

Fig. S1. BET measurements for $\text{Fe}_3\text{O}_4/\text{o-MWCNTs}$ and $\text{PmPD/Fe}_3\text{O}_4/\text{o-MWCNTs}$.

2. Adsorption Isotherms

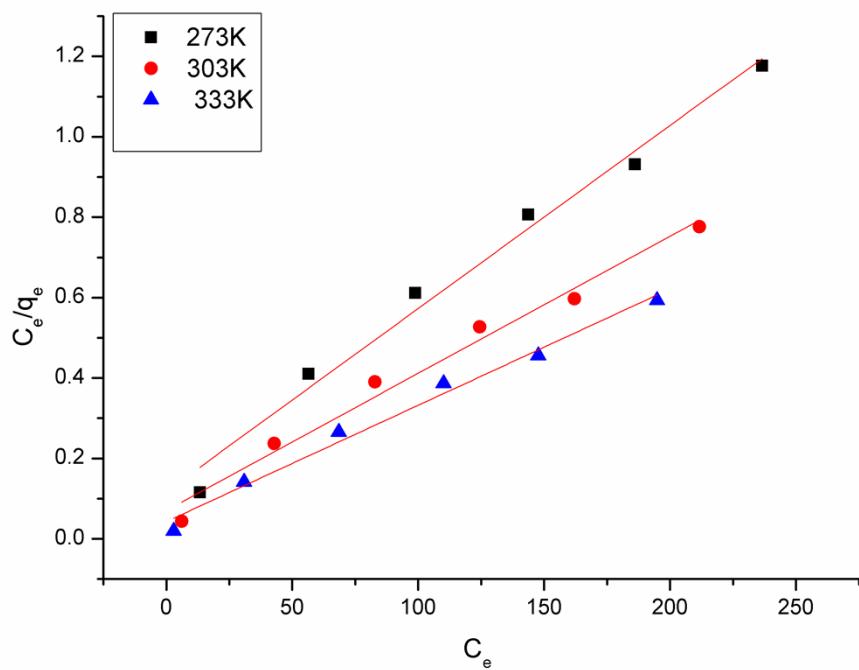


Fig. S2. Langmuir adsorption isotherm plots for chromium adsorption onto PmPD/Fe₃O₄/o-MWCNTs at different temperatures.

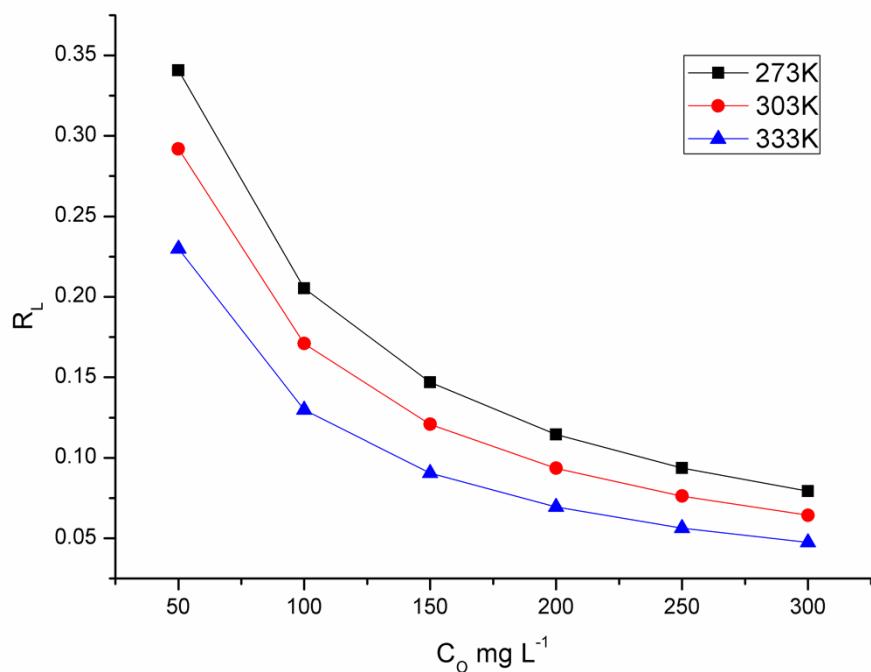


Fig. S3. Separation factor of chromium ions adsorbed onto PmPD/Fe₃O₄/o-MWCNTs

at different temperatures.

