# Supporting Information

# Hierarchical Composite Polyaniline-(Electrospun Polystyrene) Fibers Applied to Heavy Metal Remediation

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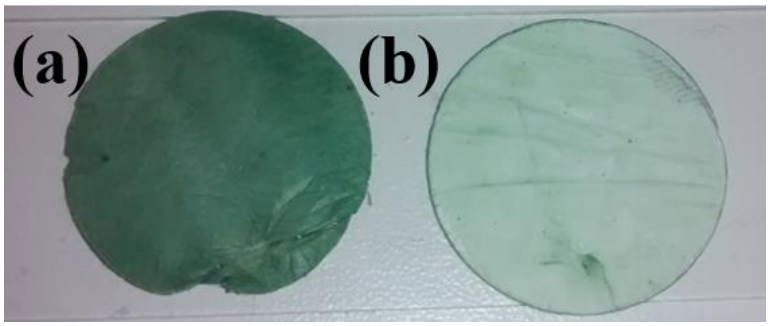


**Fig. S1** NW PANI-PS mats **(a)** subjected to plasma treatment and **(b)** not subjected to plasma treatment.

We have used electrical impedance spectroscopy to investigate the response of the NW PANI-PS mats before and after the removal experiments. In Fig. S2, we present a Bode plot of the real part of the impedance (Z´) as a function of the applied frequency. One can note that after the metal removal experiment, the Z´ values for the plasma treated NW PANI-PS mats vary in frequency ranges that are higher than those of pristine NW PANI-PS mats. Note that although the Z´ values almost do not vary at high frequencies, they are sensitive at the low frequency regime.

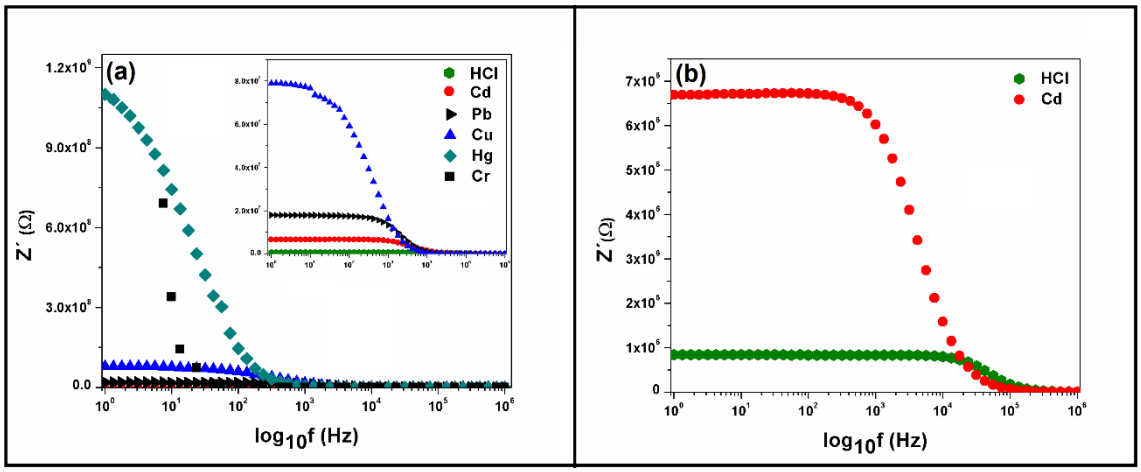


**Fig. S2** NW PANI-PS Bode plots for the real part Z´vs log *f* for mats before and after the interaction with the heavy metal ions. **(a)** Hg (II) and Cr (VI) - NW PANI-PS, in the inset Cu (II), Pb (II),Cd (II) and HCl - NW PANI-PS. **(b)** Cd (II) and HCl, - NW PANI-PS.

The imaginary part of the impedance Z" is presented as a function of the frequency in **Fig. S3.** All the samples showed a unique well-resolved peak which changes to lower frequencies depending on the metal and the oxidation degree.

