Supplementary Information

A flexible nanostructured sulphur-carbon nanotube cathode with high rate performance for Li-S batteries

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Brisbane 4072, Queensland, Australia.
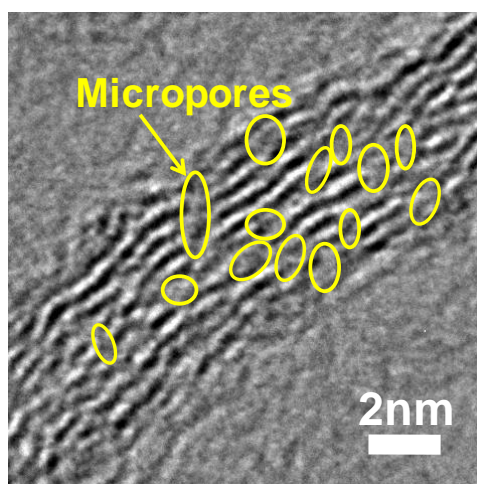
[#] G.M.Z. and D.-W.W. are equal main contributors.

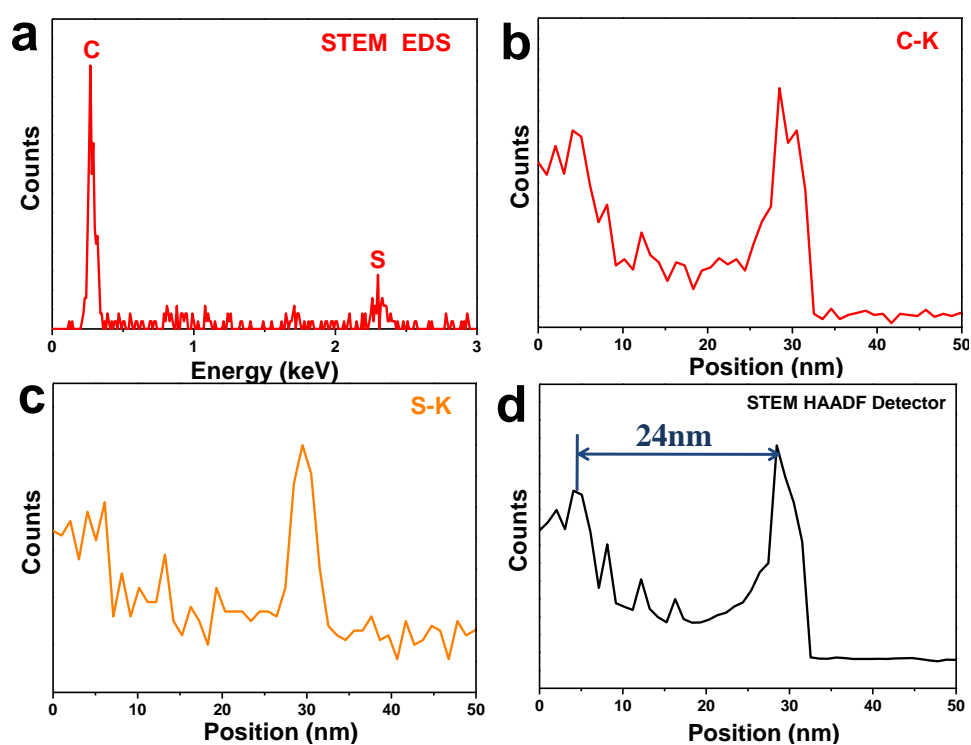Correspondence should be addressed to H. M. C. Email: cheng@imr.ac.cn
