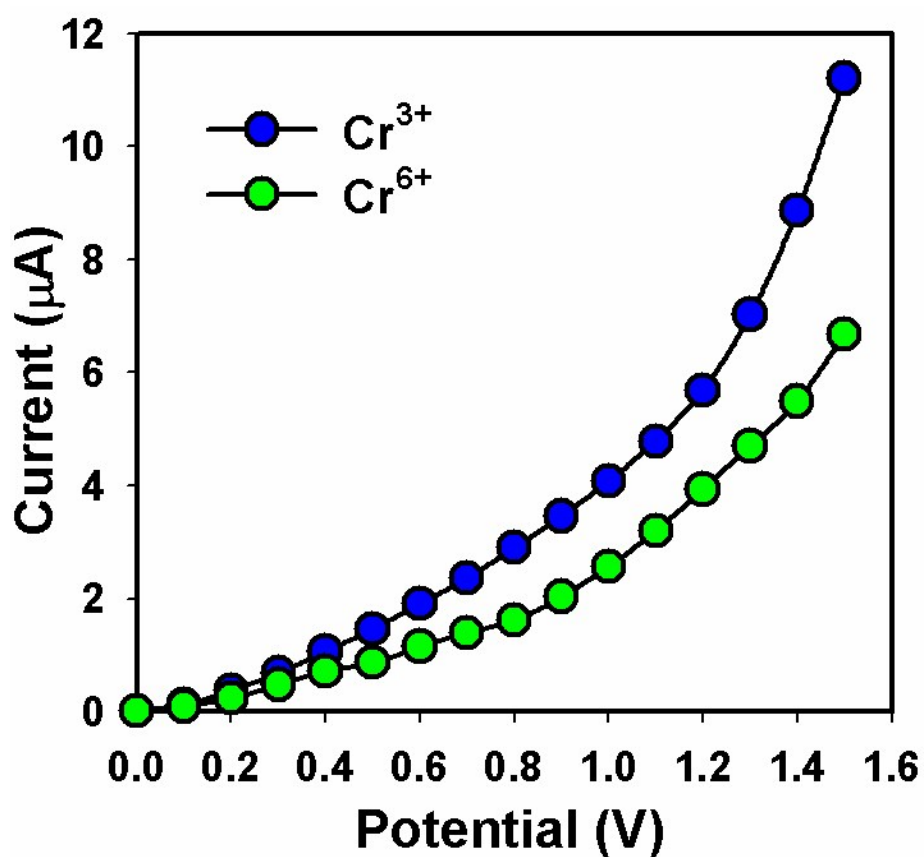
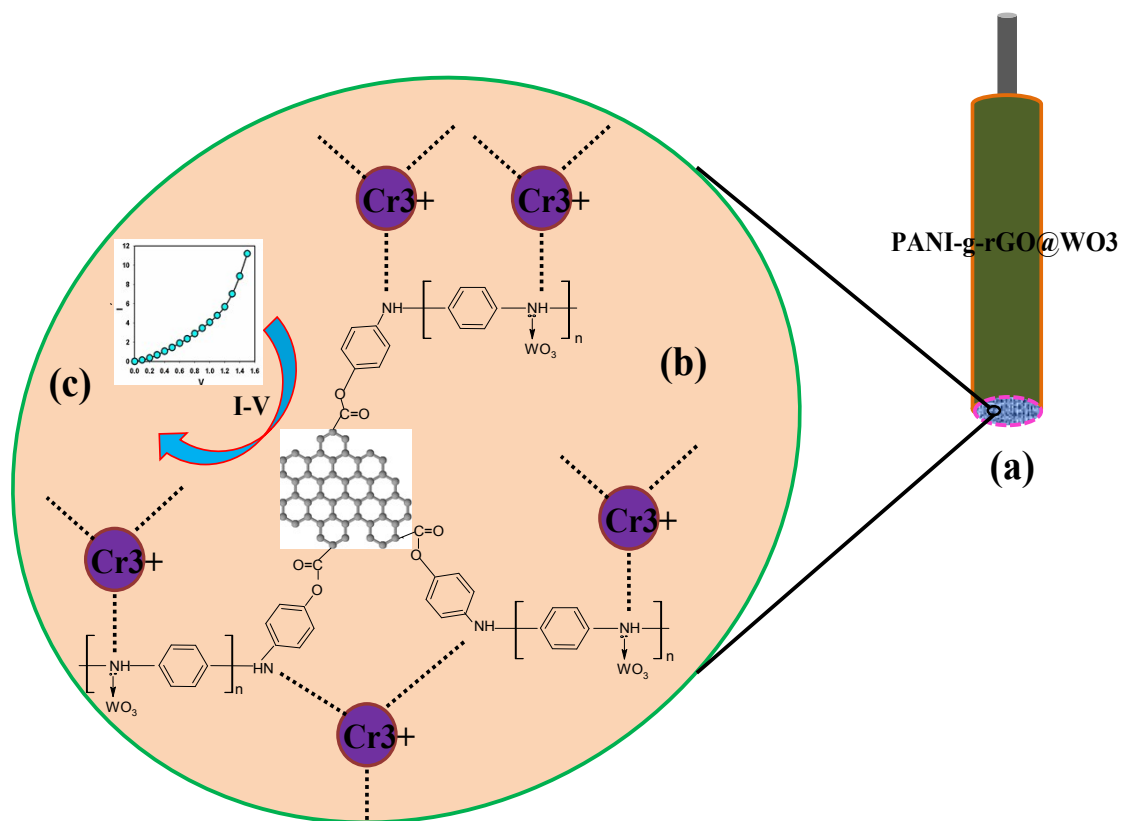


