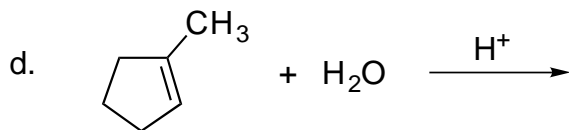
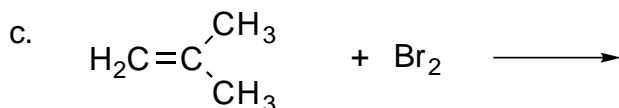
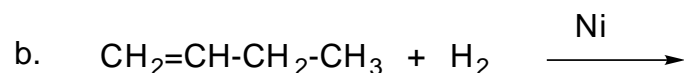
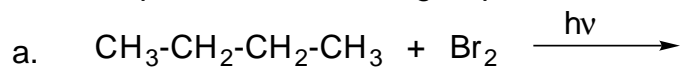


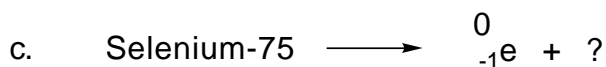
c. If 200 ml chloromethane has a pressure of 750 torr at 25°C, what will its pressure (in torr) be at 250°C?

7. a. Draw extended structures of all alkenes having the formula C₃H₅Cl.
b. Name each of the above alkenes.

8. Complete the following equations. Name reactants and products.



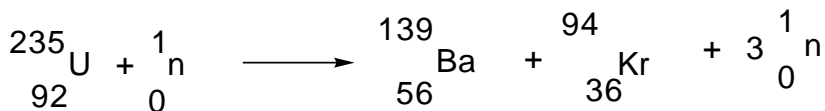
9. Identify the missing components in the nuclear reactions below.



d. Gold (Au)-198 decays to mercury-198 with a half-life of 64.8 hr. Write the equation for this nuclear reaction.

e. If you start with a sample of Au-198 weighing 2 ng, calculate the weight of the sample after 24 hrs.

f. Briefly explain how the reaction below can be used to generate energy.



10. The pK_a of H₂PO₄⁻ is 7.2., 0.72g of NaH₂PO₄ and 0.29 K₂HPO₄ are dissolved in 750 mL water.

a. Calculate the molarity of H₂PO₄⁻
b. Calculate the molarity of HPO₄⁻² (pay attention to stoichiometry).
c. Calculate the pH of the solution (this is a buffer problem).