

## Supporting Information

### Improved Pseudocapacitive Charge Storage in Highly Ordered Mesoporous TiO<sub>2</sub>/Carbon Nanocomposites as High-Performance Li-Ion Hybrid Supercapacitor Anodes

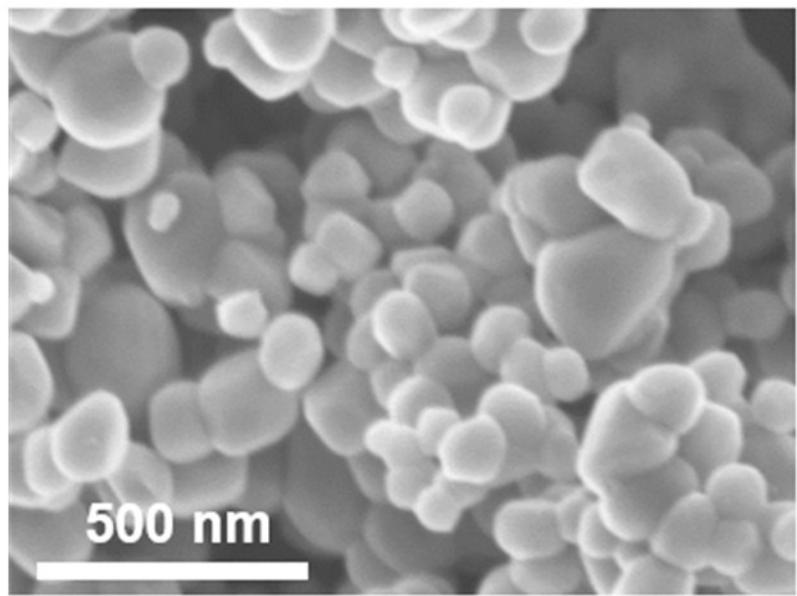
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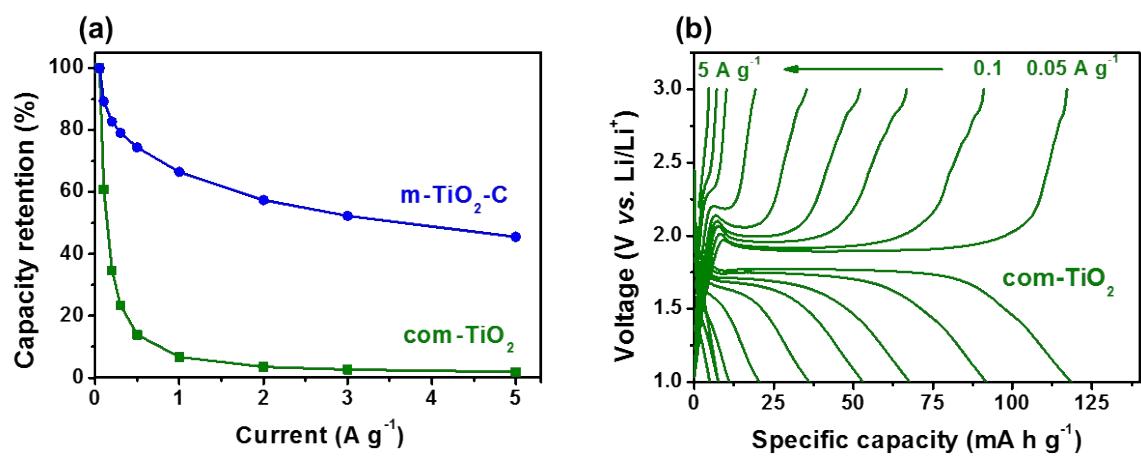
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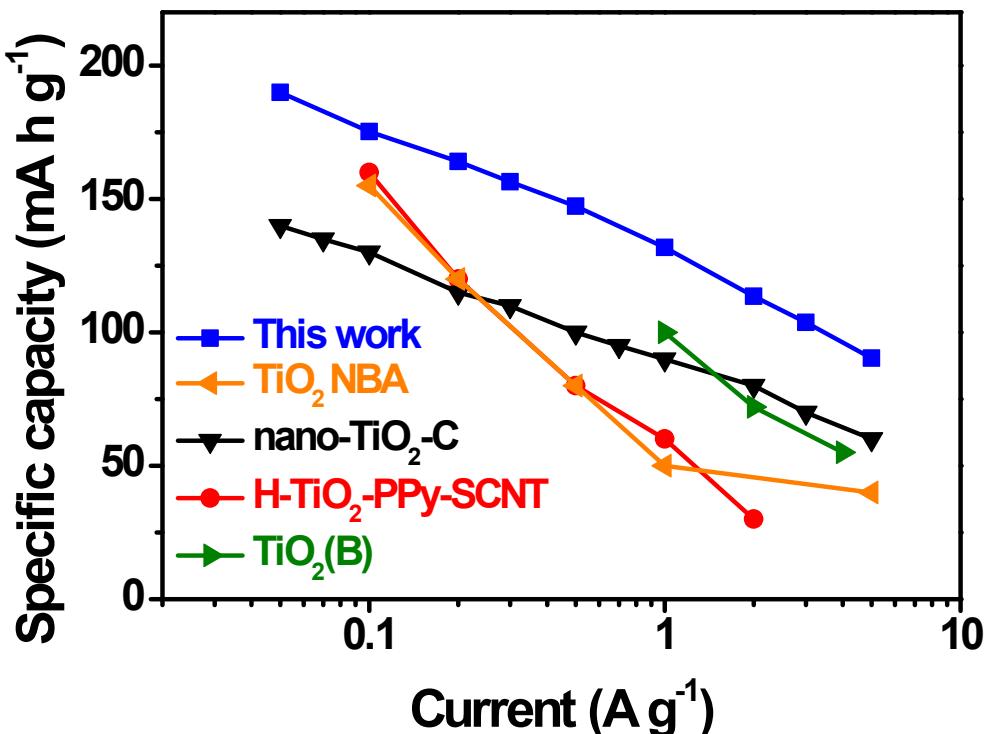
E-mail: [eunholim@kRICT.re.kr](mailto:eunholim@kRICT.re.kr) and [jwlee1@kaist.ac.kr](mailto:jwlee1@kaist.ac.kr)



