Figure S1

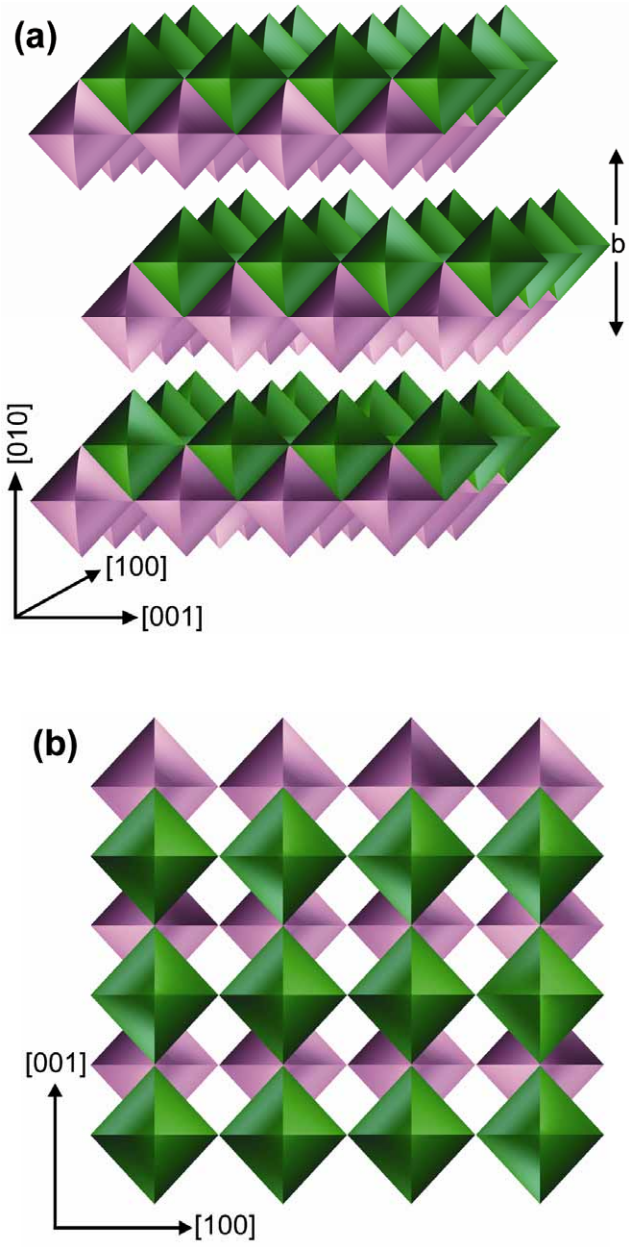

Figure S1. (a) Schematic representation of the crystal structure of α-MoO_3 showing stacking double-layered sheets along [010] direction. (b) (010) projection of an individual double-layer.

