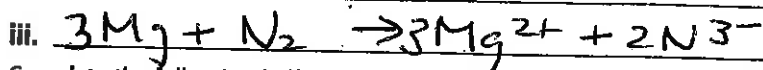
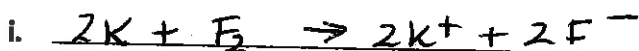


Activity 7C: Balancing redox equations

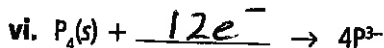
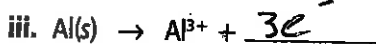
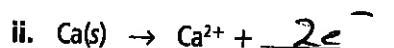
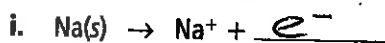
1. a. Supply the multiplication factors for the pairs of half-equations before they are added together to form the overall equation.



- b. Write the overall equations for i., ii. and iii. in a.

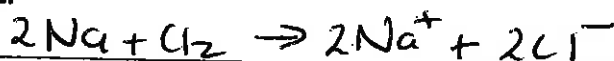


2. a. Complete the following half-equations.

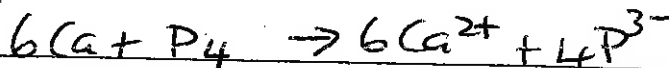


- b. Using the half-reactions in a. above, write the overall equations involving:

- i. i. + iv.



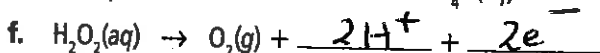
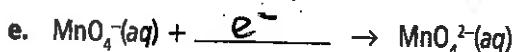
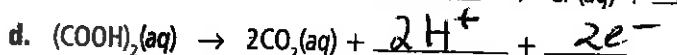
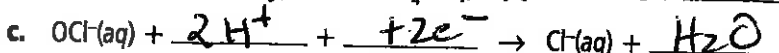
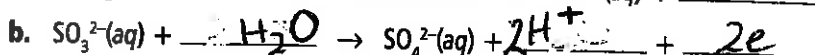
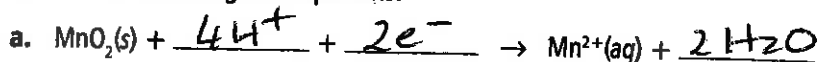
- ii. ii. + vi.



- iii. iii. + v.

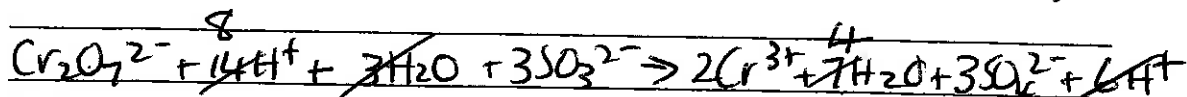
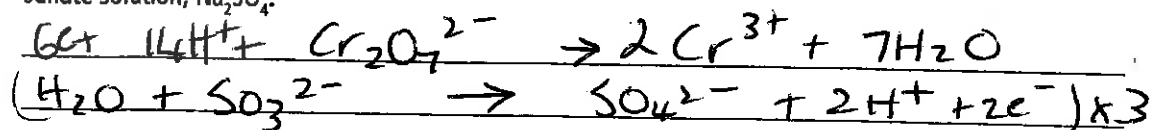


3. Balance the following half-equations.

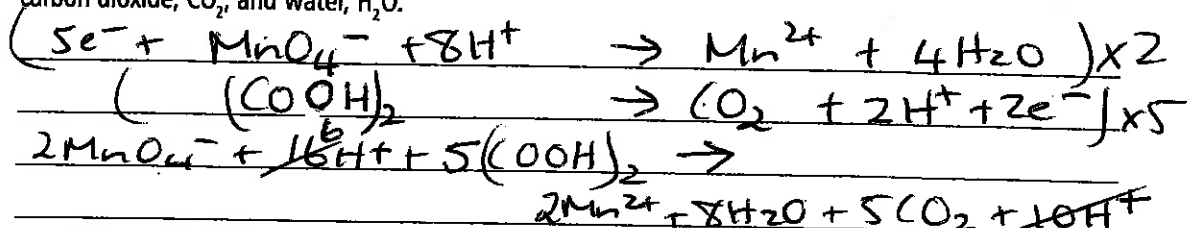


4. Write the half-equations and the overall equations for the following reactions. Do not include spectator ions in the equations.

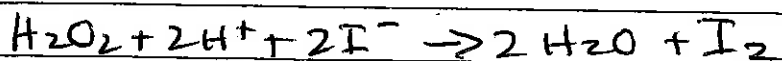
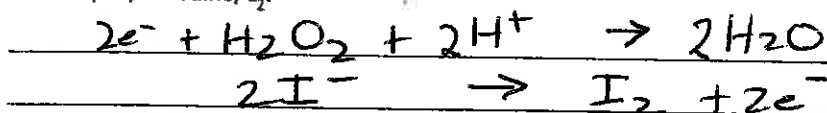
- a. Acidified potassium dichromate solution, $K_2Cr_2O_7$, oxidising sodium sulfite solution, Na_2SO_3 , to sodium sulfate solution, Na_2SO_4 .



- b. Acidified potassium permanganate, $KMnO_4$, oxidising a hot solution of ethanedioic acid, $(COOH)_2$, to carbon dioxide, CO_2 , and water, H_2O .



- c. Acidified hydrogen peroxide solution, H_2O_2 , oxidising the iodide ion, I^- , present in potassium iodide solution, KI , to iodine, I_2 .



- d. Manganese dioxide, MnO_2 , oxidising the chloride ion, Cl^- , present in hydrochloric acid, HCl , to chlorine gas, Cl_2 .

