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Electronic Supplementary Information

Hybrid Film of VO_2 Nanoparticles and Nickel(II)-based Ligand Exchange Thermochromic System: Excellent Optical Performance with A Temperature Responsive Colour Change

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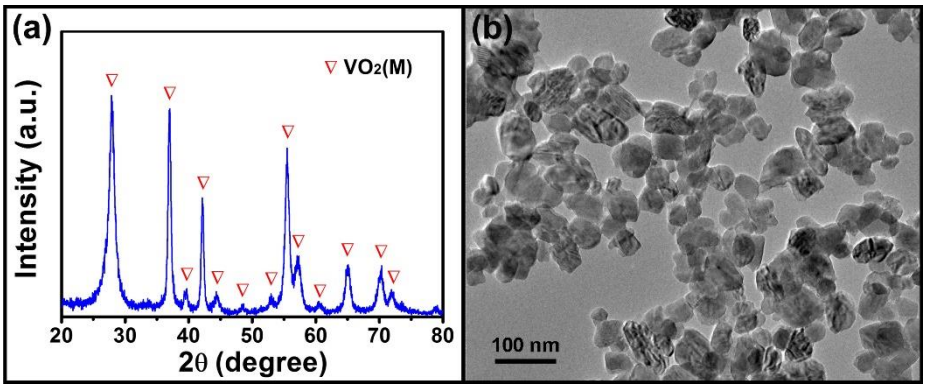

Fig. S1 (a) XRD pattern and (b) TEM image of the VO_2 nanoparticles we prepared.

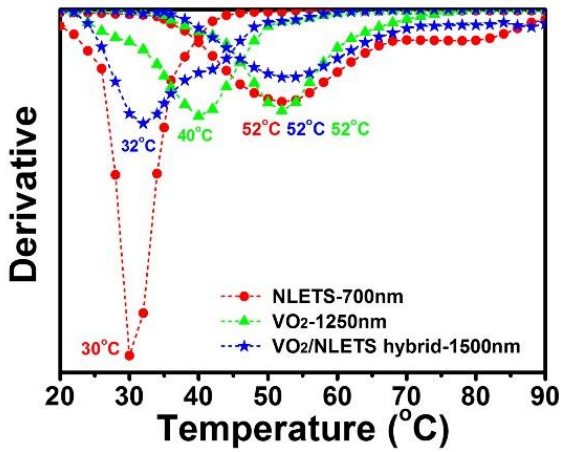

Fig. S2 A plot of d(transmittance)/d(temperature) versus temperature for NLETS film, VO_2 film and VO_2/NLETS hybrid film at the wavelength of 700 nm, 1250 nm and 1500 nm respectively.

