Complete the following reactions. Circle the most favored products.

1.
$$+ 2 Cu^{+2}_{(aq)} + NaOH$$
 [o]

2.
$$+ 2 Cu^{+2}_{(aq)} + NaOH$$

5.
$$+ 2 \text{ Ag}^+_{(aq)} + \text{NH}_{3(aq)} \xrightarrow{[0]}$$

$$7. \quad \stackrel{\text{OH}}{\underset{\Delta}{\longrightarrow}} \quad \stackrel{[\mathrm{K_2Cr_2O_2/H_2SO_4}]}{\xrightarrow[\Delta]{}}$$

9.
$$\rightarrow$$
 OH $\boxed{[H^+]}$

$$10. \quad \begin{array}{c} \bullet \\ \bullet \\ \end{array} \quad + \quad \begin{array}{c} \bullet \\ \hline \end{array} \quad \begin{array}{c} \text{[dilute NaOH]} \\ \bullet \\ \end{array}$$

13.
$$\stackrel{\text{CI}}{\longrightarrow}$$
 + NaOH \longrightarrow

17.
$$+ 2 \text{ Ag}^+_{(aq)} + \text{NH}_{3(aq)}$$
 [0]

18. OH
$$+$$
 OH $\underline{[H_2O]}$

19.
$$\downarrow$$
 OH + \downarrow OH $[\cdot H_2 \circ]$

$$21. \quad \stackrel{\mathsf{OH}}{\underset{\Delta}{\longleftarrow}} \quad \stackrel{[K_2\mathrm{Cr}_2\mathrm{O}_7/\mathrm{H}_2\mathrm{SO}_4]}{\xrightarrow{\Delta}}$$

23.
$$\longrightarrow$$
 $\xrightarrow{H_2/Ni}$

Question 1: No Reaction

Question 2:
$$- Cu_2O_{(s)} + H_2O$$
 Visible Change: clear blue \longrightarrow brick-red

ppt

Question 3:
$$+ H_2O$$

Question 5: No Reaction

 ${
m Question} \ 7: \ \ {
m No \ Reaction}$

Question 8:
$$+ H_2O$$

Question 10:
$$+$$
 $+$ $+$

Question 11:
$$+Cu_2O_{(s)} + H_2O$$
 Visible Change: clear blue \longrightarrow brick-

red ppt

Question 12:
$$+ H_2O$$
 Rate: Fast

- Question 14: + NaCl
- Question 15: $+Cu_2O_{(s)} + H_2O$ Visible Change: clear blue \longrightarrow brick-red ppt
- Question 16: $+ H_2O$ Rate: Very Slow
- Question 17: \longrightarrow $^{\circ NH_4}$ +2 $Ag_{(s)}$ Visible Change: clear \longrightarrow Silver Mirror
- Question 18: + H_2O
- Question 19: $+ H_2O$

- Question 22: $_{\text{CO}_2}$ (g) + $_{\text{H}_2}$ O (g) + Heat Balance: (2,21,14,16)
- Question 23: