

Supplementary material

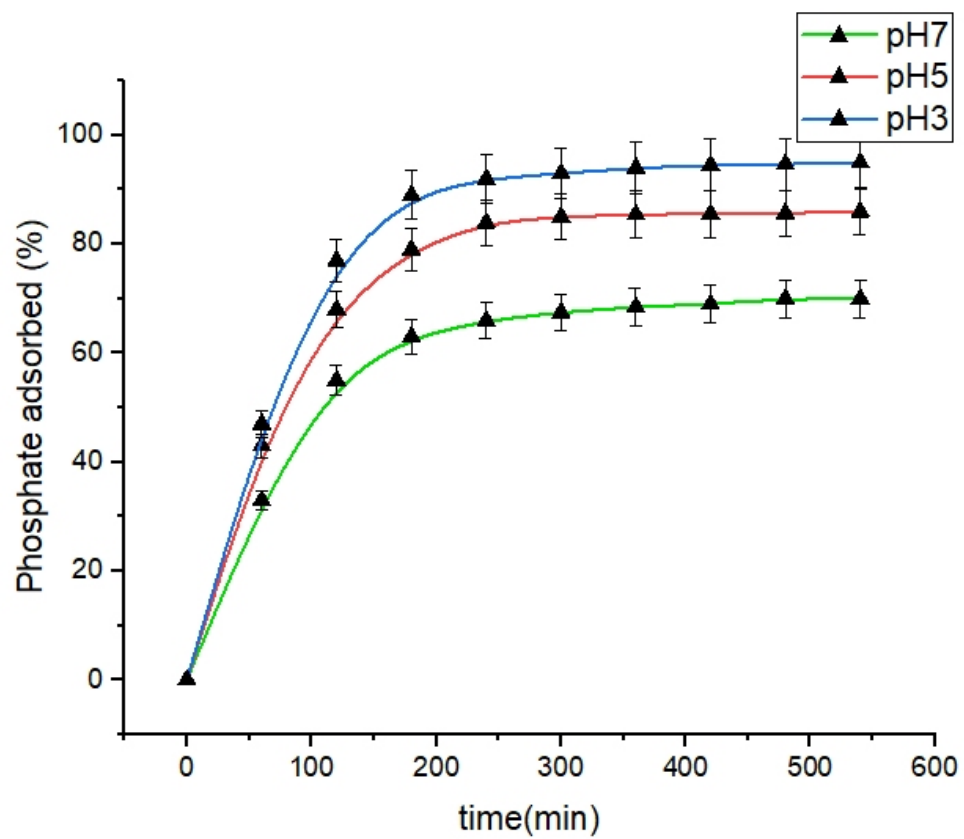


FIGURE S1. Effect of pH on the adsorptive removal of phosphate at an initial concentration of 120 mg/L by pristine activated carbon at a 4 g/L adsorbent dose at 30°C.