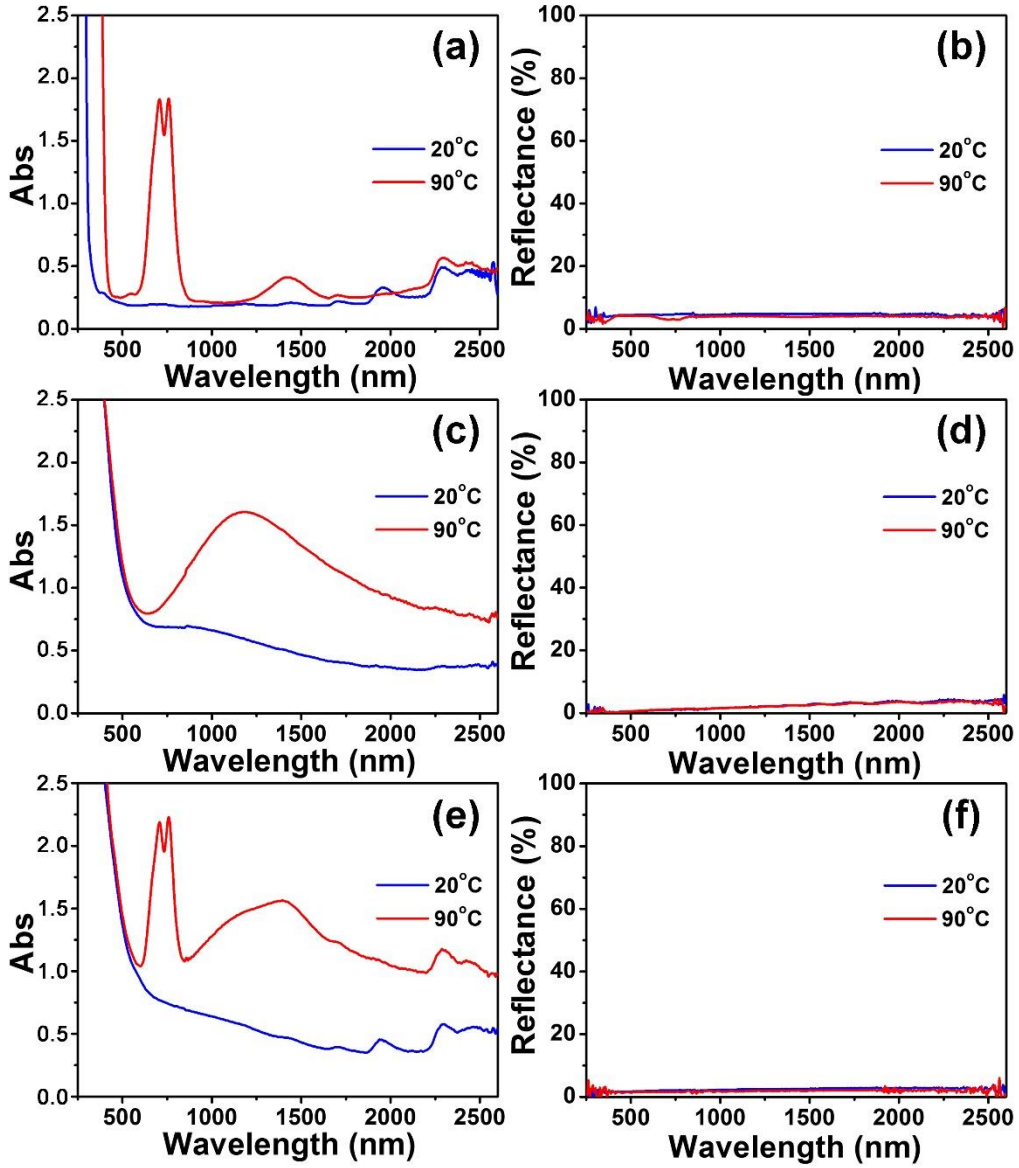

Fig. S3 (a) Absorbance and (b) reflectance spectra of the pure NLETS film at 20 °C and 90 °C; (c) absorbance and (d) reflectance spectra of the pure VO_2 film at 20 °C and 90 °C; (e) absorbance and (f) reflectance spectra of the VO_2/NLETS hybrid film at 20 °C and 90 °C.

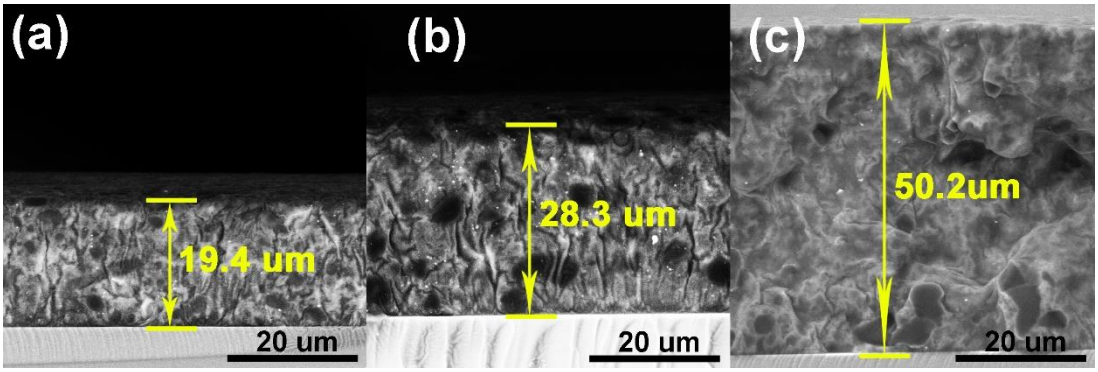

Fig. S4 Back scattered SEM pictures of the cross-sections of VO_2/NLETS hybrid films with different thicknesses: (a) around 20 um, (b) around 30 um and (c) around 50 um.

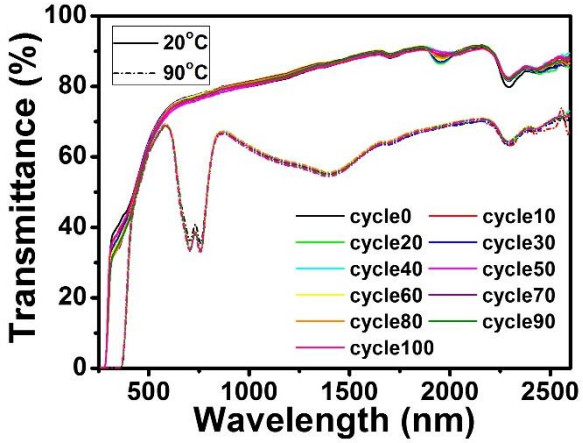

Fig. S5 Cycle transmittance spectra of VO_2/NLETS hybrid with thickness of 20 um at 20 ^oC and 90 ^oC.