

Supporting Information:

Vanadium Dioxide-based Miniaturised Thermal Sensors: Humidity Effects on Phase Change and Sensitivity

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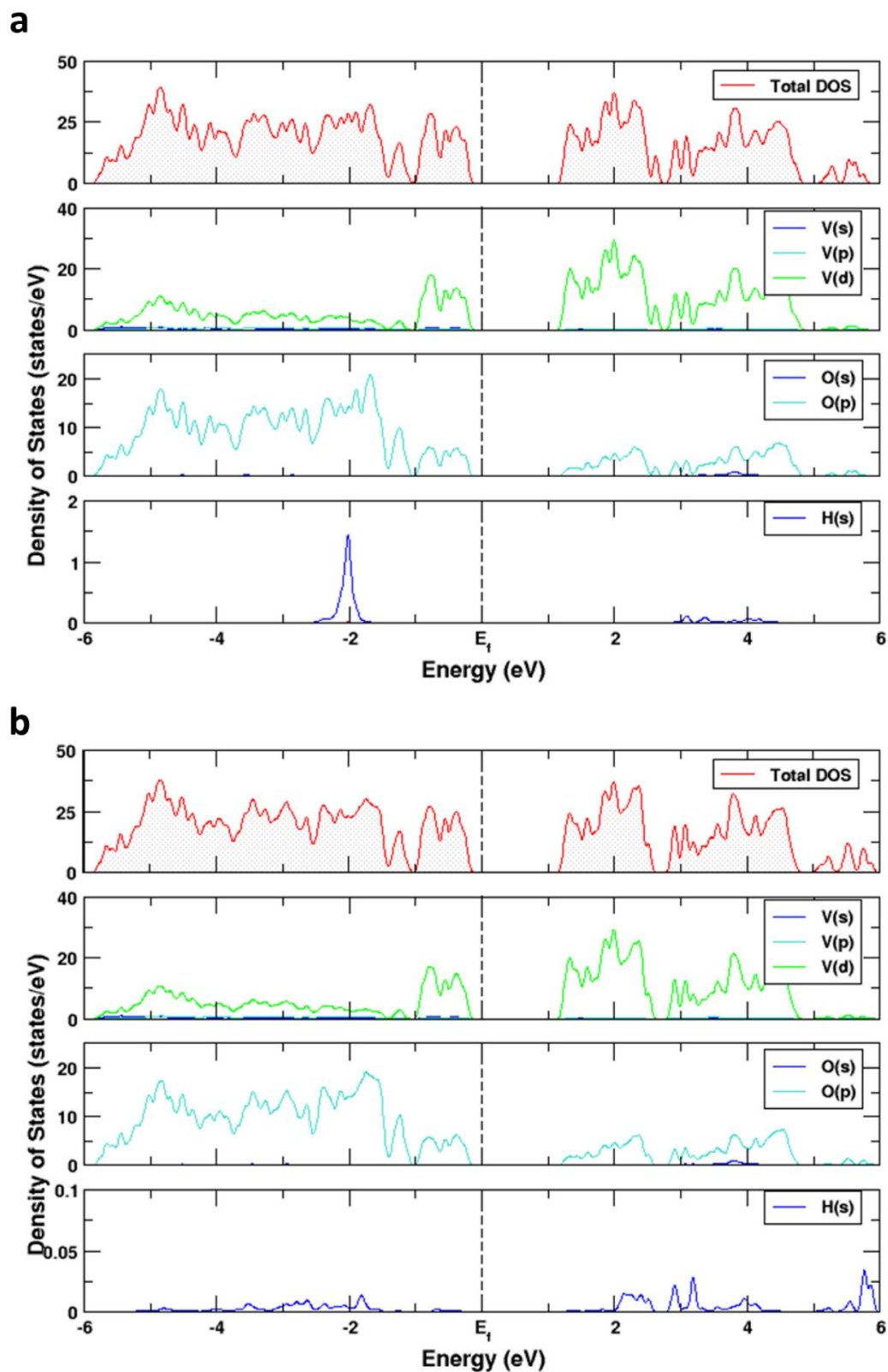


Figure S1 (a) The PDOS of VO_2 surface after H^+ adsorption, (b) The PDOS of VO_2 surface after adsorption of OH^- .

