Supporting information:

3D mesoporous structure assembled by monoclinic M-phase VO_2 nanoflakes with enhanced thermochromic performance

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S1. Synthesis procedure of monoclinic M-phase VO_2 nanorods

In a typical synthesis, 0.63 g (0.0034 mol) of vanadium pentoxide (V_2O_5) and 1.2859 g (0.0102 mol) of oxalic acid ($H_2C_2O_4.2H_2O$) were dissolved in 30 ml of deionized water. The suspension was stirred constantly in a water bath kettle at 80 °C until the color of the solution changed to blue. Then 30 ml of ethylene glycol was added to increase the viscosity of the solution. The solution was transferred to a 100 ml Teflon-lined stainless-steel autoclave. The autoclave was maintained at a temperature of 180 °C for 20 h and then cooled to room temperature naturally. The obtained black product was washed with water and ethanol, and then dried in air at 80 °C for 24 h to obtain monoclinic M-phase VO_2 nanorods.

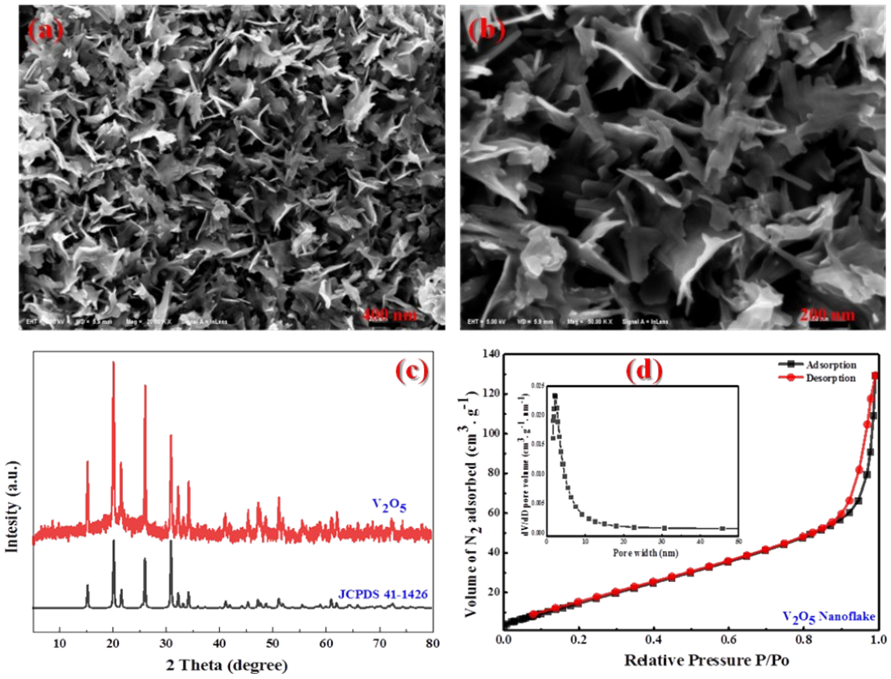

Fig. S1. 3D mesoporous structure assembled by V_2O_5 nanoflakes (a) SEM images low and (b) high magnification, (c) XRD patterns of V_2O_5 (JCPDS: 41-1426) and (d) Pore size distribution curves (the inset)and N_2 adsorption-desorption curves produced after calcinations of the adsorbed fiber at 450 ^oC in the presence of air to remove the EF template (initially prepared at the hydrothermal reaction temperature of 180 ^{o} C).

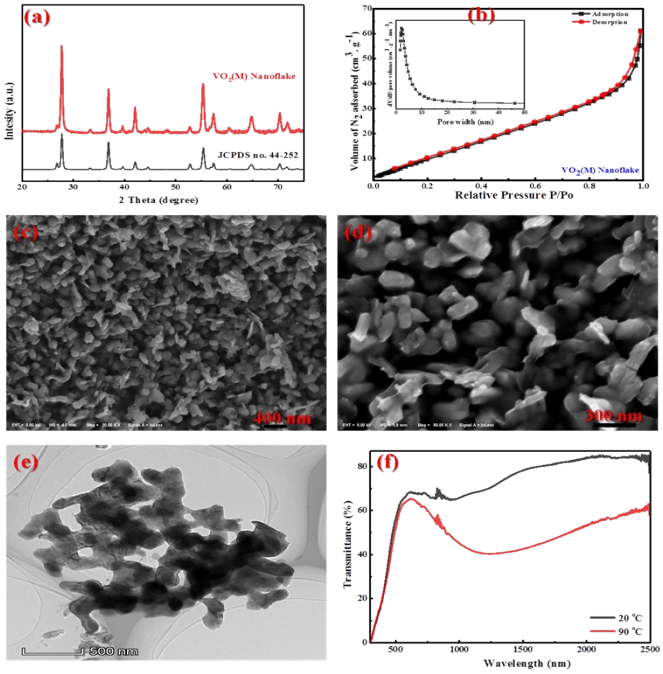

Fig. S2. 3D mesoporous structure assembled by M-phase VO_2 nanoflakes (a) XRD patterns, (b) Pore size distribution curves (the inset) and N_2 adsorption-desorption curves, (c) SEM images low and (d) high magnification, (e) TEM image and (f) Transmittance spectra of films at 20 ^{o}C and 90 ^{o}C (prepared at the hydrothermal reaction temperature of 200 ^{o}C)