

Effect of carbonization atmosphere on electrochemical properties of nitrogen-doped porous carbon

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Supplementary materials

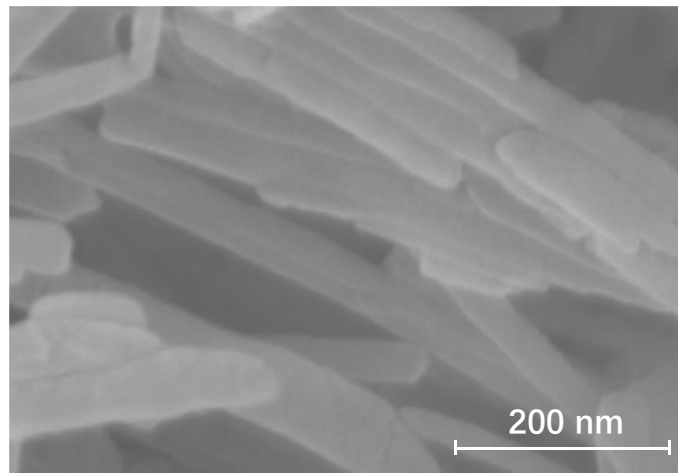


Fig. S1 SEM image of fiber brucite.

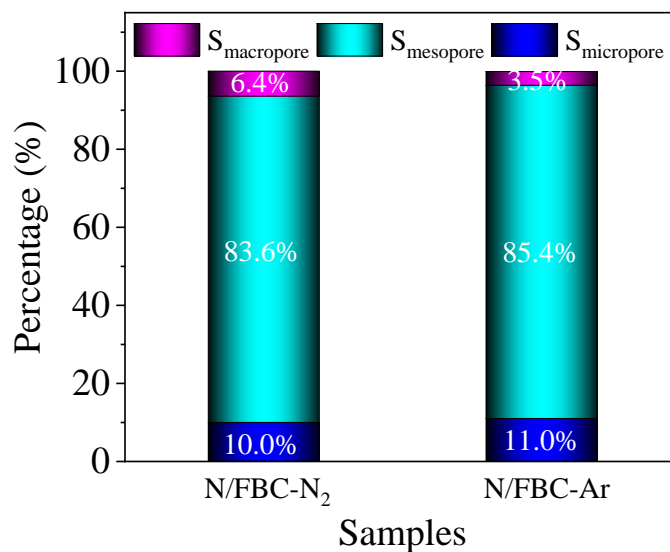


Fig. S2 Specific surface area contents of three types of pore structures of N/FBC-N₂ and N/FBC-Ar.

