Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Carbon-coated silicon/graphite oxide composites as anode for highly stable lithium-ion batteries

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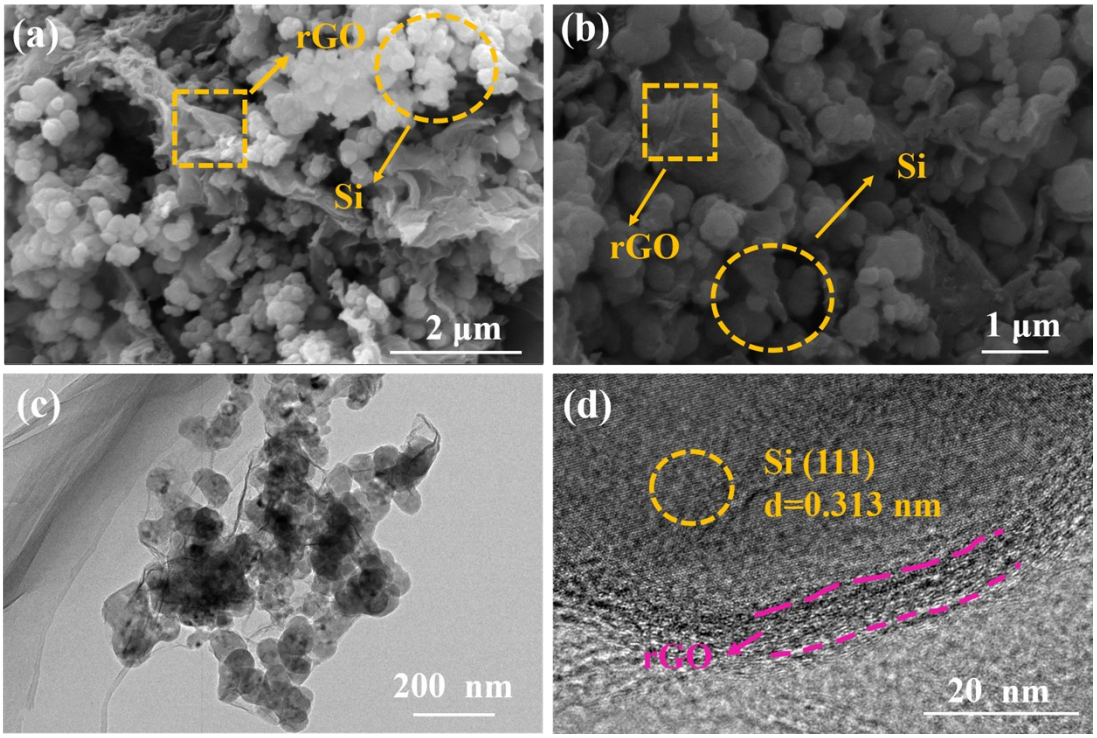

Fig.S1. (a - b) SEM images of Si/rGO. (c) TEM images of Si/rGO at low. (d) high-resolution of Si/rGO.

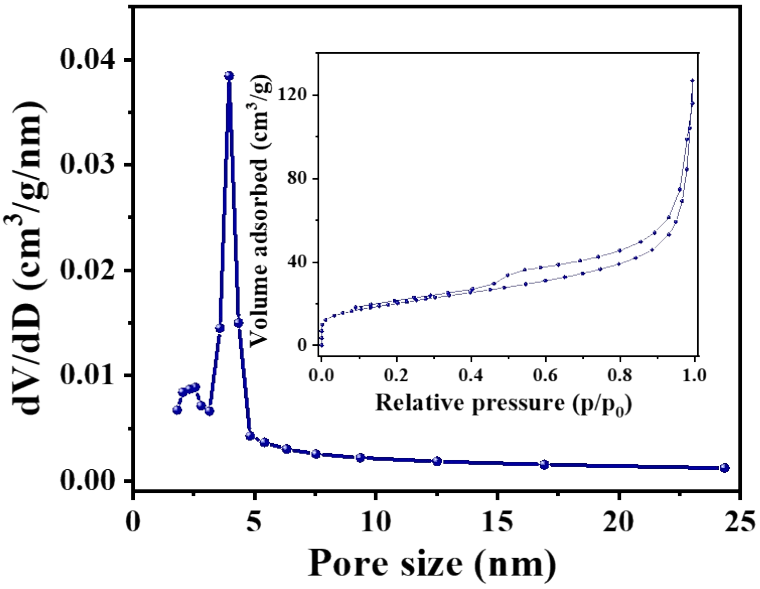

Fig.S2. Pore size distribution of the Si/rGO; Inset is the corresponding nitrogen adsorption/desorption. isotherms.

