Supplementary Information

Acid-treated Reduced Graphene Oxides/Mn_3O_4 Nanorods Nanocomposite as an Enhanced Anode Material for Lithium Ion Batteries

Chae-Yong Seong,[a] Seung-Keun Park,[b] Youngkuk Bae,[a] Suyeon Yoo,[a] Yuanzhe Piao[a,c,*]

[a] Program in Nano Science and Technology, Graduate School of Convergence Science and Technology, Seoul National University, 145 Gwanggyo-ro, Yeongtong-gu, Suwon–si, Gyeonggi-do, 443-270, Republic of Korea.

[b] Department of Materials Science and Engineering, Korea University, Anam-Dong, Seongbuk-Gu, Seoul 136-713, Republic of Korea

[c] Advanced Institutes of Convergence Technology, 145 Gwanggyo-ro, Yeongtong-gu, Suwon–si, Gyeonggi-do, 443-270, Republic of Korea.

*Corresponding author, **E-mail:** parkat9@snu.ac.kr **(Prof. Yuanzhe Piao)**

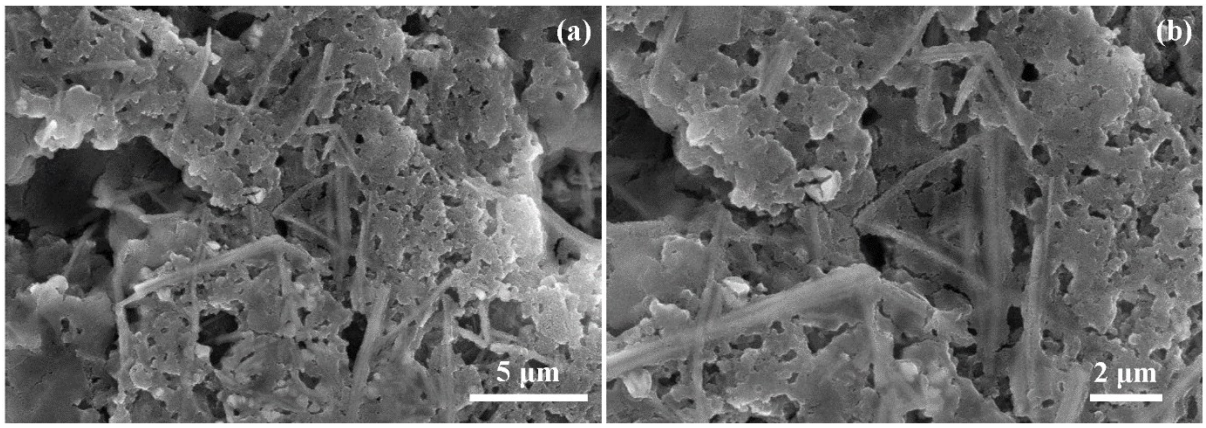

Fig. S1 SEM images of the ArGO/Mn_3O_4 NR after 100 cycles.

