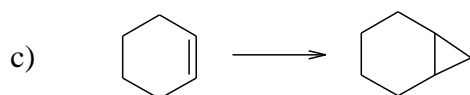
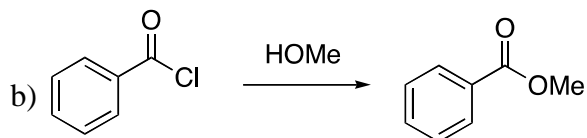
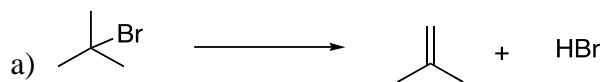


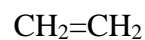
- 1) Classify the following reactions in one of the four categories: addition, elimination, substitution and rearrangement.



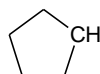
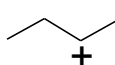
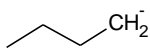
- 2) Indicate the positive and negative centers using  $\delta^+$  and  $\delta^-$  in the following compounds. (Hint: draw the Lewis structure first with the appropriate bond angles)



- 3) Classify the following as Lewis acids or Lewis bases. (Hint: look for high electron densities)



- 4) Label the following as carbocation, carbonanion, carbene or radical.



- 5) Give the description of the following graph, i.e. endothermic,  $E_a$ , two steps/one step?

