Electronic Supplementary Material (ESI) for RSC Advances.

Three-Dimensional Polymer-Derived Ceramic/Graphene Paper as Li-Ion Battery and Supercapacitor Electrode

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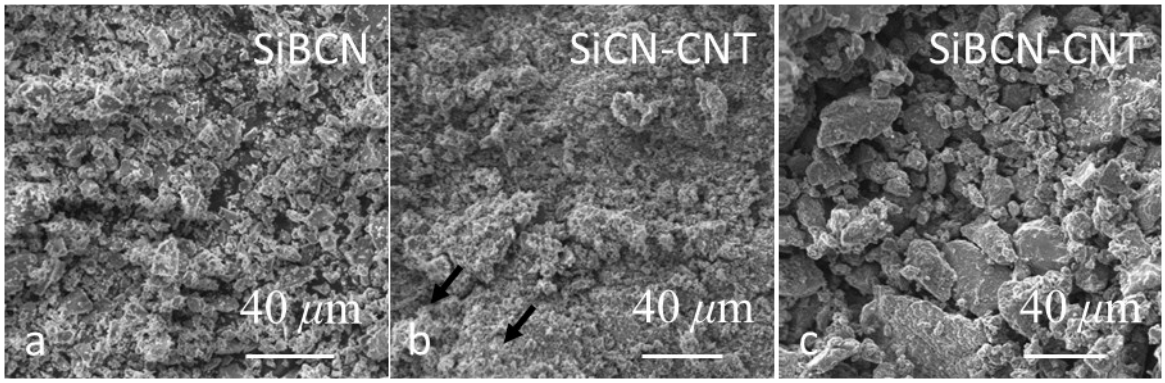
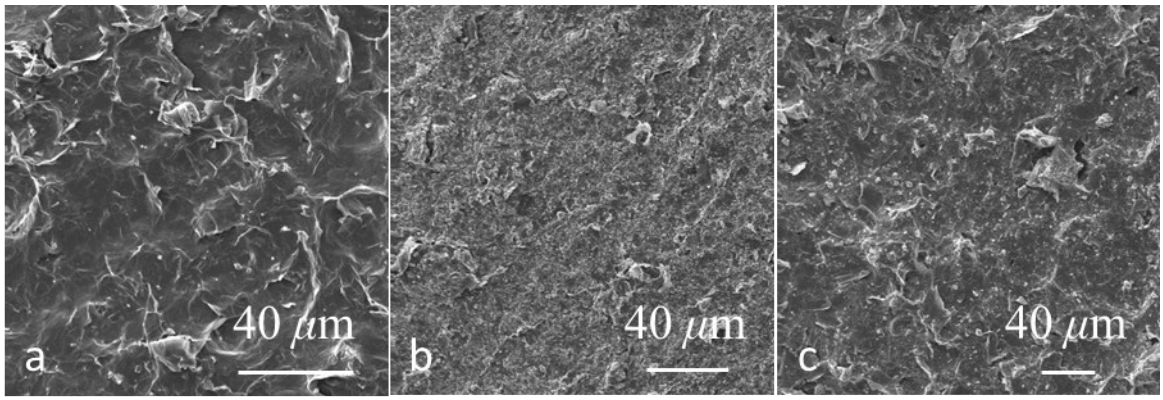
(I) SEM DATA

