Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A

Supporting Information

Facile preparation of nanostructured α-Fe_2O_3 thin films with enhanced photoelectrochemical water splitting activity

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Supporting Figures

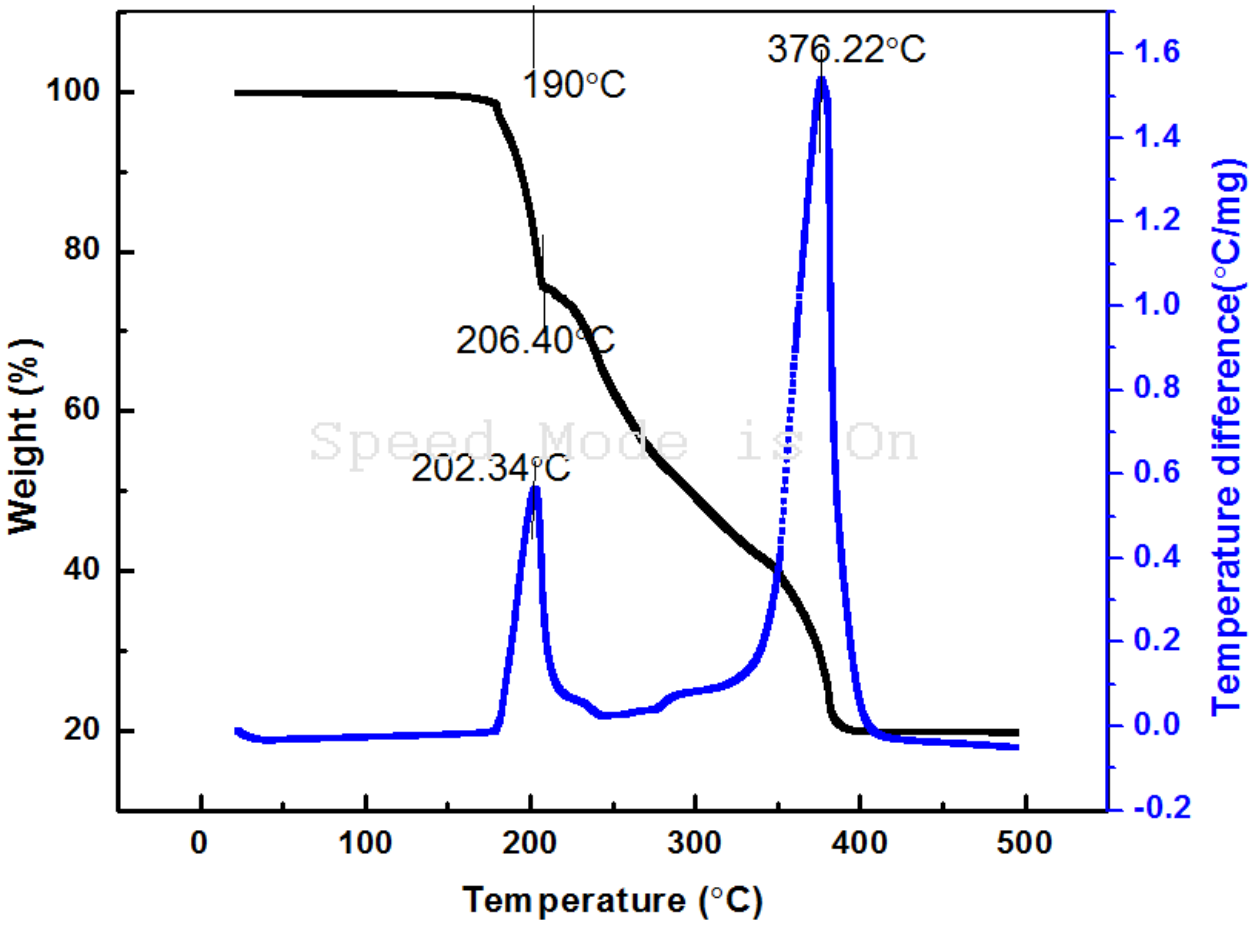

Fig. S1 TGA plot of decomposition of Fe(III)-acetylacetonate in air.

