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Electronic Supplementary Information

Characterization of $Na_x Li_{0.67+y} Ni_{0.33} Mn_{0.67} O_2$ as a Positive Electrode Material for Lithium-ion Batteries

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| Sample | Spinel | Layer |
|--|--------|-------|
| Sample027 | 7 % | 93 % |
| $(Na_{0.013}Li_{0.86}Ni_{0.33}Mn_{0.67}O_2)$ | | |
| Sample019 | 21 % | 79 % |
| $(Na_{0.012}Li_{0.87}Ni_{0.33}Mn_{0.67}O_2)$ | | |
| Sample015 | 31 % | 69 % |
| $(Na_{0.010}Li_{0.83}Ni_{0.33}Mn_{0.67}O_2)$ | | |

Table S1 Spinel and layer structure content of Sample015, Sample019 and Sample027.

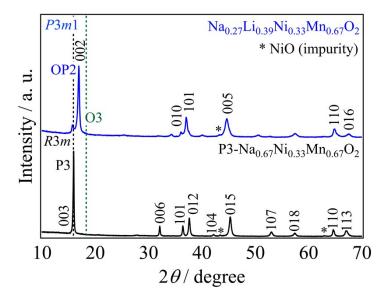


Fig. S1 XRD patterns of P3-Na $_{0.67}$ Ni $_{0.33}$ Mn $_{0.67}$ O₂ and Na $_{0.27}$ Li $_{0.39}$ Ni $_{0.33}$ Mn $_{0.67}$ O₂ before heat treatment.

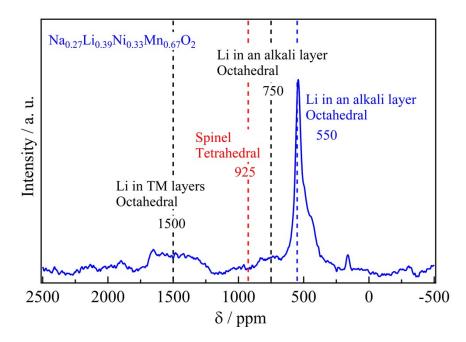
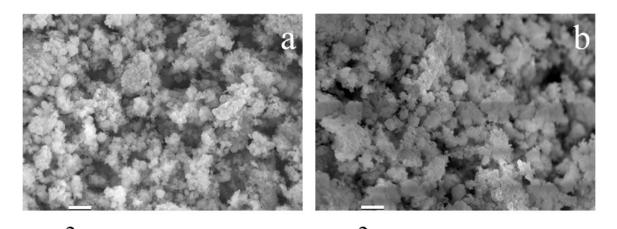


Fig. S2 ⁶Li-MAS-NMR spectrum of $Na_{0.27}Li_{0.39}Ni_{0.33}Mn_{0.67}O_2$ before heat treatment measured at room temperature.



 $\begin{array}{c} 2\ \mu m \\ \text{Fig. S3 SEM images of (a) before chemical lithiation and (b) after chemical lithiation} \\ \text{(sample015).} \end{array}$

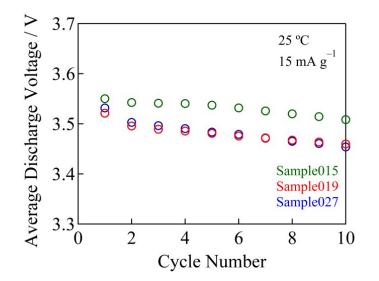


Fig. S4 Average discharge voltage upon cycling of Sample015, Sample019 and Sample027.