

Supplementary Materials

Preparation and Study of a Simple Three-Matrix Solid Electrolyte Membrane in Air

Xinghua Liang ^{1,*}, Xingtao Jiang ¹, Linxiao Lan ^{1,*}, Shuaibo Zeng ^{2,*}, Meihong Huang ³ and Dongxue Huang ¹

¹ Guangxi Key Laboratory of Automobile Components and Vehicle Technology, Guangxi University of Science and Technology, Liuzhou 545006, China

² China School of Automotive and Transportation Engineering, Guangdong Polytechnic Normal University, Guangzhou 510632, China

³ Guangdong Polytechnic of Industry and Commerce, Guangzhou 510550, China

* Correspondence: lxh18589873093@163.com (X.L.); 15506749886@163.com (L.L.); zengshuaibo@gpnu.edu.cn (S.Z.); Tel.: +86-18589873093 (X.L.); +86-18107785376 (L.L.); +86-18819264279 (S.Z.).

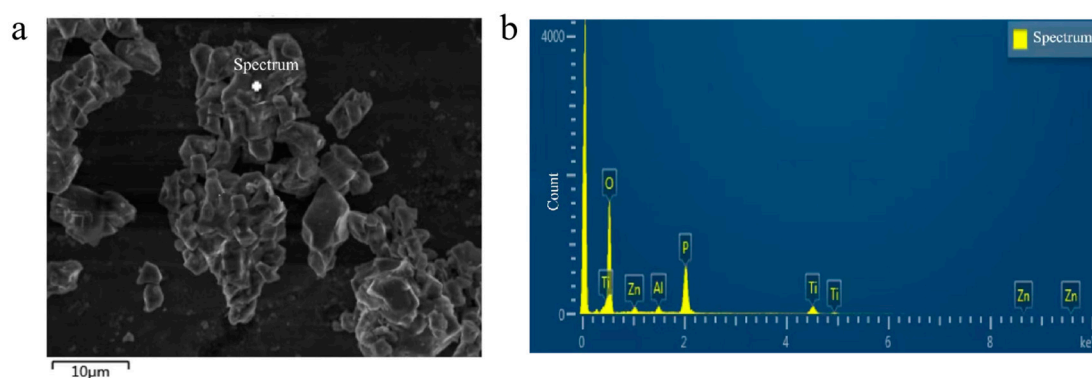


Figure S1. SEM-EDS of the LAZTP. (a) 10 μm size LAZTP. (b) Zn element content chart.

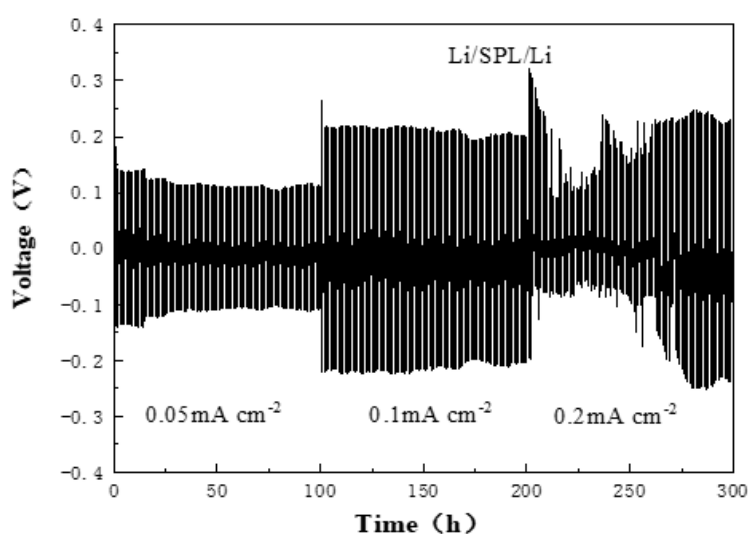


Figure S2. SPL's GCD at three different current densities.

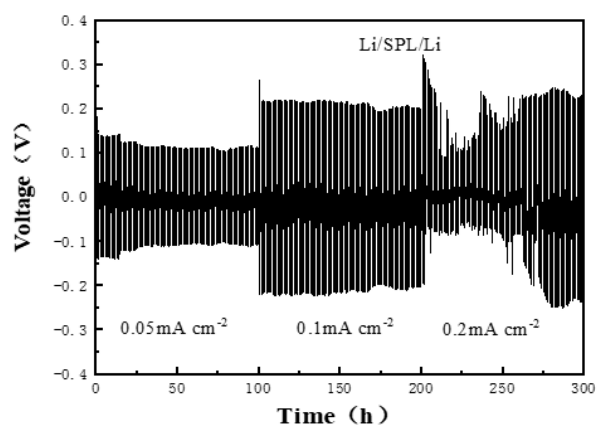


Figure S3. CV test of SPL/Li under different cycle rates.

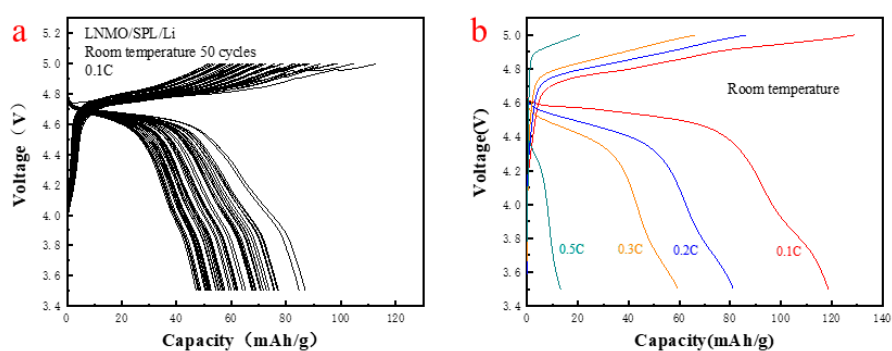


Figure S4. (a) 50 cycles of LNMO/SPL/Li at 0.1 C rate in the greenhouse. (b) The first charge and discharge of LNMO/SPL/Li at different rates.

