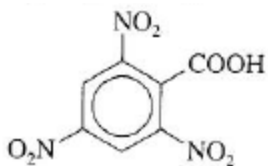
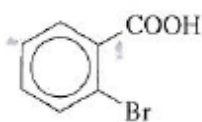
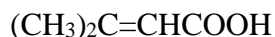
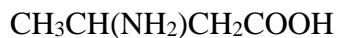
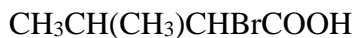
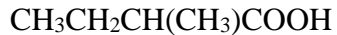


1. Give the IUPAC and common (if you can) names of the following:



2. Draw the structures of the following compounds.

ethanoic acid

magnesium formate

acetyl chloride

chloroacetic acid

Sodium benzoate

sodium fluoroacetate

3. Predict the products (if any) of the following acid-base reactions.

a) Acetic acid + ammonia

b) phthalic acid + excess NaOH

- c) benzoic acid + sodium phenoxide
- d) 2-bromopropionic acid + sodium propionate
4. Arrange each group of compounds in order of increasing acidity.
- a) Phenol, ethanol, acetic acid
- b) p-toluenesulfonic acid, acetic acid, chloroacetic acid
- c) benzoic acid, o-nitrobenzoic acid, m-nitrobenzoic acid
5. Which is the stronger base in the following pairs of the compounds?
- a) CH_3COO^- or $\text{ClCH}_2\text{COO}^-$
- b) sodium acetylide or sodium acetate
- c) sodium acetate or sodium ethoxide
6. What conclusions can you draw from the pK_a values shown for the following compounds?
- | | | | | |
|---|---|---|---|--|
| $\begin{array}{c} \text{CH}_2\text{COOH} \\ \\ \text{NO}_2 \end{array}$ | $\begin{array}{c} \text{CH}_2\text{COOH} \\ \\ \text{CN} \end{array}$ | $\begin{array}{c} \text{CH}_2\text{COOH} \\ \\ \text{Cl} \end{array}$ | $\begin{array}{c} \text{CH}_2\text{COOH} \\ \\ \text{OH} \end{array}$ | $\begin{array}{c} \text{CH}_2\text{COOH} \\ \\ \text{H} \end{array}$ |
| 1.68 | 2.46 | 2.86 | 3.83 | 4.74 |