

## Chemguide – questions

### HALOGENOALKANES: REACTIONS WITH CYANIDE IONS

1.
  - a) Describe briefly how you would replace the bromine atom in bromoethane by a cyanide group. (I am only asking for the conditions for the initial reaction, not any purification of the reaction mixture.)
  - b) Write the ionic equation for the reaction.
  - c) Name the product of the reaction.
  - d) Explain the reason for the choice of solvent.
  - e) Draw the structure of the organic product if you treated the following halogenoalkanes in the same way.
    - (i) 2-bromopropane
    - (ii) 2-chloro-2-methylpropane
  - f) Why is the replacement of a halogen by a cyanide group a useful reaction?