Supporting information

Rice Husk-Derived Hybrid Lithium-Ion Capacitors with Ultra-High Energy

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Keywords: Rice husk, Silicon anode, hierarchical porous carbon, lithium-ion capacitors

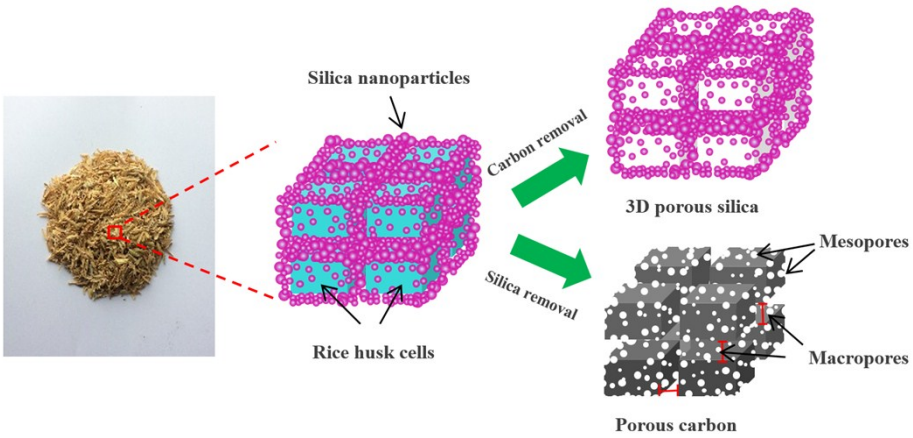

Fig. S1. Schematic showing the microstructure of husks.

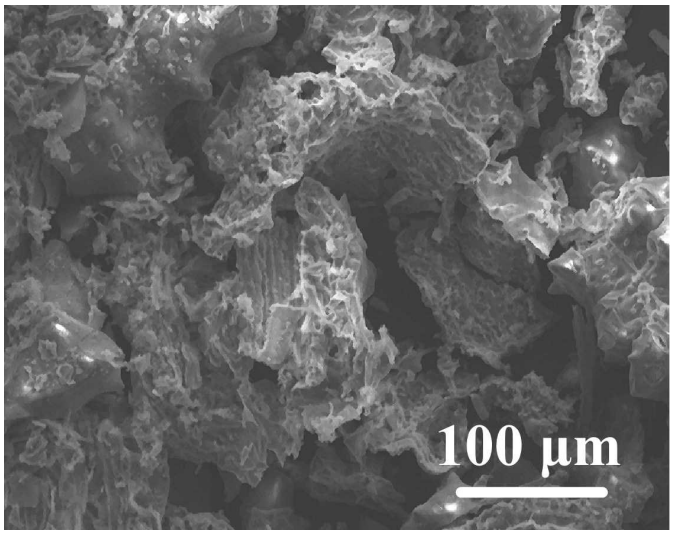

Fig. S2. SEM of RHs-derived SiO_2.

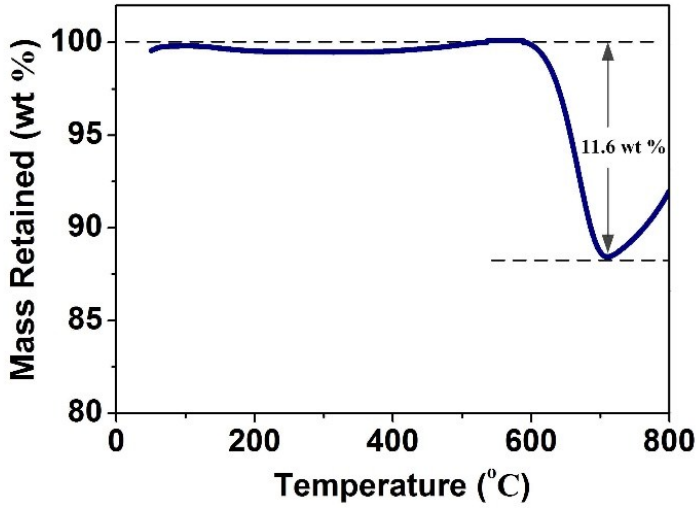

Fig. S3. TGA curve of Si/C.

