Supporting Information

Synthesis of h-MoO_3 nanorods and their electrochemical performance as anode materials for lithium-ion battery

Jianbin Zhou,[a] Ning Lin,[a] Liangbiao Wang,[a] Kailong Zhang,[a] Yongchun Zhu[a] and Yitai Qian.*[a]*

[a] Hefei National Laboratory for Physical Science at Microscale, University of Science and Technology of China, Hefei, 230026, P.R. China. Tel: +86-551-63601589; E-mail: ychzhu@ustc.edu.cn, ytqian@ustc.edu.cn.

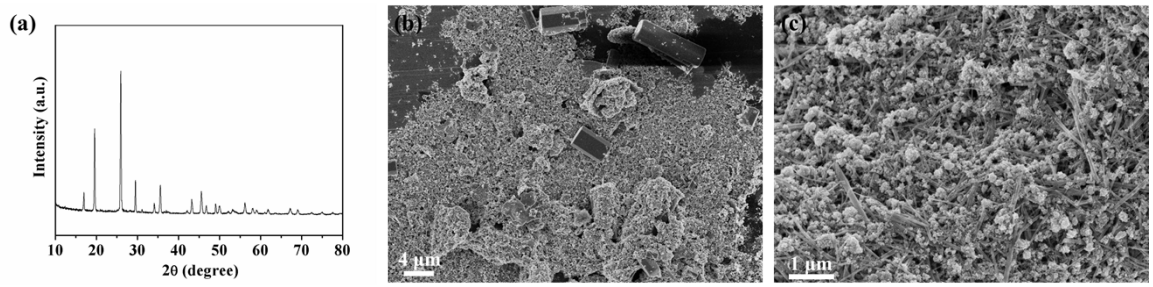

Figure S1. The XRD pattern and SEM images of the impurities at the bottom of the centrifuge tube. The XRD pattern shows a pure hexagonal phase of MoO_3.However, h-MoO_3 microrods and nanocrystals are the impurities showed in SEM images of (b) and (c).

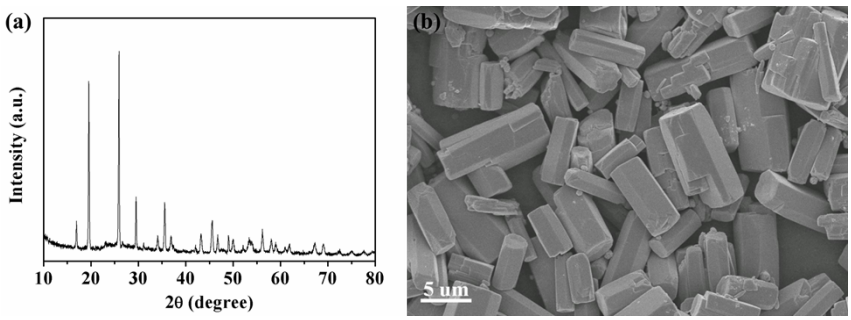

Figure S2. XRD pattern (a) and SEM image (b) of the h-MoO_3 microrods.

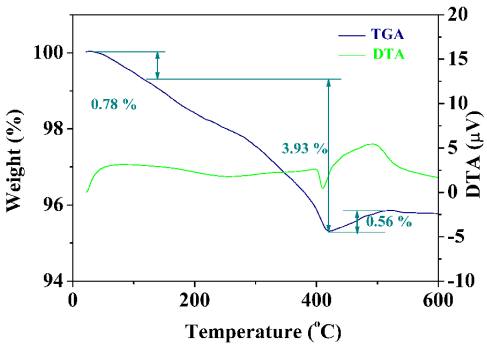

Figure S3. TGA/DTA curves of the h-MoO_3 nanorods.

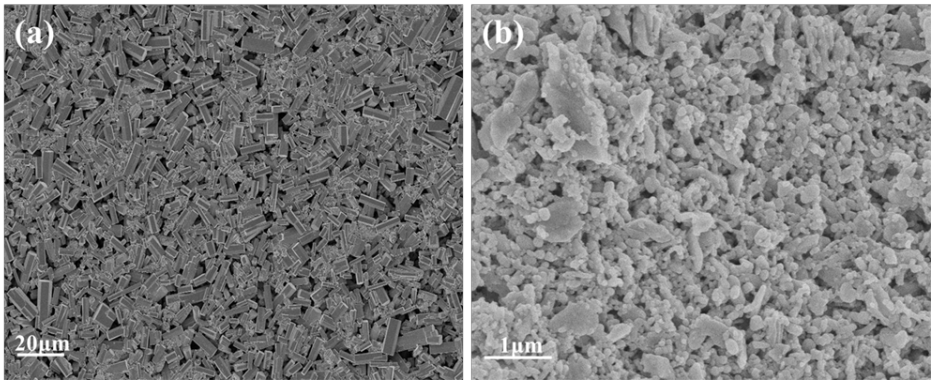

Figure S4. SEM images of (a) h-MoO_3 microrods and (b) MoO_3 nanoparticles obtained with the absence of methylbenzene and citric acid, respectively.

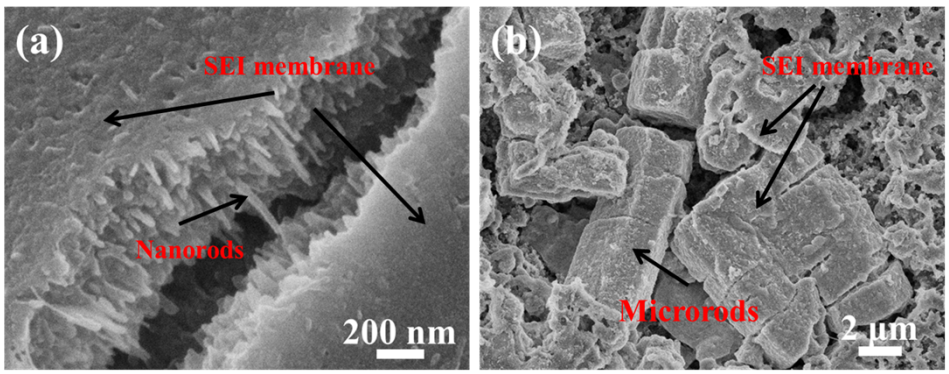

Figure S5. SEM images of (a) h-MoO_3 nanorods after 150 cycles and (b) h-MoO_3 microrods after 30 cycles of discharge/charge at the current density of 150 mA g^{-1} in the potential range of 0.01-3.0 V vs. Li/Li^+. After the discharge/charge process, h-MoO_3 nanorods still preserve their morphology while h-MoO_3 microrods are severely ruptured. The layer coated on the surface of nanorods and microrods after cycled is SEI membrane.

Table S1. The data of five parallel experiments for the estimation of the yield of h-MoO_3 nanorods.

Number	**1**	**2**	**3**	**4**	**5**
Theoretical production	0.444 g	0.444g	0.444 g	0.444 g	0.444 g
Actual production	0.112 g	0.118 g	0.139 g	0.123 g	0.135 g
Yield	25.3 %	26.7 %	31.4 %	27.7 %	30.5 %
Average Yield			28.3 %		