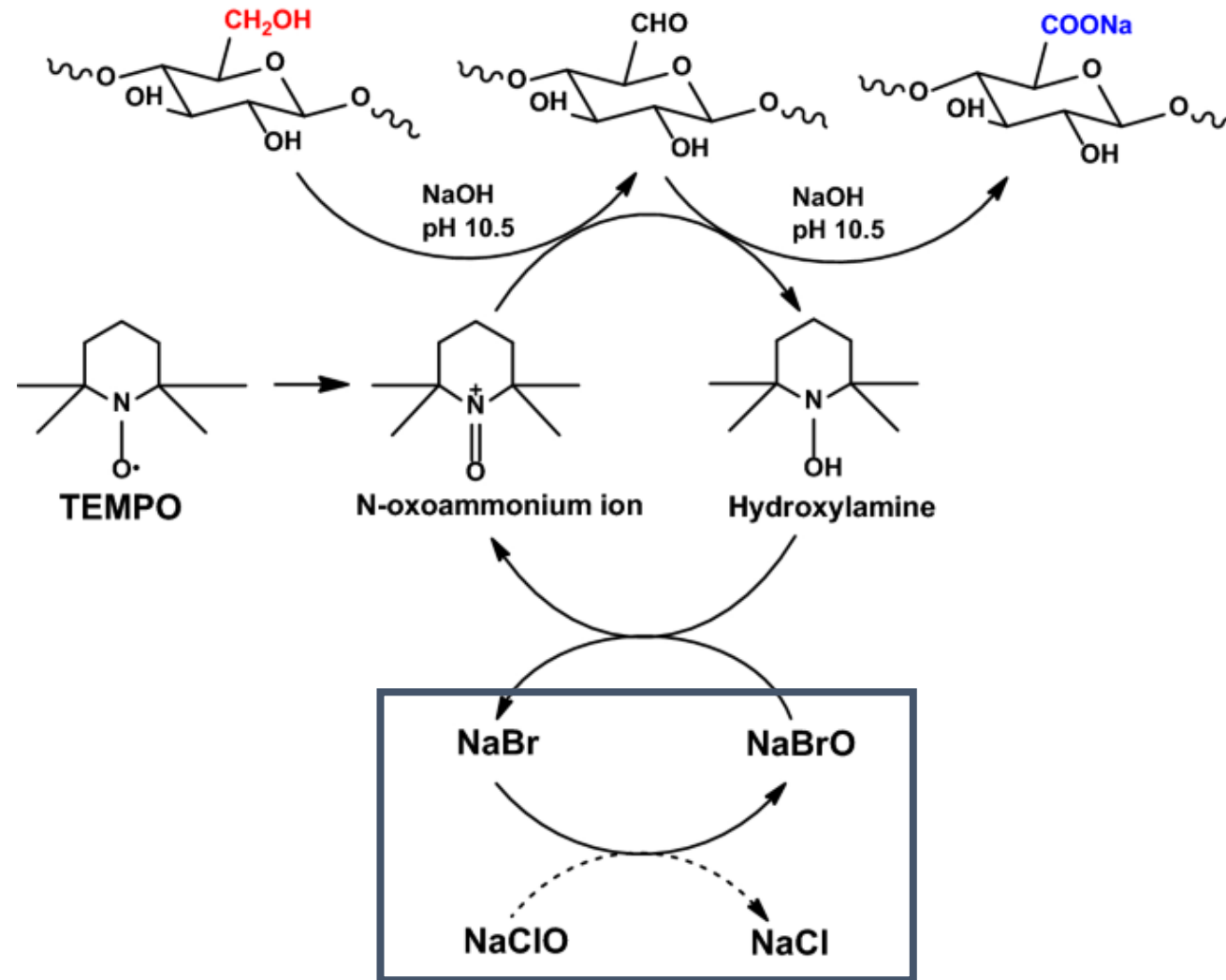


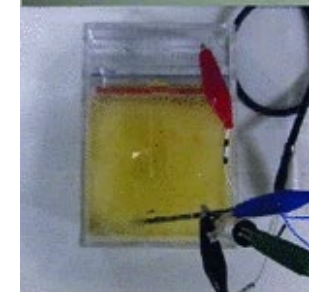
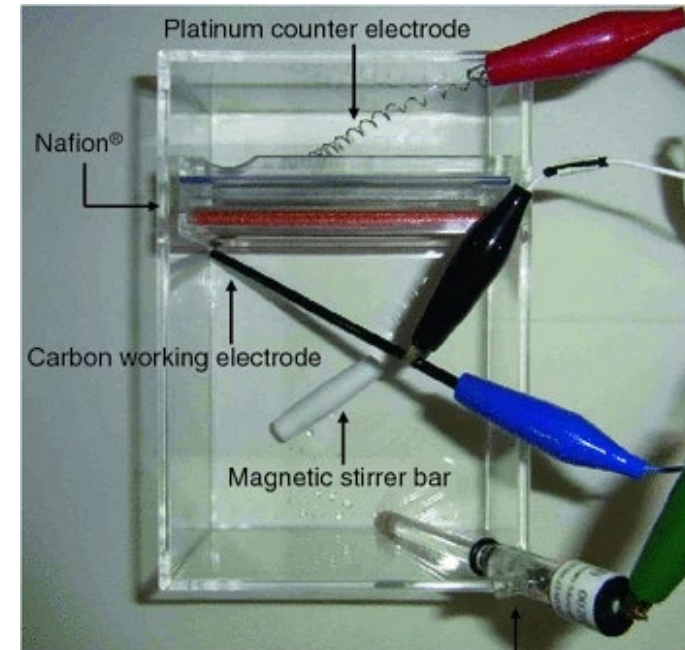
