Supporting Information

A facile strategy for the synthesis of water-soluble fluorescent nonconjugated polymer dots and their applications in tetracyclines detection

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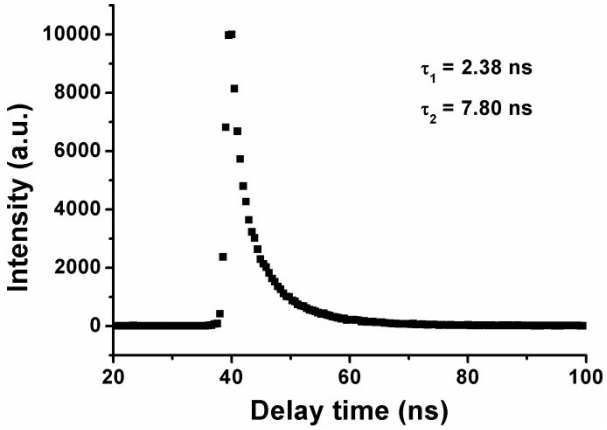


Fig. S1 Fluorescence decay curve of the PEI-AA NCPdots (λ_{ex} = 365 nm, λ_{em} = 485 nm, χ^2 = 1.140). The fractional weights of τ_1 and τ_2 are 39.33% and 60.67%, respectively. The intensity-weighted average lifetime was 6.90 ns, which was calculated according to the literature reported procedures.[S1, S2]

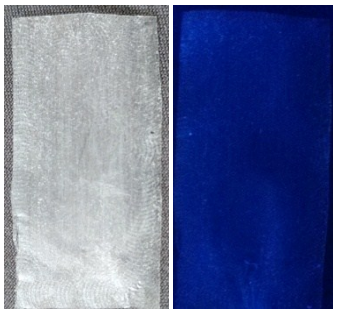


Fig. S2 Photographs of PVA film under visible light (left) and 365 nm UV light illumination (right).

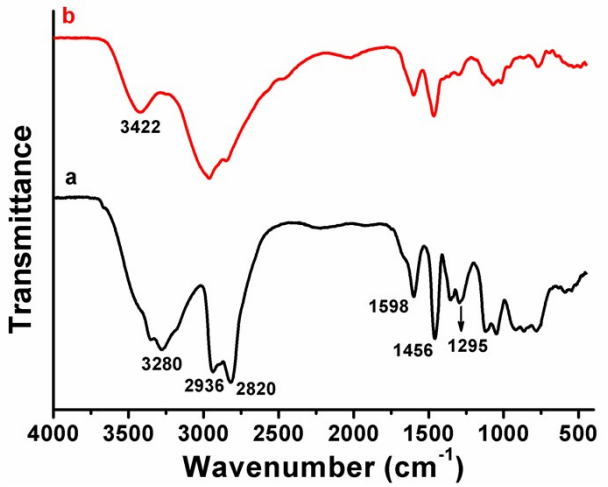
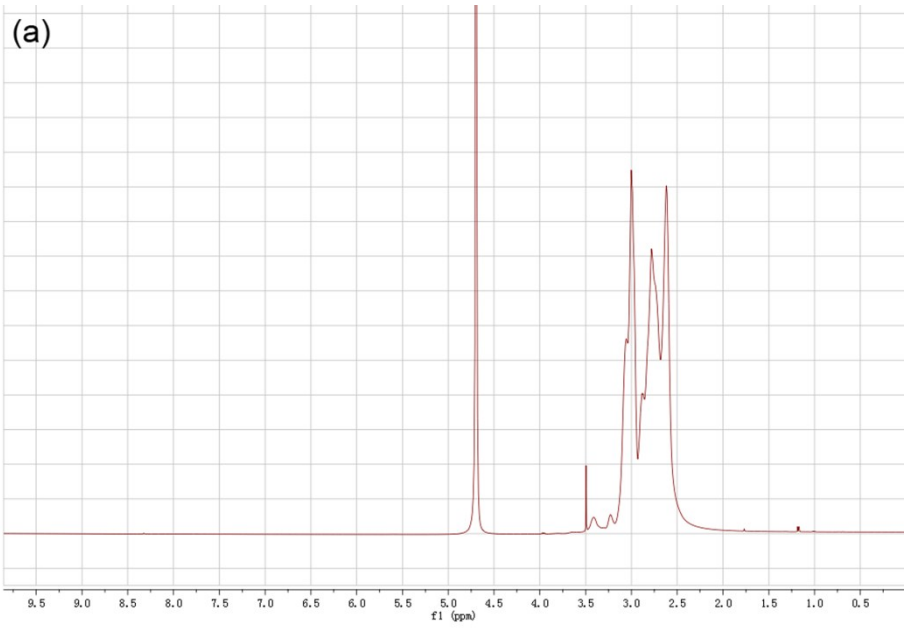


