

Supplementary Material (S1)

Following SEM images show the sample containing Si powder in the recipe of powder molded carbon foam. The pores were covered with sponge like webs containing thousands of SiC nanowires (NWs). The clump that looks tangled up is actually many SiC NWs that are difficult to distinguish individually and some of them fuse together into thicker structures. Among the jungle of kinked and twisted curly wires, several very large cylindrical fairly straight and smooth tubes are also seen. The long straight wires tend to be smaller in diameter than the average wire in this sample. The NWs with diameter between 20–40 nm have been observed but there are also some large wires with diameter 400–600 nm. Most of them are smoothly curved, while some of them possessed bends and kinks. Many appear to branch into multiple wires or to be fused together at different points along the wire. Although the SiC NWs have a high ratio of length to diameter, the diameter remained the same throughout the nanowire.