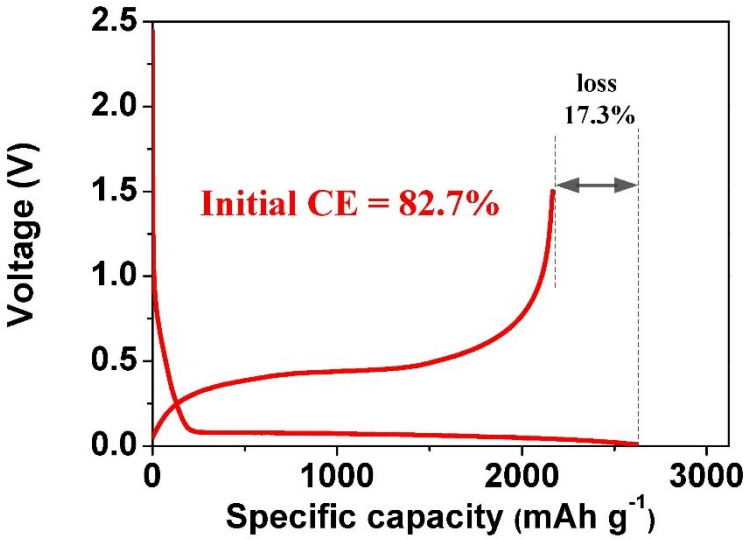

Fig. S4. The first charge and discharge profiles of Si/C.

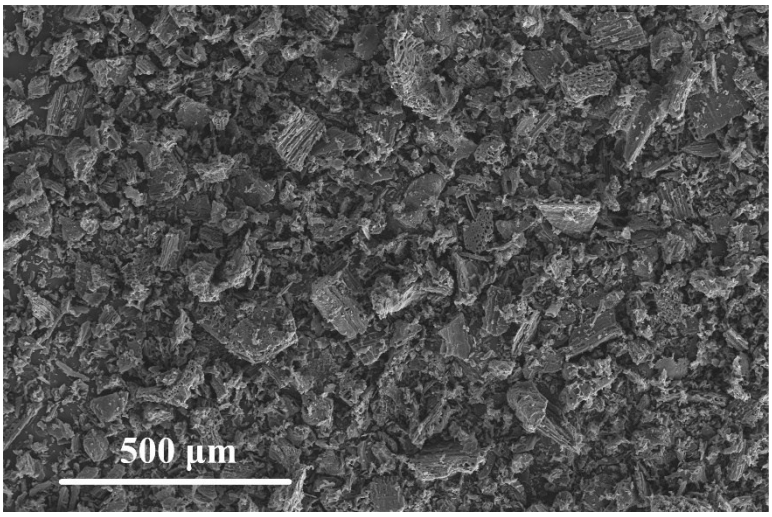

Fig. S5. SEM image of RAC-5.

Table S1

Element	Without HCl treatment	HCl treatment
Fe	**0.418**	**0.082**
Mn	**0.067**	**0.003**
Na	**0.285**	**0.112**
K	**0.437**	**0.178**
Ga.	**1.095**	**0.325**

