

Supplementary Materials

Magnetic polypyrrole-gelatin-barium ferrite cryogel as an adsorbent for chromium (VI) removal

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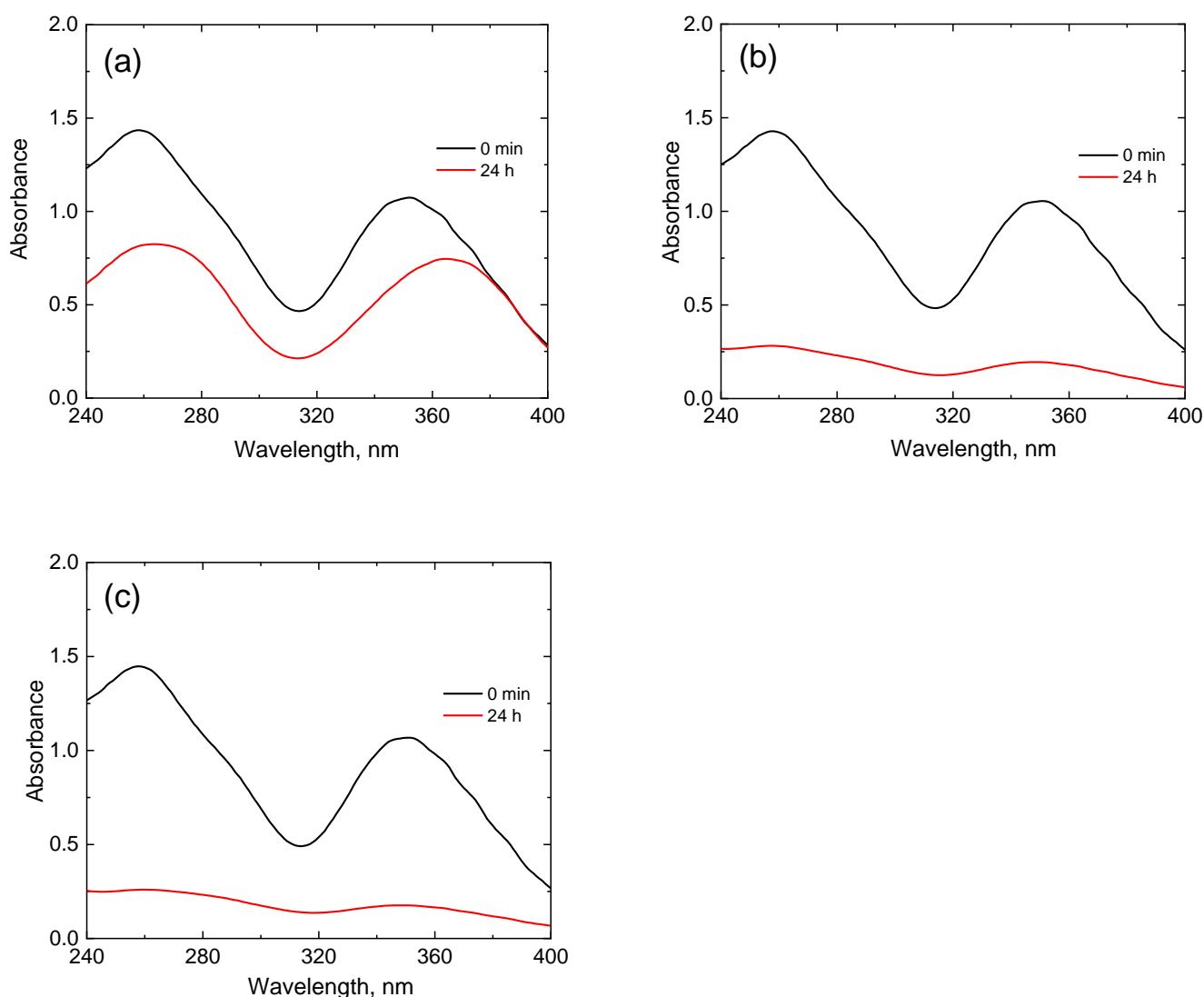


Figure S1. Evolution of UV-vis spectra of Cr(VI) solution (35 mg L^{-1} , 20 mL, 5 mg aerogel) over time in contact with PPy-G aerogel at (a) pH 6, (b) pH 4 and (c) pH 2.

