Supporting Information for

Ultrafast High Energy Supercapacitor based on Pillared Graphene Nanostructures

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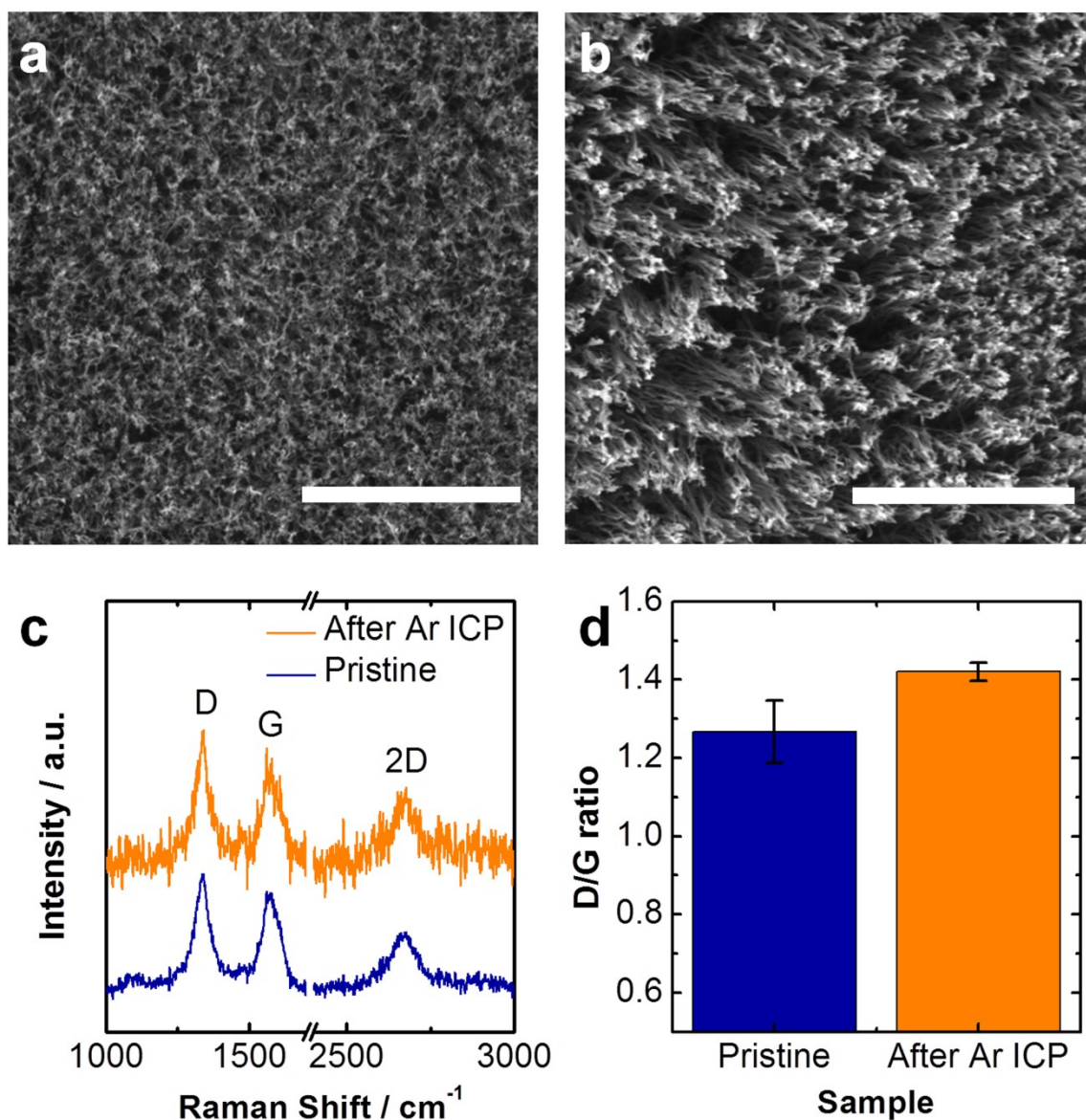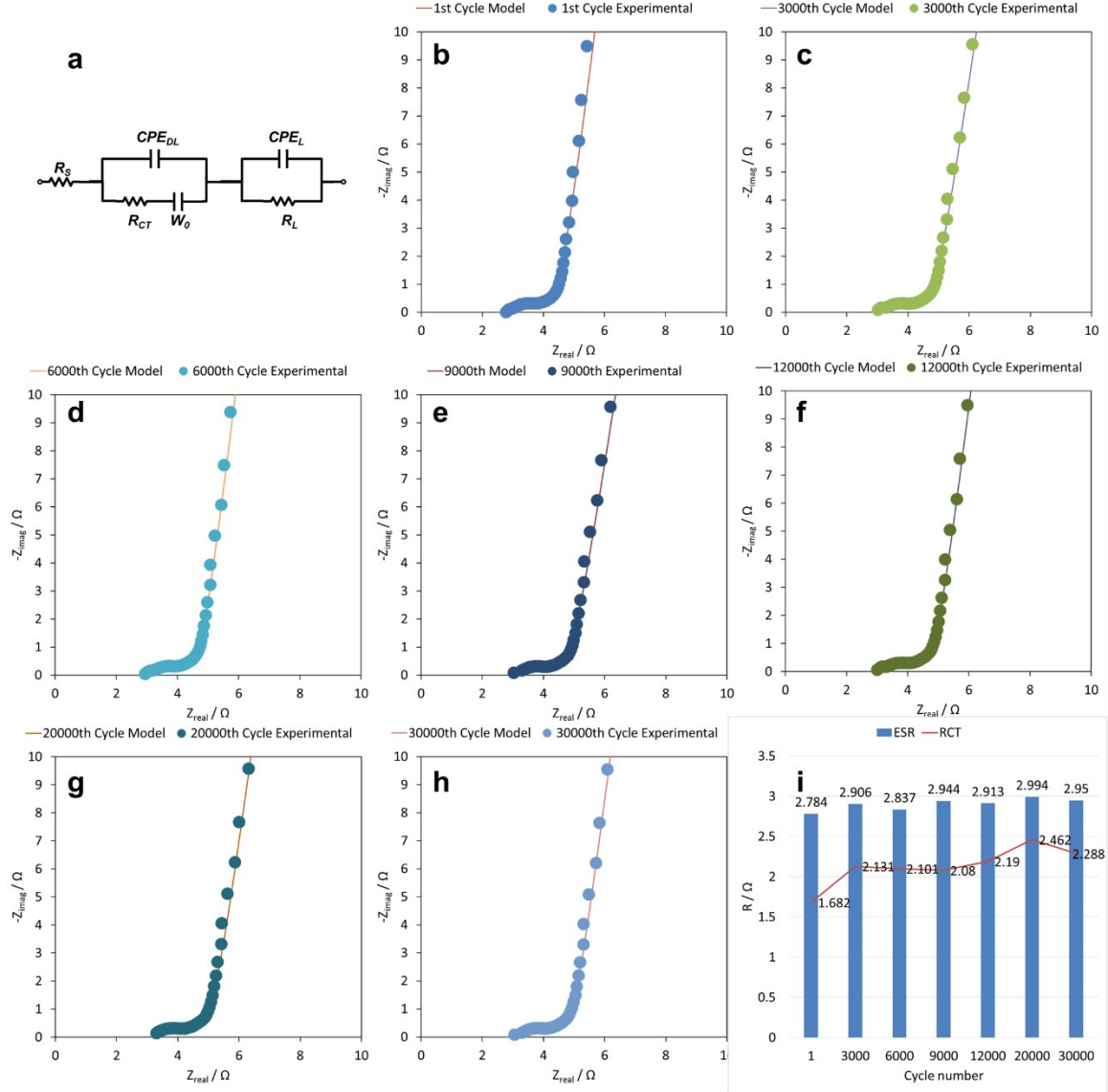
Fig. S1 (a) Top-view SEM image of PGN. (b) Top-view SEM image of Ar ICP treated PGN. (c) Raman spectra of PGN and Ar ICP treated PGN. (d) D/G ratio of PGN and Ar ICP treated PGN.

Fig. S2 (a) The equivalent circuit of Randle's model, where R_s is the equivalent series resistance (ESR), R_{CT} is the resistance of the electrode-electrolyte, R_L is the leakage resistance. CPE_{DL} is the constant phase element (CPE) of double layer, W_0 is the Warburg element, CPE_L is the mass capacitance. Experimental and modeled Nyquist plots for complex impedance for PGN based SC after (b-h) 1st cycle, 3000th cycle, 6000th cycle, 9000th cycle, 12000th cycle, 20000th cycle, and 30000th cycle. (i) Equivalent series resistnace (ESR) and charge transfer resistance (R_{CT}) as a function of cycling number.