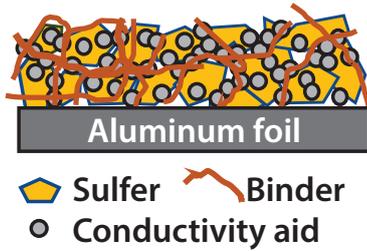


Development of lithium-sulfur battery using CNT sheet

Lithium Polysulfide (Li₂S₆) /CNT Cathode

<Lightweight, high specific surface area CNT electrode>

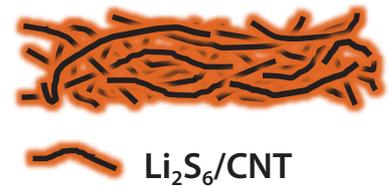
Conventional Cathode



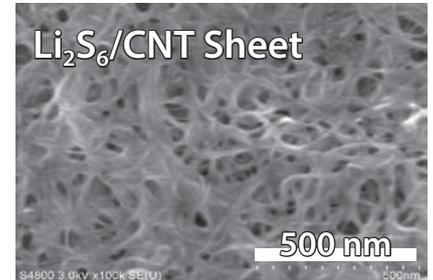
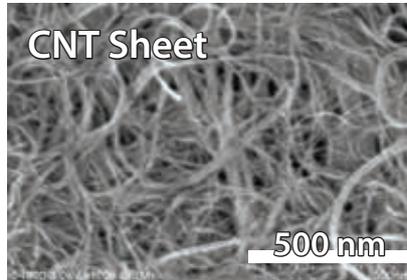
S₈/CNT Cathode^{[1],[2]}



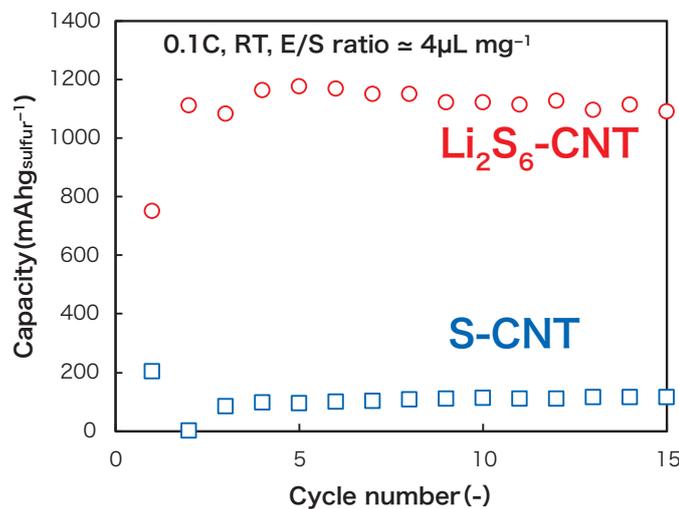
Li₂S₆/CNT Cathode



[1] K. Sun et al., *J. Electrochem. Soc.*, **165**, A416 (2018). [2] K. Hori et al., *J. Phys. Chem. C*, **123** 3951 (2019).
 (Scanning electron microscope image, x100k)

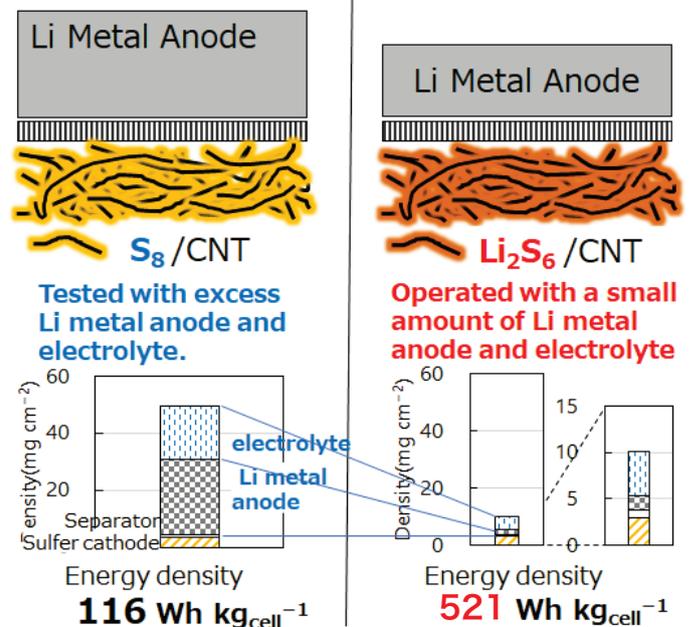


- High conductivity self-supported CNT sheet. No need for metal foil.
- Active material is thinly supported on CNT sheet → Secure a conductive path



- Li₂S₆ supported cathode achieves high capacity even if the amount of electrolyte is reduced. (The capacity of the conventional sulfur positive electrode decreases as the amount of electrolyte is reduced.)

Cooperation with Waseda University



By using Li₂S₆/CNT electrodes, we have realized a next-generation Li-S battery that surpasses the current LIB