Supporting information:

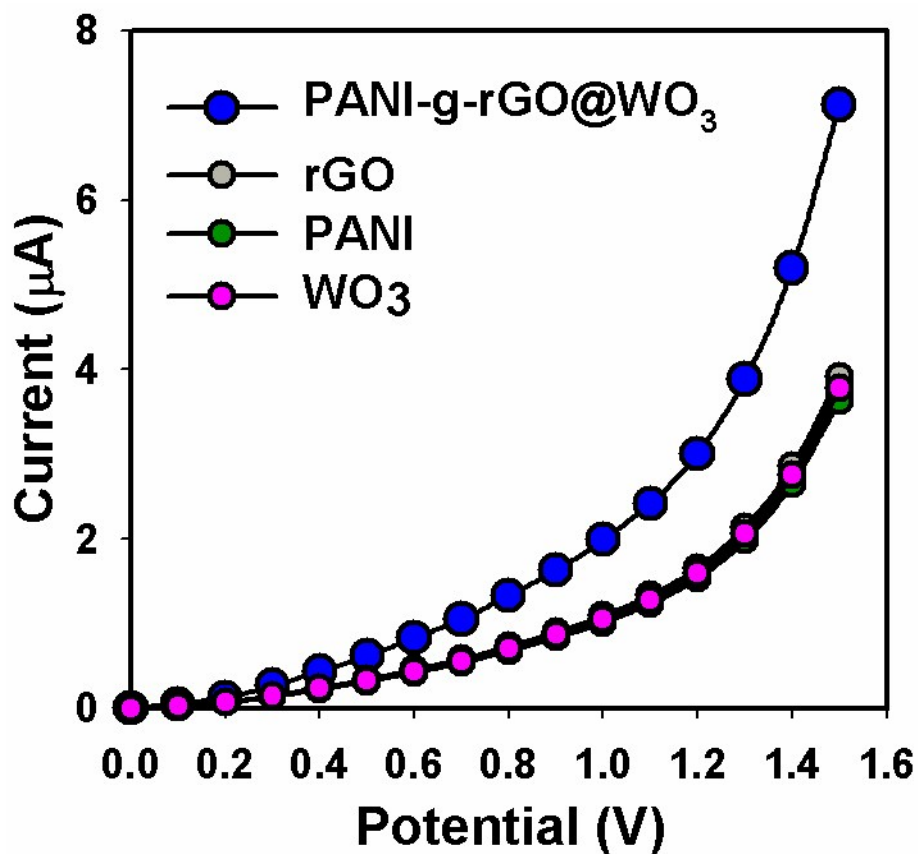
Ω Control experiment: I-V response of PANI-g-rGO@WO₃ nanocomposites/AgE sensor in presence of trivalent and hexavalent chromium ions. Concentration of analytes: 0.1 μM



II Scheme: Sensing mechanism for the detection of trivalent chromium using PANI-g-rGO@WO₃ nanocomposites/AgE by I-V methods. (a) AgE fabrication, (b) Interaction of Cr³⁺ with PANI-g-rGO@WO₃ nanocomposites, and (c) I-V response.

