Supplementary Material

Porous boron nitride nanofibers enhanced sodium acrylate and acrylamide copolymer hydrogels for effective adsorption of Pb^{2+}

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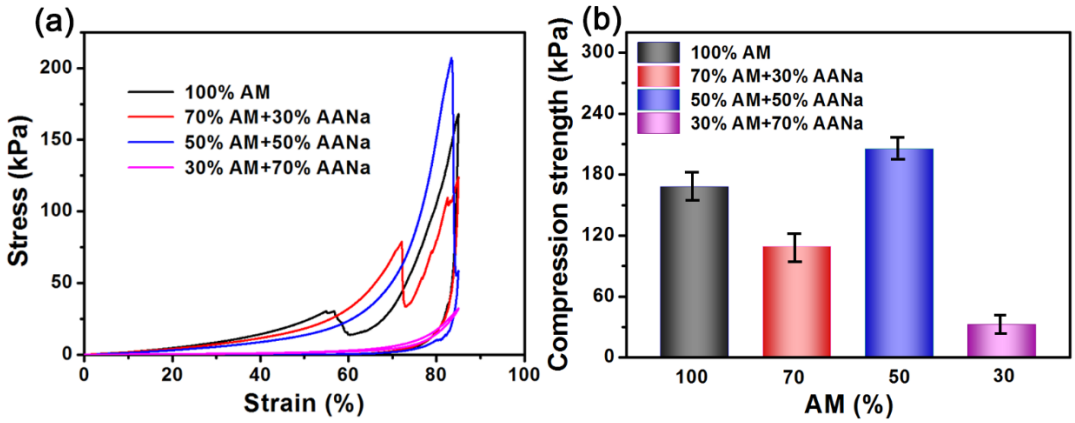

Fig. S1 The compression test of the P(AANa-co-AM) hydrogels (a) the stress-strain curves (b) compression strength.

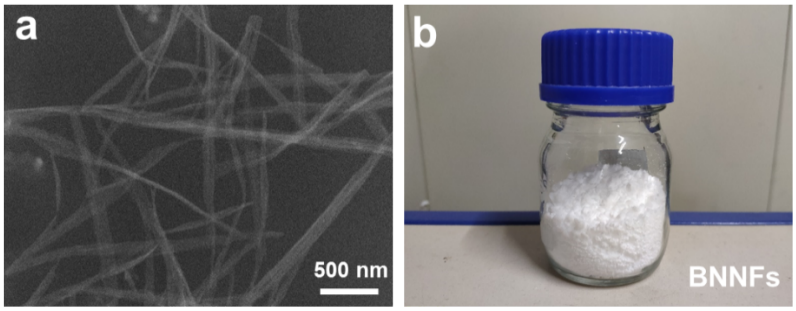

Fig. S2 (a) SEM of BNNFs, (b) optical photograph of a bottle of BNNF powder.

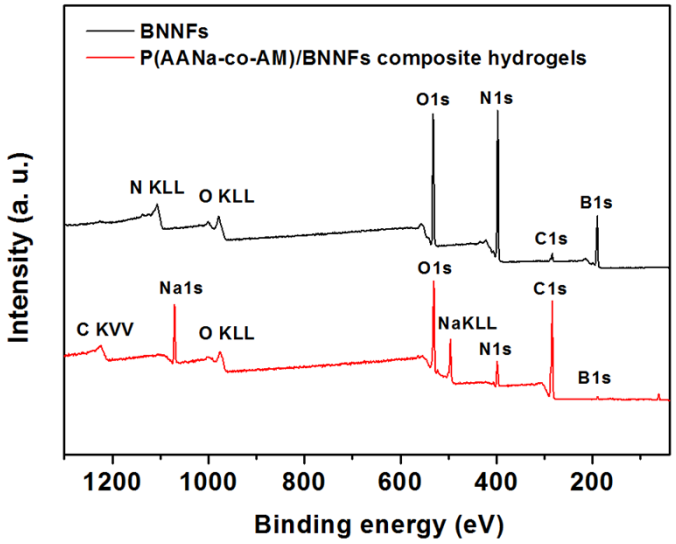

Fig. S3 XPS spectra of the pristine BNNFs and the composite hydrogel with 3 wt% BNNFs.

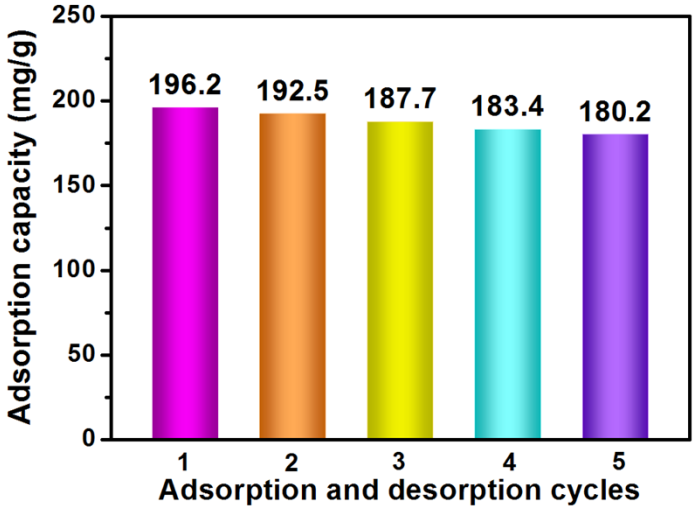

Fig. S4 Effect of recycling times of the P(AANa-co-AM)/BNNFs hydrogels on

equilibrium adsorption capacity of Pb^{2+} (C_0=200 mg/L, pH 5.0, m/v= 1.0 g/L and contact time 6 h).

Table S1 Adsorption kinetics models parameters for the Pb^{2+} adsorption on P(AANa-co-AM)/BNNFs composite hydrogel with 3% of BNNFs at 298 K.

Q_e, exp (mg/g)	Pseudo-first-order			Pseudo-second-order		
	Q_e, cal (mg/g)	$K_1 \times 10^{-3}$ (min^{-1})	R^2	Q_e, cal (mg/g)	$K_2 \times 10^{-3}$ (g mg^{-1} min^{-1})	R^2
180.16	30.965	6.725	0.9142	180.83	0.8457	0.9994

Table S2 Adsorption isotherm models parameters of P(AANa-co-AM)/BNNFs hydrogel with 3% of BNNFs at different temperature.

	Langmuir			Freundlich		
T (K)	Q_m (mg/g)	K_L (L/mg)	R^2	K_F mg/g·$(L/mg)^{1/n}$	n	R^2
298	490.2	0.226	0.983	153.8	3.4	0.855
308	513.8	0.231	0.987	156.9	3.3	0.861
318	541.5	0.238	0.981	161.9	3.1	0.843