Supporting Information

Biomass-derived N-doped lamellar hierarchically porous carbon for high-performance Li-Se batteries

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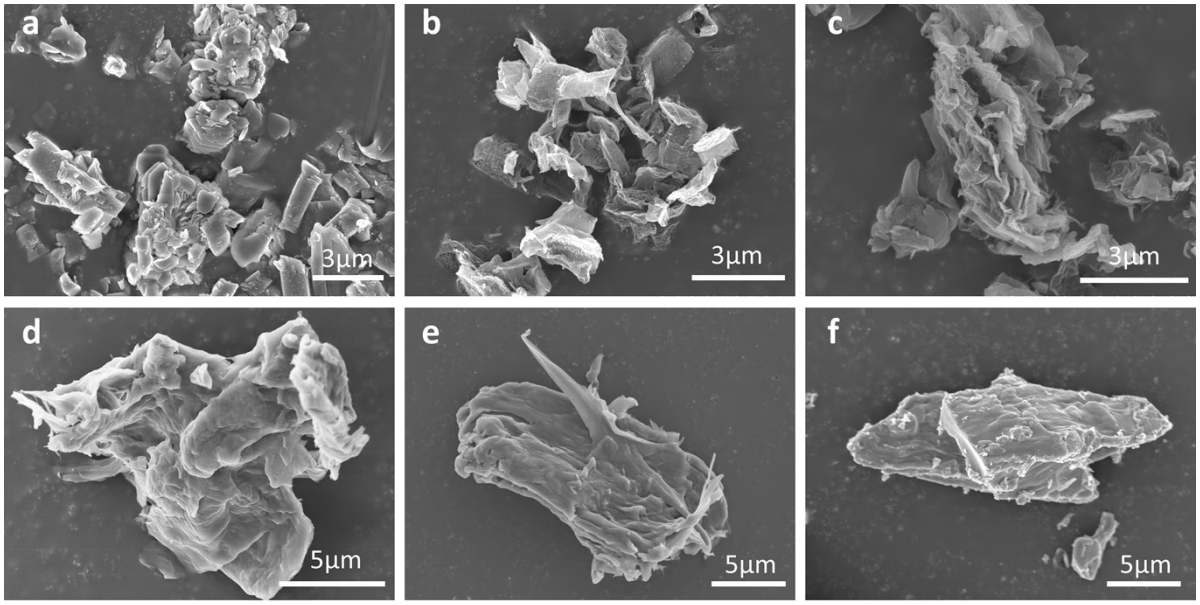

Fig. S1 SEM images of (a) CEL/GU-HTC, (b) NPC, (c) Se@NPC, (d) CEL-HTC, (e) PC and (f) Se@PC, respectively.

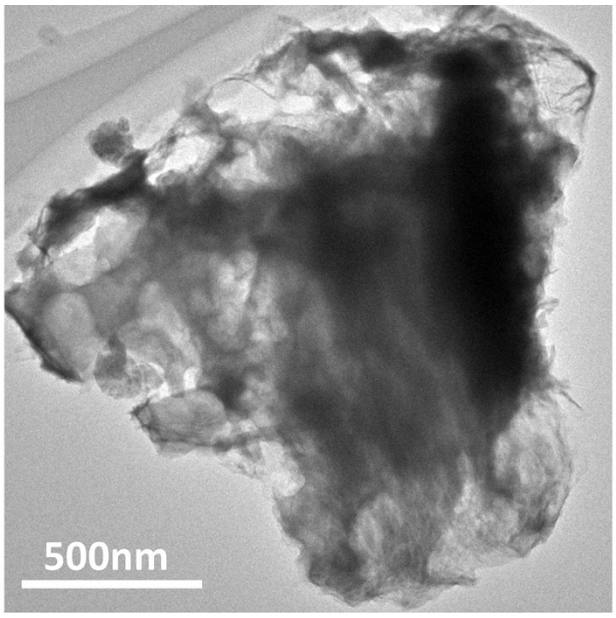

Fig. S2 TEM image of Se@NLPC-P.

