



Supporting Information

"Nanotraps" in porous electrospun fibers for effective removal of lead(II) in water

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Table S1: Surface area and pore size of the fibrous membrane.

Sample name	BET surface area (m²/g)	Pore Size (nm)
nCAFM	3.36	6.2
pCAFM	9.73	12.5
pCAFM/AuNC	6.89	9.2

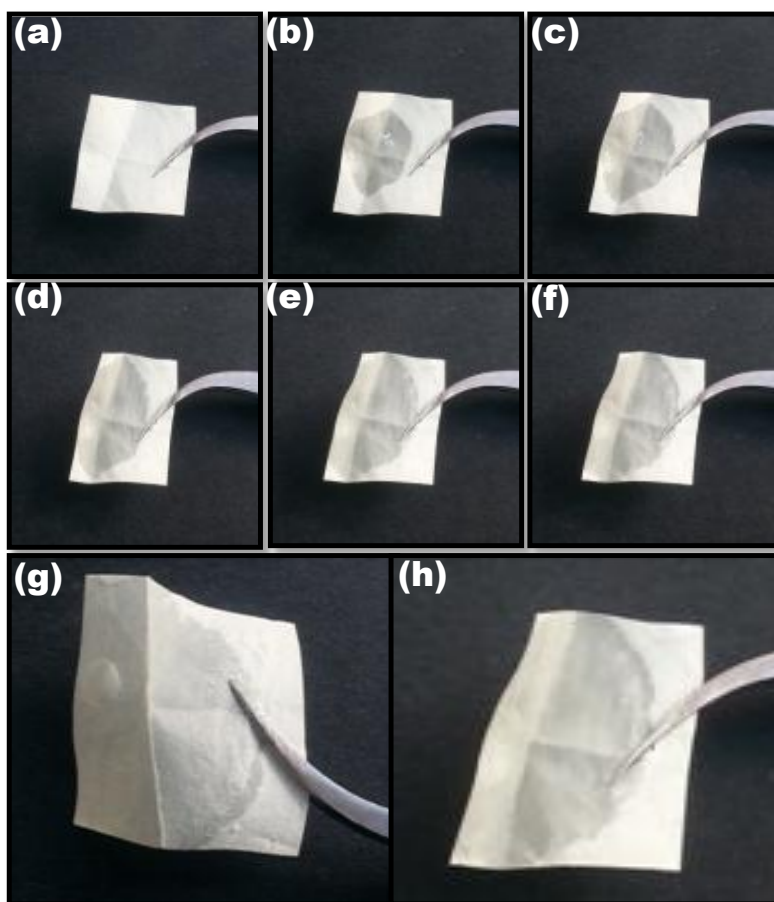


Fig. S1 (a-f) Photograph showing the spreading and transport behavior of water droplet over pCAFm/AuNC. (g-h) Front and back side of pCAFm/AuNC after spread out of water.

