Supporting information

Citrate-stabilized amorphous calcium phosphate nanoparticles as an effective adsorbent for defluorination

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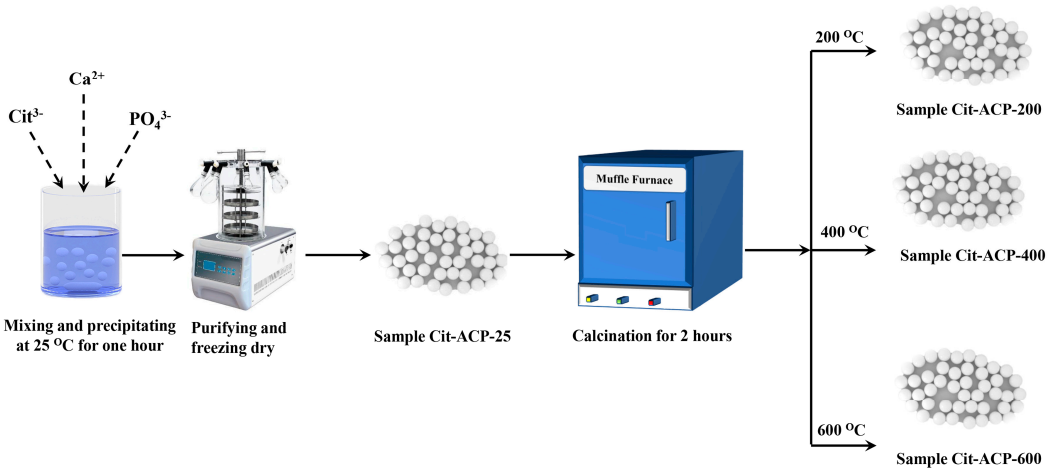


Figure S1. Schematic illustration of samples preparation.

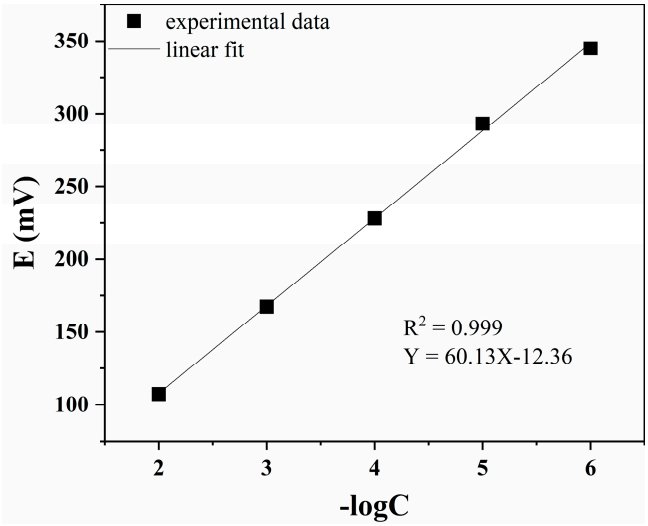


Figure S2. Standard curve of linear relationship between fluoride ion standard concentration and electrode potential, (pH = 7.0, Y = 60.13X – 12.36, R^2 = 0.999).

