



## Supplementary Materials

# Li<sub>2</sub>ZrO<sub>3</sub>-Coated Monocrystalline LiAl<sub>0.06</sub>Mn<sub>1.94</sub>O<sub>4</sub> Particles as Cathode Materials for Lithium-Ion Batteries

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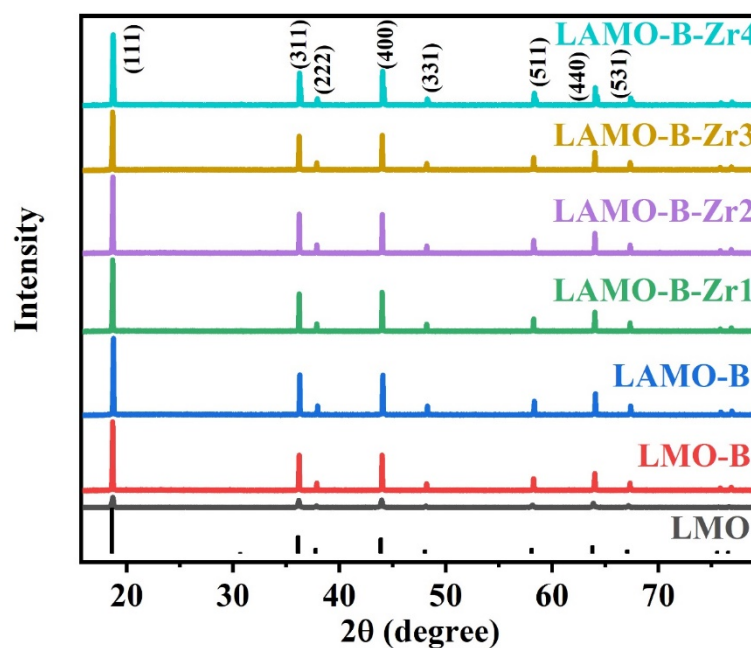
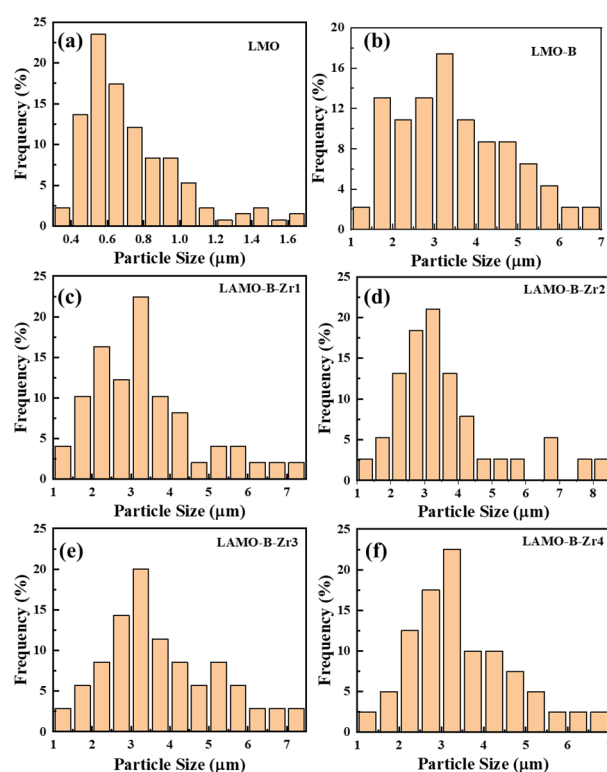


Figure S1. The XRD patterns of the LiMn<sub>2</sub>O<sub>4</sub> samples.

Table S1. The full width at half maximum (FWHM) of the LMO and LMO-B samples.

	2θ	(hkl)	FWHM
LMO	18.69	111	0.188
	36.17	311	0.152
	37.84	222	0.155
	43.96	400	0.163
	48.12	331	0.151
	58.16	511	0.176
	2θ	(hkl)	FWHM
LMO-B	18.67	111	0.071
	36.20	311	0.061
	37.87	222	0.053
	44.01	400	0.064
	48.20	331	0.066
	58.26	511	0.073



**Figure S2.** The particle size distribution of the (a) LMO; (b) LMO-B; (c) LAMO-B-Zr1; (d) LAMO-B-Zr2; (e) LAMO-B-Zr3; (f) LAMO-B-Zr4.

**Table S2.** Comparison of electrochemical performance of different  $\text{LiMn}_2\text{O}_4$  electrode materials.

Electrode material	Discharge Capacity (mAh/g)	Capacity retention	Reference
LAMO-B-Zr2	118.88@0.5C & 55 °C 104@5C & 25 °C	94% after 200 cycles@0.2C & 25 °C 87.8% after 100 cycles@0.2C & 55 °C	This work
$\text{LiAl}_{0.1}\text{Mn}_{1.9}\text{O}_4$ Single-Crystalline Nanotubes	110@0.1C & 55 °C 90@5C & 25 °C	80% after 200 cycles@5C & 55 °C	[1]
$\text{LiAl}_{0.1}\text{Mn}_{1.9}\text{O}_4$	90@2C & 55 °C 106@5C & 25 °C	88.7% after 1000 cycles@2C & 25 °C 86.1% after 500 cycles@2C & 55 °C	[2]
Single-crystalline $\text{LiMn}_2\text{O}_4$ nano-tubes	80@5C & 25 °C	70% after 1500 cycles @5C & 25 °C	[3]

## References

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