Electronic Supplementary Material (ESI) for Sustainable Energy & Fuels.

Supplementary Information

Ionically cross-linked PEDOT:PSS as a multi-functional conductive binder for high-performance lithium-sulfur battery

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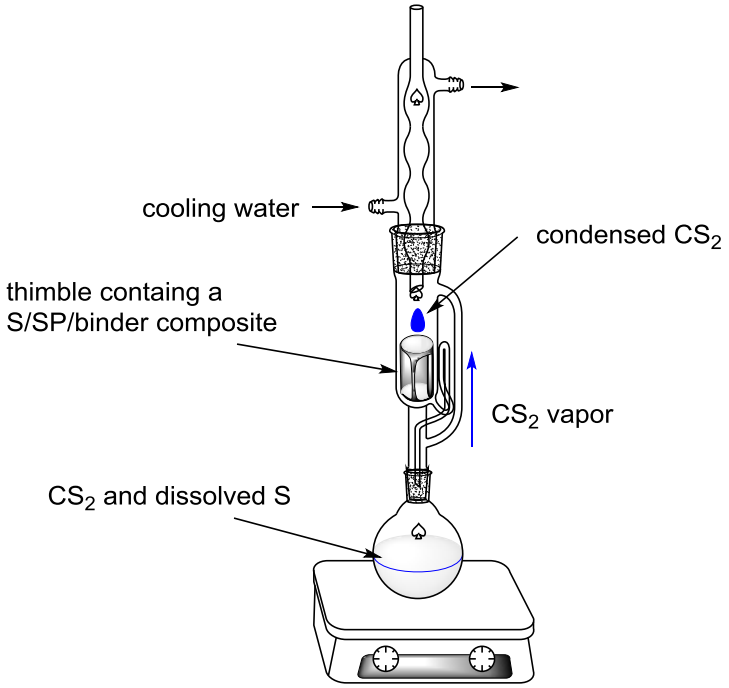
Table S1. Sulfur weight losses of cathode materials after Soxhlet extraction with CS_2.[a]

Sample	Weight		Total weight loss	Sulfur weight loss
	Before Soxhlet extraction	After 5 h Soxhlet extraction		
70% NPS/20%SP/10%PVDF	1.0000g	0.2980g	70%	100%
70% NPS/20%SP/10% PEDOT:PSS	1.0004g	0.2998g	70%	100%
70%NPS/20%SP/10%PEDOT:PSS -Mg^{2+}	1.0010g	0.3984g	60%	86%

[a]The Soxhlet extraction setup used to dissolve sulfur in the S/SP/binder composites is shhown below.



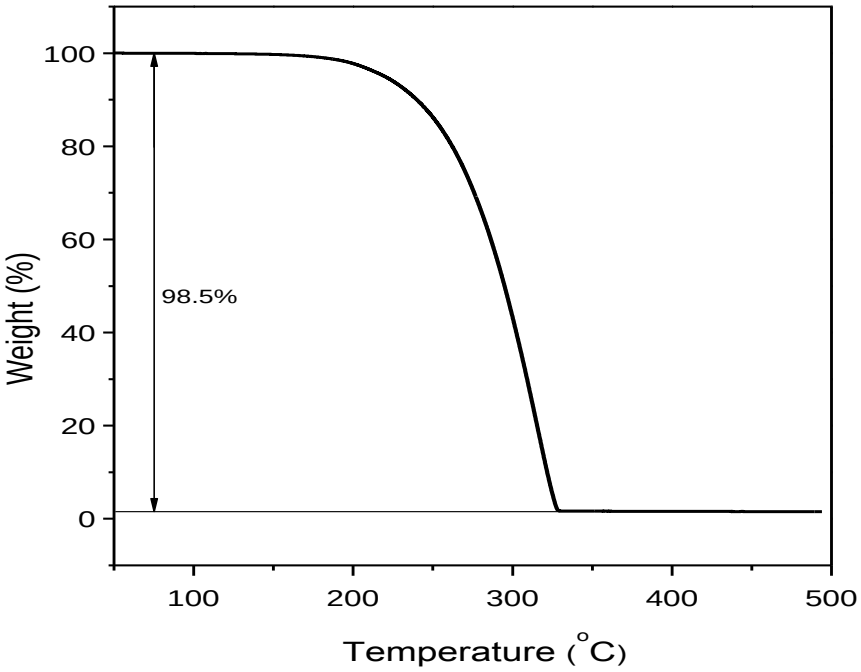


Figure S1. Thermogravimetric analysis (TGA) of NPS at a heating rate of 20 °C min^{-1} under nitrogen.

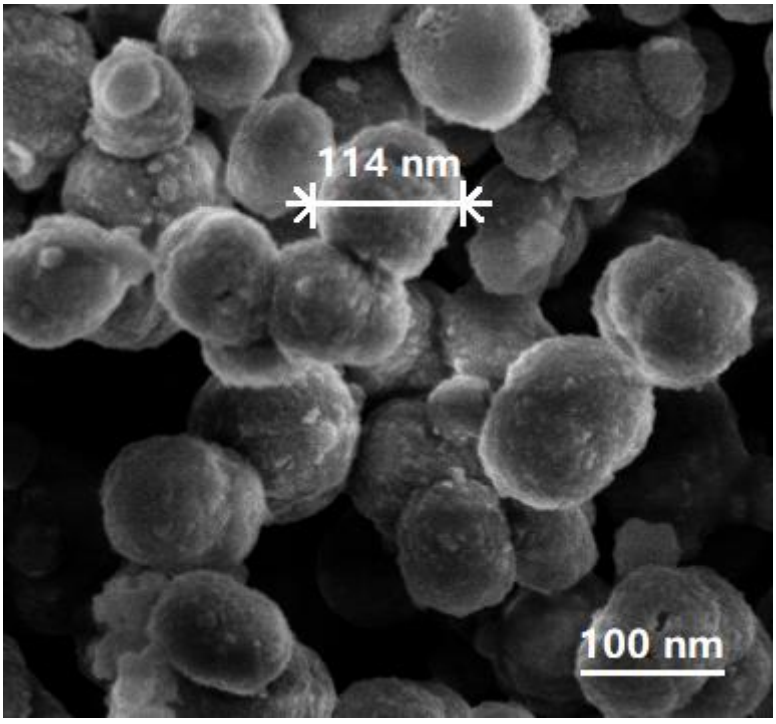


Figure S2. SEM images of nanoparticulate sulfur (NPS).