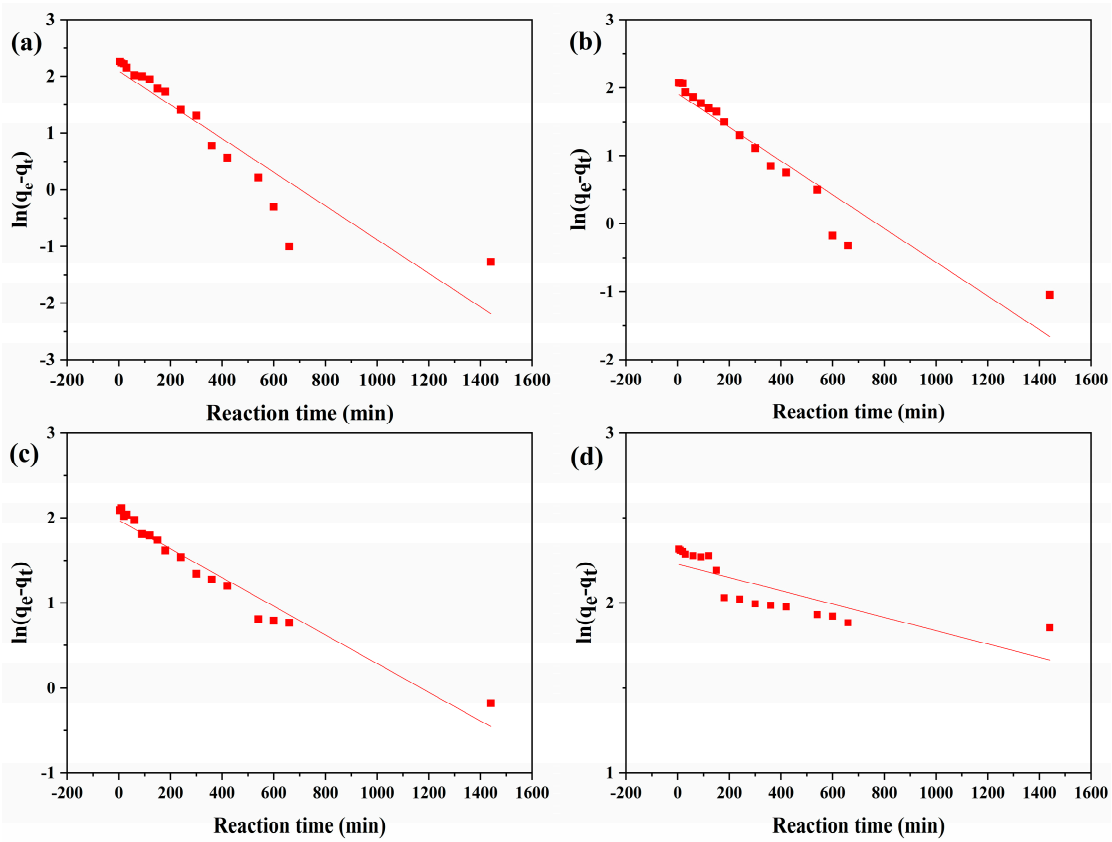


Figure S3. The pseudo-first-order kinetic plots for the adsorption of fluoride ions on the prepared samples, (a) Cit-ACP-25, (b) Cit-ACP-200, (c) Cit-ACP-400, (d) Cit-ACP-600. (adsorbent dose: 1.0 g/L, temperature:25^{o}C, pH:7.0)

