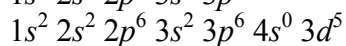
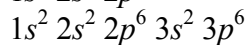
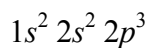


2008-J-2

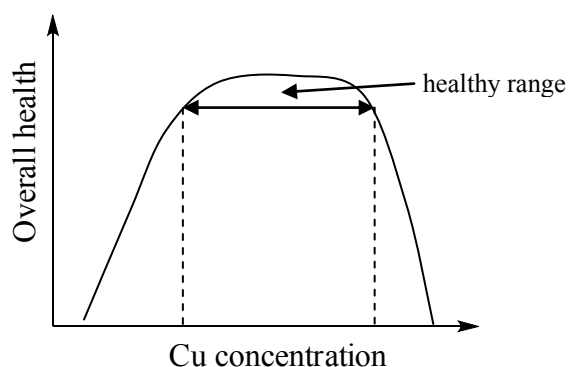
•

	sulfur dioxide
	cobalt(II) chloride-6-water
Ag_2CrO_4	
KHCO_3	

•



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Copper can participate in electron transport systems due to multiple oxidation states.

Treat with complexing agent such as EDTA which forms very stable water-soluble complex that can be excreted from the body.

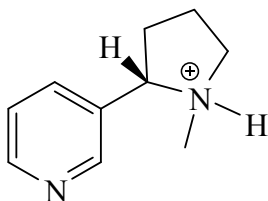
2008-J-3

•

A: H-bonding, dipole-dipole

B: dipole-induced dipole, dispersion forces

N1	trigonal planar	sp^2	bent $\sim 120^\circ$
N2	tetrahedral	sp^3	trigonal pyramidal
C3	tetrahedral	sp^3	tetrahedral
C4	trigonal planar	sp^2	trigonal planar

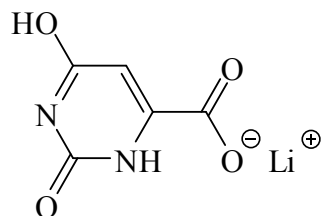
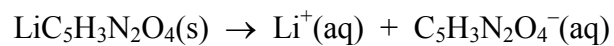


2008-J-4

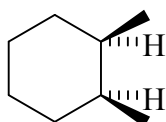
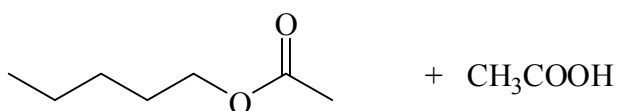
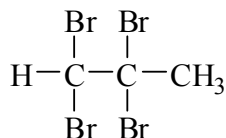
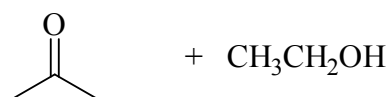
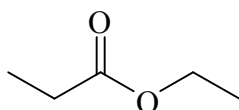
•



There's no difference. The lithium orotate dissolves to give lithium ions and orotate ions.

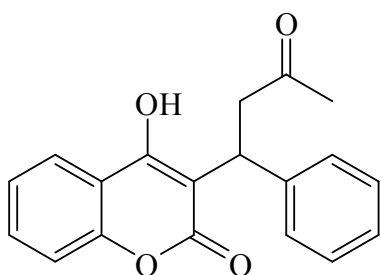
**2008-J-5**

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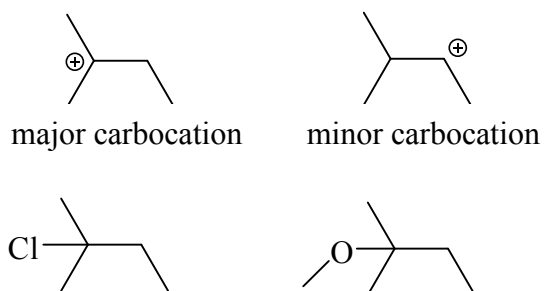