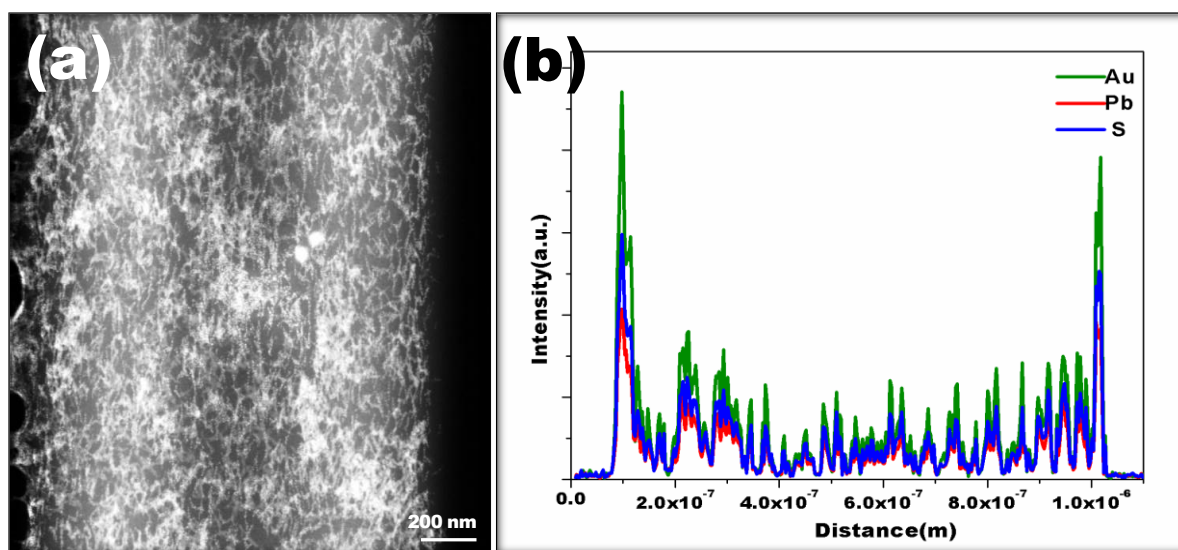


Fig. S2 (a) STEM image of pCAF/AuNC after adsorption of Pb^{2+} (b) and their line scanning profile of Au, Pb and S.

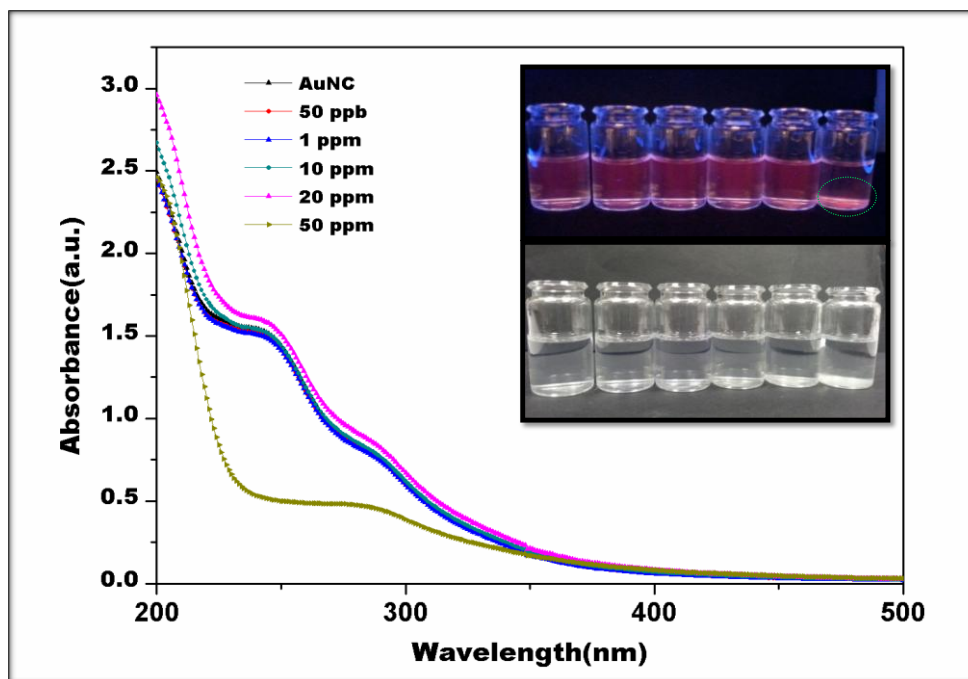


Fig. S3 The UV-vis spectra of AuNC treated with different concentration of Pb^{2+} and their corresponding photographs taken under UV irradiation at 366 nm and day light conditions shows as an inset (From left to right AuNC, AuNC+50 PPb, AuNC+1 ppm, AuNC+10 ppm, AuNC+20 ppm and AuNC+50 ppm respectively). The formation of Pb^{2+} -AuNC precipitates is clearly seen under bottle upon addition of 50 ppm Pb^{2+} .

