

Supporting Information

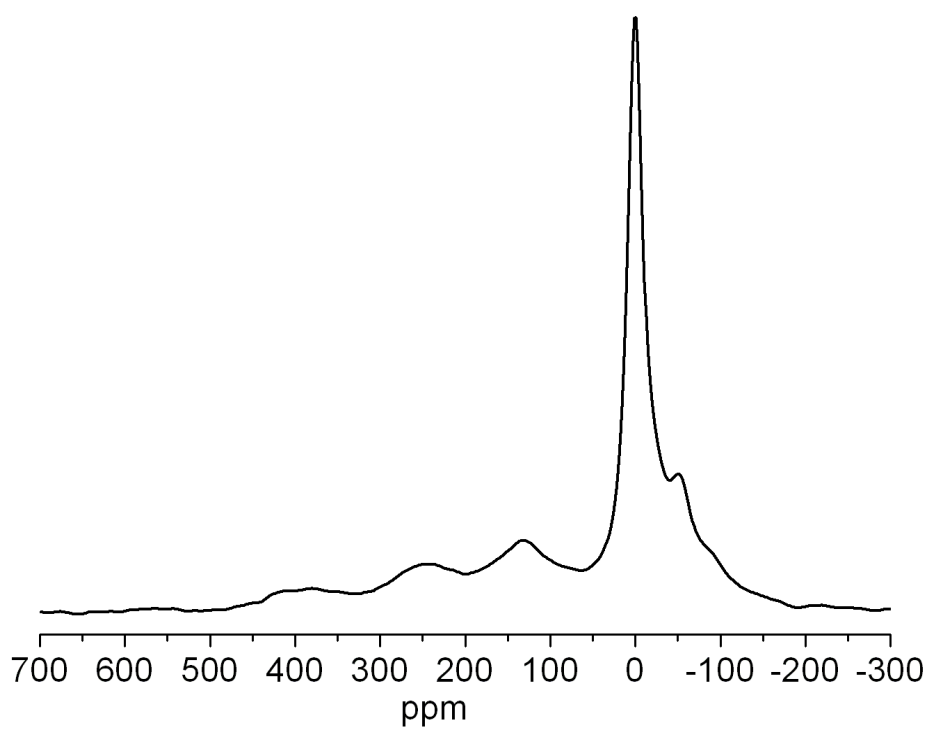


Figure S1. A ^6Li MAS NMR spectrum of a **^{90}Co** pristine sample made with natural abundance $\text{LiOH}\cdot\text{H}_2\text{O}$, acquired at 4.7 T at a spinning speed of 38 kHz.

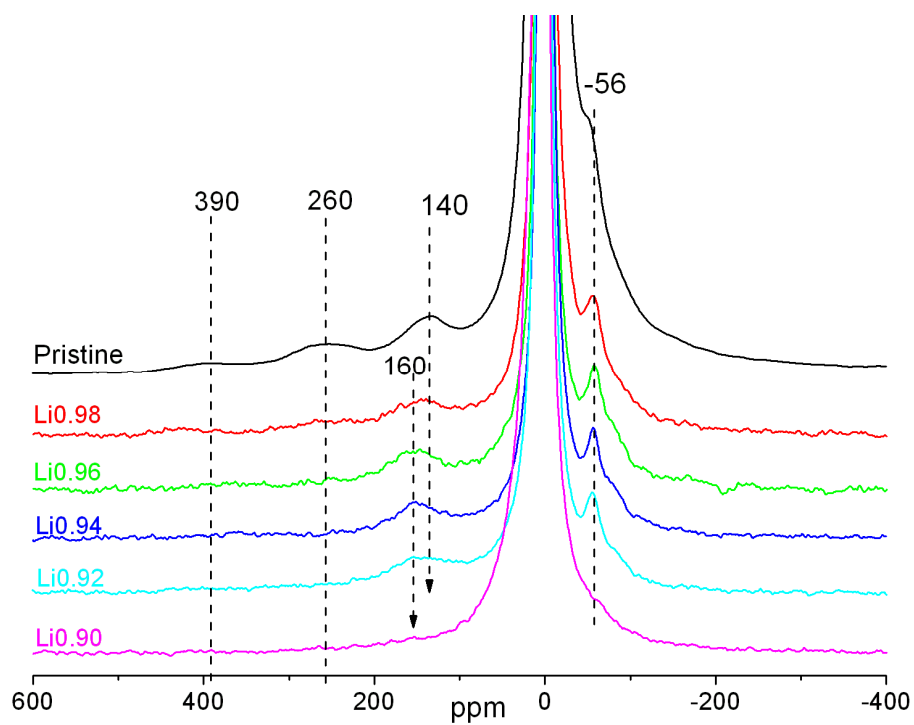


Figure S2. A zoom of the ${}^6\text{Li}$ MAS NMR spectra, normalized based on the acquisition number and sample mass, of pristine and partially charged $\text{Li}[\text{Ni}_{0.02}\text{Mn}_{0.02}\text{Co}_{0.96}]\text{O}_2$ (**96Co**) samples, labeled as Li_x stand for $\text{Li}_x[\text{Ni}_{0.02}\text{Mn}_{0.02}\text{Co}_{0.96}]\text{O}_2$ ($1.00 \geq x \geq 0.90$).