Electronic Supplementary Material (ESI) for Dalton Transactions. This journal is © The Royal Society of Chemistry 2020

Supporting Information

Incorporation of V_2O_5 Nanorods as an Alternative Approach to Enhance the Device Performance of Perovskite Photodetector: A Step towards Stability against Ambient Water Species

Nripen Besra¹, Kausik Sardar², Soumen Maiti³, Pranab Kumar Sarkar⁴, Tufan Paul², Subhasish Thakur², Gautam Majumdar⁵, and Kalyan Kumar Chattopadhyay^{1, 2,*}

¹Department of Physics, Jadavpur University, Kolkata 700032, India ²School of Materials Science and Nanotechnology, Jadavpur University, Kolkata 700032, India ³St. Thomas College of Engineering & Technology, Kolkata 700032, India ⁴Department of Applied Science & Humanities, Assam University, Silchar, Assam 788011, India ⁵Department of Mechanical Engineering, Jadavpur University, Kolkata 700032, India

*Corresponding author Tel.: +91 33 2413 8917. Fax: +91 33 2414 6007. E-mail: kalyan chattopadhyay@yahoo.com

Figure captions

Figure ES0: Schematic of the device fabrication process.

Figure ES1: (a & c) & (b & d) Low and high magnification FESEM images of samples S1 and S3 respectively.

Figure ES2: XPS survey spectrum of S2.

Figure ES3: Current voltage characteristics of V_2O_5 NRs under dark and light illumination ($\lambda = 700 \text{ nm}$).

Figure ES4: Spectral response graph of S2.

Figure ES5: Plot of contact angles vs. cycle number for MALI and S2.

Figure ES6: Variation of responsivity with varying length and diameter of V₂O₅ nanorods.

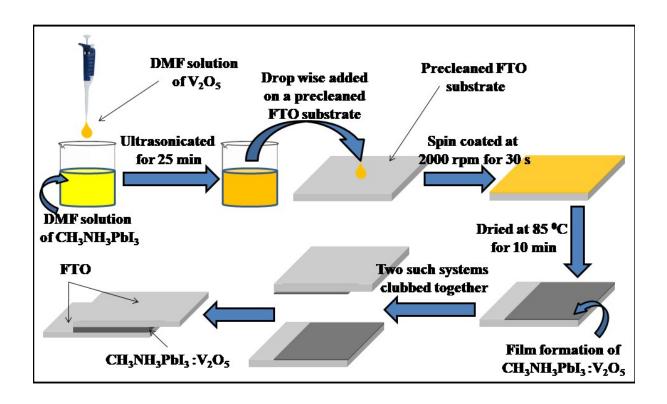


Figure ES0: Nripen et al.

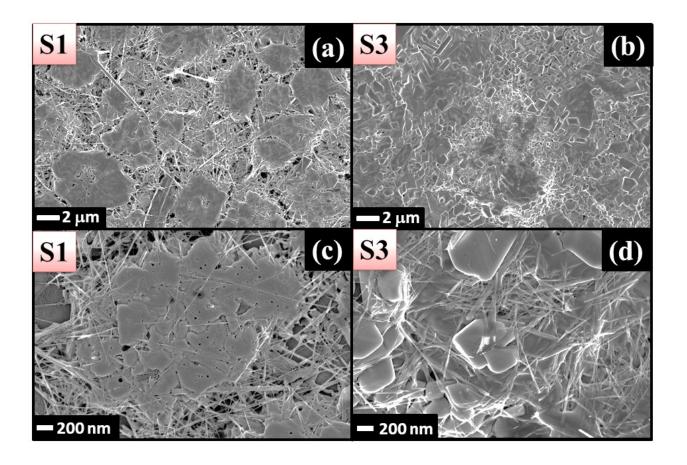


Figure ES1: Nripen et al.

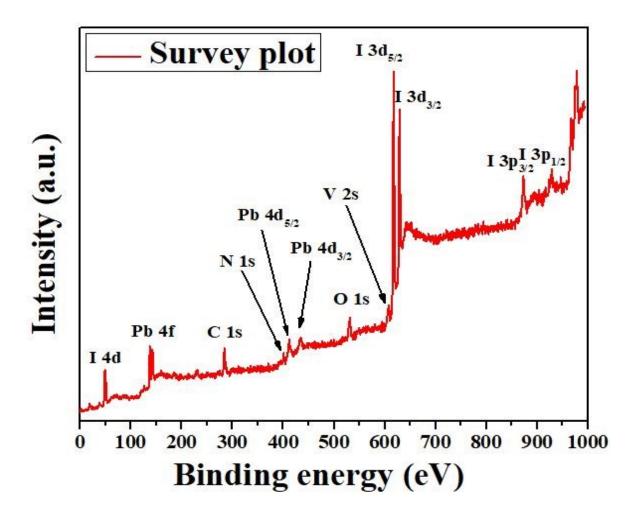


Figure ES2: Nripen et al.

