Electronic Supplementary Information

Unravelling the Role of Temperature in a Redox Supercapacitor Composed of Multifarious Nanoporous Carbon@Hydroquinone

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Powder X-Ray Diffraction (PXRD) Results of *MNC* and *MNC-H_2Q*

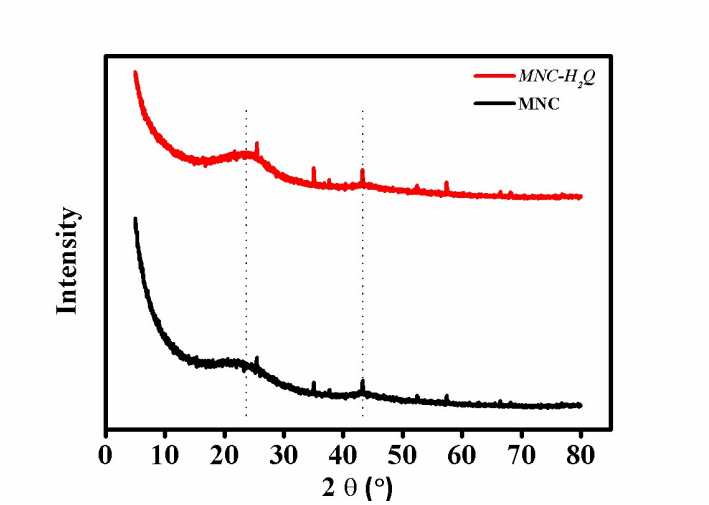


Figure S1: PXRD patterns of ***MNC*** and ***MNC-H_2Q***. Spikes in the spectra were presumably due to slight metal impurity in the ***MNC***.

Brunauer-Emmett-Teller (BET) Analysis of *MNC*

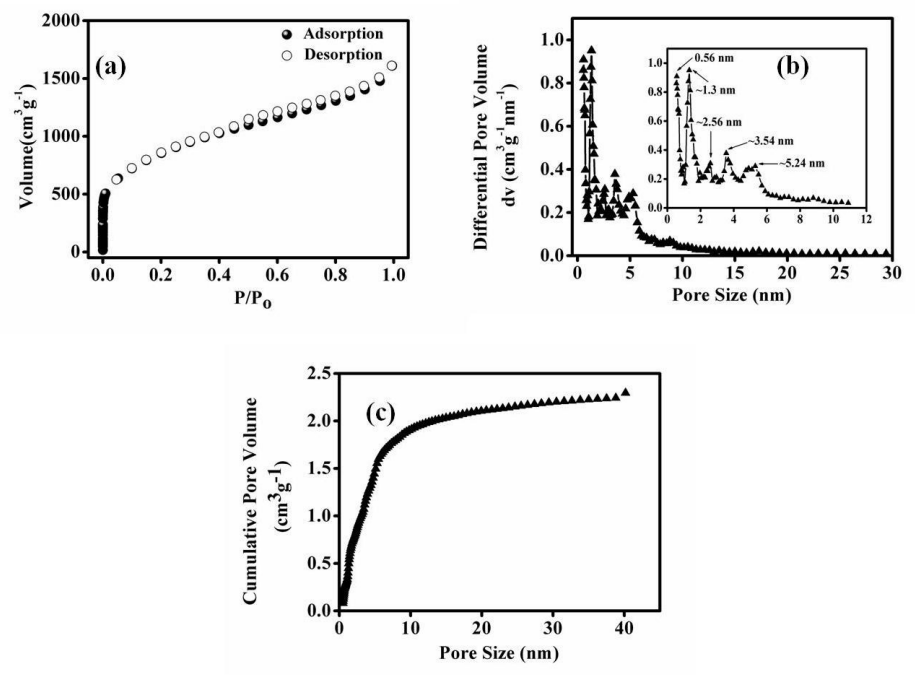


Figure S2: Characterizations of ***MNC*** using BET. (a) N_2 adsorption/desorption isotherms, (b) Pore size distribution and (c) Cumulative pore volume.