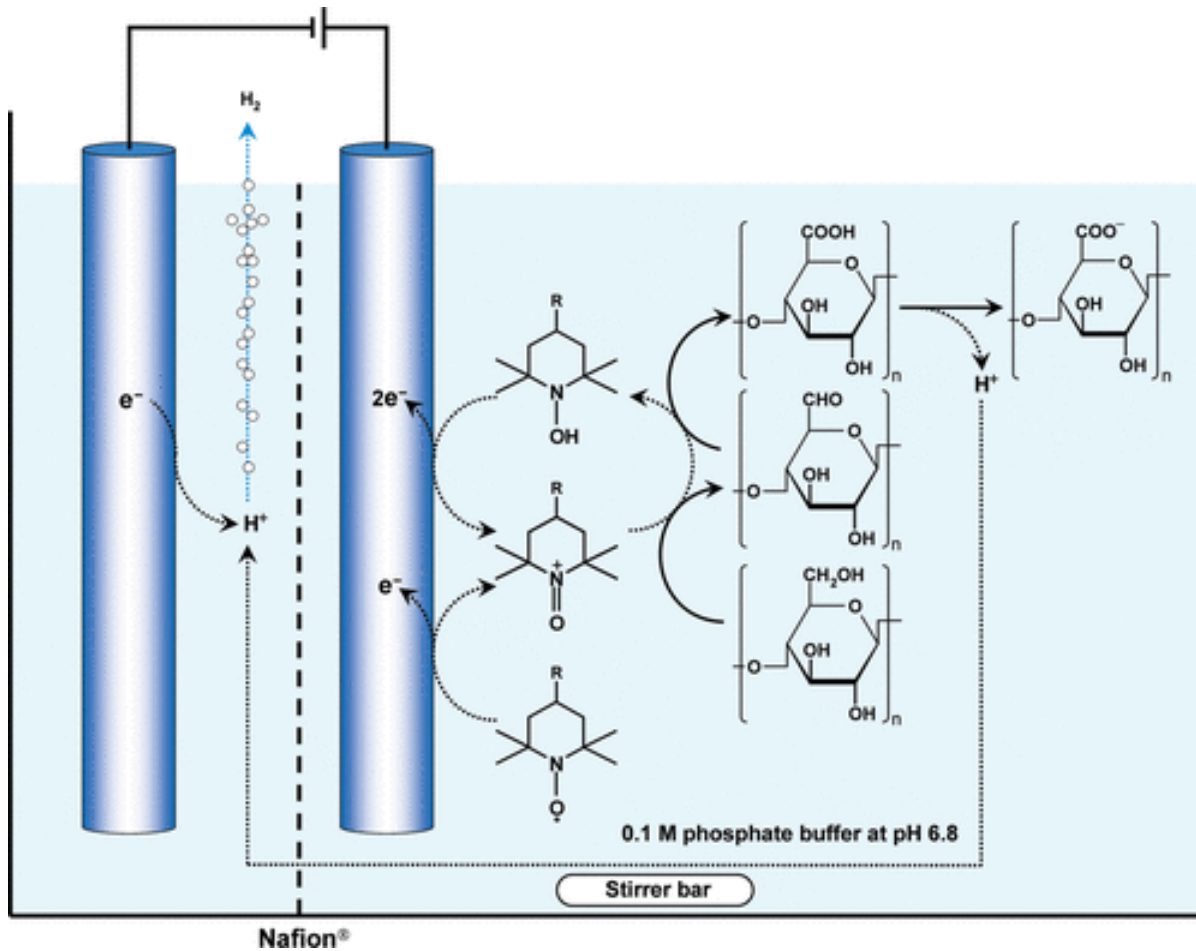
Survey on electro-  
mediated TEMPO-  
oxidation of cellulose  
Neptun Yousefi, Eero Kontturi