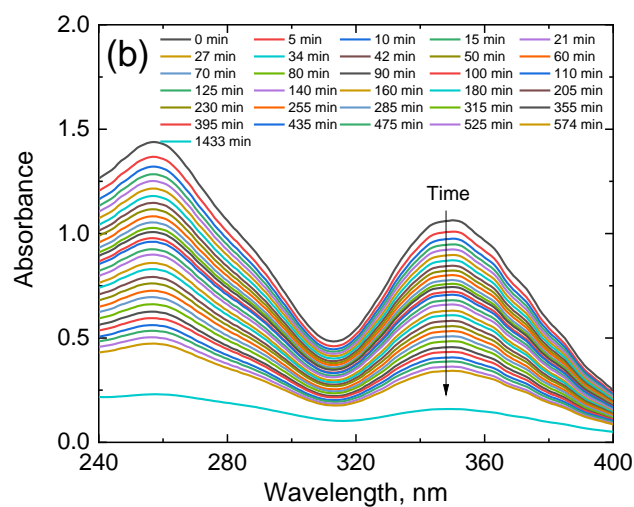
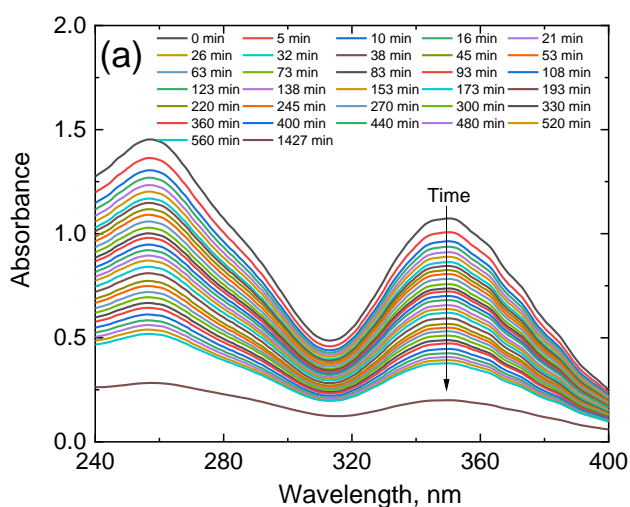
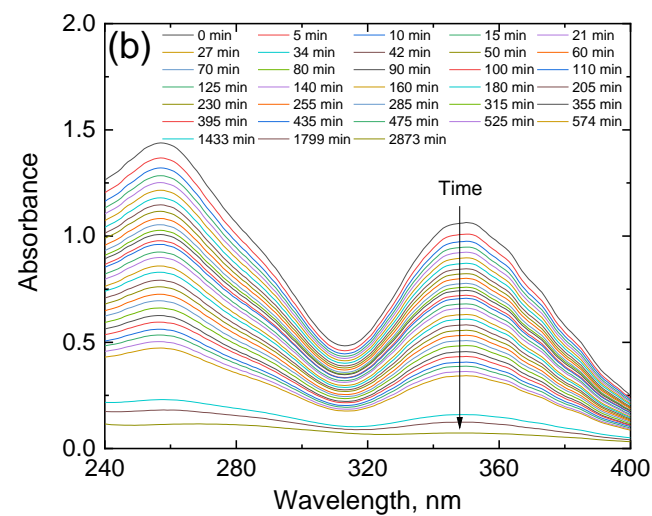
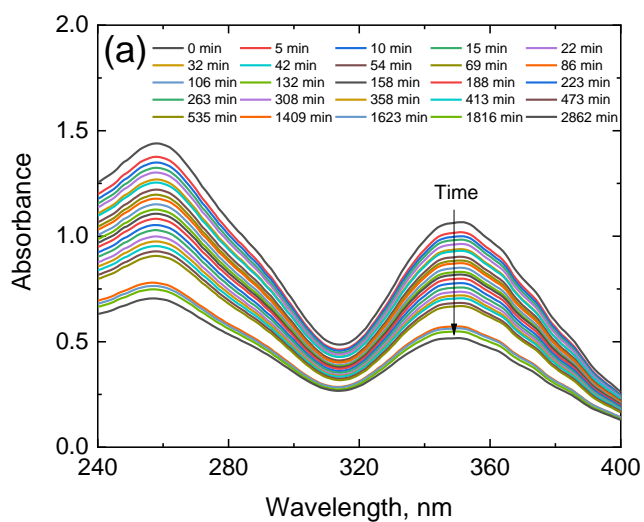


