Electronic Supplementary Material (ESI) for Nanoscale.

Atomic Layer Deposition of ZnO on carbon black as nanostructured anode materials for high-performance lithium-ion batteries

Songtao Lu,[a,†] Huanhuan Wang,[a,†] Jia Zhou,[a] Xiaohong Wu,[a*] Wei Qin[b*]

[a] MIIT Key Laboratory of Critical Materials Technology for New Energy Conversion and Storage, School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin, 150001, P.R. China. *E-mail: wu-xiaohong@hit.edu.cn

[b] School of Materials Science and Engineering, Harbin Institute of Technology, Harbin, 150001, P.R. China. *E-mail: qinwei@hit.edu.cn

Table S1. Electrochemical properties of ZnO prepared by various methods from literatures.

Electrode	Prepare method	Voltage rang[V]/ Current rate	Initial C_{dis}/C_{cha} [mAh g^{-1}]	Discharge capacity[mAh g^{-1}]/ cycles	ZnO content
ZnO-Loaded/porous carbon (PC)[1]	Solvothermal	0.1-3.0/100 mA g^{-1}	2107.4/1062.9	653.7/100th	54%
Graphite-coated ZnO[2]	Hydrothermal	0.1-3.0/1000 mA g^{-1}	1470/968	600/100th	—
ZnO/graphene nanocomposite[3]	High energy ball milling	0.01-2.5/100 mA g^{-1}	783/—	610/500th	88.8%
ZnO@CF[4]	Hydrothermal	0.01-2.5/100 mA g^{-1}	—/—	850/200th	81.4%
Yolk-shell ZnO-C microspheres[5]	Chemical solution reaction	0.01-3.0/100 mA g^{-1}	1432/798	520/150th	—
ZnO/MWCNT[6]	Sol-gel	0.2-2.5/200 mA g^{-1}	1152/—	460/100th	10%
ZnO/Graphene[7]	Sol-gel	0.005-3.0/200 mA g^{-1}	1583/—	516/100th	74.5%
porous carbon-coated ZnO QDs[8]	pyrolysis of IRMOF-1	0.02-3.0/75 mA g^{-1}	~2300/—	1150/10th	68%
Ag-C@ZnO-C@Ag-C[9]	Electrostatic	0.01-3.0/200 mA g^{-1}	2396/1596	1670/200th	72.5%
ZnO QD/graphene[10]	ALD	0.1-3.0/100 mA g^{-1}	2000/—	~540/100th	42.7%
ZnO nanograins/ graphene/Al_2O_3[11]	ALD	0.1-3.0/100 mA g^{-1}	1513/803	490/100th	53%
ZnO-CB	ALD	0.01-3.0/100 mA g^{-1}	2096/1441	1026/500th	77.04%

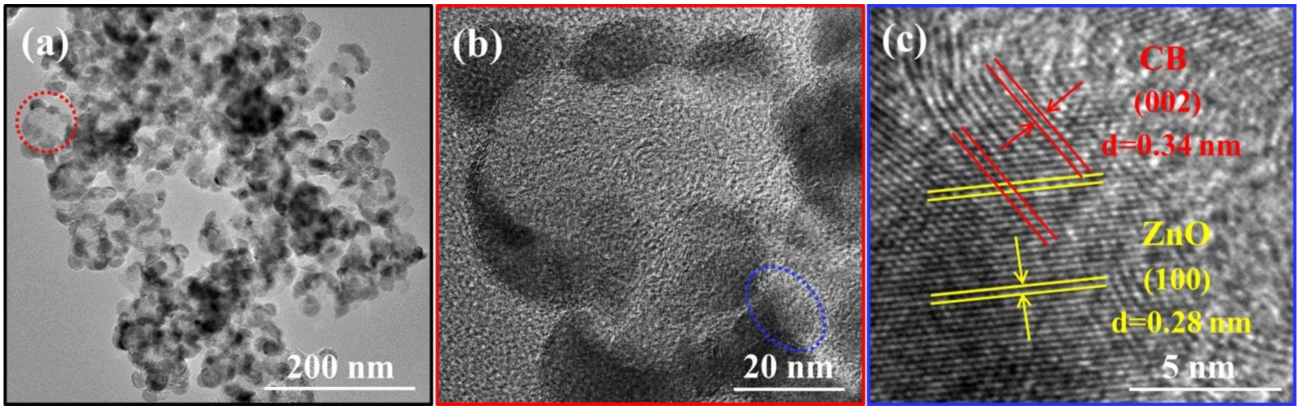

Fig. S1 (a) Low-magnification TEM image, (b, c) high resolution TEM images of ZnO-CB nanocomposite after 500 charge-discharge cycles at a current rate of 100 mA g^{-1}.

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