

Polyaniline Nanoparticles for the Selective Recognition of Aldrin: Synthesis, Characterization, and Adsorption Properties

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SUPPLEMENTARY MATERIAL

The polyaniline structure and the target molecule aldrin are presented in Figure S1. Spectroscopic data (FTIR, NMR and UV-VIS) is presented in Figure S2 to Figure S6 for the neat and imprinted polyaniline nanoparticles. Current-voltage curves for the materials synthesized are presented in Figure S7 and Figure S8. The results from rebinding experiments are shown in Figure S9 to Figure S10.

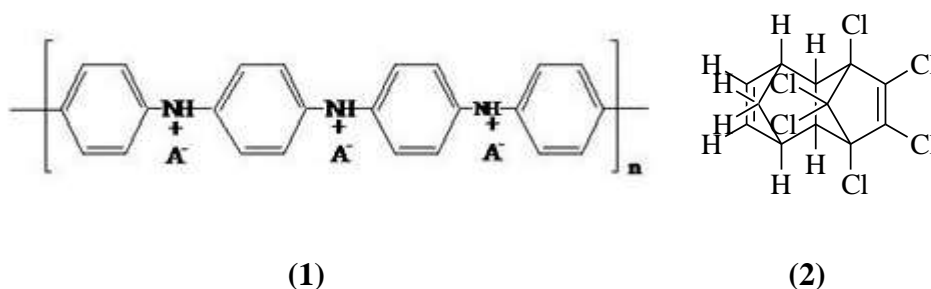


Figure S1: Protonated emerald green PANI (1) and aldrin (2).

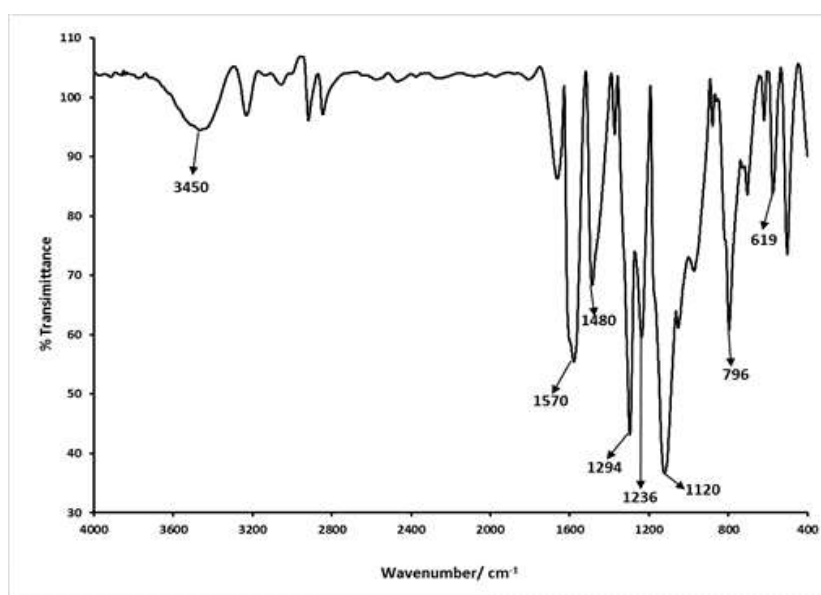


FIG. S2: FTIR spectrum of neat polyaniline nanoparticles.

