parameters, e.g., specific surface area of the materials. This is due to the fact that the trapping of ions is also strongly influenced by the relative relationship between size of pores and ions.
For the purpose of CDI analysis, usually adsorption peaks are taken into account. Salt adsorption measurements are obtained in solutions of 5, 10, 50 and 100 mmol L^{-1}. Applied voltage reached 1.2 V and flow rate of solution of 5 mL min^{-1}.

In each conducted experiment the curve displays the same shape, typical for CDI. The concentration rapidly decreases and after reaching minimum progressively increases heading for the initial value. The general performance of tested materials is comparable in concentrations below 10 mmol L^{-1} but it differs more at higher concentrations of solution.
In order to have a wider view on the adsorption/desorption CDI process, the entire cycle is presented in Figure 1 for YP80F.

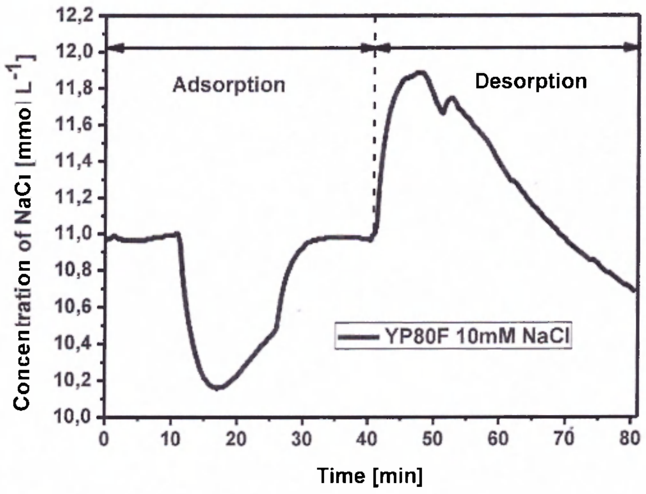

Figure 1. Outlet concentration vs. time for a complete CDI adsorption/desorption cycle with Kuraray YP 80F material electrodes, polarization voltage 1.2 V, flow rate 5 ml/min, concentration 10 mmol·L^{-1}

Conclusions

CDI is a quick and efficient technology for the desalination of water with low content of salt (up to 100 mmol · L^{-1}). The application of chronoamperometry allows for reversibility and cyclability of CDI process within the same cell assembling. The highest amount of adsorbed salt is observed in case of microporous electrodes. However some amount of mesopores is also necessary. The highest salt removal efficiency is obtained for the lowest salt concentrations.

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