

Electronic Supplementary Information (ESI) †

Ion exchange mediated shape-preserving strategy for architecting 1-D arrays of porous $\text{CoS}_{1.0365}$ nanorods for electrocatalytic reduction of triiodide

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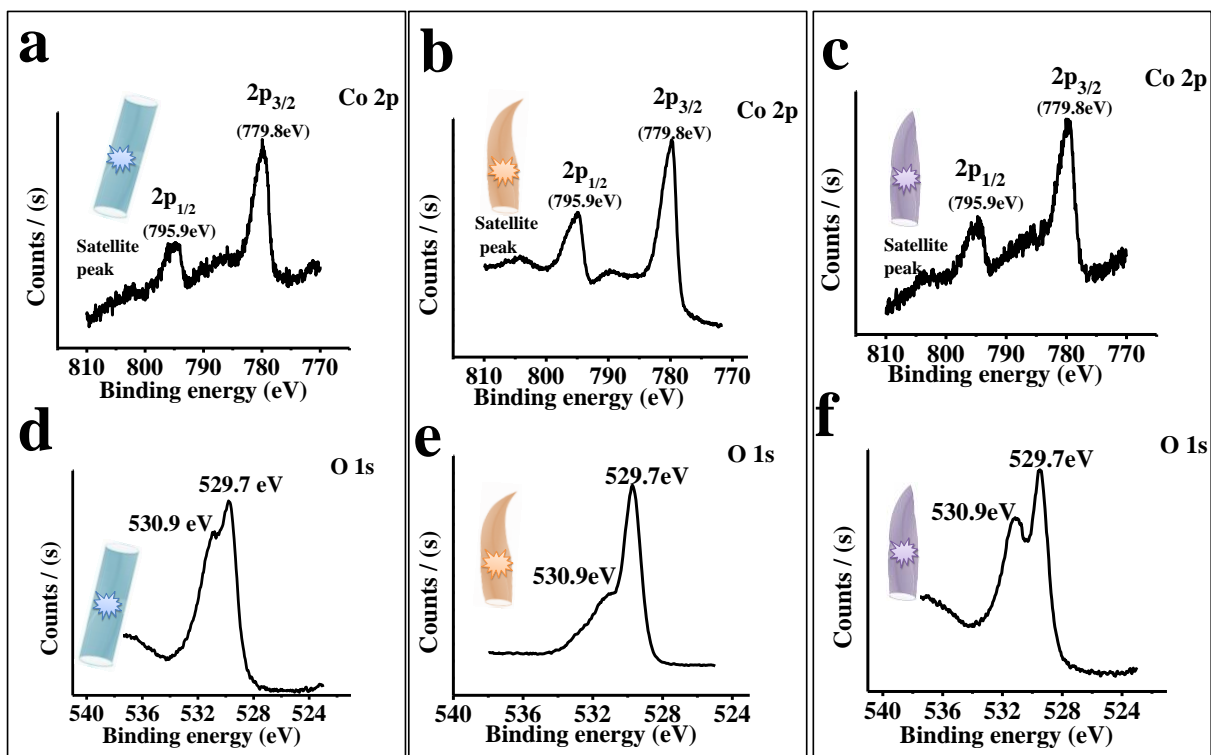


Fig. S1. Co 2p and O 1s core level XPS spectra of various shaped Co_3O_4 nanorod films: (a) Nb, (b) BNr, and (c) Nn.

