

## Supporting Information

### An Optimized 3D Carbom Matrix for High Rate Silicon Anode

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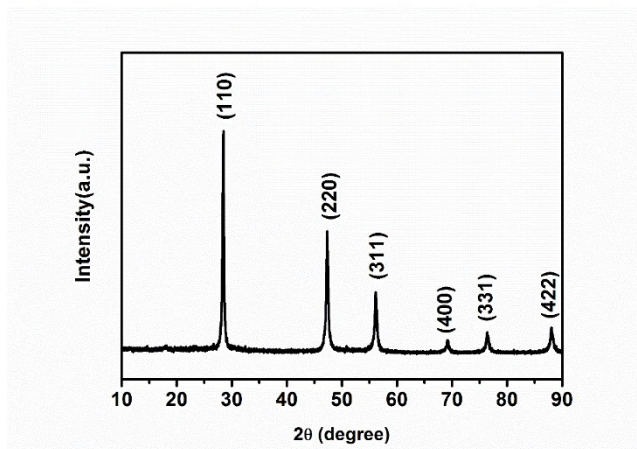


Fig.S1 XRD pattern of residue powder after TGA test.

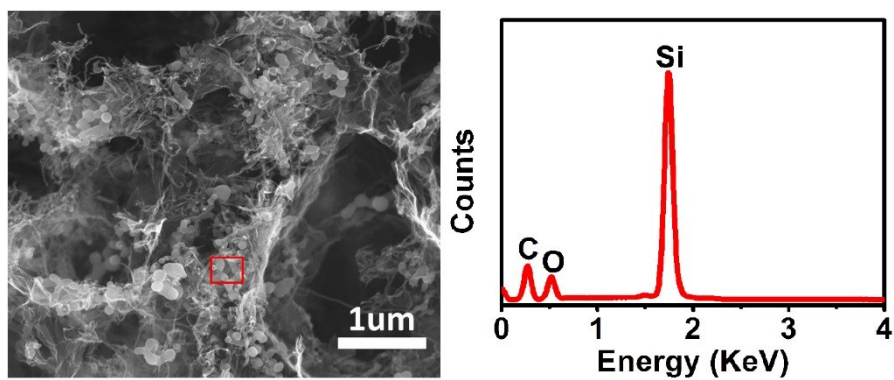
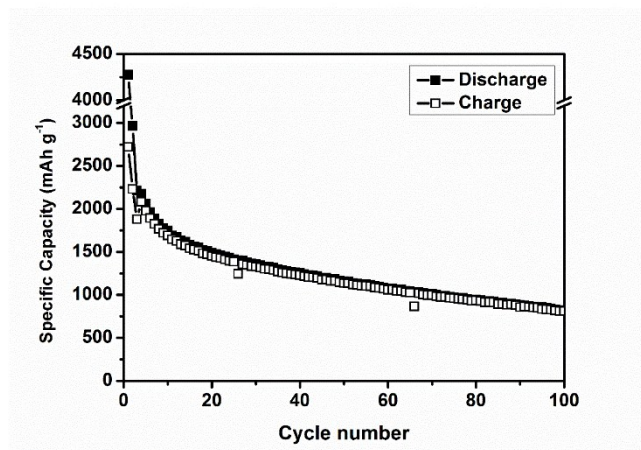


Fig.S2 EDS spectra of Si@SiO<sub>x</sub>/CNTs/GA-1 composite.



**Fig.S3** Cyclic performance of Si@SiO<sub>x</sub> particles, with 0.1A g<sup>-1</sup> current density.