Supporting Information

Lithiation/Delithiation Behavior of Silver Nitrate as Lithium Storage Material for Lithium Ion Batteries

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Number of pages: 8

Number of Figures: 4

Number of Tables: 1

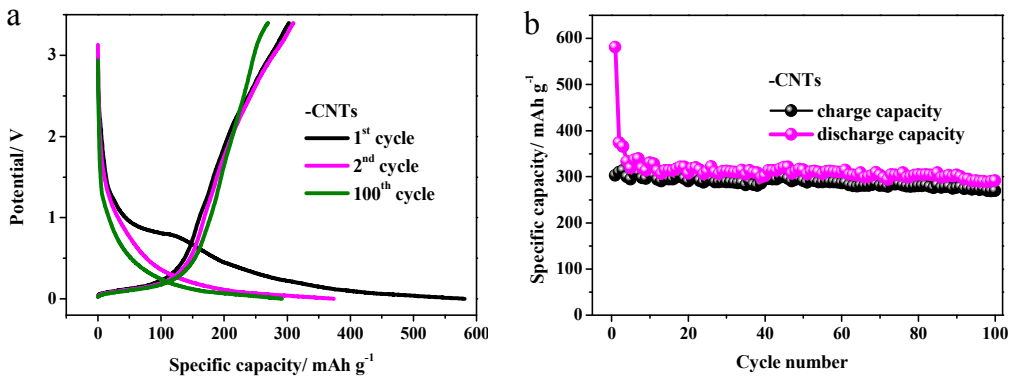

Fig. S1. (a) The charge/discharge curves of bare CNTs in the potential range of 0.0-3.4 V. (b) Cycle performance of bare CNTs at 50 mA g^{-1}.

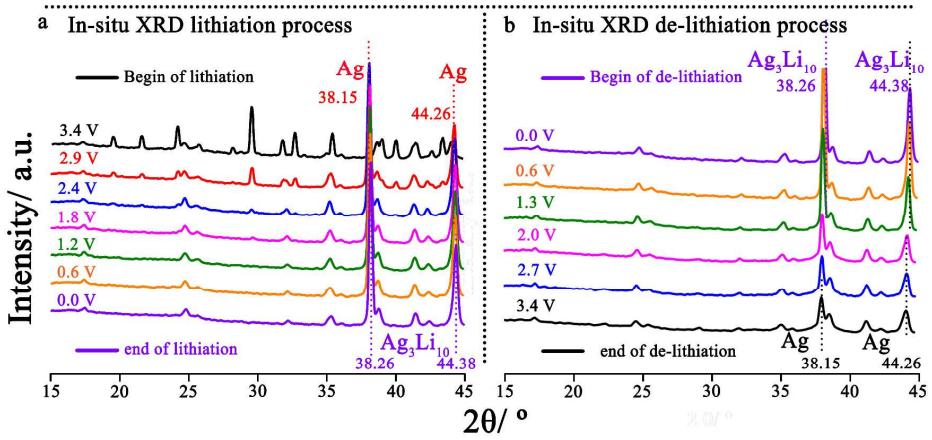

Fig. S2. Selected in-situ XRD patterns of $AgNO_3$/CNTs collected in the discharge process (a) and reverse charge process (b).