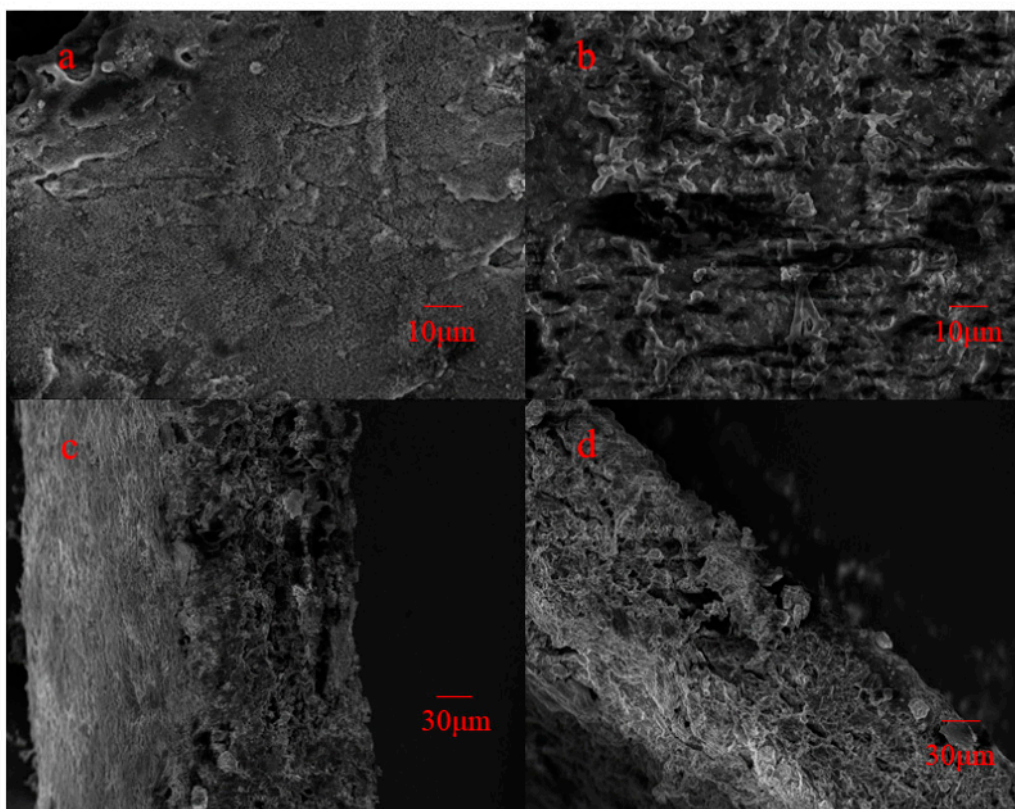


Figure S5. (a,b) Surface map of the SPLL before and after cycle. The SEM cross-sectional view of (c) and (d) SPLL cell.



Figure S6. Physical image of the surface before and after the SPLL cycle.

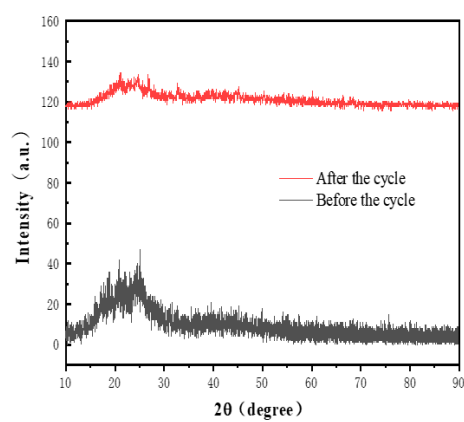


Figure S7. XRD before and after SPL cycle.

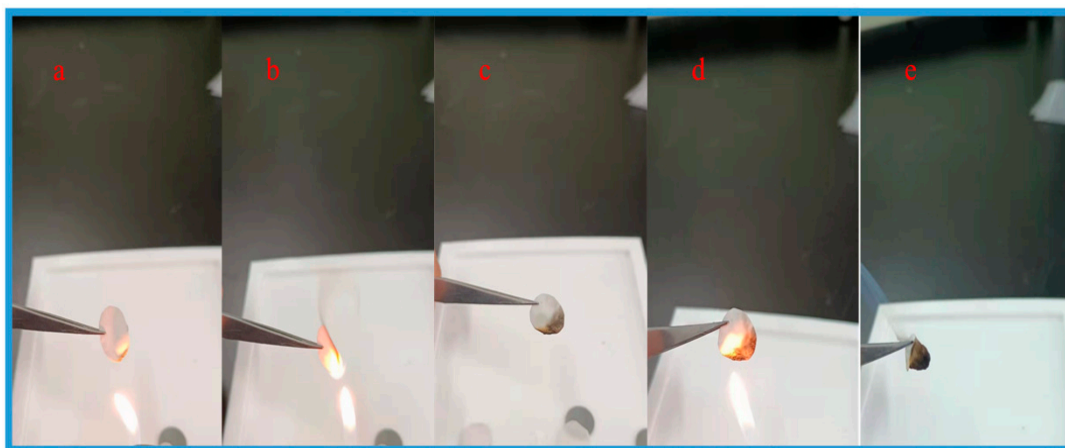


Figure S8. (a–e) Physical image of the surface before and after the SPL cycle.