

Electronic supplementary information for

Gold_{core} - Polyaniline_{shell} composite nanowires as substrate for surface enhanced Raman scattering and catalyst for dye reduction

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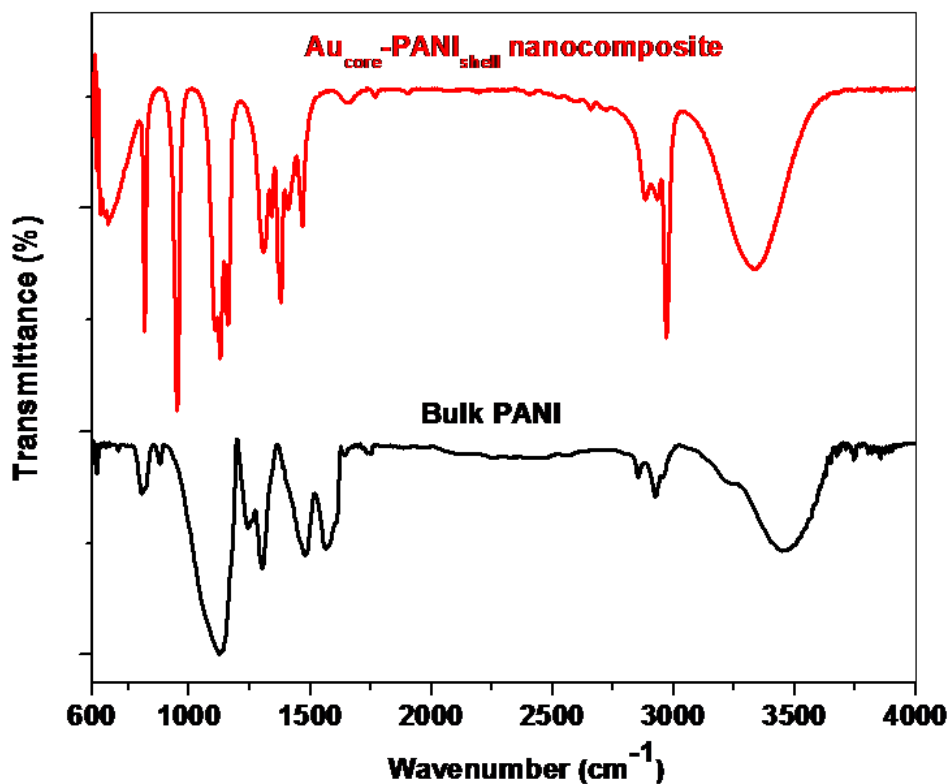


Fig. S1: FTIR spectra of Bulk PANI and Au_{core} - PANI_{shell} nanocomposite in KBr Pellets.

