

Naming organic compounds with more than one functional group, including benzene  
Lesson 2

[Click](#) to refresh yourself with naming of organic compounds.

When faced with two functional groups, priority is given to one of these functional groups. The order of priority is given below.

Carboxylic acids

Amides

Aldehydes

Ketones

Alcohols

Amines

Ethers

Alkenes

Alkynes

The table 1. indicates the prefix and suffix of the organic compound with examples

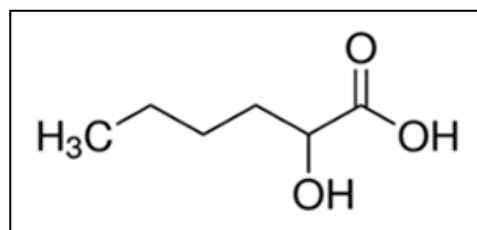
Functional group	Priority molecule suffix	Not a priority molecule prefix
- OH	- ol <i>Example</i> <b>CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>OH</b> <b>Propan-1-ol</b>	-hydroxy <i>Example</i> <b>CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>OHCOOH</b> <b>1-hydroxybutanoic acid</b>
- NH <sub>2</sub>	- amine <b>CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub></b> <b>Propan-1-amine</b>	-amino <b>CH<sub>3</sub>CH(NH<sub>2</sub>)COOH</b> <b>2-aminopropanoic acid</b>
- C=O	- one (ketone) <b>CH<sub>3</sub>COCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub></b> <b>pentan-2-one</b> or - al (aldehyde) <b>CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CHO</b> <b>butanal</b>	-oxo <b>CH<sub>3</sub>COCH<sub>2</sub>CH<sub>2</sub>COOH</b> <b>4-oxopentanoic acid</b> or <b>HOOCCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CHO</b> <b>5-oxobutanoic acid</b>
- CONH	- amide	Not covered in this course
- COOH	- oic	Not covered in this course

Table 1 – prefix and suffix to be used with priority

### Example 1

Step 1 Select the longest continuous carbon chain that contains the functional group that is in priority.

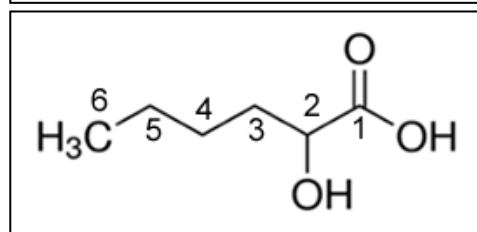
*In this case it is a carboxylic acid, hexanoic acid*



Step 2 Number the carbon atoms so that the functional group in priority is on the lowest carbon

Step 3 Name the compound

*2-hydroxyhexanoic acid*



### Example 2

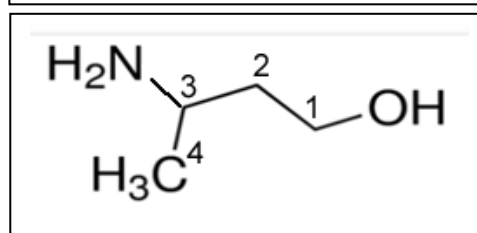
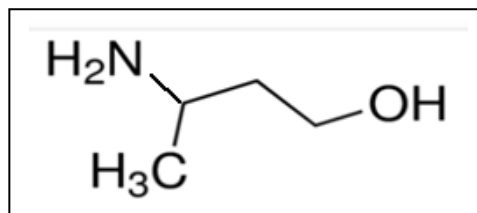
Step 1 Select the longest continuous carbon chain that contains the functional group that is in priority.

*In this case it is an alcohol, butan-1-ol*

Step 2 Number the carbon atoms so that the functional group in priority is on the lowest carbon

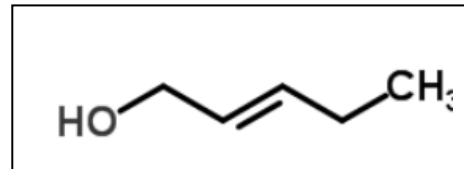
Step 3 Name the compound

*3-aminobutan-1-ol*

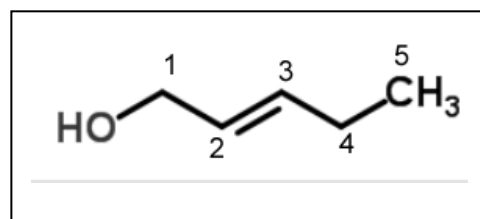


Example 3 Naming an alcohol with a double bond.

1) Select the longest continuous carbon chain, containing the -OH group .



2) Number the parent chain, such that the carbon with the -OH group has the lowest number.



3) Change the end -e of the alkene to an -ol.

