

Supplementary Information

Easy preparation of partially-opened carbon nanotubes by simple
air oxidation for high performance Li-S batteries

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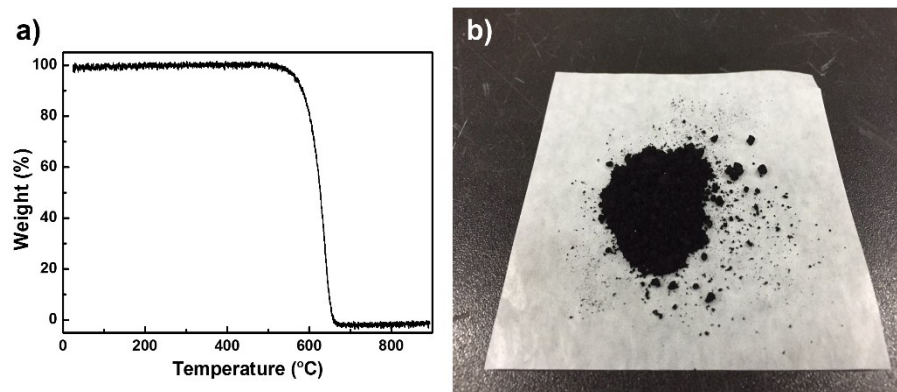


Fig. S1. a) Thermogravimetric analysis of the pristine MWCNT under an air atmosphere with a heating rate of 10 °C/min. Weight loss starts around 540 °C. b) Image of the mass-produced o-CNT550 sample