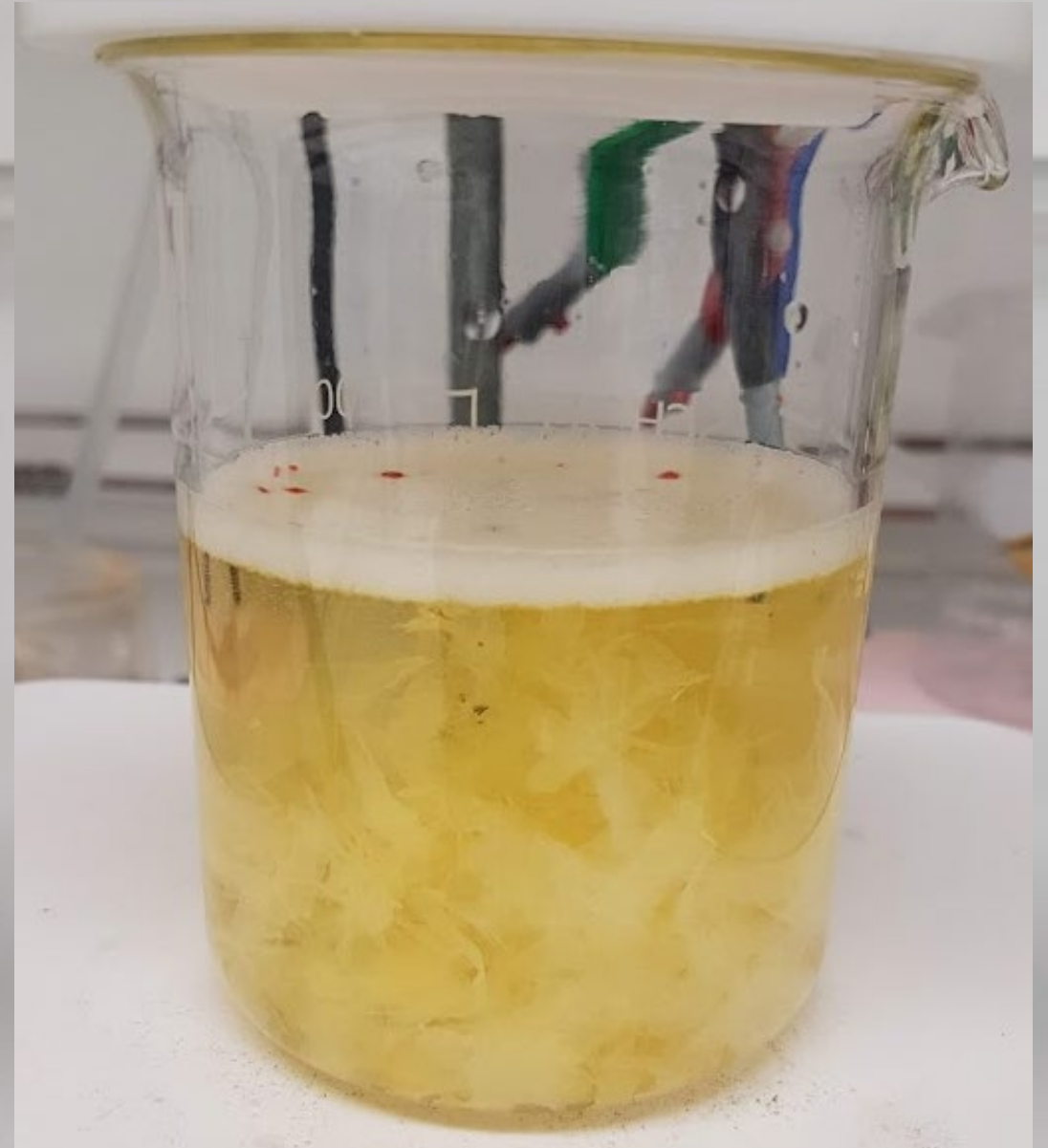
# “Classic” TEMPO Oxidation



# Electro-mediated Oxidation

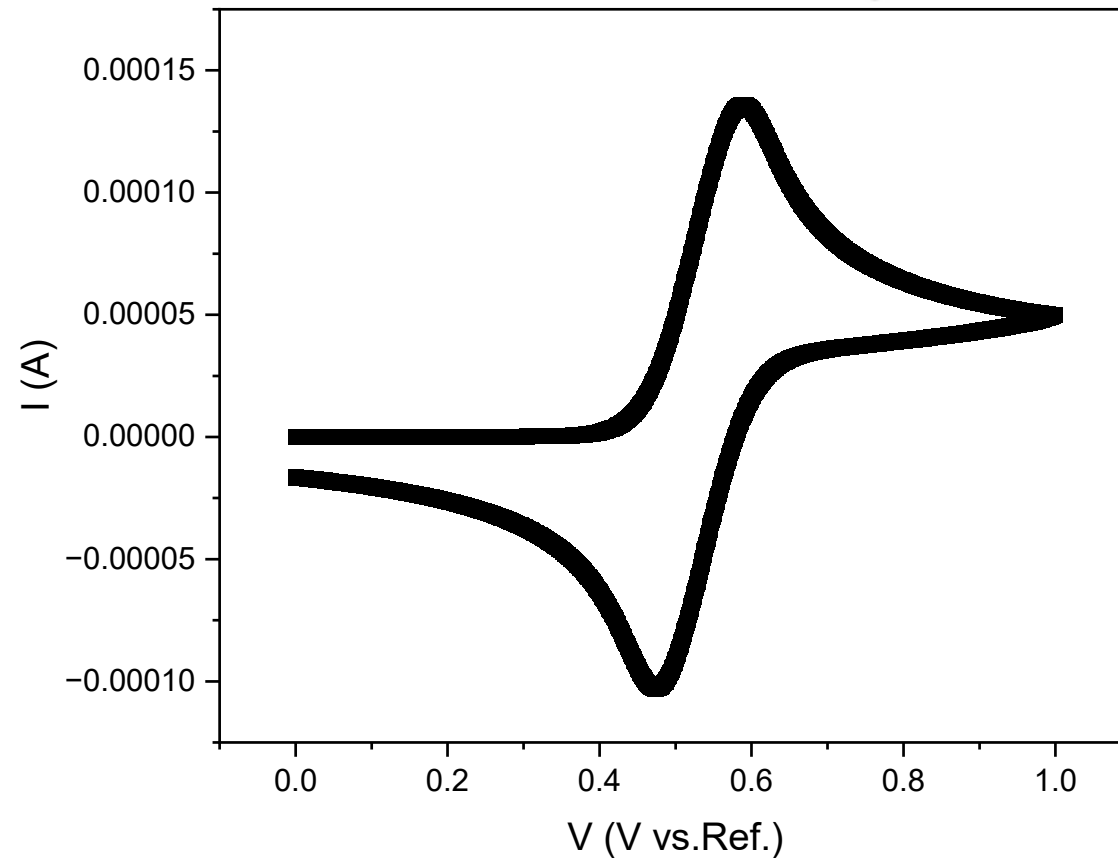
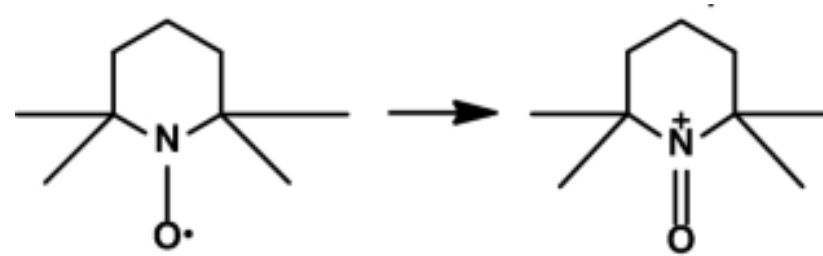