Contents of metallic ingredients in wt% for RAC with and without HCl treatment

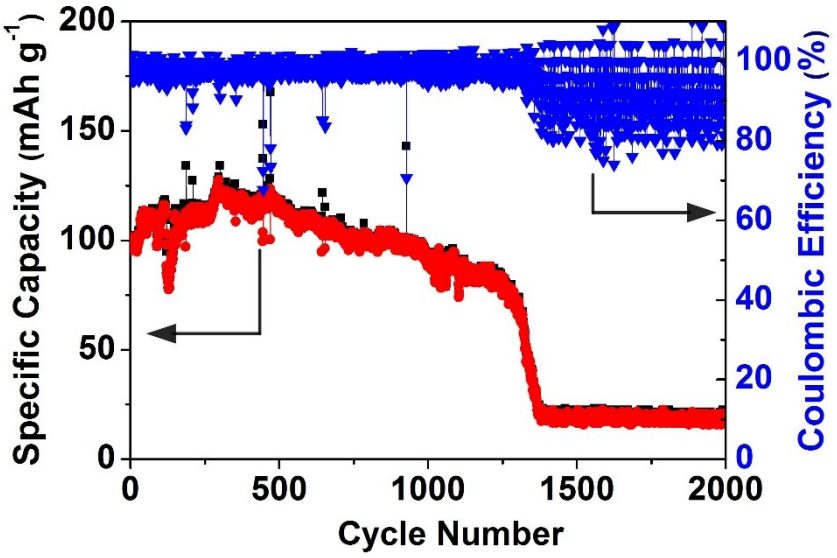

Fig. S6. Cycling performance of RAC material without HCl treatment.

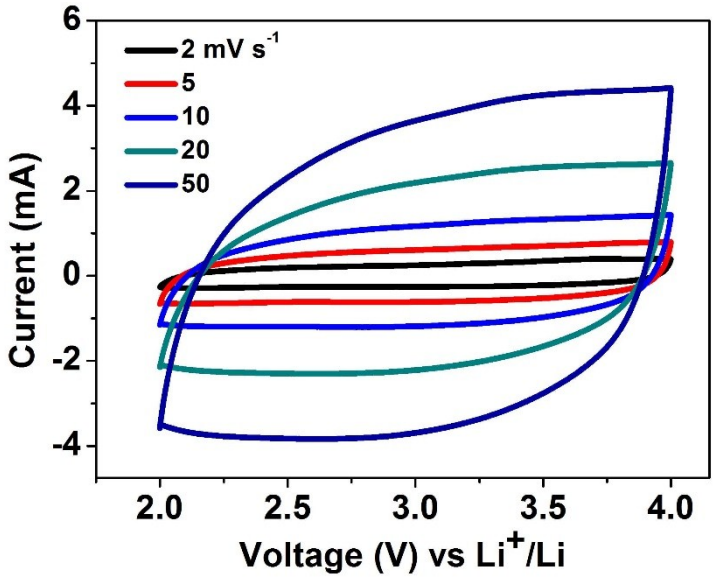

Fig. S7. CV curves at different scan rates of Si/C||RAC-5 LICs.

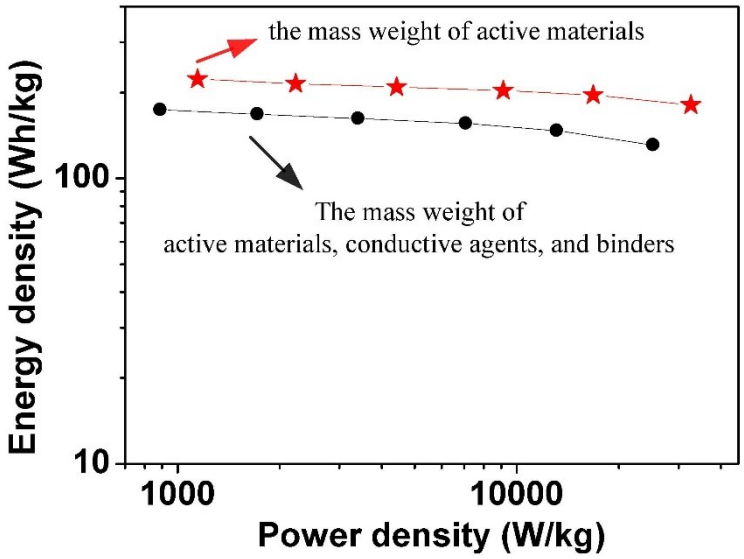

Fig. S8. The energy density and power density of LICs calculated by mass weight of active materials, conductive agents, and binders.

Table S2. Calculated energy density and power density of LICs by the mass weight of active materials, conductive agents, and binders.

Power density (W kg^{-1})	890	1722	3407	7086	13125	25265
Energy density (Wh kg^{-1})	174	168	162	156	147	131