

Supporting Information

Soy Protein-Based Polyethylenimine Hydrogel and Its High Selectivity for Copper Ions Removal in Wastewater Treatment

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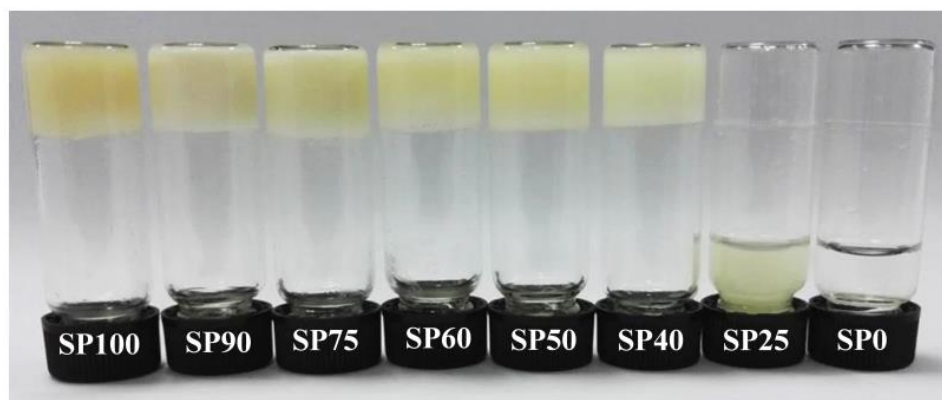


Figure S1. Optical images of SPI/PEI mixture with different PEI content when using ECH as crosslinking agent.

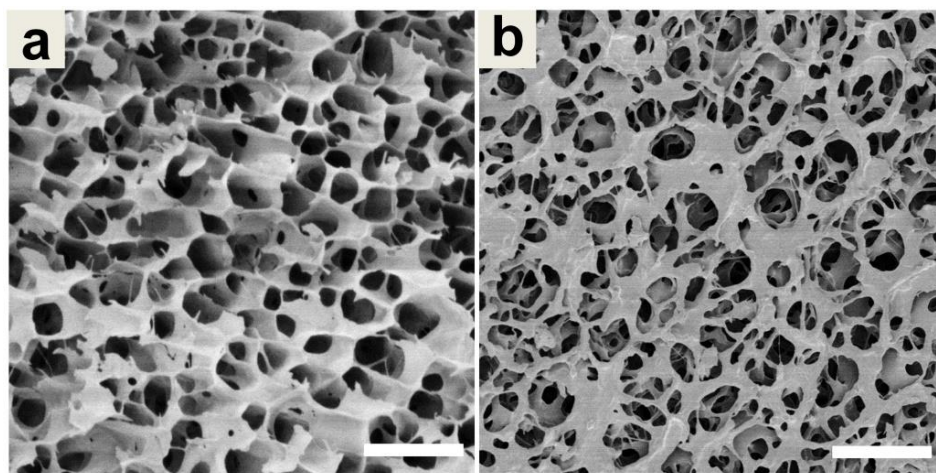


Figure S2. SEM images of freeze-dried SPI/PEI composite hydrogels. (a) SP100, (b) SP50. The scale bar is 20 μm .

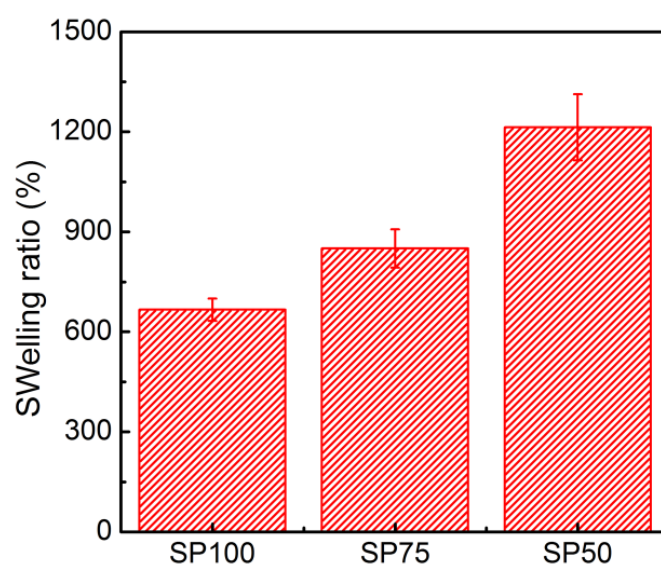


Figure S3. Swelling ratios of freeze-dried SPI/PEI composite hydrogels.

