

Supplemental Information for

**Influence of Synthesis Conditions on the Surface Passivation and
Electrochemical Behavior of Layered Cathode Materials**

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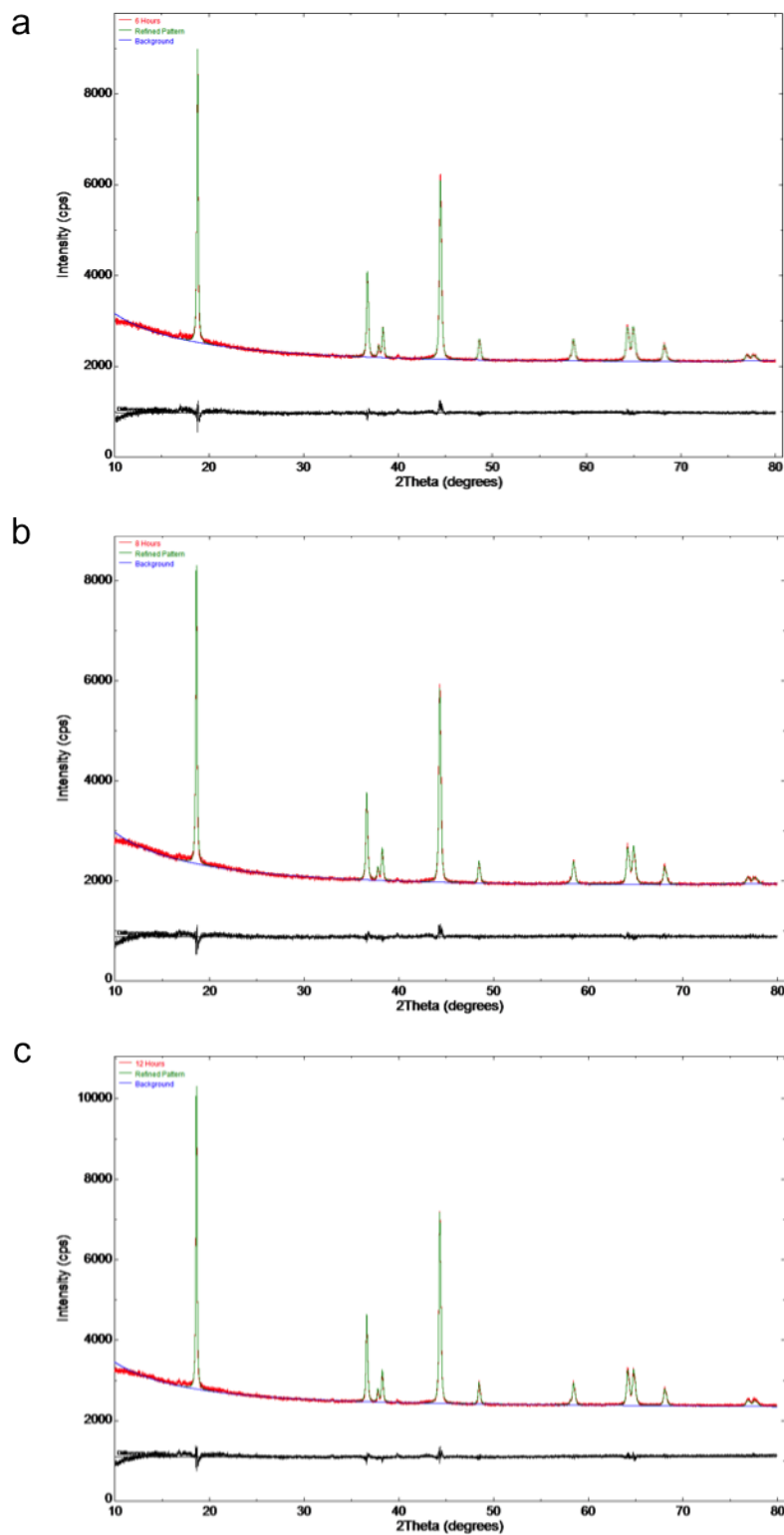


Figure S1. XRD patterns with Rietveld refinement for NMC442-2%Ti materials prepared with different annealing durations at 900 °C: 6 hours (a), 8 hours (b) and 12 hours (c).

Table S1. Lattice parameters for NMC442-2%Ti materials.

| Samples | TM/Li Intermixing | a (Å) | b (Å) | c (Å) | V (Å ³) |
|----------|-------------------|--------|--------|---------|---------------------|
| 6 hours | ~ 4.5% | 2.8746 | 2.8746 | 14.2699 | 102.122 |
| 8 hours | ~ 4.5% | 2.8756 | 2.8756 | 14.2760 | 102.239 |
| 12 hours | ~ 5.0% | 2.8753 | 2.8753 | 14.2756 | 102.215 |

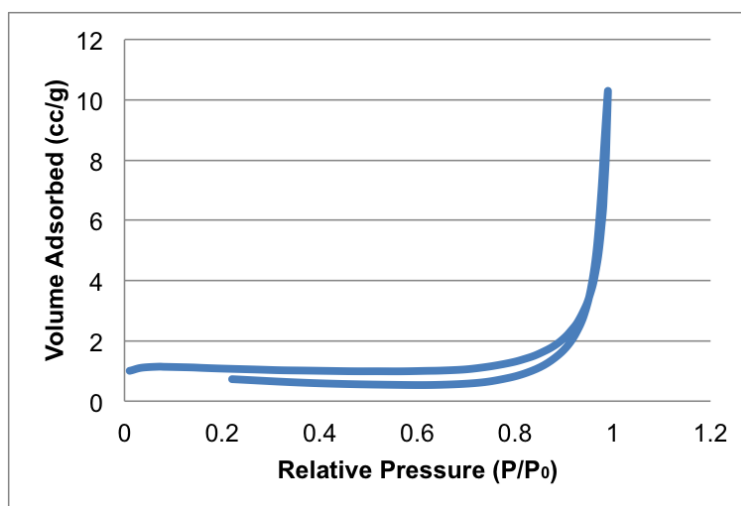


Figure S2. N₂ adsorption and desorption isotherms example for NMC442-2%Ti materials prepared at 900 °C for 12 hours.