The experimental setup for our electrical measurements is illustrated in following Fig. S1. In our experiments, insulating glass sheets that have been cleaned were chosen as the substrates for the electrical measurements. Before measurements, two aluminium (Al) electrodes were deposited by thermal evaporation onto the VO\textsubscript{x} films, and the wires which link the meter were fixed onto the Al electrodes with silver paste. Moreover, a heating panel with DC source was employed to heat the samples, and an electronic thermometer was utilized to monitor the temperatures of the samples. In order to reduce the disturbance from the environment, the samples were covered with a sealed box during the measurements. Finally, a high resistance meter (KEITHLEY 6517A) was used to measure the $R$ of the samples in the temperature range of of 30 $^\circ$C–70 $^\circ$C, by which the $R$-$T$ plots of the resulting films (Fig. 6 in the manuscript) were obtained.

![Experimental setup for the electrical measurements.](image)

**Fig. S1** Experimental setup for the electrical measurements.