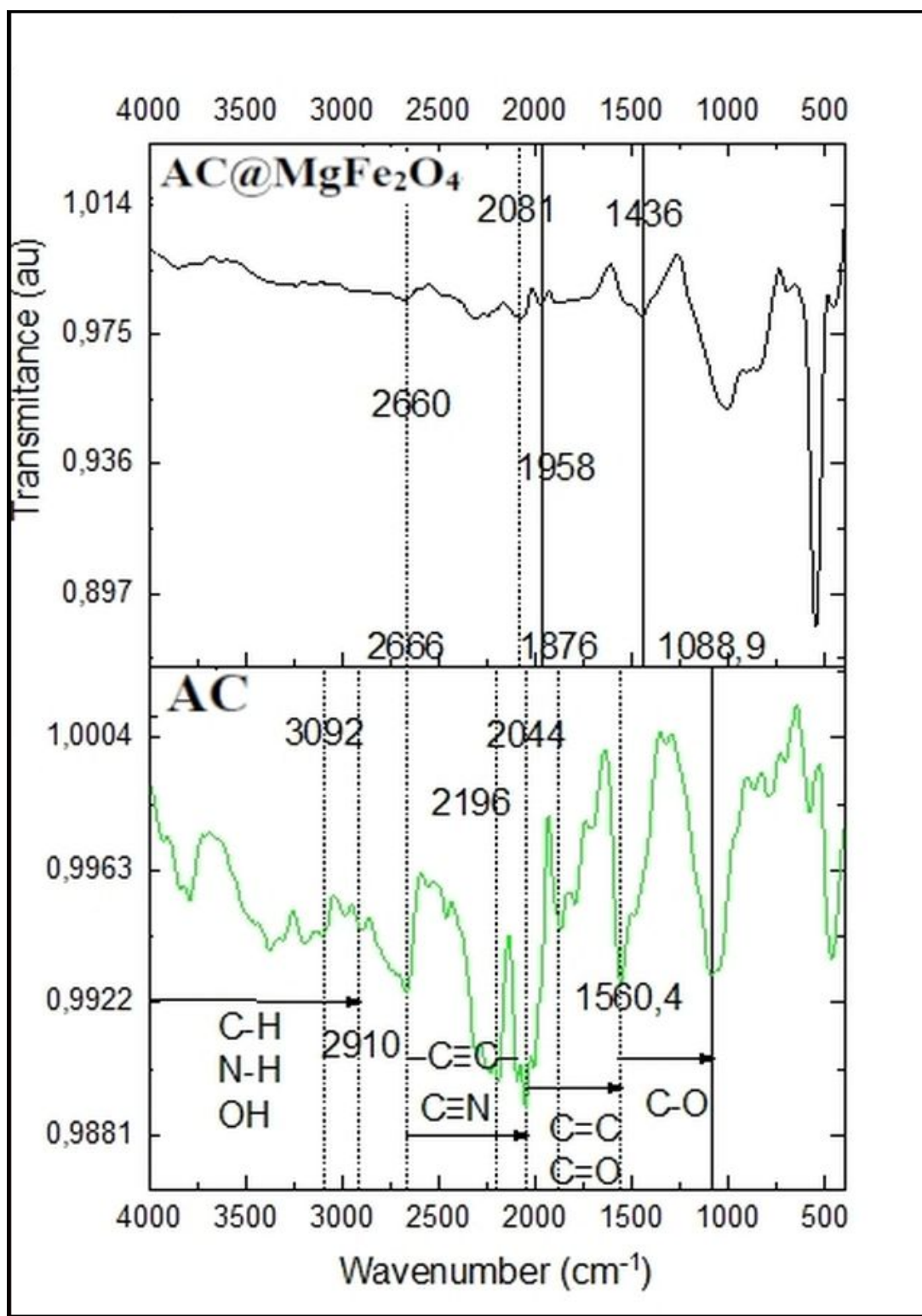


FIGURE S2. FTIR spectra of the pristine activated carbon (AC) and the AC@MgFe₂O₄-LDH nanocomposite adsorbent.