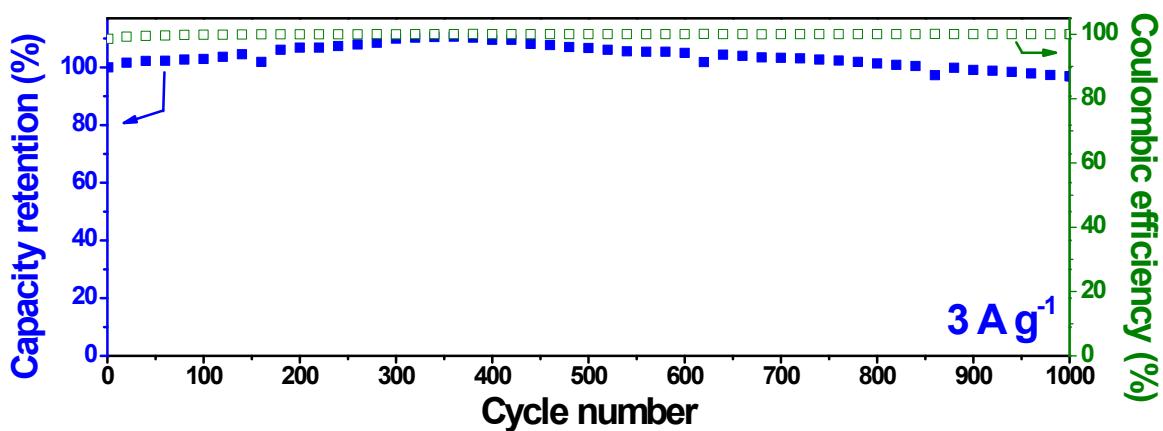
**Figure S1.** SEM image of com-TiO<sub>2</sub>.



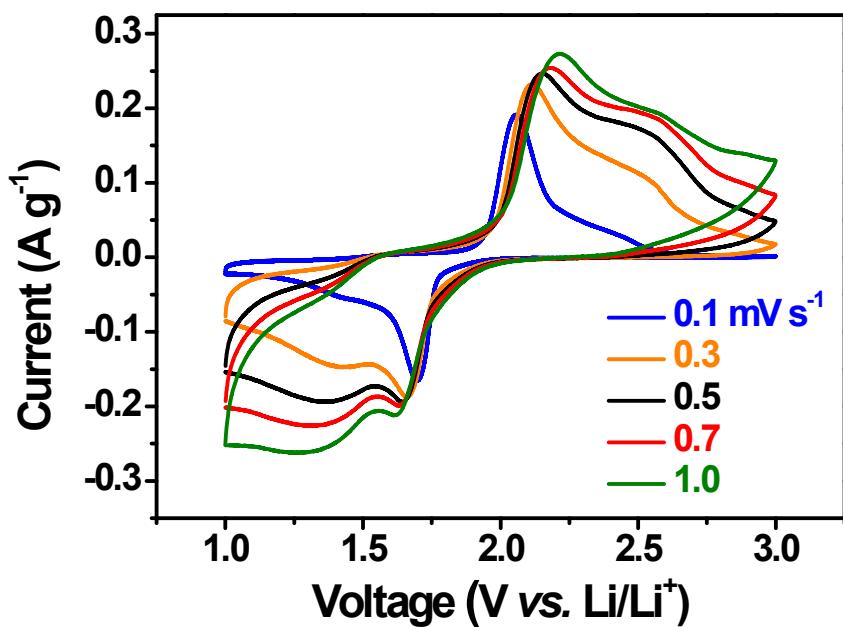
**Figure S2.** (a) Comparison of capacity retention of TiO<sub>2</sub> electrodes at different currents from 0.05 to 5  $\text{A g}^{-1}$ . (c) Galvanostatic charge-discharge profiles of com-TiO<sub>2</sub> at various currents from 0.05 to 5  $\text{A g}^{-1}$ .



