

Supplementary Information for

Large directional conductivity change in chemically stable layered thin films of vanadium oxide and a 1D metal complex

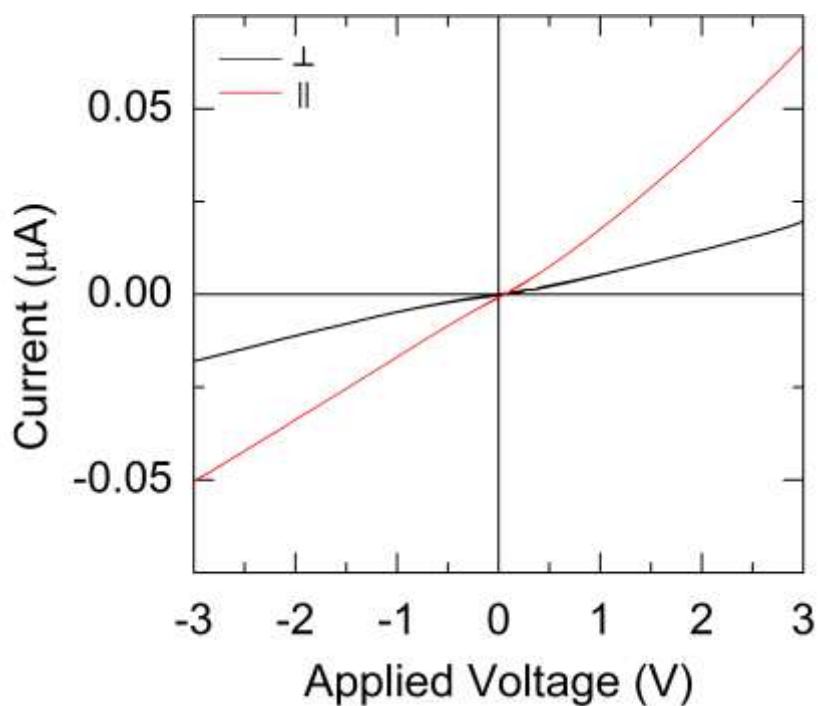


Figure S1. I-V curves acquired parallel and perpendicular to the thin film xerogel. Here, we do not observe any marked change in relative conductivity and no switch to linear, Ohmic transport perpendicular to the layering direction as found for the Q1-D intercalated xerogel.

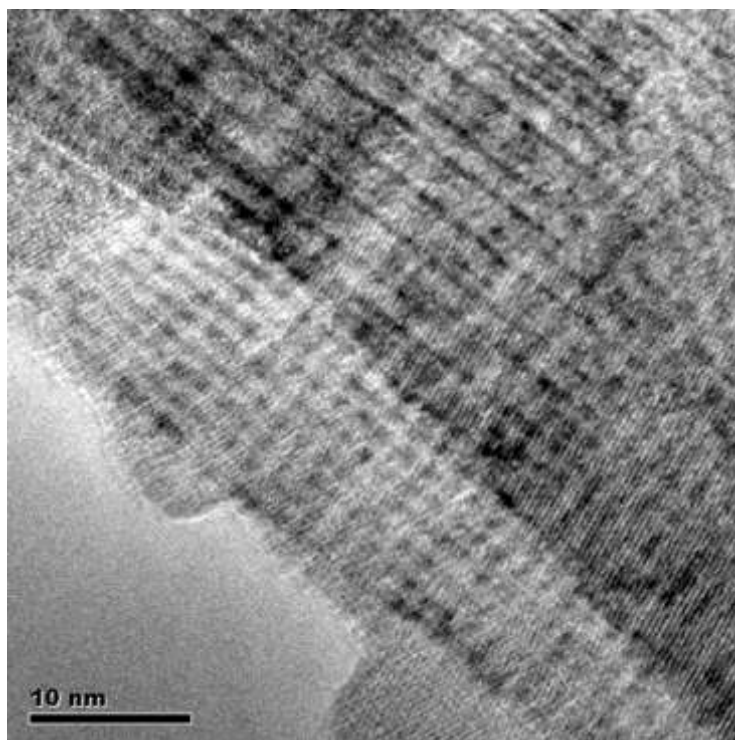


Figure S2. High-resolution TEM image of a V₂O₅ nanosheet stack. The contrast differences and Moiré patterns cause apparent large separations between features.