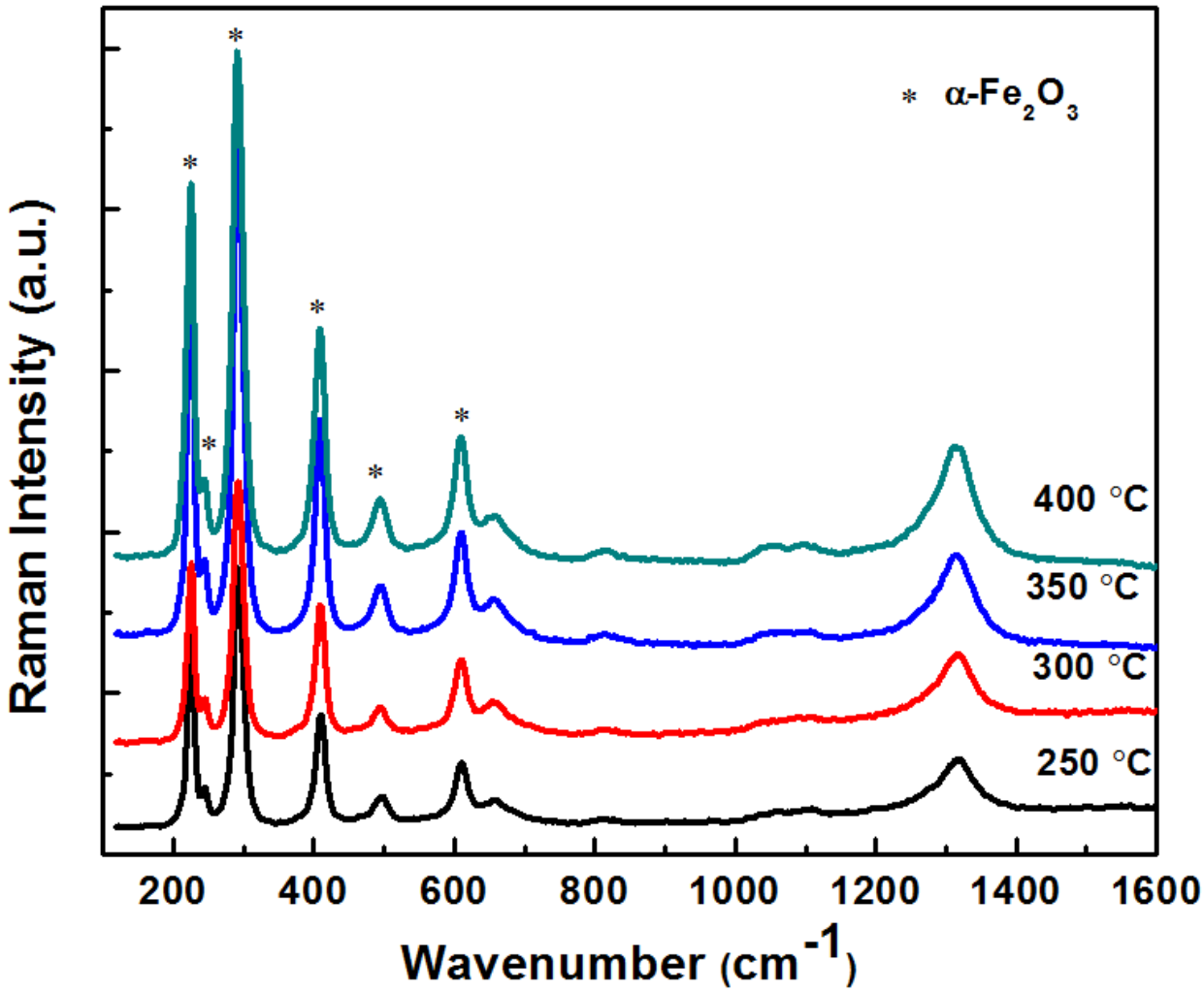

Fig. S2 Raman spectra of the α-Fe_2O_3 films annealed at various substrate temperatures.