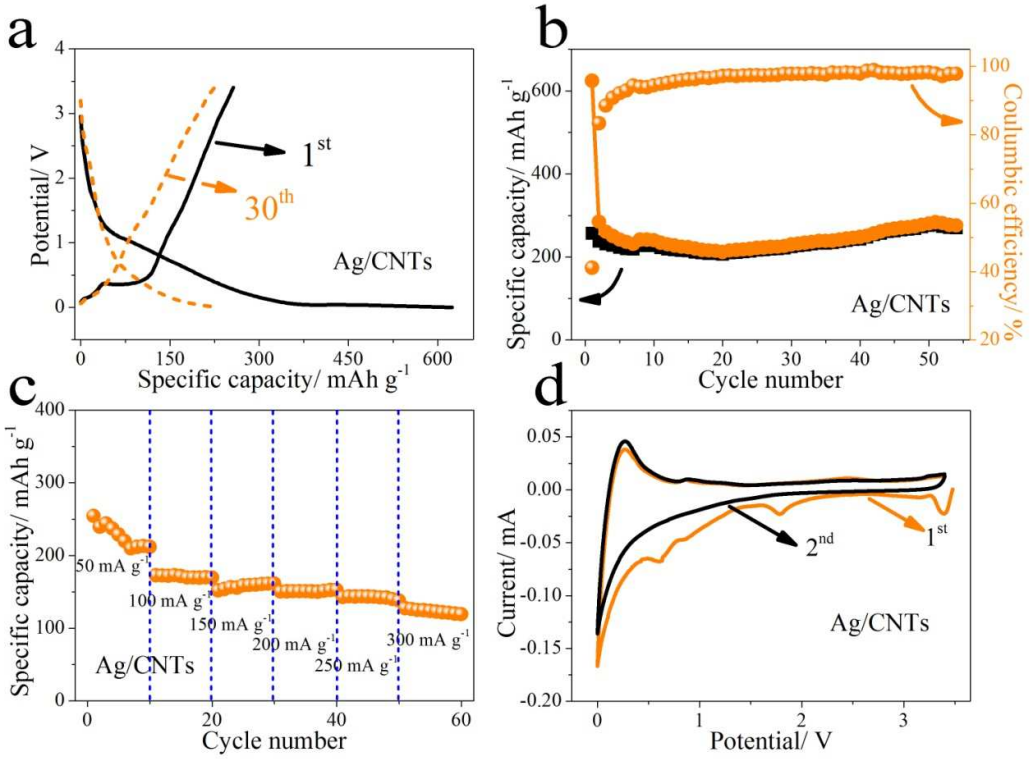

Figure S3. (a) Charge/discharge curves, (b) cycling performance, (c) rate property and (d) CVs of Ag/CNTs.

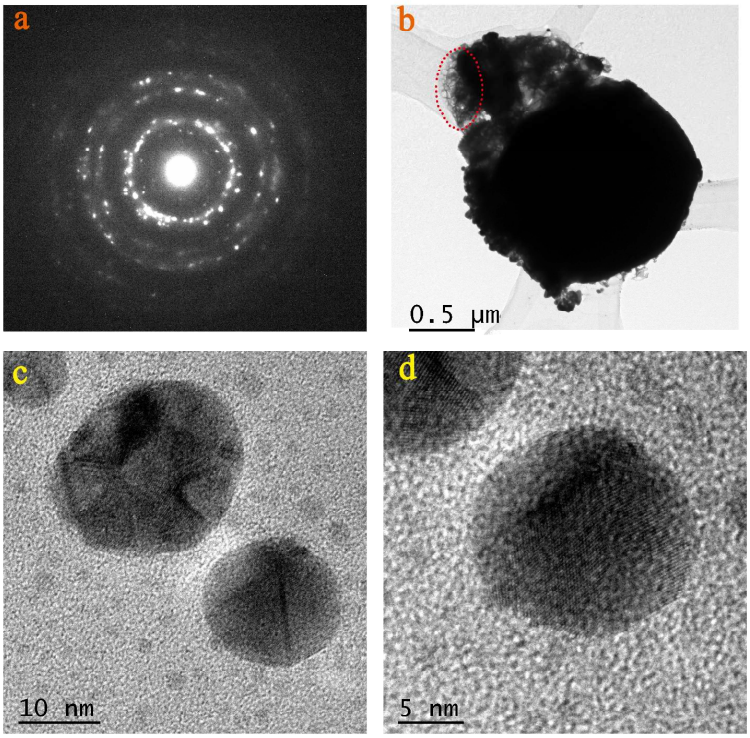

Figure S4. (a) SAED pattern, (b) Low-resolution TEM pattern, and (c, d) HRTEM images of $AgNO_3$/CNTs after cycles.

Table S1. A comparison of the electrochemical performances between $AgNO_3$/CNTs and Ag, Pb, and other metal nitrates.

Anode materials	First specific capacity ($mAh\ g^{-1}$)	Cycling performance ($mAh\ g^{-1}$)	References
$Cu(NO_3)_2 \cdot xH_2O$	2164.1/1549.3	597.6 after 30 cycles	[1]
$Pb(NO_3)_2$/CNTs	1238/597.7	495.2 after 45 cycles	[2]
$(NH_4)_2Ce(NO_3)_5 \cdot 4H_2O$/CNT	1683.6/950.0	818.5 after 30 cycles	[3]
$[Bi_6O_4](OH)_4(NO_3)_6 \cdot 4H_2O$/C	1169.3/606.8	365.5 after 30 cycles	[4]
Ag-NP/titania/carbon	1323/ 544	320 after 150 cycles	[5]
Ag/hollow glassy carbon	1035.3/739.7	600.1 after 100 cycles	[6]
Ag/GN hybrid	~780.0/~715.0	400 after 50 cycles	[7]
Graphene-silver nanoparticle	827.0/780.0	714 after 50 cycles	[8]
Pb	889.1/401.0	~50 after 100 cycles	[9]
SiC@Pb@C	228.0 (charge)	no fade up to 200 cycles	[9]
PbO/Pb_3O_4	~400 (charge)	350 after 25 cycles	[10]
$AgNO_3$/CNTs	1262.2/530.3	482.5 after 100 cycles	This work

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