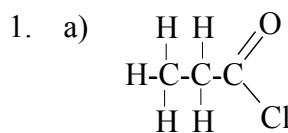


Chemguide – answers

CARBOXYLIC ACIDS: CONVERSION TO ACYL CHLORIDES



- b)
- (i) $\text{CH}_3\text{COOH} + \text{PCl}_5 \longrightarrow \text{CH}_3\text{COCl} + \text{POCl}_3 + \text{HCl}$
 - (ii) $3\text{CH}_3\text{COOH} + \text{PCl}_3 \longrightarrow 3\text{CH}_3\text{COCl} + \text{H}_3\text{PO}_3$
 - (iii) $\text{CH}_3\text{COOH} + \text{SOCl}_2 \longrightarrow \text{CH}_3\text{COCl} + \text{SO}_2 + \text{HCl}$

c) Fractionally distill the reaction mixture.