



# CO<sub>2</sub> Separation and Concentration

## <Goal>

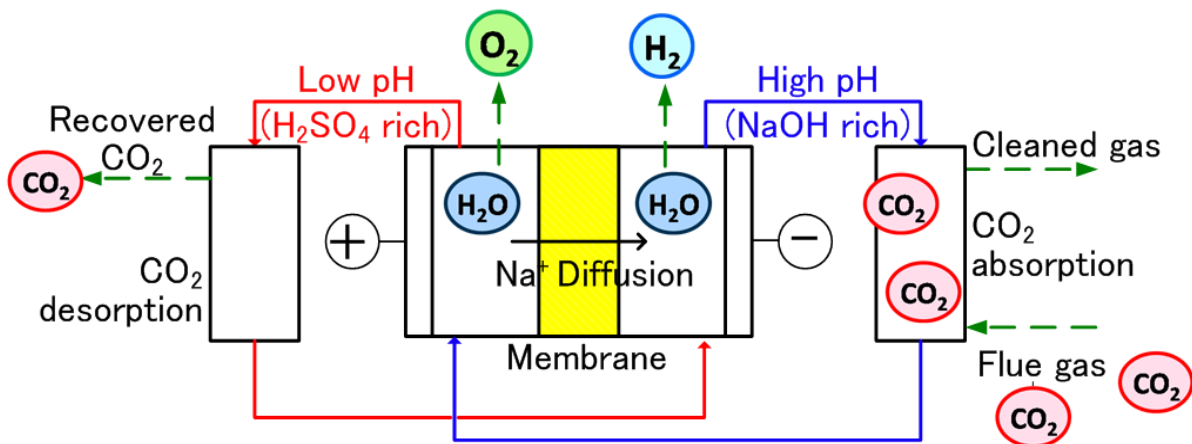
- Understand **fundamental science** underlying mechanisms of absorption and absorption of CO<sub>2</sub> in membranes
- Establish new **high energy efficient CO<sub>2</sub> separation and concentration processes**

## <Roadblock>

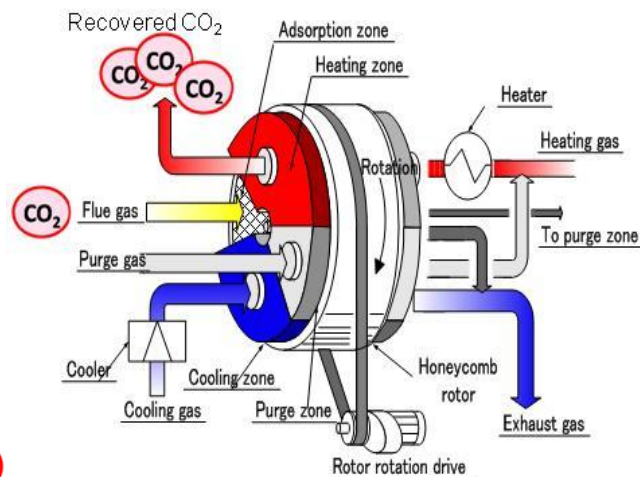
Separation and concentration of CO<sub>2</sub> **is energy intensive and expensive**

## <Approach>

- Understand **CO<sub>2</sub> separation mechanism** for electrochemical and absorption methods in nano or micro scale
- Use of **molecular dynamics** to develop optimal materials



Recirculation liquid: Aqueous solution of Na<sub>2</sub>SO<sub>4</sub> for absorbent



CO<sub>2</sub> separation and concentration system by adsorption