

Red-Ox Reaction Assignment  
CHM 1046 Professor Fowler

1. Balance the following reaction in *acidic* solution using half-cells.  
Use  $\text{H}^{+1}$  and not  $\text{OH}^{-1}$ .  $\text{Zn}_{(s)} + \text{H}_2\text{SO}_{4(aq)} \rightarrow \text{Zn}^{+2}_{(aq)} + \text{H}_2\text{S}_{(g)}$

Balanced Ox Half-Cell:

Balanced Red Half-Cell:

Balanced Overall Cell:

2. Balance the following reaction in *acidic* solution using half-cells.  
Then, determine the cell potential using [Appendix L](#) or [Table 17.1](#).  
 $\text{I}^{-1}_{(aq)} + \text{Cr}_2\text{O}_7^{-2}_{(aq)} \rightarrow \text{Cr}^{+3}_{(aq)} + \text{I}_{2(s)}$

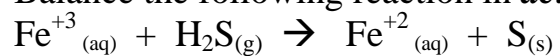
Balanced Ox Half-Cell:

Balanced Red Half-Cell:

Balanced Overall Cell:

Cell Potential Equation:

3. Balance the following reaction in **acidic** solution using half-cells.



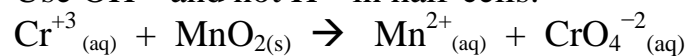
Balanced Ox Half-Cell:

Balanced Red Half-Cell:

Balanced Overall Cell:

4. Balance the following reaction in **basic** solution using half-cells.

Use  $\text{OH}^{-1}$  and not  $\text{H}^{+1}$  in half-cells.



Balanced Ox Half-Cell:

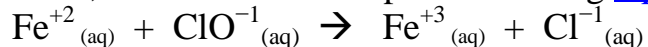
Balanced Red Half-Cell:

Balanced Overall Cell:

5. Balance the following reaction in *basic* solution.

Use  $\text{OH}^{-1}$  and not  $\text{H}^{+1}$  in half-cells.

Then, determine the cell potential using [Appendix L](#) or [Table 17.1](#).



Balanced Ox Half-Cell:

Balanced Red Half-Cell:

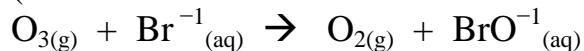
Balanced Overall Cell:

Cell Potential Equation:

6. Balance the following reaction in *basic* solution.

Use  $\text{OH}^{-1}$  and not  $\text{H}^{+1}$  in half-cells.

(Note:  $\text{BrO}^{-1}$  half-cell is similar to reverse of  $\text{ClO}^{-1}$  half-cell above.)



Balanced Ox Half-Cell:

Balanced Red Half-Cell:

Balanced Overall Cell: