

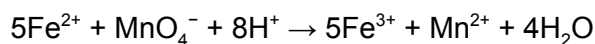
Edexcel Chemistry A-level

Practical 11

Redox Titrations.



Finding the percentage of iron in the tablet using a redox reaction between iron ions and manganate ions:



Preparing iron (II) solution

1. Use mortar and pestle for crushing the tablets to a powder.
2. Add sulphuric acid and stir to dissolve tablets.
3. Filter the solution into a volumetric flask to remove any undissolved solids in the filter paper.
4. Wash beaker and the filter paper with distilled water to get remaining solution into volumetric flask.
5. Dilute the solution in the volumetric flask by adding sulphuric acid to the 250 cm³ mark.

Method

1. Prepare the titration equipment.
2. Add the standard solution KMnO₄ to burette.
3. Add known volume solution of iron (II) ions being tested to the conical flask.
4. Titrate the solution.

[No indicator is required as KMnO₄ is self indicating; the end point is when you get the first permanent pale pink colour.]

5. Repeat until you get concordant titres.
6. Calculate a mean titre from these concordant values.

Errors

- Make sure as much iron salt as possible is dissolved. Warming may help.
- Wash the containers with water so as to get as much iron as possible.
- Use a white tile to better see the endpoint of your titration.