- **Bacterial cellulose (BC)**
- **Carbonate buffer at pH 10**
- **TEMPO radical**



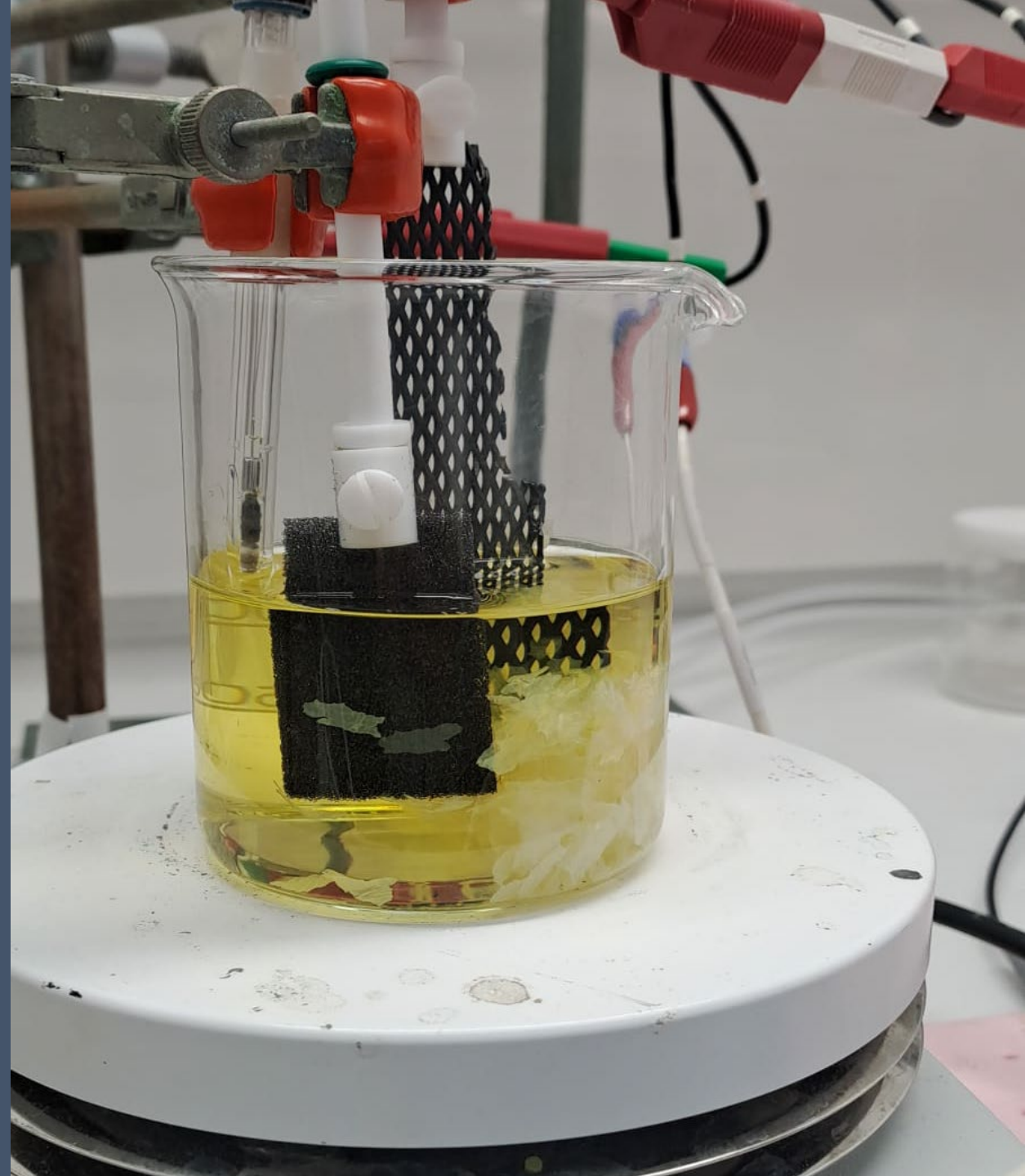