Thermogravimetric Analysis (TGA) curve of *MNC-H_2Q*

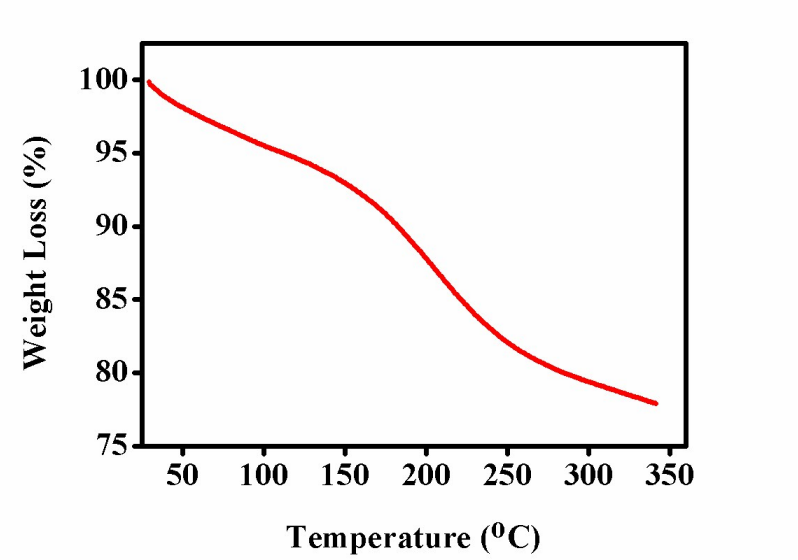


Figure S3: TGA curve of ***MNC-H_2Q***.

Differential scanning calorimetry (DSC) curve of *MNC-H_2Q*

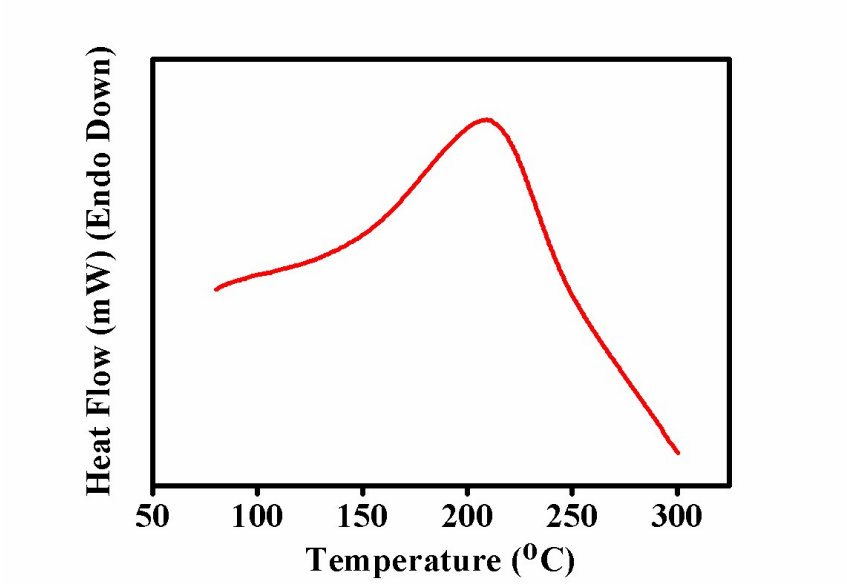


Figure S4: DSC curve of ***MNC-H_2Q***.

