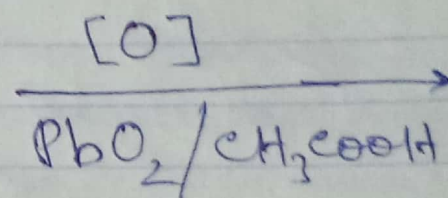
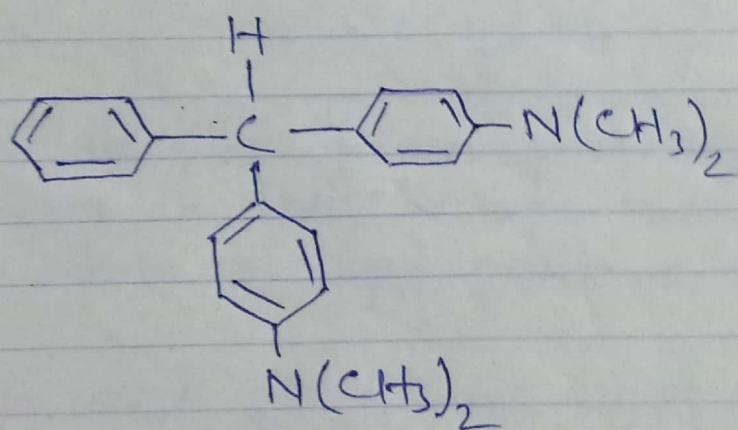
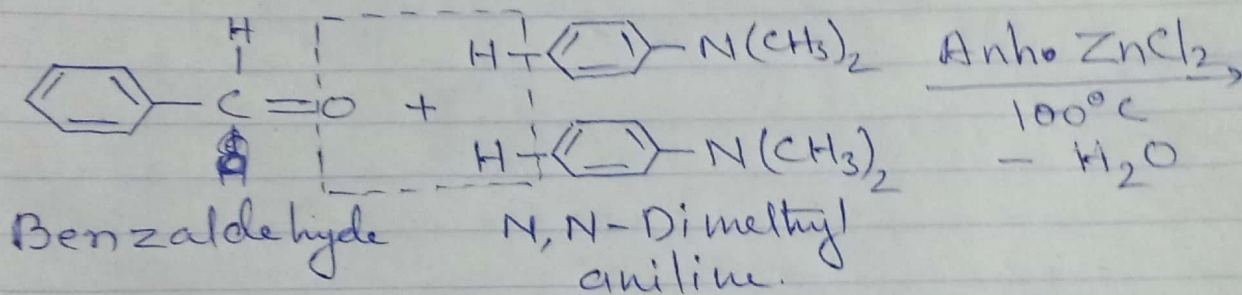


(3) Chemistry and synthesis of Malachite green

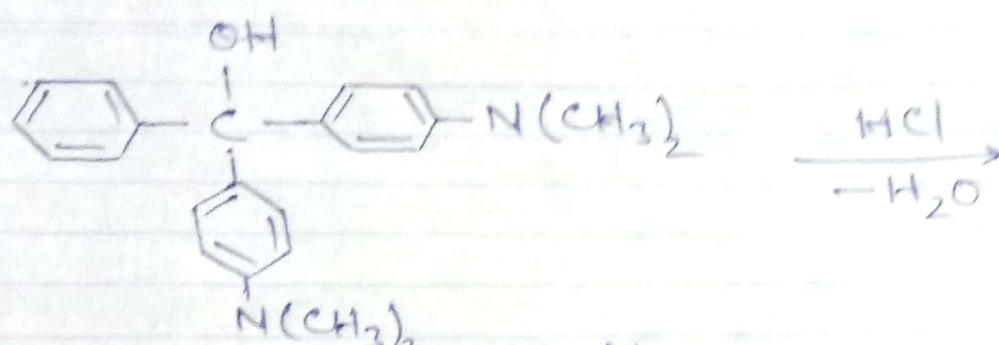
It has deep blue green colour that resembles with malachite ore of copper. It is an example of amino triphenyl methane dye.

It is synthesised by condensation 1 mol of benzaldehyde with 2 moles of N,N-dimethyl aniline in presence of anhydrous $ZnCl_2$ or conc. H_2SO_4 at $100^\circ C$. Condensation product is a leuco base (colourless compound) which is oxidised with lead dioxide in presence of acetic acid and HCl. The resulting colour base gives malachite green with excess HCl.

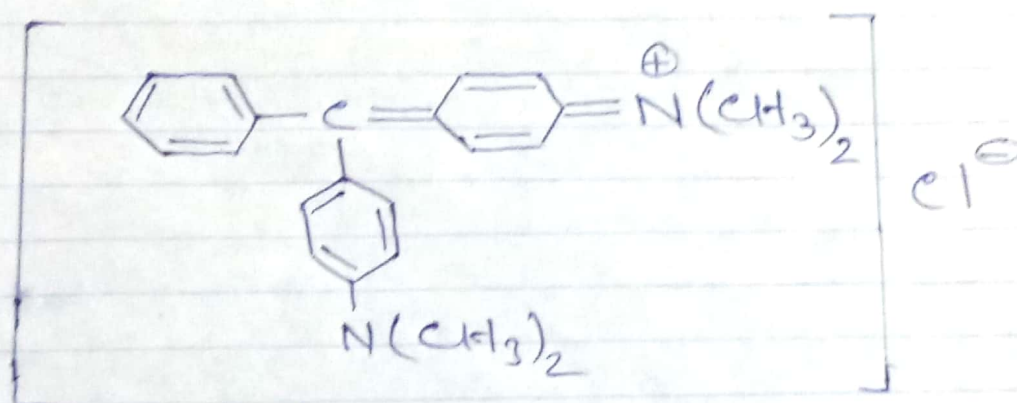


Leuco base

(Tetramethyl diamino)
(triphenyl methane)



colour base or Carbinol base
(Almost colourless)



Malachite green.

Malachite green possesses three resonance structures in which two nitrogen atoms and central carbon atom occupy positive charge.

Uses:

- 1) It is used for dyeing wool and silk directly and cotton mordanted with tannin. The blue-green colour of the dye has poor light fastness and sensitive to alkali.
- 2) It is used as external antiseptic medicine for wounds and ulcers.