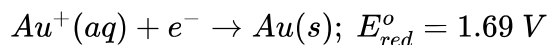
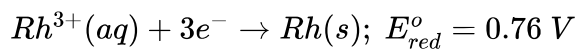


1. Which is the correct value for the standard potential for a gold-rhodium voltaic cell?

The standard half cell potential at 298 K are:

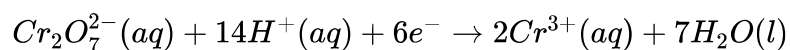


- A. 2.45 V
 - B. 0.93 V
 - C. 5.83 V
 - D. 4.31 V
2. KCl is used in salt bridge because:
 - A. It forms a good jelly with agar-agar
 - B. It is a strong electrolyte
 - C. It is a good conductor of electricity
 - D. Mobility of K^{+} and Cl^{-} ions are almost same
 3. The value for the standard emf (electromotive force) of a galvanic cell described by the balanced chemical equation is 0.79 V. Determine the value of the standard half-cell potential for the I^{-}/I_2 couple.

$$Cr_2O_7^{2-}(aq) + 2I^{-}(aq) \rightarrow I_2(g) + Cr^{3+}(aq)$$

$$E_{Cr_2O_7^{2-}/Cr^{3+}}^{\circ} = 1.33 V$$
 - A. +0.18 V
 - B. -0.18 V
 - C. 0.54 V
 - D. -0.54 V

4. The electrode with reaction



can be represented as:

[If needed, use platinum as an inert electrode]

- A. $Pt(s)|H^+(aq), Cr_2O_7^{2-}(aq)$
 - B. $Pt(s)|H^+(aq)||Cr_2O_7^{2-}(aq), Cr^{3+}(aq)$
 - C. $Pt(s), H_2(g)|H^+(aq), Cr_2O_7^{2-}$
 - D. $H^+(aq), Cr_2O_7^{2-}(aq), Cr^{3+}(aq)|Pt(s)$
5. The standard reduction potential of the half cells at 298 K are,
- $$Ni^{2+}(aq) + 2e^- \rightarrow Ni(s); E^o = -0.28 V$$
- $$Mg^{2+}(aq) + 2e^- \rightarrow Mg(s); E^o = -2.37 V$$

The standard cell potential for a voltaic cell constructed using the two half reaction is

- A. $-2.65 V$
- B. $-2.09 V$
- C. $+2.65$
- D. $2.09 V$