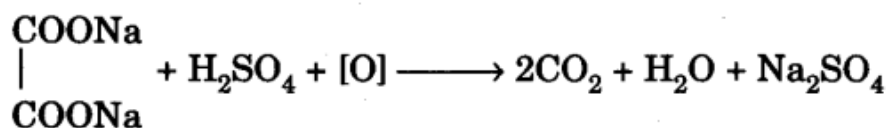
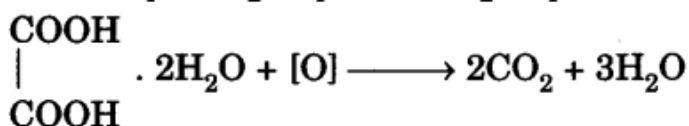
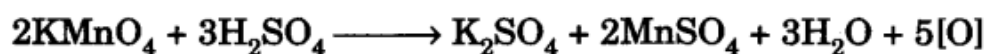


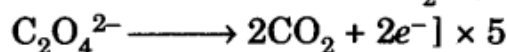
Determine the percentage composition of a mixture of sodium oxalate $\begin{bmatrix} \text{COONa} \\ | \\ \text{COONa} \end{bmatrix}$ and oxalic acid $\begin{bmatrix} \text{COOH} \\ | \\ \text{COOH} \end{bmatrix} \cdot 2\text{H}_2\text{O}$. Provided M/100 KMnO_4 solution.

Chemical Equations

Molecular Equations



Ionic Equations



Indicator

KMnO_4 is a self-indicator.

End Point

Colourless to permanent pink (KMnO_4 in burette).

Procedure

1. Weigh exactly 1.0 g of the given mixture of sodium oxalate and oxalic acid and dissolve in water to prepare exactly 250 ml of solution using a 250 ml measuring flask. Rinse the pipette with the given oxalate solution and pipette out 20.0 ml of it in a washed titration flask.
2. Rinse and fill the burette with the KMnO_4 solution.
3. Add one test-tube (~ 20 ml) full of dilute sulphuric acid (~ 2 M) to the solution in titration flask.
4. Note the initial reading of the burette.
5. Heat the solution of titration flask to 60-70°C and run down KMnO_4 solution from the

burette till a permanent light pink colour is imparted to the solution in the titration flask on addition of a last single drop of KMnO_4 solution.

6. Note the final reading of the burette.

7. Repeat the above steps 4—5 times to get three concordant reading.

Observations

Weight of watch glass = g

Weight of watch glass + Mohr's salt =g

Weight of mixture = 1.0 g

Volume of solution prepared = 250 ml

Molarity of KMnO_4 solution = 1/100

Volume of oxalate solution taken for each titration = 20.0 ml.