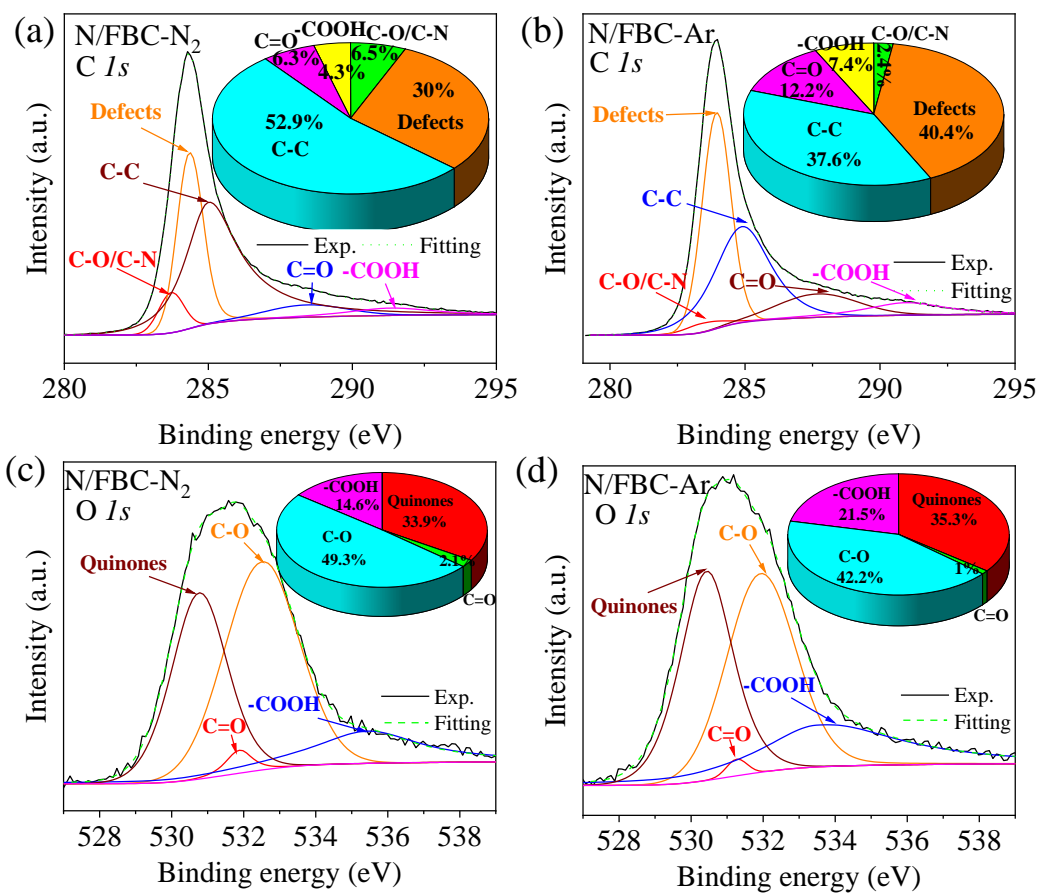


Fig. S3 C 1s and O 1s spectra with C and O species contents (inset) of (a)(c) N/FBC-N₂ and (b)(d) N/FBC-Ar.