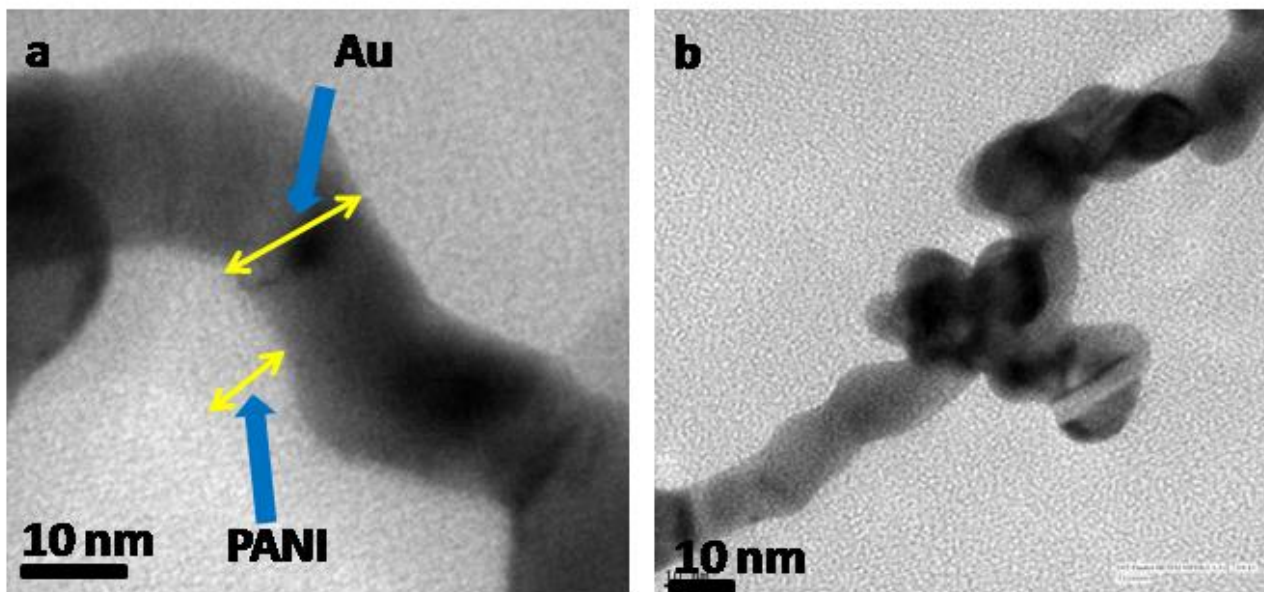


Fig. S2. HR-TEM Images

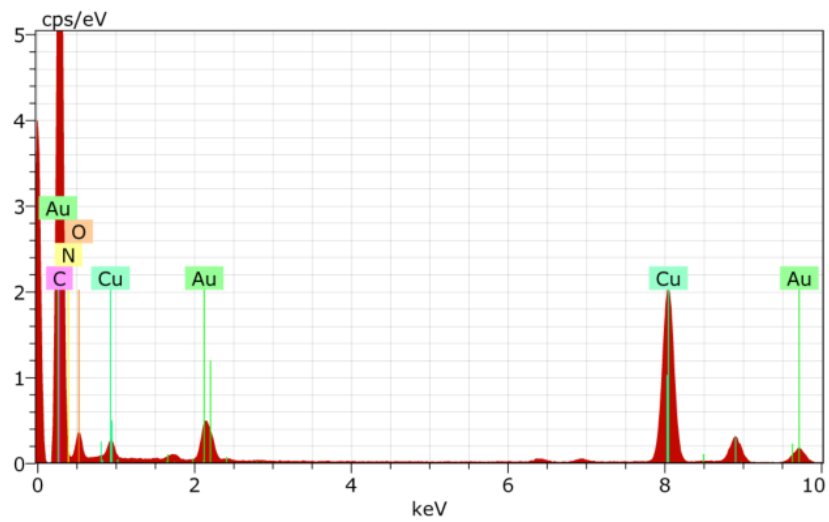


Fig. S3. EDX spectrum of sample deposited on TEM grid.

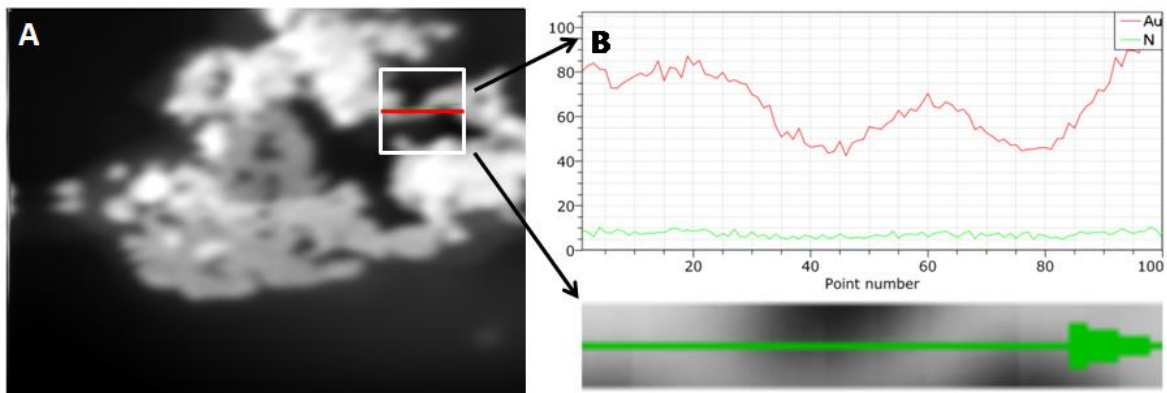


Fig. S4. (A) STEM image of Au_{core} - PANI_{shell} nanocomposite (B) EDS line scan spectra of marked nanowire

