

Special Issue on
Polymeric Membranes for Energy Purposes

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Worldwide energy and environmental issues have triggered great interest in development of renewable and clean energy technologies. These include fuel cells, flow batteries, and lithium batteries, in which the ion conductive membrane, mostly made of a polymer, functions as a key component. This special issue is intended to present and discuss technological developments in the field of polymeric ion conductive membranes which are expected to help improve the performance of energy conversion and storage devices.

Potential topics include but are not limited to the following:

- ▶ Macromolecular design and membrane fabrication strategies for improving hydroxide conductivity and alkali resistance of alkaline anion exchange membranes for fuel cell applications
- ▶ Novel membranes or separators for application in vanadium flow batteries that can give rise to high energy efficiency and good cycle performance
- ▶ Fabrication of proton exchange membranes with minimum dependence of conductivity on water, especially at elevated temperatures
- ▶ Lithium ion conductive membranes which are more heat resistant and mechanically robust than PE or PP
- ▶ Novel membranes or separators that can suppress polysulfide shuttling in lithium sulfur batteries
- ▶ Energy-related membranes of natural polymers such as cellulose

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