

Supporting Information

Control Synthesis of N-Doped Carbon and TiO₂ Double-Shelled Nanospheres with Encapsulated Multi-Layer MoO₃ Nanosheets as Anode for Reversible Lithium Storage

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Supporting Information

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- Table S1** Comparison of specific capacity of $\text{MoO}_3@\text{TiO}_2@\text{NC}$ sample with some other reported molybdenum oxide-based anode material for LIBs.

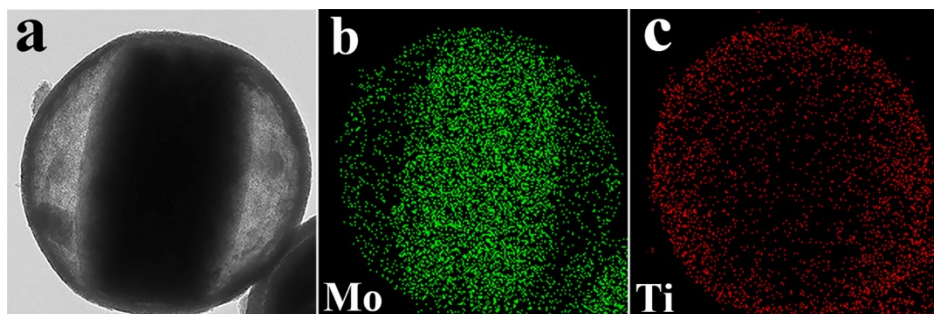


Figure S1. Elemental mapping images of MoO₃@TiO₂.

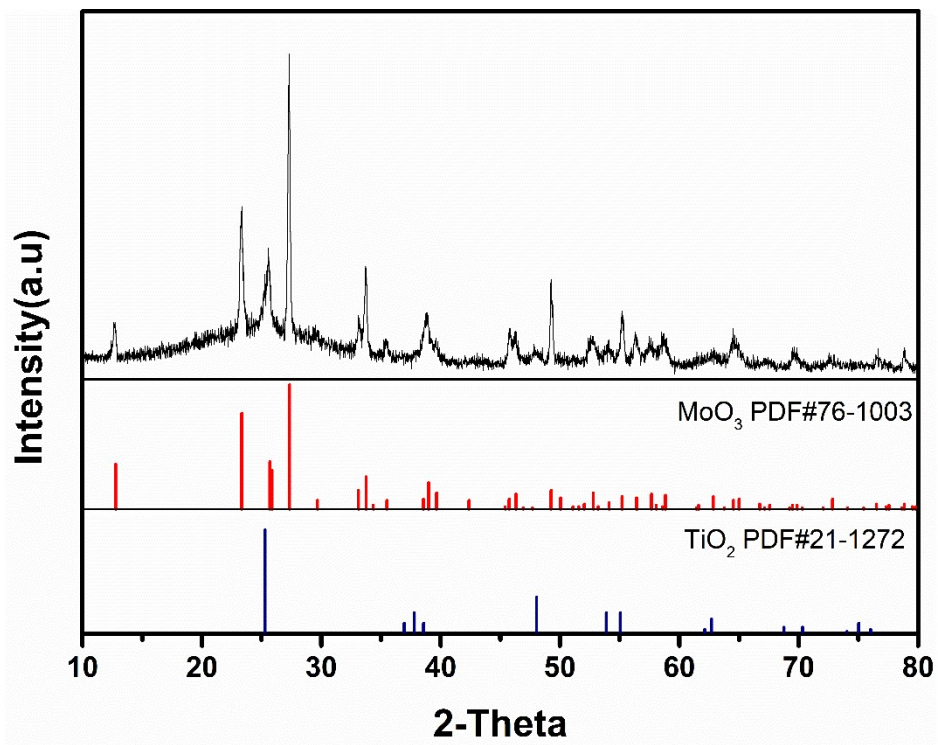


Figure S2. XRD pattern of MoO₃@TiO₂.

