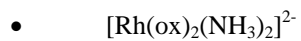
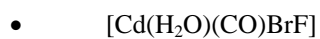


## CH1012

## Tutorial 4

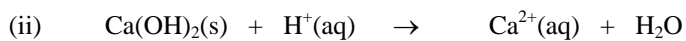
Name:

1. Draw structures of the following transition metal compounds and if there are any isomers (geometric, optical, linkage) then sketch the isomers as well:

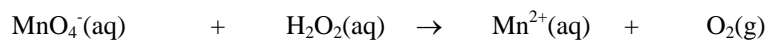


2. Assign the oxidation state of carbon in the following compounds:  $\text{C}_{\text{diamond}}$      $\text{NaHCO}_3$      $\text{C}_2\text{F}_2$

3. Determine if the following reactions are redox or metathesis reactions, explain your decision.  
For redox reaction(s) balance the equation and identify the oxidised and reduced species.



4. Balance the following redox equation in acidic solution, show all the steps in your working.



5. What is the **spectrochemical series** and how does this series help us understand the colour of transition metal complexes?