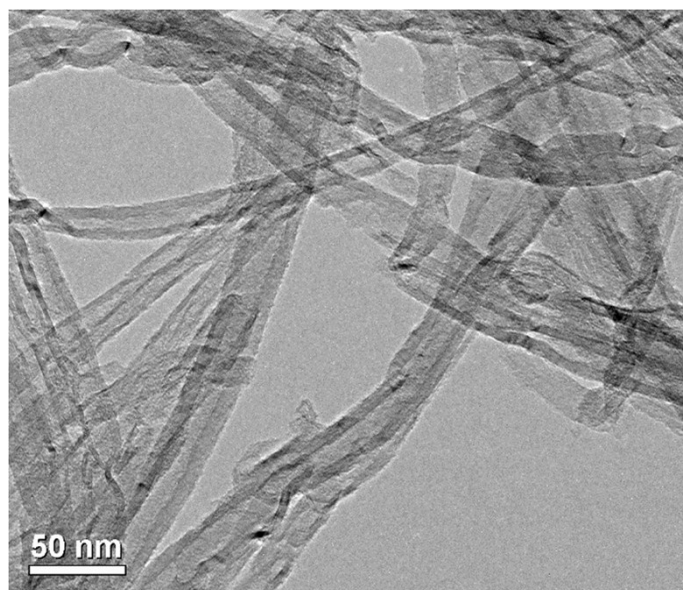


Fig. S2. TEM image of the o-CNT540 sample

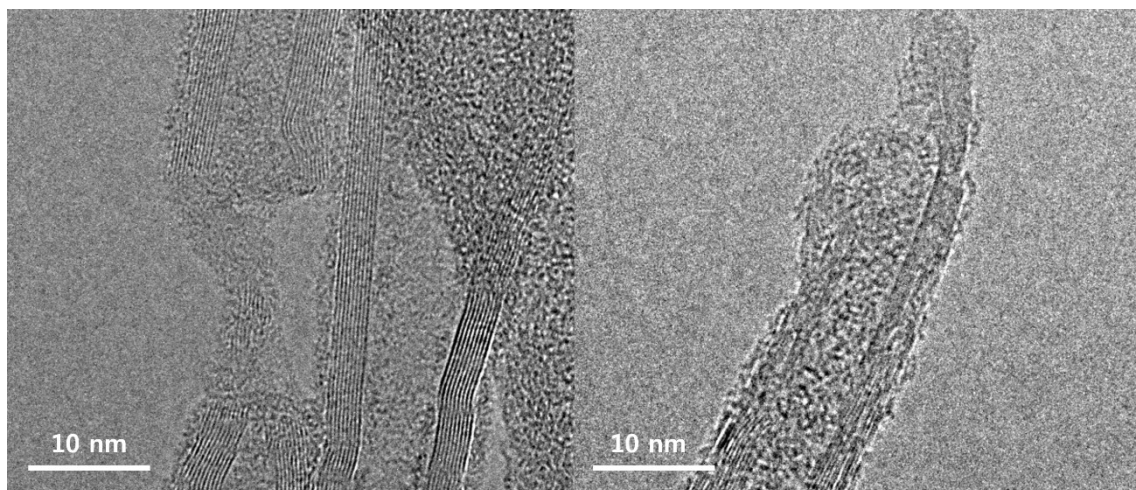


Fig. S3. TEM images of o-CNT550 with higher magnification

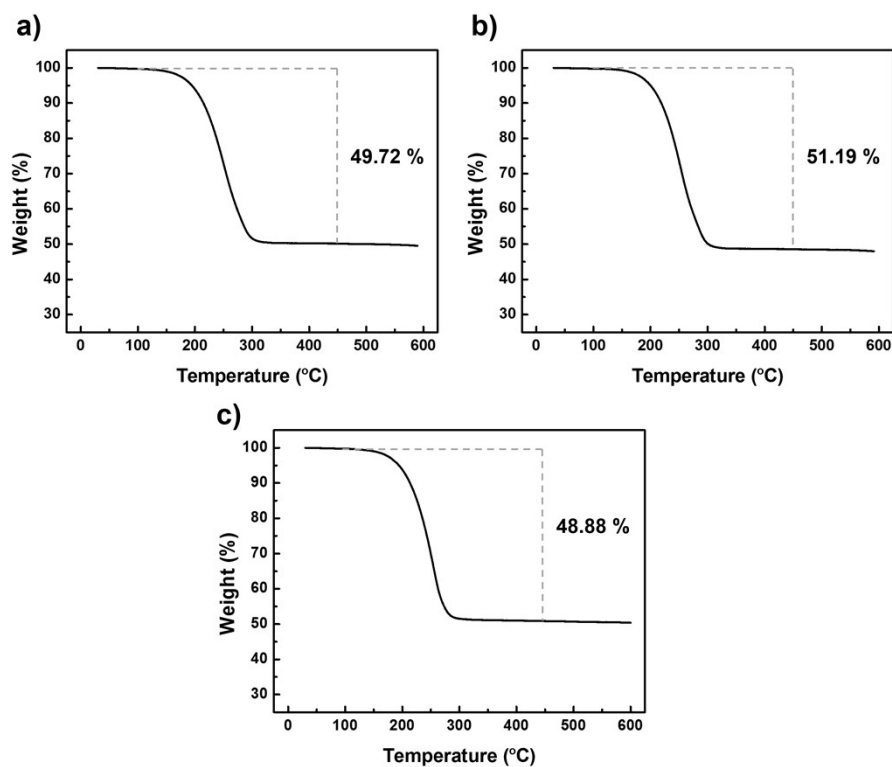


Fig. S4. Thermogravimetric analysis of the a) o-CNT540_S, b) o-CNT550_S and c) MWCNT_S composites under a nitrogen flow with a heating rate of 10 °C/min. The sulfur content is calculated according to the weight loss in a temperature range of 100 °C and 450 °C

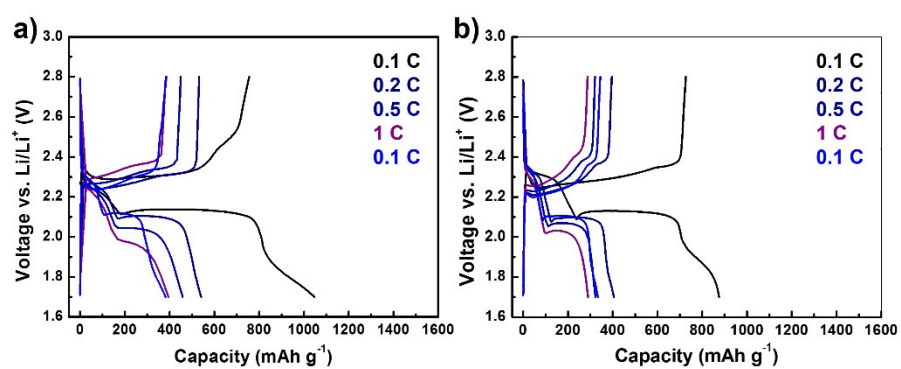


Fig. S5. The charge/discharge voltage profiles of a) the o-CNT540_S electrode and the b) MWCNT_S electrode at various C rates ranging from 0.1 to 1 C

Table S1. A comparison of the capacity of present work with recent reported CNT based sulfur cathode.

Samples	C rate	Cycle number	Sulfur content (%)	Capacity (mAh g ⁻¹)	Ref.
Air-oxidized MWCNT	0.2 C	100	51	619	Our work
KOH Activated MWCNT	0.2 C	60	51	707	S1
Acidic and thermal treated MWCNT	0.5 C	50	70	602	S2
Hydroxylated MWCNT	0.2 C	100	36	721	S3
MWCNT-mesoporous carbon composite	0.5 C	50	58	540	S4
Water steam-etched MWCNT	0.1 C	100	89	625	S5

Supplementary References

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