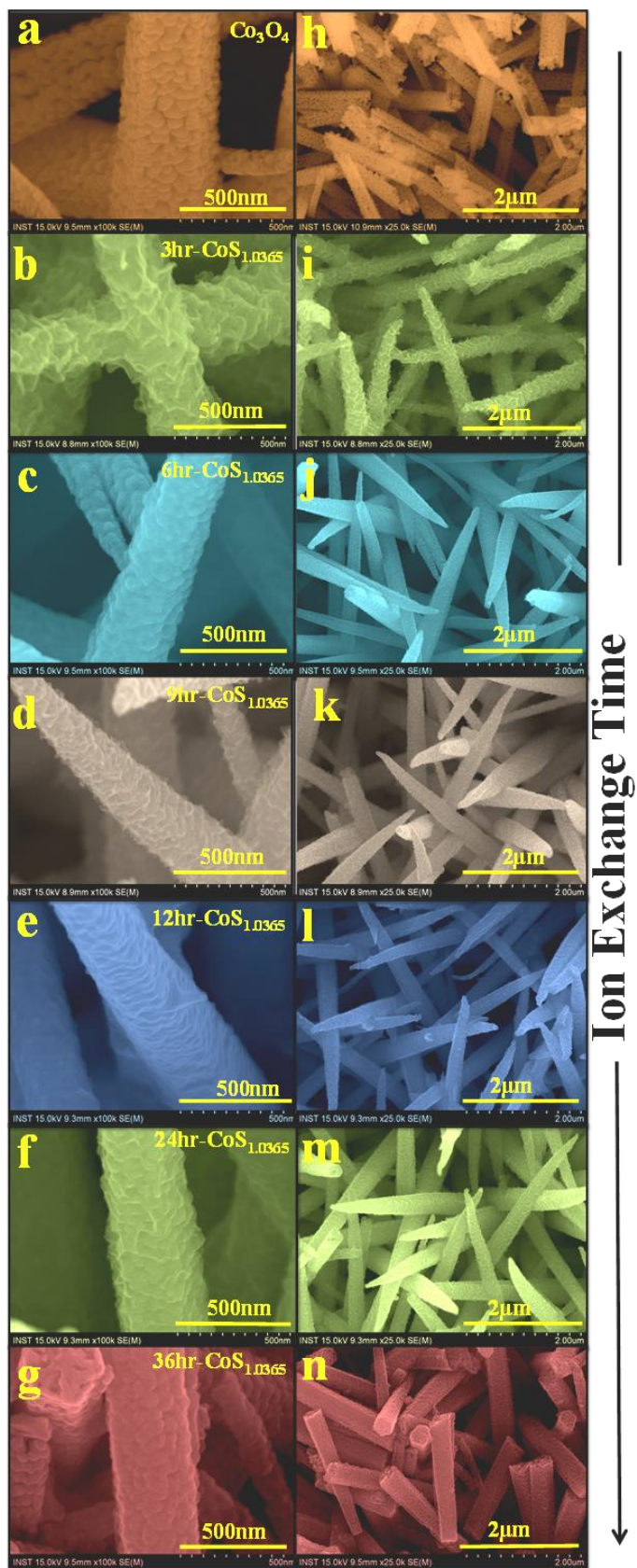


Fig. S2. SEM top views of Co_3O_4 nanorod film before (a), and after ion exchange reaction for (b) 3 h, (c) 6 h, (d) 9 h, (e) 12 h, (f) 24 h, and (g) 36 h. Images (h) ~ (n) correspond to low magnified SEM views shown on left column.