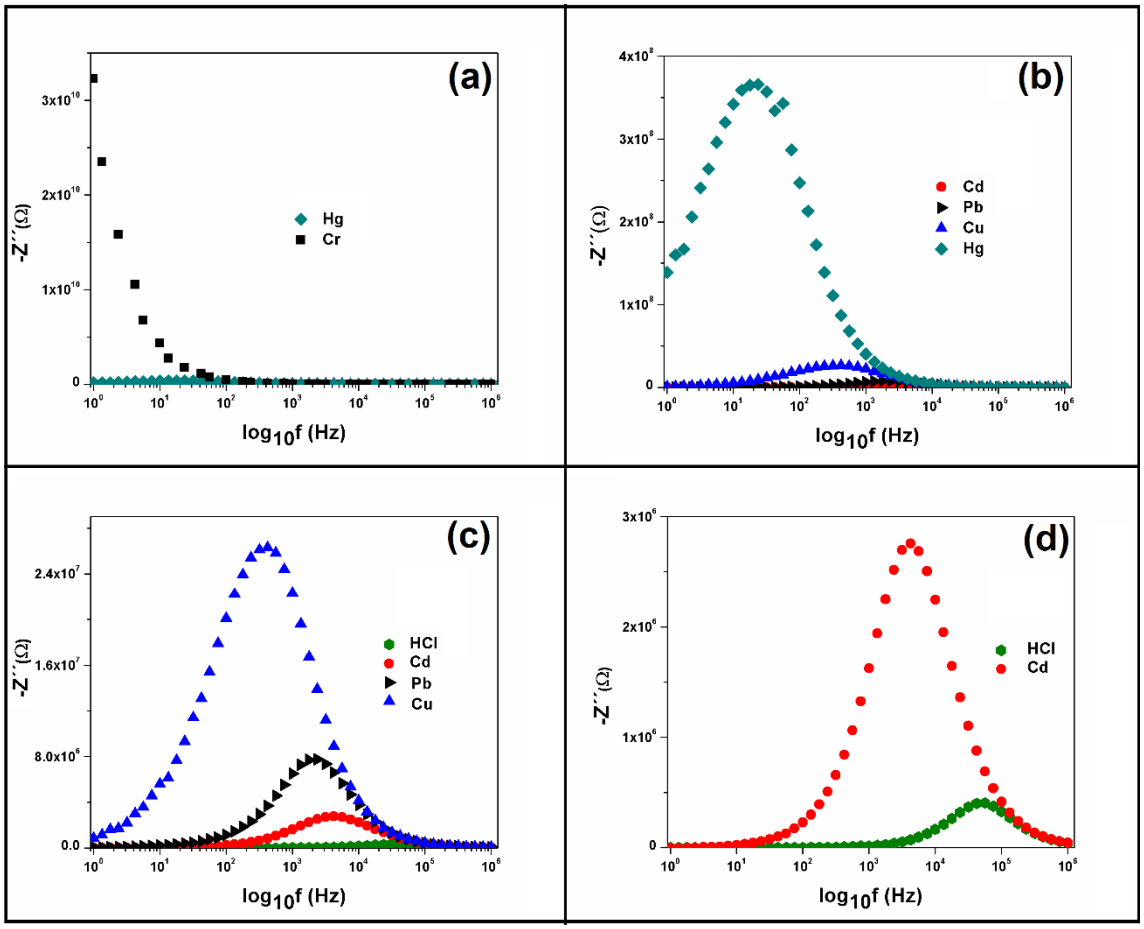


**Fig. S3** NW PANI-PS Bode plots for the imaginary part Z" vs log *f* for mats before and after the interaction with the heavy metal ions. **(a)** Hg (II) and Cr (VI) - NW PANI-PS, **(b)** Hg (II), Cu (II), Pb (II) and Cd (II) - NW PANI-PS, **(c)** Cu (II), Pb (II), Cd (II) and HCl , - NW PANI-PS, and **(d)** Cd (II) and HCl - NW PANI-PS.