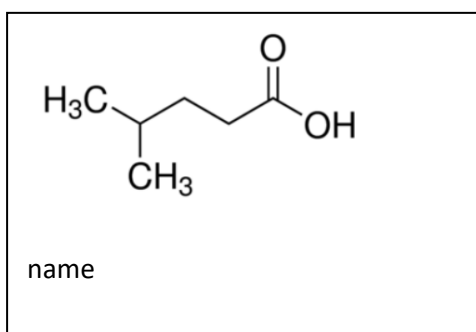
*penten-ol*

4) Now incorporate the numbers of the double bond and the alcohol into the name

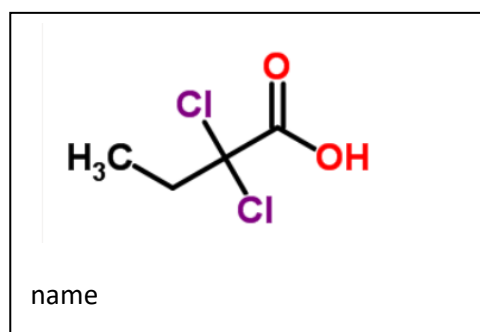
*pent-2-en-1-ol or 2-penten-1-ol*

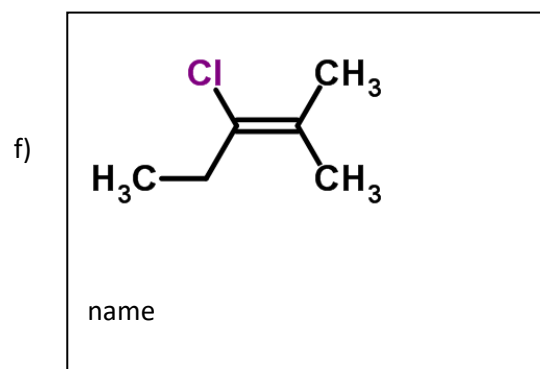
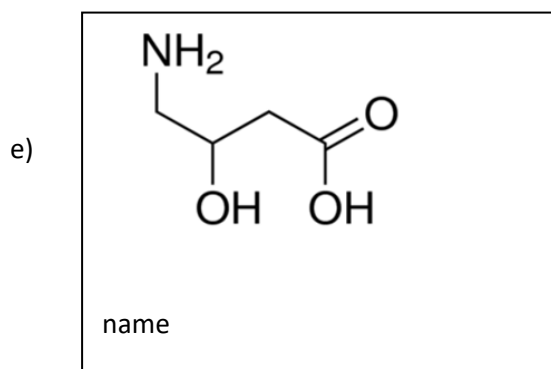
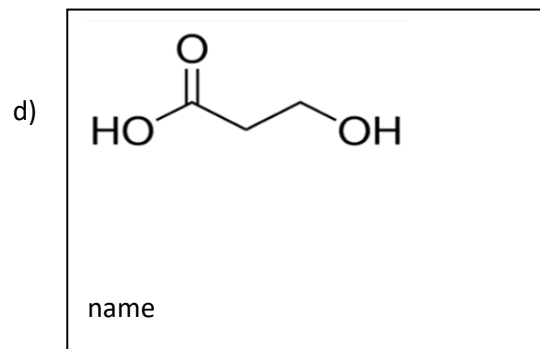
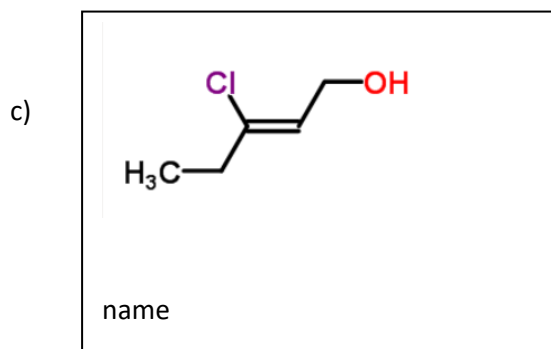
Name the following compounds

a)



b)



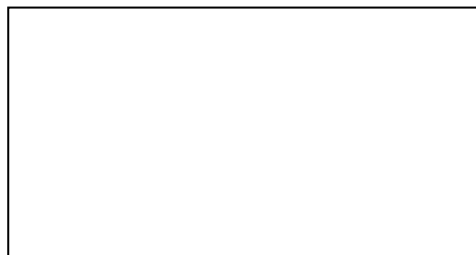


1) Draw the structural formulae of the following compounds.

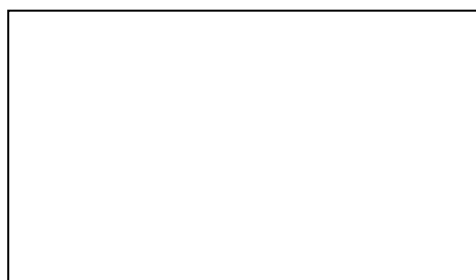
a) 1,4-dichloro-3-methyl-pent-2-ene



b) 3-methylhept-6-en-3-ol



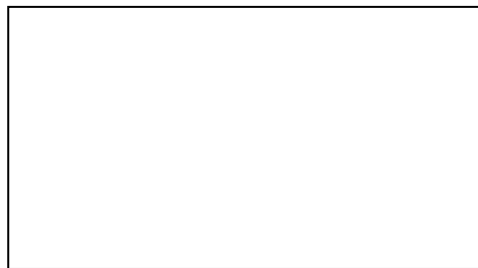
c) 4-amino-2,3-dihydroxybutanoic acid



d) 2,4-dichloropentan-3-ol



e) 4-aminobutanoic acid



f) 3-bromobutanamide

