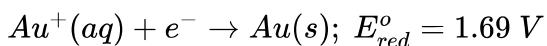


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1. Which is the correct value for the standard potential for a gold-rhodium voltaic cell?

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:

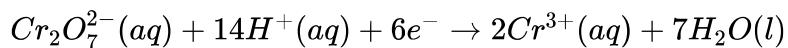
- A.** It forms a good jelly with agar-agar
- B.** It is a strong electrolyte
- C.** It is a good conductor of electricity
- D.** Mobility of  $K^+$  and  $Cl^-$  ions are almost same

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.

$$Cr_2O_7^{2-}(aq) + 2I^-(aq) \rightarrow I_2(g) + Cr^{3+}(aq)$$
$$E_{Cr_2O_7^{2-}/Cr^{3+}}^o = 1.33 \text{ V}$$

- 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,



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

- A.**  $-2.65 \text{ V}$
- B.**  $-2.09 \text{ V}$
- C.**  $+2.65$
- D.**  $2.09 \text{ V}$