## **Supporting Information**

## Unraveling the Synergistic Effect of Mg and Ti Co-Doping to Realize the Ordered Structure and Excellent Performance for Sodium Ion Batteries

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**Figure S1.** (a) XRD patterns of NMM and NMT materials and (b) Refined result of NMMT based on the super cell P6<sub>3</sub> model.



Figure S2. XRD pattern of  $Na_{2/3}[Ni_{2/9}Zn_{1/9}Mn_{5/9}Ti_{1/9}]O_2$  material.



**Figure S3.** Comparison of the diffraction peaks of neutron diffraction of NMMT material. (a) The super cell P6<sub>3</sub> model and (b) the common unit cell P6<sub>3</sub>/mmc model.



Figure S4. SEM images of (a) NMMT and (b) NM materials.



Figure S5. Specific capacities of NMM and NMT cathodes at 0.1 C in the range of

2.0 - 4.3 V.



**Figure S6.** EIS results of a) NNMT and NM cathodes. b) Comparison of the estimated Na-ion diffusion coefficient for the both cathodes.



Figure S7. Ex situ XRD pattern of NMMT cathode upon charging to 4.3 V.