Fig. S3 FT-IR spectra of (a) the PEI-AA NCPdots and (b) PEI.



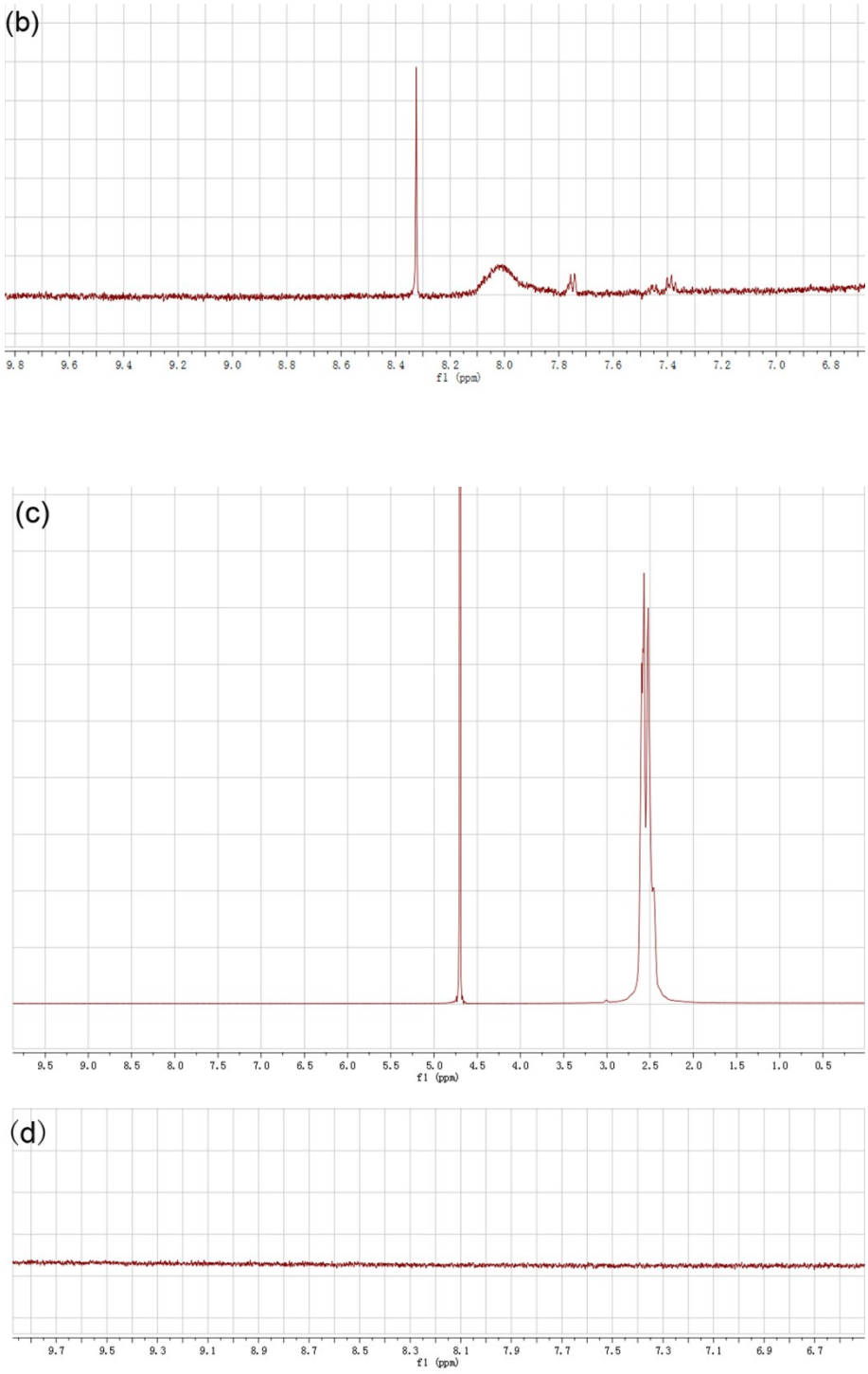


Fig. S4 ^{1}H-NMR spectra of the PEI-AA NCPdots (a) and PEI (c) in D_2O. (b) and (d) are partial expansion of ^{1}H-NMR spectra of (a) and (c), respectively.