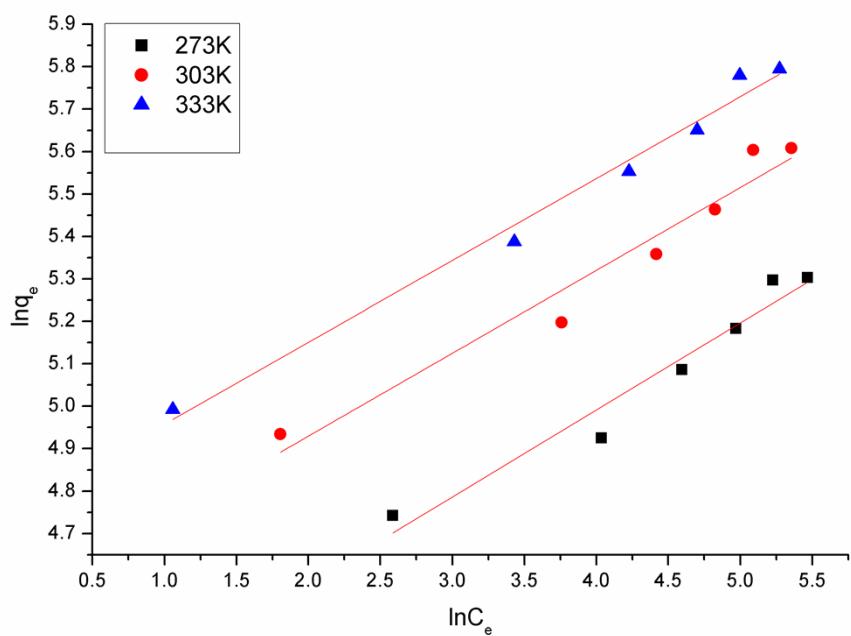


Fig. S4. Freundlich adsorption isotherm plots for chromium adsorption onto PmPD/Fe₃O₄/o-MWCNTs at different temperatures.

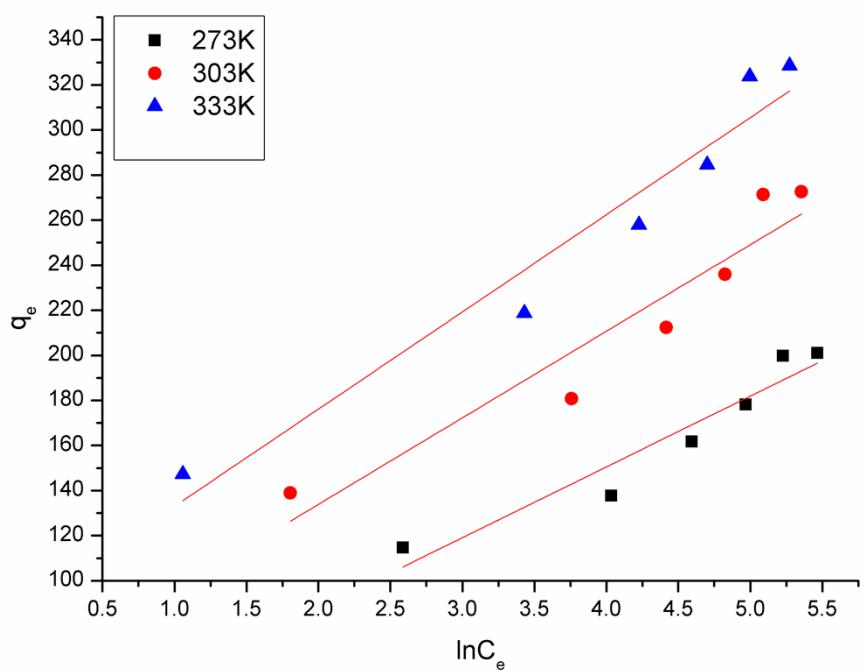


Fig. S5. Temkin adsorption isotherm plots for chromium adsorption onto PmPD/Fe₃O₄/o-MWCNTs at different temperatures.

