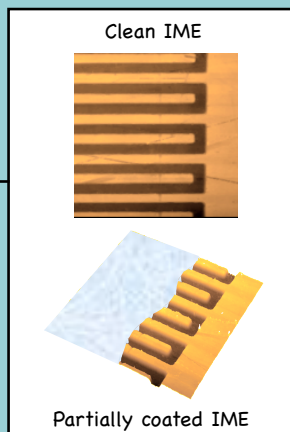


# Characterization of the Ion Conductivity for Surface Modified Polymer Electrolyte Thin Films

Anthony R. Layson, Department of Chemistry and Biochemistry, Denison University

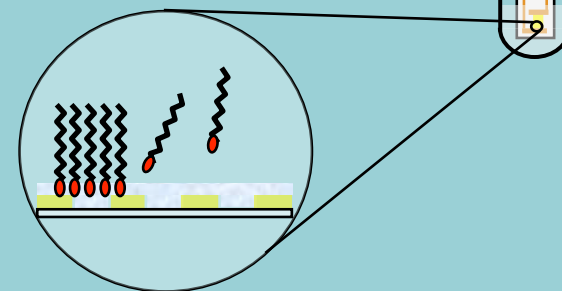


A polyethylene oxide (PEO) polymer electrolyte is drop cast onto the sensor portion of an Interdigitated Micro Electrode (IME) resulting in a thin layer covering the electrode surface

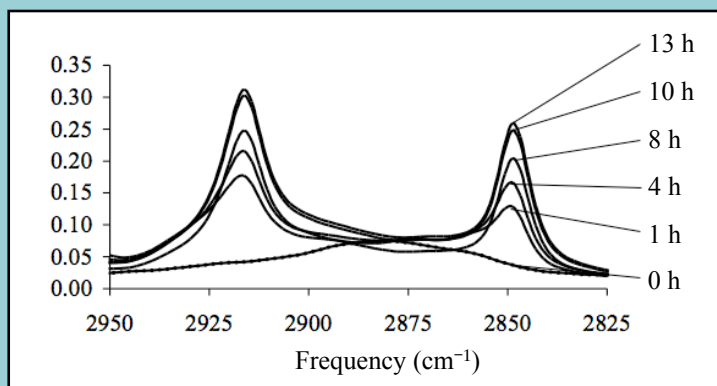


To Impedance Spectrometer

The IME is placed in hexane saturated with a molecule which then self assembles on the PEO surface.

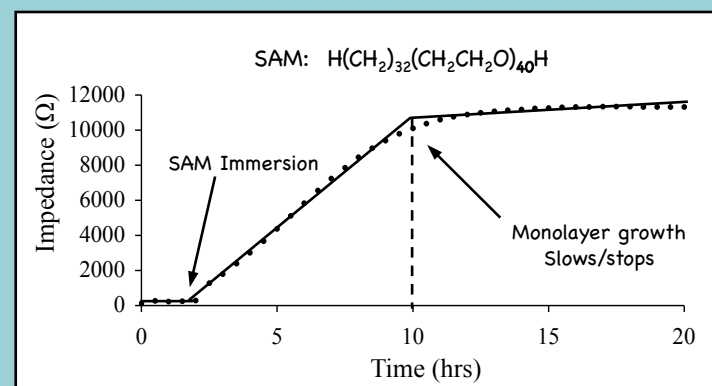


Growth was also monitored with Infrared Absorption Spectroscopy



The increase in peak absorbance values closely mirrors the growth observed with impedance

Growth of the self assembled molecule (SAM) is monitored by impedance spectroscopy.



Changes in the impedance of the PEO film provides a means to track SAM growth