

Electronic Supplementary Information (ESI)

Label-free ultrasensitive colorimetric detection of copper(II) ions utilizing polyaniline/polyamide-6 nano-fiber/net sensor strips

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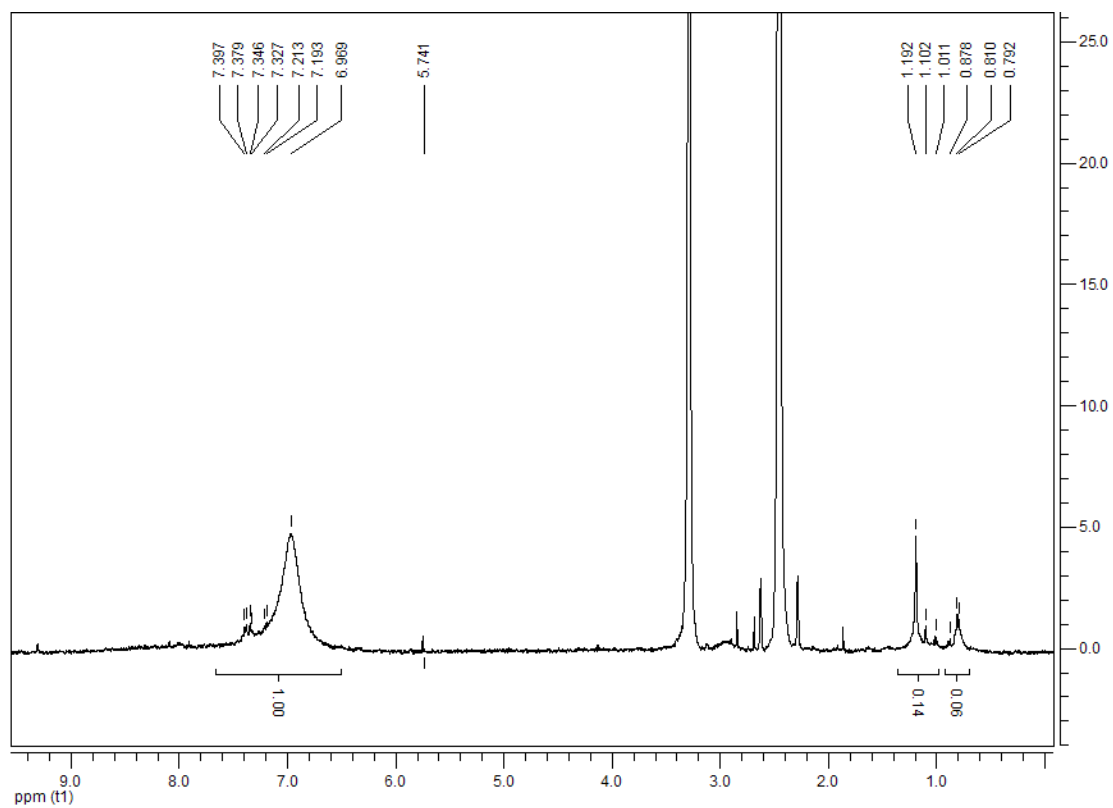


Fig. S1 ^1H NMR spectra of polyaniline emeraldine base.

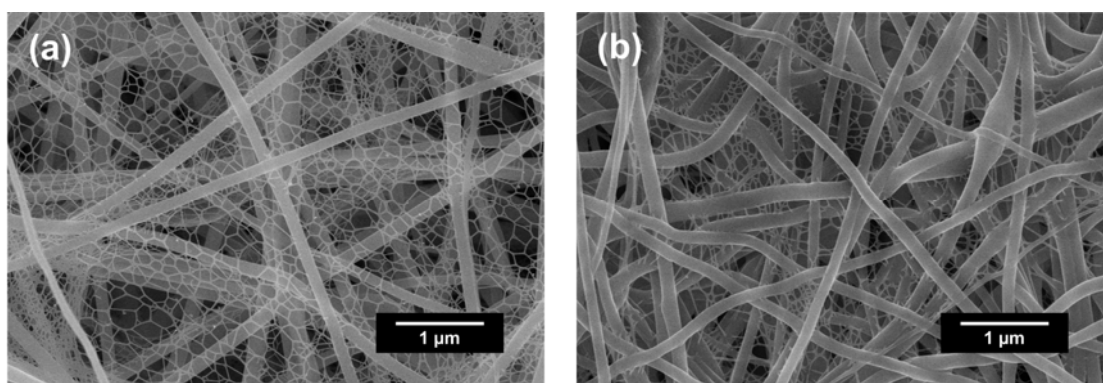


Fig. S2 FE-SEM images of PANI/PA-6 NFN (a) ES-membranes and (b) LB-membranes.

