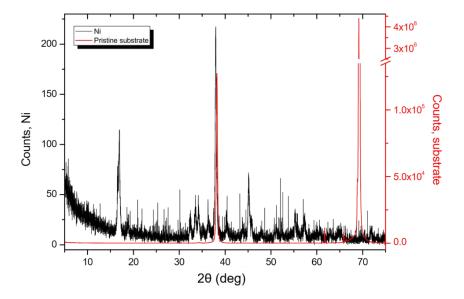
Electronic Supplementary Information

The diffractogram of the electro-deposited nickel hydroxide film on a Au / SiO_2 substrate had a poor signal indicating the amorphous nature of the deposited film, with the largest observed line at 38° attributed to the underlying substrate (Figure S1).



 $\textbf{Figure S1} \ \textit{X-ray diffractogram for electrodeposited nickel hydroxide film and underlying } \ \textit{Au/SiO}_2 \ \textit{substrate}.$

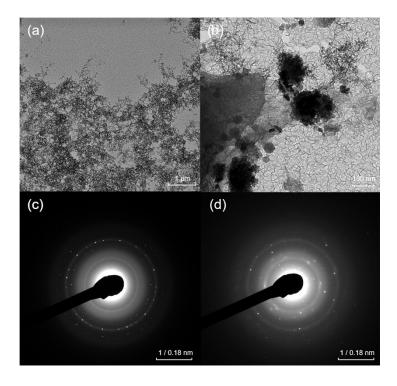


Figure S2 TEM image of electrodeposited nickel hydroxide film on a TEM grid before (a) and after the OER (b). SAED pattern taken from a sample before (c) and after (d) the OER.