Electronic Supplementary Information

Rapid Flame Synthesis of Internal Mo^{6+} Doped TiO_2 Nanocrystals *In-Situ* Decorated with Highly Dispersed MoO_3 Clusters for Lithium Ion Storage

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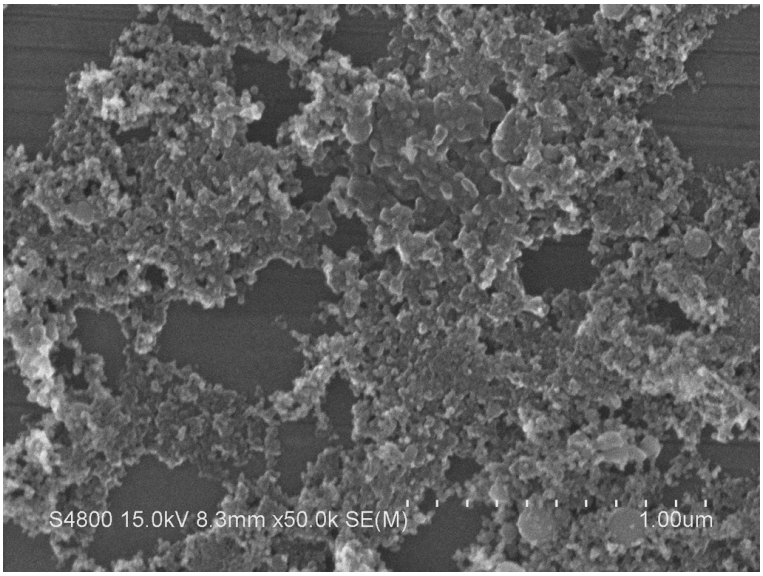

Figure S1 SEM image of the Mo^{6+}-TiO_2/MoO_3 NHs.

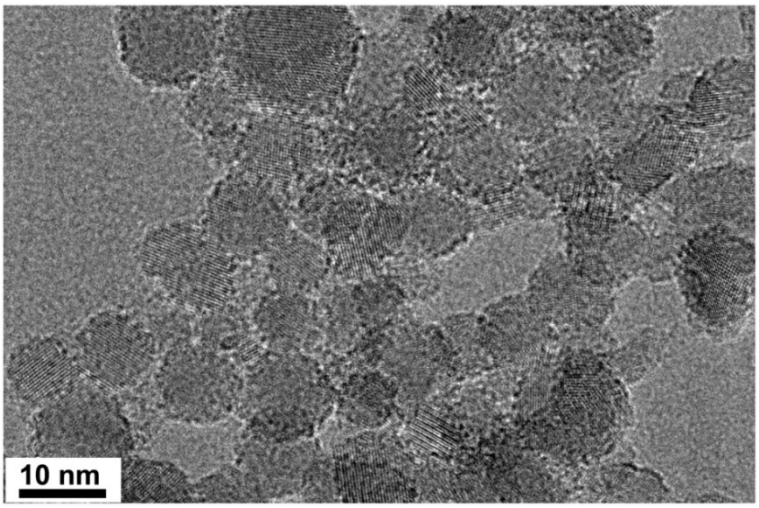

Figure S2 TEM image of the Mo^{6+}-TiO_2/MoO_3 NHs.