Figure S2. Evolution of UV-vis spectra of Cr(VI) solutions (35 mg L^{-1} , 20 mL , $\text{pH } 4$, 5 mg aerogel) over time in the presence of (a) PPy-G and (b) PPy-G-BaFe aerogels.



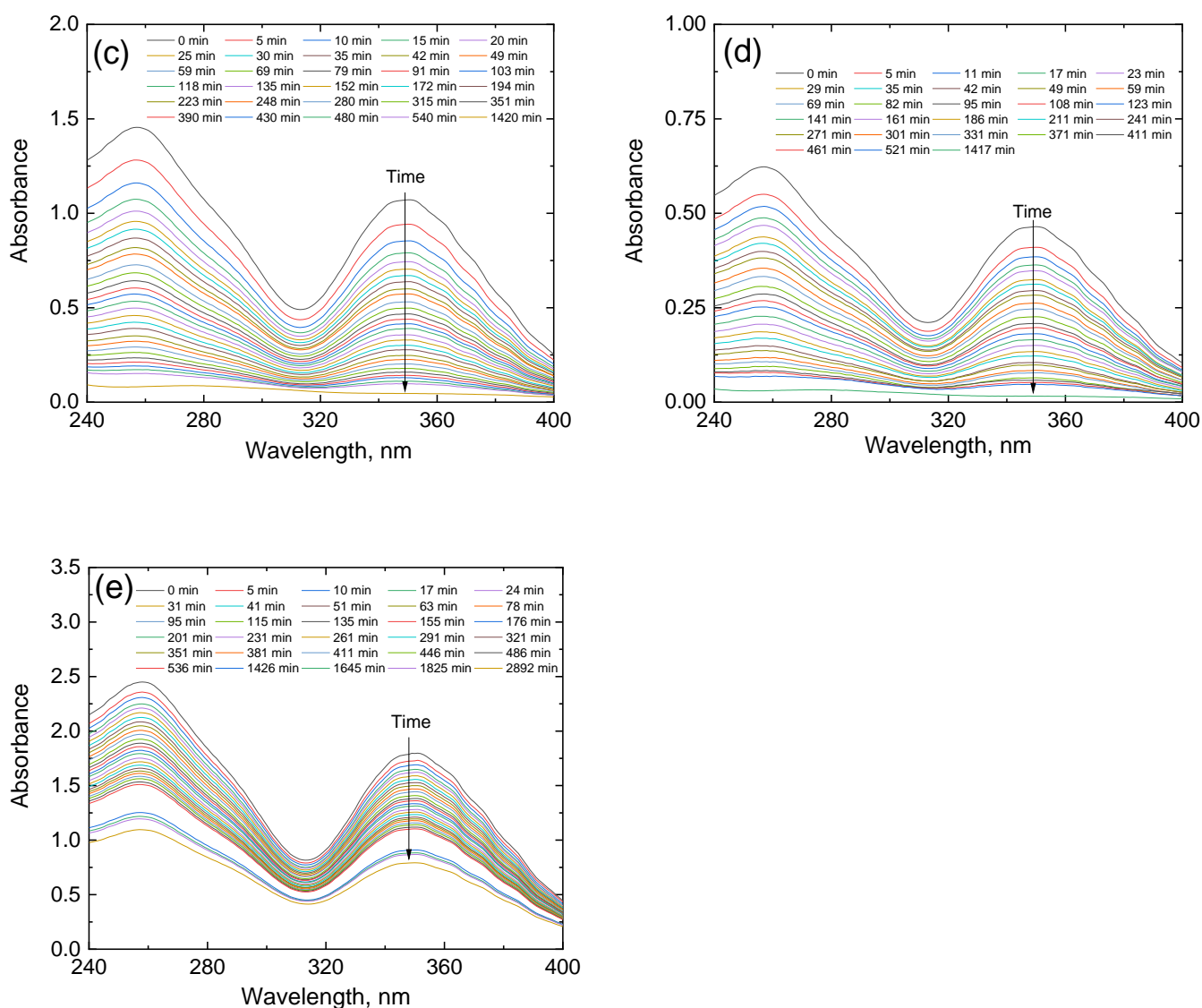


Figure S3. Evolution of UV-vis spectra of Cr(VI) solutions (20 mL, pH 4) over time in the presence of PPy-G-BaFe aerogel at various masses of adsorbent (Cr (VI) 35 mg L⁻¹) (a) 2.5 mg, (b) 5 mg, (c) 10 mg and at various initial Cr(VI) concentrations (5 mg aerogel) (d) 15 mg L⁻¹ and (e) 60 mg L⁻¹.

