

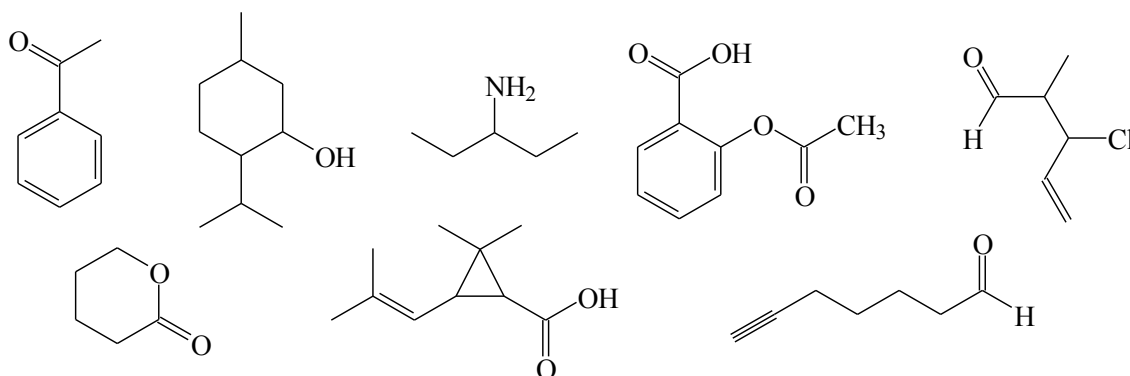
CHEM1002 Problem Sheet 2 (Week 2)

Work through the ChemCAL module “Organic Functional Groups”.

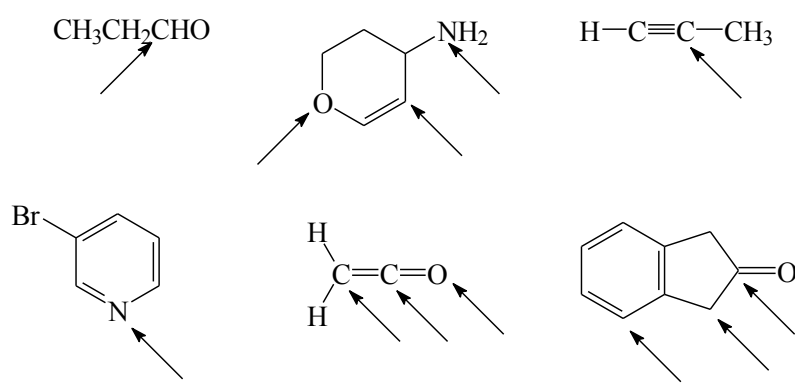
1. Give the condensed structural formula and stick representation of the following molecules. In the stick representations do not show the C-H bonds but try to represent the appropriate bond angles in the rest of the molecule.

Compound	Condensed structural formula	Stick representation
CH_3COCH_3		
$\text{CH}_3\text{CHBrCH}_2\text{Cl}$		
$(\text{CH}_3)_2\text{CHCH}(\text{CH}_3)_2$		
$(\text{CH}_3)_2\text{CCH}_2$		
$\text{CH}_3\text{CH}_2\text{COOH}$		
$\text{CH}_3\text{COOCH}_2\text{CH}_3$		
$\text{CH}_3\text{COOCOCH}_3$		
benzamide ($\text{C}_6\text{H}_5\text{CONH}_2$)		

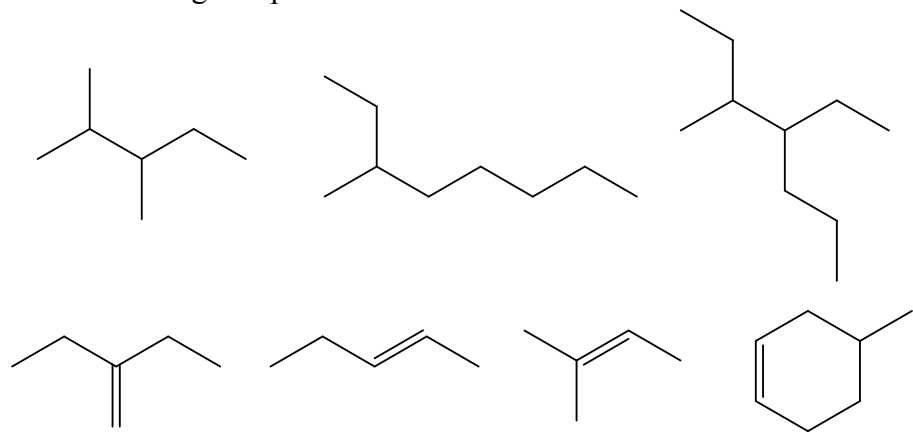
2. Determine molecular formulas and identify the functional groups in the following compounds:



3. Give the hybridisation of the atoms indicated by arrows in the following compounds.



4. Name the following compounds.



5. Give one example of a stereoisomer and two examples of constitutional isomers of each of the following molecules.