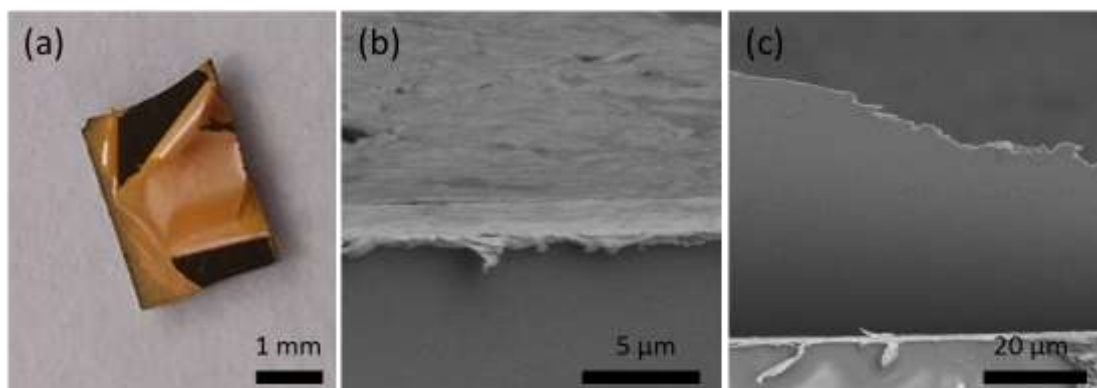


Figure S3. (a) Optical image showing delamination of V₂O₅ host material layers after thermal crystallisation treatment at 200°C. (b, c) Cross-sectional SEM images of V₂O₅ host material before and after delamination due to Joule heating by the incident electron beam.

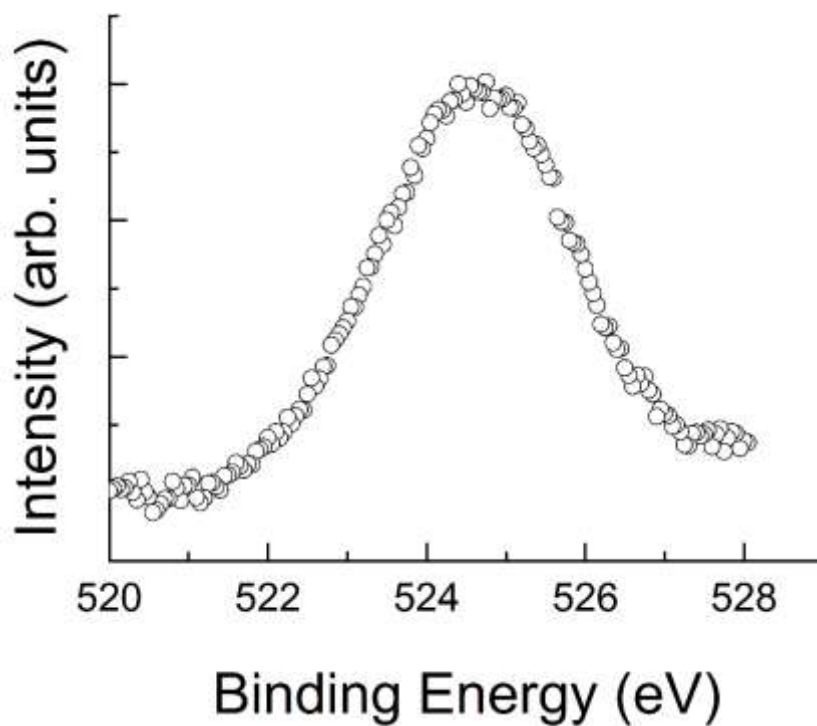


Figure S4. X-ray photoelectron spectroscopy of the Q1-D complex-intercalated V_2O_5 showing the binding energies for the V $2p^{1/2}$ core-level.