

## Supplementary Materials:

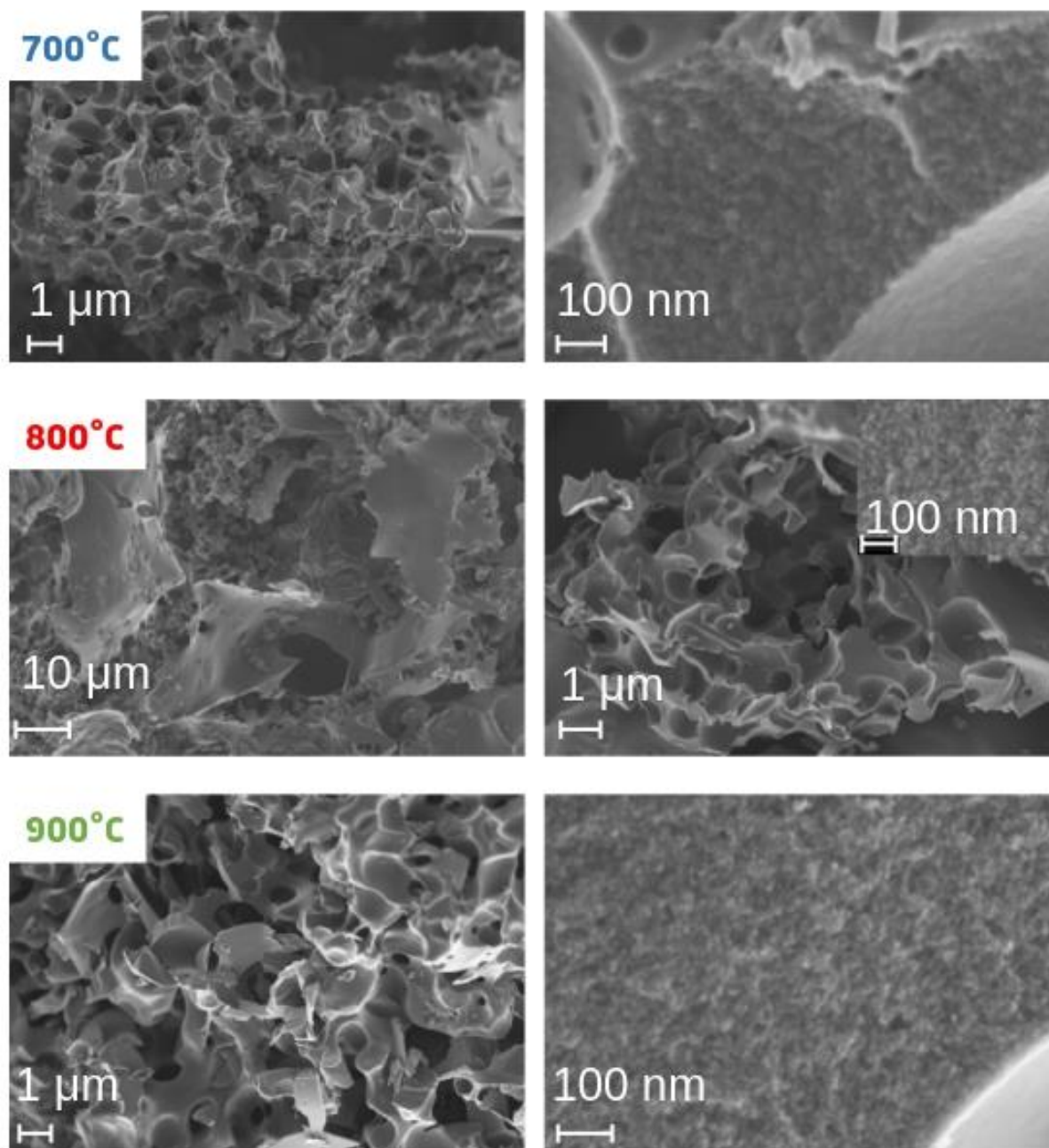


Figure S1. Typical SEM images of AC-N-700 (A), AC-N-800 (B) and AC-N-900 (C) samples.

| Sample   | $R_1$ , Ohm | $C_1$ , mF | $R_2$ , Ohm | $C_2$ , mF | $R_3$ , Ohm | $Q^{1-a}$ , (mF) $^{1-a}$ | $a$  |
|----------|-------------|------------|-------------|------------|-------------|---------------------------|------|
| AC-N-700 | 2.4         | 0.022      | 18.2        | 0.113      | 26.8        | 2.35                      | 0.55 |
| AC-N-800 | 2.0         | 0.129      | 3.04        | 3.55       | 12.5        | 20.8                      | 0.85 |
| AC-N-900 | 4.5         | 0.146      | 0.92        | 3.67       | 1.99        | 18.1                      | 0.96 |

Table S1. Parameters of the fit of Nyquist diagrams by equivalent circuit in Fig. 6.

