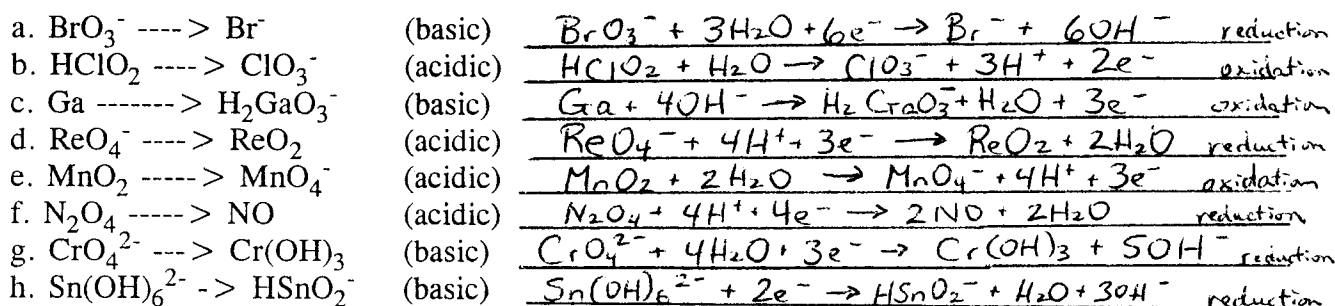
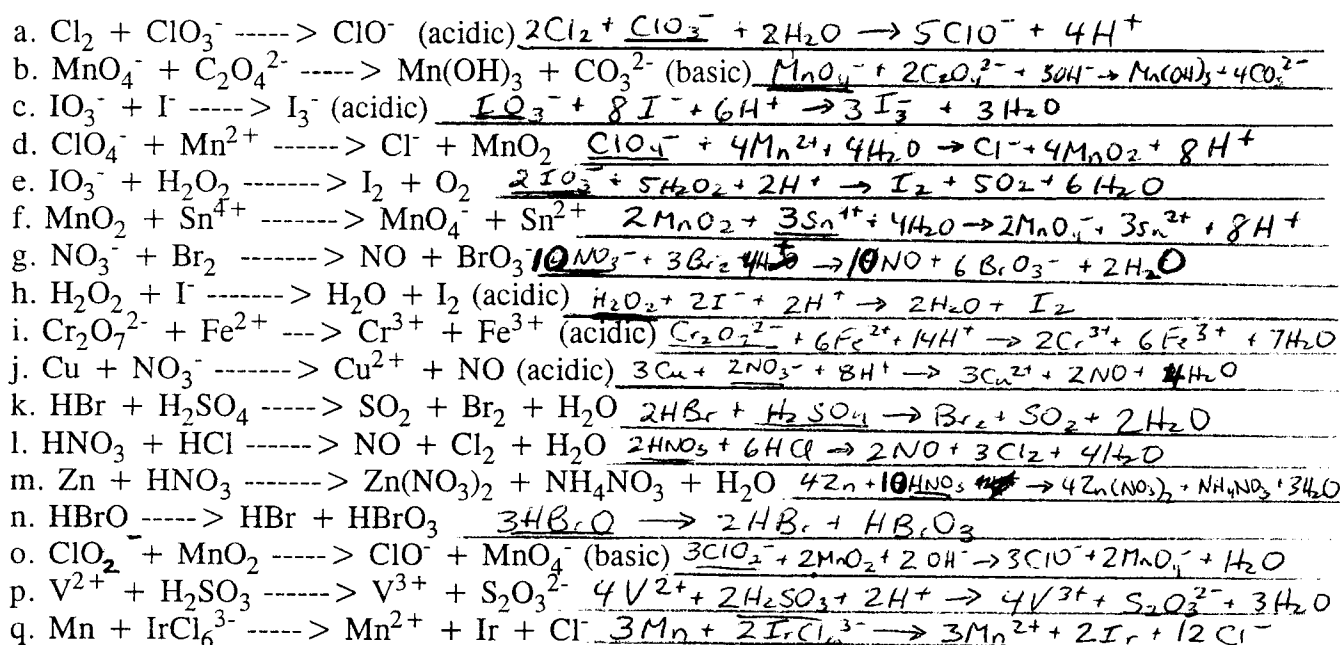


Chemistry 12 Electrochemistry Worksheet No. 1

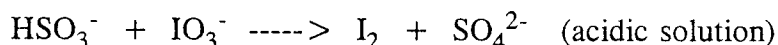
1. Balance the following half reactions and state whether oxidation or reduction is taking place.



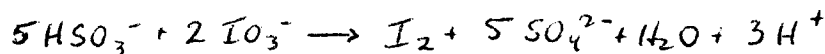
2. Use half reactions to balance the following redox reactions and underline the oxidizing agent.



3. Iodine is recovered from iodates in Chilean saltpeter (NaIO_3) by the reaction described in this unbalanced equation:



What mass of iodine is produced when a 20 kg sample of NaIO_3 reacts with excess HSO_3^- ?



$$20\,000\text{ g} \left(\frac{1\text{ mole}}{198\text{ g}} \right) = 101\text{ moles}$$

$$101\text{ moles } \text{IO}_3^- \left(\frac{1\text{ mole } \text{I}_2}{2\text{ moles } \text{IO}_3^-} \right) = 50.5\text{ moles } \text{I}_2 \left(\frac{254\text{ g}}{1\text{ mole}} \right)$$

$$= 13.0\text{ kg}$$