Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

Recyclable Nanoparticles Based on Boronic Acid–Diol Complex for Real-Time Monitoring of Imprinting, Molecular Recognition and Detection of Copper Ion

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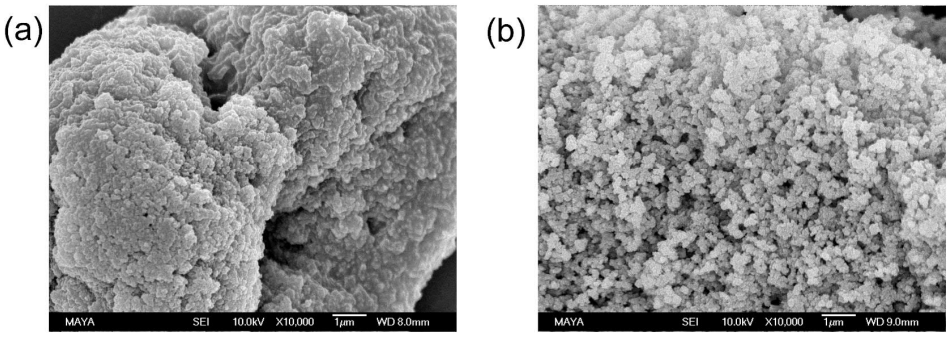

Fig.S1. SEM images (a) MIP and (b) NIP.

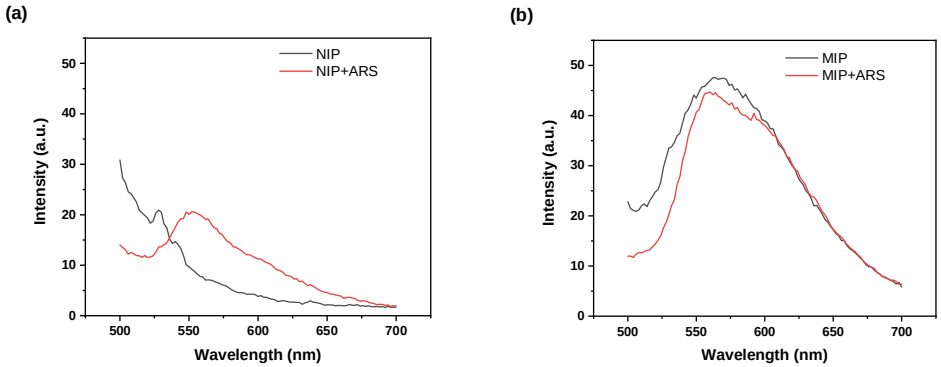

Fig. S2. (a) Fluorescence emission spectra of NIP, and NIP immediately after addition of ARS. (b) Fluorescence emission spectra of MIP, and MIP immediately after addition of ARS. The emission spectra were acquired using excitation wavelength of 469 nm in 20 mM phosphate buffer (pH 8.5). Particle conc. 0.5 mg/mL, ARS conc. 0.1 mM.

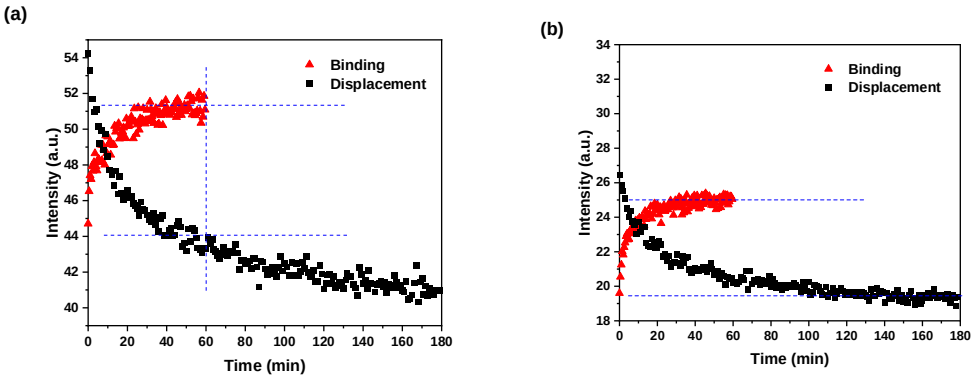

Fig. S3. (a) Kinetic data of binding and dissociation of ARS measured on MIP. (b) Kinetic data of binding and dissociation of ARS measured on NIP. Solvent: 20 mM phosphate buffer (pH 8.5). Particle conc. 0.5 mg/mL, initial ARS conc. 0.1 mM. Conc. of fructose in the displacement experiment was 1 M.

