Supporting information of

Ion-imprinted modified molecular sieves show efficient selective adsorption of chromium (VI) from aqueous solutions

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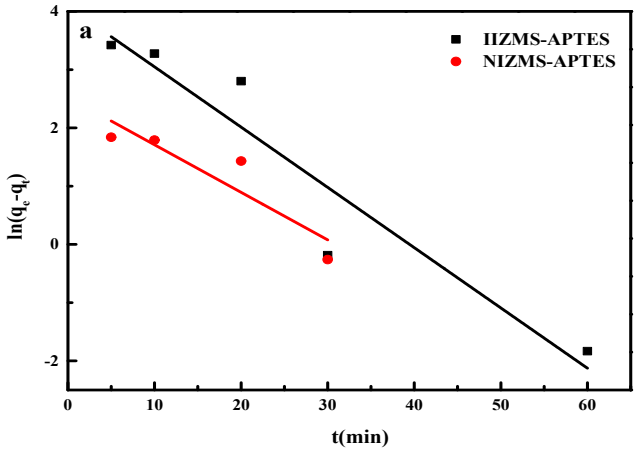
Table S1 Typical adsorption isotherms, kinetics models equations investigated in the present work[1-3].

Model	Equation
Langmuir isotherm	$C_e / q_e = 1 / K_L q_m + C_e / q_m$
Freundlich isotherm	$\ln q_e = \ln K_F + \ln C_e / n$
Pseudo-first-order model	$\ln(q_e - q_t) = \ln q_e - k_1 t$
Pseudo-second-order model	$t / q_t = 1 / (k_2 q_e^2) + t / q_e$



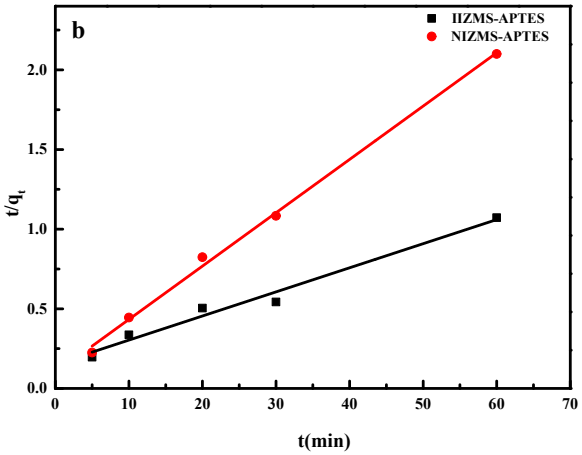
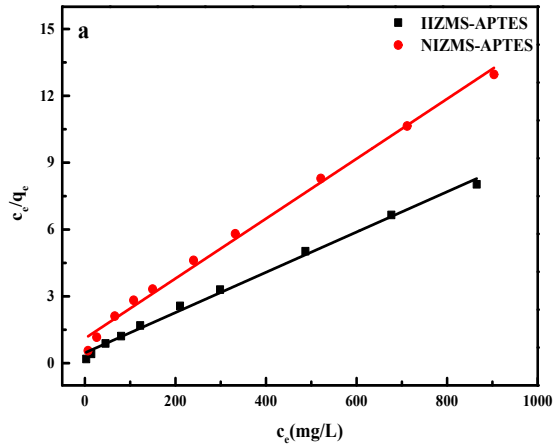


Figure S1.(a) pseudo-first-order, (b) pseudo-second-order and model kinetic plots of adsorption chromium(VI) onto IIZMS-APTES and NIZMS-APTES. Conditions: pH = 2.0, T =30℃, C_0 = 100 mg/L.



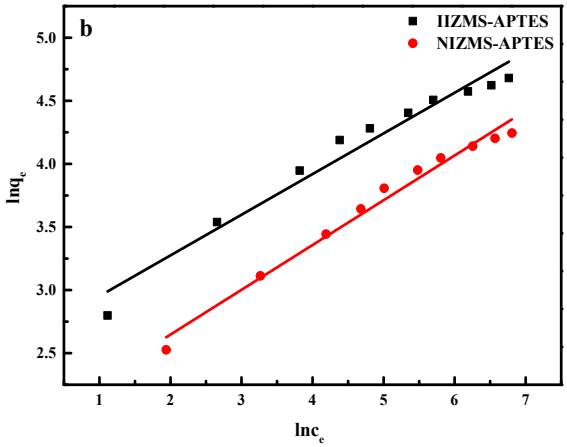


Figure S2. Absorption isotherms: (a) Langmuir model; (b) Freundlich model. Conditions: pH = 2.0, T = 30 ℃, t = 60 min.

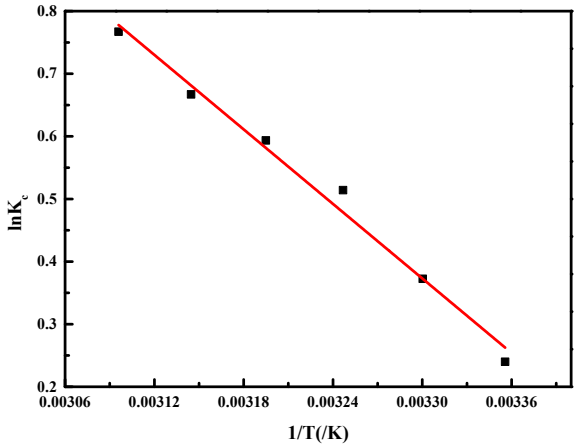


Figure S3. The plot of lnK_d versus 1/T. Conditions: Cr(VI) concentration = 100 mg/L, pH 2.0, t = 60 min.

References

1. Langmuir, I. The adsorption of gases on plane surfaces of glass, mica and platinum. *J. Am. Chem. Soc.***1918**, *40*, 1361-1403.

2. Freundlich, H. Over the adsorption in solution. *J. Phys. Chem.***1906**, *57*, 1100-1107.

3. Lagergren, S. Zur theorie der sogenannten adsorption gelosterstoffe, Kungliga Svenska Vetenskapsakademiens. *Handlingar.***1898**, *24*,1-39.