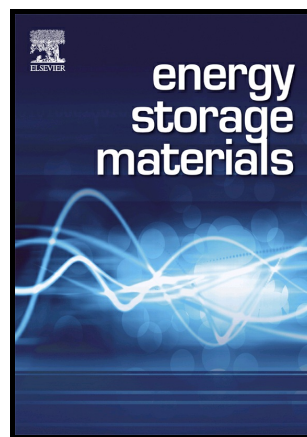


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# Monodisperse and Homogeneous SiO<sub>x</sub>/C Microspheres: A Promising High-Capacity and Durable Anode Material for Lithium-Ion Batteries

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**Abstract:** Monodisperse SiO<sub>x</sub>/C microspheres with tunable size (300 – 1000 nm) and well-controlled carbon content (~ 20 – 60 wt. %) have been fabricated through a facile sol-gel method. The judicious selection of silicon and carbon precursors (vinyltriethoxysilane and resorcinol/formaldehyde) enables the formation of an homogeneous SiO<sub>x</sub>/C ( $x = 1.63$ ) composite, in which the SiO<sub>x</sub> mainly exists as ultrafine nano-domains (< 2 nm). Benefiting from the unique structural features, the resultant SiO<sub>x</sub>/C microspheres demonstrate high capacity and outstanding cyclability.

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