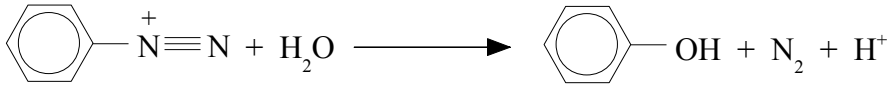
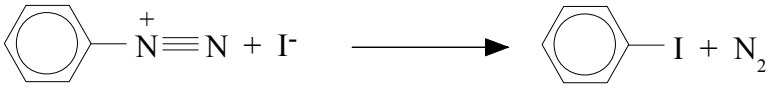
PHENYLAMINE: REACTIONS OF DIAZONIUM SALTS

1. a) Warm the solution containing the diazonium ion.

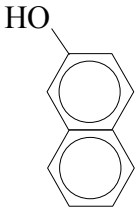
b) 

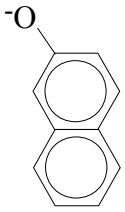
c) Add cold potassium iodide solution.

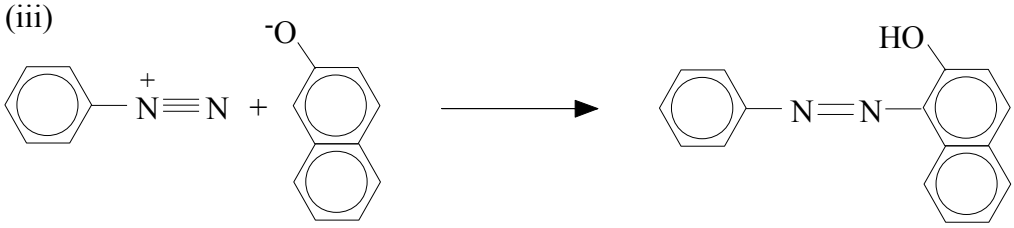
d) 

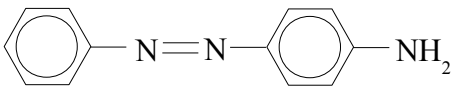
2. a) (i) Dissolve the phenol in sodium hydroxide solution.

(ii) 

b) (i) 

(ii) 

(iii) 

c) 

3. a) All these molecules have extensive delocalisation involving the benzene rings and the nitrogen bridge, as well as other things which might be attached such as lone pairs on nitrogens in NH_2 groups or oxygen in OH groups. When light interacts with these delocalised electrons, some wavelengths are absorbed. The colour you see is the result of the non-absorbed wavelengths.

   b) Methyl orange is red in acidic solution and yellow in alkaline ones. Form B has an extra hydrogen ion attached to it, and this can only happen in acidic solutions.

   B is the red form. A is the yellow form.