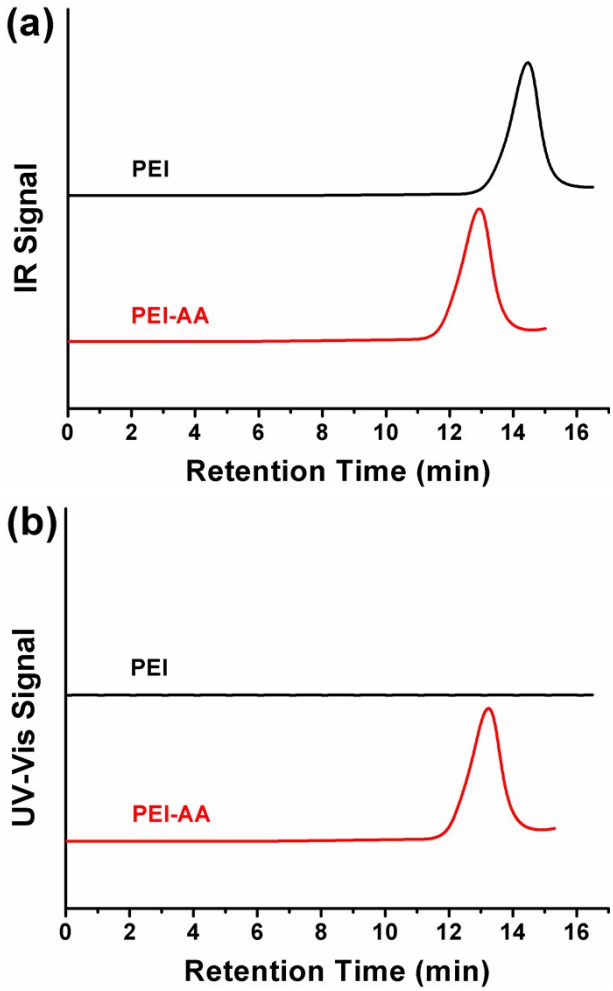


Fig. S5 GPC curves of PEI and PEI-AA NCPdots based on the RI signal (a) and the UV-Vis signal at 360 nm (b).

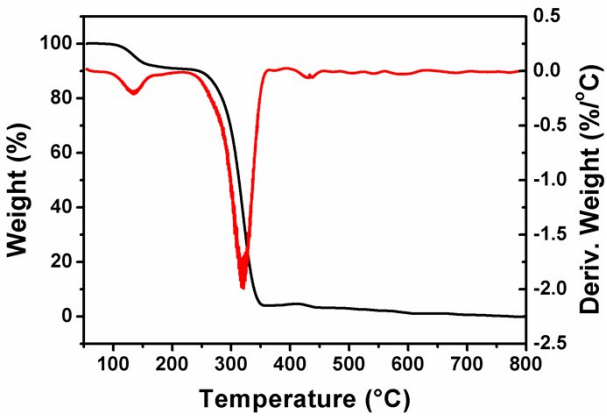


Fig. S6 Thermogravimetric curve (black) and derivative thermogravimetric curve (red) of the PEI-AA NCPdots.

