

Electronic Supplementary Information

Fluorescent switching technology based on fluorescence resonance energy transfer for detecting dimethoate pesticide in environmental water

Zhen Sheng,^a Jianfeng Zhang,^b Chenyu Li,^b Ligang Chen^{a*}

^aDepartment of Chemistry, College of Science, Northeast Forestry University, 26 Hexing Road, Harbin 150040, China.

E-mail: ligangchen2010@aliyun.com (L. Chen); Tel: +86-451-82190679-8244

^bCenter of Disease Control of Heilongjiang Province, 40 Youfang Street, Harbin 150030, China

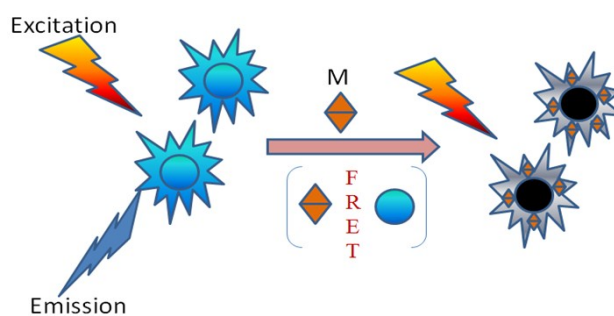


Fig. S1 The fluorescence resonance energy transfer mechanism

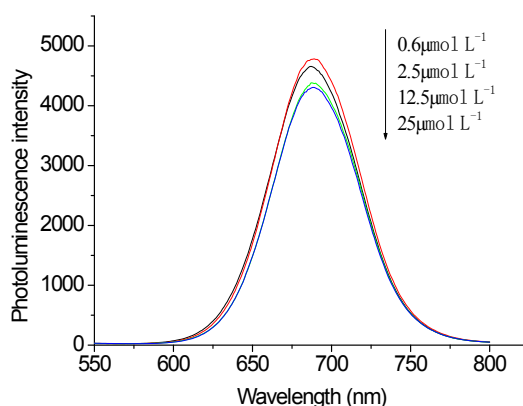


Fig. S2 Fluorescence spectra of the red QDs with the addition of different DZ concentration

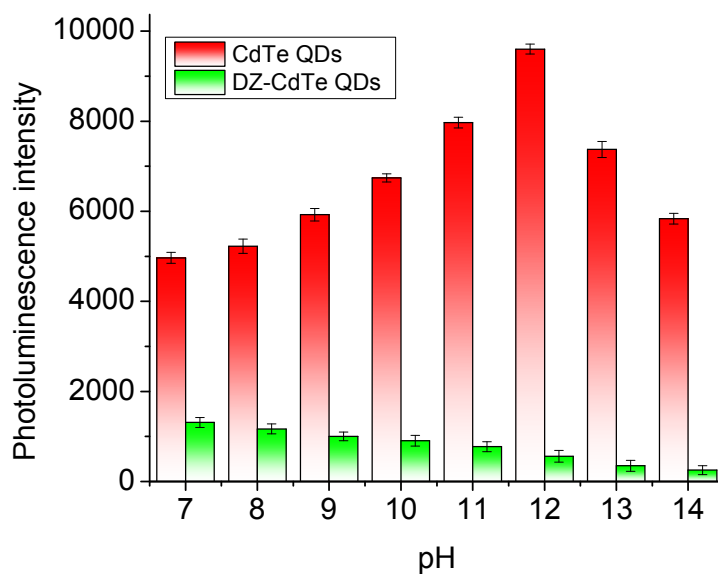


Fig. S3 The influence of the pH on the intensity of fluorescence quantum dots and the fluorescence probe

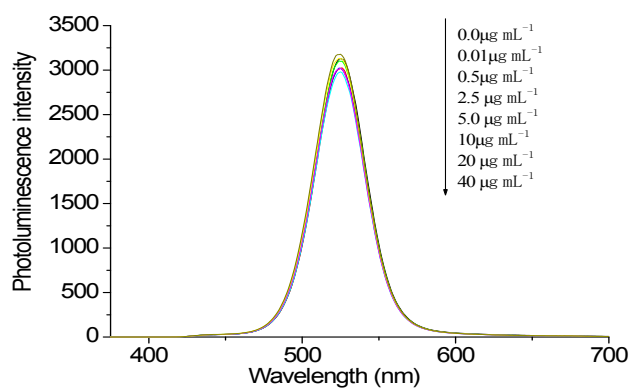


Fig. S4 Fluorescence spectra of the CdTe QDs after addition of different concentrations of DMT

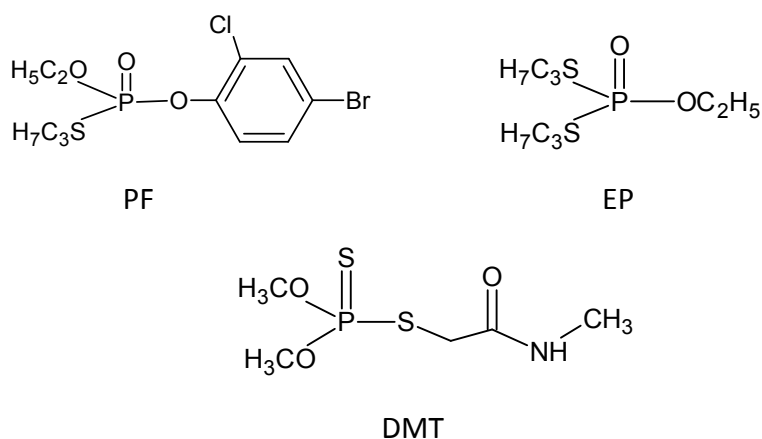
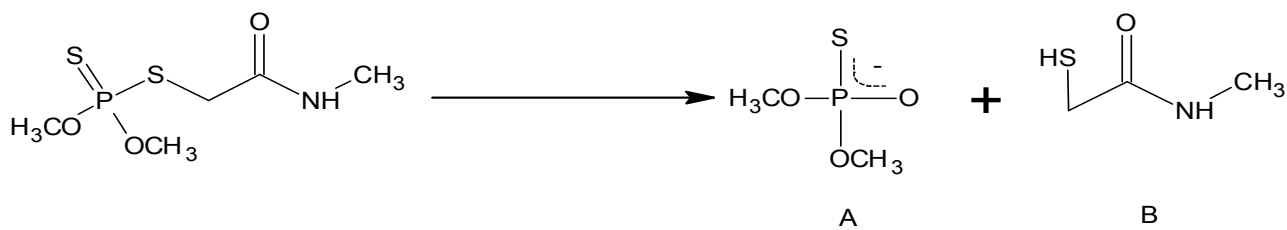


Fig. S5 The structural formula about PF, EP and DMT



Scheme S1 The hydrolysis of the DMT compounds

Table S1 Recoveries of dimethoate from water (n=5)

Sample	Concentration sample (this study) ($\mu\text{g mL}^{-1}$)	Concentration sample (GC-MS) ($\mu\text{g mL}^{-1}$)	Concentration added (this study) ($\mu\text{g mL}^{-1}$)	Recovery (this study) (%)	RSD (this study) (%)
Tap water	0.00	0.00	0.30	88.6	5.5
			3.00	90.7	3.2
			30.00	95.3	3.8
River water	0.60	0.57	0.50	91.3	3.7