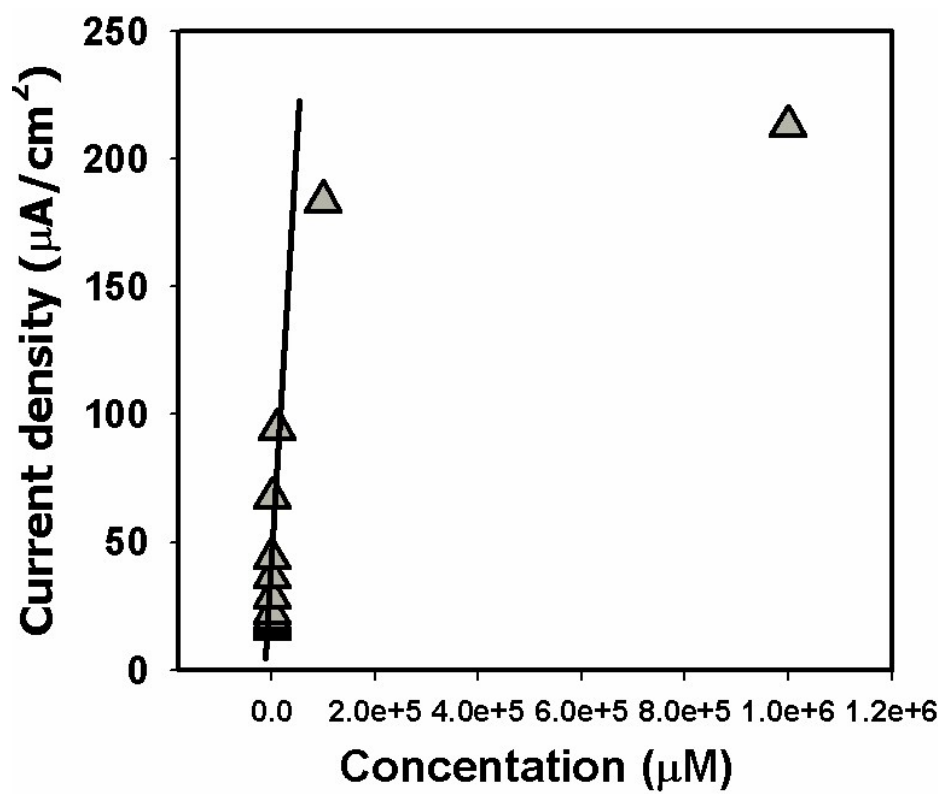


Ψ Comparison: Effects on analysis of Cr^{3+} I-V responses of PANI, rGO and WO_3 compared to PANI-g-rGO@ WO_3 nanocomposites.

