The Effect of TiO_2 Nanoflowers as a Compact Layer for CdS Quantum-Dot Sensitized Solar Cells with Improved Performance

S. Srinivasa Rao, I. Kanaka Durga, Chandu. V. V. M. Gopi, Chebrolu Venkata Tulasivarma, Soo-Kyoung Kim, and Hee-Je Kim *

School of Electrical Engineering, Pusan National University, San 30, Jangjeong-Dong, Gumjeong-Ku, Busan-609 735, South Korea.

*Corresponding Author. Tel: +82 51 510 2364. Fax: +82 51 513 0212. E-mail: heeje@pusan.ac.kr (H.-J. Kim).

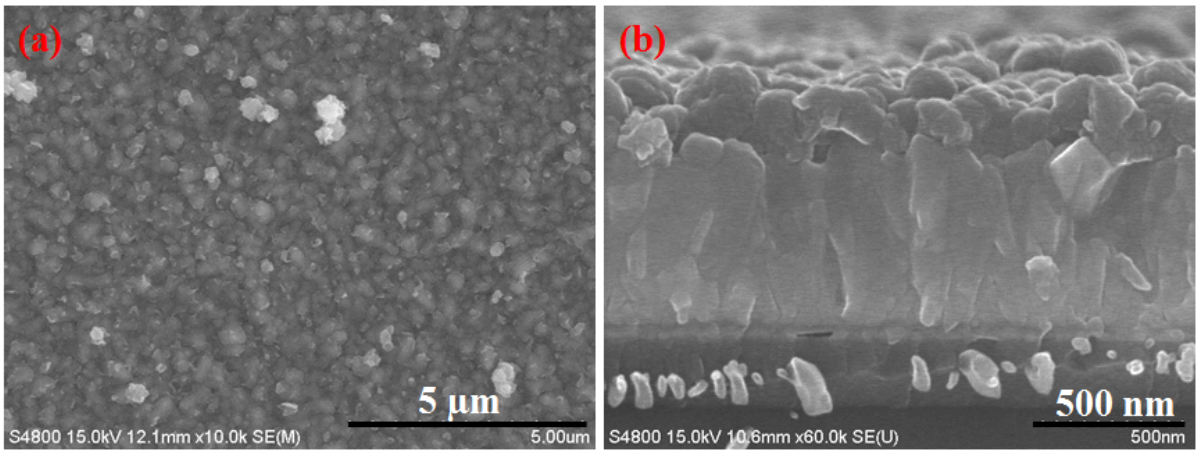

Fig. S1 Scanning electron microscopy (SEM) and Cross sectional SEM images of the films of NiS.

Fig. S1 shows the SEM image of the NiS on FTO substrate, which resembles like a mung beans. The mung beans like structure were obtained with particle size of approximately 280 to 360 nm and occupied a large surface area of the film, which provides a more catalytic reduction of S_n^{2-}. In addition, film thickness of 783.33 nm (which shows two interfaces from glass to FTO and FTO to NiS thin film) was obtained using cross-sectional view of SEM (Fig. S1 (b)).