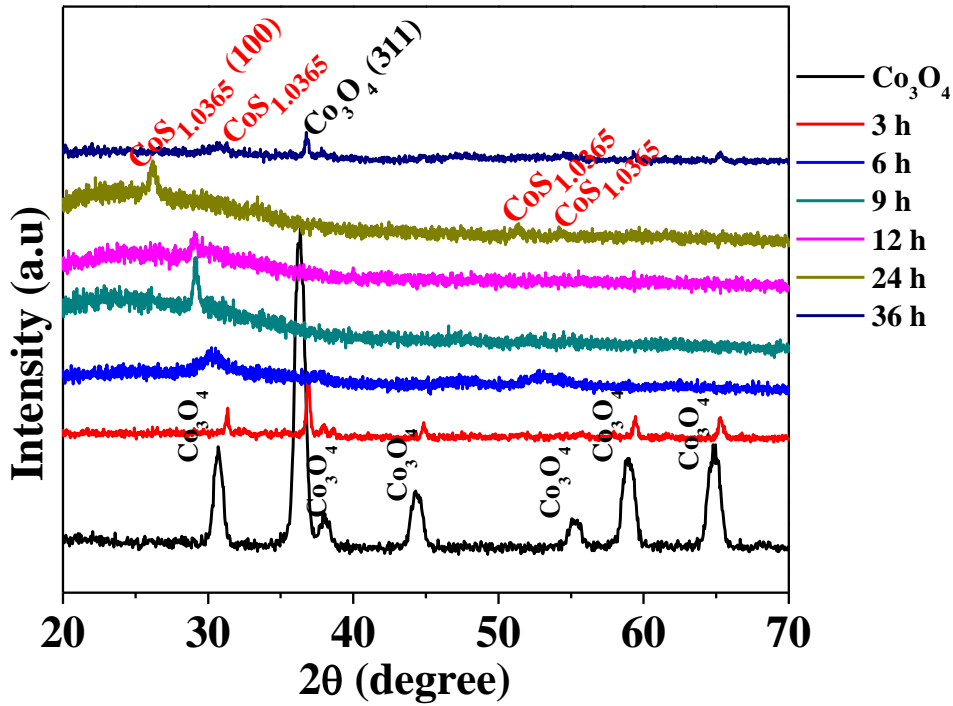


Fig. S3. XRD pattern for 1-D of Co_3O_4 Nb array and time dependent ion exchange for Nb- $\text{CoS}_{1.0356}$.

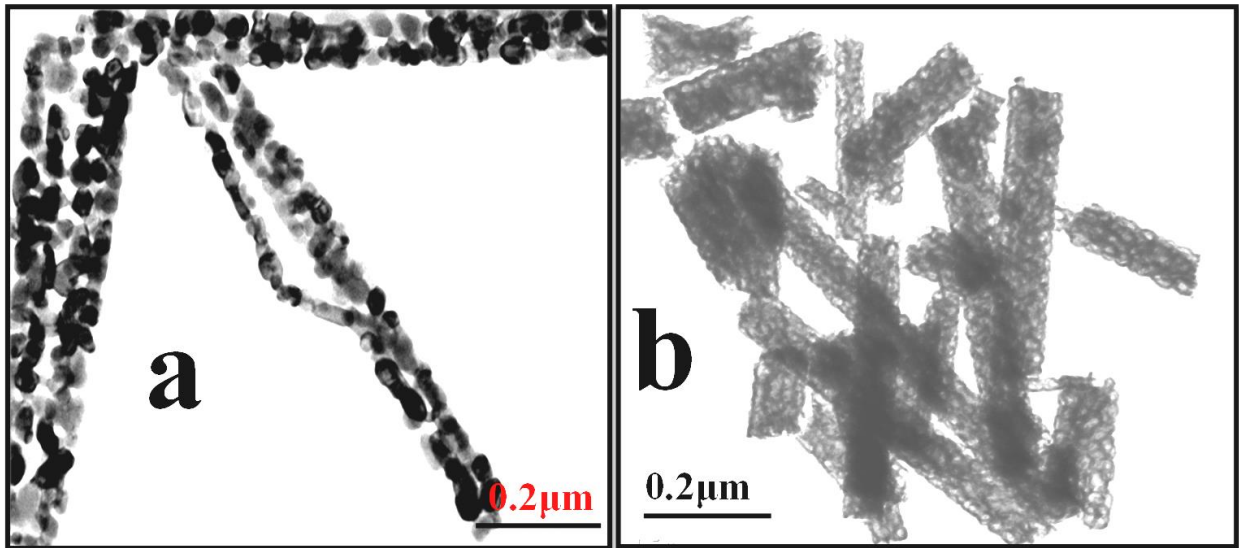


Fig. S4. TEM images of nanorods scaped from film of (a) Co_3O_4 , and (b) 24 hr- $\text{CoS}_{1.0365}$ nanorods.

