

EDU 107 lab

Molecular Dynamics using ODYSSEY



Open ODYSSEY

1) Molecular Stockroom

- a) Click Inorganic / Lattice Types
- b) Click Inorganic / Water

2) Experiments

- a) Click #1 States of Matter
- b) Click #4 Heat Capacity
 - Click View / Properties / +Properties
 - Choose Thermodynamics / Temperature
 - Choose Energy / Total Energy
 - Click View / Plots / +Plots / Snap Plot
 - Choose x as T and y as Total Energy
 - Run / Use Record Icon • after value is stable
 - Change T and rerun
 - Can fit line through data
- c) #30 Boyle's law
 - Click View / Properties / +Properties
 - Choose Thermodynamics / Temperature
 - Choose Thermodynamics / Pressure
 - Choose Thermodynamics / Volume
 - Click View / Plots / +Plots / Snap Plot
 - Choose x as V , y as P , and T as the parameter
 - Run / Use Record Icon for various values of V
 - Change T and rerun P as a function of V
- d) #36 Maxwell-Boltzmann
 - View / Plots / +Plots / Speed Distribution
 - View / Plots / +Plots / Translat. Kinetic Energy Distribution
 - Run

3) Suggested Exercises

- #2 Elements, Compounds and Mixtures
- #66 S and T
- #40 Effusion
- #41 Diffusion
- #38 Speed and M
- Have fun playing