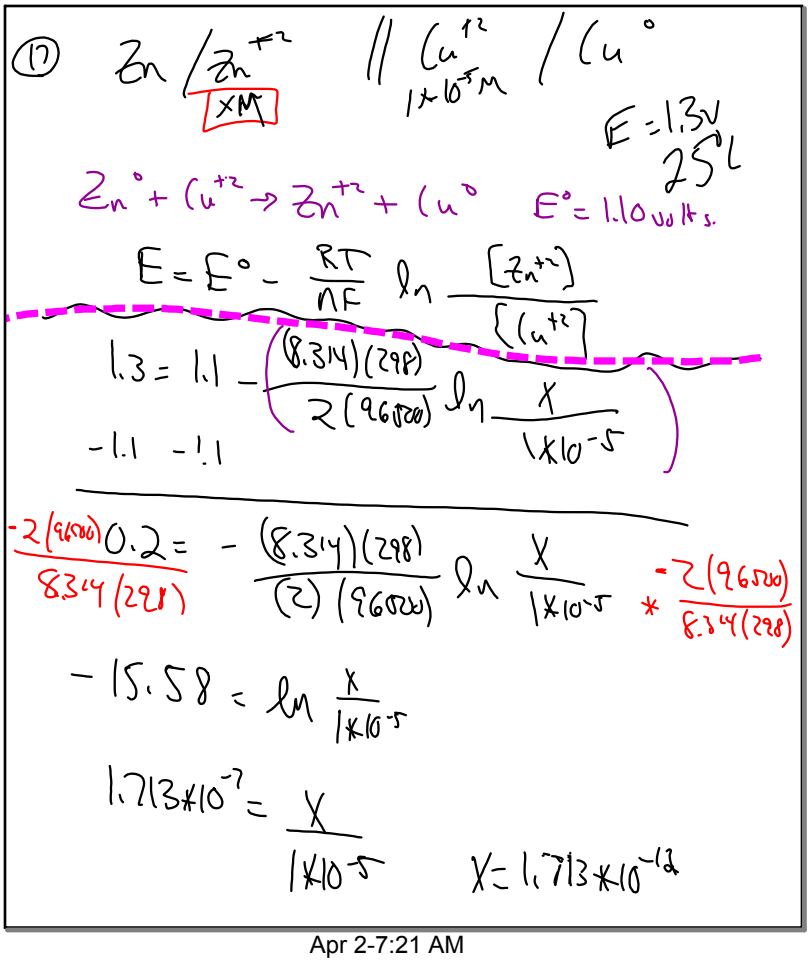
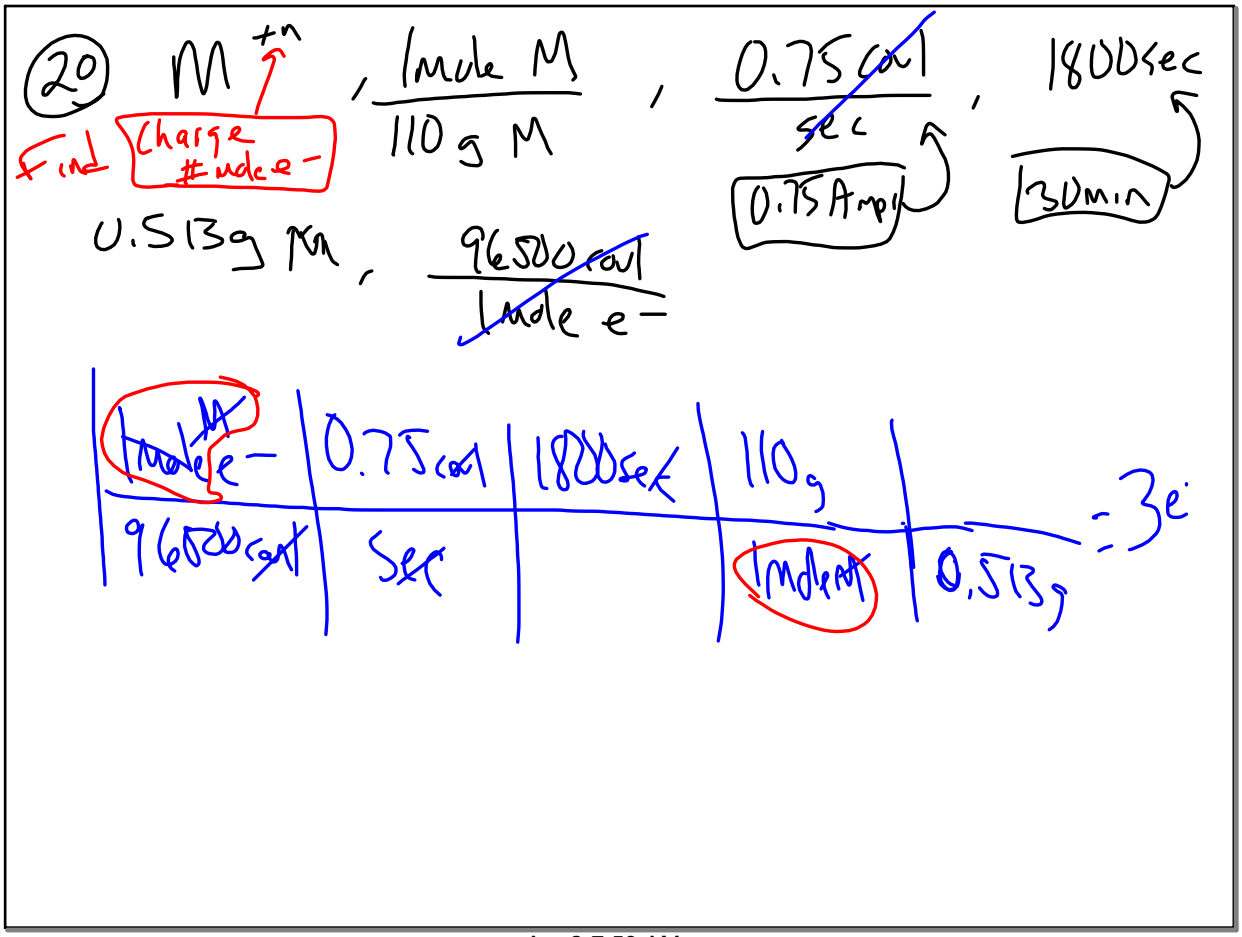