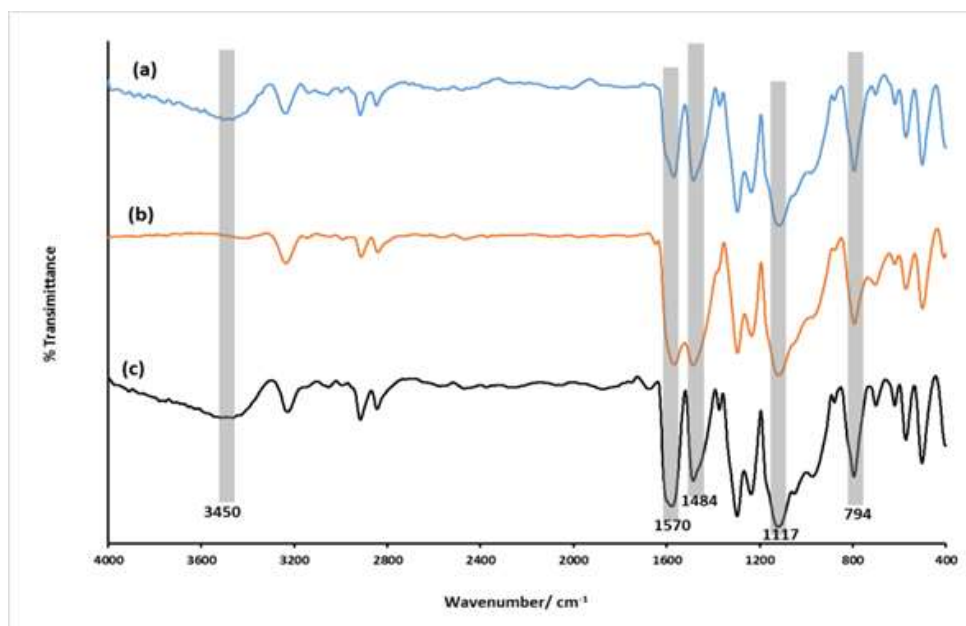


FIG. S3: FTIR spectra of polyaniline nanoparticles (a) after template extraction, (b) before template extraction (c) neat polyaniline.

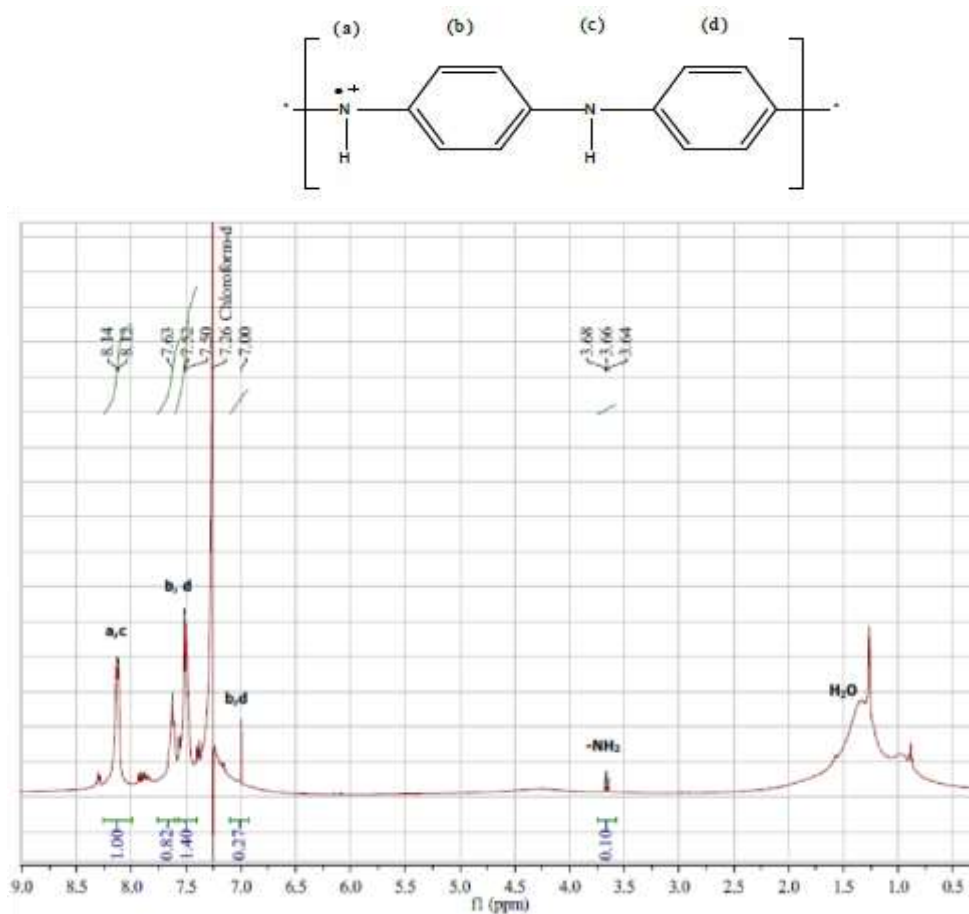


FIG. S4: $^1\text{H-NMR}$ spectrum of the synthesized polymer polyaniline salt obtained by emulsion polymerisation.

