

# Polypyrrole Film Deposited-TiO<sub>2</sub> Nanorod Arrays for High Performance Ultraviolet Photodetectors

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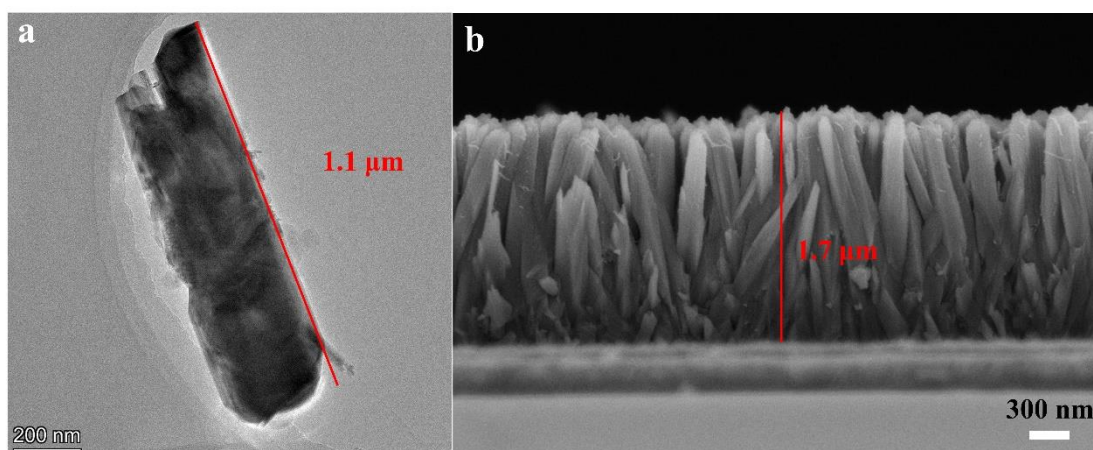


Figure S1. TEM image (a) of TiO<sub>2</sub> and SEM image (b) of TiO<sub>2</sub>-FTO film.

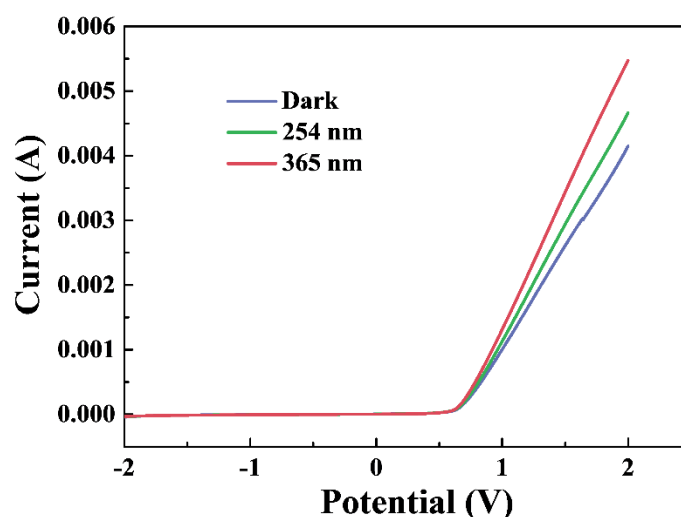


Figure S2. The I-V curves of the FTO-3PPy-TiO<sub>2</sub>-FTO device.

Table S1. The comparison of results between previous reported PDs and our devices.

| Structures                         | Wavelength (nm) | Voltage (V) | I <sub>dark</sub> (nA) | I <sub>pc</sub> (μA)   | Sensitivity | Responsivity (A/W)    | Ref.      |
|------------------------------------|-----------------|-------------|------------------------|------------------------|-------------|-----------------------|-----------|
| TiO <sub>2</sub> -PANI             | 320             | 0           | —                      | $3.2 \times 10^{-2}$   | —           | $3.6 \times 10^{-3}$  | 1         |
| PEDOT-TiO <sub>2</sub>             | 365             | 0           | 0.54                   | $2.07 \times 10^{-3}$  | 3.83        | $8.74 \times 10^{-6}$ | 2         |
| TiO <sub>2</sub> -P3HT             | 350             | 0           | —                      | $2.52 \times 10^{-10}$ | —           | $3.7 \times 10^{-5}$  | 3         |
| SnO <sub>2</sub> -TiO <sub>2</sub> | 365             | 0           | —                      | —                      | —           | 0.15                  | 4         |
| ZnO-TiO <sub>2</sub>               | 365             | 1           | —                      | $5 \times 10^3$        | 388         | $4.5 \times 10^{-6}$  | 5         |
| 3PPy-TiO <sub>2</sub>              | 365             | 0           | 60                     | 2.5                    | 41.7        | $3.5 \times 10^{-3}$  | This work |

## References

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