

Fig. S1 pH changes during adsorption process

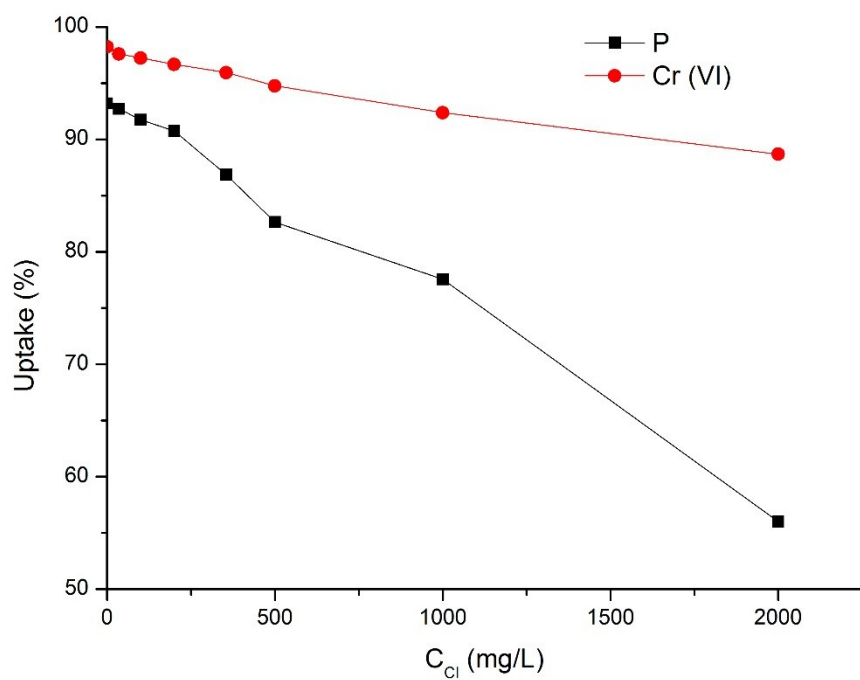


Fig. S2 Effect of ionic strength on Cr(VI) and phosphate adsorption (concentration: phosphate 20 mg P/L, Cr(VI) 50 mg Cr/L, contact time: 60 min, ACMCS dosage: 4 g/L, temperatures: 20°C)

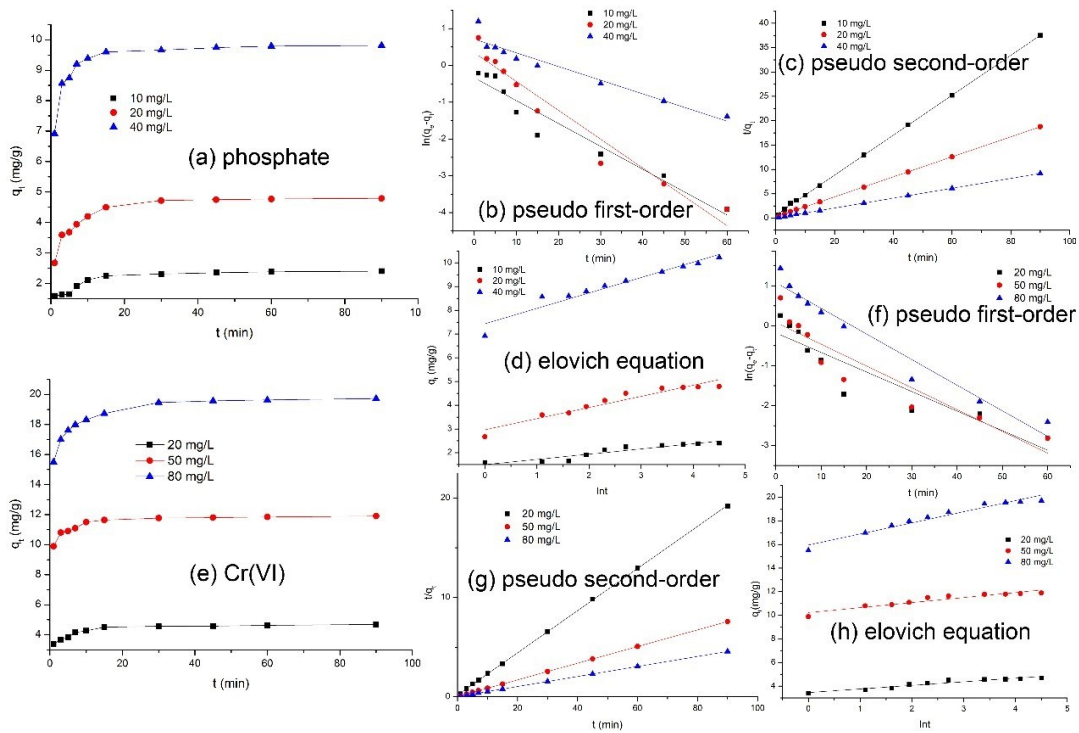


Fig. S3 (a) Adsorption kinetic of phosphate onto ACMCS; (b) Pseudo first-order (phosphate); (c) Pseudo second-order (phosphate); (d) Elovich (phosphate); (e) Adsorption kinetic of Cr(VI) onto ACMCS; (f) Pseudo first-order (Cr(VI)); (g) Pseudo second-order (Cr(VI)); (h) Elovich (Cr(VI))

Table S1 Kinetic parameters for adsorption rate expressions

Anions	C_0 (mg/L)	$q_{e \text{ exp}}^a$ (mg/g)	pseudo first-order			pseudo second-order			Elovich equation		
			k_1 min^{-1}	q_{e1}^b mg/g	R^2	k_2 g/(mg min)	q_{e2}^b mg/g	R^2	α mg/(g min)	β (g/mg)	R^2
P	10	2.40	0.062	0.71	0.935	0.266	2.44	0.999	203.2	4.55	0.904
	20	4.79	0.078	1.41	0.945	0.165	4.86	0.999	262.9	2.13	0.918
	40	9.23	0.037	2.03	0.918	0.206	9.88	0.999	61031	1.54	0.930
Cr(VI)	20	4.69	0.04	0.84	0.831	0.234	4.72	0.999	1.8×10^4	3.28	0.917
	50	11.90	0.05	1.08	0.855	0.211	11.93	0.999	1.1×10^{10}	2.34	0.878
	80	19.72	0.06	2.92	0.952	0.080	19.84	0.999	2.2×10^7	1.06	0.928