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## DETERMINATION OF SORPTION SELECTIVITY IN ION EXCHANGE MEMBRANES AND ITS INFLUENCE ON ION TRANSPORT

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The ion exchange membranes are a type of membrane containing a charged groups fixed on the polymer matrix, composing the membrane, which allows them to selectively transport ions based on their ionic charge. These membranes are utilized in a variety of different processes, called an electromembrane processes. These processes are becoming of an increasing interest due to their ability to separate ions from solutions. This can be utilized in a several applications for separating ions from a variety of different streams, especially waste streams. The examples of these processes include the recovery of heavy meatal ions from wastewaters or utilization of salts present in the desalination brines. The ion exchange membranes used in these applications are characterized by a variety of different parameters. These parameters include their structural properties, such as density or porosity, as well as their sorption properties. The sorption properties include the parameters such as concentration of fixed charge groups present in the membrane structure, selectivity between the ions of different charges or selectivity for ions of the same charge. The objective of this study was the experimental determination of these key sorption parameters, for a anion exchange membrane. These parameters were determined in a series of sorption experiments for a binary mixture of four different anions. In addition to the experimental determination of these sorption parameters an approach for prediction of the sorption selectivity for a different binary mixture is discussed and verified, together with example of importance of the sorption selectivity on ion transport through membrane. The results show the importance of the sorption selectivity as well as its impact on the electromembrane processes, as demonstrated in this work using the example of Donnan dialysis.

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