Chapter 19 − Problems 2, 4, 6, 24

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2. (a)

$$(en) = 0$$
$$\text{SCN} = -1 \tag{1}$$
$$\text{OH} = -1$$

(b)

$$-1 = O_{\text{Cd}} + 2(-1) + 2(-1)$$
$$O_{\text{Cd}} = +3 \tag{2}$$

(c) $\text{Mg[Cd(en)(SCN)}_2\text{(OH)}_2]$

4. (a) i. $\text{Pt(NH}_3)_2\text{(C}_2\text{O}_4)$
   ii. Charge $= 0$

   (b) i. $\text{Pt(NH}_3)_2\text{(SCN)Br}$
   ii. Charge $= 0$

   (c) i. $\text{Pt(en)(NO}_2)_2$
   ii. Charge $= 0$

6. (a) 6

   (b) 4

   (c) 6

   (d) 2

24. (a)

$$
\begin{array}{ccc}
\text{H}_2\text{O} & & \text{H}_2\text{O} \\
 & \diagdown \quad \diagup & \\
\text{Br} - & \text{Cu} & - \text{Br} \\
 & \diagup \quad \diagdown & \\
\text{H}_2\text{O} & & \text{H}_2\text{O}
\end{array}
$$

(b)

$$
\begin{array}{c}
\text{I} \\
| \\
\text{Zn} \\
\diagup \ | \ \diagdown \\
\text{OH} \quad | \quad \text{OH} \\
\text{I}
\end{array}
$$

(c)

$$
\begin{array}{c}
\text{NH}_3 \\
| \\
\text{NH}_3 \!-\! \text{Pt} \!-\! \text{NH}_3 \\
| \\
\text{NH}_3
\end{array}
$$

(d)

$$
\begin{array}{c}
\text{C}_2\text{O}_4 \quad \text{H}_2\text{O} \\
\diagdown \ \diagup \\
\text{Ni} \\
\diagup \ \diagdown \\
\text{C}_2\text{O}_4 \quad \text{H}_2\text{O}
\end{array}
$$

(e)

$$
\begin{array}{c}
\text{CN} \\
| \\
\text{Au} \\
| \\
\text{NH}_3
\end{array}
$$