Electronic Supporting Information

Organic-inorganic nanohybrids based on AIE luminogens-functional polymer and CdTe/ZnS QDs: morphologies, optical properties, and applications

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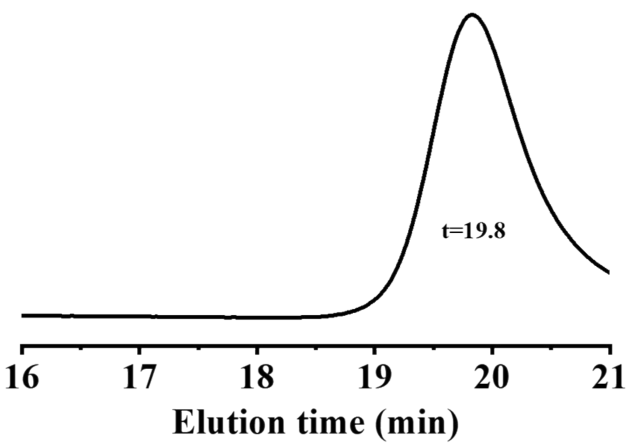


Fig. S1 GPC trace of T-PNI polymer.

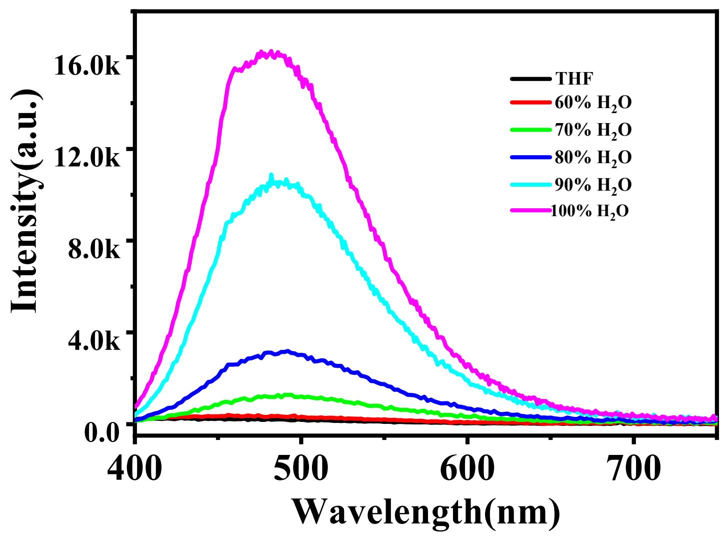


Fig. S2 PL spectra of T-PNI in THF/water mixtures with different water contents (1 mg·mL^{-1}), λex = 346 nm.

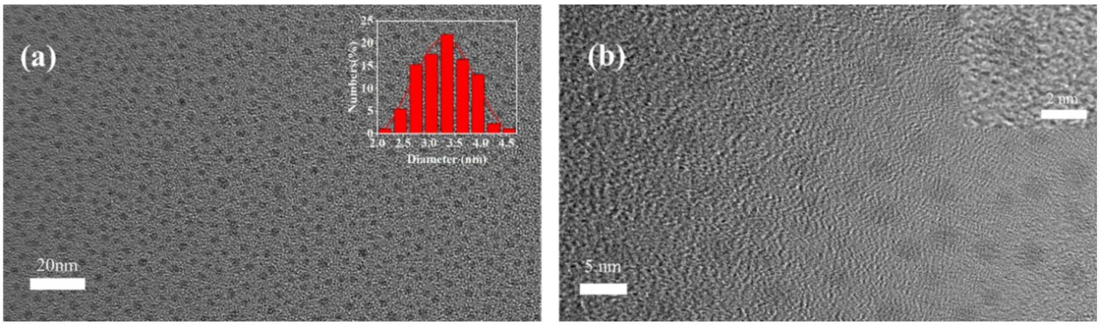


Fig. S3 (a) TEM image of CdTe/ZnS QDs in water and their size-distribution histogram (inset); (b) HRTEM image of CdTe/ZnS QDs.

