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Electronic Supplementary Information (ESI)

Powering Lithium-sulfur Batteries by the Ultrathin Sulfurized Polyacrylonitrile Nanosheets

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Fig. S1 The SEM image of KCl crystals after recrystallization.



Fig. S2 The high-resolution TEM image of SPAN nanosheets.

Table S1.	Elemental	analysis o	of SPAN	nanoparticles	and SPAN	nanosheets.
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Samples	Mass ratio (wt%)					
	N(%)	C(%)	H(%)	S(%)		
SPAN nanoparticles	13.76	37.31	0.74	46.77		
SPAN nanosheets	13.17	37.40	1.65	45.70		



Fig. S3 The AFM image of SPAN nanosheets and height analysis through the yellow line in the image.



Fig. S4 The discharge/charge curves of (a) SPAN nanosheets and (b) SPAN nanoparticles at various current densities.



Fig. S5 The galvanostatic discharge/charge curves of (a) SPAN nanosheets and (b) SPAN nanoparticles at different cycle under $0.2A g^{-1}$.



Fig. S6 The galvanostatic discharge/charge curves of (a) SPAN nanosheets and (b) SPAN nanoparticles at different cycle number under $2A g^{-1}$.



Fig. S7 (a)The EIS spectra of SPAN nanoparticles and SPAN nanosheets, (b)The EIS spectra of SPAN nanosheets after different cycle number.



Fig. S8 The galvanostatic charge/discharge profiles of SPAN nanoparticles and SPAN nanosheets.



Fig. S9 (a)The cyclic voltammogram curves of SPAN nanosheets at different scan rates, (b)The cyclic voltammogram curves of SPAN nanoparticles at different scan rates.



Fig. S10 The comparison of Li^+ diffusion coefficient of SPAN nanoparticles and SPAN nanosheets.



Fig. S11 SEM images of SPAN nanosheets electrode at 200th-discharged to 1.0 V.



Fig. S12 SEM images of SPAN nanosheets electrode at 200th-recharged to 3.0 V.