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# Loose-Fit Graphitic Encapsulation of Silicon Nanowire for One-Dimensional Si Anode Design

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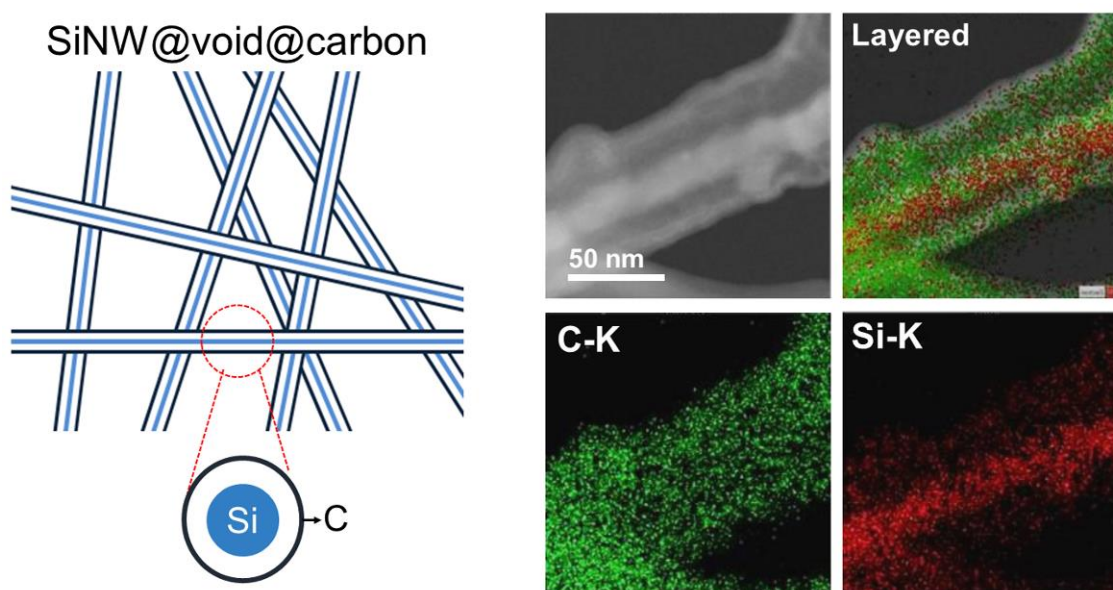
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## Graphical Abstract



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Silicon nanowires (SiNWs) encapsulated with graphene-like carbon sheath (GS) having a void space in between (SiNW@V@GS) are demonstrated for the improved electrochemical performance of Si anode in lithium ion battery. The SiNW@V@GS structure was synthesized by a scalable fabrication method including four successive reactions: metal-catalyzed CVD growth of SiNWs, controlled thermal oxidation, and

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