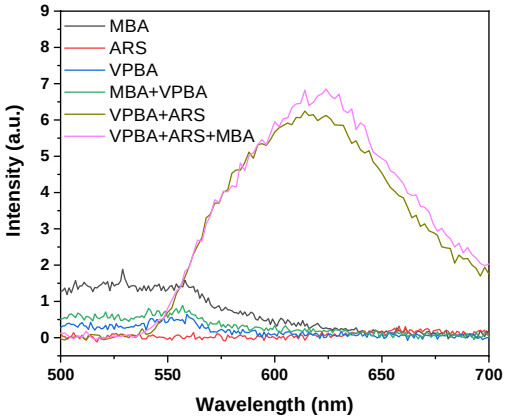

Fig. S4. Fluorescence emission spectra of MBA (120 mM), ARS (2 mM), VPBA (10 mM), mixture of MBA (120 mM) and VPBA (10 mM), mixture of VPBA (10 mM) and ARS (2 mM), mixture of VPBA (10 mM), ARS (2 mM) and MBA (120 mM). he emission spectra were acquired using an excitation wavelength of 469 nm in ethanol/20 mM phosphate buffer (1/4, V/V).

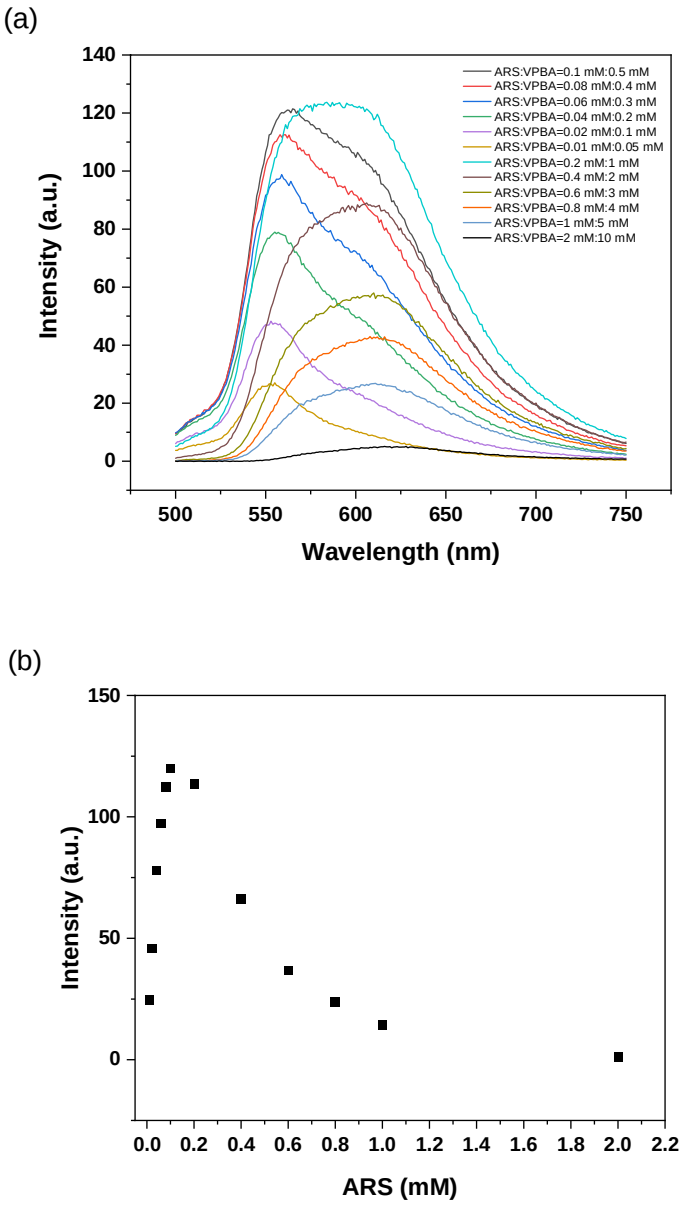

Fig. S5. Fluorescence emission of ARS-VPBA solution measured in ethanol/phosphate buffer (1/4, V/V). The mole ratio of ARS: VPBA was kept as 1: 5 in all the samples. (a) Emission spectra of ARS-VPBA solutions. Excitation wavelength 469 nm. (b) Fluorescence intensity measured at 560 nm using excitation wavelength at 469 nm.

