

**Electronic supplementary information for**

**Selective Detection of Mercury Ions Based on Tin Oxide  
Quantum Dots: Performance and Fluorescence  
Enhancement Model**

**Jianqiao Liu<sup>1</sup>, Yu Bai<sup>1</sup>, Jingcheng Shi<sup>1</sup>, Qing Yu<sup>1</sup>, Jifei Liu<sup>1</sup>, Jiayu Yang<sup>1</sup>, Ce Fu<sup>1</sup>, Qianru  
Zhang<sup>2</sup>**

**1. College of Information Science and Technology, Dalian Maritime University, Dalian  
116026, Liaoning, China P.R.**

**2. Institute of Agriculture Resources and Regional Planning, Chinese Academy of  
Agricultural Sciences, Beijing 100081, China**

**Corresponding author:** Jianqiao Liu, Ce Fu & Qianru Zhang

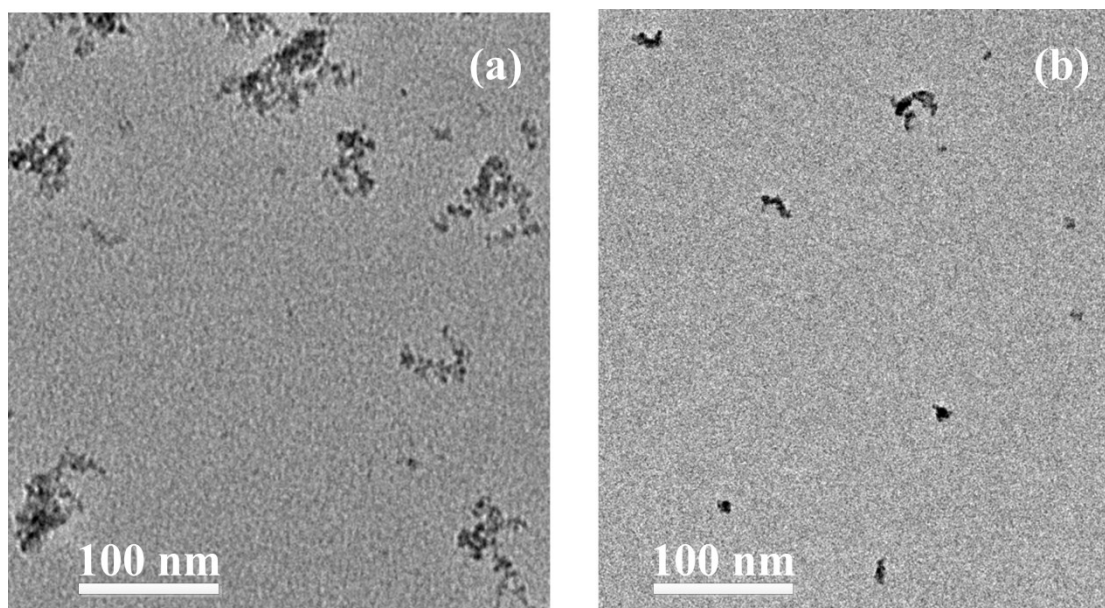
**Email:** jqliu@dlmu.edu.cn (J. Liu), fu\_ce@dlmu.edu.cn (C. Fu) & zhangqianru@caas.cn (Q.  
Zhang)

**Tel:** +86 411 84729934

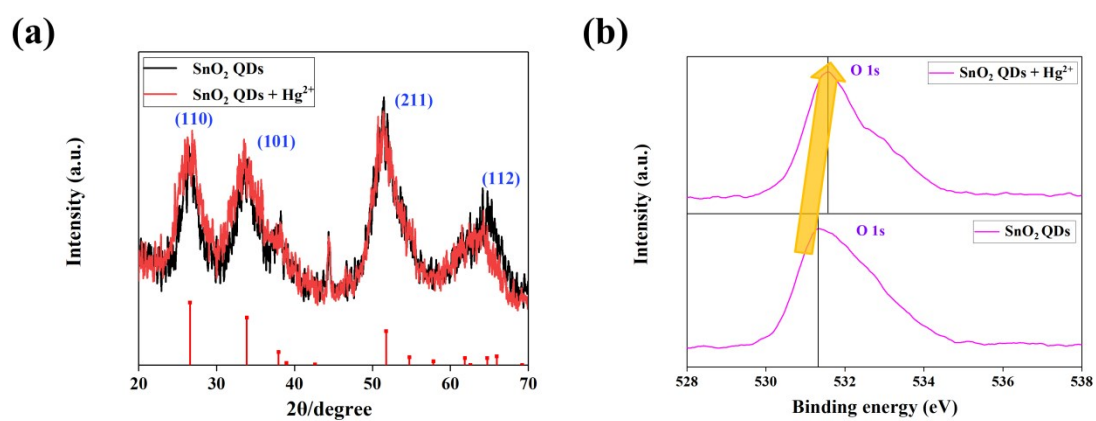
**Fax:** +86 411 84729934

**Address:** College of Information Science and Technology, Dalian Maritime University, Linghai  
Road 1, Ganjingzi District, Dalian 116026, Liaoning, China P.R.

## Supplementary Figures



**Fig. S1** HRTEM of SnO<sub>2</sub> QDs (a) without and (b) with addition of Hg<sup>2+</sup> ions.



**Fig. S2** (a) XRD patterns and (b) XPS O 1s peaks of SnO<sub>2</sub> QDs with and without addition of Hg<sup>2+</sup> ions.