Supporting Information

Semiquantitative naked-eye detection of Cu(II) with a standard colorimetric card via a hydrogel-coated paper sensor

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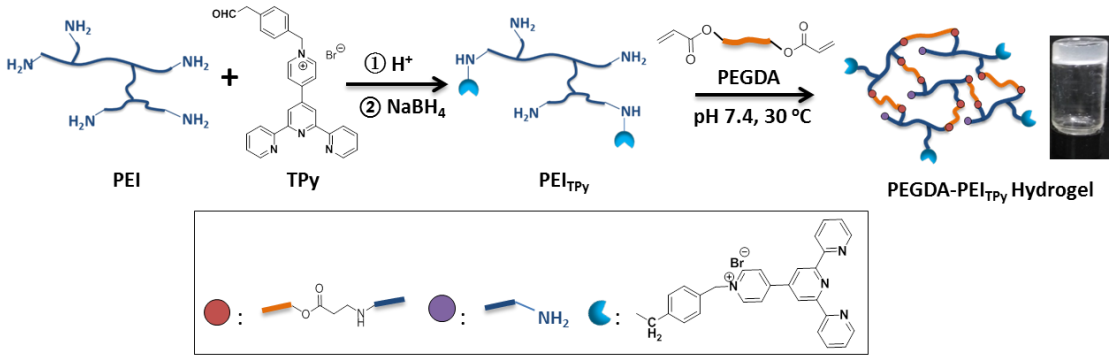

Fig. S1 Schematic representation of Michael-type crosslinkable PEGDA-PEI_{TPy} hydrogels prepared under physiological condition.

