Complete the following reactions. Circle the most favored products.

$$1. \quad \stackrel{OH}{\underset{\Delta}{|K_2\mathrm{Cr}_2\mathrm{O}_7/\mathrm{H}_2\mathrm{SO}_4|}}$$

$$2. \xrightarrow[OH]{[K_2 \text{Cr}_2 \text{O}_7/\text{H}_2 \text{SO}_4]} \Delta$$

$$5. \qquad \xrightarrow[OH]{\frac{[K_2\mathrm{Cr}_2\mathrm{O}_7/\mathrm{H}_2\mathrm{SO}_4]}{\Delta}}$$

8.
$$\downarrow$$
 OH + \downarrow OH $[-H_2O]$

9. OH + OH
$$[-H_2O]$$

10.
$$\downarrow$$
 HCI $\underline{[ZnCl_2]}$

12.
$$\bigcirc$$
 OH \bigcirc [0]

16. OH
$$+$$
 OH $\underbrace{[H_2O]}_{OH}$

17.
$$\rightarrow$$
 OH $+$ OH $\xrightarrow{[-H_2O]}$

$$18. \qquad \stackrel{\text{OH}}{\underset{\Delta}{\longrightarrow}} \qquad \stackrel{[K_2Cr_2O_7/H_2SO_4]}{\underset{\Delta}{\longrightarrow}}$$

19. —OH +
$$\bigcirc$$
OH $[-H_2O]$

20. OH + OH
$$\underline{\text{[-H_2O]}}$$

$$21.$$
 —OH + OH [-H₂O]

$$23. \qquad \text{OH} \qquad \underbrace{ \begin{bmatrix} \mathbb{K}_2 \mathrm{Cr}_2 \mathrm{O}_7 / \mathbb{H}_2 \mathrm{SO}_4 \end{bmatrix}}_{\Delta}$$

$$24.$$
 OH [0]

$$25.$$
 \bigcirc CI $^+$ NaOH \longrightarrow

- ${\it Question \ 1:} \ \ {\it No \ Reaction}$
- Question 2: No Reaction
- Question 3: $+ H_2O$ Rate: Very Slow
- Question 4: $+ H_2O$
- Question 5: No Reaction
- Question 6: $+ H_2O$ Rate: Fast
- Question 7: No Reaction
- Question 8: $+ H_2O$
- Question 10: \downarrow \downarrow CI + H_2O Rate: Slow
- Question 11: $+ H_2O$ Rate: Slow
- Question 12: $+ H_2O$
- Question 13: $+ H_2O$ Rate: Slow
- Question 14: $+ H_2O$ Rate: Slow

Question 16:
$$+ H_2O$$

Question 17:
$$+ H_2O$$

Question 22:
$$+ H_2O$$
 Rate: Very Slow