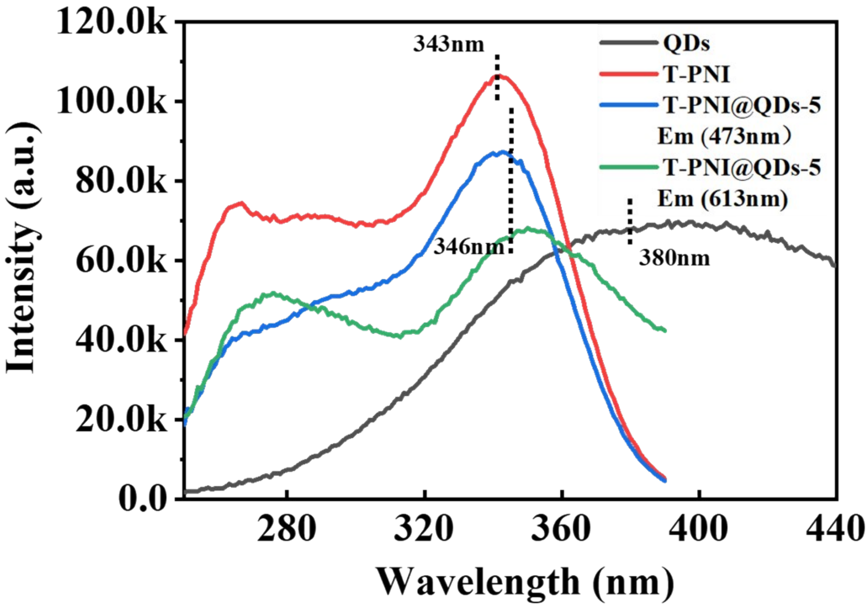


Fig. S4 PL excitation spectra of T-PNI, red-emitting CdTe@ZnS QDs, and T-PNI@QDs systems in water at 25 ^{o}C.

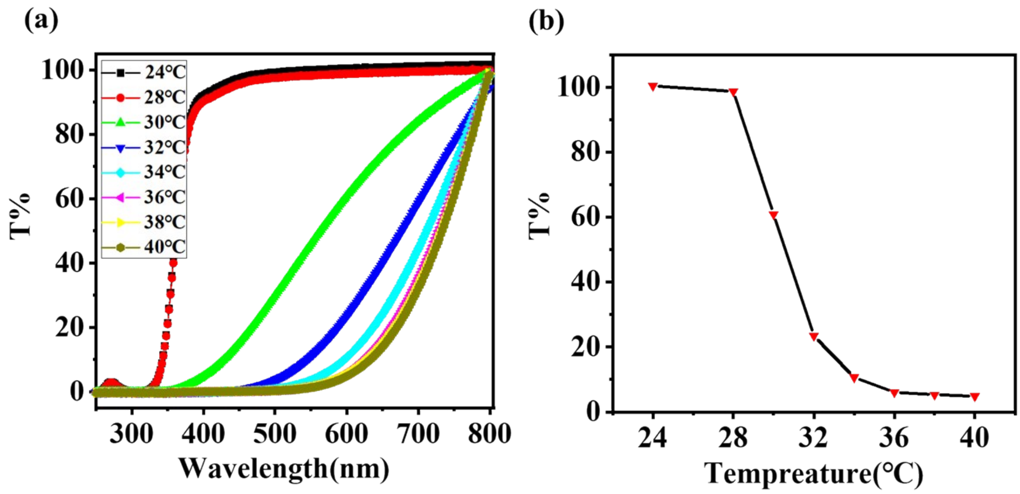


Fig. S5 Optical transmittance (a) and the relative transmittance at 600 nm (b) of aqueous solutions of T-PNI at different temperatures

