

Electronic Supplementary Material (ESI)

Controllable synthesis of large-area free-standing amorphous carbon films and their potential application in supercapacitors

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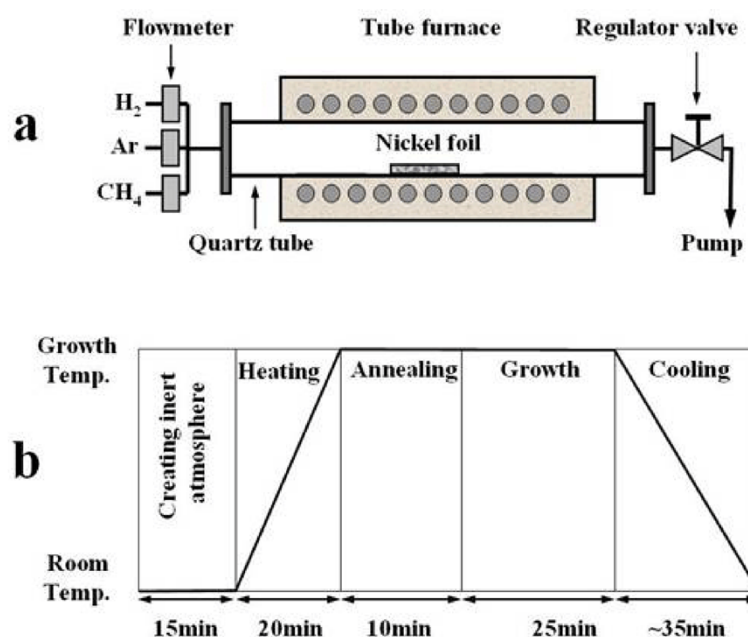


Fig. S1-Experimental set-up and process used for the synthesis of FS-ACF. (a) Schematic of APCVD system. (b) The process used for synthesis of FS-ACF: steps, synthesis time and temperature.

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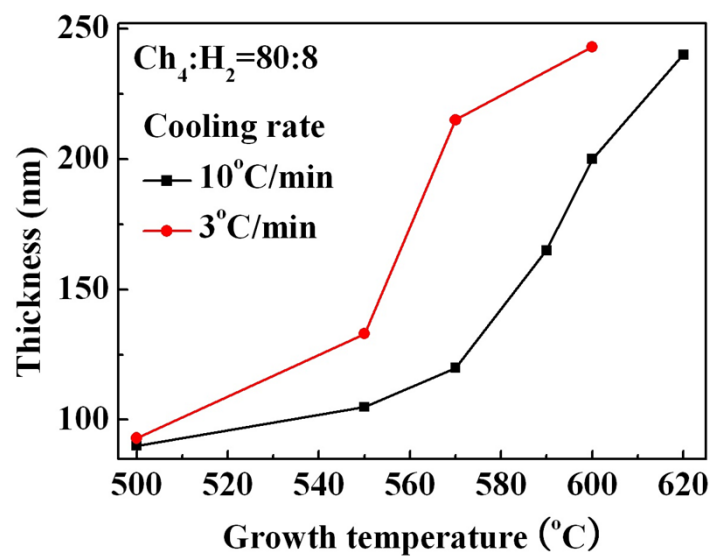


Fig. S2 - Film thickness of the FS-ACF dependence of the growth temperature and the cooling rate.

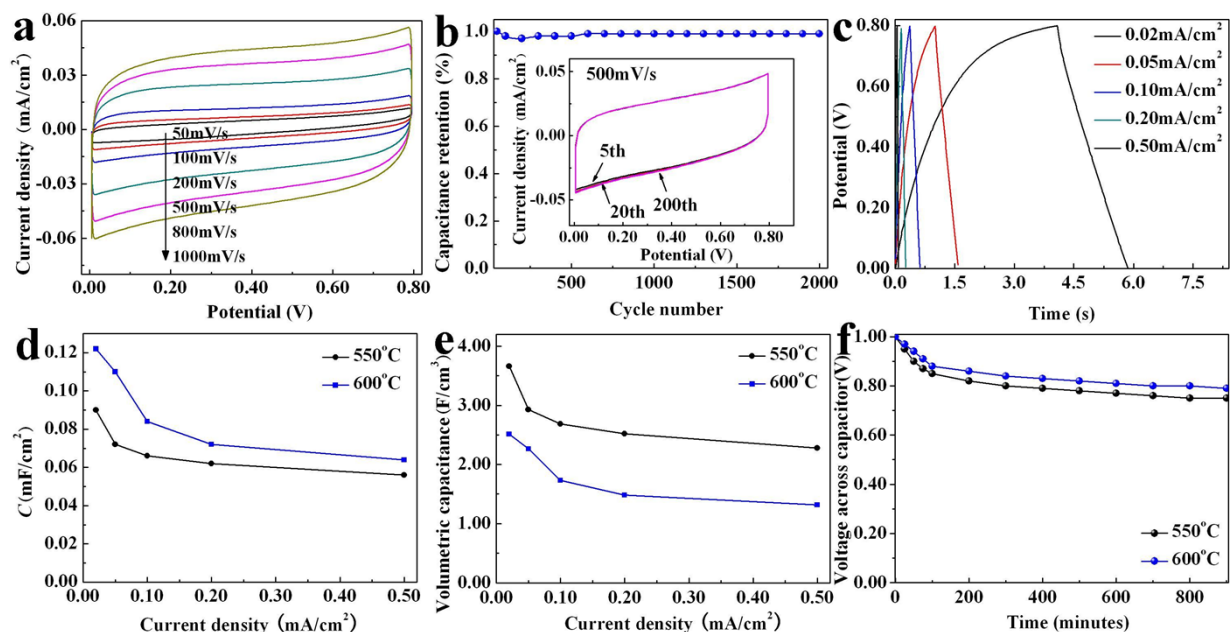


Fig. S3 - (a) CV curves of SC based on FS-ACF grown at 550°C under different scan rates. (b) Cycling stability performance of the SC based on FS-ACF grown at 600°C, inset shows several CV curves during 2000 cycles at scan rate of 500 mV/s. (c) GCD curves of SC based on the FS-ACF grown at 550°C at different current densities. (d) Area specific capacitance and (e) volumetric specific capacitance of the SCs based on the FS-ACFs calculated from the GCD curves at various current densities. (f) Self-discharge profile in two SCs based on the FS-ACFs.