

Isovalent anion induced electrochemical activity in doped $\text{Co}_3\text{V}_2\text{O}_8$ for OER application

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Supplementary Information:

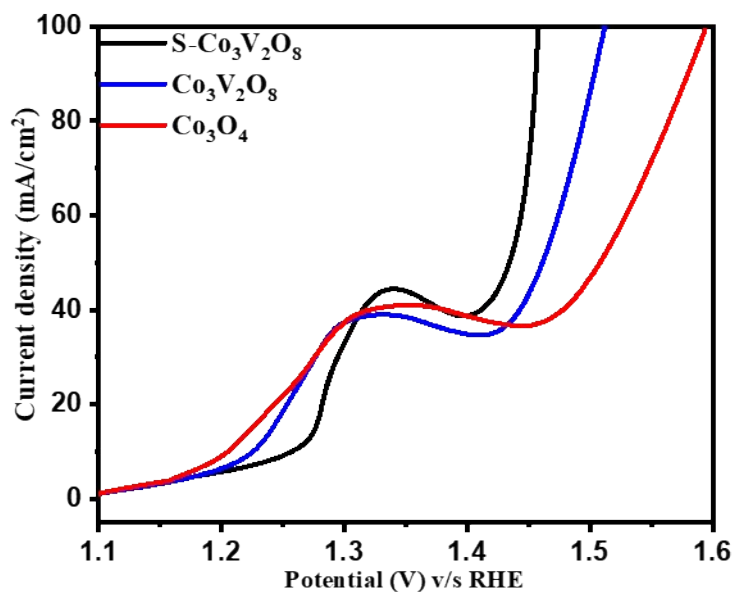


Fig S1: Polarisation curve of all samples towards the oxygen evolution reaction at 5mV/s scan rate in 0.1M NaOH electrolyte based on geometric surface area.

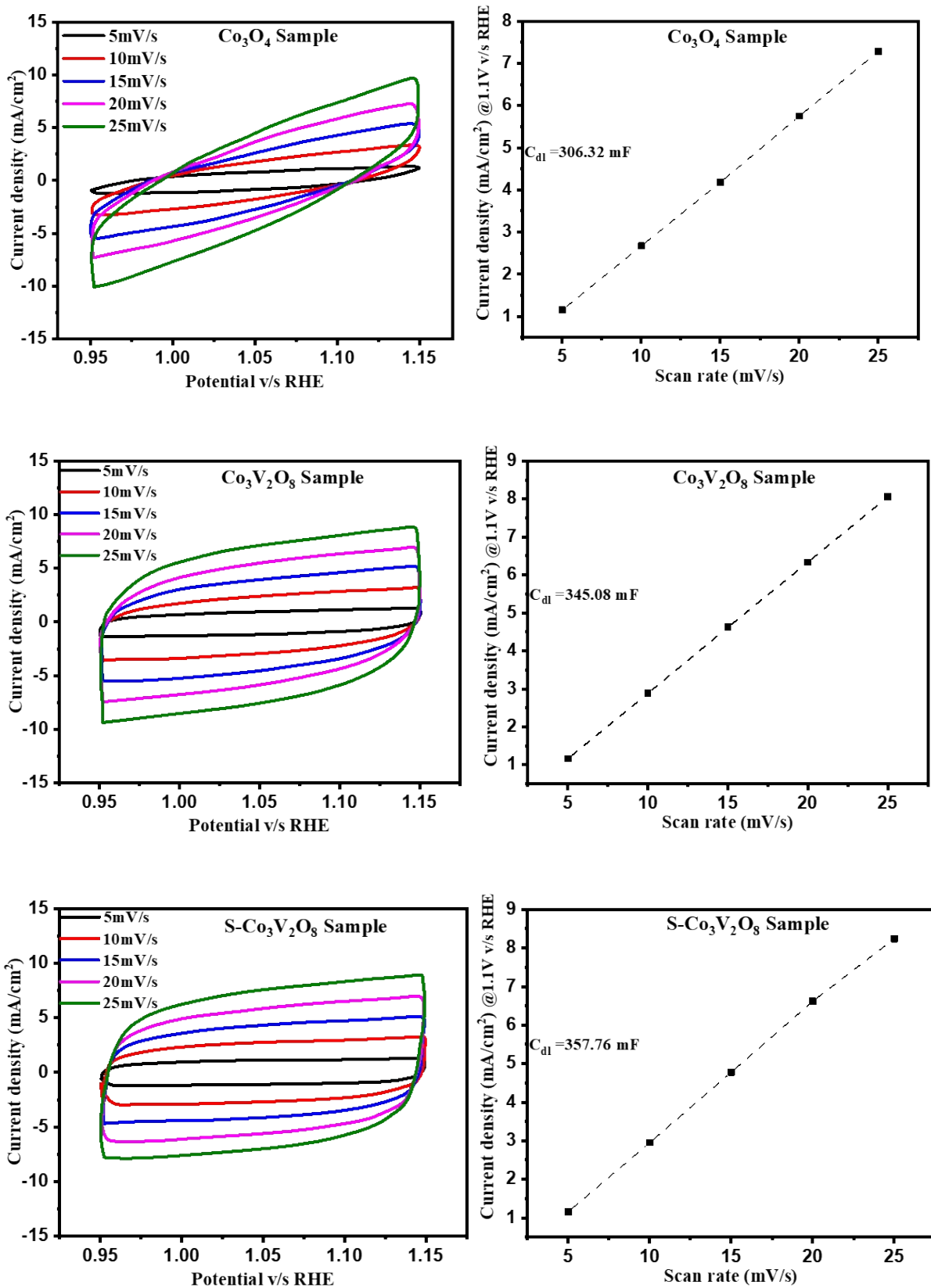


Fig. S2 Cyclic voltammogram of Co_3O_4 , $\text{Co}_3\text{V}_2\text{O}_8$ and $\text{S-Co}_3\text{V}_2\text{O}_8$ at different scan rate utilized for the determination of C_{dl} .

Electrochemical surface area (ECSA) estimation:

Double layer capacitance (C_{dl}) = ECSA* capacitance per unit surface area on standard electrode like Au (C_{Au})

$$ECSA = \frac{C_{dl}}{C_{Au}}$$

Here C_{Au} is taken as 40 μF¹.

References:

1. Horkans, J., Cahan, B.D. and Yeager, E., 1974. Electrode potential scanning ellipsometric spectroscopy: study of the formation of the anodic oxide film on noble metals. Surface Science, 46(1), pp.1-23.