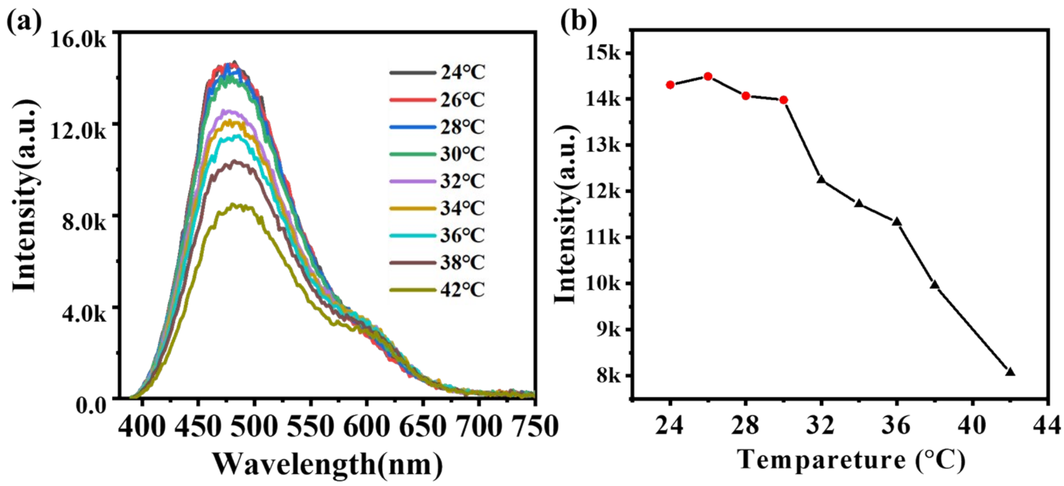


Fig. S6 (a) PL emission spectra of T-PNI at different temperatures. (b) Temperature dependence PL intensity of T-PNI.

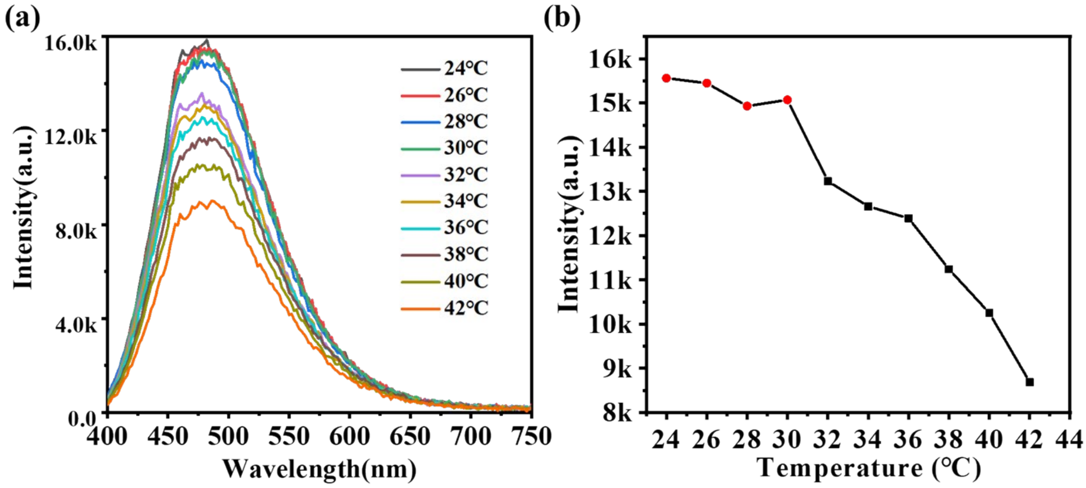


Fig. S7 (a) PL emission spectra of T-PNI-SH at different temperatures. (b) Temperature dependence PL intensity of T-PNI-SH.

