


Chemguide – questions

ALDEHYDES AND KETONES: ADDITION-ELIMINATION (CONDENSATION) REACTIONS

1. Brady's reagent is a solution of 2,4-dinitrophenylhydrazine in a mixture of methanol and sulphuric acid.
 - a) How is Brady's reagent used to test for an aldehyde or ketone?
 - b) Describe briefly how you could use this reaction to help to identify a particular aldehyde or ketone.
2.
 - a) Hydrazine has the formula N_2H_4 . Draw its structure.
 - b) Phenylhydrazine has a phenyl group attached to the hydrazine. Draw its structure, using the symbol  for the benzene ring.
 - c) Draw the structure for 2,4-dinitrophenylhydrazine.
 - d) Draw the structure for the product of the reaction of 2,4-dinitrophenylhydrazine with
 - (i) ethanal,
 - (ii) propanone,
 - (iii) propanal.
 - e) Name the products of the reactions in part (d).
 - f) What other product do you get in each of these reactions?
3.
 - a) Draw the structure of hydroxylamine.
 - b) Draw the structure of the organic product of the reaction between hydroxylamine and propanone.