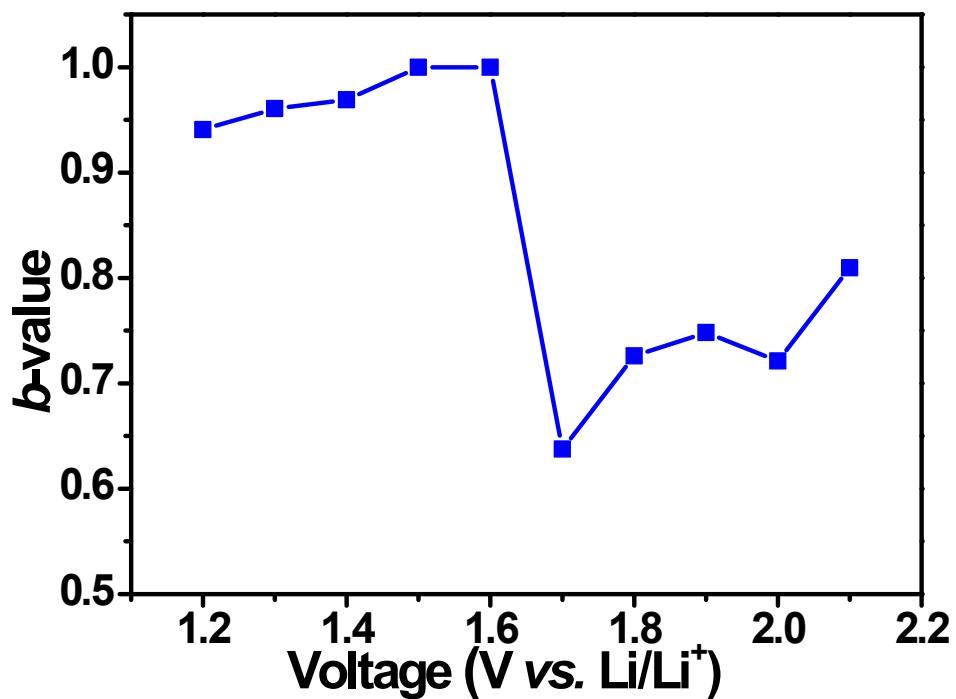
**Figure S3.** Comparison of rate capability on m-TiO<sub>2</sub>-C and previously reported results.



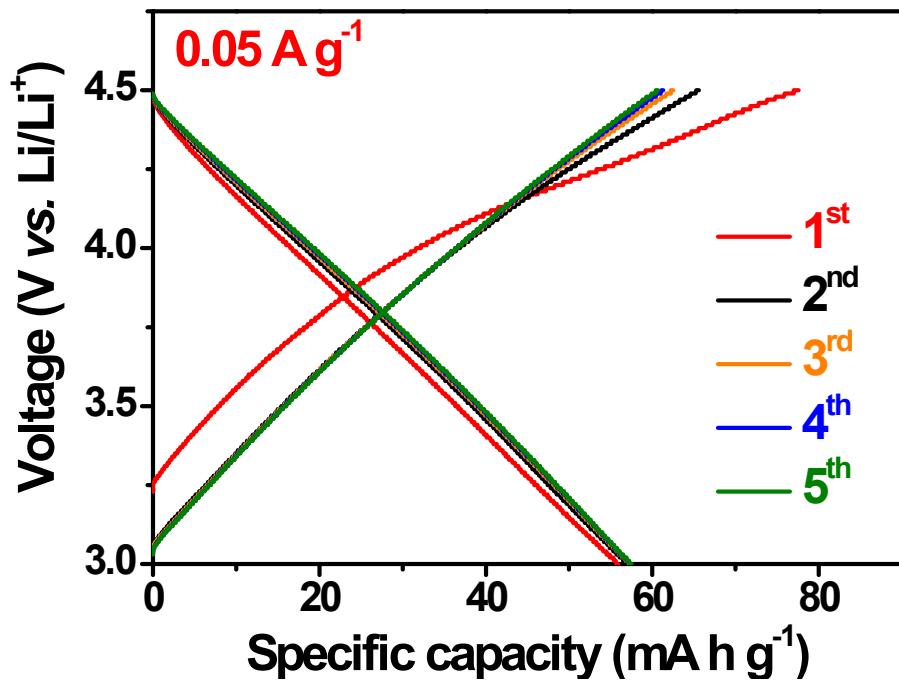
**Figure S4.** Cycle performance of m-TiO<sub>2</sub>-C at a current of  $3 \text{ A g}^{-1}$ .



