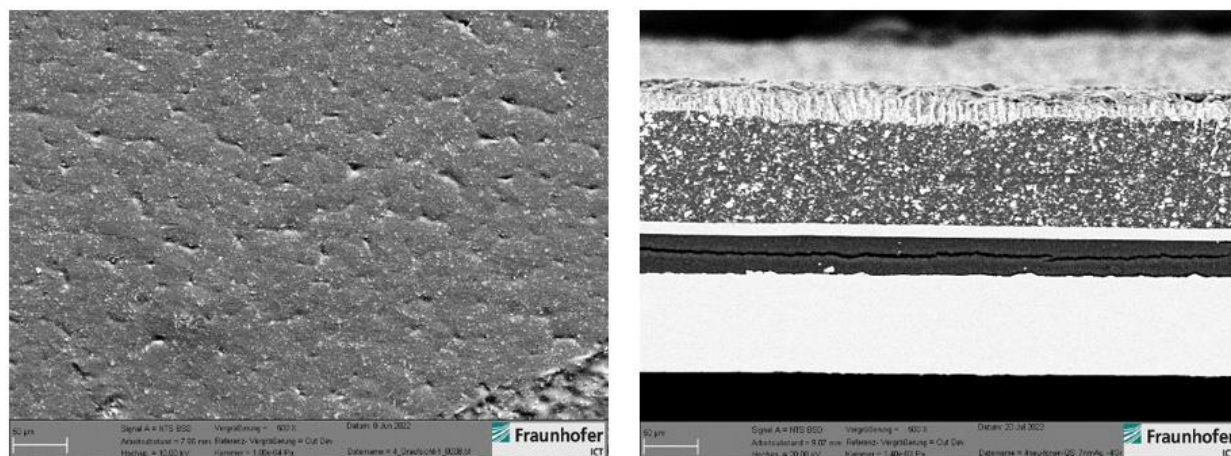


### SEM Images of Composite Electrolytes, i.e. PEO + NaSiCON + NaTFSI:



**Figure S1** SEM images of the composite electrolytes in top-view (left) and cross-section (right).

The SEM images were obtained with an EVO MA 10 microscope (Carl Zeiss AG), equipped with a detector for secondary electrons and a detector for back scattered electrons. The voltage was kept in the range of 10-20 kV. The top view images were collected by cutting a sample from the prepared bulk electrolyte inside the glovebox. The samples were sandwiched between PTFE-sheets and sealed in a plastic bag until the transfer into the SEM chamber. There was only a rather short contact to ambient air while transferring the samples from the bags into the sample holder and subsequently the SEM chamber. The cross section of the electrolytes was prepared via ion beam cutting of the samples using a IM5000 (Hitachi Corp.).