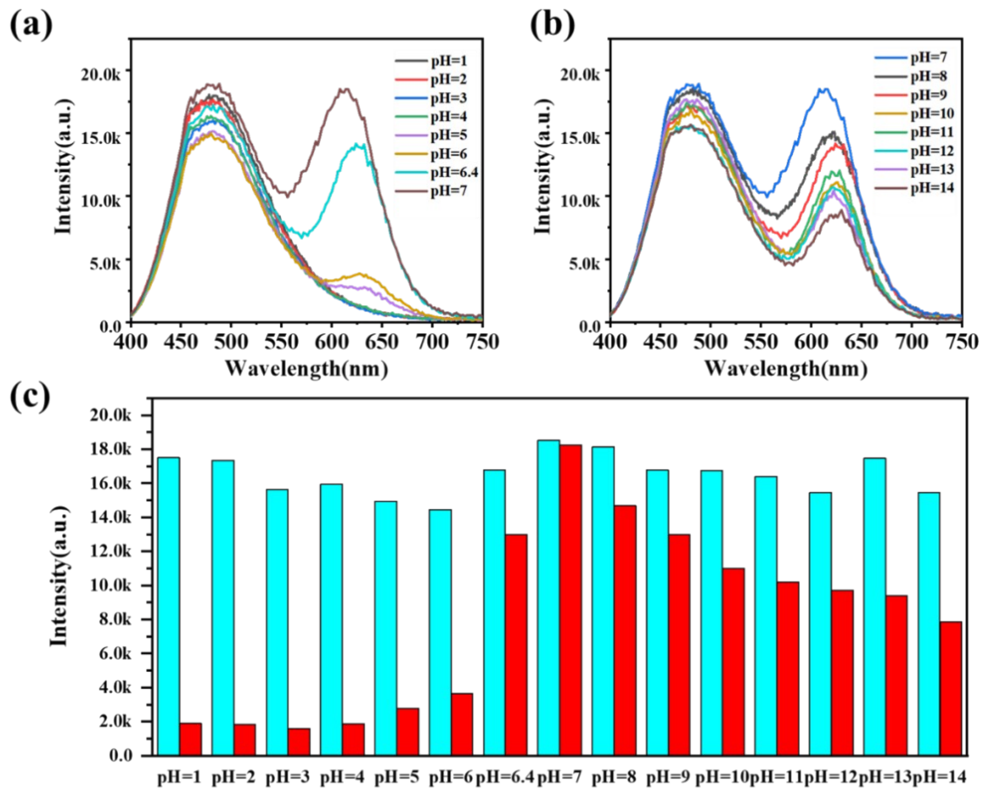


Fig. S8 PL intensity of T-PNI@QDs-5 at different pH values: (a) pH=1-7; (b) pH=7-14. (c) PL intensities of T-PNI@QDs-5 in different pH values. Blue bars: intensity at 473 nm; red bars: intensity at 613 nm.