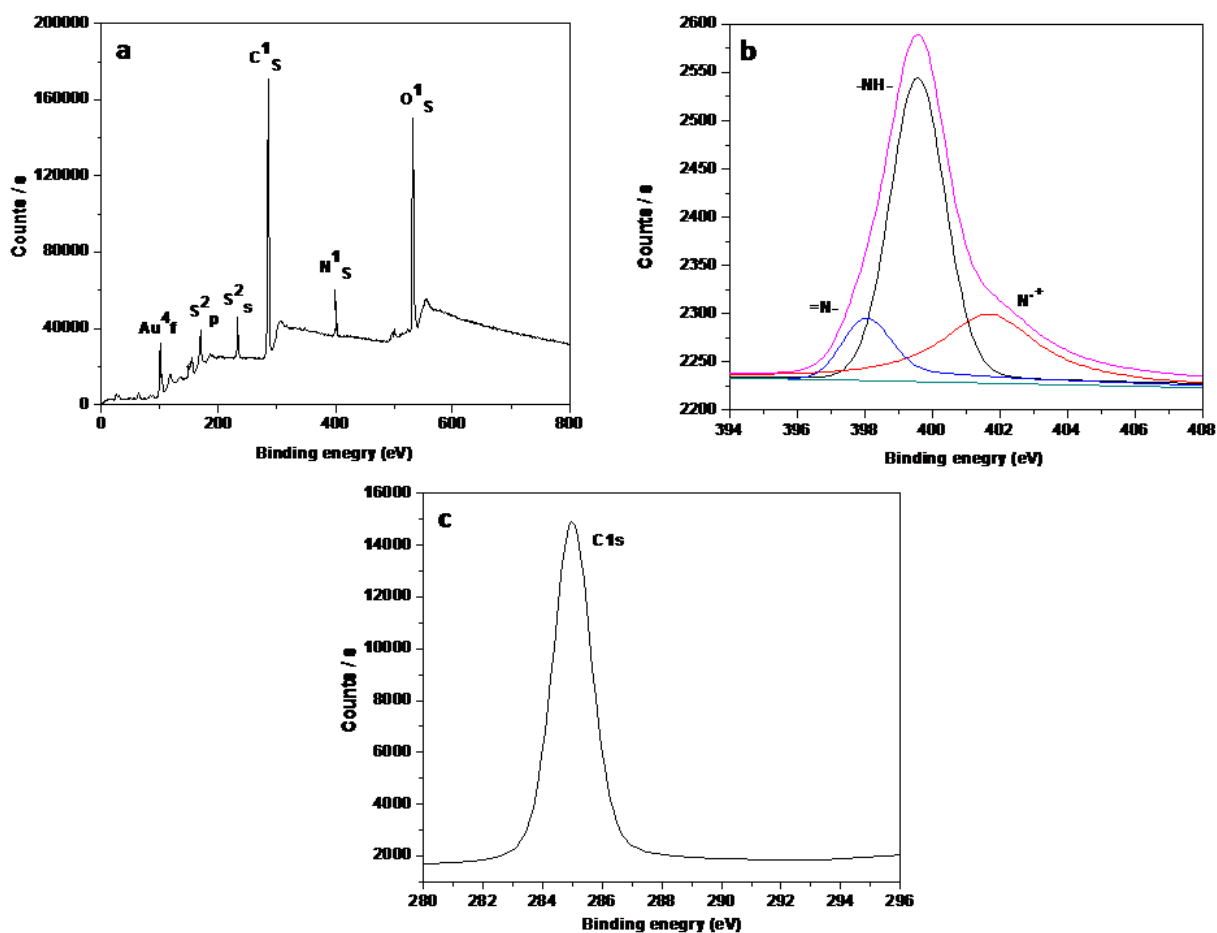


Fig. S5. (a) XPS full survey of Au_{core} - PANI_{shell} nanocomposite (b) Core level N^{1s} spectrum (c) Core level C^{1s} spectrum.