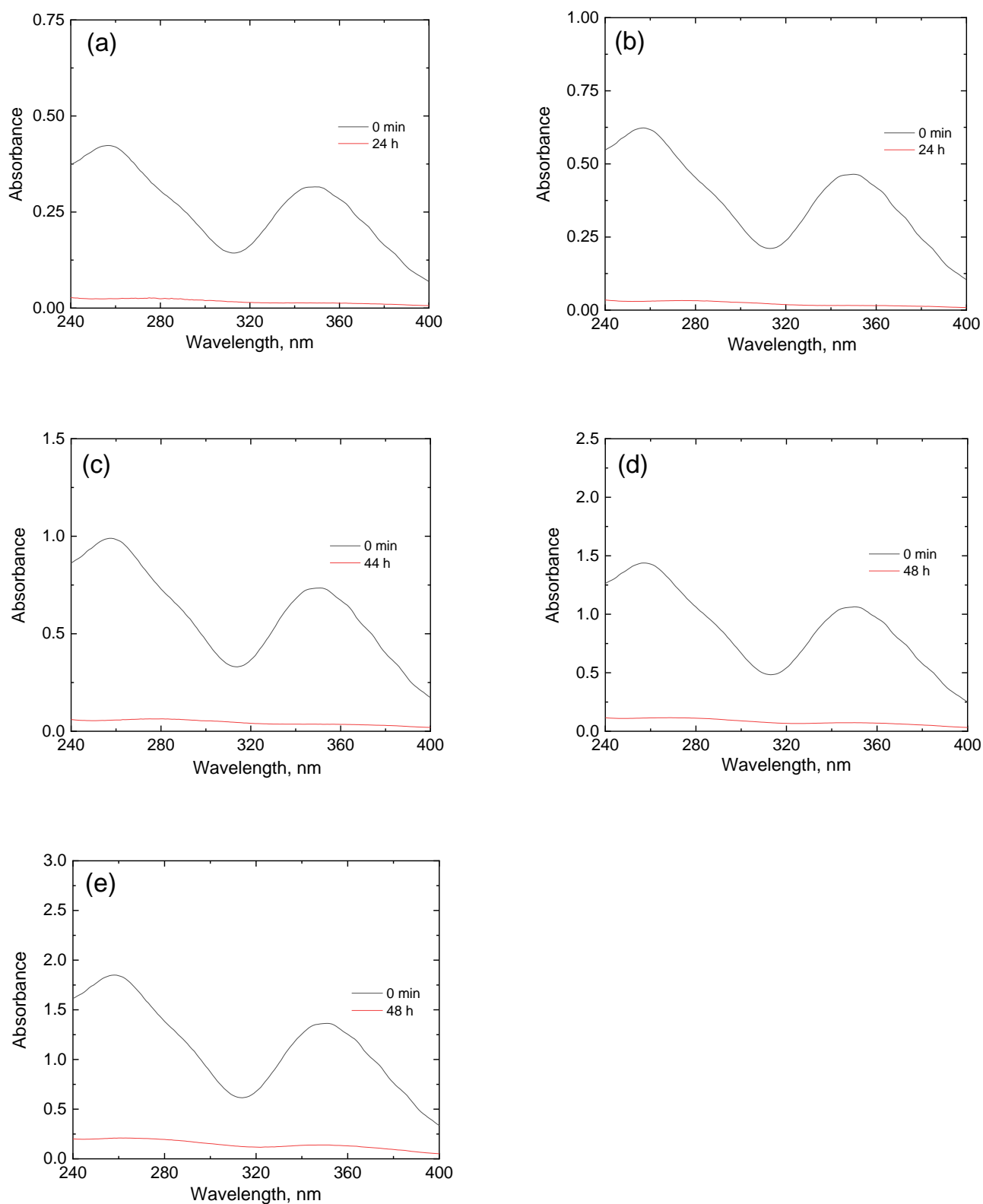
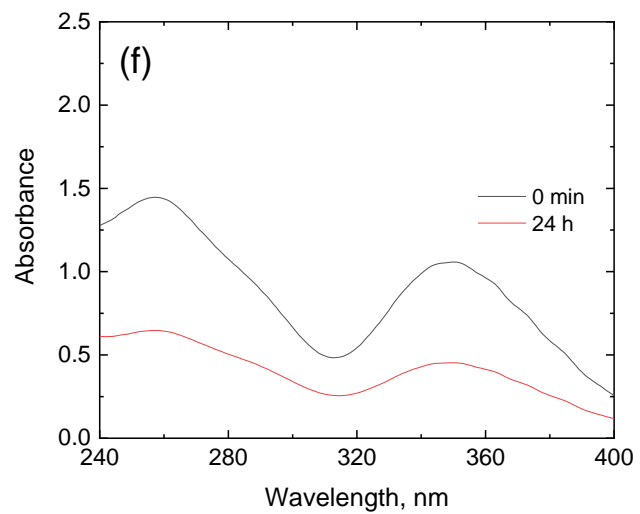
