Table S1 Preliminary Batch Optimization Data for pH Effect on Cr(VI) Adsorption onto Raw *Cordia africana* Sawdust (Mean ± SD, n = 3).

pH	Removal Efficiency (%)	Adsorption Capacity (mg/g)
2.0	81.2 ± 2.0	1.91 ± 0.05
2.5	82.5 ± 1.8	1.94 ± 0.04
3.0	83.1 ± 1.6	1.95 ± 0.04
3.5	83.8 ± 1.5	1.97 ± 0.04
4.0	84.2 ± 1.4	1.98 ± 0.03
4.5	84.5 ± 1.3	1.99 ± 0.03
5.0	84.6 ± 1.2	1.99 ± 0.03
5.5	**84.6 ± 1.2**	**1.99 ± 0.04**
6.0	83.2 ± 1.4	1.96 ± 0.03
6.5	79.8 ± 1.6	1.88 ± 0.04
7.0	74.5 ± 1.8	1.75 ± 0.04
7.5	67.2 ± 2.0	1.58 ± 0.05
8.0	58.4 ± 2.2	1.37 ± 0.05

Conditions: Adsorbent dose = 1 g, Solution volume = 50 mL, Cr(VI) concentration = 47 mg/L, Contact time = 24 hours, Temperature = 25°C, Shaking speed = 150 rpm. One-way ANOVA: $F(6,14) = 32.4$, $p < 0.001$.

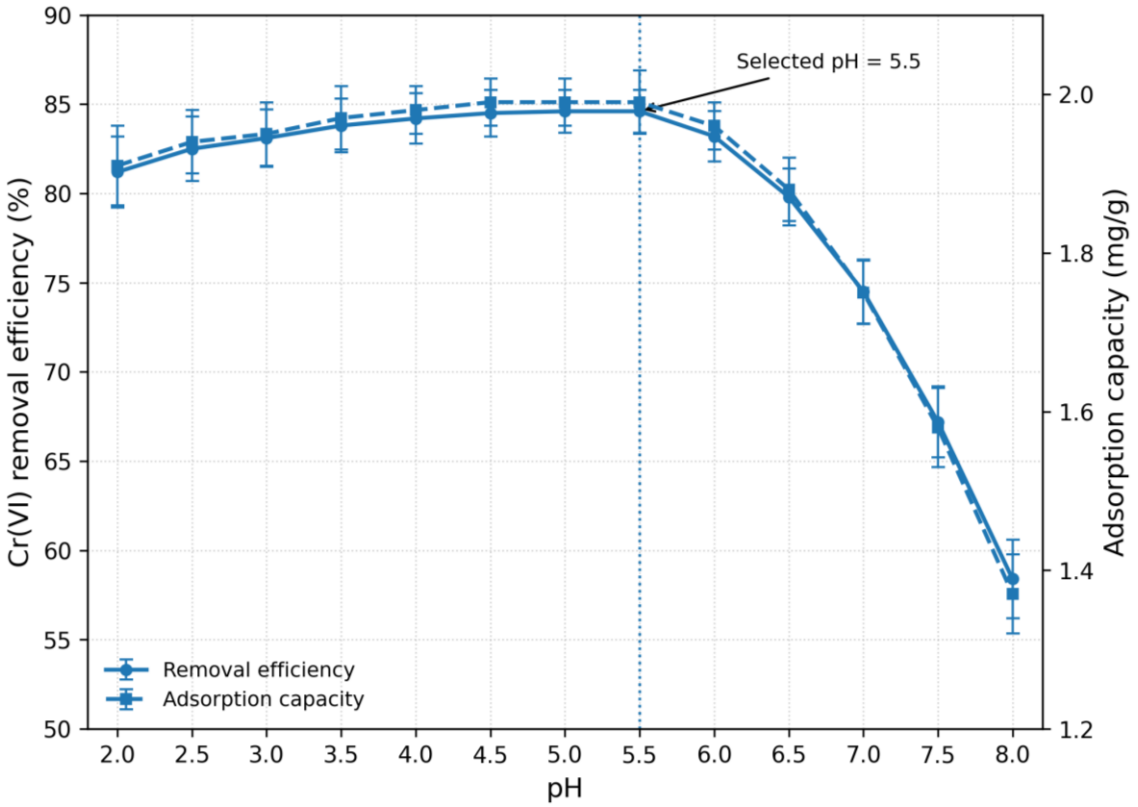

Figure S1 Effect of solution pH on Cr(VI) removal efficiency and adsorption capacity of raw *Cordia africana* sawdust. Error bars represent the standard deviation of triplicate measurements (mean ± SD, *n* = 3). Experimental conditions: adsorbent dose = 1 g, solution volume = 50 mL, initial Cr(VI) concentration = 47 mg/L, contact time = 24 h, temperature = 25°C, and shaking speed = 150 rpm. The operating pH of 5.5 was selected for the subsequent fixed-bed column experiments based on the observed adsorption performance and operational considerations.