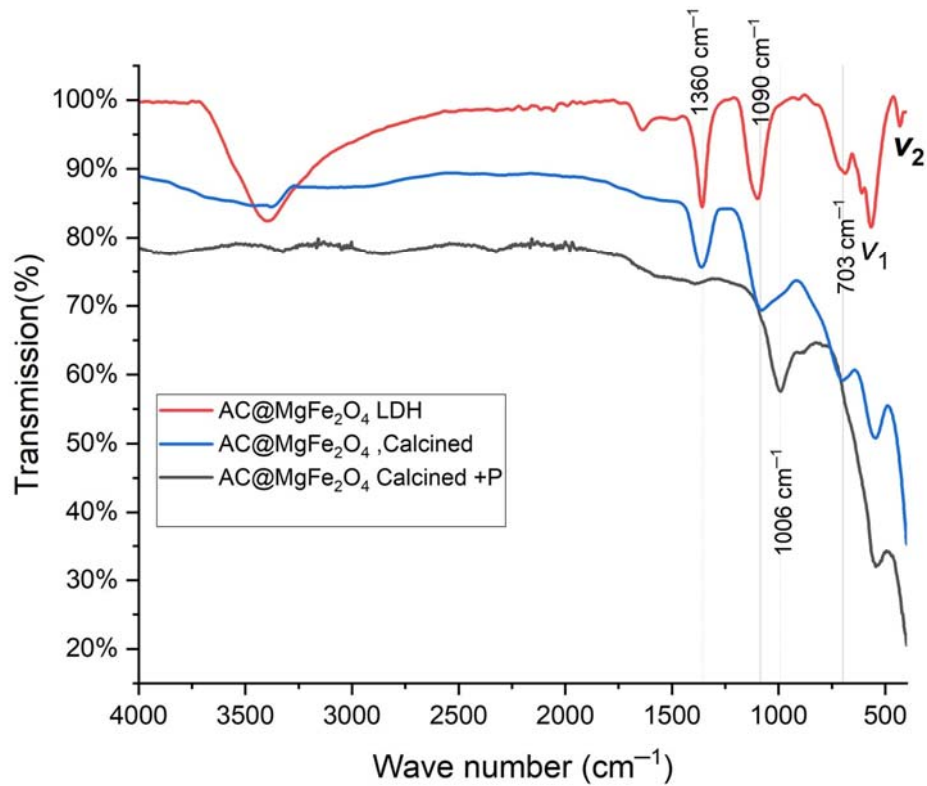


FIGURE S3. FTIR spectra of AC@MgFe₂O₄-LDH adsorbent and the calcined AC@MgFe₂O₄ LDO before and after phosphate adsorption.

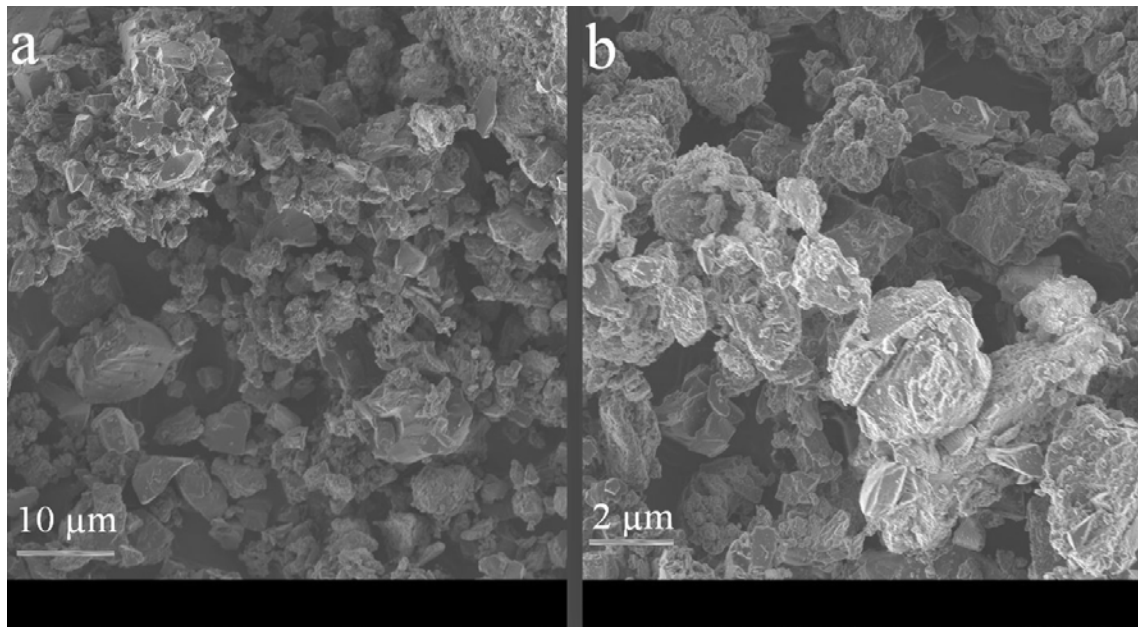


FIGURE S4. SEM morphological study of the AC@MgFe₂O₄-LDO nanocomposite adsorbent after adsorption, regeneration, and calcination at 600°C at different magnifications.