



membranes



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Membranes and Membrane Systems in Electrified CO₂ Conversion

Guest Editor:

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Message from the Guest Editor

The membrane is a critical component in CO₂ electrochemical flow reactors, facilitating the ion exchange between the cathode and anode but isolating the half-reactions. Challenges associated with membranes persist in current CO₂ electrochemical flow reactors: other than the well-acknowledged carbonate loss problem that has been mitigated recently, the crossover of liquid products also causes carbon and energy losses; membrane and membrane-involved-interface durability are far from satisfactory; and water management needs to be revisited for the membranes used here.

This Special Issue is open to original research articles, perspectives and reviews on membranes and membrane systems in electrified CO₂ conversion. Scope of interest includes: Innovative membrane materials, such as cation exchange membranes (CEM), anion exchange membranes (AEM), bipolar membranes (BPM), and diaphragms; Membrane system designs associated with CEM, AEM, BPM, and diaphragms; Computational simulation of the above-mentioned themes, such as DFT, MD, and multi-physics simulations; Techno-economic assessment and life cycle assessment of membranes and membrane systems in electrified CO₂ conversion.



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Message from the Editor-in-Chief

You are cordially invited to contribute a research article or a comprehensive review for consideration and publication in *Membranes* (ISSN 2077-0375).

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