# Cyclic voltammetry (CV) of TEMPO

@pH 10

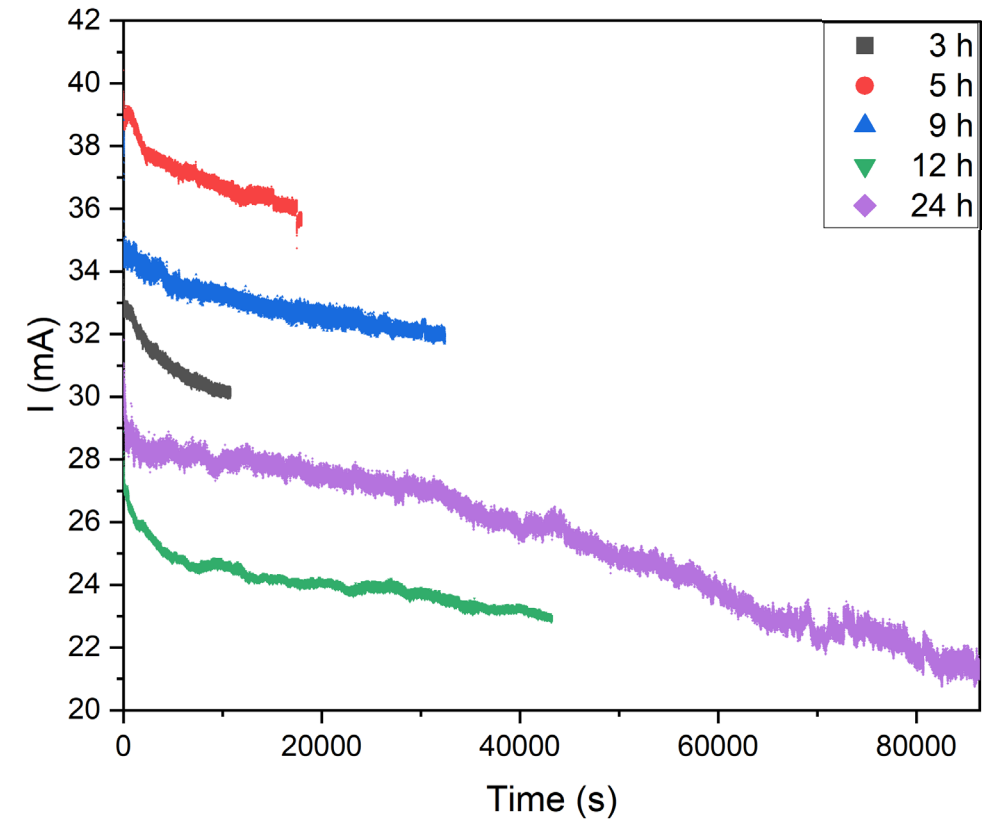
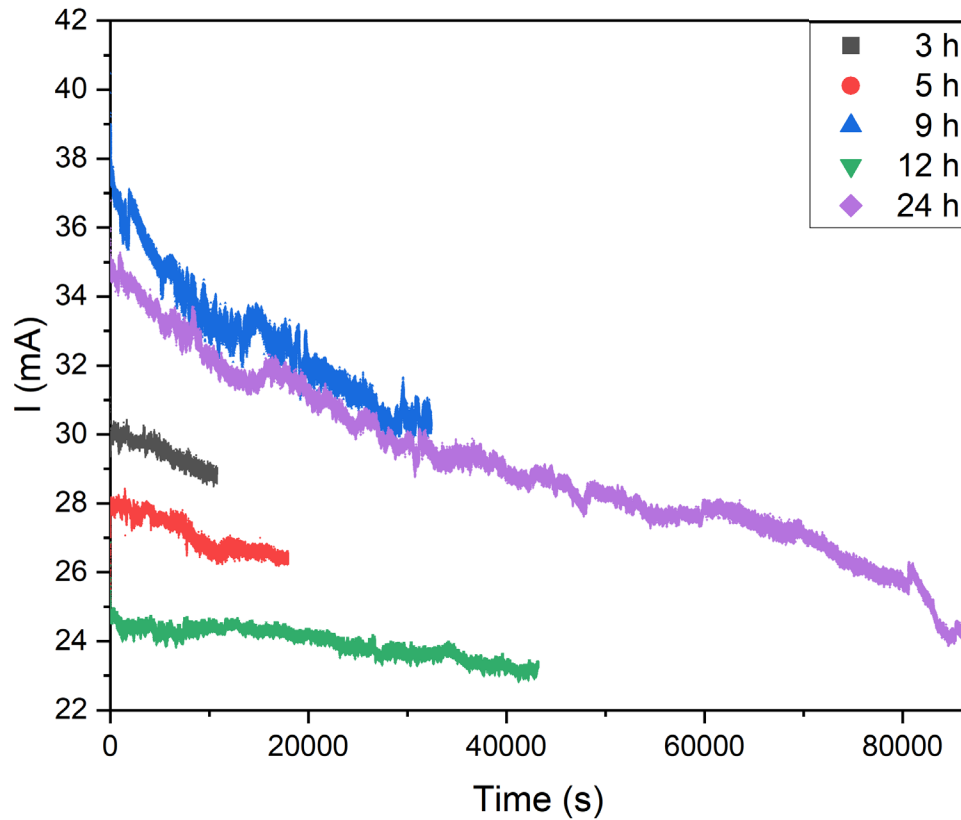


