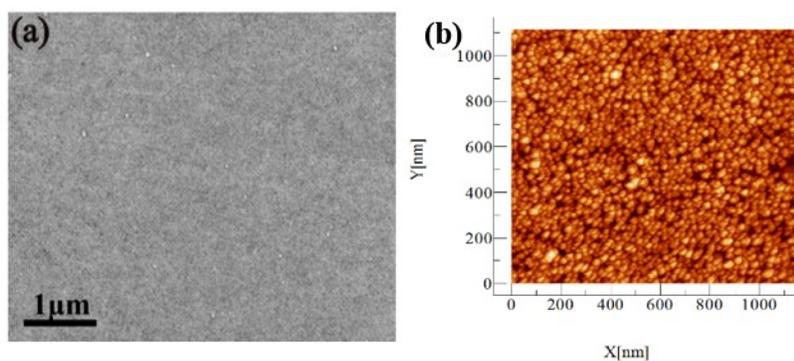


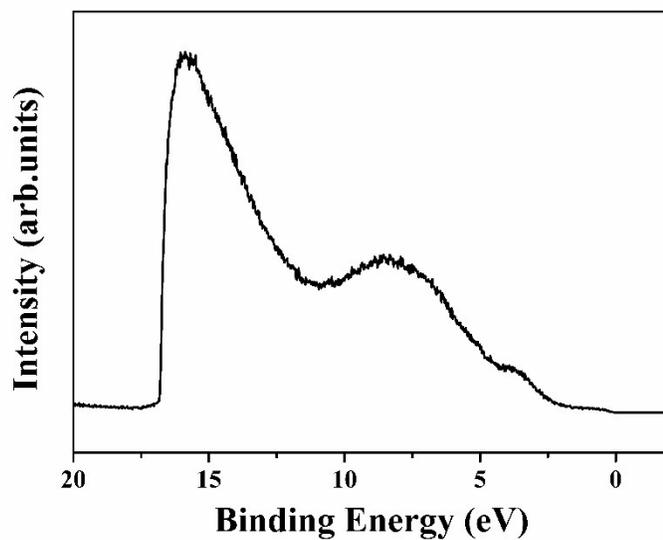
## Supporting information

### Chemically Tunable Photoresponse of Ultrathin Polypyrrole

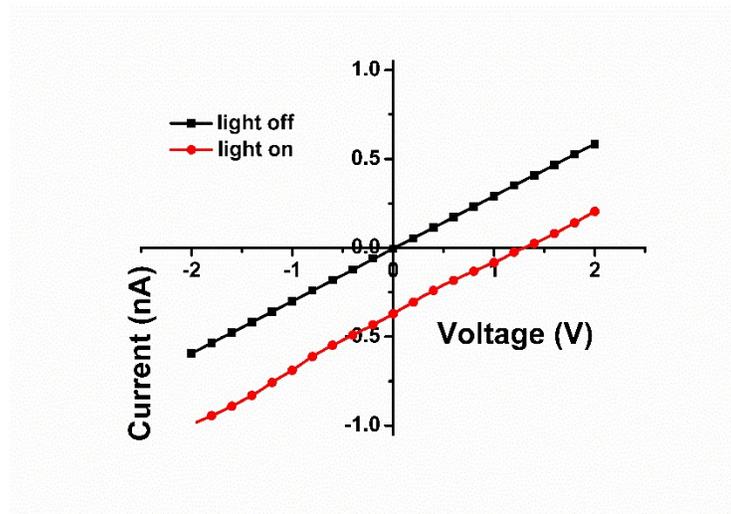
Peng Wen, Changhui Tan, Junchang Zhang, Fanben Meng, Lin Jiang,\* Yinghui Sun\* and Xiaodong Chen\*



