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## Cellulose ultrafine fibers embedded with titania particles as a high performance and eco-friendly separator for lithium-ion batteries

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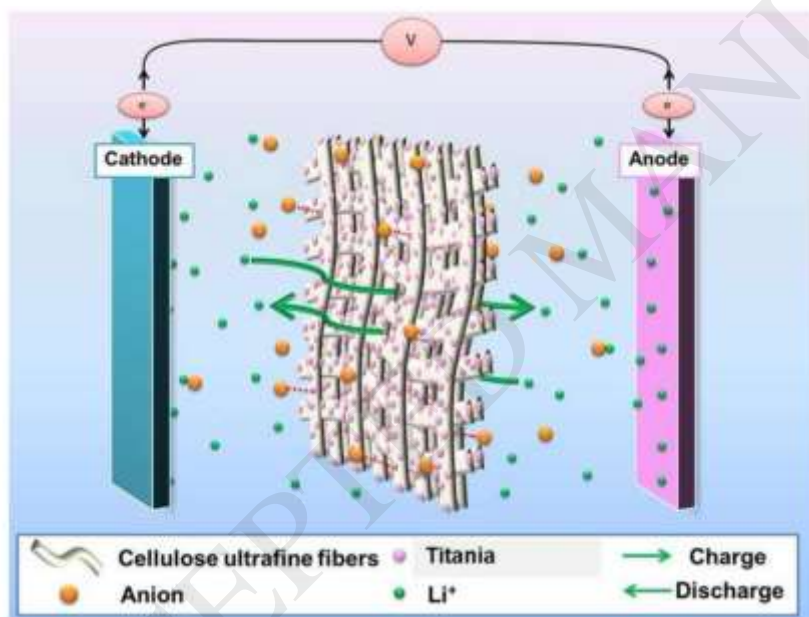
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Graphical abstract



### Highlights

- RC-10% titania separator showed high heat resistance ( $\sim 300$  °C) and porosity ( $\sim 78\%$ ).
- It retained capacity of 79 mA h/g after 30 cycles.
- Added titania particles increased its electrolyte wettability and  $t_{Li^+}$  (0.62).

### Abstract

Mixtures of cellulose acetate (M.W.  $\sim 3 \times 10^4$  g/mol) dissolved in 75% v/v acetic acid in water (17% w/w) and ground anatase titania particles with diameters of  $197 \pm 75$  nm (0%,

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