Large cell design of organic lithium ion batteries with mesopourous carbon cathodes

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Power sources for mobile electronic systems require higher energy and higher power density. Lithium ion batteries with organic cathode materials have good potential to meet these demands since organic materials have higher energy density than inorganic materials because of relatively low mass of organic material.

However, organic cathodes have some defect such as low power density and low cycle characteristic. In this, we will present on the large cell design scheme that can achieve high current density and good discharge performance of organic lithium ion batteries.

We prepared cathodes by mixing mesopourous carbons with organic active materials. This process could improve the strength of large organic cells by holding organic active materials during discharge process. And high conductivity of mesopourous carbons also improved total performance of organic lithium ion batteries.