# Electrochemical cell

- Carbon foam - WE
- Alloy mesh – CE



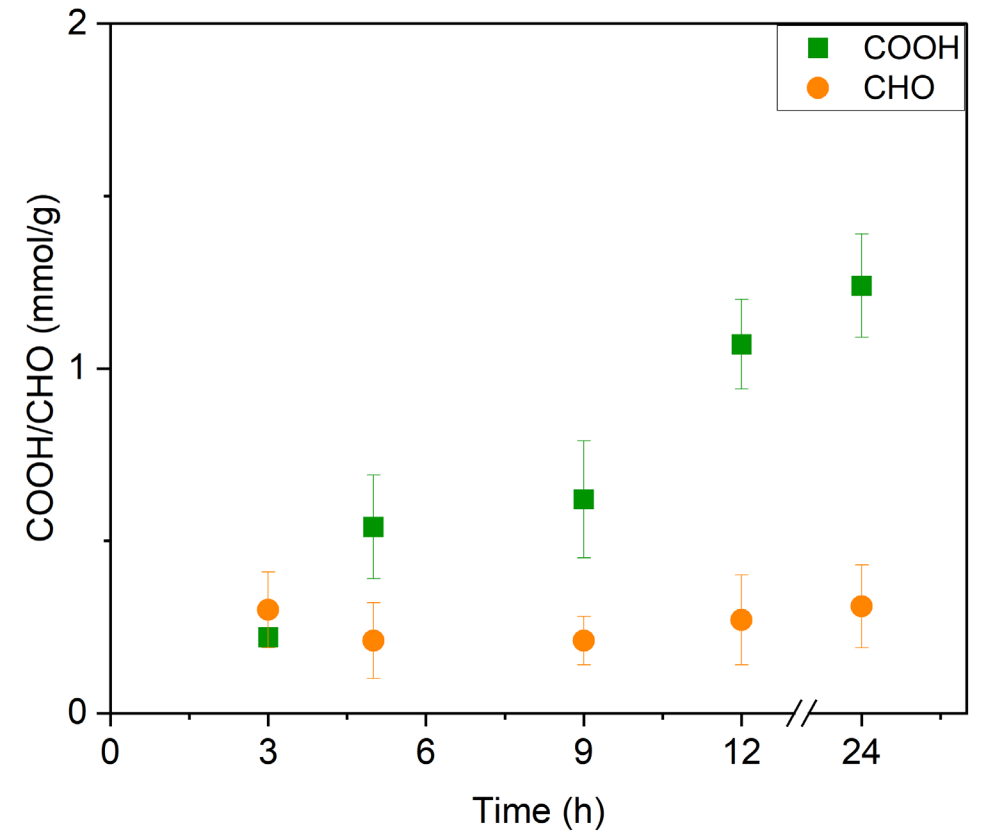
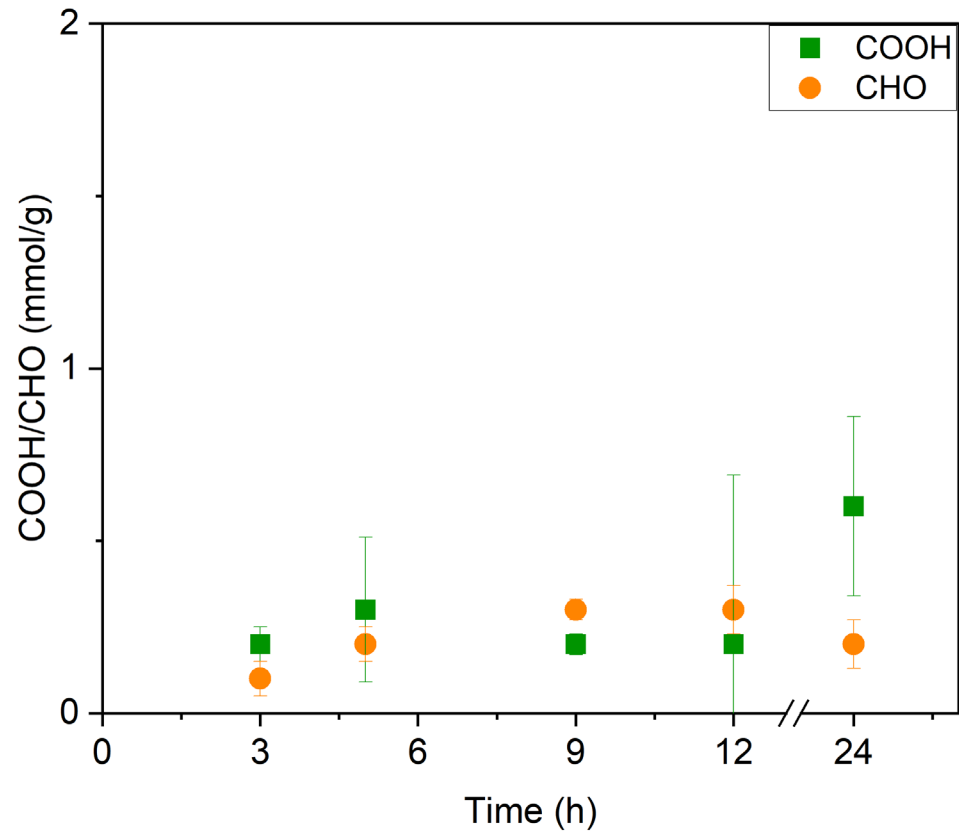
# Electrochemical Oxidation of BC and hydrolyzed BC