3. Adsorption Kinetics

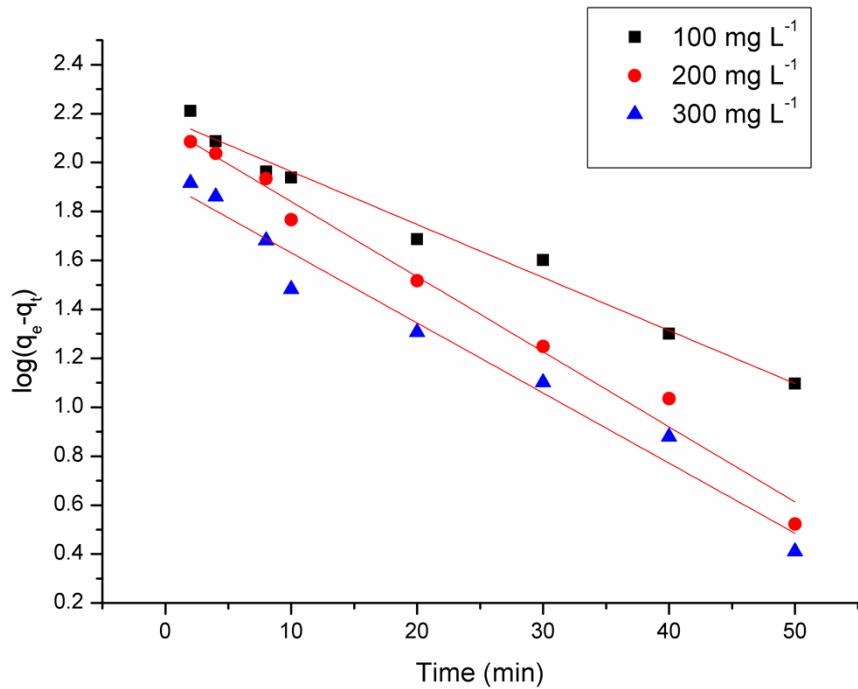


Fig. S6. Plot of the pseudo-first-order kinetic model for chromium on PmPD/Fe₃O₄/o-MWCNTs at different initial solution concentrations.

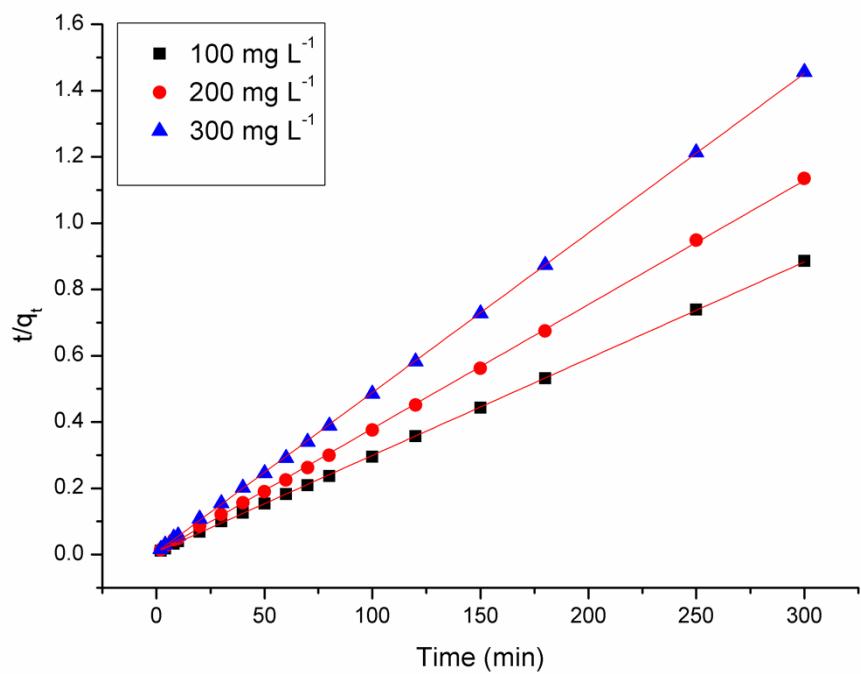


Fig. S7. Plot of the pseudo-second-order kinetic model for chromium on PmPD/Fe₃O₄/o-MWCNTs at different initial solution concentrations.