

# Supplementary Materials: Enhanced adsorptive removal of $\beta$ -estradiol from aqueous and wastewater samples by magnetic nano-akaganeite: Adsorption isotherms, kinetics, and mechanism

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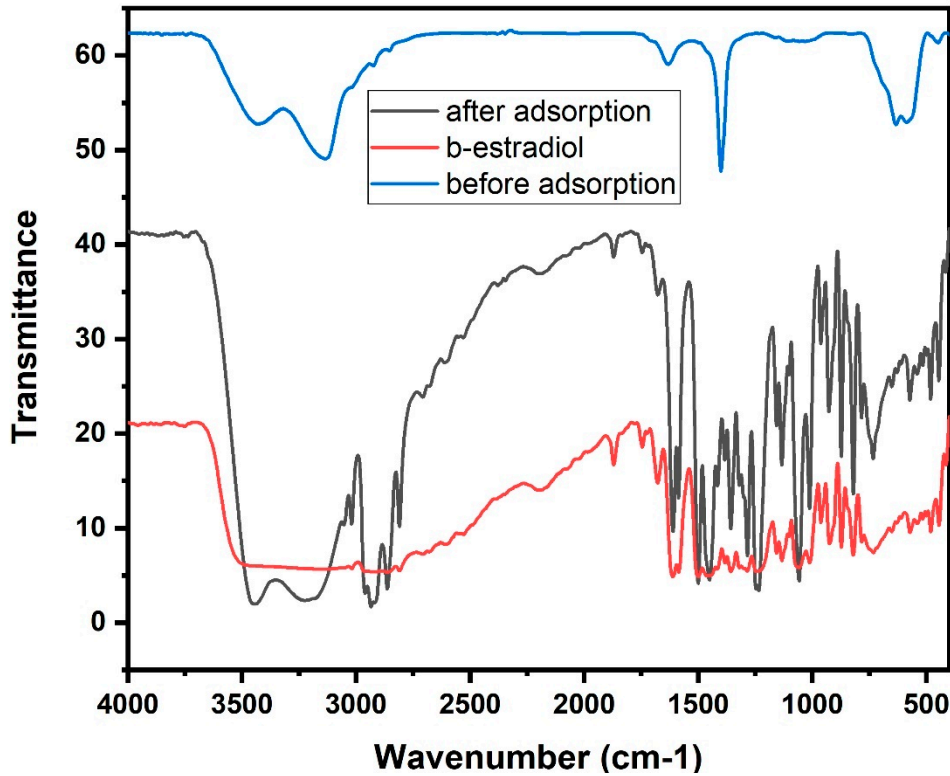
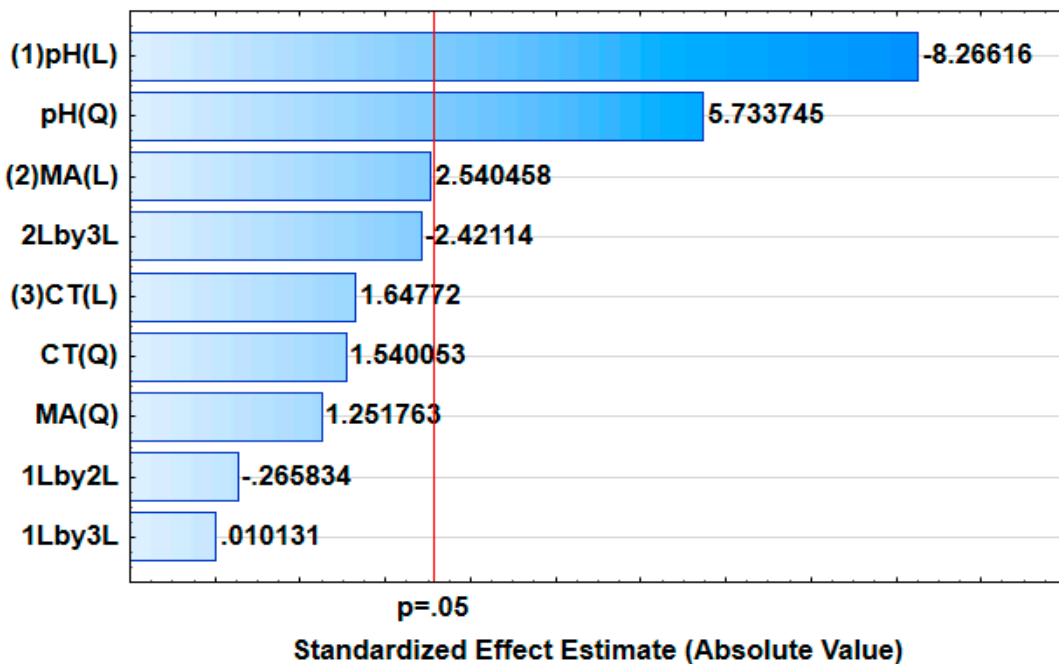
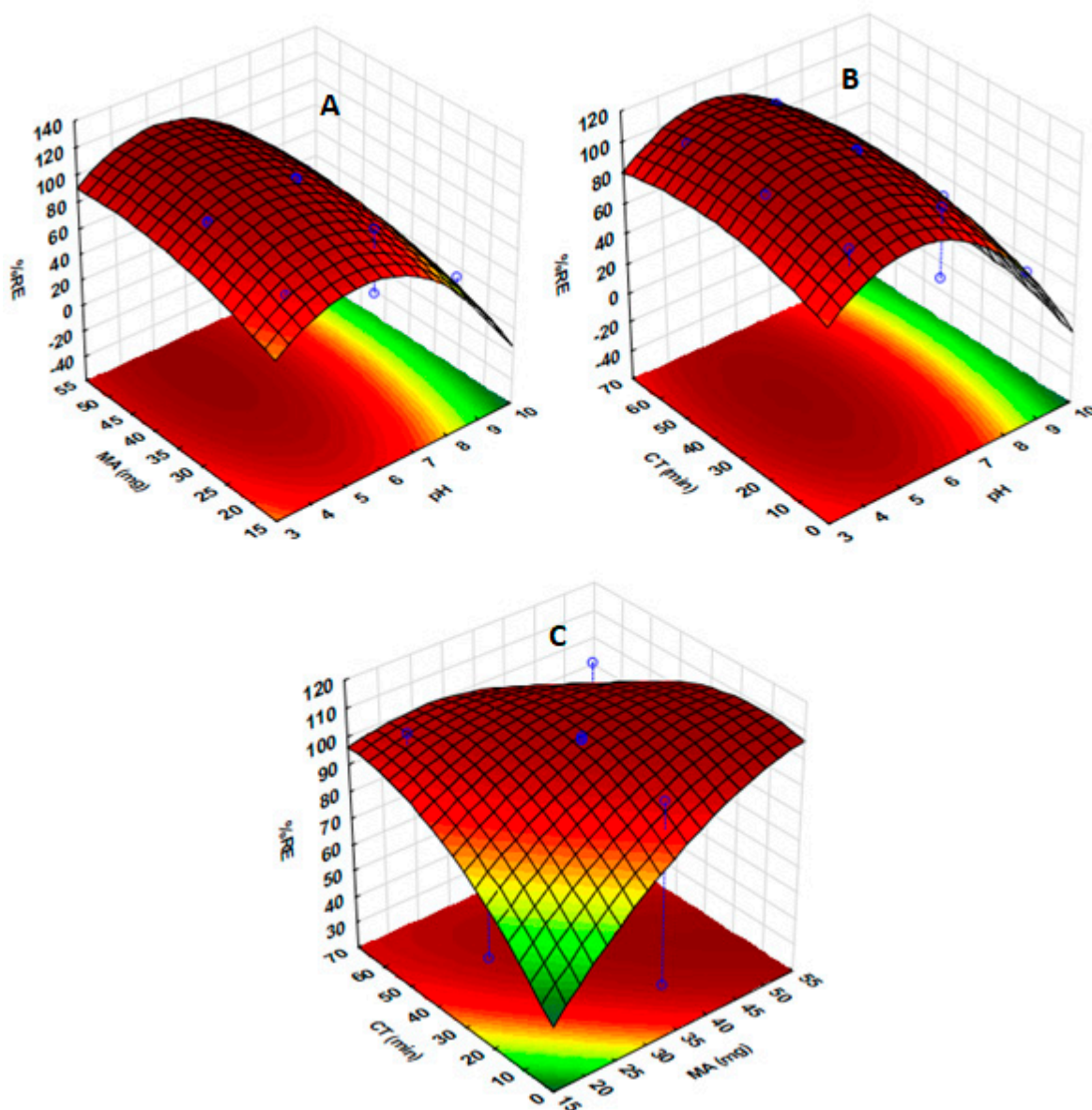


