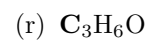
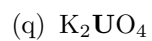
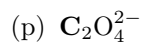
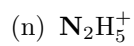
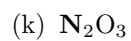
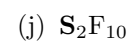
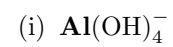
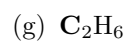
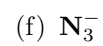
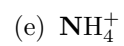
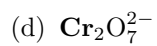
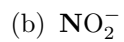
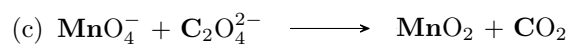
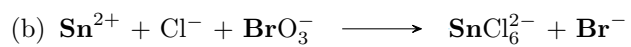


3. Calculate the oxidation number of the atom in bold type.

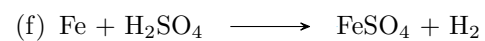
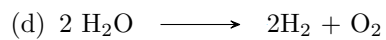
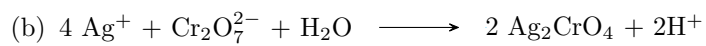




4. Assign oxidation numbers to the bold species in each of the following unbalanced reaction equations. Then determine which species undergoes oxidation in each reaction.



5. Which of the following are redox reactions?



6. (a) Which of Cl_2 , ClO_4^- , Cl^- , ClO_3^- , and Cl_2O can be produced by reducing ClO_2^- ?

(b) Which of NO_3^- , N_2 , NO_2^- , N_2O and N_2O_3 can be produced by oxidizing NO ?