

Preparation of magnetic  $\text{MnFe}_2\text{O}_4$  nanoparticles for efficient recovery of platinum with easy separation

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In this study, the magnetic  $\text{MnFe}_2\text{O}_4$  nanoparticles were successfully fabricated, and entrapped in the gel mixture of amine-rich chitosan and polyethyleneimine. The resulting magnetic adsorbent was used for adsorptive recovery of platinum from acidic solution. The maximum platinum ion uptake by the developed adsorbents was estimated to be  $371.4 \pm 16.8$  mg/g. Moreover, the platinum-loaded magnetic adsorbents were easily separated from aqueous solution under external magnetic field after sorption process.