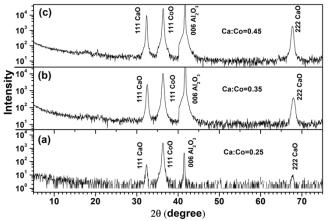
## **Supplementary information**

Figure S1 shows  $\theta - 2 \theta$  XRD scan for the as-deposited films Ca:Co = 0.25, Ca:Co = 0.35 and Ca:Co = 0.45. XRD scans of all the as-deposited films are similar in appearance, albeit with varying CaO:CoO peak intensity ratios. It is evident from the XRD analyses that as deposited film consists of CaO and CoO phases.



**Figure S1.**  $\theta$  –2 $\theta$  XRD patterns of as-deposited CaO–CoO film (**a**) Ca:Co = 0.25, (**b**) Ca:Co = 0.35, (**c**) Ca:Co = 0.45.