Adsorption Equilibrium, Kinetics and Thermodynamics of 7-Epi-10-deacetylpaclitaxel from *Taxus chinensis* onto Sylopute

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Batch experiment studies were carried out on the adsorption of anticancer agent 7-epi-10-deacetylpaclitaxel using Sylopute. The experimental data were fitted to the Langmuir, Freundlich, Temkin and Dubinin-Radushkevich isotherm models. Comparison of results revealed that the Langmuir isotherm model could account for the adsorption isotherm data with the highest accuracy among the four isotherm models considered. From the analysis of adsorption isotherms, it was found that adsorption capacity decreased with increasing temperature and the adsorption of 7-epi-10-deacetylpaclitaxel onto Sylopute was favorable. The obtained kinetics data for 7-epi-10-deacetylpaclitaxel adsorption onto Sylopute agreed well with the pseudo-second-order model. Thermodynamic parameters, such as standard enthalpy (△H°), standard entropy (△S°) and standard Gibbs free energy (△G°) change, were investigated. The results indicated that the process of 7-epi-10-deacetylpaclitaxel adsorption onto Sylopute was exothermic and nonspontaneous.