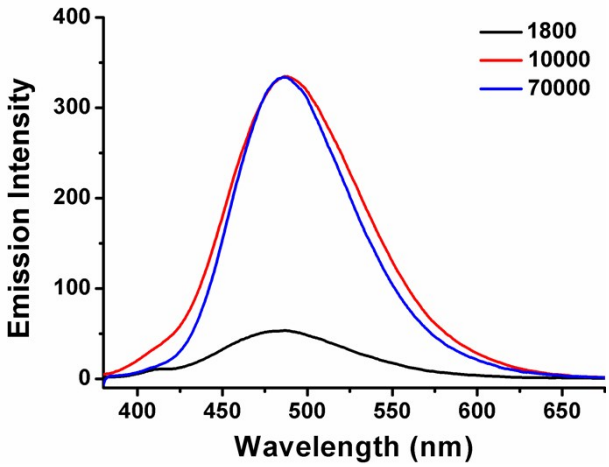


Fig. S7 Fluorescence emission spectra of the PEI-AA NCPdots prepared from commercial hyperbranched PEI with different molecular weight.

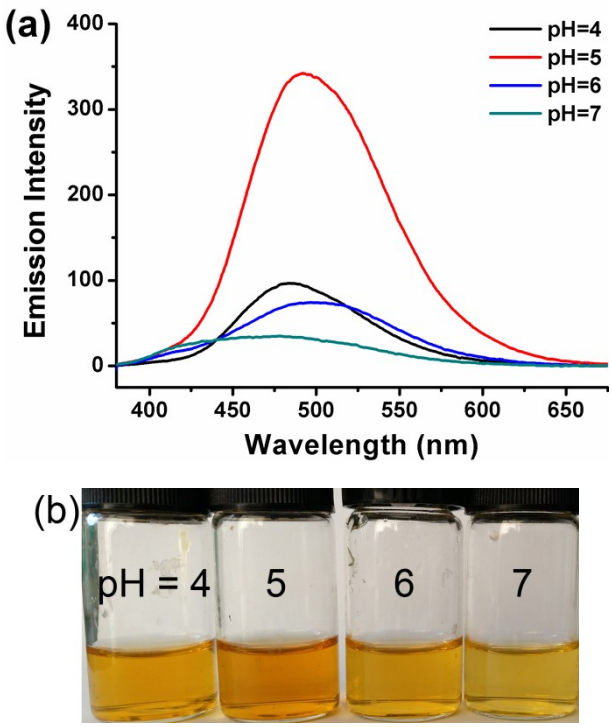


Fig. S8 (a) Fluorescence emission spectra of prepared at different pH value (λ_{ex} = 360 nm). (b) The corresponding photographs of the PEI-AA NCPdots solutions under daylight lamp.

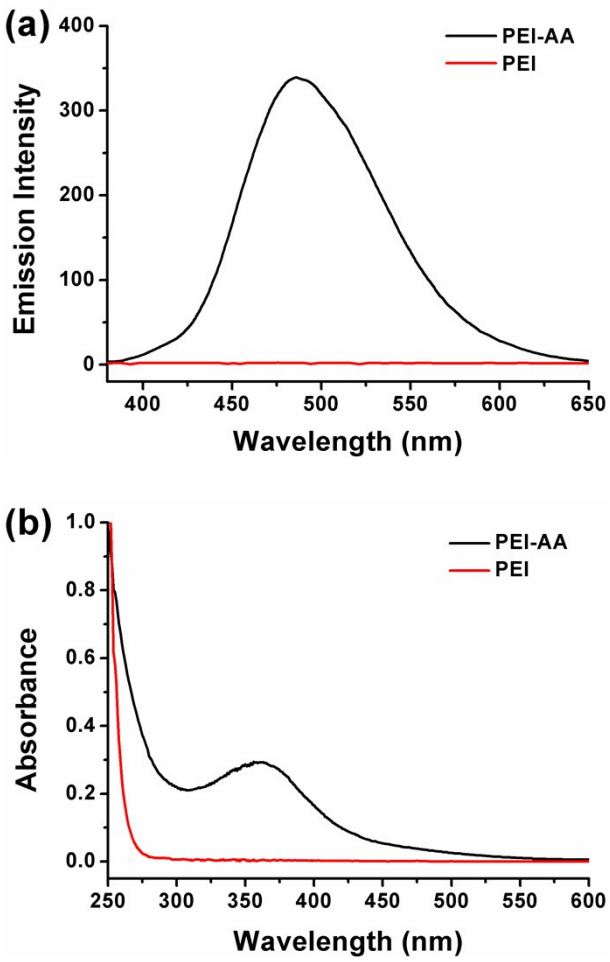


Fig. S9 (a) Fluorescence emission and (b) UV-vis spectra of the PEI-AA NCPdots and PEI solution, respectively.