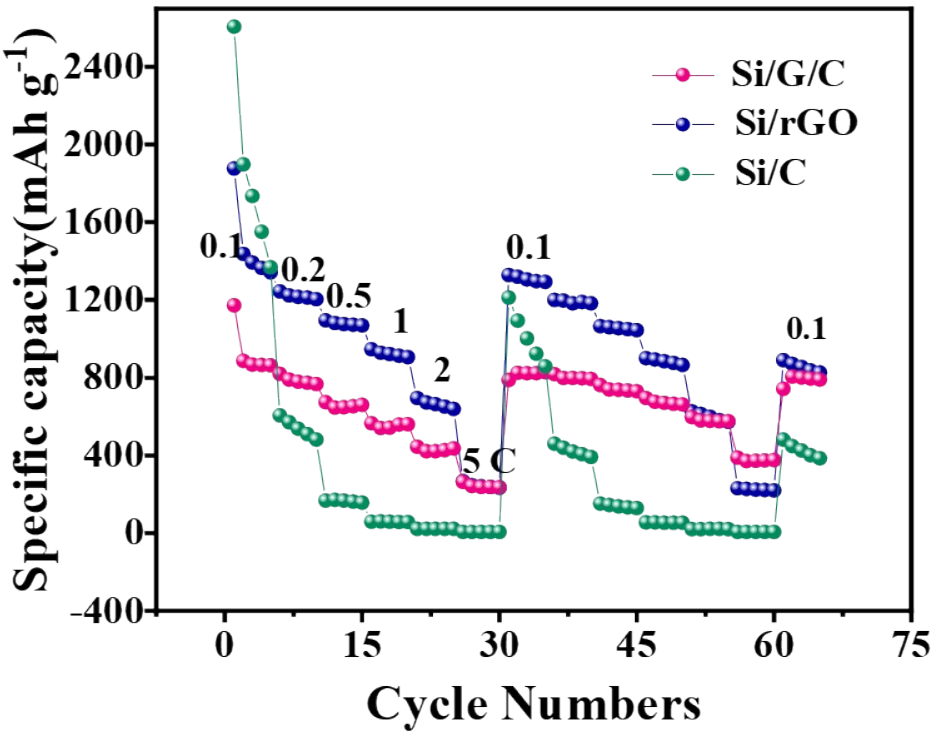

Fig.S3. (e) Rate capability of Si/G/C (Red), Si/rGO (blue)and Si/C (green).

