# Flexible organic energy storage devices with small molecular solid-state electrolyte layers processed from aqueous solutions

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"Storing energy effectively" is of utmost importance in the coming full-flexible mobile electronics era. In addition, making energy storage devices with high flexibility and/or bendability may be one of the key milestones for further advancement in the flexible electronics. Interestingly, however, liquid or gel electrolytes have been applied for most of the current energy storage devices including battery and capacitor. In order to achieve a perfect flexibility in mobile electronics, these liquid or gel electrolytes should be replaced with a complete solid-state electrolyte. To date, a couple of inorganic solid-state electrolytes have been developed but they could not deliver good flexibility as well as sufficient commercial viability. In this presentation, we report novel small molecular solid-state electrolyte material, which could be synthesized by one-step reaction and extremely well soluble in water, and its application to flexible organic energy storage devices with excellent stability (>500 times) upon 180o bending.