Nano-$CaCO_3$ as template for preparation of disordered large mesoporous carbon with hierarchical porosities

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Supporting information

In order to demonstrate the reproducibility of the preparation process of LMC materials with CO_2 inner-activation effect, we provided the full adsorption data of 3 samples for LMC-1（50：50） and carbon yield data of 3 samples for LMC-X (X=1, 2, 3, 4).

Figure S1, shows the Nitrogen adsorption/desorption isotherms, pore-size distributions (calculated by DFT and BJH method respectively) of LMC-1. Table S1 shows the BET surface area and pore volume (according to N_2 adsorption/desorption isotherms) data of 3 samples for LMC-1. There are no much difference among the Nitrogen adsorption/desorption isotherms, pore size distributions, BET surface area and pore volume of 3 samples for LMC-1, which prove the preparation process of LMC is repeatable.

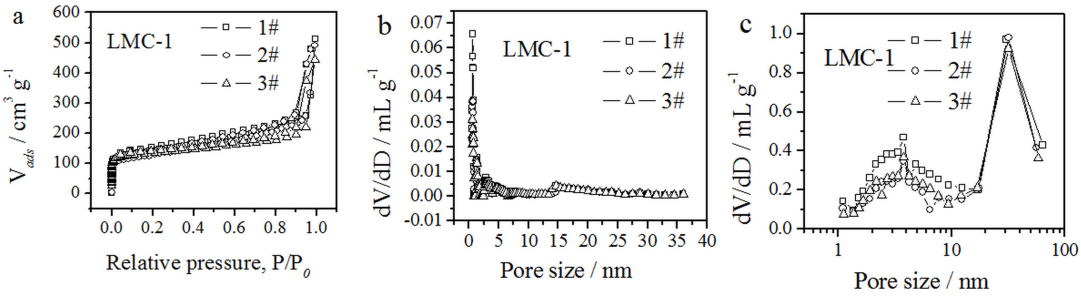

Figure S1. (a) Nitrogen adsorption/desorption isotherms of LMC-1. Pore-size distributions of LMC-1 (b) calculated by DFT method, (c) calculated by BJH method.

Table S1: Textual parameters of LMC-1(according to N_2 adsorption/desorption isotherms)

Samples	S_{BET} /m^2 g^{-1}	V_{tot} /cm^3 g^{-1}
1#	518	0.79
2#	503	0.70
3#	512	0.76

The carbon yield data of 3 samples for every LMC material are given in Table S2. The carbon yield of LMC samples are affected by the CO_2 inner-activation effect according to the equation: $CO_2 + C \longrightarrow 2CO$, so the close carbon yield data of 3 samples for LMC-X (X=1,2,3,4) can also prove that the preparation process of LMC is repeatable.

Table S2: The carbon yield of LMC samples

Samples	LMC-1			LMC-2			LMC-3			LMC-4		
The yield of carbon (%)	1#	2#	3#	1#	2#	3#	1#	2#	3#	1#	2#	3#
	53	51	52	48	49	46	42	40	39	24	26	23