

Supporting Information for:

Green Template-free Synthesis of SnO₂ Nano Sphere- A Physical Understanding and Electrochemistry

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- **Fig.S. I. 1.** FEG-TEM image for growth of solid core in hollow SnO₂nanosphere during different calcination time.
- **Fig. S. I. 2.** Nitrogen adsorption de-sorption curve for B. E. T. Surface area of (a) SnO₂ hollow nanosphere and (b) SnO₂ solid naospheres.
- **Fig. S. I. 3.** Cyclic voltammogram of SnO₂ solid and hollow ball against Li/Li⁺ at scan rate of 0.01mV/s in potential window of 0.01-1.2V at 20°C.
- **Fig. S. I. 4.**Charge Discharge curve for SnO₂ hollow sphere against Li/Li⁺ in potential window of 0.01V-1.2V.
- **Table S1** Comparative electrochemical behaviour of hollow SnO₂ spheres as anode of Lithium-ion battery

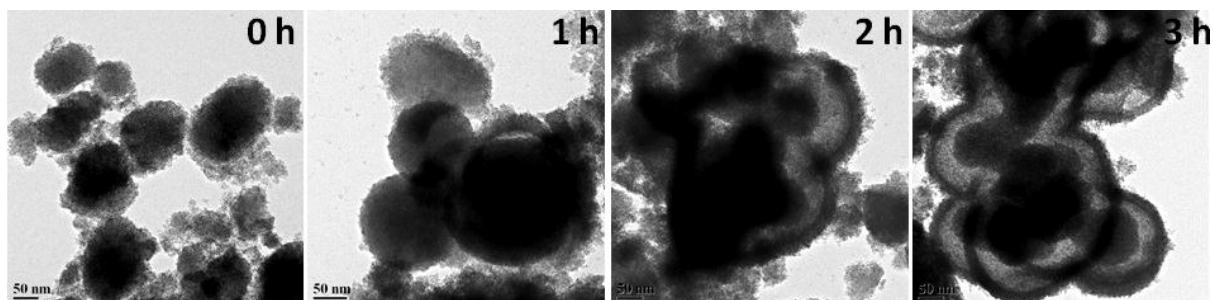


Fig. S. I. 1. FEG-TEM image for growth of solid core in hollow SnO₂nanosphere during different calcination time.

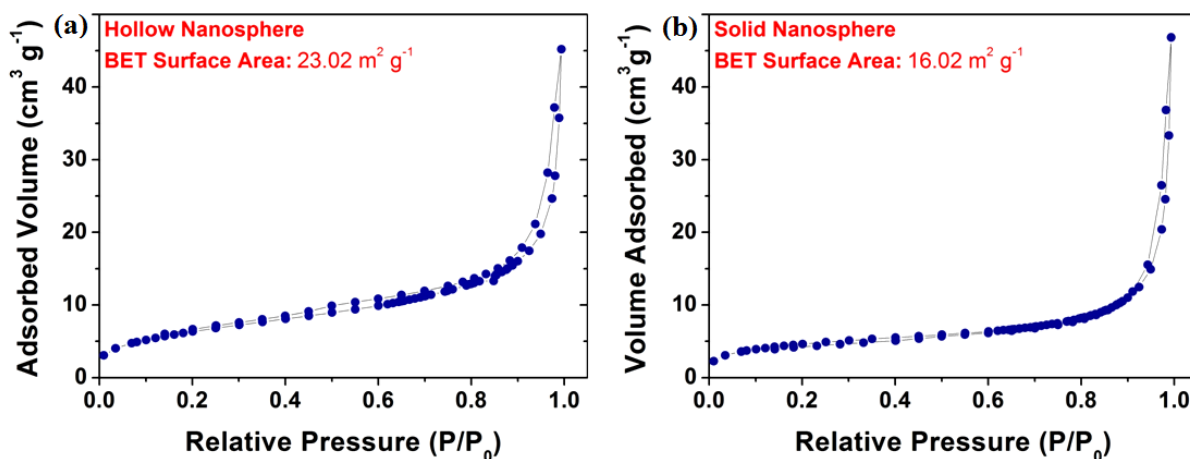


Figure S. I. 2. Nitrogen adsorption de-sorption curve for B. E. T. Surface area of (a) SnO₂ hollow nanosphere and (b) SnO₂ solid nanospheres .