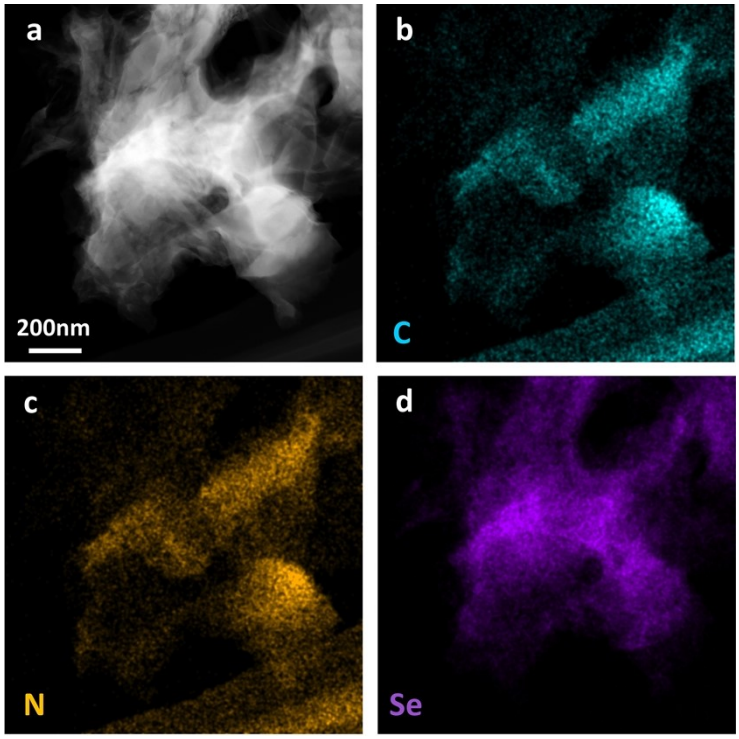

Fig. S3 (a) HAADF-STEM image and (b-d)elemental distribution of Se@NPC.

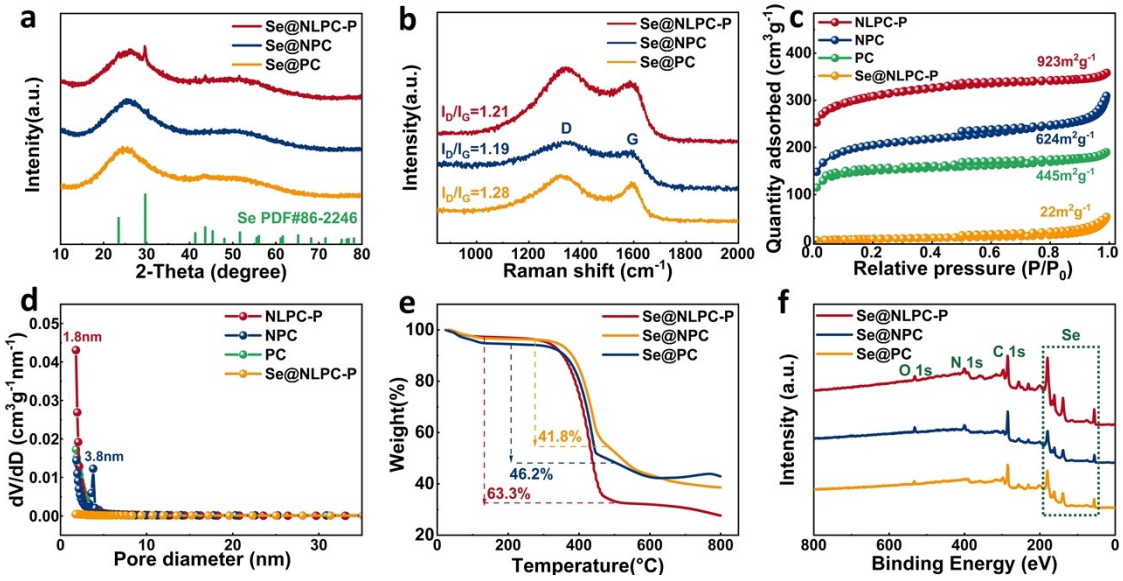

Fig. S4 (a) XRD patterns, (b) Raman spectra, (c) N_2 adsorption-desorption isotherms, (d) pore-size distribution curves, (e) TGA curves and (f)survey XPS spectra of Se@NLPC-P, Se@NPC, and Se@PC, respectively.

