10.1071/CH14016_AC

Australian Journal of Chemistry 2015, 68(2), 315-321

Supplementary Material

Mn(II)-doped ZnS Quantum Dots Modified with Tiopronin for mercury(II) Detection

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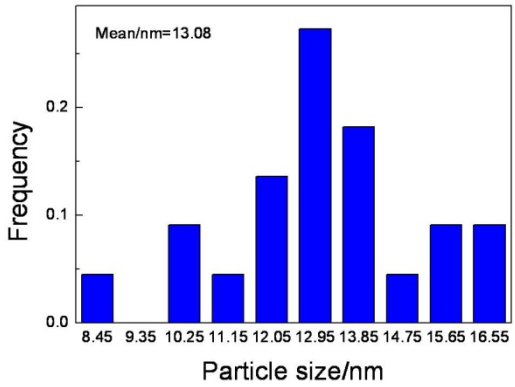

Fig.S1 The particle size distribution of QDs-TP TEM images.

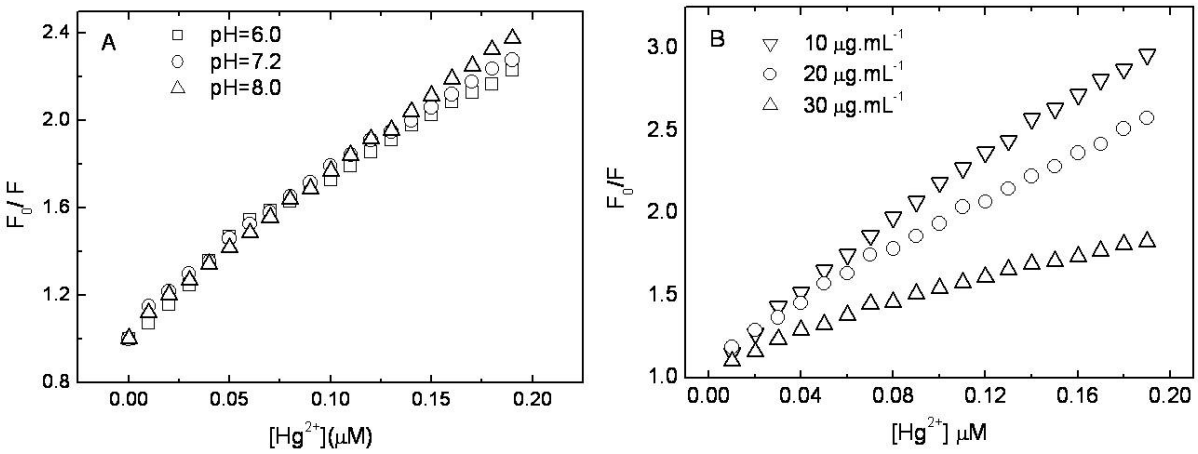

Fig.S2 Fluorescence quenching by Hg^{2+} ion for ZnS:Mn/TP QDs ($I_{F\ max}$ = 590 nm) in different pH value(KH_2PO_4-NaOH buffer) solution(A) and different concentration of QDs-TP(B)

Table S1 Comparison of methods for the determination of Hg^{2+}

Methods	Systerm	Media	pH	LODs	Linear range	References
World Health Organization				30 nM		[2]
Spectrofluorimetry	Pyrene-component	DMSO/H_2O= 4:1	4-10	19 nM		[5]
	Pyrene-hydrazone	20%CH_3CN, HEPES, pH 7.4	2.4-12.0	4 nM	0.01-5.0μM	[6c]
	CdSe@ZnS QDs	Aqueous		0.1 μM	0.05- 3.0μM	[19]
	NAC/ZnS QDs	Aqueous	7.2	5 nM	0-2.4μM	[S1]
Spectrophotometry	GK–Ag NPs	Aqueous	6-11	50 nM	0.05-9μM	[S2]
Phosphorescence	CTAB/Mn-ZnSQDs	Aqueous	7.4	1.5 nM	0.05-0.8μM	[22c]
Spectrofluorimetry	TP/Mn-ZnSQDs	Aqueous	7.4	8.9nM	0.02–0.18 μM	Our work

References

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[S2] L. Rastogi, R. B. Sashidhar, D. Karunasagar, J. Arunachalam, *Talanta* **2014**, *118*, 111. doi:10.1016/j.talanta.2013.10.012