

NO.90 の問題の解答です。

例題 次の化学式の下線を引いた原子の酸化数はいくつか。



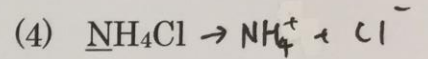
$$\begin{aligned} (+1) \times 2 + x &= 0 \\ x &= -2 \end{aligned}$$



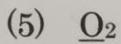
$$\begin{aligned} 2x + (-2) \times 3 &= 0 \\ 2x - 6 &= 0 \\ 2x &= 6 \\ x &= +3 \end{aligned}$$



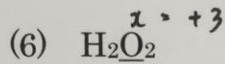
$$\begin{aligned} (+1) \times 3 + x + (-2) \times 4 &= 0 \\ 3 + x - 8 &= 0 \\ x &= +5 \end{aligned}$$



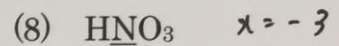
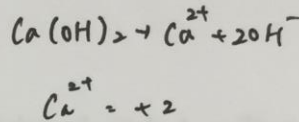
$$\begin{aligned} \underline{\text{NH}_4^+} \text{ 2" } \times 2 \cdot \\ x + (+1) \times 4 &= +1 \\ x + 4 &= 1 \end{aligned}$$



単体1つ2"
0

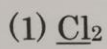


例外1)
-1

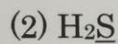


$$\begin{aligned} (+1) + x + (-2) \times 3 &= 0 \\ 1 + x - 6 &= 0 \\ x &= +5 \end{aligned}$$

問題



単体1つ2"
0



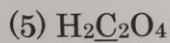
1) と同様
x = -2



$$\begin{aligned} 2x + (-2) \times 5 &= 0 \\ 2x - 10 &= 0 \\ 2x &= 10 \\ x &= +5 \end{aligned}$$



$$\begin{aligned} x + (-2) \times 2 &= 0 \\ x - 4 &= 0 \\ x &= +4 \end{aligned}$$



$$\begin{aligned} (+1) \times 2 + 2x + (-2) \times 4 &= 0 \\ 2 + 2x - 8 &= 0 \\ 2x - 6 &= 0 \\ 2x &= +6 \\ x &= +3 \end{aligned}$$

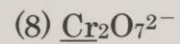
【解答】



$$\begin{aligned} x + (-2) \times 4 &= -2 \\ x - 8 &= -2 \\ x &= -2 + 8 \\ x &= +6 \end{aligned}$$



$$\begin{aligned} \text{KMnO}_4 \rightarrow \text{K}^+ + \text{MnO}_4^- \\ x + (-2) \times 4 &= -1 \\ x - 8 &= -1 \\ x &= -1 + 8 \\ x &= +7 \end{aligned}$$



$$\begin{aligned} 2x + (-2) \times 7 &= -2 \\ 2x - 14 &= -2 \\ 2x &= -2 + 14 \\ 2x &= 12 \\ x &= +6 \end{aligned}$$

