Supplementary Information

TiO_2 nanoparticals/ZnO nanowires hybrid photoanode for enhanced quantum dots sensitized solar cell performance

Jianping Deng, Minqiang Wang*, Chengao Yang, Jing Liu, Xiaohui Song

Electronic Materials Research Laboratory (EMRL), Key Laboratory of Education Ministry; International Center for Dielectric Research, Xi'an Jiaotong University, Xi'an, 710049, China.

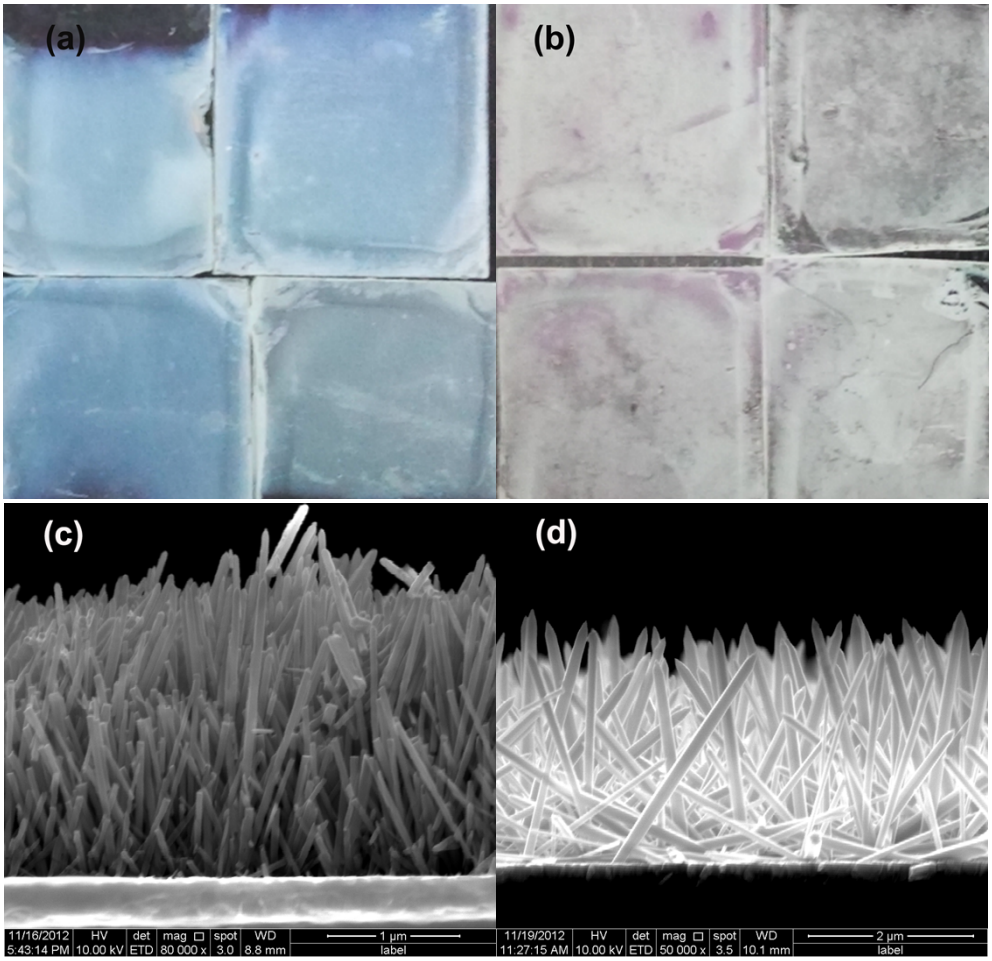

Fig.S1 Plane photograph and cross SEM of ZnO nanowires. Their seed were parepared by a different concentrations of ZnO NPs, (a, c) 5mg/ml and (b, d) 1mg/ml. The seed films were prepared by a process (2000rmp, 30s, one cycle). Fig.S1(a, c) and Fig.S1(b, d) show the plane photograph and cross SEM of ZnO nanowires prepared by the NPs concentration of 5mg/ml and 1mg/ml, respectively. The plane photographs show that ZnO NW films with high density and uniformity present the light blue when the concentrations is 5mg/ml, however, ZnO NW films are low

density and poor uniformity when the concentrations is 1mg/ml. From the cross-section SEM, ZnO NWs have small diameter and big density and the pore is very small when the concentration is 5mg/ml (Fig.S1c), so it is difficult to inject TiO_2 paste. The NWs have a low density and clutter when the concentrations decrease to 1mg/ml (Fig.S1d). Although the big pore present, NWs easy fall off due to the weak adhesive.