Figure S2

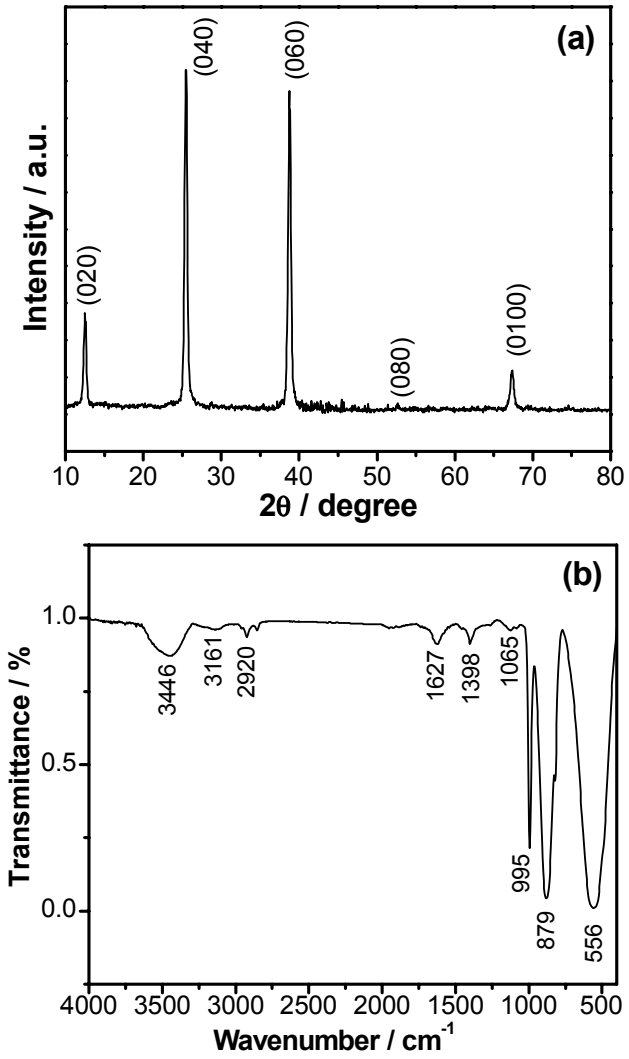

Figure S2 (a) XRD and (b) FTIR of α-MoO_3 nanofibers prepared at 220 °C in the 1 h reaction time.

FTIR analysis of the sample α-MoO_3 prepared in the reduced reaction time 1 h provides similar evidence as reported by Wei et al. [Materials Chemistry and Physics 2009, **113**, 85–90] that the presence of crystalline H_2O. Since, presence of crystalline water in $MoO_3.nH_2O$ is very low, XRD analysis does not give any specific information of crystal structure.

Figure S3

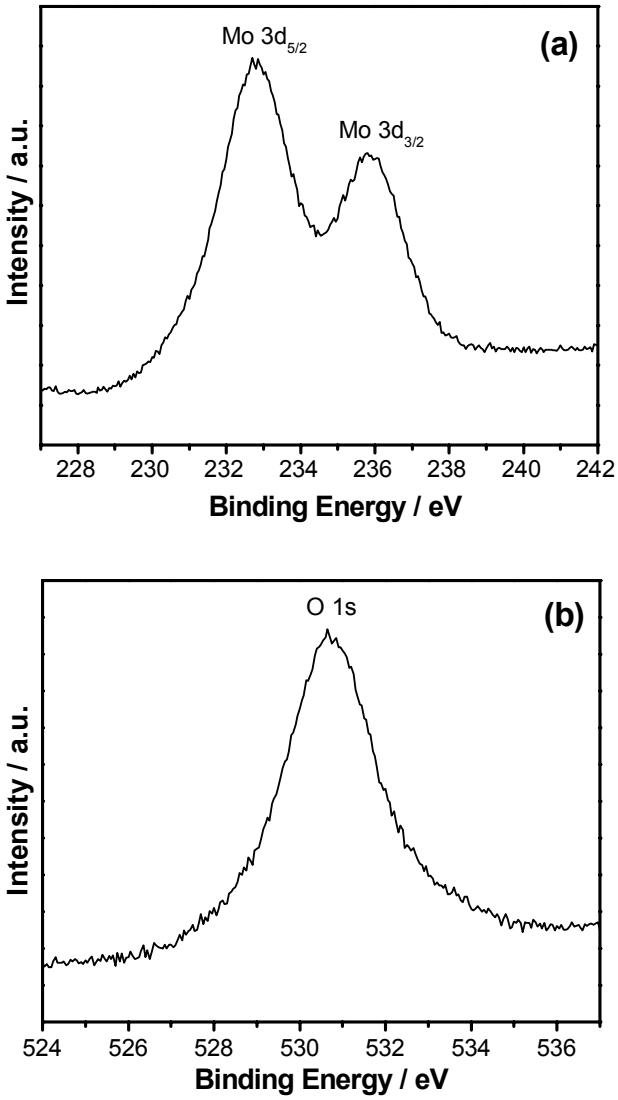

Figure S3. XPS core level spectra of α-MoO_3nanofibers: (a) Mo (3d) and (b) O (1s).

Figure S4

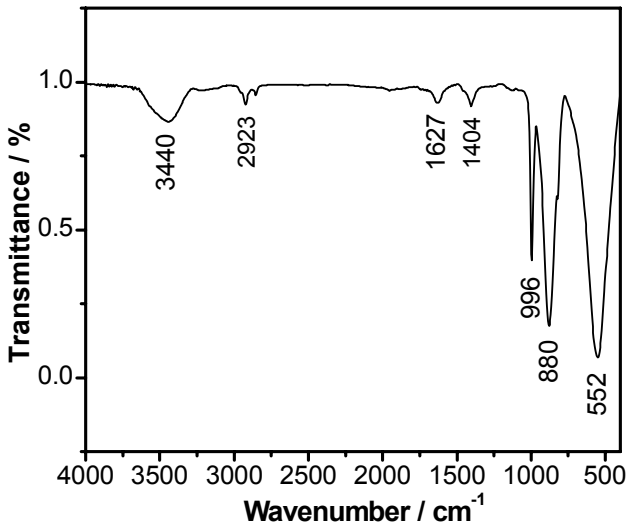

Figure S4. FTIR spectra of α-MoO_3 nanofibers prepared at 220 °C in the 7 h reaction time.

