Supporting information

Evaluation of efficiency of brackish desalination ion exchange membranes using electrodialysis process

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S1: Ionic Conductivity Studies

The ionic conductivity σ (S/cm) of the membrane was determined using impedance spectroscopy. Membranes with required dimensions were cut and pre-treated with 0.01 N sulphuric acid and kept in water for 100 % hydration. From the difference between the resistance of the blank cell and the one with a membrane separating the working and counter electrode compartments, the resistance of the membrane was calculated and converted to conductivity values using the given formula,

$$\text{Conductivity}\,(\sigma)\ (\text{S}/\text{cm}) = \frac{\text{L}}{(\text{R} \times \text{A})}$$

Where σ is the conductivity in S/cm, R is the resistance offered by the membrane in ohms, L is the thickness of the membrane in cm and A is the area of the membrane in cm^2.