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Superstructured Carbon Nanotube/Porous Silicon Hybrid Materials for Lithium-Ion Battery Anodes JUN-KI LEE[1], SHIN-HYUN KANG[2], SUNG-MIN CHOI[3], KAIST — High energy Li-ion batteries (LIBs) are in great demand for electronics, electric-vehicles, and grid-scale energy storage. To further increase the energy and power densities of LIBs, Si anodes have been intensively explored due to their high capacity, and high abundance compared with traditional carbon anodes. However, the poor cycle-life caused by large volume expansion during charge/discharge process has been an impediment to its applications. Recently, superstructured Si materials were received attentions to solve above mentioned problem in excellent mechanical properties, large surface area, and fast Li and electron transportation aspects, but applying superstructures to anode is in early stage yet. Here, we synthesized superstructured carbon nanotubes (CNTs)/porous Si hybrid materials and its particular electrochemical properties will be presented.

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