

Electronic supplementary information to manuscript ID EE-ART-01-2013-040127

"Towards a lattice-matching solid state battery: a new class of lithium-ion conductors with the spinel structure"

- Potentiodynamic scan of Mg005
- High-Throughput XRD patterns for $\text{Li}_x\text{Mg}_{1-2x}\text{Al}_{2+x}\text{O}_4$
- Neutron Powder Diffraction patterns for Mg005, Mg015, Zn005 and Zn015
- ^{27}Al -NMR spectra for Mg005 and Mg025

Figure S1: Potentiodynamic scan of Mg005 pellet between 0 and 10V vs. Li^+/Li . The flat current profile shows no decomposition of the material and that there is negligible electronic conductivity.

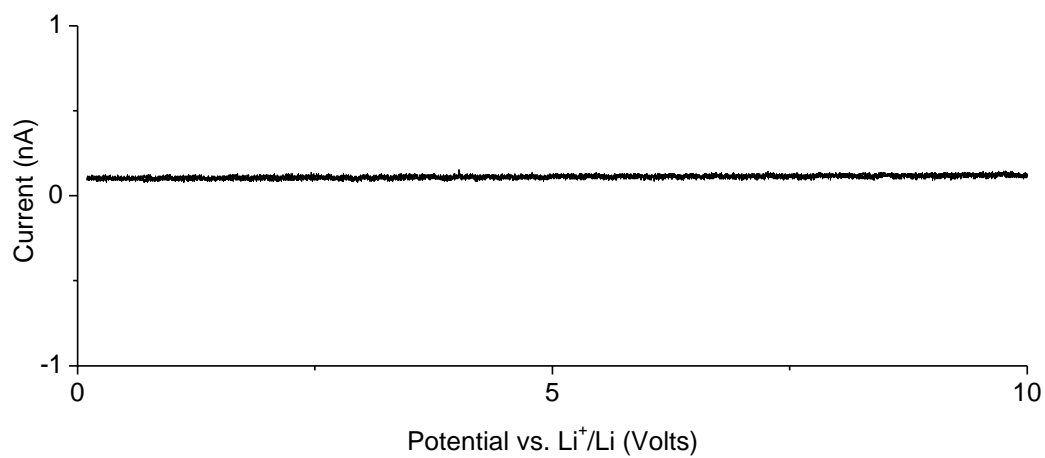


Figure S2: Comparison of XRD patterns for $\text{Li}_x\text{Mg}_{1-2x}\text{Al}_{2+x}\text{O}_4$

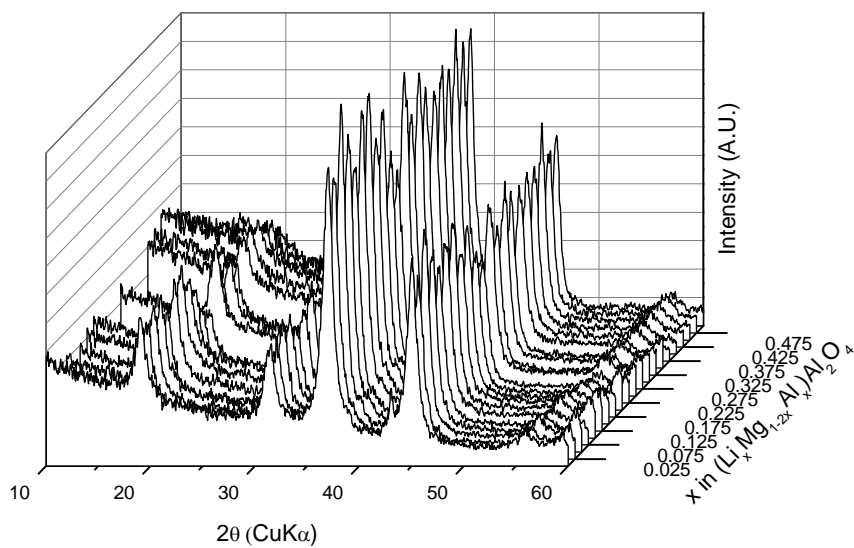


Figure S3: Neutron Powder Diffraction pattern for Mg005

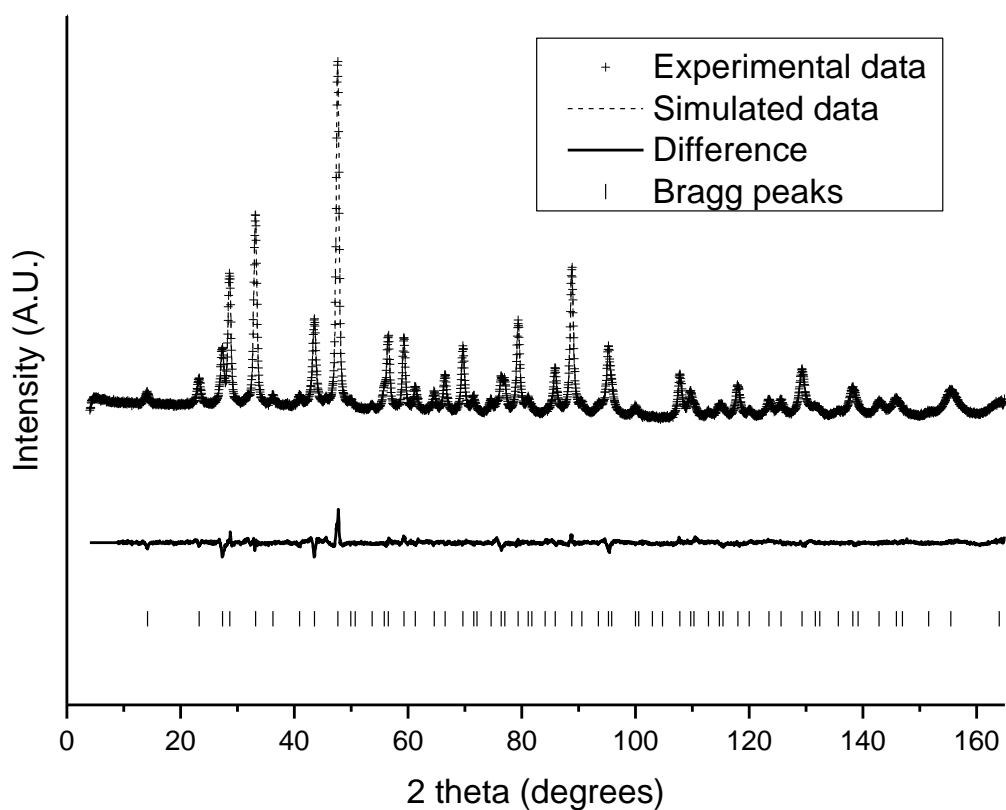


Figure S4: Neutron Powder Diffraction pattern for Mg015

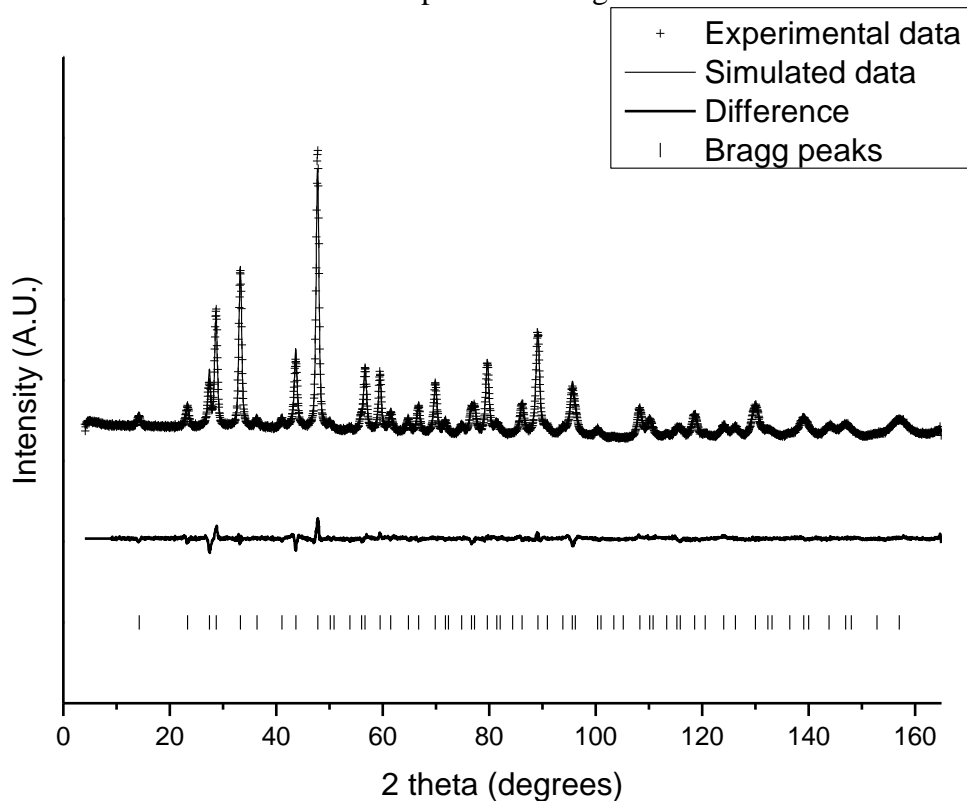


Figure S5: Neutron Powder Diffraction pattern for Zn005

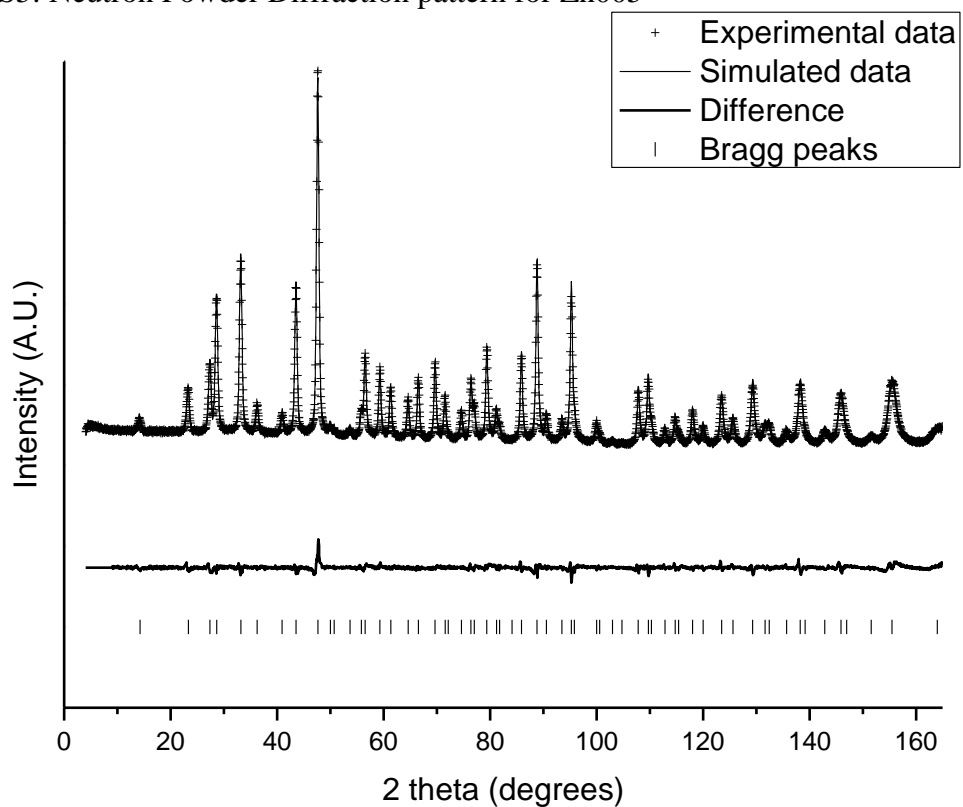


Figure S6: Neutron Powder Diffraction pattern for Zn015

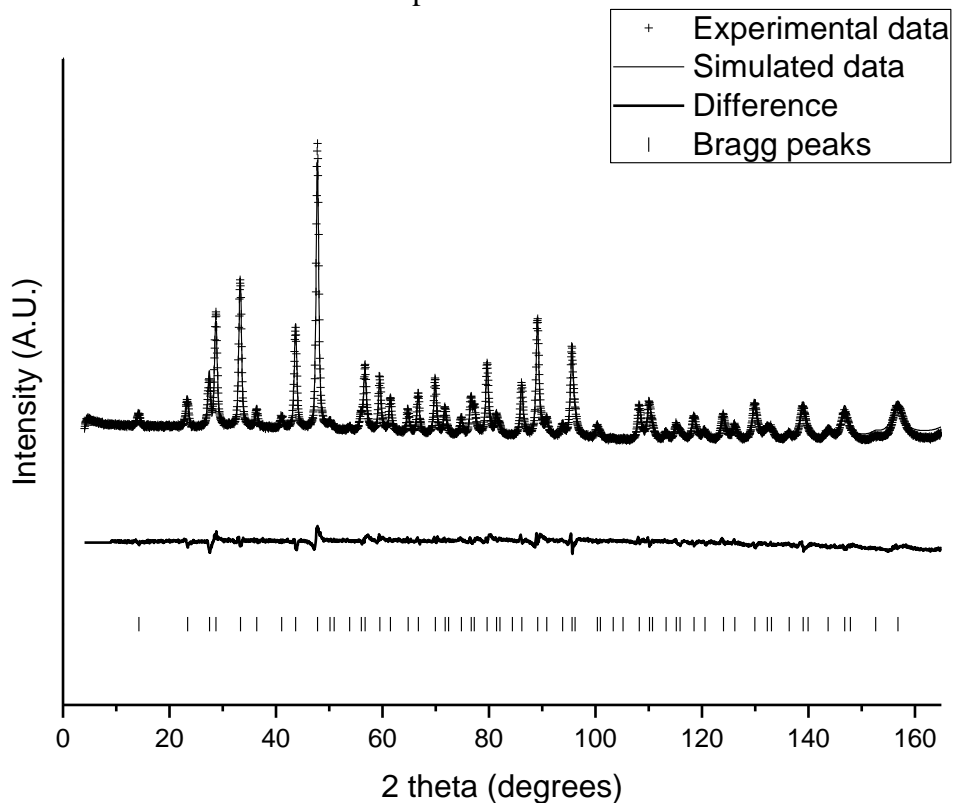


Figure S7: ^{27}Al -NMR spectra for Mg005 and Mg025