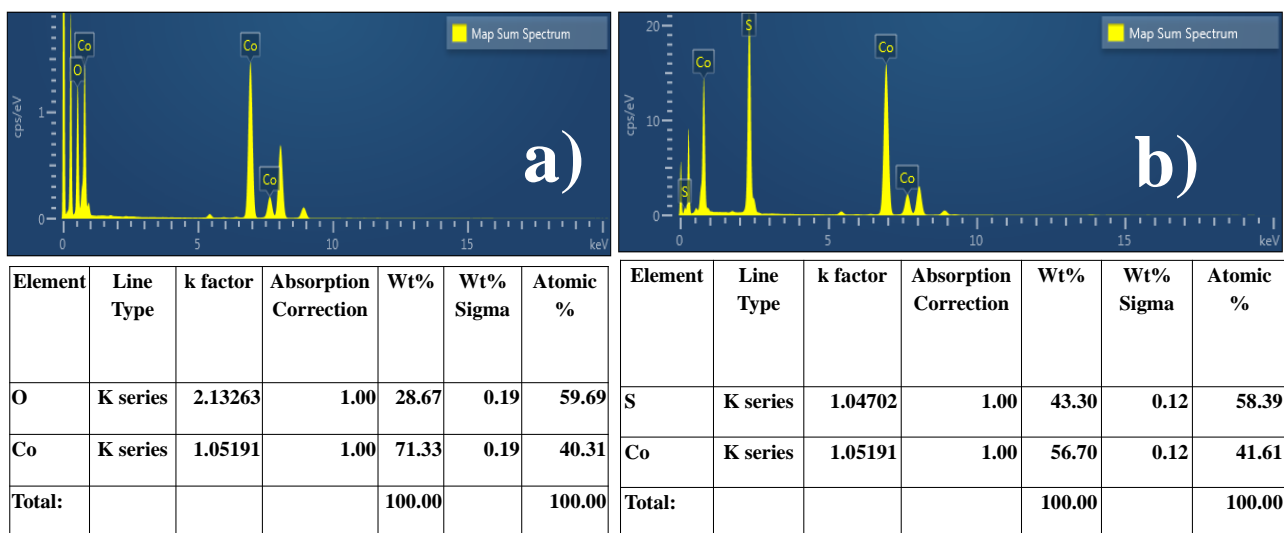


Fig. S5. Energy-dispersive X-ray spectroscopy analysis of (a) Co_3O_4 Nb, and (b) 24 hr- $\text{CoS}_{1.0365}$ Nb film powder scraped from FTO glass substrate for analysis.

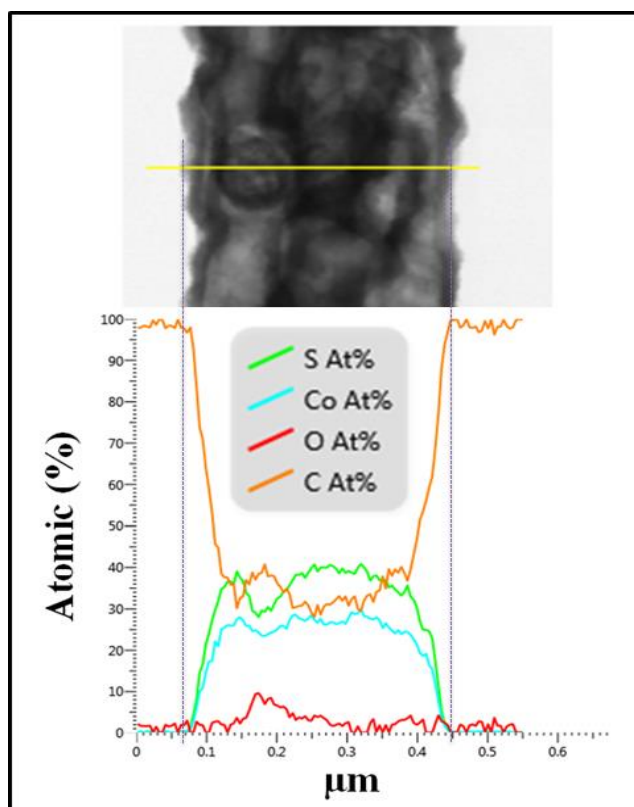


Fig. S6 Line scanning TEM-EDS analysis of the one week aged 24 hr- $\text{CoS}_{1.0365}$ nanorod in dark at normal temperature and pressure of laboratory, showing distribution profile of various elements.