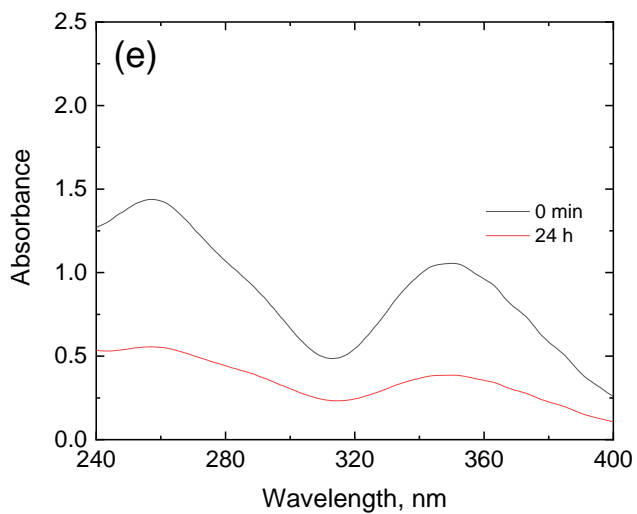
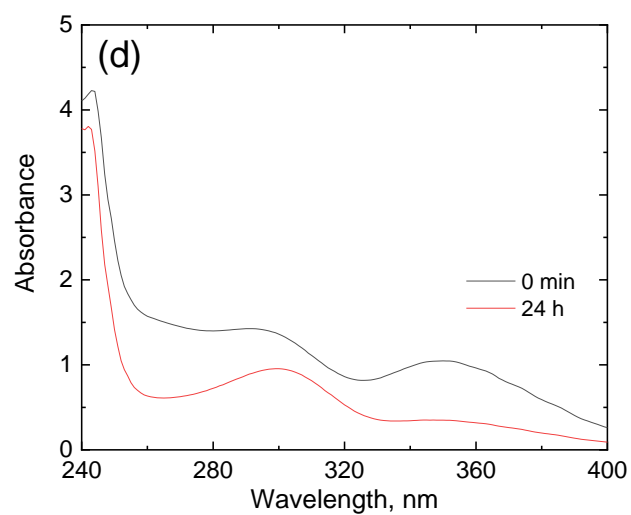
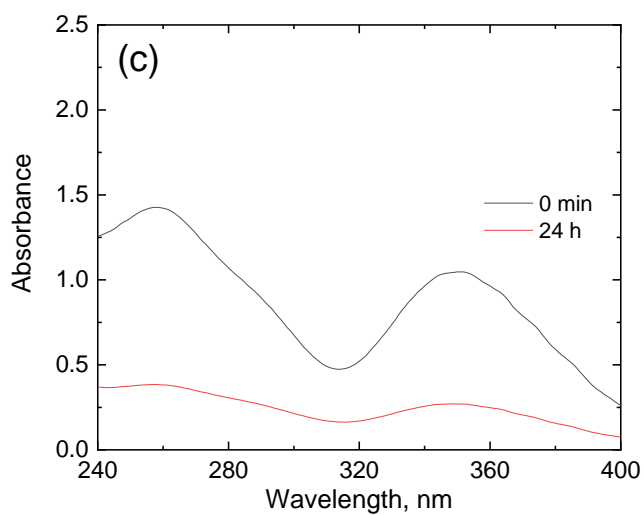