Figure S1. FTIR of akaganeite after adsorption.



**Figure S2.** Pareto chart of the standardized relevance of the individual variables affecting the adsorbing performance of the synthesized materials. The red line indicates the 95% confidence interval. The linear interactions of these factors are: 1Lby2L (pH-MA interaction), 2Lby3L (MA-CT interaction) and 1Lby3L (pH-CT interaction).



**Figure S3.** Response surface plots showing the interaction effects of the main parameters pH, adsorbent material mass (MA), and contact time (CT).

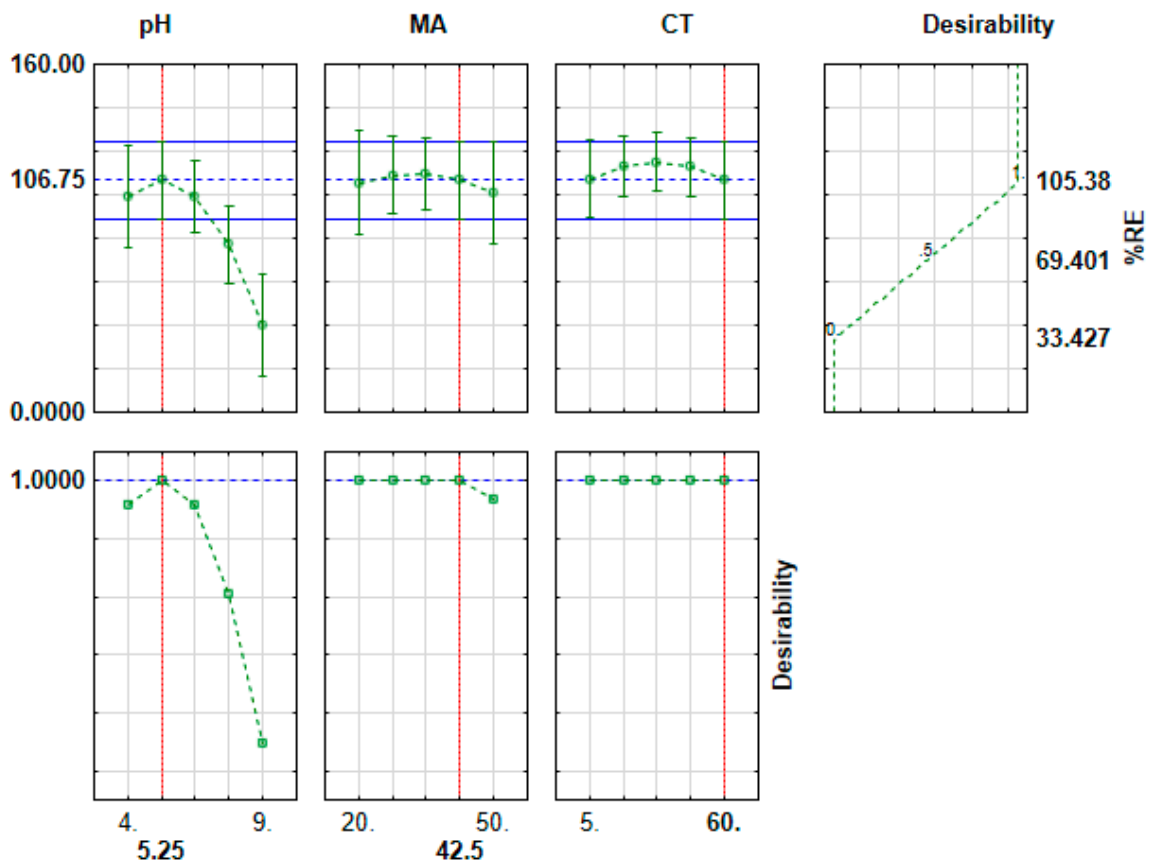


Figure S4. Desirability function for the main parameters pH, adsorbent material mass (MA), and contact time (CT).

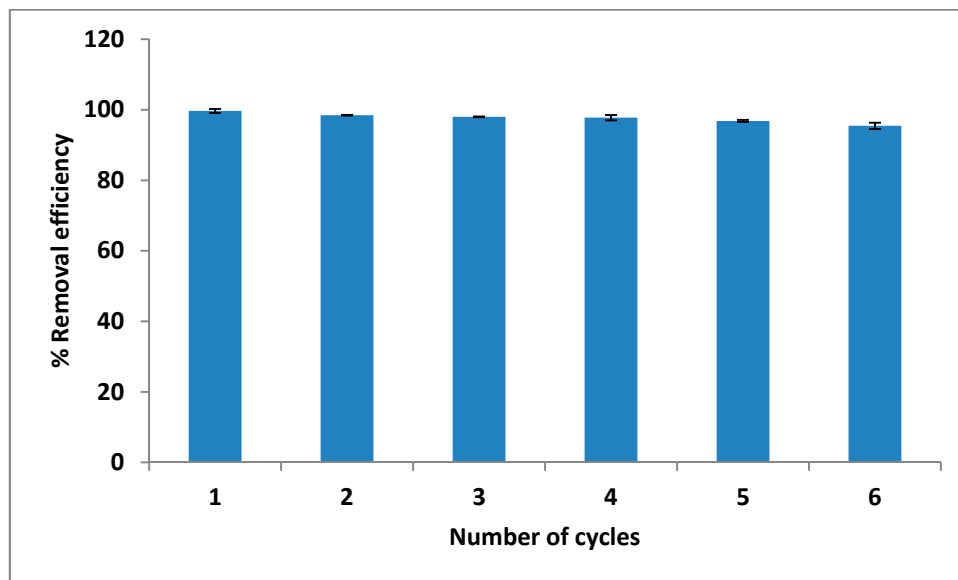


Figure S5. Regeneration studies.