

Lithium Sulfur Battery

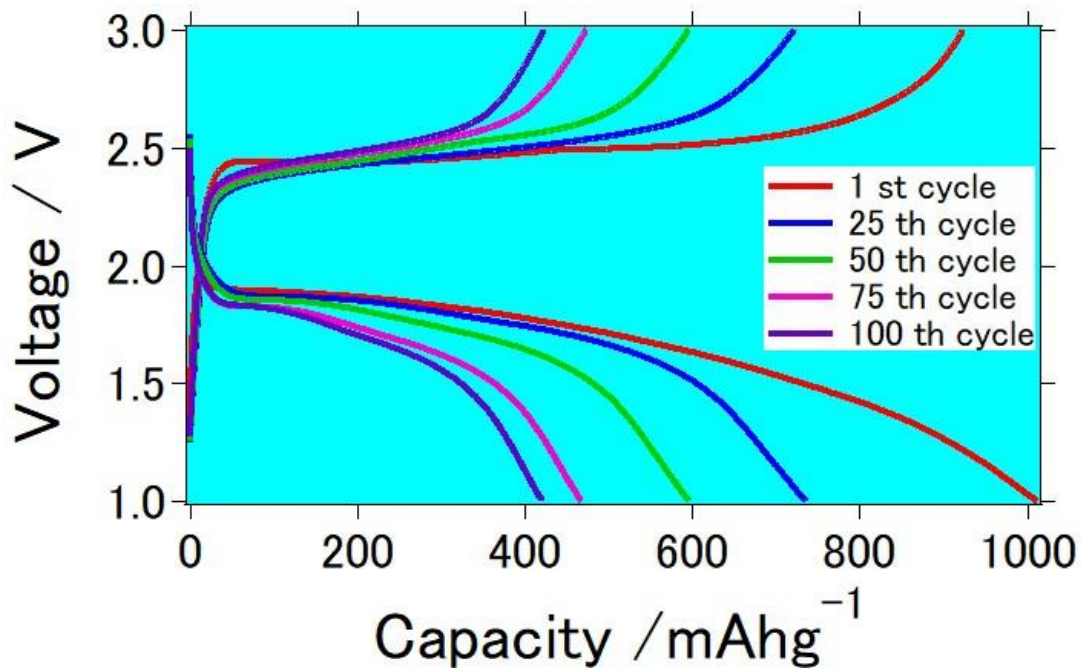
Rechargeable battery is the very important device because they can store electricity produced by sustainable energy such as wind power, solar cells and fuel cells. Therefore, challenge to increase the capacity of rechargeable battery is an extremely important task. However, in order to build up the society based on sustainable energy such as solar cell, wind power, hydrogen power, fuel cells, geothermal power, wave power and biomass power generation etc..., it is necessary to create rechargeable battery with higher voltage, higher capacity, better charge-discharge cycle characteristics with high durability.

All solid-state battery, metal air battery, multi-valent ion battery etc... have been candidate for next generation rechargeable batteries and the lithium sulfur battery is also the one. Sulfur as active material possess more than 5 times of theoretical energy density than that of cathode which is used for current lithium ion battery. Electrochemical reaction occurs between sulfur and lithium as oxidation reduction process. Theoretical capacity of sulfur is 1672mAh/g and that is much higher than that of transition metal oxide type cathode. Since lithium sulfur battery can possess such high energy density, it is expected to be used for unmanned aerial vehicle, drone and higher power EV etc....

In our company, we synthesize electrode, electrolyte material for next generation rechargeable battery ourselves. In addition, we make coating ink, testing battery, measure electrochemical properties, and analyze technical detail, all procedures can be done within our company, which is the one of advantage compared to other competitors.

We have been focusing on developing lithium sulfur battery as next generation rechargeable battery. Testing battery was prepared with our sulfur carbon composite cathode, lithium metal as anode, and our original electrolyte. At the moment, our lithium sulfur battery is exhibiting more than 1100 -1200 mAh/g at initial stage and became a little more than 500 mAh/g after 130 charge-discharge cycles (below figure indicates a little lower capacity). This electrochemical measurement was performed with 0.1 C of charge discharge electrical current at room temperature. Green Science Alliance will keep challenging to increase the cell capacity and to obtain stable charge discharge cycles. We are also planning to manufacture lithium sulfur battery for practical use.

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Please inquiry us for technical and business detail anytime

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