

Supplementary Material

Effects of film thickness and coating techniques on the photoelectrochemical behaviour of hematite thin films

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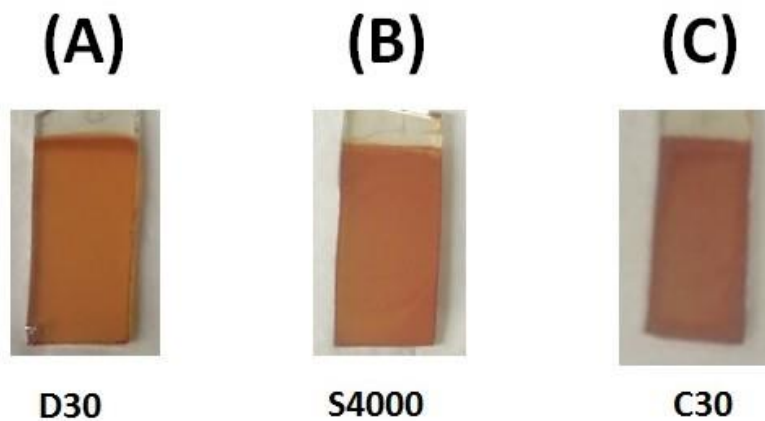


Figure S1| Photo images of sample (A) D30, (B) S4000 and (C) C30 respectively.

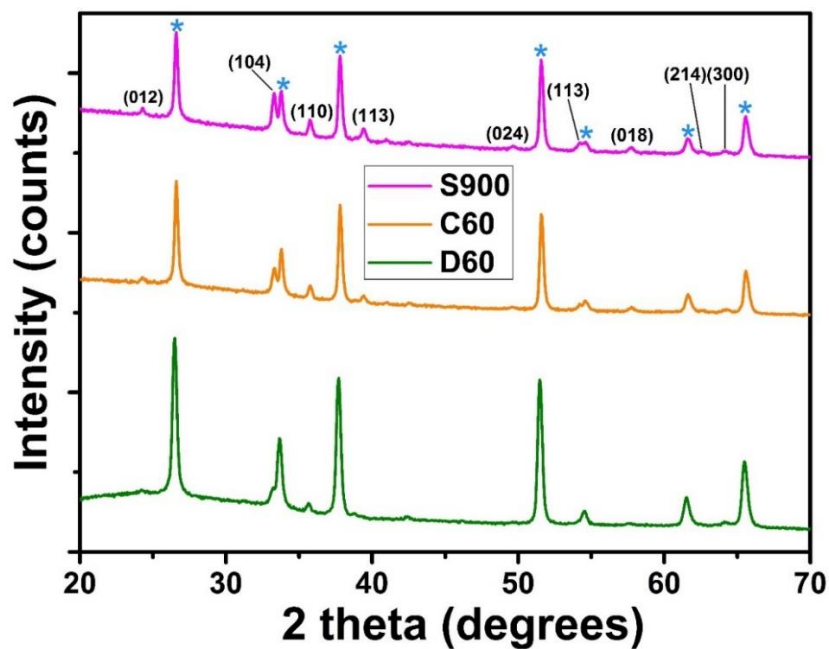


Figure S2|. XRD pattern of hematite films for samples D60, C60 and S900 with thickness range 740-800 nm.