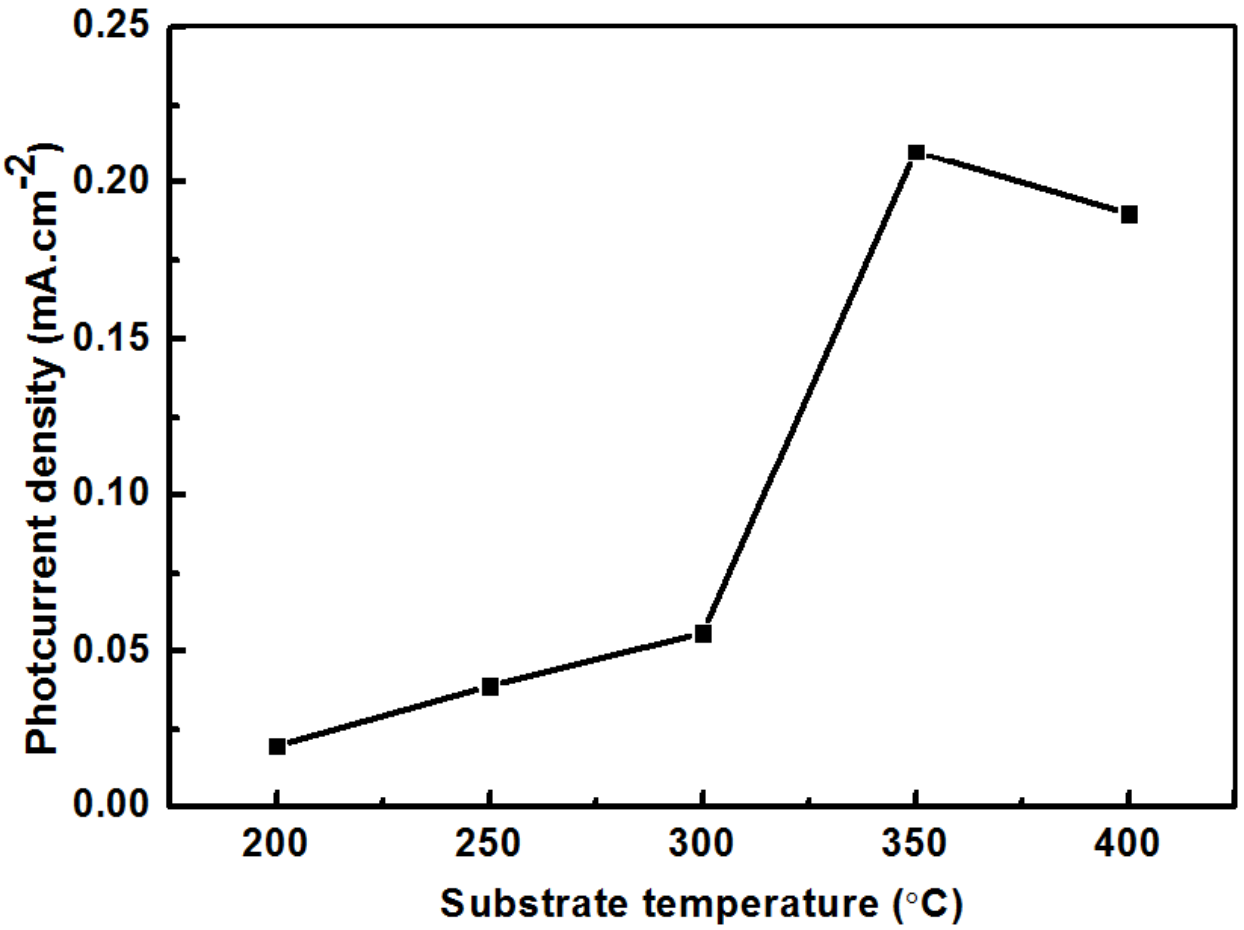

Fig. S 3 Photocurrent of the α-Fe_2O_3 films as a function of substrate temperatures. The measurements were done in the dark and under simulated solar light (AM 1.5 G 100 mW/cm^2) in a 1 M NaOH electrolyte solution. The scan rate was 50 mV.s^{-1}.The films were deposited at 10 kV.

