Electronic Supplementary Material (ESI) for Nanoscale Advances.

Synergic Effect of Decoration of Nickel Oxide Nanoparticles on Silicon for Enhanced Electrochemical Performance in LIBs

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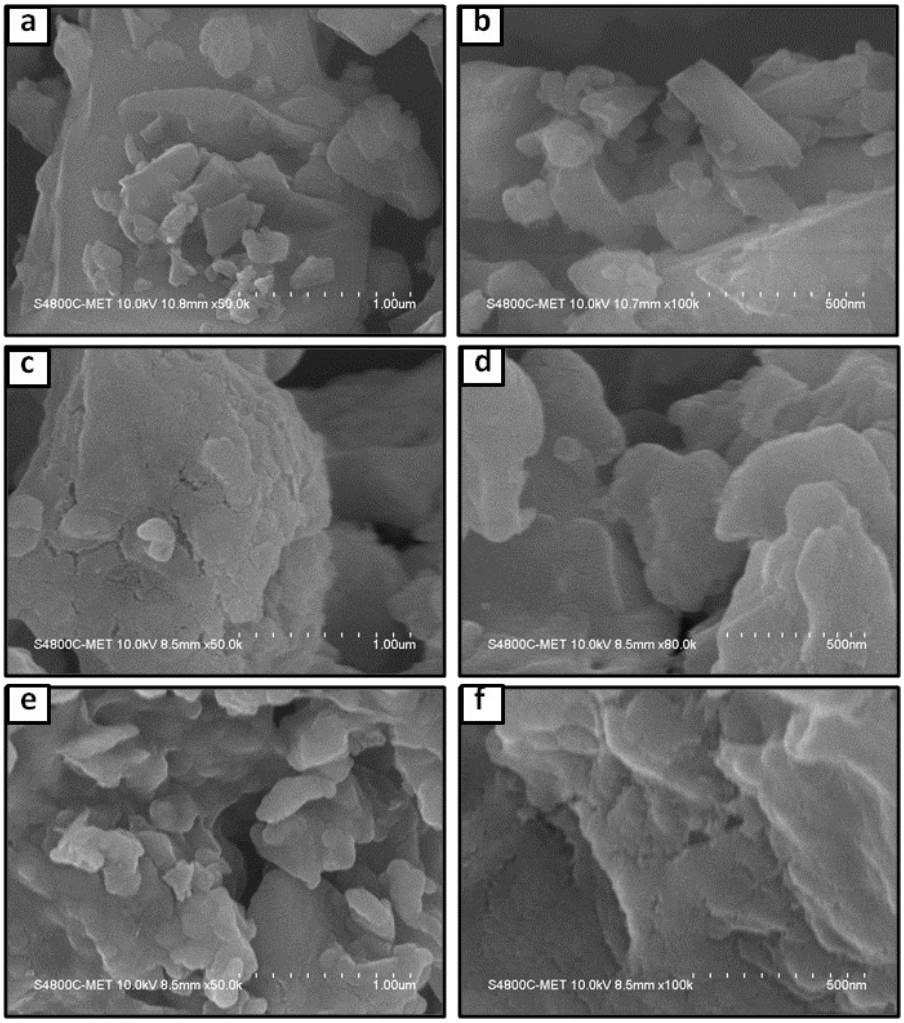


Figure S1. FESEM images of (a, b) Pristine Si, (c, d) SNO1 and (e, f) SNO3

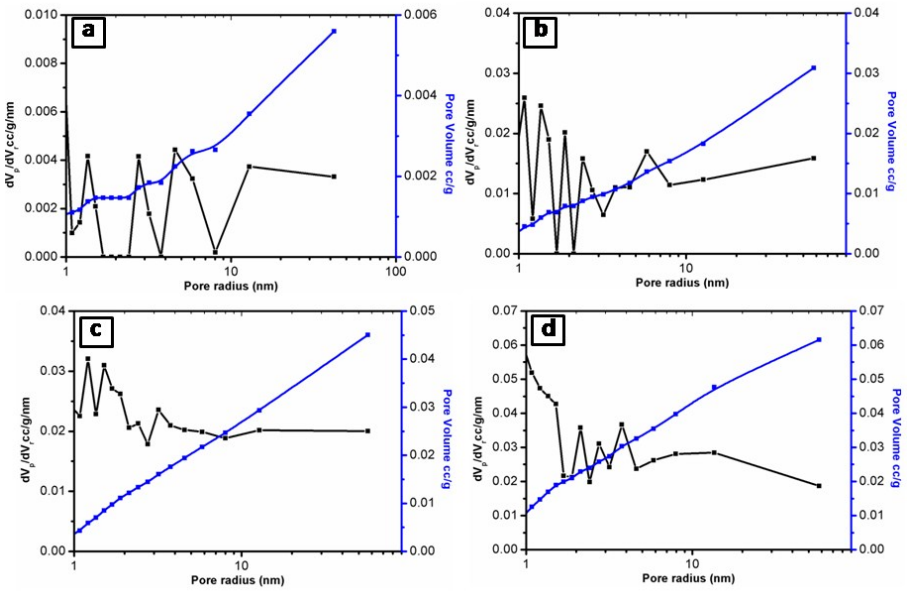
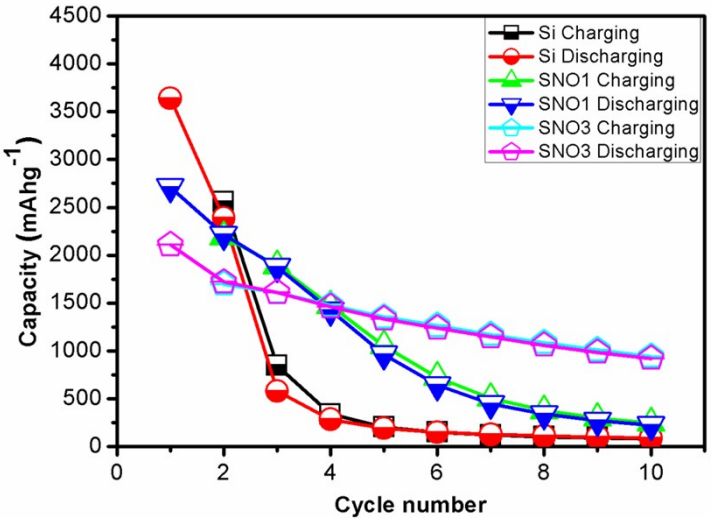


