Complete the following reactions. Circle the most favored products.

$$1. \quad \underbrace{\stackrel{\text{OH}}{\underset{\Delta}{\bigvee}}}_{[K_2 C r_2 O_{7}/H_2 S O_4]}$$

$$2. \qquad \qquad \underset{\Delta}{\text{OH}} \qquad \underset{\Delta}{\underset{|K_2 \text{Cr}_2 \text{O}_7 / H_2 \text{SO}_4|}{\text{A}}}$$

$$4.$$
 \leftarrow NaOH \rightarrow

7.
$$\bigcirc$$
CI + NaOH \longrightarrow

8.
$$\bigcirc$$
CI + NaOH \longrightarrow

12. OH + OH
$$\underline{\text{[-H}_2O]}$$

$$13.$$
 OH + HCI [ZnCl₂]

$$15. \quad \xrightarrow{\text{OH}} \quad \xrightarrow{[K_2 \text{Cr}_2 \text{O}_7/\text{H}_2 \text{SO}_4]}_{\Delta}$$

16.
$$\longrightarrow$$
 + NaOH \longrightarrow

$$19. \quad \underset{\Delta}{\underbrace{\hspace{1cm}}} \text{OH} \quad \xrightarrow{\underbrace{ \left[K_2 C r_2 O_7 / H_2 S O_4 \right]}}$$

$$20. \quad \stackrel{\text{OH}}{\longleftarrow} \quad \stackrel{\text{\tiny [-H_2O]}}{\longrightarrow} \quad$$

$$21. \qquad \stackrel{\mathsf{OH}}{\longrightarrow} \qquad \stackrel{[\mathfrak{0}]}{\longrightarrow} \qquad$$

$$23.$$
 OH [0]

24.
$$\stackrel{\mathsf{OH}}{\longleftarrow}$$
 + HCl $\stackrel{\mathsf{[ZnCl_2]}}{\longleftarrow}$

$$25. \qquad \underbrace{\qquad \qquad }_{\text{OH}} \qquad \underbrace{\qquad \qquad }_{\text{[o]}}$$

Question 3:
$$H_2O$$

Question 5:
$$+ H_2O$$
 Rate: Fast

Question 6:
$$+ H_2O$$

Question 10:
$$+ H_2O$$

Question 13:
$$+ H_2O$$
 Rate: Very Slow

- Question 16: + NaCl
- Question 17: $+ H_2O$ Rate: Slow
- Question 18: + + + + + +₂O

- ${\rm Question} \ 21: \ \ \mbox{No Reaction}$
- Question 22: $+ H_2O$
- Question 24: H_2O Rate: Slow
- Question 25: $+ H_2O$