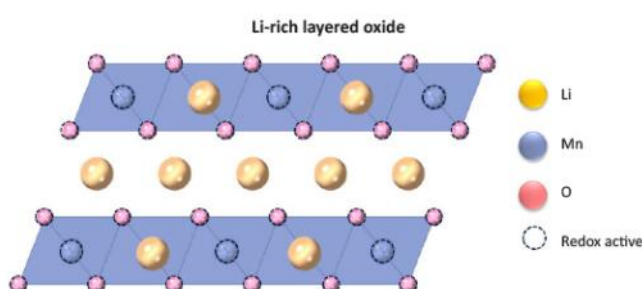


# Single-phase Li-rich nickel-manganese-cobalt oxide

Novel cathode material, namely Li-rich NMC, outperforming the conventional NMC materials and other Li-rich NMC with normal synthesis approaches.

**Applications:** Cathode material, high-energy batteries



| Features                                                                                                                    | Benefits                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Single monoclinic-phase Li-rich nickel manganese-cobalt oxide (LRNMC)                                                       | LRNMC samples can be scaled directly for manufacturing through novel and facile sintering and cooling processes                        |
| The monoclinic ordered domain of the LRNMC can be manipulated to be larger than 100nm and extend across the entire particle | Large domain size will enable a more robust structure during electrochemical cycling thus improving stability                          |
| The interlayer stacking faults can be manipulated as high as 59.2% quantified by the X-ray diffraction refinement           | LRNMC with a higher stacking fault frequency and large domain size shows better stability and increased capacity than traditional ones |
| Slow sintering is used to form an equilibrium LRNMC phase and minimize the kinetic-limited reaction                         | Slow sintering is the key to the formation of a large ordered domain observed in LRNMC                                                 |

## **Patented and Available for**

- Co-development
- Consulting
- Licensing

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To find out more, contact [enquiries@innovation.ox.ac.uk](mailto:enquiries@innovation.ox.ac.uk) and quote the project number.

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