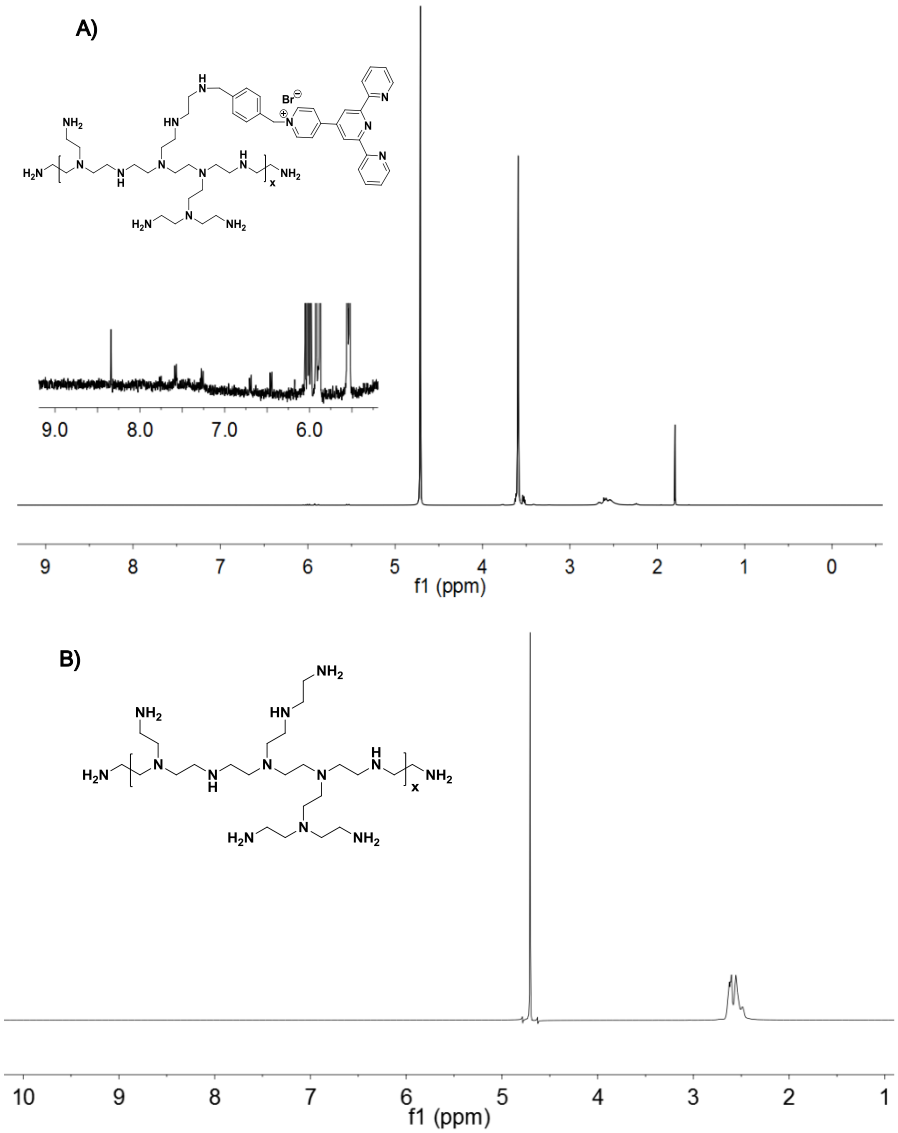

Fig. S2 ^{1}H NMR spectra of PEI_{TPy} (A) and PEI (B) (D_2O, 400 MHz). Inset of A is a partial expansion of ^{1}H NMR spectrum of PEI_{TPy}.

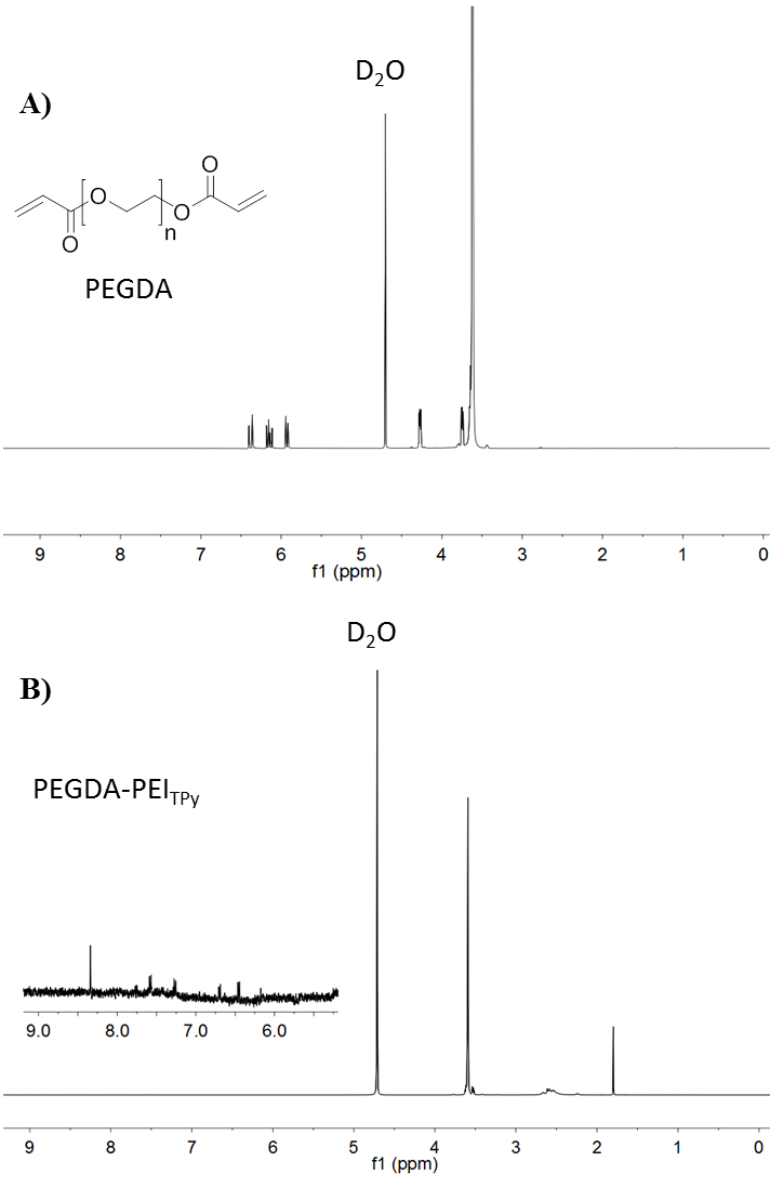

Fig. S3 ^{1}H NMR spectra of PEGDA (A) and PEGDA-PEI$_{TPy}$ (B) (D_2O, 400 MHz). Inset of B is a partial expansion of ^{1}H NMR spectrum of PEGDA-PEI$_{TPy}$.

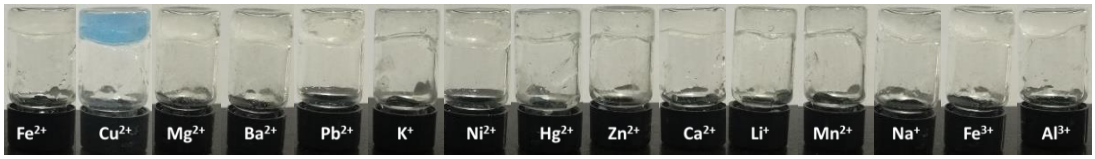

Fig. S4 Images of the hydrogel after adding various metal ions aqueous solutions (10 μL, 10 mM).

