

Supporting Information for

A Novel Hollowed CoO-in-CoSnO₃ Nanostructure with Enhanced Lithium Storage Capabilities

*Cao Guan^{*a}, Xianglin Li^b, Hong Yu^c, Lu Mao^a, Lydia Helena Wong^c, Qingyu Yan^c, and John Wang^{*a}*

[]Dr. C. Guan, Dr. L. Mao, Prof. J. Wang

Department of Materials Science and Engineering, National University of Singapore, 117574 Singapore.

Email: msegc@nus.edu.sg, msewangj@nus.edu.sg

Dr. X. L. Li

Energy Research Institute @ NTU, Nanyang Technological University, 50 Nanyang Drive, Research Techno Plaza, X-Frontier Block, Level 5, 637553 Singapore.

H. Yu, Prof. L. H. Wong, Prof. Q. Y. Yan

School of Materials Science and Engineering, Nanyang Technological University, 639798 Singapore.

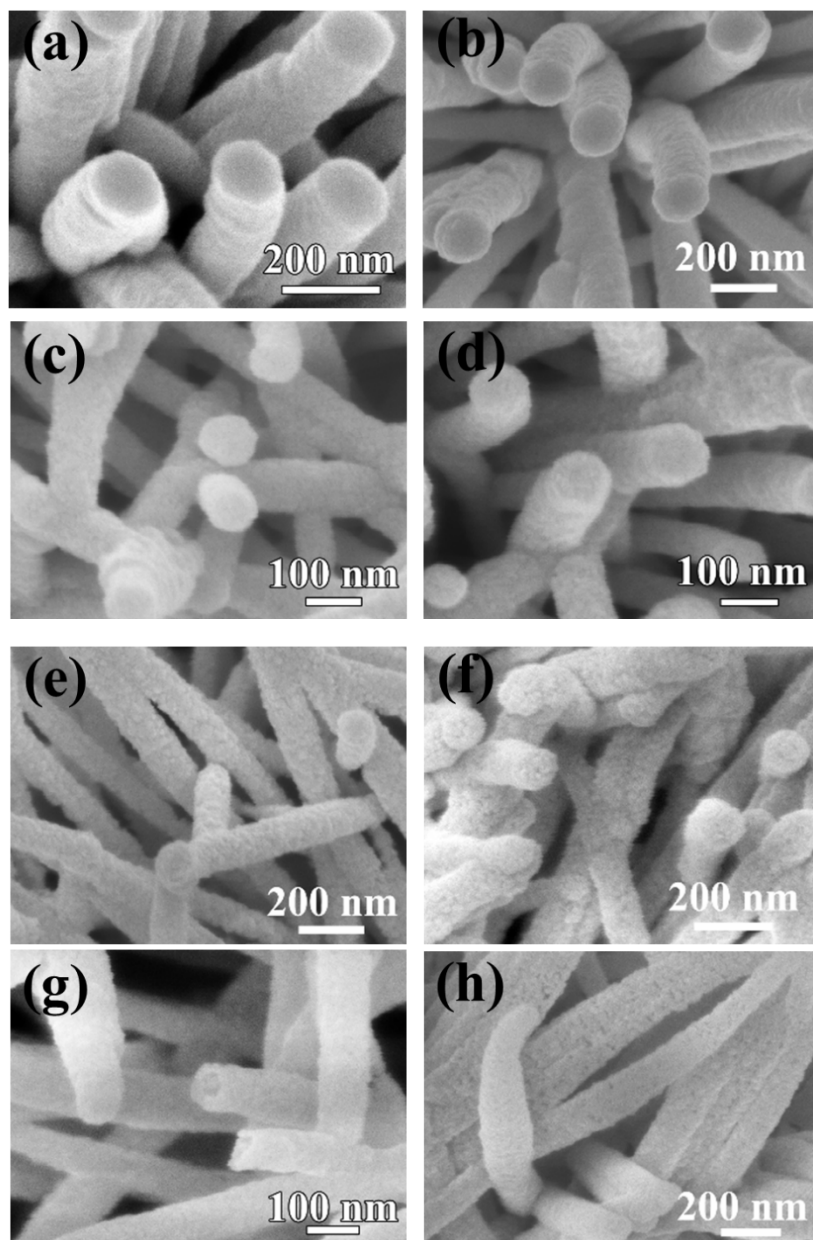


Figure S1. SEM images of the $\text{Co}_2(\text{OH})_2\text{CO}_3@\text{SnO}_2$ after thermal treatment at different temperatures of: (a) 250, (b) 300, (c) 350, (d) 400, (e) 450, (f) 550, (g) 650, and (h) 750° C.