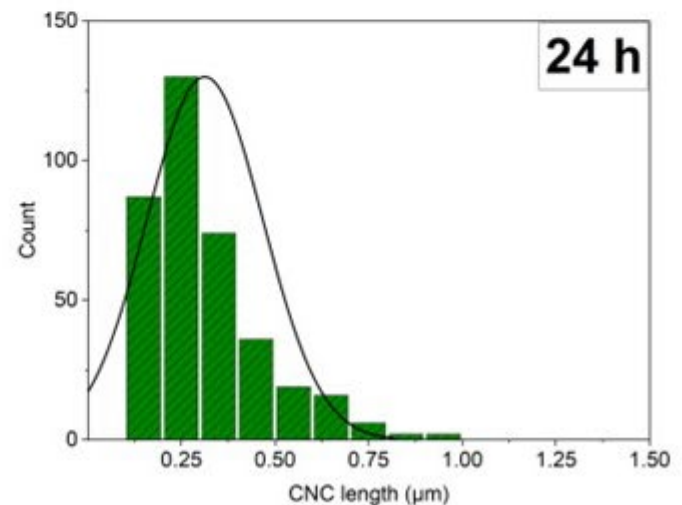
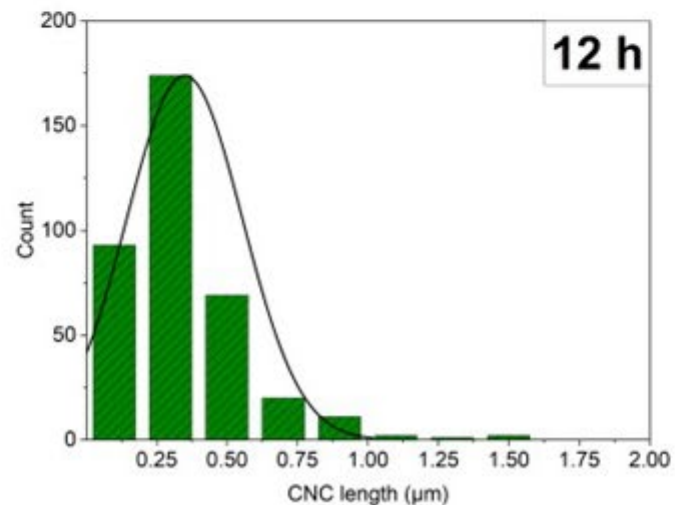
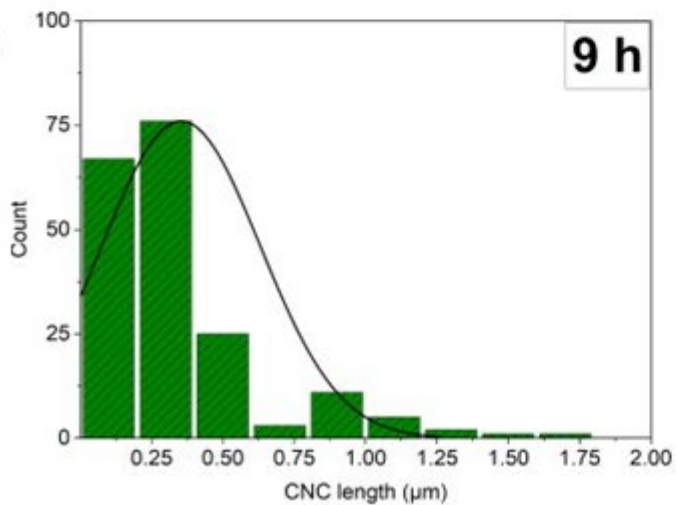
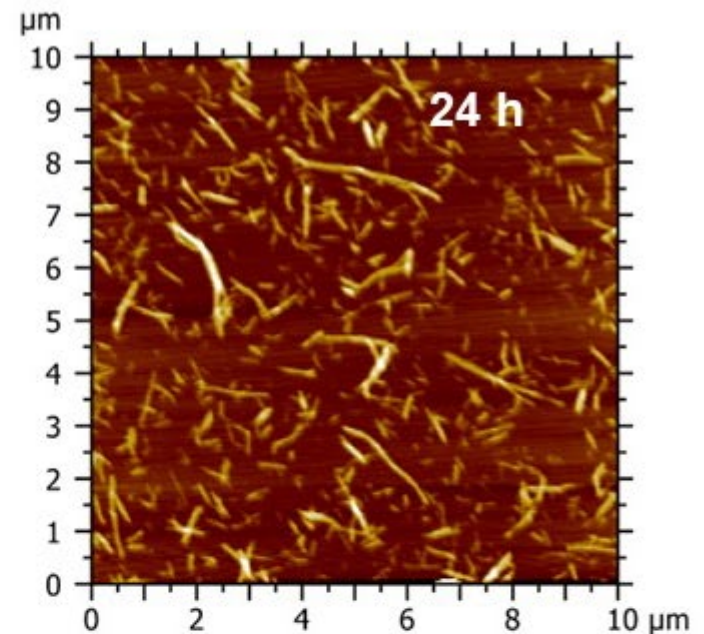
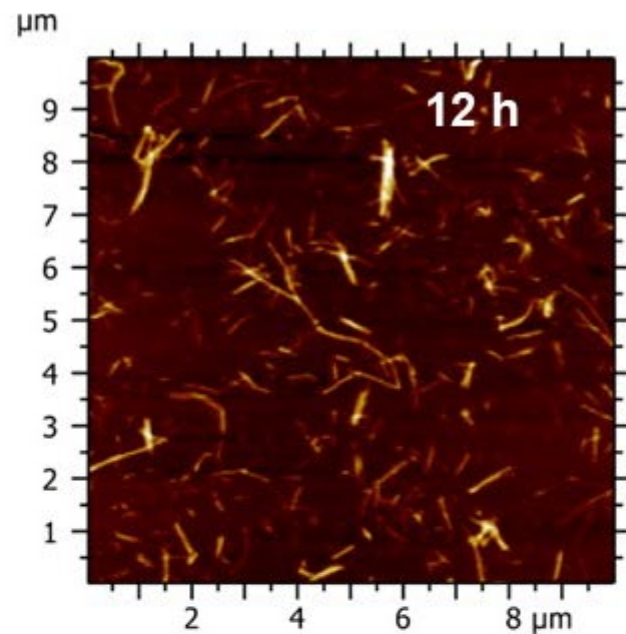
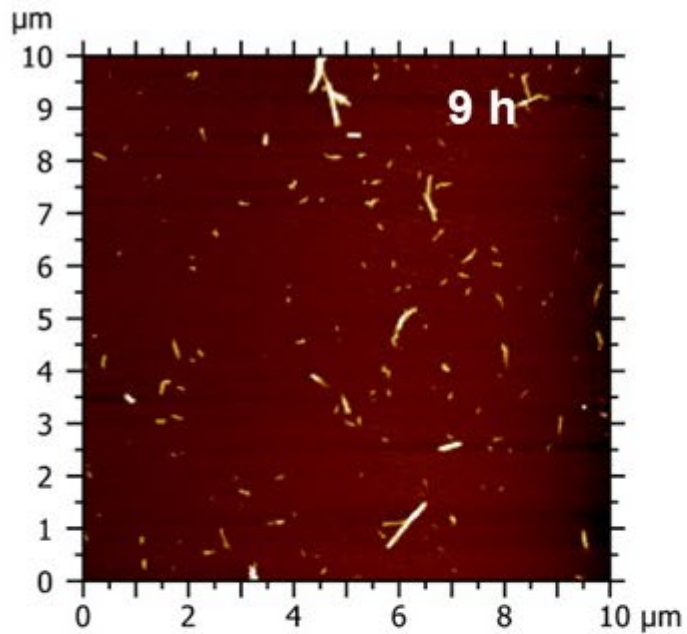
# Determining surface charge after electro-mediated oxidation