Figure S5

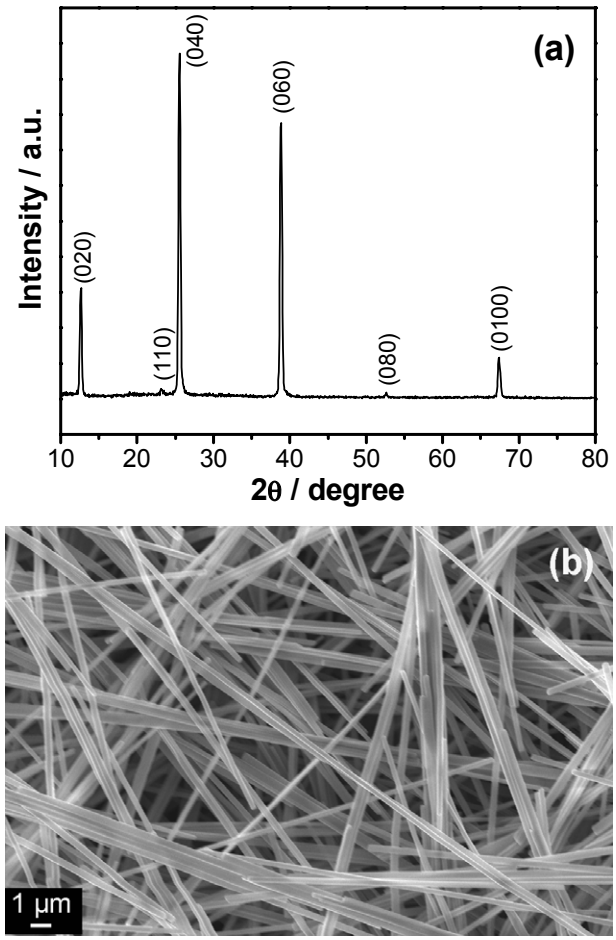

Figure S5. (a) XRD and (b) FESEM image of the α-MoO_3 nanofibers synthesized at 180 °C in the 7 h reaction time.

Figure S6

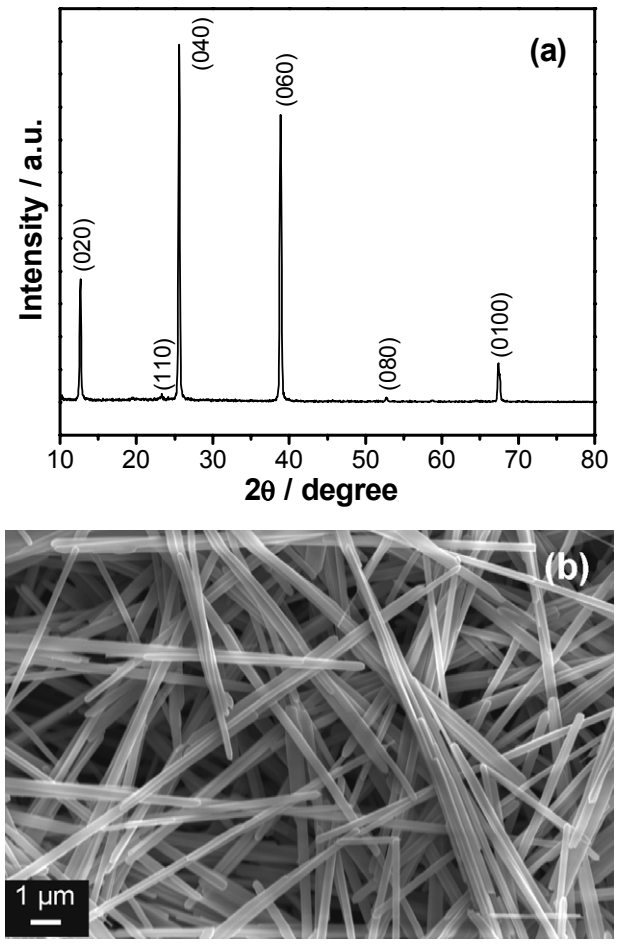

Figure S6. (a) XRD and (b) FESEM image of the α-MoO_3 nanofibers synthesized at 220 °C in the 24 h reaction time.