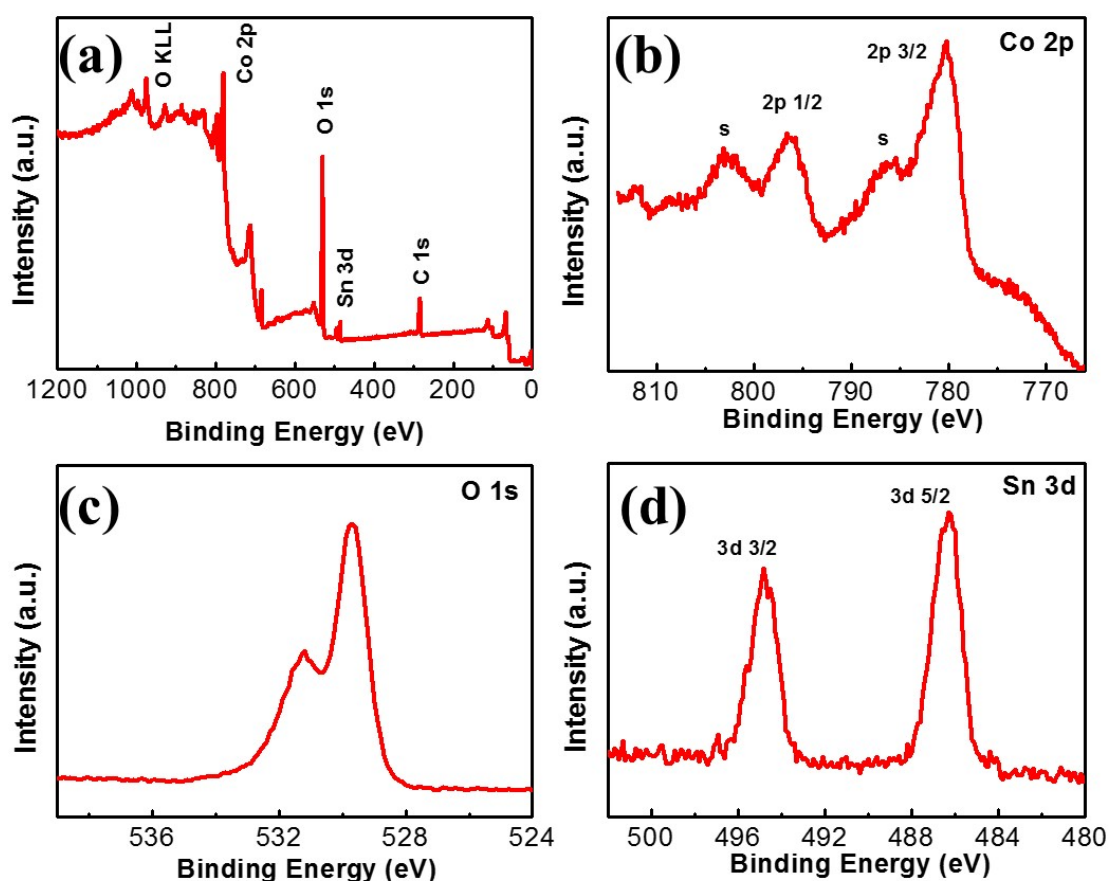


Figure S2. XPS spectrum of $\text{CoO@CoSnO}_3\text{@C}$ with (b-d) showing the regions of Co 2p, O 1s and Sn 3d.

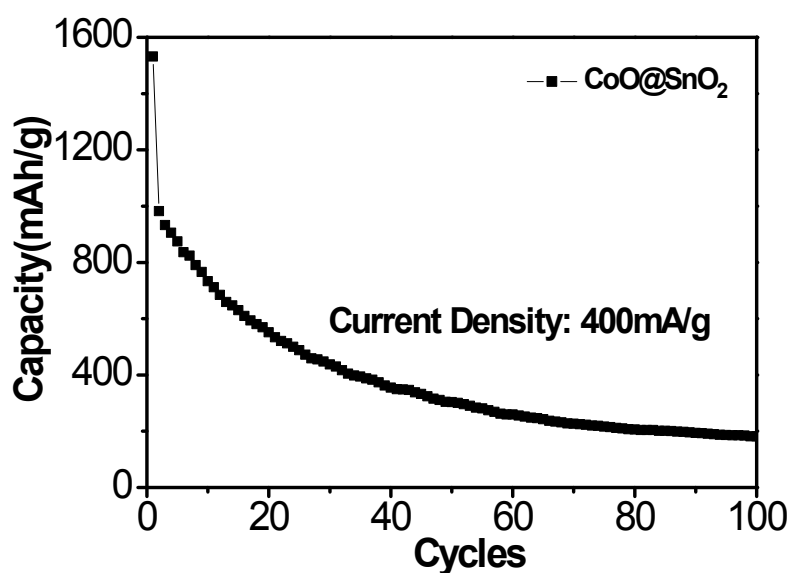


Figure S3. Cycling curve of solid core-shell structure by deposit ALD SnO_2 directly on CoO nanowire.

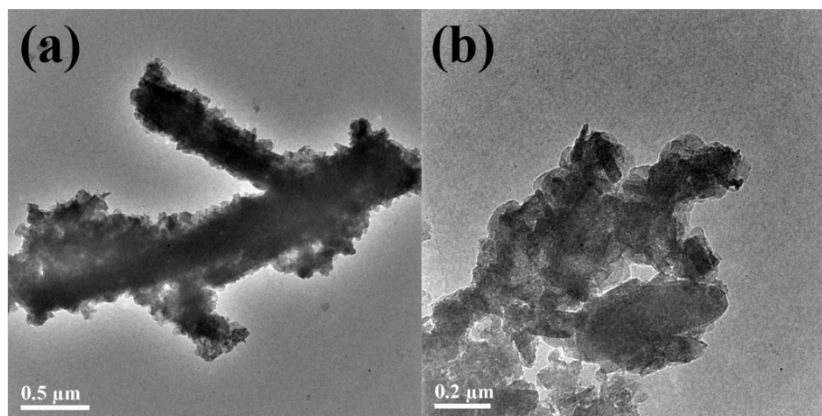


Figure S4. TEM images of (a) $\text{CoO@CoSnO}_3\text{@C}$ and (b) CoO@CoSnO_3 after 100 cycles, showing the volume expansion and pulverization of the materials.