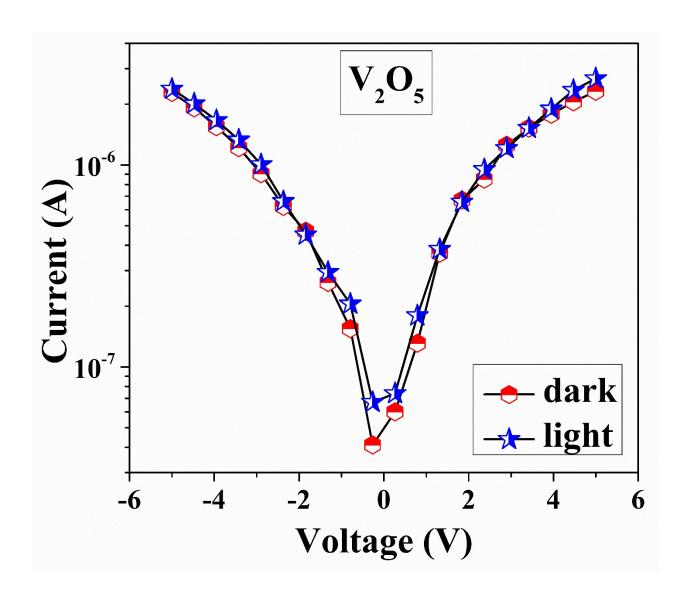


Figure ES3: Nripen et al.

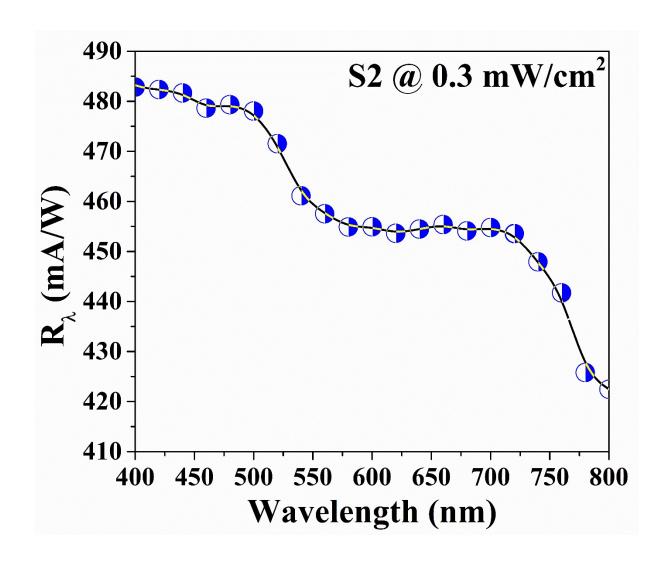


Figure ES4: Nripen et al.

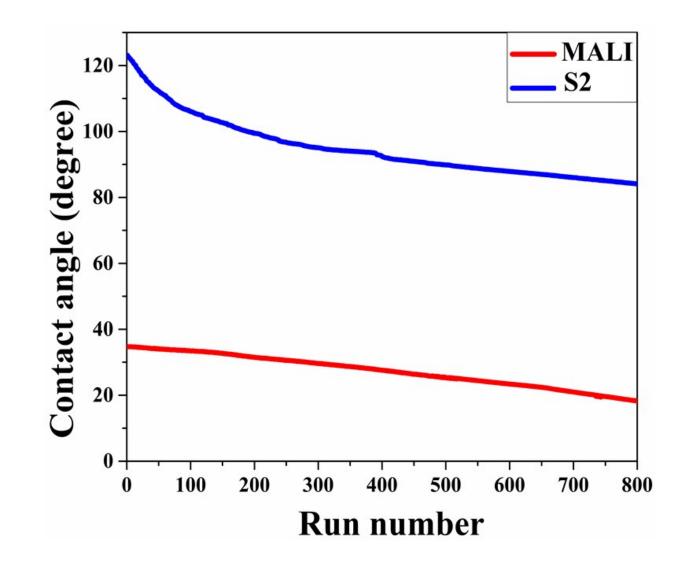


Figure ES5: Nripen et al.

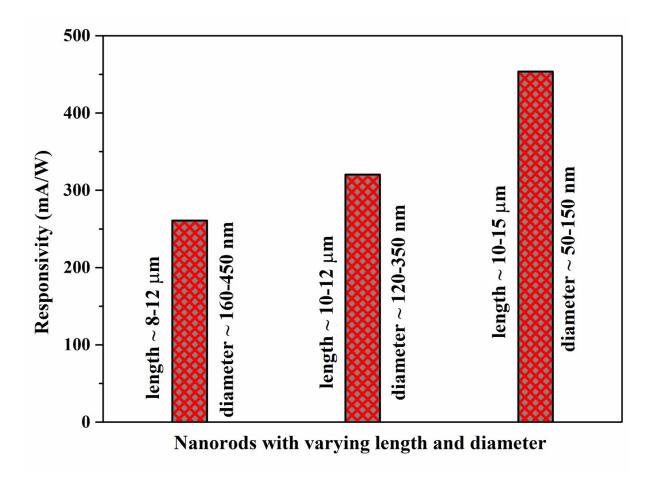


Figure ES6: Nripen et al.