X-ray Absorption Spectroscopy Study of TiO_{2-x} Thin Films for Memory Applications

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Supporting Information

The AFM images of the TF_UA (a) and TF_A (b) are presented in Figure S.I.1. The surface morphology of TF_UA shows a smooth, uniform surface with a calculated root-mean square roughness (RMS) of 0.33 nm. The surface morphology of TF_A is quite similar to that of TF_UA with a calculated root-mean square roughness of 0.22 nm. Therefore, the film is free of agglomeration even after annealing at 600°C.

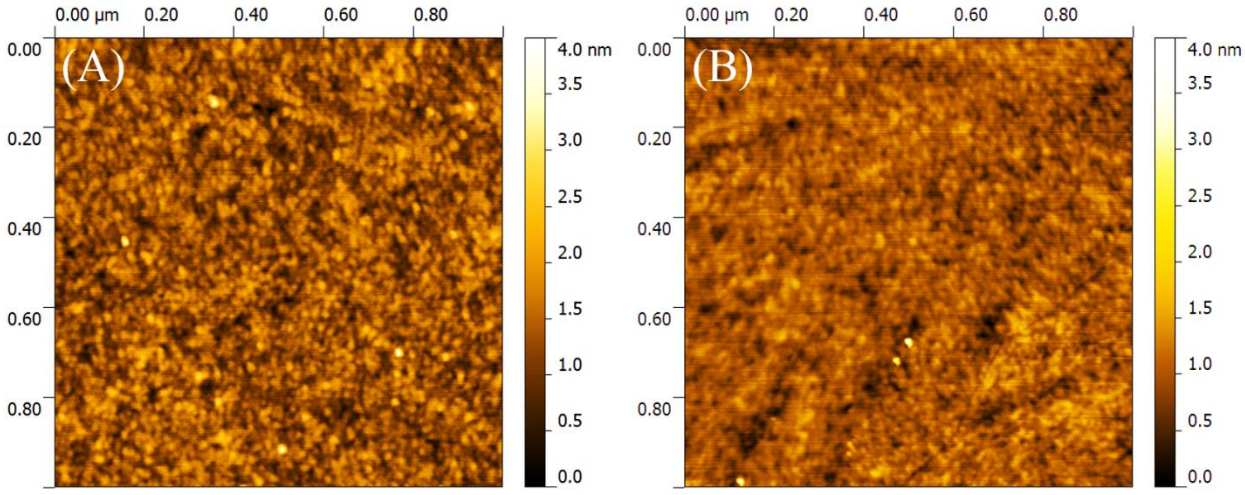

Figure S.I.1. AFM images of (A) TF_UA and (B) TF_A

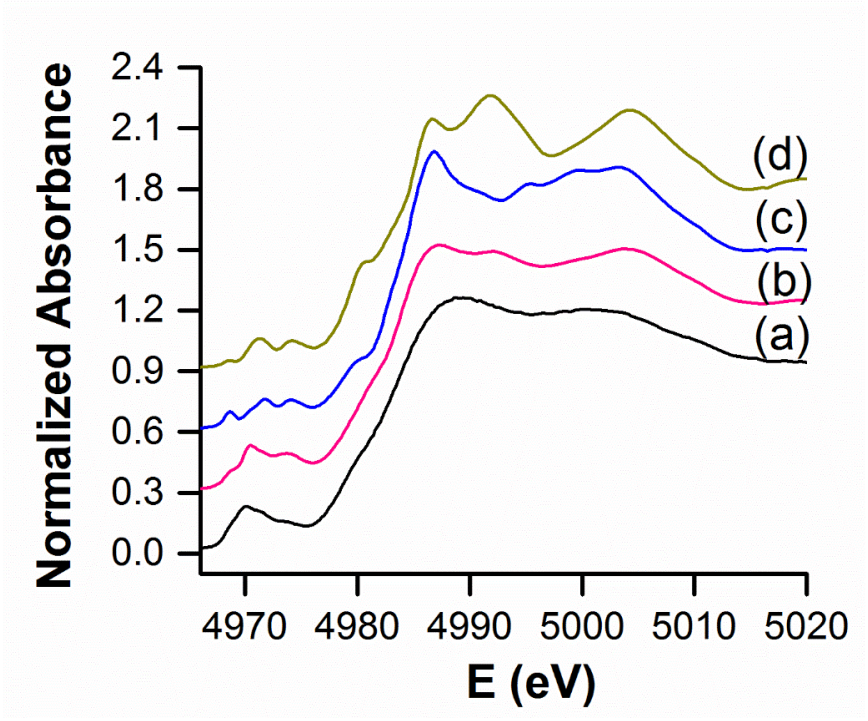

Figure S.I.2. XANES spectra at the Ti K-edge of TF_UA (a), bulk brookite (b), bulk anatase (c) and bulk rutile (d)

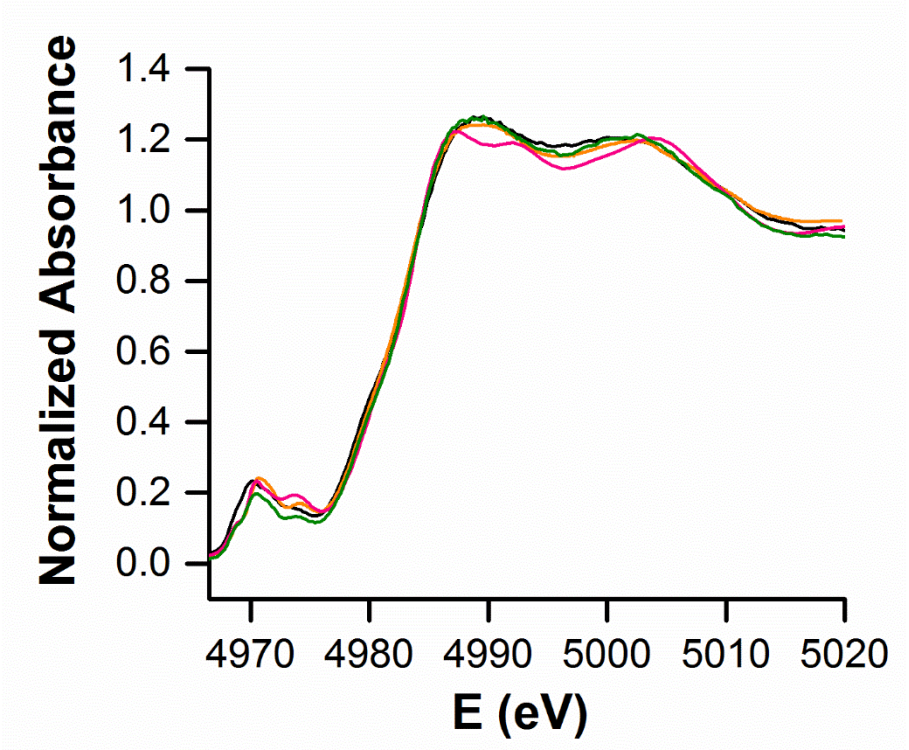

Figure S.I.3. XANES spectra at the Ti K-edge of TF_UA (black line); bulk brookite [34](pink line); Dev_PRI (green line); amorphous TiO_{2-x} [31](orange line)