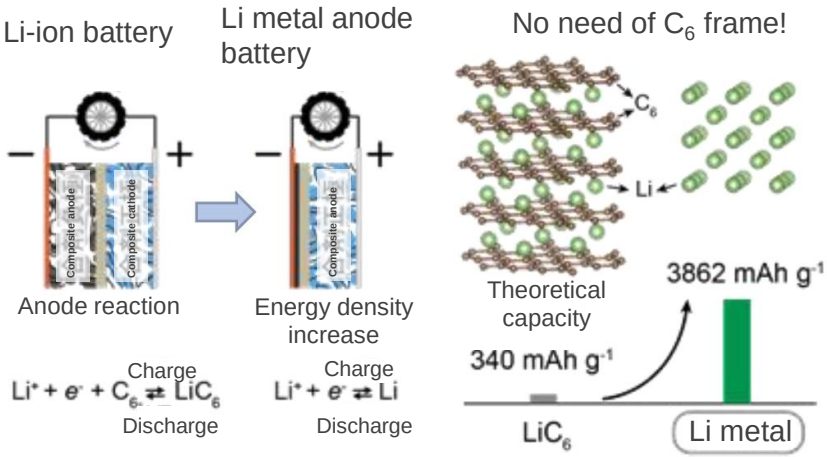
Tohoku Univ. Technology

Technology of electrolyte for lithium / sodium metal anode storage battery

More suppression of dendrite growth than conventional level!

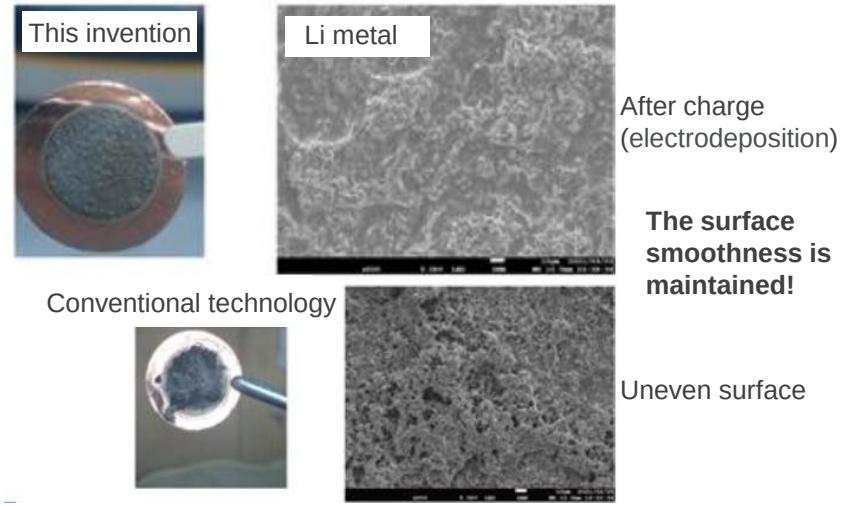


Overview

As represented by smartphone, PC, etc., the number of devices equipped with lithium-ion battery is increasing day by day. This is supported by the battery high capacity, but the use of metallic lithium is required to have even higher capacity, so research & development are underway. Up to now, one of the factors that prevented the practical use of metallic lithium was the formation of dendrite by metallic lithium due to the diffusion control during charge/discharge, which led to a decrease in battery performance.

This invention is about an electrolyte that solves the above issues. It has demonstrated that the smooth surface is maintained even after many charge/discharge cycles by controlling the rate-determining process. The same effect has been confirmed for sodium-ion battery, so the applicability of this invention is not limited to lithium-ion battery.

Dendrite growth suppression



Product Application

- Lithium-ion storage battery
- Sodium-ion storage battery
- Expected to be applied to multivalent/dual cation storage battery

Related Works

[1] Tetsu Ichitsubo et al., *J. Mater. Chem. A* **3**, 10188 (2015).

IP Data

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