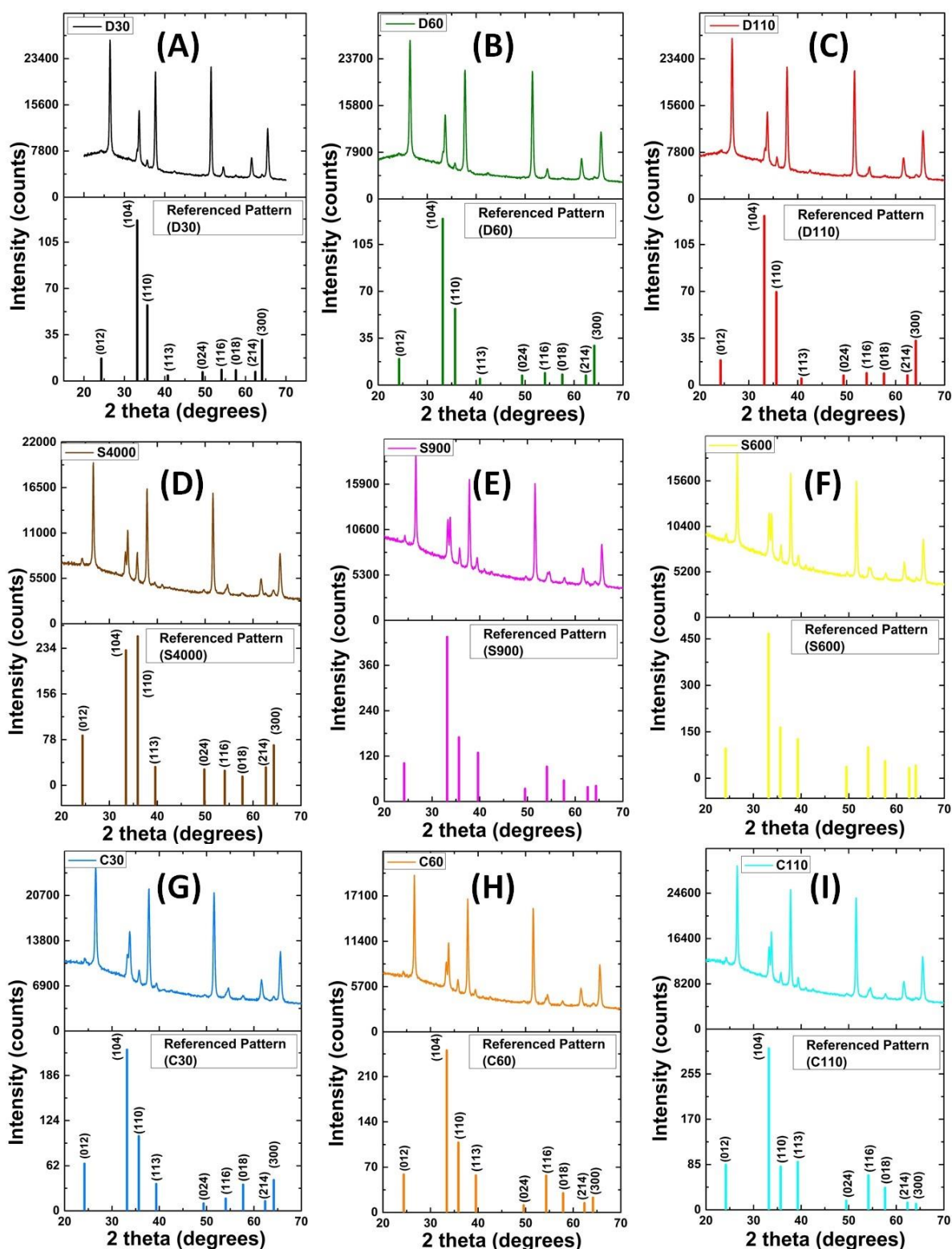


Figure S3 | XRD reference pattern for samples (A) D30, (B) D60 and (C) D110 prepared using dip coating and (D) S4000, (E) S900 and (F) S600 for spin coated films and (G) C30, (H) C60 and (I) C110 fabricated via the combined dip/spin coating techniques respectively, according to the JCPDS file no. 33-0664 for hematite films.

