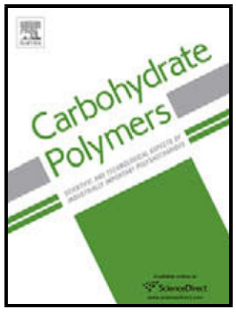

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Fabrication of novel metal ion imprinted Xanthan Gum-Layered double hydroxide nanocomposite for adsorption of Rare Earth Elements

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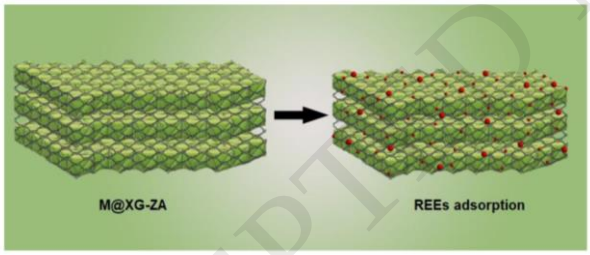
Graphical abstract



Highlights

- Bifunctional Zr@XG-ZA was synthesized by encapsulation and anchoring method
- Incorporation of ZA and anchoring of Zr was evidenced by TEM, SEM–EDX, FTIR studies
- Adsorption of REEs on Zr@XG-ZA in multicomponent system was higher than single system
- REE doped nanocomposite was efficient enough to use as photocatalyst for tetracycline