Characterization of the membrane system

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Pervaporation (PV) has established itself as one of the most promising membrane technologies. Pervaporation offers potential solutions in a wide range of applications from the well-established dehydration of organic compounds to the recovery of organic compounds from water and the separation of organic mixtures. Generally, in many cases PV alone may not supply products suitable for further processing or waste disposal in accordance with environmental standards. Thus, hybrid processes are regarded as one means of overcoming these limitations. The aim of this study is to provide a simple description of our pervaporation process that allows normalized permeation fluxes to be calculated from experimental data. In our approach, the generally accepted solution-diffusion concept is used. The model used for the pervaporation system is based on theoretic thermodynamical principles developed by Wijmans and Baker.