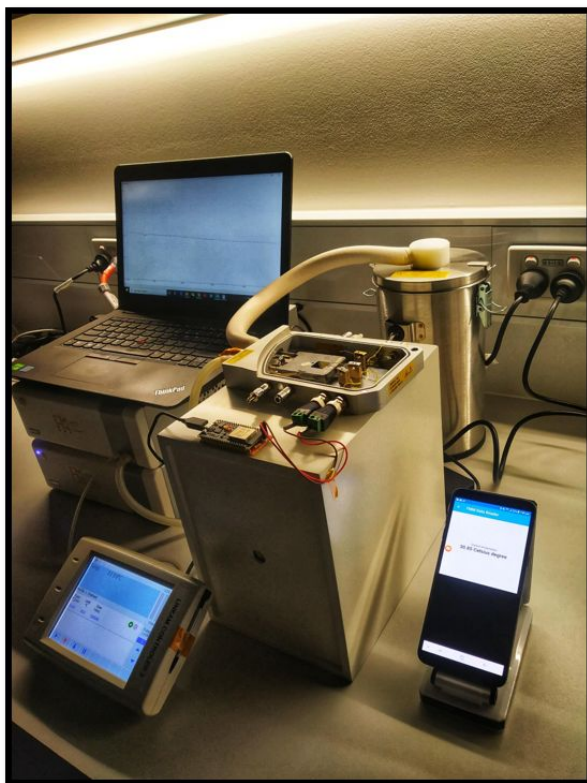


Figure S2 Image of the complete measurement setup

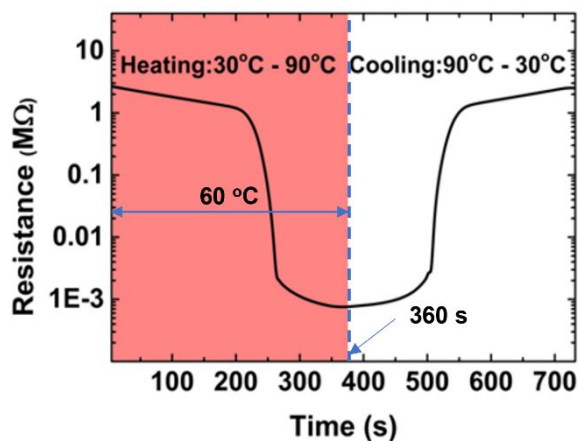


Figure S3 Image showing the time constant extrapolation

Time constant (τ) = 0.17s as extrapolated from **Figure S3** in accordance with controlled ramp rate of 10 °C/ minute. Response time (t_{res}) = 5 x τ = 0.83s.

