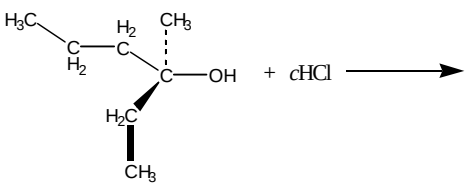
CH1012 Tutorial 9

Name:

1. Predict (skeletal structure) and **name the product** from each of the following reactions:
   Give the **name of the reaction type**. (N.B. Me = CH_3, Et = C_2H_5)

   (i) $MeC{\equiv}CEt + 2Br_2 \rightarrow$

   (ii) 

   (iii) $CH_3CH_2CH{=}CH_2 + HCl \rightarrow$

2. Explain why **aromatic compounds** react with bromine in the presence of a Lewis acid to give **substitution** rather than addition products.

   Illustrate your answer using toluene (MeC_6H_5) and Br_2 / $FeBr_3$.

3. **Aromatic compounds** must obey the **(4n +2) π electron rule** what does this mean?

   Give some two examples to illustrate your answer.

4. Describe in **detail the mechanism** for the following reactions using a simple example for each:

   (i) **meta directed electrophilic aromatic substitution**

   (ii) **S_N2** reaction of 2-bromo-3-methylbutane with sodium hydroxide.
   Indicate the **stereochemistry** of the reactant and product and **name the product**.