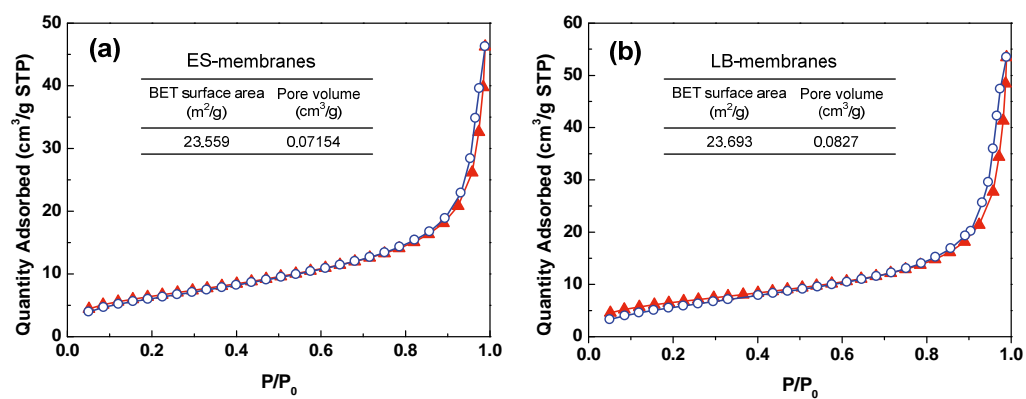


Fig. S3 Nitrogen adsorption/desorption isotherm of PANI/PA-6 NFN (a) ES-membranes and (b) LB-membranes. The insets show the BET surface area and pore volume, respectively.

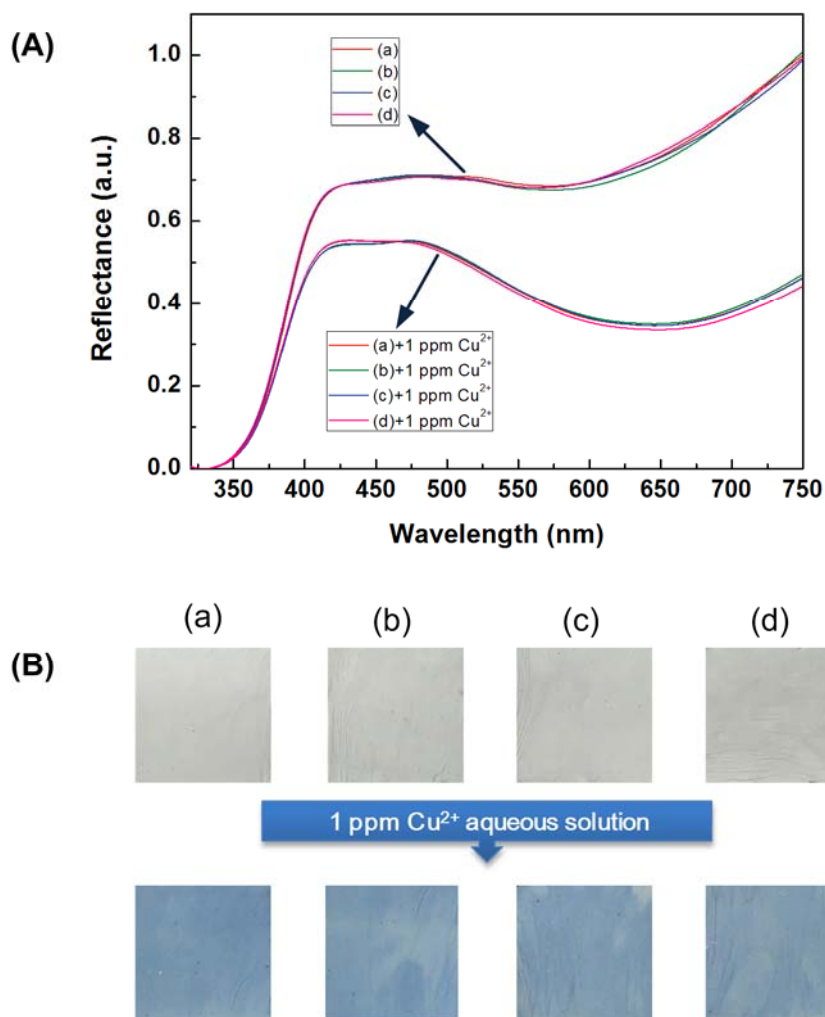


Fig. S4 (A) Reflectance spectra and (B) photographs of PANI/PA-6 NFN membranes fabricated from different batches ((a), (b), (c) and (d)) before and after incubation for 30 min in 1 ppm Cu²⁺ aqueous solution.