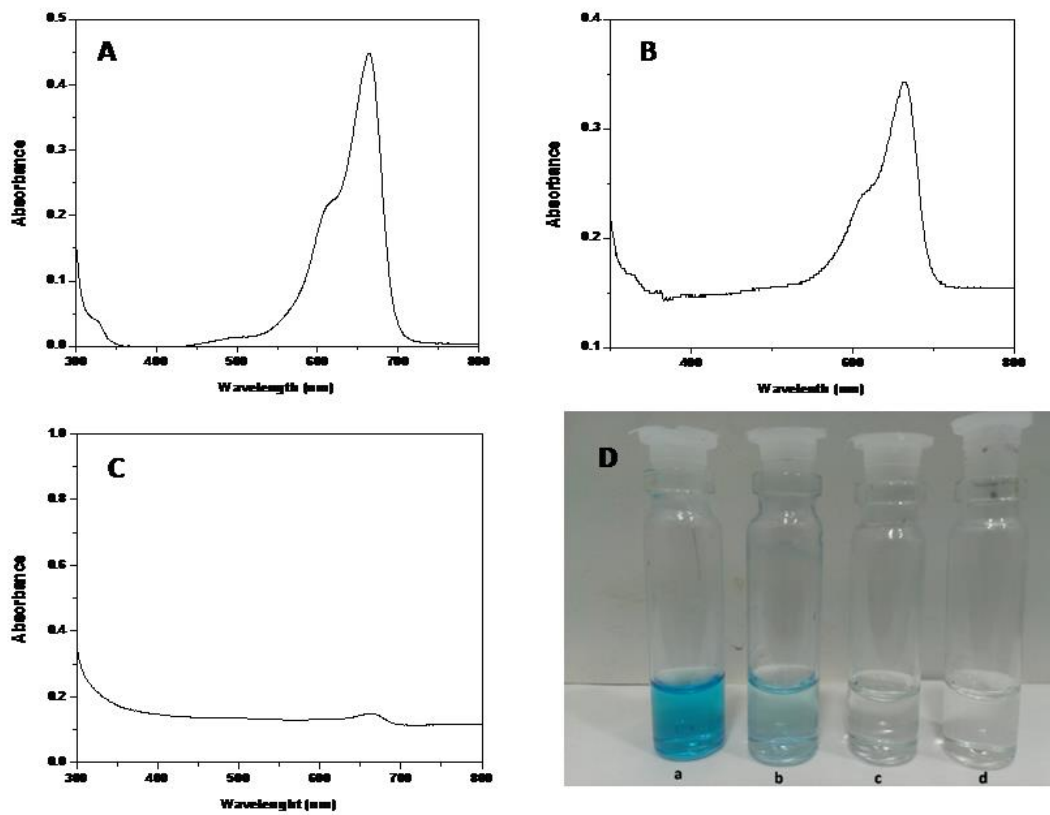


Fig. S6. UV-vis spectra of (A) MB ($1 \times 10^{-5} \text{ M}$) (B) Supernatant of Au_{core}-PANI_{shell} nanocomposite after dye adsorption (C) Supernatant of bulk-PANI after dye adsorption (D) Pictures of (a) pure MB dye ($1 \times 10^{-5} \text{ M}$) (b) supernatant after dye adsorption on Au_{core}-PANI_{shell} nanocomposite (c,d) supernatant after dye adsorption on bulk-PANI under normal conditions and under dark conditions respectively.