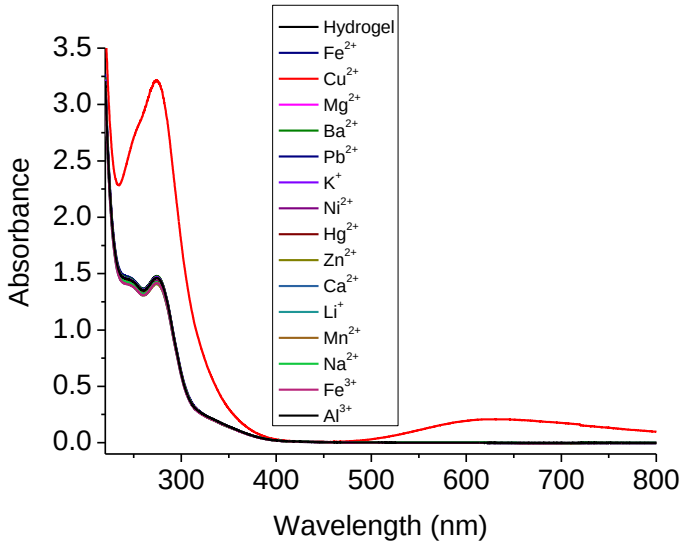

Fig. S5 Effect of various metals aqueous solution (10 µL, 10 mM) on the UV-Vis absorption of the hydrogel.

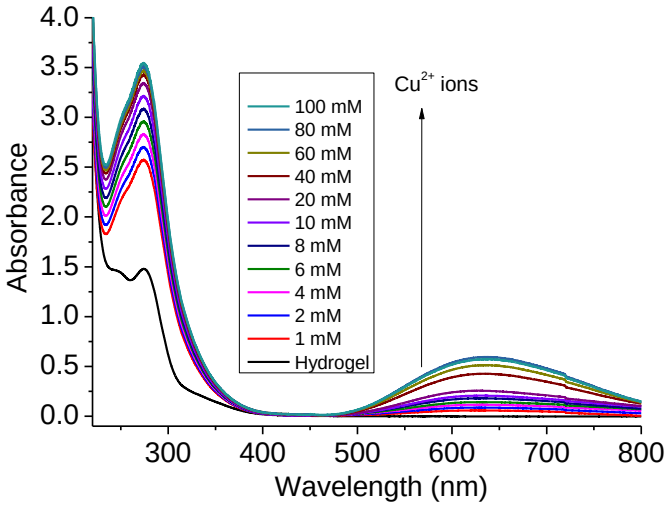

Fig. S6 UV-Vis absorption of the hydrogel with the addition 10 µL of Cu^{2+}.

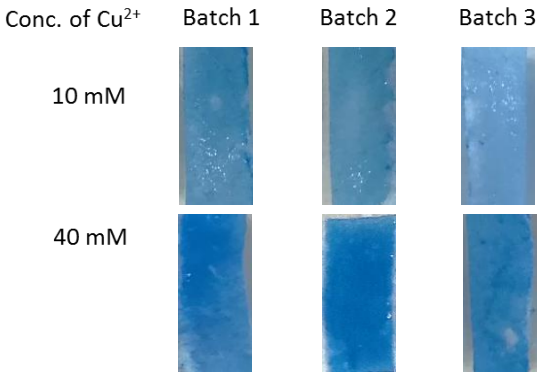

Fig. S7 The reproducibility of the developed paper sensor (three batches) for Cu^{2+} at 10 and 40 mM

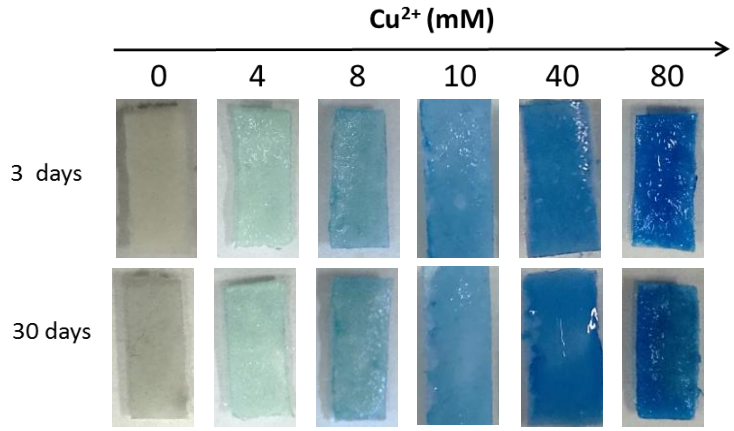

Fig. S8 The stability of the developed paper sensor within 60 days.