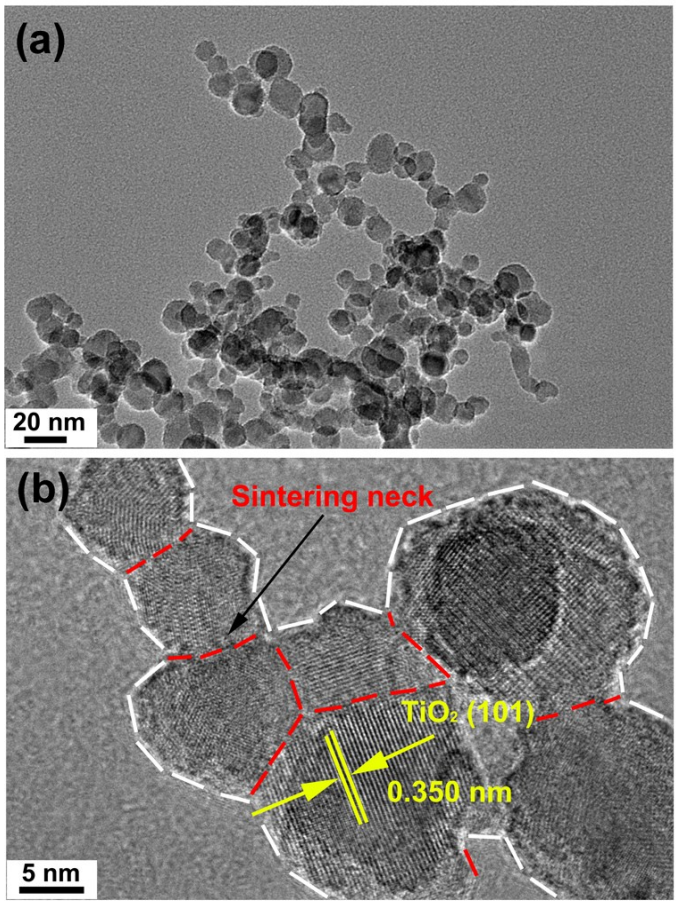

Figure S3 (a) TEM image and (b) HRTEM image of flame made pristine TiO_2 particles.

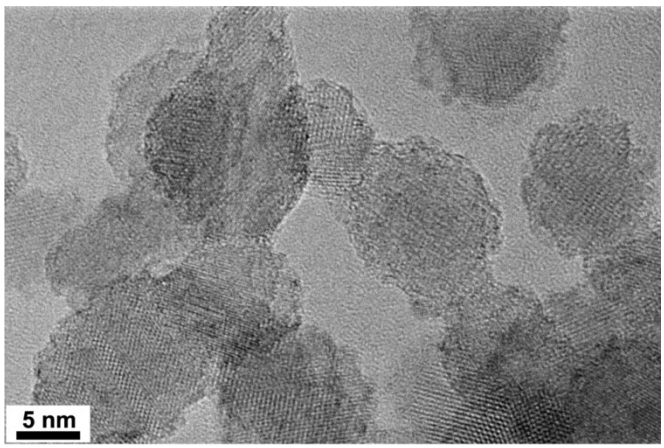

Figure S4 TEM image of Mo^{6+}-TiO_2/MoO_3 hybird with designed 15 at.% Mo.

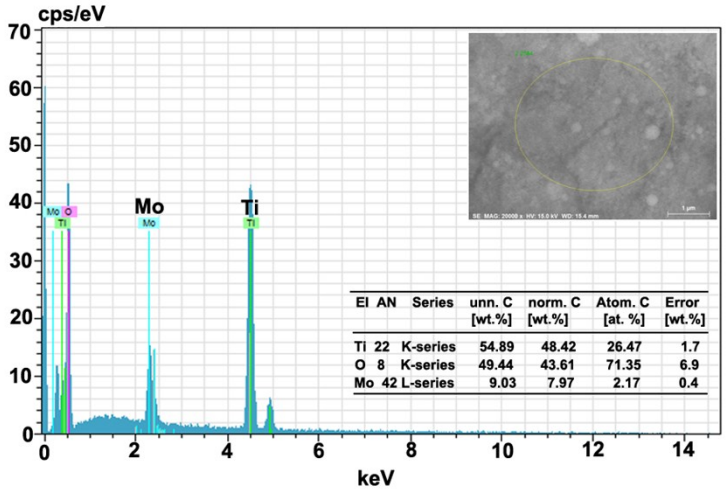

Figure S5 EDX of Mo^{6+}-TiO_2/MoO_3 hybird with designed 10 at.% Mo.

