

## Supporting information

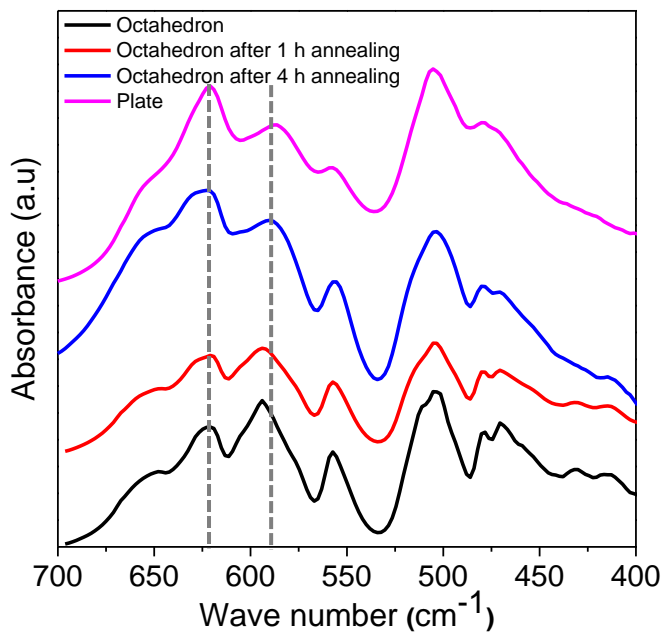


Figure SI-1. FTIR spectra of LMNO samples before and after annealing.

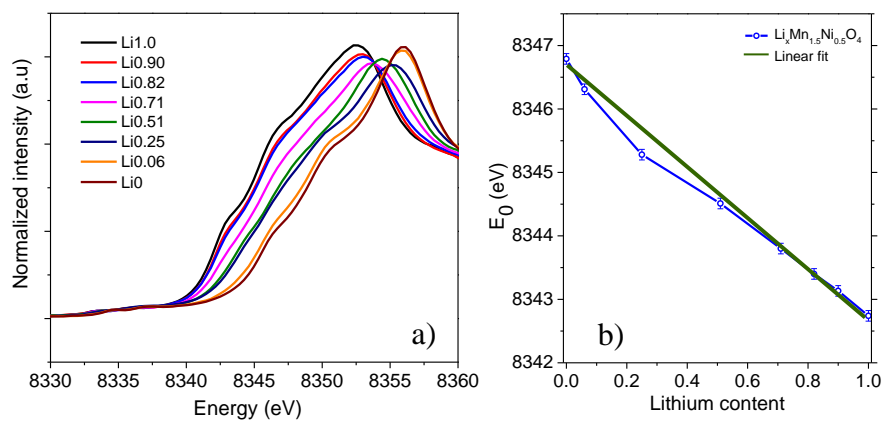


Figure SI-2. a) Ni *K*-edge XANES spectra and b) relationships between  $E_0$  and lithium content in chemically delithiated  $\text{Li}_x\text{MNO}$  samples.  $x$  as indicated.

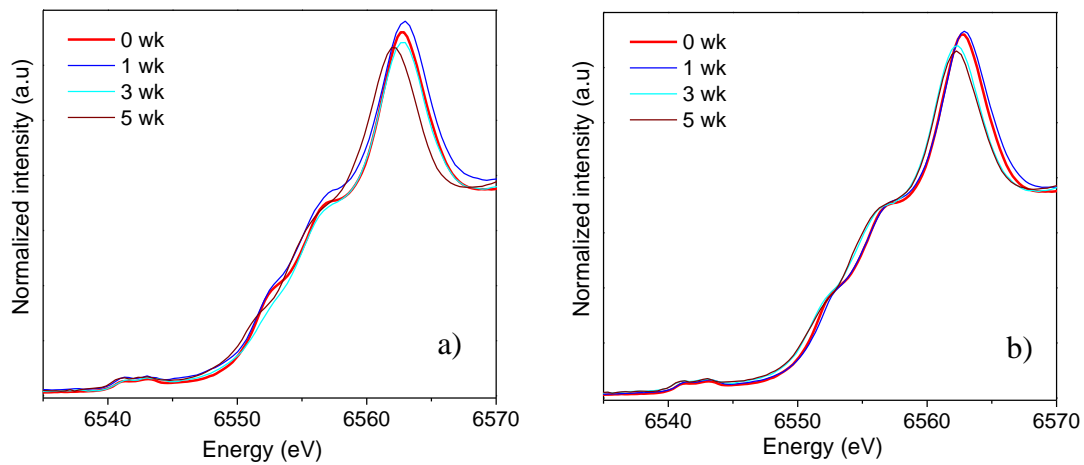


Figure SI-3. Mn *K*-edge XANES spectra of aged MNO: a) plate and b) octahedron.