Figure S2. BJH pore size distribution plots of (a) pristine Si (b) SNO1 (c) SNO2 (d) SNO3



FigureS3: cycling performance of Pristine Si, SNO1 and SNO3 between 0.01and 3V.

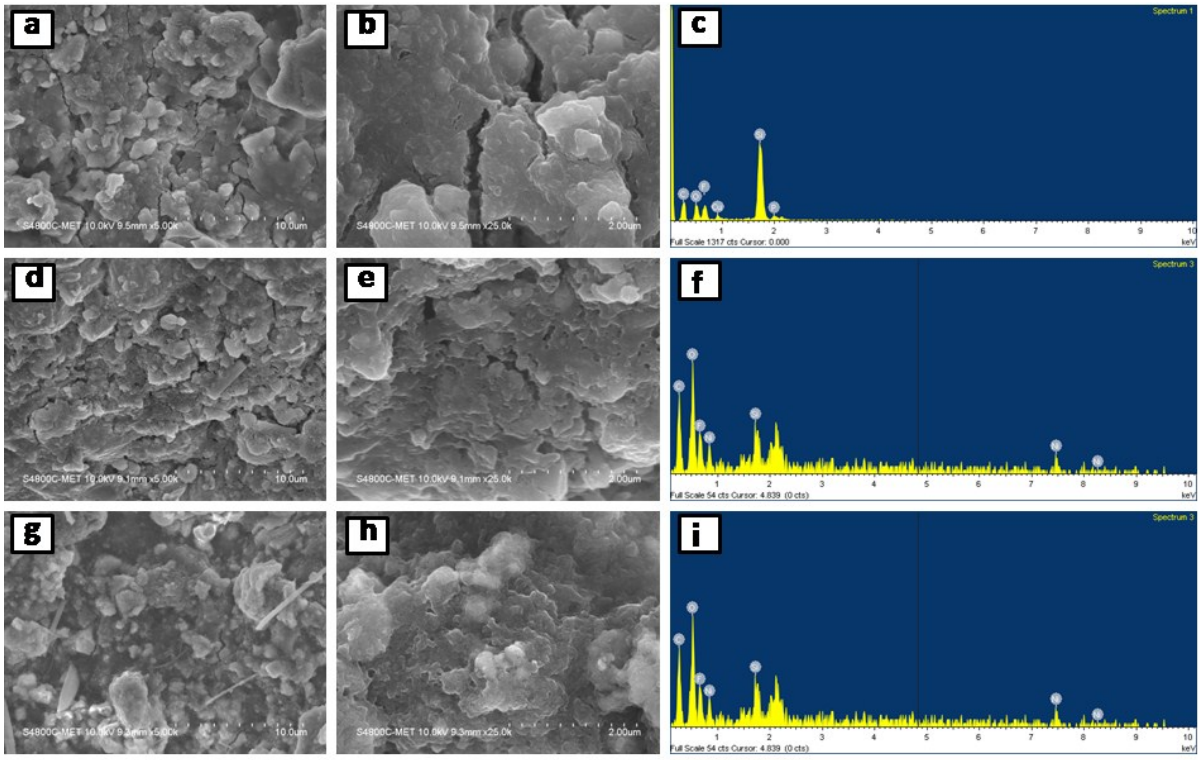


Figure S4 FESEM-EDS spectrum of pristine (a, b, c) Si, (d, e, f) SNO1 and (g, h, i) SNO3 electrodes after cycling

Table S1. Comparison of the silicon composites for their electrochemical performance

No	Current density (mAg^{-1} /C rate)	Capacity $mAhg^{-1}$	Material	Reference
1	50	842.59	NiO@Si	ACS Appl. Mater. Interfaces [1]
2	100	1200	SiO_2@NiO	RSC Adv[2]
3	0.1C	2849	Ni-Li_2O@Si	RSC Adv[3]
4	100	700	Ni/SiO_2	Adv. Funct. Mater[4]
5	750	1911	Fe_2O_3-Si	JMCA
6	100	985	Si/Ti_2O_3/rGO	ACS Appl. Mater. Interfaces[5]
7	50	1681	Si-G	ACS Appl. Mater. Interfaces[6]
8	1/10 C	1074	Silicon@C	AngewandteChemie[7]
9	100	828	Si/C Yolk/Shell	JMCA [8]
10	200	832	Si @ Graphite/carbon	Sustainable Energy & Fuels[9]
11	1C	1565	Si@void@C	ChemElectroChem[10]
12	100	774.1	Tin-Oxide/Silicon	Chemistry select[11]
13	**20**	**2162**	**Si@NiO**	**Present work**

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