



Membrane Materials for Next-Generation Fuel Cells

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Message from the Guest Editor

Are nafion-like structures the ultimate solution for the design of polymer electrolyte membranes (PEMs)? In order to answer the question, in this Special Issue we report new concepts, materials and procedures that are different from conventional PEM development to achieve the high efficiency and high durability of PEMs.

The spread of fuel cell devices in the general public is important to realize the hydrogen energy society. In particular, polymer electrolyte fuel cells (PEFCs), which are used for FCVs and stationary FCs, need to improve their efficiency and durability in order to reduce the cost of PEFC and stack space. Therefore, the development of higher performance PEMs than the current PEMs, which are one of the key components of PEFCs, are strongly required. In this Special Issue, we welcome membrane research that uses unique and novel approaches to develop high-performance PEMs.

Keywords

- Polymer electrolyte membranes (PEMs)
- PEFC
- Preparation process
- Composite materials
- Proton conductivity
- Fuel cell performance
- Durability





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Message from the Editor-in-Chief

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