Supporting Information

Insight into the loading and release properties of exfoliated kaolinite/cellulose composite (EXK/CF) as a carrier for Oxaliplatin drug; cytotoxicity and release kinetics

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Content

1. Representative equation of kinetic and equilibrium models

Table S1. the representative equations of the studied kinetic and isotherm model and their parameters

Kinetic models		
Model	**Linear equation**	**Parameters**
Pseudo-first-order	$\ln(q_e - q_t) = \ln\ q_e - k_1 t$	q_t (mg/g) is the adsorbed drug at time (t), and K_1 is the rate constant of the first-order adsorption (min^{-1})
Pseudo-second-order	$\frac{t}{q_t} = \frac{1}{K_2 q_e^2} + \frac{t}{q_e}$	qe is the quantity of adsorbed drug after equilibration (mg/g), and K_2 is Lagergren model rate constant (g/mg min).
Isotherm models		
Model	**Equation**	**Parameters**
Langmuir	$\frac{C_e}{q_e} = \frac{1}{bq_{max}} + \frac{C_e}{q_{max}}$ $(Linear)$ $q_e = \frac{q_{max}\, bC_e}{(1 + bC_e)}$ $(Nonlinar)$	C_e is the rest drug concentrations (mg/L), q_{max} is the theoritical maximum ibuprofen drug capacity (mg/g), and *b* is the Langmuir constant (L/mg)
Freundlich	$Log\ qe = (1/n)\ log\ Ce + log\ K_f$ (*Linear*) $q_e = K_f C_e^{1/n}$ *(Nonlinear)*	K_F is the constant of Freundlich model related to the adsorption capacity and n is the constant of Freundlich model related to the adsorption intensities
Dubinin–Radushkevich	$\ln(qe) = \ln(q_m) - \beta\varepsilon^2$ $(Linear)$ $q_e = q_m e^{-\beta\varepsilon^2}$ *(Nonlinear)*	β (mol^2/KJ^2) is the D-R constant, ε (KJ^2/mol^2) is the polanyil potential, and q_m is the adsorption capacity