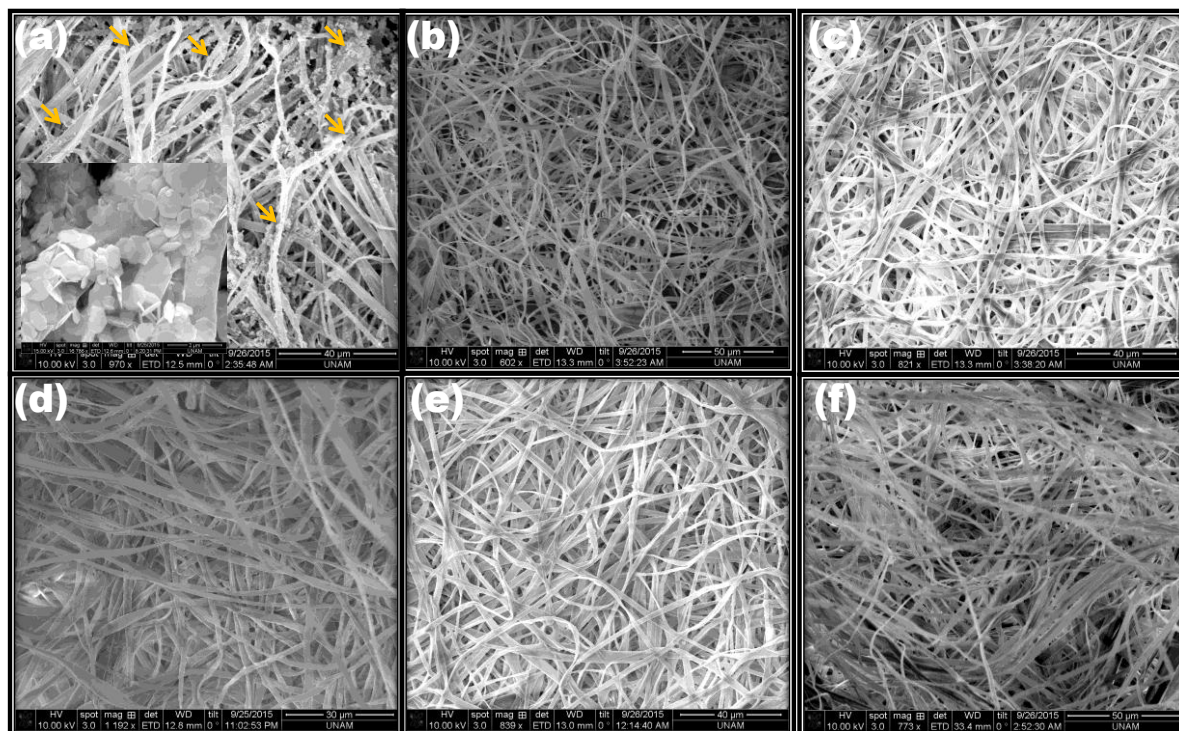


Fig. S4 SEM image of pCAFm/AuNC after adsorption of toxic metal ions at 50 ppm concentration (a) Pb^{2+} . The inset shows the higher magnification view of adsorbed crystals on fiber surface. (b) Ni^{2+} (c) Hg^{2+} (d) Zn^{2+} (e) Cd^{2+} and (f) Mn^{2+} . The arrows in Figure a indicating the formation of crystals following adsorption of Pb^{2+} .