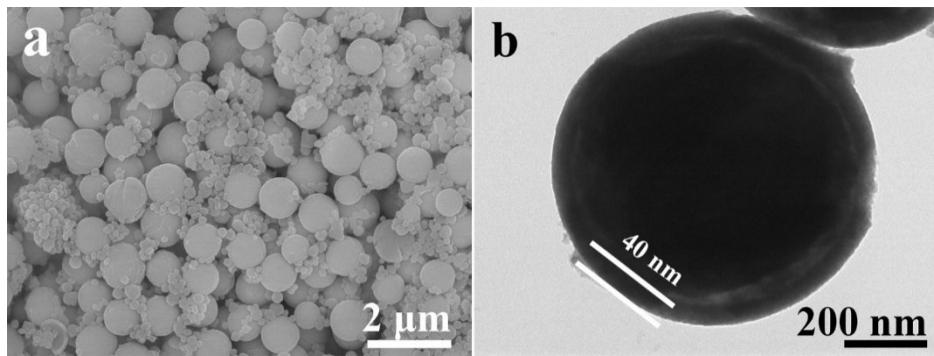


Figure S3. (a)FESEM image and (b)TEM image MoO₂@TiO₂.

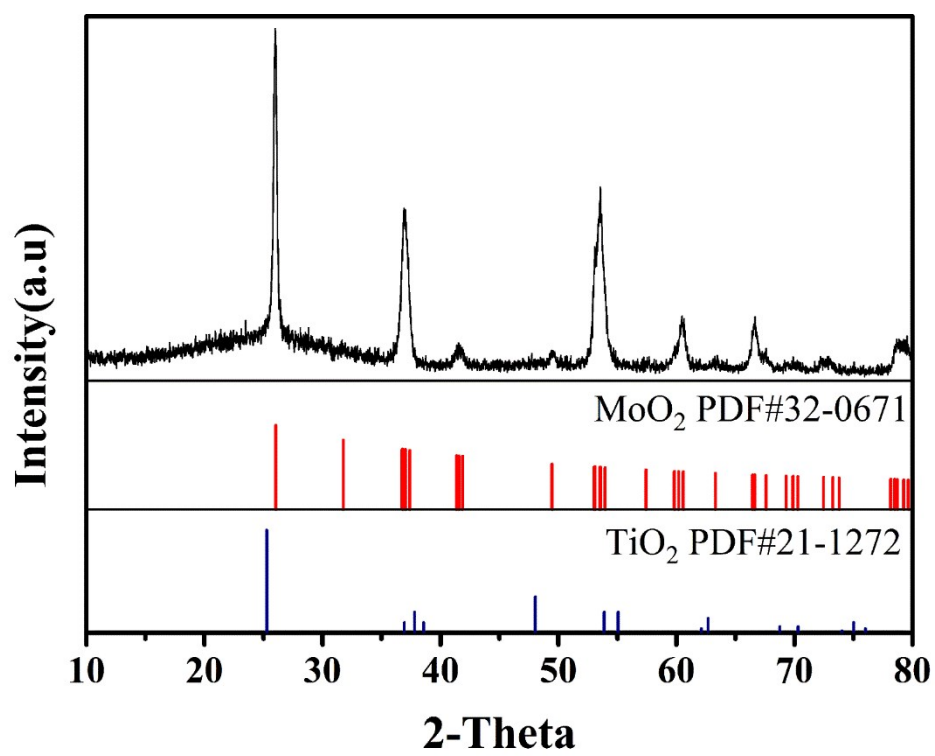


Figure S4. XRD pattern of MoO₂@TiO₂.

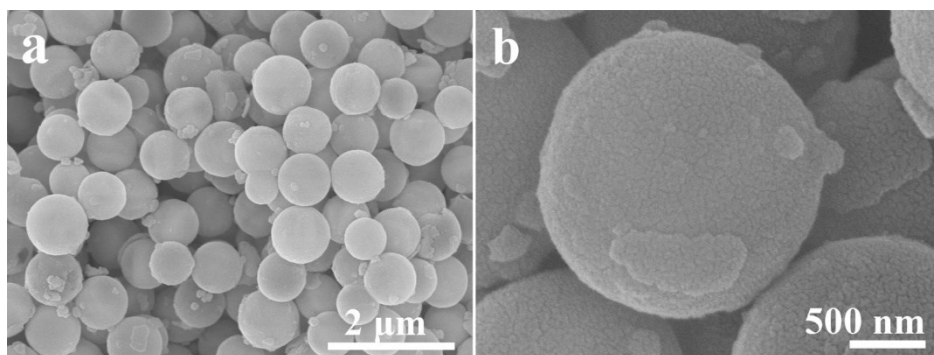


Figure S5. FESEM images of $\text{MoO}_3@\text{TiO}_2@\text{PDA}$.

