

## **Description of Additional Supplementary Files**

File Name: Supplementary Movie 1

Description: In-situ TEM imaging of  $\text{Fe}_{0.9}\text{Co}_{0.1}\text{OF}$  nanorod for their morphological evolution upon electrochemical lithiation.

File Name: Supplementary Movie 2

Description: In-situ TEM imaging of  $\text{Fe}_{0.9}\text{Co}_{0.1}\text{OF}$  nanorod for their morphological evolution upon electrochemical delithiation.