

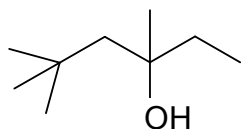
Worksheet 5

Hydroxy Compounds

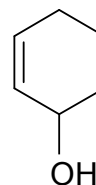
Question 1.

Give systematic names for the following compounds.

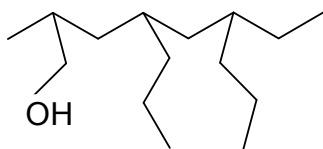
a.



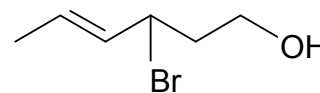
b.



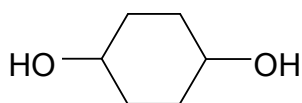
c.



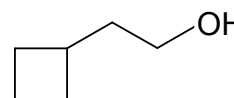
d.



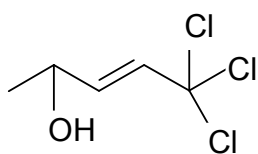
e.



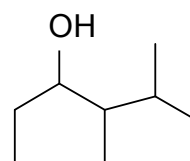
f.



g.



h.



Question 2.

Draw structures corresponding to the following names.

a. 2-methyl-2-propanol

b. cis-but-2-en-1-ol

c. 1,1-diiodo-2-hexanol

d. 4-(2-chloroethyl)-4-heptanol

e. 1,2-ethandiol

f. 2,3,4-trimethyl-1-octanol

g. 3-fluoro-3-methyl-2-pentanol

h. 3-cyclohexylcyclopentanol

Question 3.

Classify the alkanols in question 1 as primary, secondary or tertiary.

Primary	
Secondary	
Tertiary	

Question 4.

Give the structure of the major organic product of the following reactions.

a.



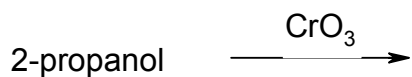
b.



c.



d.



Q4 (cont'd)

e.



f.



Question 5.

Explain the following observations.

- Cyclohexanol has a b.p. of 161°C while that of cyclohexane is 69°C
- Ethanol is soluble in water but cyclohexanol is not.
- 1-pentanol has a b.p. of 139°C , but that of its isomer, 2-methyl-2-butanol, is 102°C .

Question 6.

Give ONE method of preparation for the following alkanols. Your answers should use a different reaction for each part.

- a. 2-propanol b. 2-methyl-2-propanol c. 3-methyl-2-butanol