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Supplementary Material

Functionalized Biopolymer for Enhanced Pt(IV) Recovery from Aqueous Solutions

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Table S1. The non-linear equations of the tested isotherms.

Isotherm models	Equation
Langmuir isotherm	$q_e = \frac{q_m \cdot K_L \cdot C_e}{1 + K_L \cdot C_e}$
Freundlich isotherm	$q_e = K_F \cdot C_e^{1/n_F}$
Sips isotherm	$q_e = \frac{Q_{sat} \cdot K_S \cdot C_e^n}{1 + K_S \cdot C_e^n}$

where: q_m and Q_{sat} represents the maximum absorption capacities; K_L, K_F and K_S represents the Langmuir, Freundlich and Sips isotherms constants; $1/n_F$ represents an empirical constant indicating the intensity of adsorption; n represents Sips isotherm exponent.

Table S2. The linear equations of the tested column model.

Column models	Equation
Bohart–Adams model	$\ln\left(\frac{C_t}{C_0}\right) = k_{BA}C_0 t - k_{BA}N_0\frac{Z}{F}$
Thomas model	$\ln\left(\frac{C_0}{C_t} - 1\right) = \frac{k_{Th}q_{Th}m}{Q} - k_{Th}C_0 t$
Clark model	$\ln\left(\left(\frac{C_0}{C_t}\right)^{n-1} - 1\right) = \ln A - rt$

where: C_0 represents the influent concentration; C_t represents the effluent concentration; t represents time; k_{BA} represents the kinetic constant of the Bohart-Adam model; F represents the linear velocity calculated by dividing the flow rate by the column section area; Z represents the bed height of column; N_0 represents the saturation concentration; k_{Th} represents the Thomas rate constant; q_{Th} represents the equilibrium compounds uptake per g of the resin; m represents the mass of adsorbent resin; Q represents he flow rate; n

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represents the Freundlich constant determined experimentally in batch; r represents the Clark model constant; A represents the Clark model constant.