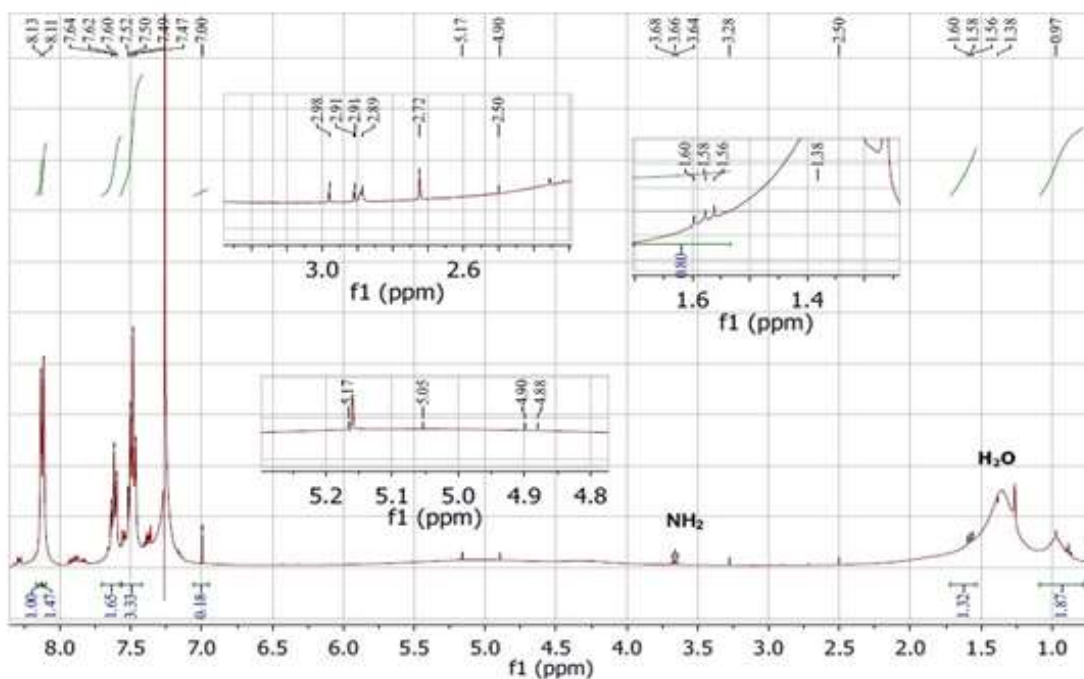


FIG. S5: ^1H NMR spectra of the synthesized aldrin MI-PANI.

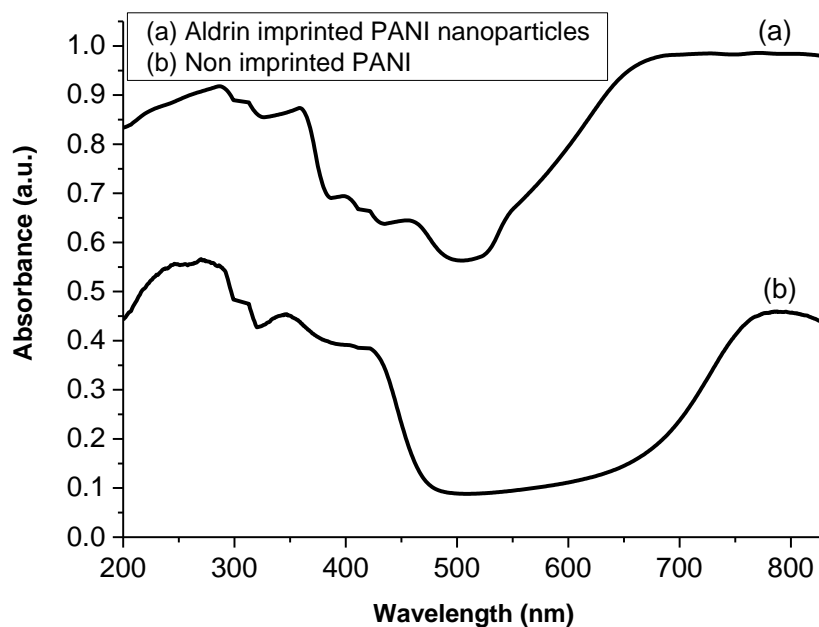


FIG S6: UV-VIS absorption of imprinted (a) and nonimprinted (b) polyaniline nanoparticles. Key absorption bands are indicated.