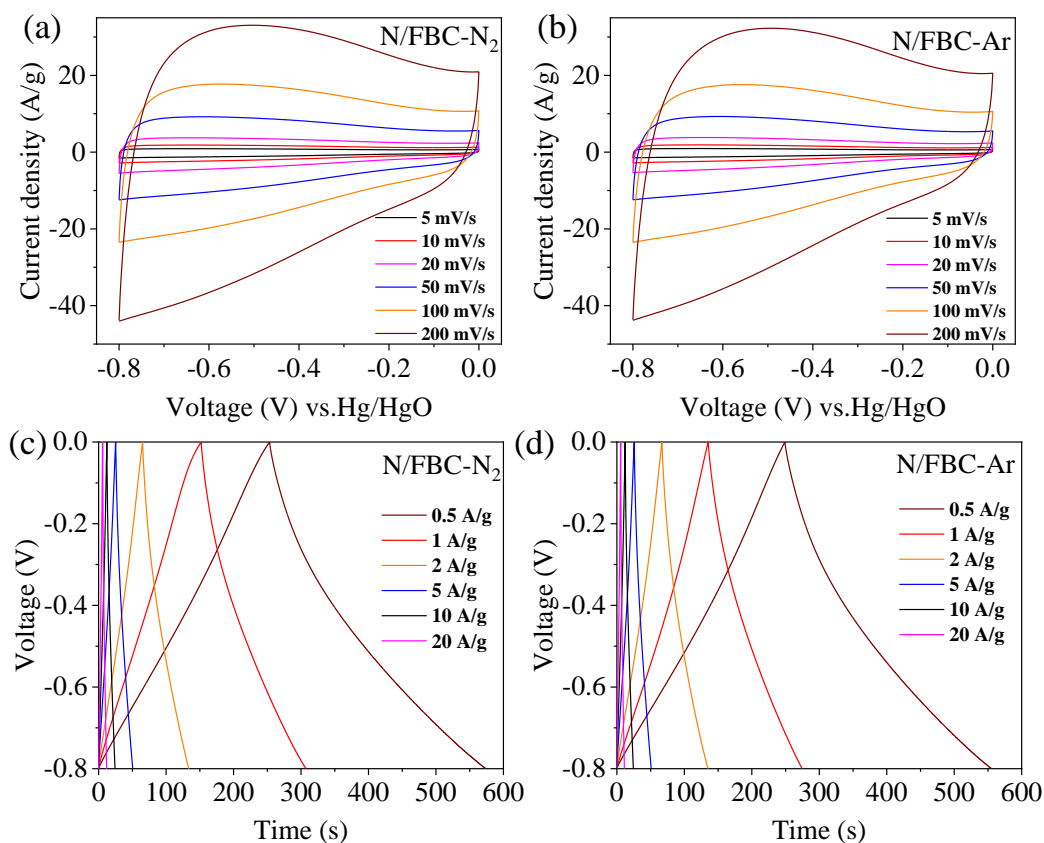


Fig. S4 CV curves and GCD curves of (a)(c) N/FBC-N₂ and (b)(d) N/FBC-Ar.

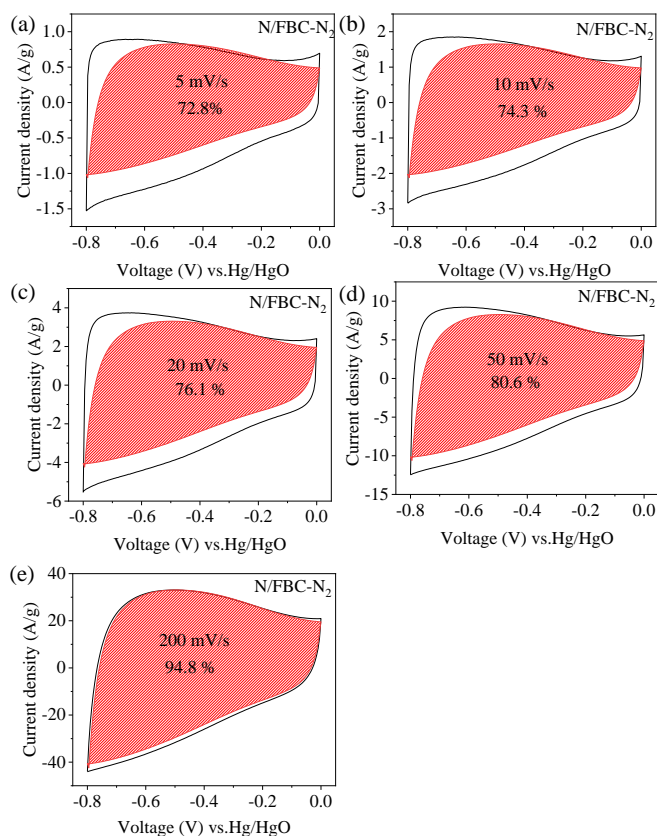


Fig. S5 Surface-controlled capacitances of N/FBC-N₂ at different scan rates: (a) 5 mV·s⁻¹; (b) 10 mV·s⁻¹; (c) 20 mV·s⁻¹; (d) 50 mV·s⁻¹; (e) 200 mV·s⁻¹.

