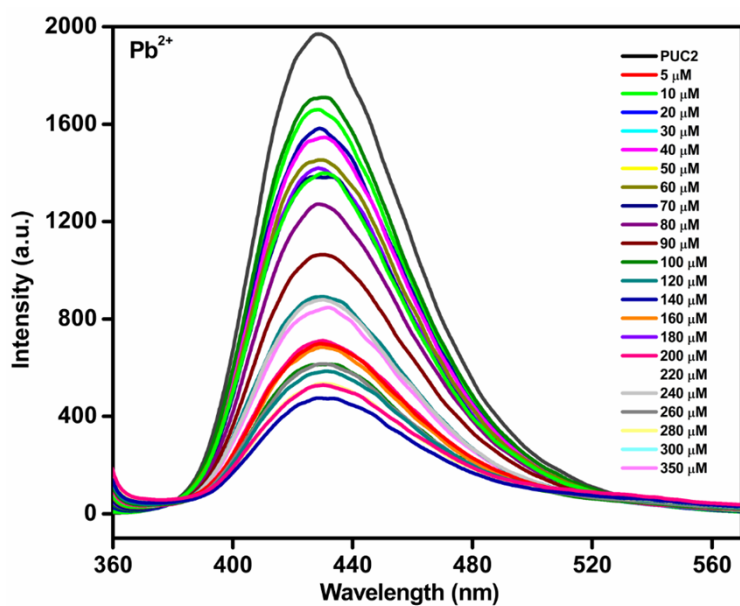

Figure 11: The emission spectra of PUC2 after the incremental addition of various concentrations of Pb^{2+} ions (ranging from 0 to 350 μM).