Cyclic voltammetry (CV) overlays of *MNC*, H_2Q and *MNC-H_2Q* in three electrodes system

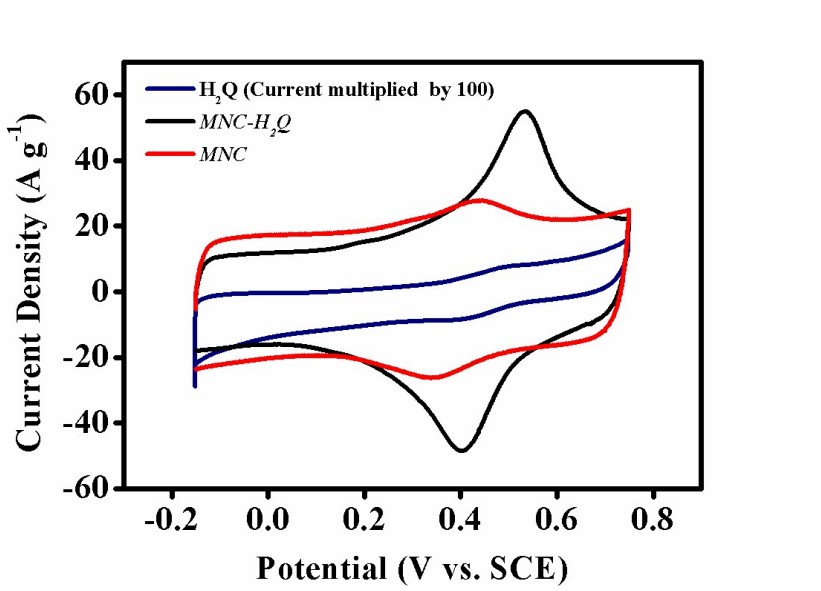


Figure S5: Overlay of CVs of ***MNC, H_2Q*** and ***MNC-H_2Q*** at 100 mV s^{-1}. Current for H_2Q has been multiplied by 100 for better visibility.