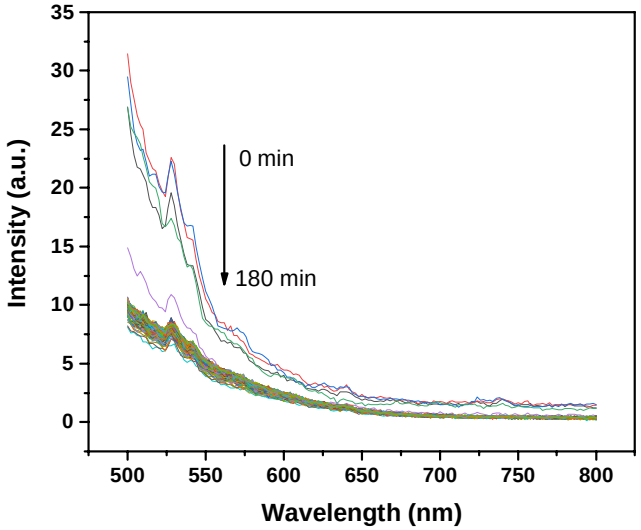

Fig. S6. Fluorescence spectra of reaction mixture for NIP synthesis acquired at different time. Excitation wavelength 469 nm.

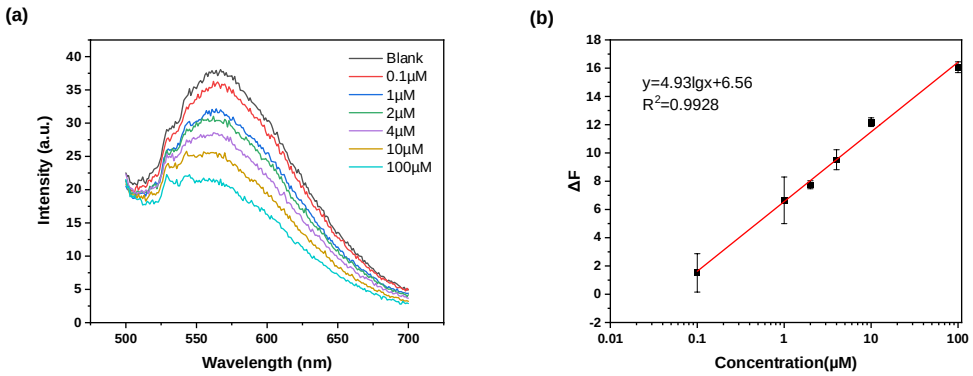

Fig. S7. (a) Fluorescence emission spectra of MIP (0.5 mg/mL) mixed with different concentrations of Cu^{2+} in MES buffer. (b) Linear relationship between fluorescence quenching of MIP (ΔF) and logarithmic concentration of Cu^{2+}.

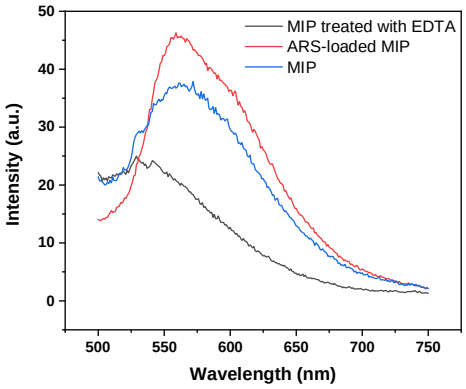

Fig. S8. Fluorescence spectra of MIP, MIP after use for Cu^{2+} detection and washing with EDTA, and ARS-loaded MIP.

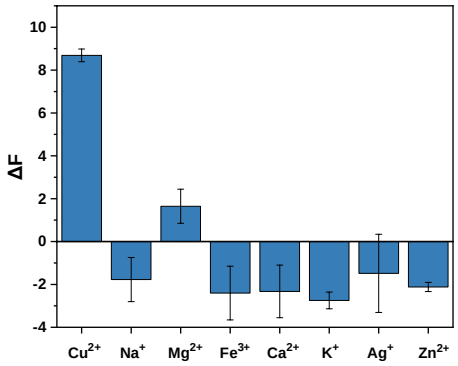

Figure S9. Quenching of fluorescence of MIP particles (0.5 mg/mL) caused by different metal ions (10 μM) in water.

Table S1. Hydrodynamic diameter (D_h) and polydispersity index (PDI) of MIP and NIP particles measured by DLS using different particle concentrations.

Polymer particles	Particle conc. (mg/mL)	D_h (nm)	PDI
MIP	1	420	0.346
	0.2	267	0.131
	0.02	230	0.126
NIP	1	661	0.102
	0.2	661	0.114
	0.02	661	0.112