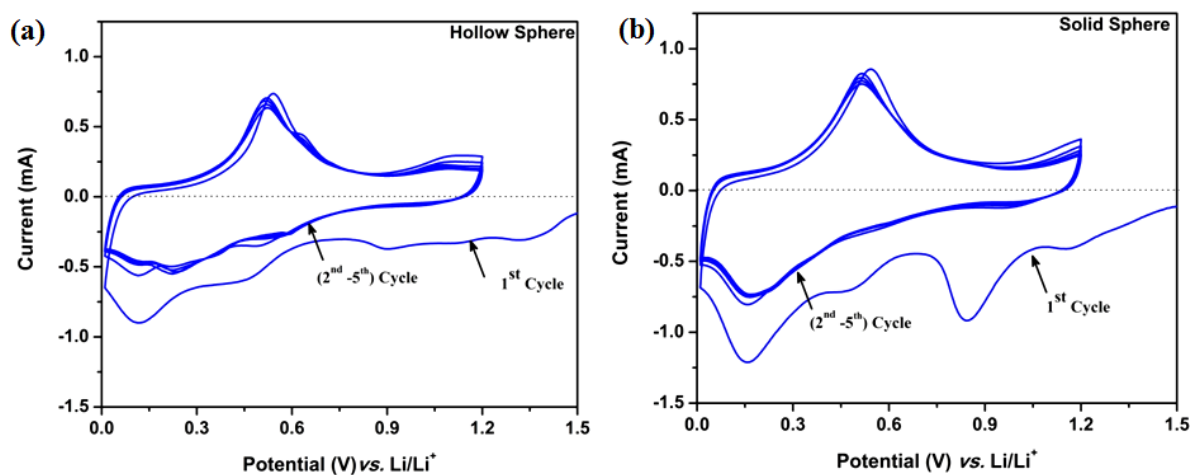


Fig. S. I. 3. Cyclic voltammogram of SnO₂ solid and hollow spheres against Li/Li⁺ at scan rate of 0.01mV/s in potential window of 0.01-1.2V at 20°C.

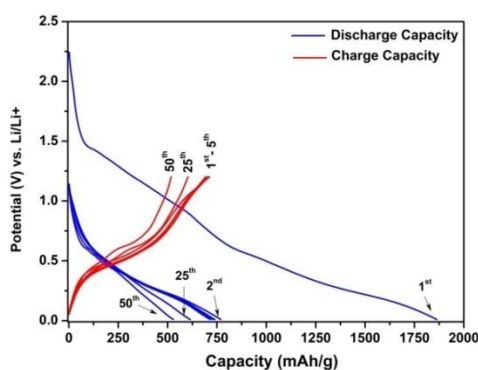


Fig. S. I. 4. Charge Discharge curve for SnO₂ hollow sphere against Li/Li⁺ in potential window of 0.01V-1.2V.

Table S1 Comparative electrochemical behaviour of hollow SnO₂ spheres as anode of Lithium-ion battery

Sr. No.	Size (nm)	Total (%) of Carbon	Current (mA ^g ⁻¹)	Capacity (mAh ^g ⁻¹)	Number of cycles	Reference
1.	100-200	20	177.56	532	50	Our result
2.	200	20	156.4	593	50	1
3.	600	27.4	156	450	30	2
4.	600	41.56	100	500	50	3
5.	2000	10	100	250	50	4
6.	300-400	35.84	625	460	50	5
7.	110	36.8	100	473	50	6

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