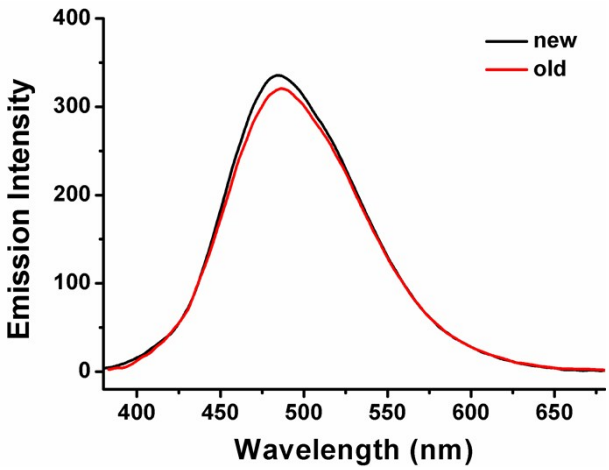


Fig. S10 Fluorescence emission spectra of fresh prepared PEI-AA NCPdots (black line) and after storaged under umbient condions for 6 months (red line).

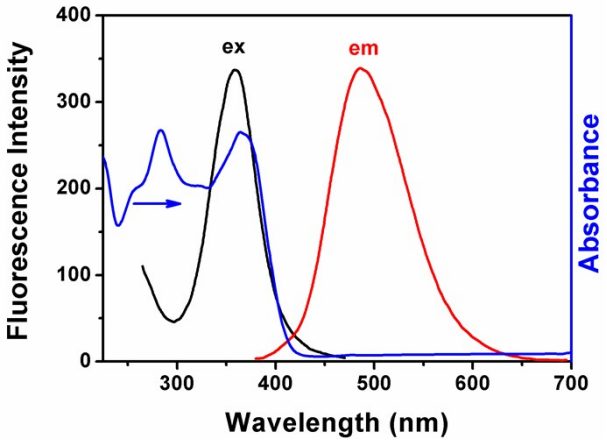


Fig. S11 UV-vis absorption spectra of TC (blue line) and fluorescence spectra of the PEI-AA NCPdots (black and red line).

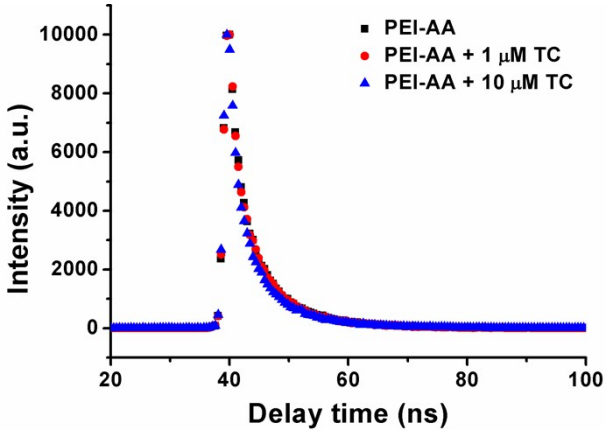


Fig. S12 Fluorescence decay curves of the PEI-AA NCPdots before and after adding different amount of TC.

Table S1 Detection of TC in milk samples.

Sample	TC spiked	TC founded	RSD (%, n=3)	Recovery (%)
1	90 nM	88.5 nM	4.20	98.33
2	2.1 μM	2.015 μM	3.12	95.95
3	8.1 μM	8.133 μM	6.39	100.41

Table S2 Detection of TC in environmental water samples.

Sample	TC spiked	TC founded	RSD (%, n=3)	Recovery (%)
1	90 nM	90.7 nM	3.05	100.78
2	2.1 μM	2.038 μM	5.23	97.05
3	8.1 μM	8.014 μM	4.66	98.94

References:

[S1] J. R. Lakowicz, Principles of Fluorescence Spectroscopy, 3rd ed., Springer, New York **2006**.

[S2] Y. Chen, H. Zhou, Y. Wang, W. Li, J. Chen, Q. Lin, C. Yu, Chem. Commun., **2013**, 49, 9821-9823.