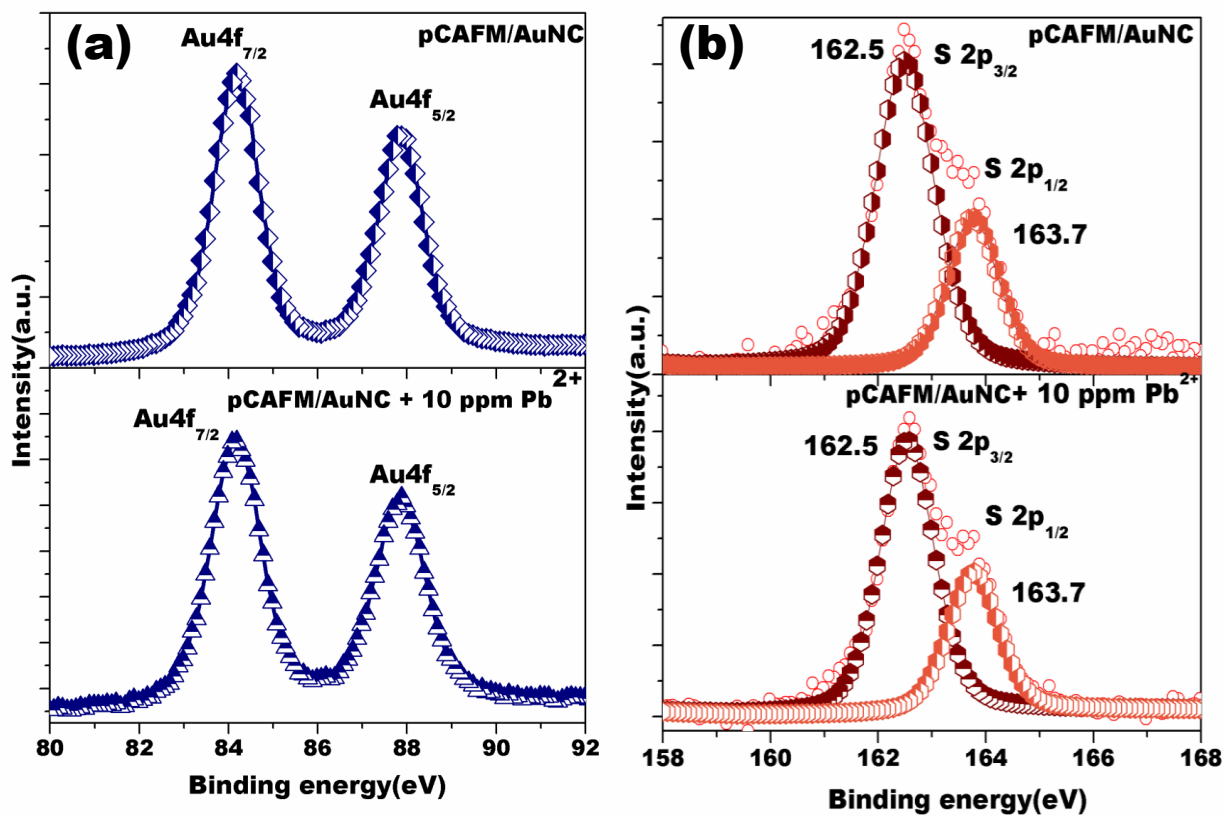


Fig. S5 XPS spectra of pCAFm/AuNC before and after adsorption of Pb^{2+} (10 ppm). (a) Au (4f) and (b) S (2p) spectra.

