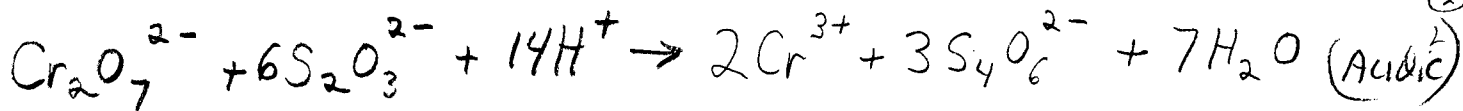
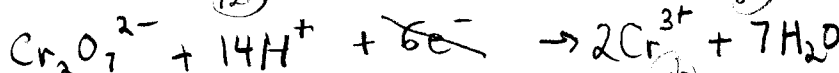
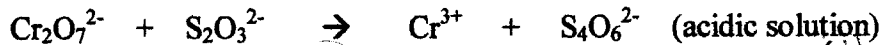
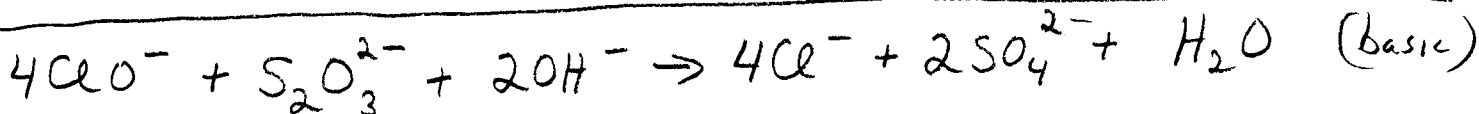
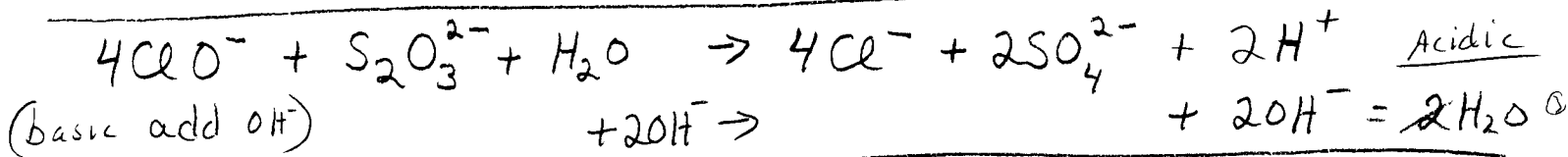
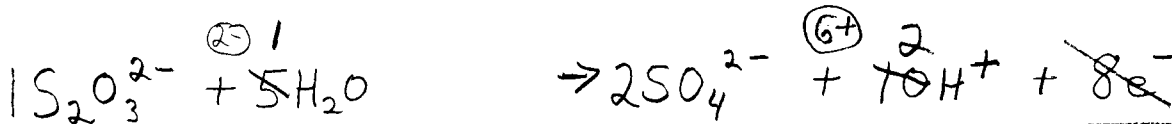
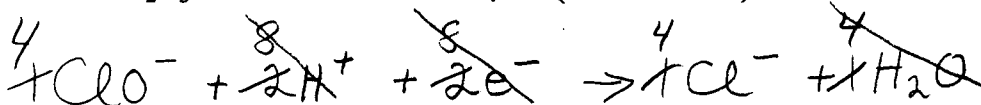


1. (8 Pts) Balance the following reaction.



2. (9 Pts) Balance the following equation.

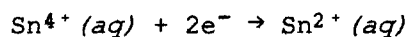


3. (4 Pts) In question 1 (above),  $\text{S}_2\text{O}_3^{2-}$  is the reducing agent and  $\text{Cr}_2\text{O}_7^{2-}$  is the oxidizing agent.

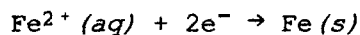
4. (4 Pts) Given the following information

Half-reaction

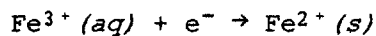
$\epsilon_{\text{red}}^\circ$



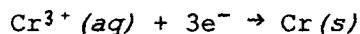
+0.154 V



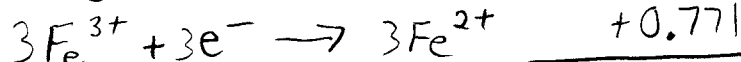
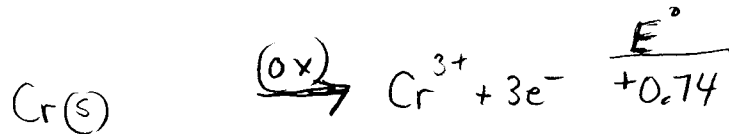
-0.440



+0.771



-0.74



$E_{\text{cell}}^\circ = +1.51\text{V}$

determine the standard potential (in V) of a cell based on the reaction:

