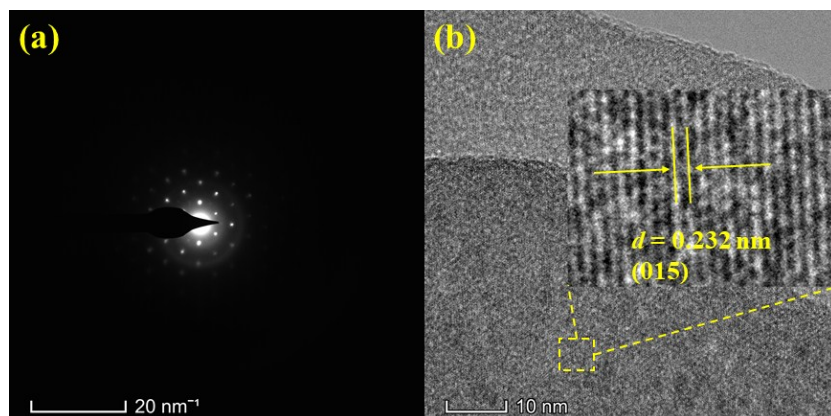


## Supplementary Information

**Fig. S1.** (a) The diffraction ring and (b) the lattice fringe of CoAl LDH from the SAED pattern.



**Fig. S2.** (a) The CV curves of CoAl LDH at scan rates from 1 to 5  $\text{mV s}^{-1}$ ; (b) the CC curves of CoAl LDH at current densities from 1 to 20  $\text{A g}^{-1}$ ; (c) the rate performance of CoAl LDH; (d) the equivalent circuit for modeling Nyquist plots.