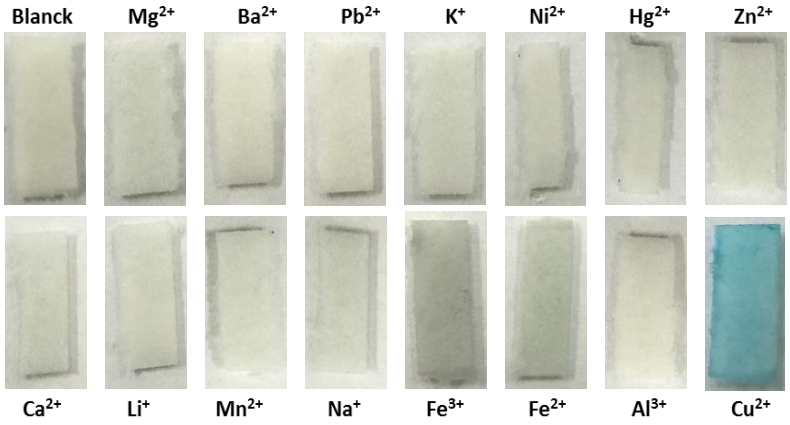

Fig. S9 Images of the hydrogel-coated paper sensors after exposure to various metal ions.

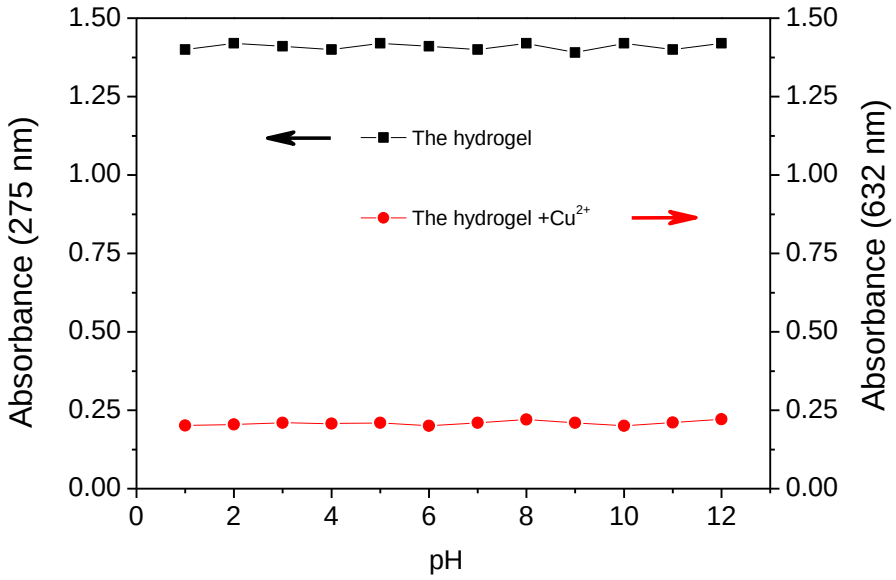

Fig. S10 Effect of pH on the absorbance of the hydrogel in the absence and presence of Cu^{2+} ions at 10 mM.

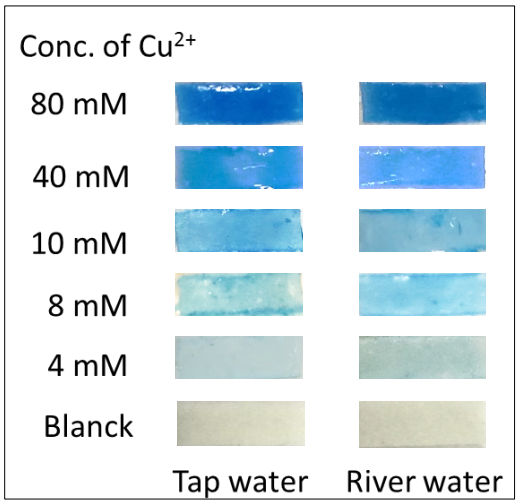

Fig. S11 Naked-eye detections of Cu^{2+} in tap water and lake water, respectively.