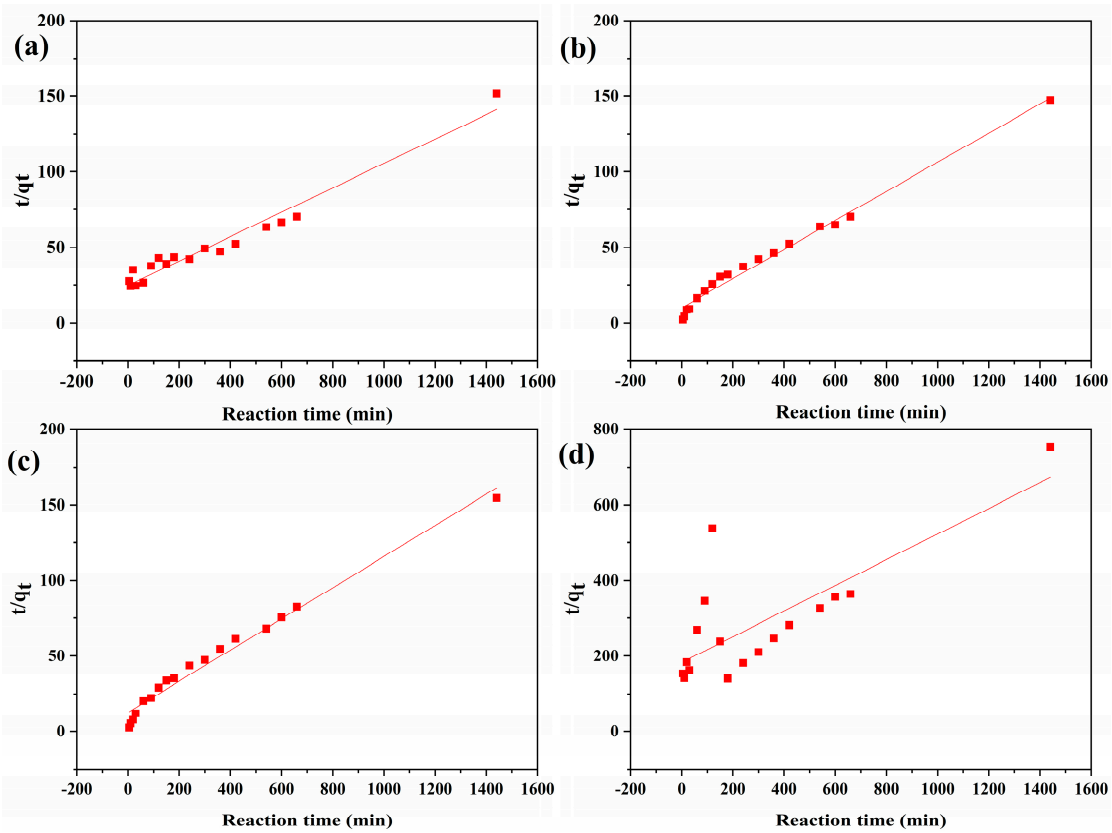


Figure S4. The pseudo-second-order kinetic plots for the adsorption of fluoride ions on the prepared samples, (a) Cit-ACP-25, (b) Cit-ACP-200, (c) Cit-ACP-400, (d) Cit-ACP-600. (Adsorbent dose: 1.0 g/L, temperature:25°C, pH:7.0)

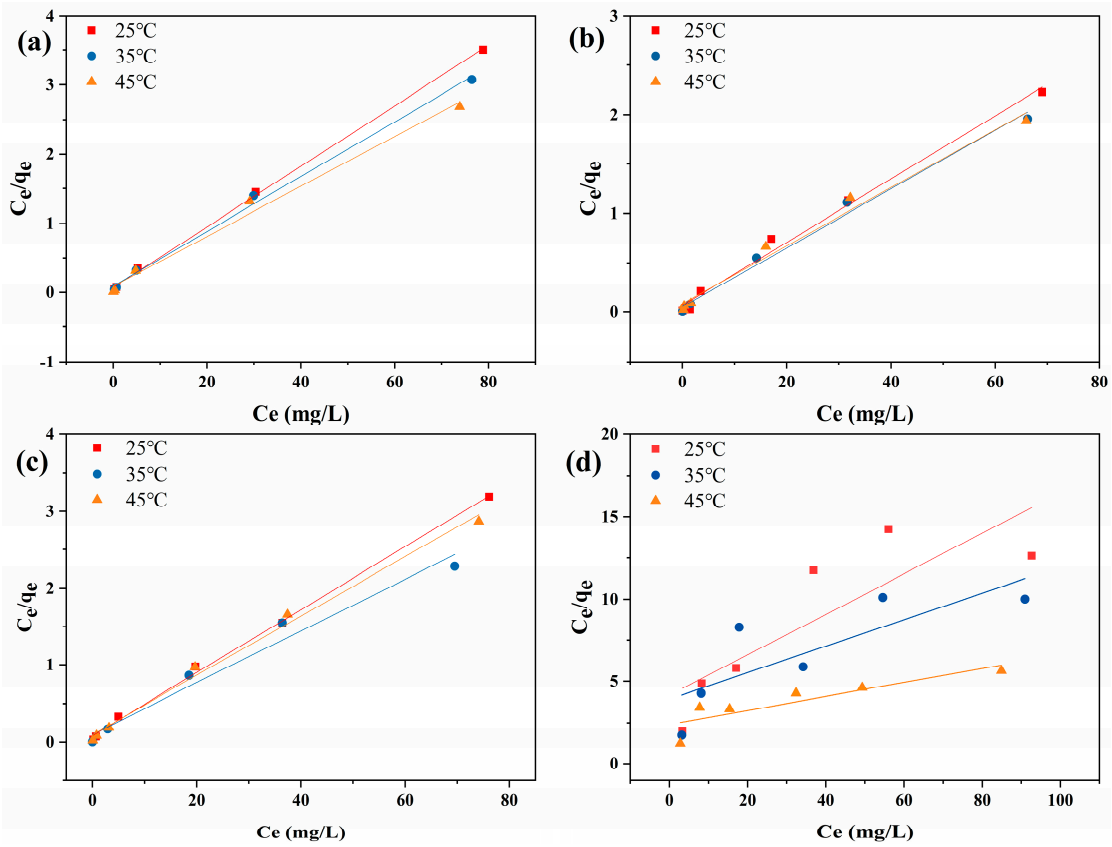


Figure S5. Langmuir isotherm models for fitting of fluoride adsorption on the prepared samples, (a) Cit-ACP-25, (b) Cit-ACP-200, (c) Cit-ACP-400, (d) Cit-ACP-600. (Adsorbent dose: 1.0 g/L, time: 24 h, pH: 7.0)

