Supplementary Information for
Kinetically asymmetric charge and discharge behavior of LiNi$_{0.5}$Mn$_{1.5}$O$_4$ at low temperature observed by in situ X-ray diffraction

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**Fig. S1** Neutron diffraction pattern of LiNi$_{0.5}$Mn$_{1.5}$O$_4$ powder. The inset shows the magnified pattern. Si indicates the diffractions of silicon added to the sample as a standard.