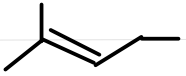
Organic Concepts Homework

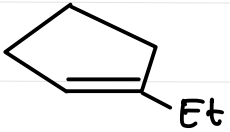
HomeWork-Sheet-1

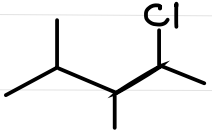
Based on Free radical Substitution &
Nucleophilic Substitution

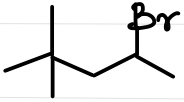
Q. Identify the MAJOR Product.

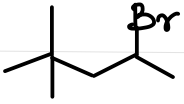
1.  $\xrightarrow[\Delta]{Br_2}$

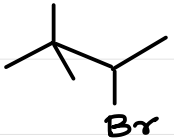
2.  $\xrightarrow[CCl_4,\ \Delta]{NBS}$

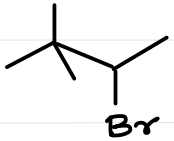
3.  $\xrightarrow[CCl_4]{NBS}$

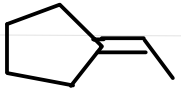
4.  $\xrightarrow{H_2O}$

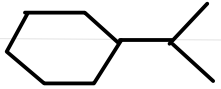
5.  $\xrightarrow{MeOH}$

6.  $\xrightarrow[DMSO]{NaCN}$

7.  $\xrightarrow{EtOH}$

8.  $\xrightarrow{NaSH}$

9.  $\xrightarrow[CCl_4, \Delta]{NBS}$

10.  $\xrightarrow[\Delta]{Br_2}$

Q 2. Arrange the following in decreasing order of :

1. PhO^-, $\bar{O}H$, $MeCOO^-$, MeS^- (Nucleophilicity)
2. F^-, $\bar{C}H_3$, MeO^-, $\bar{N}H_2$ (Basicity)
3. F^-, $\bar{C}H_3$, MeO^-, $\bar{N}H_2$ (Nucleophilicity)

P.T.O

4. F^-, Br^-, I^-, Cl^- Basicity in H_2O

5. F^-, Br^-, I^-, Cl^- Nucleophilicity in H_2O

6. F^-, Br^-, I^-, Cl^- Nucleophilicity in DMSO

7. CN^-, MeS^-, Cl^-, I^-, MeO^- Nucleophilicity in CH_3OH

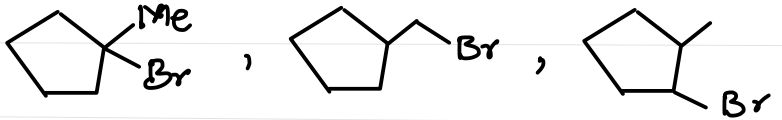
8. 2-Bromopane, 1-Bromopropane, 2-Bromo-2-methylpropane, bromomethane

Ease of S_N2 reaction

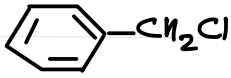
9. 2-Bromopentane, 2-chloropentane, 3-Bromo-3-methyl pentane,

1-Chloropentane

Ease of S_N1 reaction

10. 

Ease of S_N2 reaction

11. 

+ R_1 : KCN/alc ⟶

+ R_2 : NaSH/H_2O ⟶

+ R_3 : NaOH/H_2O ⟶

Ease of S_N2 reaction with respect to Reagents: R_1, R_2 & R_3