

Supporting Information

Vinylene Carbonate as Highly Effective Electrolyte Additives for Li_3VO_4 Anodes with Enhanced Electrochemical Performance

Miaomiao Zhang^a, Cunyuan Pei^{a}, Huijuan Ma^b, Zhongxu Dai^{a*}, Tao Li^c, Ting Xiao^d,
Shibing Ni^{a*}*

^a College of Materials and Chemical Engineering, Key Laboratory of Inorganic Nonmetallic Crystalline and Energy Conversion Materials, China Three Gorges University, Yichang, 443002, China.

^b Hubei Three Gorges Laboratory, Yichang, 443007, China.

^c Analysis and Testing Center, China Three Gorges University, Yichang, 443002, China.

^d College of Electrical Engineering & New Energy, China Three Gorges University, Yichang, 443002, China.

** E-mail: peicunyuan@ctgu.edu.cn; daizx@ctgu.edu.cn; shibingni07@126.com*

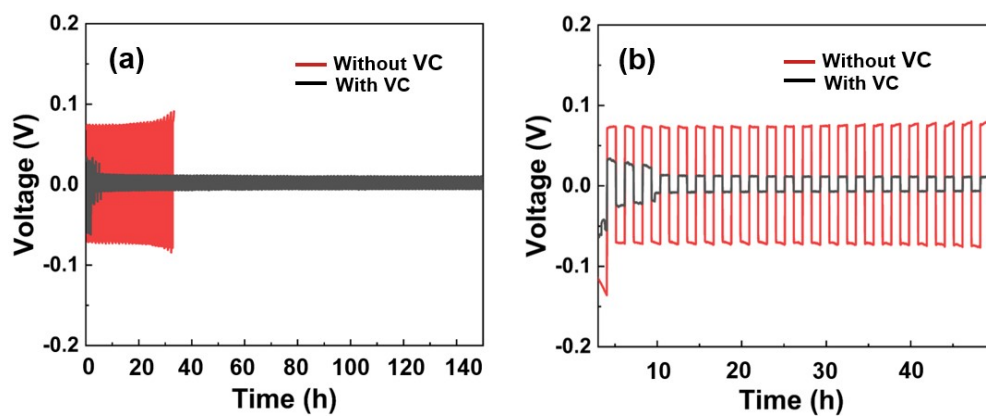


Figure S1 The cycling performance of Li||Li symmetric cells with VC and without VC at the current density of 0.5 mA cm^{-2} . The cycle time is 145 hours (a) and 50 hours (b).

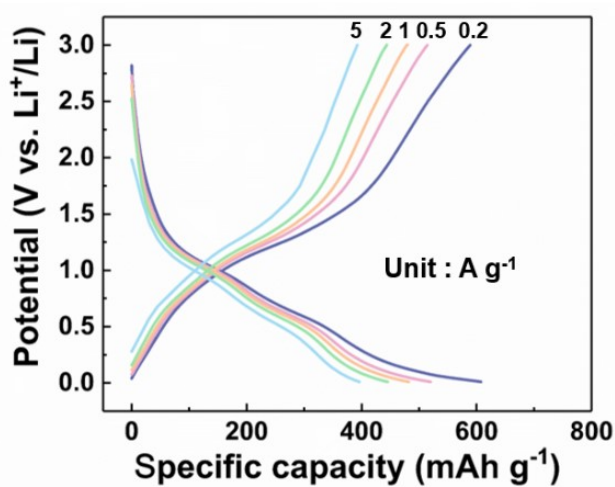


Figure S2 The charge/discharge profiles of LVO in the electrolyte without VC at different current density.

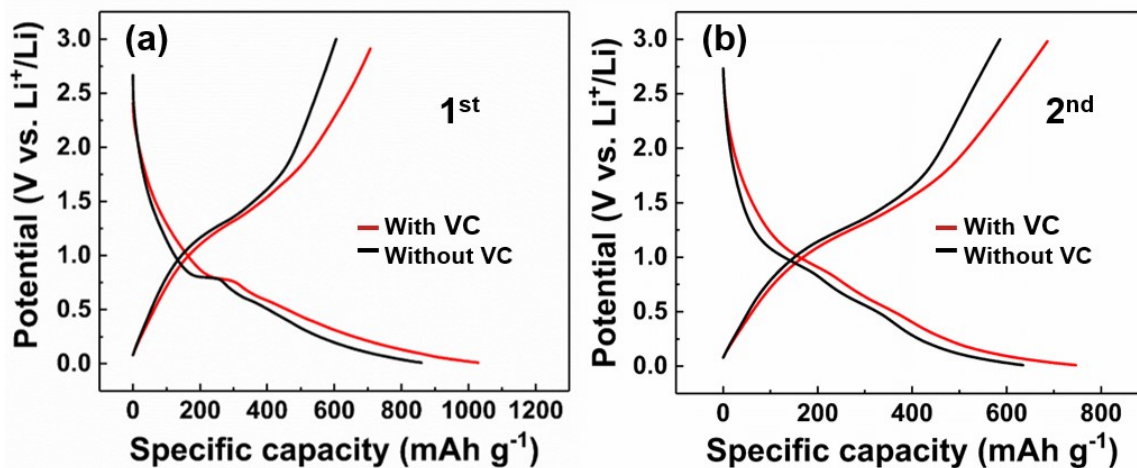


Figure S3 The charge/discharge profiles of LVO in the electrolyte (a) with VC and (b) without VC at the current density of 0.5 A g^{-1} .