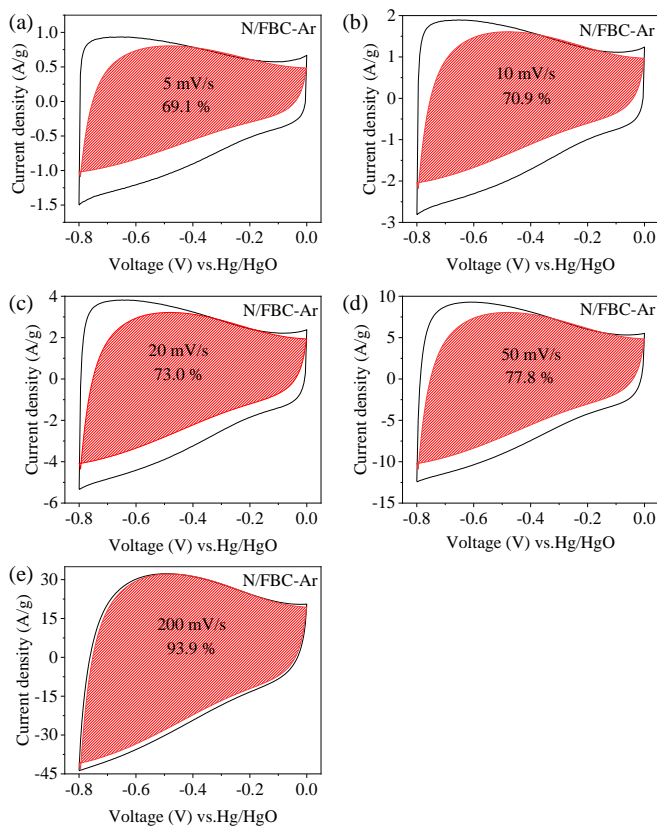


Fig. S6 Surface-controlled capacitances of N/FBC-Ar at different scan rates: (a) 5 mV·s⁻¹; (b) 10 mV·s⁻¹; (c) 20 mV·s⁻¹; (d) 50 mV·s⁻¹; (e) 200 mV·s⁻¹.

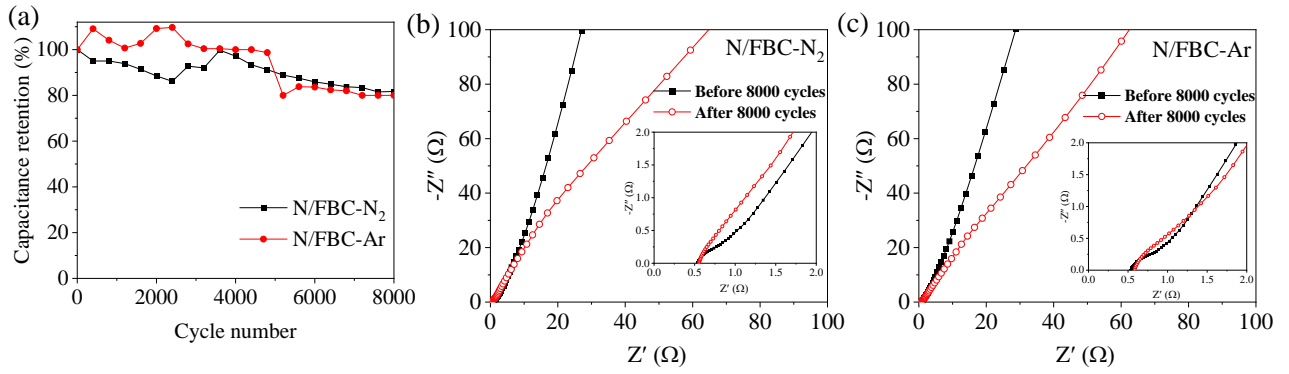


Fig. S7 (a) Cycling stability at $20 \text{ A} \cdot \text{g}^{-1}$. (b)(c) Nyquist plots and corresponding enlarged high-frequency region (inset) before and after 8000 cycles of N/FBC- N_2 and N/FBC-Ar.

Table S1 Specific capacitances of N/FBC- N_2 and N/FBC-Ar at different current densities

Sample	Specific capacitance/($\text{F} \cdot \text{g}^{-1}$)					
	$0.5 \text{ A} \cdot \text{g}^{-1}$	$1 \text{ A} \cdot \text{g}^{-1}$	$2 \text{ A} \cdot \text{g}^{-1}$	$5 \text{ A} \cdot \text{g}^{-1}$	$10 \text{ A} \cdot \text{g}^{-1}$	$20 \text{ A} \cdot \text{g}^{-1}$
N/FBC- N_2	200.3	194.1	171.3	158.8	153.8	147.5
N/FBC-Ar	191.3	174.3	171.3	157.5	152.5	137.5