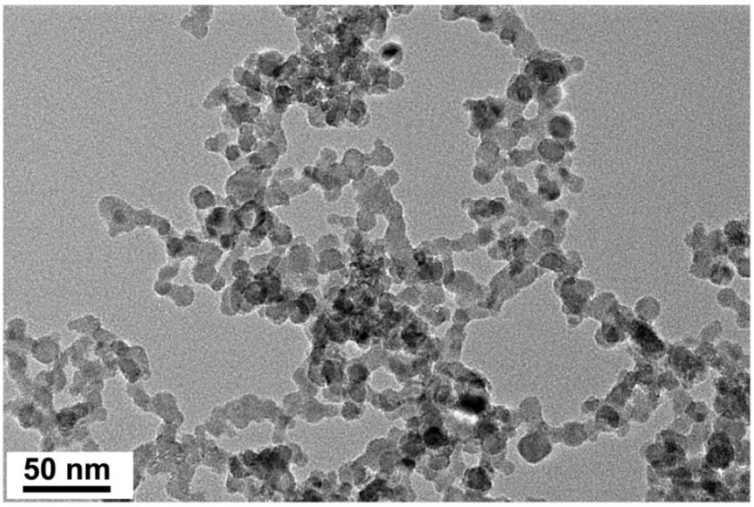

Figure S6 TEM image of the Mo^{6+}-TiO_2/MoO_3 NHs after sulfuration with thiourea at 400°C for 3 h.

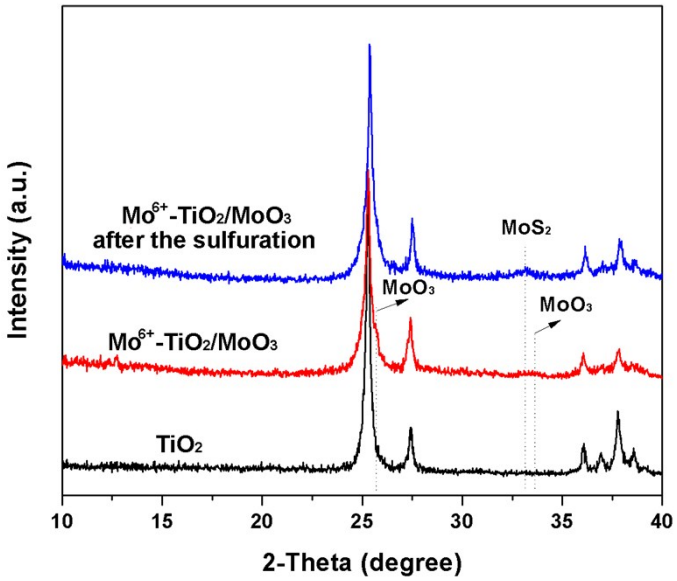

Figure S7 XRD patterns of TiO_2, and Mo^{6+}-TiO_2/MoO_3 NHs before and after the sulfuration.

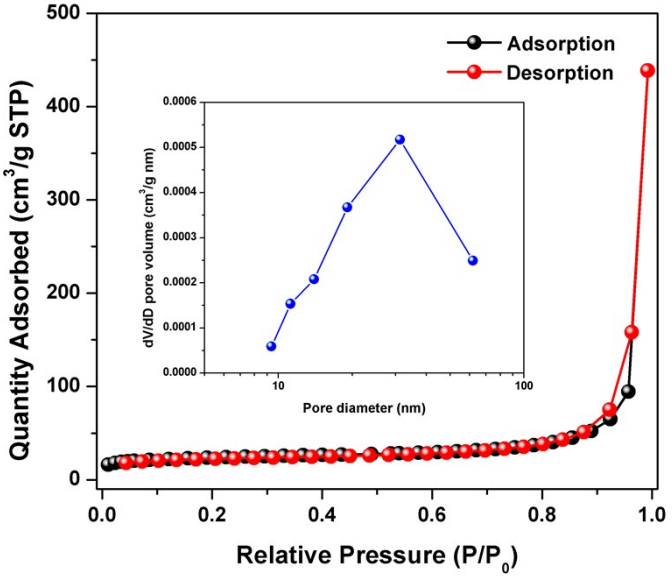

Figure S8 Nitrogen adsorption/desorption isotherm of the Mo^{6+}-TiO_2/MoO_3 NHs (inset: the corresponding pore distribution profiles).