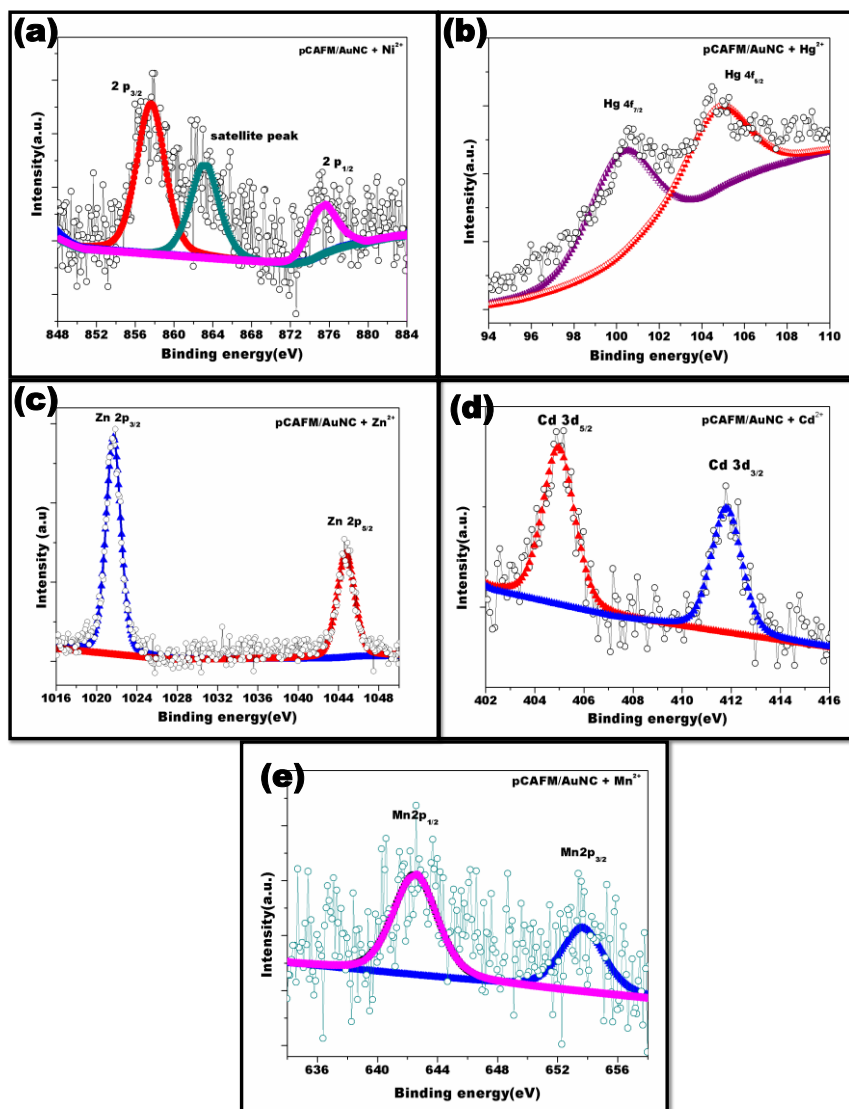


Fig. S6 XPS spectra of pCAFm/AuNC after adsorption of toxic metal ions at 10 ppm concentration (a) Ni^{2+} (b) Hg^{2+} (c) Zn^{2+} (d) Cd^{2+} and (e) Mn^{2+} .

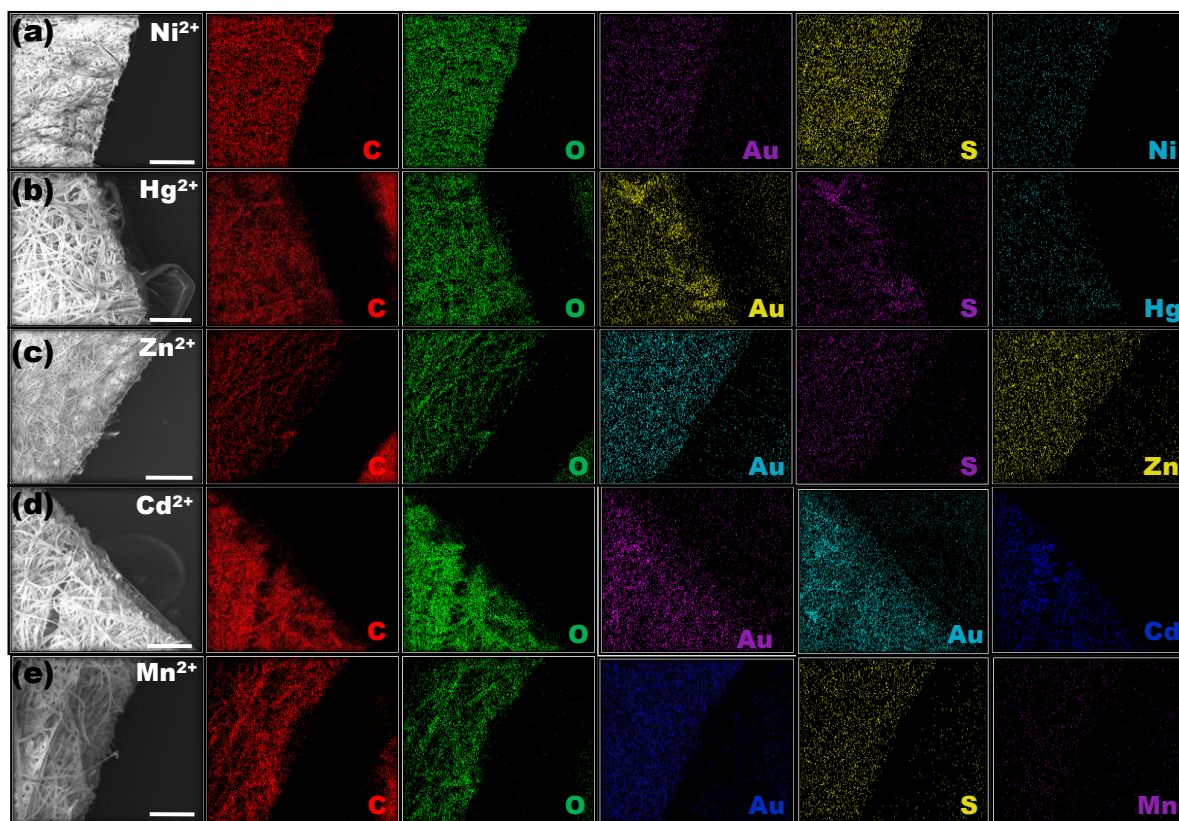


Fig. S7 SEM image of pCAFm/AuNC after adsorption of toxic metal ions and corresponding elemental mapping of C, O, Au, S and respective adsorbed pollutants (scale bar represents 50 μm). (a) Ni^{2+} (b) Hg^{2+} (c) Zn^{2+} (d) Cd^{2+} and (e) Mn^{2+} .