2008-J-6

•



•

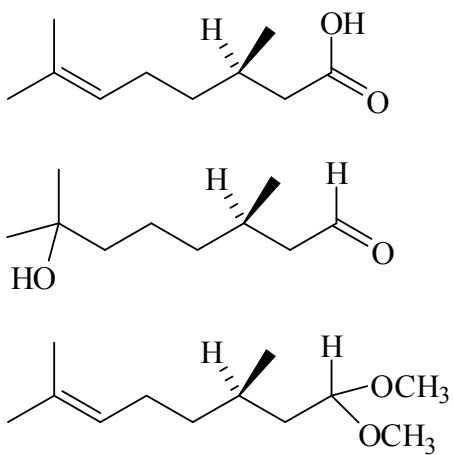


2008-J-7

•

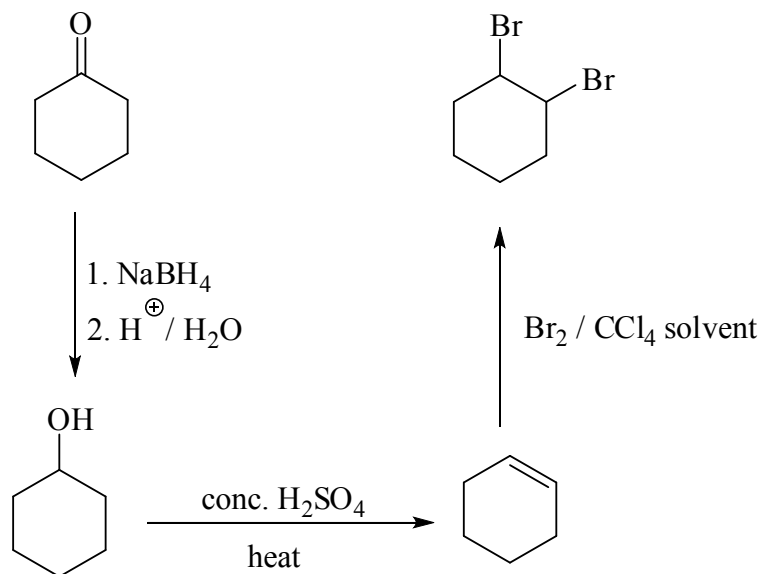
C₁₀H₁₈O

alkene, aldehyde



2008-J-8

•



•

NaOH
 $\text{CH}_3\text{CH}_2\text{CH}_2\text{Br}$
 I_2
 nucleophilic substitution
 reduction