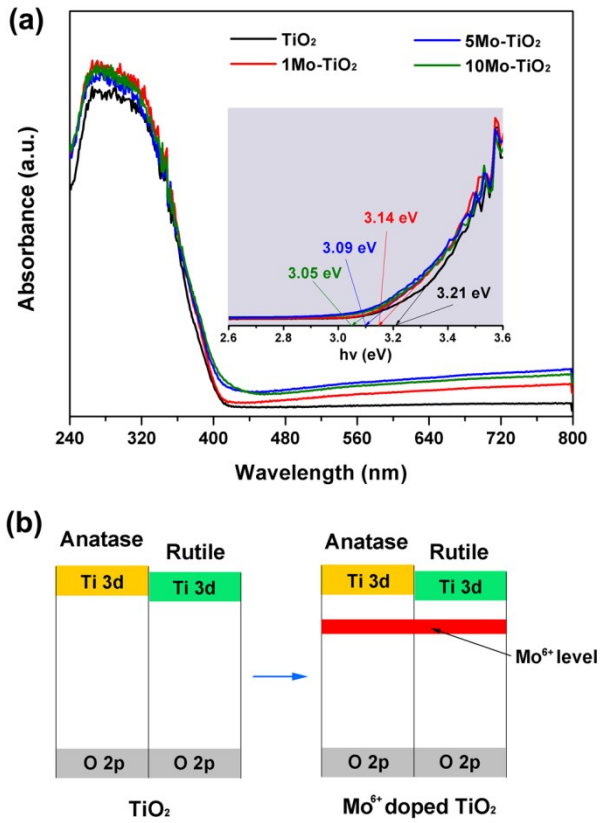

Figure S9 (a) UV-vis absorption spectra of the TiO_2, 1Mo-TiO_2, 5Mo-TiO_2 and 10Mo-TiO_2 samples (the inset curves show the corresponding band gap, (b) schematic of the band structures of TiO_2 and Mo^{6+} doped TiO_2.

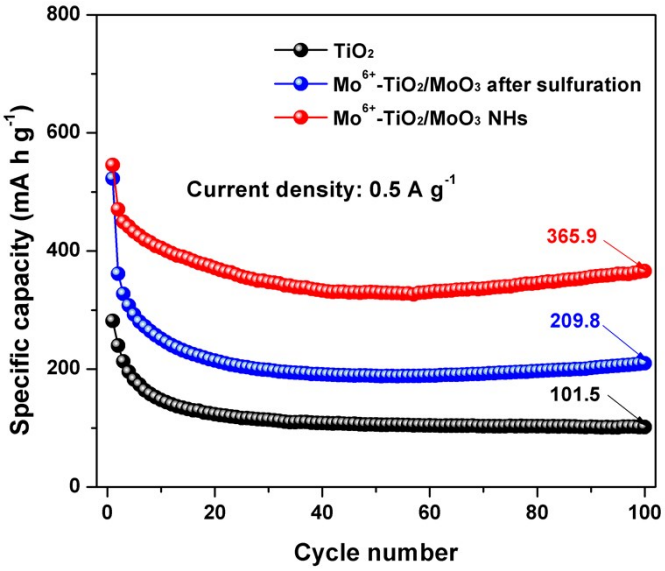

Figure S10 Cycling performance of TiO_2, and Mo^{6+}-TiO_2/MoO_3 NHs before and after the sulfuration at a current density of 0.5 A g^{-1}.