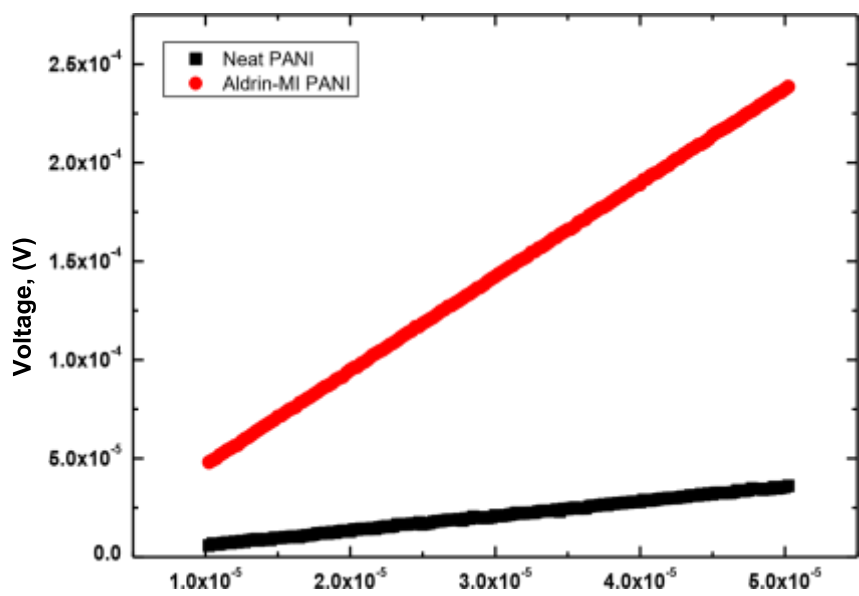


FIG. S7: Room temperature current-voltage characteristics for PANI and Aldrin MI-PANI

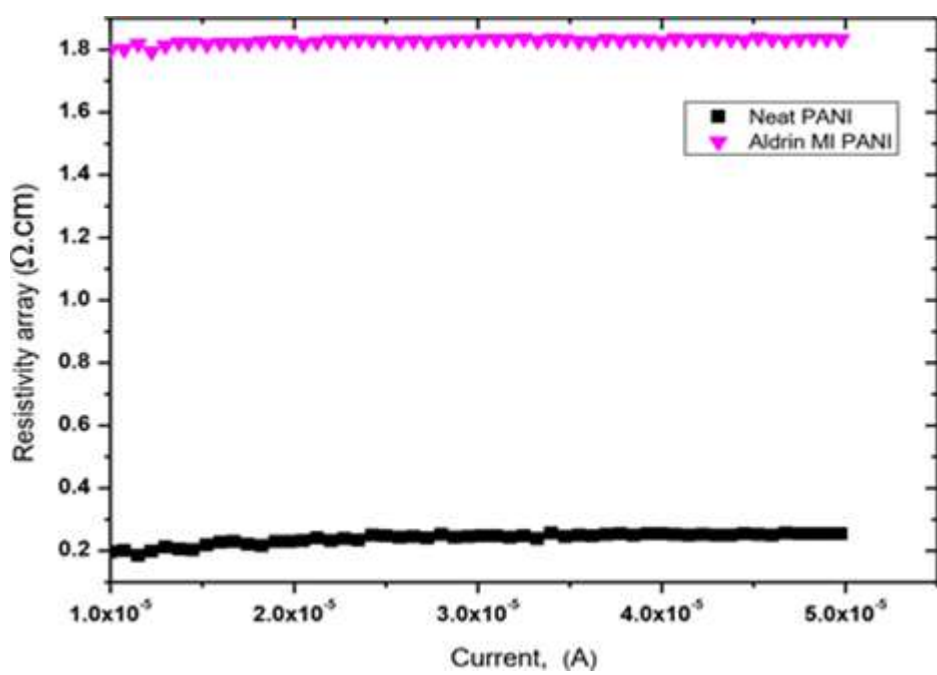


FIG. S8: Resistivity-Current characteristics for three PANI pellets and Aldrin MIPANI

