Supplementary Information for

Electro-Conductively Deposited Carbon Fiber for Power Controllable Heating Element

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Figure S1. (a) Experimental procedure and (b) schematic illustration of electro-conductive chemical vapor deposition.

Figure S2 The variation of (a) temperature and (b) current during electro-conductive CVD as a function of deposited time.
Figure S3 Arrhenius plot of deposition rate on the surface of carbon fibers.

$E_a = 376 \text{ kJ/mol}$

Figure S4 Variations of power and temperature (at 50V) after electro-conductive CVD (a) as a function of applied voltage (where reaction time is fixed for 30s), and (b) as a function of deposition time (where applied voltage is fixed at 120 V).
Figure S5 Photos showing assembled carbon fiber composite electric heater using electro-conductive chemical vapor deposition before (a) and after applied voltage (b)