

b) (i) $\Delta G^\circ = -nFE^\circ$

$(-3)(96500)(.55)$

$\Delta G^\circ = - \frac{159225 \text{ J/mol}}{1000} = \boxed{-159.2 \text{ kJ/mol}}$

(ii) $\Delta G^\circ = -2.303 RT \log k$

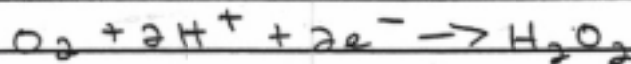
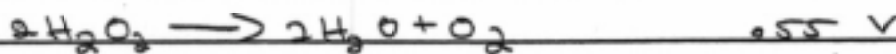
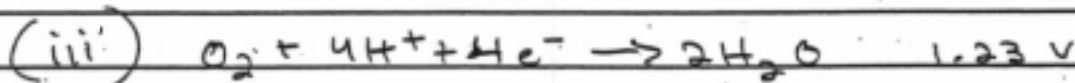
~~$\Delta G^\circ = -2.303 RT \log k$~~

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$-159225 \text{ J/mol} = (-2.303)(8.31 \text{ J/mol}^\circ)(298)(\log k)$

$\log k = 27.919$

$\boxed{k = 8.30 \times 10^{27}}$



$-.55$

$+ 1.23$

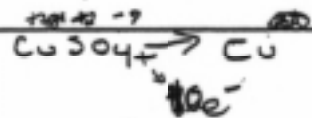
$\boxed{.68 \text{ V}}$

c) $I = \frac{q}{t}$

$1 \text{ h} \times 60 \times 60 = 3600 \text{ sec}$

$100 = \frac{q}{3600 \text{ sec}}$

$q = 360000 \text{ coulombs} \times \frac{1 \text{ mol}}{96500 \text{ coul.}} = 3.73 \text{ mol } e^- \times \frac{1 \text{ Cu}}{10e^-}$



$.373 \text{ mol Cu}$

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