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Nitrogen-doped Tubular/Porous Carbon Channels Implanted on Graphene Frameworks for Multiple Confinement of Sulfur and Polysulfides

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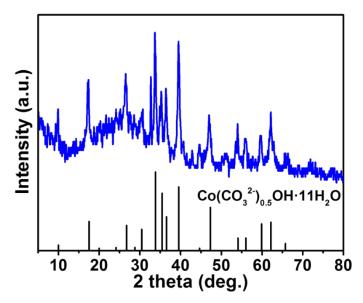


Fig. S1 XRD pattern of as-made CH-G template.

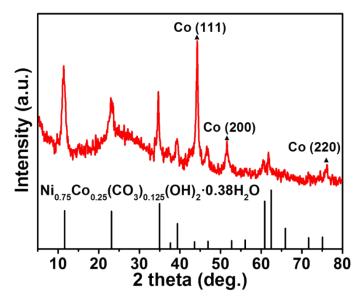


Fig. S2 XRD pattern of the sample after thermal treatment of CH-G@PDA. It can be clearly noted that the partial Co-CH was transformed into metal cobalt, which is the main reason of the fragmentation of nanowire structure.

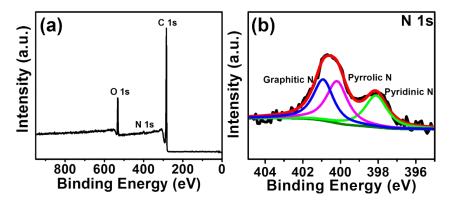


Fig. S3 (a) XPS survey spectrum and (b) high resolution N 1s XPS spectrum for the as-made NTPC-G.

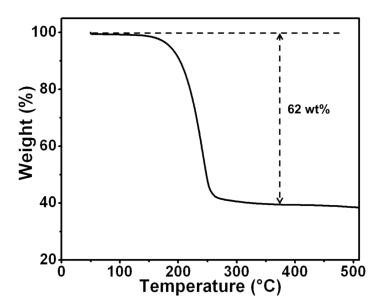


Fig. S4 TG profile of the as-made S@NTPC-G composites.

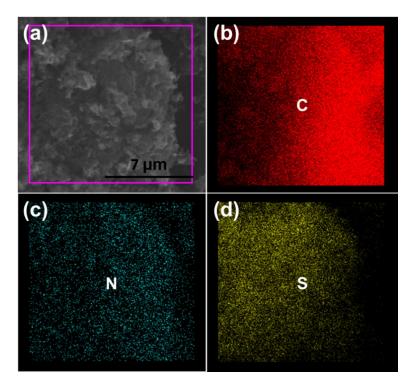


Fig. S5 (a) SEM image and the corresponding EDX elemental mappings of (b) C, (c) N and (d) S of as-made S@NTPC-G.

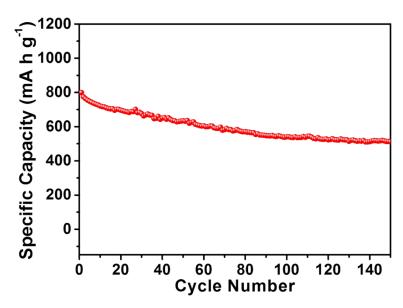


Fig. S6 Cycling stability of S@NTPC-G cathode at a current density of 1 C.