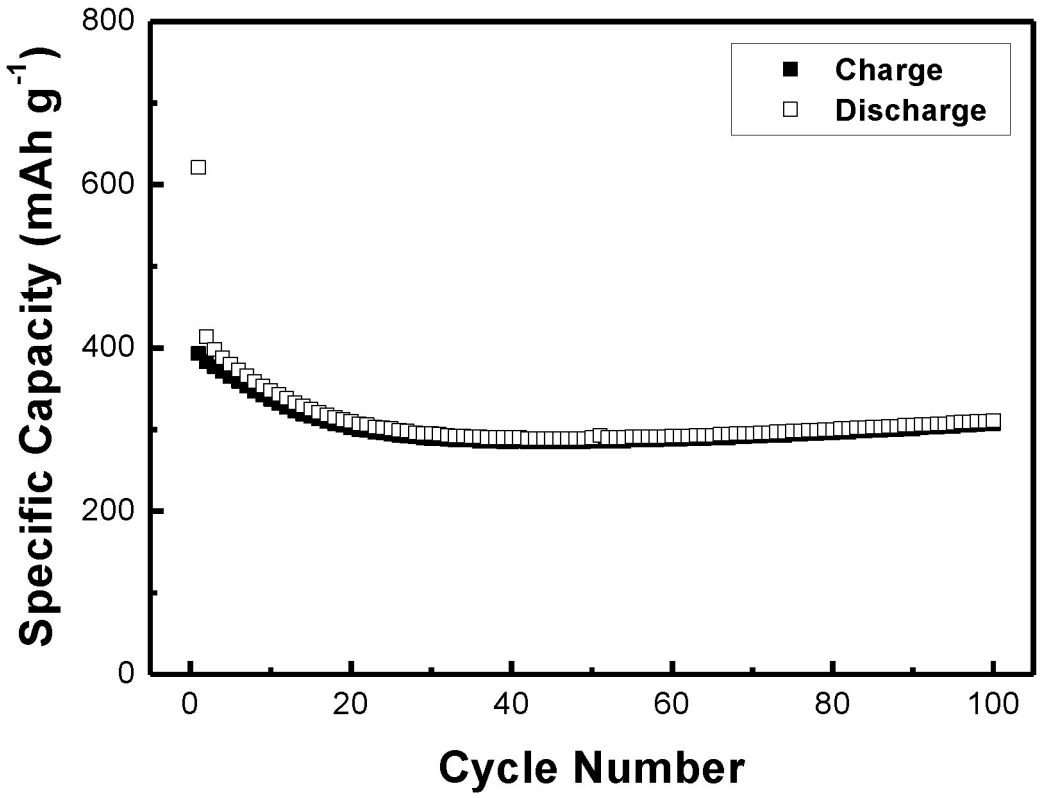

Fig. S2 Cycle performance of ArGO at a current density of 200 mA g^{-1}.

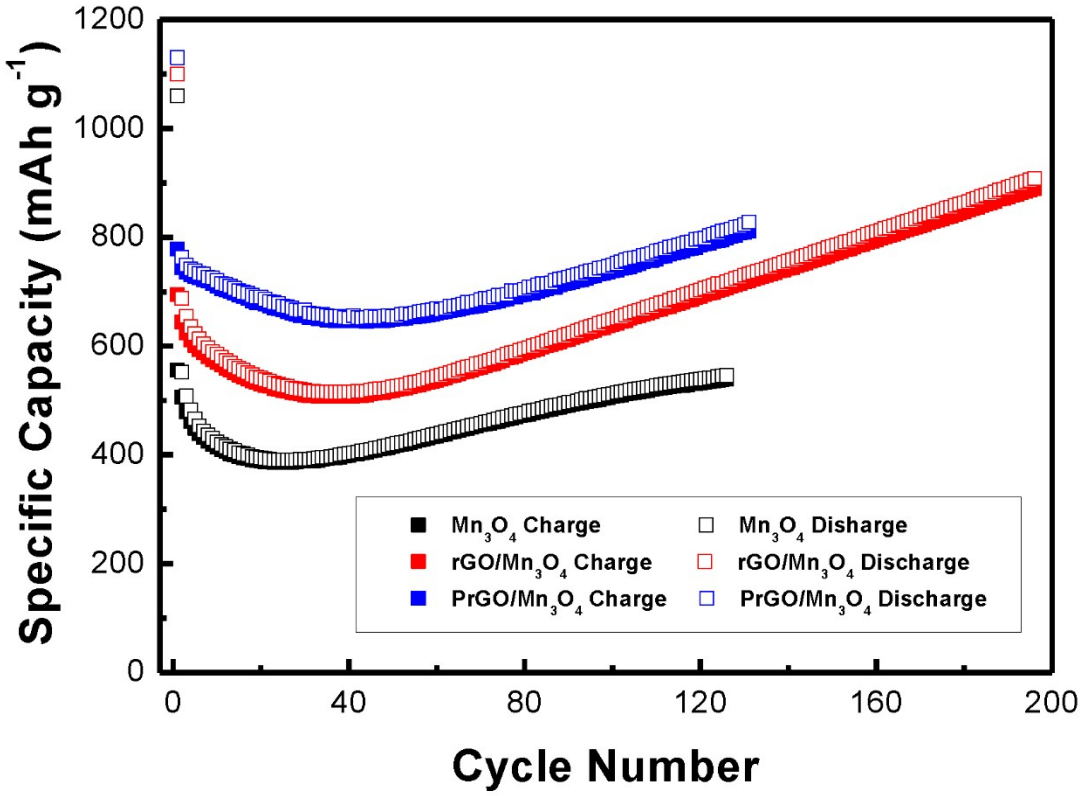

Fig. S3 Comparative cycle performance of Mn_3O_4 NR, rGO/Mn_3O_4 NR and ArGO/Mn_3O_4 NR.

$$The\ areal\ loading\ of\ the\ active\ materials = \frac{0.7\ (Total\ electrode\ weight - Cu\ weight)}{0.95} mg \cdot cm^{-2}$$

Mn_3O_4 electrode : 0.54 mg/cm^2

rGO/Mn_3O_4 electrode : 0.50 mg/cm^2

ArGO/Mn_3O_4 electrode : 0.56 mg/cm^2