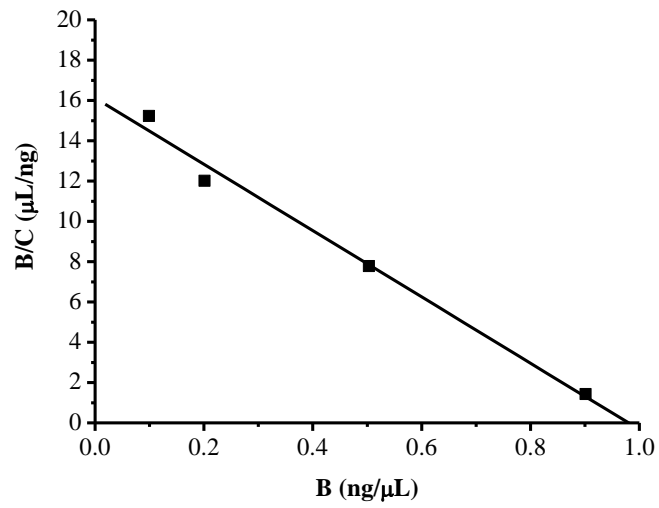


FIG. S9: Binding profile of aldrin onto PANI nanoparticles

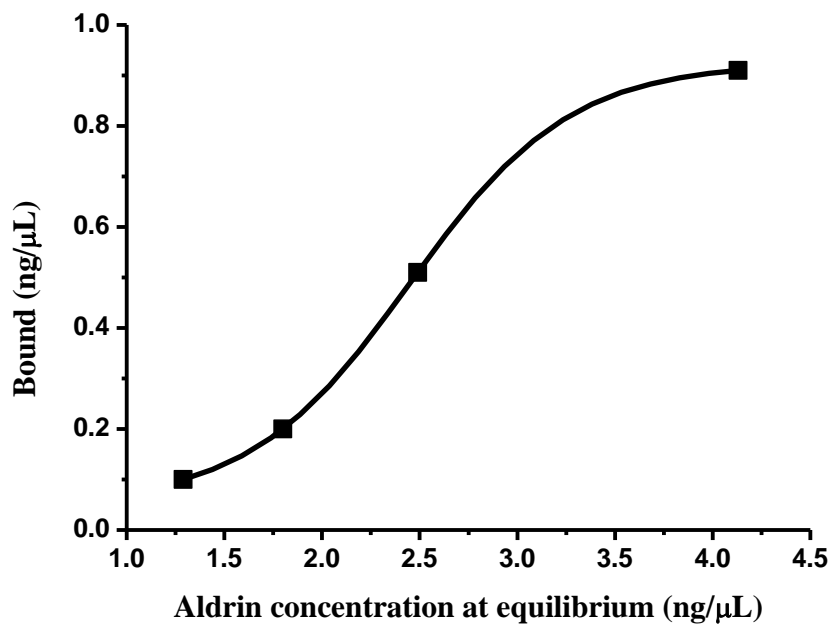


FIG S10: Langmuir adsorption isotherm results of MI-PANI.

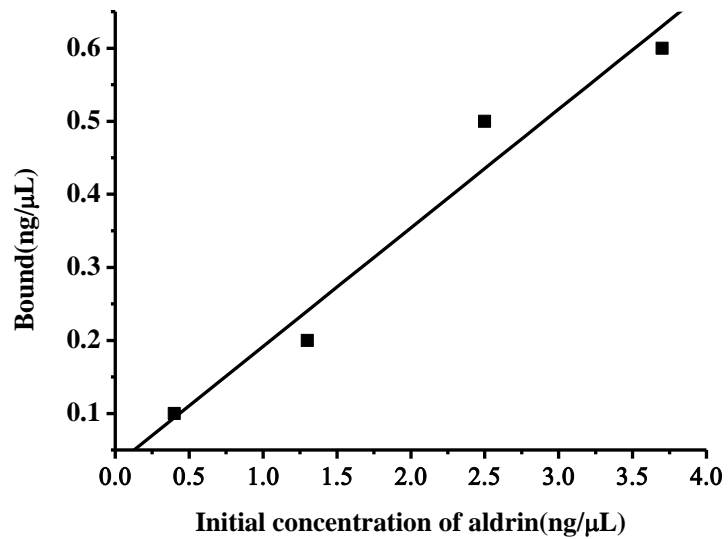


FIG: S11: Scatchard plot of the synthesized molecularly imprinted polyaniline nanoparticles