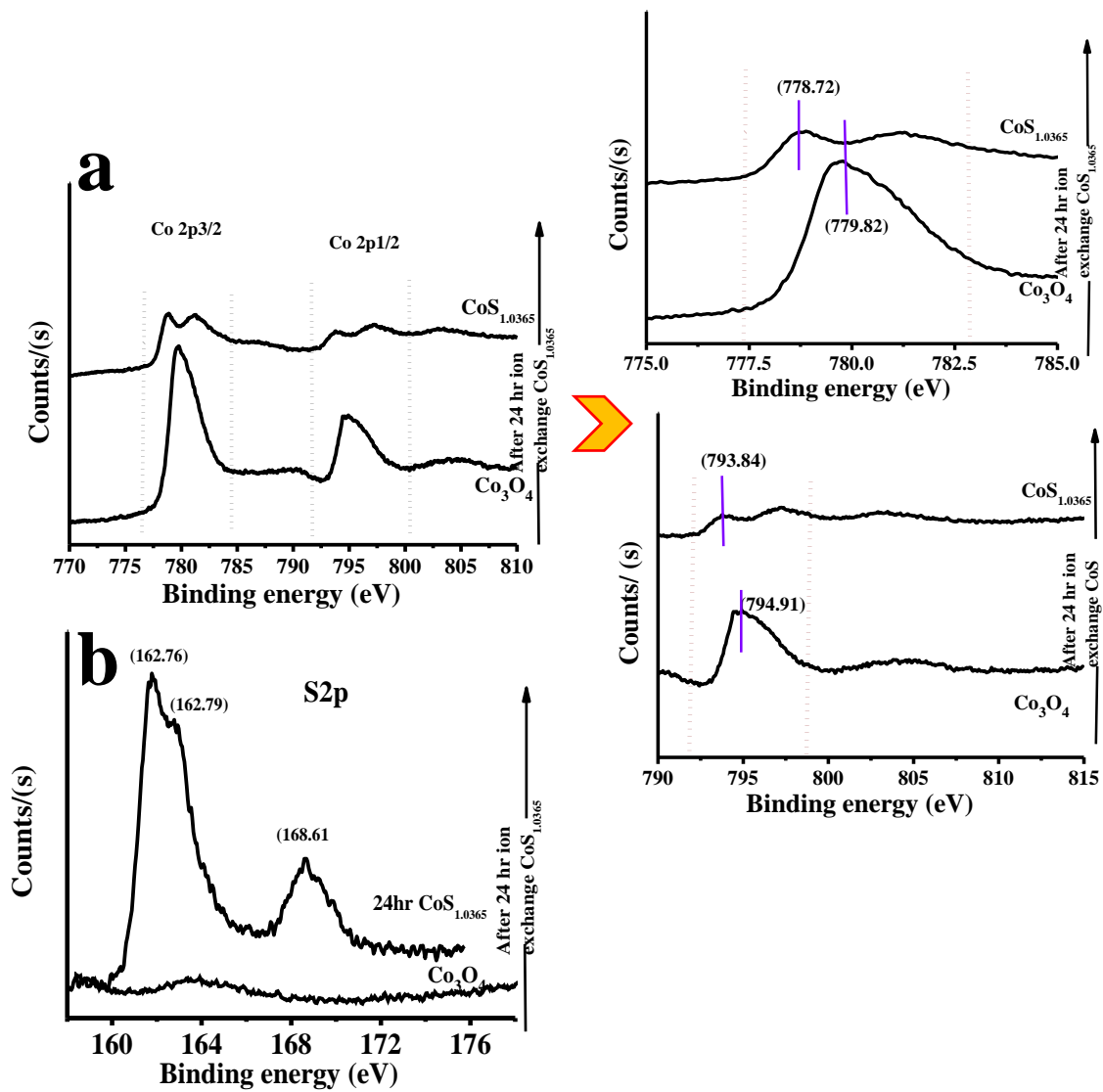


Fig. S7. XPS spectra of 24 hr-CoS_{1.0365} in the region of (a) Co 2p, and (b) S 2p.