

Procedure

1. In a 25 mL Erlenmeyer flask, prepare a solution of 0.072 g of *p*-nitroaniline in 2.7 mL of concentrated HCl and 10 mL of water. Place the solution in an ice-water bath for 10 minutes.
2. Once cooled, over a five minute period, add 1.5 mL of the sodium nitrite solution dropwise while stirring. When finished, continue stirring in the ice bath for 10 minutes.
3. Place 9 mL of the resorcinol solution in a 125 mL Erlenmeyer flask and place the solution in an ice-water bath .
4. While stirring, pour the sodium nitrite/nitroaniline solution slowly into the Erlenmeyer flask. Continue to stir in an ice-bath for 30 minutes.
5. Filter the solid product using a Buchner funnel and wash with water.
6. Perform the dyeing test and indicator tests.

Dyeing test:

1. Add a scoop of the product to a 50 mL beaker, 0.5 mL of 1 M sodium sulfate, 15 mL water and 5 drops of 1 M sulfuric acid.
2. Heat the solution to boiling and place a piece of cotton in the beaker for 2 minutes.
3. Remove the cotton and record the color.

Indicator test:

1. Add a small spatula tip full of the day 4 product to 3 test tubes.
2. Add a few drops of 0.5 M HCl to the first tube, a few drops of 0.5 M NaOH to the second tube, and a few drops of water to the third.
3. Record the color of each solution.