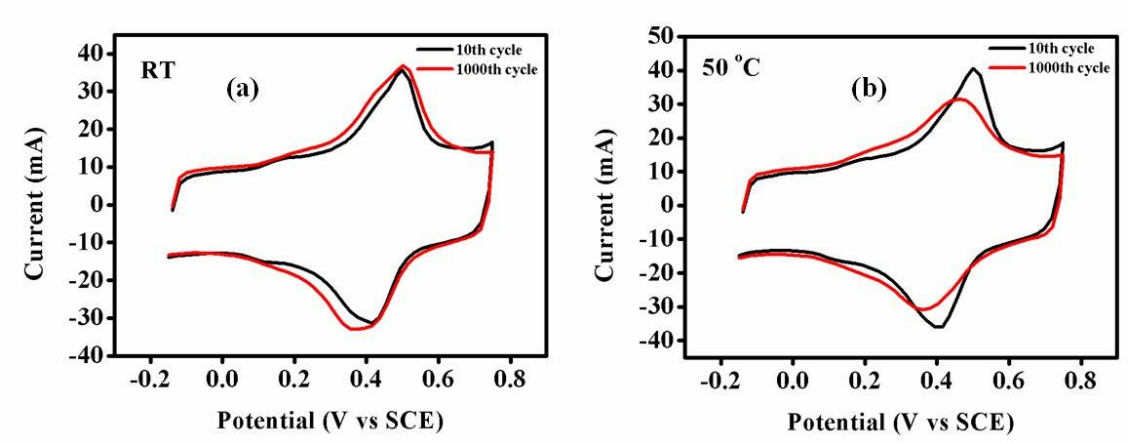
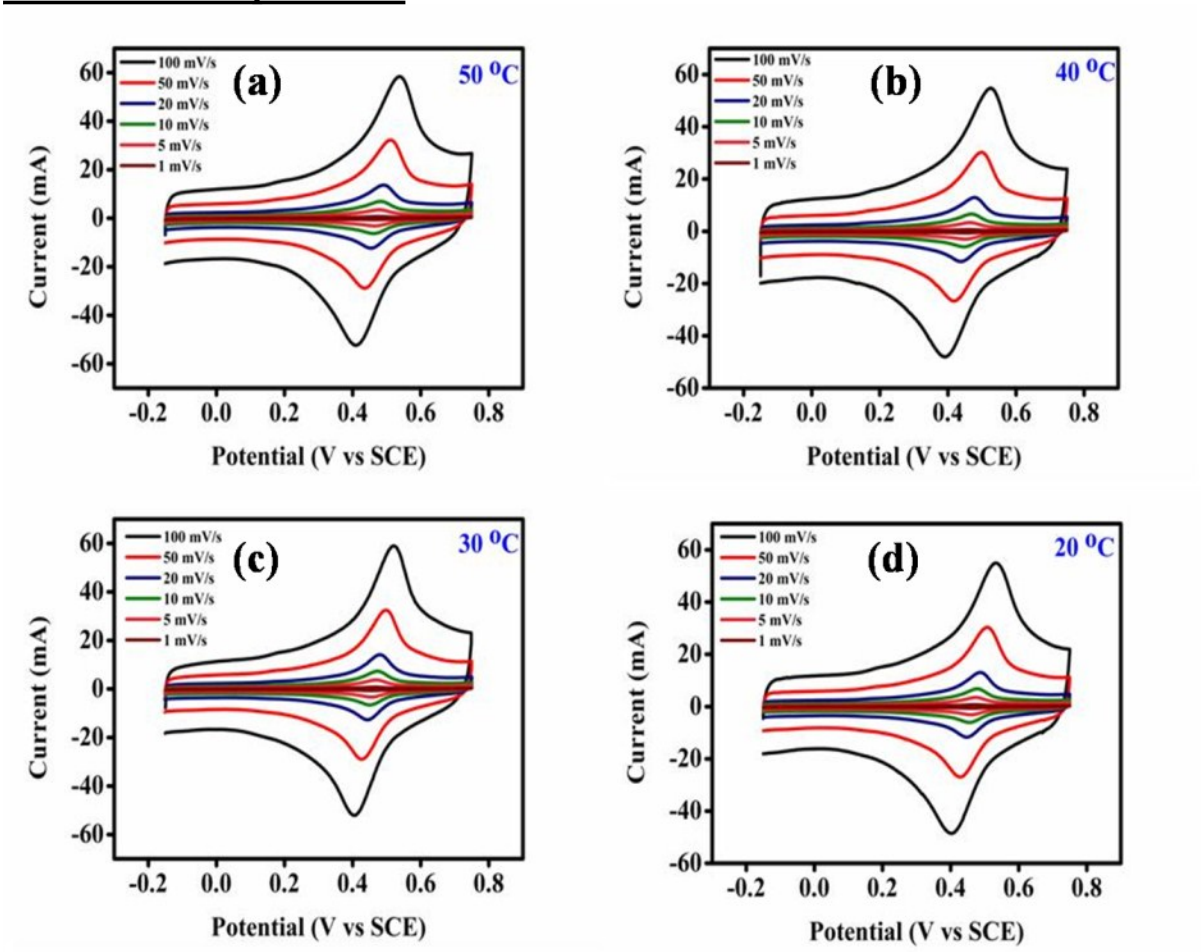


Figure S6. CV overlays of ***MNC-H_2Q*** during cyclic tests of the 10^{th} and 1000^{th} cycles at (a) 20 °C and at (b) 50°C. (Scan rate100 mV s^{-1}).

Table S1: Specific Capacitances of ***MNC*** at different scan rates.

Scan Rate (mV s^{-1})	Specific Capacitance (F g^{-1})
100	199
50	206
20	214
10	220
5	226
1	248

Cyclic voltammetry (CV) overlays of *MNC-H_2O* in three electrodes system at different temperatures