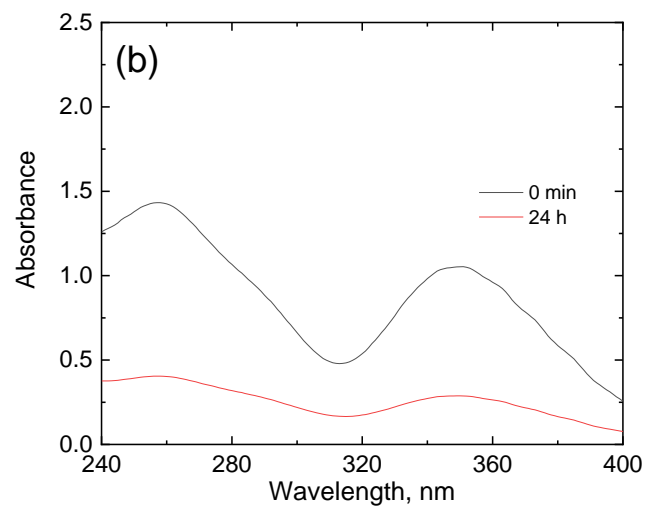
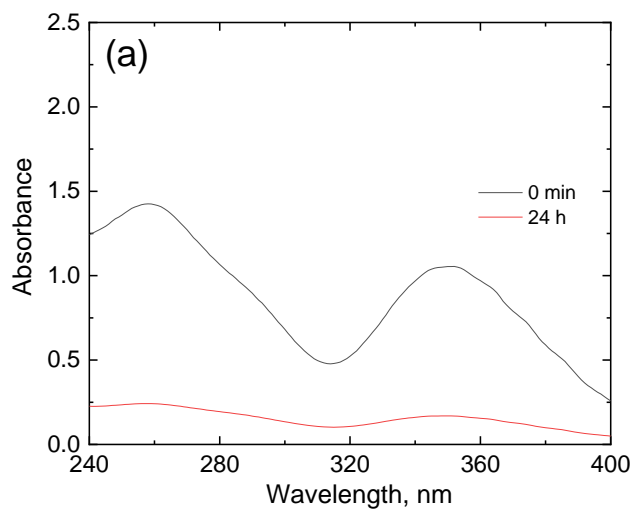


