**Supporting Information for** 

## Tin microparticles for a lithium ion battery anode with enhanced cycling stability and efficiency derived from Se-doping

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**Figure S1.** EDS Analysis of an 9:2 atomic ratio Sn/Se particle: (a) SEM image; EDS line scan across the particle (b) and EDS mapping for (c) Sn and (d) Se. The scan bar in all SEM images is  $3 \mu m$ .



**Figure S2.** EDS Analysis of an 9:0/5 atomic ratio Sn/Se particle: (a) SEM image; EDS line scan across the particle (b) and EDS mapping for (c) Sn and (d) Se. The scan bar in all SEM images is 3  $\mu$ m.



**Figure S3.** Raw XRD pattern of the fully discharged SnSe(9/1) electrode. The patterns for Cu (from substrate), Sn (remaining tin), and Li<sub>2</sub>Se (expected phase) are all included.



**Figure S4.** Voltage profiles of electrodes made with (a) Sn/Se(9/1) and (b) Sn particles at C rates from 0.1 C to 1 C.