Figure S1. Charge-discharge curves of different current density: (a) MON- QD/NG-500 , (b) MON- QD/NG-600 and (c) MON- QD/NG-700.
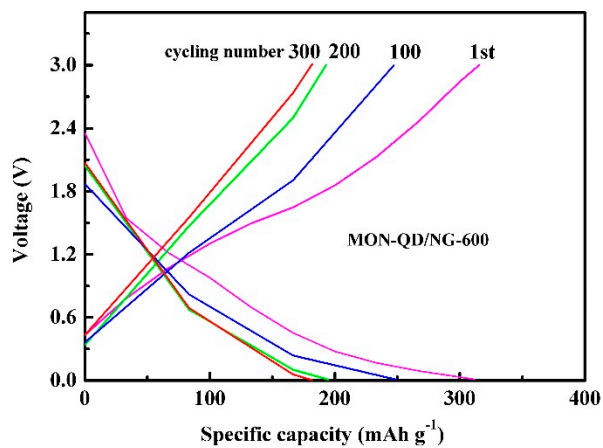

Figure S2. Some selected charge-discharge curves (the first, 100, 200 and 300 cycles) during cycling tests at 5 A g^{-1} of MON- QD/NG-600.

Table S1. The comparison of molybdenum nitride related anode material for lithium ion battery.

Materials	Reversible specific capacity at 0.1 A g^{-1} (m Ah g^{-1})
Our work	958.9
Mo_2N nano-column [1]	254

MoN$_x$ thin films [2]	700 (at 0.1mA cm^{-2})
2D MoN [3]	575
MoO$_{2.31}$N$_{0.24}$ [4]	580
meso-Mo2N NBs [5]	about 500
MoN/GNS [6]	518
GMON [7]	960
Mo2N nanolayer coated MoO$_2$ [8]	815
Mo$_2$N-QD@MoO$_3$@NC[9]	928
MoO$_2$-QDs@RGO[10]	1257

[1] Wang L, Li L, Guo X, Zhang J, Liu P, Yan J. Porous Mo2N nano-column array thin film electrode for lithium ion storage. Results in Physics. 2019;15.

[2] Wang LB, Zhang KL, Pan HL, Wang L, Wang D, Dai WC, et al. 2D molybdenum nitride nanosheets as anode materials for improved lithium storage. Nanoscale. 2018;10:18936-41.

[3] Ji W, Shen R, Yang R, Yu G, Guo X, Peng L, et al. Partially nitrided molybdenum trioxide with promoted performance as an anode material for lithium-ion batteries. J Mater Chem A. 2014;2:699-704.

[4] Zhang B, Cui G, Zhang K, Zhang L, Han P, Dong S. Molybdenum nitride/nitrogen-doped graphene hybrid material for lithium storage in lithium ion batteries. Electrochimica Acta. 2014;150:15-22.

[5] Zhou D, Wu H, Wei Z, Han BH. Graphene-molybdenum oxynitride porous material with improved cyclic stability and rate capability for rechargeable lithium ion batteries. Phys Chem Chem Phys. 2013;15:16898-906.

[6] Zheng C, Luo N, Huang S, Wu W, Huang H, Wei M. Nanocomposite of Mo2N Quantum Dots@MoO3@Nitrogen-Doped Carbon as a High-Performance Anode for Lithium-Ion Batteries. ACS Sustainable Chemistry & Engineering. 2019;7:10198-206.

[7] Wang C, Jiang J, Ruan Y, Ao X, Ostrikov K, Zhang W, et al. Construction of MoO2 Quantum Dot-Graphene and MoS2 Nanoparticle-Graphene Nanoarchitectures toward Ultrahigh Lithium Storage Capability. ACS Appl Mater Interfaces. 2017;9:28441-50.