

19 Nitriles – Part 2 —Answers

Answers

Work through these after trying the questions yourself.

19.1 $\text{C}_2\text{H}_5\text{Br} + \text{KCN} \rightarrow \text{C}_2\text{H}_5\text{CN} + \text{KBr}$.

19.2 It adds one carbon atom to the chain (lengthening the carbon skeleton).

19.3 (a) a carboxylic acid \ (b) an amine.

19.4 KCN (the CN^- ion); nucleophilic substitution.

19.5 A hydroxynitrile; nucleophilic addition.

19.6 Step 1: warm bromoethane with KCN in ethanol $\rightarrow$ propanenitrile ($\text{C}_2\text{H}_5\text{CN}$), which adds a carbon. Step 2: hydrolyse the nitrile by warming with dilute acid $\rightarrow$ propanoic acid ($\text{C}_2\text{H}_5\text{COOH}$).