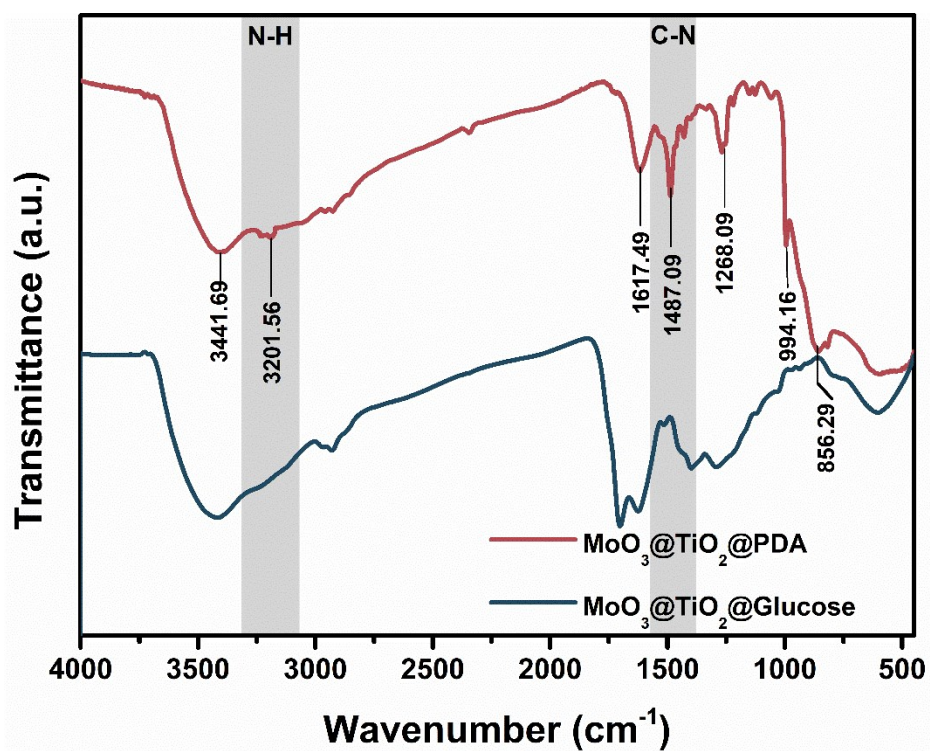


Figure S6. FTIR spectrum of MoO₃@TiO₂@PDA and MoO₃@TiO₂@Glucose.

