Supplementary Information

Facile synthesis and stable lithium storage performances of Sn- sandwiched nanoparticles as a high capacity anode material for rechargeable Li batteries

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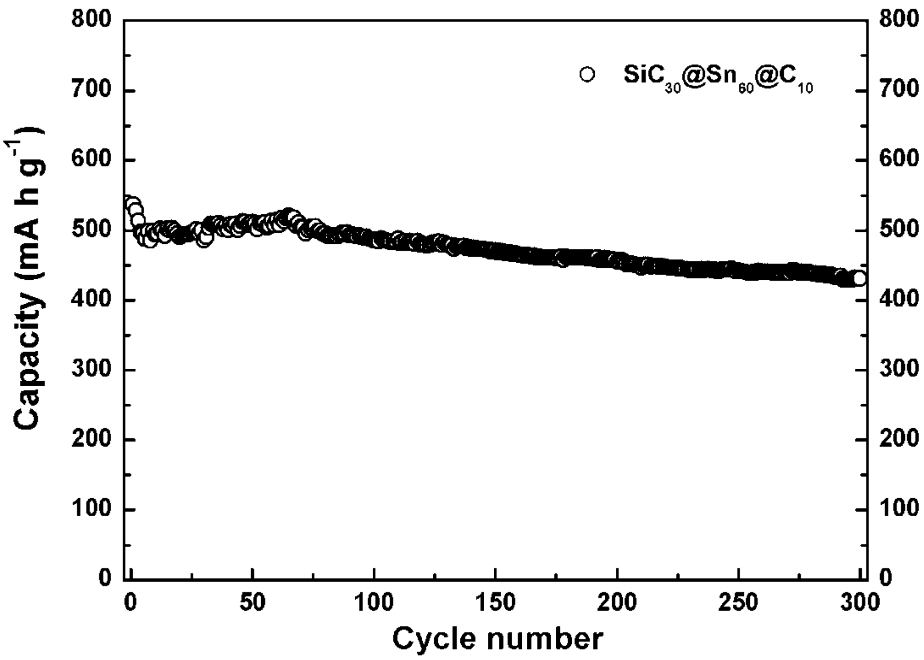

Fig. S1 Electrochemical cyclic performance of the $SiC_{30}@Sn_{60}@C_{10}$ composite at a constant current of 100 mA g^{-1}. The composite exhibits a reversible capacity of 431 mA h g^{-1} up to 300 cycles (80.3% of the initial capacity).

Table S1 Comparison of the electrochemical performance of the Sn composite in this work with those reported in the literatures

Ref.	Sample	Method	Testing voltage window (vs. Li^+/Li)	Initial coulombic efficiency (%)	Initial reversible capacity	Capacity retention after cycling	Capacity attenuation rate (%)
					mA h g^{-1}		per cycle
Ours	$SiC_{30}@Sn_{60}@C_{10}$	multiBall milling	0.01~1.5V	50	537	490(100th) 431(300th)	0.087 0.066
[36]	Sn-C	Sol-gel& calcination	0.02~1.5V	~40	450	~450(100th)	0
[38]	Sn@C	Hydrothermal synthesis	0.005~2.0 V		~620	311(200th)	0.25
[35]	Sn-C	Sol-gel& calcination	0.01~1.5V	~70	350	~500(200th)	0
[44]	Sn@C	Hydrothermal synthesis	0~1.5V	86	681	664(50th)	0.05
[45]	Sn@CNT	CVD method	0.005~3.0 V	67.5	716	~250(80th)	0.8
	Sn@C@CNT	Solid-state pyrolysis	0.01-3.0V	77.8	526	474(80th)	0.12
[46]	Sn–Co–C	Ball milling	0.01~1.5V	~64	450	270(100th)	0.4
[47]	Sn–Co–C	Alloyed mechanically	0.005~1.2 V		~460	~380(100th)	0.17
[48]	Sn/C	Modified Hummer's method	0~3.0V	64.8	810	508(100th)	0.37
[31]	SnCo/CNT	Chemical reduction	0.02~1.5V	~58	506	424(30th)	0.54

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