

## **Recent Advances on Desalination Rate and Stability of Chloride Capturing Electrode for Electrochemical Deionization**

### **ABSTRACT**

Electrochemical deionization (EDI), as the next generation technique of Capacitive deionization (CDI), has attracted great attention in the desalination community due to its minimum energy requirement (in low/moderate salinity), the flexible scale of the infrastructure, zero secondary pollution, etc. Compared to conventionally carbon-based CDI, faradic electrode-based EDI can be much more advantageous in terms of desalination capacity and charge efficiency, which starts a new era in the CDI community. However, it was found that the development of faradic anion-capturing electrode is much slower than its counterpart, which has led to some serious issues like slow desalination rate, poor cycling stability. Therefore, our study focuses on strategies from both material and desalination cell aspects to enhance the desalination rate and stability of EDI to try to meet the requirement for practical applications