Tohoku Univ. Technology

Polyelectrolyte that easily expands and contracts with small force

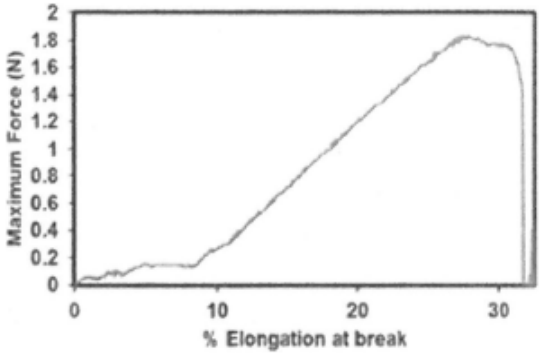
Contribute to the realization of safer battery with less risk of ignition and rupture

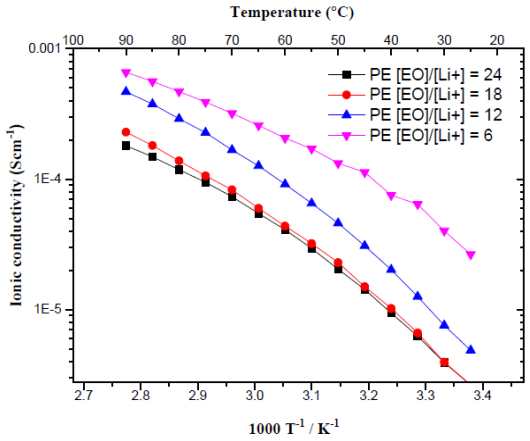
*This electrolyte shows 10% elongation at very low force, with a maximum elongation of 30%. It also shows high ionic conductivity of 2.7×10^{-5} S/cm at room temperature and 2.1×10^{-4} S/cm at 60℃.

Overview

Since lithium-ion battery using liquid electrolyte has risk of ignition and rupture, practical application of safe solid electrolyte is expected. Among solid electrolytes, those using polymers have an excellent ability of forming and processing. This allows to use different shape of polyelectrolyte, but high stress is applied to the electrolyte.

This invention is about a polyelectrolyte with excellent elasticity and flexibility. Since this polyelectrolyte can be highly elongated with little force, the applied stress can be easily dispersed, and shows high durability.





Product Application

- Suitable for application requiring high elasticity, such as lithium-ion battery for wearable

IP Data

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