Electronic Supplementary Information

Facile Synthesis of Reduced Graphene Oxide Wrapped Nickel Silicate Hierarchical Hollow Spheres for Long-life Lithium-ion Battery

Chunjuan Tang,‡[a,b] Jinzhi Sheng,‡[a] Chang Xu,[a] S.M.B. Khajehbashi,[a] Xuanpeng Wang,[a] Ping Hu,[a] Xiujuan Wei,[a] Qiulong Wei, [a] Liang Zhou[a] and Liqiang Mai*[a]

a. State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan 430070, Hubei, China. E-mail: mlq518@whut.edu.cn

b. Department of mathematics and Physics, Luoyang institute of science and technology, Luoyang 471023, PR China

Table S1. CHNS analysis of the NiSiO / RGO composite.

Sample	N(%)	C(%)	H(%)	S(%)
NiSiO/RGO	0.67	6.52	1.5	0.01

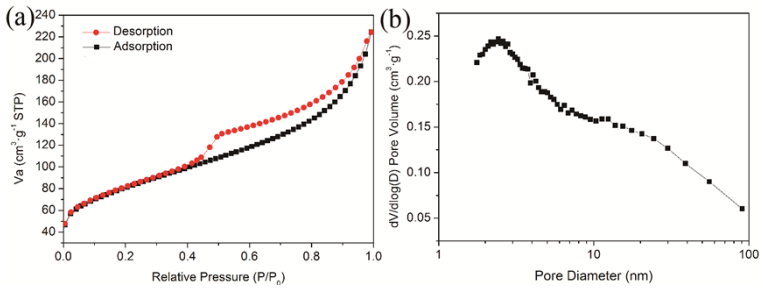

Figure S1. (a) Nitrogen adsorption-desorption isotherm and (b) the corresponding pore size distribution of NiSiO hollow spheres.

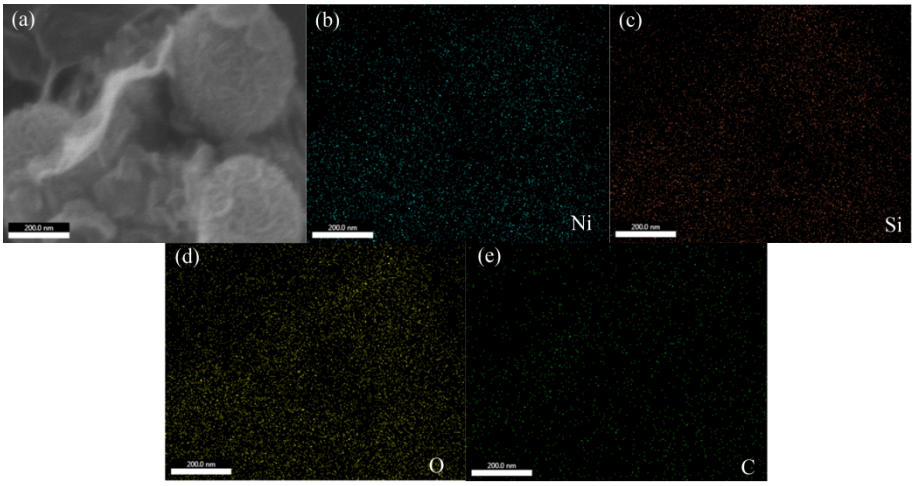

Figure S2. The element mapping results of NiSiO/RGO

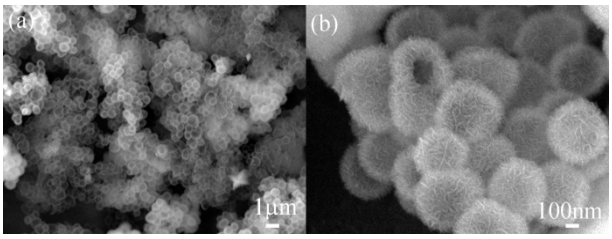

Figure S3. (a) Low- and (b) high-magnification SEM images of NiSiO hollow spheres.

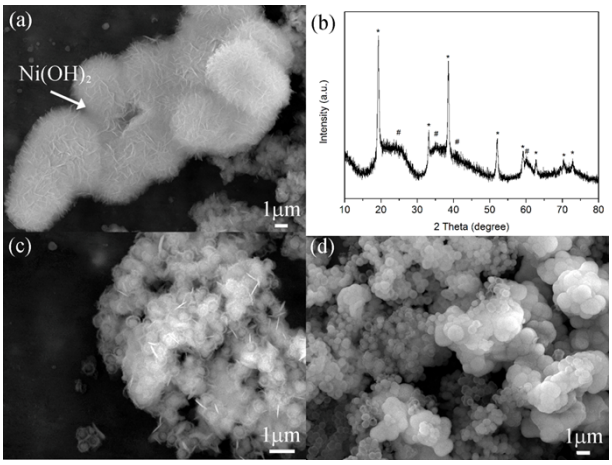

Figure S4. (a) SEM image and (b) XRD pattern of the products without the addition of NH_4Cl; (c)SEM image of the product with the addition of 1 mL $NH_3 \cdot H_2O$; (d) SEM image of the product with the addition of 3 mL $NH_3 \cdot H_2O$.

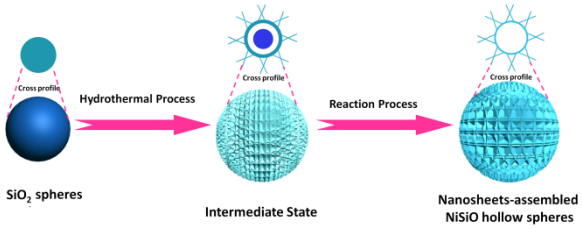

Figure S5. Schematic illustration for the fabrication of NiSiO hollow spheres.

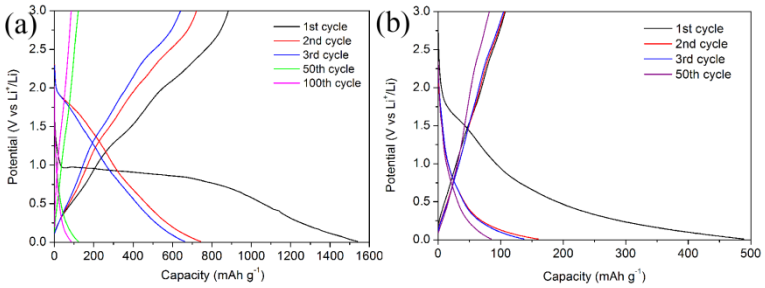

Figure S6. Discharge/charge curves of (a) NiSiO hollow spheres and (b) RGO.

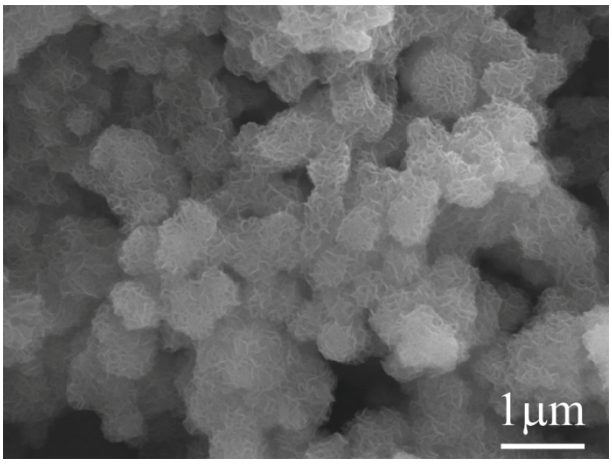

Figure S7. SEM image of pure NiSiO hollow spheres after 50 cycles