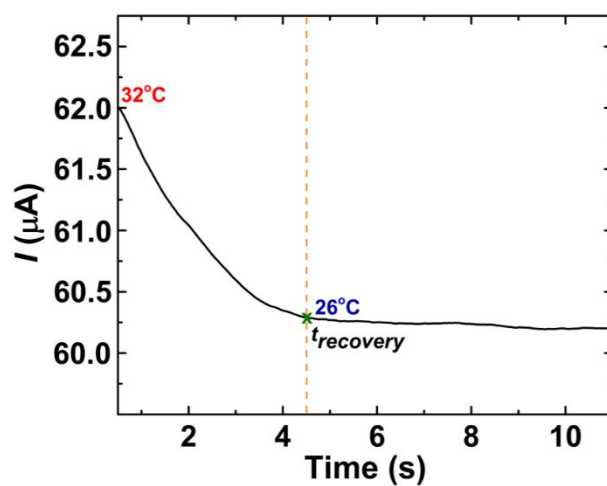


Figure S4 Image showing the recovery time extrapolation

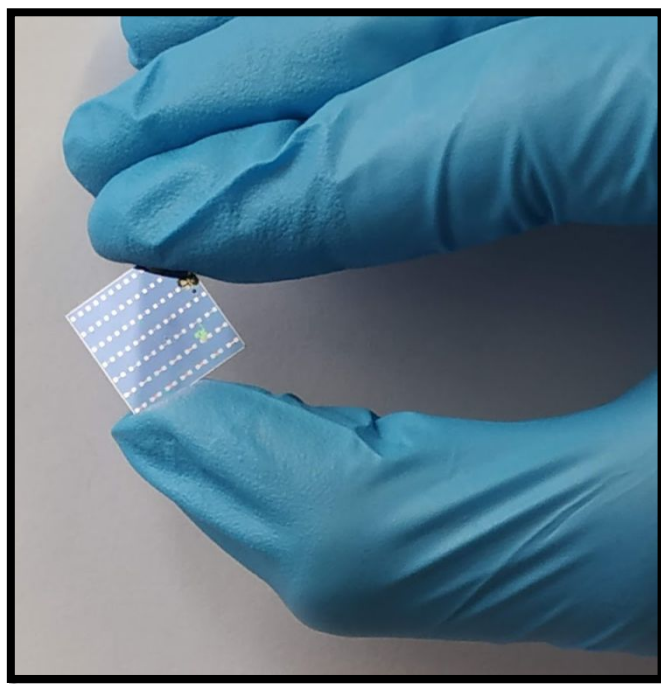


Figure S5 Photo showing 7x7 array of VO_2 sensor devices fabricated on SiO_2 substrate held between two fingers

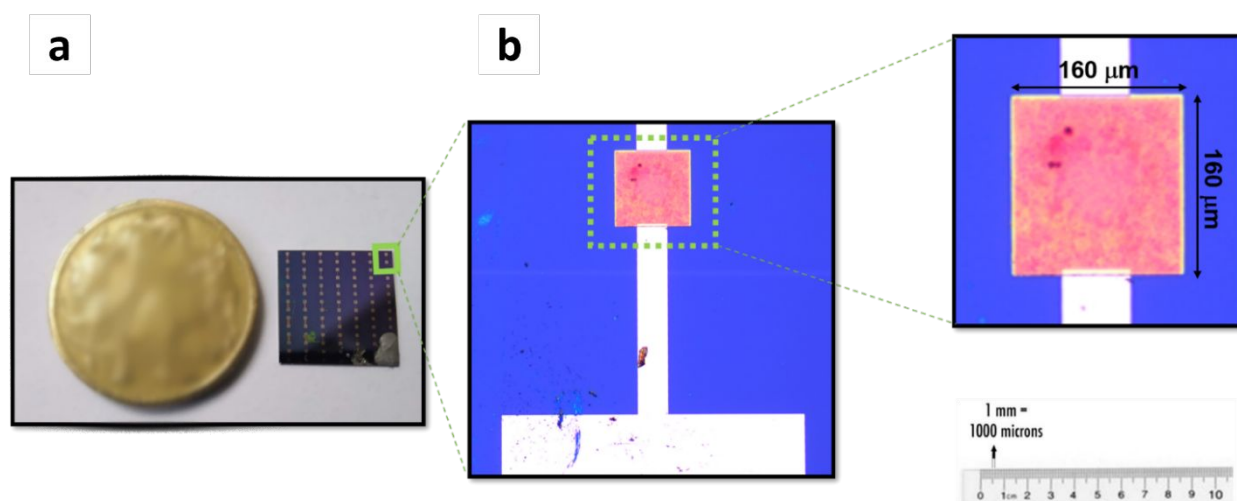


Figure S6 Image showing (a) 7x7 array of VO₂ sensor devices on SiO₂ substrate juxtaposed with \$1 AUD (blurred) (b) Zoomed-in view showing the miniature scale (160 μm x 160 μm) footprint of the VO₂ thin-film devices