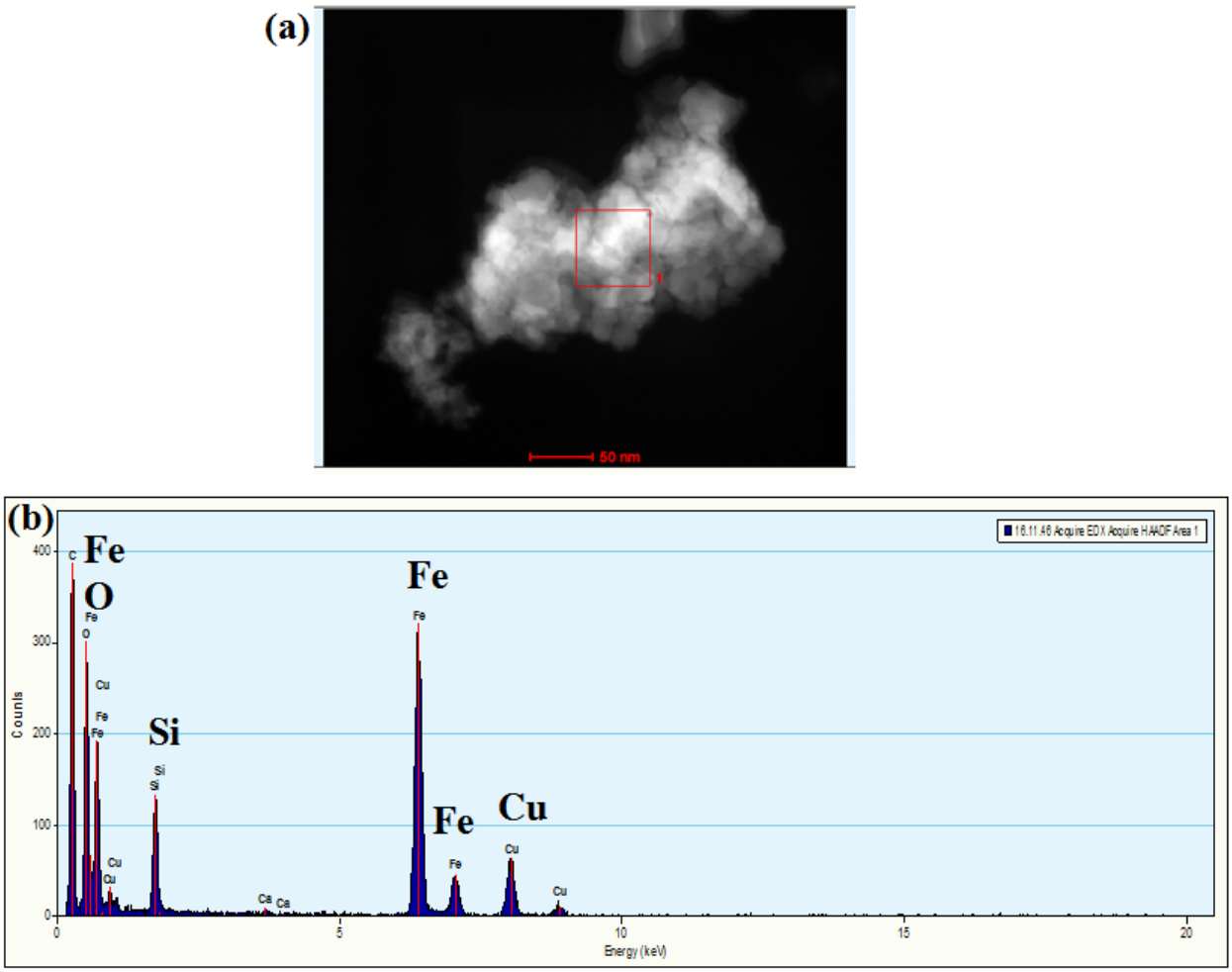

Fig. S 4 (a) STEM image of the α-Fe_2O_3 film prepared at 350 °C. (b) EDX spectrum. The film was grown at 20 kV.

