Supplementary material

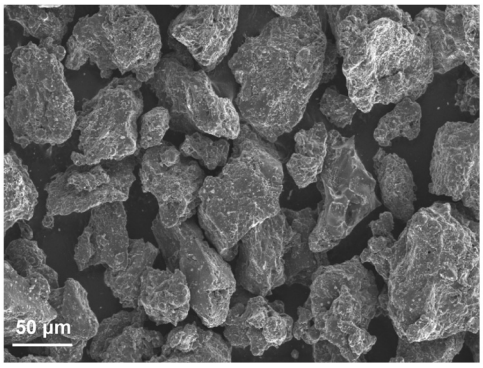

Figure S1: SEM images of peanut carbon without $ZnCl_2$.

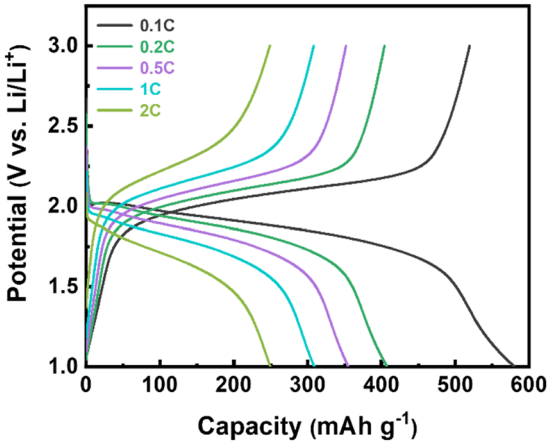

Figure S3: Galvanostatic discharge-charge profiles of the Se/N-PC obtained at different current densities.

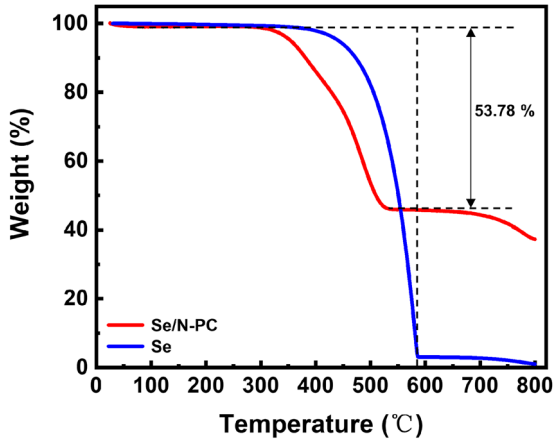

Figure S2: TG curves of Se/N-PC and Se.

Table S1: Comparison of lithium storage performance of previously reported Se/Biomass carbon cathode materials

Cathode	Current density (C)	Cycle number	Specific capacity (mA h g^{-1})	Ref.
Se/AC-700	0.5	400	500	[1]
Se/LPC	0.5	300	453.1	[2]
C600/Se	1	500	400	[3]
SPC/Se	1	840	290	[4]
Se/NHPC	0.2	100	295.3	[5]
PCc/Se	0.2	60	431.9	[6]
Se@LHPC	0.5	500	450	[7]
Se-NCSs	0.1	50	538	[8]
Se/PBC	0.2	200	509	[9]
Se/CPC	0.2	100	213.2	[10]
Se/ABPC	0.1	98	591	[11]
Se/HPNC	1	500	410	[12]
Se/N-PC	2	1,000	340.1	Our work

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