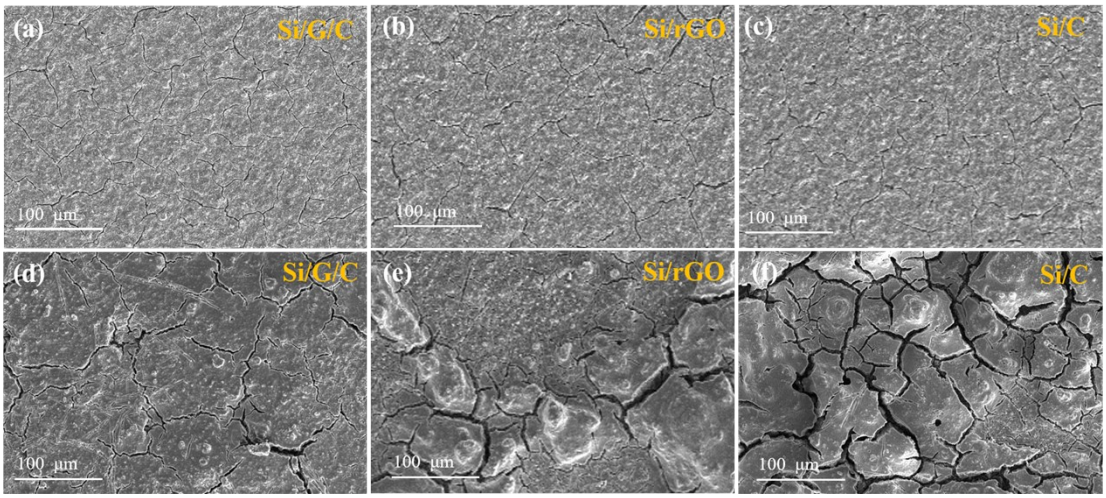

Fig.S4. (a) Si/G/C electrode surface before cycling. (b) Si/rGO electrode surface before cycling. (c) Si/C electrode surface before cycling. (d) Si/G/C electrode surface after 100 cycles. (e) Si/rGO electrode surface 100 cycles. (f) Si/C electrode surface 100 cycles.

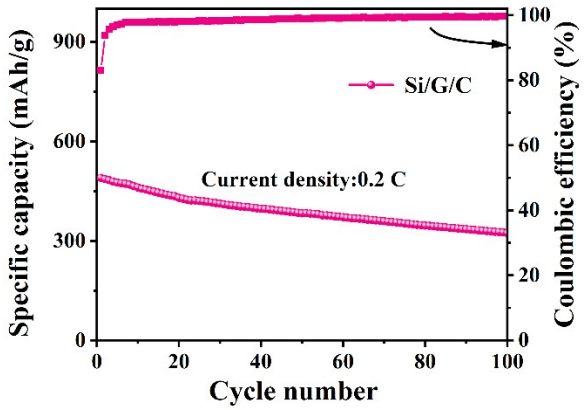

Fig.S5. Charge-Discharge profile in the full cell configuration using $LiFePO_4$ as the cathode.

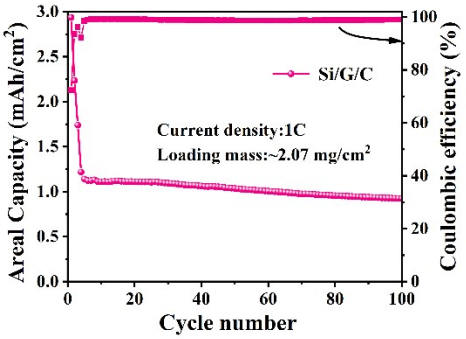

Fig.S6. Cycling stability testing of Si/G/C with higher active material loading.

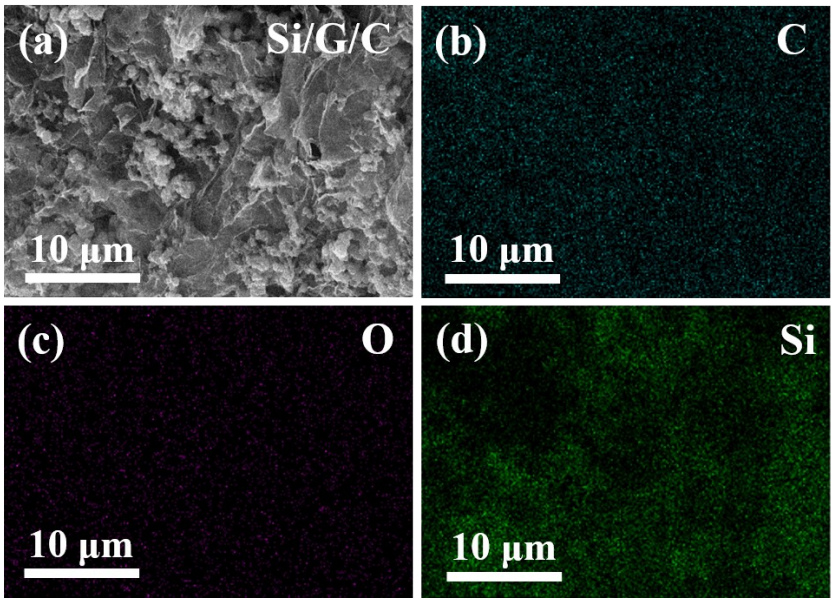

Fig.S7. (a) SEM image of Si/G/C. (b-c) the corresponding EDS elemental mappings of C, O, Si in Si/G/C according to Fig. S7(a).