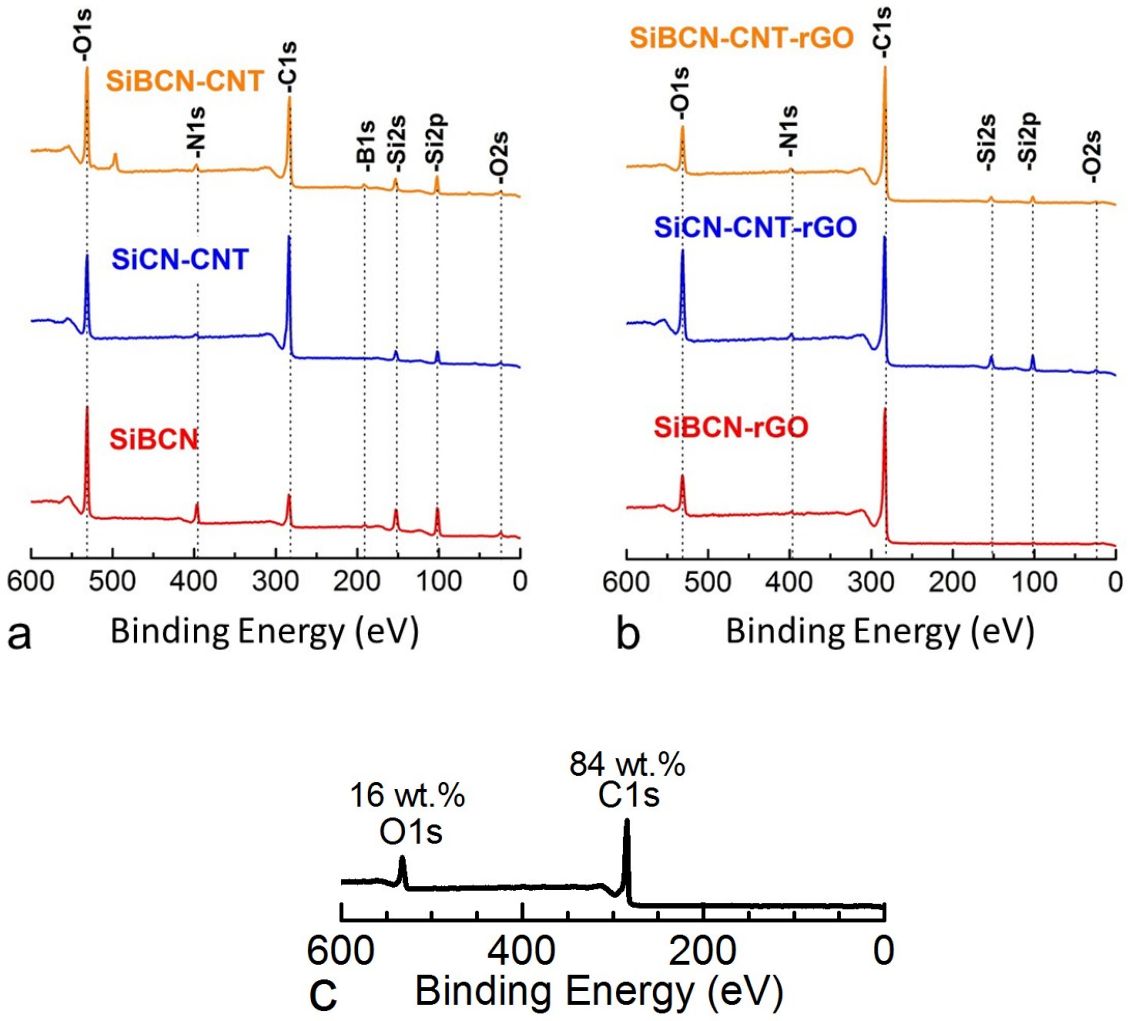


SUPPLEMENTARY FIGURE S1. SEM images of as-prepared (a) Si(B)CN and (b) SiCN-CNT, and (c) Si(B)CN-CNT starting material.



SUPPLEMENTARY FIGURE S2. SEM top view images of (a) Si(B)CN, (b) SiCN-CNT and (c) Si(B)CN-CNT free-standing composite paper.

(II) XPS DATA

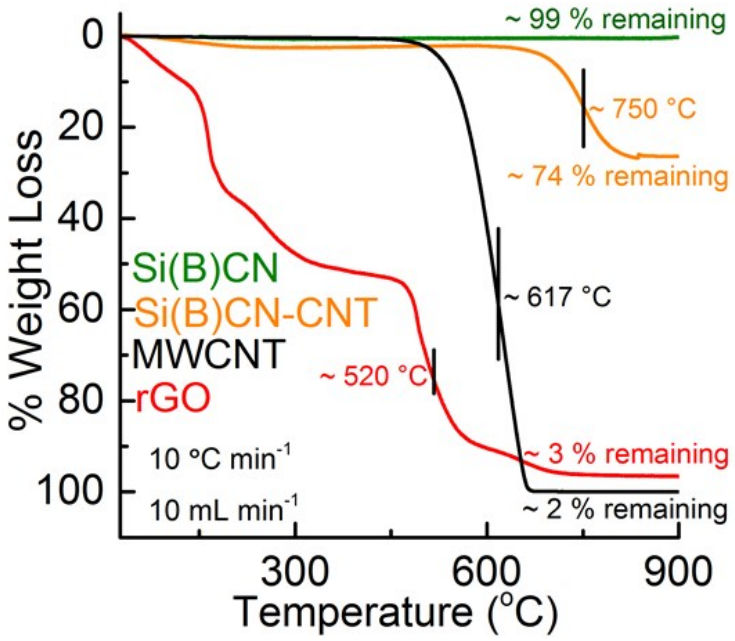


SUPPLEMENTARY FIGURE S3. X-ray photoelectron spectroscopy plot of (a) starting material and (b) free-standing paper of Si(B)CN, SiCN-CNT and Si(B)CN-CNT and (c) rGO after annealing. Increase in percentage composition of carbon in free-standing paper overshadowed the percentage composition of boron in Si(B)CN-rGO and Si(B)CN-CNT-rGO free-standing papers.

SUPPLEMENTARY TABLE S1 Elemental composition of top surfaces of starting material and free-standing paper

	Atomic concentration (%)				
Specimen	**Boron**	**Carbon**	**Oxygen**	**Silicon**	**Nitrogen**
SiCN	0.00	40.78	29.29	19.18	11.07
SiBCN	3.69	29.64	38.16	18.77	10.02
SiCN-CNT	0.00	70.13	22.89	5.67	1.62
Si(B)CN-CNT	4.83	58.77	25.93	9.76	3.19
SiCN-rGO	0.00	75.24	17.56	4.89	2.75
Si(B)CN-rGO	0.00	86.64	12.28	0.62	0.62
SiCN-CNT-rGO	0.00	71.80	21.38	5.61	1.91
Si(B)CN-CNT-rGO	0.39	81.93	13.51	2.74	1.69

(III) TGA DATA



SUPPLEMENTARY FIGURE S4. TGA curves of Si(B)CN, Si(B)CN-CNT, CNT and rGO.