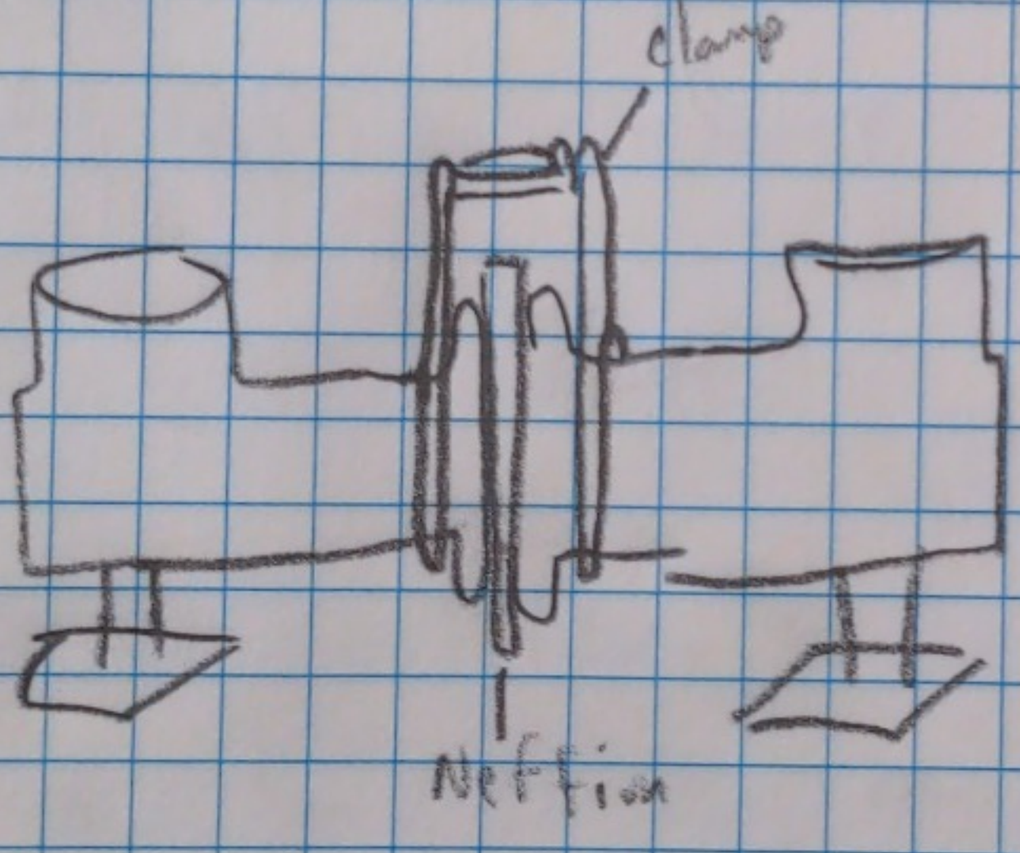
Experiment 1 6/27

1. Clean all cell components using high Z di H_2O

- Figure out how to clean glassware
  - soak in 2M KOH, flow HCl to remove basic then H_2O to remove HCl, then heat w/ H_2O to remove all Cl
- Ensure all glassware is completely dry

Nafion 117 - persulfonated membrane supports H^+ diffusion

- Place membrane between glass cells with washer. Clamp shut



Sodium Acetate

- Fill with 25 mL acetate buffer
  - This is the electrolyte
  The amount of charge is a conversion related to the amount / concentration of electrolyte

- Place WE in electrolyte - knock O_2 off WE by tapping in electrolyte
- Cover with cap.

- Fill counter cell with 25mL acetate buffer
  - make sure level is equal to ensure same pressure
- Sparge WE cell with N_2 → 40 mL/Min Air Flow Rate

Experiment 1

- While sparging, turn on stir
- Set up potentiostat electrodes
  - ensure ease of access
    any disturbance of electrodes might change iR drop in solution.
- Prepare RE, clean with ultrapure DI, dry sufficiently
  - Fill with acetate buffer
    - tap out air bubbles
  - Insert RE into glassware
- Place CE in CE cell
- Tap cell to hood floor to prevent vibration effects
- Connect RE and CE to potentiostat

Name Files

date - catalyst - electrolyte - sparge

Perform CV - Background CV (look up)

Scan Rate: 50mV/s

$E_{1,2}$: .022 — 1.2 vs RHE