Figure S1. Typical AFM image of the Nb$_2$O$_5$ nanosheet spread on a Si wafer.

Figure S2. Typical XPS Nb$_{3d5/2}$ core level spectra of bare NCM electrodes (black) and Nb$_2$O$_5$ nanosheet coated NCM electrodes (blue).

Figure S3. Changes in XPS Nb$_{3d5/2}$ core level spectra of NCM electrodes with different Nb$_2$O$_5$ nanosheet coating conditions as a function of Ar-sputtering times: (a) bare NCM, (b) 0.1wt%, (c) 0.5wt%, (d) 1 wt%.

Figure S4. FT-IR spectra of bare (black) and Nb$_2$O$_5$ nanosheet coated (blue) NCM electrodes after 100th cycles.

Figure S5. XPS O$_{1s}$ core level profiles of bare (a) and Nb$_2$O$_5$ nanosheet coated (b) NCM electrodes after 100th cycles.