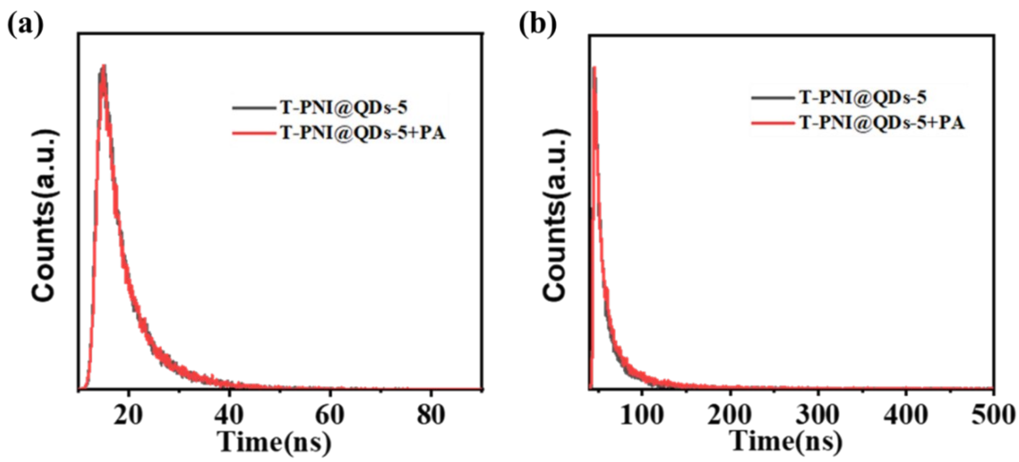
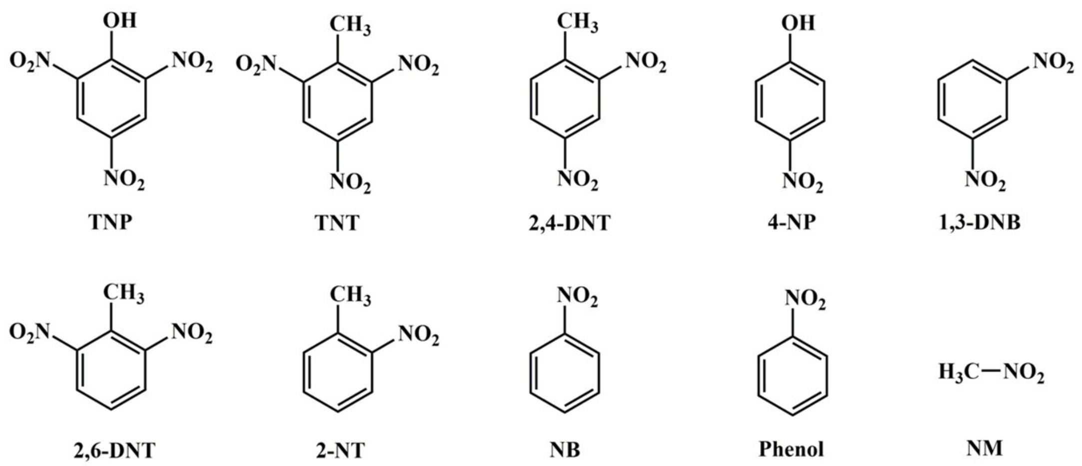


Fig. S9 (a) Fluorescence decay curves of blue-light of T-PNI@QDs-5 and T-PNI@QDs-5+PA; (a) Fluorescence decay curves of red-light of T-PNI@QDs-5 and T-PNI@QDs-5+PA.



Scheme S1 Structures of different nitro-compounds used in the experiments.

Table S1 A comparative study of the Ksv, detection limit and medium used for PA detection of some recent representative reports.

Publication	Material used	$K_{SV}(M^{-1})$	Detection limit	Medium Used
Present work	T-PNI@QDs hybrid nanostructure	2.67×10^4	4.09 µM (blue light)	Water
		2.89×10^4	3.79 µM (red light)	
Sensor Actuat. B Chem., **2017**, 248, 223	Antipyrine Schiff base AIE sensor	1.91×10^5	19.1µM	Water
J. Mol. Liq., **2018**, 262, 446	9-Anthraldehyde-based AIE sensor	1.89×10^5	8.07 µM	Water
Chem. Commun., **2016**, 52, 11284	TPE functionalized metal–organic framework	2.8×10^4	—	Methanol
RSC Adv., **2015**, 5, 76670	TPE-based oxacalixarenes	1.7×10^4	0.1 mM	Water/THF (95/5)
Polym. Chem., **2018**, 9, 3158	CdTe QDs/block copolymer hybrid assemblies	—	1.27 µM	Water
Spectrochim. Acta A Mol. Biomol. Spectrosc., **2019**, 222, 117168	Barbituric acid derivatives	4.1×10^4	2.4 µM,	Water/THF (90/10)
Spectrochim. Acta A Mol. Biomol. Spectrosc., **2020**, 233, 118221	Amine functionalized CdSe@SiO_2 NPs	4.0×10^4	0.05 µM,	Water
Mater. Chem. Phys., **2021**, 260 ,124130	Fe_2O_3-CdSe nanocomposite	4.3×10^4	2.2 µM	DMSO