Supplementary Information for

Single reactor deposition of silicon/tungsten oxide core-shell heterostructure nanowires with controllable structure and optical properties

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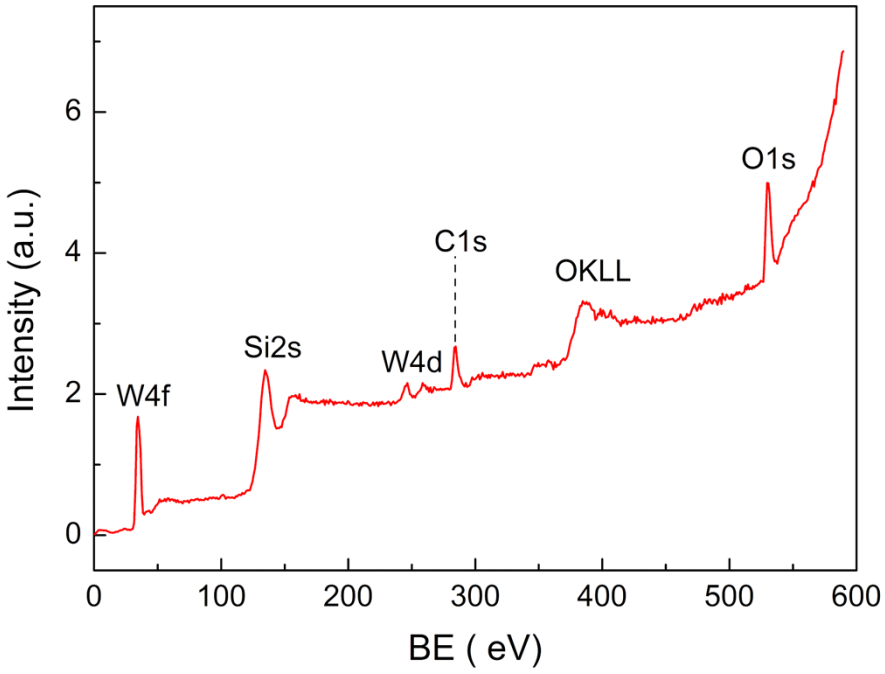

Figure S1 typical XPS spectrum of the Si/WO_3 core-shell NWs.

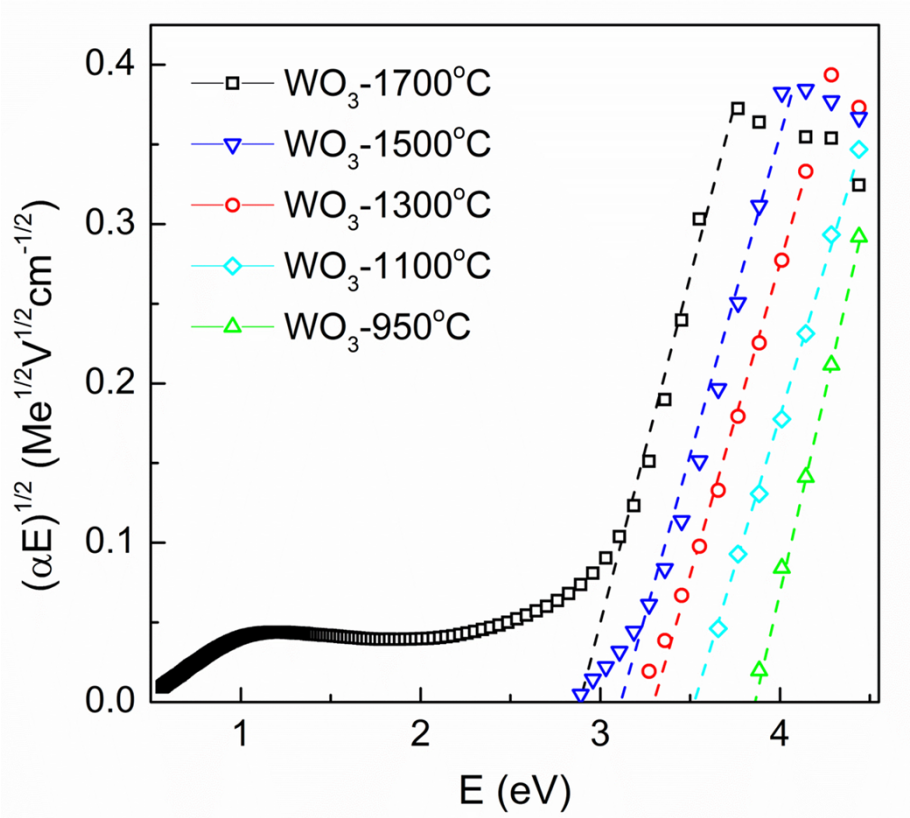

Figure S2 Tauc's plots of the WO_3 thin films prepared at different T_f.