Apr 2-7:21 AM



Apr 2-7:53 AM

(22) ΔH° ⊕, NON ΔS° ⊕ spont $\Delta G = \Delta H - T\Delta S$

IF ↑T ΔG ⊖ E ⊕

↓T ΔG ⊕ E ⊖

Apr 2-8:01 AM

(23) $E^\circ = \frac{RT}{nF} \ln K$

$2 = \frac{(8.314)(298)}{6(96501)} \ln K$

$K = 9.69 \times 10^{202}$

$= 10 \times 10^{202}$

$= 1 \times 10^{203}$

$Al \rightarrow Al^{+3}$ +1.66

$Cu^{+2} \rightarrow Cu^0$ +0.34

$E^\circ = 2$

Apr 2-8:09 AM

(24) $K_2Cr_2O_7$ (+1, +6, −2; +12, +12, −14 = 0), $\frac{10\text{ coul}}{\text{sec}}$, 10 amps, 100 g Cr, $\frac{1\text{ mole Cr}}{52\text{ g Cr}}$

$\frac{96500\text{ coul}}{1\text{ mole e}^-}$, $\frac{1\text{ mole Cr}}{6\text{ mole e}^-}$

$$\frac{1\text{ sec}}{10\text{ coul}} \left|\frac{96500\text{ coul}}{1\text{ mole e}^-}\right| \frac{6\text{ mole e}^-}{1\text{ mole Cr}} \left|\frac{1\text{ mole Cr}}{52\text{ g Cr}}\right| 100\text{ g Cr} = 11135.77\text{ sec}$$

1855.91 min

30.93 hr

1.2888 day

Apr 2-8:13 AM

(29) $E_1^\circ = -1.69$

$E_2^\circ = 1.46$

$E^\circ = -0.23\text{ v}$

$$E^\circ = \frac{RT}{nF} \ln K_{sp}$$

$$-0.23 = \frac{(8.314)(298)}{2(96500)} \ln K_{sp}$$

Apr 2-8:27 AM

Exam 3

ΔG⊖ ΔG⊕

(7) AT Δ Spont ⇌ Non Spont

→ ΔG = 0

$\Delta G = \Delta H - T\Delta S$

$0 = \Delta H - T\Delta S$

$\Delta H = T\Delta S$

$T = \frac{\Delta H}{\Delta S} = \frac{573}{1.64} = 349.39$ Kelvin

Apr 2-8:35 AM

(8) $\Delta G = \Delta H - T\Delta S$

$\Delta G' = (-103.8) - [298(-0.029)]$

$\Delta G^{\circ} = -95.158$ KJ

$\Delta G = RT \ln K$

$-95.158 = -(8.314 \times 10^{-3})(298) \ln K$

Apr 2-8:38 AM

(10) $E^\circ = \frac{RT}{nF} \ln K$

$E^\circ = \frac{(8.314)(298)}{2(96500)} \ln 3.9 * 10^{-6}$

Apr 2-8:42 AM

(12) $6e^- + 8H^+ + 2MnO_4^- \rightarrow 2MnO_2 + 4H_2O$

$3H_2O + 3CN^- \rightarrow 3CNO^- + 6H^+ + 6e^-$

Apr 2-8:46 AM