Figure S4. Initial and equilibrium UV-vis spectra of Cr(VI) solutions (20 mL, pH 4, 5 mg aerogel) in the presence of PPy-G-BaFe aerogel at various initial Cr(VI) concentrations (a) 10 mg L⁻¹, (b) 15 mg L⁻¹, (c) 25 mg L⁻¹, (d) 35 mg L⁻¹ and (e) 45 mg L⁻¹.



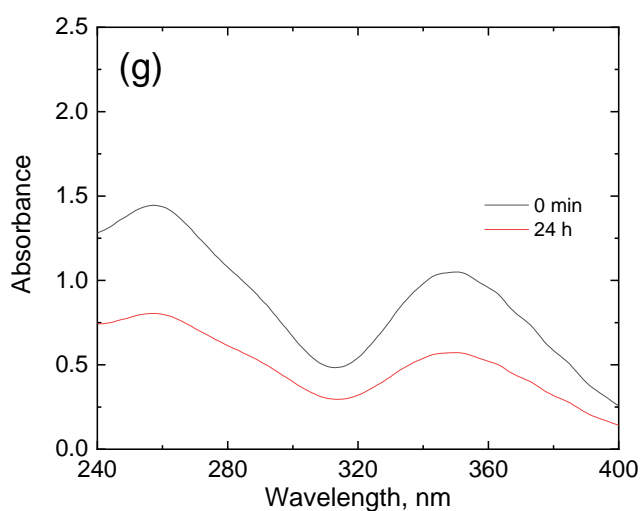


Figure S5. Evolution of UV-vis spectra of Cr(VI) solution (35 mg L^{-1} , 20 mL , $\text{pH } 4$, 5 mg aerogel) over time in contact with PPy-G-BaFe aerogel (a) without interference and in the presence of (b) 0.1 M NaCl , (c) 0.1 M NaBr , (d) 0.1 M KNO_3 , (e) $0.033 \text{ M Na}_2\text{SO}_4$, (f) $0.05 \text{ M Na}_2\text{SO}_4$ and (g) $0.1 \text{ M Na}_2\text{SO}_4$.

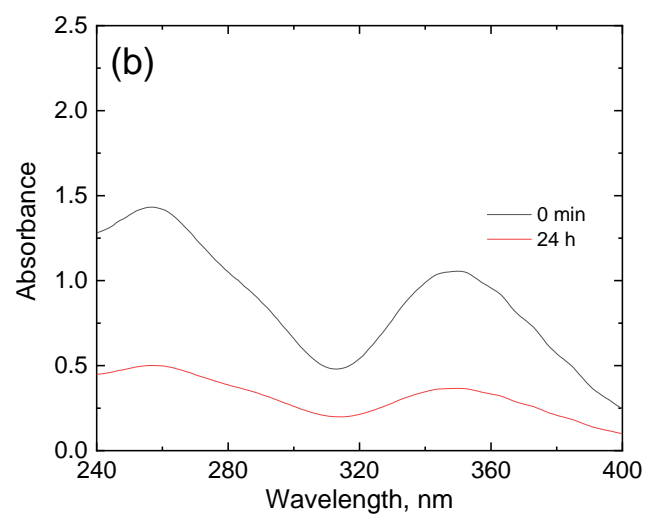
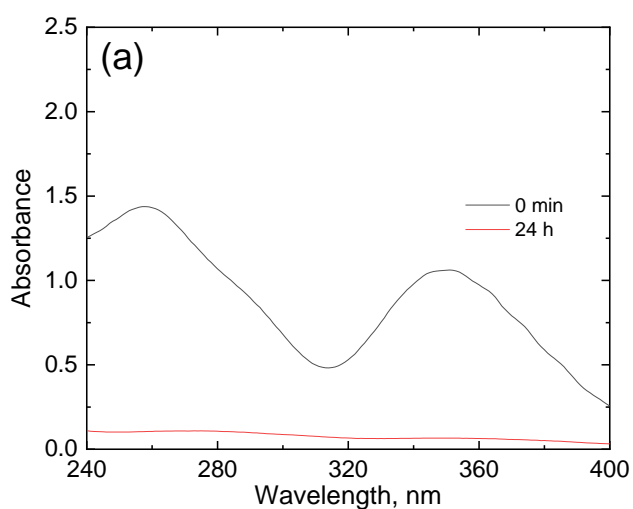


Figure S6. Evolution of UV-vis spectra of Cr(VI) solution (35 mg L^{-1} , 20 mL , $\text{pH } 4$, 5 mg aerogel) over time in the presence of PPy-G-BaFe aerogel at consecutive adsorption-desorption cycles: (a) 1st adsorption cycle and (b) 2nd adsorption cycle.