

Graphene Oxide and Carbon Nanotubes as Gelators for Gel Electrolytes

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Gel electrolytes have important application for many energy conversion and energy storage devices, including dye-sensitized solar cells, fuel cells, batteries and supercapacitors. Polymers and small organic molecules are conventionally used as the gelators for the gel electrolytes. Here, we will report novel gel electrolytes with graphene oxide or carbon nanotubes as the gelator for gel electrolyte. Graphene oxide and carbon nanotubes can also form the solid networks with other materials in a gel, so that they function as cogelator. These gel electrolytes have high ionic conductivity and good stability. Their applications were demonstrated as the electrolyte of quasi-solid state dye-sensitized solar cells.