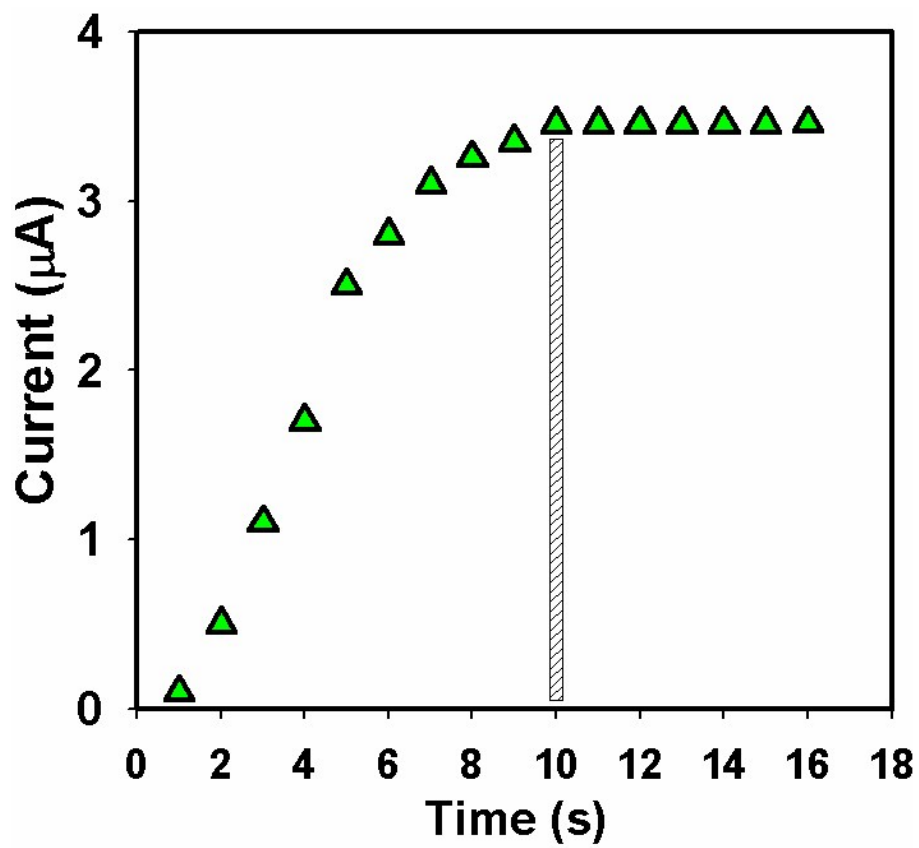


§ Calibration curve is plotted in terms of current density versus analyte concentration.

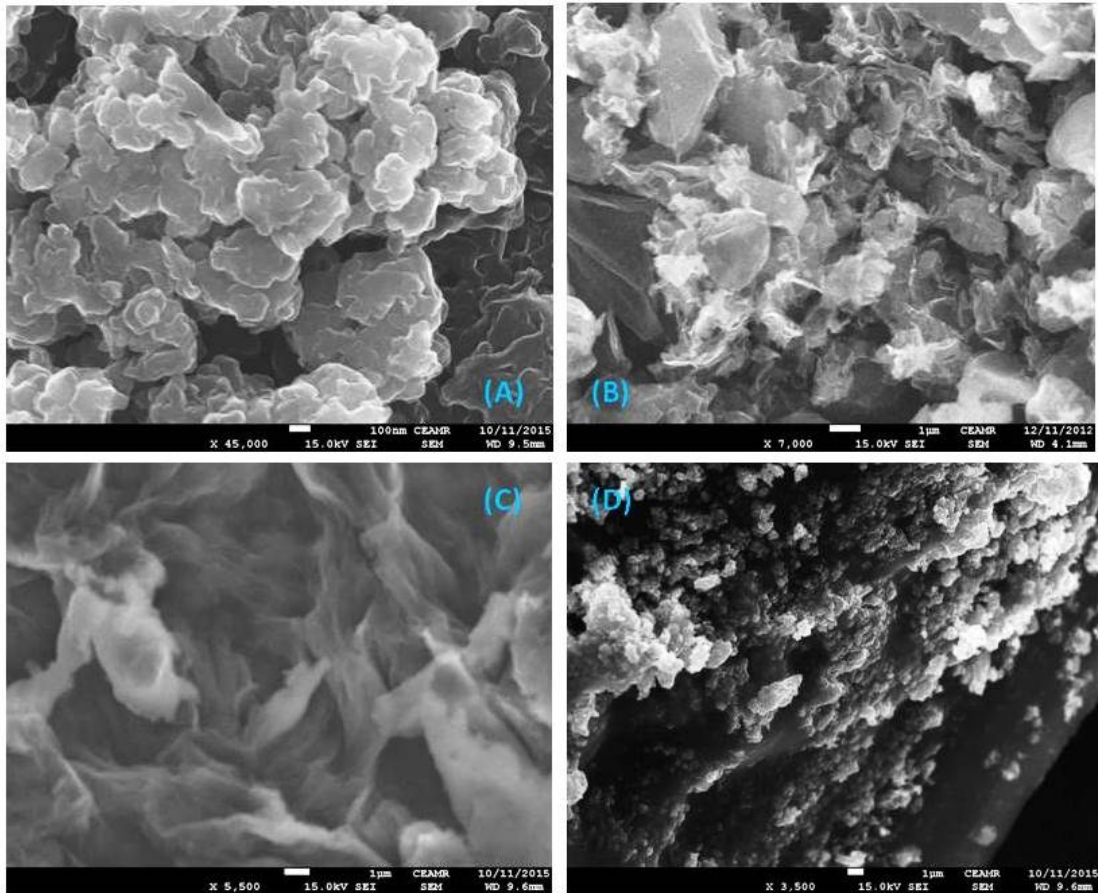
Sensitivity: $\sim 204.866 \mu\text{A}\cdot\text{mM}^{-1}\cdot\text{cm}^{-3}$



β Response time (10s)



ξ SEM Images of PANI(A), rGO (B), rGO-WO₃ (C) and PANI-r-GO-WO₃ (D) composite showing different morphologies



Φ A comparative I-V responses were studied for Cr(III) and Cr(IV) with PANI-g-rGO@WO₃ nanocomposites fabricated AgE. Concentration of analytes were kept at 0.1 μM