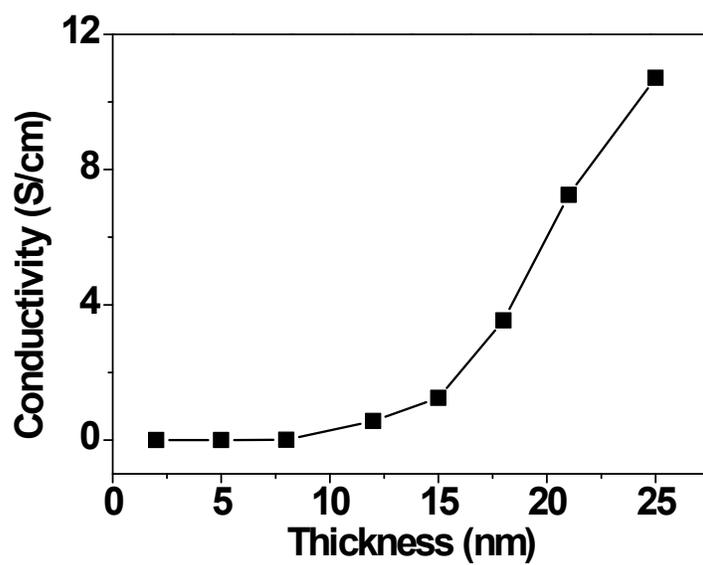
**Figure S1.** (a) Top-view SEM image and (b) AFM image of 15 nm PPy film.



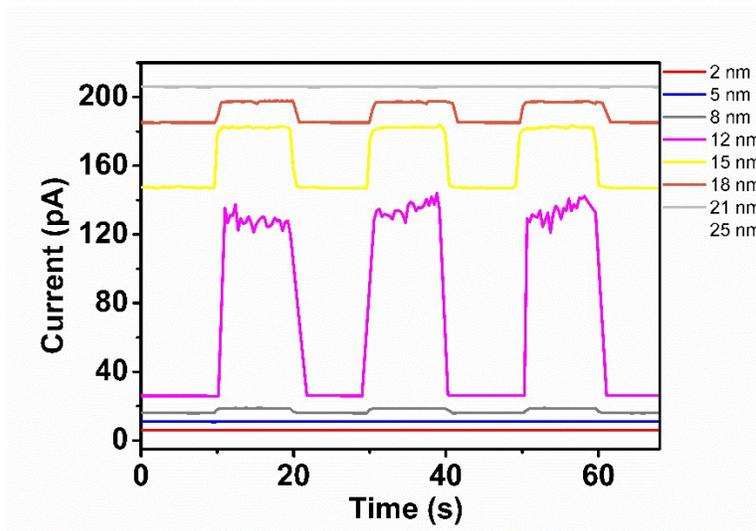
**Figure S2.** UPS spectra of PPy film treated with 0.05 M NaOH solution.



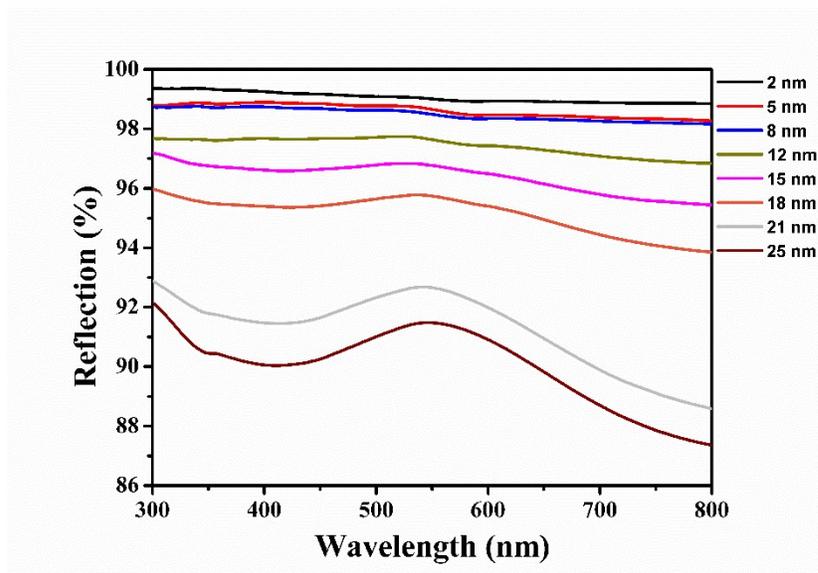
**Figure S3.** *I-V* curves measured on the PPy film with light on/off at exchange source and drain terminal compare with Figure 2A.



**Figure S4.** The variations of electrical conductivity with thickness of the PPy film layer.



**Figure S5.** On-off curve of PPy film device with different thickness.



**Figure S6.** The UV-Vis reflection spectra of the PPy films with different thickness.