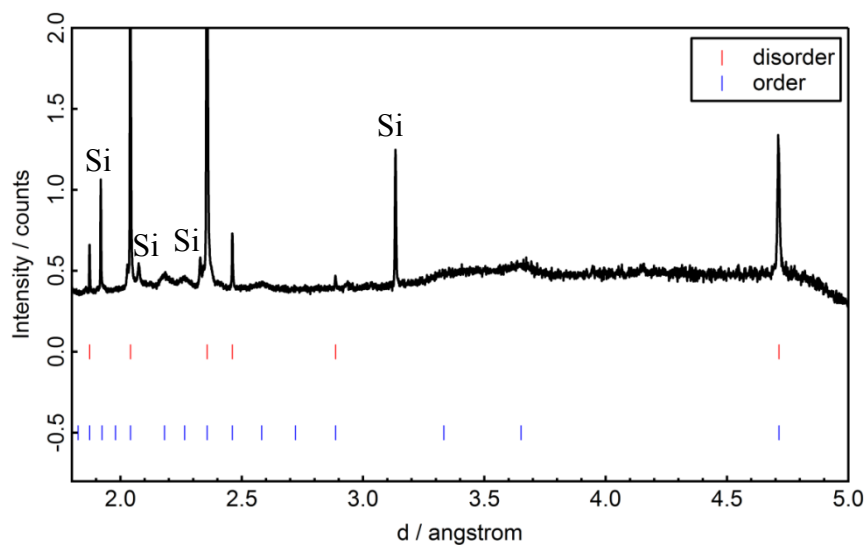


**Supplementary Information for**

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

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