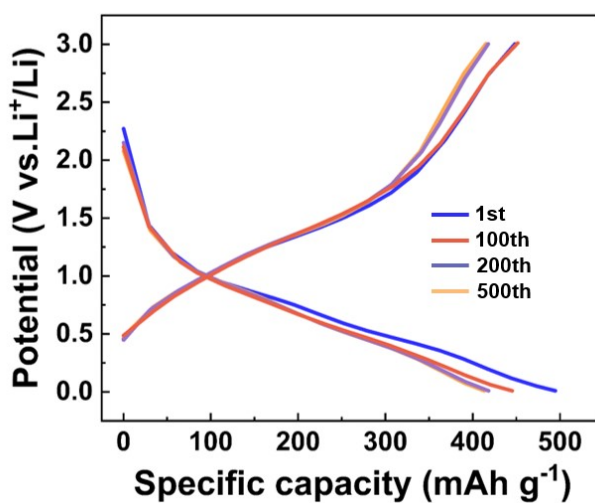


Figure S4 The charge/discharge profiles of LVO in the electrolyte with VC at the current density of 10.0 A g^{-1} .

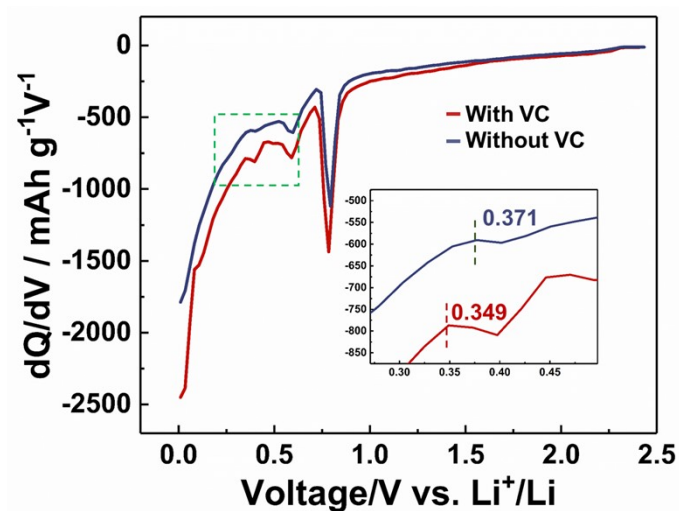


Figure S5 The dQ/dV analysis for LVO/C in both the two electrolytes.

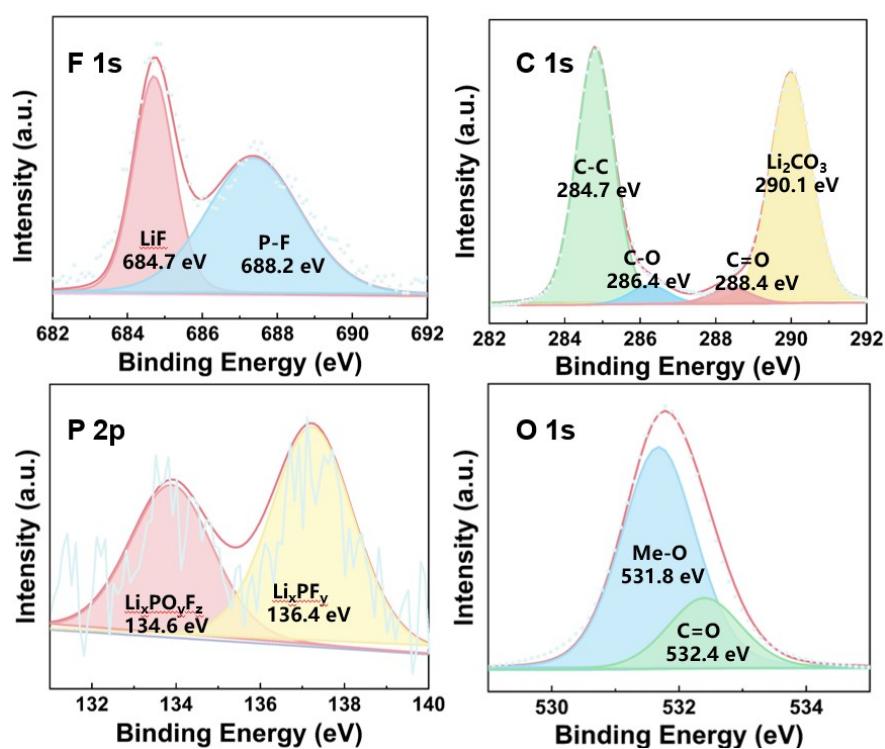


Figure S6 (a) F 1s, (b) O 1s, (c) P 2p and (d) C 1s XPS survey spectra of LVO/C cycled in the without VC after 200 cycles.