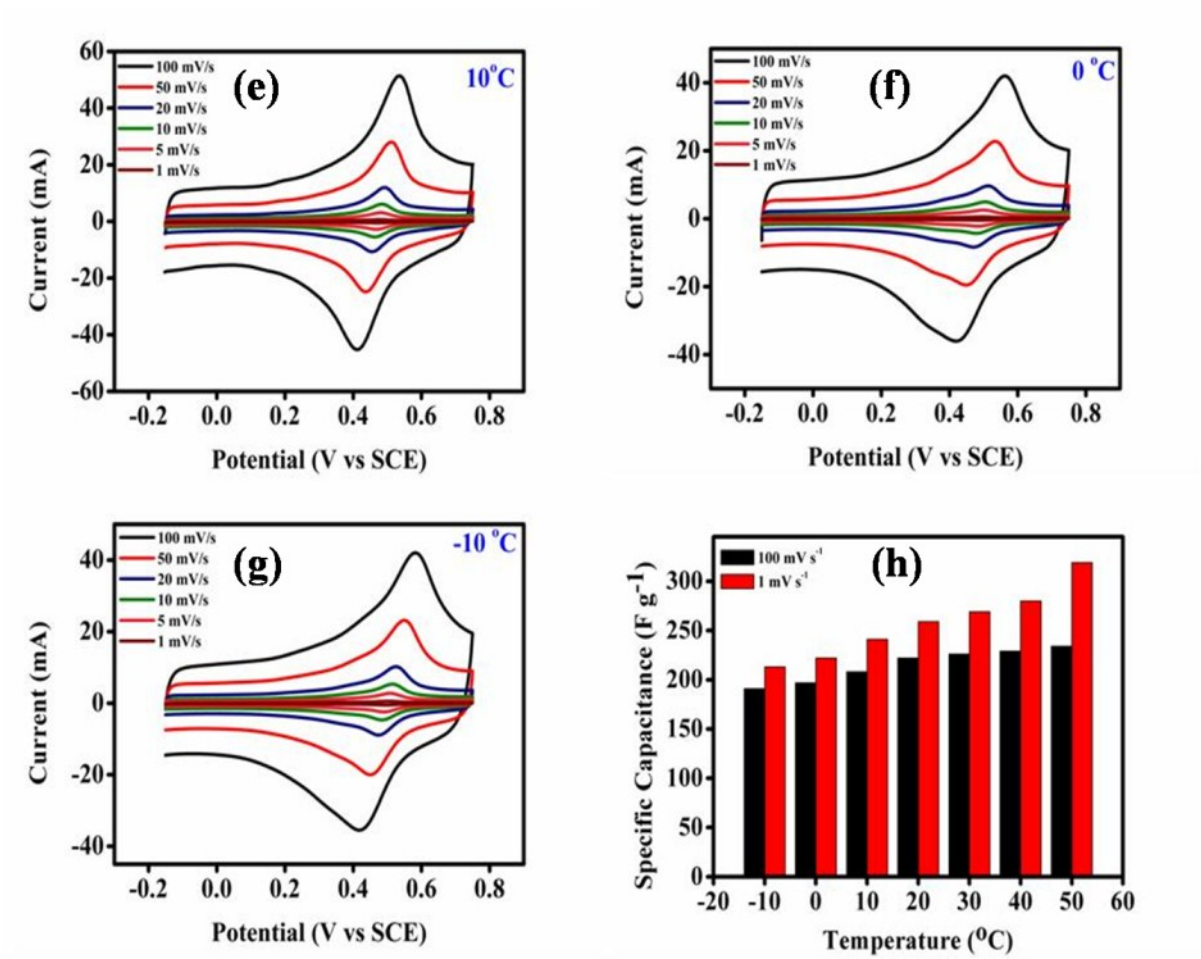


Figure S7 : CVs of ***MNC-H_2Q*** at (a) 50, (b) 40, (c) 30, (d) 20, (e) 10, (f) 0, and (g) -10 °C. (h). Variation of specific capacitance values at different temperatures at 100 and 1 mV s^{-1}.

Table S2: Specific Capacitances of ***MNC-H_2Q*** at different current densities and temperatures

Current Density (Ag^{-1})	Specific Capacitance ($F g^{-1}$)						
	-10 °C	**0 °C**	**10 °C**	**20 °C**	**30 °C**	**40 °C**	**50 °C**
10	192	195	197	218	220	226	229
5	195	198	200	226	230	233	237
2	202	206	212	234	241	248	254
1.5	204	212	215	238	248	260	264
1	205	220	235	256	265	275	295