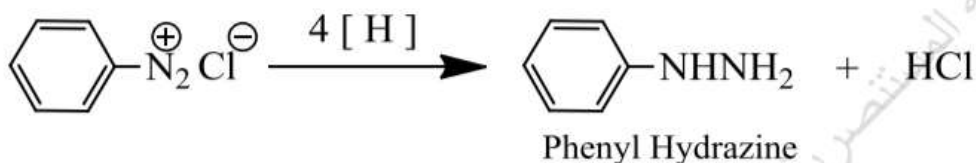


Experiment Eight

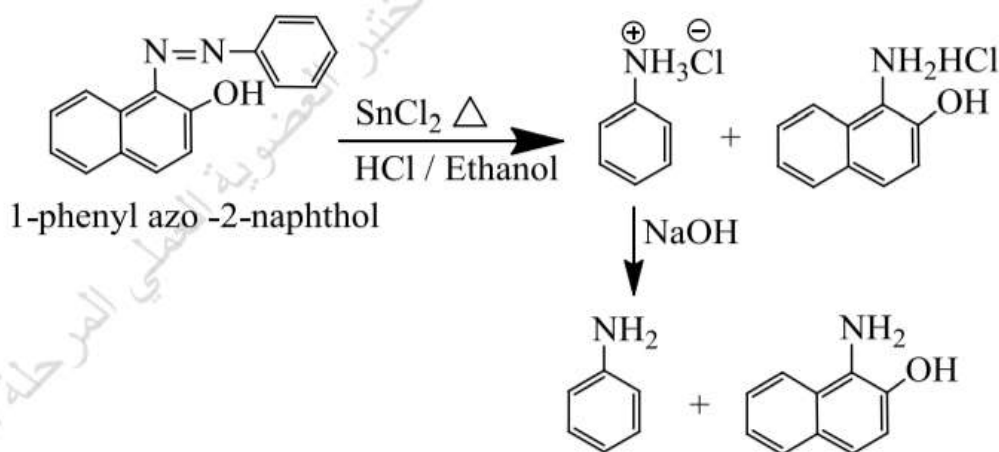
Reduction of Azo dye

The aryl diazonium ion group is reduced by SnCl_2/HCl or Na_2SO_3 to produce the phenyl hydrazine compound. Which is considered as important detector in the carbonyl chemistry and sugars. An azo compound is cleaved at the azo linkage by stannous chloride (SnCl_2/HCl) to form two amines.



The azo dye's reduction is indicated by the changing of the red color to a very pale brown. There are other reductive reagents as Zn/HCl , Fe/HCl .

E.G : preparation of 1-amino-2-naphthol :



Experimental part

- 1- In a (100ml) round bottom flask (0.5g) of 1-phenylazo-2-naphthol is dissolved in (10ml) of ethanol absolute.
- 2- (1g) of SnCl_2 is dissolved in (3ml) of concentrated hydrochloric acid in a beaker and added to the content in the flask.
- 3- The mixture is refluxed gently for (30mins) with occasional shaking until a clear solution is formed .
- 4- The solution is filtered hot and left for (10 mins) .
- 5- (10%) of NaOH is added to the solution drop wise until the precipitate is formed .
- 6- The precipitate is filtered and dried .
- 7-The product is weighed and the percentage of yield is calculated.