**Drawing a galvanic cell** : Using the electrochemical series to predict a reaction

**Qn**. A **galvanic cell can be constructed** by connecting an iron half-cell with an iodine half-cell.

 Use the snippet of **the electrochemical series**, and the cell template, provided below to draw the

 resulting cell.

**Electrochemical series snippet**



**Template**



 Use the template to show, the

* reactants
* direction of electron flow
* polarity
* ion movement on the salt bridge
* half equations
* overall equation

**Solution**

 **+ -**

 cathode anode

 Pt(s) Pt(s)

 FeCl3/FeCl2  KI

 Fe3+(aq) + e- 🡪 Fe2+(aq) 2I-(aq) 🡪 I2(l) + 2e-

 **Overall equation** 2Fe3+(aq) + 2I-(aq) 🡪 Fe2+(aq) + I2(l) voltage 0.77-0.54 = 0.23 V

 **Salt bridge**: K+ moving into Fe half-cell/ NO3- moving into I half-cell