

Lecture 26 Problems

Problem 1

(a): ~~$0.57 = E^{\circ}_{\text{cathode}} + 0.3402$~~

~~$0.57 = 0.3402 - E^{\circ}_{\text{(Anode)}}$~~

$0.57 = 0.3402 - E^{\circ}_{\text{(anode)}}$

↓

$E^{\circ}_{\text{(anode)}} = -0.23 \Rightarrow \text{nickel}$

(b): nickel

Problem 2

G

Problem 3

(a): Fe

(b): Au⁺

(c): Cu²⁺

Problem 4

See that

$$E^{\circ} = \cancel{+1.6} \cancel{+1.3583} \quad 1.69 - 1.3583$$

implies

$$\begin{aligned} \Delta E_{\text{cell}}^{\circ} &= .3317 - \frac{0.05917}{2} \log(0.1 \times 0.5) \\ &= .337 \text{ V.} \end{aligned}$$

Problem 5

$$\text{pH} = 1$$