Ion Exchange Polymer Membranes for Energy Conversion and Storage Applications

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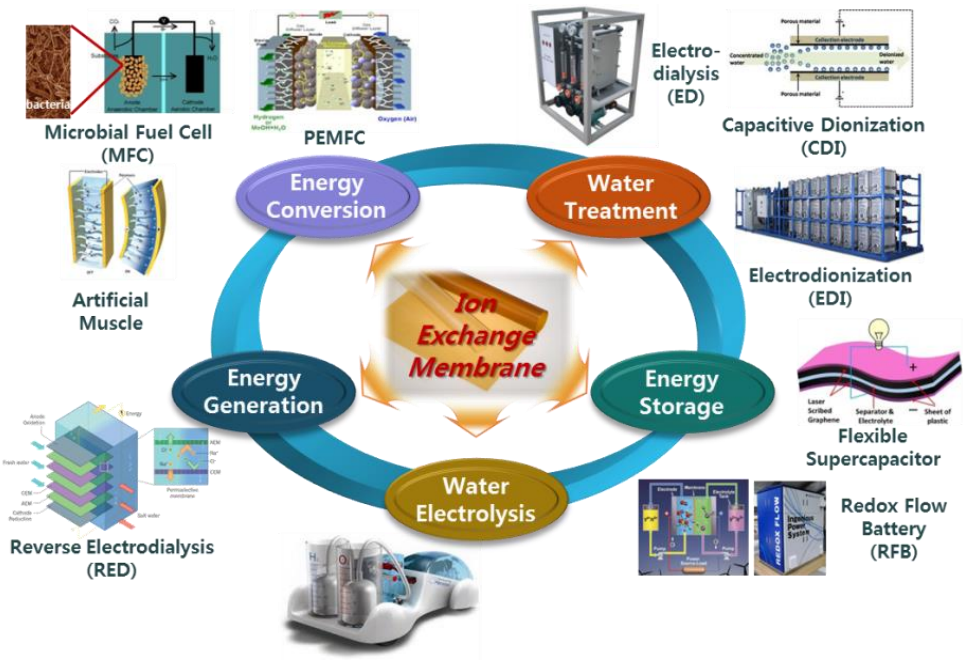
Descriptions of Research Topics

- Development of ion conducting polymers
- Development of membranes for energy conversion and storage systems
- Reinforced and composite membrane fabrication
- Physical and chemical control of membrane electrode assemblies

Applications:
- Polymer electrolyte membranes fuel cells, and water electrolysis
- Vanadium redox flow batteries
- Supercapacitors, and next generation batteries
- Desalination, water treatment



Research Fields 1 Polymer membrane 2 Energy 3. Water treatment
Keywords Ion exchange polymer, Membrane, Fuel cell, Redox flow battery(RFB), Membrane electrode assembly(MEA), Desalination, Water treatment

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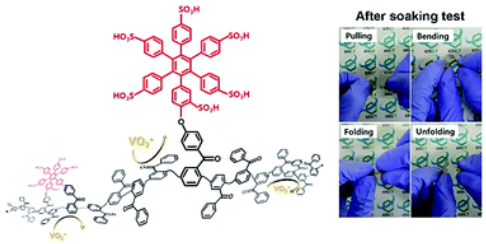
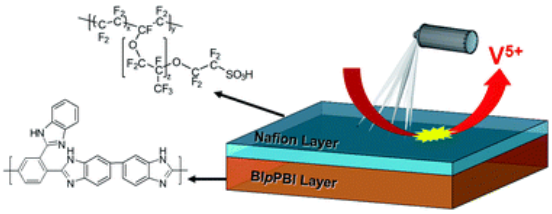
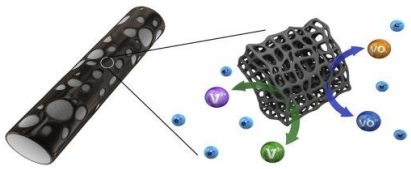
Vanadium Redox Flow Batteries

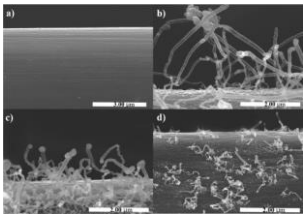
- Proton conducting polymer synthesis





- Novel electrode development





Fuel Cells

- Ion conducting polymers and high performance MEAs