Supporting Information

Atomic Layer Deposited Lithium Silicates as Solid-State Electrolytes for All-Solid-State Batteries

Biqiong Wang[a, b], Jian Liu[c], Mohammad Norouzi Banis[a], Qian Sun[a], Yang Zhao[a], Ruying Li[a], Tsun-Kong Sham[b*], Xueliang Sun[a*]

[a] *Department of Mechanical and Materials Engineering, University of Western Ontario, London, Ontario N6A 5B9, Canada*

[b] *Department of Chemistry, University of Western Ontario, London, Ontario N6A 5B7 Canada.*

[c] *Faculty of Applied Science, School of Engineering, University of British Columbia, Okanagan Campus, Kelowna, British Columbia, V1V 1V7, Canada*

* *E-mail: tsham@uwo.ca; Tel: +1 519 661 2111 Ext 86341. (T-K. Sham)*

* *E-mail: xsun@eng.uwo.ca; Tel: +1 519 661 2111 Ext 87759. (X. Sun)*

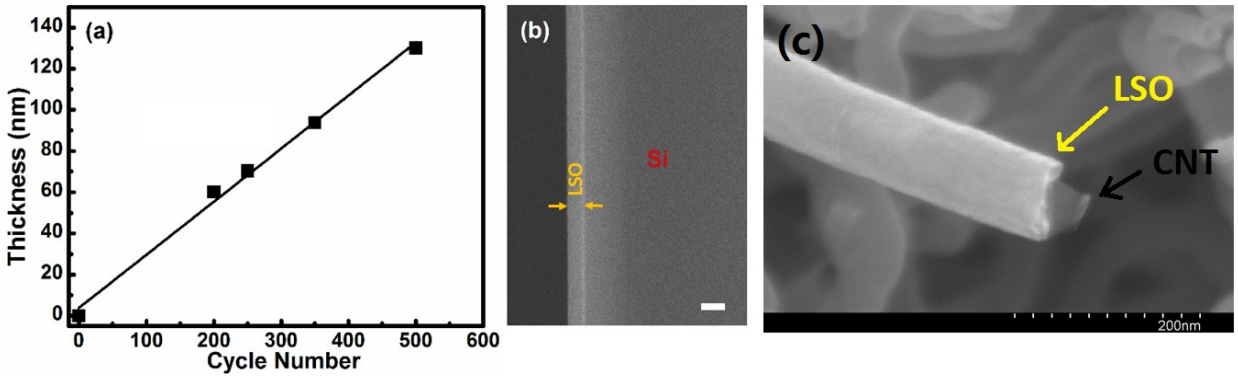

Figure S1. (a) Thickness of the lithium silicate thin film as a function of ALD cycle number; (b) cross-section SEM picture of the ALD deposited lithium silicate thin film using on Si (100) substrate after 500 ALD cycles at 250 ^{o}C (LSO250-2).The scale bar is 200 nm. (c) SEM morphology of LSO250 on CNTs after 250 cycles.

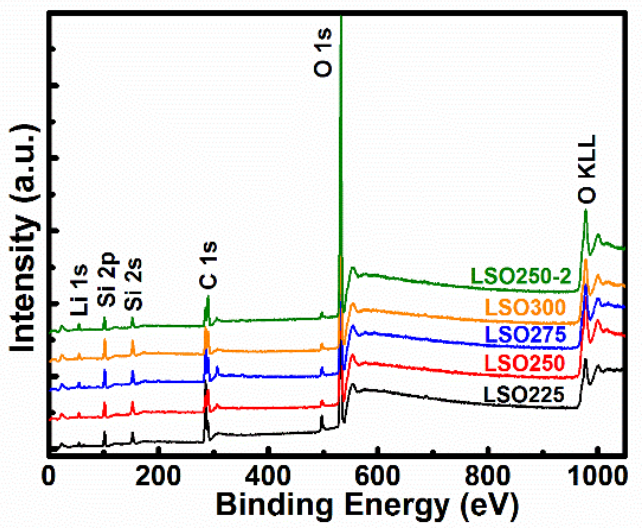

Figure S2. XPS survey of lithium silicate thin films deposited on carbon nanotubes (CNTs).