# **Final Report**

2021. 06. 07. ~ 06. 15.

### **Problem 1**

Each of the following carbocations can rearrange to a more stable ion. Propose structures for the likely rearrangement products.

(a) 
$$CH_3CH_2CH_2CH_2^+$$
 (b)  $CH_3CHCHCH_3$  (c)  $CH_3$   $CH_2^+$   $CH_3$ 

### **Problem 2**

Predict the product(s) and show the complete electron-pushing mechanism for each of the following dissolving metal reductions.

(a) 
$$H_3CC \equiv CCH_2CH_3 \xrightarrow{NH_3}$$

(b) 
$$\searrow$$
  $C \equiv CH \xrightarrow{ND_3}$ 

(c) 
$$C \equiv C - CH_3$$
  $C \equiv C - CH_3$   $C \equiv C + CH_3$   $C \equiv C + CH_3$ 

# **Problem 3**

What product(s) would you expect from the reaction of 1-methylcyclohexene with NBS? Would you use this reaction as part of a synthesis?

# **Problem 4**

Predict the product(s) for each elimination reaction below. In each case show the mechanism. What do the mechanisms have in common? Why?

(b) OH
$$CH_3 \qquad NaOH \\
H_2O$$

© 2016 Cengage Learning