

## Fabrication and characterization of xanthan gum nanofibers reinforced with thiosemicarbazide: adsorption of $Pb^{2+}$ from aqueous medium

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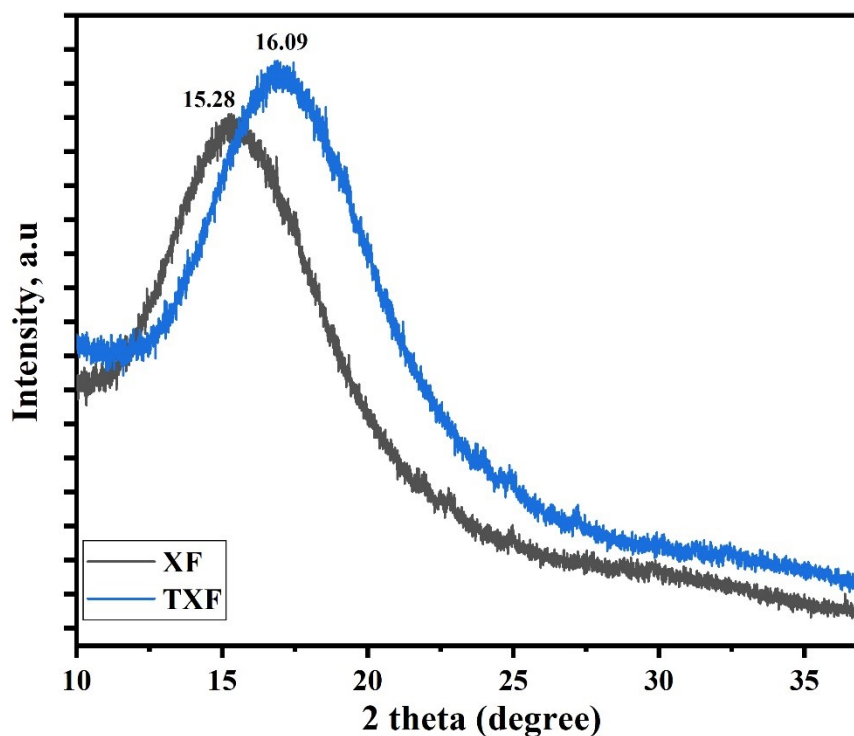
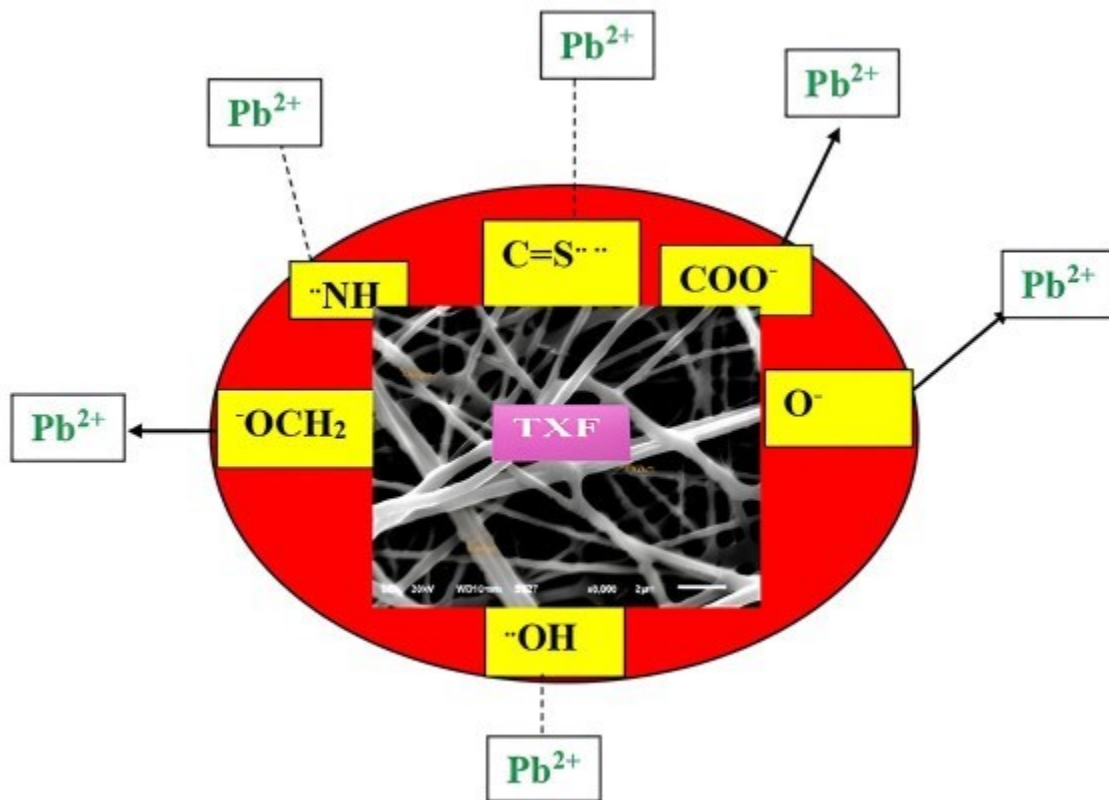


Fig. S1: X-ray diffraction patterns for XF and TXF.

## Mechanism of $\text{Pb}^{2+}$ adsorption onto XFT surface

The possible lead ions adsorption mechanism onto TXF nanofibers is shown in Fig. S2. The surface functional groups of the TXF composite, including C=S, -OH, O<sup>-</sup>, -NH, and COO<sup>-</sup> groups, interacted with  $\text{Pb}^{2+}$  through surface complexation and electrostatic interactions. Electrostatic attraction was the result of interactions between  $\text{Pb}^{2+}$  and the active functional groups on TXF surface.<sup>1</sup>



**Fig. S2:** Possible mechanism of  $\text{Pb}^{2+}$  adsorption onto TXF.

## References

- 1 H. Wang, S. Wang, S. Wang, L. Fu and L. Zhang, *J. Environ. Chem. Eng.*, 2023, 11, 109335.