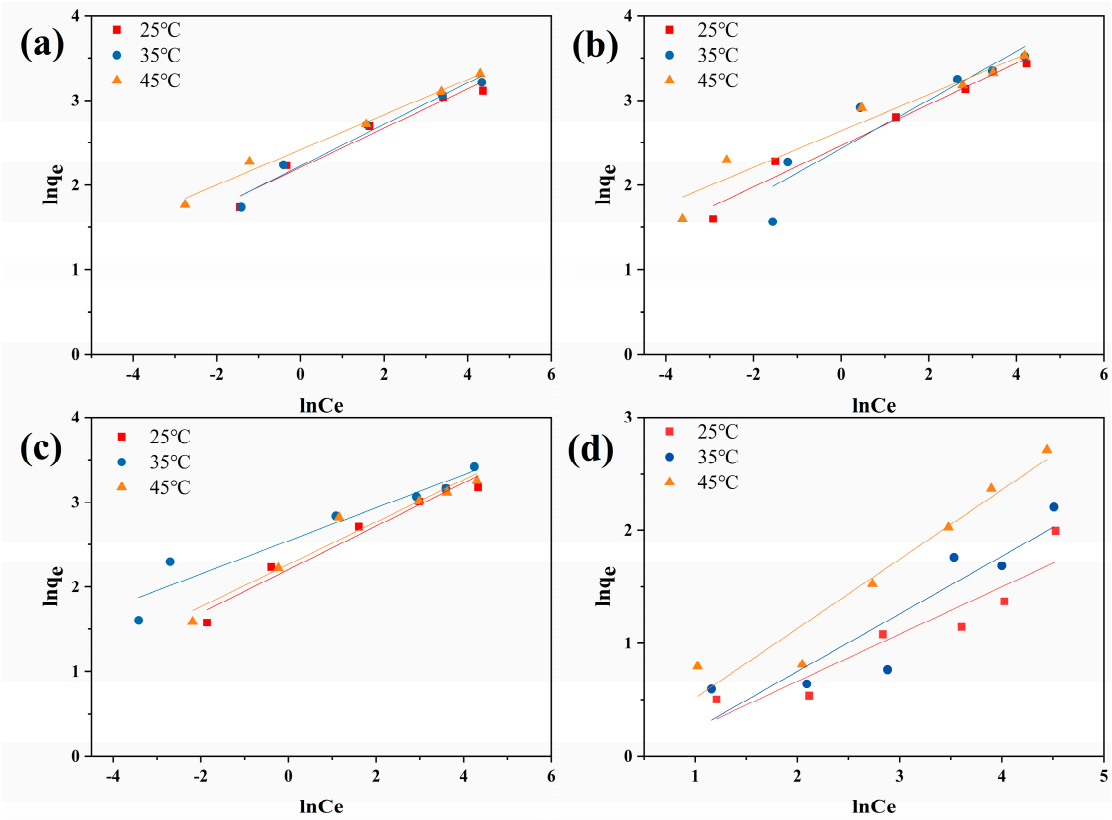


Figure S6. Freundlich isotherm models for fitting of fluoride adsorption on the prepared samples, (a)Cit-ACP-25, (b) Cit-ACP-200, (c) Cit-ACP-400, (d) Cit-ACP-600. (Adsorbent dose: 1.0 g/L, time: 24 h, pH: 7.0)

