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Chapter 4 is published as D.T. Murphy, S. Schmid, J.R. Hester, P.E.R. Blanchard, and W. Miiller. Coordination site disorder in spinel-type LiMnTiO4. *Inorganic Chemistry* **54**, 4636-4643 (2015). DOI: 10.1021/ic502747p.

The contributions of the co-authors are as follows:

* A/Prof Schmid provided the initial project direction and edited the manuscript drafts.
* I prepared the manuscript drafts. The manuscript was revised by Dr Hester and Dr. Blanchard.
* I co-designed the study with A/Prof Siegbert Schmid and performed all the laboratory work at the School of Materials Science and Engineering and the Singapore Synchrotron Light Source. I also analyzed the data.
* All microscopy, including sample preparation, was conducted by me in the Facility for Analysis, Characterization, Testing and Simulation.
* Dr James Hester assisted in the collection of the neutron powder diffraction data.
* Dr Peter Blanchard assisted in the interpretation of the X-ray absorption spectroscopy data and carried out the spectral interpretation.
* Dr Wojciech Miiller assisted in the collection and provide guidance in the interpretation of the magnetic measurement data.

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The contributions of the co-authors are as follows:

* Prof Ting suggested the materials area and edited the manuscript drafts.
* I wrote the drafts of the manuscript. The manuscript was revised together with Dr. Sartbaeva and Dr. Yao.
* I performed all the materials synthesis, collected X-ray diffraction patterns and visible light spectra, carried transmission electron microscopy, and conducted data evaluation.
* Dr. Y. Fang conducted the Rietveld analysis of the powder X-ray diffraction data and single crystal structure determinations.
* Dr U. Hintermair conducted the molecular dynamics simulations.
* Ms. A. Sartbaeva prepared the samples for electron microscopy.



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