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Communication

## Supporting Information

### High efficiency solar cell based on ZnO nanowire array prepared by different growth methods

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Analysis of ZnO/CdS/CdSe (4N2H) for tracing elements by energy dispersive spectrometer is illustrated in Figure S1 and the

corresponding elements percentage is shown in Table S1. The results indicate that CdS and CdSe have been deposited on the ZnO NW array. The X-ray diffraction (XRD) pattern in Figure S2 demonstrated that the ZnO (002) plane is parallel to the c-axis of wurtzite ZnO, and the intensity of CdS (002) peak is low due

to the high intensity of ZnO (002) peak resulting from the high oriented ZnO NW array.

The selected area electron diffraction (SAED) image of ZnO/CdS (4N2H) is illustrated in Figure S3. The clear SAED spots are indexed to the ZnO (002) plane, and a ring pattern confirms the CdS (002) plane. The result is consistent with XRD analysis of ZnO/CdS (4N2H) array.

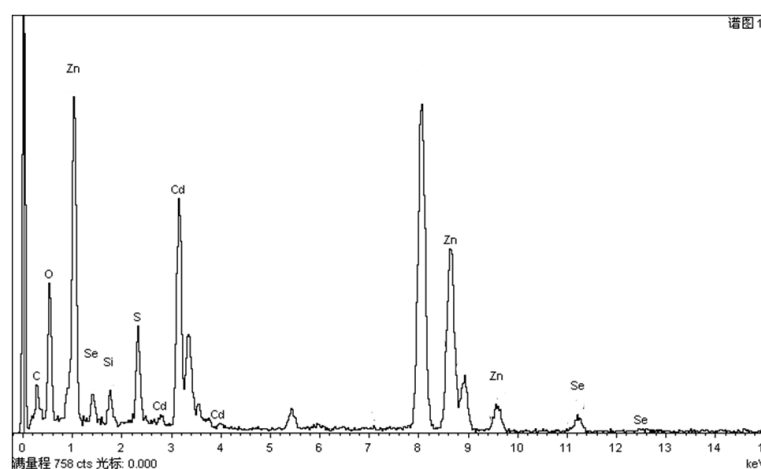
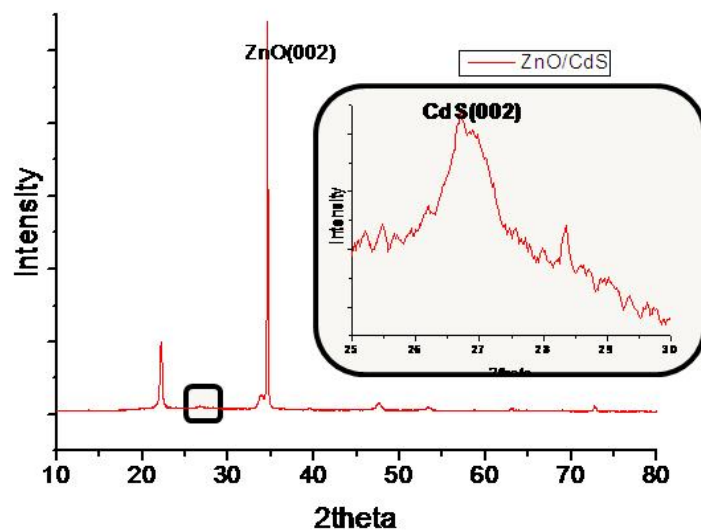
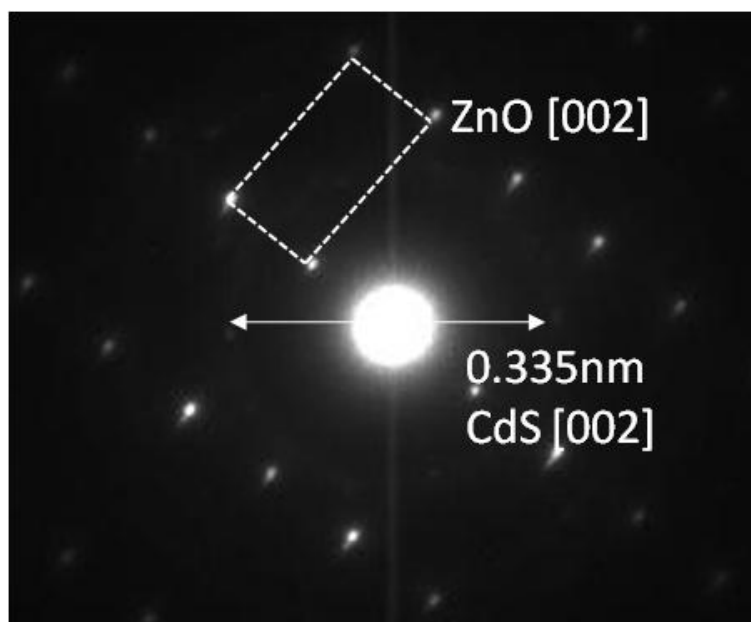


Fig. S1. EDS of ZnO/CdS/CdSe array.



**Fig. S2.** XRD pattern of ZnO/CdS NW array.



**Fig. S3.** SEAD of single ZnO/CdS core shell nanowire.

**Table S1** Element analysis of ZnO/CdS/CdSe by EDS.

Elements	Weight percent (%)	Atomic percent (%)
O	7.09	24.28
S	3.68	6.28
Zn	18.73	15.70

Se	1.94	1.35
Cd	31.89	15.55