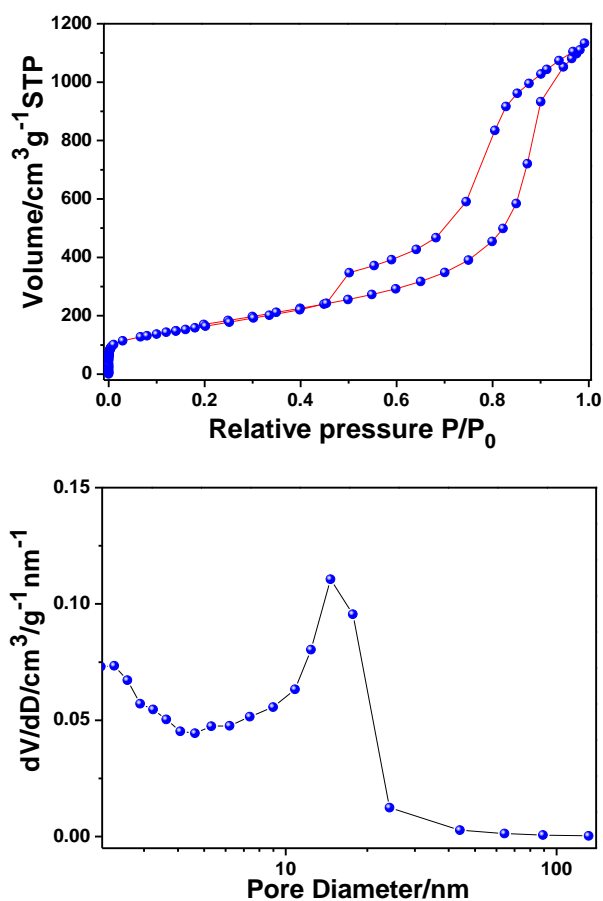
Fig. S1 N_2 adsorption/desorption isotherm and pore size distribution of the S-CNT-23. Pore size distribution plots were obtained by the Barrett-Joyner-Halenda method.
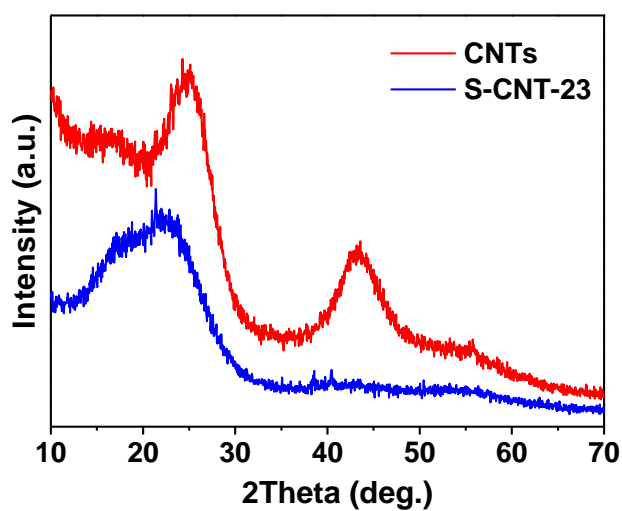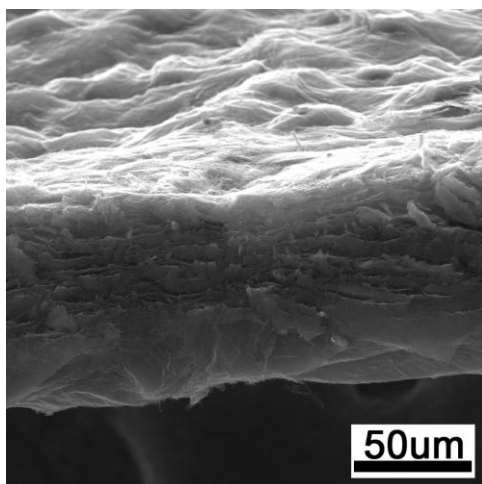

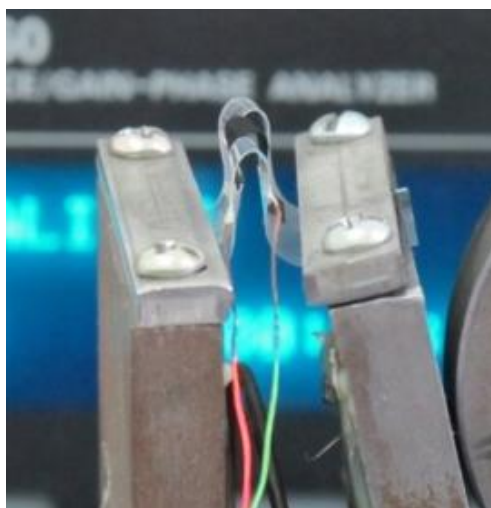**Fig. S2** XRD patterns of the S-CNT-23 and CNTs.