2008-J-9

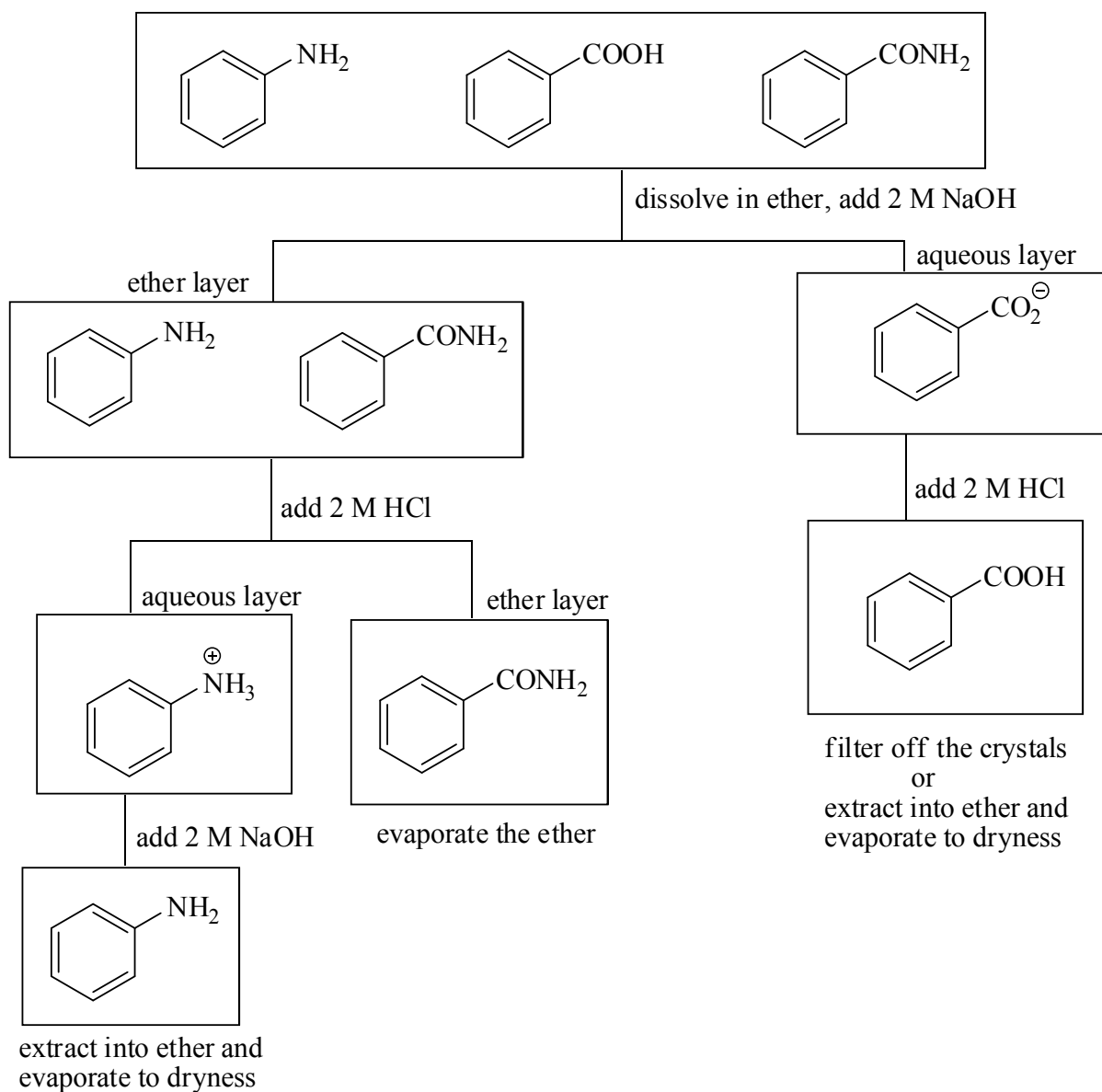
•

^1H nmr. This can detect different numbers of H's attached to the ring. The first compound has 3 olefinic resonance (each 1H) and 1 aliphatic resonance (2H) whilst the second compound has 4 aromatic resonances (each 1H).

IR. The first compound will give intense absorption at about 1740 cm^{-1} due to the $\text{C}=\text{O}$ group. The second compound will have no absorption in that region.

2008-J-10

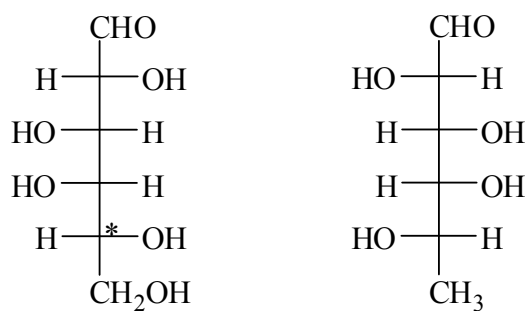
•



2008-J-11

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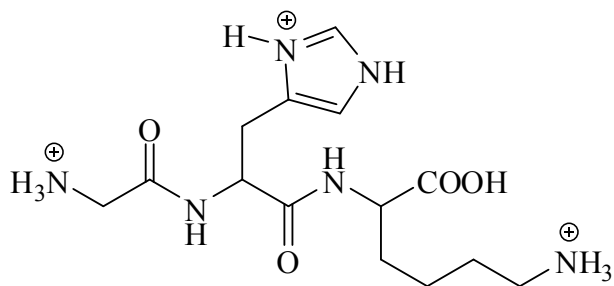
pyranose
hexose



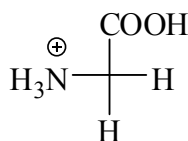
D-galactose
L-fucose

2008-J-12

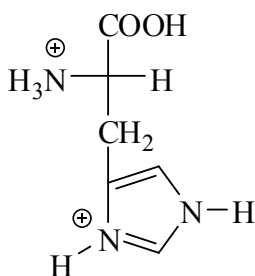
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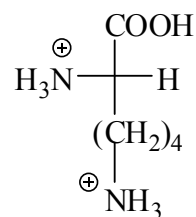
glycine



L-histidine



L-lysine



Glycine is achiral, whilst lysine contains a stereogenic carbon with the L-configuration.

2008-J-13

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DNA:

It contains the nucleic base thymine (RNA contains uracil instead).

The sugar present is deoxyribose (RNA contains ribose instead).