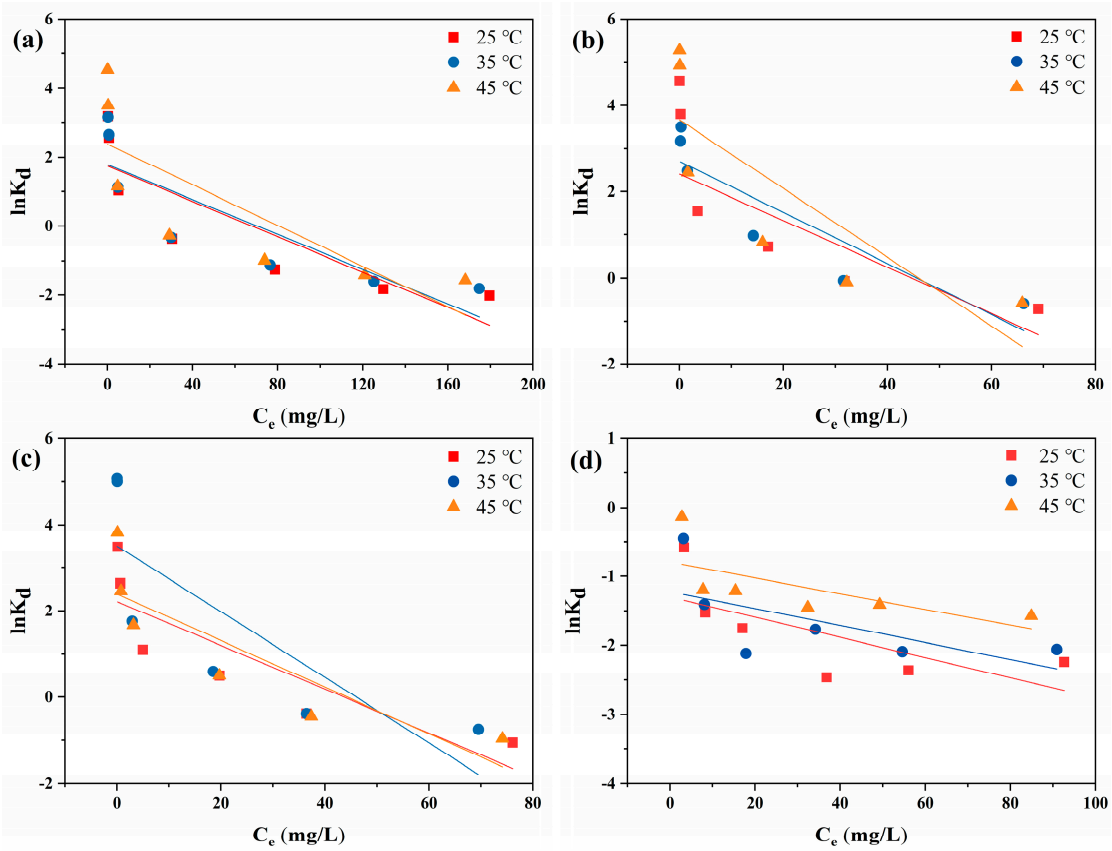


Figure S7. Linear fits of lnKd and Ce for the adsorption of the samples for different fluoride ion concentrations at different temperatures, (a) Cit-ACP-25, (b) Cit-ACP-200, (c) Cit-ACP-400, (d) Cit-ACP-600.

