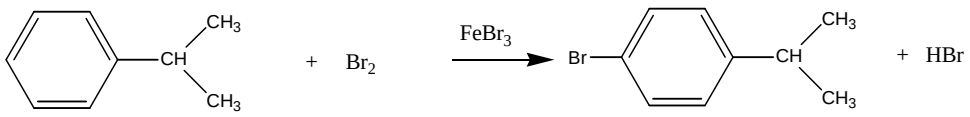
CH1012 Tutorial 8

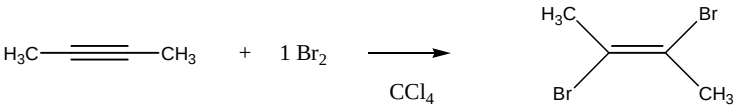
Name:

1. Identify each of the following reactions as **addition**, **elimination** or **substitution** reactions.

(i)



(ii)



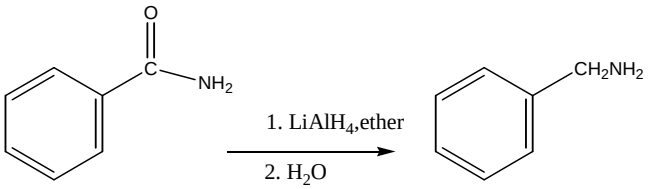
2. Define each of the following, illustrate with an example of each:

(i) **Homolytic** bond cleavage

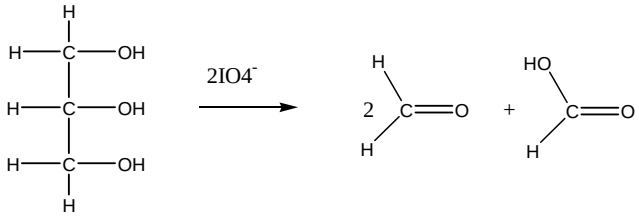
(ii) Nucleophile

3. For the following half reactions work out if the organic transformation is a redox process and, if it is, state if it is a **reduction** or an **oxidation**.

(i)



(ii)



4. Using a **reaction coordinate diagram** illustrate the variation in energy associated with a two step reaction where the first step is endothermic and the second step is exothermic, the overall reaction is exothermic. Illustrate the position of transition state(s) and intermediate(s) on the diagram.

5. Describe in **detail the mechanism** of the following reactions, give an example of each:

   (i) **radical substitution** of alkanes

   (ii) **Markovnikov electrophilic addition** to alkenes .