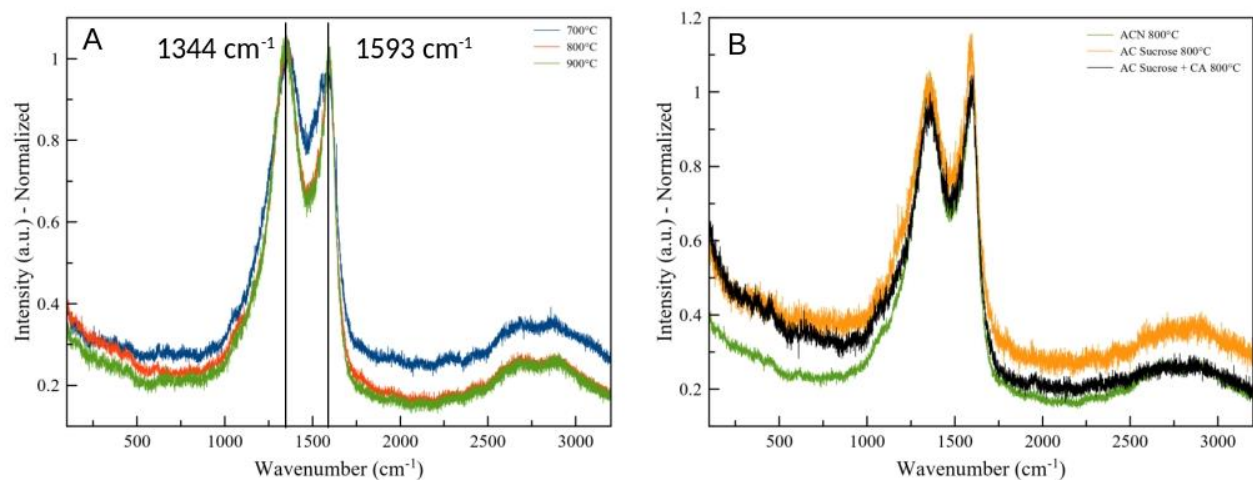


Figure S2. Raman spectra of AC-N samples prepared by activation at different temperature (A); and AC-N-800, AC-800, and AC-C-800 samples.

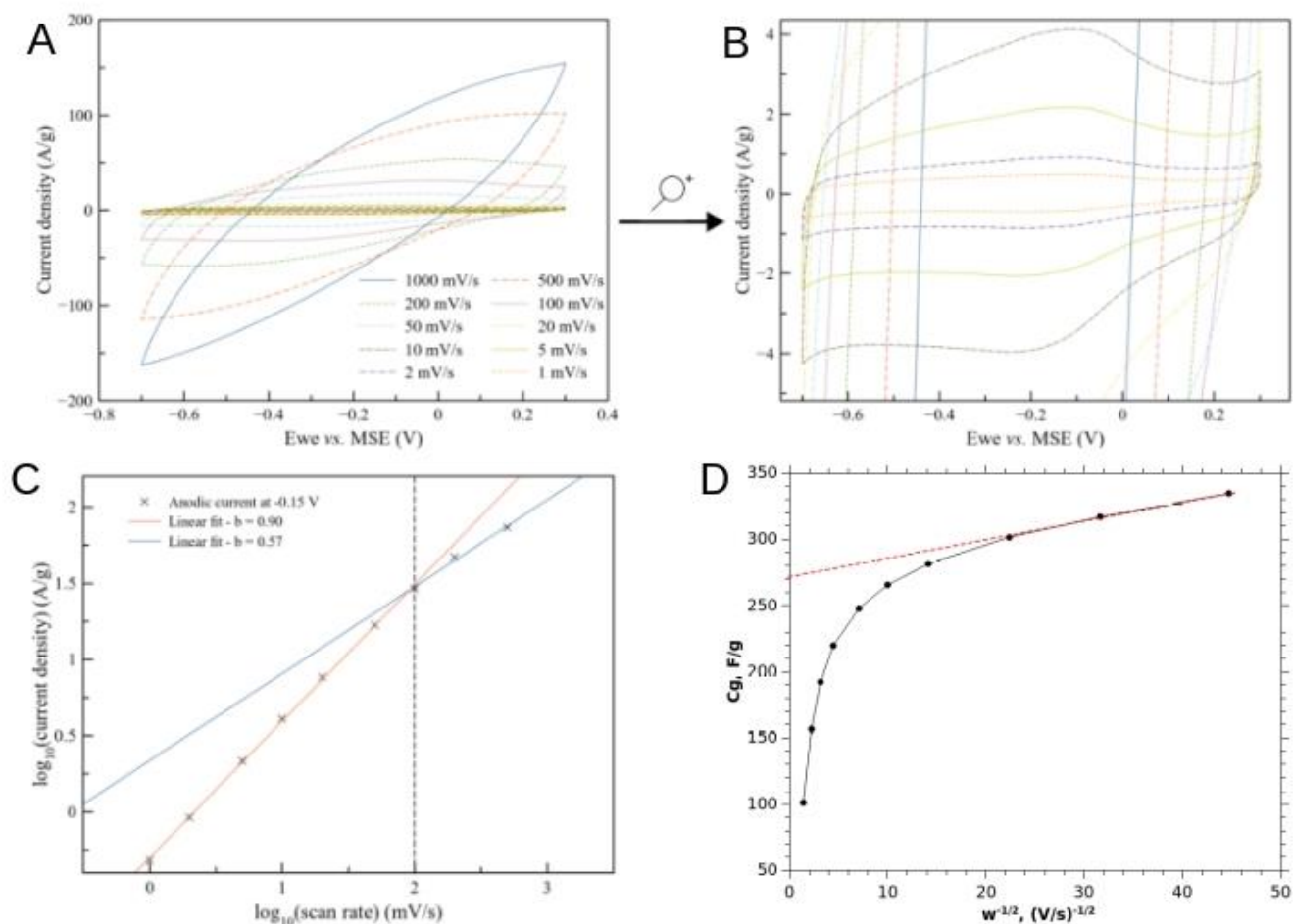


Figure S3. CV curves of AC-N-800 sample in 1M H<sub>2</sub>SO<sub>4</sub> measured at different rates (A,B); dependence of CV current at direct at -0.15 V MSE on sweep rate (C); dependence of mass specific capacitance on  $w^{-1/2}$  (D).