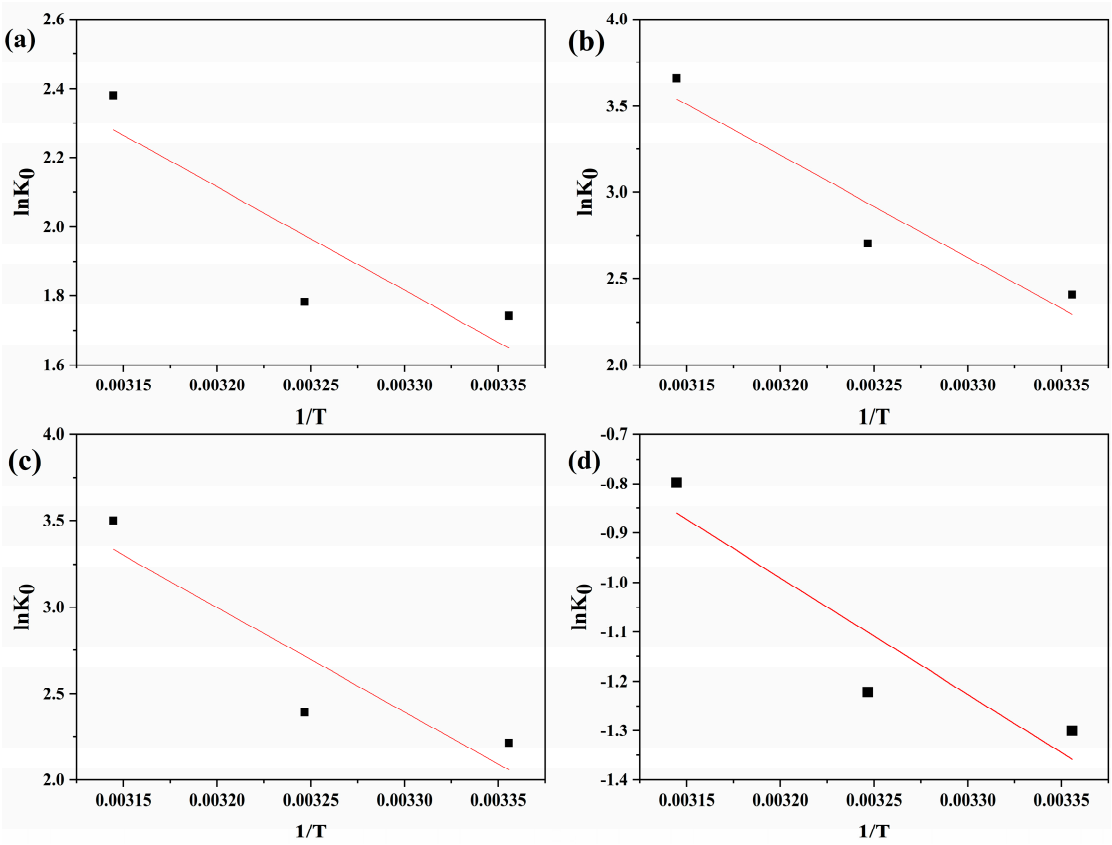


Figure S8. Linear fits of lnK0 and 1/T for the samples, (a) Cit-ACP-25, (b) Cit-ACP-200, (c) Cit-ACP-400, (d) Cit-ACP-600.

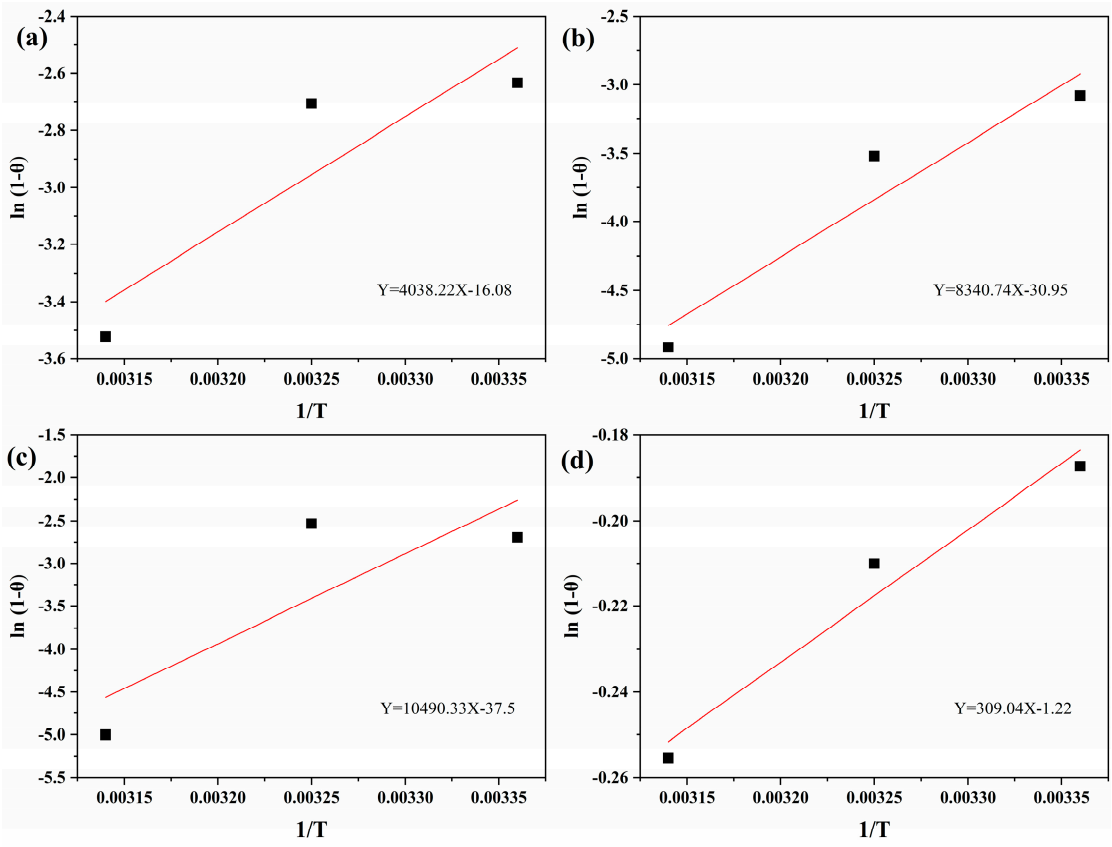


Figure S9. Linear fits of ln(1-θ) and 1/T for the samples, (a) Cit-ACP-25, (b) Cit-ACP-200, (c) Cit-ACP-400, (d) Cit-ACP-600.