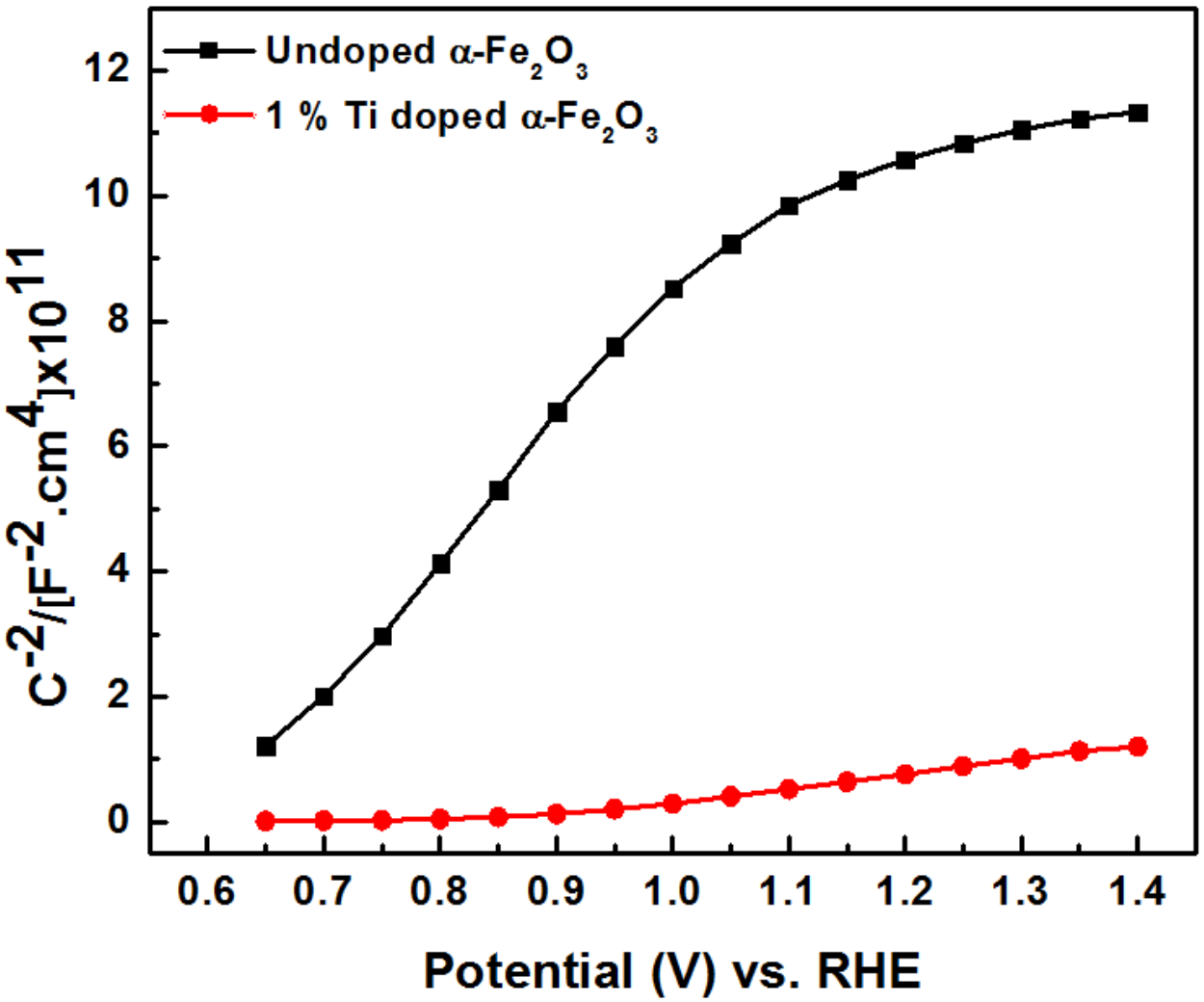

Fig. S 5 Mott-Schottky plot for undoped and Ti-doped film and the α-Fe_2O_3 film prepared at 20 kV. The electrochemical impedance analysis was measured in 1 M NaOH in the dark, and the Mott – Schottky analysis was performed at 1000 Hz.