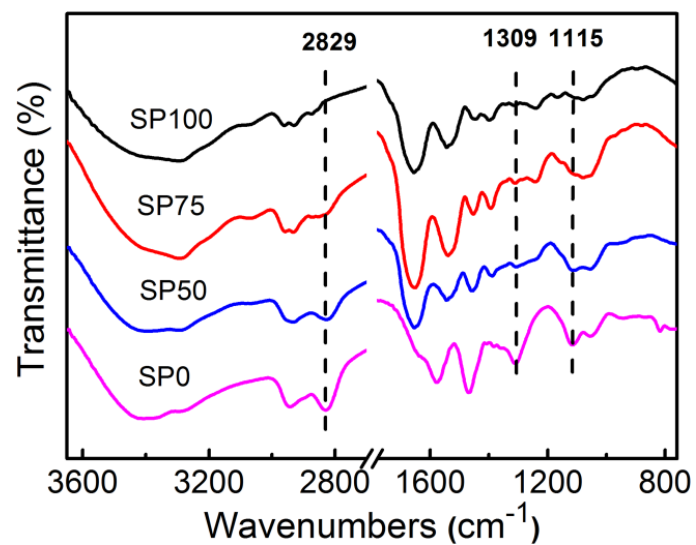


Figure S4. FTIR spectra of SPI/PEI composite hydrogels.

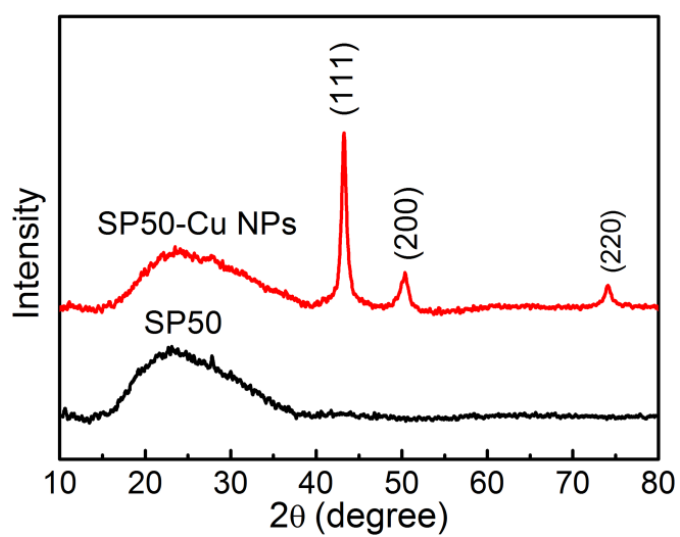


Figure S5. XRD patterns of Cu NPs formed in SP50 sample.

Table S1. Langmuir and Freundlich parameters and correlation coefficients calculated from experimental data.

Samples	Langmuir isotherm			Freundlich isotherm		
	K_L	q_m	R^2	K_F	n	R^2
SP100	0.0287	21.83	0.968	1.779	2.108	0.986
SP75	0.0162	112.36	0.992	4.010	1.682	0.943
SP50	0.0243	149.25	0.993	9.162	1.951	0.886

Table S2. Kinetic model parameters for the adsorption of Cu (II) ions on SP75 and SP50 samples

Samples	Pseudo-first order		Pseudo-second order	
	K_1	R^2	K_2	R^2
SP75	0.187	0.9557	0.0046	0.9983
SP50	0.178	0.9677	0.0018	0.9982