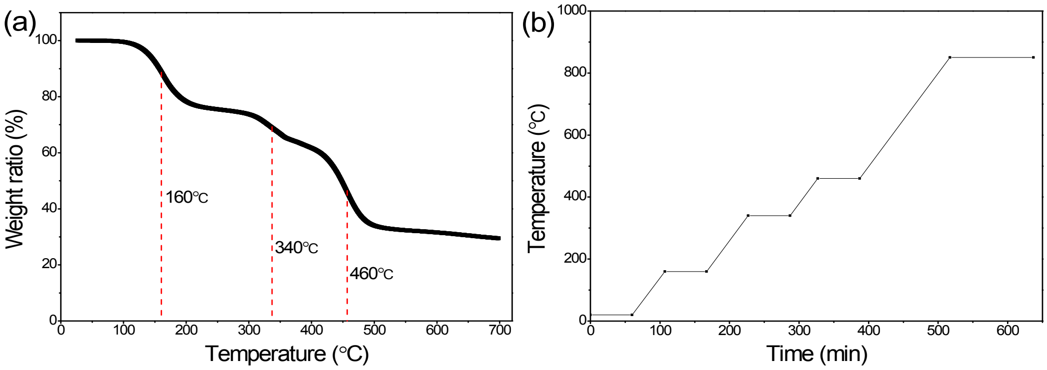

Fig. S1 (a) TGA curve of magnesium citrate, and (b) the heat treatment procedures.

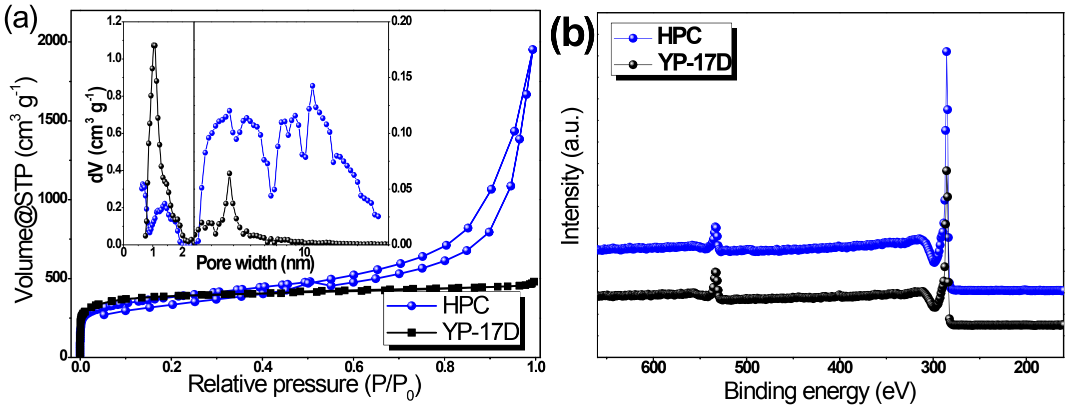

Fig. S2 Microstructure properties of HPC and YP-17D: (a) nitrogen adsorption-desorption isotherms and corresponding PSD curves (inset); (b) XPS spectra.

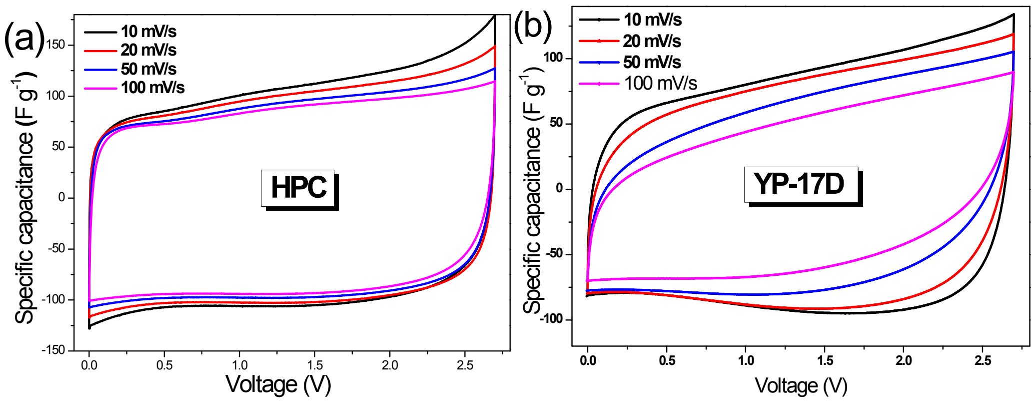

Fig. S3 CV curves at various scan rates for HPC and YP-17D electrodes.

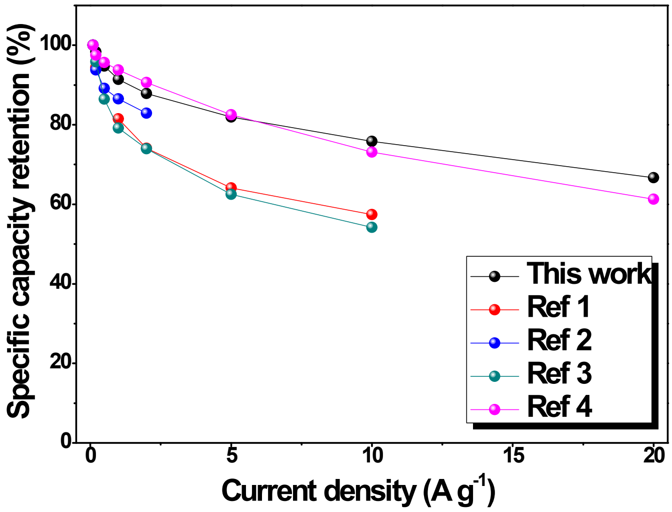

Fig. S4 Rate performance comparison in supercapacitor electrodes based on N-HPC and other previously reported advanced porous carbons: graphene/CMK-5 [1], graphene-based aerogels [2], nitrogen doped reduced graphene oxide [3], activated porous carbon [4].

