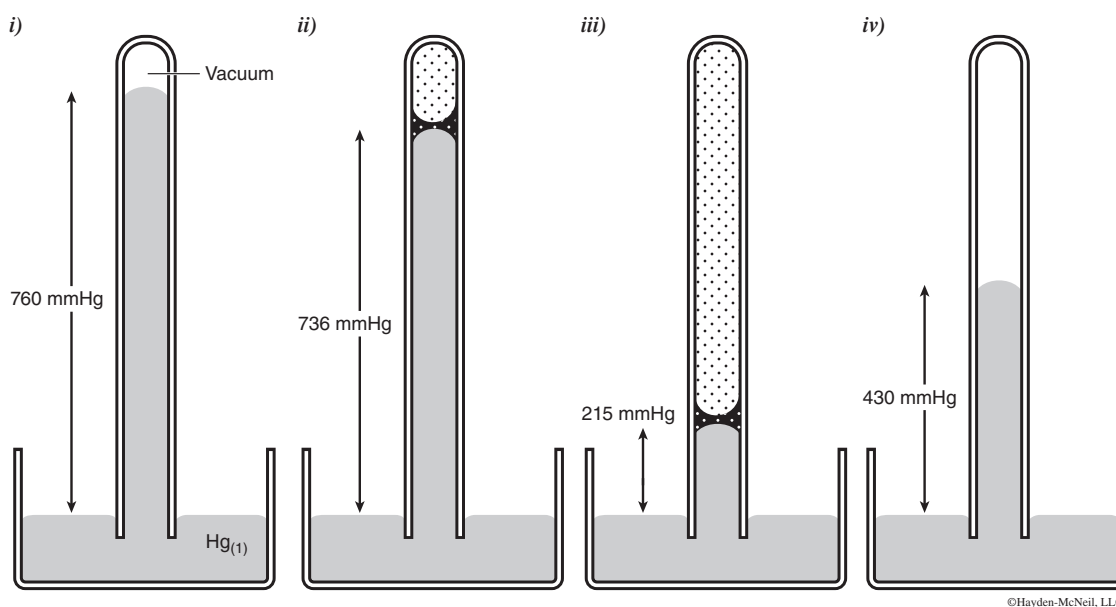


# VAPOR PRESSURE

NAME \_\_\_\_\_

SECTION \_\_\_\_\_

1. Consider the sketches of four barometers. Barometer i shows the measurement of atmospheric pressure. Barometer ii depicts the situation of a sample of water having been injected into the tube. Barometer iii and iv depict samples of diethyl ether having been injected into the tubes. All four barometers are at the same temperature.



- a. Why does the height of the mercury column change when liquids are injected?
  
- b. What is the equilibrium vapor pressure of diethyl ether?
  
- c. What is the pressure of the diethyl ether vapor in barometer iv?

- d. Based on your answers in b and c, what mass of diethyl ether, compared to that in barometer iii, was originally injected into barometer iv? (Note: Answer *more than*, *less than*, or *the same amount as*.)
  
- e. Complete barometer iv by carefully sketching in the space above the mercury level in the tube symbols (dots) which correctly represent the phase(s) present.
  
- f. Using your answers for c through e, explain what happened when the sample of diethyl ether was originally injected into barometer iv.