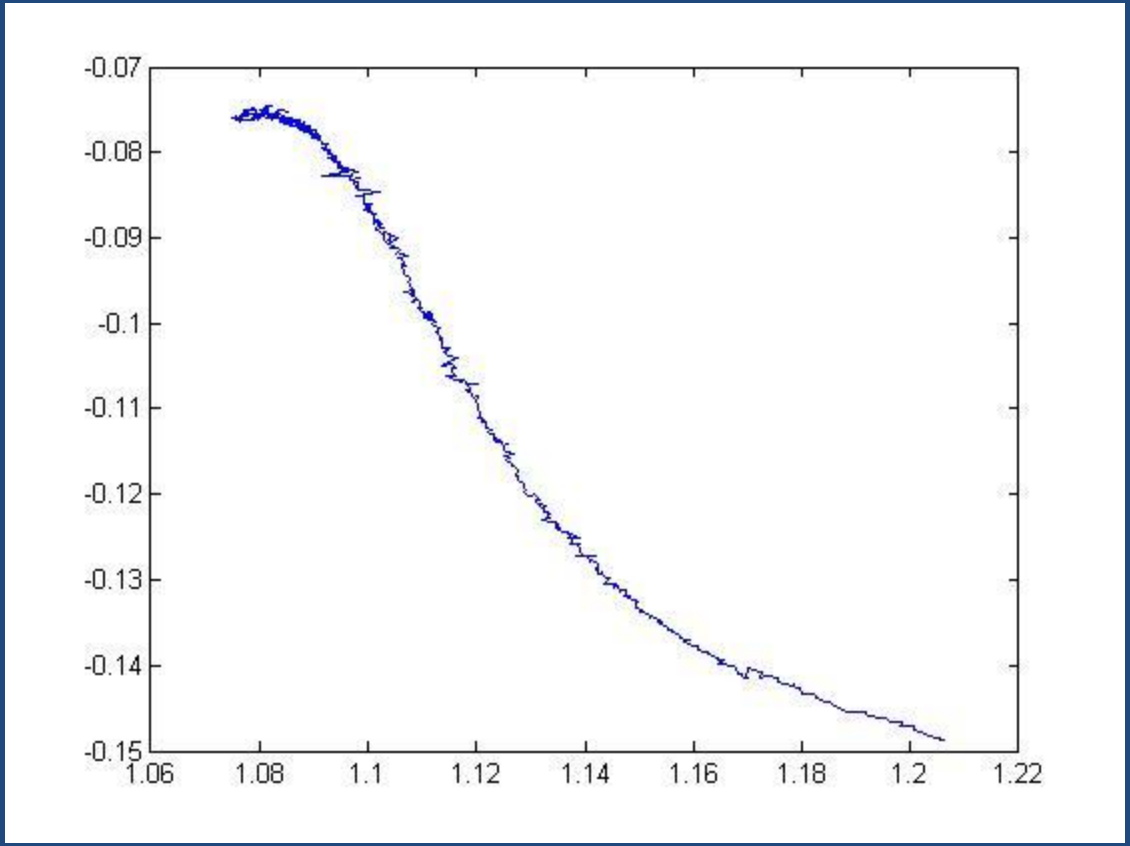
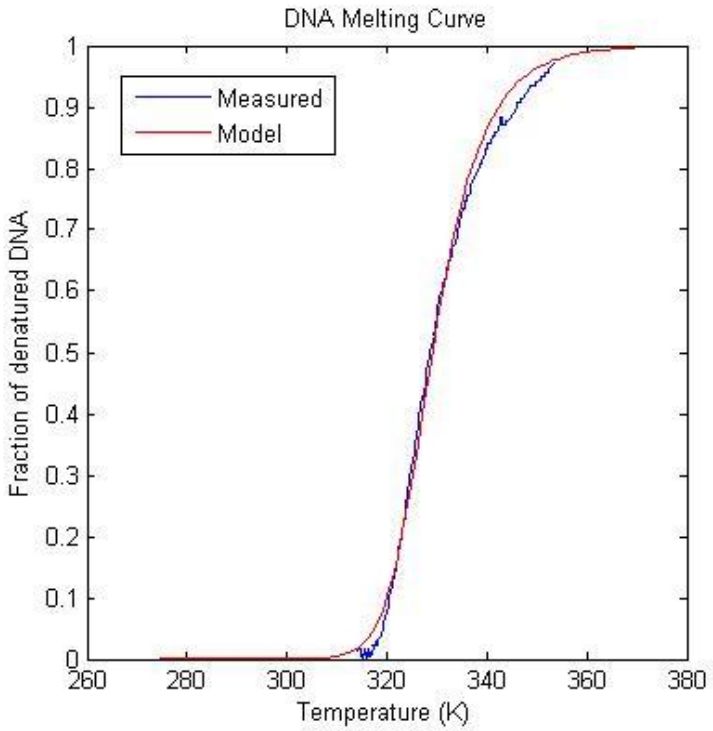
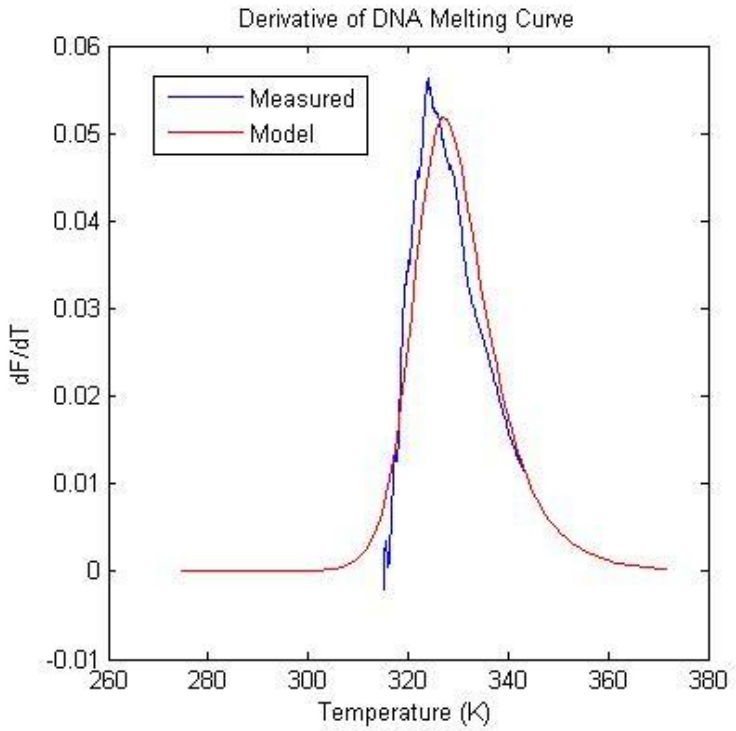
Is This Data Right?



Processed Data





Analysis

- Filter
  - Median filter to remove impulse noise
    - Replace each sample with the median of it and its neighbors
    - Matlab hint: help medfilt1
  - FIR low-pass filter (averaging) to remove random noise
    - 60 Hz comes through vigorously in the derivative
    - Working on 60 Hz filter in VI
    - Matlab hint: help conv
      - Be careful at the edges – conv sets initial conditions to zero
    - Filter design: help fir1
- Transform
  - Range of V_f
    - Assumption?
  - Convert V_{RTD} to temperature
- Take finite difference (derivative)
  - $\Delta F/\Delta T$
  - Is your data a function?
  - Matlab hint: help diff
- Fit to model
  - Matlab hint: help lsqcurevefit
- Compute melting temperature
  - Different methods?
    - *f=0.5*
    - *Maximum df/dt*
    - From fit

Lab Stuff

- Default salt concentration of samples is 100mM
- Dispose of DNA properly
- Please do not drink the DNA
  - Limited supply – going astonishingly fast
- The glass cuvettes are expensive – be careful
- Clean cuvette with DI water
  - It's okay if the glass cuvette has a few droplets of water in it when you change samples