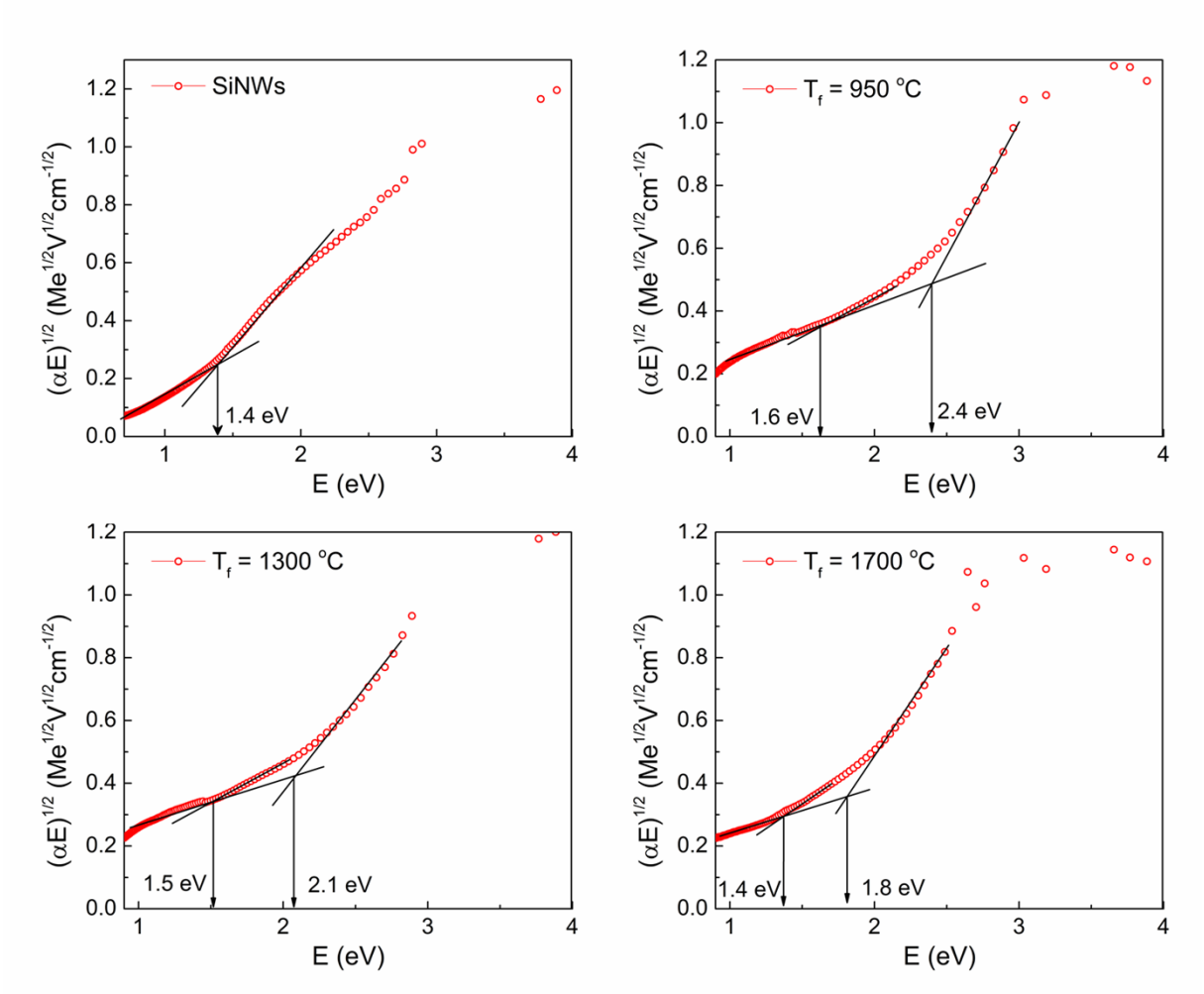

Figure S3 Tauc's plots of Si NWs, and Si/WO_3 core-shell NWs prepared at different T_f. The Tauc's plots of the Si/WO_3 core-shell NWs revealed the indirect optical band gap of both Si (lower energy) core and WO_3 (higher energy) shell.