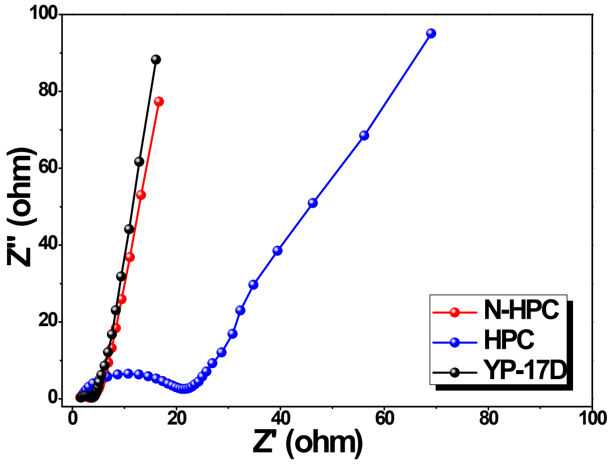

Fig. S5 EIS spectra of N-HPC, HPC and YP-17D electrodes.

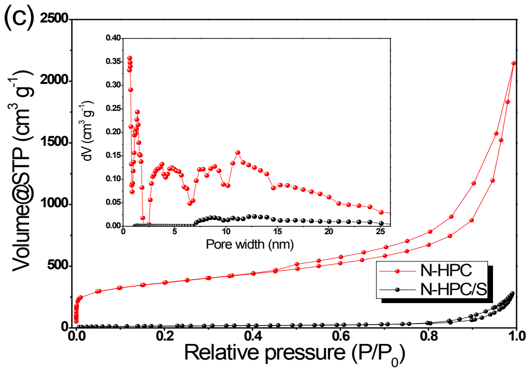

Fig. S6 Nitrogen adsorption isotherms and corresponding PSD curves of N-HPC before and after sulfur loading.

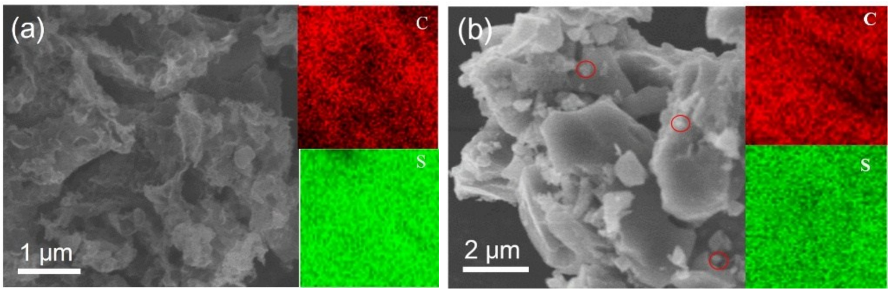

Fig. S7 SEM images and elemental mapping of C and S for (a) N-HPC/S composite, and (b) YP-17D/S composite.

Table S1 Porosity properties of the porous carbon samples

Sample name	S_{BET} (m^2/g)	S_{micro} (m^2/g)	V_T (cm^3/g)	V_{micro} (cm^3/g)	pore size (nm)
N-HPC	1290	400	3.04	0.30	0.7, 3.8, 8.9, 11.2
HPC	1222	382	2.76	0.28	0.7, 3.8, 8.9, 11.2
YP-17D	1487	1356	0.74	0.56	1.0, 3.8

S_{BET}: Specific surface area calculated by BET method.

S_{micro}: Specific surface area of micropores calculated by BET method.

V_T: Total pore volume.

V_{micro}: Micropore volume.

Table S2 Comparison of electrochemical performances of this work and previously reported references.

Carbon matrix	**$C_{electrode}$ at low rate**	**$C_{electrode}$ at high rate**	**Sulfur loading**	**$C_{electrode}$ after cycling**	**Ref.**
Hard-templated porous carbon	738 mAh g^{-1} at 0.1 C	89 mAh g^{-1} at 2 C	75%	602 mAh g^{-1} after 80 cyles at 0.1 C	[5]
Porous graphitic carbon	552 mAh g^{-1} at 0.1 C	274 mAh g^{-1} at 4 C	88.9%	343 mAh g^{-1} after 200 cyles at 0.5 C	[6]
Peapodlike mesoporous carbon	739 mAh g^{-1} at 0.2 C	342 mAh g^{-1} at 1 C	84%	256 mAh g^{-1} after 50 cyles at 0.2 C	[7]
Biomass derived activated carbon	792 mAh g^{-1} at 0.2 C	390 mAh g^{-1} at 2 C	60%	468 mAh g^{-1} after 100 cyles at 0.2 C	[8]
Porous hollow carbon	761 mAh g^{-1} at 0.1 C	302 mAh g^{-1} at 3 C	70%	650 mAh g^{-1} after 100 cyles at 0.5 C	[9]
Graphene based porous carbon	635 mAh g^{-1} at 0.25 C	366 mAh g^{-1} at 5 C	68%	399 mAh g^{-1} after 100 cyles at 0.5 C	[10]
N-HPC	702 mAh g^{-1} at 0.1 C	409 mAh g^{-1} at 4 C	76.2%	366 mAh g^{-1} after 300 cyles at 0.5 C	This work

$C_{electrode}$: Specific capacity based on the total mass of the electrode.

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