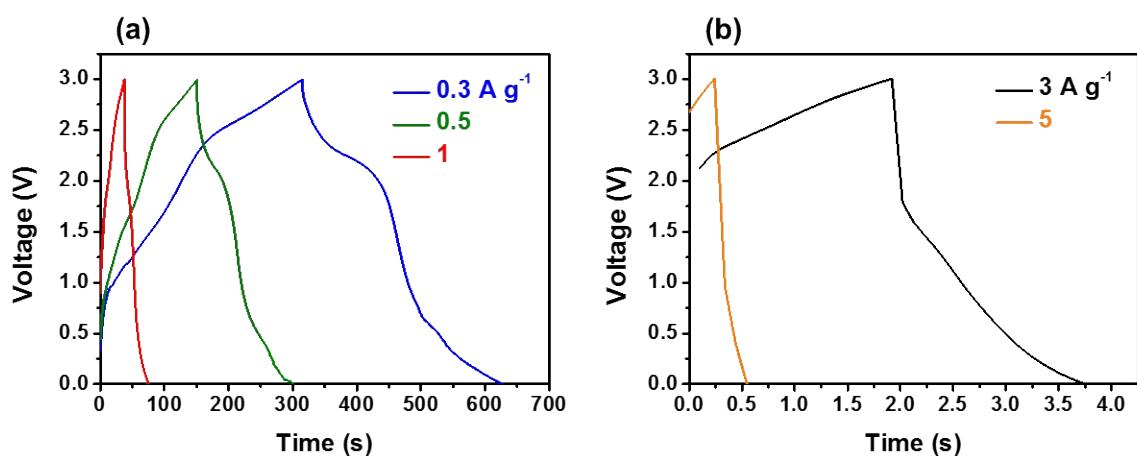
**Figure S5.** CV curves of com-TiO<sub>2</sub> at different sweep rates of 0.1-1.0 mV s<sup>-1</sup>.



**Figure S6.** *b* values of m-TiO<sub>2</sub>-C plotted as a function of potential for cathodic sweeps.



**Figure S7.** Galvanostatic charge-discharge profiles of MSP-20 at  $0.05 \text{ A g}^{-1}$ .



**Figure S8.** Galvanostatic charge-discharge profiles of the Li-HSC at different currents from (a)  $0.3$  to  $1 \text{ A g}^{-1}$  and from (b)  $3$  to  $5 \text{ A g}^{-1}$ .

**Table S1.** Comparison of electrochemical performances of Li-HSC using m-TiO<sub>2</sub>-C (this work) with other Li-HSC results previously reported.

Sample		Energy (W h kg <sup>-1</sup> )	Power (W kg <sup>-1</sup> )	Voltage range (V)	Electrolyte	Ref.
Anode	Cathode					
<b>m-TiO<sub>2</sub>-C</b>	<b>AC</b>	~63	~4,044	0 – 3.0	1.0 M LiPF <sub>6</sub> in EC/DMC	This work
<b>C-LTO</b>	<b>AC</b>	~36	~1,500	1.5 – 2.5	1.0 M LiPF <sub>6</sub> in PC	[51]
<b>TNW</b>	<b>CNT</b>	~13	~1,300	0 – 2.8	1.0 M LiPF <sub>6</sub> in EC/DMC	[52]
<b>TiO<sub>2</sub>-B nanorod</b>	<b>AC</b>	~23	~2,800	0 – 2.8	1.0 M LiPF <sub>6</sub> in EC/DMC	[53]
<b>H-TiO<sub>2</sub>-PPy- SCNT</b>	<b>AC</b>	~31	~4,000	1.0 – 3.0	-	[43]
<b>RuO<sub>2</sub>/TiO<sub>2</sub> nanotube</b>	<b>AC</b>	~13	~1,200	0 – 1.4	1.0 M KOH	[54]