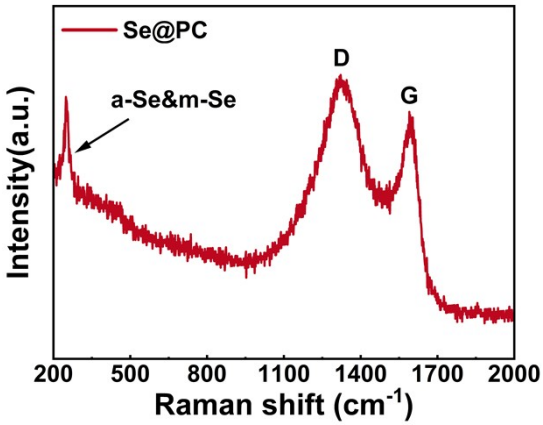

Fig. S5 Raman spectrum of Se@NLPC-P in 200-2000 cm^{-1}.

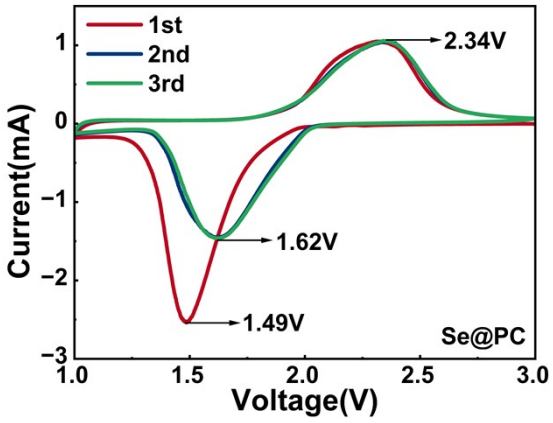

Fig. S6 CV curves of Se@PC at the scan rate of 0.2 mV s^{-1}.

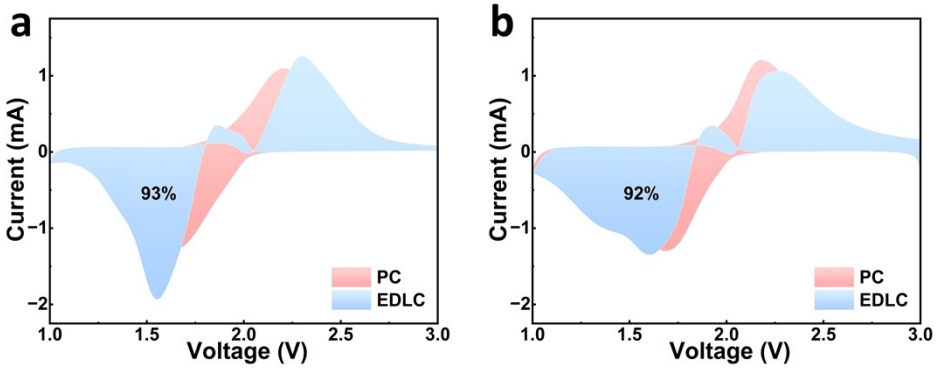

Fig. S7 Capacitive contribution at the scan rate of 0.5 mV s^{-1} of (a) Se@NLPC-P and (b) Se@NPC, respectively.

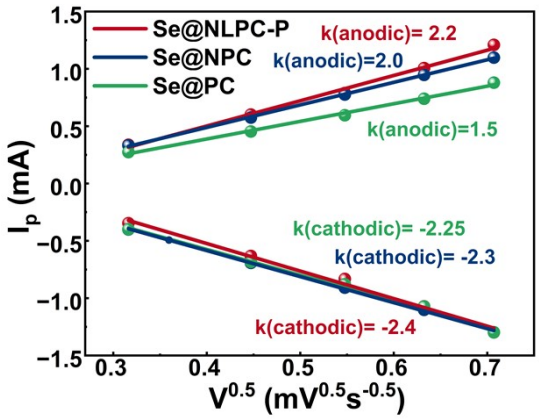

Fig. S8 Linear fitting of peak currents versus square root of the scan rates.

Table S1 The electrochemical performances of our sample with the reported Se/C composites.

Cathode materials	Current rate (C)	Cycle number (n)	Reversible capacity ($mAh \cdot g^{-1}$)	References
Se @NLPC-P	**0.5**	**500**	**578**	**This work**
	5	**500**	**485**	
Se/C	0.15	250	430	[1]
Se/HPNC	1	500	410	[2]
Se@NPC-NS	0.5	225	585	[3]
Se@NHCS	0.5	1000	443	[4]
Se@CNTs@MPC	0.1	100	596	[5]
Se/CNTs	1	500	440	[6]
APPC/Se@PDA	5	1400	500	[7]
Se/Co-NC	1	200	480	[8]
Se@LHPC	0.5	450	500	[9]

References

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