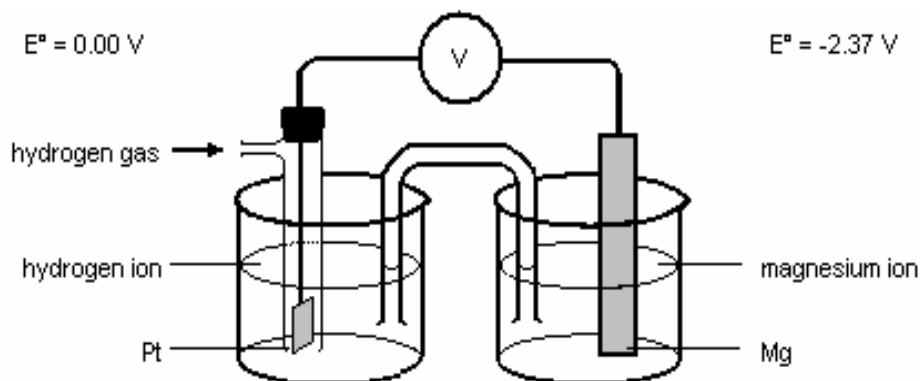


### Electrochemical Cells

How much do you understand?

The following electrochemical cell was set up.



Mark on the diagram the following parts

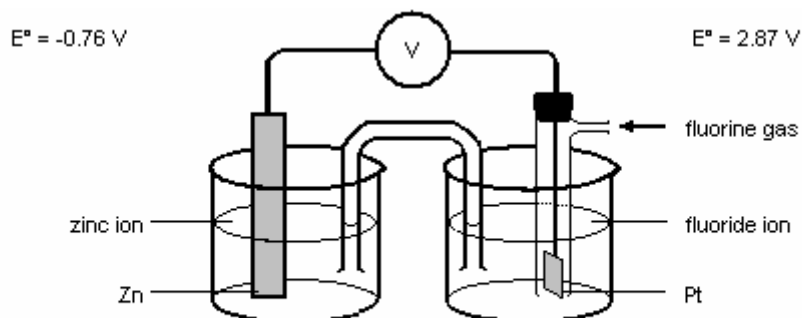
- 1) The direction of the electron flow
- 2) The anode
- 3) The cathode
- 4) The half cell in which oxidation is taking place
- 5) The half cell in which reduction is taking place.
- 6) Calculate the reading on the Voltmeter.
- 7) Explain why the Voltmeter must have a very high resistance (what would happen if it did not?)
- 8) Explain why the salt bridge is needed. What care must be taken when choosing a suitable electrolyte to include in the salt bridge.
- 9) Write the 2 balanced ion-electron half equations for the reaction taking place in each cell.
- 10) Combine the 2 balanced ion-electron half equations from Q9 to make an equation for the overall chemical redox reaction taking place in the cell.



Redox Chemistry AS 90696 Describe oxidation - reduction processes

More questions. For each of the following electrochemical cells, calculate the overall standard cell potential and draw an electrochemical cell diagram using IUPAC notation.

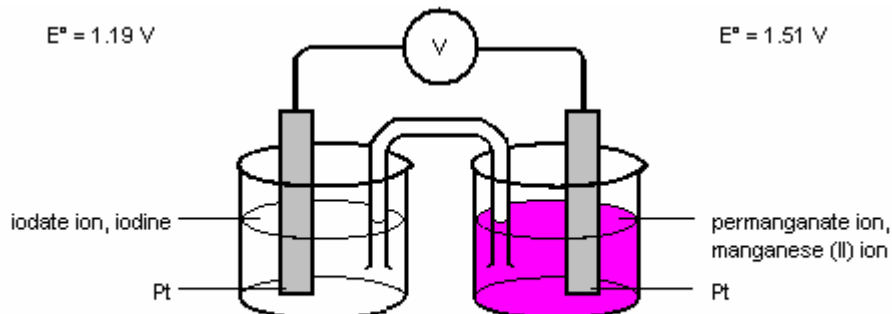
1)



Cell diagram :

||

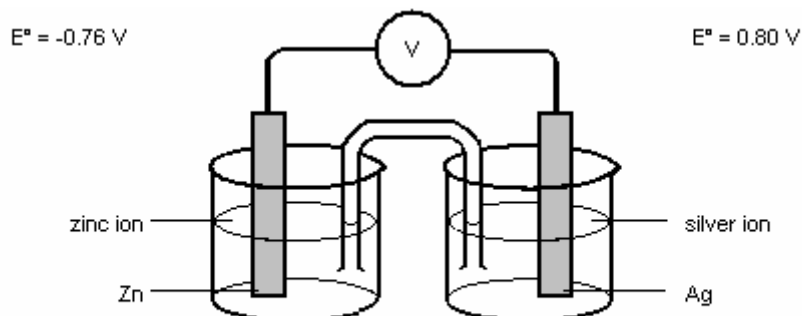
2)



Cell diagram :

||

3)



Cell diagram :

||

## Redox Chemistry AS 90696 Describe oxidation - reduction processes

For questions 1) - 3) on the previous page write balanced ion-electron half equations for the redox half reactions taking place in each beaker.

Then combine the balanced half equations to give the overall equation for the reaction taking place in the electrochemical cell.

1) Anode half equation :

Cathode half equation :

Overall balanced equation

2) Anode half equation :

Cathode half equation :

Overall balanced equation

3) Anode half equation :

Cathode half equation :

Overall balanced equation