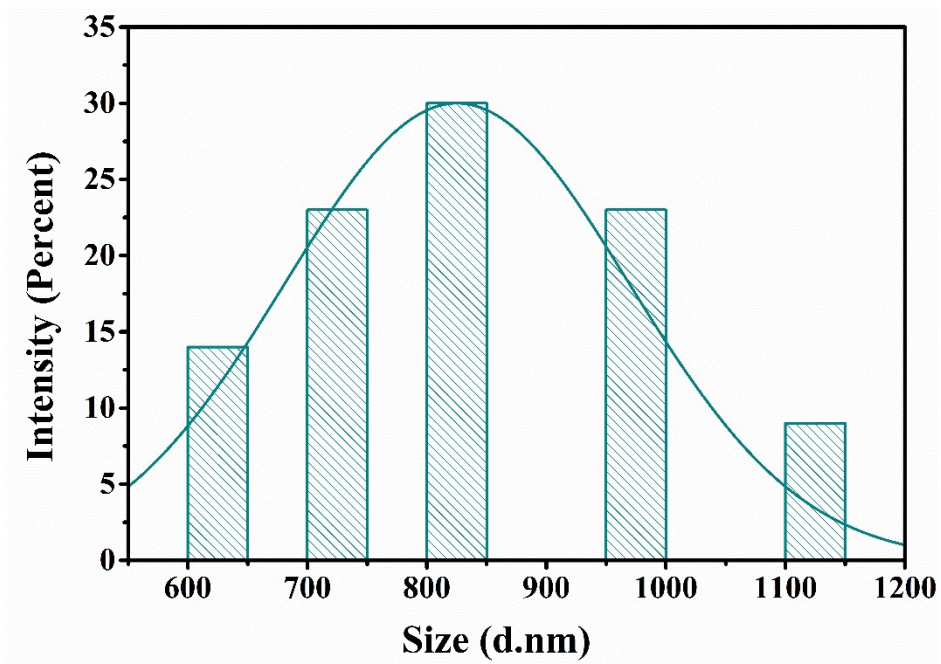


Figure S7. The size distribution of MoO₃@TiO₂@NC

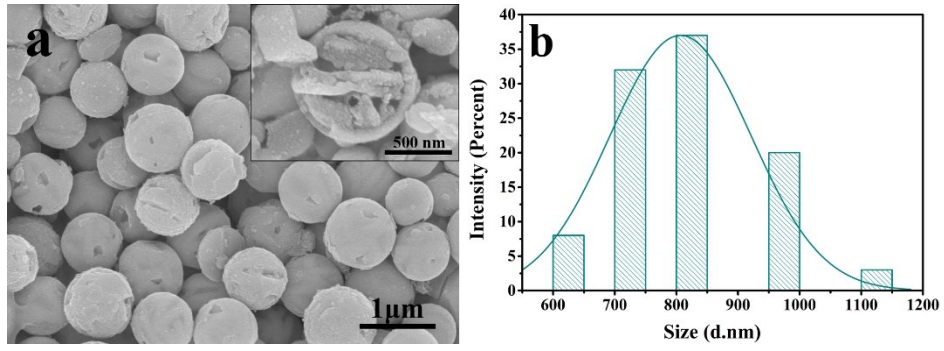


Figure S8. (a) FESEM image and (b) size distribution of $\text{MoO}_3@\text{TiO}_2@\text{C}$.

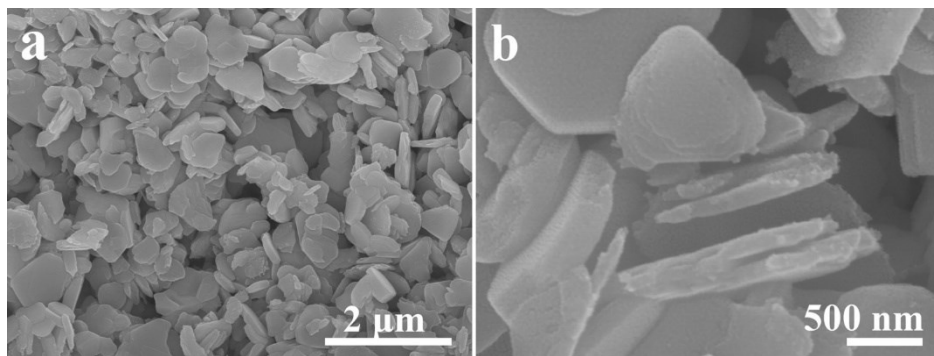


Figure S9. FESEM images of MoO₃ nanosheets.

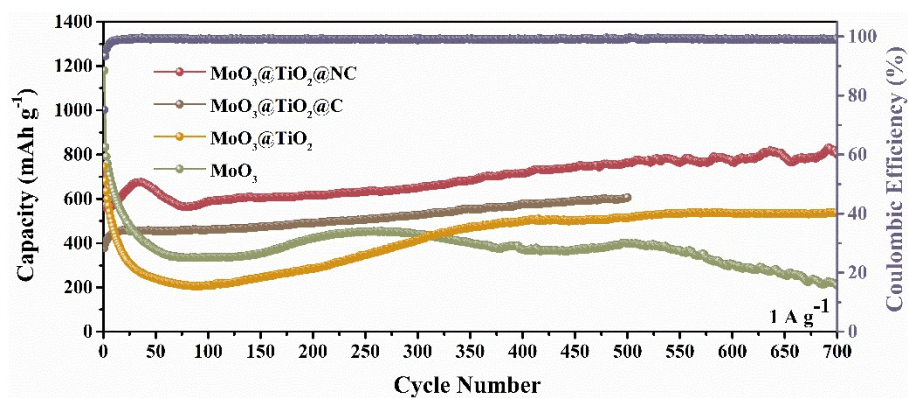


Figure S10. Cycling performance of MoO₃@TiO₂@NC, MoO₃@TiO₂@C, MoO₃@TiO₂ and MoO₃ at a current density of 1 A g⁻¹.

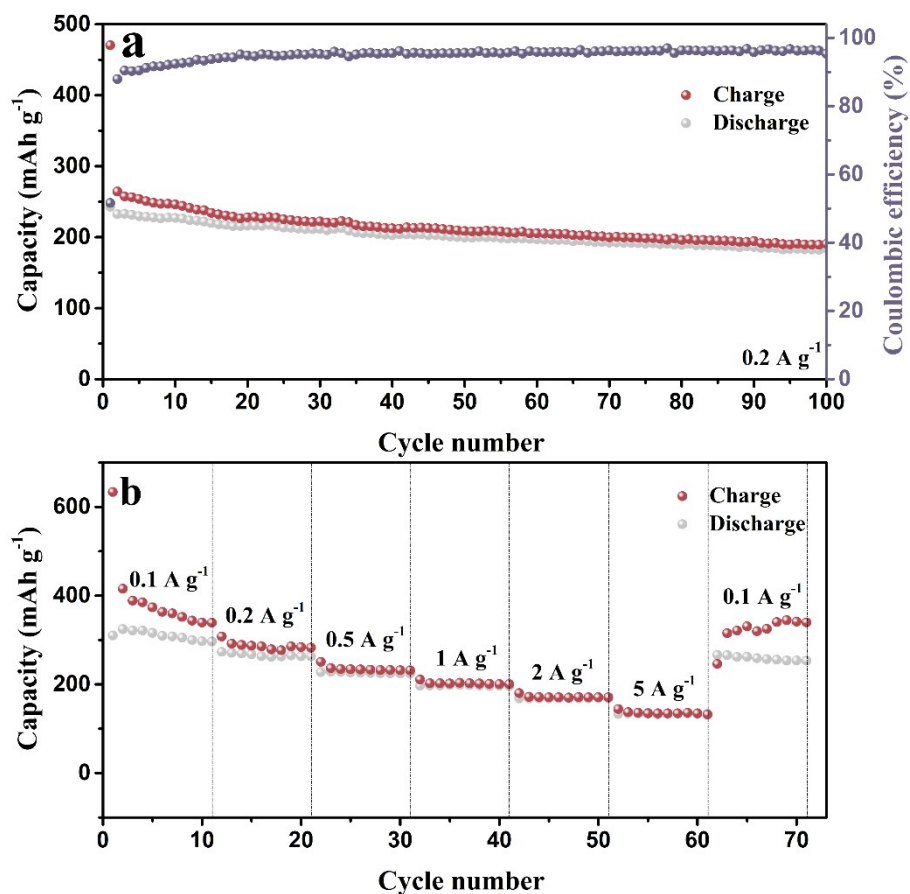


Figure S11. Electrochemical properties of MoO₃@TiO₂@NC//LiNi_{1/3}Mn_{1/3}Co_{1/3}O₂ in coin-type full cell: (a) cycling performance at 0.2 A g⁻¹, (b) rate performance at various rate of 0.1, 0.2, 0.5, 1, 2, and 5 A g⁻¹.

Table S1 Comparison of specific capacity of MoO₃@TiO₂@NC sample with some other reported molybdenum oxide-based anode material for LIBs.

Anode material	Current density (A g ⁻¹)	Cycle number	Reversible capacity (mAh g ⁻¹)	Reference
MoO₃@TiO₂@NC	0.2	200	979.6	This work
MoO₃@TiO₂@NC	1	700	800.3	This work
MoO ₂ @C octahedrons	1	850	444	[1]
3D-MoO _x @CN-700	1	1000	431	[2]
C/TiO ₂ /MoO ₃ /MoS ₂	0.1	100	540	[3]
MoO ₃ @C nanofibers	0.5	100	623	[4]
MoO ₃ /CNT	0.2	100	421	[5]
MoO _{3-x} nanobelts	1	200	400	[6]
MoO ₃ /V ₂ O ₅ /C	0.2	200	737.6	[7]
TiO ₂ /MoO ₃ nanowire	0.25	200	381	[8]
TiO ₂ /MoO ₃ @CNFs	1	1000	561	[9]
MoO ₃ /rGO	0.5	100	568	[10]
MoO ₃ / carbon nanofiber	0.2	100	795.8	[11]

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