Experimental Properties of Polybenzimidazole (PBI) at Room Temperature

# 1. Permeability of Carbon Dioxide (CO₂)

The permeability of CO₂ through Polybenzimidazole (PBI) membranes ranges from 15 to 60 Barrer. These values depend on the specific conditions of the membrane, such as temperature and pressure.

Reference: Studies on PBI membranes for high-temperature applications (MDPI, 2021).

# 2. Permeability of Oxygen (O₂)

Oxygen permeability through PBI membranes typically ranges between 5 to 25 Barrer.

Reference: Studies on PBI membranes for high-temperature applications (MDPI, 2021).

# 3. Activation Energy

The activation energy for CO₂ diffusion in PBI membranes typically falls between 20 to 35 kJ/mol, depending on the membrane's doping level and environmental conditions.

Reference: Studies on PBI membranes for high-temperature applications (MDPI, 2021).