Fig. S3 HRTEM image of the S-CNT showing pores (circled) that host sulphur.
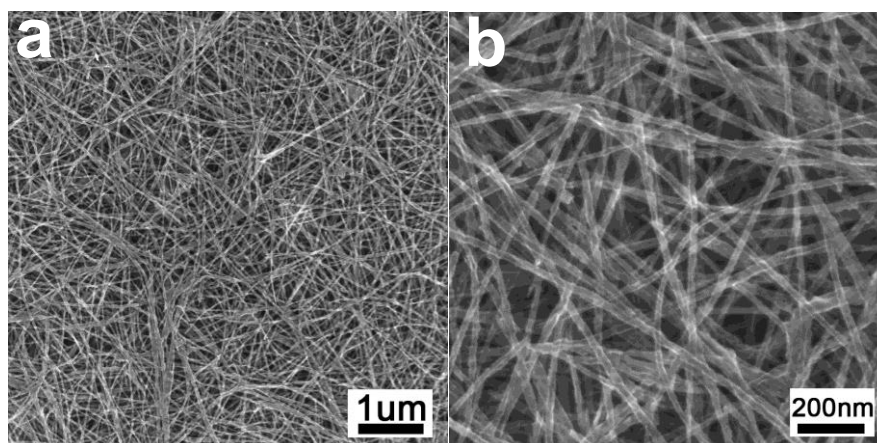

Fig. S4 (a) EDS analysis of the S-CNT-23, showing the presence of carbon and sulphur. (b-d) EDS line scans across the S-CNT-23, showing elemental composition as a function of beam position.
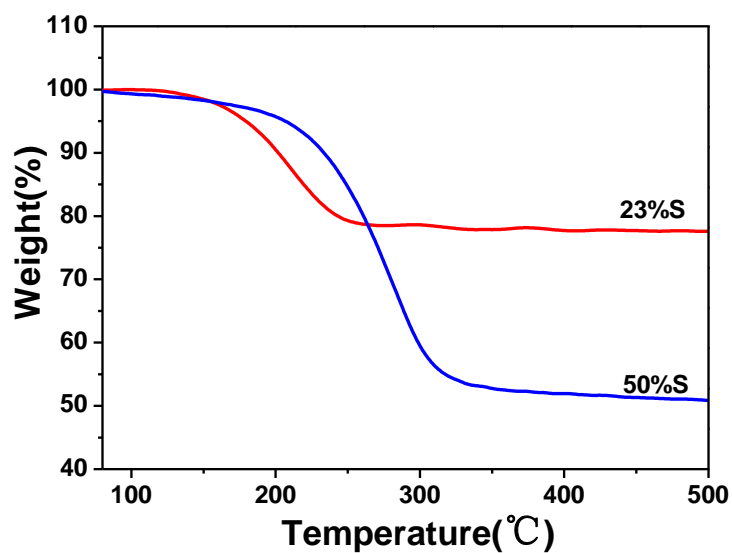
Fig. S5 SEM image of a cross-sectional view of the S-CNT-23 membrane.

Fig. S6 Apparatus for bending conductivity test.

Fig. S7 (a, b) SEM images of the S-CNT-50 membrane cathode after 100 charge/discharge cycles.

Fig. S8 Thermogravimetric curve of the S-CNTs in Ar with a heating rate of 10 ºC min^{-1}, indicating the sulphur content of 23.0 and 50.0 wt%.