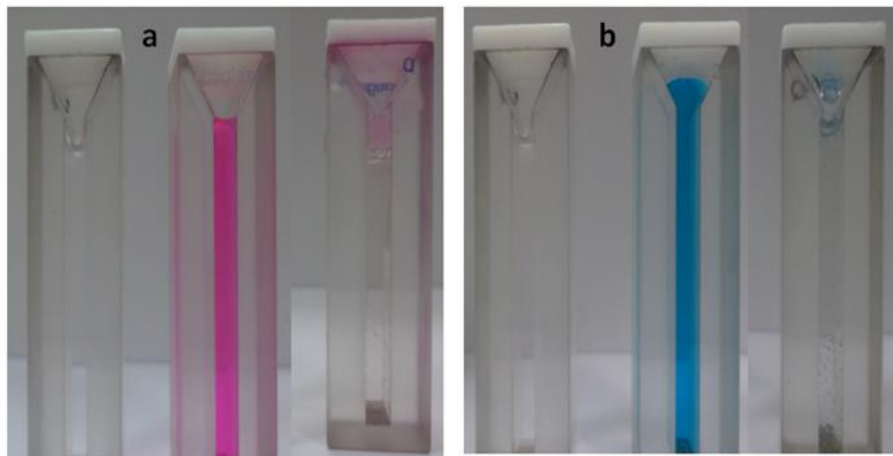


Fig. S7. Photographs of UV cuvettes containing (a) water(left), Rh B dye (middle) and reduced Rh B dye (right) (b) water (left), MB dye (middle) and reduced MB dye (right).

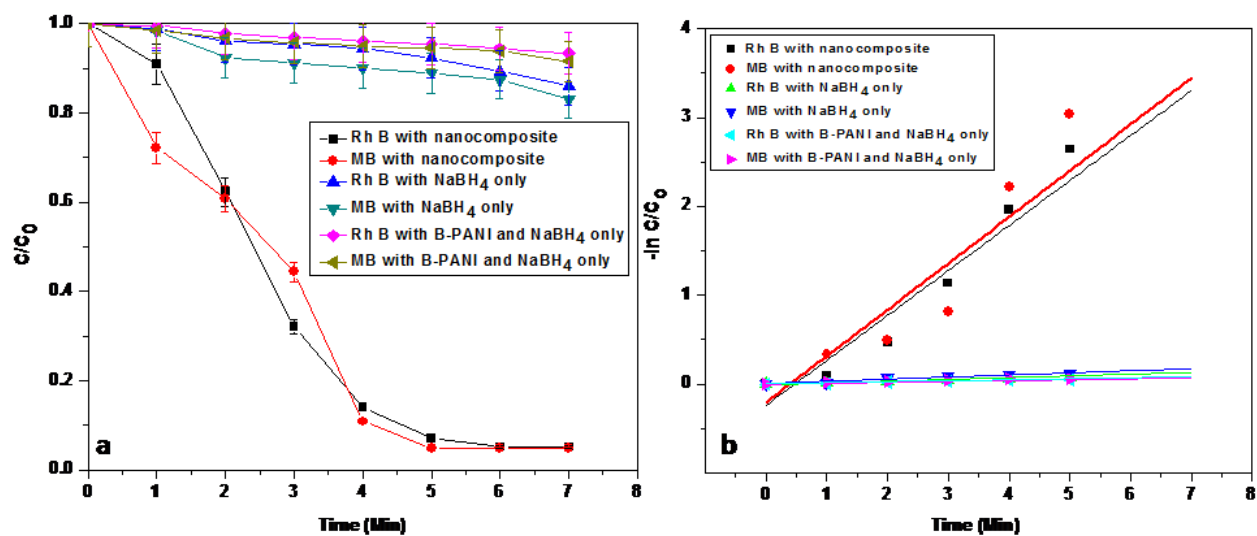


Fig. S8. (a) The kinetic curve of reductive degradation of MB and Rh B dyes under different conditions (b) plot of $-\ln(C/C_0)$ versus reaction time for reductive degradation of MB and Rh B dyes under different conditions. The concentrations of Rh B, MB and NaBH₄ were kept constant in all cases.

