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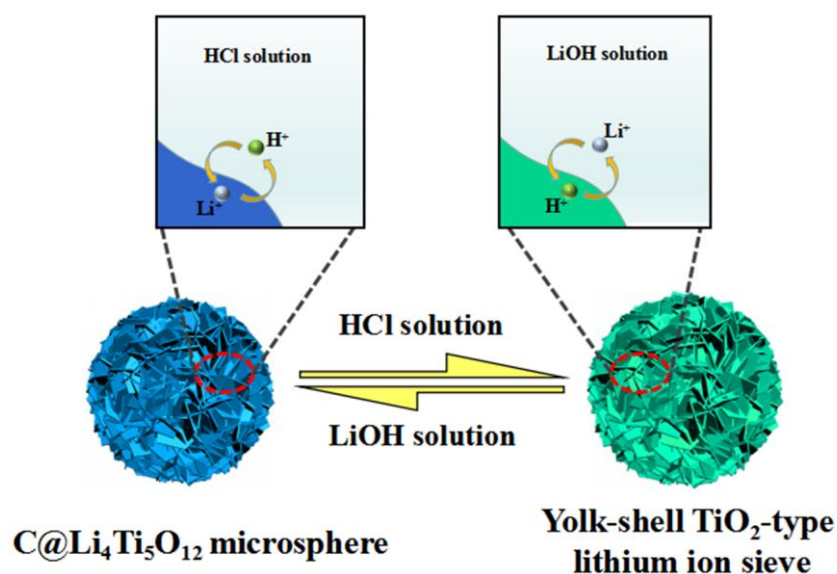
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## Graphical Abstract



## Yolk-Shell Structured Composite for Fast and Selective Lithium Ion Sieving

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### Abstract

Yolk-shell structured C@Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> microspheres composed of carbon core (ca. 500 nm) and sea urchin-like Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub> shell (ca. 400-500 nm) are formed by hydrothermally treating the core-shell structured C@TiO<sub>2</sub> in the EtOH/H<sub>2</sub>O solution of LiOH and calcining it in N<sub>2</sub> atmosphere. Yolk-shell structured TiO<sub>2</sub>-type lithium

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