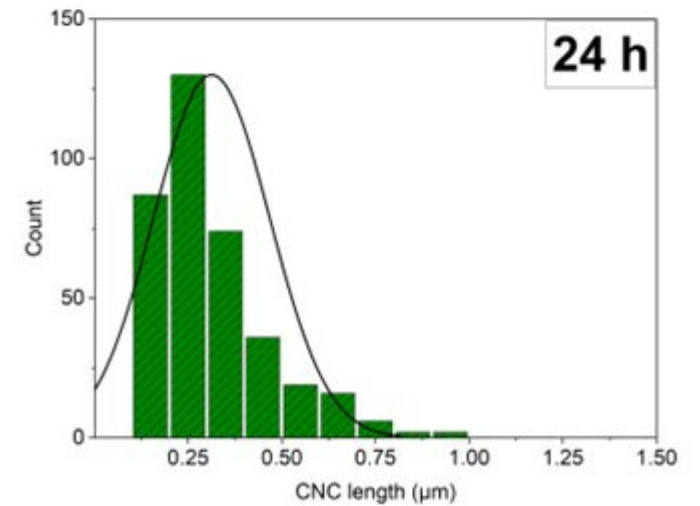
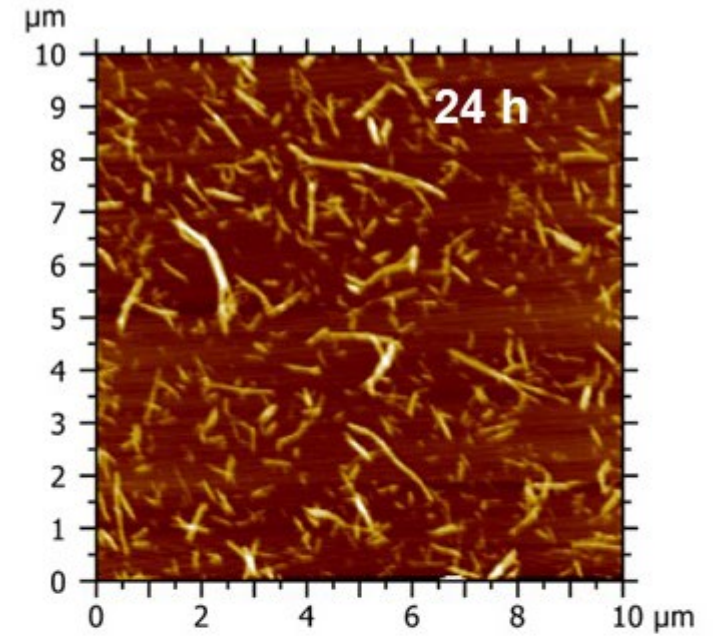
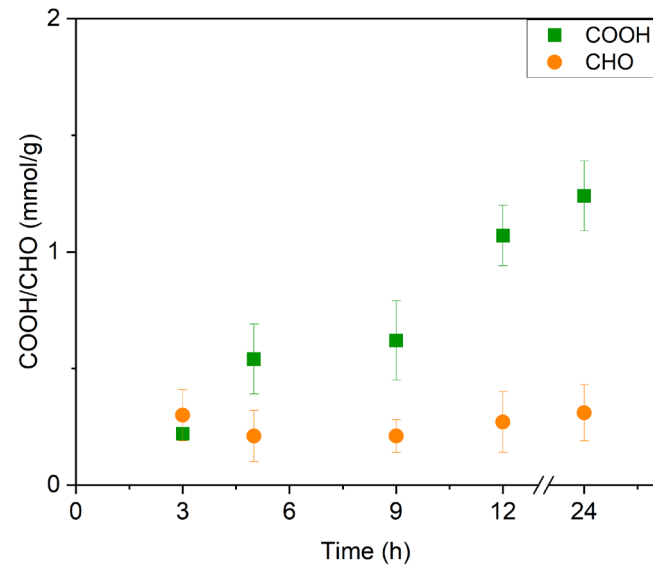
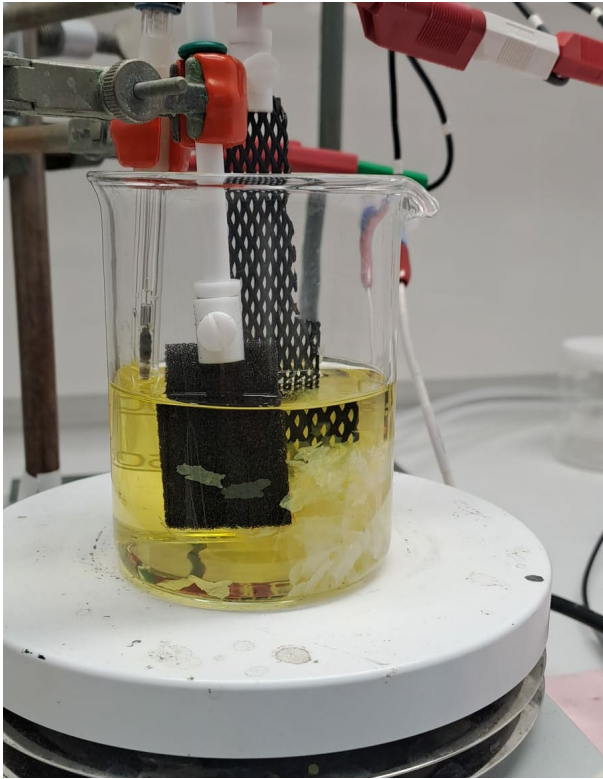
# Carboxylic acid and Aldehyde content



# Length Distributions



# Conclusions



**Thank you for listening!**