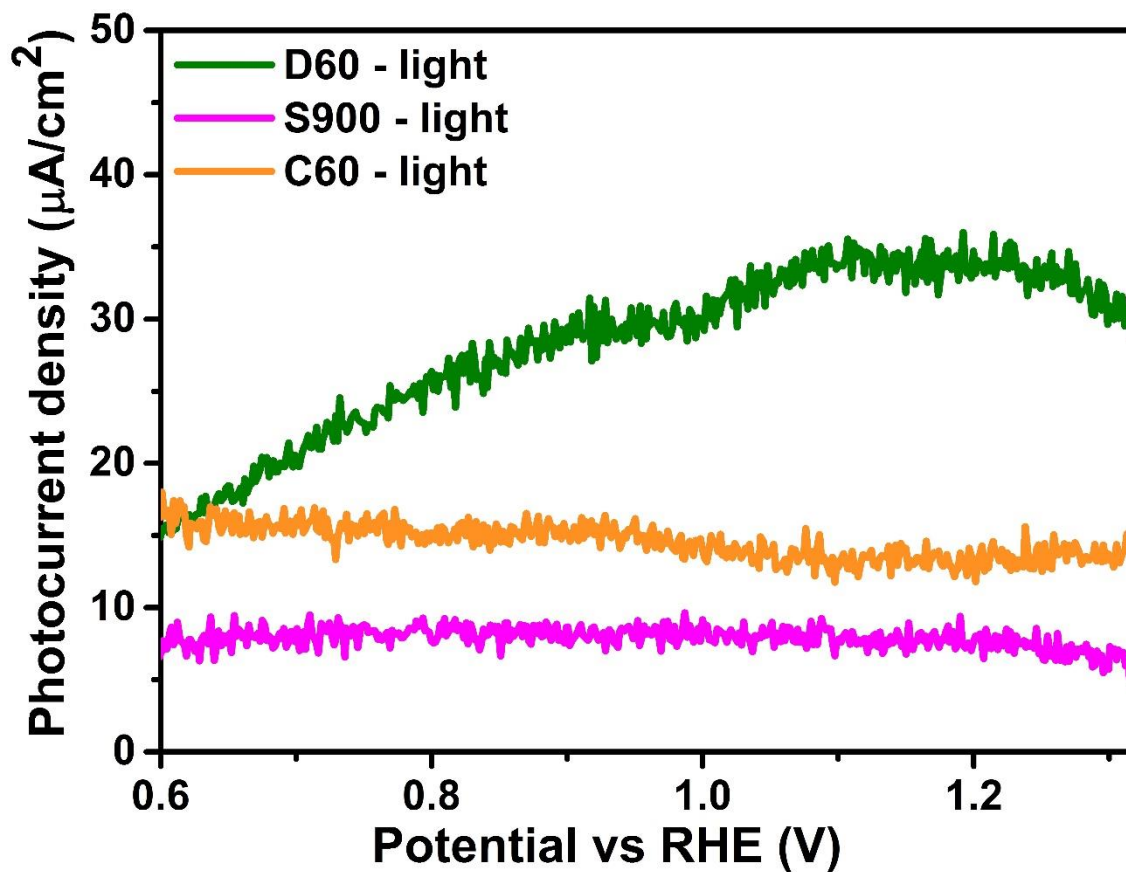


Figure S4 | Photocurrent densities of $\alpha\text{-Fe}_2\text{O}_3$ samples D60, S900 and C60 films with the thickness of films of 740-800 nm prepared using the dip, spin and combined dip/spin coating techniques respectively.

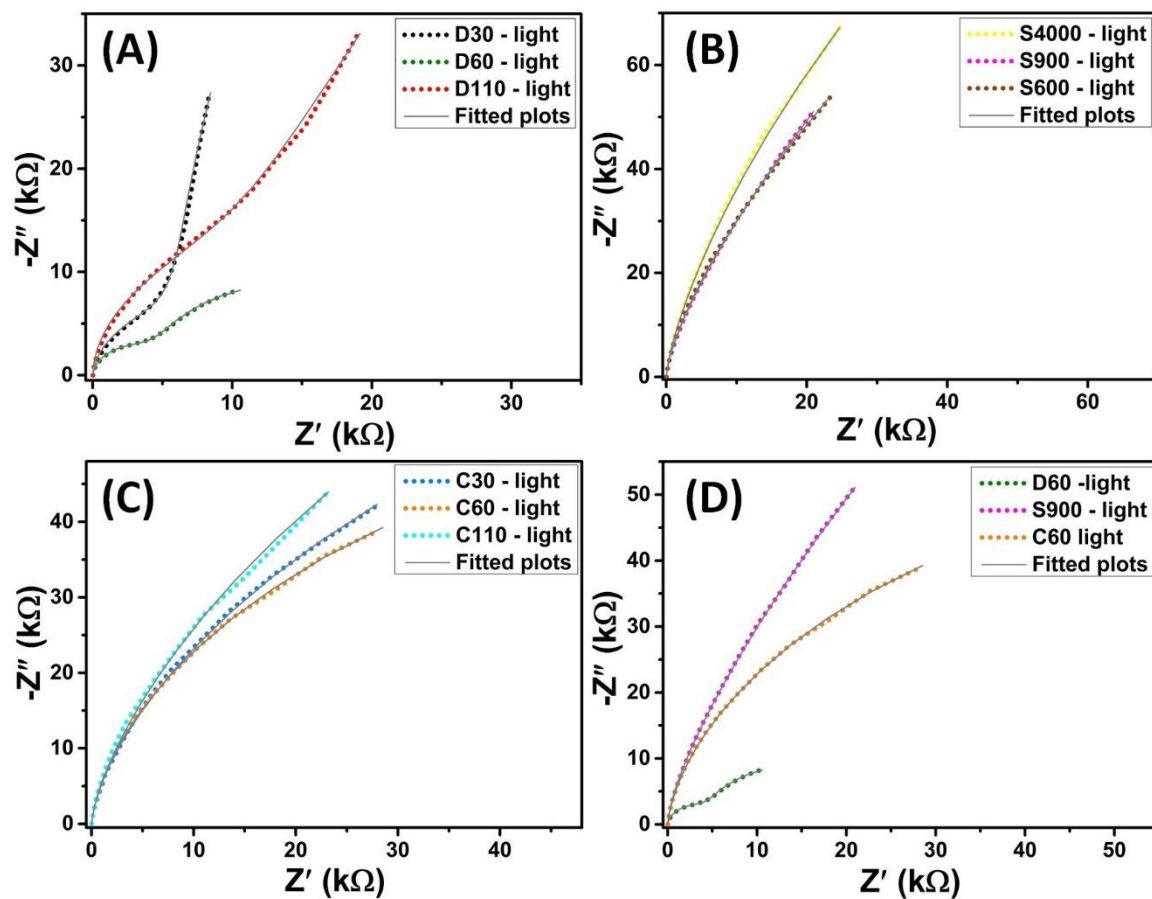


Figure S5 | Nyquist plots of α - Fe_2O_3 thin films for measurements performed under illumination for samples prepared using (A) dip, (B) spin and (C) combined dip/spin coating techniques respectively; (D) compare the plots for samples D60, S900 and C60 with the thickness of 740-800 nm. Note: for all the plots, the dotted coloured lines represent the experimental EIS data while the grey solid lines represent their corresponding fitted curves obtained for the films with ZView software.