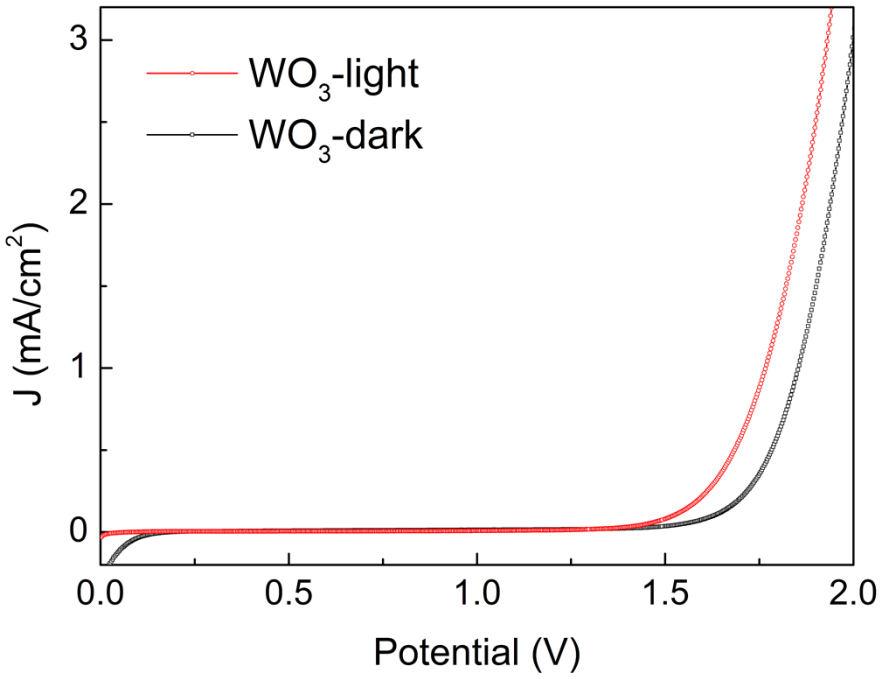

Figure S4 Typical current density versus potential plots of the WO_3 films under dark and illumination.

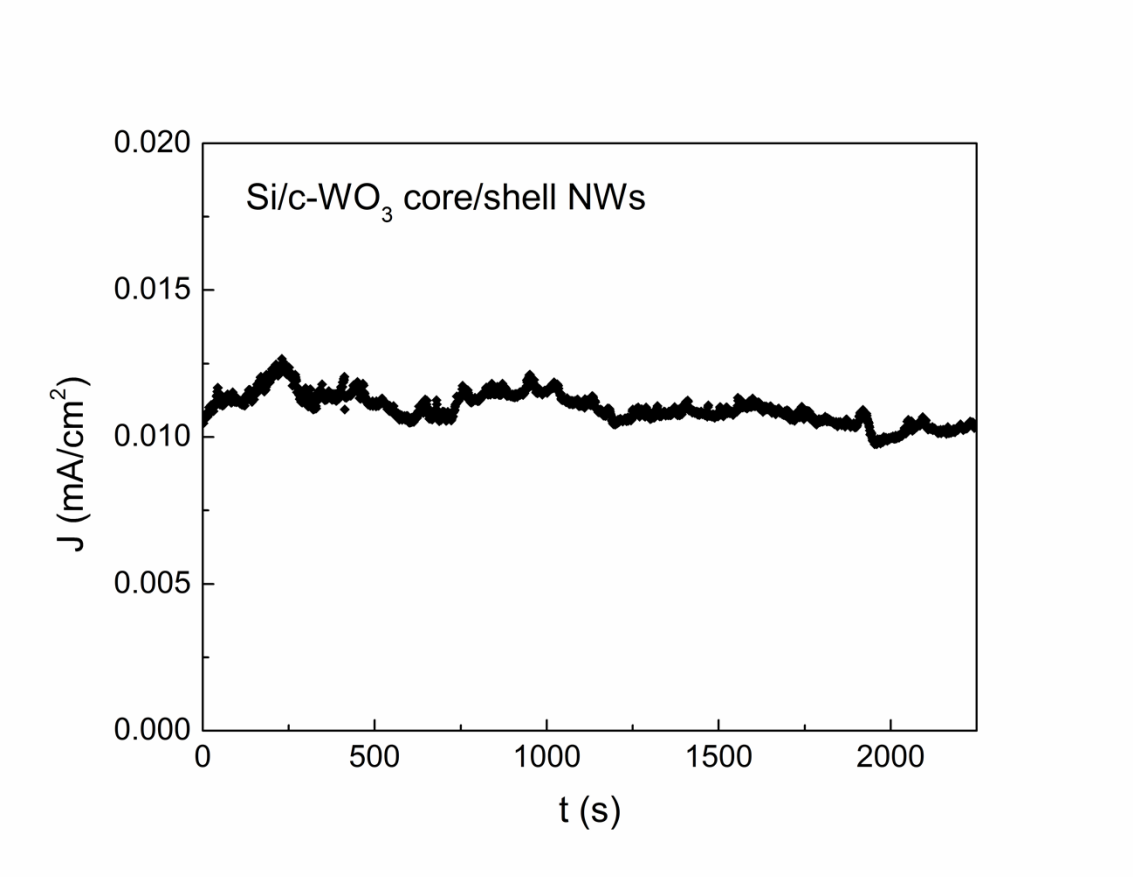

Figure S5 Photocurrent density versus time plot of the Si/crystalline WO_3 core-shell NWs.