Response to Reviewer’s Comments:

Comment 1: I do not feel that the authors responded to the original recommendation. The appearance of the fibers in 1c and 6b is really different with lighter raspberry constructions at 1 um in scale in 6b being much bigger than the dots in 1c at 400 nm in scale. At least EDS mapping is necessary to confirm the absence of extensive diffusion of the selenide component.

Response: Thank you for your suggestion. In the previous SEM image, there are many small balls on the surface of the cycled Cu$_2$Se-NC, which might be derived from the precipitation of NaClO$_4$ in electrolyte. To clarify this hypothesis, the cycled Cu$_2$Se-NC was rinsed with DME for several times to remove the residual electrolyte and then for SEM test. As shown in Figure 6b, the cycled Cu$_2$Se-NC shows similar morphology to the pristine Cu$_2$Se-NC (Figure S5a and b), implying superior structural integrity. Furthermore, as illustrated in Figure S6, the EDS mapping of the cycled Cu$_2$Se-NC with uniform distribution of Cu, Se, N, and C in the nanofiber, which confirm that Cu$_2$Se do not diffuse to the surface of the carbon fiber during repeated cycling. In the revised manuscript, we have revised results and made corresponding discussion with red highlights as follows:

“Meanwhile, the EDS mapping of the cycled Cu$_2$Se-NC electrode in Figure S6 shows uniform distribution of Cu, Se, N, and C in the nanofiber, demonstrating superior structural integrity during long-term cycling.”
Figure 6. SEM images of (a, b) Cu$_2$Se-NC and (c, d) Cu$_2$Se electrode after 100 cycles.

Figure S6. SEM image and corresponding elemental mappings of the cycled Cu$_2$Se-NC.