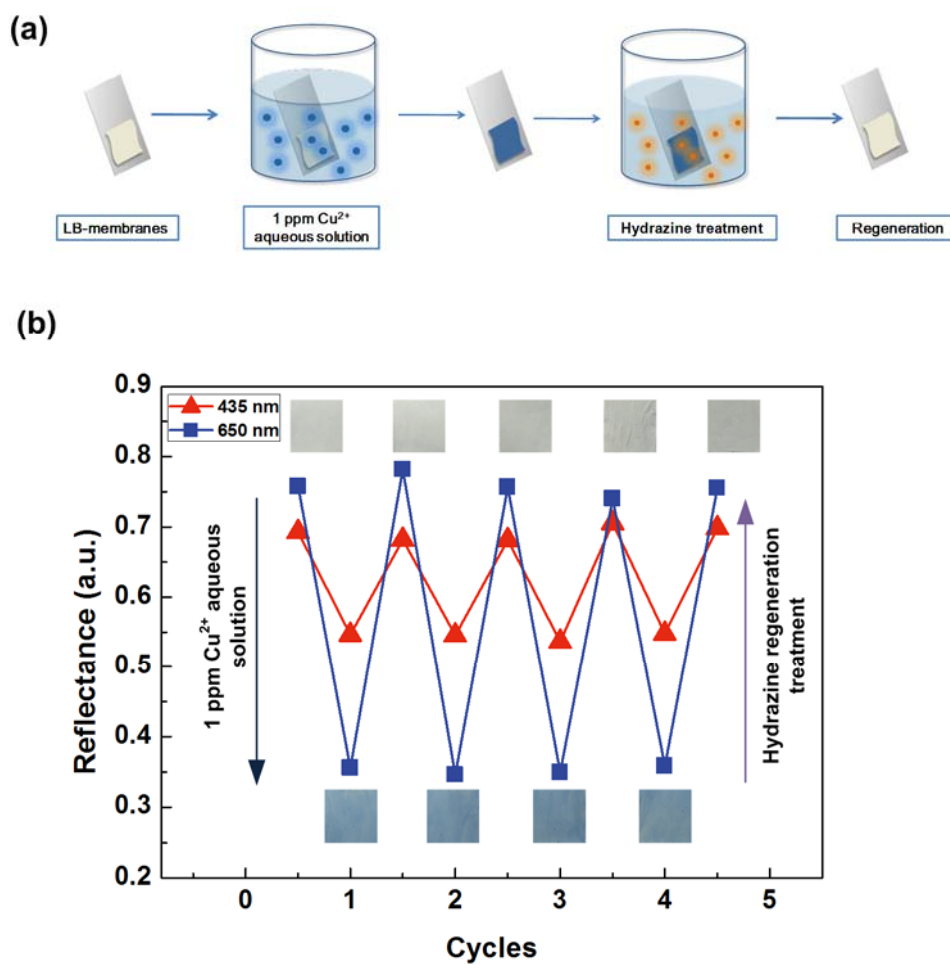


Fig. S5 (a) Representation of the sensing and regeneration process of the PANI/PA-6 colorimetric NFN membranes. (b) Reflectance intensity and optical colorimetric response showing the reversibility of the sensor strips.

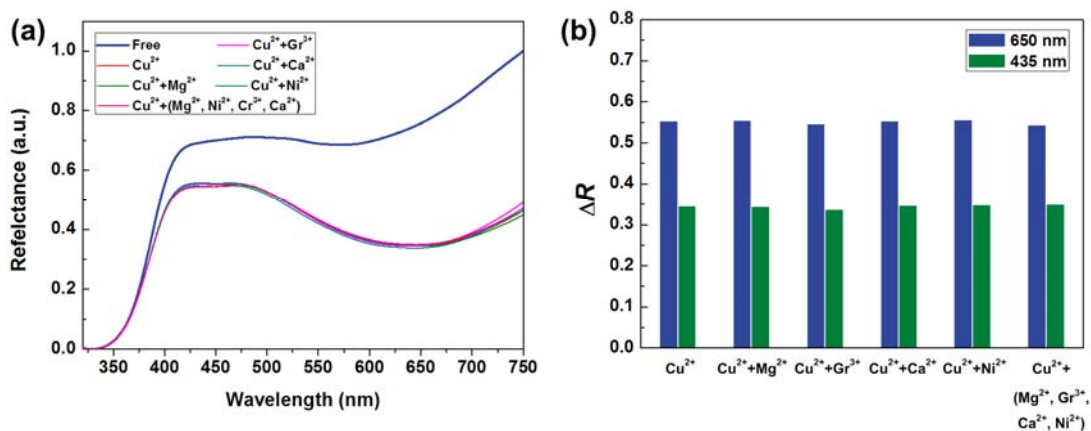


Fig. S6 (a) Reflectance spectra of the sensor strips after incubation for 30 min in different types metal cations aqueous solutions. (b) Reflectance intensity decreasing value of sensor strips at 650 and 435 nm versus different types metal cations aqueous solutions. (The concentration of each kind of cation was 1 ppm).