Electronic Supplementary Information (ESI) for

High efficiency conjugated polymer/Si hybrid solar cells with tetramethylammonium hydroxide treatment

Xiaojuan Shen,*a Baogen Ma,a Ling Chena and Jie Zhao*b

aInstitute of Polymer Materials, School of Materials Science & Engineering, Jiangsu University, Zhenjiang, P.R. China.
bCollege of Physics, Optoelectronics and Energy & Collaborative Innovation Center of Suzhou Nano Science and Technology, Suzhou, P.R. China.
E-mail: xiaojuanshen@ujs.edu.cn; jzhao@suda.edu.cn

Fig. S1 Cross-section SEM image of SiNWs covered with PEDOT:PSS layer. The scale bar is 200 nm.
Fig. S2 XPS measurements (in eV) of the Si substrate without (W/O, freshly prepared by HF) and with (W) TMAH treatment.

Fig. S3 SEM images of the rear surface of SiNWs substrate (a) without and (b) with TMAH treatment. The scale bar is 200 nm.

Fig. S4 UPS analysis of silicon substrate without and with TMAH treatment.
**Fig. S5** Stability measurement of the devices without and with TMAH treatment

**Fig. S6** The reflection spectra of SiNWs with different TMAH treatment time.